Federal Aviation Administration

U.S. Terminal Procedures Publication

Southwest (SW) Vol 2 of 4

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22 APR 2021

Consult the Change Notice (CN) effective 25 MAR 2021 for revised Instrument Procedure Charts for this volume

Consult NOTAMs for latest information

Consult/Subscribe to FAA Safety Alerts and Charting Notices at:
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CORRECTIONS, COMMENTS AND/OR PROCUREMENT

FOR CHARTING ERRORS, OR FOR CHANGES, ADDITIONS, RECOMMENDATIONS ON PROCEDURAL ASPECTS CONTACT:
FAA, Aeronautical Information Services
1305 East-West Highway
SSMC 4, Room 3424
Silver Spring, MD 20910
Telephone: 1-800-638-8972
https://www.faa.gov/air_traffic/flight_info/aeronav/aero_data/

For inquiries regarding military charts, please contact aerohelp@nga.mil

FOR PROCUREMENT:
For digital products, visit our website at:
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For a list of approved FAA Print Providers, visit our website at:
https://www.faa.gov/air_traffic/flight_info/aeronav/print_providers/

Frequently asked questions (FAQ) are answered on our website at https://www.faa.gov/go/ais
See the FAQs prior to contact via toll free number or email.

Request for the creation or revisions to Airport Diagrams should be in accordance with FAA Order 7910.4.

INOP COMPONENTS 19339

INOPERATIVE COMPONENTS OR VISUAL AIDS TABLE
(For Civil Use Only)

Straight-in and Sidestep landing minimums published on instrument approach procedure charts are based on full operation of all components and visual aids (see exception below for ALSF 1 & 2) associated with the particular approach chart being used. Higher minimums are required with inoperative components or visual aids as indicated below. If more than one component is inoperative, each minimum is raised to the highest minimum required by any single component that is inoperative. ILS glideslope inoperative minimums are published on the instrument approach charts as localizer minimums. This table applies to approach categories A thru D and is to be used unless amended by notes on the approach chart. Such notes apply only to the particular approach category(ies) as stated. Category E inoperative notes will be specified when published on civil charts. The inoperative table does not apply to Circling minimums. See legend page for description of components indicated below.

Full Operation Exception: For ALSF 1 & 2 operated as SSALR, or when the sequenced flashing lights are inoperative, there is no effect on visibility for ILS lines of minima.

(1) ILS, PAR, LPV, GLS minima

Inoperative Component or Visual Aid	Increase Visibility
All ALS types (except ODALS)	¼ mile

(2) ILS, LPV, GLS with visibility minima of RVR 1800†/2000*/2200*

Inoperative Component or Visual Aid	Increase Visibility
ALSF 1 & 2, MALSR, SSALR	To RVR 4000† To RVR 4500*
TDZL or RCLS	To RVR 2400#
RVR	To ½ mile

#For ILS, LPV, GLS procedures with a 200 foot HAT, RVR 1800 authorized with use of FD or AP or HUD to DA.

(3) All Approach Types and all lines of minima other than (1) & (2) above

Inoperative Component or Visual Aid	Increase Visibility
ALSF 1 & 2, MALSR, SSALR	½ mile
MALSF, MALS, SSALF, SSALS, SALSF, SALS	¼ mile

(4) Sidestep minima (CAT C-D)

Inoperative Component or Visual Aid to Sidestep Runway	Increase Visibility
ALSF 1 & 2, MALSR, SSALR	½ mile

(5) All Approach Types, All lines of minima

Inoperative Component or Visual Aid	Increase Visibility
ODALS (CAT A-B)	¼ mile
ODALS (CAT C-D)	⅛ mile

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TERMS/LANDING MINIMA DATA 20142

IFR LANDING MINIMA

The United States Standard for Terminal Instrument Procedures (TERPS) is the approved criteria for formulating instrument approach procedures. Landing minima are established for six aircraft approach categories (ABCDE and COPTER).
In the absence of COPTER MINIMA, helicopters may use the CAT A minimums of other procedures.

LANDING MINIMA FORMAT

In this example airport elevation is 1179, and runway touchdown zone elevation is 1152.

Visibility (RVR 100's of feet) — DA — Aircraft Approach Category — HAT

CATEGORY	A	B	C	D
S-ILS 27	1352/24		200 (200-½)	
S-LOC 27	1440/24	288	(300-½)	1440/50 288 (300-1)
CIRCLING	1540-1 361 (400-1)	1640-1 461 (500-1)	1640-1½ 461 (500-1½)	1740-2 561 (600-2)

Straight-in ILS to Runway 27

Straight-in with Glide Slope Inoperative or not used to Runway 27

All **weather** minimums in parentheses not applicable to Civil Pilots. Military Pilots refer to appropriate regulations.

MDA — HAA — Visibility in Statute Miles

COPTER MINIMA ONLY

CATEGORY	COPTER
H-176°	680-½ 363 (400-½)

Copter Approach Direction — Height of MDA/DA Above Landing Area (HAL) — No circling minimums are provided

NOTE: The W symbol indicates outages of the WAAS vertical guidance may occur daily at this location due to initial system limitations. WAAS NOTAMS for vertical outages are not provided for this approach. Use LNAV minima for flight planning at these locations, whether as a destination or alternate. For flight operations at these locations, when the WAAS avionics indicate that LNAV/VNAV or LPV service is available, then vertical guidance may be used to complete the approach using the displayed level of service. Should an outage occur during the procedure, reversion to LNAV minima may be required. As the WAAS coverage is expanded, the W will be removed.

RNAV minimums are dependent on navigation equipment capability, as stated in the applicable AFM, AFMS, or other FAA approved document. See AIM paragraph 5-4-5, AC 90-105 and AC 90-107 for detailed requirements for each line of minima.

COLD TEMPERATURE AIRPORTS

NOTE: A ❄-12°C symbol indicates a cold temperature altitude correction is required at this airport when reported temperature is at or below the published temperature. See the following Cold Temperature Error Table to make manual corrections. Advise ATC with altitude correction. Advising ATC with altitude corrections is not required in the final segment. See Aeronautical Information Manual (AIM), Chapter 7, for guidance and additional information. For a complete list, see the "Cold Temperature Airports" link under the Additional Resources heading at the bottom of the following page: http://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/dtpp/search/

COLD TEMPERATURE ERROR TABLE

HEIGHT ABOVE AIRPORT IN FEET

REPORTED TEMP °C	200	300	400	500	600	700	800	900	1000	1500	2000	3000	4000	5000
+10	10	10	10	10	20	20	20	20	20	30	40	60	80	90
0	20	20	30	30	40	40	50	50	60	90	120	170	230	280
-10	20	30	40	50	60	70	80	90	100	150	200	290	390	490
-20	30	50	60	70	90	100	120	130	140	210	280	420	570	710
-30	40	60	80	100	120	140	150	170	190	280	380	570	760	950
-40	50	80	100	120	150	170	190	220	240	360	480	720	970	1210
-50	60	90	120	150	180	210	240	270	300	450	590	890	1190	1500

AIRCRAFT APPROACH CATEGORIES

Aircraft approach category indicates a grouping of aircraft based on a speed of VREF, if specified, or if VREF not specified, 1.3 VSO at the maximum certificated landing weight. VREF, VSO, and the maximum certificated landing weight are those values as established for the aircraft by the certification authority of the country of registry. Helicopters are Category A aircraft. An aircraft shall fit in only one category. When necessary to operate the aircraft at an airspeed in excess of the maximum airspeed of its certified aircraft approach category, pilots should use the applicable higher category minima. For additional options and to ensure the aircraft remains within protected airspace, consult the AIM. See following category limits:

MANEUVERING TABLE

Approach Category	A	B	C	D	E
Speed (Knots)	0-90	91-120	121-140	141-165	Abv 165

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CIRCLING APPROACH OBSTACLE PROTECTED AIRSPACE

The circling MDA provides vertical obstacle clearance during a circle-to-land maneuver. The circling MDA protected area extends from the threshold of each runway authorized for landing following a circle-to-land maneuver for a distance as shown in the tables below. The resultant arcs are then connected tangentially to define the protected area.

STANDARD CIRCLING APPROACH MANEUVERING RADIUS

Circling approach protected areas developed prior to late 2012 used the radius distances shown in the following table, expressed in nautical miles (NM), dependent on aircraft approach category. The approaches using standard circling approach areas can be identified by the absence of the C symbol on the circling line of minima.

Circling MDA in feet MSL	Approach Category and Circling Radius (NM)				
	CAT A	CAT B	CAT C	CAT D	CAT E
All Altitudes	1.3	1.5	1.7	2.3	4.5

C EXPANDED CIRCLING APPROACH MANEUVERING AIRSPACE RADIUS

Circling approach protected areas developed after late 2012 use the radius distance shown in the following table, expressed in nautical miles (NM), dependent on aircraft approach category, and the altitude of the circling MDA, which accounts for true airspeed increase with altitude. The approaches using expanded circling approach areas can be identified by the presence of the C symbol on the circling line of minima.

Circling MDA in feet MSL	Approach Category and Circling Radius (NM)				
	CAT A	CAT B	CAT C	CAT D	CAT E
1000 or less	1.3	1.7	2.7	3.6	4.5
1001-3000	1.3	1.8	2.8	3.7	4.6
3001-5000	1.3	1.8	2.9	3.8	4.8
5001-7000	1.3	1.9	3.0	4.0	5.0
7001-9000	1.4	2.0	3.2	4.2	5.3
9001 and above	1.4	2.1	3.3	4.4	5.5

Comparable Values of RVR and Visibility

The following table shall be used for converting RVR to ground or flight visibility. For converting RVR values that fall between listed values, use the next higher RVR value; do not interpolate. For example, when converting 4800 RVR, use 5000 RVR with the resultant visibility of 1 mile.

RVR (feet)	Visibility (SM)	RVR (feet)	Visibility (SM)	RVR (feet)	Visibility (SM)	RVR (feet)	Visibility (SM)
1600	¼	2400	½	3500	⅝	5500	1
1800	½	2600	½	4000	¾	6000	1¼
2000	½	3000	⅝	4500	⅞		
2200	½	3200	⅝	5000	1		

RADAR MINIMA

	RWY	GP/TCH/RPI	CAT	DA/ MDA-VIS	HAT HAA	CEIL-VIS	CAT	DA/ MDA-VIS	HAT HAA	CEIL-VIS
PAR	10	2.5°/42/1000	ABCDE	**195**/16	100	(100-¼)				
	28	2.5°/48/1068	ABCDE	**187**/16	100	(100-¼)				
ASR	10		ABC	**560**/40	463	(500-¾)	DE	**560**/50	463	(500-1)
	28		AB	**600**/50	513	(600-1)	CDE	**600**/60	513	(600-1¼)
CIR	10		AB	**560-**1¼	463	(500-1¼)	CDE	**560-**1½	463	(500-1½)
	28		AB	**600-**1¼	503	(600-1¼)	CDE	**600-**1½	503	(600-1½)

Visibility (RVR 100's of feet)

Visibility in Statute Miles

All minimums in parentheses not applicable to Civil Pilots. Military Pilots refer to appropriate regulations.

Radar Minima:

1. Minima shown are the lowest permitted by established criteria. Pilots should consult applicable directives for their category of aircraft.
2. The circling MDA and weather minima to be used are those for the runway to which the final approach is flown- not the landing runway. In the above RADAR MINIMA example, a category C aircraft flying a radar approach to runway 10, circling to land on runway 28, must use an MDA of 560 feet with weather minima of 500-1½.

NOTE: Military RADAR MINIMA may be shown with communications symbology that indicates emergency frequency monitoring capability by the radar facility as follows: (E) VHF and UHF emergency frequencies monitored
(V) VHF emergency frequency (121.5) monitored
(U) UHF emergency frequency (243.0) monitored

Additionally, unmonitored frequencies which are available on request from the controlling agency may be annotated with an "x".

A Alternate Minimums not standard. Civil users refer to tabulation. USA/USN/USAF pilots refer to appropriate regulations.

A NA Alternate minimums are Not Authorized due to unmonitored facility or absence of weather reporting service.

T Airport is published in the Takeoff Minimums, (Obstacle) Departure Procedures, and Diverse Vector Area (Radar Vectors) tabulation.

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GENERAL INFORMATION

This publication is issued every 56 days and includes Standard Instrument Approach Procedures (SIAPS), Standard Instrument Departures (SIDs), Standard Terminal Arrivals (STARs), IFR Takeoff Minimums and (Obstacle) Departure Procedures (ODPs), IFR Alternate Minimums, and Radar Instrument Approach Minimums for use by civil and military aviation. The organization responsible for SIAPs, Radar Minimums, SIDs, STARs and graphic ODPs is identified in parentheses in the top margin of the procedure; e.g., (FAA), (FAA-O), (USA), (USAF), (USN). SIAPS with the (FAA) and (FAA-O) designation are regulated under 14 CFR, Part 97. SIAPs with the (FAA-O) designation have been developed under Other Transaction Agreement (OTA) by private providers and have been certified by the FAA. See 14 CFR, Part 91.175 (a) and the AIM for further details. 14 CFR, Part 91.175 (g) and the Special Notices section of the Chart Supplement contain information on civil operations at military airports.

The FAA uses an internal numbering system on all charts in the TPP. This Approach and Landing (AL) number is located on the top center margin of the chart followed by the organization responsible for the procedure in parentheses, e.g., AL-18 (FAA), AL-227 (USAF).

CHART CURRENCY INFORMATION

Date of Latest Revision 09365

The Date of Latest Revision identifies the Julian date the chart was added or last revised for any reason. The first two digits indicate the year, the last three digits indicate the day of the year (001 to 365/6) in which the latest revision of any kind has been made to the chart.

FAA Procedure Amendment Number → Orig 31DEC09 ← Procedure Amendment Effective Date

FAA Procedure Amendment Number → Amdt 2B 12MAR09 ← Procedure Amendment Effective Date

The FAA Procedure Amendment Number represents the most current amendment of a given procedure. The Procedure Amendment Effective Date represents the AIRAC cycle date on which the procedure amendment was incorporated into the chart. Updates to the amendment number & effective date represent procedural/criteria revisions to the charted procedure, e.g., course, fix, altitude, minima, etc. On Departure Procedures and Standard Terminal Arrivals, procedural revisions to the current chart are indicated by an upnumber to the procedure title with the procedure amendment effective date following. On Radar Minima, Takeoff Minimums and (Obstacle) Departure Procedures and Diverse Vector Areas, the FAA Procedure Amendment Number, Procedure Effective Date, and the Julian Date of Last Revision will be shown on the same line, e.g., AMDT 2 10DEC15 (15344).

MISCELLANEOUS

★ Indicates a non-continuously operating facility, see Chart Supplement.

For Civil (FAA) instrument procedures, "RADAR REQUIRED" in the planview of the chart indicates that ATC radar must be available to assist the pilot when transitioning from the en route environment. "Radar required" in the pilot briefing portion of the chart indicates that ATC radar is required on portions of the procedure outside the final approach segment, including the missed approach. Some military procedures also have equipment requirements such as "Radar Required", but do not conform to the same charting application standards used by the FAA.

Distances are in nautical miles (except visibility in statute miles and Runway Visual Range in hundreds of feet). Runway dimensions are in feet. Elevations are in feet, Mean Sea Level (MSL). Ceilings are in feet above airport elevation. Radials/bearings/headings/courses are magnetic. Horizontal Datum: Unless otherwise noted on the chart, all coordinates are referenced to North American Datum 1983 (NAD 83), which for charting purposes is considered equivalent to World Geodetic System 1984 (WGS 84).

Terrain is scaled within the neat lines (planview boundaries) and does not accurately underlie not-to-scale distance depictions or symbols.

STANDARD TERMINAL ARRIVALS AND DEPARTURE PROCEDURES

The use of the associated codified STAR/DP and transition identifiers are requested of users when filing flight plans via teletype and are required for users filing flight plans via computer interface. It must be noted that when filing a STAR/DP with a transition, the first three coded characters of the STAR and the last three coded characters of the DP are replaced by the transition code. Examples: ACTON SIX ARRIVAL, file (AQN.AQN6); ACTON SIX ARRIVAL, EDNAS TRANSITION, file (EDNAS.AQN6). FREEHOLD THREE DEPARTURE, file (FREH3.RBV), FREEHOLD THREE DEPARTURE, ELWOOD CITY TRANSITION, file (FREH3.EWC).

PROCEDURE PBN/EQUIPMENT REQUIREMENTS

Users will begin to see Performance-Based Navigation (PBN) Requirements and Equipment Requirements on Instrument Approach Procedures (IAPs), RNAV STARS and RNAV DPs prominently displayed in separate, standardized notes boxes. For procedures with PBN elements, the PBN box will contain the procedure's navigation specification(s); and, if required: specific sensors or infrastructure needed for the navigation solution; any additional or advanced functional requirements; the minimum Required Navigation Performance (RNP) value and any amplifying remarks. Items listed in this PBN box are REQUIRED for the procedure's PBN elements. The Equipment Requirements Box will list non-PBN requirements. On charts with both PBN elements and equipment requirements, the PBN requirements box will be listed first. The publication of these notes will continue incrementally until all charts have been amended to comply with the new standard.

IAP PBN/Equipment Requirements Notes Box

PBN Requirements Box →	From WINRZ, LIBGE: RNAV-1 GPS, RNAV-1GPS from MAP to YARKU.
Equipment Requirements Box →	DME required for LOC only.
Standard Procedure Notes Box →	T Circling to Rwy 25 NA at night. #For inop MALSR increase S-ILS 16R all cats visibility to 2½ SM.

RNAV STAR and DP PBN/Equipment Requirements Notes Box

PBN Requirements Box →	RNAV 1 - DME/DME/IRU or GPS
Equipment Requirements Box →	RADAR required

PILOT CONTROLLED AIRPORT LIGHTING SYSTEMS

Available pilot controlled lighting (PCL) systems are indicated as follows:

1. Approach lighting systems that bear a system identification are symbolized using negative symbology, e.g., A1, V, ✿
2. Approach lighting systems that do not bear a system identification are indicated with a negative "L" beside the name.

A star (★) indicates non-standard PCL, consult Chart Supplement, e.g., L★

To activate lights, use frequency indicated in the communication section of the chart with a L or the appropriate lighting system identification e.g., UNICOM 122.8 L, A1, V

KEY MIKE	FUNCTION
7 times within 5 seconds	Highest intensity available
5 times within 5 seconds	Medium or lower intensity (Lower REIL or REIL-off)
3 times within 5 seconds	Lowest intensity available (Lower REIL or REIL-off)

ABBREVIATIONS

AAUP.....Attention All Users Page
ADF.....Automatic Direction Finder
ADIZ.....Air Defense Identification Zone
AFIS.....Automatic Flight Information Service
ALS.....Approach Light System
ALSF.....Approach Light System with Sequenced Flashing Lights
AOB.....At Or Below
AP.....Autopilot System
APCH.....Approach
APP CON.....Approach Control
ARR.....Arrival
ASOS.....Automated Surface Observing System
ASR/PAR.....Published Radar Minimums at this Airport
ASSC.....Airport Surface Surveillance Systems
ATIS.....Automatic Terminal Information Service
AUNICOM.....Automated UNICOM
AWOS.....Automated Weather Observing System
AZ.....Azimuth
BC.....Back Course
BND.....Bound
C.....Circling
CAT.....Category
CCW.....Counter Clockwise
CDI.....Course Deviation Indicator
Chan.....Channel
CIFP.....Coded Instrument Flight Procedures
CIR.....Circling
CLNC DEL.....Clearance Delivery
CNF.....Computer Navigation Fix
CPDLC.....Controller Pilot Data Link Communication
CTAF.....Common Traffic Advisory Frequency
CW.....Clockwise
D-ATIS.....Digital-Automatic Terminal Information Service
DA.....Decision Altitude
DER.....Departure End of Runway
DH.....Decision Height
DME.....Distance Measuring Equipment
DTHR.....Displaced Threshold
DVA.....Diverse Vector Area
ELEV.....Elevation
EMAS.....Engineered Material Arresting System
FAF.....Final Approach Fix
FD.....Flight Director System
FM.....Fan Marker
FMS.....Flight Management System
GBAS.....Ground Based Augmentation System
GCO.....Ground Communications Outlet
GLS.....Ground Based Augmentation System Landing System
GP.....Glidepath
GPI.....Ground Point of Interception
GPS.....Global Positioning System
GS.....Glide Slope
HAA.....Height above Airport
HAL.....Height above Landing
HAT.....Height above Touchdown
HATh.....Height Above Threshold
HCH.....Heliport Crossing Height
HGS.....Head-up Guidance System
HIRL.....High Intensity Runway Lights
HUD.....Head-up Display
IAF.....Initial Approach Fix
ICAO.....International Civil Aviation Organization
IF.....Intermediate Fix
IM.....Inner Marker
INOP.....Inoperative
INT.....Intersection
K.....Knots
KIAS.....Knots Indicated Airspeed
LAAS.....Local Area Augmentation System
LDA.....Localizer Type Directional Aid
Ldg.....Landing
LIRL.....Low Intensity Runway Lights
LNAV.....Lateral Navigation
LOC.....Localizer
LP.....Localizer Performance
LPV.....Localizer Performance with Vertical Guidance
LR.....Lead Radial. Provides at least 2 NM (Copter 1 NM) of lead to assist in turning onto the intermediate/final course.
MAA.....Maximum Authorized Altitude
MALS.....Medium Intensity Approach Light System
MALSF.....Medium Approach Lighting System with Sequenced Flashers
MALSR.....Medium Intensity Approach Light System with RAIL
MAP.....Missed Approach Point
MDA.....Minimum Descent Altitude
MIRL.....Medium Intensity Runway Lights
MM.....Middle Marker
MRA.....Minimum Reception Altitude
N/A.....Not Applicable
NA.....Not Authorized
NDB.....Non-directional Radio Beacon
NM.....Nautical Mile
NoPT.....No Procedure Turn Required (Procedure Turn shall not be executed without ATC clearance)

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ODALS..... Omnidirectional Approach Light System
ODP..... Obstacle Departure Procedure
OM..... Outer Marker
PAR..... Precision Approach Radar
PDC..... Pre-Departure Clearance
PRM..... Precision Runway Monitor
R..... Radial
RA..... Radio Altimeter setting height
RAIL..... Runway Alignment Indicator Lights
RCLS..... Runway Centerline Light System
REIL..... Runway End Identifier Lights
RF..... Radius-to-Fix
RLLS..... Runway Lead-in Light System
RNAV..... Area Navigation
RNP..... Required Navigation Performance
RPI..... Runway Point of Intercept(ion)
RRL..... Runway Remaining Lights
Rwy..... Runway
RVR..... Runway Visual Range
S..... Straight-in
SALS..... Short Approach Light System
SALSF..... Short Approach Lighting System with Sequenced Flashing Lights
SSALF..... Simplified Short Approach Lighting System with Sequenced Flashers
SSALR..... Simplified Short Approach Light System with RAIL
SSALS..... Simplified Short Approach Lighting System
SDF..... Simplified Directional Facility
SM..... Statute Mile
SOIA..... Simultaneous Offset Instrument Approach
SR-SS..... Sunrise-Sunset
TAA..... Terminal Arrival Area
TAC..... TACAN
TCH..... Threshold Crossing Height (height in feet Above Ground level)
TDZ..... Touchdown Zone
TDZE..... Touchdown Zone Elevation
TDZ/CL..... Touchdown Zone and Runway Centerline Lighting
TDZL..... Touchdown Zone Lights
THR..... Threshold
TODA..... Takeoff Distance Available
TORA..... Takeoff Run Available
TR..... Track
VASI..... Visual Approach Slope Indicator
VCOA..... Visual Climb Over Airport
VDP..... Visual Descent Point
VGSI..... Visual Glide Slope Indicator
VNAV..... Vertical Navigation
WAAS..... Wide Area Augmentation System
WP/WPT..... Waypoint (RNAV)

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LEGEND 20086

INSTRUMENT APPROACH PROCEDURES (CHARTS)

PLANVIEW SYMBOLS

TERMINAL ROUTES

Procedure Track

Missed Approach

Visual Flight Path

165°
345°
Procedure Turn
(Type degree and point of turn optional)

3100 NoPT 5.6 NM to GS Intcpt
045°
(14.2 to LOM)
Minimum Route Altitude
2000
155°
Feeder Route
(15.1)
Mileage

HOLDING PATTERNS

Missed Approach
090°
270°

Hold-in-lieu of Procedure Turn
090°
1 min
270°

090°
(IAS)
270°
4 NM

HOLD 8000
Arrival
090°
270°

Holding pattern with max. restricted airspeed:
(175K) applies to all altitudes.
(210K) applies to altitudes above 6000′ to and including 14000′.
Arrival Holding Pattern altitude restrictions will be indicated when they deviate from the adjacent leg.
Timing or distance limits for Hold-in-lieu of Procedure Turn Holding Patterns will be shown.
DME fixes may be shown.

FIXES/ATC REPORTING REQUIREMENTS

Reporting Point
▲ Name (Compulsory)
△ Name (Non-Compulsory)

Intersection

WAYPOINT (Compulsory)

WAYPOINT (Non-Compulsory)

FLYOVER POINT

MAP WP (Flyover)

Computer Navigation Fix (CNF) - No ATC Function
x (NAME) ("x" omitted when it conflicts with runway pattern)

15 DME Distance From Facility

AUSTN INT
ARC/DME/RNAV Fix

R-198 → Radial line and value

LR-198 → Lead Radial

LB-198 → Lead Bearing

ALTITUDES

5500 Mandatory Altitude
2500 Minimum Altitude
4300 Maximum Altitude
3000 Recommended Altitude
5000 Mandatory Block
3000 Altitude

INDICATED AIRSPEED

175K	120K	250K	180K
Mandatory Airspeed	Minimum Airspeed	Maximum Airspeed	Recommended Airspeed

RADIO AIDS TO NAVIGATION

110.1 Underline indicates No Voice transmitted on this frequency

Compulsory:

VOR, VORTAC, DME, VOR/DME, TACAN, NDB, NDB/DME

Non-Compulsory:

VOR, VORTAC, DME, VOR/DME, TACAN, NDB, NDB/DME

LOM/LMM (Compass locator at Outer Marker/Middle Marker)

Marker Beacon

Marker beacons that are not specifically part of the procedure.

Localizer (LOC/LDA) Course
Right side shading- Front course; Left side shading- Back Course

SDF Course

LOC/DME

LOC/LDA/SDF Transmitter
(shown when installation is offset from its normal postion off the end of the runway.)

Primary Navaid with Coordinate Values
LIMA
114.5 LIM
Chan 92
S12°00.80′
W77°07.00′

Secondary Navaid
LMM
LIMA
248 NT

SCOTT
Chan 59
SKE
(112.2)
VHF Paired Frequency

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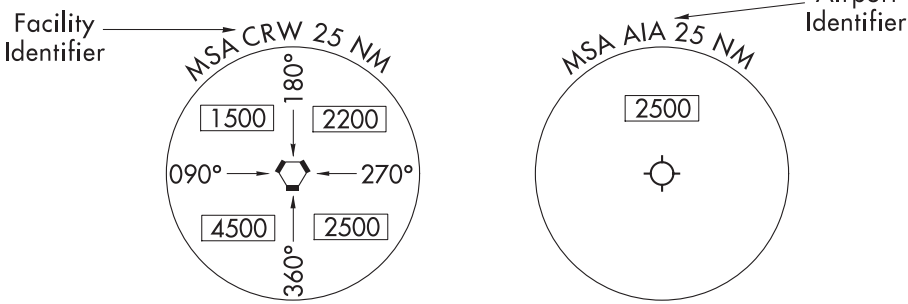
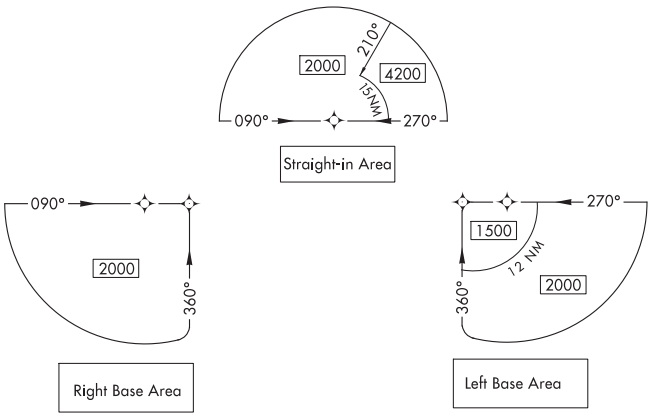
PLANVIEW SYMBOLS

MINIMUM SAFE ALTITUDE (MSA)



(arrows on distance circle identify sectors)

TERMINAL ARRIVAL AREA (TAA)



MISCELLANEOUS

VOR Changeover Point

RWY 15 S12° 00.52′ W77° 06.91′ — End of Rwy Coordinates (DOD only)

Distance not to scale

International Boundary

Air Defense Identification Zone

SPECIAL USE AIRSPACE

R-352

R-Restricted
P-Prohibited
W-Warning
A-Alert

AIRPORTS

Primary and Secondary (named in planview)

Civil

Seaplane Base

Heliport

OBSTACLES

Spot Elevation

Obstacle

Highest Obstacle

Highest Spot Elevation

Group of Obstacles

Doubtful accuracy

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LEGEND 20198

INSTRUMENT APPROACH PROCEDURES (CHARTS)

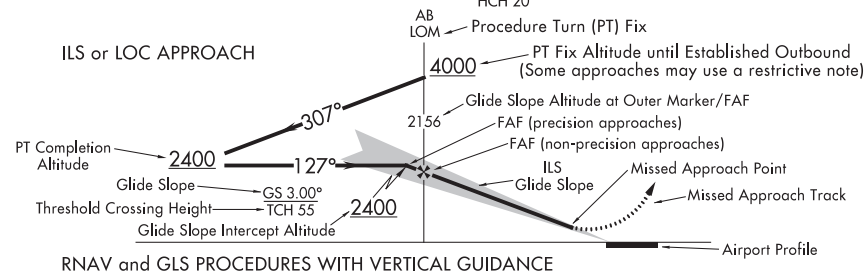
PROFILE VIEW

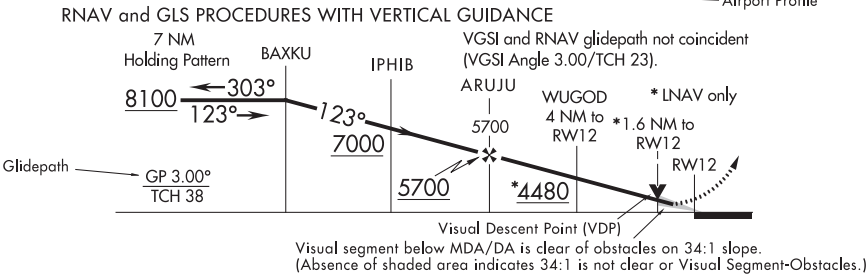
Three different methods are used to depict either electronic or vertical guidance: "GS", "GP", or "VDA".

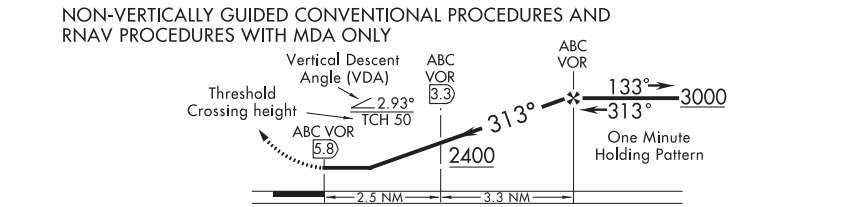
1. "GS" indicates that an Instrument Landing System (ILS) electronic glide slope (a ground antenna) provides vertical guidance. The profile section of ILS procedures depict a GS angle and TCH in the following format: GS 3.00°/TCH 55.

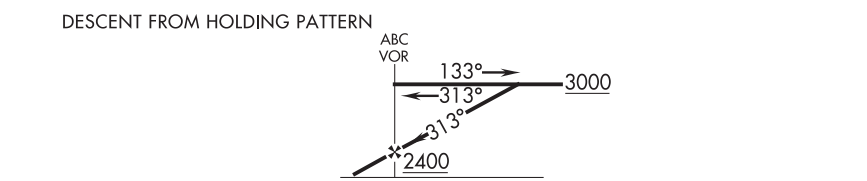
2. "GP" on GLS and RNAV procedures indicates that either electronic vertical guidance (via Wide Area Augmentation System - WAAS or Ground Based Augmentation System - GBAS) or barometric vertical guidance is provided. GLS and RNAV procedures with a published decision altitude (DA/H) depict a GP angle and TCH in the following format: GP 3.00°/TCH 50.

3. An advisory vertical descent angle (VDA) is provided on non-vertically guided conventional procedures and RNAV procedures with only a minimum descent altitude (MDA) to assist in preventing controlled flight into terrain. On Civil (FAA) procedures, this information is placed above or below the procedure track following the fix it is based on. Absence of a VDA or a note that the VDA is not authorized indicates that the prescribed obstacle clearance surface is not clear and the VDA must not be used below MDA. VDA is depicted in the following format: 3.00°/TCH 55. On Copter procedures this is depicted in the following format: 7.30°/HCH 20.









ALTITUDES

5500	Mandatory Altitude	3000	Recommended Altitude
2500	Minimum Altitude	5000/3000	Mandatory Block Altitude
4300	Maximum Altitude		

PROFILE SYMBOLS

- 2400 — Glide Slope/Glidepath Intercept Altitude and final approach fix for vertically guided approach procedures.
- ▼ Visual Descent Point (VDP)
- Visual Flight Path
- Note: Facilities and waypoints are depicted as a solid vertical line while fixes and intersections are depicted as a dashed vertical line.

LEGEND 20198

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LEGEND 19059

LEGEND
STANDARD TERMINAL ARRIVAL (STAR) CHARTS
DEPARTURE PROCEDURE (DP) CHARTS

Applies to both STAR and DP Charts unless otherwise noted.

RADIO AIDS TO NAVIGATION

Compulsory:

VOR, VORTAC, DME, VOR/DME, TACAN, NDB, NDB/DME

Non-Compulsory:

VOR, VORTAC, DME, VOR/DME, TACAN, NDB, NDB/DME

LMM, LOM (Compass locator)

Marker Beacon

LOC, LOC/DME (shown when installation is offset from its normal position off the end of the runway.) (DP)

Localizer Course

SDF Course

(T) indicates frequency protection range (STAR)

(Y) TACAN must be placed in "Y" mode to receive distance information

Identifier

Frequency

ORLANDO
112.25 (T) ORL
Chan 59 (Y)
N28°32.56′ - W81°20.10′

Geographic Position

L-19, H-5

DME or TACAN Channel

Underline indicates no voice transmitted on this frequency

Enroute Chart Reference

Coordinates

Waypoint Name

PRAYS
N38°58.30′ W89°51.50′
112.7 CAP 187.1°-56.2
590

Frequency

Identifier

Reference Facility Elevation

Radial-Distance (Facility to Waypoint)

FIXES/ATC REPORTING REQUIREMENTS

Reporting Points
N00°00.00′
W00°00.00′

75 → DME Mileage (when not obvious)

▲ Fix-Compulsory and

△ Non-Compulsory Position Report

DME fix

WAYPOINT (Compulsory)

WAYPOINT (Non-Compulsory)

FLYOVER POINT

X Computer Navigation Fix (CNF) - No ATC Function
N00°00.00′
W00°00.00′

ROUTES

4500 MEA-Minimum Enroute Altitude
*3500 MOCA-Minimum Obstruction Clearance Altitude
270° Departure Route - Arrival Route
(65) Mileage between Radio Aids, Reporting Points, and Route Breaks

Transition Route

R-275 Radial line and value

Lost Communications Track

Visual Flight Path (DP)

V12 J80 Airway/Jet Route Identification

DP Holding Pattern (IAS)

STAR Holding Pattern (IAS)

Holding pattern with max. restricted airspeed
(175K) applies to all altitudes
(210K) applies to altitudes above 6000′ to and including 14000′

SPECIAL USE AIRSPACE

R-352

R-Restricted W-Warning
P-Prohibited A-Alert
MOA-Military Operations Area

ALTITUDES

5500	2300	4800
Mandatory Altitude (Cross at)	Minimum Altitude (Cross at or above)	Maximum Altitude (Cross at or below)

15000
12000
Block Altitude

Altitude change at other than Radio Aids (STAR)

INDICATED AIRSPEED

175K	120K	250K
Mandatory Airspeed	Minimum Airspeed	Maximum Airspeed

AIRPORTS

(DP)

Heliport

Civil Military Joint Civil-Military

Airports not served by the procedure shown in screened color (STAR)

Civil Military Joint Civil-Military

MISCELLANEOUS

Changeover Point

Distance not to scale (DP)

International Boundary (DP)

Air Defense Identification Zone

T Takeoff Minimums and (Obstacle) Departure Procedures entry published. (DP)

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LEGEND 19059

19339

LEGEND

INSTRUMENT APPROACH PROCEDURES (CHARTS)

AIRPORT DIAGRAM/AIRPORT SKETCH

Runways

Hard Surface | Other Than Hard Surface | Stopways,Taxiways, Parking Areas | Metal Surface

Closed Runway | Closed Surface | Under Construction | Water Runway

ARRESTING GEAR: Specific arresting gear systems; e.g., BAK12, MA-1A etc., shown on airport diagrams, not applicable to Civil Pilots. Military Pilots refer to appropriate DOD publications.

uni-directional | bi-directional | Jet Barrier

ARRESTING SYSTEM (EMAS)

REFERENCE FEATURES

Displaced Threshold.....
Hot Spot .....
Runway Holding Position Markings.....
Buildings.....
24-Hour Self-Serve Fuel ##.....
Tanks.....
Obstructions.....
Airport Beacon #.....
Runway
Radar Reflectors.....
Control Tower #..... TWR

When Control Tower and Rotating Beacon are co-located, Beacon symbol will be used and further identified as TWR.

A fuel symbol is shown to indicate 24-hour self-serve fuel available, see appropriate Chart Supplement for information.

NOTE:
All new and revised airport diagrams are shown referenced to the World Geodetic System (WGS) (noted on appropriate diagram), and may not be compatible with local coordinates published in FLIP. (Foreign Only)

Runway Weight Bearing Capacity/or PCN Pavement Classification Number is shown as a codified expression. Refer to the appropriate Supplement/Directory for applicable codes e.g., RWY 14-32 PCN 80 F/D/X/U S-75, D-185, 2S-175, 2D-325

Helicopter Alighting Areas

Negative Symbols used to identify Copter Procedures landing point.....

NOTE:
Landmark features depicted on Copter Approach insets and sketches are provided for visual reference only.

Runway TDZ elevation.....TDZE 123

Runway Slope.....0.8% UP ⟵ 0.3% DOWN
(shown when runway slope is greater than or equal to 0.3%)

NOTE:
Runway Slope measured to midpoint on runways 8000 feet or longer.

U.S. Navy Optical Landing System (OLS) "OLS" location is shown because of its height of approximately 7 feet and proximity to edge of runway may create an obstruction for some types of aircraft.

Approach light symbols are shown in the Flight Information Handbook.

Airport diagram scales are variable.

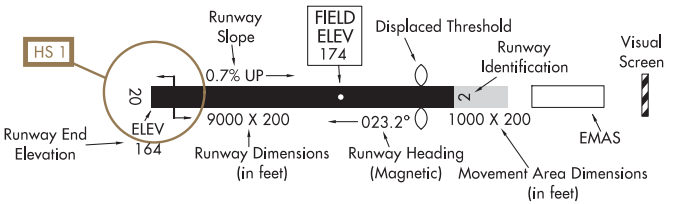
True/magnetic North orientation may vary from diagram to diagram

Coordinate values are shown in 1 or ½ minute increments. They are further broken down into 6 second ticks, within each 1 minute increments.

Positional accuracy within ±600 feet unless otherwise noted on the chart.

Runway length depicted is the physical length of the runway (end-to-end, including displaced thresholds if any) but excluding areas designated as stopways.

A D symbol is shown to indicate runway declared distance information available, see appropriate Chart Supplement for distance information.



SCOPE

Airport diagrams are specifically designed to assist in the movement of ground traffic at locations with complex runway/taxiway configurations. Airport diagrams are not intended to be used for approach and landing or departure operations. For revisions to Airport Diagrams: Consult FAA Order 7910.4.

LEGEND

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LEGEND 15344

INSTRUMENT APPROACH PROCEDURES (CHARTS)

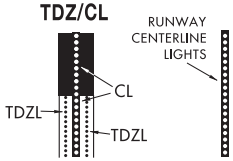
APPROACH LIGHTING SYSTEM - UNITED STATES

Approach lighting and visual glide slope systems are indicated on the airport sketch by an identifier, e.g., A2, V, etc.

A dot " • " portrayed with approach lighting letter identifier indicates sequenced flashing lights (F) installed with the approach lighting system e.g., A1. Negative symbology, e.g., A1, V indicates Pilot Controlled Lighting (PCL).

RUNWAY TOUCHDOWN ZONE AND CENTERLINE LIGHTING SYSTEMS

TDZ/CL

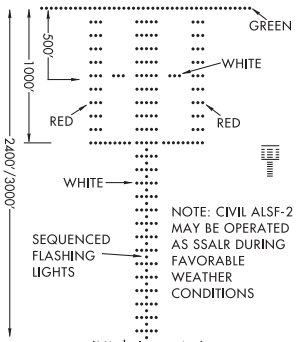


AVAILABILITY of TDZ/CL will be shown by NOTE in SKETCH e.g. "TDZ/CL Rwy 15"

APPROACH LIGHTING SYSTEM

A

ALSF-2



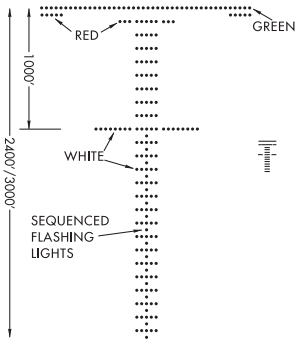
NOTE: CIVIL ALSF-2 MAY BE OPERATED AS SSALR DURING FAVORABLE WEATHER CONDITIONS

(High Intensity)
LENGTH 2400/3000 FEET

APPROACH LIGHTING SYSTEM

A1

ALSF-1



(High Intensity)
LENGTH 2400/3000 FEET

SHORT APPROACH LIGHTING SYSTEM

A2

SALS/SALSF

(High Intensity)

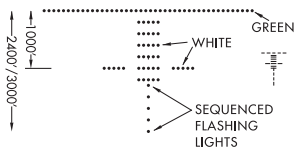
SAME AS INNER 1500' OF ALSF-1

SIMPLIFIED SHORT APPROACH LIGHTING SYSTEM

with Runway Alignment Indicator Lights

A3

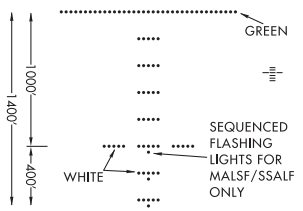
SSALR



(High Intensity)
LENGTH 2400/3000 FEET

MEDIUM INTENSITY (**MALS** and **MALSF**) OR SIMPLIFIED SHORT (**SSALS** and **SSALF**) APPROACH LIGHTING SYSTEMS

A4



LENGTH 1400 FEET

MEDIUM INTENSITY APPROACH LIGHTING SYSTEM

with Runway Alignment Indicator Lights

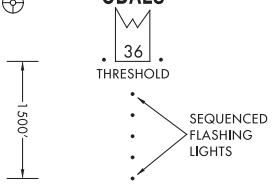
A5

MALSR

SAME LIGHT CONFIGURATION AS SSALR.

OMNIDIRECTIONAL APPROACH LIGHTING SYSTEM

ODALS



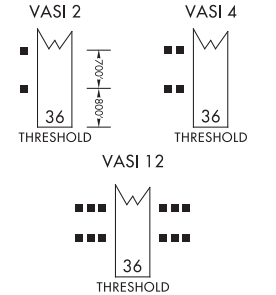
LENGTH 1500 FEET

V VISUAL APPROACH SLOPE INDICATOR

VASI

VISUAL APPROACH SLOPE INDICATOR WITH STANDARD THRESHOLD CLEARANCE PROVIDED.

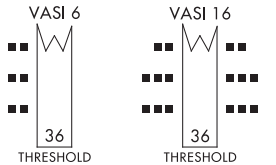
ALL LIGHTS WHITE — TOO HIGH
FAR LIGHTS RED, NEAR LIGHTS WHITE — ON GLIDE SLOPE
ALL LIGHTS RED — TOO LOW



V3 VISUAL APPROACH SLOPE INDICATOR

VASI

3-BAR, 6 OR 16 BOX, VISUAL APPROACH SLOPE INDICATOR THAT PROVIDES 2 GLIDE ANGLES AND 2 THRESHOLD CROSSING HEIGHTS.



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LEGEND 15344

LEGEND 18256

INSTRUMENT APPROACH PROCEDURES (CHARTS)

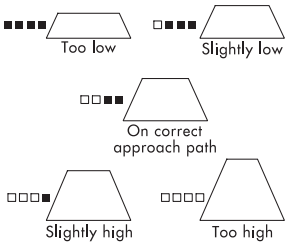
APPROACH LIGHTING SYSTEM - UNITED STATES

Approach lighting and visual glide slope systems are indicated on the airport sketch by an identifier, (A2), (V) etc.

A dot " ● " portrayed with approach lighting letter identifier indicates sequenced flashing lights (F) installed with the approach lighting system e.g., (A1). Negative symbology, e.g., (A1), (V) indicates Pilot Controlled Lighting (PCL).

(P) PRECISION APPROACH PATH INDICATOR

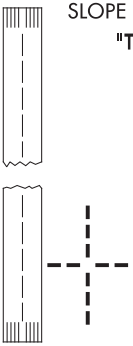
PAPI



Legend: □ White ■ Red

(V1) "T"-VISUAL APPROACH SLOPE INDICATOR

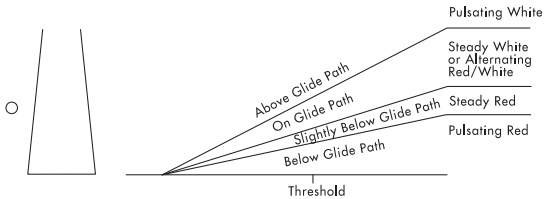
"T"-VASI



"T" ON BOTH SIDES OF RWY
ALL LIGHTS VARIABLE WHITE.
CORRECT APPROACH SLOPE-
ONLY CROSS BAR VISIBLE.
UPRIGHT "T"- FLY UP.
INVERTED "T"- FLY DOWN.
RED "T"- GROSS
UNDERSHOOT.

(V2) PULSATING VISUAL APPROACH SLOPE INDICATOR

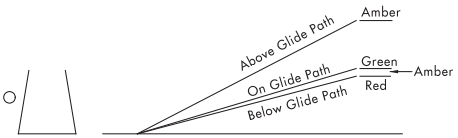
PVASI



CAUTION: When viewing the pulsating visual approach slope indicators in the pulsating white or pulsating red sectors, it is possible to mistake this lighting aid for another aircraft or a ground vehicle. Pilots should exercise caution when using this type of system.

(V4) TRI-COLOR VISUAL APPROACH SLOPE INDICATOR

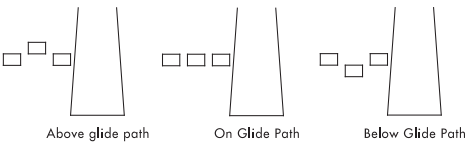
TRCV



CAUTION: When the aircraft descends from green to red, the pilot may see a dark amber color during the transition from green to red.

(V5) ALIGNMENT OF ELEMENTS SYSTEMS

APAP



Painted panels which may be lighted at night.
To use the system the pilot positions the aircraft so the elements are in alignment.

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FREQ PAIRING 20198

FREQUENCY PAIRING TABLE

TACAN CHANNEL	VHF FREQUENCY	TACAN CHANNEL	VHF FREQUENCY	TACAN CHANNEL	VHF FREQUENCY
17Y	108.05	40X	110.30	88Y	114.15
18X	108.10	40Y	110.35	89Y	114.25
18Y	108.15	41Y	110.45	90Y	114.35
19Y	108.25	42X	110.50	91Y	114.45
20X	108.30	42Y	110.55	92Y	114.55
20Y	108.35	43Y	110.65	93Y	114.65
21Y	108.45	44X	110.70	94Y	114.75
22X	108.50	44Y	110.75	95Y	114.85
22Y	108.55	45Y	110.85	96Y	114.95
23Y	108.65	46X	110.90	97Y	115.05
24X	108.70	46Y	110.95	98Y	115.15
24Y	108.75	47Y	111.05	99Y	115.25
25Y	108.85	48X	111.10	100Y	115.35
26X	108.90	48Y	111.15	101Y	115.45
26Y	108.95	49Y	111.25	102Y	115.55
27Y	109.05	50X	111.30	103Y	115.65
28X	109.10	50Y	111.35	104Y	115.75
28Y	109.15	51Y	111.45	105Y	115.85
29Y	109.25	52X	111.50	106Y	115.95
30X	109.30	52Y	111.55	107Y	116.05
30Y	109.35	53Y	111.65	108Y	116.15
31Y	109.45	54X	111.70	109Y	116.25
32X	109.50	54Y	111.75	110Y	116.35
32Y	109.55	55Y	111.85	111Y	116.45
33Y	109.65	56X	111.90	112Y	116.55
34X	109.70	56Y	111.95	113Y	116.65
34Y	109.75	80Y	113.35	114Y	116.75
35Y	109.85	81Y	113.45	115Y	116.85
36X	109.90	82Y	113.55	116Y	116.95
36Y	109.95	83Y	113.65	117Y	117.05
37Y	110.05	84Y	113.75	118Y	117.15
38X	110.10	85Y	113.85	119Y	117.25
38Y	110.15	86Y	113.95		
39Y	110.25	87Y	114.05		

See the Chart Supplement for a complete listing.

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FREQ PAIRING 20198

INDEX OF TERMINAL CHARTS AND MINIMUMS

NAME PROC SECT PG

ALTURAS, CA
ALTURAS MUNI(AAT)
TAKEOFF MINIMUMS L
ALTERNATE MINIMUMS ....M
IAPS ..... RNAV (GPS) RWY 31 1
DPS ..... BACHS TWO (OBSTACLE) (RNAV) 2
CHOIR THREE (RNAV) 3

AMEDEE AAF(AHC)
HERLONG, CA
TAKEOFF MINIMUMS L
IAPS ..... RNAV (GPS) RWY 27 4

ARCATA-EUREKA, CA
CALIFORNIA REDWOOD COAST-HUMBOLDT COUNTY(ACV)
TAKEOFF MINIMUMS L
ALTERNATE MINIMUMS ....M
IAPS ..... ILS OR LOC RWY 32 5
RNAV (GPS) RWY 01 6
RNAV (GPS) RWY 14 7
RNAV (GPS) RWY 32 8
DPS ..... HOCUT FIVE 9

ATWATER, CA
CASTLE(MER)
TAKEOFF MINIMUMS L
ALTERNATE MINIMUMS ....M
HOT SPOT ....P
IAPS ..... ILS OR LOC RWY 31 10
RNAV (GPS) RWY 13 11
RNAV (GPS) RWY 31 12
AIRPORT DIAGRAM 13

AUBURN, CA
AUBURN MUNI(AUN)
TAKEOFF MINIMUMS L
ALTERNATE MINIMUMS ....M
IAPS ..... RNAV (GPS) RWY 07 14

BEALE AFB(KBAB)
MARYSVILLE, CA
TAKEOFF MINIMUMS L
HOT SPOT ....P
IAPS ..... ILS OR LOC Y RWY 15 15
ILS OR LOC Y RWY 33 16
RNAV (GPS) RWY 15 17
RNAV (GPS) RWY 33 18
TACAN Y RWY 15 19
TACAN Y RWY 33 20
AIRPORT DIAGRAM 21
DPS ..... PYNUN SIX 22

BECKWOURTH, CA
NERVINO(O02)
TAKEOFF MINIMUMS L
IAPS ..... RNAV (GPS) Y RWY 26 23
RNAV (GPS) Z RWY 26 24

BISHOP, CA
BISHOP(BIH)
TAKEOFF MINIMUMS L
ALTERNATE MINIMUMS ....M
IAPS ..... RNAV (RNP) RWY 30 25
RNAV (GPS) Y RWY 12 26
RNAV (GPS) Z RWY 12 27
LDA RWY 17 28

BUCHANAN FIELD
---SEE CONCORD, CA

BYRON, CA
BYRON(C83)
TAKEOFF MINIMUMS L
ALTERNATE MINIMUMS ....M
IAPS ..... RNAV (GPS) RWY 30 29

CALAVERAS COUNTY-MAURY RASMUSSEN FIELD
---SEE SAN ANDREAS, CA

CALIFORNIA REDWOOD COAST-HUMBOLDT COUNTY
---SEE ARCATA-EUREKA, CA

CASTLE
---SEE ATWATER, CA

CHARLES M SCHULZ - SONOMA COUNTY
---SEE SANTA ROSA, CA

CHICO, CA
CHICO MUNI(CIC)
TAKEOFF MINIMUMS L
ALTERNATE MINIMUMS ....M
IAPS ..... ILS OR LOC RWY 13L 30
RNAV (GPS) RWY 13L 31
RNAV (GPS) RWY 31R 32
AIRPORT DIAGRAM 33
DPS ..... CHICO FIVE 34

CLOVERDALE, CA
CLOVERDALE MUNI(O60)
TAKEOFF MINIMUMS L
IAPS ..... RNAV (GPS) RWY 32 35

COLUMBIA, CA
COLUMBIA(O22)
TAKEOFF MINIMUMS L
ALTERNATE MINIMUMS ....M
IAPS ..... RNAV (GPS) RWY 35 36
DPS ..... FICHU THREE (OBSTACLE) (RNAV) 37

COLUSA, CA
COLUSA COUNTY(O08)
TAKEOFF MINIMUMS L
IAPS ..... RNAV (GPS)-B 38
RNAV (GPS) RWY 31 39
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	RNAV (GPS) RWY 20	385
	RNAV (GPS)-A	386
AIRPORT DIAGRAM		387
DPS	TRUCK FOUR (OBSTACLE)	388
	TAHOE ONE (RNAV)	389
TULARE, CA		
MEFFORD FIELD(TLR)		
TAKEOFF MINIMUMS		L
IAPS	RNAV (GPS) RWY 13	390
	VOR RWY 13	391
UKIAH, CA		
UKIAH MUNI(UKI)		
TAKEOFF MINIMUMS		L
ALTERNATE MINIMUMS		M
IAPS	RNAV (GPS)-B	392
	LOC RWY 15	393
	VOR-A	394
DPS	RONHU ONE (RNAV)	395
	RYPAX ONE (RNAV)	396
UNIVERSITY		
---SEE DAVIS, CA		
VACAVILLE, CA		
NUT TREE(VCB)		
TAKEOFF MINIMUMS		L
ALTERNATE MINIMUMS		M
IAPS	RNAV (GPS) RWY 20	397
	VOR-A	398
DPS	SOKOY THREE	399
VISALIA, CA		
VISALIA MUNI(VIS)		
TAKEOFF MINIMUMS		L
ALTERNATE MINIMUMS		M
IAPS	ILS OR LOC RWY 30	400
	RNAV (GPS) RWY 12	401
	RNAV (GPS) RWY 30	402
	VOR RWY 12	403
WATSONVILLE, CA		
WATSONVILLE MUNI(WVI)		
TAKEOFF MINIMUMS		L
ALTERNATE MINIMUMS		M
IAPS	RNAV (GPS) RWY 02	404
	LOC RWY 02	405
	VOR-A	406
AIRPORT DIAGRAM		407
DPS	WATSONVILLE FOUR (OBSTACLE)	408
	GARLK ONE (RNAV)	409
WATTS-WOODLAND		
---SEE WOODLAND, CA		
WEED, CA		
WEED(O46)		
TAKEOFF MINIMUMS		L
IAPS	RNAV (GPS) RWY 14	410
DPS	FOBRO ONE (OBSTACLE) (RNAV)	411
WESTOVER FIELD AMADOR COUNTY		
---SEE JACKSON, CA		
WILLITS, CA		
ELLS FIELD-WILLITS MUNI(O28)		
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IAPS	RNAV (GPS) RWY 16	412
	RNAV (GPS) RWY 34	413
DPS	FLUEN TWO (OBSTACLE) (RNAV)	414
	MENDOCINO ONE (OBSTACLE) (RNAV)	415
WILLOWS, CA		
WILLOWS-GLENN COUNTY(WLW)		
TAKEOFF MINIMUMS		L
IAPS	RNAV (GPS) RWY 34	416
	VOR RWY 34	417
WOODLAND, CA		
WATTS-WOODLAND(O41)		
TAKEOFF MINIMUMS		L
IAPS	RNAV (GPS) RWY 36	418
YOLO COUNTY		
---SEE DAVIS/WOODLAND/WINTERS, CA		
YUBA COUNTY		
---SEE MARYSVILLE, CA		

IFR TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

Civil Airports and Selected Military Airports

ALL USERS: Airports that have Departure Procedures (DPs) designed specifically to assist pilots in avoiding obstacles during the climb to the minimum enroute altitude, and/or airports that have civil IFR takeoff minimums other than standard, are listed below. Takeoff Minimums and Departure Procedures apply to all runways unless otherwise specified. An entry may also be listed that contains only Takeoff Obstacle Notes. Altitudes, unless otherwise indicated, are minimum altitudes in MSL.

DPs specifically designed for obstacle avoidance are referred to as Obstacle Departure Procedures (ODPs) and are textually described below, or published separately as a graphic procedure. If the ODP is published as a graphic procedure, its name will be listed below, and it can be found in either this volume (civil), or the applicable military volume, as appropriate. Users will recognize graphic obstacle DPs by the term "(OBSTACLE)" included in the procedure title; e.g., TETON TWO (OBSTACLE). If not specifically assigned an ODP, SID, or radar vector as part of an IFR clearance, an ODP may be required to be flown for obstacle clearance, even though not specifically stated in the IFR clearance. When doing so in this manner, ATC should be informed when the ODP being used contains a specified route to be flown, restrictions before turning, and/or altitude restrictions.

Some ODPs, which are established solely for obstacle avoidance, require a climb in visual conditions to cross the airport, a fix, or a NAVAID in a specified direction, at or above a specified altitude. These procedures are called Visual Climb Over Airport (VCOA). To ensure safe and efficient operations, the pilot must verbally request approval from ATC to fly the VCOA when requesting their IFR clearance.

At some locations where an ODP has been established, a diverse vector area (DVA) may be created to allow radar vectors to be used in lieu of an ODP. DVA information will state that headings will be as assigned by ATC and climb gradients, when applicable, will be published immediately following the specified departure procedure.

Graphic DPs designed by ATC to standardize traffic flows, ensure aircraft separation and enhance capacity are referred to as "Standard Instrument Departures (SIDs)". SIDs also provide obstacle clearance and are published under the appropriate airport section. ATC clearance must be received prior to flying a SID.

CIVIL USERS NOTE: Title 14 Code of Federal Regulations Part 91 prescribes standard takeoff rules and establishes takeoff minimums for certain operators as follows: (1) For aircraft, other than helicopters, having two engines or less – one statute mile visibility. (2) For aircraft having more than two engines – one-half statute mile visibility. (3) For helicopters – one-half statute mile visibility. These standard minima apply in the absence of any different minima listed below.

MILITARY USERS NOTE: Civil (nonstandard) takeoff minima are published below. For military takeoff minima, refer to appropriate service directives.

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

ALTURAS, CA

ALTURAS MUNI (AAT)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2 10APR08 (08101) (FAA)

DEPARTURE PROCEDURE:

Use BACHS DEPARTURE.

AMEDEE AAF (KAHC)

HERLONG, CA

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2 30JAN20 (20030)

TAKEOFF MINIMUMS:

Rwy 9, std. w/min. climb of 350' per NM to 9500, or 4100-3 for VCOA.

Rwy 27, std. w/min. climb of 390' per NM to 8500, or 4100-3 for VCOA.

DEPARTURE PROCEDURE:

Rwy 9, climbing right turn on a heading between 086° CW to 266° from DER.

Rwy 27, climbing left turn on a heading between 086° CW 266° from DER.

VCOA:

All runways, obtain ATC approval for VCOA When requesting IFR clearance. Climb in visual Conditions to cross AMEDEE AAF at or above 8000 before proceeding on course.

ARCATA-EUREKA, CA

CALIFORNIA REDWOOD COAST—HUMBOLDT COUNTY (ACV)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 8 12OCT17 (17285) (FAA)

TAKEOFF MINIMUMS:

Rwy 1, std. w/min. climb of 360' per NM to 500 or 1100-2½ for VCOA.

Rwy 14, 400-2½ or std. w/min. climb of 382' per NM to 600.

DEPARTURE PROCEDURE:

Rwy 1, 32, climbing left turn to intercept ACV R-250 to HOCUT INT and continue climb to MEA on V27.

Rwy 14, 19, climbing right turn to intercept ACV R-250 to HOCUT INT and continue climb to MEA on V27.

VCOA:

Rwy 1, obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross California Redwood Coast-Humboldt County airport westbound at or above 1200 to intercept ACV R-250 to HOCUT INT and continue climb to MEA on V27.

TAKEOFF OBSTACLE NOTES:

Rwy 1, runway lights 10' from DER, 54' left and right of centerline, 1' AGL/209' MSL.
Fence beginning 150' from DER, 397' right of centerline, up to 9' AGL/217' MSL.
Tree, fence, pole beginning 222' from DER, 158' right of centerline, up to 260' MSL.
Tree 276' from DER, 491' left of centerline, 245' MSL.
Trees beginning 310' from DER, 198' left of centerline, up to 248' MSL.
Tree 383' from DER, 408' right of centerline, 316' MSL.
Trees beginning 385' from DER, 0' left of centerline, up to 179' AGL/325' MSL.
Trees beginning 423' from DER, 11' left of centerline, up to 118' AGL/260' MSL.
Trees beginning 583' from DER, 6' left of centerline, up to 178 AGL/278' MSL.
Trees beginning 1922' from DER, 179' right of centerline, up to 344' MSL.
Trees beginning 2291' from DER, 266' right of centerline, up to 124 AGL/356' MSL.
Tree 3390' from DER, 164' left of centerline, 150' AGL/335' MSL.
Trees beginning 3400' from DER, 108' left of centerline, up to 175' AGL/357' MSL.
Trees beginning 3478' from DER, 12' left of centerline, up to 187' AGL/364' MSL.
Tree 3602' from DER, 725' right of centerline, 358' MSL.
Trees beginning 3603' from DER, 1' right of centerline, up to 177' AGL/365' MSL.
Trees beginning 3714' from DER, 34' left of centerline, up to 192' AGL/369' MSL.
Trees beginning 3722' from DER, 51' left of centerline, up to 197' AGL/372' MSL.
Trees beginning 3763' from DER, 1' left of centerline, up to 202' AGL/375' MSL.
Tree 4016' from DER, 567' right of centerline, 367' MSL.
Trees beginning 4017' from DER, 67' right of centerline, up to 197' AGL/373' MSL.
Trees beginning 6044' from DER, 852' left of centerline, up to 163' AGL/379' MSL.
Tree 1.1 NM from DER, 48' right of centerline, 385' MSL.
Trees beginning 1.2 NM from DER, 1220' right of centerline, up to 416' MSL.
Trees beginning 1.7 NM from DER, 2648' right of centerline, up to 602' MSL.
Tree 1.8 NM from DER, 3460' right of centerline, 605' MSL.

Rwy 14, runway lights 9' from DER, 54' left and right of centerline, 1' AGL/223' MSL.
Tree 621' from DER, 591' left of centerline, 256' MSL.
Tree, antenna, pole, beginning 733' from DER, 378' left of centerline, up to 262' MSL.
Tree 1086' from DER, 716' right of centerline, 277' MSL.
Trees, beginning 1110' from DER, 717' right of centerline, up to 290' MSL.
Tree 1701' from DER, 860' left of centerline, 283' MSL.
Trees beginning 1843' from DER, 875' left of centerline, up to 307' MSL.
Trees, beginning 2568' from DER, 801' left of centerline, up to 321' MSL.
Trees beginning 3085' from DER, 565' left of centerline, up to 326' MSL.
Tree 3807' from DER, 1202' left of centerline, 374' MSL.
Trees, beginning 3827' from DER, 794' left of centerline, up to 392' MSL.
Trees, beginning 4152' from DER, 813' left of centerline, up to 420' MSL.
Trees, beginning 4514' from DER, 1245' left of centerline, up to 443' MSL.
Trees, beginning 4707' from DER, 880' left of centerline, up to 446' MSL.
Trees, beginning 5176' from DER, 1028' left of centerline, up to 447' MSL.
Trees, beginning 5712' from DER, 1337' left of centerline, up to 467' MSL.
Trees, beginning 1.1 NM from DER, 1618' left of centerline, up to 515' MSL.
Trees, beginning 1.2 NM from DER, 1929' left of centerline, up to 565' MSL.
Tree 1.7 NM from DER, 3238' left of centerline, 568' MSL.
Trees beginning 1.8 NM from DER, 1864' left of centerline, up to 588' MSL.

Rwy 19, runway lights 9' from DER, 55' left and right of centerline, 189' MSL.
Vegetation 15' from DER, 270' right of centerline, 191' MSL.
Tree 776' from DER, 696' right of centerline, 77' AGL/215' MSL.

Rwy 32, fence, beginning 91' from DER, 476' right of centerline, up to 196' MSL.
Fence 132' from DER, 221' left of centerline, 8' AGL/188' MSL.
Tree, fence, bush beginning 183' from DER, 202' left of centerline, up to 195' MSL.
Fence, beginning 268' from DER, 176' right of centerline, up to 13' AGL/197' MSL.
Obs light DME, NAVAID, beginning 580' from DER, 258' right of centerline, up to 29' AGL/203' MSL.
Tree 1022' from DER, 624' right of centerline, 256' MSL.
Trees, beginning 1036' from DER, 448' right of centerline, up to 267' MSL.

ATWATER, CA
CASTLE (MER)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1A 15DEC11 (11349) (FAA)

TAKEOFF MINIMUMS:
Rwy 13, std. w/ min. climb of 250' per NM to 2500 or 2200-3 for climb in visual conditions.

DEPARTURE PROCEDURE:
Rwy 13, climb heading 126° to 2500 before turning left. For climb in visual conditions, cross Castle Airport at or above 2200 before proceeding on course.
Rwy 31, climb heading 306° to 1100 before turning right.

TAKEOFF OBSTACLE NOTES:
Rwy 13, tree 2539' from DER, 1005' right of centerline, 89' AGL/261' MSL.
Rwy 31, tree 1274' from DER, 829' left of centerline, 20' AGL/224' MSL.
Trees beginning 2909' from DER, 542' right of centerline, 65' AGL/269' MSL.

AUBURN, CA
AUBURN MUNI (AUN)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1A 15DEC11 (11349) (FAA)

TAKEOFF MINIMUMS:
Rwy 7, 300-1 w/ min. climb of 387' per NM to 2500, or 1100-3 for climb in visual conditions.

DEPARTURE PROCEDURE:
Rwy 7, climbing left turn to 5000 heading 310°, and MYV VOR/DME R-083 to MYV VOR/DME, then via MYV VOR/DME R-263 to YUBBA INT before proceeding on course, or for climb in visual conditions: cross Auburn Muni airport at or above 2500, continue climb to 5000 via heading 275° and MYV VOR/DME R-094 to MYV VOR/DME, then via MYV VOR/DME R-263 to YUBBA INT before proceeding on course.
Rwy 25, climbing right turn to 5000 via heading 310° and MYV VOR/DME R-083 to MYV VOR/DME, then via MYV VOR/DME R-263 to YUBBA INT before proceeding on course.

TAKEOFF OBSTACLE NOTES:
Rwy 7, trees beginning 1117' from DER, 504' right of centerline, up to 40' AGL/1708' MSL.
Pole 1365' from DER, 600' right of centerline, 59' AGL/1679' MSL.
Tree 3791' from DER, 700' right of centerline, 40' AGL/1639' MSL.
Rwy 25, tree 37' from DER, 479' left of centerline, 40' AGL/1528' MSL.
Tree 86' from DER, 461' right of centerline, 40' AGL/1532' MSL.
Fence 301' from DER, 244' right of centerline, 8' AGL/1508' MSL.
Trees beginning 660' from DER, 249' right of centerline, up to 40' AGL/1559' MSL.

BEALE AFB (KBAB)
MARYSVILLE, CA
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2, 29MAY14 (14149)

DEPARTURE PROCEDURE:
Rwy 15, Climb on a heading between 100° CW to 325° from DER.
Rwy 33, Climb on a heading between 146° CW to 344° from DER.

TAKEOFF OBSTACLE NOTES:
Rwy 33, terrain 118' MSL, 62' from DER, 500' right of centerline.
Terrain 118' MSL, 3' from DER, 517' right of centerline.
Aircraft tail 16' GL/134' MSL, 39' from DER, 533' right of centerline.
Aircraft tail 16' AGL/134' MSL, 129' from DER, 525' right of centerline.

BECKWOURTH, CA
NERVINO (O02)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG-A 17OCT13 (13290) (FAA)

TAKEOFF MINIMUMS:
Rwys 8, 26, 3500-3 for climb in visual conditions.

DEPARTURE PROCEDURE:
Rwys 8, 26, for climb in visual conditions: cross Nervino Airport at or above 8300 before proceeding on course.

TAKEOFF OBSTACLE NOTES:
Rwy 8, road 58' from DER, 469' right of centerline, 15' AGL/4920' MSL.
Pole 310' from DER, 522' right of centerline, 49' AGL/4925' MSL.
Pole 528' from DER, 522' right of centerline, 39' AGL/4924' MSL.
Tree 1.47 NM from DER, 727' right of centerline, 100' AGL/5193' MSL.
Tree 1.9 NM from DER, 2534' right of centerline, 100' AGL/5499' MSL.
Bush 2.03 NM from DER, 2126' right of centerline, 4' AGL/5406' MSL.
Rwy 26, tree 5856' from DER, 1984' right of centerline, 100' AGL/5339' MSL.
Tree 1.25 NM from DER, 2439' right of centerline, 100' AGL/5420' MSL.
Tree 2.07 NM from DER, 3302' left of centerline, 100' AGL/5570' MSL.

BISHOP, CA

BISHOP (BIH)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 4A 29MAR18 (18088) (FAA)

TAKEOFF MINIMUMS:

Rwy 8, 12, 17, 9000-3 for VCOA.

Rwy 26, std. w/ min. climb of 280' per NM to 10400', or 9000-3 for VCOA.

Rwys 30, 35, std. w/ min. climb of 285' per NM to 10500', or 9000-3 for VCOA.

DEPARTURE PROCEDURE:

Rwys 26, 30, climbing right turn on heading 360, thence…

Rwy 35, climbing left turn on heading 290, thence…

…all aircraft intercept BIH R-322 to NIKOL INT/BIH 38.46 DME. Aircraft departing NIKOL on V244 westbound cross NIKOL at or above 13100; aircraft departing NIKOL on V381 southeast bound cross NIKOL at or above 13000; aircraft departing NIKOL on T298 westbound or T259 westbound cross NIKOL at or above 12200; all other aircraft cross NIKOL at or above 11000.

VCOA:

All Rwys, obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross Bishop airport at or above 13000' before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 26, trees and bushes beginning 69' from DER, 150' right of centerline, up to 4197' MSL.

Trees beginning 925' from DER, 32' left of centerline, up to 4167' MSL.

Rwy 35, trees beginning 238' from DER, 31' left of centerline, up to 4146' MSL.

Trees beginning 215' from DER, 146' right of centerline, up to 4146' MSL.

BYRON, CA

BYRON (C83)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2 17AUG17 (17229) (FAA)

TAKEOFF MINIMUMS:

Rwy 23, NA - obstacles.

Rwy 30, 200-1⅛ or std. with a min. climb of 245' per NM to 300, or alternatively, with standard takeoff minimums and normal 200' per NM climb gradient, takeoff must occur no later than 1900' prior to DER.

DEPARTURE PROCEDURE:

Rwy 5, climbing left turn heading 010°, thence...

Rwy 12, climbing left turn heading 360°, thence…

Rwy 30, climbing right turn heading 065°, thence…

…on LIN VOR/DME R-227 to LIN VOR/DME before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 5, bush 17' from DER, 67' right of centerline, 6' AGL/52' MSL.

Rwy 12, multiple trees and bush beginning 240' from DER, 286' right of centerline, up to 39' AGL/76' MSL.

Rwy 30, multiple poles, building, and terrain beginning 66' from DER, 228' left of centerline, up to 65' AGL/225' MSL.

Multiple poles beginning 949' from DER, 28' right of centerline, up to 42' AGL/103' MSL.

CHICO, CA

CHICO MUNI (CIC)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 7 21MAY20 (20142) (FAA)

DEPARTURE PROCEDURE:

Rwys 13L/R, climbing right turn heading 230° to intercept V-23/T-261.

Rwys 31L/R, climbing left turn heading 230° to intercept V-23/T-261.

TAKEOFF OBSTACLE NOTES:

Rwy 13L, terrain 298' from DER, 537' left of centerline, 216' MSL.

Trees, pole beginning 947' from DER, 560' left of centerline, up to 241' MSL.

Rwy 13R, vehicles on road beginning at DER, left and right of centerline, up to 225' MSL.

Rwy 31L, vehicles on road beginning at DER, left and right of centerline, up to 235' MSL.

Tower 611' from DER, 349' right of centerline, 35' AGL/267' MSL.

Rwy 31R, tree 1124' from DER, 612' right of centerline, 282' MSL.

Tree 1363' from DER, 768' left of centerline, 280' MSL.

CLOVERDALE, CA

CLOVERDALE MUNI (O60)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 1 28MAR19 (19087) (FAA)

TAKEOFF MINIMUMS:

Rwy 32, NA - obstacles.

Rwy 14, 700-3 w/ min. climb of 390' per NM to 1200 or standard w/ min. climb of 744' per NM to 1000, or 3600-3 for climb in visual conditions.

DEPARTURE PROCEDURE:

Rwy 14, climb direct STS VOR/DME, thence...
or climb in visual conditions to cross Cloverdale Muni airport at or above 3700 before proceeding on course.
... Climb in STS VOR/DME holding pattern, hold NW, right turn, 140° inbound, to cross STS VOR/DME at or above MEA/MCA for direction of flight.

TAKEOFF OBSTACLE NOTES:

Rwy 14, trees beginning 19' from DER, 23' right of centerline, up to 100' AGL/404' MSL.
Trees beginning 1.6 NM from DER, 491' right of centerline, up to 100' AGL/959' MSL.
Trees beginning 258' from DER, on centerline, up to 100' AGL/296' MSL.
Trees beginning 21' from DER, 7' left of centerline, up to 100' AGL/442' MSL.
Trees beginning 1.7 NM from DER, 34' left of centerline, up to 100' AGL/679' MSL.
Buildings 1524' from DER, 110' right of centerline, up to 427' MSL.
Buildings 4605' from DER, 532' left of centerline, up to 408' MSL.

COLUMBIA, CA

COLUMBIA (O22)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2 30JAN20 (20030) (FAA)

TAKEOFF MINIMUMS:

Rwys 11, 29, NA - Environmental.

Rwy 35, NA - ATC.

DEPARTURE PROCEDURE:

Rwy 17, use FICHU RNAV DEPARTURE.

TAKEOFF OBSTACLE NOTES:

Rwy 17, bush 31' from DER, 196' right of centerline, 2083' MSL.
Tree 148' from DER, 387' right of centerline, 2108' MSL.
Trees beginning 180' from DER, 287' left of centerline, up to 2126' MSL.
Tree 262' from DER, 527' right of centerline, 2163' MSL.
Trees beginning 354' from DER, 240' left of centerline, up to 2127' MSL.
Tree, rd (n), pole, grd, bush beginning 414' from DER, 46' right of centerline, up to 2188' MSL.
Tree 456' from DER, 325' left of centerline, 2130' MSL.
Trees beginning 492' from DER, 109' left of centerline, up to 2133' MSL.
Trees beginning 725' from DER, 26' left of centerline, up to 2171' MSL.
Trees beginning 1260' from DER, 56' left of centerline, up to 2181' MSL.
Tree 1527' from DER, 893' right of centerline, 2205' MSL.
Tree 1619' from DER, 860' right of centerline, 2220' MSL.
Trees beginning 1664' from DER, 896' right of centerline, up to 2238' MSL.
Tree 2152' from DER, 982' left of centerline, 2212' MSL.
Tree 2195' from DER, 988' left of centerline, 2262' MSL.
Tree 2195' from DER, 987' left of centerline, 2273' MSL.
Tree, tower beginning 5842' from DER, 410' left of centerline, up to 2339' MSL.
Tree 5936' from DER, 557' left of centerline, 2239' MSL.

COLUSA, CA

COLUSA COUNTY (O08)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

ORIG-A 10NOV16 (16315) (FAA)

TAKEOFF MINIMUMS:

Rwy 31, 300-1 or std. w/min. climb of 310' per NM to 400.

DEPARTURE PROCEDURE:

Rwy 31, climbing left turn direct ILA VORTAC before proceeding on course.
Rwy 13, climbing right turn direct ILA VORTAC before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 13, fence 1' from DER, 234 right of centerline, 49' MSL.
Tree 138' from DER, 346' left of centerline, 77' MSL.
Bldg 255' from DER, 496' right of centerline, 62' MSL.
Trees beginning 543' from DER, 146' right of centerline, up to 85' MSL.
Bldg 1476' from DER, 428' left of centerline, 61' AGL/107' MSL.
Rwy 13, tower 1396' from DER, 92' right of centerline, 55' AGL/105' MSL.
Tower 4958' from DER, 1806' right of centerline, 190' AGL/240' MSL.

CONCORD, CA

BUCHANAN FIELD (CCR)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 3 22JUN17 (17173) (FAA)

TAKEOFF MINIMUMS:

Rwys 1L/R, std. w/min. climb of 330' per NM to 1000 or 3700-3 for VCOA.
Rwys 14L/R, std. w/min. climb of 420' per NM to 2700 or 3700-3 for VCOA.
Rwys 19L/R, std. w/min. climb of 490' per NM to 3900 or 3700-3 for VCOA.
Rwys 32L/R, std. w/min. climb of 330' per NM to 1000 or 3700-3 for VCOA.

DEPARTURE PROCEDURE:

Rwys 1L/R, 14L/R, 19L/R, climbing left turn direct CCR VOR/DME, thence...
Rwys 32L/R, climbing right turn direct CCR VOR/DME, thence...
...aircraft departing on CCR VOR/DME R-150 clockwise R-110, climb on course.
All others, climb in CCR VOR/DME holding pattern (hold N, left turns, 191° inbound) to cross CCR VOR/DME at or above 3400 before proceeding on course.

VCOA:

All Rwys, obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross Buchanon Field airport at or above 3600 before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 1L, fence 116' from DER, 1' right of centerline, 29' MSL.
Building 639' from DER, 381' right of centerline, 25' AGL/48' MSL.
Vegetation 675' from DER, 96' left of centerline, 38' MSL.
Tree and poles beginning 1261' from DER, 19' right of centerline, up to 78' MSL.
Flagpole 1520' from DER, 753' left of centerline, 71' MSL.
Tree, camera, and general utility beginning 1860' from DER, 48' right of centerline, up to 98' MSL.
Pole 1906' from DER, 120' left of centerline, 51' AGL/72' MSL.
Sign 1996' from DER, 812' left of centerline, 78' MSL.
Tree 2392' from DER, 8' left of centerline, 83' MSL.
Rwy 1R, pole 1551' from DER, 97' right of centerline, 43' AGL/67' MSL.
Pole 1864' from DER, 357' right of centerline, 96' MSL.
Tree 1927' from DER, 222' right of centerline, 131' MSL.
Tree 2110' from DER, 981' right of centerline, 133' MSL.
Rwy 14L, vehicles on road and fences beginning 82' from DER, 29' left of centerline, up to 40' MSL.
Building and trees beginning 731' from DER, 191' left of centerline, up to 51' MSL.
Trees and buildings beginning 840' from DER, 93' left of centerline, up to 77' MSL.
Trees, poles, and buildings beginning 942' from DER, 13' left of centerline, up to 102' MSL.
Trees, buildings, and poles beginning 1116' from DER, 10' right of centerline, up to 40' AGL/71' MSL.
Tree 1465' from DER, 112' right of centerline, 73' MSL.
Trees beginning 1496' from DER, 121' right of centerline, up to 84' MSL.
Trees beginning 1648' from DER, 62' right of centerline, up to 91' MSL.
Trees and building beginning 1750' from DER, 30' left of centerline, up to 105' MSL.
Tree 2570' from DER, 93' right of centerline, 92' MSL.
Buildings beginning 5413' from DER, 99' left of centerline, up to 177' MSL.
Building 5456' from DER, 138' left of centerline, 146' AGL/179' MSL.
Rwy 14R, windsock 411' from DER, 451' right of centerline, 31' AGL/51' MSL.
Control tower 1140' from DER, 315' right of centerline, 61' AGL/84' MSL.
Electrical system, tree, pole, and antenna beginning 1140' from DER, 167' right of centerline, up to 98' MSL.
Tree 2744' from DER, 886' left of centerline, 102' MSL.
Building 3149' from DER, 946' right of centerline, 92' AGL/125' MSL.
Buildings beginning 3253' from DER, 846' right of centerline, up to 103' AGL/136' MSL.
Rwy 19L, tree 2132' from DER, 376' left of centerline, 90' MSL.
Tree 2257' from DER, 27' left of centerline, 97' MSL.
Tree 2543' from DER, 384' right of centerline, 87' MSL.
Tree 3111' from DER, 946' right of centerline, 106' MSL.
Rwy 19R, terrain 43' from DER, 397' left of centerline, 25' MSL.
Fence 123' from DER, 502' left of centerline, 30' MSL.
Tree 603' from DER, 489' right of centerline, 44' MSL.
Pole and trees beginning 844' from DER, 152' right of centerline, up to 94' MSL.
Tree 1023' from DER, 81' left of centerline, 59' MSL.
Pole and trees beginning 1201' from DER, 568' left of centerline, up to 77' MSL.
Building and trees beginning 1275' from DER, 114' left of centerline, up to 97' MSL.
Tree 2129' from DER, 447' right of centerline, 106' MSL.
Tree 2755' from DER, 216' left of centerline, 108' MSL.
Rwy 32L, building 7' from DER, 321' left of centerline, 18' AGL/35' MSL.
Vehicles on road and hangar beginning 259' from DER, 300' left of centerline, up to 37' MSL.
Vehicles on road beginning 560' from DER, 3' right of centerline, up to 34' MSL.
Vehicles on road 627' from DER, 609' left of centerline, 38' MSL.
Vehicles on road beginning 631' from DER, 63' left of centerline, up to 38' MSL.
Building 633' from DER, 253' right of centerline, 17' AGL/35' MSL.
Vehicles on road 699' from DER, 8' right of centerline, 38' MSL.
Vehicles on road beginning 715' from DER, 37' right of centerline, up to 39' MSL.

CON'T

CONCORD, CA (CON'T)

BUCHANAN FIELD (CON'T)

Rwy 32L (CON'T), vehicles on road beginning 720' from DER, 2' left of centerline, up to 39' MSL.
Vehicles on road beginning 730' from DER, 137' right of centerline, up to 40' MSL.
Vehicles on road beginning 751' from DER, 216' right of centerline, up to 41' MSL.
Vehicles on road beginning 792' from DER, 493' right of centerline, up to 42' MSL.
Vehicles on road beginning 798' from DER, on centerline, up to 42' MSL.
Tree 824' from DER, 135' left of centerline, 40' MSL.
Vehicles on road beginning 891' from DER, 488' right of centerline, up to 43' MSL.
Vehicles on road 920' from DER, 642' right of centerline, 44' MSL.
Transmission towers beginning 6014' from DER, 1332 'left of centerline, up to 173' MSL.
Tank 1 NM from DER, 1927' right of centerline, 213' MSL.
Chimney 1.4 NM from DER, 2458' right of centerline, 355' AGL/378' MSL.
Refinery 1.6 NM from DER, 2934' right of centerline, 308' AGL/322' MSL.
Rwy 32R, terrain 81' from DER, 481' right of centerline, 21' MSL.
Vehicles on road 559' from DER, 3' right of centerline, 34' MSL.
Vehicles on road 585' from DER, 496' left of centerline, 34' MSL.
Building 632' from DER, 246' left of centerline, 35' MSL.
Building 653' from DER, 236' right of centerline, 41' MSL.
Flagpole, signs, and vehicles on road beginning 654' from DER, 55' right of centerline, up to 21' AGL/43' MSL.
Vehicles on road beginning 677' from DER, 491' left of centerline, up to 38' MSL.
Vehicles on road beginning 714' from DER, 374' left of centerline, up to 39' MSL.
Vehicles on road beginning 730' from DER, 243' left of centerline, up to 40' MSL.
Vehicles on road and trees beginning 750' from DER, 6' left of centerline, up to 41' MSL.
Vehicles on road beginning 820' from DER, 285' right of centerline, up to 45' MSL.
Vehicles on road beginning 824' from DER, 234' right of centerline, up to 47' MSL.
Vehicles on road 828' from DER, 624' right of centerline, 48' MSL.
Vehicles on road beginning 829' from DER, on centerline, up to 50' MSL.
Vehicles on road beginning 867' from DER, 43' left of centerline, up to 42' MSL.
Vehicles on road 899' from DER, 11' left of centerline, 43' MSL.
Vehicles on road beginning 932' from DER, 269' right of centerline, up to 52' MSL.
Agricultural equipment 2109' from DER, 600' right of centerline, 78' AGL/99' MSL.
Pole 3700' from DER, 1431' right of centerline, up to 40' AGL/150' MSL.
Pole 4067' from DER, 1531' right of centerline, 43' AGL/161' MSL.
Tank 4527' from DER, 1675' right of centerline, 57' AGL/170' MSL.
Transmission tower 6013' from DER, 1840' left of centerline, 173' MSL.
Tank 1 NM from DER, 1423' right of centerline, 126' AGL/213' MSL.
Chimney 1.4 NM from DER, 1954' right of centerline, 355' AGL/378' MSL.
Refinery 1.6 NM from DER, 2429' right of centerline, 308' AGL/322' MSL.

CRESCENT CITY, CA

JACK MC NAMARA FIELD (CEC)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2A 03JAN19 (19003) (FAA)

TAKEOFF MINIMUMS:
Rwy 12, 300-2¼ or std. w/min. climb of 254' per NM to 300, or alternatively, with std. takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 2200' prior to DER.
Rwy 18, 300-1 or std. w/min. climb of 308' per NM to 400.
Rwy 36, 300-1 or std. w/min. climb of 443' per NM to 300.

DEPARTURE PROCEDURE:
Rwys 12, 18, climbing right turn, thence...
Rwys 30, 36, climbing left turn, thence...
...Climb direct CEC VORTAC. Aircraft departing CEC R-144 CW R-350 climb on course. All others continue climb in CEC VORTAC holding pattern (hold south, left turn, 346° inbound) to cross CEC VORTAC at or above:
R-351 CW R-048, 2900;
R-049 CW R-113, 4300;
R-114 CW R-143, 2900.

TAKEOFF OBSTACLE NOTES:
Rwy 12, terrain 7' from DER, 6' right of centerline, 54' MSL.
Terrain 9' from DER, 15' left of centerline, 54' MSL.
NAVAID and tree beginning 12' from DER, 117' left of centerline, up to 4' AGL/57' MSL.
Tree 798' from DER, 378' left of centerline, 149' MSL.
Trees beginning 828' from DER, 437' left of centerline, up to 151' MSL.
Tree 1078' from DER, 390' right of centerline, 101' MSL.
Trees beginning 1162' from DER, 75' left of centerline, up to 163' MSL.
Trees beginning 1185' from DER, 156' right of centerline, up to 123' MSL.
Tree and pole beginning 1332' from DER, 215' right of centerline, up to 149' MSL.
Trees beginning 1458' from DER, 2' left of centerline, up to 169' MSL.
Tree and pole beginning 1526' from DER, 93' right of centerline, up to 150' MSL.
Trees beginning 1914' from DER, 83' right of centerline, up to 152' MSL.
Trees beginning 2058' from DER, 155' right of centerline, up to 156' MSL.
Trees beginning 2353' from DER, 182' right of centerline, up to 159' MSL.
Trees beginning 2549' from DER, 604' right of centerline, up to 173' MSL.
CON'T

CRESCENT CITY, CA (CON'T)

JACK MC NAMARA FIELD (CEC) (CON'T)

Rwy 12 (CON'T), trees beginning 2656' from DER, 108' right of centerline, up to 175' MSL.
Trees beginning 2986' from DER, 73' right of centerline, up to 189' MSL.
Tree 5151' from DER, 211' right of centerline, 216' MSL.
Tree 5184' from DER, 47' left of centerline, 195' MSL.
Antenna 1.8 NM from DER, 2439' left of centerline, 320' AGL/333' MSL.
Rwy 18, terrain 27' from DER, 12' left of centerline, 52' MSL.
Structure 35' from DER, 113' right of centerline, 7' AGL/57' MSL.
Structure 35' from DER, 116' left of centerline, 4' AGL/54' MSL.
Trees beginning 183' from DER, 384' right of centerline, up to 59' MSL.
Vehicles on road 319' from DER, 570' left of centerline, 60' MSL.
Tree 412' from DER, 166' left of centerline, 64' MSL.
Trees beginning 445' from DER, 188' left of centerline, up to 66' MSL.
Trees beginning 543' from DER, 411' left of centerline, up to 68' MSL.
Terrain 4897' from DER, 1653' right of centerline, 202' MSL.
Terrain 4973' from DER, 1722' right of centerline, 242' MSL.
Rwy 30, NAVAID and terrain beginning 4' from DER, 5' right of centerline, up to 1' AGL/58' MSL.
Trees beginning 29' from DER, 374' right of centerline, up to 65' MSL.
Tree 153' from DER, 332' left of centerline, 65' MSL.
Tree 164' from DER, 439' left of centerline, 73' MSL.
Rwy 36, terrain six' from DER, 317' left of centerline, 77' MSL.
Tree 104' from DER, 467' right of centerline, 77' MSL.
Tree 143' from DER, 201' left of centerline, 84' MSL.
Tree and vegetation beginning 185' from DER, 92' right of centerline, up to 86' MSL.
Tree and vegetation beginning 405' from DER, 197' right of centerline, up to 97' MSL.
Tree 663' from DER, 30' left of centerline, 86' MSL.
Tree 762' from DER, 97' left of centerline, 94' MSL.
Tree 791' from DER, 155' left of centerline, 96' MSL.
Tree 843' from DER, 227' left of centerline, 105' MSL.
Trees beginning 981' from DER, 100' left of centerline, up to 117' MSL.
Trees beginning 1081' from DER, 35' left of centerline, up to 135' MSL.
Tree 1135' from DER, 226' right of centerline, 104' MSL.
Tree 1273' from DER, 60' right of centerline, 111' MSL.
Trees beginning 1352' from DER, 100' right of centerline, up to 112' MSL.
Trees beginning 1550' from DER, 25' right of centerline, up to 129' MSL.
Tree 1629' from DER, 425' left of centerline, 149' MSL.
Trees beginning 1654' from DER, 473' left of centerline, up to 151' MSL.
Trees beginning 1824' from DER, 192' left of centerline, up to 159' MSL.
Trees beginning 1961' from DER, 78' left of centerline, up to 164' MSL.
Trees beginning 2056' from DER, 978' right of centerline, up to 150' MSL.
Tree 2322' from DER, 757' right of centerline, 155' MSL.
Trees beginning 2322' from DER, 35' right of centerline, up to 176' MSL.
Tree 2590' from DER, 908' right of centerline, 179' MSL.
Tree 2591' from DER, 1044' right of centerline, 189' MSL.
Trees beginning 2644' from DER, 367' right of centerline, up to 192' MSL.
Trees beginning 2696' from DER, 70' right of centerline, up to 195' MSL.
Trees beginning 2928' from DER, 135' left of centerline, up to 174' MSL.
Trees beginning 2933' from DER, 37' right of centerline, up to 196' MSL.
Trees beginning 3318' from DER, 75' left of centerline, up to 181' MSL.
Trees beginning 3587' from DER, 132' left of centerline, up to 182' MSL.

DAVIS, CA

UNIVERSITY (EDU)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 3 07MAY09 (09127) (FAA)

DEPARTURE PROCEDURE:
Rwy 17, climbing right turn via heading 200° and ILA R-151 to EMBER INT/ILA 48 DME before proceeding on course.
Rwy 35, climbing left turn via heading 320° and ILA R-145 to ILA VORTAC before proceeding on course.

TAKEOFF OBSTACLE NOTES:
Rwy 17, trees beginning 1353' from DER, 31' right of centerline, up to 40' AGL/109' MSL.
Rwy 35, tree 24' from DER, 433' left of centerline, 40' AGL/104' MSL.
Vehicle 288' from DER, on centerline, 15' AGL/74' MSL.

DAVIS/WOODLAND/WINTERS, CA

YOLO COUNTY (DWA)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2 19JUL18 (18200) (FAA)

DEPARTURE PROCEDURE:

Rwy 16, climb heading 164° to 2200 before turning right.

Rwy 34, climb heading 344° to 1500 before turning left.

TAKEOFF OBSTACLE NOTES:

Rwy 16, tree 462' from DER, 543' right of centerline, 139' MSL.
Tree 733' from DER, 566' right of centerline, 147' MSL.
Trees beginning 1182' from DER, 434' left of centerline, up to 195' MSL.
Tree 2760' from DER, 217' right of centerline, 197' MSL.

Rwy 34, tree 367' from DER, 574' right of centerline, 135' MSL.
Tree, pole beginning 544' from DER, 473' left of centerline, up to 166' MSL.
Tree 1010' from DER, 541' left of centerline, 206' MSL.

EUREKA, CA

MURRAY FIELD (EKA)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 4 27AUG09 (09239) (FAA)

TAKEOFF MINIMUMS:

Rwy 12, std. w/ min. climb of 465' per NM to 1800 or 3800-3 for climb in visual conditions.

DEPARTURE PROCEDURE:

Rwy 12 climbing right turn heading 265° to intercept V27. For climb in visual conditions: cross Eureka airport at or above 3700 before proceeding on course.

Rwy 30, climbing left turn heading 265° to intercept V27.

TAKEOFF OBSTACLE NOTES:

Rwy 12, bush 50' from DER, 82' left of centerline, 6' AGL/16' MSL.
Multiple trees beginning 1.5 NM from DER, 2993' left of centerline.
Multiple trees beginning 1.6 NM from DER, 2318' right of centerline.

Rwy 30, multiple trees, beginning 443' from DER, 389' right of centerline, up to 93' AGL/103' MSL.
Tree 664' from DER, 587' left of centerline, 46' AGL/56' MSL.
Pole 753' from DER, 155' right of centerline 27' AGL/ 37' MSL.
Railroad 786' from DER, 4' left of centerline 23' AGL/31' MSL.
Road beginning 602' from DER, 4' left of centerline up to 15' AGL/23' MSL.
Bush 566' from DER, 69' left of centerline, 8' AGL/18' MSL.

FIREBAUGH, CA

FIREBAUGH (F34)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2 20SEP12 (12264) (FAA)

DEPARTURE PROCEDURE:

Rwy 12, climbing right turn heading 134° to intercept the PXN VORTAC R-061 to MENDO INT. Aircraft departing MENDO INT heading 230° CW 150°, climb on course. All others, climb in MENDO INT holding pattern (hold NE, right turns, 241° inbound) to cross MENDO INT at or above 3000 before proceeding on course.

Rwy 30, climbing left turn heading 180° to intercept PXN VORTAC R-061 to PXN VORTAC, continue climb in PXN VORTAC holding pattern (SW, right turns, 049° inbound) to cross PXN VORTAC at or above airway MEA/MCA for route of flight.

TAKEOFF OBSTACLE NOTES:

Rwy 30, poles beginning 921' from DER, 525' left of centerline, up to 65' AGL/203' MSL.
Elevator 1941' from DER, 739' right of centerline, 97' AGL/242' MSL.

FORTUNA, CA

ROHNERVILLE (FOT)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 3 23OCT86 (86296) (FAA)

TAKEOFF MINIMUMS:

Rwy 11, NA.

DEPARTURE PROCEDURE:

Climb direct FOT VORTAC. Continue climb in holding pattern (hold N, right turns, 161° inbound) to cross FOT VORTAC at or above 3000.

FRESNO, CA

FRESNO CHANDLER EXECUTIVE (FCH)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 3 10OCT19 (19283) (FAA)

DEPARTURE PROCEDURE:

Rwy 12, climb on a heading between 101° CW to 290° from DER.

Rwy 30, climb on a heading between 111° CW to 338° from DER.

TAKEOFF OBSTACLE NOTES:

Rwy 12, sign 9' from DER, 125' left of centerline, 3' AGL/282' MSL.
Pole, traverse way, fence, vegetation, trees beginning 32' from DER, 125' right of centerline, up to 20' AGL/300' MSL.
Tree 94' from DER, 310' right of centerline, 317' MSL.
Trees, traverse way, vegetation, fence beginning 95' from DER, 60' right of centerline, up to 323 ' MSL.
Trees, poles, traverse ways, fence, transmission line, building beginning 154' from DER, right of centerline, up to 326' MSL.
Vegetation, fence beginning 250' from DER, 14' left of centerline, up to 292' MSL.
Trees, vegetation, traverse way beginning 344' from DER, 14' left of centerline, up to 294' MSL.
Traverse way, tree beginning 390' from DER, 10' left of centerline, up to 296' MSL.
Pole, trees, vegetation, traverse way beginning 408' from DER, 9' left of centerline, up to 31' AGL/311' MSL.
Trees, poles, transmission line, building beginning 476' from DER, 93' right of centerline, up to 341' MSL.
Trees, traverse ways, vegetation beginning 499' from DER, 47' left of centerline, up to 323 ' MSL.
Trees, poles, traverse way, transmission line, building beginning 615' from DER, 36' left of centerline, up to 332 ' MSL.
Trees, poles, buildings beginning 630' from DER, 4' right of centerline, up to 346' MSL.
Trees beginning 904' from DER, 15' left of centerline, up to 340' MSL.
Trees, poles beginning 934' from DER, 38' left of centerline, up to 346' MSL.
Trees, pole beginning 966' from DER, 7' right of centerline, up to 347' MSL.
Poles, tree beginning 1093' from DER, 263' left of centerline, up to 63' AGL/348' MSL.
Trees, poles beginning 1118' from DER, 12' left of centerline, up to 349' MSL.
Trees, poles beginning 1133' from DER, 2' right of centerline, up to 355' MSL.
Trees, poles beginning 1349' from DER, 13' left of centerline, up to 363' MSL.
Trees, pole beginning 1640' from DER, 88' left of centerline, up to 372' MSL.
Trees beginning 1756' from DER, 57' left of centerline, up to 375' MSL.
Trees beginning 1816 ' from DER, 31' right of centerline, up to 376' MSL.
Tree 3089' from DER, 146' left of centerline, 377' MSL.
Tree 3792 ' from DER, 172' left of centerline, 378' MSL.
Trees beginning 3938' from DER, 356' left of centerline, up to 391' MSL.
Rwy 30, traverse way 7' from DER, 341' right of centerline, 294' MSL.
Sign 21' from DER, 120' left of centerline, 2' AGL/279' MSL.
Pole, traverse way beginning 72' from DER, 374' left of centerline, up to 28' AGL/305' MSL.
Tree, fences, traverse way beginning 114' from DER, 122' right of centerline, up to 296' MSL.
Pole 140' from DER, 427' left of centerline, 38' AGL/315' MSL.
Trees, vegetation, traverse way, poles beginning 174' from DER, 43' left of centerline, up to 326' MSL.
Electrical system, traverse way beginning 377' from DER, 7' right of centerline, up to 19' AGL/297' MSL.
Tree 1412' from DER, 799' left of centerline, 358' MSL.
Poles beginning 1419' from DER, 158' right of centerline, up to 41' AGL/320' MSL.
Tree 1539' from DER, 844' left of centerline, 389' MSL.

FRESNO YOSEMITE INTL (FAT)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 9 10OCT19 (19283) (FAA)

TAKEOFF MINIMUMS:

Rwys 11L, 11R, 29L, 29R, std. w/ min. climb of 250' per NM to 5000 or 5800 - 3 for VCOA.

DEPARTURE PROCEDURE:

Rwys 11L/R, climb heading 112° to 2500,then climbing left turn heading 040° to intercept FRA VORTAC R-150 to FRA VORTAC. Cross FRA VORTAC at or above 6000, thence...

Rwys 29L/R, climb heading 292° to 2500, then climbing right turn heading 350° to intercept FRA VORTAC R-230. Cross FRA VORTAC at or above 6000, thence...

...continue climb in FRA VORTAC holding pattern (hold south, left turn, 350° inbound) to cross FRA VORTAC at or above MEA/ MCA for route of flight.

VCOA:

ALL RUNWAYS, obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross Fresno Yosemite Intl airport at or above 6000, then on FRA R-180 to FRA VORTAC before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 11L, lighting beginning 109' from DER, on centerline, up to 4' AGL/336' MSL.
Pole 648' from DER, 542' left of centerline, 16' AGL/349' MSL.
Electrical system 1223' from DER, 662' right of centerline, 30' AGL/363' MSL.
Pole 1229' from DER, 664' right of centerline, 33' AGL/365' MSL.
Tree, pole beginning 1414' from DER, 668' right of centerline, up to 377' MSL.
Sign, transmission line beginning 1694' from DER, 862' right of centerline, up to 51' AGL/383' MSL.
Rwy 11R, lighting 10' from DER, 55' right of centerline, 1' AGL/331' MSL.
General utility 159' from DER, 433' left of centerline, 3' AGL/334' MSL.
Pole 329' from DER, 280' left of centerline, 21' AGL/349' MSL.
Tower 664' from DER, 274' left of centerline, 34' AGL/362' MSL.
Pole 1205' from DER, 569' right of centerline, 54' AGL/382' MSL.
Pole 1458' from DER, 393' right of centerline, 54' AGL/384' MSL.

CON'T

FRESNO, CA (CON'T)

FRESNO YOSEMITE INTL (FAT) (CON'T)

Rwy 11R (CON'T), pole 1598' from DER, 294' right of centerline, 55' AGL/385' MSL.
Electrical system, pole beginning 1598' from DER, 262' right of centerline, up to 57' AGL/386' MSL.
Tree 2648' from DER, 442' right of centerline, 398' MSL.
Rwy 29L lighting 9' from DER, 55' left of centerline, 2' AGL/331' MSL.
Lighting 10' from DER, 54' right of centerline, 1' AGL/331' MSL.
Transmission line, pole beginning 997' from DER, 620' left of centerline, up to 55' AGL/385' MSL.
Tree, transmission line beginning 1132' from DER, 189' left of centerline, up to 396' MSL.
Trees beginning 1457' from DER, 172' left of centerline, up to 429' MSL.
Trees beginning 1668' from DER, 2' right of centerline, up to 378' MSL.
Tree 1905' from DER, 359' right of centerline, 380' MSL.
Rwy 29R, lighting 9' from DER, 54' right of centerline, 2' AGL/334' MSL.
Pole 994' from DER, 601' right of centerline, 29' AGL/364' MSL.
Pole beginning 1019' from DER, 548' right of centerline, up to 30' AGL/365' MSL.
Trees beginning 2315' from DER, 847' left of centerline, up to 395' MSL.

GRASS VALLEY, CA

NEVADA COUNTY (GOO)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 1A 29MAR18 (18088) (FAA)

TAKEOFF MINIMUMS:
Rwy 7, NA.

DEPARTURE PROCEDURE:
Rwy 25, climb via MYV R-058 to 6000 then continue climb on course.

TAKEOFF OBSTACLE NOTES:
Rwy 25, multiple trees and bushes beginning 40' from DER, 78' right of centerline, up to 3087' MSL.
Trees beginning 68' from DER, 312' left of centerline, up to 3137' MSL.
Trees beginning 593' from DER, 149' right of centerline, up to 3088' MSL.
Tree 648' from DER, 176' right of centerline, 3093' MSL.
Trees beginning 698' from DER, 175' right of centerline, up to 3094' MSL.
Tree 748' from DER, 138' right of centerline, 3096' MSL.
Tree 773' from DER, 167' right of centerline, 3102' MSL.

GROVELAND, CA

PINE MOUNTAIN LAKE (E45)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 1 10NOV16 (16315) (FAA)

TAKEOFF MINIMUMS:
Rwy 9, 600-2¾ or std. w/min. climb of 400' per NM to 4000.

DEPARTURE PROCEDURE:
Rwy 9, turn right.
Rwy 27, turn left.
All aircraft climb direct LIN VOR/DME. Cross LIN VOR/DME at or above 5000.

HALF MOON BAY, CA

HALF MOON BAY (HAF)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 1 15SEP16 (16259) (FAA)

TAKEOFF MINIMUMS:
Rwy 12, 2600-2 or std. with a min. climb of 306' per NM to 3400.
Rwy 30, NA.

DEPARTURE PROCEDURE:
Rwy 12, climb runway heading to 3000, then climb direct OSI VOR/DME, to cross OSI VOR/DME at or above 3500 before proceeding on course.

TAKEOFF OBSTACLE NOTES:
Rwy 12, tree 2556' from DER, 212' left of centerline, 90' AGL/104' MSL.

DIVERSE VECTOR AREA (RADAR VECTORS)

ORIG 16OCT14 (14289) (FAA)

Rwy 12, heading as assigned by ATC.

HANFORD, CA

HANFORD MUNI (HJO)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 1A 15SEP16 (16259) (FAA)

DEPARTURE PROCEDURE:

Rwy 14, climbing left turn heading 050° to intercept V-23.

Rwy 32, climbing right turn heading 050° to intercept V-23.

TAKEOFF OBSTACLE NOTES:

Rwy 14: fence 9' from DER, 298' left of centerline, 244' MSL.
Catenary 1293' from DER,1293' left of centerline, 39' AGL/287' MSL.
Poles beginning 1679' from DER, crossing centerline, up to 52' AGL/296' MSL.
Trees beginning 2224' from DER, 391' left of centerline up to 313' MSL.
Rwy 32: fence 168' from DER, 9' left of centerline, 245' MSL.
Pole 588' from DER, 588' left of centerline, 25' AGL/278' MSL.
Sign 614' from DER, 151' right of centerline, 9' AGL/261' MSL.
Trees and poles beginning 592' from DER, 3' left of centerline, up to 300' MSL.
Poles beginning 1127' from DER, 222' right of centerline, up to 40' AGL/293' MSL.
Tree 2159' from DER, 434' right of centerline, 299' MSL.

HAYWARD, CA

HAYWARD EXECUTIVE (HWD)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 1 13JAN11 (11013) (FAA)

DEPARTURE PROCEDURE:

Rwys 10L, 10R, Climbing right turn direct OSI VORTAC.

Rwys 28L, 28R, Climbing left turn direct OSI VORTAC.

TAKEOFF OBSTACLE NOTES:

Rwy 10L, hangars, trees and buildings beginning 625' from DER, 67' left of centerline, up to 100' AGL/155' MSL.
Trees beginning 2050' from DER, 1' right of centerline, up to 60' AGL/107' MSL.
Rwy 10R, trees, poles, and buildings beginning 21' from DER, 61' left of centerline, up to 100' AGL/155' MSL.
Windsock, blast fence, trees, buildings and pole beginning 23' from DER, 38' right of centerline, up to 74' AGL/119' MSL.
Rwy 28L, trees beginning 899' from DER, 141' left of centerline, up to 93' AGL/108' MSL.
Antennas, road, and trees beginning 108' from DER, 68' right of centerline, up to 87' AGL/102' MSL.
Rwy 28R, antenna and trees beginning 728' from DER, 28' left of centerline, up to 87' AGL/102' MSL.
Trees beginning 391' from DER, 4' right of centerline, up to 95' AGL/125' MSL.

HAYWARD EXECUTIVE (HWD)

DIVERSE VECTOR AREA (RADAR VECTORS)

AMDT 1 07JAN16 (16007) (FAA)

Rwy 10L/R, Heading as assigned by ATC.

Rwy 28L/R, Heading as assigned by ATC; requires minimum climb of 310' per NM to 4600.

HOLLISTER, CA

HOLLISTER MUNI (CVH)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 1 05JUN08 (08157) (FAA)

TAKEOFF MINIMUMS:

Rwy 6, NA-obstacles.

Rwy 24, NA-ATC.

Rwy 13, std. w/ min. climb of 391' per NM to 3500, or 3100-3 for climb in visual conditions.

Rwy 31, std. w/ min climb of 209' per NM to 2300, or 3100-3 for climb in visual conditions.

DEPARTURE PROCEDURE:

Rwy 13, climbing right turn to heading 332° and via SJC R-121 direct SJC VOR/DME to 6000 before proceeding on course or for climb in visual conditions: cross Hollister Muni Airport at or above 3100 MSL before proceeding on course.

Rwy 31, climb heading 307° and via SJC R-121 direct SJC VOR/DME to 6000 before proceeding on course or for climb in visual conditions: cross Hollister Muni Airport at or above 3100 MSL before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 13, terrain beginning 992' from DER, 348' left of centerline, up to 289' MSL.
Terrain beginning 2467' from DER, 154' right of centerline, up to 309' MSL.
Trees beginning 1277' from departure end of runway, 348' left of centerline, up to 309' MSL.
Ttrees beginning 2467' from DER, 153' right of centerline, up to 270' MSL.
Rwy 31, terrain beginning 76' from DER, 392' left of centerline, up to 247' MSL.
Terrain beginning 14' from DER, 179' right of centerline, up to 231' MSL.

JACKSON, CA

WESTOVER FIELD AMADOR COUNTY (JAQ)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 1 10NOV16 (16315) (FAA)

DEPARTURE PROCEDURE:

Rwy 1, turn left.

Rwy 19, turn right.

All aircraft climb direct LIN VOR/DME, continue climb on course.

LAKEPORT, CA

LAMPSON FIELD (1O2)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 1 08APR10 (10098) (FAA)

TAKEOFF MINIMUMS:

Rwy 10, std. with a min. climb of 400' per NM to 4500, do not exceed 210 Knots until intercepting the ENI R-073 or 3200-3 for climb in visual conditions.

Rwy 28, NA-Rapidly rising terrain.

DEPARTURE PROCEDURE:

Rwy 10, climbing left turn to 6000 via heading 310° and ENI R-073 to ENI VORTAC before proceeding on course, or for climb in visual conditions: cross Lampson Field at or above 4400 MSL before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 10, vehicle on road 347' from DER, 7' right of centerline, 15' AGL/1394' MSL.

Trees beginning 280' from DER, 201' left of centerline, up to 100' AGL/1479' MSL.

Trees beginning 494' from DER, 219' right of centerline, up to 100' AGL/1479' MSL.

LEMOORE NAS (REEVES FIELD) (KNLC)

LEMOORE, CA

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

27SEP07 (07270)

Rwy 14L, Cross DER at or above 15' AGL/235' MSL.

Rwy 14R, Cross DER at or above 15' AGL/245' MSL.

Rwy 32L, Cross DER at or above 15' AGL/ 234' MSL.

Departure headings 142° CW 283°, minimum military climb 220 ft/NM to 6400, minimum civil climb 220 ft/NM to 6600.

Rwy 32R, Cross DER at or above 15' AGL/239' MSL, Departure headings 142° CW 281° minimum military climb 220 ft/NM to 6400, minimum civil climb 220 ft/NM to 6600.

LINCOLN, CA

LINCOLN RGNL/KARL HARDER FIELD (LHM)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 3 20JUL95 (95201) (FAA)

DEPARTURE PROCEDURE:

Rwy 15, climbing right turn.

Rwy 33, climbing left turn.

All aircraft climb direct MYV VOR/DME, then climb on course.

DIVERSE VECTOR AREA (RADAR VECTORS)

ORIG 05FEB15 (15036) (FAA)

Rwys 15,33, headings as assigned by ATC.

LITTLE RIVER, CA

LITTLE RIVER (LLR)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

ORIG 03JUN10 (10154) (FAA)

DEPARTURE PROCEDURE: Use LITTLE RIVER DEPARTURE.

LIVERMORE, CA

LIVERMORE MUNI (LVK)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 4 22JUN17 (17173) (FAA)

DEPARTURE PROCEDURE:

Use LIVERMORE DEPARTURE.

DIVERSE VECTOR AREA (RADAR VECTORS)

ORIG 02APR15 (15092) (FAA)

Rwys 7L, 7R, 25L, 25R, heading as assigned by ATC; requires minimum climb of 375' per NM to 5000.

LODI, CA

LODI (1O3)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2A 10NOV16 (16315) (FAA)

TAKEOFF MINIMUMS:

Rwys 12, 30, NA-Environmental.

DEPARTURE PROCEDURE:

Rwy 8, climb heading 076° to 600 then climbing right turn on LIN R-290 to LIN VOR/DME, thence…

Rwy 26, climb heading 256° to 800 climbing right turn on heading 080° to intercept LIN R-290 to LIN VOR/DME, thence…

...continue climb in hold (hold Southeast, right turns, 326° inbound) to MCA or MEA for route of flight.

TAKEOFF OBSTACLE NOTES:

Rwy 8, hangars, buildings, and vehicles on roadways beginning at DER, left and right of centerline, up to 25' AGL/84' MSL.

Power lines beginning at 4.9 NM from DER, left and right of centerline, up to 160' AGL/220' MSL.

Rwy 26, vehicles on roadway beginning 7' from DER, 265' right of centerline, up to 15' AGL/69' MSL.

Trees beginning 15' from DER, left and right of centerline, up to 100' AGL/154' MSL.

Power lines beginning at 4.6 NM from DER, left and right of centerline, up to 160' AGL/220' MSL.

LOS BANOS, CA

LOS BANOS MUNI (LSN)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2 17DEC09 (09351) (FAA)

DEPARTURE PROCEDURE:

Rwy 14, climb on a heading between 318° CW to 151° from DER, or minimum climb of 320' per NM to 5100 for all other courses.

Rwy 32, climb on a heading between 260° CW to 137° from DER, or minimum climb of 273' per NM to 5200 for all other courses.

TAKEOFF OBSTACLE NOTES:

Rwy 14, multiple trees, poles, buildings beginning 3' from DER, 24' left of centerline, up to 73' AGL/194' MSL.

Multiple trees, poles, buildings beginning 20' from DER, 21' right of centerline, up to 85' AGL/206' MSL.

Rwy 32, multiple trees beginning 220' from DER, 453' right of centerline, up to 40' AGL/160' MSL.

Multiple poles, beginning 1120' from DER, 173' left of centerline, up to 60' AGL/181' MSL.

MADERA, CA

MADERA MUNI (MAE)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 5A 31DEC20 (20366) (FAA)

TAKEOFF MINIMUMS:

Rwy 12, std. w/ min. climb of 250' per NM to 2000.

DEPARTURE PROCEDURE:

Rwy 12, climbing left turn heading 080° to intercept V-230.

Rwy 30, climbing right turn heading 110° to intercept V-230.

MAMMOTH LAKES, CA

MAMMOTH YOSEMITE (MMH)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2 05MAR15 (15064) (FAA)

DEPARTURE PROCEDURE:

Use NIKOL DEPARTURE.

MARINA, CA

MARINA MUNI (OAR)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2 11FEB10 (10042) (FAA)

TAKEOFF MINIMUMS:

Rwy 11, std. with a min. climb of 307' per NM to 4500, or 2000-2½ for climb in visual conditions.

DEPARTURE PROCEDURE:

Rwy 11, climb heading 108° and SNS VORTAC R-252 to SNS VORTAC, thence...,
or for climb in visual conditions: cross Marina Muni Airport at or above 2100, then proceed on SNS VORTAC R-261 to SNS VORTAC, thence...

Rwy 29, climb via heading 288° to 1200', then climbing right turn direct SNS VORTAC, thence...

All aircraft continue climb in SNS holding pattern (West, left turns, 084° inbound) to cross SNS VORTAC at or above MEA/MCA for direction of flight before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 11, windsock 32' from DER, 386' left of centerline, 8' AGL/148' MSL.

Rwy 29, bush 158' from DER, 272' right of centerline, 10' AGL/142' MSL.

MARIPOSA, CA

MARIPOSA-YOSEMITE (MPI)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

ORIG 20JAN05 (05020) (FAA)

TAKEOFF MINIMUMS:

Rwy 8, N/A-Obstacles

DEPARTURE PROCEDURE:

Rwy 26, climb via heading 265° to 3000, then climbing left turn to 7000 direct FRA VORTAC before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 26, tree 10' from DER, 313' left of centerline, 100' AGL/2265' MSL.
Tree 1146' from DER, 303' left of centerline, 100' AGL/2298' MSL.

MARYSVILLE, CA

YUBA COUNTY (MYV)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 1A 27JUN13 (13178) (FAA)

DEPARTURE PROCEDURE:

All runways, climb direct ILA VORTAC.

TAKEOFF OBSTACLE NOTES:

Rwy 5, tree 750' from DER, 239' right of centerline, 44' AGL/109' MSL.
Tower 986' from DER, 258' left of centerline, 46' AGL/108' MSL.
Tree 1737' from DER, 191' left of centerline, 70' AGL/134' MSL.
Tree 2792' from DER, 607' left of centerline, 81' AGL/145' MSL.
Rwy 23, railroad 822' from DER, 1' right of centerline, 23' AGL/85' MSL.
Building 903' from DER, 387' right of centerline, 29' AGL/89' MSL.
Rwy 32, pole 1040' from DER, 717' left of centerline, 32' AGL/94' MSL.
Tree 2487' from DER, 586' left of centerline, 75' AGL/134' MSL.
Tree 3135' from DER, 672' right of centerline, 93' AGL/157' MSL.

MERCED, CA

MERCED RGNL/MACREADY FIELD (MCE)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 5B 10DEC15 (15344) (FAA)

DEPARTURE PROCEDURE:

Rwy 12, climbing right turn to 3000 via heading 330° and MOD R-120 to MOD.
Rwy 30, climb to 3000 via heading 300° and MOD R-120 to MOD.

TAKEOFF OBSTACLE NOTES:

Rwy 12, tree 1321' from DER, 785' left of centerline, 50' AGL/190' MSL.
Rwy 30, bush 183' from DER, 490' right of centerline, 20' AGL/161' MSL.
Bush 486' from DER, 604' left of centerline, 20' AGL/170' MSL.
Tree 2457' from DER, 263' left of centerline, 50' AGL/220' MSL.

MODESTO, CA

MODESTO CITY-COUNTY-HARRY SHAM FIELD (MOD)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 5A 10JAN13 (13010) (FAA)

DEPARTURE PROCEDURE:

Rwys 28L, 28R, climb on a heading between 256° CW to 109° from DER, or minimum climb of 230' per NM to 5000 for all other courses.

TAKEOFF OBSTACLE NOTES:

Rwy 10R, trees beginning 169' from DER, 37' right of centerline, up to 91' AGL/195' MSL.
Sign 57' from DER, 211' right of centerline, 15' AGL/89' MSL.
Sign 16' from DER, 135' left of centerline, 4' AGL/87' MSL.
Trees beginning 823' from DER, 79' left of centerline, up to 89' AGL/148' MSL.
Rwy 10L, trees beginning 15' from DER, 65' right of centerline, up to 68' AGL/172' MSL.
Vehicles on road beginning 178' from DER, 17' left of centerline, up to 15' AGL/96' MSL.
Trees beginning 1413' from DER, 184' left of centerline, up to 63' AGL/126' MSL.
Rwy 28R, vehicles on road beginning 47' from DER, 332' right of centerline, up to 15' AGL/114' MSL.
Pole 754' from DER, 699' right of centerline, 34' AGL/133' MSL.
Building 979' from DER, 697' right of centerline, 29' AGL/128' MSL.
Tree 1390' from DER, 516' right of centerline, 37' AGL/136' MSL.
Trees beginning 2077' from DER, 379' left of centerline, up to 79' AGL/173' MSL.
Rwy 28L, multiple poles, trees, and buildings beginning 128' from DER, 34' left of centerline, up to 102' AGL/196' MSL.
Vehicles on road beginning 448' from DER, 219' left of centerline, up to 15' AGL/112' MSL.
Multiple poles and building beginning 1021' from DER, 350' right of centerline, up to 57' AGL/154' MSL.
Trees beginning 1112' from DER, 20' right of centerline, up to 70' AGL/164' MSL.

MONTAGUE, CA

SISKIYOU COUNTY (SIY)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2A 09JAN14 (14009) (FAA)

TAKEOFF MINIMUMS:

Rwy 17, CAT A,B 2400-2 or std. with a min. climb of 350' per NM to 5500. CAT C,D 4100-2 or std. with a min. climb of 350' per NM to 7400.

Rwy 35, 4000-2 or std. with a min. climb of 300' per NM to 7000.

DEPARTURE PROCEDURE:

Rwy 17, climb direct MOG NDB. Continue climb to 10000 in MOG holding pattern (hold N, right turns, 176° inbound).

Rwy 35, climb to 7000 via runway heading and 356° bearing from MOG NDB, then climbing right turn to 10000 direct MOG NDB.

All aircraft depart MOG NDB at or above MEA for route of flight.

MONTEREY, CA

MONTEREY RGNL (MRY)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 8 10DEC15 (15344) (FAA)

TAKEOFF MINIMUMS:

Rwy 10L, std. w/min. climb of 449' per NM to 1800, or 1700-2½ for climb in visual conditions.

Rwy 10R, std. w/min. climb of 459' per NM to 1800, or 1700-2½ for climb in visual conditions.

Rwy 28L, std. w/min. climb of 218' per NM to 3300, or 1700-2½ for climb in visual conditions.

Rwy 28R, std. w/min. climb of 205' per NM to 3300, or 1700-2½ for climb in visual conditions.

DEPARTURE PROCEDURE:

Rwy 10L, climbing left turn heading 045.00 and SNS VORTAC R-225 to SNS VORTAC, climb in SNS holding pattern (hold W, LT, 084° inbound) to cross SNS VORTAC at or above MEA/MCA for route of flight.

Rwy 10R, climbing left turn heading 045° and SNS VORTAC R-225 to SNS VORTAC, climb in SNS holding pattern (hold W, LT, 084° inbound) to cross SNS VORTAC at or above MEA/MCA for route of flight.

Rwy 28L, climbing right turn heading 045° and SNS VORTAC R-260 to SNS VORTAC, climb in SNS holding pattern (hold W, LT, 084° inbound) to cross SNS VORTAC at or above MEA/MCA for route of flight.

Rwy 28R, climbing right turn heading 045.00 and SNS VORTAC R-260 to SNS VORTAC, climb in SNS holding pattern (hold W, LT, 084° inbound) to cross SNS VORTAC at or above MEA/MCA for route of flight.

VCOA:

Obtain ATC approval for climb in visual conditions when requesting IFR clearance. Climb in visual conditions to cross Monterey RGNL at or above 1800, then on SNS VORTAC R-231 to SNS VORTAC. Climb in SNS holding pattern (hold W, LT, 084° inbound) to cross SNS VORTAC at or above MEA/MCA for route of flight.

TAKEOFF OBSTACLE NOTES:

Rwy 10L, NAVAID 556' from DER, 217' right of centerline, 20' AGL/272' MSL.
Bushes beginning 1.6 NM from DER, 1188' left of centerline up to 9' AGL/729' MSL.
Trees beginning 1.7 NM from DER , 923' left of centerline up to 102' AGL/764' MSL.
Trees beginning 1.6 NM from DER, 1993' right of centerline up to 90' AGL/923' MSL.
Bushes beginning 1.9 NM from DER, 2497' right of centerline up to 9' AGL/781' MSL.
Tower 2 NM from DER 3305' left of centerline, 27' AGL/767' MSL.

Rwy 10R, ground 11' from DER, 358' left of centerline 258' MSL.
Tree 230' from DER 388' left of centerline 21' AGL/265' MSL.
NAVAID 240' from DER, 282' left of centerline, 20' AGL/272' MSL.
Bushes beginning 1.5 NM from DER, 2381' left of centerline, up to 9' AGL/648' MSL.
Trees beginning 1.7 NM from DER, 388' left of centerline up to 76' AGL/629' MSL.
Bushes beginning 1.8 NM from DER, 2005' right of centerline up to 9' AGL/741' MSL.
Trees beginning 1.5 NM from DER, 1749' right of centerline up to 90' AGL/843' MSL.

Rwy 28L, terrain abeam DER, 198' left of centerline, up to 163' MSL.
Trees beginning 797' from DER, 678' left of centerline, up to 83' AGL/228' MSL.
Tree 1008' from DER, 616' left of centerline, 100' AGL/195' MSL.
Pole 1128' from DER, 716' left of centerline, 54' AGL/195' MSL.
Tree 1372' from DER, 755' left of centerline, 93' AGL/227' MSL.

DIVERSE VECTOR AREA (RADAR VECTORS)

AMDT 1 23JUN16 (16175) (FAA)

Rwy 10L, heading as assigned by ATC; requires minimum climb of 360' per NM to 2900.

Rwy 10R, heading as assigned by ATC; requires minimum climb of 370' per NM to 2800.

Rwy 28L, heading as assigned by ATC; requires minimum climb of 310' per NM to 1100.

Rwy 28R, heading as assigned by ATC; requires minimum climb of 250' per NM to 1100.

MOUNTAIN VIEW, CA

MOFFETT FEDERAL AFLD (NUQ)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2 18OCT12 (12292) (FAA)

TAKEOFF MINIMUMS:

Rwys 14L, 14R, std. w/ min. climb of 550' per NM to 4000 or 1700-2½ for climb in visual conditions.

Rwys 32L, 32R, std. w/ min. climb of 285' per NM to 3500 or 1700-2½ for climb in visual conditions.

DEPARTURE PROCEDURE:

Rwys 14L,14R, climbing right turn direct OSI VORTAC, thence…
or for climb in visual conditions cross Moffett Federal Airfield at or above 1600 then on OSI R-066 to OSI VORTAC, thence…
When executing VCOA notify ATC prior to departure.

Rwys 32L,32R, climb heading 322° to 700, then climbing left turn heading 230° until receiving OSI VORTAC, then direct OSI VORTAC, thence…
or for climb in visual conditions cross Moffett Federal Airfield at or above 1600 then on OSI R-066 to OSI VORTAC, thence…
When executing VCOA notify ATC prior to departure.
...continue climb in OSI VORTAC holding pattern (hold southeast, left turns, 321° inbound) to cross OSI VORTAC at or above MEA for route of flight.

TAKEOFF OBSTACLE NOTES:

Rwy 32R, light support structures abeam DER, 76' left and 76' right of centerline, up to 3' AGL/7' MSL.
Vehicles on road beginning 5' from DER, 92' left of centerline, up to 15' AGL/20' MSL.
Vehicles on road beginning 512' from DER, 158' right of centerline, up to 15' AGL/20' MSL.
Fence 134' from DER, left and right of centerline, up to 8' AGL/12' MSL.

Rwy 32L, light support structures abeam DER, 76' left and 76' right of centerline, up to 1' AGL/5' MSL.
Navaid 449' from DER, 315' right of centerline, up to 17' AGL/21' MSL.
Tree 1632' from DER, 934' left of centerline, up to 100' AGL/129' MSL.

Rwy 14L, light support structure 13' from DER, 126' right of centerline, up to 4' AGL/34' MSL.
Vehicles on road beginning 770' from DER, 547' right of centerline, 15' AGL/53' MSL.
Rail car on railroad beginning 774' from DER, 261' right of centerline, up to 23' AGL/60' MSL.
Trees beginning 1191' from DER, 71' right of centerline, up to 100' AGL/171' MSL.
Trees beginning 1922' from DER, 109' left of centerline, up to 100' AGL/153' MSL.

Rwy 14R, light support structures abeam DER, 77' right and 77' left of centerline, up to 3' AGL/37' MSL.
Fence, 187' from DER, 488' right of centerline, up to 8' AGL/45' MSL.
Vehicles on road beginning 207' from DER, 520' right of centerline, 15' AGL/55' MSL.
Rail car on railroad beginning 955' from DER, 342' left of centerline, up to 23' AGL/60' MSL.
Trees beginning 1066' from DER, 34' left of centerline, up to 100' AGL/153' MSL.

NAPA, CA

NAPA COUNTY (APC)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 4 03JUN10 (10154) (FAA)

DEPARTURE PROCEDURE: Use NAPAA DEPARTURE.

NOVATO, CA

GNOSS FIELD (DVO)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2 02MAY13 (13122) (FAA)

TAKEOFF MINIMUMS:

Rwy 13, 400-2¼ or std. w/ min. climb of 580' per NM to 500.

Rwy 31, 600-2½ w/ min. climb of 285' per NM to 1500 or std. w/ min. climb of 679' per NM to 800 or 2000-2½ for climb in visual conditions...

DEPARTURE PROCEDURE:

Rwy 13, climb heading 132° to 600 then turn left direct SGD VORTAC before proceeding on course.

Rwy 31, climbing right turn direct SGD VORTAC before proceeding on course
… For climb in visual conditions, cross Gnoss Field at or above 1900' MSL then proceed direct SGD VORTAC before proceeding on course. When executing VCOA, notify ATC prior to departure.

TAKEOFF OBSTACLE NOTES:

Rwy 13, trees beginning 2633' from DER, 627' left of centerline, up to 50' AGL/346' MSL.
Trees beginning 3630' from DER, 1274' right of centerline, up to 50' AGL/369' MSL.
Power line 1.7 NM from DER, 1980' left of centerline, 121' AGL/360' MSL.

Rwy 31, trees beginning 3237' from DER, 321' left of centerline, up to 50' AGL/569' MSL.

OAKDALE, CA

OAKDALE (O27)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 1 10NOV16 (16315) (FAA)

DEPARTURE PROCEDURE:

Rwy 10, climbing left turn via heading 020° and LIN VOR/DME R-124 to WRAPS INT/LIN 16.66 DME. Climb in WRAPS holding pattern (Northwest, right turn, 124° inbound) to cross WRAPS INT at or above MEA for direction of flight.

Rwy 28, climb via heading 276° and LIN VOR/DME R-146 to LIN VOR/DME to cross LIN VOR/DME at or above MEA for direction of flight.

TAKEOFF OBSTACLE NOTES:

Rwy 10, terrain beginning 388' from DER, up to 279' MSL.

Rwy 28, power line 3447' from DER, 407' right of centerline, 115' AGL/329' MSL.

OAKLAND, CA

METROPOLITAN OAKLAND INTL (OAK)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 7 17OCT13 (13290) (FAA)

DEPARTURE PROCEDURE:

Rwys 10L, 10R, 12, 15, 30, climbing right turn to intercept V107-301, thence …

Rwys 28L, 28R, climb heading 278° to intercept V107-301, thence …

Rwy 33, climbing left turn to intercept V107-301, thence...

… to cross COMMO INT at or above 4000, continue climb-in-hold (hold E, right turns, 288° inbound) to 4000 before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 10L, building, hanger and road beginning 225’ from DER, 554’ left of centerline, up to 37’ AGL/42’ MSL.
Trees beginning 1644’ from DER, 309’ left of centerline, up to 59’ AGL/67’ MSL.

Rwy 10R, Runway lights 9’ from DER, 26’ left and right of centerline, 1’ AGL/9’ MSL.
Sign 63’ from DER, 251’ left of centerline, 4’ AGL/10’ MSL.
Signs, fence and poles beginning 361’ from DER, 540’ right of centerline up to 35’ AGL/44’ MSL.
Signs and trees beginning 1160’ from DER, 177’ right of centerline, up to 36’ AGL/50’ MSL.

Rwy 12, Runway end and ALS lights beginning 11’ from DER, 9’ left and right of centerline, 1’ AGL/10’ MSL.

Rwy 15, ATCT 3613’ from DER, 1017’ left of centerline, 88’ AGL/101’ MSL.
Obstruction light on WSK 813’ from DER, 577’ right of centerline, 24’ AGL/27’ MSL.

Rwy 28L, rising terrain beginning 8’ from DER, crossing centerline, up to 9’ MSL.
Multiple trees beginning 105’ from DER, 35’ left of centerline, up to 64’ AGL/80’ MSL.
Traffic lights and poles beginning 895’ from DER, 164’ left of centerline, up to 29’ AGL/37’ MSL.
Substation 1593’ from DER, 871’ left of centerline, 37’ AGL/53’ MSL.
Fence 95’ from DER, 410’ left of centerline, 6’ AGL/13’ MSL.
Multiple trees beginning 994’ from DER, 55’ right of centerline, up to 91’ AGL/96’ MSL.

Rwy 28R, multiple trees beginning 1745’ from DER, 23’ left of centerline, up to 91’ AGL/96’ MSL.
Multiple trees beginning 2053’ from DER, 88’ right of centerline, up to 109’ AGL/111’ MSL.

Rwy 30, light pole 582’ from DER, 483’ left of centerline, 16’ AGL/26’ MSL.

Rwy 33, multiple trees, buildings and poles beginning 256’ from DER, 497’ left of centerline, up to 41’ AGL/45’ MSL.
Multiple trees, buildings, poles and towers beginning 762’ from DER, 267’ right of centerline, up to 39’ AGL/51’ MSL.

DIVERSE VECTOR AREA (RADAR VECTORS)

ORIG 16OCT14 (14289) (FAA)

Rwy 10L, headings as assigned by ATC; requires minimum climb of 340’ per NM to 2300.

Rwy 10R, headings as assigned by ATC; requires minimum climb of 330' per NM to 2300.

Rwys 12, 15, headings as assigned by ATC.

Rwys 28L, 28R, 30, headings as assigned by ATC; requires minimum climb of 240’ per NM to 2400.

Rwy 33, headings as assigned by ATC; requires minimum climb of 210’ per NM to 2400.

ORLAND, CA

HAIGH FIELD (O37)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2 21MAY20 (20142) (FAA)

DEPARTURE PROCEDURE:

Rwy 15, climb to 1000 then climbing left turn heading 100° to intercept RBL VORTAC R-140 to 5000 before proceeding on course.

Rwy 33, climb to 1000, then climbing right turn heading 020° to intercept RBL VORTAC R-140 to 5000 before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 15, fence 6' from DER, 383' right of centerline, 6' AGL/214' MSL.
Fence 15' from DER, 397' left of centerline, 6' AGL/214' MSL.
Pole 88' from DER, 443' left of centerline, 29' AGL/237' MSL.
Pole 1198' from DER, 661' right of centerline, 35' AGL/247' MSL.
Pole beginning 1262' from DER, 173' right of centerline, up to 45' AGL/258' MSL.
Tree 1370' from DER, 824' left of centerline, 270' MSL.
Tree 1464' from DER, 390' right of centerline, 273' MSL.
Trees beginning 1480' from DER, 399' right of centerline, up to 313' MSL.
Rwy 33, tree, traverse_way beginning 78' from DER, 224' left of centerline, up to 237' MSL.
Pole beginning 358' from DER, 298' right of centerline, up to 24' AGL/241' MSL.
Pole 955' from DER, 256' left of centerline, 31' AGL/249' MSL.
Tree 1202' from DER, 791' left of centerline, 281' MSL.
Tree 1807' from DER, 595' left of centerline, 308' MSL.
Tree 2388' from DER, 383' right of centerline, 324' MSL.

OROVILLE, CA

OROVILLE MUNI (OVE)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 4 22JUN17 (17173) (FAA)

TAKEOFF MINIMUMS:

Rwy 2, std. w/ min. climb of 280' per NM to 1500, or 1000-2½ for VCOA.

Rwy 31, 300-1⅝ or std. w/ min. climb of 245' per NM to 600.

DEPARTURE PROCEDURE:

Rwy 2, 31, climbing left turn to 5000 on heading 200° direct ILA VORTAC before proceeding on course.

Rwys 13, 20, climbing right turn to 5000 on heading 210° direct ILA VORTAC before proceeding on course.

VCOA:

Obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross Oroville Municipal airport south-westbound at or above 1000, then direct ILA VORTAC before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 2, ground 170' from DER, 475' right of centerline, 189' MSL.
Ground 191' from DER, 489' right of centerline, 190' MSL.
Tree 511' from DER, 600' left of centerline, 231' MSL.
Tree 513' from DER, 603' left of centerline, 236' MSL.
NAVAID 1143' from DER, 348' right of centerline, 215' MSL.
Pole 1364' from DER, 740' right of centerline, 255' MSL.
Poles beginning 1365' from DER, 537' right of centerline, up to 256' MSL.
Rwy 13, poles beginning 128' from DER, 292' right of centerline, up to 29' AGL/203' MSL.
Vertical structure 177' from DER, 493' left of centerline, 184' MSL.
Vehicles on road 210' from DER, 515' left of centerline, 189' MSL.
Tree 312' from DER, 554' left of centerline, 205' MSL.
Rwy 20, vehicles on road 819' from DER, 376' left of centerline, 203' MSL.
Poles beginning 902' from DER, 655' right of centerline, up to 36' AGL/217' MSL.
Rwy 31, sign 32' from DER, 325' left of centerline, 195' MSL.
Ground beginning 109' from DER, 410' right of centerline, up to 200' MSL.
Trees beginning 641' from DER, 621' left of centerline, up to 244' MSL.
Tree 1380' from DER, 466' left of centerline, 264' MSL.
T-L tower 1.3 NM from DER, 1826' right of centerline, 144' AGL/444' MSL.

PALO ALTO, CA

PALO ALTO (PAO)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

ORIG-B 15OCT15 (15288) (FAA)

DEPARTURE PROCEDURE:

Rwy 13, turn left.

Rwy 31, turn right.

All aircraft climb direct SJC VOR/DME before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 13, building with ship mast 1325' from DER, 450' left of centerline, 60' AGL/67' MSL.

PETALUMA, CA

PETALUMA MUNI (O69)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2 13NOV14 (14317) (FAA)

TAFEOFF PROCEDURES:

Rwy 11, std. w/min. climb of 235' per NM to 1500.

Rwy 29, 300-1¼ or std. w/min. climb of 276' per NM to 400.

DEPARTURE PROCEDURE:

Rwy 11, climb heading 108° to 1500 then continue climb direct SGD VORTAC.

Rwy 29, climb heading 289° to 1500 then climbing left turn to 3000 direct SGD VORTAC.

All aircraft continue climb to MEA for route of flight.

TAKEOFF OBSTACLE NOTES:

Rwy 11, tree 1095' from DER, 779' right of centerline, 55' AGL/116' MSL.

Sign 69' from DER, 141' right of centerline, 9' AGL/80' MSL.

Vertical structure 8' from DER, 248' left of centerline, 10' AGL/81' MSL.

Trees 172' from DER, beginning 399' left of centerline, up to 46' AGL/117' MSL.

Trees 40' from DER, beginning 465' left of centerline, up to 40' AGL/111' MSL.

Rwy 29, trees 1091' from DER, beginning 151' right of centerline, up to 91' AGL/172' MSL.

Vertical structure 194' from DER, 248' right of centerline, up to 19' AGL/98' MSL.

Trees 121' from DER, beginning 282' right of centerline, up to 51' AGL/132' MSL.

Trees and buildings 88' from DER, beginning 292' left of centerline, up to 40' AGL/121' MSL.

Trees 1363' from DER, 462' left of centerline, up to 96' AGL/177' MSL.

Pole 1262' from DER, 90' left of centerline, 41' MSL/ 122' AGL.

Poles 2508' from DER, beginning 87' left of centerline, up to 94' AGL/175' MSL.

PLACERVILLE, CA

PLACERVILLE (PVF)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 3 15NOV12 (12320) (FAA)

TAKEOFF MINIMUMS:

Rwy 5, NA-obstacles.

DEPARTURE PROCEDURE:

Rwy 23, climb to 5000 on HNW R-226 then climbing right turn on HNW R-276 to HNW VOR/DME. Aircraft departing HNW VOR/DME R-180 CW R-303 climb on course; all others climb in HNW VOR/DME holding pattern (hold SW, right turns, 048° inbound) to cross HNW VOR/DME at or above MEA/MCA for direction of flight before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 23, hangar 20' from DER, 340' right of centerline, 27' AGL/2586' MSL.

PORTERVILLE, CA

PORTERVILLE MUNI (PTV)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2A 06DEC18 (18340) (FAA)

TAKEOFF MINIMUMS:

Rwy 12, std. w/min. climb of 220' per NM to 600.

DEPARTURE PROCEDURE:

Rwy 12, climbing right turn thence . . .

Rwy 30, climbing left turn thence . . .

...climb direct TTE VOR/DME. Aircraft departing TTE VOR/DME R-146 CW R-330 climb on course. All other aircraft climb in TTE VOR/DME holding pattern (hold northwest, right turn, 143° inbound) to cross TTE R-331 CW R-060, 8600; R-061 CW R -145, 7000.

TAKEOFF OBSTACLE NOTES:

Rwy 12, tree 618' from DER, 241' right of centerline, 460' MSL.

Trees beginning 776' from DER, 193' left of centerline, up to 467' MSL.

Pole 906' from DER, 588' left of centerline, 43' AGL/491' MSL.

Rwy 30, fence 176' from DER, 499' right of centerline, 6' AGL/436' MSL.

RED BLUFF, CA

RED BLUFF MUNI (RBL)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 4 10FEB11 (11041) (FAA)

DEPARTURE PROCEDURE:

Rwy 15, climb direct RBL VORTAC, thence...

Rwy 33, climbing right turn direct RBL VORTAC, thence...

...continue climb in RBL holding pattern (S, right turns, 341° inbound) to cross RBL VORTAC at or above MEA for route of flight.

TAKEOFF OBSTACLE NOTES:

Rwy 15, WSK 5' from DER, 258' right of centerline, 18' AGL/361' MSL.

Tree 2065' from DER, 879' left of centerline, 100' AGL/449' MSL.

Rwy 33, trees beginning 468' from DER, 563' left of centerline, up to 54' AGL/387' MSL.

Trees beginning 587' from DER, 493' right of centerline, up to 73' AGL/393' MSL.

REDDING, CA

REDDING MUNI (RDD)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 5C 30JAN20 (20030) (FAA)

DEPARTURE PROCEDURE:

Rwy 12, climb on heading 126° and RBL R-344 to RBL VORTAC to 3000 before proceeding on course.

Rwy 16, climbing left turn heading 114° and RBL R-344 to RBL VORTAC to 3000 before proceeding on course.

Rwys 30, 34, climbing right turn heading 114° and RBL R-344 to RBL VORTAC to 3000 before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 12, trees beginning 45' from DER, 359' left of centerline, up to 23' AGL/515' MSL.
Trees, fence, general utility, transmission line beginning 281' from DER, 314' left of centerline, up to 49' AGL/542' MSL.
Transmission line 1920' from DER, 677' left of centerline, 60' AGL/543' MSL.
Tree 3470' from DER, 541' left of centerline, 109' AGL/590' MSL.
Rwy 16, tree 152' from DER, 463' right of centerline, 12' AGL/495' MSL.
Tree 347' from DER, 584' right of centerline, 46' AGL/527' MSL.
Rwy 30, terrain 27' from DER, 249' right of centerline, 502' MSL.
Aircraft on taxiway, pole, and trees beginning 32' from DER, 68' right of centerline, up to 44' AGL/544' MSL.
Aircraft on taxiway, pole, and building beginning 223' from DER, 13' left of centerline, up to 44' AGL/544' MSL.
Tree 1410' from DER, 211' left of centerline, 44' AGL/545' MSL.
Tree 1556' from DER, 417' right of centerline, 57' AGL/558' MSL.
Building and trees beginning 1584' from DER, 267' right of centerline, up to 60' AGL/563' MSL.
Tree 1588' from DER, 55' left of centerline, 50' AGL/553' MSL.
Trees beginning 1672' from DER, 431' right of centerline, up to 69' AGL/572' MSL.
Trees beginning 1793' from DER, 4' right of centerline, up to 74' AGL/576' MSL.
Trees beginning 1794' from DER, 78' left of centerline, up to 60' AGL/561' MSL.
Trees beginning 1882' from DER, 95' right of centerline, up to 74' AGL/577' MSL.
Trees beginning 2093' from DER, 227' right of centerline, up to 82' AGL/583' MSL.
Trees, building beginning 2340' from DER, 399' right of centerline, up to 99' AGL/600' MSL.
Tree 2788' from DER, 984' left of centerline, 113' AGL/613' MSL.
Tree 3256' from DER, 912' right of centerline, 94' AGL/601' MSL.
Rwy 34, electrical system 37' from DER, 130' right of centerline, 2' AGL/506' MSL.
Sign 38' from DER, 125' right of centerline, 4' AGL/508' MSL.
Sign 39' from DER, 123' left of centerline, 4' AGL/508' MSL.
Signs beginning 98' from DER, 252' left of centerline, up to 5' AGL/510' MSL.
Tree 2322' from DER, 1015' left of centerline, 67' AGL/576' MSL.
Tree 2386' from DER, 934' left of centerline, 74' AGL/583' MSL.
Tree 2455' from DER, 1120' left of centerline, 83' AGL/593' MSL.
Trees beginning 2662' from DER, 767' left of centerline, up to 83' AGL/594' MSL.
Trees beginning 2817' from DER, 479' left of centerline, up to 86' AGL/596' MSL.
Trees beginning 2906' from DER, 828' left of centerline, up to 87' AGL/598' MSL.
Trees beginning 2967' from DER, 794' left of centerline, up to 89' AGL/600' MSL.
Trees beginning 3137' from DER, 867' left of centerline, up to 96' AGL/608' MSL.
Trees beginning 3188' from DER, 792' left of centerline, up to 103' AGL/615' MSL.
Tower 3312' from DER, 1032' left of centerline, 108' AGL/622' MSL.
Antenna 3312' from DER, 1031' left of centerline, 105' AGL/619' MSL.

REEDLEY, CA

REEDLEY MUNI (O32)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

ORIG 03JAN19 (19003) (FAA)

DEPARTURE PROCEDURE:

Rwy 16, climb on a heading between 132° CW to 323° from DER.

Rwy 34, climb on a heading between 156° CW to 320° from DER.

TAKEOFF OBSTACLE NOTES:

Rwy 16, vehicles on road, terrain, building and vegetation beginning 26' from DER, 309' left of centerline, up to 15' AGL/402' MSL.
Tree 1551' from DER, 778' right of centerline, 431' MSL.
Tree 1648' from DER, 893' left of centerline, 461' MSL.
Tree 1737' from DER, 210' right of centerline, 434' MSL.
Tree 2010' from DER, 189' left of centerline, 453' MSL.
Trees beginning 2033' from DER, 615' left of centerline, up to 482' MSL.
Tree 2894' from DER, 630' left of centerline, 483' MSL.
Rwy 34, tree 116' from DER, 376' right of centerline, 403' MSL.
Tree 166' from DER, 499' right of centerline, 406' MSL.
Vehicles on road and tree beginning 289' from DER, 329' right of centerline, up to 407' MSL.

RIO VISTA, CA

RIO VISTA MUNI (O88)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2 05DEC19 (19339) (FAA)

DEPARTURE PROCEDURE:

Rwy 7, climbing left turn direct SAC VORTAC. Continue climb in SAC VORTAC holding pattern (hold, south, right turn, 016° inbound) to cross SAC VORTAC at or above MEA for route of flight.

Rwy 15, climb to 800 then climbing left turn direct SAC VORTAC. Continue climb in SAC VORTAC holding pattern (hold, south, right turn, 016° inbound) to cross SAC VORTAC at or above MEA for route of flight.

Rwy 25, climbing right turn direct SAC VORTAC. Continue climb in SAC VORTAC holding pattern (hold, south, right turn, 016° inbound) to cross SAC VORTAC at or above MEA for route of flight.

Rwy 33, climbing right turn direct SAC VORTAC. Continue climb in SAC VORTAC holding pattern (hold, south, right turn, 016° inbound) to cross SAC VORTAC at or above MEA for route of flight.

TAKEOFF OBSTACLE NOTES:

Rwy 7, lighting 10' from DER, 107' right of centerline, 2' AGL/24' MSL.
Terrain 111' from DER, 491' left of centerline, 27' MSL.
Rwy 15, pole 9' from DER, 19' left of centerline, 2' AGL/22' MSL.
Terrain 42' from DER, 270' right of centerline, 23' MSL.
Pole, vehicles on road, building beginning 112' from DER, 438' right of centerline, up to 33' AGL/55' MSL.
Poles, vehicles on road beginning 292' from DER, 25' left of centerline, up to 52' MSL.
Wind indicator, tree, vehicles on road, buildings, pole beginning 345' from DER, 1' right of centerline, up to 35' AGL/58' MSL.
Pole 1462' from DER, 99' left of centerline, 33' AGL/60' MSL.
Rwy 25, terrain, lighting beginning 0' from DER, 79' left of centerline, up to 26' MSL.
Poles, vehicles on road, trees beginning 287' from DER, 186' left of centerline, up to 54' MSL.
Tree 940' from DER, 201' left of centerline, 26' AGL/55' MSL.
Trees beginning 957' from DER, 3' left of centerline, up to 27' AGL/56' MSL.
Pole 1015' from DER, 308' right of centerline, 47' MSL.
Rwy 33, lighting 10' from DER, 100' right of centerline, 3' AGL/24' MSL.
Trees beginning 124' from DER, 252' right of centerline, up to 24' AGL/30' MSL.
Pole 1601' from DER, 846' left of centerline, 43' AGL/66' MSL.
Pole 1639' from DER, 891' left of centerline, 44' AGL/68' MSL.
Trees, building beginning 1912' from DER, 792' left of centerline, up to 66' AGL/92' MSL

SACRAMENTO, CA

SACRAMENTO EXECUTIVE (SAC)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

ORIG-A 20JUN19 (19171) (FAA)

TAKEOFF OBSTACLE NOTES:

Rwy 2, multiple trees 1128' from DER, 108' left of centerline, up to 76' AGL/96' MSL.
Antenna 1376' from DER, 663' left of centerline, 51' AGL/71' MSL.
Trees 1858' from DER, 137' right of centerline, 73' AGL/93' MSL.
Rwy 12, multiple trees 518' from DER, 26' left of centerline, up to 83' AGL/98' MSL.
Light pole 507' from DER, 336' left of centerline, 37' AGL/52' MSL.
Transmission pole 3971' from DER, 647' left of centerline, 130' AGL/154' MSL.
Multiple trees 475' from DER, 476' right of centerline up to 97' AGL/112' MSL.
Light poles 711' from DER, 241' right of centerline, 36' AGL/51' MSL.
Rwy 20, multiple trees beginning 850' from DER, 626' left of centerline, up to 92' AGL/107' MSL.
Multiple trees beginning 714' from DER, 515' right of centerline, up to 66' AGL/81' MSL.
Rwy 30, obstruction light on hangers 460' from DER, 360' right of centerline, 25' AGL/43' MSL.
Multiple trees beginning 631' from DER, 195' right of centerline, up to 56' AGL/74' MSL.
Multiple trees beginning 1331' from DER, 247' left of centerline, up to 90'/110' MSL.
Antenna on building 1543' from DER, 442' left of centerline, 47' AGL/67' MSL.

SACRAMENTO INTL (SMF)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 1A 21MAY20 (20142) (FAA)

DEPARTURE PROCEDURE:

Rwy 17L, climb heading 168° to 700 before turning east.

TAKEOFF OBSTACLE NOTES:

Rwy 17L, vehicles on road, 225' from DER, crossing runway centerline, 10' AGL/31' MSL
Rwy 35L, tree 3656' from DER, 1296' left of centerline, 98' AGL/123' MSL.
Rwy 35R, pole 1786' from DER, 945' right of centerline, 46' AGL/73' MSL.

DIVERSE VECTOR AREA (RADAR VECTORS)

ORIG-A 21MAY20 (20142) (FAA)

Rwy 17L, heading as assigned by ATC; requires min. climb of 220' per NM to 700.

SACRAMENTO MATHER (MHR)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

ORIG 06JAN94 (94006) (FAA)

DEPARTURE PROCEDURE:

Rwys 4L,4R, climbing right turn direct SAC VORTAC.
Rwys 22L,22R climb direct SAC VORTAC.

SALINAS, CA

SALINAS MUNI (SNS)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 4 17NOV11 (11321) (FAA)

TAKEOFF MINIMUMS:

Rwy 8, std. w/min climb of 243' per NM to 800 or 1800-2½ for climb in visual conditions.

DEPARTURE PROCEDURE:

Rwy 8, climbing right turn to intercept SNS VORTAC R-124 to 5500 before proceeding on course or for climb in visual conditions: cross Salinas Muni Airport at or above 1700 then intercept SNS VORTAC R-124 to 5500 before proceeding on course.

Rwy 13, climbing left turn to intercept SNS VORTAC R-124 to 5500 before proceeding on course.

Rwy 26, climbing right turn to intercept SNS VORTAC R-264 to 5000 before proceeding on course.

Rwy 31, climbing left turn to intercept SNS VORTAC R-264 to 5000 before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 8, trees beginning 1967' from DER, 900' left of centerline, up to 100' AGL/199' MSL.

Rwy 26, tree, light pole and road beginning 109' from DER, 266' left of centerline, up to 38' AGL/98' MSL.

Light pole and road beginning 137' from DER, 281' right of centerline, up to 40' AGL/100' MSL.

Poles beginning 909' from DER, 232' right of centerline, up to 52' AGL/102' MSL.

Antenna on building, tower and tree beginning 1645' from DER, 426' left of centerline, up to 116' AGL/176' MSL.

Microwave tower and tree beginning 1909' from DER, 31' right of centerline, up to 85' AGL/145' MSL.

Rwy 31, building, road, and trees beginning 170' from DER, 1' right of centerline, up to 79' AGL/159' MSL.

Road and trees 205' from DER, 200' left of centerline, up to 63' AGL/133' MSL.

Pole and trees beginning 1042' from DER, 5' left of centerline up to 102' AGL/172' MSL.

Fence, poles and trees 1109' from DER, 202' right of centerline, up to 78' AGL/158' MSL.

DIVERSE VECTOR AREA (RADAR VECTORS)

ORIG 05MAR15 (15064) (FAA)

Rwys 8, 13, heading as assigned by ATC; requires minimum climb of 330' per NM to 5000.

Rwys 26, 31, heading as assigned by ATC.

SAN ANDREAS, CA

CALAVERAS CO-MAURY RASMUSSEN FIELD (CPU)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 1 10NOV16 (16315) (FAA)

TAKEOFF MINIMUMS:

Rwy 13, 1800-5 or std. w/min. climb of 300' per NM to 3700.

DEPARTURE PROCEDURE:

Rwy 13, climb runway heading to 3100, then climbing right turn via LIN R-085 to LIN VOR/DME.

Rwy 31, climb via heading 311° to 3000, then climbing left turn via Linden (LIN) VOR/DME R-029 to LIN VOR/DME.

TAKEOFF OBSTACLE NOTES:

Rwy 13, windsock 4' from DER, 129' right of centerline, 14' AGL/1341' MSL.

Lights 4' from DER, 68' right of centerline, up to 2' AGL/1330' MSL.

Bush 24' from DER, 140' right of centerline, 3' AGL/1331' MSL.

Tree 43' from DER, 287' right of centerline, up to 8' AGL/ 1336' MSL.

Bush 26' from DER, 96' left of centerline, up to 1' AGL/1329' MSL.

Rwy 31, tree 19' from DER, 242' left of centerline, up to 30' AGL/1335' MSL.

Trees 220' from DER, 375' right of centerline, up to 40' AGL/1345' MSL.

Pole 667' from DER, 653' left of centerline, 23' AGL/1326' MSL.

Trees 1010' from DER, 651' right of centerline, up to 46' AGL/1351' MSL.

SAN CARLOS, CA

SAN CARLOS (SQL)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 1A 19JUL18 (18200) (FAA)

TAKEOFF MINIMUMS:

Rwy 30, N/A- obstacles and ATC.

Rwy 12, 300-1 ⅜ or std. w/min. climb of 240' per NM to 300.

DEPARTURE PROCEDURE:

Rwy 12, climb heading 120° to intercept SJC VOR/DME R-281 to SJC VOR/DME before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 12, terrain 1' from DER, 149' left of centerline, 11' MSL.

Dam beginning 117' from DER, 58' left of centerline, up to 3' AGL/12' MSL.

Pole 716' from DER, 294' right of centerline, 38' MSL.

Transmission line 1676' from DER, 735' right of centerline, 92' AGL/94' MSL.

Transmission line 1.1 NM from DER, 2196' left of centerline, 200' AGL/208' MSL.

DIVERSE VECTOR AREA (RADAR VECTORS)

ORIG 26MAY16 (16147) (FAA)

Rwy 12, headings as assigned by ATC; requires minimum climb of 470' per NM to 3400.

SAN FRANCISCO, CA

SAN FRANCISCO INTL (SFO)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 9 24JUL14 (14205) (FAA)

TAKEOFF MINIMUMS:

Rwys 19L, 19R, std. w/min. climb of 575' per NM to 2000.

Rwys 28L, 28R, std. w/min. climb of 351' per NM to 1300.

DEPARTURE PROCEDURE:

Rwys 1L, 1R, climb heading 014° to 2000, thence …

Rwys 10L, 10R, climbing left turn heading 053° to intercept SFO R-090 eastbound to 2300; thence …

Rwys 19L, 19R, climbing left turn heading 053° to intercept SFO R-090 eastbound to 2600, thence …

Rwys 28L, 28R, climb heading 284° to 2000, thence …

… continue climb on course.

TAKEOFF OBSTACLE NOTES:

Rwy 1 L, ships beginning 1646' from DER, right and left of centerline, up to 150' AGL/150' MSL.

Rwy 1R, ships beginning 1173' from DER, right and left of centerline, up to 150' AGL/150' MSL.

Rwy 10L, sign 62' from DER, 300' left of centerline, 4' AGL/15' MSL.

Building and rod on building beginning 257' from DER, 560' left of centerline, up to 14' AGL/24' MSL.

Rwy 19L, multiple poles beginning 548' from DER, 46' left of centerline, up to 20' AGL/480' MSL.

Multiple poles and signs beginning 652' from DER, 337' right of centerline, up to 20' AGL/38' MSL.

Multiple buildings, transmission towers, poles, trees, signs, electrical system beginning 937' from DER, 11' left of centerline, up to 100' AGL/127' MSL.

Multiple buildings, transmission towers, poles, trees, signs, electrical system beginning 887' from DER, 61' right of centerline, up to 100' AGL/128' MSL.

Multiple buildings 3831' from DER, 1138' left of centerline, up to 105' AGL/127' MSL.

Multiple buildings and trees beginning 3831' from DER, 74' right of centerline up to 100' AGL/167' MSL.

Rwy 19R, multiple poles, trees, electrical system beginning 454' from DER, 82' right of centerline, up to 40' AGL/60' MSL.

Multiple transmission towers, trees beginning 918' from DER, 7' left of centerline, up to 80' AGL/96' MSL.

Poles and electrical system 1188' from DER, 1' right of centerline, 44' AGL/50' MSL.

Multiple transmission towers, trees beginning 1617' from DER, 16' right of centerline, up to 80' AGL/85' MSL.

Rwy 28L, sign 19' from DER, 500' right of centerline, 5' AGL/9' MSL.

Obstruction lights on DME beginning 277' from DER, 162' left of centerline, up to 16' AGL/26' MSL.

Obstruction light on localizer beginning 219' from DER, on centerline, up to 10' AGL/17' MSL.

Multiple poles, electrical system beginning 824' from DER, 300' left of centerline, up to 40' AGL/56' MSL.

Multiple buildings, transmission towers, tank and pole beginning 1305' from DER, 370' left of centerline, up to 95' AGL/103' MSL.

Rwy 28R, multiple signs, beginning 23' from DER, 140' right of centerline, up to 5' AGL/10' MSL.

Terrain beginning 58' from DER, 146' right of centerline, up to 10' MSL.

Sign, 63' from DER, 250' left of centerline 5' AGL/8' MSL.

Terrain beginning 130' from DER, 235' left of centerline, up to 10' MSL.

Antenna on building, obstruction light on DME, tree, beginning 556' from DER, 268' right of centerline, up to 35' AGL/43' MSL.

Multiple poles beginning 918' from DER, 598' left of centerline, up to 22' AGL/35' MSL.

Multiple buildings, trees beginning 1467' from DER, 683' right of centerline, up to 60' AGL/68' MSL.

Multiple buildings, transmission towers, trees and electrical system beginning 1826' from DER, 123' left of centerline, up to 95' AGL/103' MSL.

DIVERSE VECTOR AREA (RADAR VECTORS)

AMDT 1 20AUG15 (15232) (FAA)

Rwys 1L, 1R, headings as assigned by ATC; requires minimum climb of 420' per NM to 2600.

Rwys 10L, 10R, headings as assigned by ATC.

SW-2, 25 FEB 2021 to 22 APR 2021

SAN JOSE, CA

NORMAN Y MINETA SAN JOSE INTL (SJC)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 6C 21JUL16 (16203) (FAA)

TAKEOFF MINIMUMS:

Rwys 12L/R, 400-2½ or std. w/min. climb of 261' per NM to 500.

DEPARTURE PROCEDURE:

Rwys 12L/R, climbing right turn to 2000 on Heading 318° and on OAK R-135 to OAK VOR/DME before proceeding on course.

Rwys 30L/R, climb via heading 315° to 2000, then via OAK R-132 to OAK VOR/DME before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 12L, fence 156' from DER, 57' left of centerline, 14' AGL/73' MSL.
Ol on blast fence, 156' from DER, 57' left of centerline, 73' MSL.
Pole 191' from DER, 81' left of centerline, 34' AGL/93' MSL.
Trees beginning 286' from DER, 161' right of centerline, up to 107' MSL.
T-L twr, pole beginning 466' from DER, 228' left of centerline, up to 46' AGL/105' MSL.
Tree 1281' from DER, 529' left of centerline, 117' MSL.
T-L twr 1731' from DER, 729' left of centerline, 86' AGL/156' MSL.
Tree 1799' from DER, 273' left of centerline, 144' MSL.
Tree 1887' from DER, 68' right of centerline, 124' MSL.
T-L twr 3047' from DER, 543' left of centerline, 73' AGL/147' MSL.
Building 1.2 NM from DER, 630' left of centerline, 170' AGL/250' MSL.
Building 1.3 NM from DER, 1051' left of centerline, 265' MSL.
Building 1.3 NM from DER, 445' left of centerline, 217' AGL/301' MSL.
Building 1.3 NM from DER, 51' left of centerline, 228' AGL/309' MSL.
Buildings beginning 1.3 NM from DER, 81' left of centerline, up to 312' MSL.
Building 1.5 NM from DER, 975' left of centerline, 262' AGL/351' MSL.
Building 1.5 NM from DER, 1591' left of centerline, 268' AGL/358' MSL.
Buildings beginning 1.5 NM from DER, 82' left of centerline, up to 365' MSL.
Buildings beginning 1.6 NM from DER, 280' right of centerline, up to 346' MSL.
Buildings beginning 1.6 NM from DER, 350' right of centerline, up to 260' AGL/350' MSL.
Building 1.6 NM from DER, 1977' left of centerline, 286' AGL/368' MSL.
Buildings beginning 1.6 NM from DER, 640' left of centerline, up to 274' AGL/370' MSL.
Building 1.9 NM from DER, 313' right of centerline, 284' AGL/373' MSL.
Building 1.9 NM from DER, 282' right of centerline, 281' AGL/372' MSL.

Rwy 12R, ol on loc 10' from DER, on centerline, 68' MSL.
Ol on blast fence 45' from DER, 115' right of centerline, 75' MSL.
Fence 45' from DER, 115' right of centerline, 14' AGL/75' MSL.
Tree 269' from DER, 149' right of centerline, 100' MSL.
Trees, beginning 285' from DER, 193' left of centerline, up to 107' MSL.
Rd 338' from DER, 2' right of centerline, 82' MSL.
Tree, pole beginning 519 ' from DER, 279' right of centerline, up to 122' MSL.
Trees beginning 1798' from DER, 631' left of centerline, up to 144' MSL.
Poles beginning 1948' from DER, 688' right of centerline, up to 59' AGL/128 ' MSL.
Tree 2604' from DER, 551' right of centerline, 133' MSL.
T-L twr 3046' from DER, 1243' left of centerline, 73' AGL/147' MSL.
Tree 3079' from DER, 873' right of centerline, 142' MSL.
Building 1.3 NM from DER, 1145' left of centerline, 217' AGL/301' MSL.
Building 1.3 NM from DER, 751' left of centerline, 228' AGL/309' MSL.
Buildings beginning 1.3 NM from DER, 781' left of centerline, up to 312' MSL.
Building 1.5 NM from DER, 1676' left of centerline, 262' AGL/351' MSL.
Building 1.5 NM from DER, 2291' left of centerline, 268' AGL/358' MSL.
Buildings beginning 1.5 NM from DER, 134' left of centerline, up to 365' MSL.
Building 1.6 NM from DER, 2678' left of centerline, 286' AGL/368' MSL.
Buildings beginning 1.6 NM from DER, 1340' left of centerline, up to 274' AGL/370' MSL.
Building 1.6 NM from DER, 345' right of centerline, 320' MSL.
Building 1.9 NM from DER, 386' left of centerline, 284' AGL/373' MSL.
Building 1.9 NM from DER, 417' left of centerline, 281' AGL/372' MSL.

Rwy 30L, poles beginning 166' from DER, 494' left of centerline, up to 69' MSL.
NAVAID 174' from DER, on centerline, 7' AGL/44' MSL.
Fence 184' from DER, 369' right of centerline, 15' AGL/51' MSL.
Tree 308' from DER, 424' left of centerline, 71' MSL.
Tree, pole beginning 473' from DER, 118' right of centerline, up to 72' MSL.
Poles beginning 711' from DER, 544' right of centerline, up to 75' MSL.
NAVAID 782' from DER, 350' left of centerline, 47' AGL/83' MSL.
Pole 1227' from DER, 607' left of centerline, 48' AGL/86' MSL.
Pole 1315' from DER, 548' right of centerline, 49' AGL/80' MSL.
Pole 1329' from DER, 743' left of centerline, 57' AGL/94' MSL.
Tree 1852' from DER, 179' right of centerline, 85' MSL.
Tree 2561' from DER, 738' right of centerline, 108' MSL.
Trmsn twr, t-l twr, beginning 2616' from DER, 1130' left of centerline, up to 120' MSL.
Pole 2806' from DER, 1215' left of centerline, 135' MSL.
Pole 2897' from DER, 614' left of centerline, 113' MSL.
Pole, t-l twr, beginning 4145' from DER, 1329' left of centerline, up to 152' MSL.

CON'T

SAN JOSE, CA (CON'T)

NORMAN Y MINETA SAN JOSE INTL (SJC) (CON'T)

Rwy 30R, pole 100' from DER, 449' right of centerline, 40' AGL/75' MSL.
Fence 138' from DER 243' right of centerline, 13' AGL/47' MSL.
Fence 184' from DER, 329' left of centerline, 15' AGL/51' MSL.
Tree 411' from DER, 37' left of centerline, 70' MSL.
Tree 473' from DER, 319' left of centerline, 72' MSL.
Pole 526' from DER, 580' left of centerline, 26' AGL/61' MSL.
Pole 657' from DER, 369' right of centerline, 53' AGL/84' MSL.
Vehicle on rd beginning 688' from DER, on centerline, up to 68' MSL.
Poles beginning 711' from DER, 57' left of centerline, up to 25' AGL/75' MSL.
Pole 961' from DER, 133' right of centerline, 56' AGL/88' MSL.
Pole 1315' from DER, 150' left of centerline, 49' AGL/80' MSL.
Tree 1852' from DER, 519' left of centerline, 85' MSL.
Tree 2561' from DER, 39' right of centerline, 108' MSL.
Building 3424' from DER, 146' right of centerline, 96' AGL/124' MSL.

DIVERSE VECTOR AREA (RADAR VECTORS)
AMDT 1 21JUL16 (16203) (FAA)

Rwys 12L/R, heading as assigned by ATC; requires minimum climb of 470' per NM to 5600.
Rwys 30L/R, heading as assigned by ATC; requires minimum climb of 490' per NM to 5600 and do not exceed 210 KTS until established on assigned heading.

REID-HILLVIEW OF SANTA CLARA COUNTY (RHV)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

TAKEOFF MINIMUMS:
Rwys 13L, 13R, NA - environmental.

DEPARTURE PROCEDURE:
Use DECOT DEPARTURE.

SAN MARTIN, CA

SAN MARTIN (E16)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2 05NOV20 (20310) (FAA)

TAKEOFF MINIMUMS:
Rwy 32, 3600-3 for VCOA.

DEPARTURE PROCEDURE:
Rwy 14, climb on heading 141° to 5000 and SNS R-355 to SNS VORTAC before proceeding on course.

VCOA:
Rwy 32, obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross San Martin Airport at or above 3700 before proceeding on course.

TAKEOFF OBSTACLE NOTES:
Rwy 14, traverse way, vegetation beginning 50' from DER, 104' left of centerline, up to 291' MSL.
Pole, traverse way, fence, trees beginning 259' from DER, 81' left of centerline, up to 30' AGL/308' MSL.
Traverse way 344' from DER, 17' right of centerline, up to 286' MSL.
Antenna 1568' from DER, 620' left of centerline, 55' AGL/319' MSL.
Trees beginning 1571' from DER, 601' right of centerline, up to 71' AGL/338' MSL.
Rwy 32, traverse way 73' from DER, 429' right of centerline, 300' MSL.
Traverse way 127' from DER, 321' right of centerline, 301' MSL.
Tree 169' from DER, 537' right of centerline, 303' MSL.
Pole, traverse way, trees beginning 213' from DER, 173' right of centerline, up to 37' AGL/321' MSL.
Traverse way 387' from DER, 575' left of centerline, 300' MSL.
Trees, pole, traverse way beginning 545' from DER, 46' left of centerline, up to 321' MSL.
Traverse way beginning 1171' from DER, 71' right of centerline, up to 323' MSL.
Traverse way, trees beginning 1172' from DER, 188' right of centerline, up to 327' MSL.
Tree 1486' from DER, 668' left of centerline, 335' MSL.
Trees beginning 1573' from DER, 297' left of centerline, up to 337' MSL.
Tree 1670' from DER, 655' right of centerline, 330' MSL.
Tree 1708' from DER, 87' right of centerline, 331' MSL.
Tree 1837' from DER, 328' left of centerline, 342' MSL.
Trees beginning 1880' from DER, 177' right of centerline, up to 340' MSL.
Trees beginning 2045' from DER, 331' left of centerline, up to 350' MSL.
Tree 2146' from DER, 888' right of centerline, 341' MSL.
Trees beginning 2217' from DER, 194' right of centerline, up to 72' AGL/364' MSL.
Trees beginning 2319' from DER, 342' left of centerline, up to 357' MSL.
Tree 2984' from DER, 1021' left of centerline, 378' MSL.
Tree 3137' from DER, 946' left of centerline, 381' MSL.

SANTA ROSA, CA

CHARLES M SCHULZ-SONOMA COUNTY (STS)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 7 13NOV14 (14317) (FAA)

TAKEOFF MINIMUMS:

Rwy 2, std. with a min. climb of 319' per NM to 2400, or 1200-2½ for climb in visual conditions.

Rwy 32, std. with a min. climb of 391' per NM to 2500, or 1200-2½ for climb in visual conditions.

DEPARTURE PROCEDURE:

Rwys 2, 32, climbing left turn heading 164°, thence...

Rwy 14, climbing right turn heading 250°, thence...

Rwy 20, climb on heading 190°, thence…

…intercept and climb on STS R-202 to cross FREES INT at or above MEA for route of flight or continue climb in FREES holding pattern (hold SE, right turns, PYE VORTAC 335° inbound) to MEA for route of flight.

VCOA:

Rwys 2, 32, obtain ATC approval for climb in visual conditions when requesting IFR clearance. Climb in visual conditions to cross STS VOR/DME southwest bound at or above 1200. Thence…

… Intercept and climb on STS R-202 to cross FREES INT at or above MEA for route of flight or continue climb in FREES holding pattern (hold SE, right turns, PYE VORTAC 335° inbound) to MEA for route of flight.

TAKEOFF OBSTACLE NOTES:

Rwy 2, trees beginning 492' from DER, 36' left of centerline, up to 60' AGL/156' MSL.
Trees beginning 515' from DER, 114' right of centerline, up to 55' AGL/156' MSL.
Trees beginning 1000' from DER, 9' left of centerline, up to 100' AGL/178' MSL.
Trees beginning 1109' from DER, 135' right of centerline, up to 100' AGL/184' MSL.
Trees beginning 2104' from DER, 342' right of centerline, up to 100' AGL/196' MSL.
Tree 2119' from DER, 619' right of centerline, up to 100' AGL/173' MSL.
Rwy 14, tree 1' from DER, 498' right of centerline, 20' AGL/136' MSL.
Light structure 6' from DER, 40' left of centerline, 1' AGL/121' MSL.
Trees beginning 409' from DER, 602' left of centerline, up to 50' AGL/147' MSL.
Trees beginning 1201' from DER, 275' left of centerline, up to 70' AGL/167' MSL.
Tree 2194' from DER, 1034' right of centerline, 60' AGL/180' MSL.
Rwy 20, tree 108' from DER, 462' right of centerline, 40' AGL/162' MSL.
Trees beginning 1596' from DER, 403' left of centerline, up to 100' AGL/187' MSL.
Trees beginning 1498' from DER, 566' right of centerline, up to 144' AGL/274' MSL.
Trees beginning 2841' from DER, 109' left of centerline, up to 123' AGL/228' MSL.
Rwy 32, trees beginning 67' from DER, 891' right of centerline, up to 55' AGL/158' MSL.
Trees beginning 89' from DER, on centerline, up to 55' AGL/153' MSL.
Tree 1492' from DER, 319' left of centerline, up to 60' AGL/158' MSL.
Tree 3187' from DER, 140' left of centerline, 167' AGL/257' MSL.

SOUTH LAKE TAHOE, CA

LAKE TAHOE (TVL)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 8 13SEP18 (18256) (FAA)

TAKEOFF MINIMUMS:

Rwy 18, std. w/min. climb of 810' per NM to 10800, or alternatively, 1600-3 w/min. climb of 765' per NM to 10800, or 5100-5 for VCOA.

Rwy 36, 300-1⅜ or std. w/min. climb of 755' per NM to 6500.

DEPARTURE PROCEDURE:

Rwy 18, climb heading 177° to 7900 then climbing right turn to intercept and climb on SWR R-133 to SWR VOR/DME thence...

Rwy 36, climb heading 357° to intercept and climb on SWR R-113 to SWR VOR/DME thence...

...Proceed on course.

VCOA:

Rwy 18, obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross South Lake Tahoe Airport at or above 11200' MSL then intercept and proceed on SWR R-127 to SWR VOR/DME.

TAKEOFF OBSTACLE NOTES:

Rwy 18, pole 10' from DER, 40' left of centerline, 2' AGL/6270' MSL.
Vehicles on road, sign beginning 16' from DER, 247' right of centerline, up to 6282' MSL.
Trees beginning 19' from DER, 378' left of centerline, up to 88' AGL/6354' MSL.
Trees, vehicles on road, vegetation, terrain, pole beginning 140' from DER, 20' right of centerline, up to 88' AGL/6355' MSL.
Pole, trees beginning 263' from DER, 4' left of centerline, up to 102' AGL/6369' MSL.
Trees beginning 917' from DER, 1' left of centerline, up to 111' AGL/6388' MSL.
Trees beginning 1095' from DER, 8' right of centerline, up to 107' AGL/6392' MSL.
Trees beginning 1702' from DER, on centerline, up to 6403' MSL.
Trees beginning 1960' from DER, 6' left of centerline, up to 98' AGL/6412' MSL.
Trees, poles beginning 2021' from DER, 1' right of centerline, up to 6416' MSL.
Trees beginning 2392' from DER, 8' left of centerline, up to 113' AGL/6418' MSL.
Trees, buildings beginning 2441' from DER, 1' left of centerline, up to 6419' MSL.
Trees, buildings, vehicles on road, poles, antenna, vegetation beginning 2712' from DER, on centerline, up to 91' AGL/6420' MSL.
Tree 2.5 NM from DER, 1451' left of centerline, 7837' MSL.

CON'T

SOUTH LAKE TAHOE, CA (CON'T)

LAKE TAHOE (TVL) (CON'T)

Rwy 36, sign 9` from DER, 212' left of centerline, 4' AGL/6256' MSL.
Vehicle on road 18' from DER, 360' left of centerline, 6266' MSL.
Trees, vehicle on road beginning 51' from DER, 330' right of centerline, up to 47' AGL/6296' MSL.
Tree, pole, terrain, fence beginning 142' from DER, 236' right of centerline, up to 50' AGL/6302' MSL.
Trees beginning 175' from DER, 210' right of centerline, up to 44' AGL/6312' MSL.
Trees beginning 225' from DER, 173' right of centerline, up to 47' AGL/6319' MSL.
Trees beginning 459' from DER, 181' right of centerline, up to 58' AGL/6328' MSL.
Trees, vehicles on road beginning 593' from DER, 52' right of centerline, up to 59' AGL/6330' MSL.
Trees, vehicles on road beginning 768' from DER, 84' right of centerline, up to 71' AGL/6340' MSL.
Trees, vehicles on road beginning 953' from DER, 143' right of centerline, up to 67' AGL/6348' MSL.
Trees, vehicles on road beginning 1116' from DER, 104' right of centerline, up to 54' AGL/6355' MSL.
Tree 1324' from DER, 564' right of centerline, 62' AGL/6370' MSL.
Tree 1331' from DER, 761' right of centerline, 61' AGL/6379' MSL.
Trees, vehicles on road beginning 1382' from DER, 142' right of centerline, up to 6382' MSL.
Trees beginning 1497' from DER, 161' right of centerline, up to 69' AGL/6391' MSL.
Trees, vehicles on road, terrain beginning 1520' from DER, 41' left of centerline, up to 6402'MSL.
Trees, vehicles on road, fence, NAVAID, poles, tower beginning 1838' from DER, 5' left of centerline, up to 74' AGL/6427' MSL.
Trees beginning 5300' from DER, 377' right of centerline, up to 133' AGL/6430' MSL.
Trees beginning 1 NM from DER, 703' right of centerline, up to 6436' MSL.
Trees beginning 1 NM from DER, 1100' right of centerline, up to 134' AGL/6420' MSL

STOCKTON, CA

STOCKTON METROPOLITAN (SCK)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 1 20JUN19 (19171) (FAA)

TAKEOFF MINIMUMS:

Rwy 29R, 200-1¼ or std. w/min. climb of 215' per NM to 300 or alternatively, with std. takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 1400' prior to DER.

TAKEOFF OBSTACLE NOTES:

Rwy 11L, building 231' from DER, 401' left of centerline, 8' AGL/39' MSL.
Traverse way 413' from DER, 456' left of centerline, 49' MSL.
Rwy 11R, traverse way 61' from DER, 486' right of centerline, 43' MSL.
Lighting 122' from DER, 415' left of centerline, 2' AGL/29' MSL.
Rwy 29L, traverse way, aircraft parking, electrical system beginning 132' from DER, 235' left of centerline, up to 45' MSL.
Buildings beginning 424' from DER, 369' left of centerline, up to 61' MSL.
Building 2946' from DER, 1215' left of centerline, 102' MSL.
Building 2963' from DER, 1203' left of centerline, 97' AGL/117' MSL.
Stack, building beginning 5568' from DER, 1600' right of centerline, up to 150' AGL/171' MSL.
Rwy 29R, fence, trees beginning 181' from DER, 5' right of centerline, up to 18' AGL/41' MSL.
Fence, trees, traverse way, pole beginning 208' from DER, 1' left of centerline, up to 17' AGL/41' MSL.
Poles, traverse way beginning 255' from DER, 35' right of centerline, up to 32' AGL/55' MSL.
Poles beginning 528' from DER, 305' left of centerline, up to 31' AGL/54' MSL.
Pole 653' from DER, 515' left of centerline, 32' AGL/55' MSL.
Pole 834' from DER, 693' left of centerline, 38' AGL/60' MSL.
Pole 1587' from DER, 857' left of centerline, 48' AGL/69' MSL.
Elevator 4480' from DER, 868' right of centerline, 122' AGL/141' MSL.
Stack, buildings beginning 4599' from DER, 827' right of centerline, up to 150' AGL/171' MSL.
Elevator, building beginning 1 NM from DER 1878' left of centerline, up to 174' AGL/191' MSL.

SUSANVILLE, CA

SUSANVILLE MUNI (SVE)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

ORIG 25DEC03 (03359) (FAA)

DEPARTURE PROCEDURE:

Use AMEDEE DEPARTURE.

TRACY, CA
TRACY MUNI (TCY)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 3 22OCT09 (09295) (FAA)

TAKEOFF MINIMUMS:
Rwy 26, 700-3 or std. w/ a min. climb of 320' per NM to 1000.

DEPARTURE PROCEDURE:
Rwy 8, climb to 3000 via heading 073° and MOD VOR/DME R-264 to MOD VOR/DME before proceeding on course.
Rwy 12, climbing left turn to 3000 to intercept MOD VOR/DME R-264 to MOD VOR/DME before proceeding on course.
Rwy 26, climbing right turn to 3000 via heading 150° and MOD VOR/DME R-264 to MOD VOR/DME before proceeding on course.
Rwy 30, climbing right turn to 3000 via heading 150° to intercept MOD VOR/DME R-264 to MOD VOR/DME before proceeding on course.

TAKEOFF OBSTACLE NOTES:
Rwy 8, tree 472' from DER, 198' left of centerline, 50' AGL/194' MSL.
Fence 167' from DER, 8' right of centerline, 25' AGL/176' MSL.
Vehicle on road 241' from DER, 412' left of centerline, 15' AGL/183' MSL.
Vehicles on roads starting 241' from DER, 7' right of centerline, up to 15' AGL/189' MSL.
Poles starting 403' from DER, 204' left of centerline, up to 54' AGL/208' MSL.
Poles starting 727' from DER, 49' right of centerline, up to 54' AGL/212' MSL.
Rwy 12, trees starting 436' from DER, 251' right of centerline, up to 72' AGL/253' MSL.
Conveyor 1995' from DER, 504' left of centerline, 66' AGL/ 270' MSL.
Poles starting 832' from DER, 396' right of centerline, up to 56' AGL/240' MSL.
Obstruction light on hopper 1934' from DER, 274' right of centerline, 74' AGL/255' MSL.
Vehicles on road starting 133' from DER, 272' left of centerline, up to 15' AGL/206' MSL.
Fence 32' from DER 405' left of centerline, 25' AGL/194' MSL.
Rwy 26, tree 1173' from DER, 180' right of centerline, 35' AGL/234'MSL.
Trees starting 1067' from DER, 125' left of centerline, up to 35' AGL/794' MSL.
Vehicle on road 236' from DER, 150' left of centerline, 15' AGL/214' MSL.
Fence 69' from DER, 133' left of centerline, 23' AGL/203' MSL.
Rising terrain 11105' from DER, 2814' left of centerline, up to 739' MSL.
Rwy 30, trees starting 438' from DER, 30' right of centerline, up to 35' AGL/209' MSL.
Tree 1079' from DER, 82' left of centerline, 35' AGL/214' MSL.
Obstruction light on hopper 985' from DER, 353' right of centerline, 72' AGL/236' MSL.
Bush 195' from DER, 364' left of centerline, 25' AGL/189' MSL.
Light pole 1149' from DER, 160' left of centerline, 47' AGL/211' MSL.
Obstruction light on building 2289' from DER, 65' right of centerline, 74' AGL/238' MSL.

TRAVIS AFB (KSUU)
FAIRFIELD, CA
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
23APR20 (20114)

TAKEOFF MINIMUMS:
All Rwys, std. w/min climb of 305' per NM to 4000, or 2400-3 for VCOA

VCOA:
All Rwys, obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross Travis AFB airport at or above 2300 before proceeding on course.

TAKEOFF OBSTACLE NOTES:
Rwy 3L, potential acft 23' to 1290' from DER, 500' left of cntrln, 65' AGL/120' MSL.
Potential acft 620' to 1925' from DER, 600' right of cntrln, 65' AGL/125' MSL.
Parked acft 860' to 1780' from DER, 770' left of cntrln, 58' AGL/125' MSL.
Potential acft 1925' from DER, 385' left and right of cntrln, 65' AGL/125' MSL.
Rwy 3R, pylon 5508' from DER, 1641' left of cntrln, 105' AGL/154' MSL.
Rwy 21L, potential acft 210' from DER, 650' right of cntrln, 65' AGL/118' MSL.
Light poles 140' to 920' from DER, 550' to 670' left of cntrln, 50' AGL/82' MSL.

TRUCKEE, CA
TRUCKEE-TAHOE (TRK)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 5 08JAN15 (15008) (FAA)

TAKEOFF MINIMUMS:
Rwys 11, 20, NA - obstacles.

DEPARTURE PROCEDURE:
Rwys 2, 29, use TRUCK DEPARTURE.

TULARE, CA

MEFFORD FIELD (TLR)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

ORIG-A 19JUL18 (18200) (FAA)

DEPARTURE PROCEDURE:

Rwy 13, climbing right turn direct VIS VOR/DME. Aircraft departing VIS VOR/DME R-001 CW R-140 continue climb in VIS VOR/DME holding pattern (hold east, RT, 287° inbound) to cross VIS VOR/DME at or above 5400 before proceeding on course. All other aircraft climb on course.

Rwy 31, climbing left turn direct VIS VOR/DME. Aircraft departing VIS VOR/DME R-001 CW R-140 continue climb in VIS VOR/DME holding pattern (hold east, RT, 287° inbound) to cross VIS VOR/DME at or above 5400 before proceeding on course. All other aircraft climb on course.

TAKEOFF OBSTACLE NOTES:

Rwy 13, hangars 120' from DER, 525' right of centerline, up to 28' AGL/287 MSL.
Trees beginning 371' from DER, 323' right of centerline, 60' AGL/334' MSL.
Trees beginning 530' from DER, left and right of centerline, up to 60' AGL/334 MSL.
Rwy 31, traverse way 83' from DER, 340' right of centerline, 279' MSL.
Traverse ways beginning 210' from DER, 376' right of centerline, up to 280' MSL.
Traverse way 343' from DER, 415' left of centerline, 280' MSL.
Traverse way 492' from DER, 395' left of centerline, 281' MSL.
Traverse way 544' from DER, 416' right of centerline, 281' MSL.
Traverse way 684' from DER, 458' left of centerline, 283' MSL.
Sign 793' from DER, 424' left of centerline, 13' AGL/286' MSL.
Pole 1141' from DER, 547' left of centerline, 26' AGL/298' MSL.
Sign 1422' from DER, 542' right of centerline, 37' AGL/311' MSL.
Tower 3586' from DER, 580' left of centerline, 110' AGL/383' MSL.

UKIAH, CA

UKIAH MUNI (UKI)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2A 25FEB21 (21056) (FAA)

TAKEOFF MINIMUMS:

Rwy 15, std. w/ min. climb of 681' per NM to 3800 or 3300-3 for climb in visual conditions.
Rwy 33, std. w/ min. climb of 350' per NM to 5000 or 3300-3 for climb in visual conditions.

DEPARTURE PROCEDURE:

Rwy 15, climb heading 151° to 3800 before proceeding on course.
Rwy 33, climb heading 345° to 5000, then left turn direct to cross ENI VORTAC at or above 6000.

VCOA:

All Rwys, obtain ATC approval for visual climb over airport when requesting IFR clearance. Climb in visual conditions to cross Ukiah Muni Airport at or above 3800 before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 15, general utilities 13' from DER, left and right of centerline, 6' AGL/610' MSL.
Road and building beginning 34' from DER, 245' right of centerline, up to 16' AGL/625' MSL.
Tree and road beginning 112' from DER, 124' left of centerline, up to 100' AGL/629' MSL.
Sign, road and building beginning 116' from DER, 246' right of centerline, up to 628' MSL.
Pole 275' from DER, 357' right of centerline, 28' AGL/634' MSL.
Pole, road and building beginning 294' from DER, 4' right of centerline, up to 30' AGL/636' MSL.
Pole and tree beginning 527' from DER, 283' left of centerline, up to 100' AGL/647' MSL.
Pole, tree and building beginning 530' from DER, 150' right of centerline, up to 40' AGL/645' MSL.
Pole, tree and building beginning 555' from DER, 28' right of centerline, up to 100' AGL/696' MSL.
Trees beginning 1026' from DER, 339' left of centerline, up to 100' AGL/670' MSL.
Trees beginning 2193' from DER, 33' left of centerline, up to 100' AGL/674' MSL.
Trees beginning 2543' from DER, 418' right of centerline, up to 100' AGL/712' MSL.
Tree 1.1 NM from DER, 2023' right of centerline, 801' MSL.
Trees beginning 1.2 NM from DER, 1559' right of centerline, up to 100' AGL/961' MSL.
Trees and terrain beginning 1.3 NM from DER, 1205' right of centerline, up to 100' AGL/1073' MSL.
Trees and terrain beginning 1.4 NM from DER, 1295' right of centerline, up to 100' AGL/1160' MSL.
Trees beginning 1.5 NM from DER, 1335' right of centerline, up to 100 AGL/1167' MSL.
Trees and roads beginning 1.6 NM from DER, 1053' right of centerline, up to 100' AGL/1214' MSL.
Trees beginning 1.7 NM from DER, 874' right of centerline, up to 100' AGL/1307' MSL.
Trees beginning 1.8 NM from DER, 2248' right of centerline, up to 100' AGL/1341' MSL.
Trees beginning 1.9 NM from DER, 624' right of centerline, up to 100' AGL/1345' MSL.
Rwy 33, general utility 1' from DER, 137' left of centerline, 3' AGL/621' MSL.
Pole, road, tree beginning 27' from DER, 157' right of centerline, up to 27' AGL/635' MSL.
Terrain 130' from DER, 471' left of centerline, 623' MSL.
Pole, road, beginning 269' from DER, 154' right of centerline, up to 36' AGL/645' MSL.
Pole, road, trees beginning 461' from DER, 12' left of centerline, up to 53' AGL/679' MSL.
Pole 572' from DER, 505' right of centerline, up to 42' AGL/647' MSL.
Transmission line, sign, tree beginning 894' from DER, 288' left of centerline, up to 65' AGL/691' MSL.
Transmission line, building, tree beginning 931' from DER, 411' right of centerline, up to 61' AGL/667' MSL.
Pole, sign, tree beginning 961' from DER, 9' left of centerline, 693' MSL.
Trees beginning 1670' from DER, 407' right of centerline, up to 679' MSL.
Trees beginning 2593' from DER, 878' left of centerline, up to 709' MSL.
Tree 5383' from DER, 1848' left of centerline, 752' MSL.
Tower, trees beginning 5773' from DER, 734' left of centerline, up to 124' AGL/773' MSL.

VACAVILLE, CA

NUT TREE (VCB)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 5 17AUG17 (17229) (FAA)

TAKEOFF MINIMUMS:

Rwy 20, std. w/ min. climb of 410' per NM to 1600, or 1200-2½ for VCOA .

DEPARTURE PROCEDURE:

Rwy 2, climbing right turn to intercept SAC R-242 to SAC VORTAC to 2000 before proceeding on course.

Rwy 20, climbing left turn to intercept SAC R-242 to SAC VORTAC to 2000 before proceeding on course.

VCOA:

Rwy 20, obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross Nut Tree airport eastbound at or above 1300 then climb to 2000 on SAC R-242 TO SAC VORTAC, proceed on course.

TAKEOFF OBSTACLE NOTES:

Rwy 2, parking lot, pole beginning 51' from DER, 290' right of centerline, up to 15' AGL/119' MSL.
Fence beginning 99' from DER, 210' left of centerline, up to 118' MSL.
Pole, parking lot, tree beginning 137' from DER, 417' left of centerline, up to 148' MSL.
Tree 948' from DER, 732' right of centerline, 141' MSL.
Pole 1099' from DER, 612' left of centerline, 149' MSL.
Rwy 20, terrain beginning 8' from DER, 253' right of centerline, up to 117' MSL.
Tree 61' from DER, 411' left of centerline, 51' AGL/163' MSL.
Terrain 140' from DER, 432' right of centerline, 124' MSL.
Tree 144' from DER, 538' left of centerline, 85' AGL/197' MSL.
Pole, terrain, fence beginning 206' from DER, 167' right of centerline, up to 12' AGL/130' MSL.
Tree 259' from DER, 506' left of centerline, 211' MSL.
Pole, ant, tree beginning 362' from DER, 497' left of centerline, up to 125' AGL/239' MSL.
Tree 544' from DER, 454' right of centerline, 135' MSL.
Tree, road (north) beginning 710' from DER, 393' right of centerline, up to 164' MSL.
Tree, pole, ant, terrain, chimney/smokestack, sign beginning 825' from DER, 22' left of centerline, up to 264' MSL.
Tree, pole beginning 1576' from DER, 344' right of centerline, up to 190' MSL.
T-l tower, pole beginning 1860' from DER, 82' right of centerline, up to 55' AGL/191' MSL.
Terrain 2985' from DER, 1295' right of centerline, 195' MSL.
Terrain 3087' from DER, 1146' right of centerline, 198' MSL.
Terrain 3090' from DER, 1303' right of centerline, 210' MSL.
Terrain beginning 3155' from DER, 1128' right of centerline, up to 217' MSL.
Tree, terrain beginning 3252' from DER, 535' right of centerline, up to 241' MSL.
Terrain beginning 3635' from DER, 54' right of centerline, up to 248' MSL.
Terrain 4058' from DER, 110' right of centerline, 254' MSL.
Terrain, tree beginning 4104' from DER, 18' right of centerline, up to 263' MSL.
Tree 5765' from DER, 1605' right of centerline, 264' MSL.

VISALIA, CA

VISALIA MUNI (VIS)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 4 15AUG19 (19227) (FAA)

DEPARTURE PROCEDURE:

Rwy 12, climbing right turn to heading 230° to intercept VIS VOR/DME R-151 to PIXEY INT to 3000 before proceeding on course.

Rwy 30, climbing left turn to heading 230° to intercept VIS VOR/DME R-151 to PIXEY INT to 3000 before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 12, vehicle on road 175' from DER, 252' right of centerline, 307' MSL.
Vehicle on road 178' from DER, 248' left of centerline, 308' MSL.
Tree 758' from DER, 616' right of centerline, 62' AGL/356' MSL.
Tree 1302' from DER, 817' left of centerline, 61' AGL/356' MSL.
Tree 3155' from DER, 737' left of centerline, 85' AGL/380' MSL.
Rwy 30, sign 17' from DER, 249' left of centerline, 3' AGL/292' MSL.
Fence beginning 59' from DER, 416' left of centerline, up to 7' AGL/296' MSL.
Trees, vehicle on road beginning 186' from DER, 269' left of centerline, up to 40' AGL/330' MSL.
Building 291' from DER, 249' right of centerline, 15' AGL/305' MSL.
Trees, vehicle on road beginning 791' from DER, 232' left of centerline, up to 332' MSL.
Building 849' from DER, 663' right of centerline, 327' MSL.
Tree 2663' from DER, 341' left of centerline, 370' MSL.
Tree 3035' from DER, 415' left of centerline, 379' MSL.

WATSONVILLE, CA

WATSONVILLE MUNI (WVI)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 5A 13SEP18 (18256) (FAA)

TAKEOFF MINIMUMS:

Rwy 27, NA - airport obstacles.

DEPARTURE PROCEDURE:

Rwys 2, 9, 20, use WATSONVILLE DEPARTURE.

TAKEOFF OBSTACLE NOTES:

Rwy 2, lighting 8' from DER, 84' left of centerline, 1' AGL/159' MSL.
Lighting 9' from DER, 84' right of centerline, 158' MSL.
Pole 14' from DER, 349' left of centerline, 205' MSL.
Pole, building, vehicles on road, tree and fence beginning 15' from DER, 322' left of centerline, up to 50' AGL/213' MSL.
Trees beginning 278' from DER, 414' right of centerline, up to 188' MSL.
pole, vehicles on road, stack, tree and building beginning 429' from DER, 157' left of centerline, up to 58' AGL/220' MSL.
pole, building and tree beginning 808' from DER, 22' right of centerline, up to 40' AGL/198' MSL.
Tree and transmission line beginning 1021' from DER, 137' right of centerline, up to 222' MSL.
Pole 1174' from DER, 328' right of centerline, 57' AGL/224' MSL.
Trees beginning 1275' from DER, 298' right of centerline, up to 242' MSL.
Tree 1345' from DER, 320' left of centerline, 236' MSL.
Tree 2249' from DER, 371' left of centerline, 264' MSL.
Rwy 9, tree and pole beginning 1' from DER, 152' left of centerline, up to 157' MSL.
Pole 65' from DER, 301' right of centerline, 31' AGL/148' MSL.
tree, fence, building, vehicles on road and pole beginning 74' from DER, 251' left of centerline, up to 160' MSL.
Pole, tree, building, tank and stack beginning 210' from DER, 139' left of centerline, up to 177' MSL.
Pole 231' from DER, 250' right of centerline, 32' AGL/153' MSL.
Trees beginning 312' from DER, 560' right of centerline, up to 173' MSL.
Tower, pole and tree beginning 828' from DER, 136' left of centerline, up to 52' AGL/181' MSL.
Trees beginning 915' from DER, 146' right of centerline, up to 197' MSL.
Tree 1815' from DER, 365' left of centerline, 215' MSL.
Tower 4697' from DER, 1365' right of centerline, 189' AGL/292' MSL.
Rwy 20, tree 57' from DER, 500' left of centerline, 153' MSL.
Fence 57' from DER, 268' right of centerline, 7' AGL/143' MSL.
Pole 95' from DER, 467' left of centerline, 175' MSL.
pole, vehicles on road and tree beginning 96' from DER, 377' left of centerline, up to 50' AGL/183' MSL.
Transmission line 848' from DER, 505' left of centerline, 44' AGL/184' MSL.
Tree and transmission line beginning 919' from DER, 520' left of centerline, up to 190' MSL.
Tree 1153' from DER, 286' right of centerline, 169' MSL.
Tree 1207' from DER, 615' left of centerline, 197' MSL.
Tree, building and transmission line beginning 1267' from DER, 318' left of centerline, up to 203' MSL.
Tree 1336' from DER, 7' right of centerline, 177' MSL.
Tree 1337' from DER, 46' right of centerline, 192' MSL.
Tree 2201' from DER, 776' right of centerline, 240' MSL.

WEED, CA

WEED (O46)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

ORIG 22JUN17 (17173) (FAA)

DEPARTURE PROCEDURE:

Use FOBRO (RNAV) DEPARTURE.

WILLITS, CA

ELLS FIELD-WILLITS MUNI (O28)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 1 05AUG04 (04218) (FAA)

DEPARTURE PROCEDURE:

Rwy 16, use MENDOCINO RNAV DEPARTURE.
Rwy 34, use FLUEN RNAV DEPARTURE.

WILLOWS, CA

WILLOWS-GLENN COUNTY (WLW)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2 22JUN17 (17173) (FAA)

DEPARTURE PROCEDURE:

Rwy 13, climbing right turn heading 150 to 1000 thence...

Rwy 16, climbing left turn heading 145 to 1000 thence...

Rwy 31, climbing left turn heading 140 to 1000 thence...

Rwy 34, climbing right turn heading 150 to 1000 thence…

...all aircraft continue climb direct ILA VORTAC before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 13, vehicles beginning 325’ from DER, 563’ left of centerline, up to 17’ AGL/146’ MSL.

Rwy 16, poles beginning 14’ from DER, 409’ right of centerline, up to 35’ AGL/172’ MSL.

Tree 232’ from DER, 436 left of centerline, 149’ MSL.

Rwy 34, tower 869’ from DER, 434’ right of centerline, 55’ AGL/196 MSL.

Pole 909’ from DER, 305 right of centerline, 24’ AGL/165’ MSL.

WOODLAND, CA

WATTS-WOODLAND (O41)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 3 07MAY09 (09127) (FAA)

DEPARTURE PROCEDURE:

Rwy 18, climb heading 185° and ILA R-151 to EMBER INT/ILA 48 DME before proceeding on course.

Rwy 36, climbing left turn via heading 320° and ILA R-145 to ILA VORTAC before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 18, tree 2478' from DER, 283' right of centerline, 100' AGL/249' MSL.

Vehicle on road 192' from DER, on centerline, 15' AGL/144' MSL.

Rwy 36, tree 453' from DER, 69' left of centerline, 100' AGL/224' MSL.

Vehicle on road 350' from DER, on centerline, 15' AGL/134' MSL.

Tree 4489' from DER, 1688' left of centerline, 100' AGL/234' MSL.

INSTRUMENT APPROACH PROCEDURE CHARTS

IFR ALTERNATE AIRPORT MINIMUMS

Standard alternate minimums for non-precision approaches and approaches with vertical guidance [NDB, VOR, LOC, TACAN, LDA, SDF, VOR/DME, ASR, RNAV (GPS) or RNAV (RNP)] are 800-2. Standard alternate minimums for precision approaches (ILS, PAR, or GLS) are 600-2. Airports within this geographical area that require alternate minimums other than standard or alternate minimums with restrictions are listed below. NA - means alternate minimums are not authorized due to unmonitored facility, absence of weather reporting service, or lack of adequate navigation coverage. Civil pilots see FAR 91. IFR Alternate Minimums: Ceiling and Visibility Minimums not applicable to USA/USN/USAF. Pilots must review the IFR Alternate Minimums Notes for alternate airfield suitability.

NAME — ALTERNATE MINIMUMS

ALTURAS, CA
ALTURAS
MUNI (AAT)……**RNAV (GPS) Rwy 31**
Category B, 900-2.

ARCATA/EUREKA, CA
CALIFORNIA REDWOOD COAST-HUMBOLDT
COUNTY (ACV)……**RNAV (GPS) Rwy 1[1]**
RNAV (GPS) Rwy 32[2]
[1]Categories A, B, 900-2; Category C, 900-2½; Category D, 900-2¾.
[2]Category D, 800-2¼.

ATWATER, CA
CASTLE (MER)……**ILS or LOC Rwy 31**
NA when local weather not available.
NA when control tower closed.

AUBURN, CA
AUBURN MUNI (AUN)……**RNAV (GPS) Rwy 7**
Category B, 900-2.

BISHOP, CA
BISHOP (BIH)……**LDA Rwy 17[1]**
RNAV (GPS) Y Rwy 12[2]
RNAV (GPS) Z Rwy 12[3]
[1]Categories A, B, 2300-2; Categories C, D, 2300-3.
[2]Categories A, B 2500-2; Category C, 2500-3.
[3]Categories A, B, 2300-2; Category C, 2300-3.

BYRON, CA
BYRON (C83)……**RNAV (GPS) Rwy 30**
Category D, 800-2½.

CHICO, CA
CHICO MUNI (CIC)……**ILS or LOC Rwy 13L**
RNAV (GPS) Rwy 13L
NA when local weather not available.

NAME — ALTERNATE MINIMUMS

CONCORD, CA
BUCHANAN
FIELD (CCR)……**LDA Rwy 19R[12]**
RNAV (GPS) Rwy 19R[3]
VOR Rwy 19R[3]
[1]NA when control tower closed.
[2]Category C, 1000-2¾; Category D, 1300-3.
[3]Categories A, B, 1000-2; Category C, 1000-3; Category D, 1300-3.

COLUMBIA, CA
COLUMBIA (O22)……**RNAV (GPS) Rwy 35**
NA when local weather not available.
Categories A, B, 1100-2; Category C, 1100-3.

CRESCENT CITY, CA
JACK MC NAMARA
FIELD (CEC)……**RNAV (GPS) Rwy 12**
RNAV (GPS) Rwy 36
VOR Rwy 12
VOR/DME Rwy 12
VOR/DME Rwy 36
NA when local weather not available.

FRESNO, CA
FRESNO CHANDLER
EXECUTIVE (FCH)……**RNAV (GPS) Rwy 12**
NA when local weather not available.

FRESNO YOSEMITE
INTL (FAT)……**ILS Y or LOC Y Rwy 29R[1]**
LOC Y Rwy 11L[2]
TACAN Rwy 11L[3]
TACAN Rwy 29R[2]
[1]LOC, Category E, 900-2¾.
[2]Category E, 900-2¾.
[3]Category E, 900-2.

GRASS VALLEY, CA
NEVADA
COUNTY (GOO)……**RNAV (GPS) Rwy 7**
Category D, 800-2¼.

NAME ALTERNATE MINIMUMS

HAYWARD, CA
HAYWARD
EXECUTIVE (HWD).....**LOC/DME Rwy 28L[1]**
RNAV (GPS) Rwy 28L
NA when local weather not available.
[1]NA when control tower closed.

HOLLISTER, CA
HOLLISTER
MUNI (CVH).....**RNAV (GPS) Rwy 31**
NA when local weather not available.
Category C, 800-2½.

LINCOLN, CA
LINCOLN RGNL/KARL
HARDER FIELD (LHM).....**RNAV (GPS) Rwy 15**
RNAV (GPS) Rwy 33
NA when local weather not available.

LITTLE RIVER, CA
LITTLE RIVER (LLR).....**RNAV (GPS) Rwy 29**
Category D, 900-2¾.

LIVERMORE, CA
LIVERMORE MUNI (LVK).....**ILS Rwy 25R[12]**
LOC Rwy 25R[34]
RNAV (GPS) Rwy 25R[5]
[1]NA when local weather not available.
[2]NA when control tower closed.
[3]NA when tower closed.
[4]Categories A, B, 1600-2; Categories C, D, 1600-3.
[5]Category D, 1400-3.

MAMMOTH LAKES, CA
MAMMOTH
YOSEMITE (MMH).....**RNAV (GPS) Rwy 27**
Categories A, B, 1300-2; Category C, 1300-3.

MARYSVILLE, CA
YUBA COUNTY (MYV).....**RNAV (GPS) Rwy 14**
RNAV (GPS) Rwy 32
NA when local weather not available.

MODESTO, CA
MODESTO CITY-COUNTY-HARRY SHAM
FIELD (MOD).....**ILS or LOC Rwy 28R[12]**
RNAV (GPS) Rwy 28R[3]
[1]NA when control tower closed.
[2]LOC, Category D, 800-2¼.
[3]Category D, 800-2¼.

NAME ALTERNATE MINIMUMS

MONTEREY, CA
MONTEREY
RGNL (MRY).....**ILS or LOC Rwy 10R[12]**
LOC Rwy 28L[13]
RNAV (GPS) Rwy 10R[4]
RNAV (GPS) Y Rwy 28L[5]
RNAV (RNP) Z Rwy 28L[6]
[1]NA when control tower closed.
[2]LOC, Category C, 1100-3; Category D, NA.
[3]Categories A, B, 1700-2, Categories C, D, 1700-3.
[4]Category C, 1100-3; Category D, NA.
[5]Categories A, B, 900-2, Category C, 1100-3.
[6]Categories A, B, C, 1000-3.

MOUNTAIN VIEW, CA
MOFFET FEDERAL
AFLD (NUQ).....**ILS or LOC Rwy 32R[12]**
LOC Rwy 14L[13]
RNAV (GPS) Rwy 14L[4]
RNAV (GPS) Rwy 14R[4]
RNAV (GPS) Rwy 32L[4]
RNAV (GPS) Rwy 32R[3]
TACAN Rwy 32L[15]
TACAN Rwy 32R[15]
[1]NA when tower closed.
[2]LOC, Category D, 800-2½; Category E, 1000-3.
[3]Category D, 800-2½.
[4]Category D, 800-2¼.
[5]Category D, 800-2½; Category E, 1000-3.

NAPA, CA
NAPA
COUNTY (APC).....**ILS or LOC Z Rwy 1L[12]**
RNAV (GPS) Rwy 6[3]
RNAV (GPS) Y Rwy 1L[4]
VOR Rwy 6[5]
NA when local weather not available.
[1]NA when control tower closed.
[2]LOC, Categories C, D, 1300-3.
[3]Categories A, B, 1000-1¼;
Categories C, D, 1300-3.
[4]Categories A, B, C, D, 1300-5.
[5]Categories C, D, 1300-3.

OAKLAND, CA
METROPOLITAN
OAKLAND INTL (OAK).....**ILS or LOC Rwy 12[1]**
ILS or LOC Rwy 30[1]
ILS or LOC/DME Rwy 28R[1]
RNAV (GPS) Rwy 10L[2]
RNAV (GPS) Rwy 10R[2]
RNAV (GPS) Y Rwy 12[2]
RNAV (GPS) Y Rwy 28L[2]
RNAV (GPS) Y Rwy 28R[2]
RNAV (GPS) Y Rwy 30[2]
VOR Rwy 10R[2]
[1]ILS, Category C, 700-2; Category D, 1400-3;
LOC, Category D, 1400-3.
[2]Category D, 1400-3.

NAME ALTERNATE MINIMUMS

PALO ALTO, CA
PALO ALTO (PAO).....**RNAV (GPS) Rwy 31**
NA when control tower closed.

PETALUMA, CA
PETALUMA MUNI (O69).....**RNAV (GPS) Rwy 29**
NA when local weather not available.

PLACERVILLE, CA
PLACERVILLE (PVF).....**RNAV (GPS) Rwy 5**
NA when local weather not available.

RED BLUFF, CA
RED BLUFF
MUNI (RBL).....**RNAV (GPS) Rwy 15**[1]
RNAV (GPS) Rwy 33
VOR Rwy 33
VOR/DME Rwy 15[1]
NA when local weather not available.
[1]Category D, 800-2¼.

REDDING, CA
REDDING
MUNI (RDD).....**ILS or LOC Rwy 34**[12]
LOC BC Rwy 16[13]
RNAV (GPS) Rwy 16[3]
RNAV (GPS) Rwy 34[3]
VOR Rwy 34[4]
NA when local weather not available.
[1]NA when control tower closed.
[2]LOC, Category D, 900-2¾; Category E, 900-3.
[3]Category D, 900-2¾.
[4]Categories A, B, 1200-2; Categories C, D, 1200-3.

SACRAMENTO, CA
SACRAMENTO
EXECUTIVE (SAC).....**ILS or LOC Rwy 2**[1]
RNAV (GPS) Rwy 2
VOR Rwy 2
NA when local weather not available.
[1]NA when control tower closed.

SACRAMENTO
INTL (SMF).....**ILS or LOC Rwy 17L**[1]
RNAV (GPS) Y Rwy 17L[2]
RNAV (GPS) Y Rwy 35R[2]
[1]LOC, Category D, 900-2¾.
[2]Category D, 900-2¾.

SACRAMENTO
MATHER (MHR).....**ILS or LOC Rwy 22L**[12]
RNAV (GPS) Rwy 4R[3]
RNAV (GPS) Rwy 22L[34]
[1]NA when control tower closed.
[2]LOC, Category E, 800-2½.
[3]Category D, 800-2¼.
[4]NA when local weather not available.

NAME ALTERNATE MINIMUMS

SALINAS, CA
SALINAS MUNI (SNS).....**ILS Rwy 31**[1]
LOC/DME Rwy 31[2]
RNAV (GPS) Rwy 13[12]
RNAV (GPS) Y Rwy 31[12]
RNAV (GPS) Z Rwy 31[1]
VOR Rwy 13[3]
[1]NA when local weather not available.
[2]Category D, 800-2¼.
[3]Category D, 1000-3.

SAN ANDREAS, CA
CALAVERAS CO-MAURY RASMUSSEN
FIELD (CPU).....**RNAV (GPS) Rwy 31**
Category C, 1100-3.

SAN CARLOS, CA
SAN CARLOS (SQL).....**RNAV (GPS) Y Rwy 30**[1]
RNAV (GPS) Z Rwy 30[2]
NA when local weather not available.
[1]Categories A, B, 1300-2.
[2]Categories A, B, 900-2.

SAN FRANCISCO, CA
SAN FRANCISCO
INTL (SFO).....**ILS or LOC Rwy 19L**[1]
ILS or LOC Rwy 28L[2]
RNAV (GPS) Rwy 10L[3]
RNAV (GPS) Rwy 28L[4]
RNAV (GPS) Y Rwy 10R[3]
RNAV (GPS) Z Rwy 28R[5]
RNAV (RNP) Z Rwy 10R[6]
[1]LOC, Categories A, B, 1800-2; Categories C, D, 1800-3.
[2]ILS, Categories A, B, C, D, 800-2;
LOC, Category A, 900-2; Category B, 1000-2; Category C, 1600-3.
[3]Categories A, B, 1200-2, Categories C, D, 1200-3.
[4]Categories A, B, 1100-2; Category C, 1600-3; Category D, 1100-2½.
[5]Category B, 1000-2; Category C, 1600-3.
[6]Categories A, B, C, D, 1100-4.

SAN JOSE, CA
NORMAN Y MINETA SAN JOSE
INTL (SJC).....**ILS or LOC Rwy 12R**
ILS or LOC Rwy 30L
NA when control tower closed.

SAN MARTIN, CA
SAN MARTIN (E16).....**RNAV (GPS) Rwy 32**
NA when local weather not available.
Category B, 900-2.

NAME ALTERNATE MINIMUMS NAME ALTERNATE

SANTA ROSA, CA
CHARLES M SCHULZ-SONOMA
COUNTY (STS)……**ILS or LOC/DME Rwy 32[1,2]**
RNAV (GPS) Rwy 2[3]
RNAV (GPS) Rwy 14[3]
RNAV (GPS) Rwy 32[3]
[1]NA when control tower closed.
[2]ILS, LOC, Category C, 1000-3;
Category D, 1300-3.
[3]Category C, 1000-3; Category D, 1300-3.

STOCKTON, CA
STOCKTON METROPOLITAN
(SCK)……**ILS or LOC Rwy 29R**
NA when control tower closed.

SUSANVILLE, CA
SUSANVILLE
MUNI (SVE)……...……...**RNAV (GPS) Rwy 29**
Categories A, B, 1700-2; Categories C, D, 1700-3.

TRUCKEE, CA
TRUCKEE-TAHOE
(TRK)…….....**RNAV (GPS)-A[1]**
RNAV (GPS) Rwy 11[2]
RNAV (GPS) Rwy 20[3]
NA when local weather not available.
[1]Categories A, B, 1600-2; Category C, 1800-3.
[2]Categories A, B, 1900-2; Category C, 1900-3.
[3]Category A, 1300-2; Category B, 1400-2;
Category C, 1800-3.

UKIAH, CA
UKIAH MUNI (UKI)……...……**RNAV (GPS)-B[1]**
VOR-A[2]
[1]Categories A, B, 2000-2; Categories C, D, 2000-3.
[2]Categories A, B, 2800-2; Categories C, D, 2800-3.

VACAVILLE, CA
NUT TREE (VCB)……**RNAV (GPS) Rwy 20[1]**
VOR-A[2]
[1]Category C, 900-2½; Category D, 1300-3.
[2]Categories A, B, 900-2; Category C, 900-2½;
Category D, 1300-3.

VISALIA, CA
VISALIA
MUNI (VIS)….....……**ILS or LOC Rwy 30**
RNAV (GPS) Rwy 12
RNAV (GPS) Rwy 30
VOR Rwy 12
NA when local weather not available.

WATSONVILLE, CA
WATSONVILLE
MUNI (WVI)……**RNAV (GPS) Rwy 2[1]**
VOR-A[2,3]
[1]Category D, 1000-3.
[2]NA when local weather not available.
[3]Categories A, B, 1200-2; Categories C, D, 1200-3.

LEMOORE NAS (KNLC), (REEVES FIELD), CA (Amdt 6, 19311 USN) ELEV **229**

RADAR - (E) 125.95 270.8x 314.0x 317.575x 322.45x 323.15x 336.4x 346.375x 348.75x 353.55x 363.7x 370.875x 377.075x T

	RWY	GS/TCH/RPI	CAT	DH/ MDA-VIS	HAT/ HATh/ HAA	CEIL-VIS
PAR[1 4]	32L[2 6]	3.0°/40/766	ABCDE	**328**/16	100	(100-¼)
	14L	3.0°/54/1019	ABCDE	**320**/24	100	(100-½)
	32R[5]	3.0°/45/857	ABCDE	**322**/24	100	(100-½)
	14R[5]	3.0°/51/979	ABCDE	**329**/24	100	(100-½)
ASR[4]	32L[3 7]		ABCDE	**540**/24	312	(400-½)
	14L		ABCDE	**560**/55	340	(400-1)
	14R[5]		AB	**640**/55	411	(500-1)
			CDE	**640**/60	411	(500-1⅛)
	32R[5]		AB	**760**/55	538	(600-1)
			CDE	**760**-1½	538	(600-1½)
CIR[8]	ALL RWYS		AB	**680**-1	451	(500-1)
			C	**680**-1½	451	(500-1½)
			DE	**780**-2	551	(600-2)
CIR ASR	32R		AB	**760**-1	531	(600-1)
			C	**760**-1½	531	(600-1½)
			DE	**780**-2	551	(600-2)

[1]No-NOTAM MP: PAR-Rwy 14R-32L 1600-2400Z++ Mon, Rwy 14L-32R 1600-2400Z++ Wed.
[2]When ALS inop, increase CAT ABCDE RVR to 24 and vis to ½ mile.
[3]When ALS inop, increase CAT ABCDE RVR to 55 and vis to 1 mile.
[4]Simultaneous approaches authorized.
[5]Pattern at 2800 ft.
[6]Caution: WCH group 4: 15 ft less than required 20 ft.
[7]Step Down Fix at 3 NM from THLD, 1180 min.
[8]Circling authorized only from ASR and PAR w/o GS.

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RADAR INSTRUMENT APPROACH MINIMUMS

RADAR MINS
19311

N1

19283

LAND AND HOLD-SHORT OPERATIONS (LAHSO)

LAHSO is an acronym for "Land and Hold-Short Operations." These operations include landing and holding short of an intersection runway, an intersecting taxiway, or other predetermined points on the runway other than a runway or taxiway. Measured distance represents the available landing distance on the landing runway, in feet.

Specific questions regarding these distances should be referred to the air traffic manager of the facility concerned. The Aeronautical Information Manual contains specific details on hold-short operations and markings.

CITY/AIRPORT	LDG RWY	HOLD-SHORT POINT	AVBL LDG DIST
NAPA, CA			
NAPA COUNTY (APC)	24	01L-19R	3,700 feet
SANTA ROSA, CA			
CHARLESM SCHULZ-SONOMA COUNTY (STS)	02	14-32	4,608 feet

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19283

HOT SPOTS

An "airport surface hot spot" is a location on an aerodrome movement area with a history or potential risk of collision or runway incursion, and where heightened attention by pilots/drivers is necessary.

A "hot spot" is a runway safety related problem area on an airport that presents increased risk during surface operations. Typically it is a complex or confusing taxiway/taxiway or taxiway/runway intersection. The area of increased risk has either a history of or potential for runway incursions or surface incidents, due to a variety of causes, such as but not limited to: airport layout, traffic flow, airport marking, signage and lighting, situational awareness, and training. Hot spots are depicted on airport diagrams as open circles or polygons designated as "HS 1", "HS 2", etc. and tabulated in the list below with a brief description of each hot spot. Hot spots will remain charted on airport diagrams until such time the increased risk has been reduced or eliminated.

CITY/AIRPORT	HOT SPOT	DESCRIPTION*
ATWATER, CA		
CASTLE (MER)	HS 1	Twy A, Twy A1, Twy B, and Twy G complex int.
	HS 2	Twy A and southeast ramp, traffic congestion.
BEALE AFB, CA		
BEALE AFB (BAB)	HS 1	Twy B, high-speed U-2 mobile traffic when Rwy 15 in use.
	HS 2	Twy E, high-speed U-2 mobile traffic when Rwy 33 in use.
	HS 3	Twy F, in the vicinity of Twy C, Twy L, and Twy K. Frequent U-2 and high speed mobile traffic, slope of the twy limits visibility in both directions.
CONCORD, CA		
BUCHANAN FIELD (CCR)	HS 1	Rwy 32L and run-up area, Twy J.
	HS 2	Complex int at Rwy 01R-19L, Twy J, Twy A, Twy C, and Twy K.
	HS 3	Rwy 32L apch, Twy A.
	HS 4	Rwy 32R, Twy B, Twy J, and the run up area.
HAYWARD, CA		
HAYWARD EXECUTIVE (HWD)	HS 1	Rwy 10L-28R, Twy E and Twy A.
	HS 2	Area not visible from ATCT.
	HS 3	Area not visible from ATCT.
	HS 4	Area not visible from ATCT.
	HS 5	Rwy 28L hold bars on Twy A1 and Twy Z1.
LIVERMORE, CA		
LIVERMORE MUNI (LVK)	HS 1	Rwy 25R, Twy B.
	HS 2	Rwy 25L, Twy C.
	HS 3	Rwy 07L, Twy H.
	HS 4	Rwy 07R, Twy G.
	HS 5	Rwy 25R, Twy G.
	HS 6	Ints of Twy J, Twy A, and Twy G.
NAPA, CA		
NAPA COUNTY (APC)	HS 1	Twy A, Twy C, Twy E and the ramp.
	HS 2	Rwy 24, Twy A.
	HS 3	Rwy 24 and Rwy 01L.
OAKLAND, CA		
METROPOLITAN OAKLAND INTL (OAK)	HS 1	Rwy 28R, Twy A and Twy B.
	HS 2	Rwy 10L-28R, Twy H, Twy G, Twy C and Twy D.
	HS 3	Rwy 10L and Rwy 33, Twy J, Twy P, and Twy C, complex int.
SACRAMENTO, CA		
SACRAMENTO EXECUTIVE (SAC)	HS 1	Inbound Twy A and outbound Twy B.
	HS 2	Portion of Twy E not visible from twr.

(SEE CONTINUATION PAGE FOR MORE LISTINGS)

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HOT SPOTS

(CONTINUED)

CITY/AIRPORT	HOT SPOT	DESCRIPTION*
SACRAMENTO, CA		
SACRAMENTO INTL (SMF)	HS 1	Area not visible from the twr.
	HS 2	Concentrated north/south ground vehicle traffic crossing Twy W and Twy Y at Twy Y2.
	HS 3	Pilots taxiing south on Twy A sometimes miss the turn onto Twy A13.
SALINAS, CA		
SALINAS MUNI (SNS)	HS 1	Twy A and Twy C int in close proximity of Rwy 08-26.
SAN FRANCISCO, CA		
SAN FRANCISCO INTL (SFO)	HS 1	Complex int Twy B and Twy F.
	HS 2	Rwy 01L-19R, Twy C and Twy E.
	HS 3	Rwy 28R and Twy T.
SAN JOSE, CA		
NORMAN Y. MINETA SAN JOSE INTL (SJC)	HS 1	Rwy 30L and Twy D "Run-up Area" near Active rwy.
SAN JOSE, CA		
REID-HILLVIEW OF SANTA CLARA COUNTY (RHV)	HS 1	Numerous inbounds and outbounds at twy intersections Twy D, Twy Z, and Twy Y.
	HS 2	Numerous aircraft maneuvering at twy int of Twy Y, Twy Z, Twy A and the Rwy 31R run-up area. Aircraft sometimes confuse Twy Y for Rwy 13L-31R.
	HS 3	Aircraft sometimes confuse Twy Y for Rwy 13L-31R.
SANTA ROSA, CA		
CHARLES M. SCHULZ-SONOMA COUNTY (STS)	HS 1	Twy A, Twy A5, Twy Z complex int in close proximity to Rwy 14-32.
	HS 2	South run-up area not visible from the twr.
	HS 3	North run-up area east of Twy A and Twy H int in close proximity of Rwy 20 Apch Hold.
	HS 4	Wrong rwy departure risk.
STOCKTON, CA		
STOCKTON METROPOLITAN (SCK)	HS 1	Area not visible from control twr.
	HS 2	Closely spaced rwys on Twy H.
TRUCKEE, CA		
TRUCKEE-TAHOE (TRK)	HS 1	Simultaneous ops on Rwy 11-29 and Rwy 02-20.

*See appropriate Chart Supplement HOT SPOT table for additional information.

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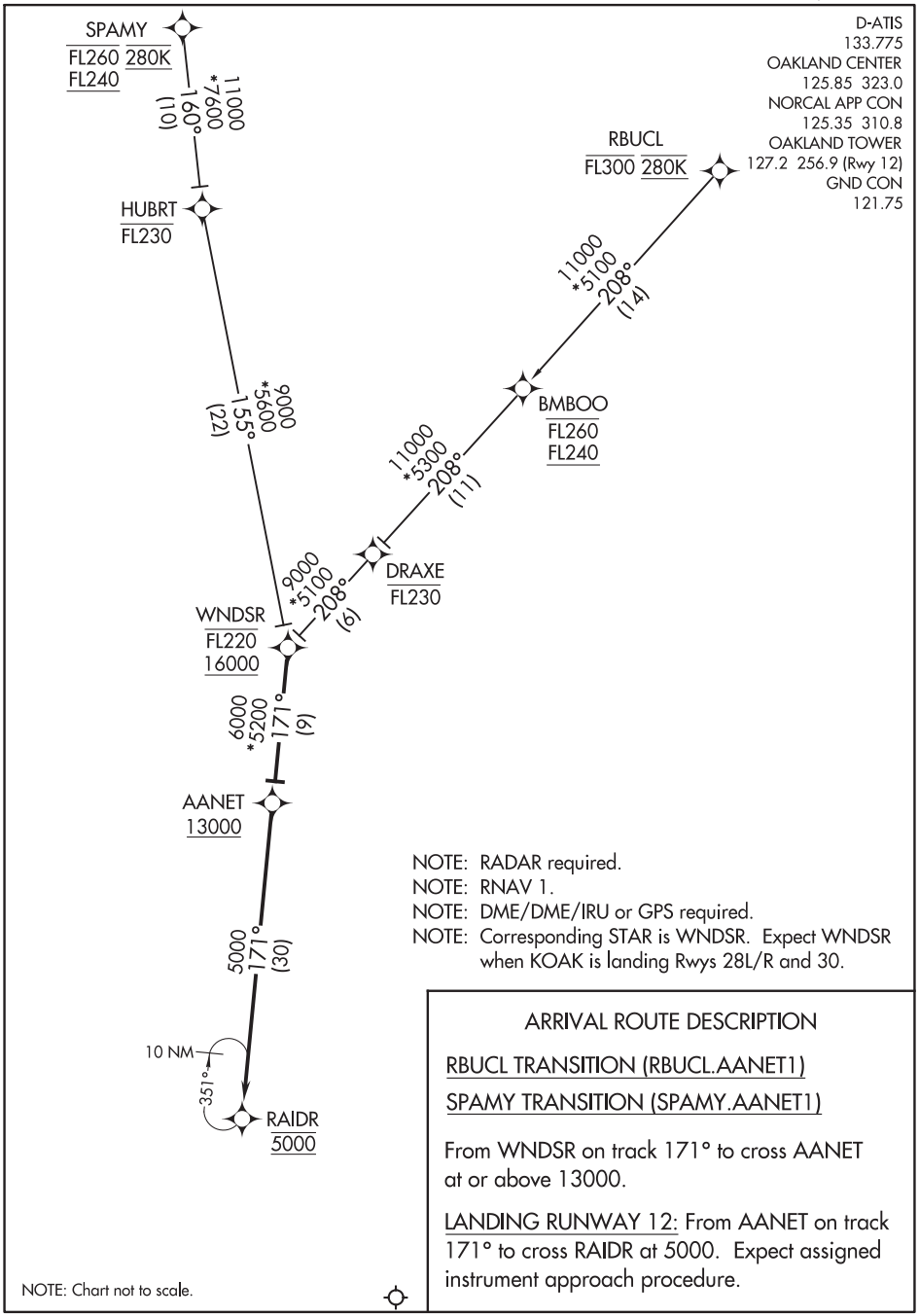
(WNDSR.AANET1) 18256

AANET ONE ARRIVAL (RNAV)

AL-294 (FAA)

METROPOLITAN OAKLAND INTL (OAK)
OAKLAND, CALIFORNIA



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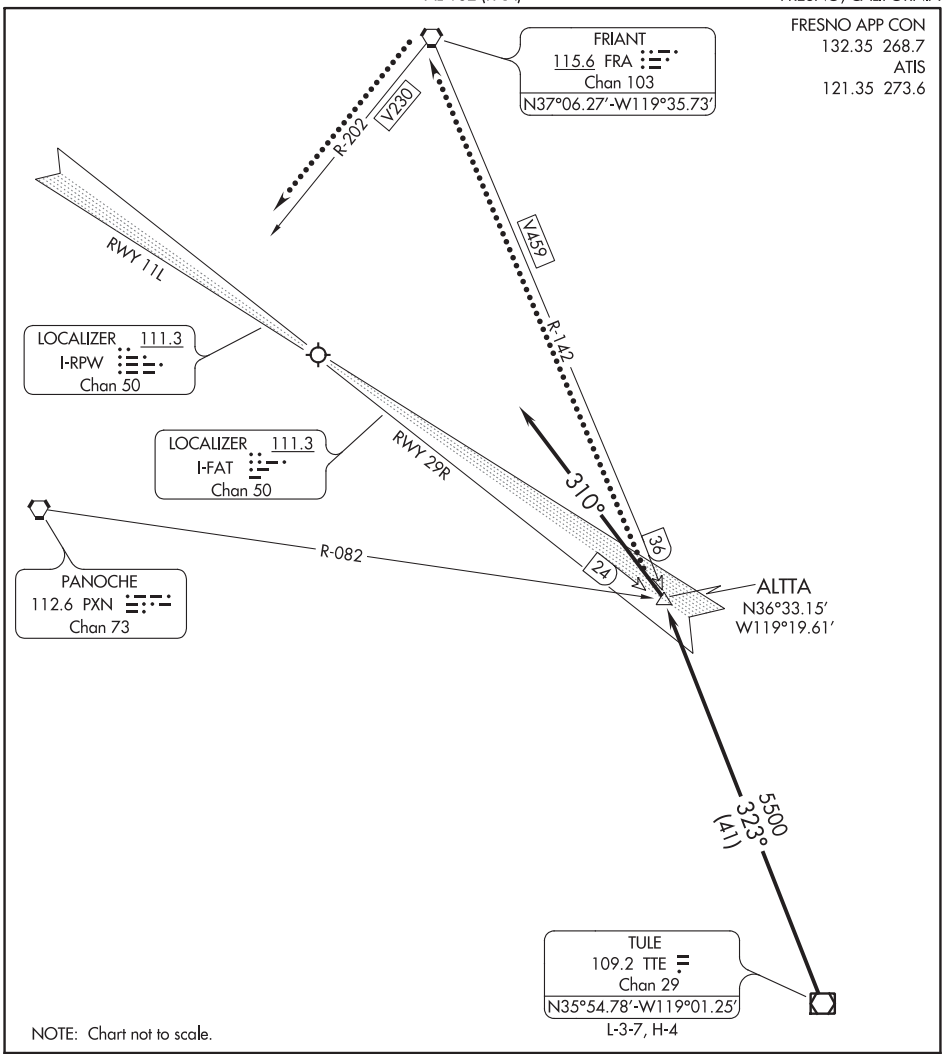
AANET ONE ARRIVAL (RNAV)

(WNDSR.AANET1) 05MAR15

OAKLAND, CALIFORNIA
METROPOLITAN OAKLAND INTL (OAK)



ARRIVAL ROUTE DESCRIPTION

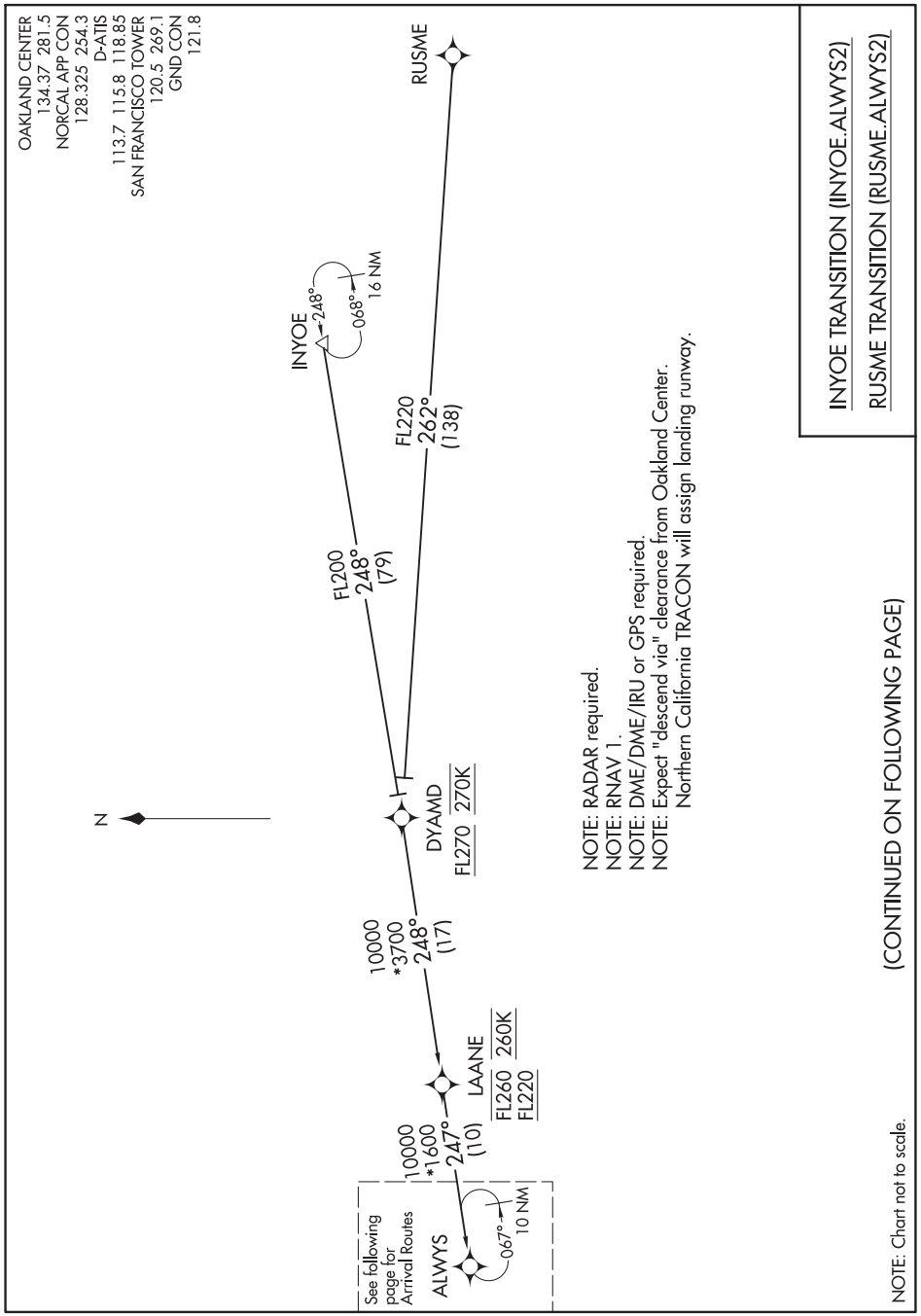
From over TULE (TTE) VOR/DME on TTE R-323 and FRIANT (FRA) VORTAC R-142 to ALTTA. Expect ILS or LOC RWY 29R approach. For Rwy 11L operations: Depart ALTTA heading 310° and expect RADAR vectors to LOC Y RWY 11L.

LOST COMMUNICATIONS: Rwy 11L: Proceed to FRA VORTAC on V459, then on V230, execute the LOC Y RWY 11L approach.

(ALWYS.ALWYS2) 18256 AL-375 (FAA)

ALWYS TWO ARRIVAL (RNAV) Transition Routes

SAN FRANCISCO INTL (SFO)
SAN FRANCISCO, CALIFORNIA



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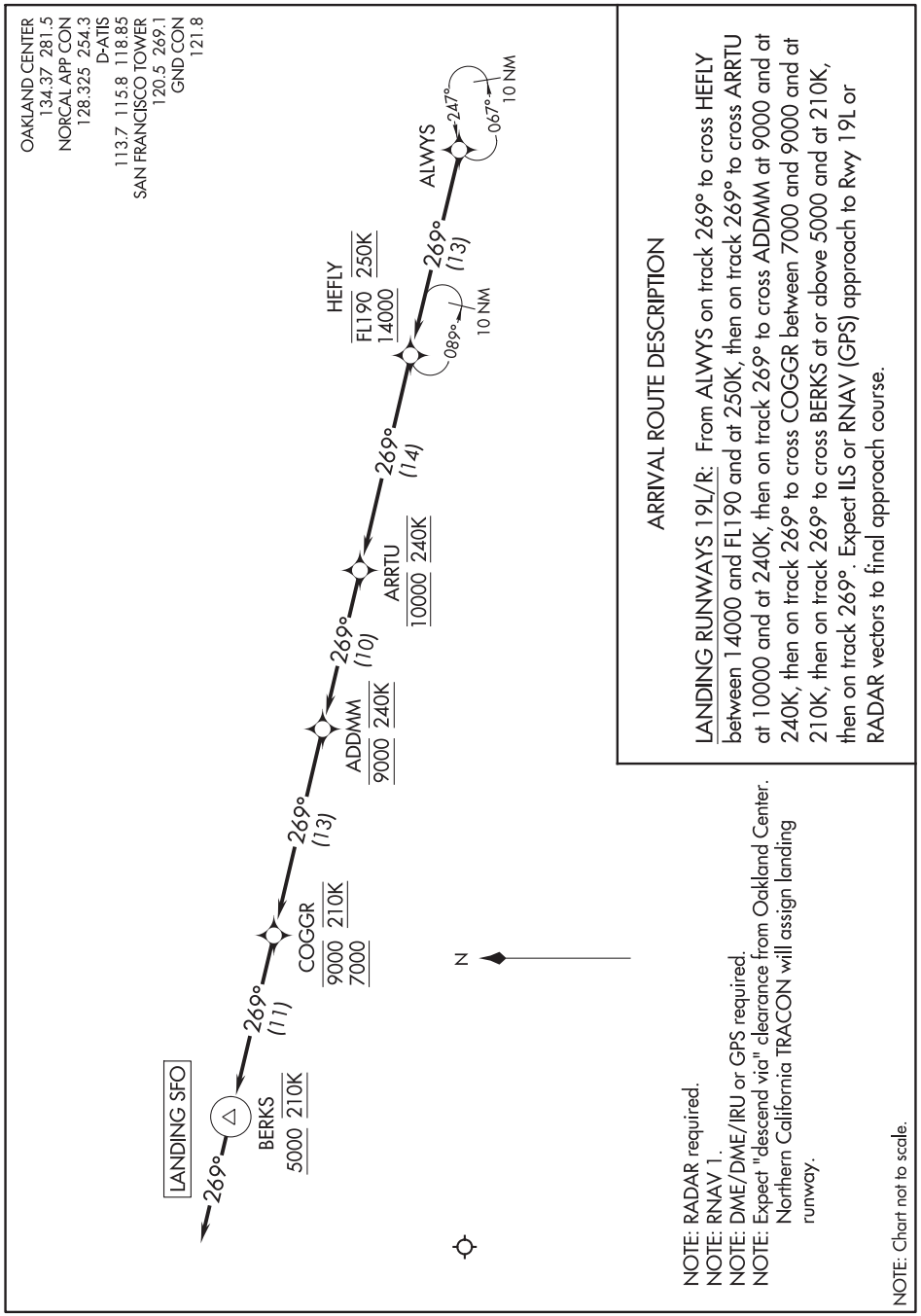
ALWYS TWO ARRIVAL (RNAV) Transition Routes

SAN FRANCISCO, CALIFORNIA
SAN FRANCISCO INTL (SFO)

(ALWYS.ALWYS2) 13SEP18

ALWYS TWO ARRIVAL (RNAV) Arrival Routes



SW-2, 25 FEB 2021 to 22 APR 2021

ALWYS TWO ARRIVAL (RNAV) Arrival Routes

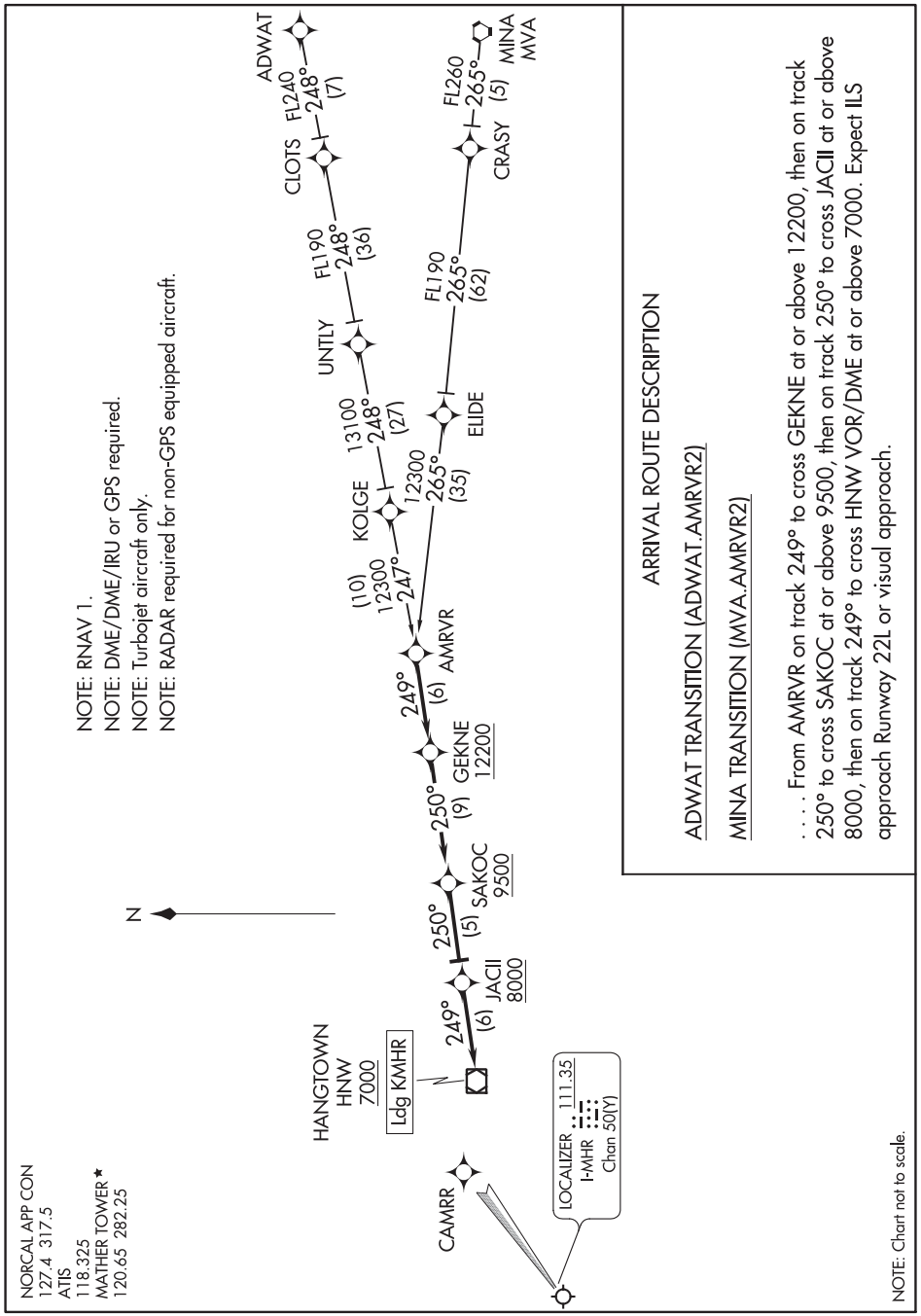
SAN FRANCISCO, CALIFORNIA
SAN FRANCISCO INTL (SFO)

(AMRVR.AMRVR2) 18256

AMRVR TWO ARRIVAL (RNAV)

AL-356 (FAA)

SACRAMENTO MATHER (MHR)
SACRAMENTO, CALIFORNIA



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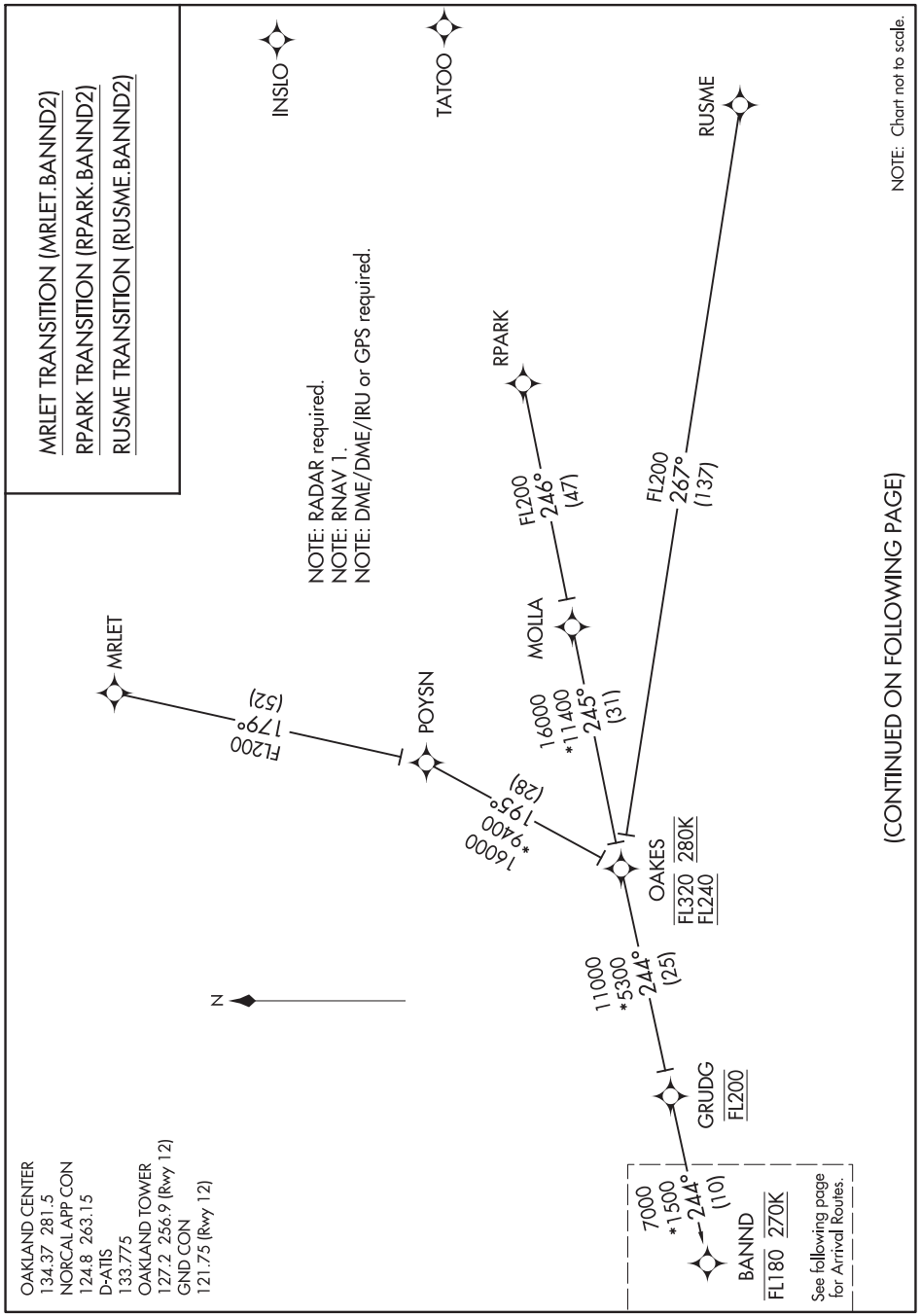
AMRVR TWO ARRIVAL (RNAV)

(AMRVR.AMRVR2) 13SEP18

SACRAMENTO, CALIFORNIA
SACRAMENTO MATHER (MHR)

BANND TWO ARRIVAL (RNAV) Transition Routes

OAKLAND, CALIFORNIA



(CONTINUED ON FOLLOWING PAGE)

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BANND TWO ARRIVAL (RNAV) Transition Routes OAKLAND, CALIFORNIA

(BANND.BANND2) 18144

BANND TWO ARRIVAL (RNAV) Arrival Routes

AL-294 (FAA)

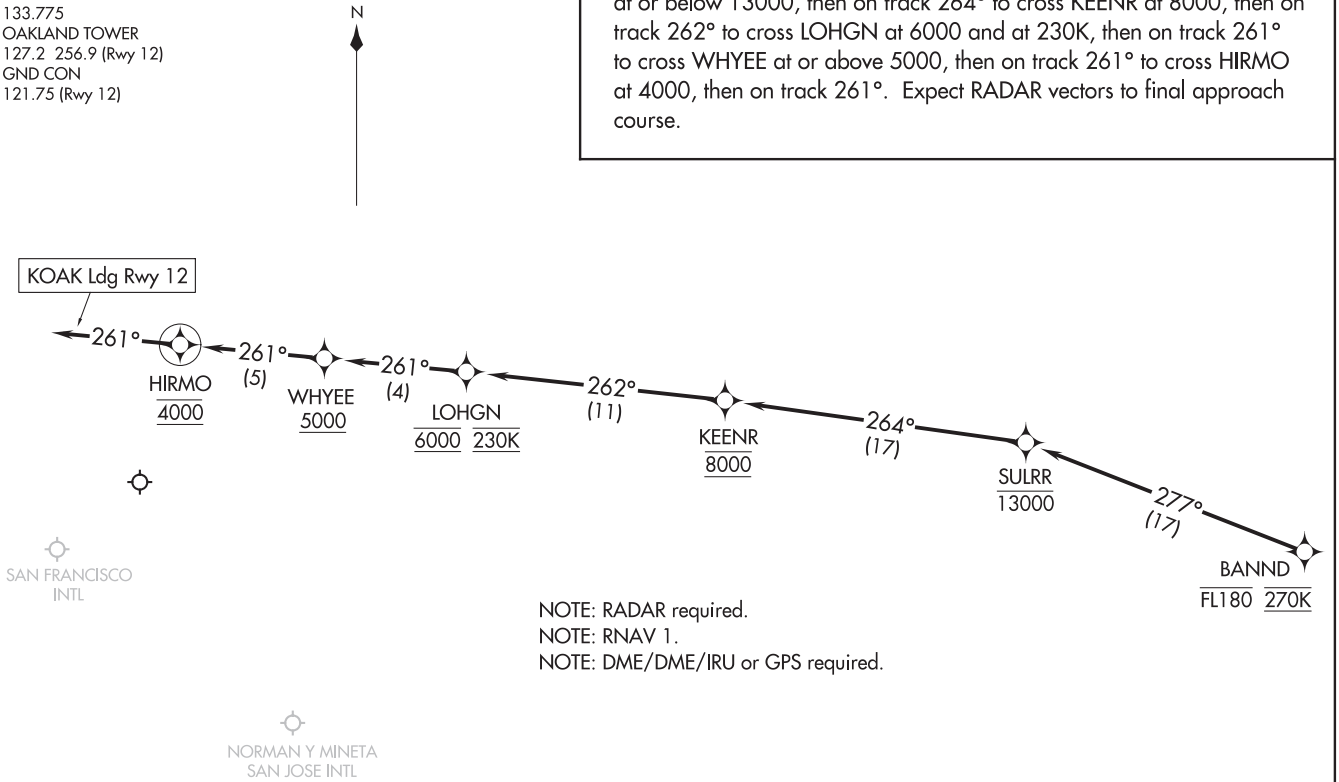
Z7

METROPOLITAN OAKLAND INTL (OAK)
OAKLAND, CALIFORNIA

OAKLAND CENTER
134.37 281.5
NORCAL APP CON
124.8 263.15
D-ATIS
133.775
OAKLAND TOWER
127.2 256.9 (Rwy 12)
GND CON
121.75 (Rwy 12)

ARRIVAL ROUTE DESCRIPTION

LANDING RUNWAY 12: From BANND on track 277° to cross SULRR at or below 13000, then on track 264° to cross KEENR at 8000, then on track 262° to cross LOHGN at 6000 and at 230K, then on track 261° to cross WHYEE at or above 5000, then on track 261° to cross HIRMO at 4000, then on track 261°. Expect RADAR vectors to final approach course.

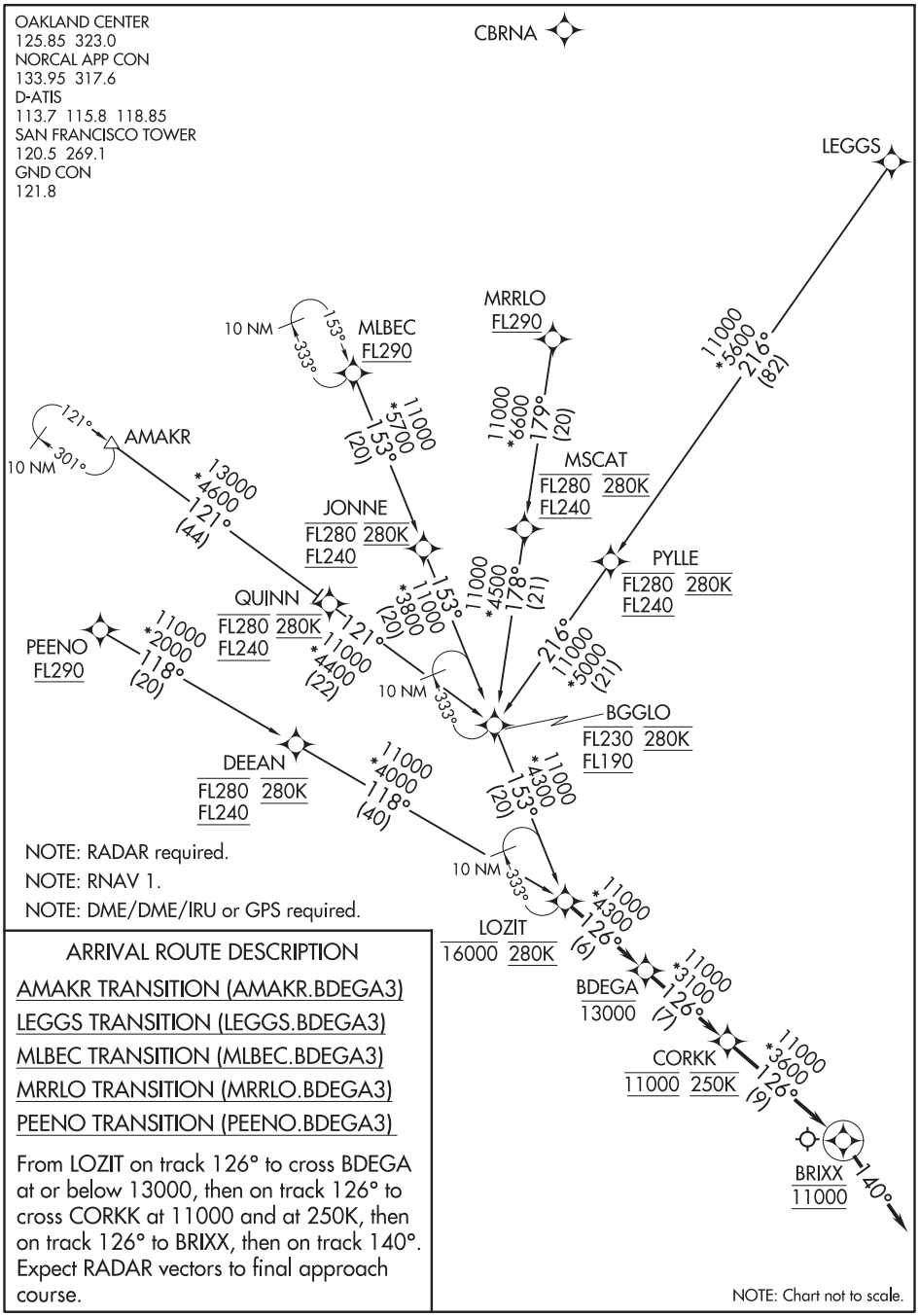


NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.

NOTE: Chart not to scale.

BANND TWO ARRIVAL (RNAV) Arrival Routes
(BANND.BANND2) 24MAY18

METROPOLITAN OAKLAND INTL (OAK)
OAKLAND, CALIFORNIA



NOTE: RADAR required.

NOTE: RNAV 1.

NOTE: DME/DME/IRU or GPS required.

ARRIVAL ROUTE DESCRIPTION

AMAKR TRANSITION (AMAKR.BDEGA3)

LEGGS TRANSITION (LEGGS.BDEGA3)

MLBEC TRANSITION (MLBEC.BDEGA3)

MRRLO TRANSITION (MRRLO.BDEGA3)

PEENO TRANSITION (PEENO.BDEGA3)

From LOZIT on track 126° to cross BDEGA at or below 13000, then on track 126° to cross CORKK at 11000 and at 250K, then on track 126° to BRIXX, then on track 140°. Expect RADAR vectors to final approach course.

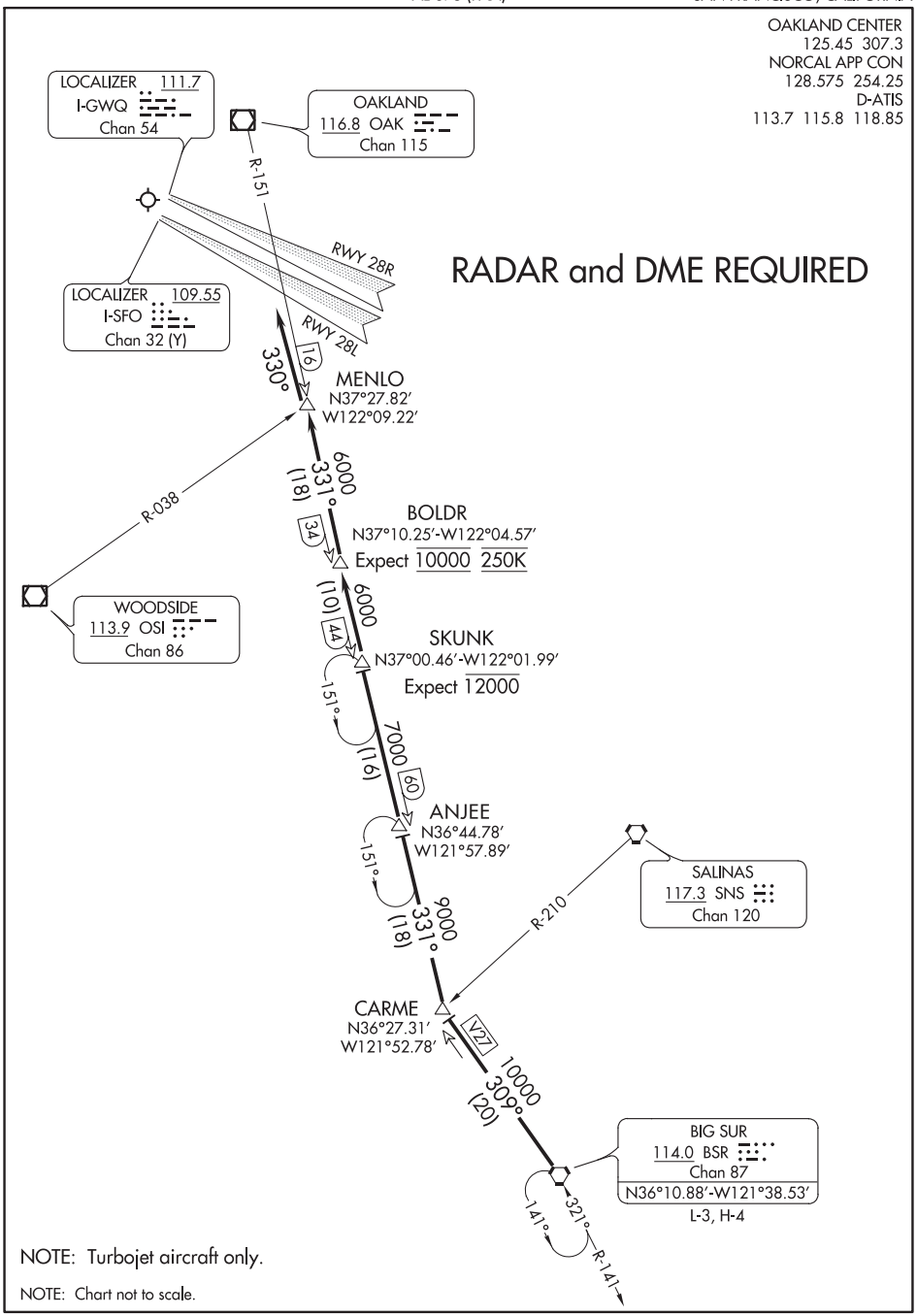
NOTE: Chart not to scale.

(BSR.BSR3) 17173

BIG SUR THREE ARRIVAL

AL-375 (FAA)

SAN FRANCISCO INTL (SFO)
SAN FRANCISCO, CALIFORNIA



SW-2, 25 FEB 2021 to 22 APR 2021

BIG SUR THREE ARRIVAL

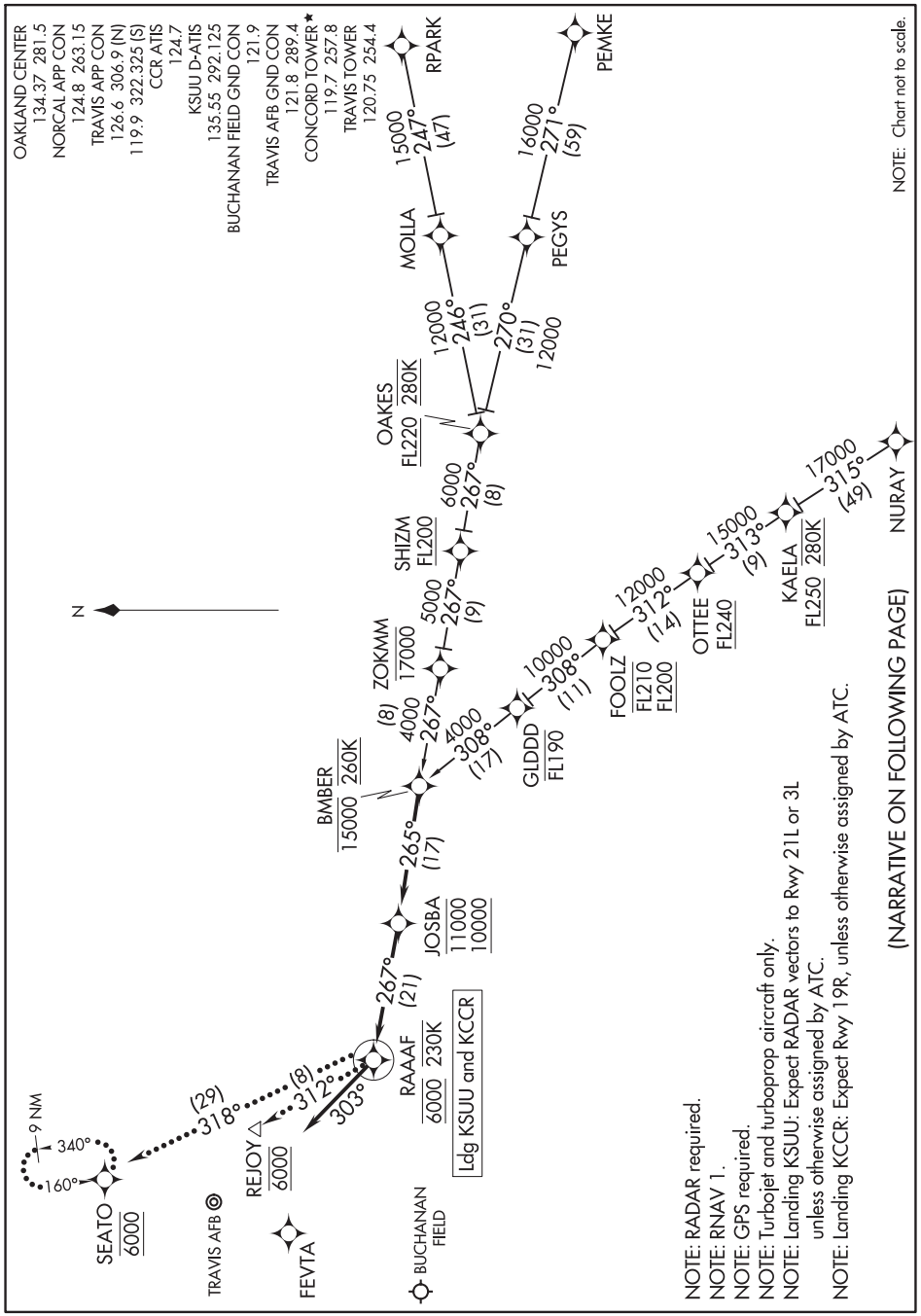
(BSR.BSR3) 15SEP16

SAN FRANCISCO, CALIFORNIA
SAN FRANCISCO INTL (SFO)

BMBER ONE ARRIVAL (RNAV)

AL-5320 (FAA)

CONCORD, CALIFORNIA



SW-2, 25 FEB 2021 to 22 APR 2021

BMBER ONE ARRIVAL (RNAV)

CONCORD, CALIFORNIA

(BMBER.BMBER1) 19339

BMBER ONE ARRIVAL (RNAV)

AL-5320 (FAA)

CONCORD, CALIFORNIA

ARRIVAL ROUTE DESCRIPTION

NURAY TRANSITION (NURAY.BMBER1)

PEMKE TRANSITION (PEMKE.BMBER1)

RPARK TRANSITION (RPARK.BMBER1)

LANDING KSUU, KCCR: From BMBER on track 265° to cross JOSBA between 10000 and 11000, then on track 267° to cross RAAAF at 6000 and at or below 230K, then on heading 303° or as assigned by ATC. Expect RADAR vectors to final approach course.

LOST COMMUNICATIONS

KSUU: From RAAAF, proceed on track 318° to cross SEATO at 6000. Execute ILS or LOC RWY 21L or TACAN RWY 3L approach. If unable, hold at SEATO as depicted, maintain 6000 feet.

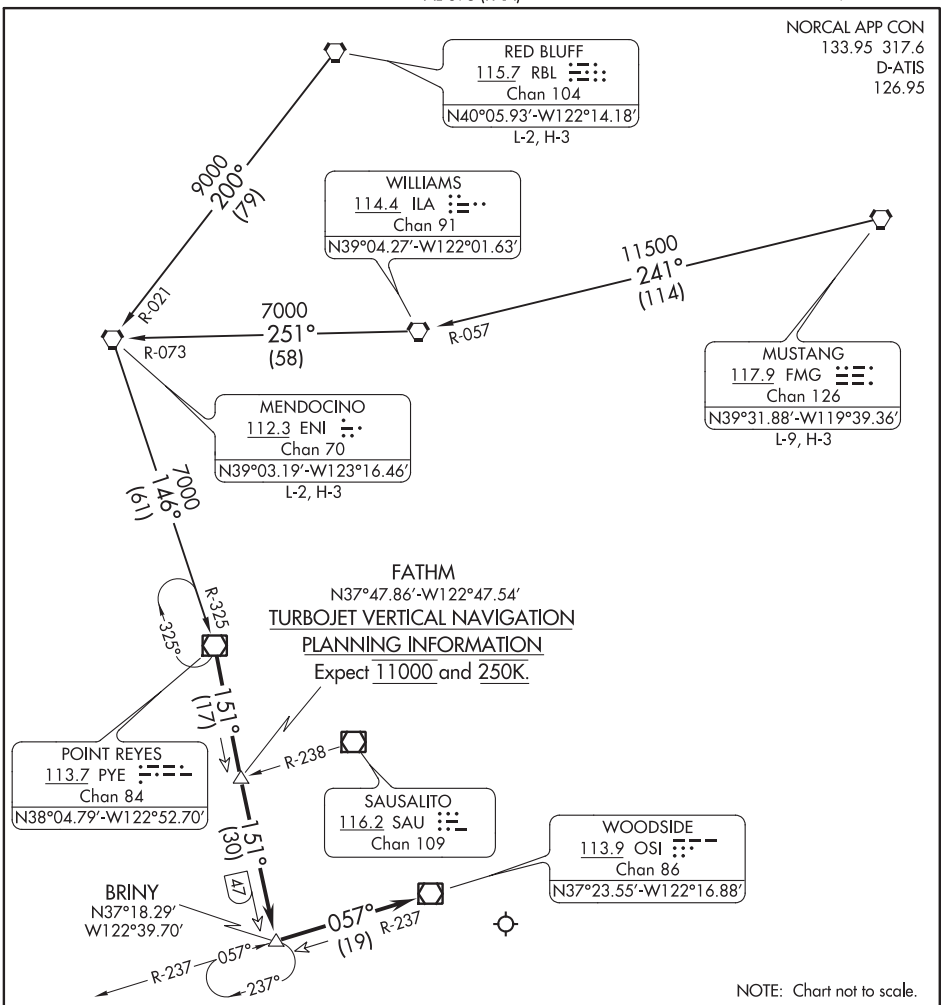
KCCR: From RAAAF, proceed on track 312° to cross REJOY at 6000 and execute RNAV, LDA, or VOR RWY 19R approach.

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

BMBER ONE ARRIVAL (RNAV)

CONCORD, CALIFORNIA



ARRIVAL ROUTE DESCRIPTION

MENDOCINO TRANSITION (ENI.BRINY2): From over ENI VORTAC via ENI R-146 and PYE R-325 to PYE VOR/DME. Thence . . . .

MUSTANG TRANSITION (FMG.BRINY2): From over FMG VORTAC via FMG R-241 to ILA VORTAC then via ILA R-251 to ENI VORTAC, then via ENI R-146 to PYE VOR/DME. Thence . . . .

RED BLUFF TRANSITION (RBL.BRINY2): From over RBL VORTAC via RBL R-200 and ENI R-146 to PYE VOR/DME. Thence . . . .

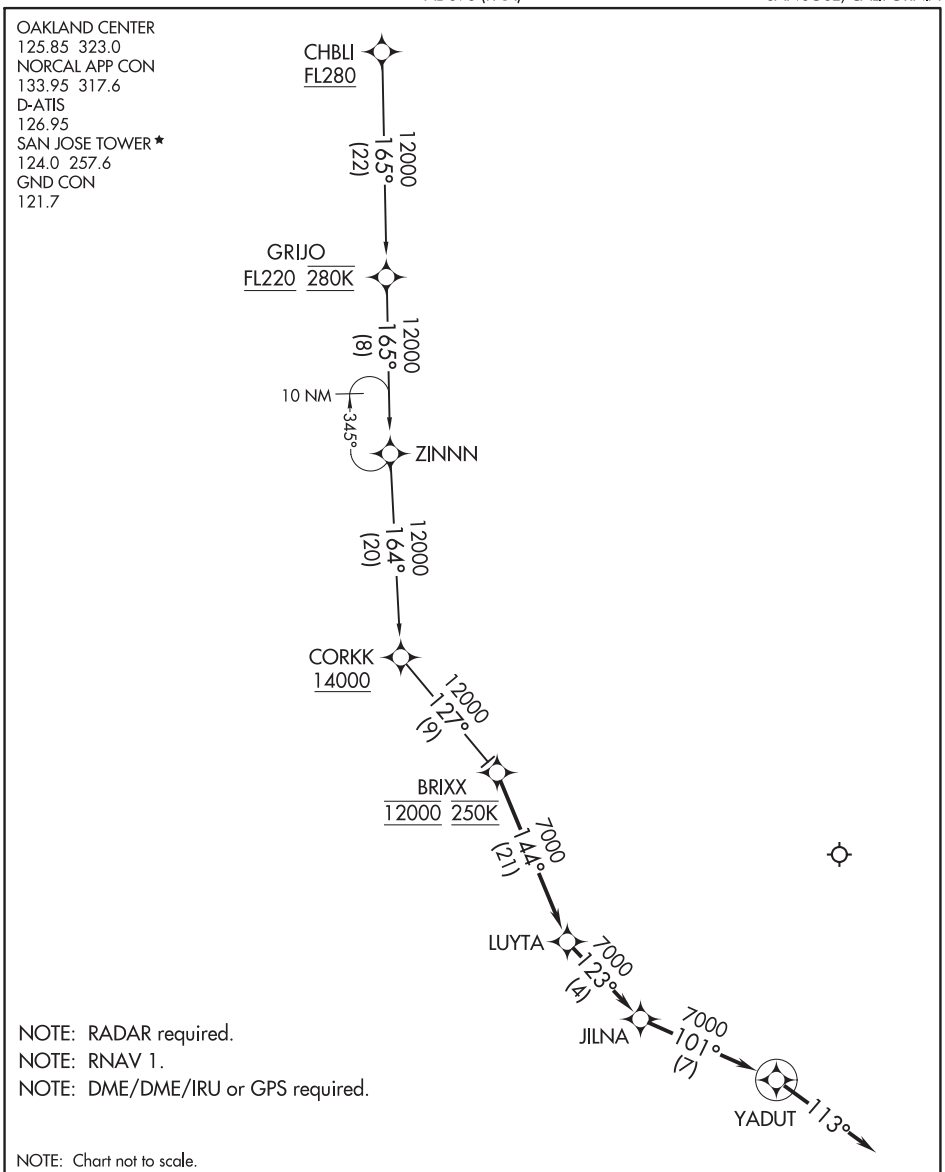
. . . . From over PYE VOR/DME via PYE R-151 to BRINY INT/DME, then via OSI R-237 to OSI VOR/DME. Expect RADAR vectors to Rwy 12R final approach course.

(BRIXX.BRIXX2) 17173

BRIXX TWO ARRIVAL (RNAV)

AL-693 (FAA)

NORMAN Y MINETA SAN JOSE INTL (SJC)
SAN JOSE, CALIFORNIA



NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.

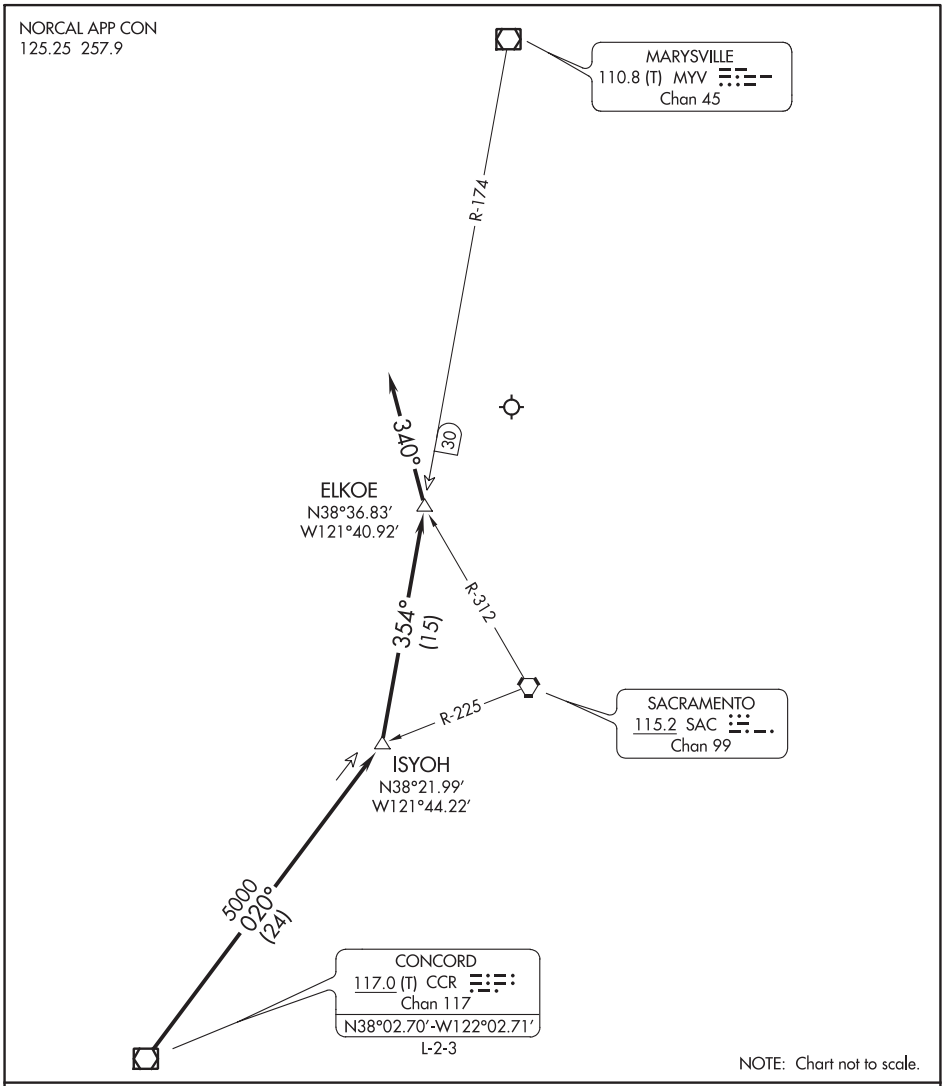
NOTE: Chart not to scale.

ARRIVAL ROUTE DESCRIPTION

CHBLI TRANSITION (CHBLI.BRIXX2)

From BRIXX on track 144° to LUYTA, then on track 123° to JILNA, then on track 101° to YADUT, then on track 113°. Expect RADAR vectors to final approach course.

SW-2, 25 FEB 2021 to 22 APR 2021



ARRIVAL ROUTE DESCRIPTION

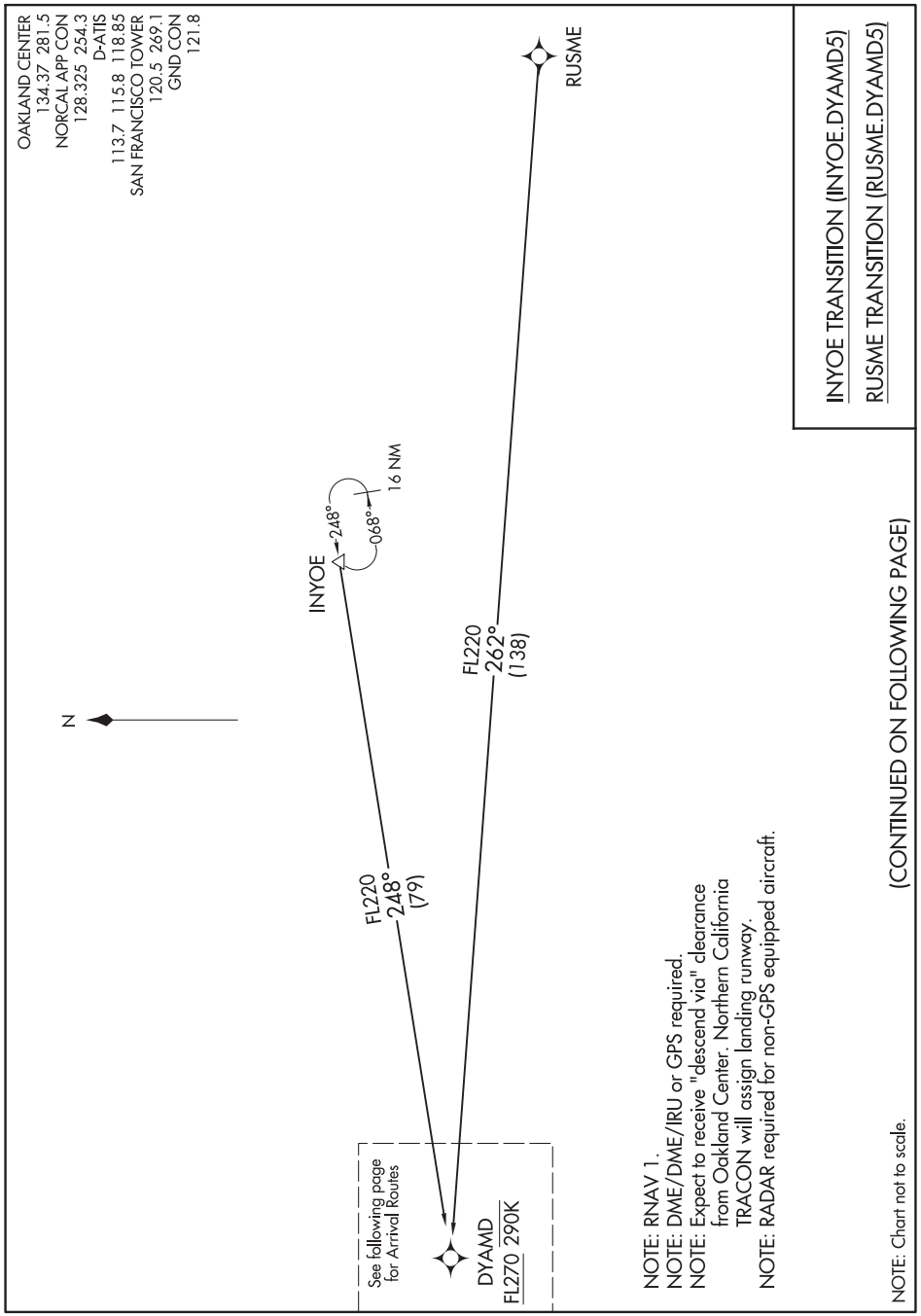
From over CCR VOR/DME via CCR R-020 to ISYOH INT, then via MYV R-174 to ELKOE INT, then on heading 340°. Expect RADAR vectors to final approach course.

(DYAMD.DYAMD5) 19003

AL-375 (FAA)

DYAMD FIVE ARRIVAL (RNAV) Transition Routes

SAN FRANCISCO INTL (SFO)
SAN FRANCISCO, CALIFORNIA



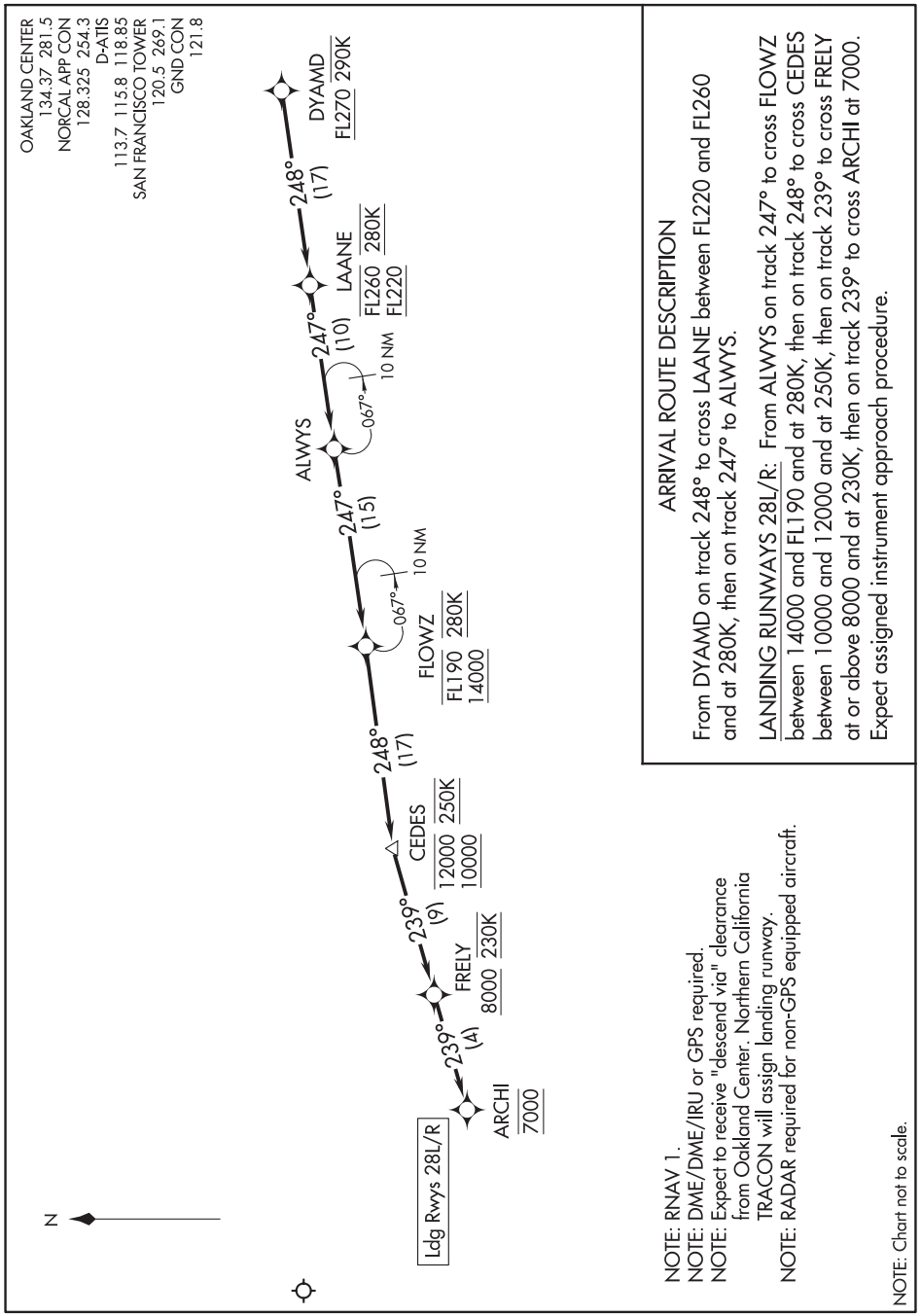
SW-2, 25 FEB 2021 to 22 APR 2021

DYAMD FIVE ARRIVAL (RNAV) Transition Routes

SAN FRANCISCO, CALIFORNIA
SAN FRANCISCO INTL (SFO)

(DYAMD.DYAMD5) 03JAN19

DYAMD FIVE ARRIVAL (RNAV) Arrival Routes



ARRIVAL ROUTE DESCRIPTION

From DYAMD on track 248° to cross LAANE between FL220 and FL260 and at 280K, then on track 247° to ALWYS.

LANDING RUNWAYS 28L/R: From ALWYS on track 247° to cross FLOWZ between 14000 and FL190 and at 280K, then on track 248° to cross CEDES between 10000 and 12000 and at 250K, then on track 239° to cross FRELY at or above 8000 and at 230K, then on track 239° to cross ARCHI at 7000. Expect assigned instrument approach procedure.

NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Expect to receive "descend via" clearance from Oakland Center. Northern California TRACON will assign landing runway.
NOTE: RADAR required for non-GPS equipped aircraft.

NOTE: Chart not to scale.

SW-2, 25 FEB 2021 to 22 APR 2021

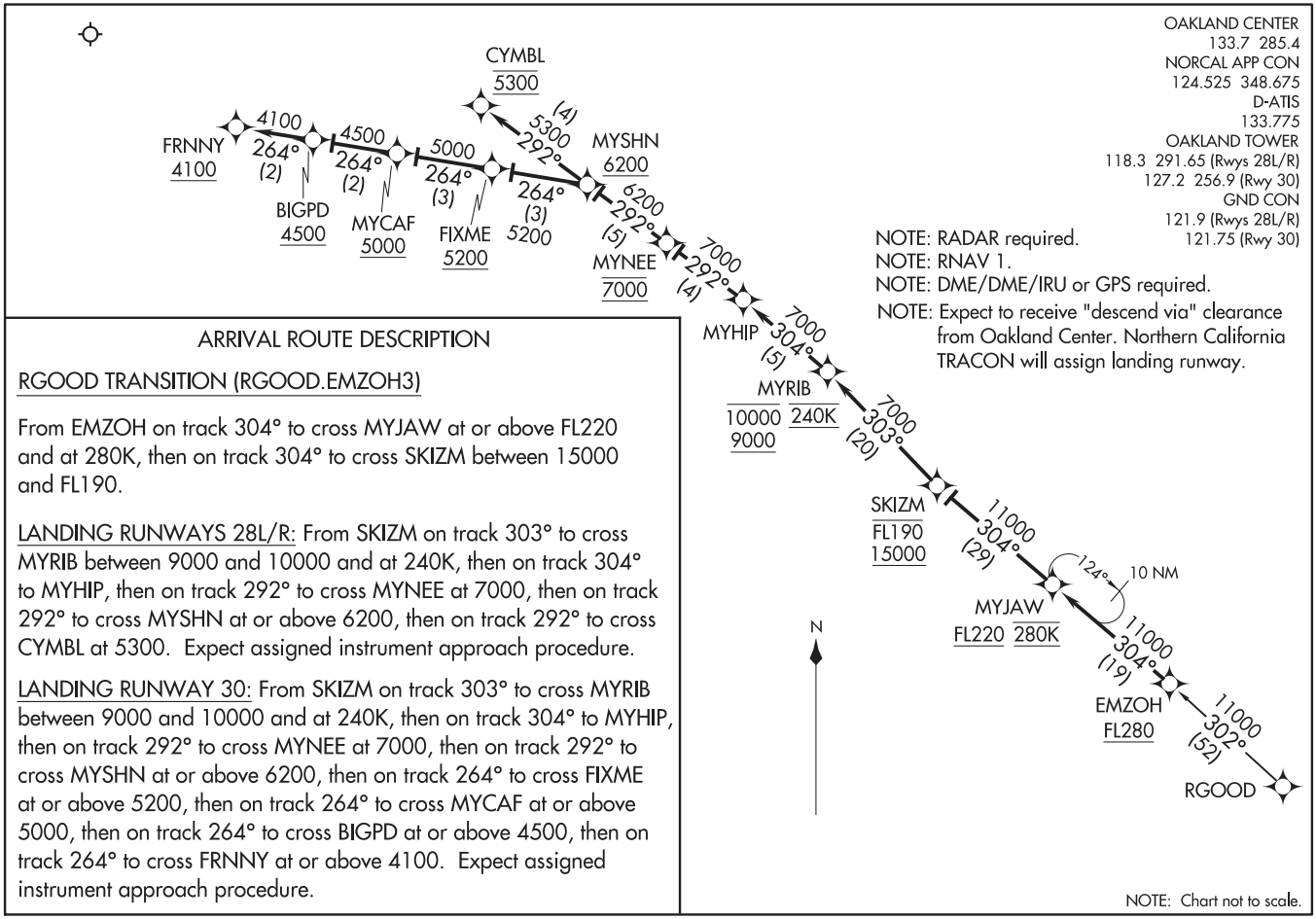
DYAMD FIVE ARRIVAL (RNAV) Arrival Routes

SAN FRANCISCO, CALIFORNIA
SAN FRANCISCO INTL (SFO)

EMZOH THREE ARRIVAL (RNAV)

(EMZOH.EMZOH3) 10DEC15

OAKLAND, CALIFORNIA
METROPOLITAN OAKLAND INTL (OAK)



ARRIVAL ROUTE DESCRIPTION

RGOOD TRANSITION (RGOOD.EMZOH3)

From EMZOH on track 304° to cross MYJAW at or above FL220 and at 280K, then on track 304° to cross SKIZM between 15000 and FL190.

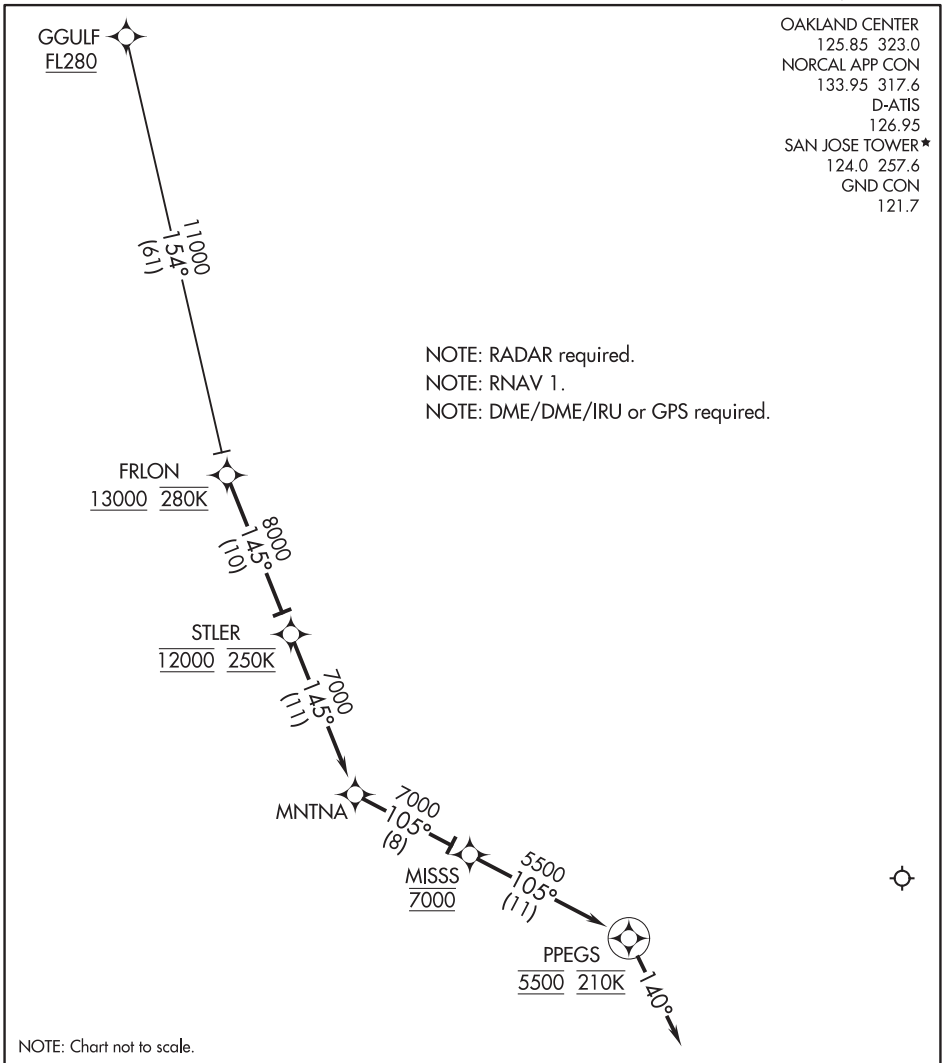
LANDING RUNWAYS 28L/R: From SKIZM on track 303° to cross MYRIB between 9000 and 10000 and at 240K, then on track 304° to MYHIP, then on track 292° to cross MYNEE at 7000, then on track 292° to cross MYSHN at or above 6200, then on track 292° to cross CYMBL at 5300. Expect assigned instrument approach procedure.

LANDING RUNWAY 30: From SKIZM on track 303° to cross MYRIB between 9000 and 10000 and at 240K, then on track 304° to MYHIP, then on track 292° to cross MYNEE at 7000, then on track 292° to cross MYSHN at or above 6200, then on track 264° to cross FIXME at or above 5200, then on track 264° to cross MYCAF at or above 5000, then on track 264° to cross BIGPD at or above 4500, then on track 264° to cross FRNNY at or above 4100. Expect assigned instrument approach procedure.

(EMZOH.EMZOH3) 17173
EMZOH THREE ARRIVAL (RNAV)

AL-294 (FAA)

METROPOLITAN OAKLAND INTL (OAK)
OAKLAND, CALIFORNIA



ARRIVAL ROUTE DESCRIPTION

GGULF TRANSITION (GGULF.FRLON2)

From FRLON on track 145° to cross STLER at 12000 and at 250K, then on track 145° to MNTNA, then on track 105° to cross MISSS at 7000, then on track 105° to cross PPEGS at 5500 and at 210K, then on track 140°. Expect RADAR vectors to final approach course.

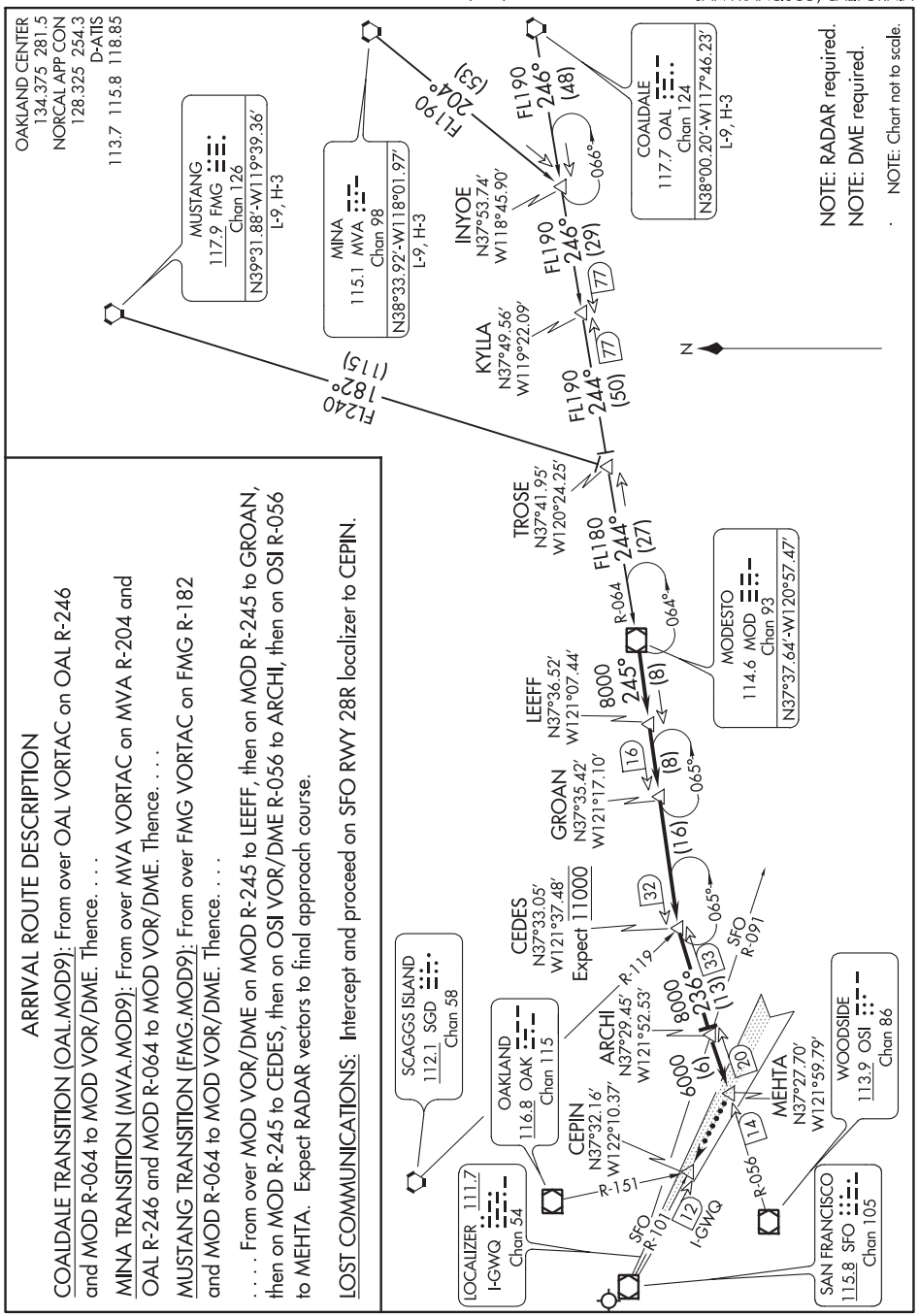
SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

(MOD.MOD9) 19227

MODESTO NINE ARRIVAL

AL-375 (FAA)

SAN FRANCISCO INTL (SFO)
SAN FRANCISCO, CALIFORNIA



ARRIVAL ROUTE DESCRIPTION

COALDALE TRANSITION (OAL.MOD9): From over OAL VORTAC on OAL R-246 and MOD R-064 to MOD VOR/DME. Thence. . . .

MINA TRANSITION (MVA.MOD9): From over MVA VORTAC on MVA R-204 and OAL R-246 and MOD R-064 to MOD VOR/DME. Thence. . . .

MUSTANG TRANSITION (FMG.MOD9): From over FMG VORTAC on FMG R-182 and MOD R-064 to MOD VOR/DME. Thence. . . .

. . . . From over MOD VOR/DME on MOD R-245 to LEEFF, then on MOD R-245 to GROAN, then on MOD R-245 to CEDES, then on OSI VOR/DME R-056 to ARCHI, then on OSI R-056 to MEHTA. Expect RADAR vectors to final approach course.

LOST COMMUNICATIONS: Intercept and proceed on SFO RWY 28R localizer to CEPIN.

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

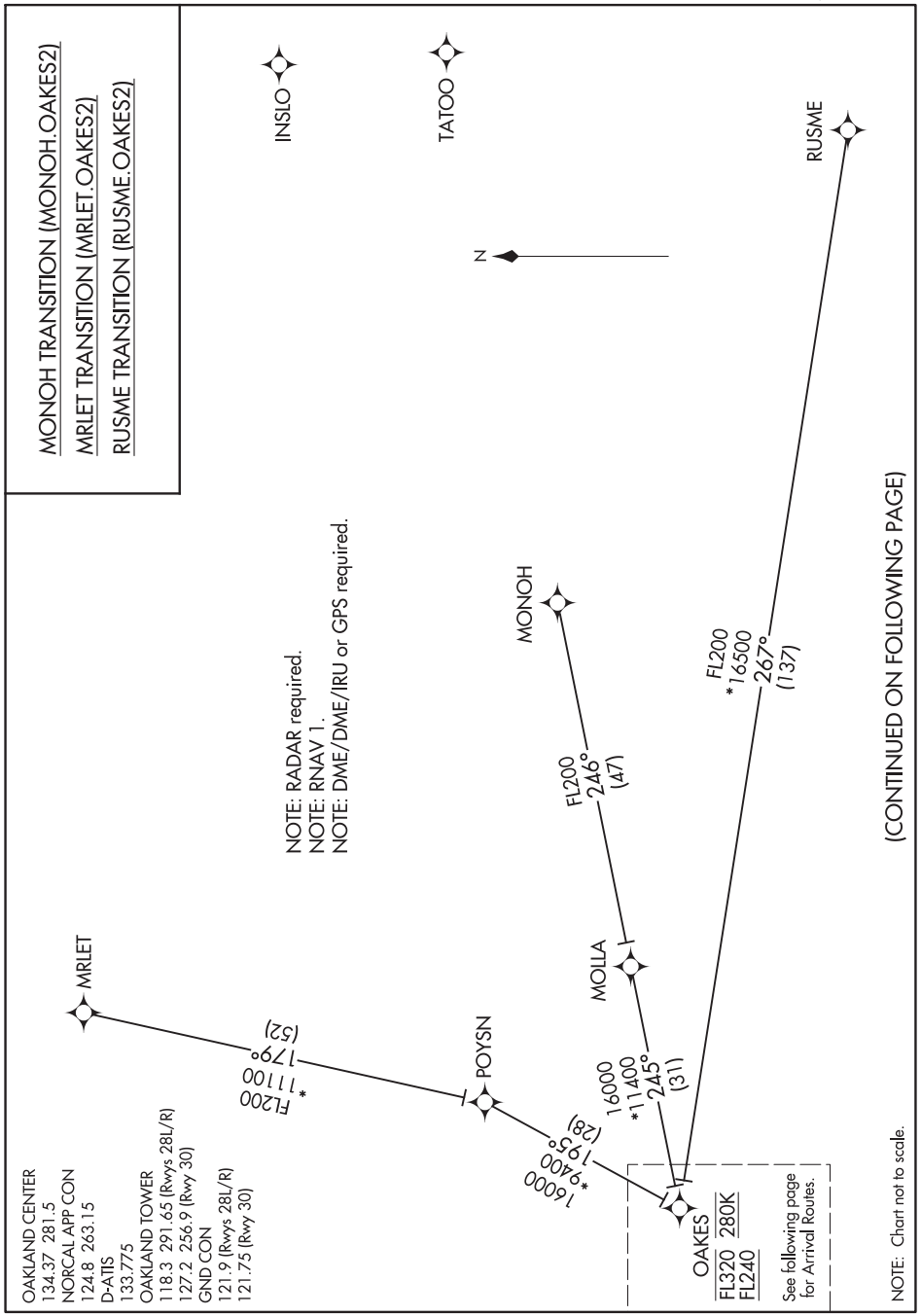
MODESTO NINE ARRIVAL

(MOD.MOD9) 15AUG19

SAN FRANCISCO, CALIFORNIA
SAN FRANCISCO INTL (SFO)

OAKES TWO ARRIVAL (RNAV) Transition Routes

METROPOLITAN OAKLAND INTL (OAK)
OAKLAND, CALIFORNIA



SW-2, 25 FEB 2021 to 22 APR 2021

OAKES TWO ARRIVAL (RNAV) Transition Routes
OAKLAND, CALIFORNIA
METROPOLITAN OAKLAND INTL (OAK)

OAKES TWO ARRIVAL (RNAV) Arrival Routes

(OAKES.OAKES2) 15OCT15

OAKLAND, CALIFORNIA
METROPOLITAN OAKLAND INTL (OAK)

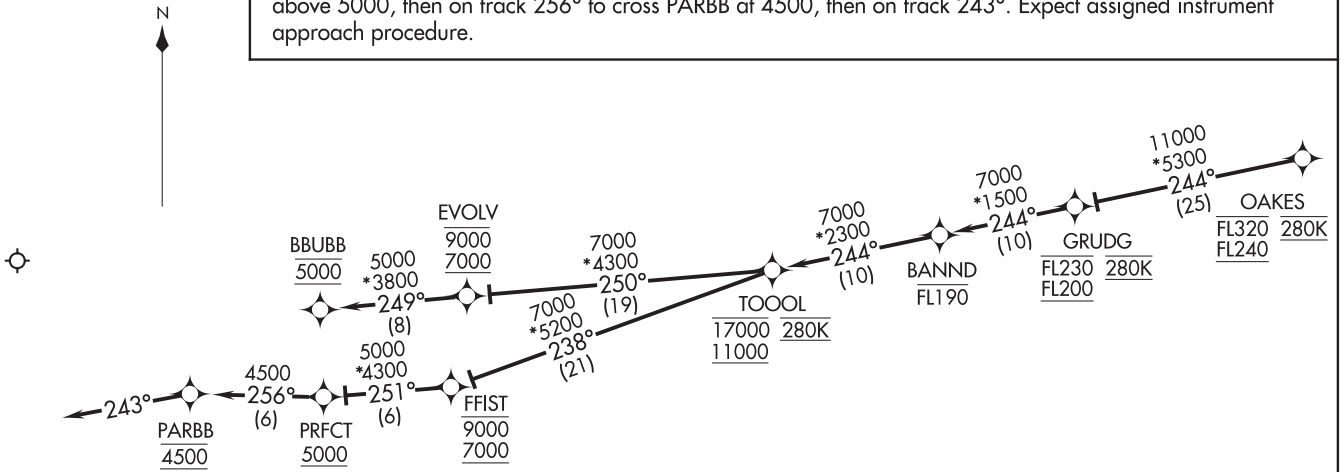
OAKLAND CENTER
134.37 281.5
NORCAL APP CON
124.8 263.15
D-ATIS
133.775
OAKLAND TOWER
118.3 291.65 (Rwys 28L/R)
127.2 256.9 (Rwy 30)
GND CON
121.9 (Rwys 28L/R)
121.75 (Rwy 30)

ARRIVAL ROUTE DESCRIPTION

From OAKES on track 244° to cross GRUDG between FL200 and FL230 and at 280K, then on track 244° to cross BANND at or below FL190.

LANDING RUNWAYS 28L/R: From BANND on track 244° to cross TOOOL between 11000 and 17000 and at 280K, then on track 250° to cross EVOLV between 7000 and 9000, then on track 249° to cross BBUBB at 5000. Expect assigned instrument approach procedure.

LANDING RUNWAY 30: From BANND on track 244° to cross TOOOL between 11000 and 17000 and at 280K, then on track 238° to cross FFIST between 7000 and 9000, then on track 251° to cross PRFCT at or above 5000, then on track 256° to cross PARBB at 4500, then on track 243°. Expect assigned instrument approach procedure.



NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.

NOTE: Chart not to scale.

(OAKES.OAKES2) 17173
OAKES TWO ARRIVAL (RNAV) Arrival Routes
AL-294 (FAA)
METROPOLITAN OAKLAND INTL (OAK)
OAKLAND, CALIFORNIA

OSVEE ONE ARRIVAL (RNAV)

AL-488 (FAA)

TRAVIS AFB (KSUU)
FAIRFIELD, CALIFORNIA

ARRIVAL ROUTE DESCRIPTION

LIBBO TRANSITION (LIBBO.OSVEE1)

ROVUE TRANSITION (ROVUE.OSVEE1)

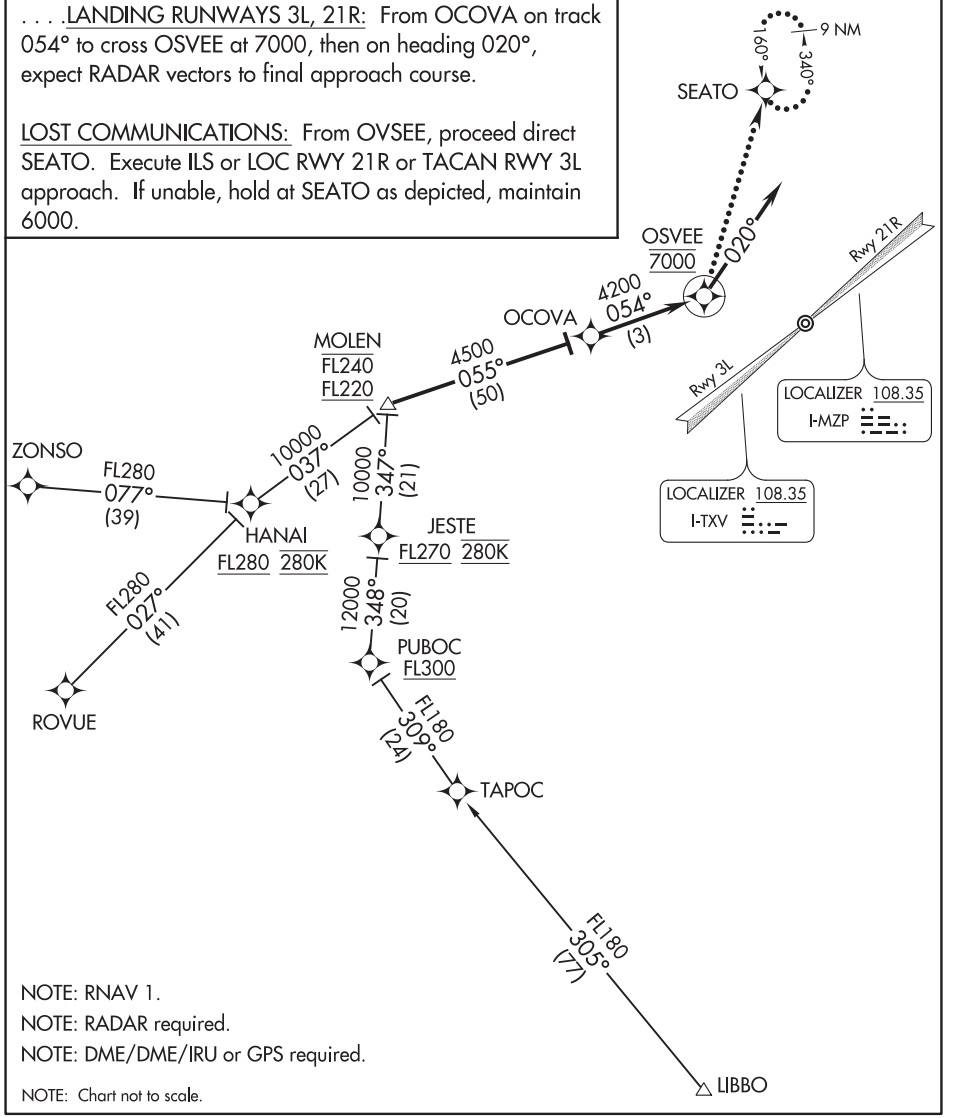
ZONSO TRANSITION (ZONSO.OSVEE1)

From MOLEN on track 055° to OCOVA, thence . . . .

. . . .LANDING RUNWAYS 3L, 21R: From OCOVA on track 054° to cross OSVEE at 7000, then on heading 020°, expect RADAR vectors to final approach course.

LOST COMMUNICATIONS: From OVSEE, proceed direct SEATO. Execute ILS or LOC RWY 21R or TACAN RWY 3L approach. If unable, hold at SEATO as depicted, maintain 6000.

TRAVIS APP CON
126.6 281.45 (N)
119.9 322.325 (S)
TRAVIS TOWER
120.75 254.4
GND CON
121.8 289.4
D-ATIS
135.55 292.125



NOTE: RNAV 1.

NOTE: RADAR required.

NOTE: DME/DME/IRU or GPS required.

NOTE: Chart not to scale.

SW-2, 25 FEB 2021 to 22 APR 2021

OSVEE ONE ARRIVAL (RNAV)

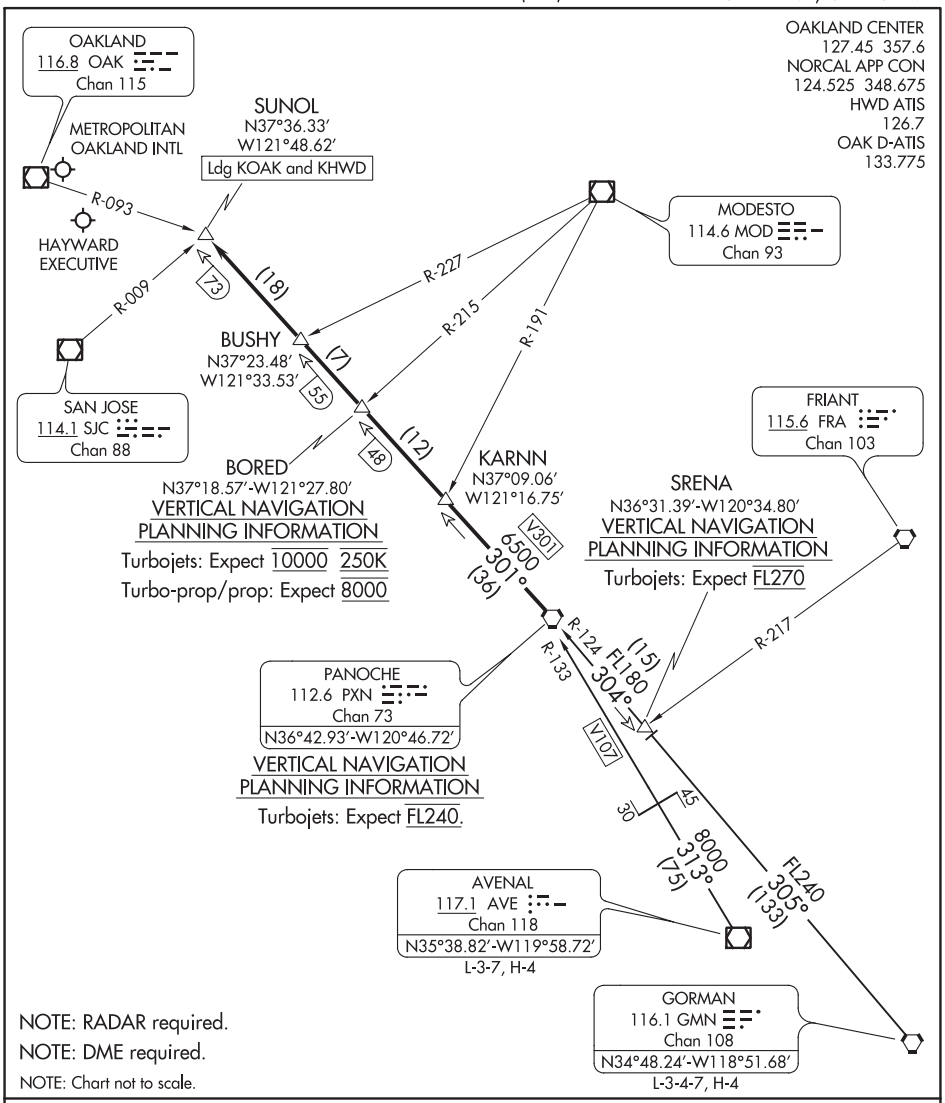
FAIRFIELD, CALIFORNIA
TRAVIS AFB (KSUU)

(PXN.PXN6) 20226

PANOCHE SIX ARRIVAL

AL-294 (FAA)

OAKLAND, CALIFORNIA



SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

ARRIVAL ROUTE DESCRIPTION

AVENAL TRANSITION (AVE.PXN6): From over AVE VOR/DME on AVE R-313 and PXN R-133 to PXN VORTAC. Thence. . . .

GORMAN TRANSITION (GMN.PXN6): From over GMN VORTAC on GMN R-305 and PXN R-124 to SRENA, then on PXN R-124 to PXN VORTAC. Thence. . . .

. . . .From over PXN VORTAC on PXN R-301 to SUNOL. Expect RADAR vectors to final approach course.

PANOCHE SIX ARRIVAL

OAKLAND, CALIFORNIA

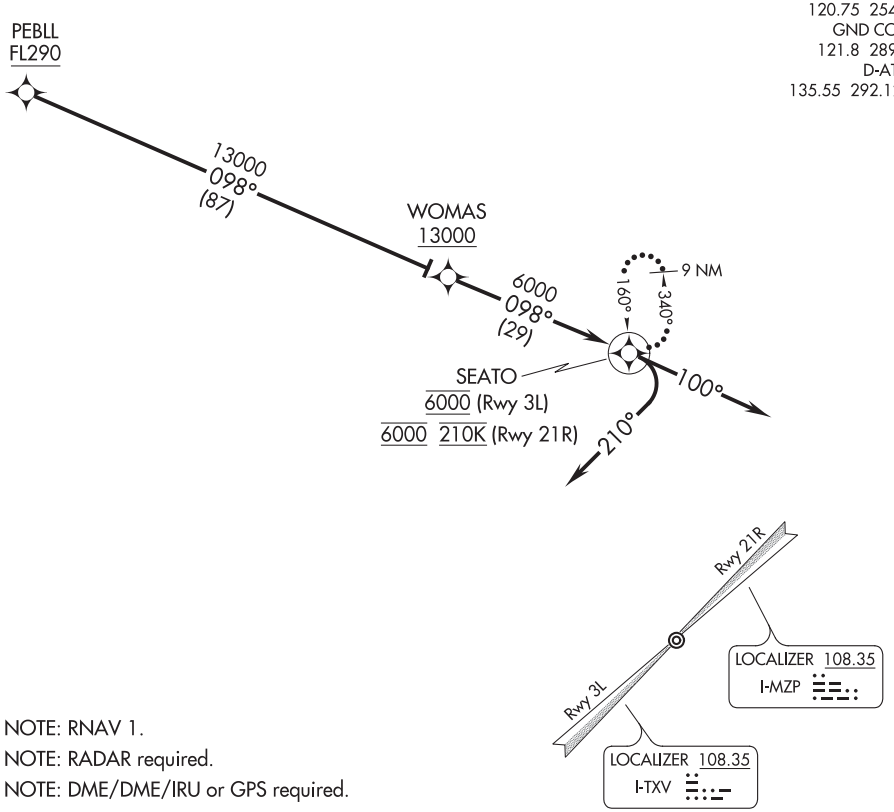
(PXN.PXN6) 15AUG19

PEBLL ONE ARRIVAL (RNAV)

AL-488 (FAA)

TRAVIS AFB (KSUU)
FAIRFIELD, CALIFORNIA

TRAVIS APP CON
126.6 281.45 (N)
119.9 322.325 (S)
TRAVIS TOWER
120.75 254.4
GND CON
121.8 289.4
D-ATIS
135.55 292.125



NOTE: RNAV 1.

NOTE: RADAR required.

NOTE: DME/DME/IRU or GPS required.

NOTE: Chart not to scale.

ARRIVAL ROUTE DESCRIPTION

From PEBLL on track 098° to cross WOMAS at/above 13000, thence. . . .

. . . .LANDING RUNWAY 3L: From WOMAS on track 098° to cross SEATO at 6000, then right turn heading 210°, expect RADAR vectors to final approach course.

. . . .LANDING RUNWAY 21R: From WOMAS on track 098° to cross SEATO at 6000, at 210K, then on heading 100°, expect RADAR vectors to final approach course.

LOST COMMUNICATIONS: From SEATO, execute ILS or LOC RWY 21R or TACAN RWY 3L approach. If unable hold at SEATO as depicted, maintain 6000.

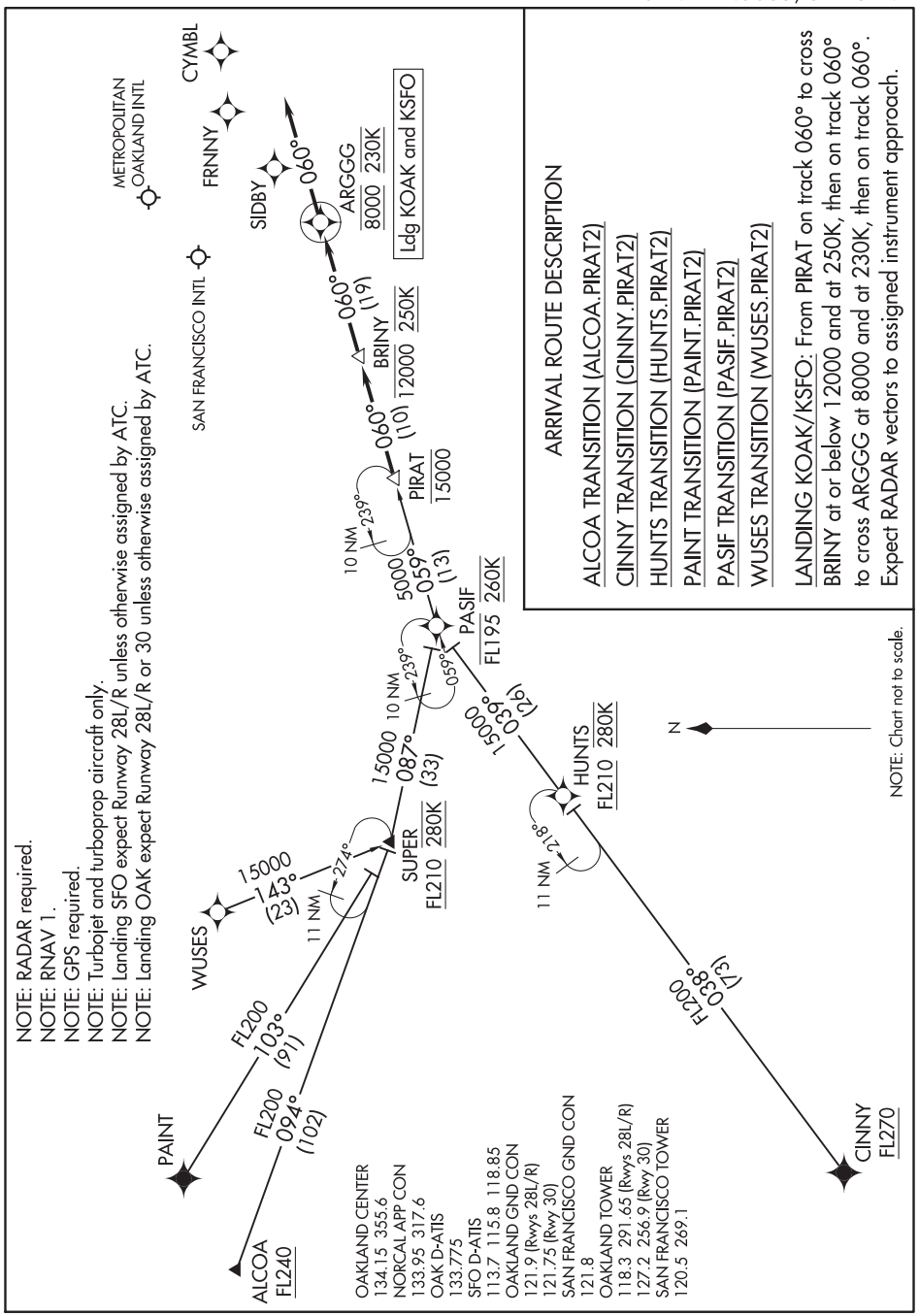
(PIRAT.PIRAT2) 20198

PIRAT TWO ARRIVAL (RNAV)

AL-375 (FAA)

SAN FRANCISCO, CALIFORNIA

NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: GPS required.
NOTE: Turbojet and turboprop aircraft only.
NOTE: Landing SFO expect Runway 28L/R unless otherwise assigned by ATC.
NOTE: Landing OAK expect Runway 28L/R or 30 unless otherwise assigned by ATC.



ARRIVAL ROUTE DESCRIPTION

ALCOA TRANSITION (ALCOA.PIRAT2)

CINNY TRANSITION (CINNY.PIRAT2)

HUNTS TRANSITION (HUNTS.PIRAT2)

PAINT TRANSITION (PAINT.PIRAT2)

PASIF TRANSITION (PASIF.PIRAT2)

WUSES TRANSITION (WUSES.PIRAT2)

LANDING KOAK/KSFO: From PIRAT on track 060° to cross BRINY at or below 12000 and at 250K, then on track 060° to cross ARGGG at 8000 and at 230K, then on track 060°. Expect RADAR vectors to assigned instrument approach.

SW-2, 25 FEB 2021 to 22 APR 2021

PIRAT TWO ARRIVAL (RNAV)

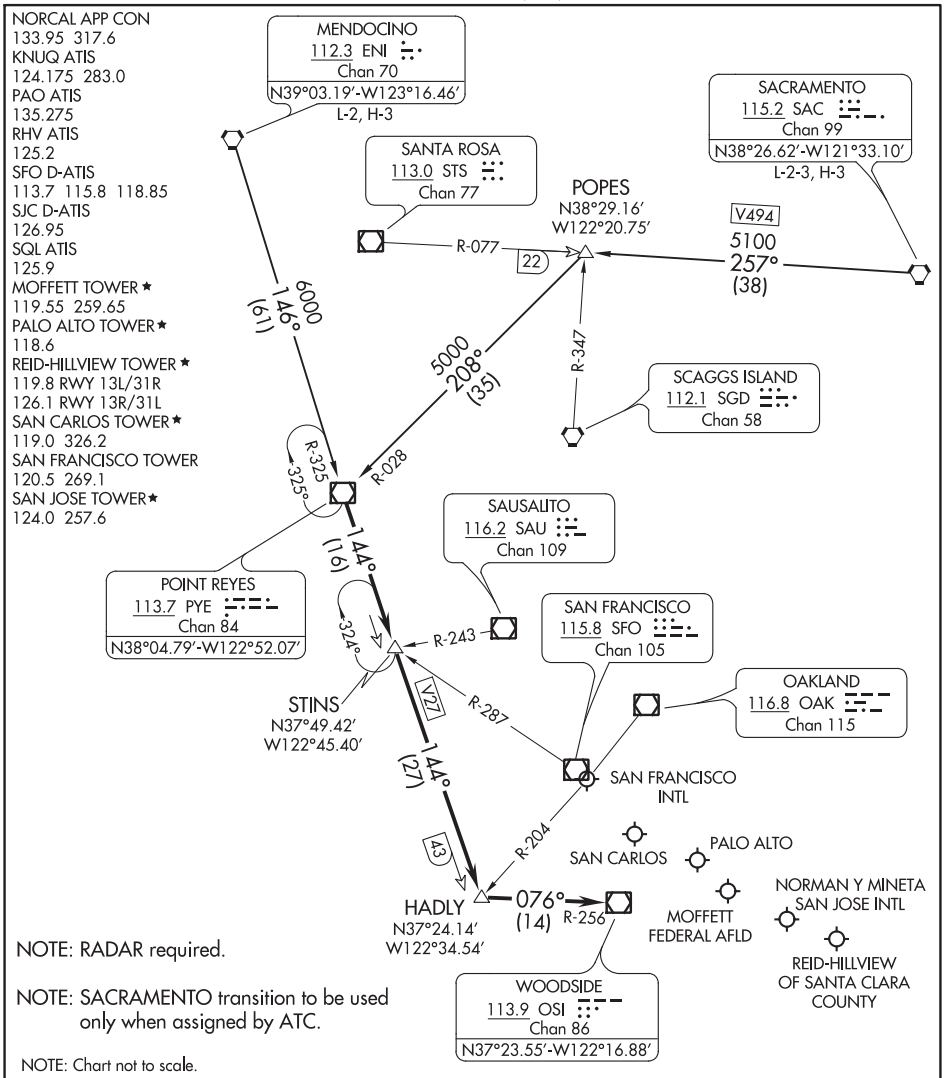
SAN FRANCISCO, CALIFORNIA

(PIRAT.PIRAT2) 25APR19

POINT REYES THREE ARRIVAL

AL-375 (FAA)

SAN FRANCISCO, CALIFORNIA



NOTE: RADAR required.

NOTE: SACRAMENTO transition to be used only when assigned by ATC.

NOTE: Chart not to scale.

ARRIVAL ROUTE DESCRIPTION

MENDOCINO TRANSITION (ENI.PYE3): From over ENI VORTAC on ENI R-146 and PYE R-325 to PYE VOR/DME. Thence. . . .

SACRAMENTO TRANSITION (SAC.PYE3): From over SAC VORTAC on SAC R-257 and PYE R-028 to PYE VOR/DME. Thence. . . .

. . . .From over PYE VOR/DME on PYE R-144 to HADLY, then on OSI R-256 to OSI VOR/DME. Expect RADAR vectors to final approach course.

POINT REYES THREE ARRIVAL

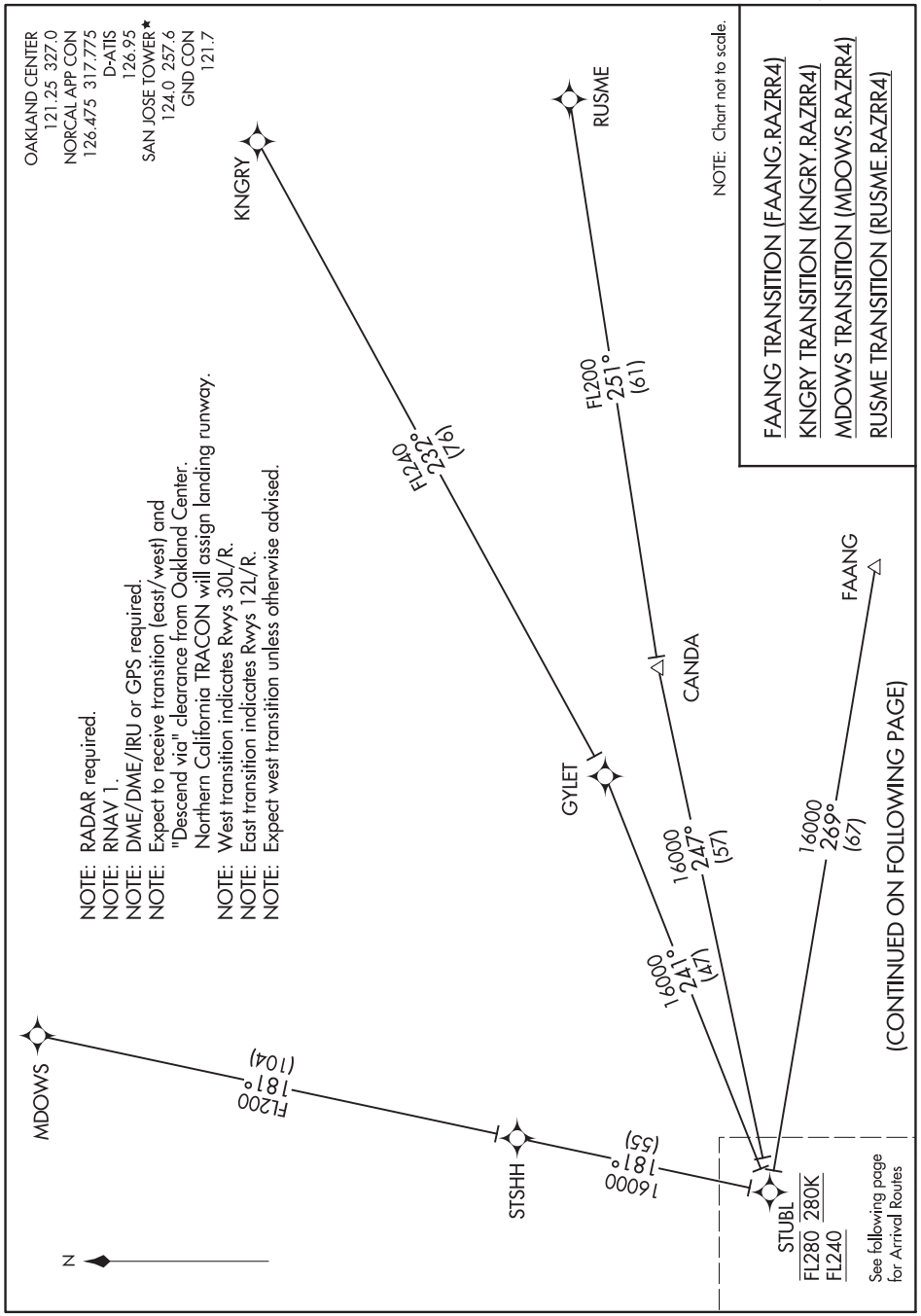
SAN FRANCISCO, CALIFORNIA

SW-2, 25 FEB 2021 to 22 APR 2021

(STUBL.RAZRR4) 17173 AL-693 (FAA) NORMAN Y MINETA SAN JOSE INTL (SJC)

RAZRR FOUR ARRIVAL (RNAV) Transition Routes

SAN JOSE, CALIFORNIA



SW-2, 25 FEB 2021 to 22 APR 2021

RAZRR FOUR ARRIVAL (RNAV) Transition Routes

(STUBL.RAZRR4) 21JUL16

SAN JOSE, CALIFORNIA

NORMAN Y MINETA SAN JOSE INTL (SJC)

(STUBL.RAZRR4) 17173

RAZRR FOUR ARRIVAL (RNAV) Arrival Routes

AL-693 (FAA)

NORMAN Y MINETA SAN JOSE INTL (SJC)

SAN JOSE, CALIFORNIA

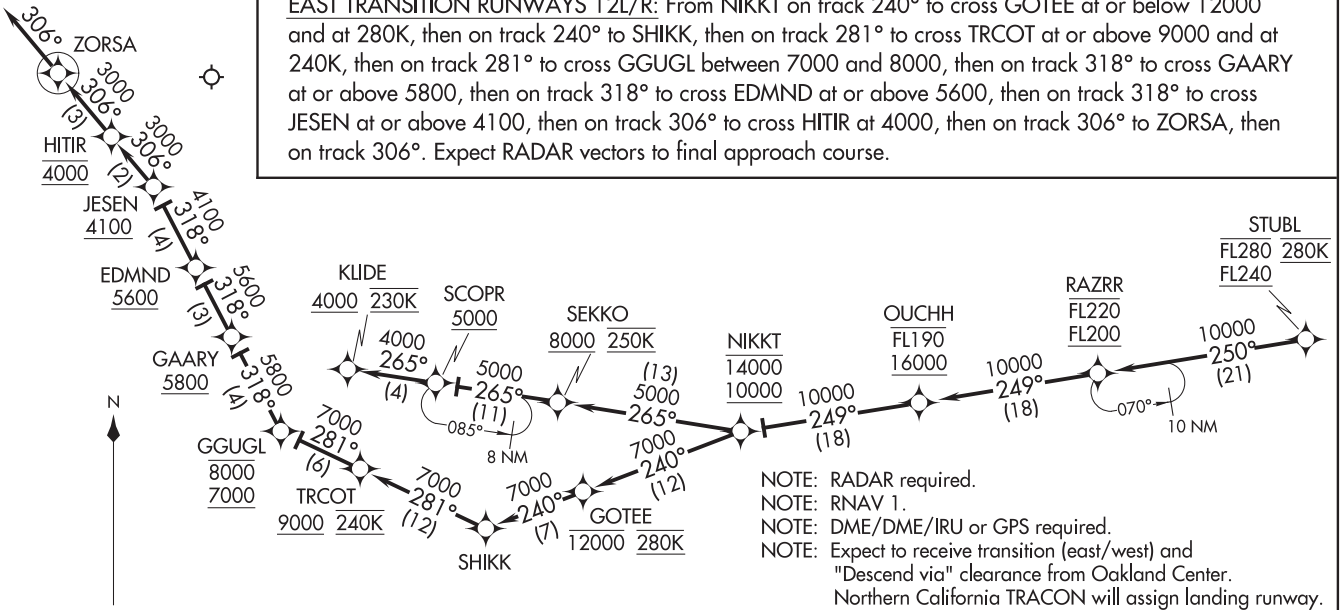
OAKLAND CENTER
121.25 327.0
NORCAL APP CON
126.475 317.775
D-ATIS
126.95
SAN JOSE TOWER★
124.0 257.6
GND CON
121.7

ARRIVAL ROUTE DESCRIPTION

From STUBL on track 250° to cross RAZRR between FL200 and FL220, then on track 249° to cross OUCHH between 16000 and FL190, then on track 249° to cross NIKKT between 10000 and 14000.

WEST TRANSITION RUNWAYS 30L/R: From NIKKT on track 265° to cross SEKKO at or above 8000 and at 250K, then on track 265° to cross SCOPR at or above 5000, then on track 265° to cross KLIDE at or above 4000 and at 230K. Expect assigned instrument approach procedure.

EAST TRANSITION RUNWAYS 12L/R: From NIKKT on track 240° to cross GOTEE at or below 12000 and at 280K, then on track 240° to SHIKK, then on track 281° to cross TRCOT at or above 9000 and at 240K, then on track 281° to cross GGUGL between 7000 and 8000, then on track 318° to cross GAARY at or above 5800, then on track 318° to cross EDMND at or above 5600, then on track 318° to cross JESEN at or above 4100, then on track 306° to cross HITIR at 4000, then on track 306° to ZORSA, then on track 306°. Expect RADAR vectors to final approach course.



NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Expect to receive transition (east/west) and "Descend via" clearance from Oakland Center. Northern California TRACON will assign landing runway.
NOTE: West transition indicates Rwys 30L/R.
NOTE: East transition indicates Rwys 12L/R.
NOTE: Expect west transition unless otherwise advised.

NOTE: Chart not to scale.

(STUBL.RAZRR4) 21JUL16

RAZRR FOUR ARRIVAL (RNAV) Arrival Routes

NORMAN Y MINETA SAN JOSE INTL (SJC)

SAN JOSE, CALIFORNIA

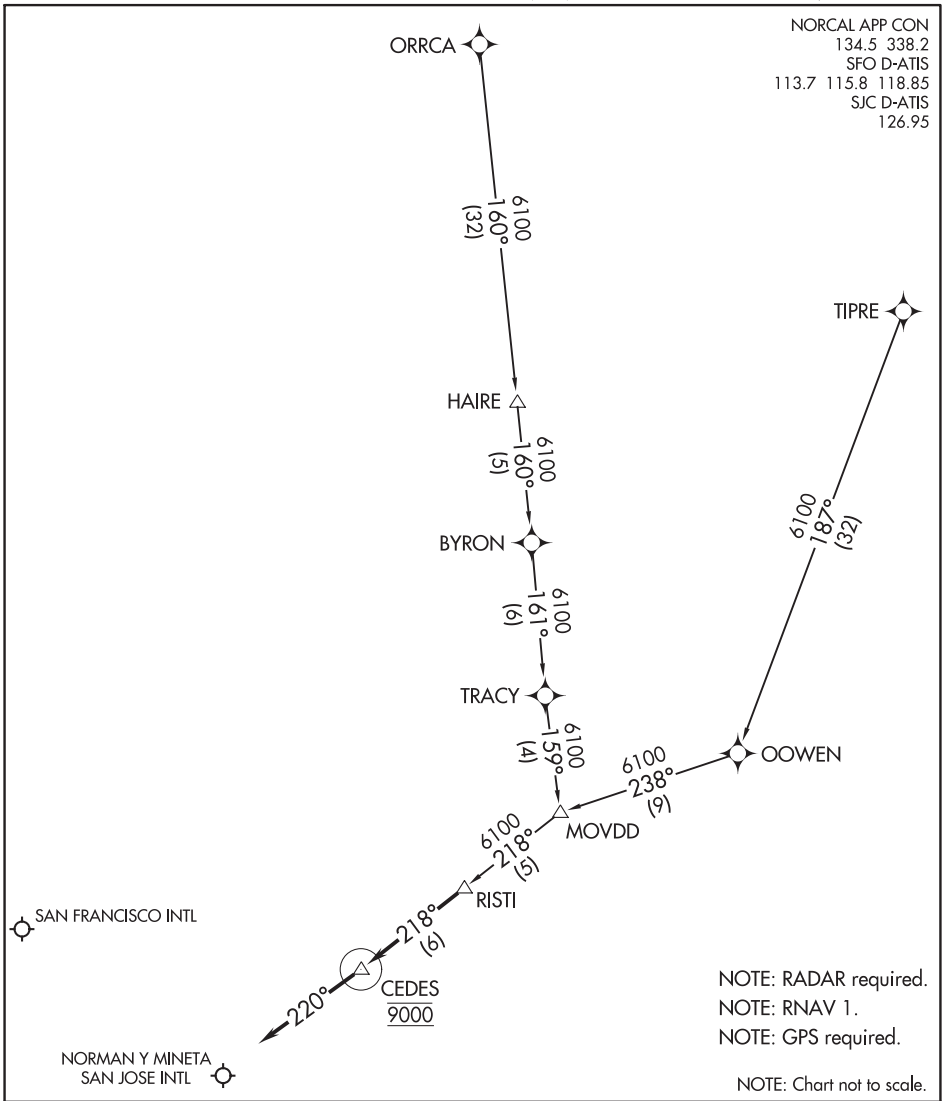
Z28

(RISTI.RISTI1) 20198

RISTI ONE ARRIVAL (RNAV)

AL-375 (FAA)

SAN FRANCISCO, CALIFORNIA



SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

ARRIVAL ROUTE DESCRIPTION

ORRCA TRANSITION (ORRCA.RISTI1)

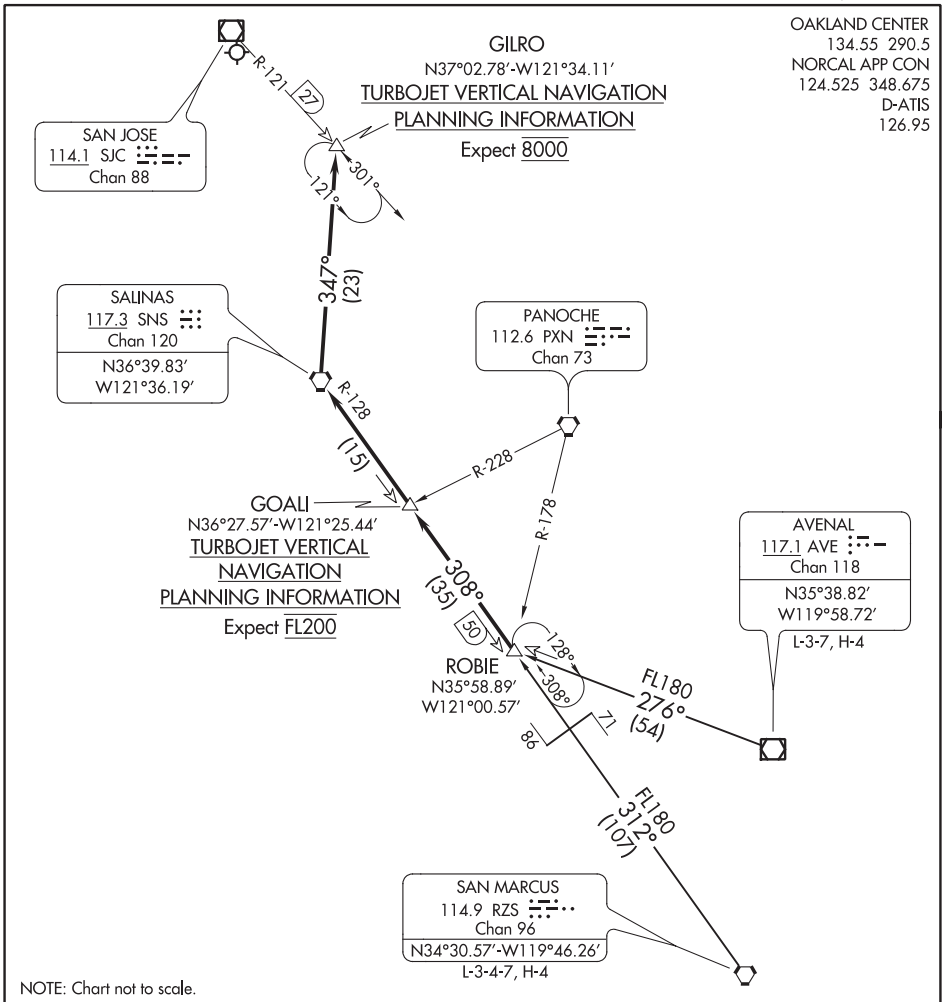
TIPRE TRANSITION (TIPRE.RISTI1)

LANDING KSFO/KSJC: From RISTI on track 218° to cross CEDES at 9000, then on heading 220° or as assigned by ATC. Expect RADAR vectors to final approach course.

RISTI ONE ARRIVAL (RNAV)

SAN FRANCISCO, CALIFORNIA

(RISTI.RISTI1) 22JUN17



ARRIVAL ROUTE DESCRIPTION

AVENAL TRANSITION (AVE.ROBIE5): From over AVE VOR/DME on AVE R-276 to ROBIE. Thence . . . .

SAN MARCUS TRANSITION (RZS.ROBIE5): From over RZS VORTAC on RZS R-312 and SNS R-128 to ROBIE. Thence . . . .

. . . . From over ROBIE on SNS R-128 to SNS VORTAC. Then on SNS R-347 to GILRO. Expect the ILS RWY 30L approach.

FOR RUNWAY 12 OPERATIONS: Expect routing SNS direct SJC VOR/DME and RADAR vectors to final approach course.

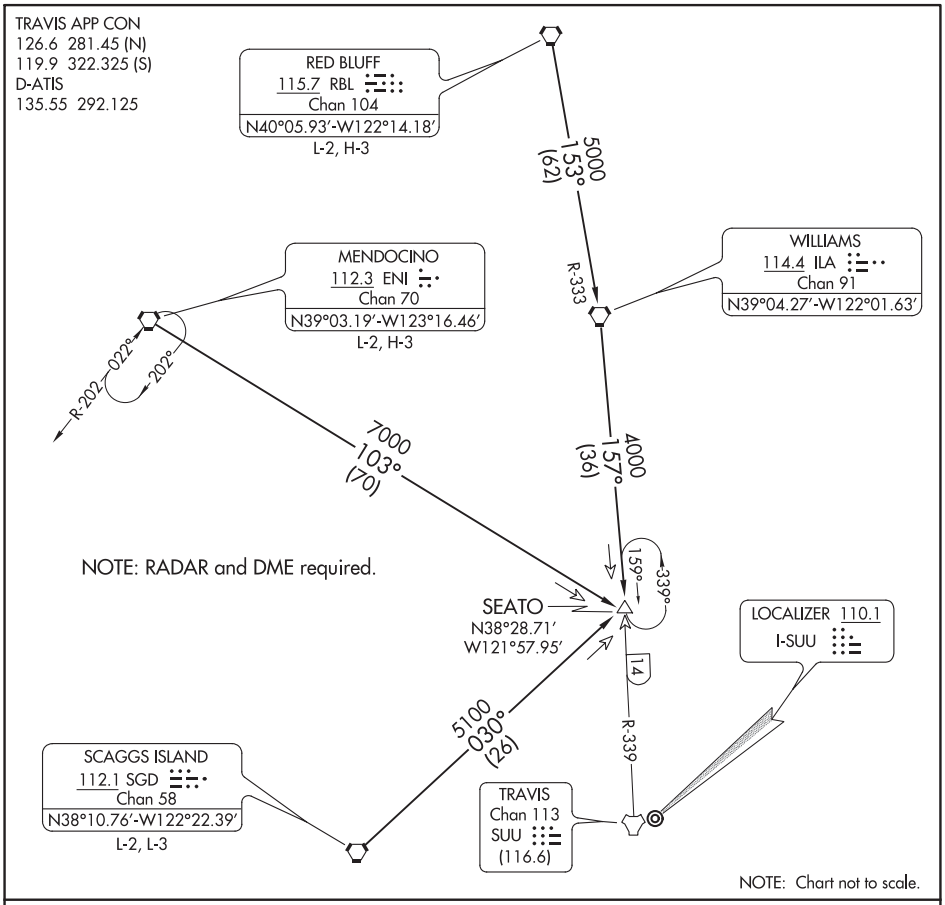
SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

(SEATO.SEATO4) 17117

SEATO FOUR ARRIVAL

AL-488 (FAA)

TRAVIS AFB (KSUU)
FAIRFIELD, CALIFORNIA



ARRIVAL ROUTE DESCRIPTION

MENDOCINO TRANSITION (ENI.SEATO4): From over ENI VORTAC via ENI R-103 to SEATO INT. Thence . . . .

RED BLUFF TRANSITION (RBL.SEATO4): From over RBL VORTAC via RBL R-153 and ILA R-333 to ILA VORTAC, then via ILA R-157 to SEATO INT. Thence . . . .

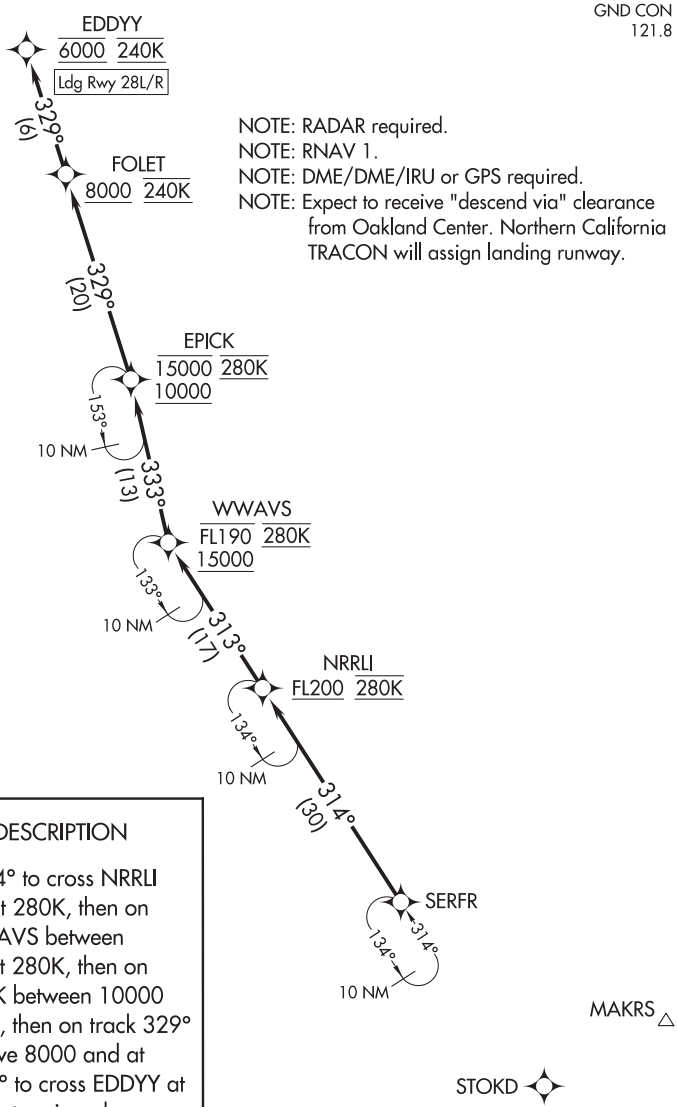
SCAGGS ISLAND TRANSITION (SGD.SEATO4): From over SGD VORTAC via SGD R-030 to SEATO INT. Thence . . . .

. . . . From over SEATO INT:
RWY 3L/R: Expect RADAR vectors for ILS or LOC RWY 3L approach.
RWY 21L/R: Expect RADAR vectors for ILS or LOC RWY 21L approach.

LOST COMMUNICATIONS:
RWY 3L via SEATO then TACAN RWY 3L.
RWY 21R via SEATO then TACAN RWY 21R.

SW-2, 25 FEB 2021 to 22 APR 2021

OAKLAND CENTER
134.55 290.5
NORCAL APP CON
128.575 254.25
D-ATIS
113.7 115.8 118.85
SAN FRANCISCO TOWER
120.5 269.1
GND CON
121.8



NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Expect to receive "descend via" clearance from Oakland Center. Northern California TRACON will assign landing runway.

ARRIVAL ROUTE DESCRIPTION

From SERFR on track 314° to cross NRRLI at or above FL200 and at 280K, then on track 313° to cross WWAVS between 15000 and FL190 and at 280K, then on track 333° to cross EPICK between 10000 and 15000 and at 280K, then on track 329° to cross FOLET at or above 8000 and at 240K, then on track 329° to cross EDDYY at 6000 and at 240K. Expect assigned instrument approach (Rwy 28L/R).

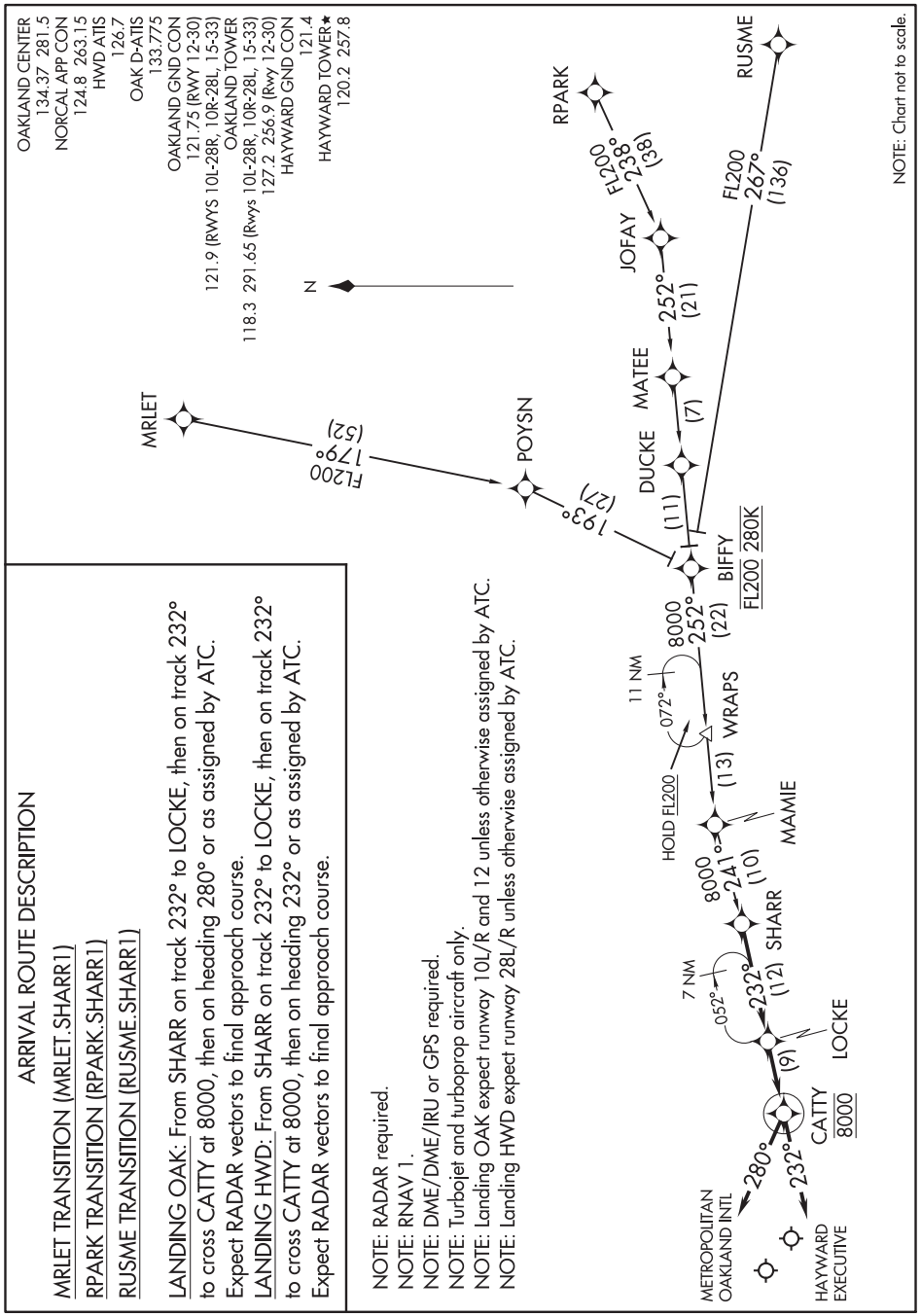
NOTE: Chart not to scale.

(SHARR.SHARR1) 20198

SHARR ONE ARRIVAL (RNAV)

AL-294 (FAA)

OAKLAND, CALIFORNIA



ARRIVAL ROUTE DESCRIPTION

MRLET TRANSITION (MRLET.SHARR1)

RPARK TRANSITION (RPARK.SHARR1)

RUSME TRANSITION (RUSME.SHARR1)

LANDING OAK: From SHARR on track 232° to LOCKE, then on track 232° to cross CATTY at 8000, then on heading 280° or as assigned by ATC. Expect RADAR vectors to final approach course.

LANDING HWD: From SHARR on track 232° to LOCKE, then on track 232° to cross CATTY at 8000, then on heading 232° or as assigned by ATC. Expect RADAR vectors to final approach course.

NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Turbojet and turboprop aircraft only.
NOTE: Landing OAK expect runway 10L/R and 12 unless otherwise assigned by ATC.
NOTE: Landing HWD expect runway 28L/R unless otherwise assigned by ATC.

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

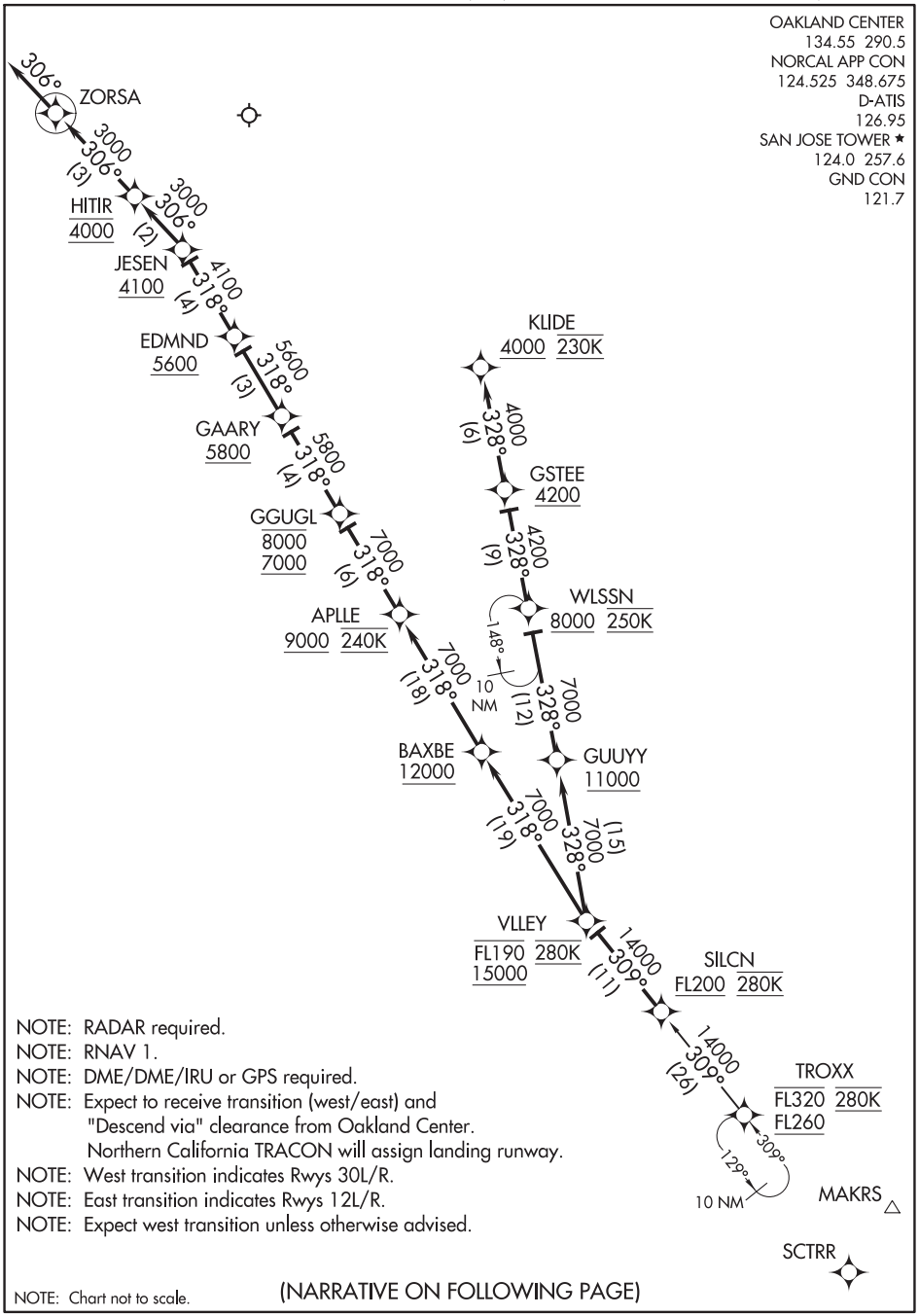
SHARR ONE ARRIVAL (RNAV)

OAKLAND, CALIFORNIA

(SHARR.SHARR1) 22JUN17

SILCN FOUR ARRIVAL (RNAV)

AL-693 (FAA)



NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Expect to receive transition (west/east) and "Descend via" clearance from Oakland Center. Northern California TRACON will assign landing runway.
NOTE: West transition indicates Rwys 30L/R.
NOTE: East transition indicates Rwys 12L/R.
NOTE: Expect west transition unless otherwise advised.

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

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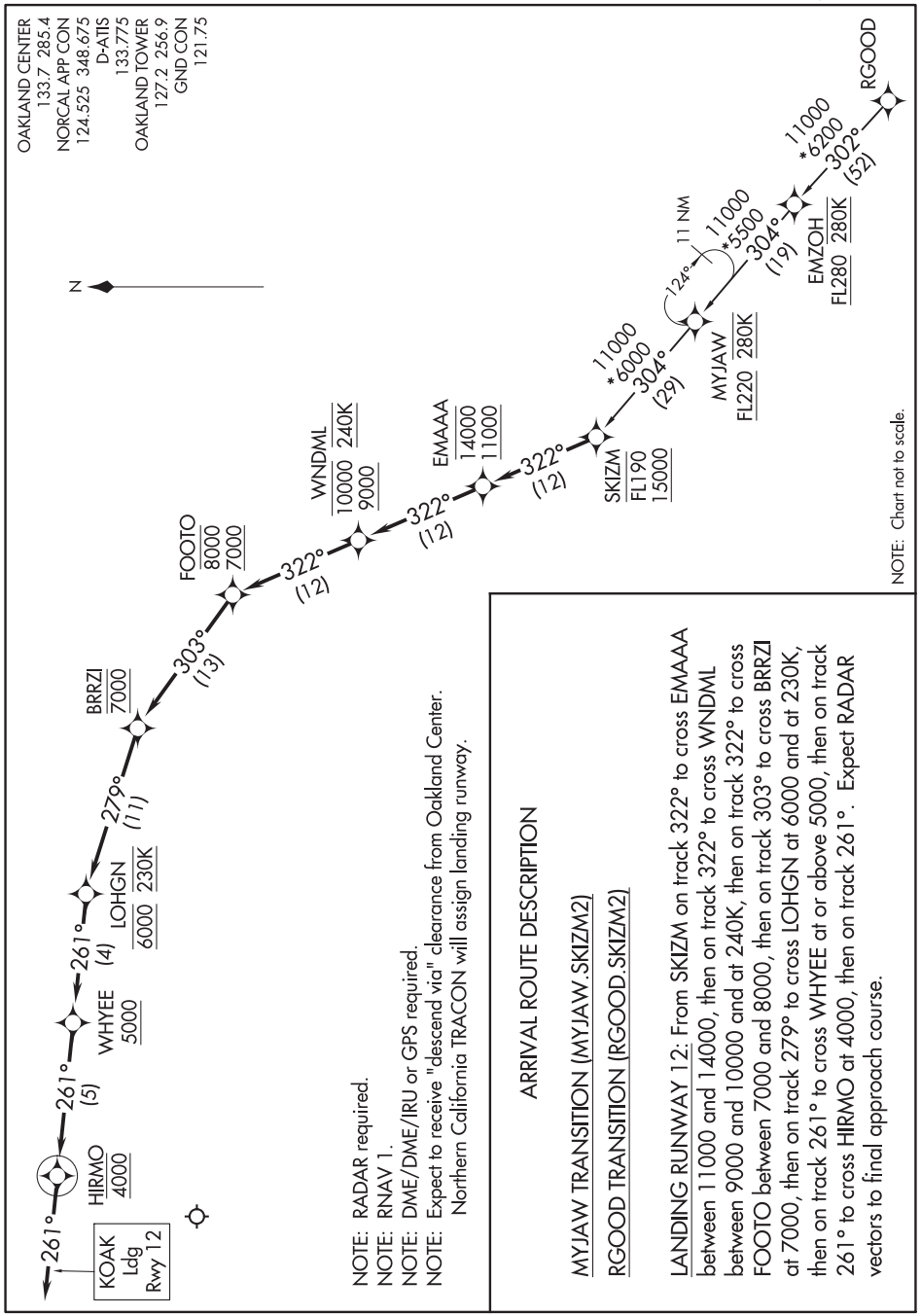
ARRIVAL ROUTE DESCRIPTION

TROXX TRANSITION (TROXX.SILCN4)

From SILCN on track 309° to cross VLLEY between 15000 and FL190 and at 280K.

WEST TRANSITION RUNWAYS 30L/R: From VLLEY on track 328° to cross GUUYY at or above 11000, then on track 328° to cross WLSSN at or above 8000 and at 250K, then on track 328° to cross GSTEE at or above 4200, then on track 328° to cross KLIDE at or above 4000 and at 230K. Expect assigned instrument approach procedure.

EAST TRANSITION RUNWAYS 12L/R: From VLLEY on track 318° to cross BAXBE at or above 12000, then on track 318° to cross APLLE at or above 9000 and at 240K, then on track 318° to cross GGUGL between 7000 and 8000, then on track 318° to cross GAARY at or above 5800, then on track 318° to cross EDMND at or above 5600, then on track 318° to cross JESEN at or above 4100, then on track 306° to cross HITIR at 4000, then on track 306° to ZORSA, then on track 306°. Expect RADAR vectors to final approach course.

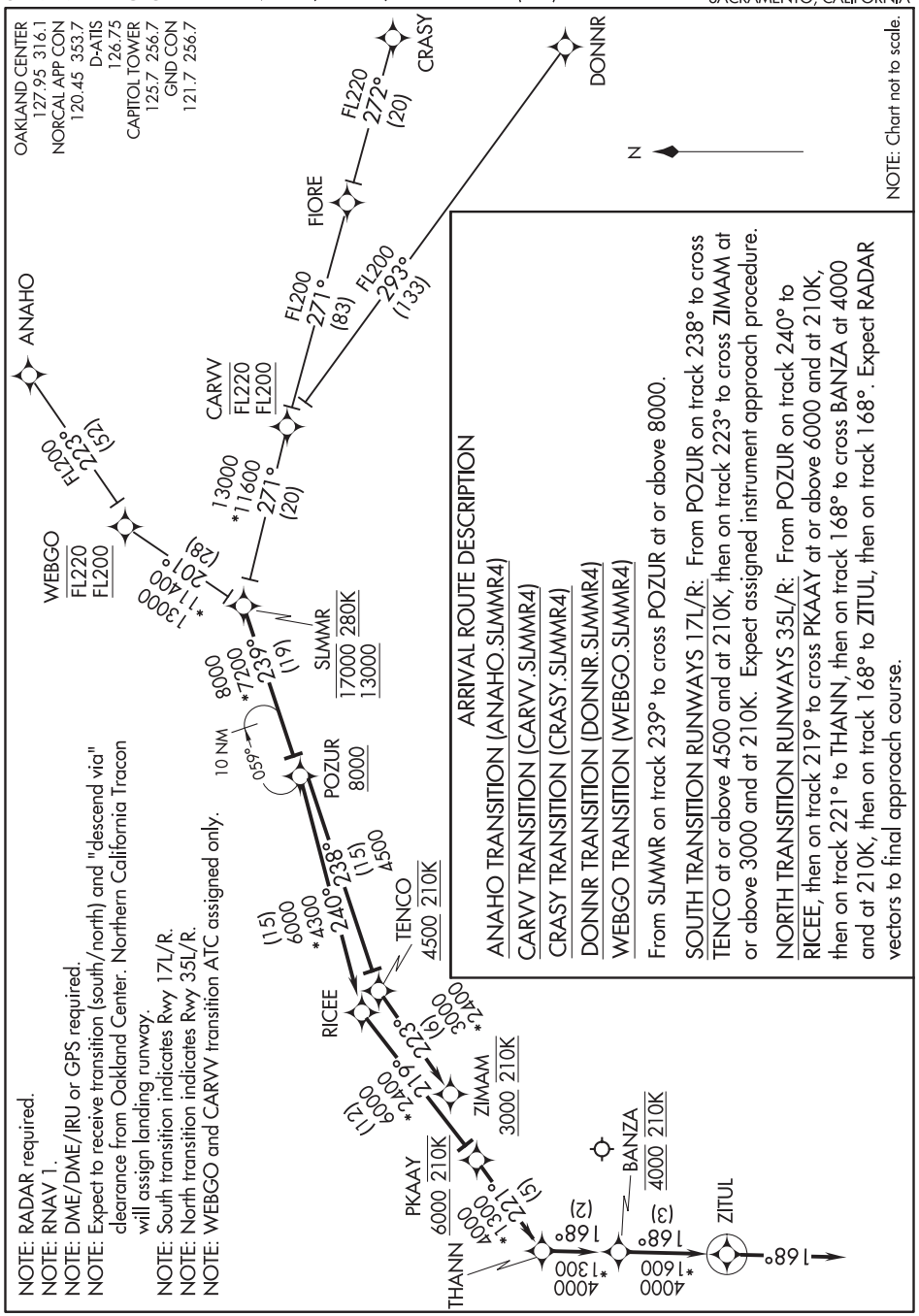

OAKLAND CENTER 133.7 285.4
NORCAL APP CON 124.525 348.675
D-ATIS 133.775
OAKLAND TOWER 127.2 256.9
GND CON 121.75
N
261°
KOAK Ldg Rwy 12
HIRMO 4000
261° (5)
WHYEE 5000
261° (4)
LOHGN 6000 230K
279° (11)
BRRZI 7000
303° (13)
FOOTO 8000 7000
322° (12)
WNDML 10000 9000 240K
322° (12)
EMAAA 14000 11000
322° (12)
SKIZM FL190 15000
11000 *6000 304° (29)
124°
11 NM
MYJAW FL220 280K
11000 *5500 304° (19)
EMZOH FL280 280K
11000 *6200 302° (52)
RGOOD
NOTE: Chart not to scale.
NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Expect to receive "descend via" clearance from Oakland Center. Northern California TRACON will assign landing runway.
ARRIVAL ROUTE DESCRIPTION
MYJAW TRANSITION (MYJAW.SKIZM2)
RGOOD TRANSITION (RGOOD.SKIZM2)
LANDING RUNWAY 12: From SKIZM on track 322° to cross EMAAA between 11000 and 14000, then on track 322° to cross WNDML between 9000 and 10000 and at 240K, then on track 322° to cross FOOTO between 7000 and 8000, then on track 303° to cross BRRZI at 7000, then on track 279° to cross LOHGN at 6000 and at 230K, then on track 261° to cross WHYEE at or above 5000, then on track 261° to cross HIRMO at 4000, then on track 261°. Expect RADAR vectors to final approach course.

(SLMMR.SLMMR4) 20142

SLMMR FOUR ARRIVAL (RNAV)

AL-5490 (FAA)

SACRAMENTO INTL (SMF)
SACRAMENTO, CALIFORNIA



SW-2, 25 FEB 2021 to 22 APR 2021

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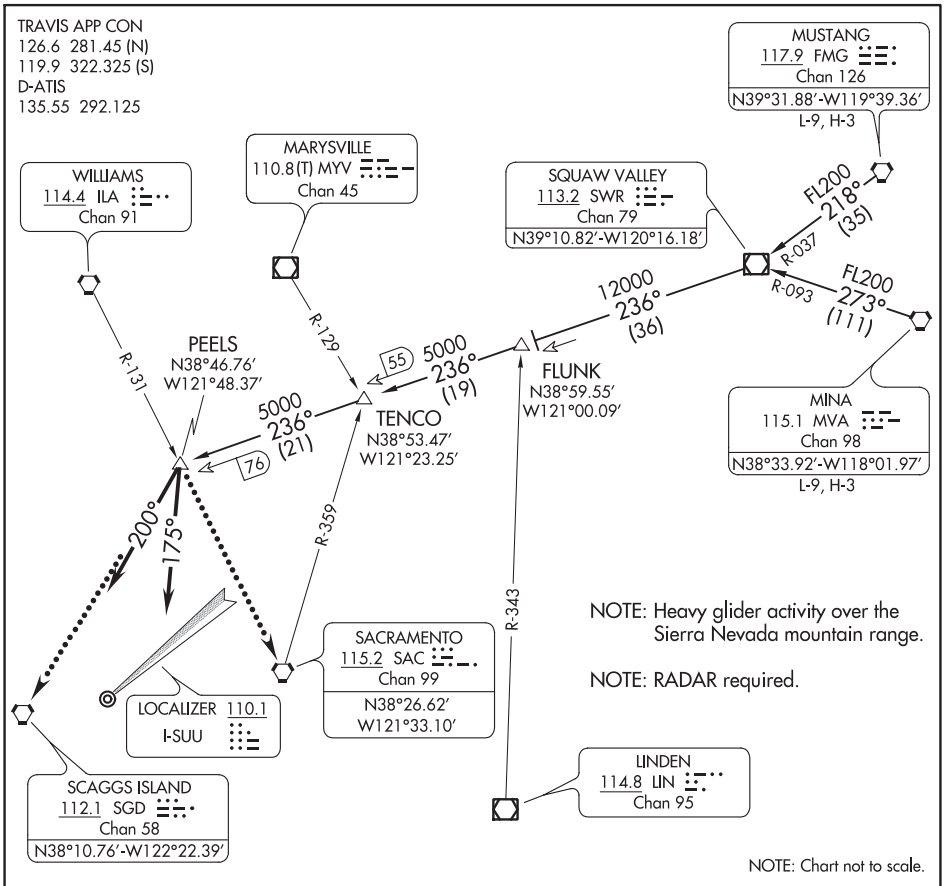
SLMMR FOUR ARRIVAL (RNAV)

(SLMMR.SLMMR4) 21MAY20

SACRAMENTO, CALIFORNIA
SACRAMENTO INTL (SMF)



ARRIVAL ROUTE DESCRIPTION

MINA TRANSITION (MVA.SWR3): From over MVA VORTAC on MVA R-273 and SWR R-093 to SWR VOR/DME then on SWR R-236 to PEELS INT. Thence. . . .

MUSTANG TRANSITION (FMG.SWR3): From over FMG VORTAC on FMG R-218 and SWR R-037 to SWR VOR/DME then on SWR R-236 to PEELS INT. Thence. . . .

LANDING RUNWAYS 3L/R
. . . .Depart PEELS INT heading 200° expect RADAR vectors to final approach course.
LANDING RUNWAYS 21L/R
. . . .Depart PEELS INT heading 175° expect RADAR vectors to final approach course.

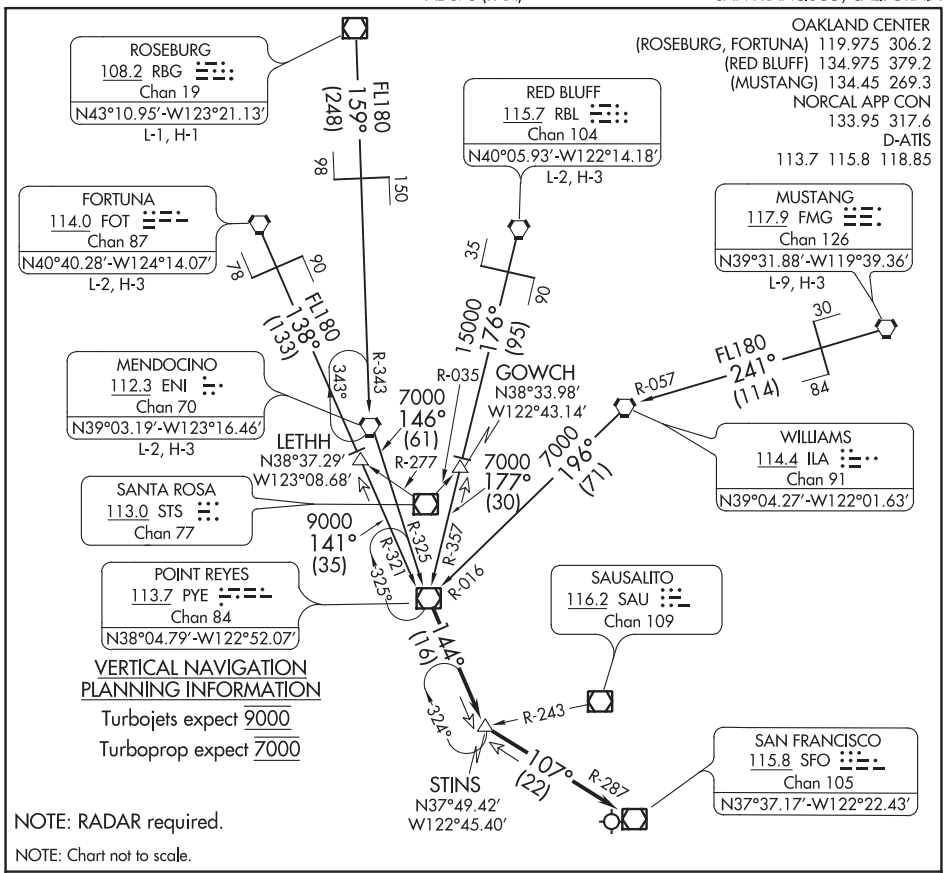
LOST COMMUNICATIONS
RUNWAY 3L: From over PEELS INT proceed direct SGD VORTAC. Expect ILS or LOC RWY 3L.
RUNWAY 21L: From over PEELS INT proceed direct SAC VORTAC. Expect ILS or LOC RWY 21L.

(PYE.STINS3) 17173

STINS THREE ARRIVAL

AL-375 (FAA)

SAN FRANCISCO INTL (SFO)
SAN FRANCISCO, CALIFORNIA



ARRIVAL ROUTE DESCRIPTION

FORTUNA TRANSITION (FOT.STINS3): From over FOT VORTAC on FOT R-138 to LETHH INT, then on PYE R-321 to PYE VOR/DME. Thence. . . .

MENDOCINO TRANSITION (ENI.STINS3): From over ENI VORTAC on ENI R-146 and PYE R-325 to PYE VOR/DME. Thence. . . .

MUSTANG TRANSITION (FMG.STINS3): From over FMG VORTAC on FMG R-241 and ILA R-057 to ILA VORTAC, then on ILA R-196 and PYE R-016 to PYE VOR/DME. Thence. . . .

RED BLUFF TRANSITION (RBL.STINS3): From over RBL VORTAC on RBL R-176 to GOWCH INT, then on PYE R-357 to PYE VOR/DME. Thence. . . .

ROSEBURG TRANSITION (RBG.STINS3): From over RBG VOR/DME on RBG R-159 and ENI R-343 to ENI VORTAC, then on ENI R-146 and PYE R-325 to PYE VOR/DME. Thence. . . .

. . . .From over PYE VOR/DME on PYE R-144 to STINS INT, thence on SFO R-287 to SFO VOR/DME. Expect RADAR vectors to final approach course.

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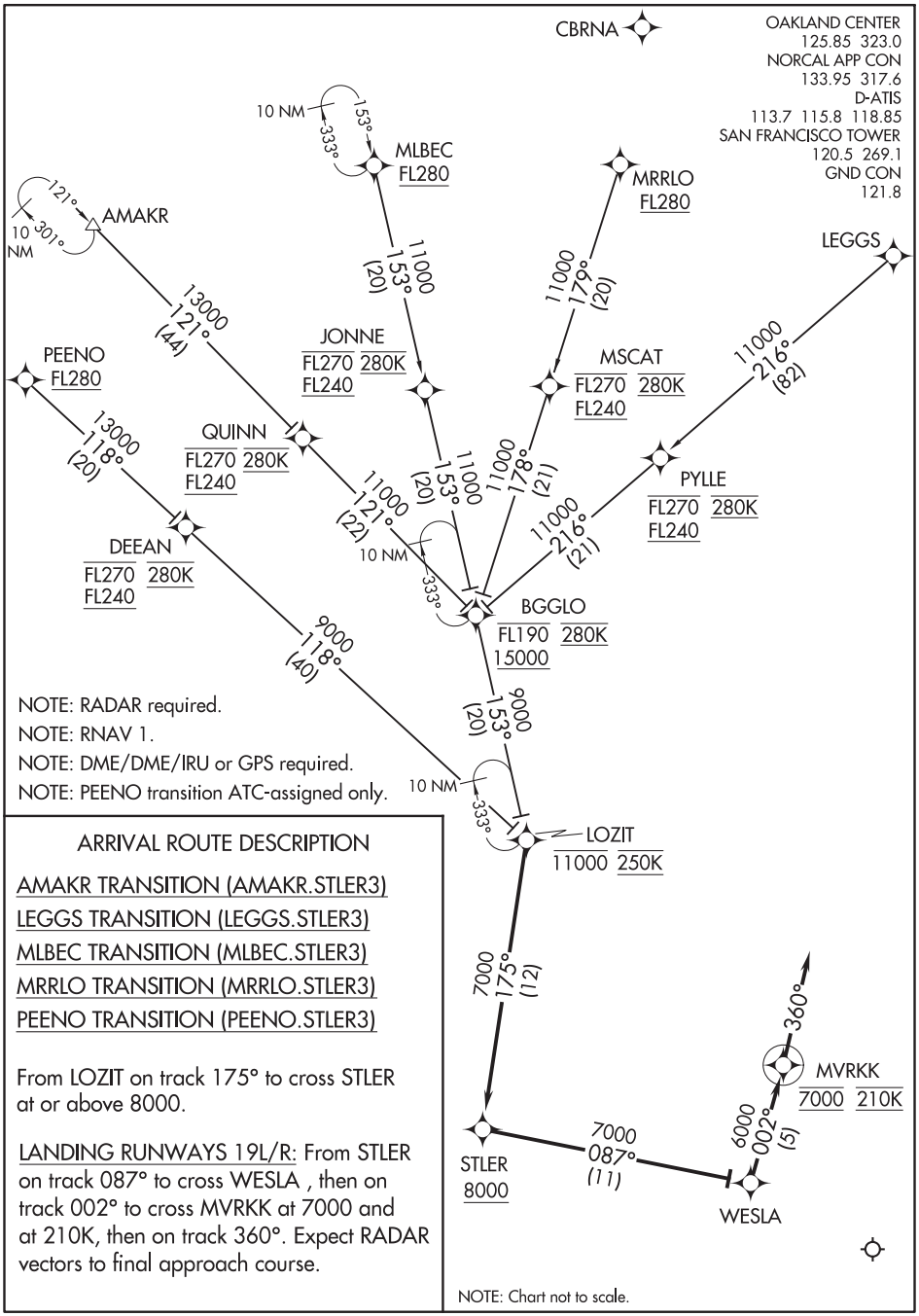


NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: PEENO transition ATC-assigned only.

ARRIVAL ROUTE DESCRIPTION

AMAKR TRANSITION (AMAKR.STLER3)
LEGGS TRANSITION (LEGGS.STLER3)
MLBEC TRANSITION (MLBEC.STLER3)
MRRLO TRANSITION (MRRLO.STLER3)
PEENO TRANSITION (PEENO.STLER3)

From LOZIT on track 175° to cross STLER at or above 8000.

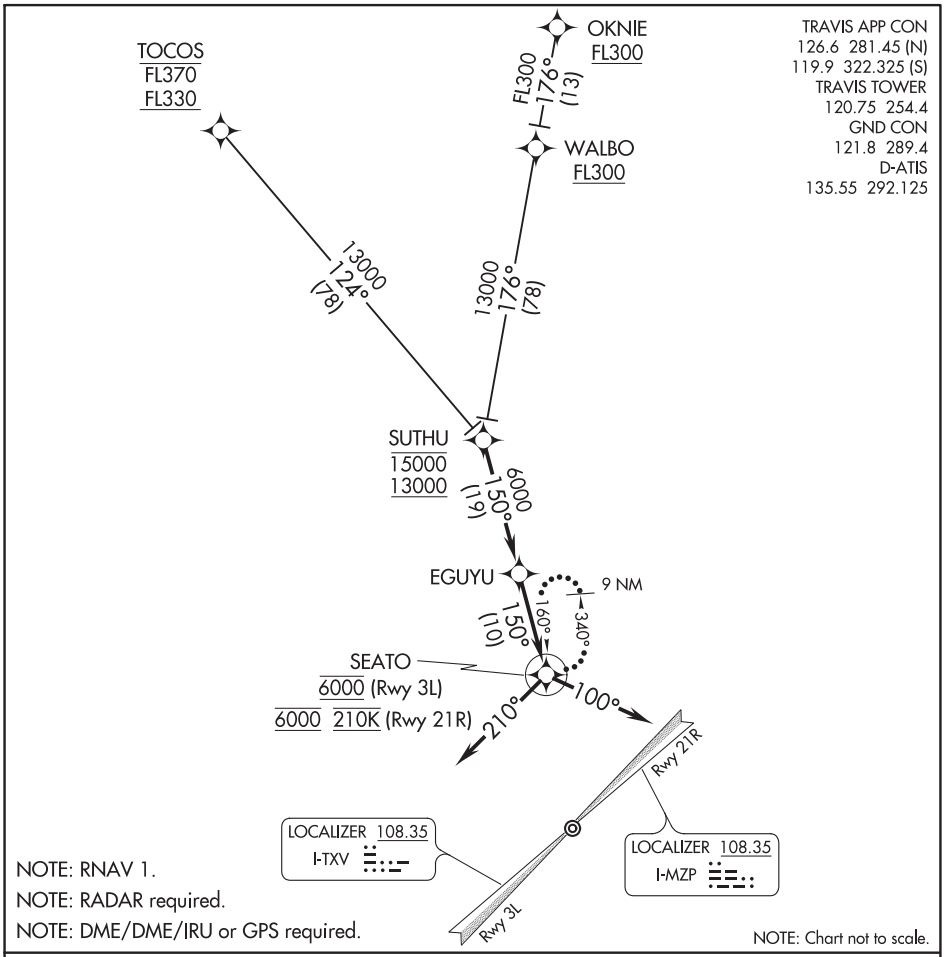
LANDING RUNWAYS 19L/R: From STLER on track 087° to cross WESLA , then on track 002° to cross MVRKK at 7000 and at 210K, then on track 360°. Expect RADAR vectors to final approach course.

(SUTHU.SUTHU1) 17117

SUTHU ONE ARRIVAL (RNAV)

AL-488 (FAA)

TRAVIS AFB (KSUU)
FAIRFIELD, CALIFORNIA



ARRIVAL ROUTE DESCRIPTION

OKNIE TRANSITION (OKNIE.SUTHU1)

TOCOS TRANSITION (TOCOS.SUTHU1)

From SUTHU on track 150° to EGUYU, thence. . . .

. . . .LANDING RUNWAY 3L: From EGUYU on track 150° to cross SEATO at 6000, then on heading 210°, expect RADAR vectors to final approach course.

. . . .LANDING RUNWAY 21R: From EGUYU on track 150° to cross SEATO at 6000, at 210K, then on heading 100°, expect RADAR vectors to final approach course.

LOST COMMUNICATIONS: From SEATO, execute ILS or LOC RWY 21R or TACAN RWY 3L approach. If unable hold at SEATO as depicted, maintain 6000.

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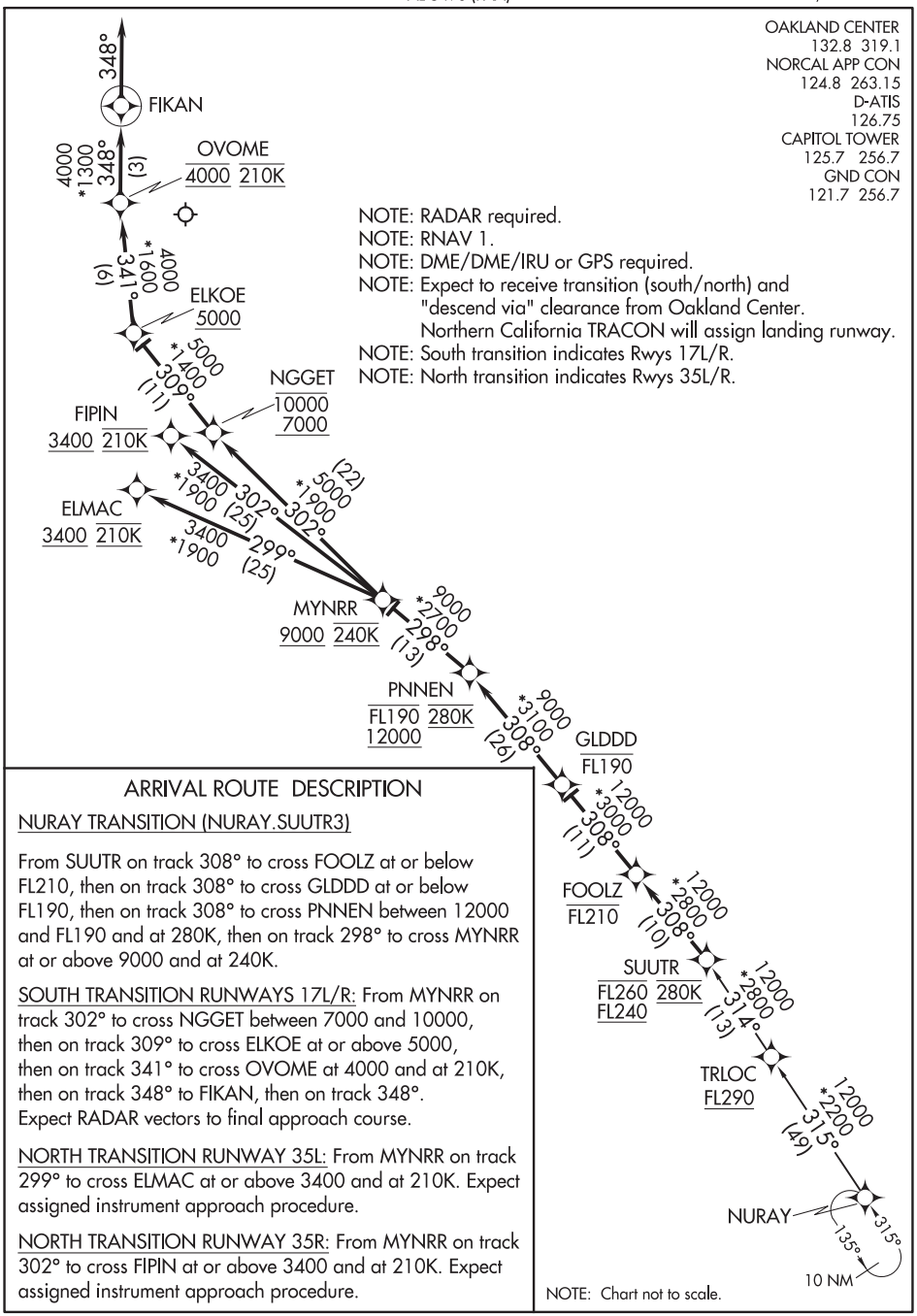
SUUTR THREE ARRIVAL (RNAV)

AL-5490 (FAA)

SACRAMENTO INTL (SMF)
SACRAMENTO, CALIFORNIA



ARRIVAL ROUTE DESCRIPTION

NURAY TRANSITION (NURAY.SUUTR3)

From SUUTR on track 308° to cross FOOLZ at or below FL210, then on track 308° to cross GLDDD at or below FL190, then on track 308° to cross PNNEN between 12000 and FL190 and at 280K, then on track 298° to cross MYNRR at or above 9000 and at 240K.

SOUTH TRANSITION RUNWAYS 17L/R: From MYNRR on track 302° to cross NGGET between 7000 and 10000, then on track 309° to cross ELKOE at or above 5000, then on track 341° to cross OVOME at 4000 and at 210K, then on track 348° to FIKAN, then on track 348°. Expect RADAR vectors to final approach course.

NORTH TRANSITION RUNWAY 35L: From MYNRR on track 299° to cross ELMAC at or above 3400 and at 210K. Expect assigned instrument approach procedure.

NORTH TRANSITION RUNWAY 35R: From MYNRR on track 302° to cross FIPIN at or above 3400 and at 210K. Expect assigned instrument approach procedure.

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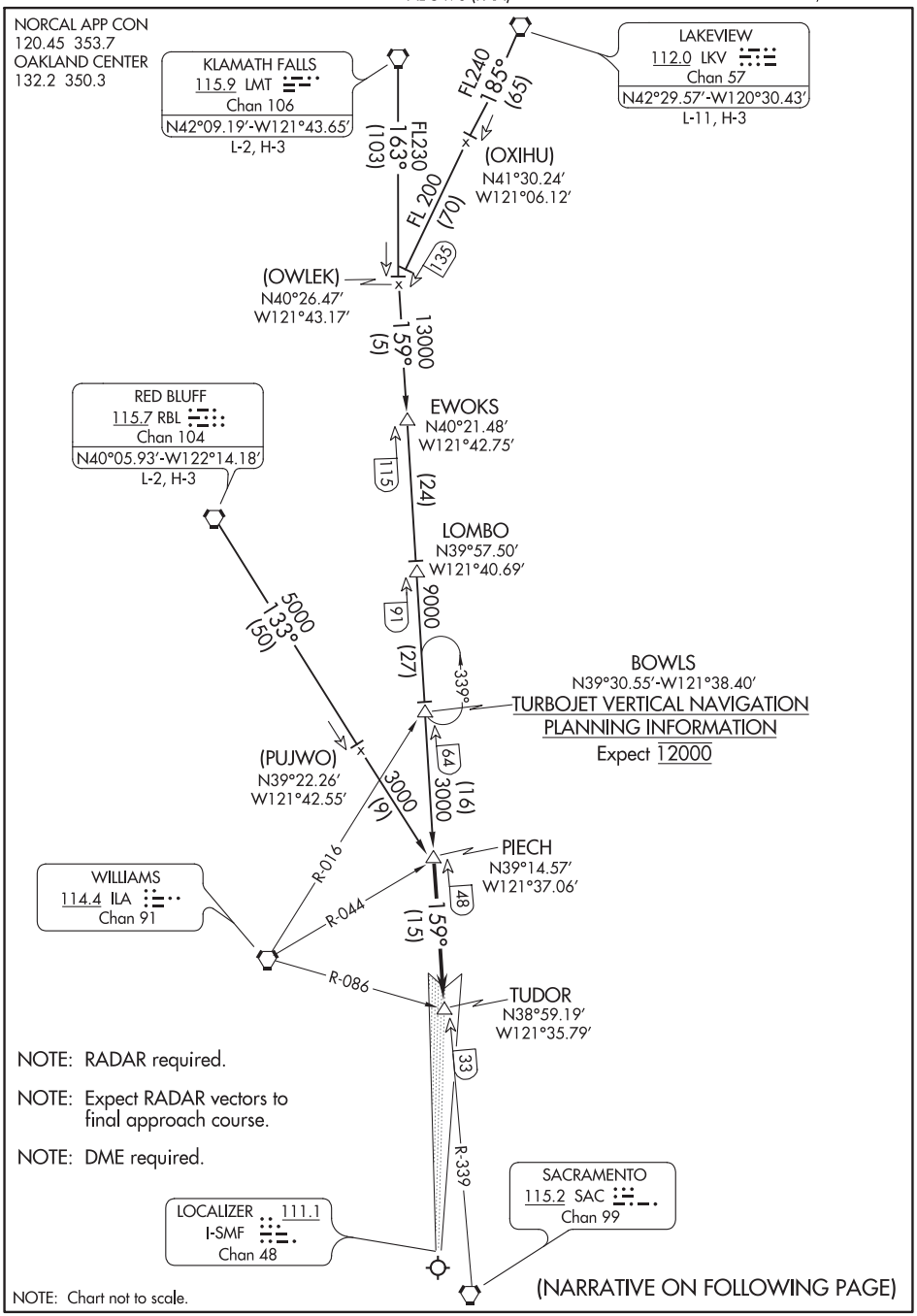
SUUTR THREE ARRIVAL (RNAV)
SACRAMENTO, CALIFORNIA
SACRAMENTO INTL (SMF)

(TUDOR.TUDOR2) 17173

TUDOR TWO ARRIVAL

AL-5490 (FAA)

SACRAMENTO INTL (SMF)
SACRAMENTO, CALIFORNIA



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TUDOR TWO ARRIVAL

(TUDOR.TUDOR2) 09FEB12

SACRAMENTO, CALIFORNIA
SACRAMENTO INTL (SMF)

ARRIVAL ROUTE DESCRIPTION

KLAMATH FALLS TRANSITION (LMT.TUDOR2): From over LMT VORTAC via LMT R-163 and SAC R-339 to PIECH INT. Thence . . . .

LAKEVIEW TRANSITION (LKV.TUDOR2): From over LKV VORTAC via LKV R-185 and SAC R-339 to PIECH INT. Thence . . . .

RED BLUFF TRANSITION (RBL.TUDOR2): From over RBL VORTAC via RBL R-133 to PIECH INT. Thence . . . .

. . . . From PIECH INT via SAC R-339 to TUDOR INT/DME. Expect RADAR vectors.

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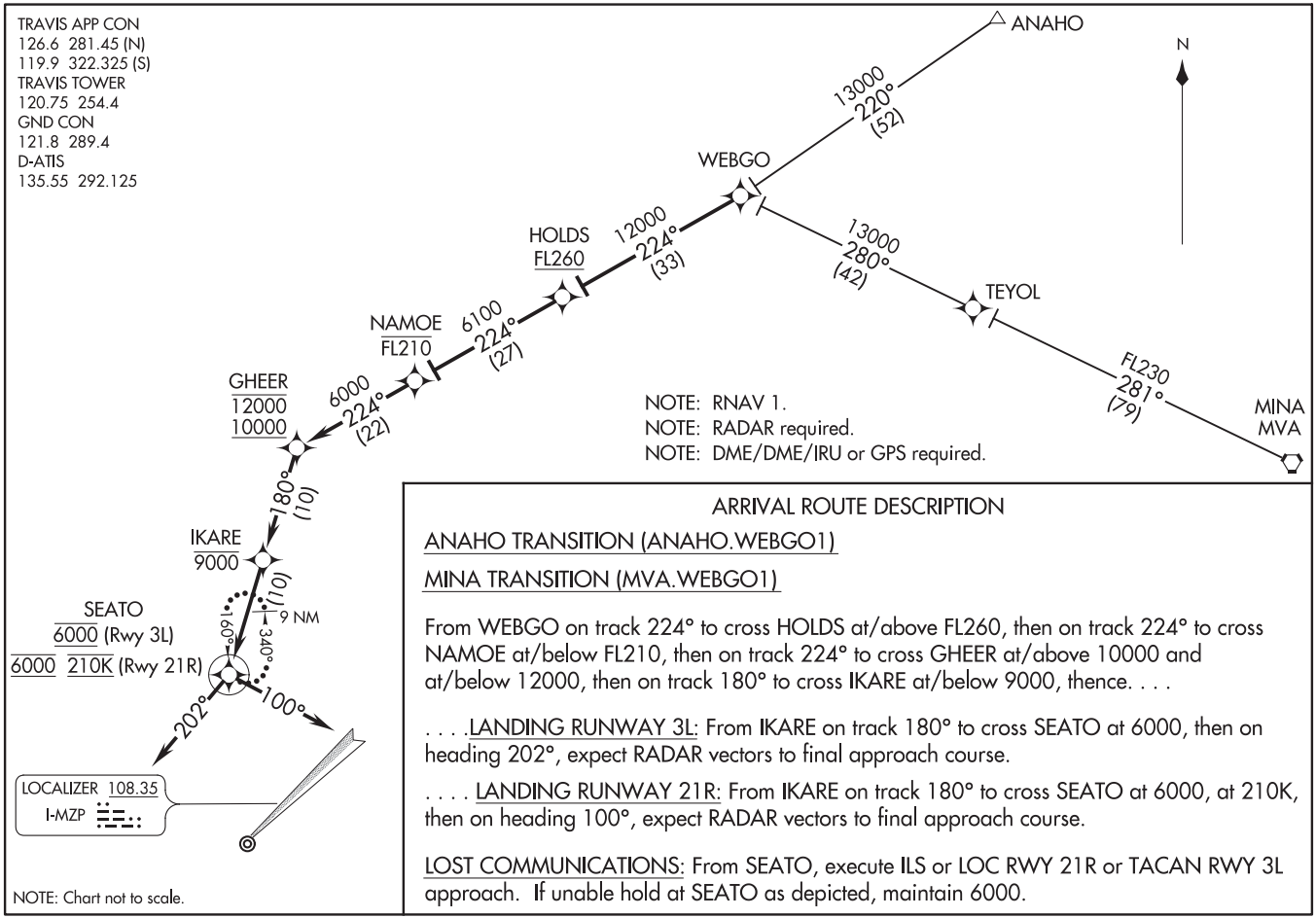
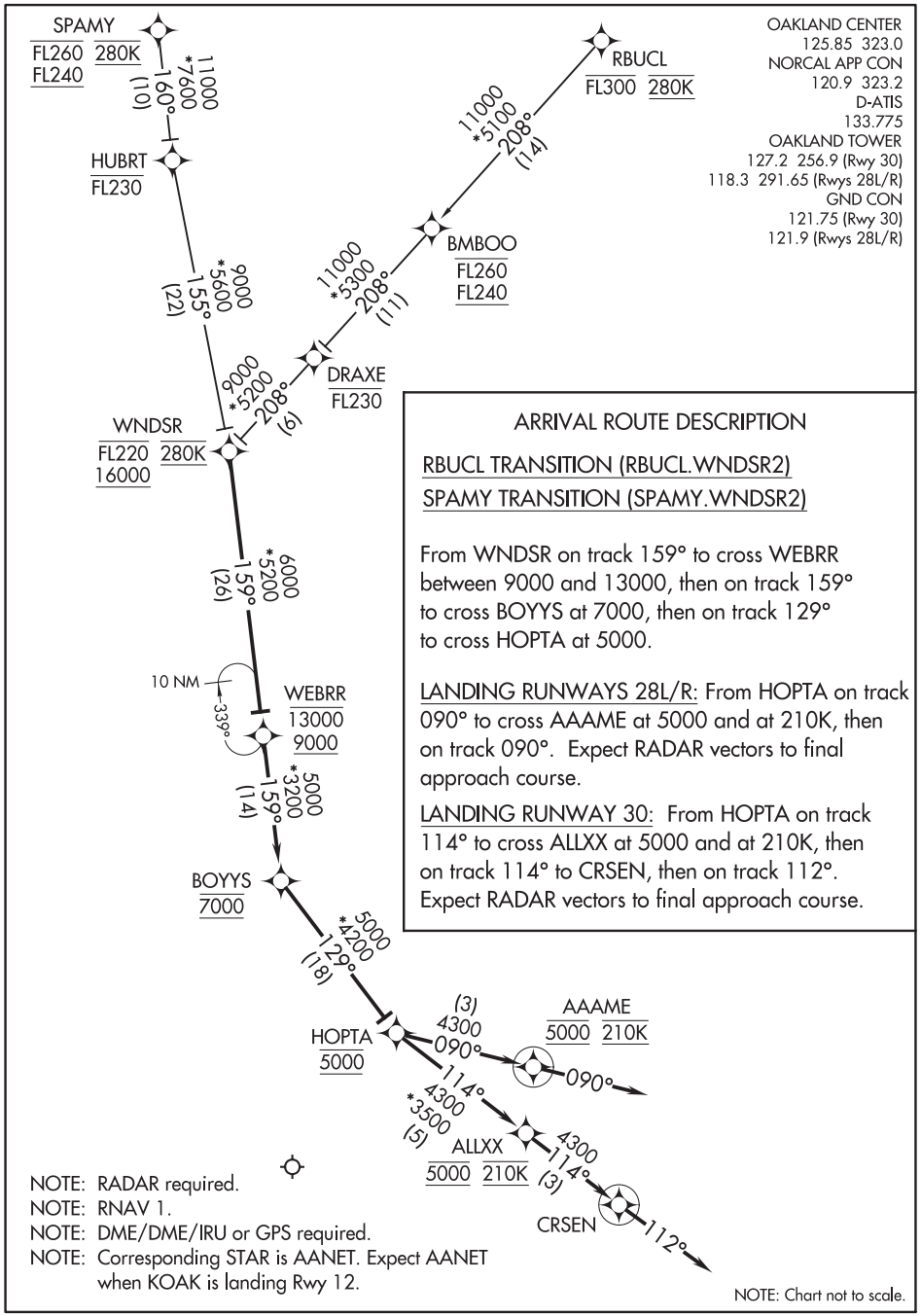

TRAVIS APP CON
126.6 281.45 (N)
119.9 322.325 (S)
TRAVIS TOWER
120.75 254.4
GND CON
121.8 289.4
D-ATIS
135.55 292.125
ANAHO
N
13000
220°
(52)
WEBGO
13000
280°
(42)
TEYOL
FL230
281°
(79)
MINA
MVA
12000
224°
(33)
HOLDS
FL260
6100
224°
(27)
NAMOE
FL210
6000
224°
(22)
GHEER
12000
10000
180°
(10)
IKARE
9000
(10)
9 NM
160°
340°
SEATO
6000 (Rwy 3L)
6000 210K (Rwy 21R)
202°
100°
LOCALIZER 108.35
I-MZP
NOTE: Chart not to scale.
NOTE: RNAV 1.
NOTE: RADAR required.
NOTE: DME/DME/IRU or GPS required.
ARRIVAL ROUTE DESCRIPTION
ANAHO TRANSITION (ANAHO.WEBGO1)
MINA TRANSITION (MVA.WEBGO1)
From WEBGO on track 224° to cross HOLDS at/above FL260, then on track 224° to cross NAMOE at/below FL210, then on track 224° to cross GHEER at/above 10000 and at/below 12000, then on track 180° to cross IKARE at/below 9000, thence. . . .
. . . .LANDING RUNWAY 3L: From IKARE on track 180° to cross SEATO at 6000, then on heading 202°, expect RADAR vectors to final approach course.
. . . . LANDING RUNWAY 21R: From IKARE on track 180° to cross SEATO at 6000, at 210K, then on heading 100°, expect RADAR vectors to final approach course.
LOST COMMUNICATIONS: From SEATO, execute ILS or LOC RWY 21R or TACAN RWY 3L approach. If unable hold at SEATO as depicted, maintain 6000.

WNDSR TWO ARRIVAL (RNAV)

AL-294 (FAA)

OAKLAND CENTER
125.85 323.0
NORCAL APP CON
120.9 323.2
D-ATIS
133.775
OAKLAND TOWER
127.2 256.9 (Rwy 30)
118.3 291.65 (Rwys 28L/R)
GND CON
121.75 (Rwy 30)
121.9 (Rwys 28L/R)



ARRIVAL ROUTE DESCRIPTION

RBUCL TRANSITION (RBUCL.WNDSR2)
SPAMY TRANSITION (SPAMY.WNDSR2)

From WNDSR on track 159° to cross WEBRR between 9000 and 13000, then on track 159° to cross BOYYS at 7000, then on track 129° to cross HOPTA at 5000.

LANDING RUNWAYS 28L/R: From HOPTA on track 090° to cross AAAME at 5000 and at 210K, then on track 090°. Expect RADAR vectors to final approach course.

LANDING RUNWAY 30: From HOPTA on track 114° to cross ALLXX at 5000 and at 210K, then on track 114° to CRSEN, then on track 112°. Expect RADAR vectors to final approach course.

NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Corresponding STAR is AANET. Expect AANET when KOAK is landing Rwy 12.

NOTE: Chart not to scale.

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SW-2, 25 FEB 2021 to 22 APR 2021

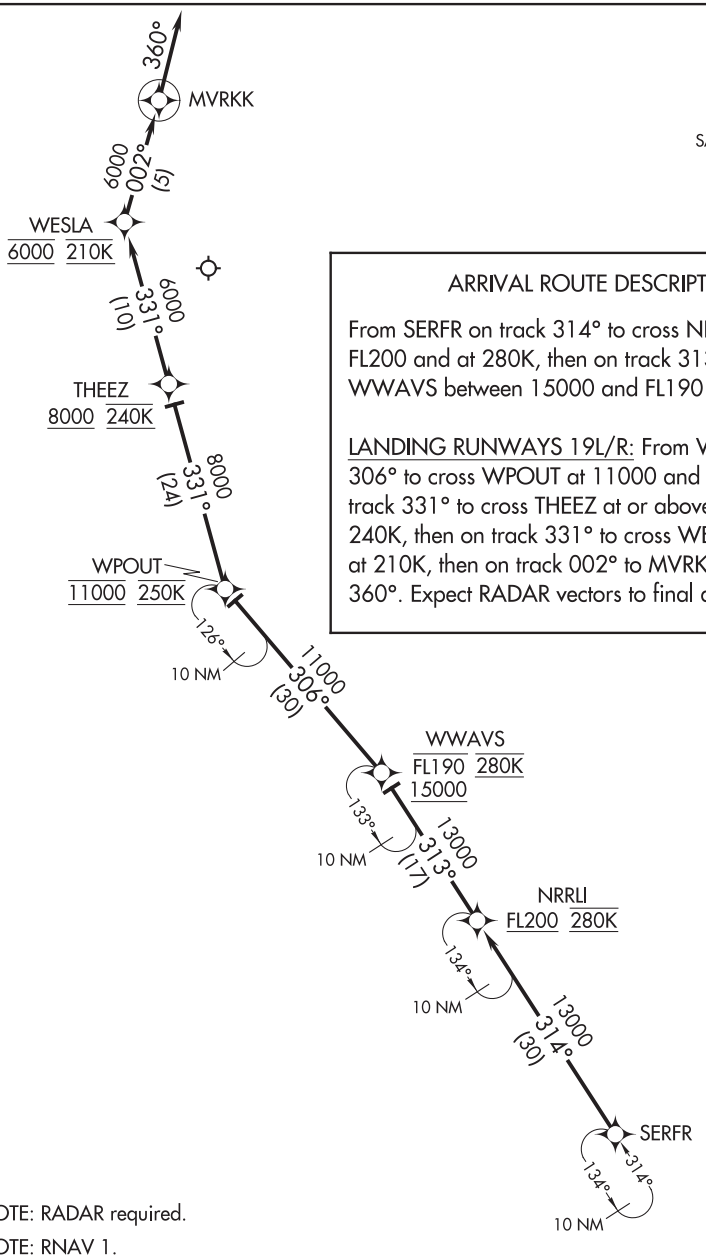
(SERFR.WWAVS1) 17173

WWAVS ONE ARRIVAL (RNAV)

AL-375 (FAA)

SAN FRANCISCO INTL (SFO)
SAN FRANCISCO, CALIFORNIA

D-ATIS
113.7 115.8 118.85
OAKLAND CENTER
134.55 290.5
NORCAL APP CON
128.575 254.25
SAN FRANCISCO TOWER
120.5 269.1
GND CON
121.8



ARRIVAL ROUTE DESCRIPTION

From SERFR on track 314° to cross NRRLI at or above FL200 and at 280K, then on track 313° to cross WWAVS between 15000 and FL190 and at 280K.

LANDING RUNWAYS 19L/R: From WWAVS on track 306° to cross WPOUT at 11000 and at 250K, then on track 331° to cross THEEZ at or above 8000 and at 240K, then on track 331° to cross WESLA at 6000 and at 210K, then on track 002° to MVRKK, then on track 360°. Expect RADAR vectors to final approach course.

NOTE: RADAR required.

NOTE: RNAV 1.

NOTE: DME/DME/IRU or GPS required.

NOTE: Chart not to scale.

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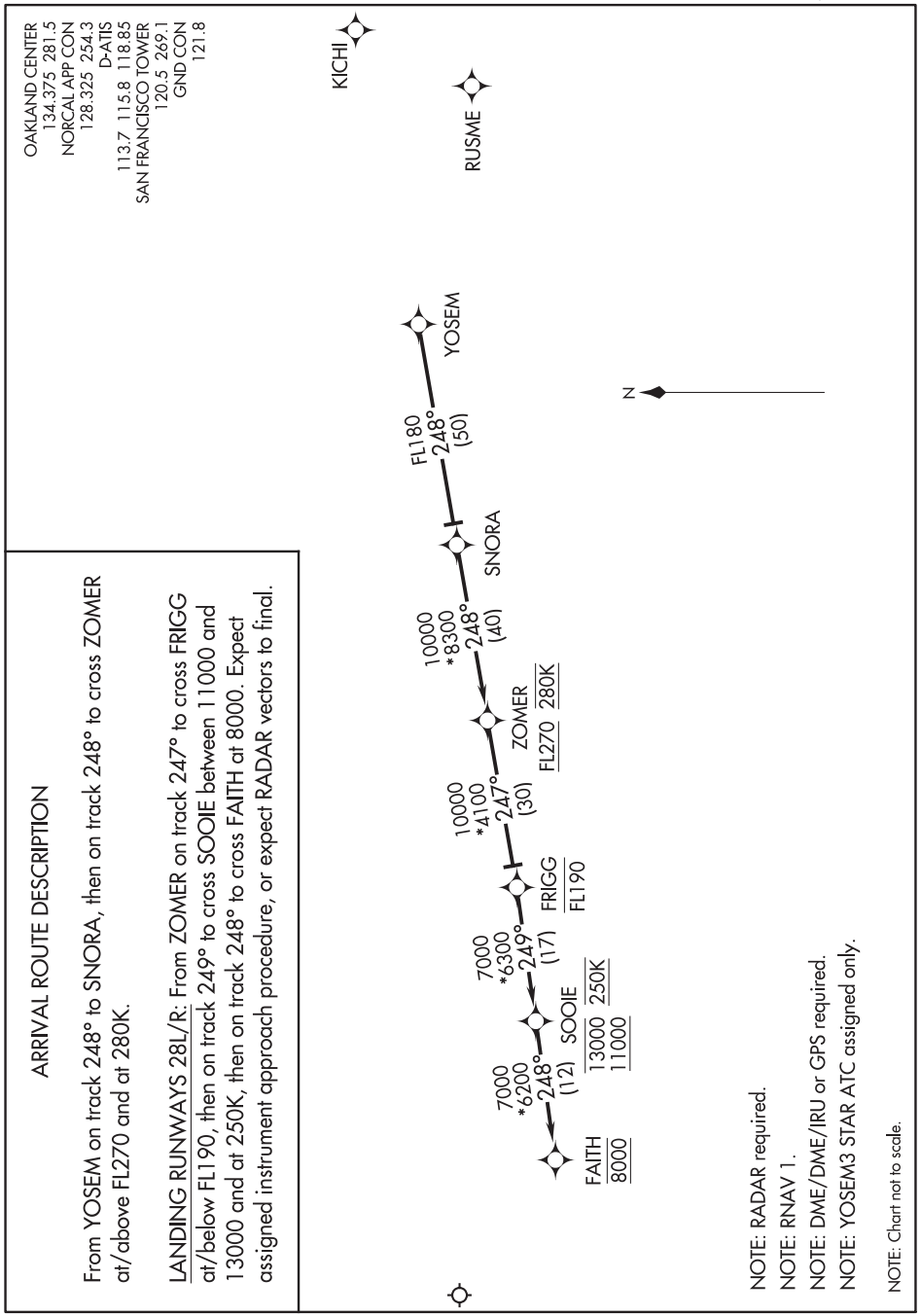

ARRIVAL ROUTE DESCRIPTION

From YOSEM on track 248° to SNORA, then on track 248° to cross ZOMER at/above FL270 and at 280K.

LANDING RUNWAYS 28L/R: From ZOMER on track 247° to cross FRIGG at/below FL190, then on track 249° to cross SOOIE between 11000 and 13000 and at 250K, then on track 248° to cross FAITH at 8000. Expect assigned instrument approach procedure, or expect RADAR vectors to final.

INTENTIONALLY

LEFT

BLANK

SW-2, 25 FEB 2021 to 22 APR 2021

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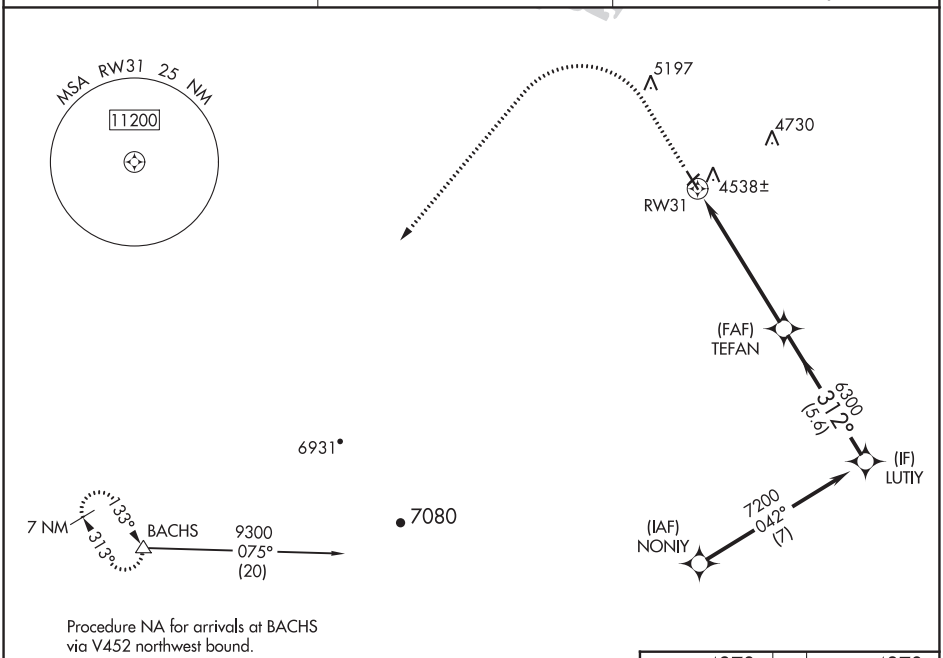
WAAS CH 70620 W31A	APP CRS 312°	Rwy ldg 4228 TDZE 4378 Apt Elev 4378

RNAV (GPS) RWY 31
ALTURAS MUNI (AAT)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -23°C (-9°F) or above 54°C (130°F). Rwy 31 helicopter visibility reduction below 1 SM NA. DME/DME RNP- 0.3 NA. Procedure NA at night.

MISSED APPROACH: Climb to 5400, then climbing left turn to 9000 direct BACHS and hold.

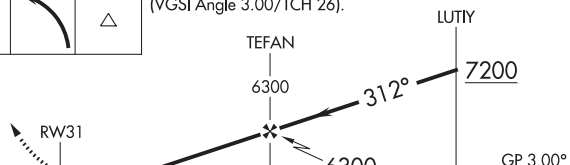
ASOS	SEATTLE CENTER	UNICOM
124.175	127.6 346.35	122.8 (CTAF) L



Procedure NA for arrivals at BACHS via V452 northwest bound.

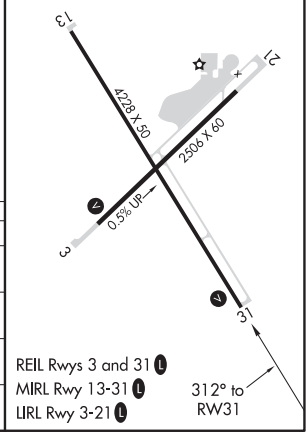
5400	9000	BACHS

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 26).



CATEGORY	A	B	C	D
LPV DA	4830-1⅜ 452 (500-1⅜)		NA	
LNAV/VNAV DA	4880-1⅜ 502 (600-1⅜)		NA	
LNAV MDA	5120-1 742 (800-1)	5120-1¼ 742 (800-1¼)	NA	
C CIRCLING	5120-1 742 (800-1)	5200-1¼ 822 (900-1¼)	NA	

ELEV 4378 TDZE 4378



REIL Rwys 3 and 31 L
MIRL Rwy 13-31 L
LIRL Rwy 3-21 L

SW-2, 25 FEB 2021 to 22 APR 2021
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(BACHS2.BACHS) 16091

BACHS TWO DEPARTURE (OBSTACLE) (RNAV)

SL-6436 (FAA)

ALTURAS MUNI (AAT)
ALTURAS, CALIFORNIA

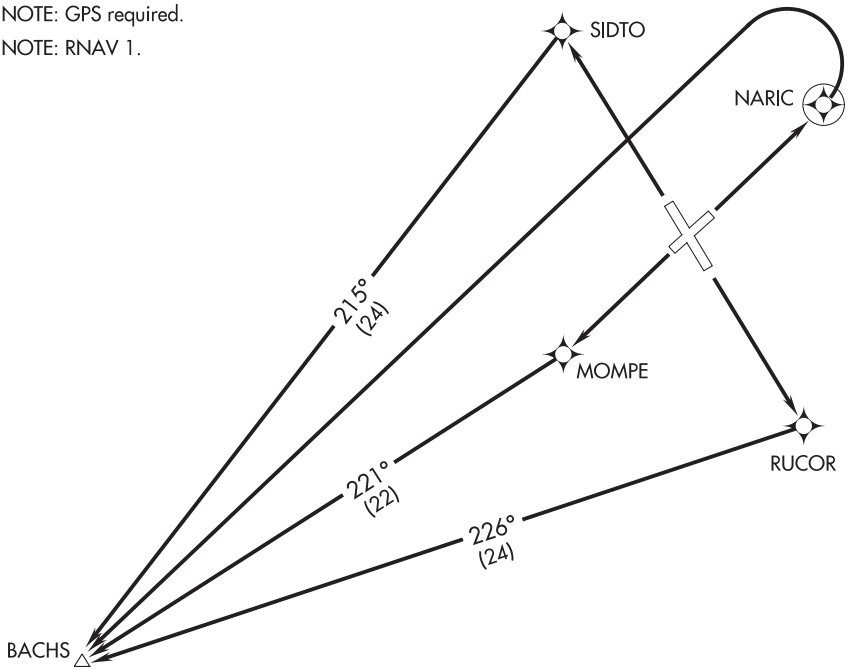
SEATTLE CENTER
127.6 346.35
CTAF
122.8

TAKEOFF MINIMUMS

Rwy 3: Standard with minimum climb of 340′ per NM to 5900.
Rwy 13: Standard with minimum climb of 230′ per NM to 8200.
Rwy 21: Standard with minimum climb of 365′ per NM to 6000.
Rwy 31: Standard with minimum climb of 450′ per NM to 5800.

NOTE: GPS required.

NOTE: RNAV 1.



TAKEOFF OBSTACLE NOTES

Rwy 3: Trees, buildings, poles and a road with vehicles beginning 1′ from DER, right and left of centerline, up to 100′ AGL/4659′ MSL.
Rwy 21: Trees and road with vehicles beginning 1′ from DER, right and left of centerline, to 100′ AGL/4469′ MSL.
Rwy 13: Trees and a road with vehicles beginning 1′ from DER, right and left of centerline, up to 100′ AGL/4519′ MSL.
Rwy 31: Trees and road with vehicles beginning 1′ from DER, right and left of centerline, up to 100′ AGL/4469′ MSL.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 3: Climb to 9000 direct NARIC, then climbing left turn direct BACHS.

TAKEOFF RUNWAY 13: Climb to 9000 direct RUCOR, turn right via 226° track to BACHS.

TAKEOFF RUNWAY 21: Climb to 9000 direct MOMPE, then via 221° track to BACHS.

TAKEOFF RUNWAY 31: Climb to 9000 direct SIDTO, turn left via 215° track to BACHS.

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CHOIR THREE DEPARTURE (RNAV)

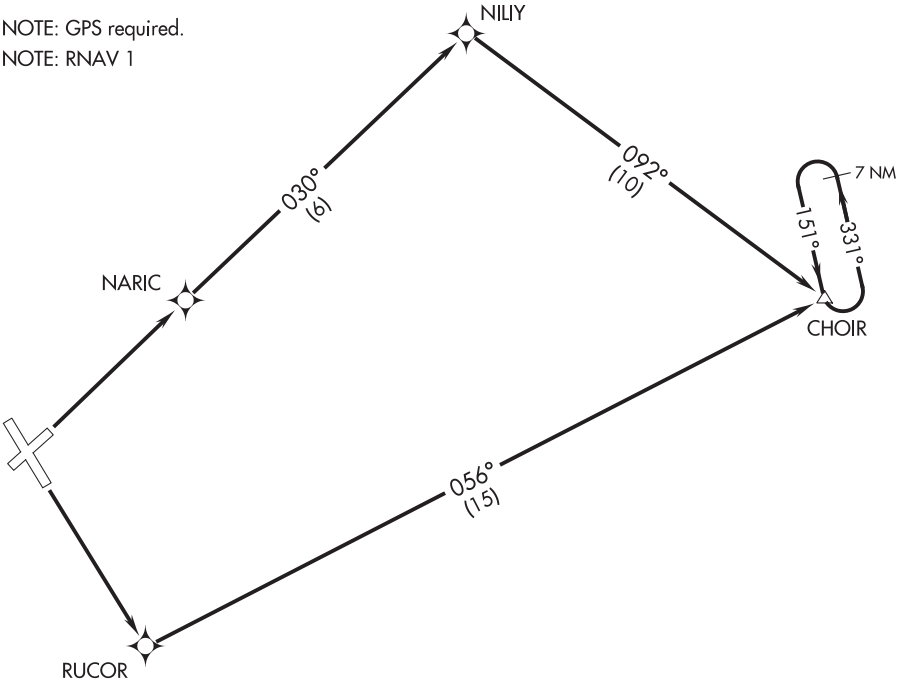
TOP ALTITUDE: ASSIGNED BY ATC

SEATTLE CENTER
127.6 346.35
CTAF 122.8

TAKEOFF MINIMUMS
Rwy 3: Standard with minimum climb of 367′ per NM to 11000.
Rwy 13: Standard with minimum climb of 389′ per NM to 11000.
Rwys 21 and 31: NA - ATC.

NOTE: GPS required.

NOTE: RNAV 1



TAKEOFF OBSTACLE NOTES
Rwy 3: Trees, buildings, poles and a road with vehicles beginning 1′ from DER, right and left of centerline, up to 100′ AGL/4659′ MSL.
Rwy 13: Trees and road with vehicles beginning 1′ from DER, right and left of centerline, up to 100′ AGL/4519′ MSL.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 3: Climb to 11000 direct NARIC and via 030° track to NILIY and via 092° track to CHOIR, thence....

TAKEOFF RUNWAY 13: Climb to 11000 direct RUCOR and via 056° track to CHOIR, thence....

....climb in holding, (if required) before proceeding on course.

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20030

HERLONG, CALIFORNIA

RNAV (GPS) RWY 27

APCH CRS	Rwy ldg	10,000
266°	TDZE	4012
	Arpt Elev	4012

AL-6624 (USA)

AMEDEE AAF (KAHC)

T NA * Circling NA for CAT CD north of Rwy 9-27.

MISSED APPROACH: Climbing left turn to 10,000 direct JEBED and track 010° to IYELE and hold, continue climb-in-hold to 10,000. When authorized by ATC, climb-in-hold to 14,000.

AWOS-3	OAKLAND CENTER	CTAF
118.825	128.8 285.5	126.2 241.9

When local altimeter setting not received, use Susanville altimeter setting.

VDP NA when using Susanville altimeter setting.

Procedure not authorized at night.

RNP APCH

WIDUT 10,000 130° (12.8)

7 NM

010° 190°

(IAF) IYELE 10,000

8000 190° (7.8)

(IF) JEBED

266° (4.6)

COKGA 7000

YESUY 6500 (1.9)

(FAF) WEBMA 5900 (2)

RW27

8000 342° (6.2)

(IAF) SEDTO 11,000

11,000 335° (36.4)

MUSTANG FMG 7645

RENO MOA, NV

MSA RW27 25 NM 10,000

NOT FOR CIVIL USE

6221 7000 6000 5000 6720 4895 5571 5352 4044 4064 4132 4509 6077 4126 4231

SW-2, 25 FEB 2021 to 22 APR 2021

10,000 | JEBED | tr 010° | IYELE

VGSI and descent angles not coincident (VGSI Angle 3.00/TCH 87).

JEBED 8000

266° COKGA 7000

YESUY 6500

WEBMA 5900

RW27 1.4 NM to RW27

3.10° TCH 50

5.6 NM

ELEV 4012 TDZE 4012

4022 4041 4041 4041 4055 4065 4026

10,000 x 150

266° to RW27

CATEGORY	A	B	C	D
LNAV MDA	4540-1 528 (600-1)		4540-1½ 528 (600-1½)	
C CIRCLING	4540-1 528 (600-1)	4680-1 668 (700-1)	4680-1¾ 668 (700-1¾)	4680-2 668 (700-2)
SUSANVILLE ALTIMETER SETTING MINIMUMS				
LNAV MDA	4620-1 608 (700-1)		4620-2 608 (700-2)	
C CIRCLING	4620-1 608 (700-1)	4760-1 748 (800-1)	4760-2¼ 748 (800-2¼)	4760-2½ 748 (800-2½)

LOC/DME I-ACV 109.5 Chan 32	APP CRS 316°	Rwy ldg 5846 TDZE 221 Apt Elev 222

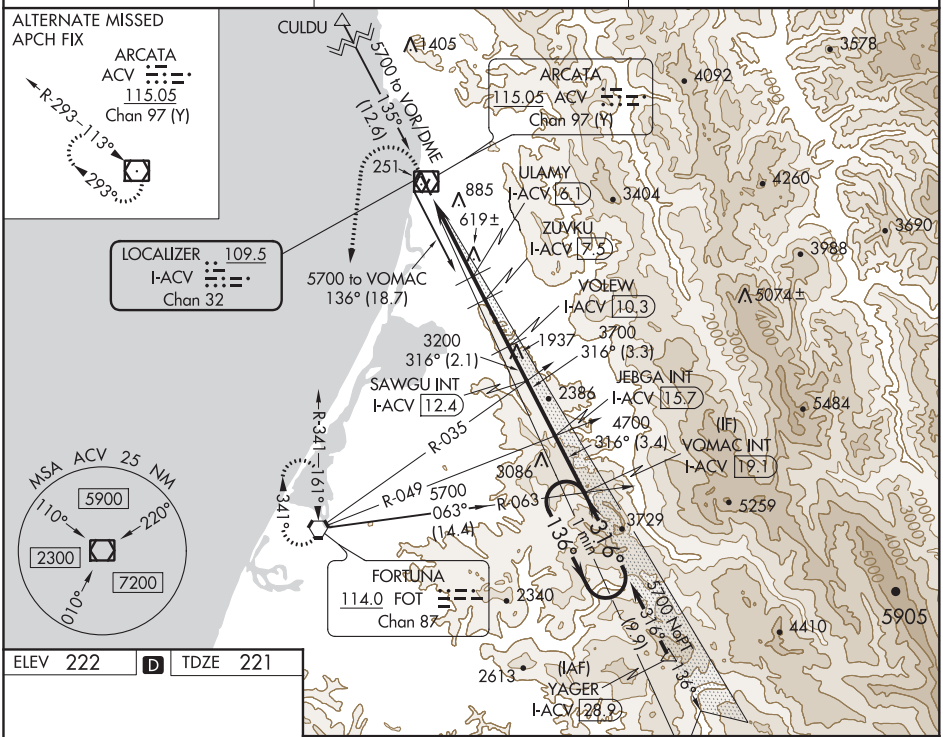
ILS or LOC RWY 32
CALIFORNIA REDWOOD COAST-HUMBOLDT COUNTY (ACV)

T NA — Circling NA northeast of Rwy 14-32. DME required.

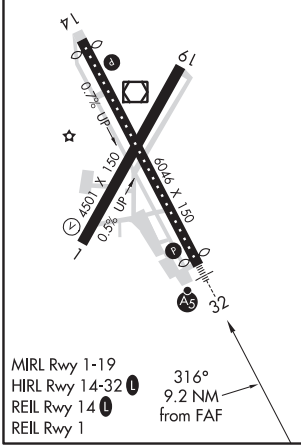
MALSR

MISSED APPROACH: Climb to 800 then climbing left turn to 3000 direct FOT VORTAC and hold.

ASOS	SEATTLE CENTER	UNICOM
118.525	124.85 306.3	123.0 (CTAF) L



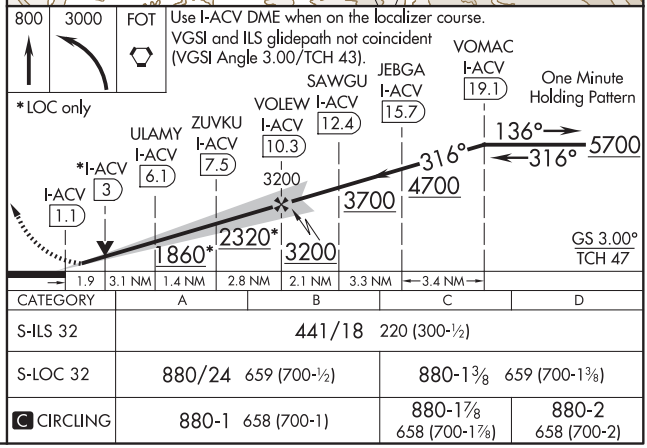
ELEV 222 D TDZE 221



800 3000 FOT

Use I-ACV DME when on the localizer course. VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 43).

*LOC only



CATEGORY	A	B	C	D
S-ILS 32	441/18 220 (300-½)			
S-LOC 32	880/24 659 (700-½)		880-1⅜ 659 (700-1⅜)	
C CIRCLING	880-1 658 (700-1)		880-1⅞ 658 (700-1⅞)	880-2 658 (700-2)

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ARCATA/EUREKA, CALIFORNIA | AL-519 (FAA) | 19283

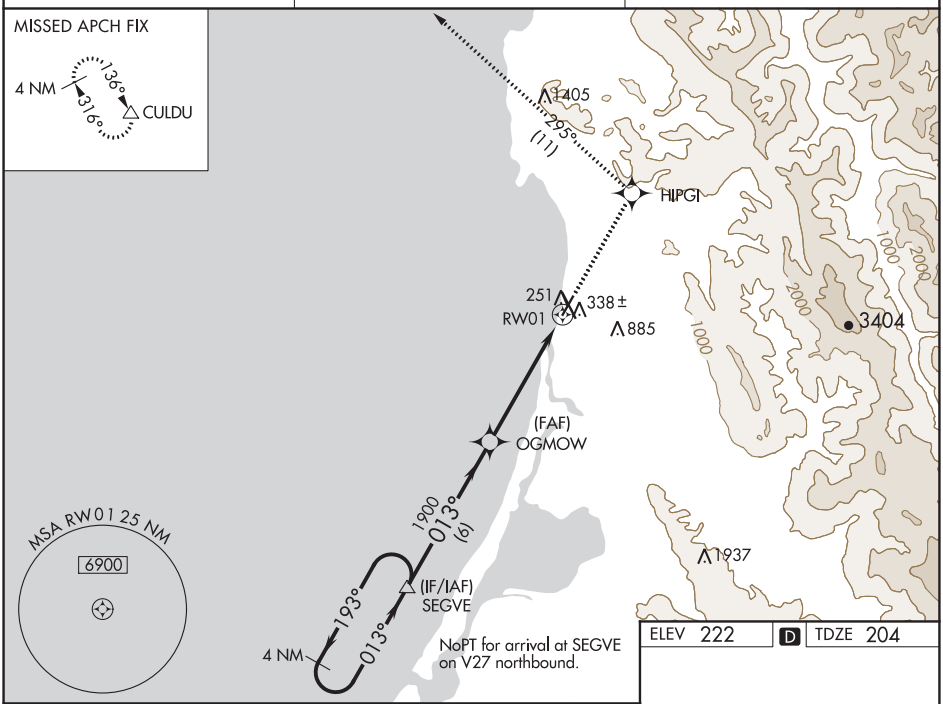
WAAS CH 63200 W01A	APP CRS 013°	Rwy ldg 4501 TDZE 204 Apt Elev 222

RNAV (GPS) RWY 1
CALIFORNIA REDWOOD COAST-HUMBOLDT COUNTY (ACV)

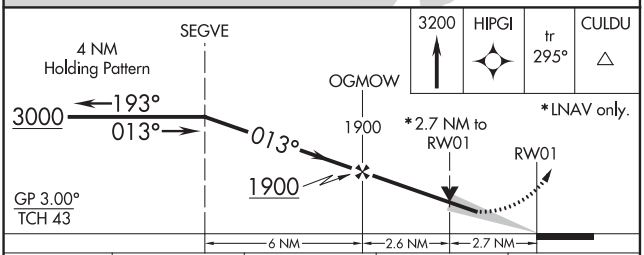
T A For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -2°C (29°F) or above 54°C (130°F). Circling NA northeast of Rwy 14-32. DME/DME RNP-0.3 NA.

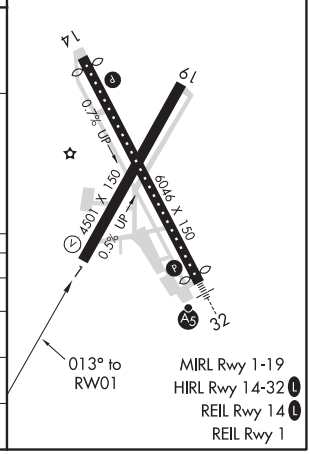
MISSED APPROACH: Climb to 3200 direct HIPGI and on track 295° to CULDU and hold.

ASOS	SEATTLE CENTER	UNICOM
118.525	124.85 306.3	123.0 (CTAF) L



ELEV 222 | D | TDZE 204





CATEGORY	A	B	C	D
LPV DA	870-2½ 666 (700-2½)			
LNAV/VNAV DA	838-2½ 634 (700-2½)			
LNAV MDA	1080-1 876 (900-1)	1080-1¼ 876 (900-1¼)	1080-2½ 876 (900-2½)	
C CIRCLING	1080-1¼ 858 (900-1¼)		1080-2½ 858 (900-2½)	1080-2¾ 858 (900-2¾)

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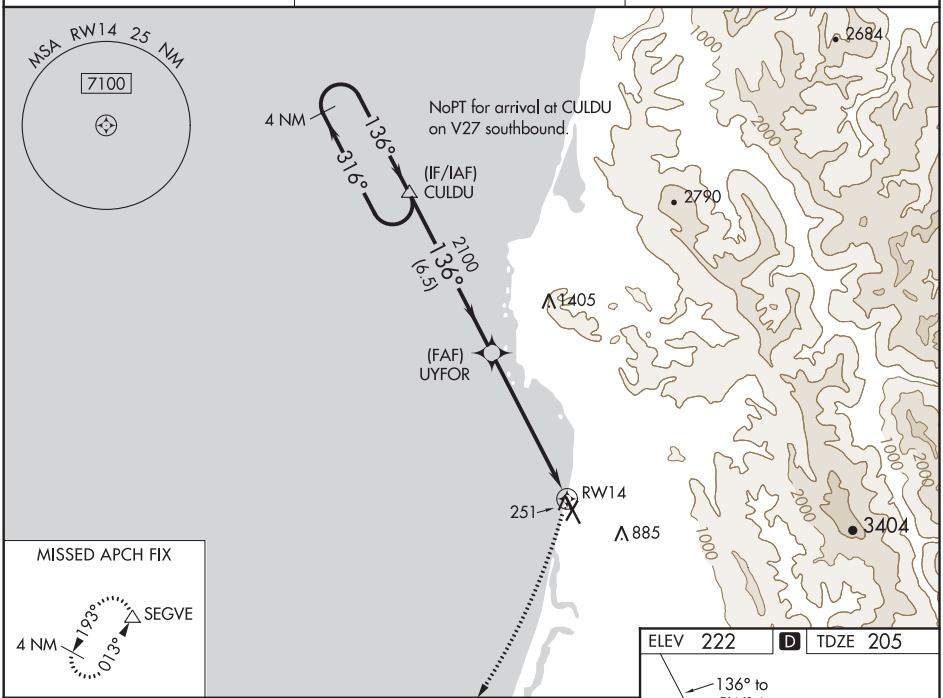
WAAS CH 62801 W14A	APP CRS 136°	Rwy ldg 5601 TDZE 205 Apt Elev 222

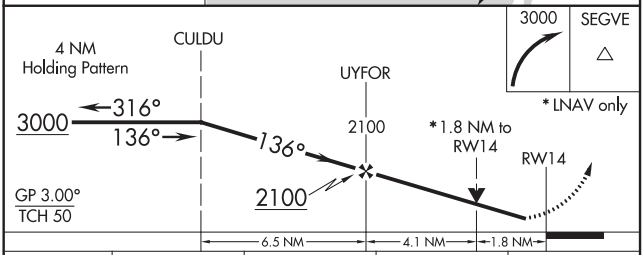
RNAV (GPS) RWY 14
CALIFORNIA REDWOOD COAST-HUMBOLDT COUNTY (ACV)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -2°C (29°F) or above 54°C (130°F). Circling NA northeast of Rwy 14-32. DME/DME RNP-0.3 NA. Rwy 14 helicopter visibility reduction below ¾ SM NA.

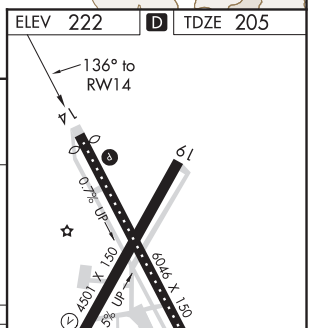
MISSED APPROACH: Climbing right turn to 3000 direct SEGVE and hold.

ASOS	SEATTLE CENTER	UNICOM
118.525	124.85 306.3	123.0 (CTAF) L





CATEGORY	A	B	C	D
LPV DA	455/45 250 (300-⅞)			
LNAV/VNAV DA	570-1¼ 365 (400-1¼)			
LNAV MDA	820/55 615 (600-1)		820-1¾ 615 (600-1¾)	
C CIRCLING	820-1 598 (600-1)		840-1¾ 618 (700-1¾)	880-2 658 (700-2)



MIRL Rwy 1-19
HIRL Rwy 14-32 L
REIL Rwy 14 L
REIL Rwy 1

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ARCATA/EUREKA, CALIFORNIA — AL-519 (FAA) — 19283

WAAS CH 63108 W32A	APP CRS 316°	Rwy ldg 5846 TDZE 221 Apt Elev 222

RNAV (GPS) RWY 32

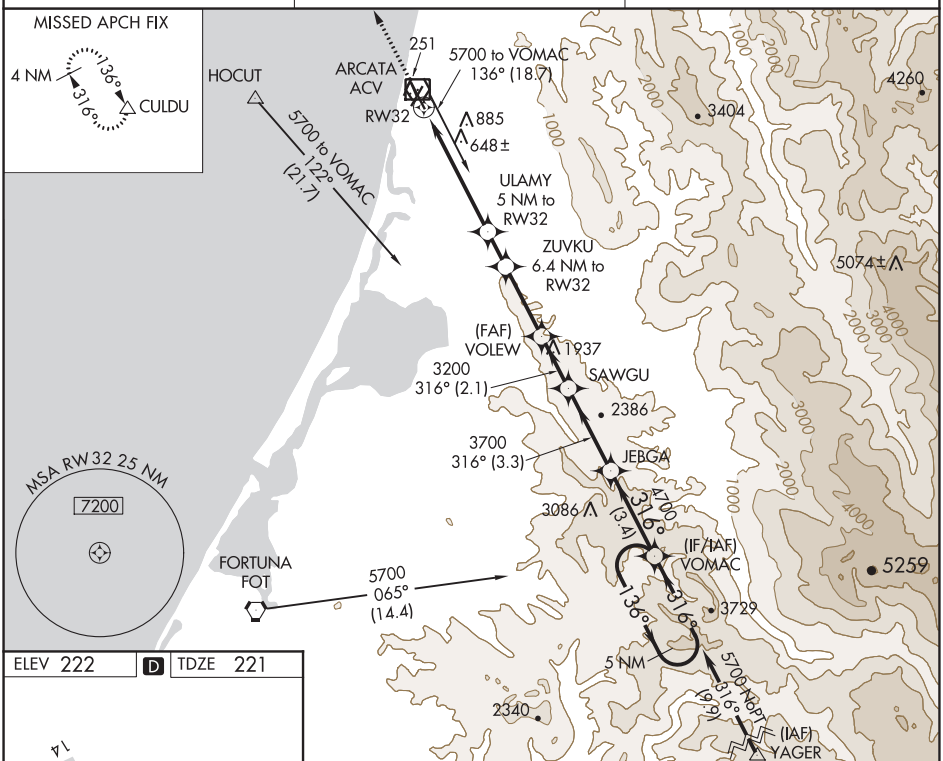
CALIFORNIA REDWOOD COAST-HUMBOLDT COUNTY (ACV)

Baro-VNAV NA. Circling NA northeast of Rwy 14-32. DME/DME RNP-0.3 NA.

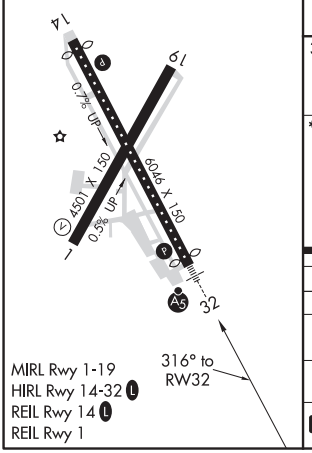
MALSR

MISSED APPROACH: Climb to 3000 direct CULDU and hold.

ASOS	SEATTLE CENTER	UNICOM
118.525	124.85 306.3	123.0 (CTAF) L



ELEV 222 | D | TDZE 221

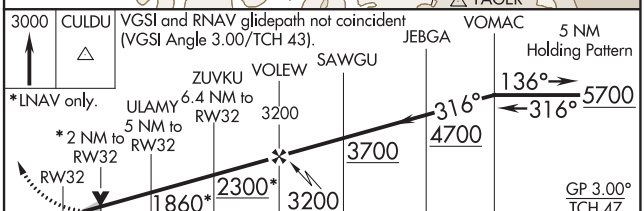


MIRL Rwy 1-19
HIRL Rwy 14-32 L
REIL Rwy 14 L
REIL Rwy 1

3000 | CULDU

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 43).

*LNAV only.



CATEGORY	A	B	C	D
LPV DA	441/18 220 (300-½)			
LNAV/VNAV DA	1056-2½ 835 (900-2½)			
LNAV MDA	900/24 679 (700-½)	900/40 679 (700-¾)	900-1½ 679 (700-1½)	
C CIRCLING	900-1 678 (700-1)		900-2 678 (700-2)	900-2¼ 678 (700-2¼)

ARCATA/EUREKA, CALIFORNIA
Amdt 2A 26APR18

CALIFORNIA REDWOOD COAST-HUMBOLDT COUNTY (ACV)
40°59′N-124°07′W

RNAV (GPS) RWY 32

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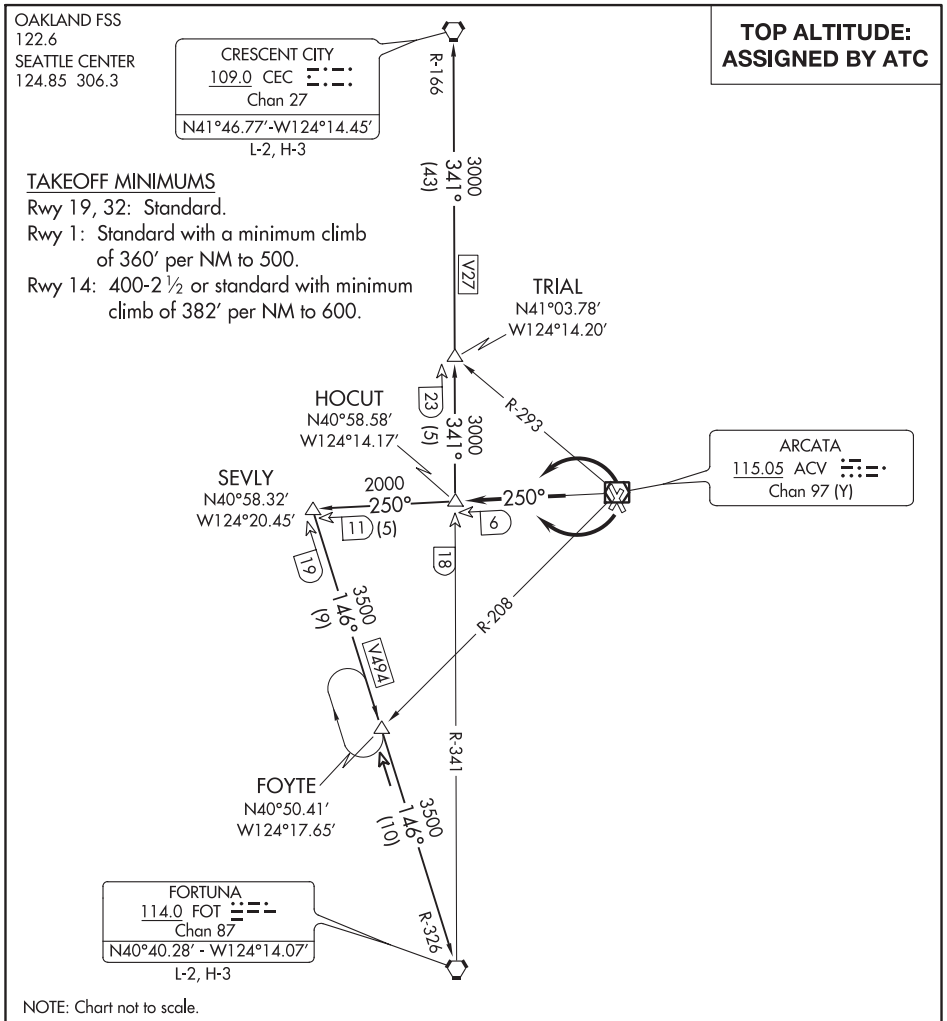

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 1 and 32: Climbing left turn on ACV R-250, thence. . . .
TAKEOFF RUNWAYS 14 and 19: Climbing right turn on ACV R-250, thence. . . .
. . . .on (transition) or (assigned route).

CRESCENT CITY TRANSITION (HOCUT5.CEC): From over HOCUT INT on FOT R-341 and CEC R-166 to CEC VORTAC.

FORTUNA TRANSITION (HOCUT5.FOT): From over HOCUT INT on ACV R-250 to SEVLY INT, then via FOT R-326 to FOT VORTAC.

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ILS or LOC RWY 31
CASTLE (MER)

LOC I-MER	APP CRS	Rwy ldg	11802
109.5	306°	TDZE	181
		Apt Elev	190

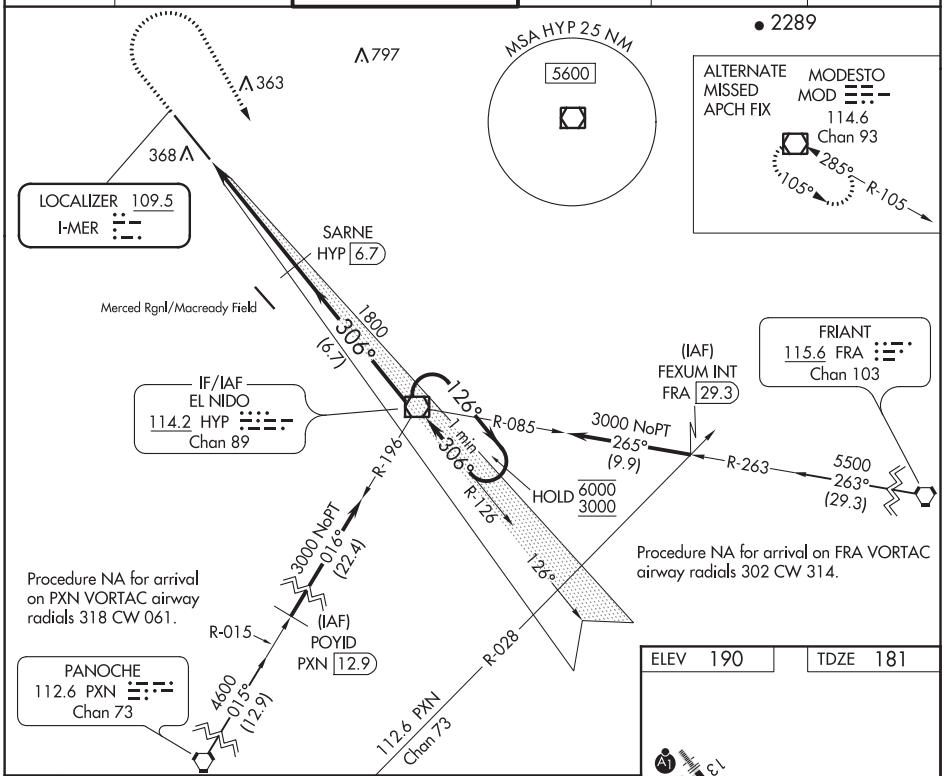
DME required for LOC only.

Circling NA southwest of Rwy 13-31. DME from HYP VOR/DME. Simultaneous reception of I-MER and HYP DME required.

ALSF-1

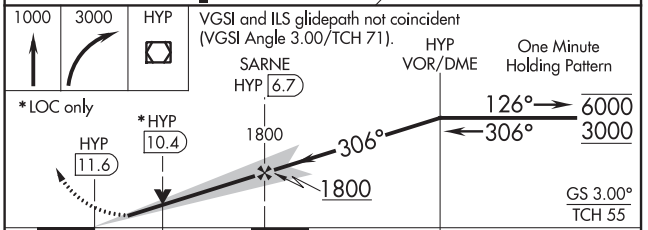
MISSED APPROACH: Climb to 1000 then climbing right turn to 3000 direct HYP VOR/DME and hold.

ATIS	NORCAL APP CON	CASTLE TOWER *	GND CON	UNICOM	
124.475	120.95 269.45	118.175 (CTAF) 235.775	133.575	122.95	123.0 L



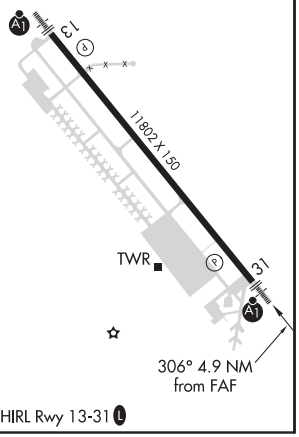
1000	3000	HYP

VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 71).



CATEGORY	A	B	C	D
S-ILS 31	381-½ 200 (200-½)			
S-LOC 31	620-½ 439 (500-½)		620-¾ 439 (500-¾)	
C CIRCLING	660-1 470 (500-1)		720-1½ 530 (600-1½)	800-2 610 (700-2)

ELEV 190 TDZE 181



HIRL Rwy 13-31 L

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WAAS CH 50211 W13A	APP CRS 126°	Rwy ldg 11802 TDZE 190 Apt Elev 190

RNAV (GPS) RWY 13
CASTLE (MER)

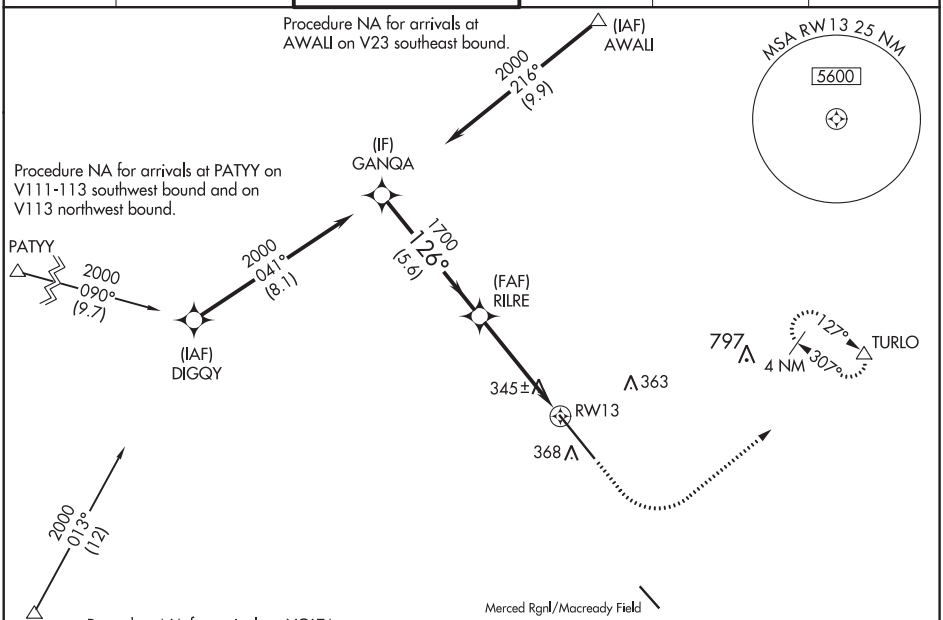
RNP APCH.

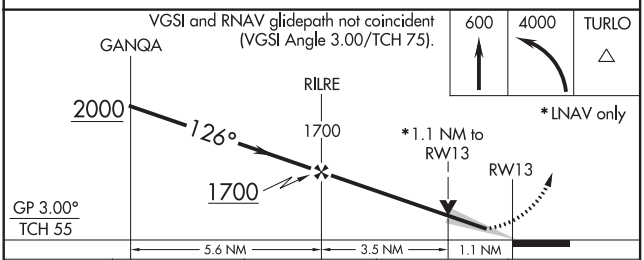
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 54°C. For inoperative ALS, increase LNAV/VNAV all Cats visibility to 1⅜ SM, increase LNAV Cats A/B visibility to 1 SM, and increase LNAV Cat C/D visibility to 1⅛ SM.

ALSF-1

MISSED APPROACH: Climb to 600 then climbing left turn to 4000 direct TURLO and hold, continue climb-in-hold to 4000.

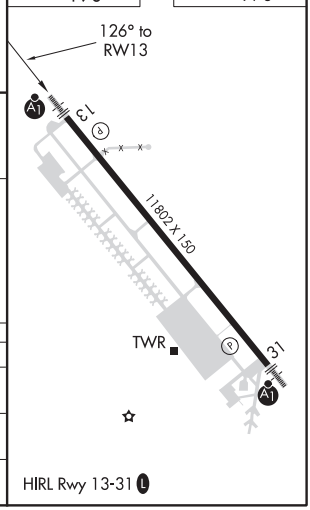
ATIS	NORCAL APP CON	CASTLE TOWER *	GND CON	UNICOM	
124.475	120.95 269.45	118.175 (CTAF) 235.775	133.575	122.95	123.0 L





CATEGORY	A	B	C	D
LPV DA	390-¾ 200 (200-¾)			
LNAV/VNAV DA	655-1 465 (500-1)			
LNAV MDA	600-¾ 410 (500-¾)			

ELEV 190 TDZE 190



ATWATER, CALIFORNIA | AL-568 (FAA) | 19339

RNAV (GPS) RWY 31
CASTLE (MER)

WAAS CH 87110 W31A	APP CRS 306°	Rwy ldg 11802 TDZE 181 Apt Elev 190

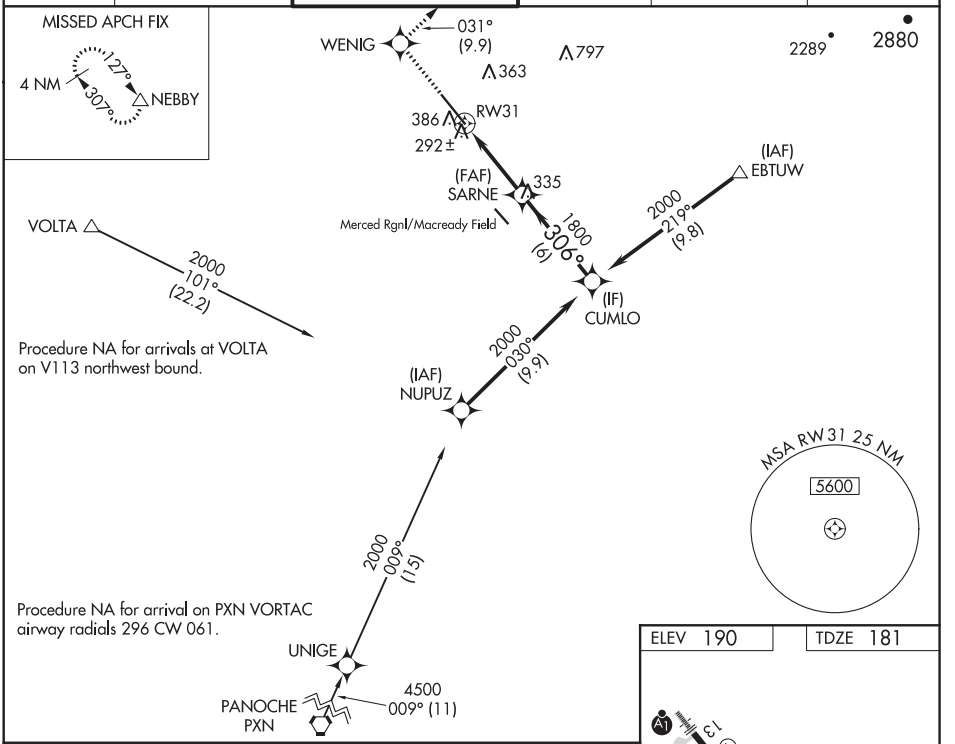
RNP APCH.

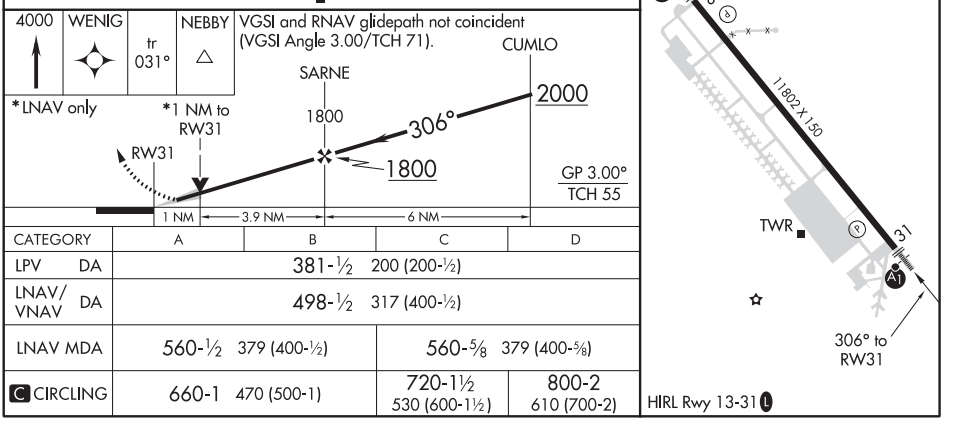
Circling NA southwest of Rwy 13-31. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 54°C. For inoperative ALS, increase LNAV/VNAV all Cats visibility to ⅞ SM and LNAV Cats C/D visibility to 1 SM.

ALSF-1

MISSED APPROACH: Climb to 4000 direct WENIG and on track 031° to NEBBY and hold, continue climb-in-hold to 4000.

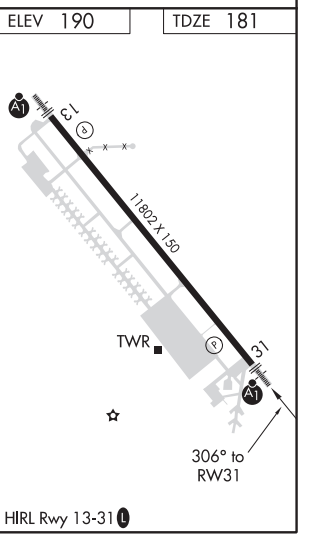
ATIS	NORCAL APP CON	CASTLE TOWER ★	GND CON	UNICOM	
124.475	120.95 269.45	118.175 (CTAF) 235.775	133.575	122.95	123.0 L





CATEGORY	A	B	C	D
LPV DA	381-½ 200 (200-½)			
LNAV/VNAV DA	498-½ 317 (400-½)			
LNAV MDA	560-½ 379 (400-½)		560-⅝ 379 (400-⅝)	
C CIRCLING	660-1 470 (500-1)		720-1½ 530 (600-1½)	800-2 610 (700-2)

ELEV 190 | TDZE 181



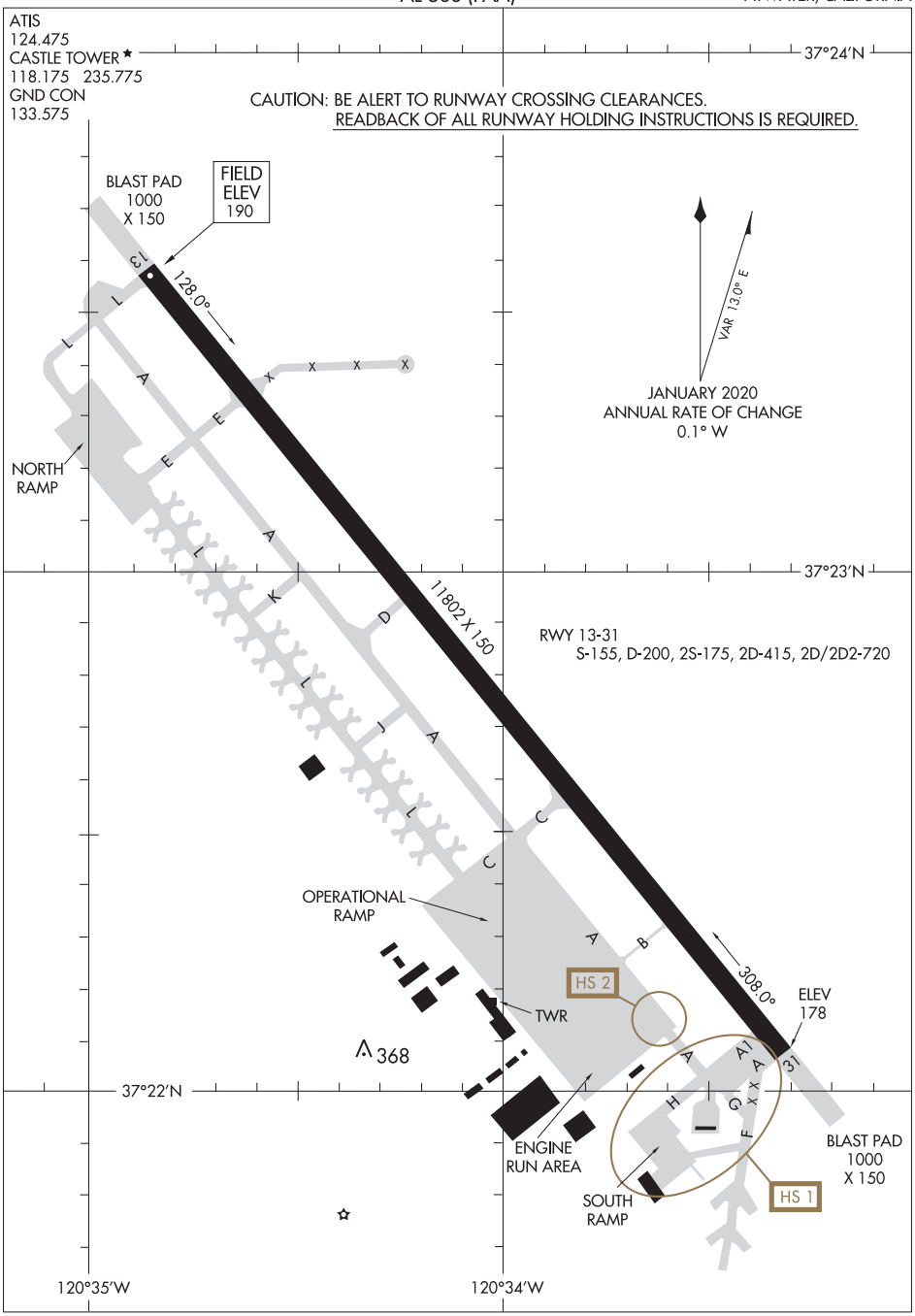
ATWATER, CALIFORNIA
Amdt 1 05DEC19

37°23′N-120°34′W

CASTLE (MER)
RNAV (GPS) RWY 31

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021


ATIS
124.475
CASTLE TOWER ★
118.175 235.775
GND CON
133.575
37°24'N
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.
BLAST PAD
1000
X 150
FIELD
ELEV
190
128.0°
VAR 13.0° E
JANUARY 2020
ANNUAL RATE OF CHANGE
0.1° W
NORTH
RAMP
37°23'N
11802 X 150
RWY 13-31
S-155, D-200, 2S-175, 2D-415, 2D/2D2-720
OPERATIONAL
RAMP
HS 2
TWR
308.0°
ELEV
178
368
37°22'N
ENGINE
RUN AREA
SOUTH
RAMP
BLAST PAD
1000
X 150
HS 1
120°35'W
120°34'W

WAAS CH **90515** **W07A**	APP CRS **068°**	Rwy ldg **3500** TDZE **1532** Apt Elev **1538**

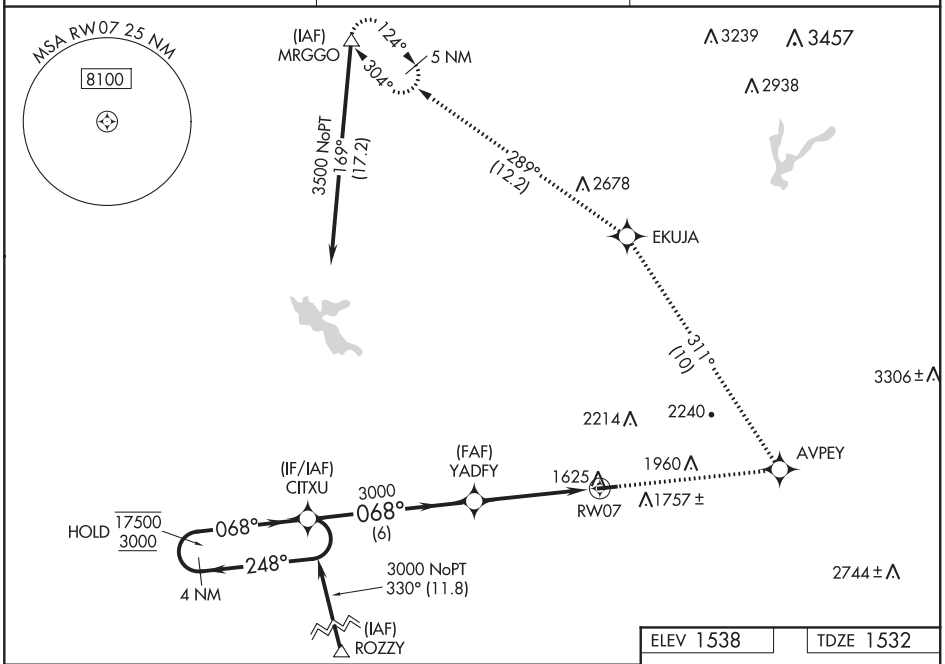
RNAV (GPS) RWY 7
AUBURN MUNI (AUN)

RNP APCH.

Circling Rwy 25 NA at night. Rwy 7 helicopter visibility reduction below ¾ SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -18°C or above 54°C.

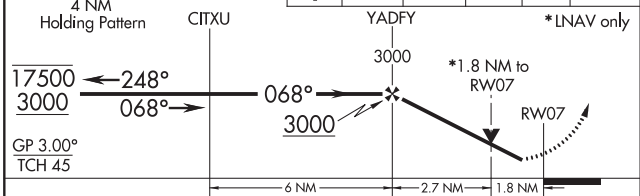
MISSED APPROACH: Climb to 5000 direct AVPEY and left turn on track 311° to EKUJA and on track 289° to MRGGO and hold.

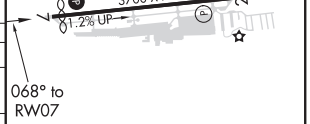
AWOS-3	NORCAL APP CON	UNICOM
119.375	**125.4 317.5**	**122.7** (CTAF) L



ELEV 1538 TDZE 1532

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 21).





CATEGORY	A	B	C	D
LPV DA	1848-1¼ 316 (400-1¼)		NA	
LNAV/VNAV DA	1968-1¾ 436 (500-1¾)		NA	
LNAV MDA	2100-1 568 (600-1)		NA	
C CIRCLING	2200-1 662 (700-1)	2400-1¼ 862 (900-1¼)	NA	

MIRL Rwy 7-25 L

SW-2, 25 FEB 2021 to 22 APR 2021

MARYSVILLE, CALIFORNIA

ILS or LOC Y RWY 15

LOC I-BAB	APCH CRS	Rwy ldg	12,001
109.5	145°	TDZE	113
		Arpt Elev	113

AL-771 (USAF)

BEALE AFB (KBAB)

T * When ALS inop, increase RVR to 40 and vis to 3/4 mile.
** When ALS inop, increase CAT AB RVR to 55 and vis to 1 mile, CAT CDE vis to 1 3/8 miles.
*** Circling not authorized E of Rwy 15-33.

ALSF-1 (A1)

MISSED APPROACH: Climb to 4400 direct BAB TACAN. Turn right to intercept BAB R-326 to HAPAK and hold, continue climb in hold to 4400.

ATIS★	NORCAL APP CON	TOWER★	GND CON
124.55 273.5	125.4 259.1	119.4 284.75	121.6 257.75

CATEGORY	A	B	C	D	E
S-ILS 15*	313/24		200	(200-½)	
S-LOC 15**	620/24 507 (600-½)		620/55 507 (600-1)		
C CIRCLING***	620-1 507 (600-1)		620-1½ 507 (600-1½)	680-2 567 (600-2)	840-2½ 727 (800-2½)

MARYSVILLE, CALIFORNIA

39°08'N - 121°26'W

BEALE AFB (KBAB)

Amdt 5 20JUL17

ILS or LOC Y RWY 15

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

20254

MARYSVILLE, CALIFORNIA

ILS or LOC Y RWY 33

LOC I-MIZ	APCH CRS	Rwy ldg	12,001
109.5	325°	TDZE	105
		Arpt Elev	113

AL-771 (USAF)

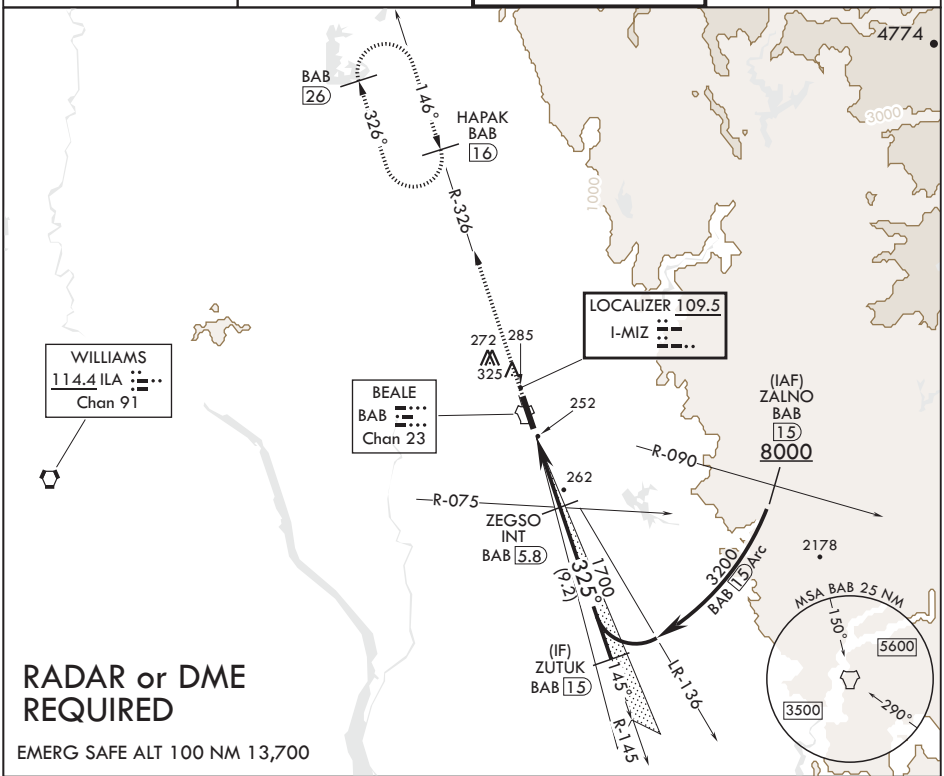
BEALE AFB (KBAB)

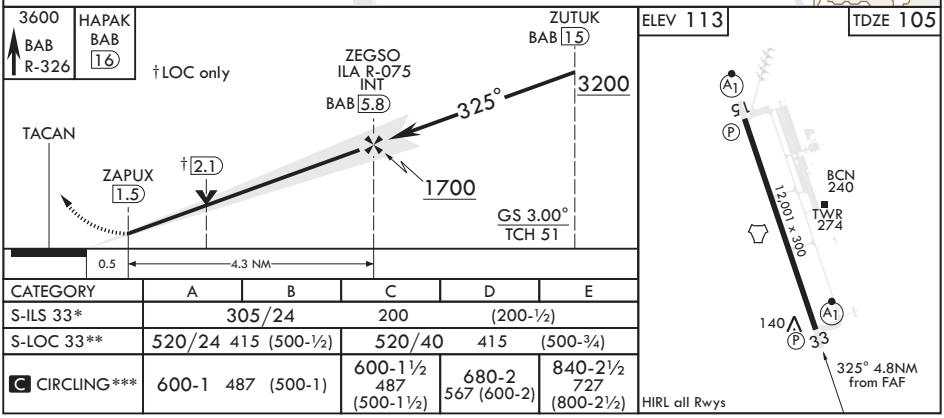
* When ALS inop, increase RVR to 40 and vis to 3/4 mile.
** When ALS inop, increase CAT AB RVR to 55 and vis to 1 mile, CAT CDE RVR to 60 and vis to 1 1/8 miles.
*** Circling not authorized E of Rwy 15-33.

ALSF-1

MISSED APPROACH: Climb to 3600 intercept BAB TACAN R-326 to HAPAK and hold.

ATIS★	NORCAL APP CON	TOWER★	GND CON
124.55 273.5	125.4 259.1	119.4 284.75	121.6 257.75





CATEGORY	A	B	C	D	E
S-ILS 33*	305/24		200	(200-½)	
S-LOC 33**	520/24 415 (500-½)		520/40	415	(500-¾)
C CIRCLING***	600-1 487 (500-1)		600-1½ 487 (500-1½)	680-2 567 (600-2)	840-2½ 727 (800-2½)

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

MARYSVILLE, CALIFORNIA

RNAV (GPS) RWY 15

BEALE AFB (KBAB)

AL-771 (USAF)

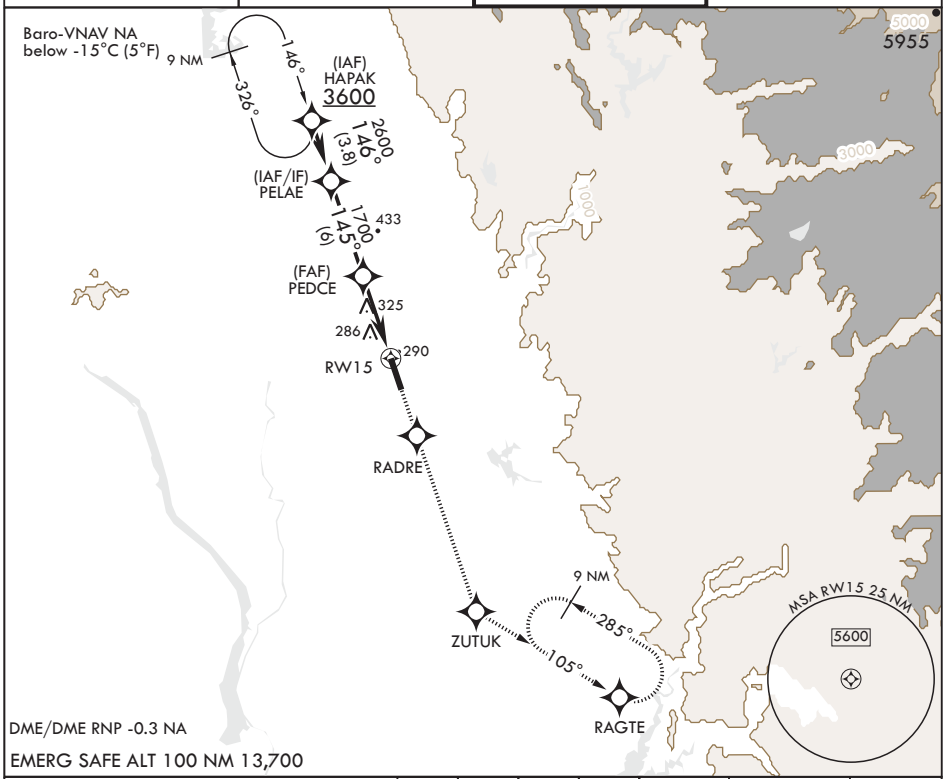
APCH CRS	Rwy ldg	12,001
145°	THRE	113
	Arpt Elev	113

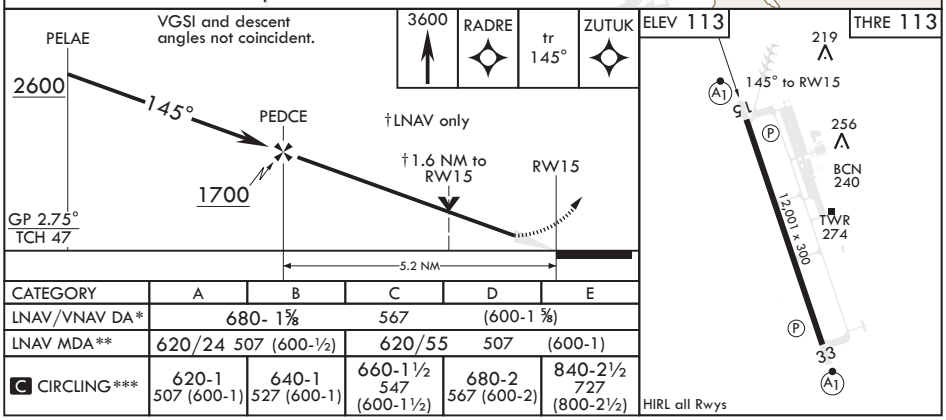
* When ALS inop, increase vis to 2 1/2 miles.
** When ALS inop, increase CAT AB RVR to 55 and vis to 1 mile, CAT CDE vis to 1 3/8 miles.
*** Circling not authorized E of Rwy 15-33.

ALSF-1

MISSED APPROACH: Climb direct RADRE, then track 145° to ZUTUK, then turn left and track 105° to RAGTE and hold, maintain 3600.

ATIS★	NORCAL APP CON	TOWER★	GND CON
124.55 273.5	125.4 259.1	119.4 284.75	121.6 257.75





CATEGORY	A	B	C	D	E
LNAV/VNAV DA*	680- 1⅝		567	(600-1 ⅝)	
LNAV MDA**	620/24 507 (600-½)		620/55	507 (600-1)	
C CIRCLING***	620-1 507 (600-1)	640-1 527 (600-1)	660-1½ 547 (600-1½)	680-2 567 (600-2)	840-2½ 727 (800-2½)

MARYSVILLE, CALIFORNIA

Amdt 1 20JUL17

39°08'N - 121°26'W

BEALE AFB (KBAB)

RNAV (GPS) RWY 15

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

20254

MARYSVILLE, CALIFORNIA

RNAV (GPS) RWY 33

APCH CRS 325°	Rwy ldg 12,001 THRE 105 Arpt Elev 113

AL-771 (USAF)

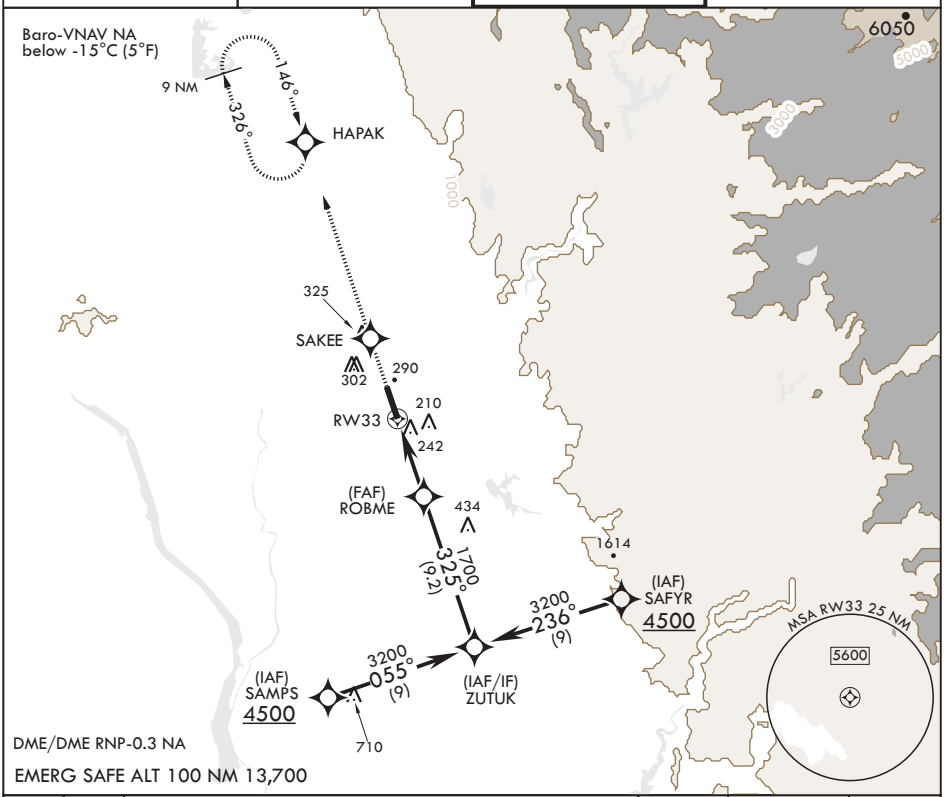
BEALE AFB (KBAB)

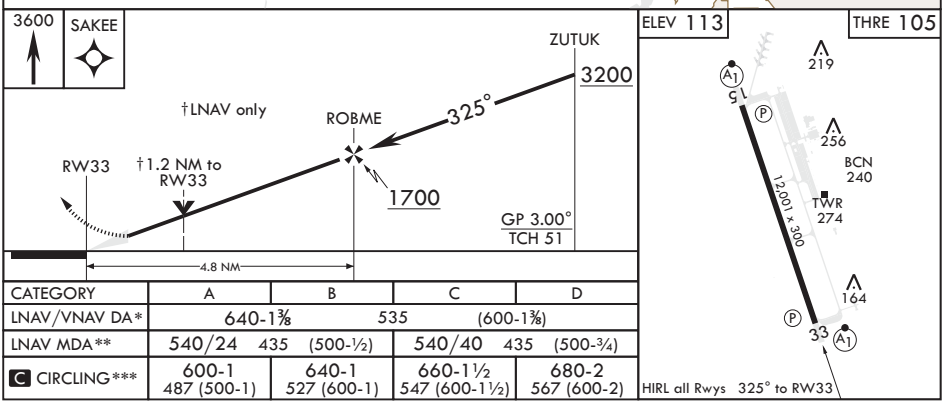
* When ALS inop, increase vis to 1 7/8 miles.
** When ALS inop, increase CAT AB RVR to 55 and vis to 1 mile, CAT CD vis to 1 1/4 miles.
*** Circling not authorized E of Rwy 15-33.

ALSF-1

MISSED APPROACH: Climb direct SAKEE, then track 326° to HAPAK and hold, maintain 3600.

ATIS★	NORCAL APP CON	TOWER★	GND CON
124.55 273.5	125.4 259.1	119.4 284.75	121.6 257.75





CATEGORY	A	B	C	D
LNAV/VNAV DA*	640-1⅜ 535 (600-1⅜)			
LNAV MDA**	540/24 435 (500-½)		540/40 435 (500-¾)	
C CIRCLING***	600-1 487 (500-1)	640-1 527 (600-1)	660-1½ 547 (600-1½)	680-2 567 (600-2)

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

MARYSVILLE, CALIFORNIA

39°08'N - 121°26'W

BEALE AFB (KBAB)

Amdt 1 24MAY18

RNAV (GPS) RWY 33

MARYSVILLE, CALIFORNIA

TACAN Y RWY 15

TACAN BAB Chan 23	APCH CRS 153°	Rwy ldg 12,001 TDZE 113 Arpt Elev 113

AL-771 (USAF)

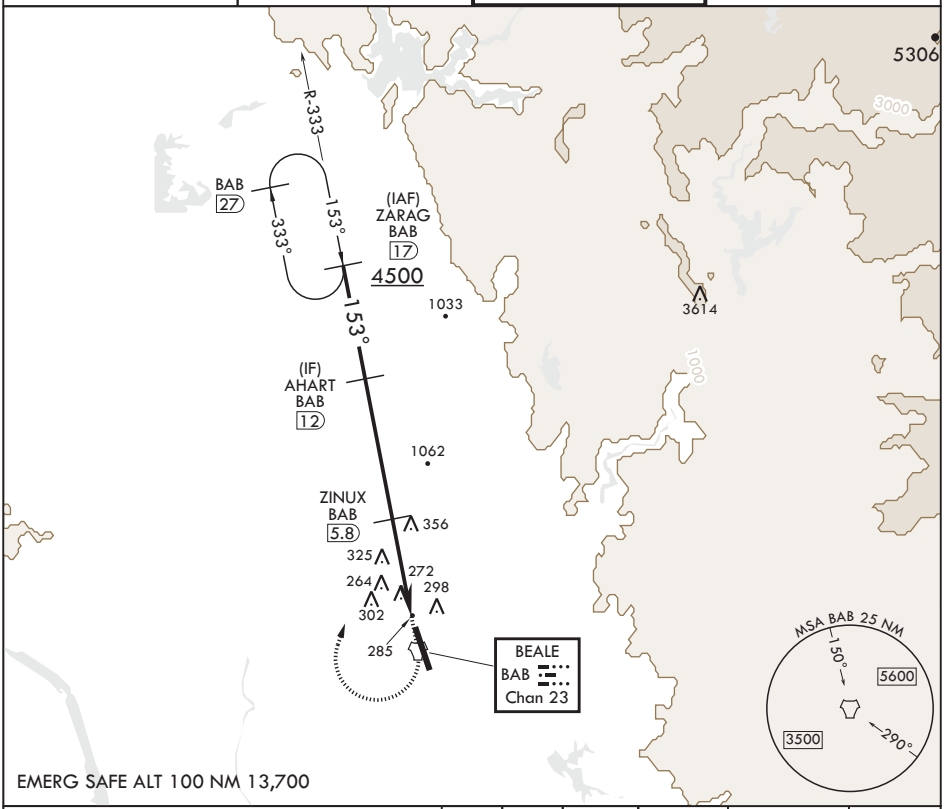
BEALE AFB (KBAB)

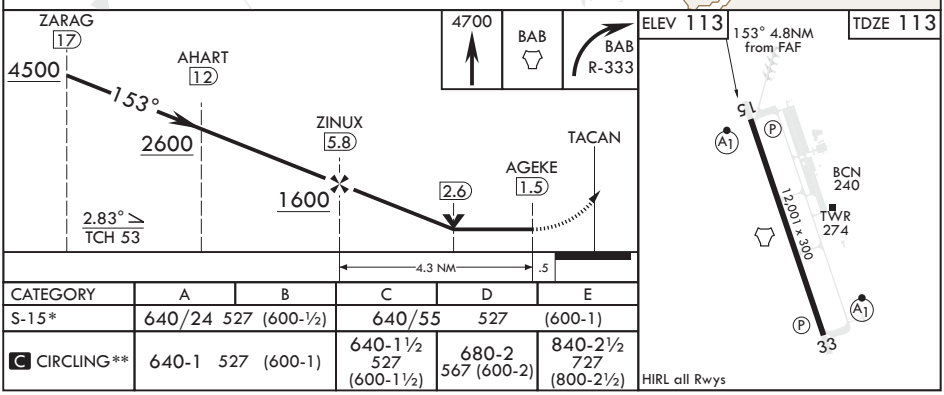
* When ALS inop, increase CAT AB RVR to 55 and vis to 1 mile, CAT CDE vis to 1 1/2 miles.
** Circling not authorized E of Rwy 15-33.

ALSF-1

MISSED APPROACH: Climb to 4700 direct to BAB TACAN. Turn right to intercept BAB R-333 to ZARAG and hold, continue climb in hold to 4700.

ATIS★	NORCAL APP CON	TOWER★	GND CON
124.55 273.5	125.4 259.1	119.4 284.75	121.6 257.75





CATEGORY	A	B	C	D	E
S-15*	640/24 527 (600-½)		640/55 527 (600-1)		
C CIRCLING**	640-1 527 (600-1)		640-1½ 527 (600-1½)	680-2 567 (600-2)	840-2½ 727 (800-2½)

MARYSVILLE, CALIFORNIA

39°08'N - 121°26'W

BEALE AFB (KBAB)

Amdt 5 20JUL17

TACAN Y RWY 15

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

20254

MARYSVILLE, CALIFORNIA

TACAN Y RWY 33

TACAN BAB Chan 23	APCH CRS 317°	Rwy ldg 12,001 TDZE 105 Arpt Elev 113

AL-771 (USAF)

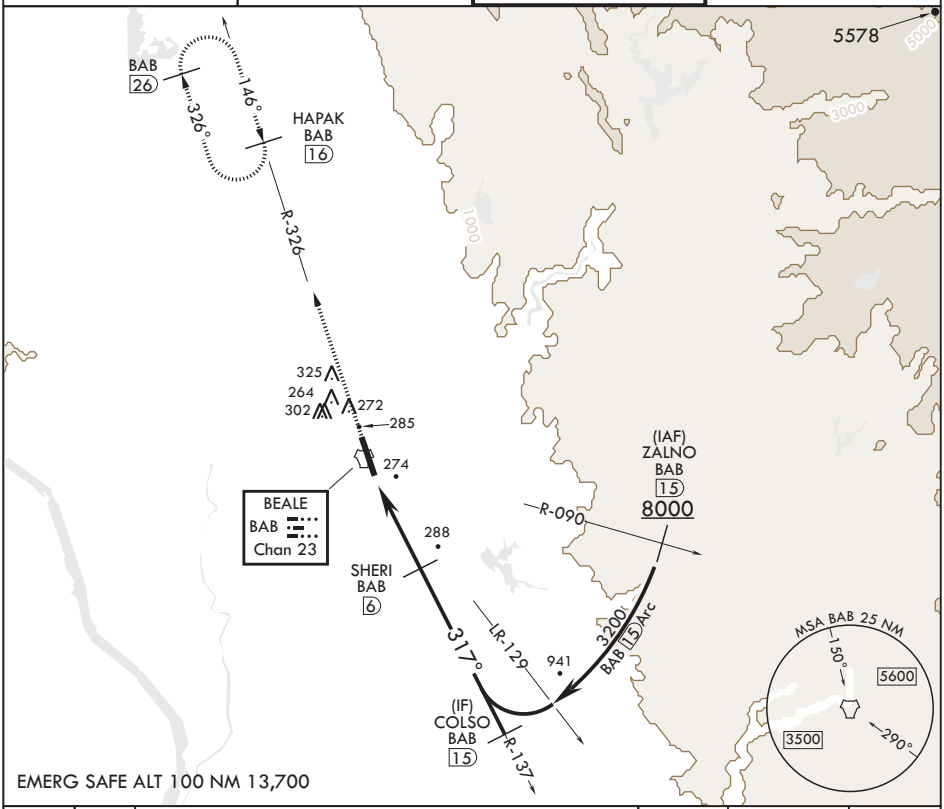
BEALE AFB (KBAB)

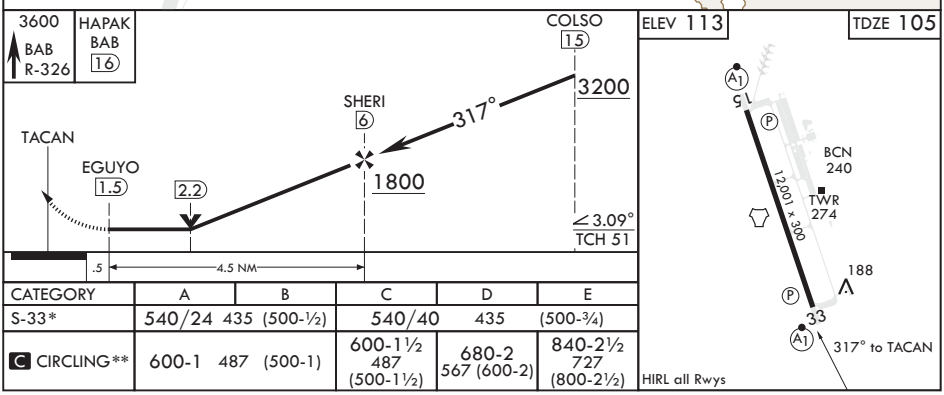
* When ALS inop, increase CAT AB RVR to 55 and vis to 1 mile, CAT CDE vis to 1 1/4 miles.
** Circling not authorized E of Rwy 15-33.

ALSF-1

MISSED APPROACH: Climb to 3600 intercept BAB TACAN R-326 to HAPAK and hold.

ATIS★	NORCAL APP CON	TOWER★	GND CON
124.55 273.5	125.4 259.1	119.4 284.75	121.6 257.75





CATEGORY	A	B	C	D	E
S-33*	540/24 435 (500-½)		540/40	435	(500-¾)
C CIRCLING**	600-1 487 (500-1)		600-1½ 487 (500-1½)	680-2 567 (600-2)	840-2½ 727 (800-2½)

MARYSVILLE, CALIFORNIA

39°08'N - 121°26'W

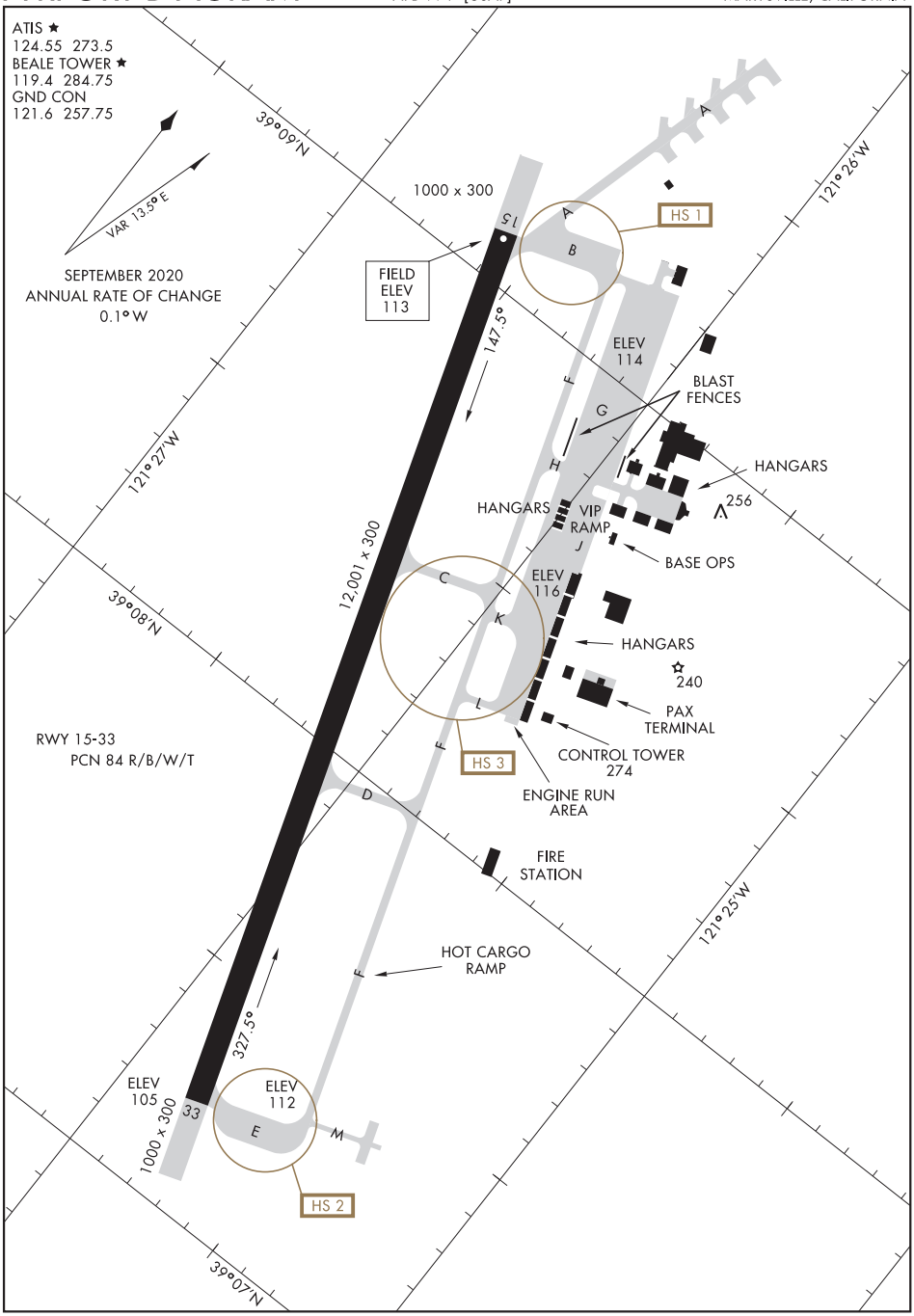
BEALE AFB (KBAB)

Amdt 5 20JUL17

TACAN Y RWY 33

SW-2, 25 FEB 2021 to 22 APR 2021

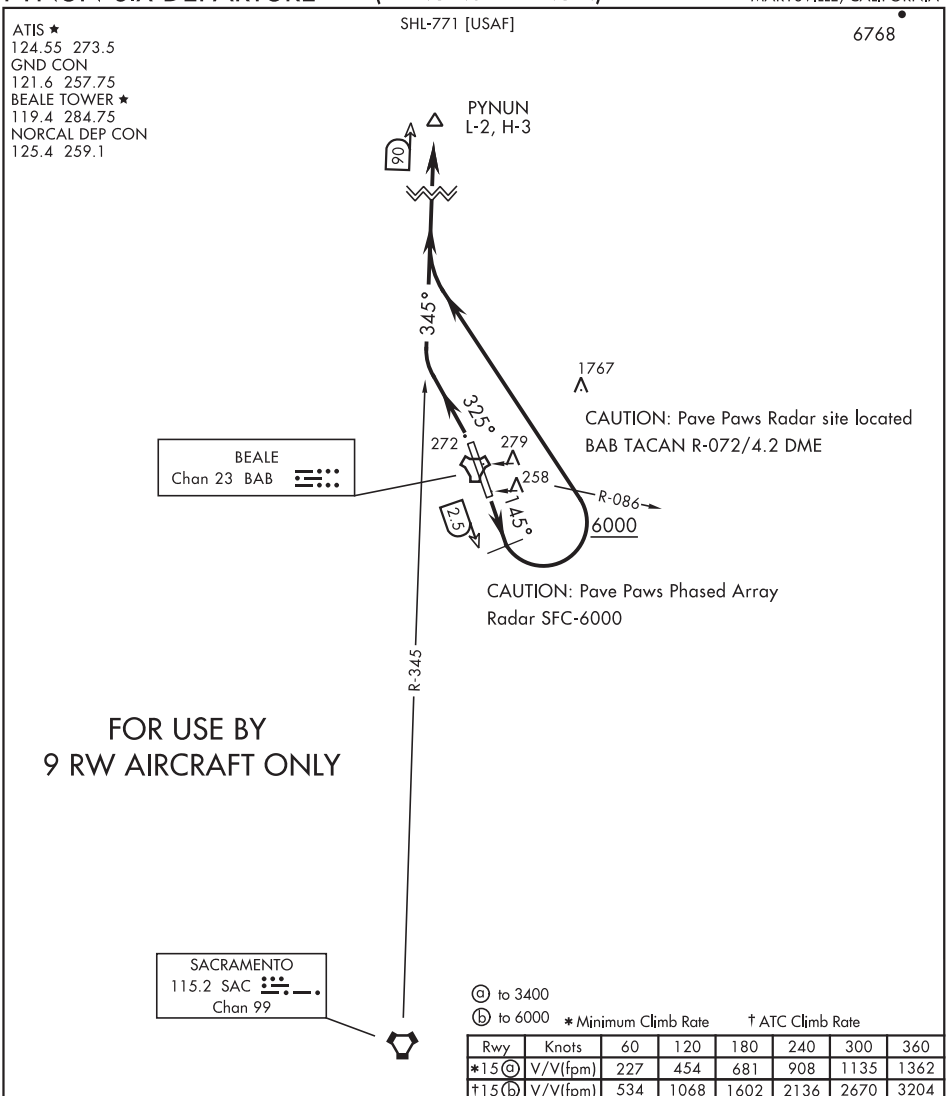
SW-2, 25 FEB 2021 to 22 APR 2021


ATIS ★
124.55 273.5
BEALE TOWER ★
119.4 284.75
GND CON
121.6 257.75
VAR 13.5° E
SEPTEMBER 2020
ANNUAL RATE OF CHANGE
0.1° W
39°09'N
39°08'N
39°07'N
121°27'W
121°26'W
121°25'W
1000 x 300
FIELD
ELEV
113
147.5°
12,001 x 300
327.5°
1000 x 300
ELEV
105
33
ELEV
112
HS 1
HS 2
HS 3
ELEV
114
ELEV
116
BLAST
FENCES
HANGARS
HANGARS
VIP
RAMP
256
BASE OPS
HANGARS
240
PAX
TERMINAL
CONTROL TOWER
274
ENGINE RUN
AREA
FIRE
STATION
HOT CARGO
RAMP
RWY 15-33
PCN 84 R/B/W/T

14149

PYNUN-SIX DEPARTURE (PYNUN6 • PYNUN)

BEALE AFB (KBAB)
MARYSVILLE, CALIFORNIA



ⓐ to 3400
ⓑ to 6000

∗ Minimum Climb Rate † ATC Climb Rate

Rwy	Knots	60	120	180	240	300	360
∗15ⓐ	V/V(fpm)	227	454	681	908	1135	1362
†15ⓑ	V/V(fpm)	534	1068	1602	2136	2670	3204

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RWY 15: Fly heading 145° until BAB TACAN 2.5 DME, turn left intercept SAC VORTAC R-345 to PYNUN. Cross BAB R-086 at or above 6000. Then via assigned route.

TAKE-OFF RWY 33: Fly heading 325° intercept SAC VORTAC R-345 to PYNUN. Then via assigned route.

PYNUN-SIX DEPARTURE (PYNUN6 • PYNUN)
MARYSVILLE, CALIFORNIA
BEALE AFB (KBAB)

SW-2, 25 FEB 2021 to 22 APR 2021

APP CRS	Rwy ldg	4651
267°	TDZE	4896
	Apt Elev	4900

RNAV (GPS) Y RWY 26

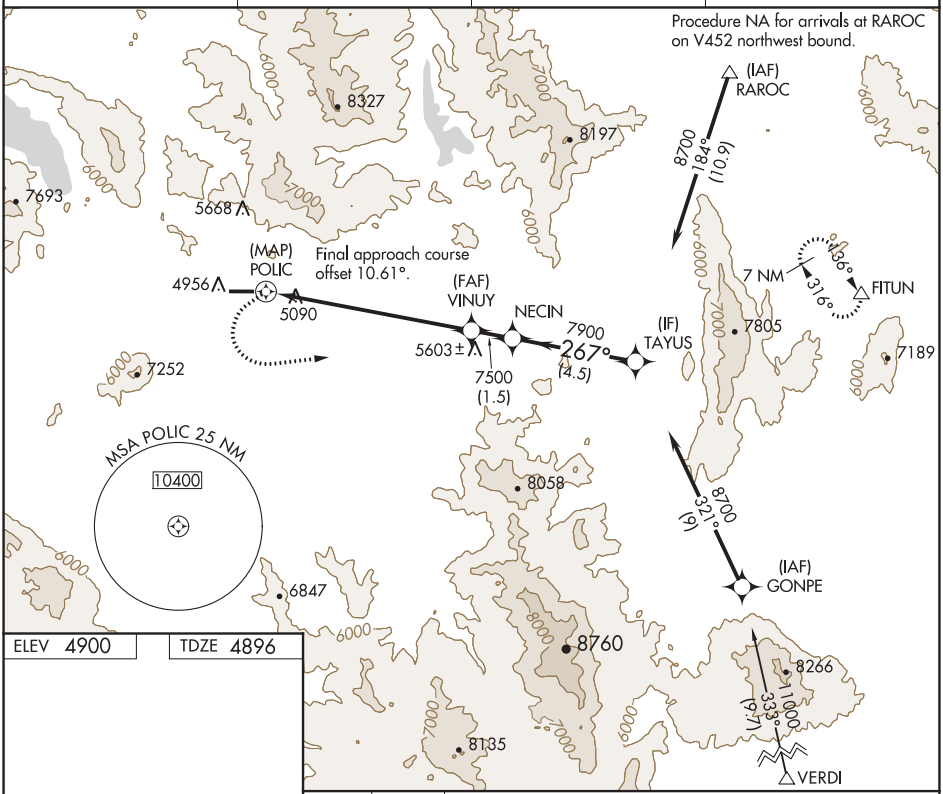
NERVINO (O02)

NA
-13°C

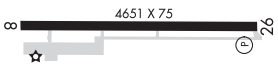
Procedure NA at night. Use Reno/Stead altimeter setting; when not received, use Reno/Tahoe Intl altimeter setting and increase all MDA 180 feet. DME/DME RNP- 0.3 NA. 8, 26 Rwy helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climbing left turn to 10000 direct FITUN and hold.

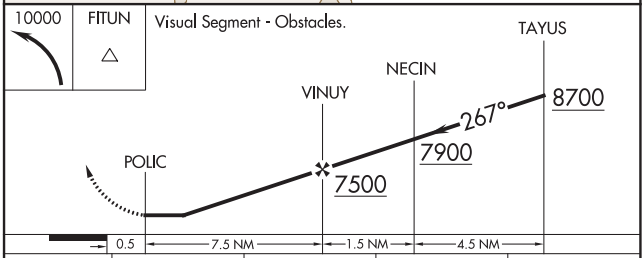
AWOS-2	RTS AWOS-3	NORCAL APP CON	UNICOM
119.35	135.175	126.3 353.9	122.8 (CTAF) L



ELEV 4900 TDZE 4896



MIRL Rwy 8-26 L



CATEGORY	A	B	C	D
LNAV MDA	7300-1¼ 2404 (2400-1¼)	7300-1½ 2404 (2400-1½)	7300-3 2404 (2400-3)	
CIRCLING	7300-1¼ 2400 (2400-1¼)	7300-1½ 2400 (2400-1½)	7300-3 2400 (2400-3)	

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

BECKWOURTH, CALIFORNIA

AL-10032 (FAA)

20254

RNAV (GPS) Z RWY 26

NERVINO (O∅2)

WAAS CH 49203 W26A	APP CRS 256°	Rwy ldg 4651 TDZE 4896 Apt Elev 4900

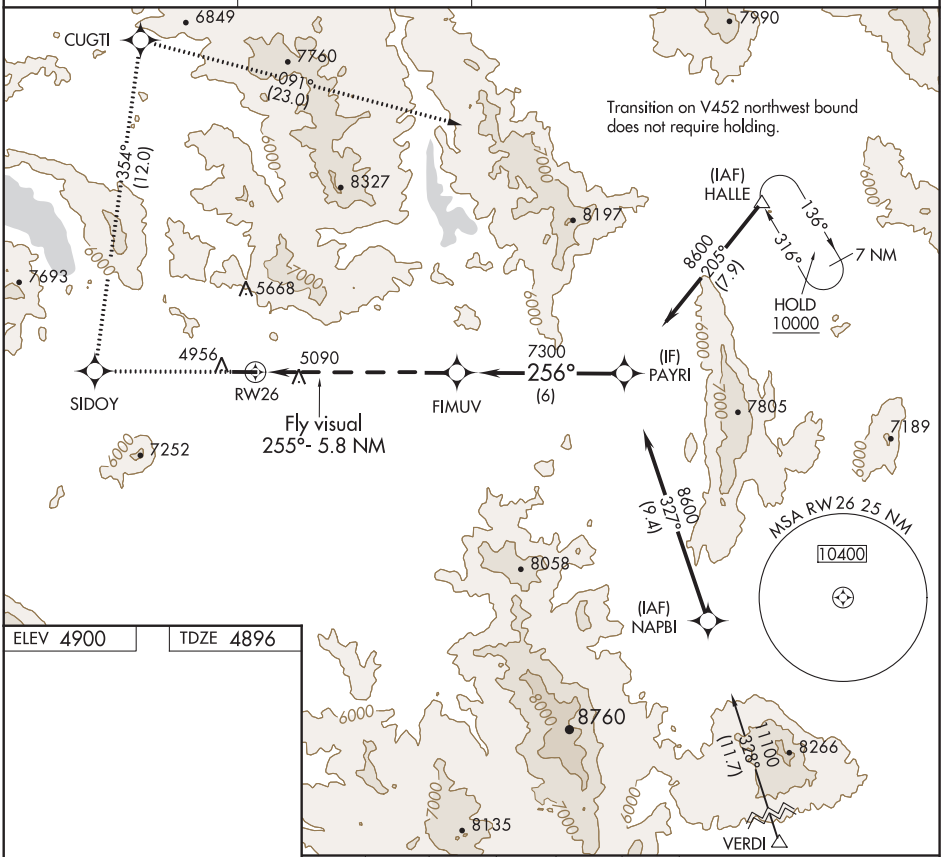
NA

-13°C

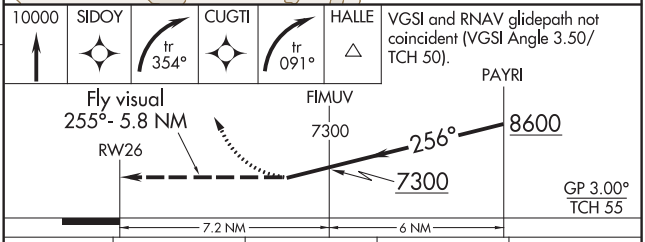
Use Reno/Stead altimeter setting; when not received, use Reno/Tahoe Intl altimeter setting and increase DA 180 feet.
DME/DME RNP -0.3 NA.
Helicopter visibility reduction below ¾ SM not authorized.

MISSED APPROACH: Climb to 10000 direct SIDOY and right turn on track 354° to CUGTI and right turn on track 091° to HALLE and hold.

AWOS-2	RTS AWOS-3	NORCAL APP CON	UNICOM
119.35	135.175	126.3 353.9	122.8 (CTAF) L



ELEV 4900 | TDZE 4896



VGSI and RNAV glidepath not coincident (VGSI Angle 3.50/ TCH 50).

CATEGORY	A	B	C	D
LPV DA	6787-2 1891 (1900-2)		6787-3 1891 (1900-3)	

MIRL Rwy 8-26 L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

APP CRS	Rwy ldg	7498
301°	TDZE	4111
	Apt Elev	4124

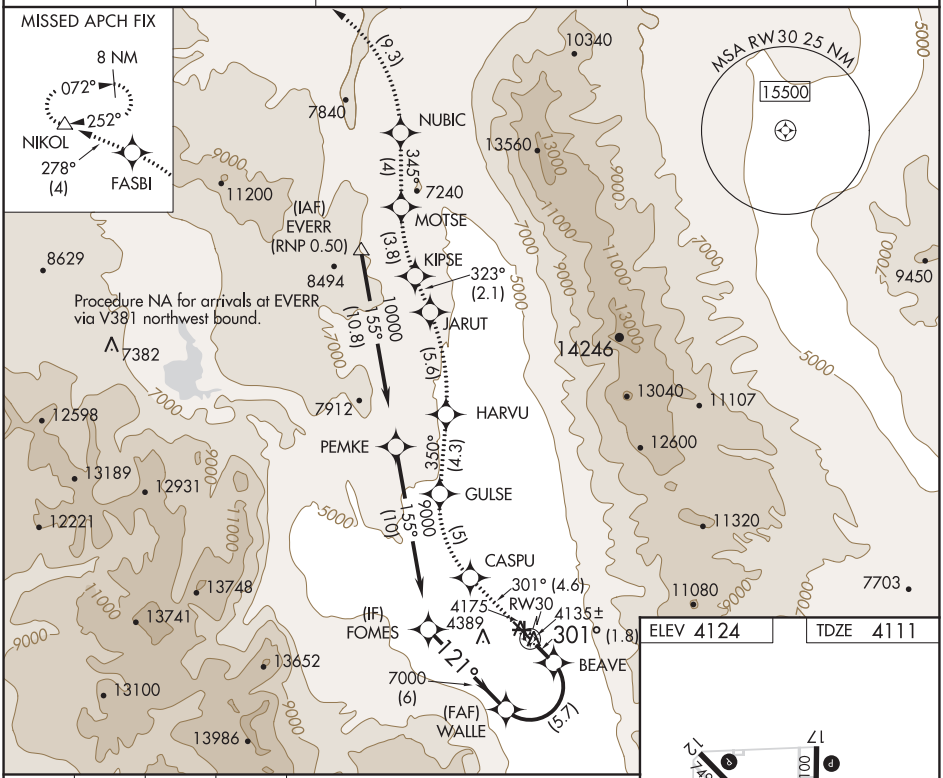
RNAV (RNP) RWY 30
BISHOP (BIH)

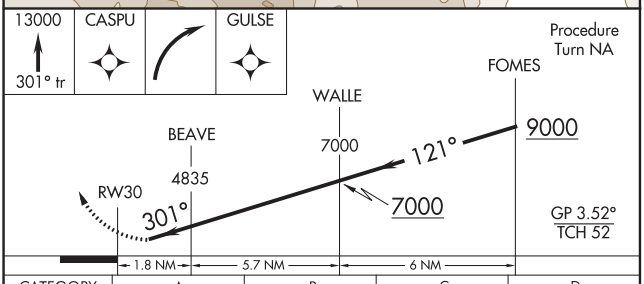
RNP AR APCH, RF required.

NA For uncompensated Baro-VNAV systems, procedure NA below -12°C or above 54°C.

MISSED APPROACH: Climb to 13000 via 301° track to CASPU, right turn to GULSE, 350° track to HARVU, left turn to JARUT, 323° track to KIPSE, right turn to MOTSE, 345° track to NUBIC, left turn to FASBI, 278° track to NIKOL and hold.

ASOS	OAKLAND CENTER	UNICOM
119.025	125.75 284.65	123.0 (CTAF) L





CATEGORY	A	B	C	D
RNP 0.30 DA	4476-1 365 (400-1)			NA

AUTHORIZATION REQUIRED

MIRL Rwys 8-26, 12-30, and 17-35 L
REIL Rwys 12, 17, 30 and 35

SW-2, 25 FEB 2021 to 22 APR 2021

BISHOP, CALIFORNIA | AL-5737 (FAA) | 20198

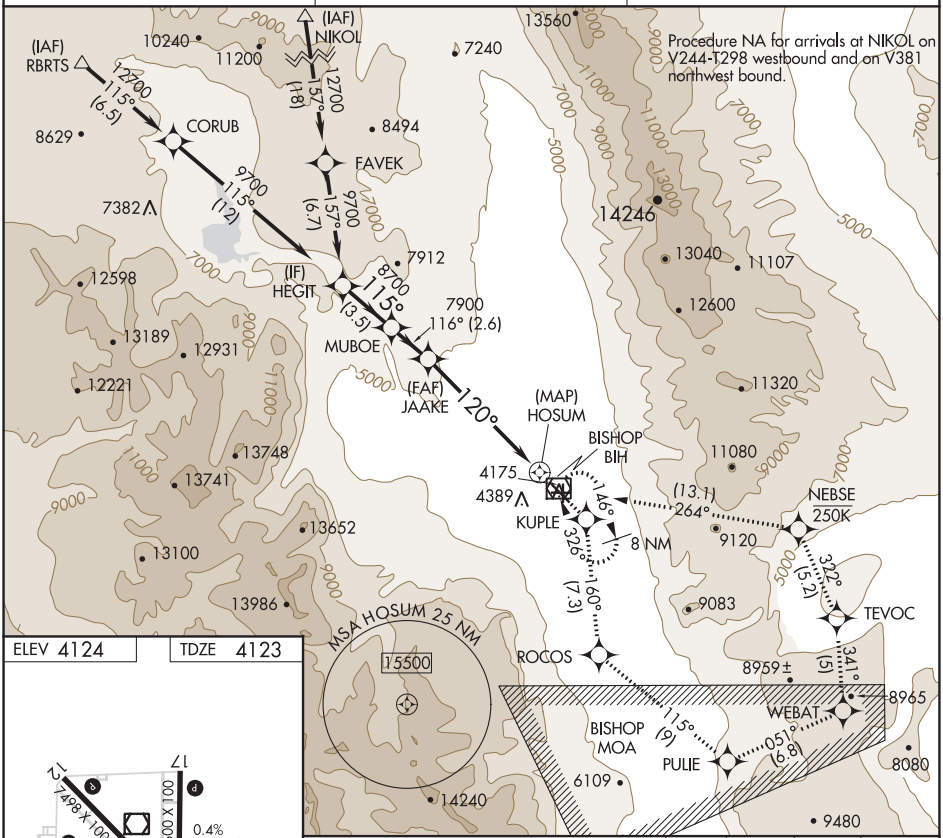
APP CRS	Rwy ldg	7498
120°	TDZE	4123
	Apt Elev	4124

RNAV (GPS) Y RWY 12
BISHOP (BIH)

RNP APCH.

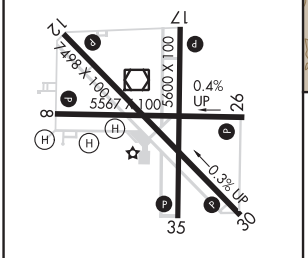
MISSED APPROACH: (Do not exceed 250 KIAS until NEBSE) Climb to 13000 direct KUPLE and on track 160° to ROCOS and on track 115° to PULIE and on track 051° to WEBAT and on track 341° to TEVOC and on track 322° to NEBSE and on track 264° to BIH VOR/DME and hold.

ASOS	OAKLAND CENTER	UNICOM
119.025	125.75 284.65	123.0 (CTAF)



SW-2, 25 FEB 2021 to 22 APR 2021

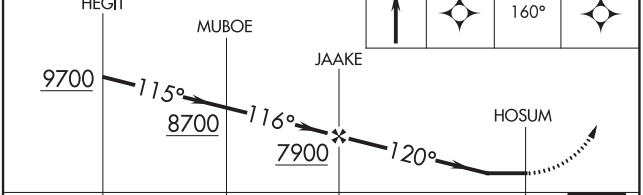
ELEV 4124 | TDZE 4123



MIRL Rwys 8-26, 12-30, and 17-35
REIL Rwys 12, 17, 30 and 35

Visual Segment - Obstacles.

13000	KUPLE	tr 160°	ROCOS



CATEGORY	A	B	C	D
LNAV MDA	6600-1¼ 2477 (2500-1¼)	6600-1½ 2477 (2500-1½)	6600-3 2477 (2500-3)	NA

BISHOP, CALIFORNIA
Orig-E 15AUG19

37°22'N-118°22'W

BISHOP (BIH)
RNAV (GPS) Y RWY 12

SW-2, 25 FEB 2021 to 22 APR 2021

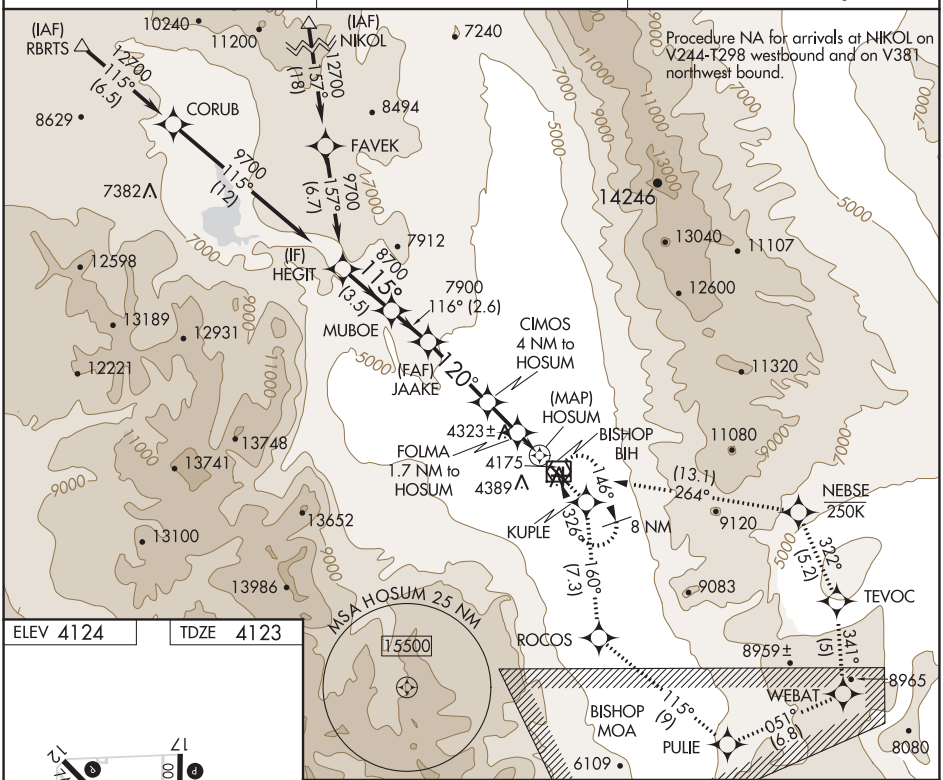
APP CRS	Rwy ldg	7498
120°	TDZE	4123
	Apt Elev	4124

RNAV (GPS) Z RWY 12
BISHOP (BIH)

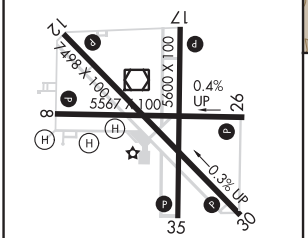
DME/DME RNP-0.3 NA
Missed approach requires minimum climb of 325 feet per NM to 11000; if unable, see RNAV (GPS) Y RWY 12.

MISSED APPROACH: (Do not exceed 250 KIAS until NEBSE) Climb to 13000 direct KUPLE and on track 160° to ROCOS and on track 115° to PULIE and on track 051° to WEBAT and on track 341° to TEVOC and on track 322° to NEBSE and on track 264° to BIH VOR/DME and hold.

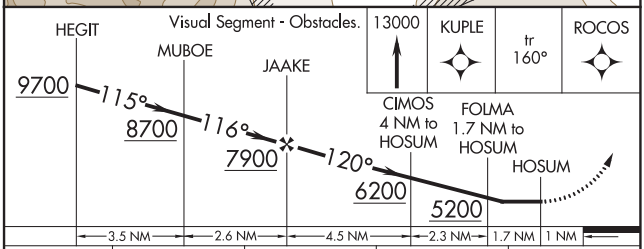
ASOS	OAKLAND CENTER	UNICOM
119.025	125.75 284.65	123.0 (CTAF) L



ELEV 4124 TDZE 4123



MIRL Rwys 8-26, 12-30, and 17-35 L
REIL Rwys 12, 17, 30 and 35



CATEGORY	A	B	C	D
LNAV MDA	4580-1¼ 457 (500-1¼)			NA
CIRCLING	6420-1¼ 2296 (2300-1¼)	6420-1½ 2296 (2300-1½)	6420-3 2296 (2300-3)	NA

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

BISHOP, CALIFORNIA | AL-5737 (FAA) | 20086

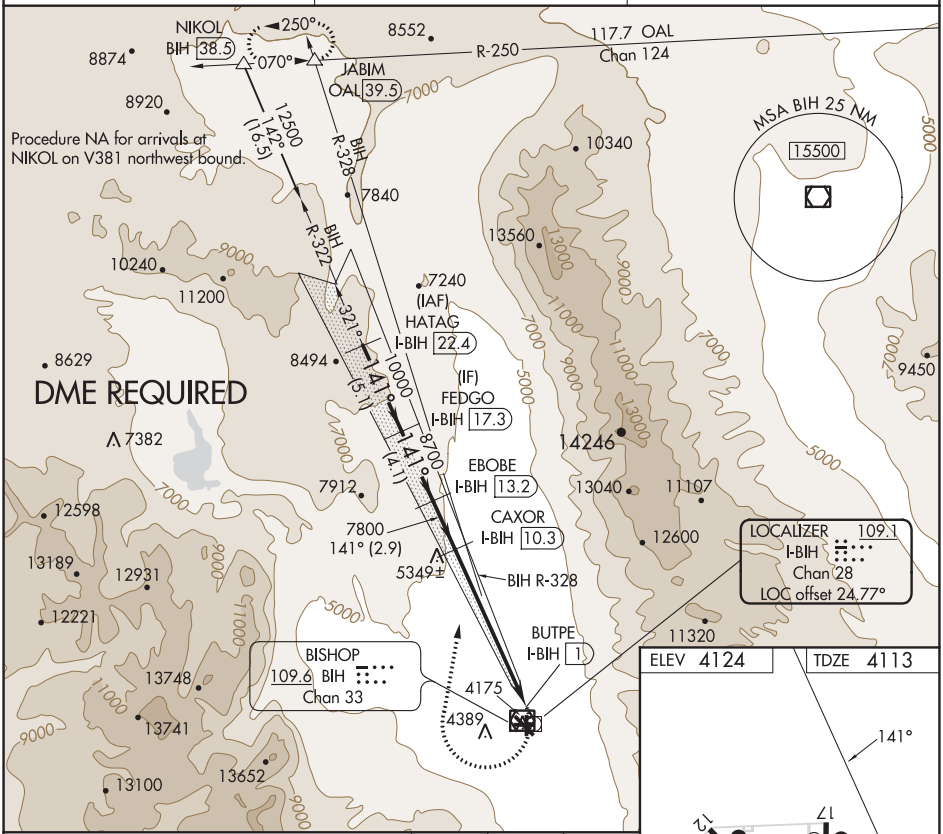
LDA RWY 17
BISHOP (BIH)

LOC/DME I-BIH	APP CRS	Rwy ldg	5600
109.1	141°	TDZE	4113
Chan 28		Apt Elev	4124

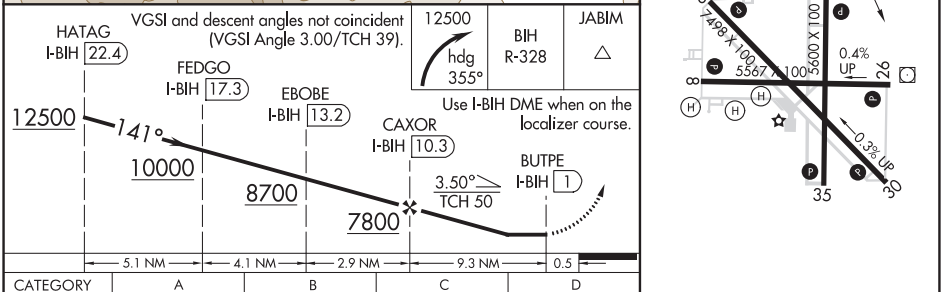
DME required.

MISSED APPROACH: Climbing right turn to 12500 on heading 355° and on BIH VOR/DME R-328 to JABIM INT/OAL 39.5 DME and hold.

ASOS	OAKLAND CENTER	UNICOM
119.025	125.75 284.65	123.0 (CTAF) L



ELEV 4124 | TDZE 4113



CATEGORY	A	B	C	D
S-17	6340-1¼ 2227 (2300-1¼)	6340-1½ 2227 (2300-1½)	6340-3 2227 (2300-3)	

MIRL Rwys 8-26, 12-30, and 17-35 L
REIL Rwys 12, 17, 30 and 35

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

RNAV (GPS) RWY 30
BYRON (C83)

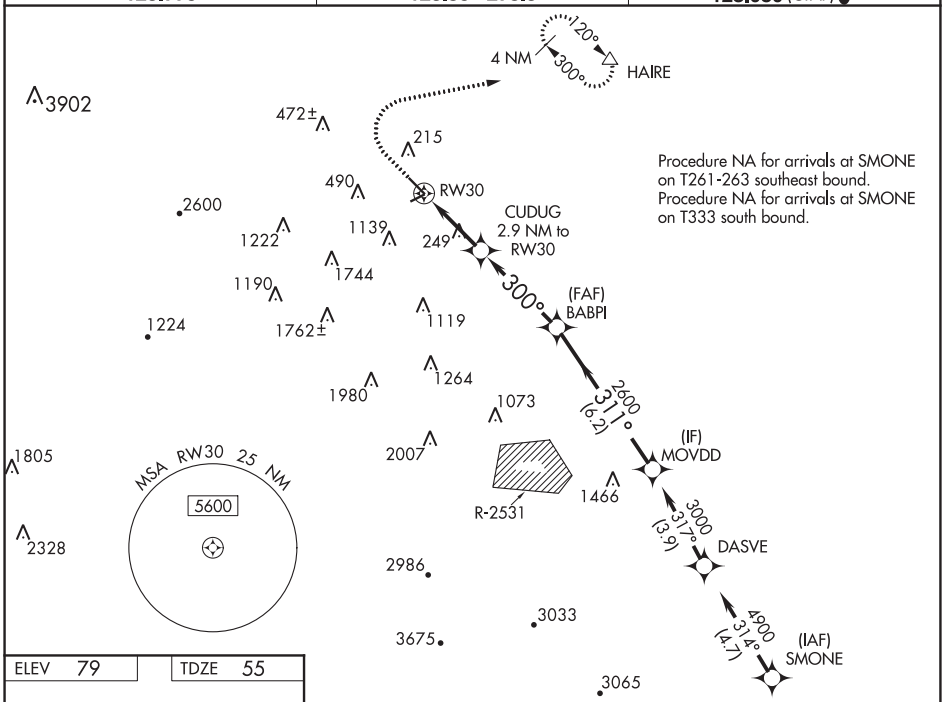
WAAS CH 65902 W30A	APP CRS 300°	Rwy ldg 4500 TDZE 55 Apt Elev 79

RNP APCH.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 15°C (59°F). Circling NA southwest of Rwy 12-30.

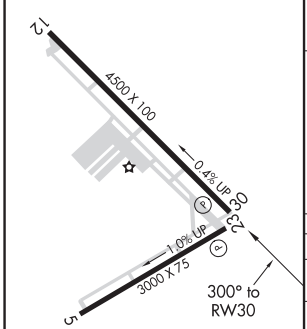
MISSED APPROACH: Climb to 1000, then climbing right turn 4000 direct HAIRE and hold, continue climb-in-hold 4000.

AWOS-3	NORCAL APP CON	UNICOM
123.775	123.85 278.3	123.050 (CTAF) L



Procedure NA for arrivals at SMONE on T261-263 southeast bound.
Procedure NA for arrivals at SMONE on T333 south bound.

ELEV 79	TDZE 55

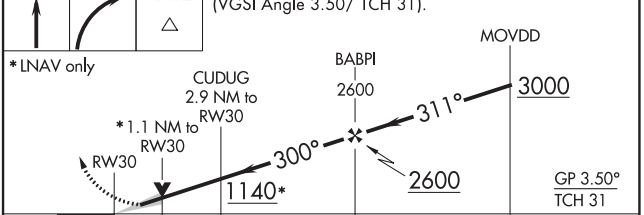


REIL Rwy 30 L
MIRL Rwys 5-23 and 12-30 L

1000 | 4000 | HAIRE

VGSI and RNAV glidepath not coincident (VGSI Angle 3.50/ TCH 31).

*LNAV only



CATEGORY	A	B	C	D
LPV DA	325- 7/8 270 (300-7/8)			
LNAV/VNAV DA	404-1 1/8 349 (400-1 1/8)			
LNAV MDA	500-1 445 (500-1)		500-1 3/8 445 (500-1 3/8)	
CIRCLING	600-1 521 (600-1)		680-1 3/4 601 (700-1 3/4)	820-2 1/2 741 (800-2 1/2)

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

CHICO, CALIFORNIA | AL-557 (FAA) | 21056

ILS or LOC RWY 13L
CHICO MUNI (CIC)

LOC/DME I-CIC 111.3 Chan 50	APP CRS 131°	Rwy ldg 6724 TDZE 240 Apt Elev 240

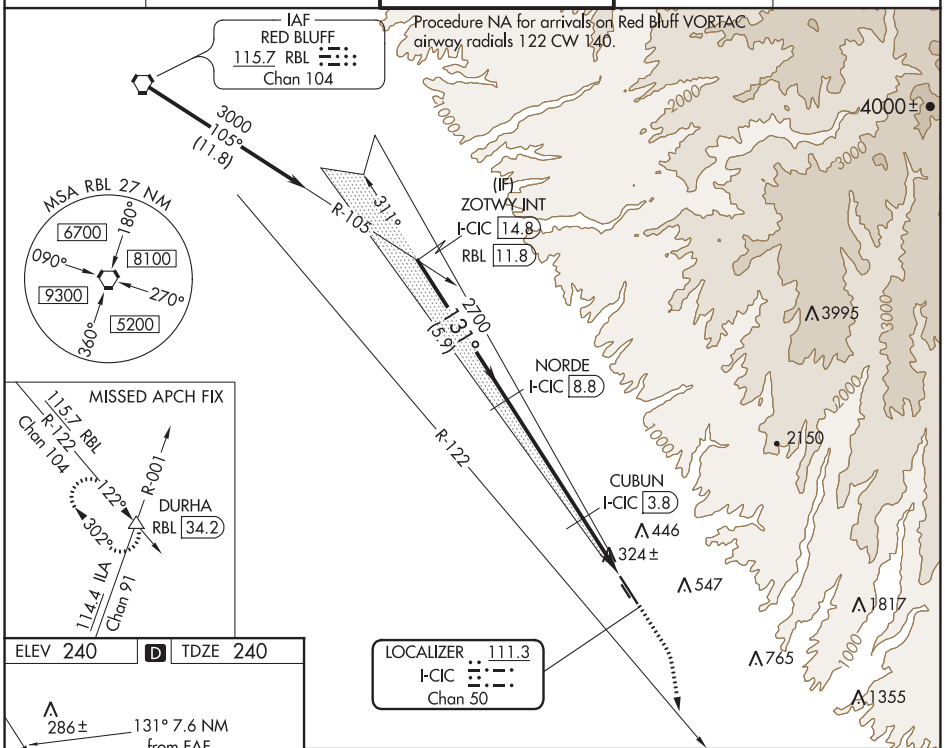
DME required.

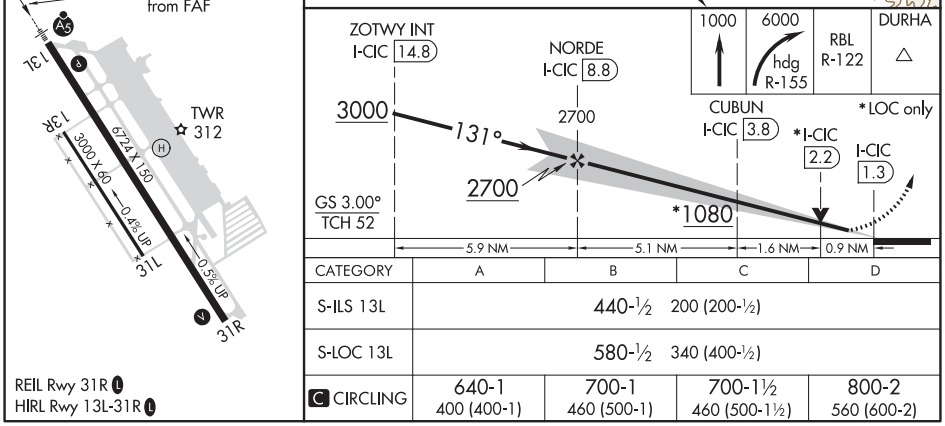
Circling NA east of Rwy 13L/31R.

MALSR

MISSED APPROACH: Climb to 1000 then climbing right turn to 6000 on heading 155° and RBL R-122 to DURHA INT/ RBL 34.2 DME and hold, continue climb-in-hold to 6000.

ATIS	OAKLAND CENTER	CHICO TOWER ★	GND CON	UNICOM
119.675	132.2 350.3	121.0 (CTAF) L 239.3	121.9	122.95





CATEGORY	A	B	C	D
S-ILS 13L	440-½ 200 (200-½)			
S-LOC 13L	580-½ 340 (400-½)			
C CIRCLING	640-1 400 (400-1)	700-1 460 (500-1)	700-1½ 460 (500-1½)	800-2 560 (600-2)

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

RNAV (GPS) RWY 13L
CHICO MUNI (CIC)

WAAS CH 65912 W13A	APP CRS 131°	Rwy ldg 6724 TDZE 240 Apt Elev 240

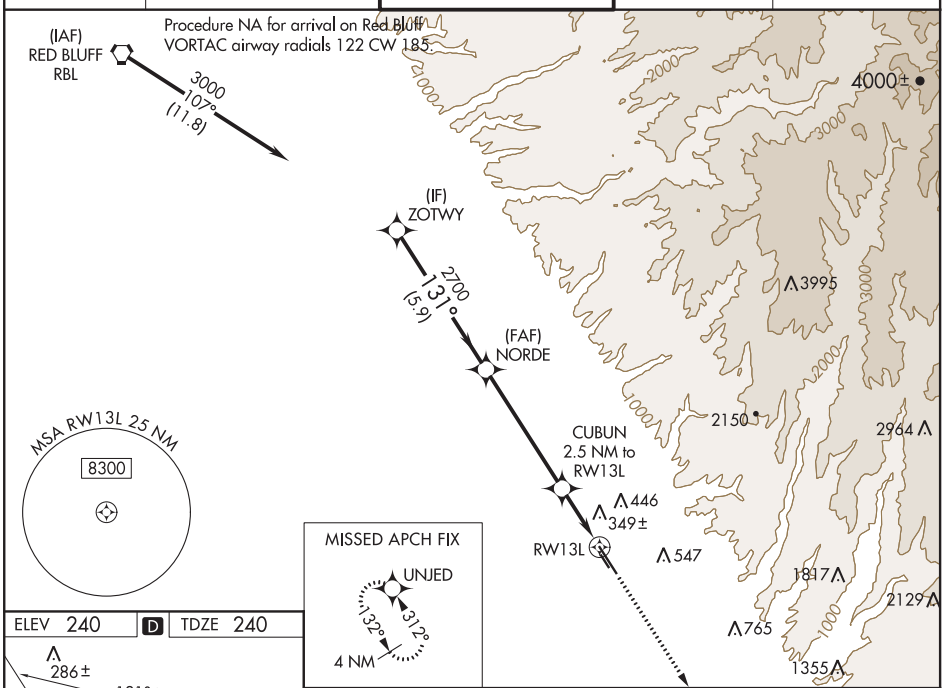
RNP APCH.

Circling NA east of Rwy 13L-31R. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 54°C. For inop ALS, increase LNAV/VNAV all Cats visibility to ⅞ SM, and increase LNAV Cats C/D visibility to 1 SM.

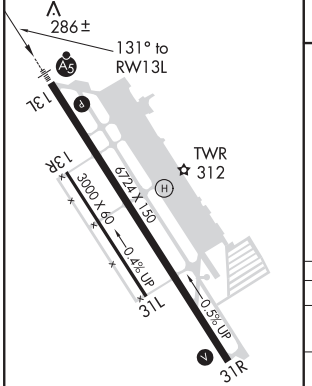
MALSR

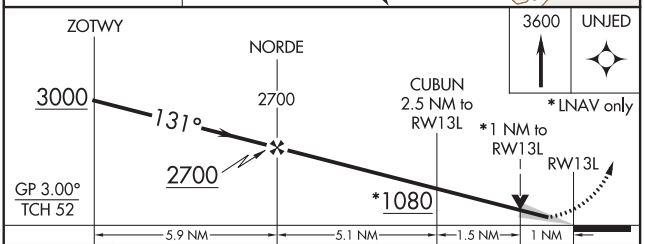
MISSED APPROACH: Climb to 3600 direct UNJED and hold, continue climb-in-hold to 3600.

ATIS	OAKLAND CENTER	CHICO TOWER*	GND CON	UNICOM
119.675	132.2 350.3	121.0 (CTAF) L 239.3	121.9	122.95



ELEV 240 D TDZE 240





CATEGORY	A	B	C	D
LPV DA	440-½ 200 (200-½)			
LNAV/VNAV DA	530-½ 290 (300-½)			
LNAV MDA	600-½ 360 (400-½)		600-⅝ 360 (400-⅝)	
C CIRCLING	640-1 400 (400-1)	700-1 460 (500-1)	700-1½ 460 (500-1½)	800-2 560 (600-2)

REIL Rwy 31R L
HIRL Rwy 13L-31R L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

CHICO, CALIFORNIA AL-557 (FAA) 21056

RNAV (GPS) RWY 31R
CHICO MUNI (CIC)

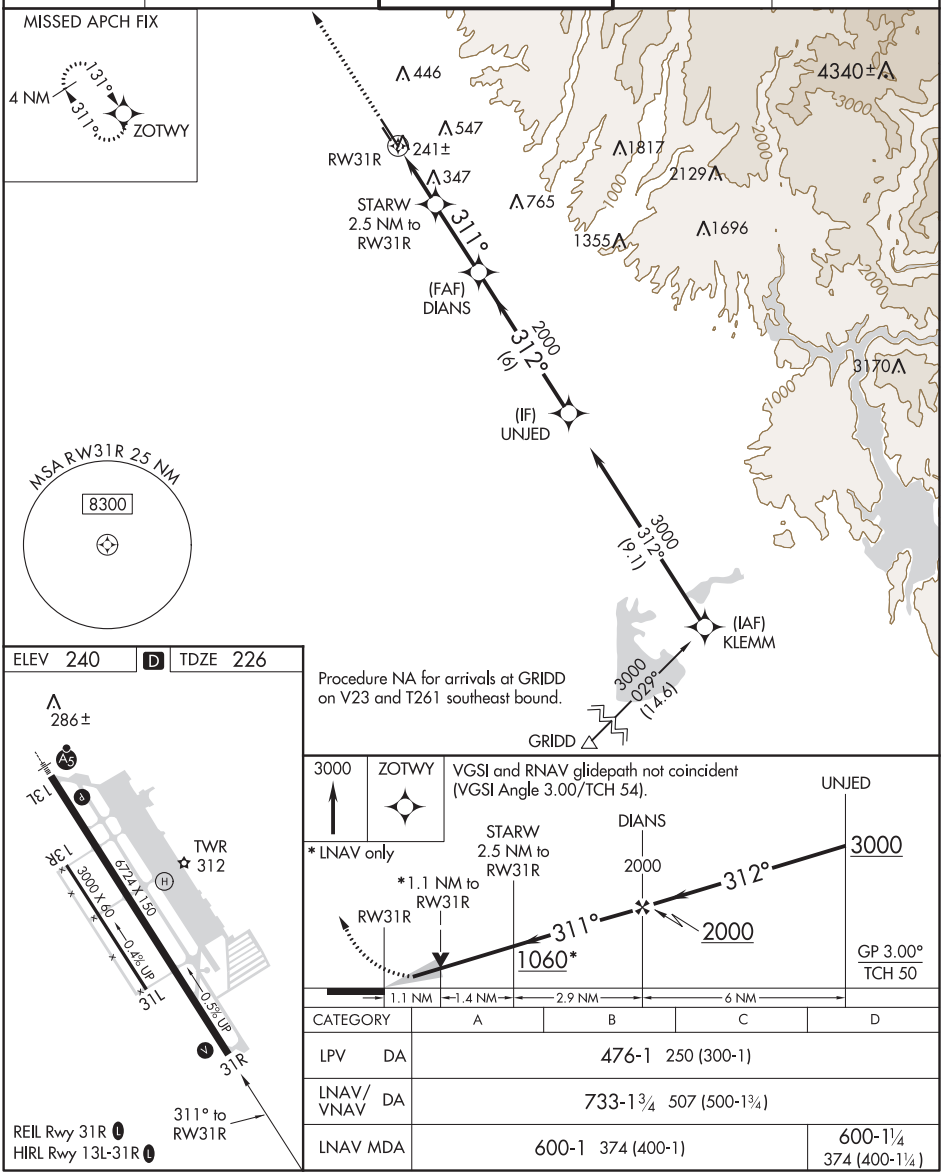
WAAS CH 77912 W31A	APP CRS 311°	Rwy ldg 6724 TDZE 226 Apt Elev 240

RNP APCH.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 48°C.

MISSED APPROACH: Climb to 3000 direct ZOTWY and hold.

ATIS	OAKLAND CENTER	CHICO TOWER ★	GND CON	UNICOM
119.675	132.2 350.3	121.0 (CTAF) L 239.3	121.9	122.95

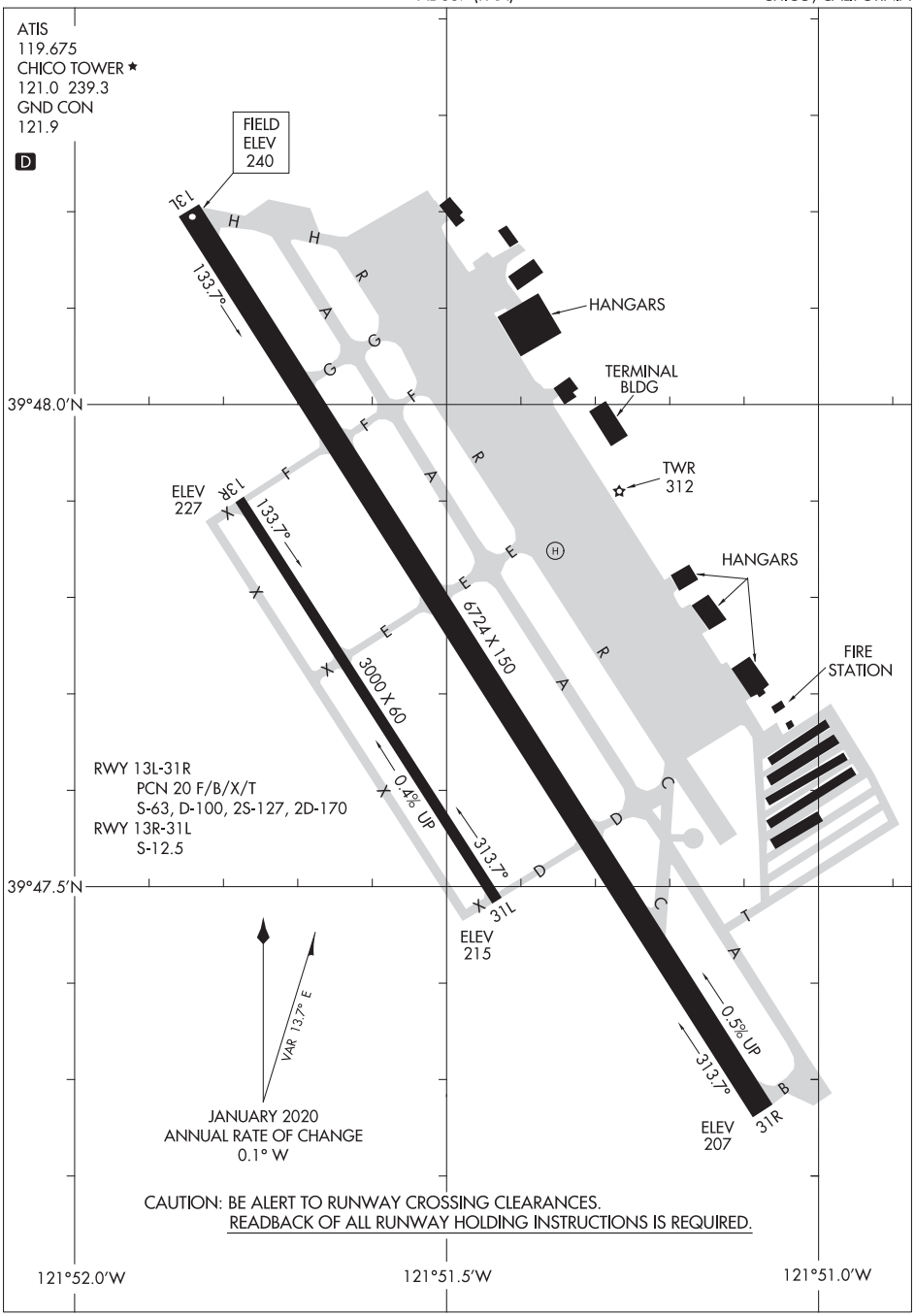


Procedure NA for arrivals at GRIDD on V23 and T261 southeast bound.

CATEGORY		A	B	C	D
LPV	DA	476-1 250 (300-1)			
LNAV/VNAV	DA	733-1¾ 507 (500-1¾)			
LNAV MDA		600-1 374 (400-1)			600-1¼ 374 (400-1¼)

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

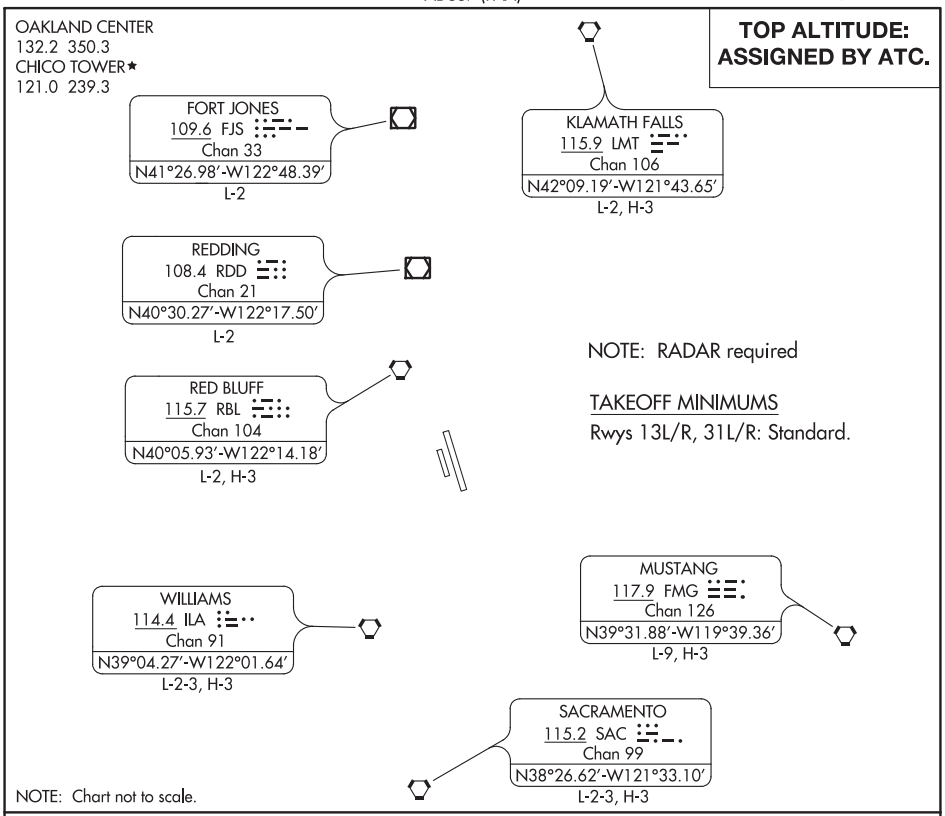

ATIS
119.675
CHICO TOWER ★
121.0 239.3
GND CON
121.9
D
FIELD
ELEV
240
13L
133.7°
HANGARS
TERMINAL
BLDG
39°48.0'N
TWR
312
ELEV
227
13R
133.7°
HANGARS
6724 X 150
FIRE
STATION
3000 X 60
RWY 13L-31R
PCN 20 F/B/X/T
S-63, D-100, 2S-127, 2D-170
RWY 13R-31L
S-12.5
0.4% UP
313.7°
31L
ELEV
215
39°47.5'N
VAR 13.7° E
JANUARY 2020
ANNUAL RATE OF CHANGE
0.1° W
0.5% UP
313.7°
31R
ELEV
207
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.
121°52.0'W
121°51.5'W
121°51.0'W

(CIC5.CIC) 20254

CHICO FIVE DEPARTURE

AL-557 (FAA)

CHICO MUNI (CIC)
CHICO, CALIFORNIA



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 13L/R: Climb on a heading between 140° CW 310° from departure end of runway to assigned altitude. Thence. . . .

TAKEOFF RUNWAYS 31L/R: Climb on a heading between 320° CCW 132° from departure end of runway to assigned altitude. Thence. . . .

. . . .RADAR vectors to assigned route. Maintain assigned altitude, expect filed altitude/flight level 10 minutes after departure.

LOST COMMUNICATIONS

For aircraft assigned a heading between 120° CW through 250°: if not in contact with Oakland Center after reaching 3000, continue climb to 5000 or higher assigned altitude and proceed to ILA VORTAC, thence. . . .

For aircraft assigned a heading between 255° CW through 320°: if not in contact with Oakland Center after reaching 3000, continue climb to 5000 or higher assigned altitude and proceed to RBL VORTAC, thence. . . .

. . . .Proceed on assigned route.

SW-2, 25 FEB 2021 to 22 APR 2021

APP CRS	Rwy ldg	2909
314°	TDZE	271
	Apt Elev	272

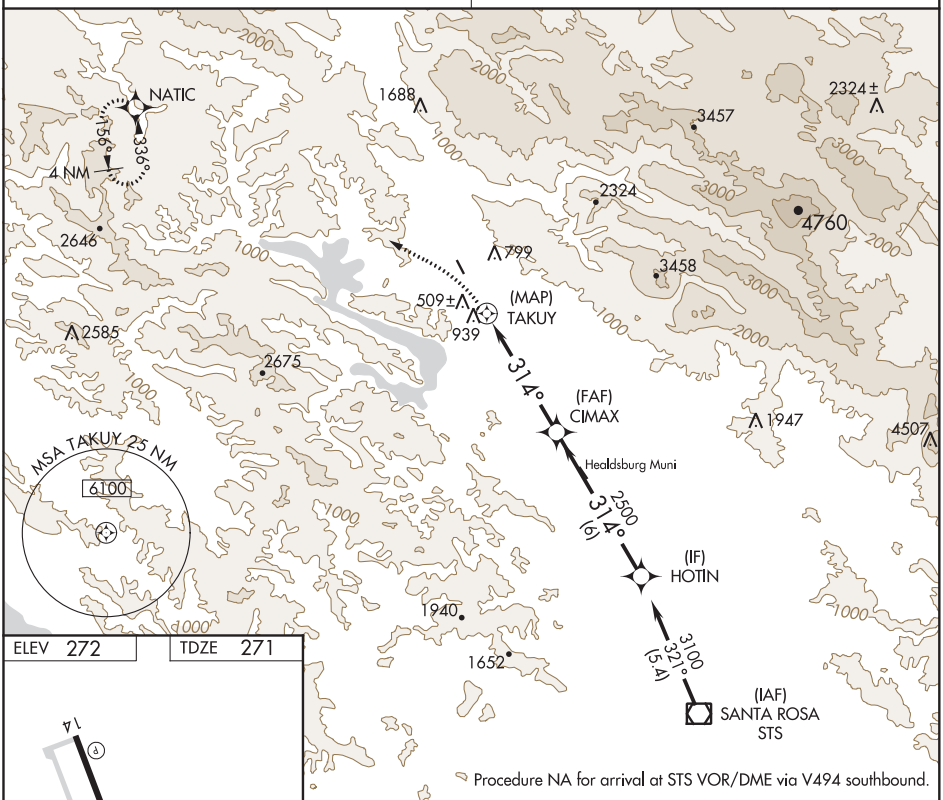
RNAV (GPS) RWY 32
CLOVERDALE MUNI (O60)

T NA

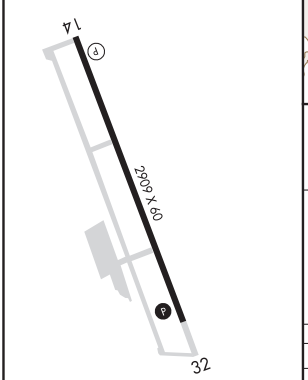
Use Santa Rosa/Charles M Schulz-Sonoma County altimeter setting; when not received procedure NA.
Procedure NA at night. Circling NA east of Rwy 14-32
GPS or RNP-0.3 required. DME/DME RNP-0.3 NA.

MISSED APPROACH: Climbing left turn to 6000 direct NATIC WP and hold.

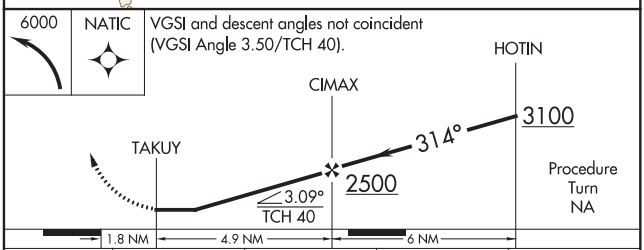
OAKLAND CENTER	UNICOM
127.8 353.5	122.8 (CTAF) L



ELEV 272 TDZE 271



MIRL Rwy 14-32 L
REIL Rwys 14 and 32



CATEGORY	A	B	C	D
LNAV MDA	1440-2 1169 (1200-2)		1440-3 1169 (1200-3)	NA
CIRCLING	1440-2 1168 (1200-2)		1640-3 1368 (1400-3)	NA

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

COLUMBIA, CALIFORNIA | AL-6786 (FAA) | 20310

APP CRS	Rwy ldg	4289
354°	TDZE	2105
	Apt Elev	2121

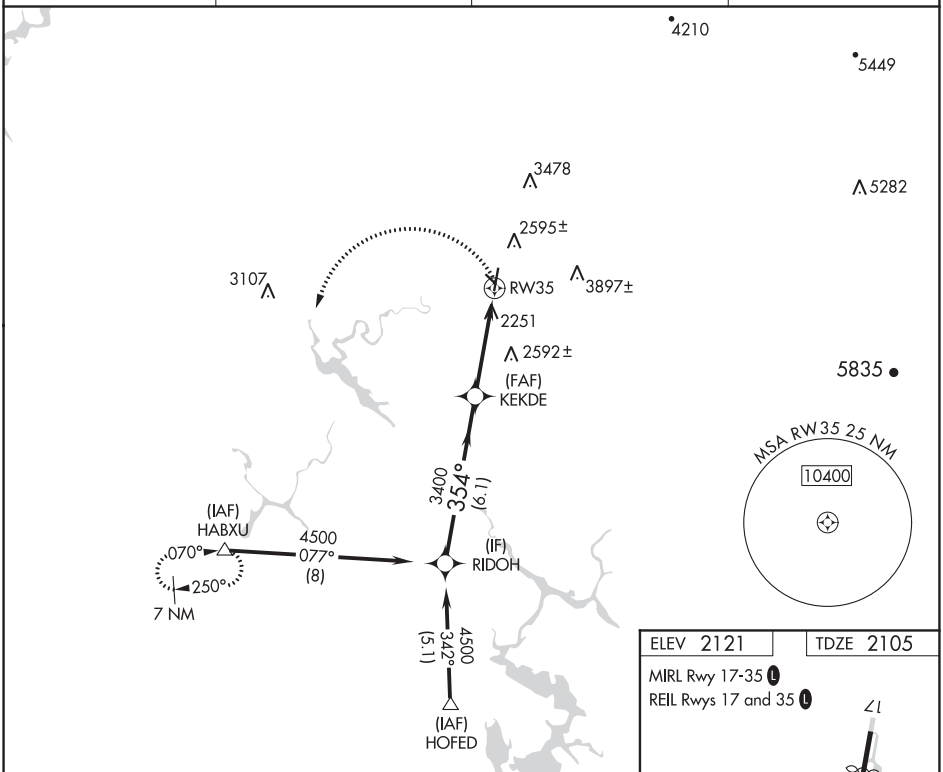
RNAV (GPS) RWY 35
COLUMBIA (O22)

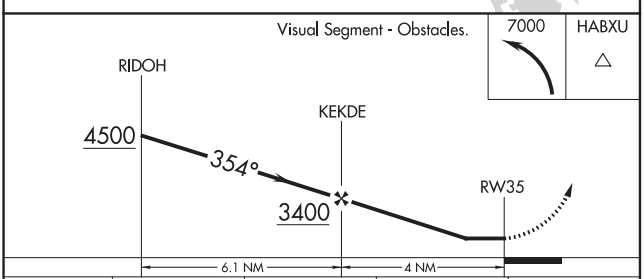
RNP APCH.

Circling NA to Rwys 11 and 29. Circling NA east of Rwy 17-35. Procedure NA at night. Rwy 35 helicopter visibility reduction below 1 SM NA.

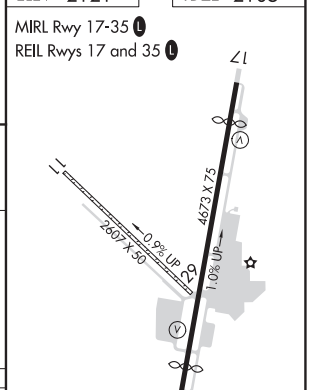
MISSED APPROACH: Climbing left turn to 7000 direct HABXU and hold, continue climb-in-hold to 7000.

AWOS-3	NORCAL APP CON	OAKLAND CENTER	UNICOM
124.65	125.1 363.2 (NORTH/WEST)	121.25 327.0 (EAST/SOUTH)	122.975 (CTAF) L





CATEGORY	A	B	C	D
LNAV MDA	3140-1¼ 1035 (1100-1¼)	3140-1½ 1035 (1100-1½)	3140-3 1035 (1100-3)	NA
C CIRCLING	3140-1¼ 1019 (1100-1¼)	3140-1½ 1019 (1100-1½)	3140-3 1019 (1100-3)	NA



COLUMBIA, CALIFORNIA
Orig-C 30JAN20

38°02′N-120°25′W

COLUMBIA (O22)
RNAV (GPS) RWY 35

SW-2, 25 FEB 2021 to 22 APR 2021

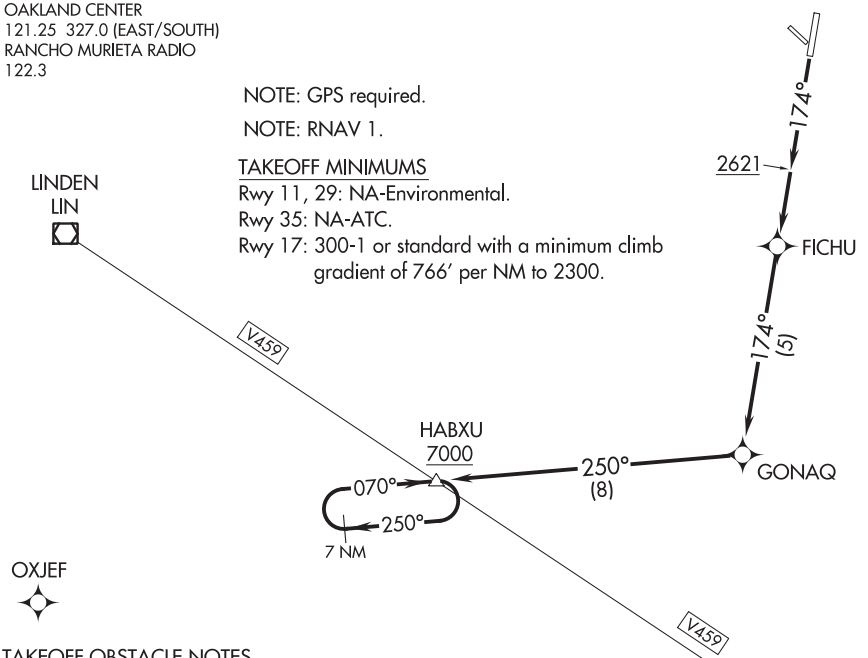
SW-2, 25 FEB 2021 to 22 APR 2021

NORCAL DEP CON
125.1 363.2 (NORTH/WEST)
OAKLAND CENTER
121.25 327.0 (EAST/SOUTH)
RANCHO MURIETA RADIO
122.3

NOTE: GPS required.

NOTE: RNAV 1.

TAKEOFF MINIMUMS
Rwy 11, 29: NA-Environmental.
Rwy 35: NA-ATC.
Rwy 17: 300-1 or standard with a minimum climb gradient of 766′ per NM to 2300.



TAKEOFF OBSTACLE NOTES
Rwy 17: Bush 31′ from DER, 196′ right of centerline, 2083′ MSL.
Tree 148′ from DER, 387′ right of centerline, 2108′ MSL.
Trees beginning 180′ from DER, 287′ left of centerline, up to 2126′ MSL.
Tree 262′ from DER, 527′ right of centerline, 2163′ MSL.
Trees beginning 354′ from DER, 240′ left of centerline, up to 2127′ MSL.
Tree, road (N), pole, ground, bush beginning 414′ from DER, 46′ right of centerline, up to 2188′ MSL.
Tree 456′ from DER, 325′ left of centerline, 2130′ MSL.
Trees beginning 492′ from DER, 109′ left of centerline, up to 2133′ MSL.
Trees beginning 725′ from DER, 26′ left of centerline, up to 2171′ MSL.
Trees beginning 1260′ from DER, 56′ left of centerline, up to 2181′ MSL.
Tree 1527′ from DER, 893′ right of centerline, 2205′ MSL.
Tree 1619′ from DER, 860′ right of centerline, 2220′ MSL.
Trees beginning 1664′ from DER, 896′ right of centerline, up to 2238′ MSL.
Tree 2152′ from DER, 982′ left of centerline, 2212′ MSL.
Tree 2195′ from DER, 988′ left of centerline, 2262′ MSL.
Tree 2195′ from DER, 987′ left of centerline, 2273′ MSL.
Tree, tower beginning 5842′ from DER, 410′ left of centerline, up to 2339′ MSL.
Tree 5936′ from DER, 557′ left of centerline, 2239′ MSL.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 17: Climb on heading 174° to 2621, then climb direct to FICHU, then on track 174° to GONAQ, then on track 250° to HABXU. Continue climb in hold in HABXU holding pattern to cross HABXU at or above MEA for route of flight.

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

COLUSA, CALIFORNIA | AL-5147 (FAA) | 19003

RNAV (GPS)-B
COLUSA COUNTY (0Ø8)

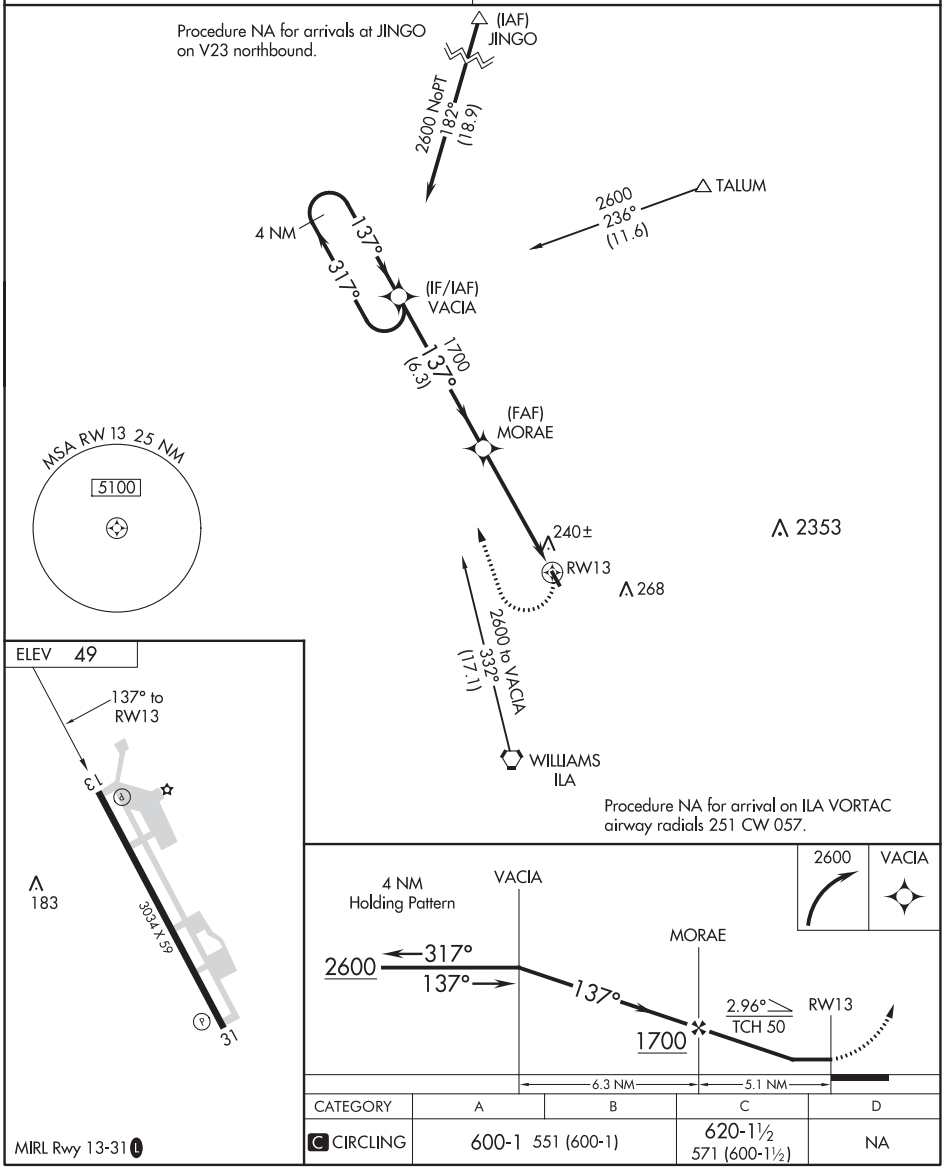
APP CRS	Rwy ldg	N/A
137°	TDZE	N/A
	Apt Elev	49

RNP APCH.

Obtain local altimeter setting on CTAF; when not received, use Sacramento Intl altimeter setting and increase all MDAs 100 feet and Cat C visibility ½ SM. Circling Rwy 31 NA at night.

MISSED APPROACH: Climbing right turn to 2600 direct VACIA and hold.

OAKLAND CENTER	UNICOM
132.2 350.3	122.8 (CTAF) L



CATEGORY	A	B	C	D
C CIRCLING	600-1 551 (600-1)		620-1½ 571 (600-1½)	NA

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

WAAS CH 65840 W31A	APP CRS 317°	Rwy ldg 3034 TDZE 49 Apt Elev 49

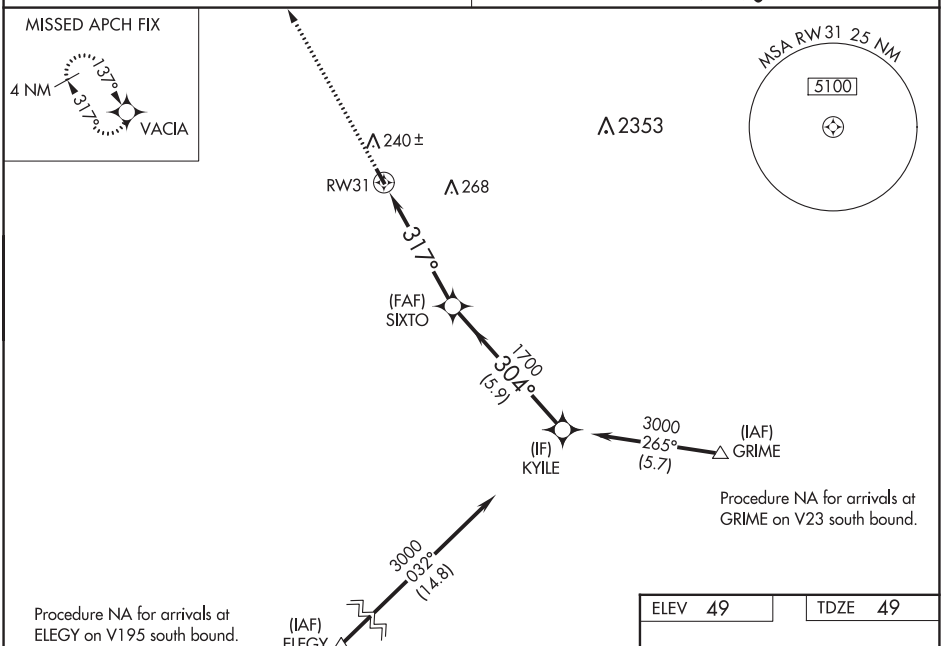
RNAV (GPS) RWY 31
COLUSA COUNTY (O08)

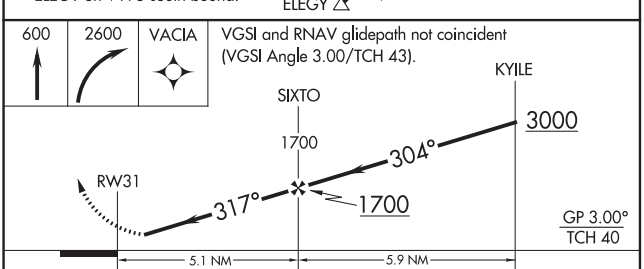
RNP APCH.

T A NA For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 54°C (130°F). Rwy 31 helicopter visibility reduction below 1 SM NA. Obtain local altimeter setting on CTAF; when not received, use Sacramento Intl altimeter setting: increase LPV DA to 382 feet, increase LNAV/VNAV DA to 550 feet and all visibilities ¼ SM; increase all MDAs 100 feet and LNAV Cat C visibility ¼ SM, Circling Cat C visibility ½ SM. Baro-VNAV NA with Sacramento Intl altimeter setting. Straight-in Rwy 31 NA at night, Circling Rwy 31 NA at night.

MISSED APPROACH: Climb to 600 then climbing right turn to 2600 direct VACIA and hold.

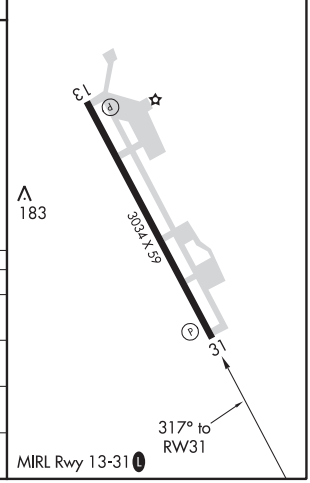
OAKLAND CENTER	UNICOM
132.2 350.3	122.8 (CTAF) L





CATEGORY	A	B	C	D
LPV DA	299-1 250 (300-1)			NA
LNAV/VNAV DA	469-1⅛ 420 (500-1⅛)			NA
LNAV MDA	500-1 451 (500-1)		500-1⅜ 451 (500-1⅜)	NA
C CIRCLING	600-1 551 (600-1)		620-1½ 571 (600-1½)	NA

ELEV 49	TDZE 49



SW-2, 25 FEB 2021 to 22 APR 2021

COLUSA, CALIFORNIA | AL-5147 (FAA) | 20310

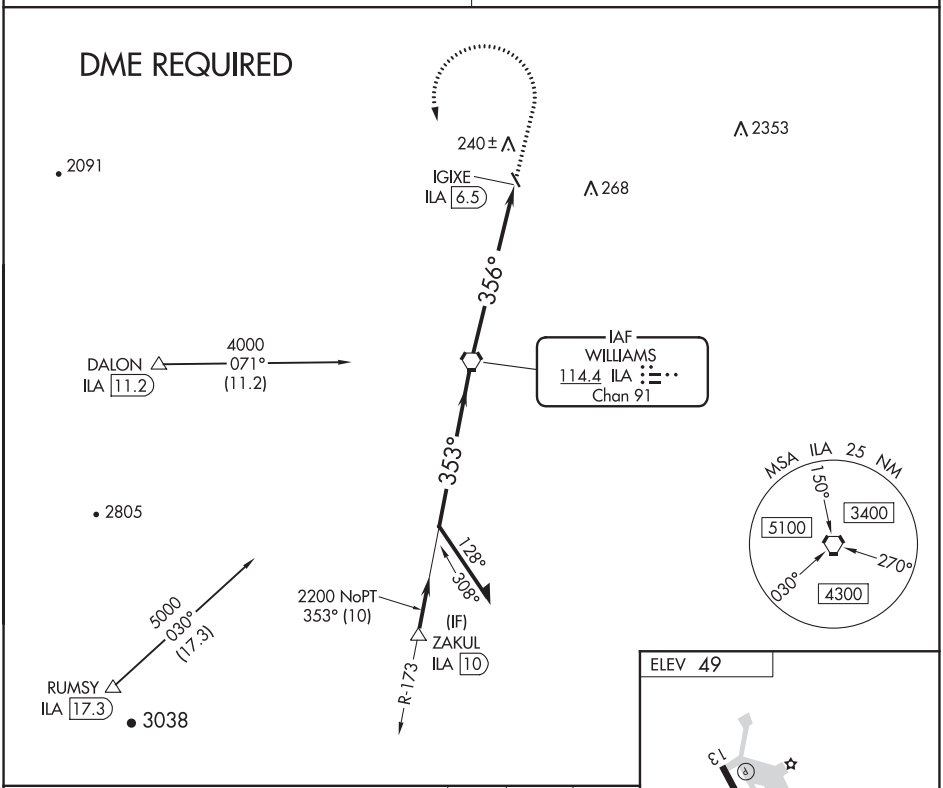
VORTAC ILA 114.4 Chan 91	APP CRS 356°	Rwy ldg N/A TDZE N/A Apt Elev 49

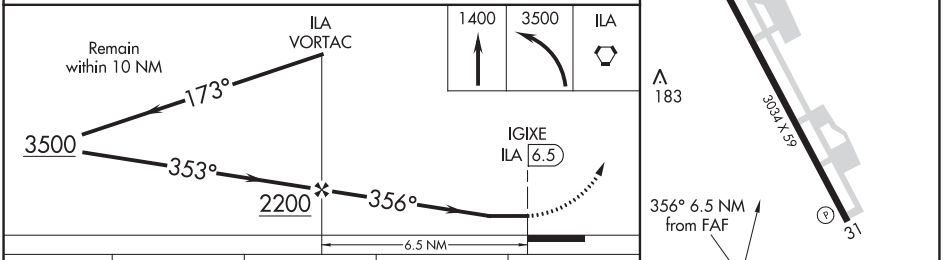
VOR-A
COLUSA COUNTY (O∅8)

T ⚠NA Obtain local altimeter setting on CTAF; when not received, use Sacramento Intl altimeter setting. Circling Rwy 31 NA at night.

MISSED APPROACH: Climb to 1400 then climbing left turn to 3500 direct ILA VORTAC.

OAKLAND CENTER	UNICOM
132.2 350.3	122.8 (CTAF) L





CATEGORY	A	B	C	D
C CIRCLING	600-1 551 (600-1)		620-1½ 571 (600-1½)	NA
SACRAMENTO INTL ALTIMETER SETTING MINIMUMS				
C CIRCLING	700-1 651 (700-1)		720-2 671 (700-2)	NA

FAF to MAP 6.5 NM					
Knots	60	90	120	150	180
Min:Sec	6:30	4:20	3:15	2:36	2:10

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

WAAS CH 86424 W19A	APP CRS 191°	Rwy ldg 4400 TDZE 22 Apt Elev 26

RNAV (GPS) RWY 19R

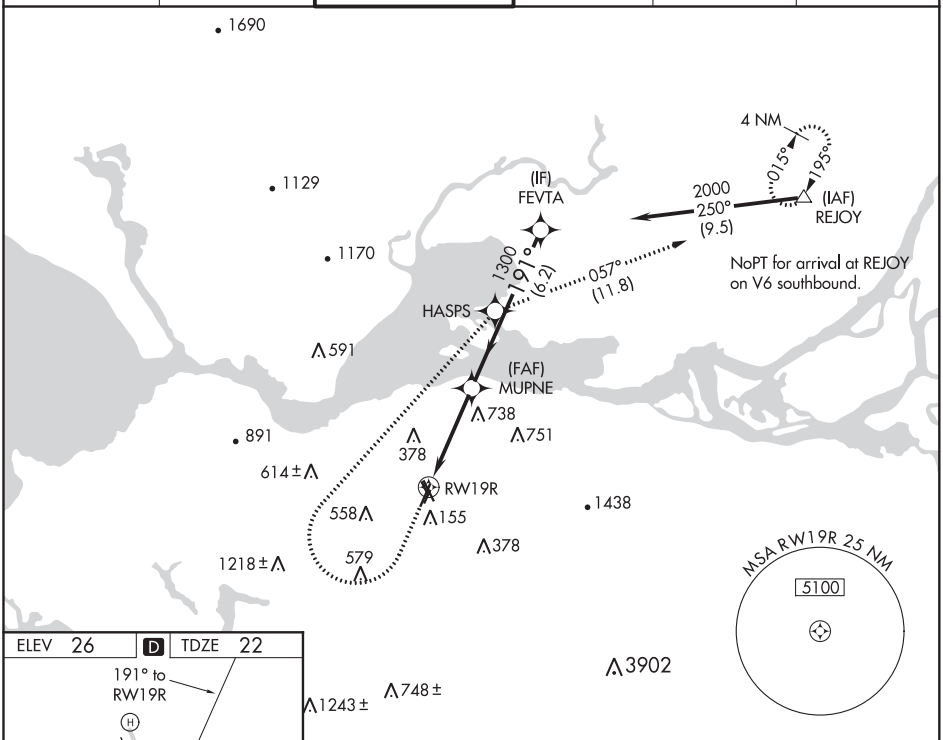
BUCHANAN FIELD (CCR)

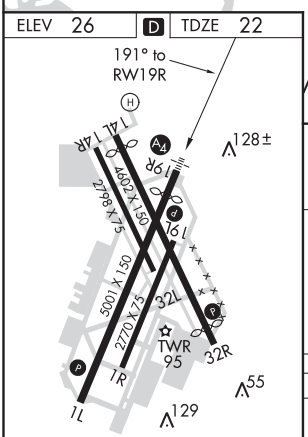
Circling to Rwys 1L, 1R, 32L, 32R and 19L NA at night. Circling NA west of Rwys 1L and 19R. Rwy 19R helicopter visibility reduction below ¾ SM NA. DME/DME RNP-0.3 NA. Inop table does not apply to LPV. For inop ALS, increase LNAV Cat C and D visibilty to 3 SM.

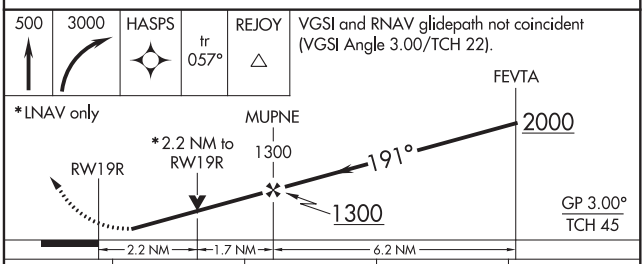
MALS

MISSED APPROACH: (Do not exceed 190K until HASPS) Climb to 500 then climbing right turn to 3000 direct HASPS then on track 057° direct REJOY and hold.

ATIS	TRAVIS APP CON	CONCORD TOWER★	GND CON	CLNC DEL	UNICOM
124.7	119.9 322.325	119.7 (CTAF) L 257.8	121.9	118.75	122.95







CATEGORY	A	B	C	D
LPV DA	272-¾ 250 (300-¾)			
LNAV MDA	980-1 958 (1000-1)	980-1¼ 958 (1000-1¼)	980-2½ 958 (1000-2½)	
C CIRCLING	980-1¼ 954 (1000-1¼)	980-1½ 954 (1000-1½)	980-3 954 (1000-3)	1300-3 1274 (1300-3)

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

CONCORD, CALIFORNIA — AL-5320 (FAA) — 20366

LOC/DME I-CCR	APP CRS	Rwy ldg	4400
108.5	185°	TDZE	22
Chan 22		Apt Elev	26

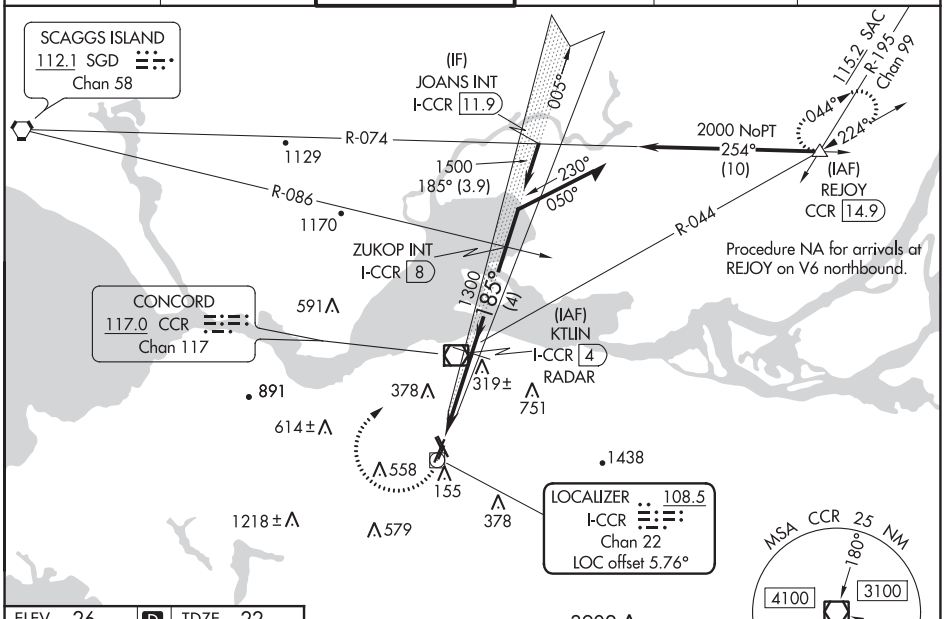
LDA RWY 19R
BUCHANAN FIELD (CCR)

DME required.
Circling NA west of Rwy 1L-19R. Circling Rwy 1L, 19L, 32R NA at night. Rwy 19R helicopter visibility reduction below ¾ SM NA. For inop ALS, increase S-19R Cats C/D visibility to 2 SM.
*For inop ALS, increase S-19R Cats C/D visibility to 1⅛ SM.

MALS

MISSED APPROACH: Climbing right turn to 3000 direct CCR VOR/DME then on CCR VOR/DME R-044 to REJOY/CCR 14.9 DME and hold.
*Missed approach requires minimum climb of 282 feet per NM to 1800.

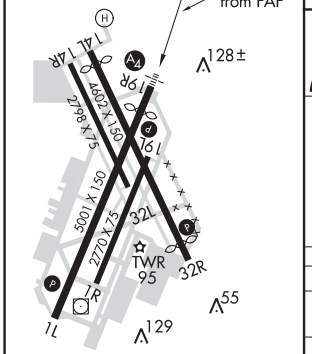
ATIS	TRAVIS APP CON	CONCORD TOWER*	GND CON	CLNC DEL	UNICOM
124.7	119.9 322.325	119.7 (CTAF) L 257.8	121.9	118.75	122.95



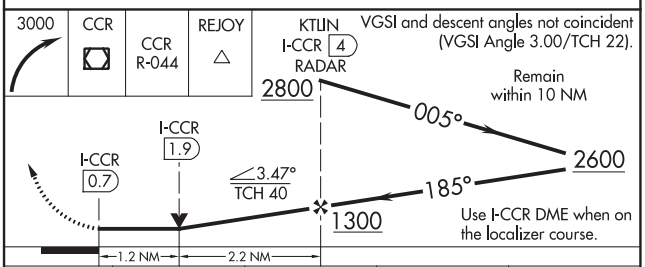
ELEV 26	D	TDZE 22

HIRL Rwy 1L-19R
REIL Rwys 1L and 32R
MIRL Rwy 14L-32R

185° 3.4 NM from FAF



FAF to MAP 3.4 NM					
Knots	60	90	120	150	180
Min:Sec	3:24	2:16	1:42	1:22	1:08



CATEGORY	A	B	C	D
S-19R*	440-¾ 418 (500-¾)		440-1 418 (500-1)	
S-19R	780-¾ 758 (800-¾)	780-1 758 (800-1)	780-1⅞ 758 (800-1⅞)	
C CIRCLING	780-1 754 (800-1)	780-1¼ 754 (800-1¼)	960-2¾ 934 (1000-2¾)	1300-3 1274 (1300-3)

CONCORD, CALIFORNIA
Amdt 9A 31DEC20

37°59'N-122°03'W

BUCHANAN FIELD (CCR)
LDA RWY 19R

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

VOR/DME CCR	APP CRS	Rwy ldg	4400
117.0	172°	TDZE	22
Chan 117		Apt Elev	26

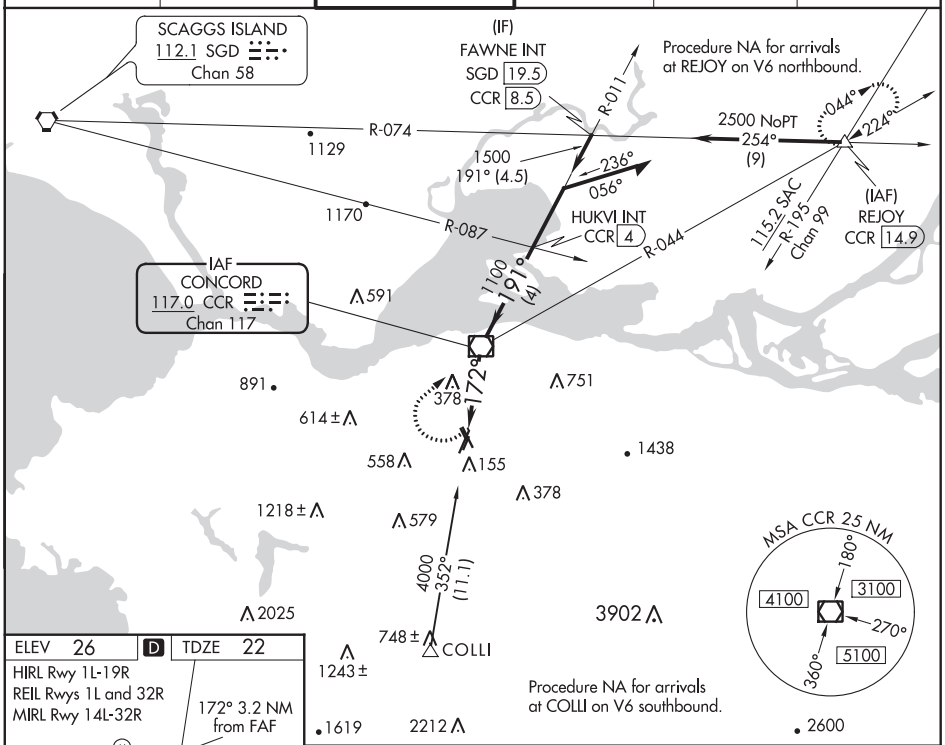
VOR RWY 19R
BUCHANAN FIELD (CCR)

Inop table does not apply. Circling NA west of Rwy 1L-19R. Circling Rwy 1L, 32R NA at night. Rwy 19R helicopter visibility reduction below ¾ SM NA. DME Required.

MALS

MISSED APPROACH: Climbing right turn to 3000 direct CCR VOR/DME then on CCR VOR/DME R-044 to REJOY/CCR 14.9 DME and hold.
* Missed approach requires minimum climb of 320 feet per NM to 1700.

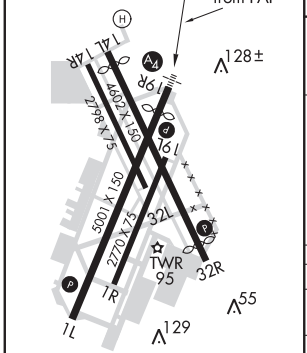
ATIS	TRAVIS APP CON	CONCORD TOWER ★	GND CON	CLNC DEL	UNICOM
124.7	119.9 322.325	119.7 (CTAF) L 257.8	121.9	118.75	122.95



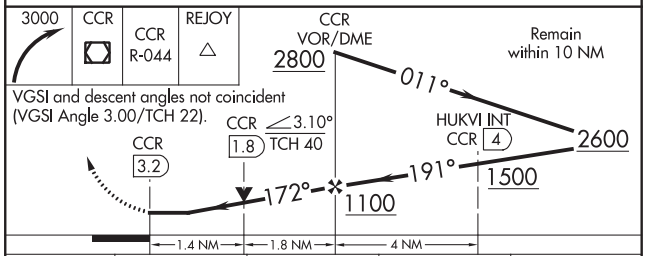
ELEV	26	D	TDZE	22

HIRL Rwy 1L-19R
REIL Rwys 1L and 32R
MIRL Rwy 14L-32R

172° 3.2 NM from FAF



FAF to MAP 3.2 NM					
Knots	60	90	120	150	180
Min:Sec	3:12	2:08	1:36	1:17	1:04



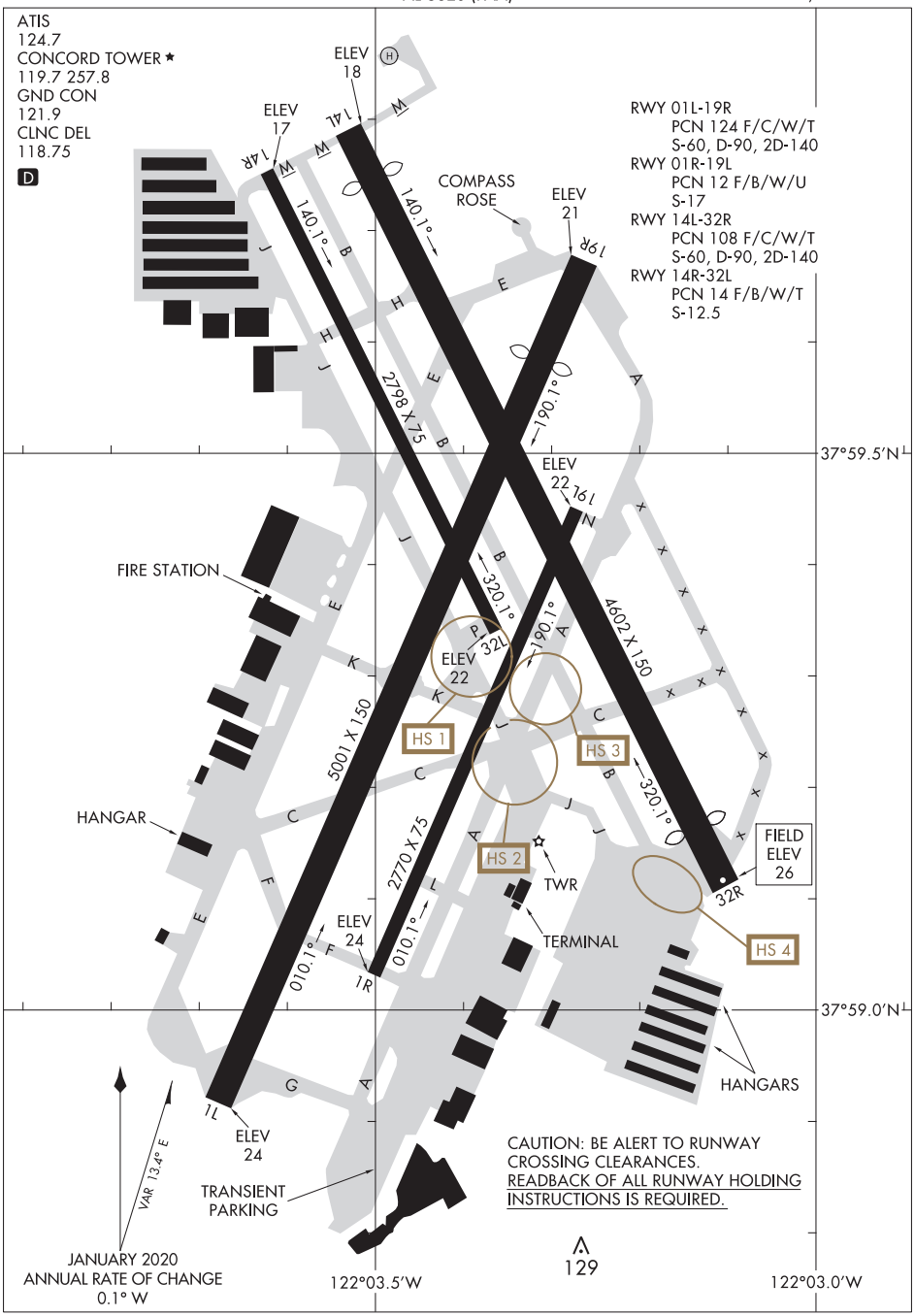
CATEGORY	A	B	C	D
S-19R*	640-1 618 (700-1)		640-1¾ 618 (700-1¾)	
S-19R	1020-1¼ 998 (1000-1¼)	1020-1½ 998 (1000-1½)	1020-3 998 (1000-3)	
C CIRCLING	1020-1¼ 994 (1000-1¼)	1020-1½ 994 (1000-1½)	1020-3 994 (1000-3)	1300-3 1274 (1300-3)

20254

AIRPORT DIAGRAM

AL-5320 (FAA)

BUCHANAN FIELD (CCR)
CONCORD, CALIFORNIA



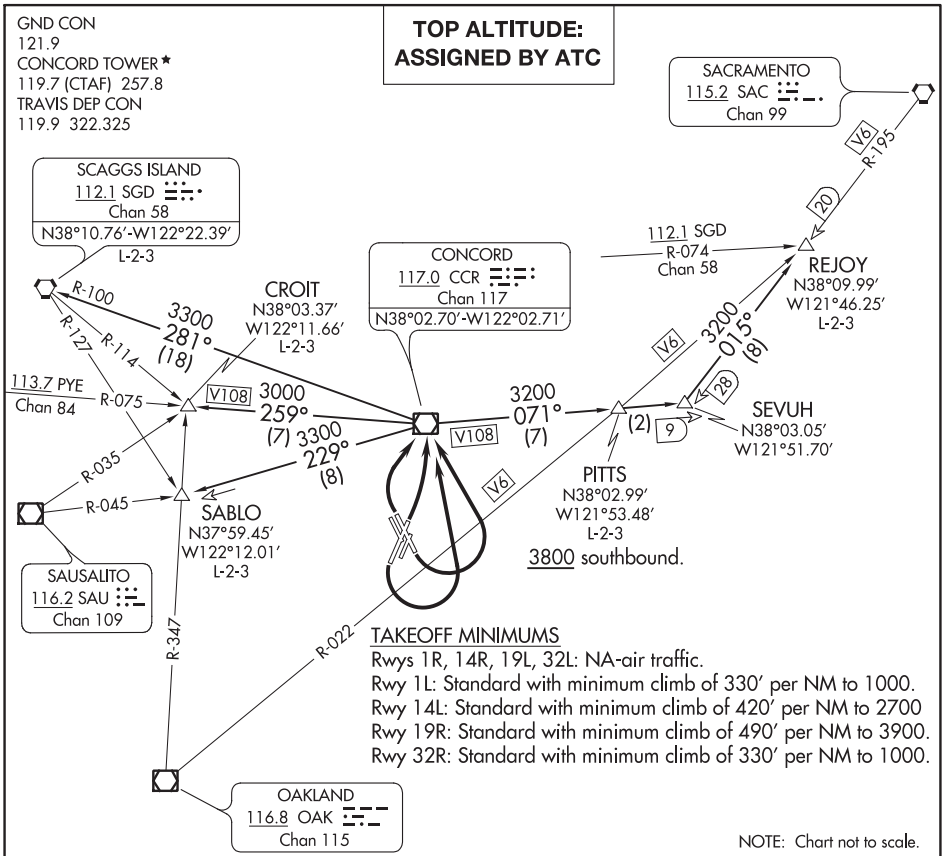
SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

AIRPORT DIAGRAM
20254
CONCORD, CALIFORNIA
BUCHANAN FIELD (CCR)

BUCHANAN TWO DEPARTURE

AL-5320 (FAA)



TAKEOFF MINIMUMS

Rwys 1R, 14R, 19L, 32L: NA-air traffic.
Rwy 1L: Standard with minimum climb of 330′ per NM to 1000.
Rwy 14L: Standard with minimum climb of 420′ per NM to 2700
Rwy 19R: Standard with minimum climb of 490′ per NM to 3900.
Rwy 32R: Standard with minimum climb of 330′ per NM to 1000.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 1L, 14L, 19R: Climbing left turn direct CCR VOR/DME, thence. . . .
TAKEOFF RUNWAY 32R: Climbing right turn direct CCR VOR/DME, thence. . . .

. . . .on (transition) or (assigned route).

CROIT TRANSITION (BCHN2.CROIT): From over CCR VOR/DME on CCR R-259 to CROIT INT.
PITTS TRANSITION (BCHN2.PITTS): From over CCR VOR/DME on CCR R-071 to PITTS INT.
REJOY TRANSITION (BCHN2.REJOY): From over CCR VOR/DME on CCR R-071 and SAC R-195 to REJOY INT.
SABLO TRANSITION (BCHN2.SABLO): From over CCR VOR/DME on CCR R-229 to SABLO INT.
SCAGGS ISLAND TRANSITION (BCHN2.SGD): From over CCR VOR/DME on CCR R-281 and SGD R-100 to SGD VORTAC.

LOC I-CEC	APP CRS	Rwy ldg	5002
108.7	119°	TDZE	60
		Apt Elev	61

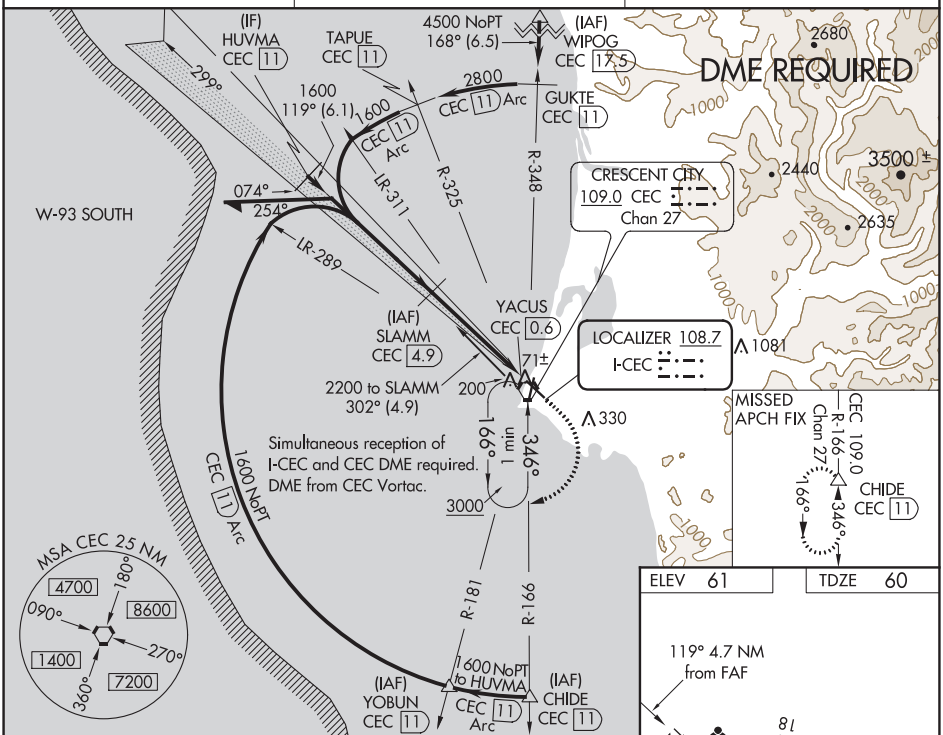
ILS or LOC RWY 12
JACK MC NAMARA FIELD (CEC)

T NA DME required. S-ILS 12:½ mile visibility authorized with use of FD or AP or HUD to DA. Inop table does not apply to S-ILS 12, except with use of FD or AP or HUD to DA. For inop MALSR, increase S-LOC 12 all Cats visibility ¼ mile. When local altimeter setting not received, use Brookings altimeter setting and increase DA to 407 feet and all MDA 100 feet; increase S-LOC 12 Cat C/D, and Circling Cat D visibilities ¼ mile. For inop MALSR, when using Brookings altimeter setting, increase S-ILS 12 all Cats visibility to 1 mile. Night Landing: Rwy 36 operational VGSI required, remain on or above VGSI glidepath until threshold. Circling to Rwy 18, 30 NA at night.

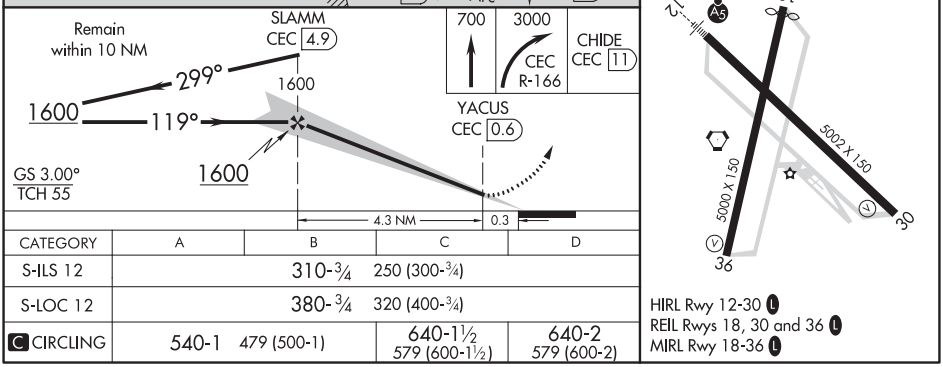
MALSR

MISSED APPROACH: Climb to 700 then climbing right turn to 3000 on CEC VORTAC R-166 to CHIDE/CEC 11 DME and hold, continue climb-in-hold to 3000.

ASOS	SEATTLE CENTER	UNICOM
119.925	124.85 306.3	122.8 (CTAF) L



ELEV 61 TDZE 60



CATEGORY	A	B	C	D
S-ILS 12	310-¾	250 (300-¾)		
S-LOC 12	380-¾	320 (400-¾)		
C CIRCLING	540-1	479 (500-1)	640-1½ 579 (600-1½)	640-2 579 (600-2)

SW-2, 25 FEB 2021 to 22 APR 2021

WAAS CH 90310 W12A	APP CRS 119°	Rwy ldg 5002 TDZE 60 Apt Elev 61

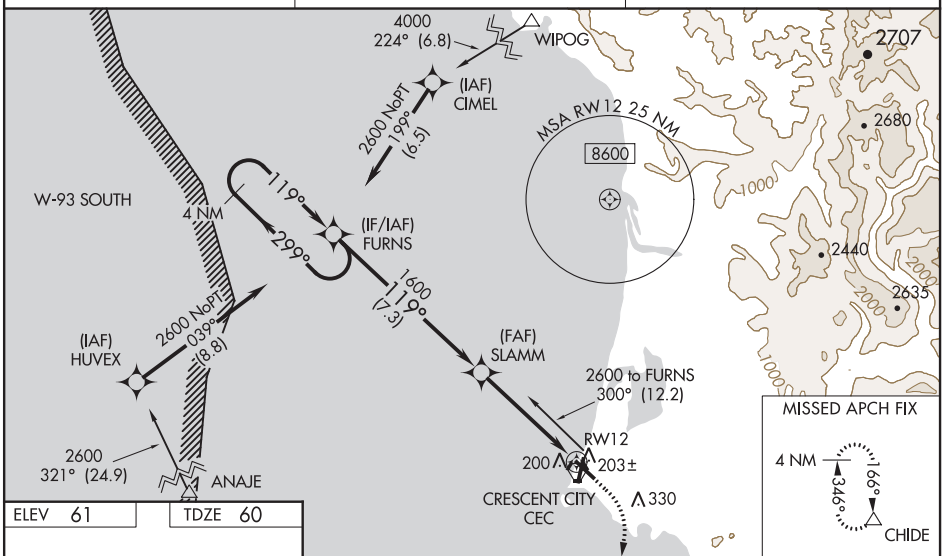
RNAV (GPS) RWY 12
JACK MC NAMARA FIELD (CEC)

T A Inop table does not apply to LPV all Cats. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C (32°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. When local altimeter setting not received, use Brookings altimeter setting and increase LPV DA to 407 feet, LNAV/VNAV DA to 484 feet and all MDA 100 feet; increase LPV all Cats visibility to ⅞ mile, LNAV/VNAV all Cats visibility to 1⅛ mile, LNAV Cat C/D to 1⅛ mile, and Circling Cat C to 2 miles, Cat D to 2¼ miles. For inop MALSR, increase LNAV/VNAV all Cats visibility to 1 mile and LNAV Cat A/B visibility to 1 mile, Cat C/D to 1⅛ mile. For inop MALSR, when using Brookings altimeter setting, increase LPV all Cats visibility to 1⅛ mile, LNAV/VNAV all Cats visibility to 1⅜ mile, and LNAV Cat A/B to 1 mile, Cat C/D to 1¾ mile. VDP and Baro-VNAV NA when using Brookings altimeter setting. Night landing: Rwy 18, 30 NA. Night landing: Rwy 36, operational VGSI required, remain on or above VGSI glidepath until threshold.

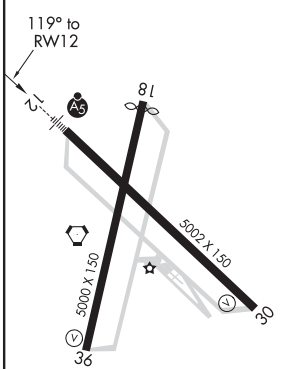
MALSR A5

MISSED APPROACH: Climb to 600 then climbing right turn to 3000 direct CHIDE and hold, continue climb-in-hold to 3000.

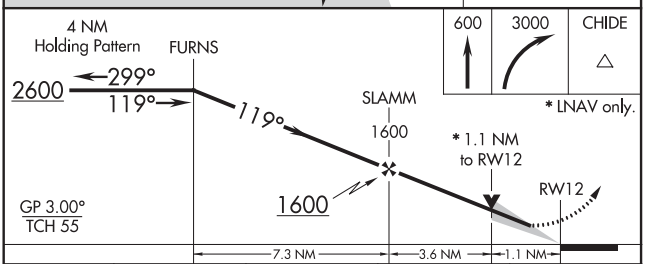
ASOS	SEATTLE CENTER	UNICOM
119.925	124.85 306.3	122.8 (CTAF) L



ELEV 61 TDZE 60



HIRL Rwy 12-30 L
REIL Rwys 18, 30 and 36 L
MIRL Rwy 18-36 L



CATEGORY	A	B	C	D
LPV DA	310-¾ 250 (300-¾)			
LNAV/VNAV DA	387-¾ 327 (400-¾)			
LNAV MDA	460-¾ 400 (400-¾)		460-⅞ 400 (400-⅞)	
C CIRCLING	540-1 479 (500-1)		640-1½ 579 (600-1½)	640-2 579 (600-2)

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

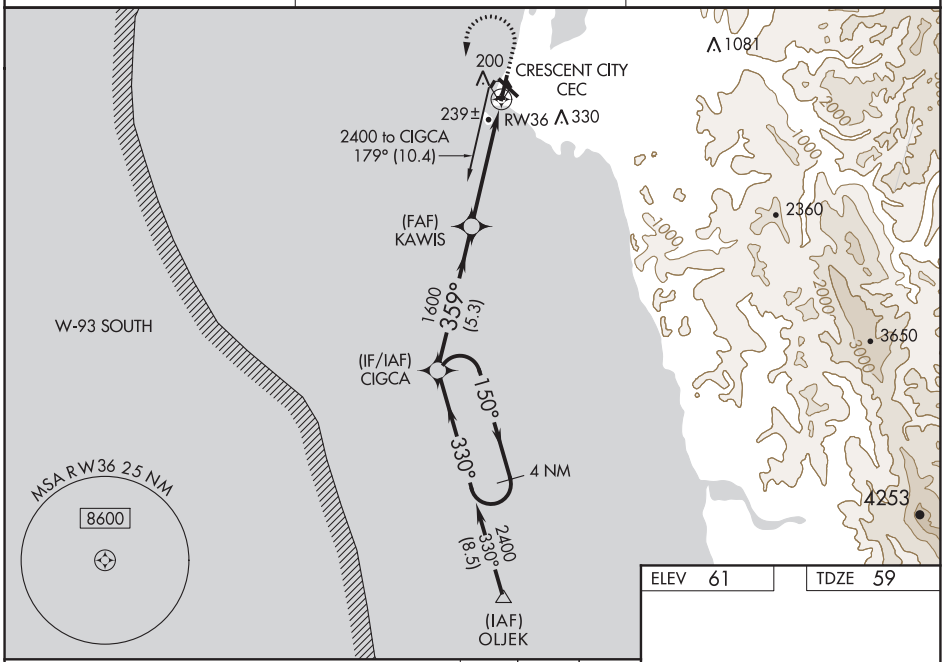
WAAS CH 72927 W36A	APP CRS 359°	Rwy ldg 5000 TDZE 59 Apt Elev 61

RNAV (GPS) RWY 36
JACK MC NAMARA FIELD (CEC)

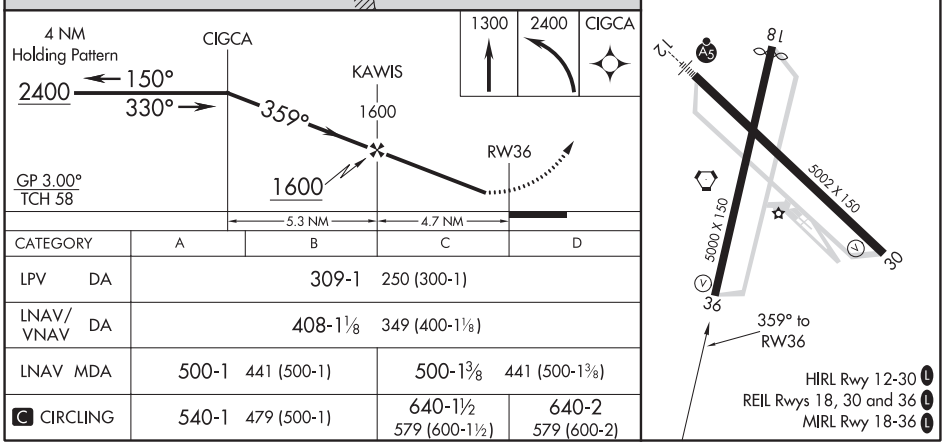
Baro-VNAV NA when using Brookings altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. When local altimeter setting not received, use Brookings altimeter setting and increase LPV DA to 406 feet and LNAV/VNAV DA to 505 feet and all MDA 100 feet; increase LPV all Cats and LNAV Cat C/D and Circling Cat D visibilities ¼ mile, increase LNAV/VNAV all Cats visibility ⅜ mile, and Circling Cat C visibility ½ mile. Helicopter visibility reduction below 1 SM NA. Night landing: Rwy 36 operational VGSI required, remain on or above VGSI glidepath until threshold. Night landing: Rwy 18, 30 NA at night.

MISSED APPROACH: Climb to 1300 then climbing left turn to 2400 direct CIGCA and hold.

ASOS	SEATTLE CENTER	UNICOM
119.925	124.85 306.3	122.8 (CTAF) L



ELEV 61	TDZE 59



CATEGORY	A	B	C	D
LPV DA	309-1 250 (300-1)			
LNAV/VNAV DA	408-1⅛ 349 (400-1⅛)			
LNAV MDA	500-1 441 (500-1)		500-1⅜ 441 (500-1⅜)	
C CIRCLING	540-1 479 (500-1)		640-1½ 579 (600-1½)	640-2 579 (600-2)

SW-2, 25 FEB 2021 to 22 APR 2021

VORTAC CEC	APP CRS	Rwy ldg 5002
109.0	131°	TDZE 60
Chan 27		Apt Elev 61

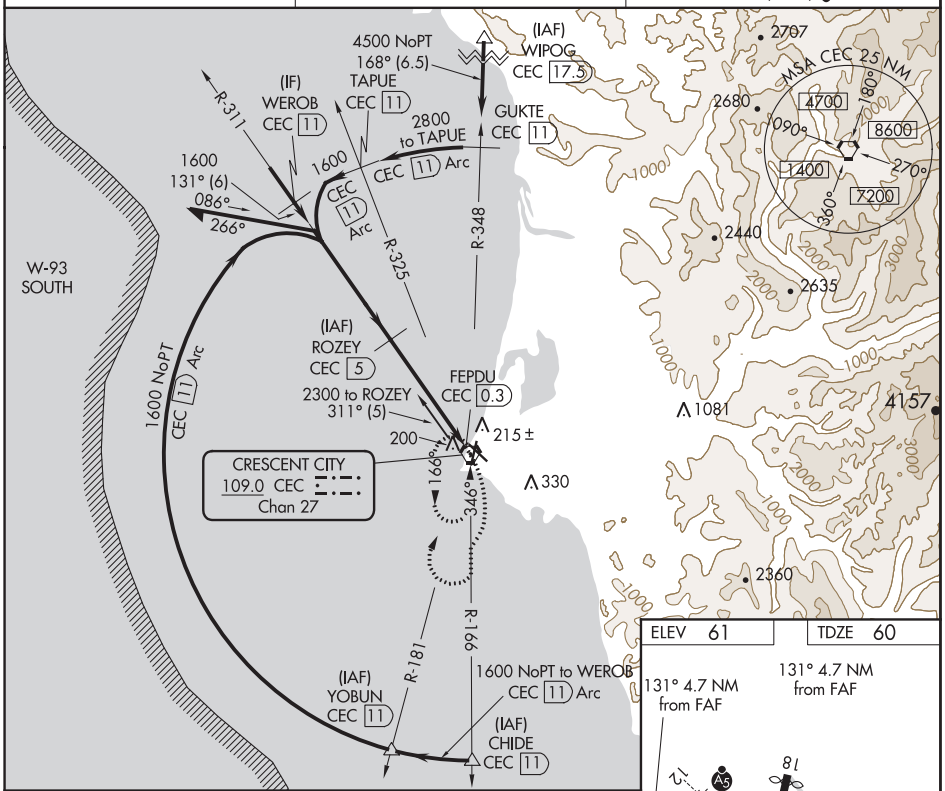
VOR/DME RWY 12
JACK MC NAMARA FIELD (CEC)

T A VDP NA with Brookings altimeter setting. When local altimeter setting not received, use Brookings altimeter setting and increase all MDA 100 feet; increase S-12 Cat C/D, and Circling Cat D visibility ¼ mile, and Circling Cat C visibility ½ mile. For inop MALSR, increase S-12 Cats A/B visibility to 1 mile, Cats C/D visibility to 1⅛ mile. For inop MALSR when using Brookings altimeter setting, increase S-12 Cats A/B visibility to 1 mile, Cats C/D visibility to 1⅜ mile. Night Landing: Rwy 18, 30 NA. Night Landing: Rwy 36 operational VGSI required, remain on or above VGSI glidepath until threshold.

MALSR

MISSED APPROACH: Climbing right turn to 3000 on CEC VORTAC R-166 then right turn direct CEC VORTAC and hold.

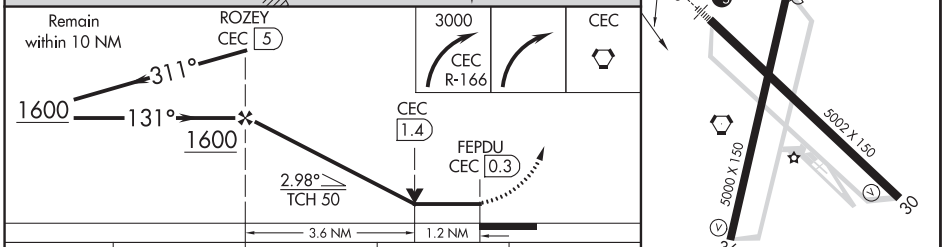
ASOS	SEATTLE CENTER	UNICOM
119.925	124.85 306.3	122.8 (CTAF) L



ELEV 61	TDZE 60

131° 4.7 NM from FAF

131° 4.7 NM from FAF



CATEGORY	A	B	C	D
S-12	480-¾ 420 (500-¾)		480-1 420 (500-1)	
C CIRCLING	540-1 479 (500-1)		640-1½ 579 (600-1½)	640-2 579 (600-2)

HIRL Rwy 12-30 L
REIL Rwys 18, 30 and 36 L
MIRL Rwy 18-36 L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

CRESCENT CITY, CALIFORNIA

AL-34 (FAA)

20086

VOR/DME RWY 36

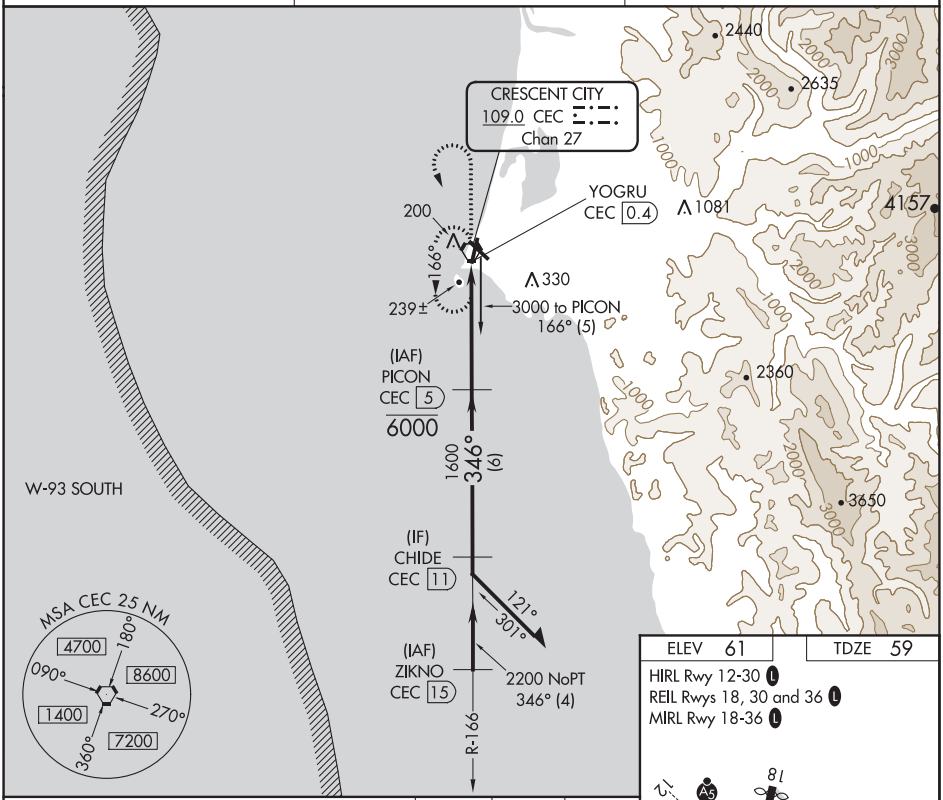
JACK MC NAMARA FIELD (CEC)

VORTAC CEC	APP CRS	Rwy ldg	5000
109.0	346°	TDZE	59
Chan 27		Apt Elev	61

When local altimeter setting not received, use Brookings altimeter setting and increase all MDA 100 feet; increase S-36 Cat C/D and Circling Cat D visibilities ¼ mile and Circling Cat C visibility ½ mile. Helicopter visibility reduction below 1 SM NA. Night landing: Rwy 36 operational VGSI required, remain on or above VGSI glidepath until threshold. Night landing: Rwy 18, 30 NA .

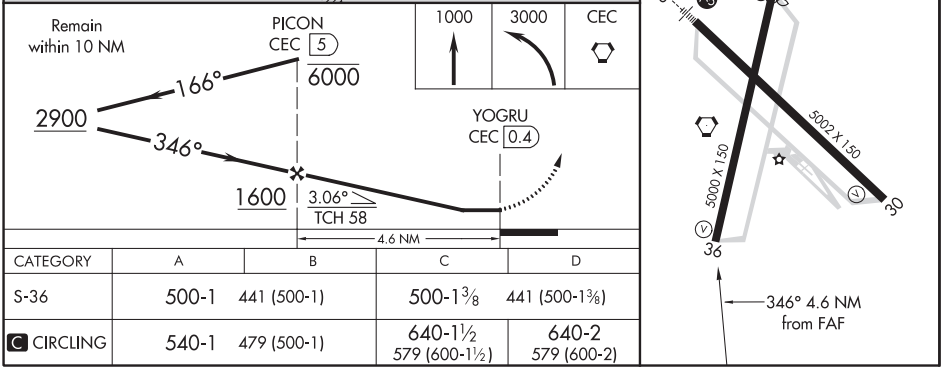
MISSED APPROACH: Climb to 1000 then climbing left turn to 3000 direct CEC VORTAC and hold, continue climb-in-hold to 3000.

ASOS	SEATTLE CENTER	UNICOM
119.925	124.85 306.3	122.8 (CTAF) L



ELEV 61	TDZE 59

HIRL Rwy 12-30 L
REIL Rwys 18, 30 and 36 L
MIRL Rwy 18-36 L



CATEGORY	A	B	C	D
S-36	500-1	441 (500-1)	500-1⅜	441 (500-1⅜)
C CIRCLING	540-1	479 (500-1)	640-1½ 579 (600-1½)	640-2 579 (600-2)

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

VORTAC CEC	APP CRS	Rwy ldg	5002
109.0	131°	TDZE	60
Chan 27		Apt Elev	61

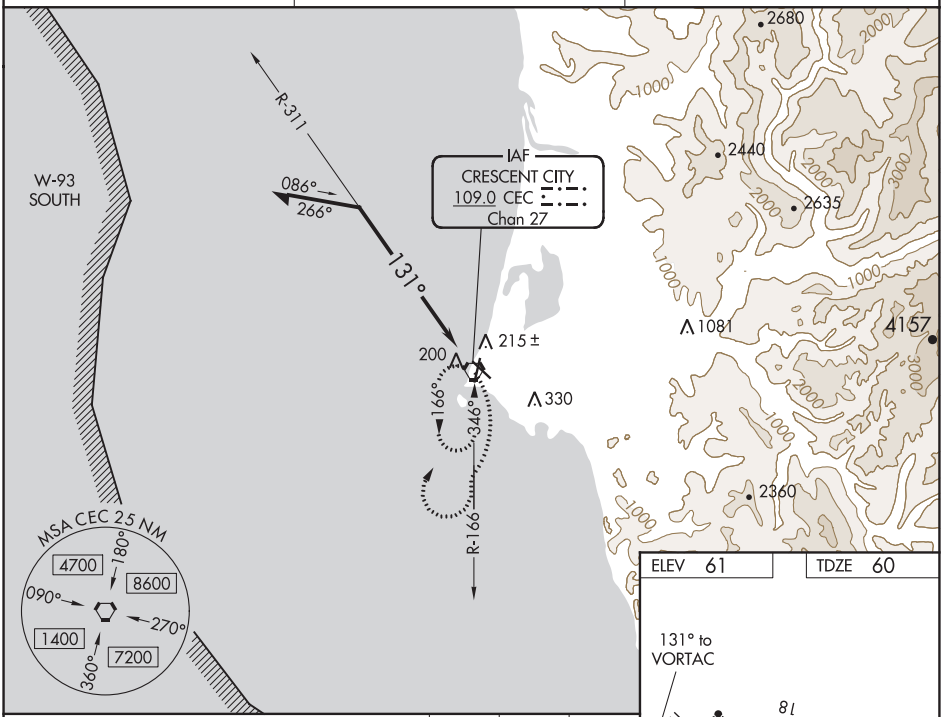
VOR RWY 12
JACK MC NAMARA FIELD (CEC)

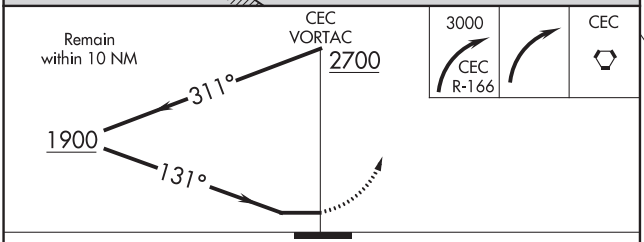
When local altimeter setting not received, use Brookings altimeter setting and increase all MDA 100 feet; increase S-12 Cat C/D visibility ⅜ mile, Circling Cat D visibility ¼ mile and Circling Cat C visibility ½ mile. For inop MALSR increase S-12 Cat A/B visibility to 1 mile, and Cat C/D visibility to 1⅜ mile. For inop MALSR when using Brookings altimeter setting, increase S-12 Cat A/B visibility to 1 mile, and Cat C/D visibility to 1⅝ mile. Night Landing: Rwy 36 operational VGSI required, remain on or above VGSI glidepath until threshold. Night Landing: Rwy 18, 30 NA.

MALSR

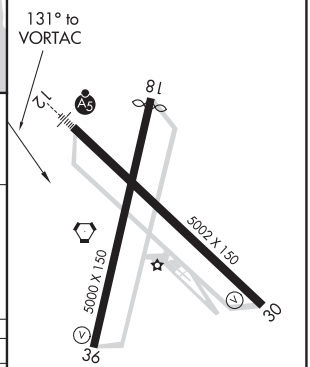
MISSED APPROACH: Climbing right turn to 3000 on CEC VORTAC R-166 then right turn direct CEC VORTAC and hold.

ASOS	SEATTLE CENTER	UNICOM
119.925	124.85 306.3	122.8 (CTAF) L





ELEV 61	TDZE 60



HIRL Rwy 12-30 L
MIRL Rwy 18-36 L
REIL Rwys 18, 30 and 36 L

CATEGORY	A	B	C	D
S-12	520-¾ 460 (500-¾)		520-1 460 (500-1)	
C CIRCLING	540-1 479 (500-1)		640-1½ 579 (600-1½)	640-2 579 (600-2)

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

DAVIS, CALIFORNIA | AL-6030 (FAA) | 20198

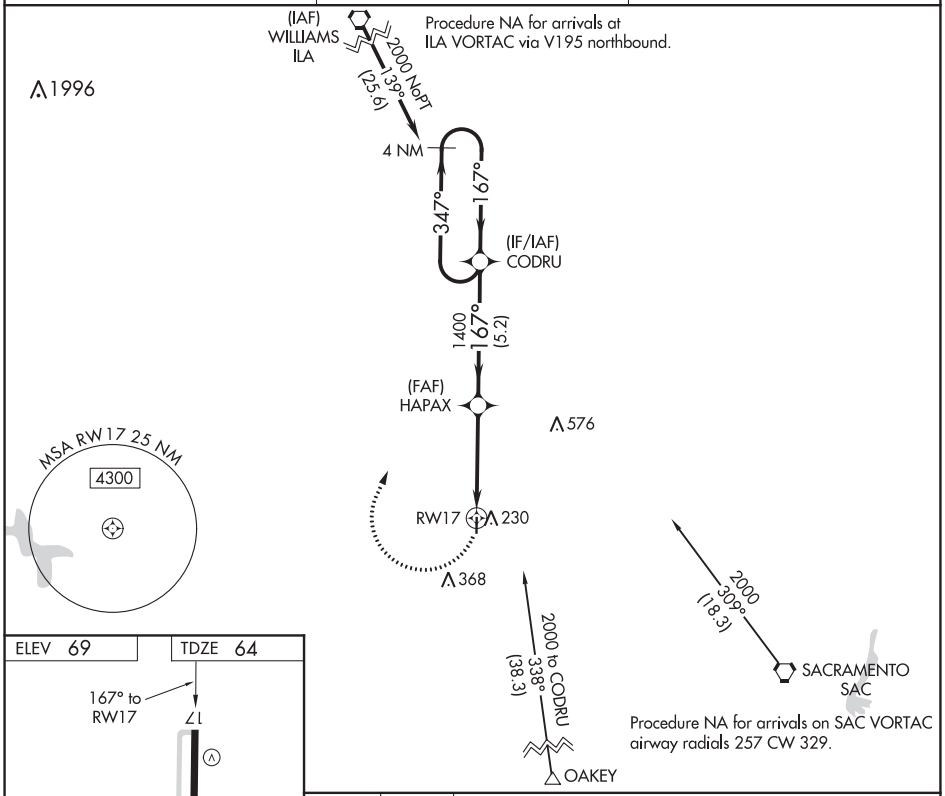
RNAV (GPS) RWY 17
UNIVERSITY (EDU)

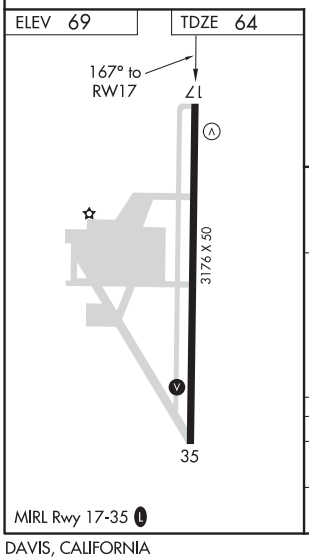
APP CRS	Rwy ldg	3176
167°	TDZE	64
	Apt Elev	69

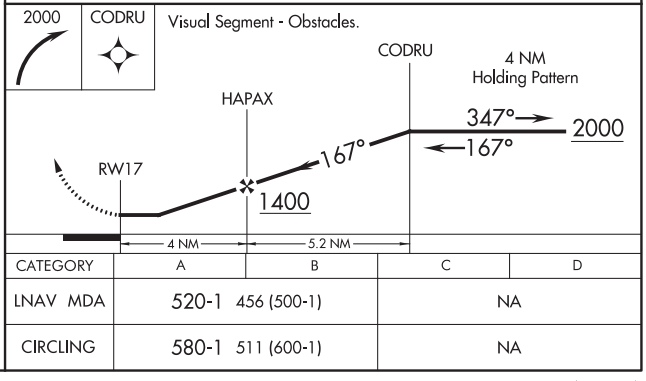
T NA DME/DME RNP- 0.3 NA. When local altimeter setting not received, use Travis AFB altimeter setting and increase all MDA 60 feet. Helicopter visibility reduction below 1 SM not authorized. Procedure NA at night.

MISSED APPROACH: Climbing right turn to 2000 direct CODRU and hold.

AWOS-3	TRAVIS APP CON	UNICOM
119.025	126.6 281.45	123.075 (CTAF) L







CATEGORY	A	B	C	D
LNAV MDA	520-1 456 (500-1)		NA	
CIRCLING	580-1 511 (600-1)		NA	

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

WAAS CH 99719 W16A	APP CRS 164°	Rwy ldg 6000 TDZE 99 Apt Elev 100

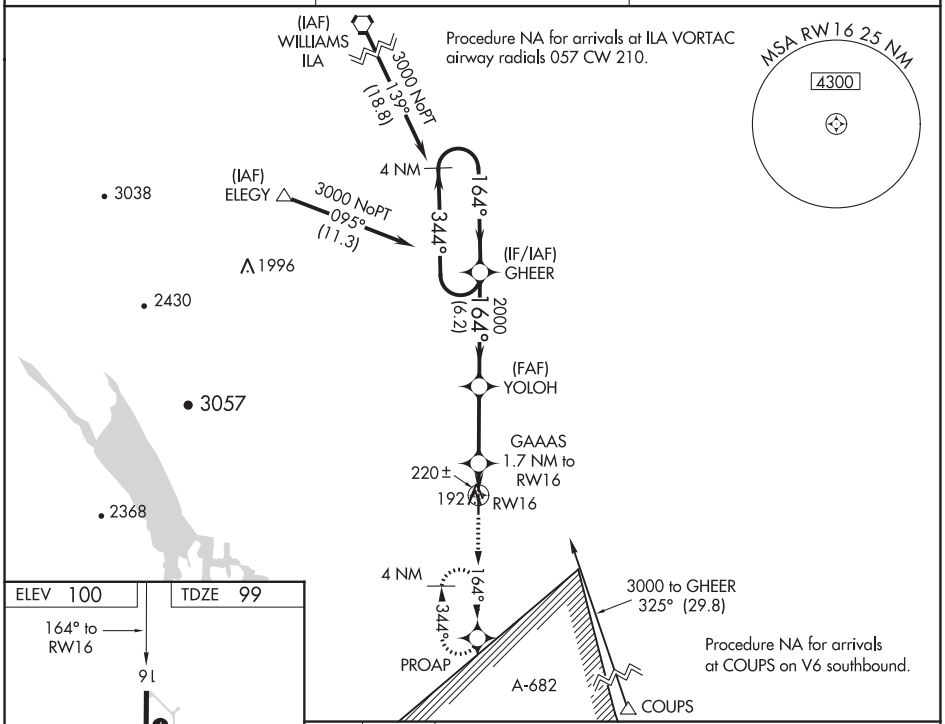
RNAV (GPS) RWY 16
YOLO COUNTY (DWA)

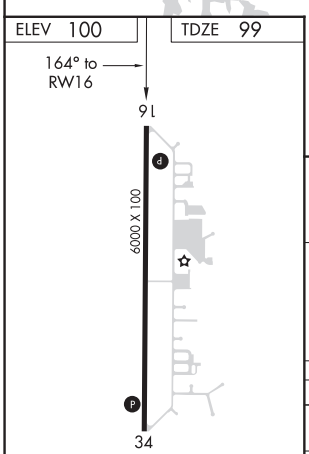
RNP APCH.

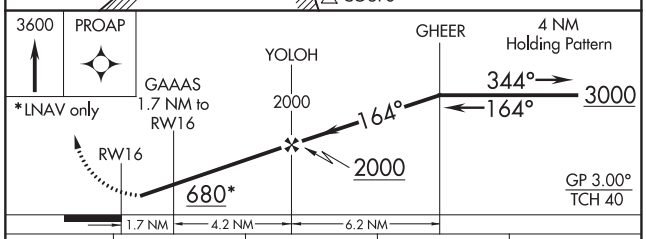
T NA When local altimeter setting not received, use Travis AFB altimeter setting and increase all DA 50 feet and all MDA 60 feet, and increase LNAV/VNAV all Cats and LNAV Cat C and D visibility ¼ mile. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 43°C (109°F). Baro-VNAV NA when using Travis AFB altimeter setting.

MISSED APPROACH: Climb to 3600 direct PROAP and hold, continue climb-in-hold to 3600.

AWOS-3P	TRAVIS APP CON	UNICOM
125.775	126.6 281.45	123.0 (CTAF) L







CATEGORY	A	B	C	D
LPV DA	360-1 261 (300-1)			
LNAV/VNAV DA	402-1 303 (400-1)			
LNAV MDA	480-1 381 (400-1)		480-1⅛ 381 (400-1⅛)	

MIRL Rwy 16-34 L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

DAVIS/WOODLAND/WINTERS, CALIFORNIA AL-6512 (FAA) 20254

WAAS CH 58319 W34A	APP CRS 344°	Rwy ldg 6000 TDZE 100 Apt Elev 100

RNAV (GPS) RWY 34

YOLO COUNTY (DWA)

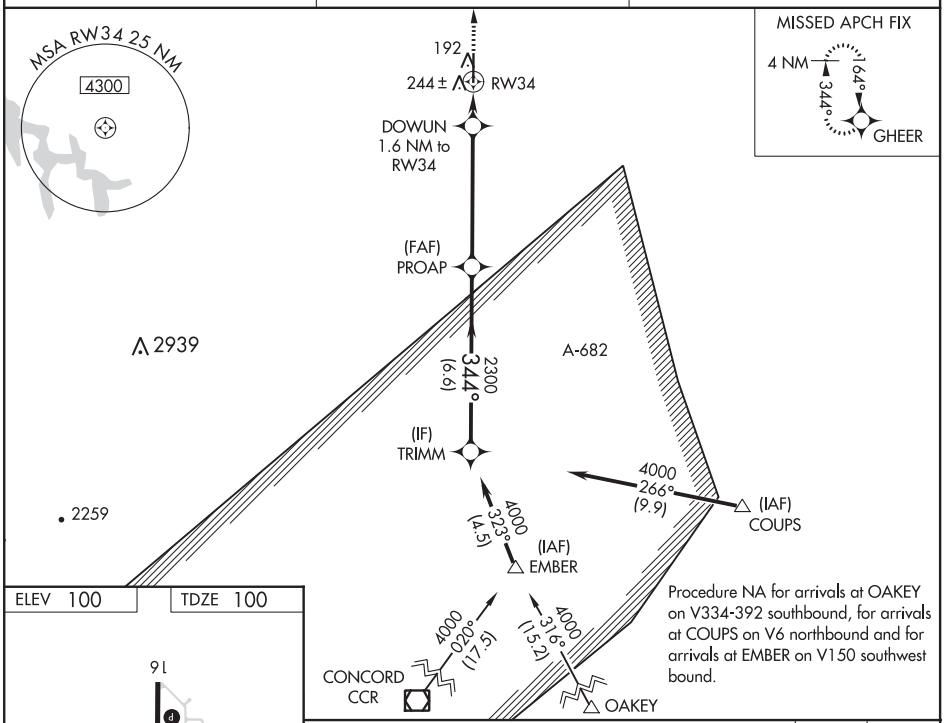
RNP APCH.

When local altimeter setting not received, use Travis AFB altimeter setting and increase all DA 50 feet and all MDA 60 feet, and increase LPV visibility all Cats ⅛ mile, LNAV/VNAV visibility all Cats ¼ mile, and LNAV Cat C and D visibility ¼ mile. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 42°C (107°F). Baro-VNAV NA when using Travis AFB altimeter setting.

NA

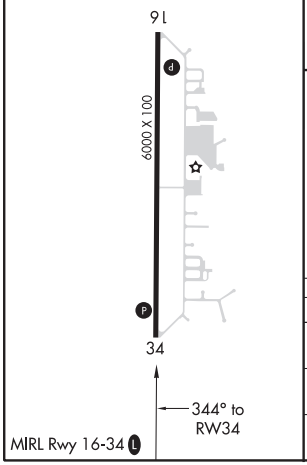
MISSED APPROACH: Climb to 3000 direct GHEER and hold.

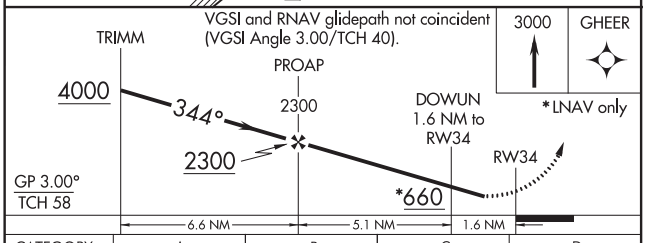
AWOS-3P	TRAVIS APP CON	UNICOM
125.775	126.6 281.45	123.0 (CTAF) L



Procedure NA for arrivals at OAKEY on V334-392 southbound, for arrivals at COUPS on V6 northbound and for arrivals at EMBER on V150 southwest bound.

ELEV 100	TDZE 100





CATEGORY	A	B	C	D
LPV DA	415-1 315 (400-1)			
LNAV/VNAV DA	425-1 325 (400-1)			
LNAV MDA	500-1 400 (400-1)		500-1⅛ 400 (400-1⅛)	

DAVIS/WOODLAND/WINTERS, CALIFORNIA

Amdt 2C 15AUG19

38°35′N-121°51′W

YOLO COUNTY (DWA)

RNAV (GPS) RWY 34

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

APP CRS	Rwy ldg	3011
115°	TDZE	11
	Apt Elev	11

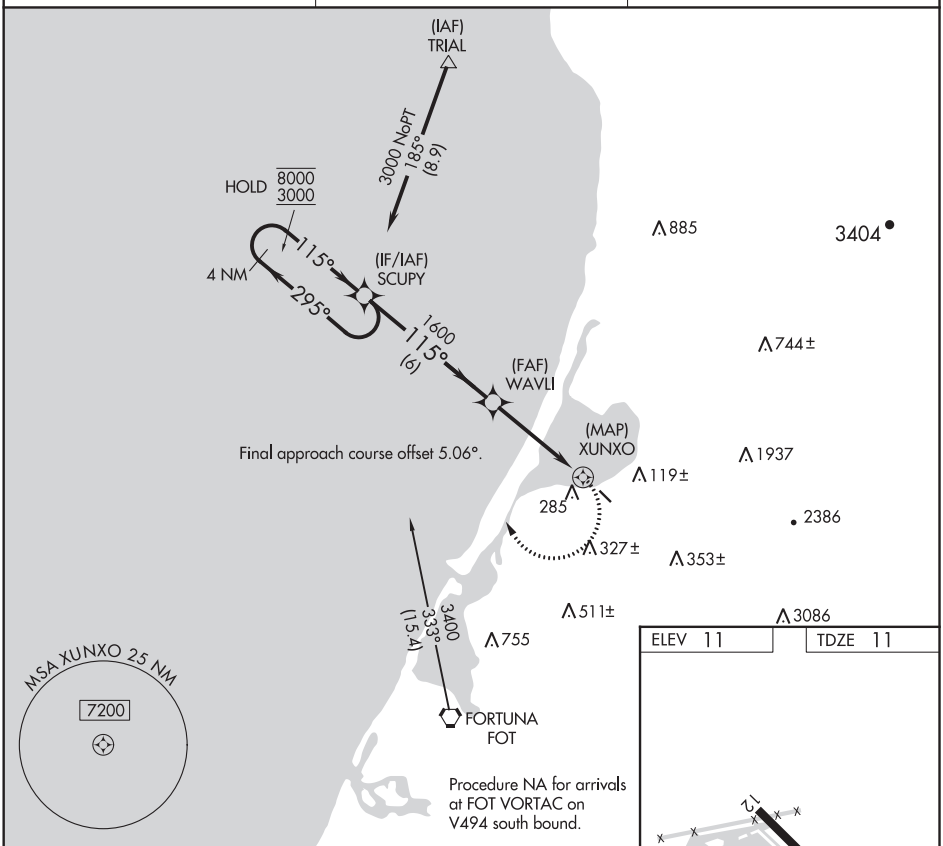
RNAV (GPS) RWY 12
MURRAY FIELD (EKA)

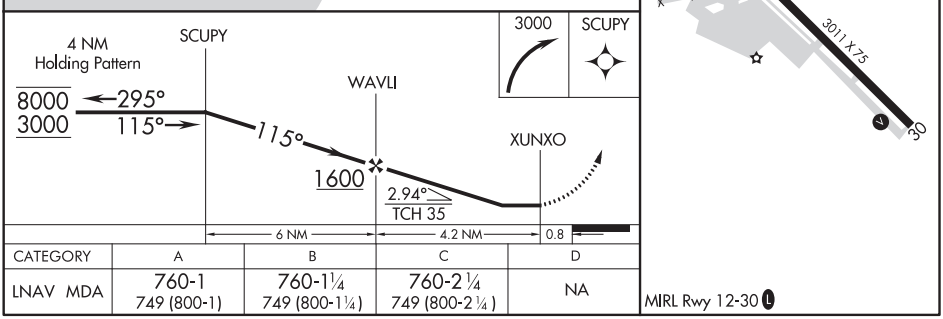
RNP APCH.

NA Procedure NA at night. Rwy 12 helicopter visibility reduction below 1 SM NA. Use Arcata altimeter setting, when not received use Crescent City altimeter setting and increase all MDA 100 feet and increase LNAV Cat C visibility ¼ SM.

MISSED APPROACH: Climbing right turn to 3000 direct SCUPY and hold.

ACV ASOS	SEATTLE CENTER	UNICOM
118.525	124.85 306.3	122.7 (CTAF) L





CATEGORY	A	B	C	D
LNAV MDA	760-1 749 (800-1)	760-1¼ 749 (800-1¼)	760-2¼ 749 (800-2¼)	NA

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

EUREKA, CALIFORNIA | AL-5888 (FAA) | 20310

APP CRS	Rwy ldg	N/A
020°	TDZE	N/A
	Apt Elev	11

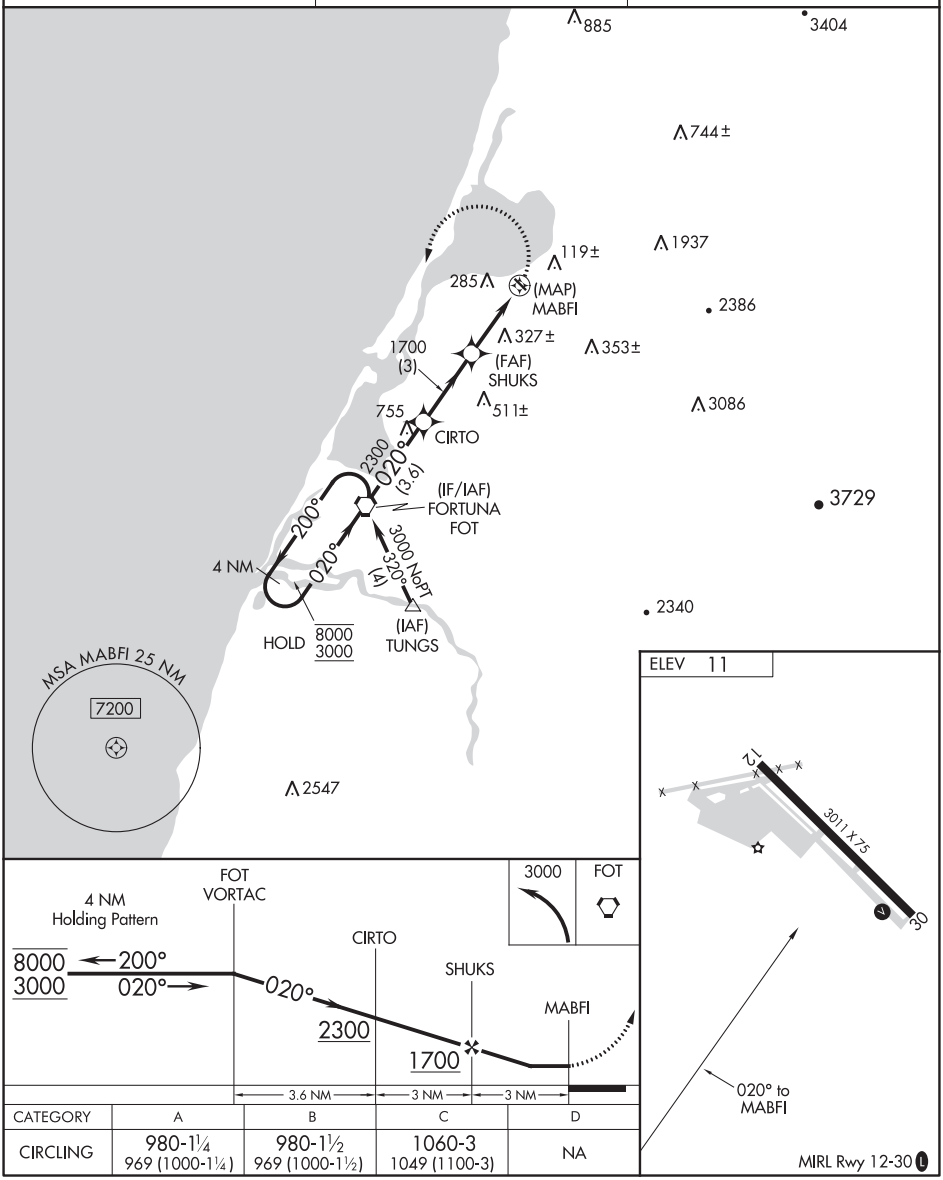
RNAV (GPS)-B
MURRAY FIELD (EKA)

RNP APCH.

NA — Procedure NA at night. Use Arcata altimeter setting when not received, use Crescent City altimeter setting and increase all MDA 100 feet.

MISSED APPROACH: Climbing left turn to 3000 direct FOT VORTAC and hold.

ACV ASOS	SEATTLE CENTER	UNICOM
118.525	124.85 306.3	122.7 (CTAF) L



CATEGORY	A	B	C	D
CIRCLING	980-1¼ 969 (1000-1¼)	980-1½ 969 (1000-1½)	1060-3 1049 (1100-3)	NA

EUREKA, CALIFORNIA
Orig-A 19JUL18

40°48′N-124°07′W

MURRAY FIELD (EKA)
RNAV (GPS)-B

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

APP CRS	Rwy ldg	N/A
044°	TDZE	N/A
	Apt Elev	157

RNAV (GPS)-B
FIREBAUGH (F34)

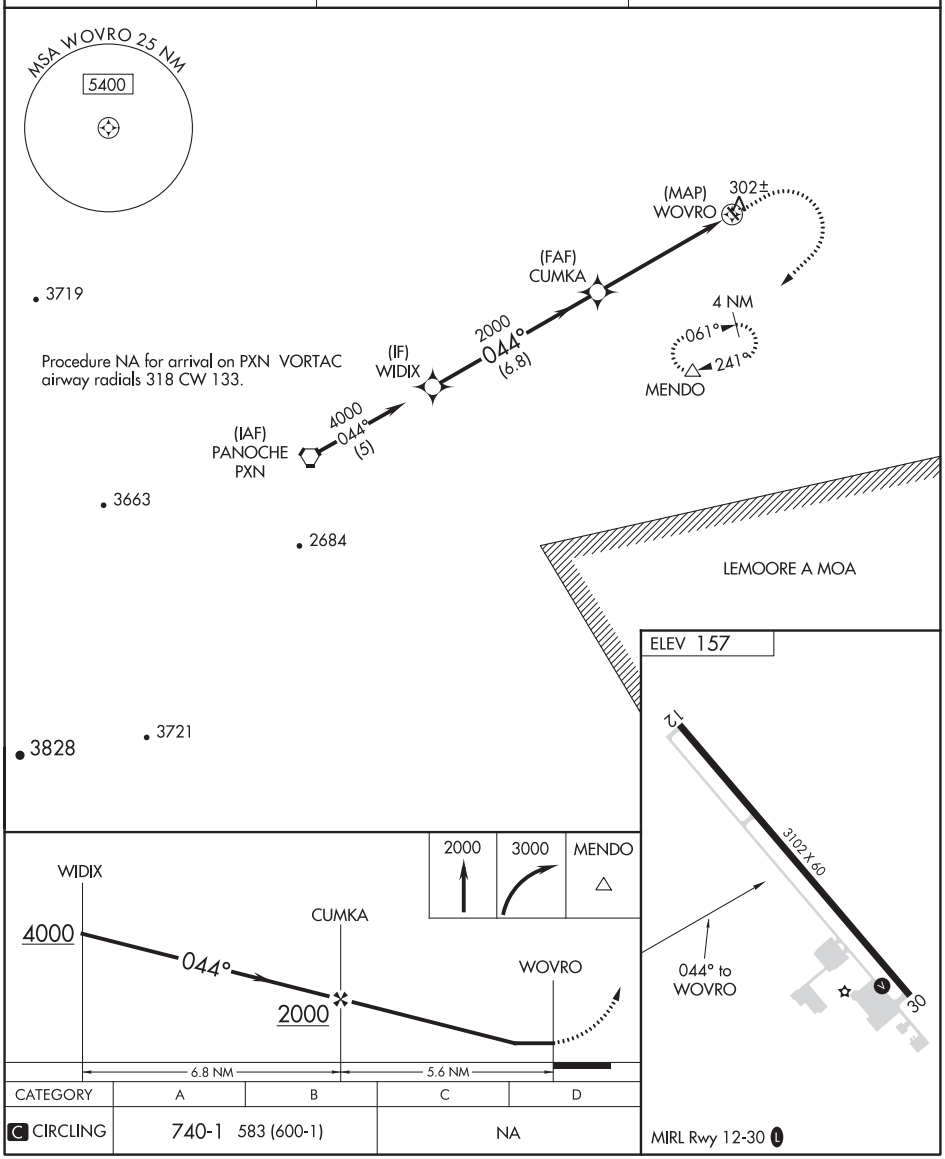
RNP APCH.

NA

Procedure NA at night. Use Madera altimeter setting, when not received, use Merced Rgnl/Macready Field altimeter setting.

MISSED APPROACH: Climb to 2000 then climbing right turn to 3000 direct MENDO and hold.

MAE ASOS	NORCAL APP CON	CTAF
134.725	120.95 269.45	122.9 L



CATEGORY	A	B	C	D
C CIRCLING	740-1 583 (600-1)		NA	

MIRL Rwy 12-30 L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

FORTUNA, CALIFORNIA | AL-960 (FAA) | 20310

APP CRS	Rwy ldg	4005
110°	TDZE	382
	Apt Elev	392

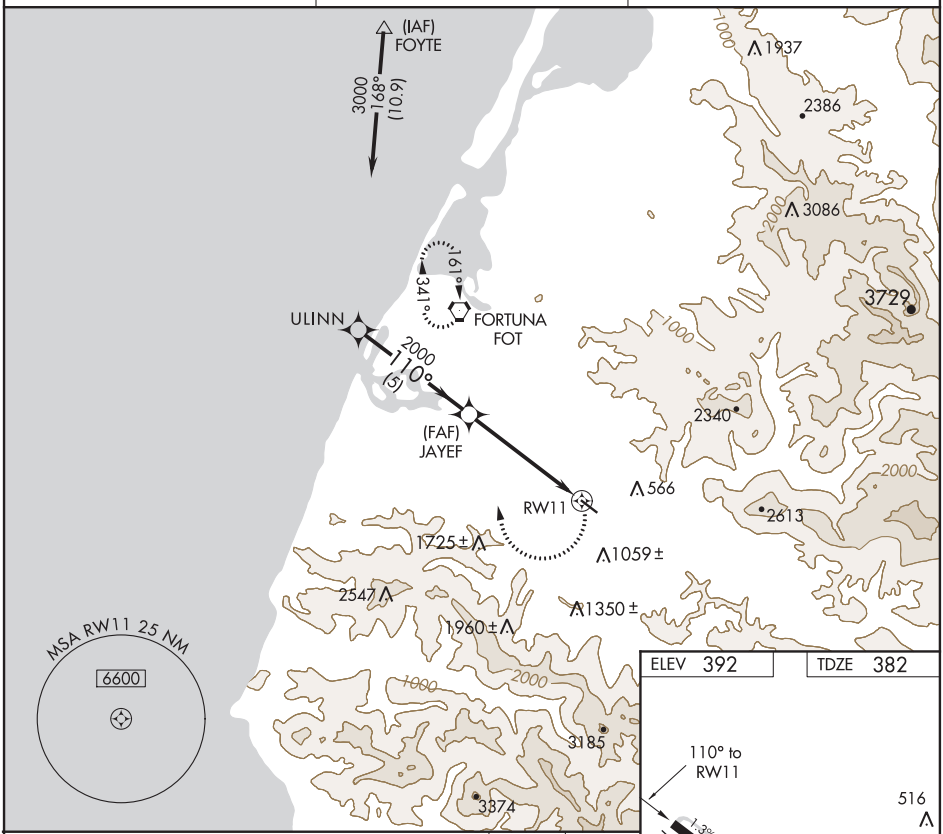
GPS RWY 11
ROHNERVILLE (FOT)

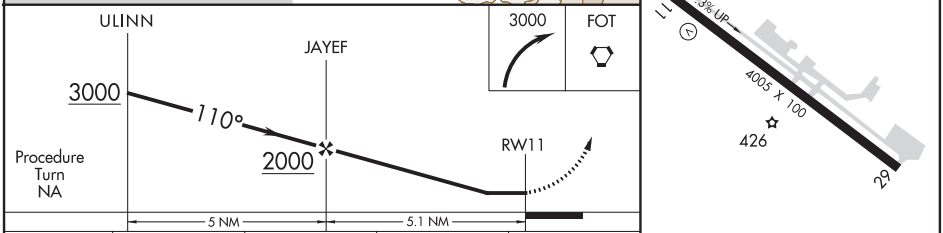
T NA

When local altimeter setting not received, use Arcata altimeter setting.

MISSED APPROACH: Climbing right turn to 3000 direct FOT VORTAC and hold.

AWOS-3	SEATTLE CENTER	CTAF
133.8	124.85 306.3	122.9 L





CATEGORY	A	B	C	D
S-11	1140-1 758 (800-1)	1160-1¼ 778 (800-1¼)	1200-2½ 818 (900-2½)	1560-3 1178 (1200-3)
CIRCLING	1140-1 748 (800-1)	1160-1¼ 768 (800-1¼)	1320-2¾ 928 (1000-2¾)	1560-3 1168 (1200-3)

REIL Rwys 11 and 29 L
MIRL Rwy 11-29 L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

FORTUNA, CALIFORNIA
Orig-A 26MAY16

40°33′N-124°08′W

ROHNERVILLE (FOT)
GPS RWY 11

APP CRS	Rwy ldg	4005
276°	TDZE	392
	Apt Elev	392

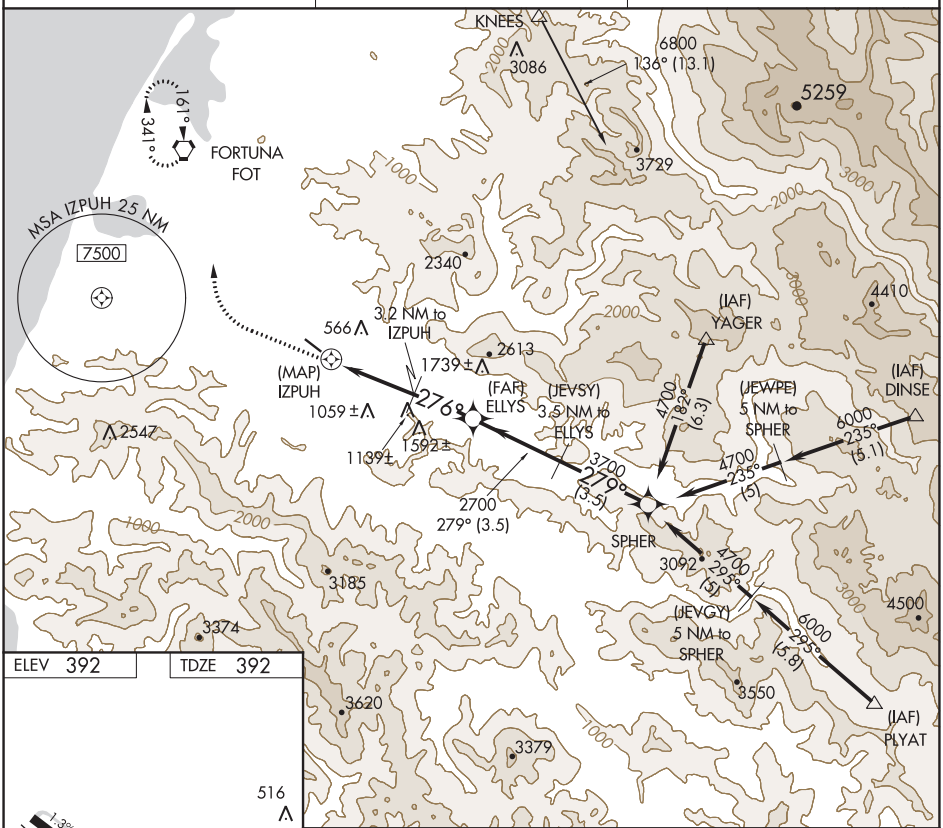
GPS RWY 29
ROHNERVILLE (FOT)

T NA

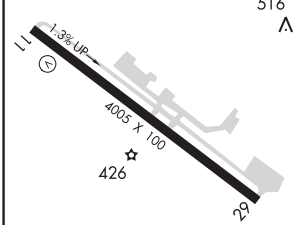
When local altimeter setting not received, use Arcata altimeter setting.

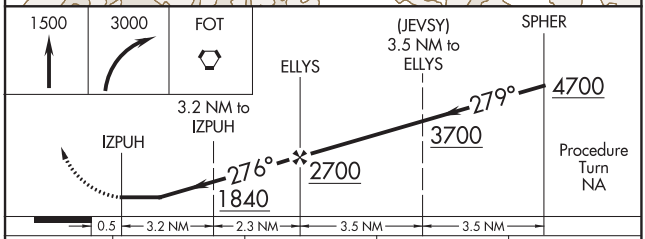
MISSED APPROACH: Climb to 1500 then climbing right turn to 3000 direct FOT VORTAC and hold.

AWOS-3	SEATTLE CENTER	CTAF
133.8	124.85 306.3	122.9 L



ELEV 392 TDZE 392





CATEGORY	A	B	C	D
S-29	1160-1 768 (800-1)	1160-1¼ 768 (800-1¼)	1160-2¼ 768 (800-2¼)	1160-2½ 768 (800-2½)
CIRCLING	1160-1 768 (800-1)	1160-1¼ 768 (800-1¼)	1320-2¾ 928 (1000-2¾)	1460-3 1068 (1100-3)

REIL Rwys 11 and 29 L
MIRL Rwy 11-29 L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

FRESNO, CALIFORNIA AL-161 (FAA) 19283

WAAS CH 49242 W12A	APP CRS 111°	Rwy ldg 3212 TDZE 280 Apt Elev 280

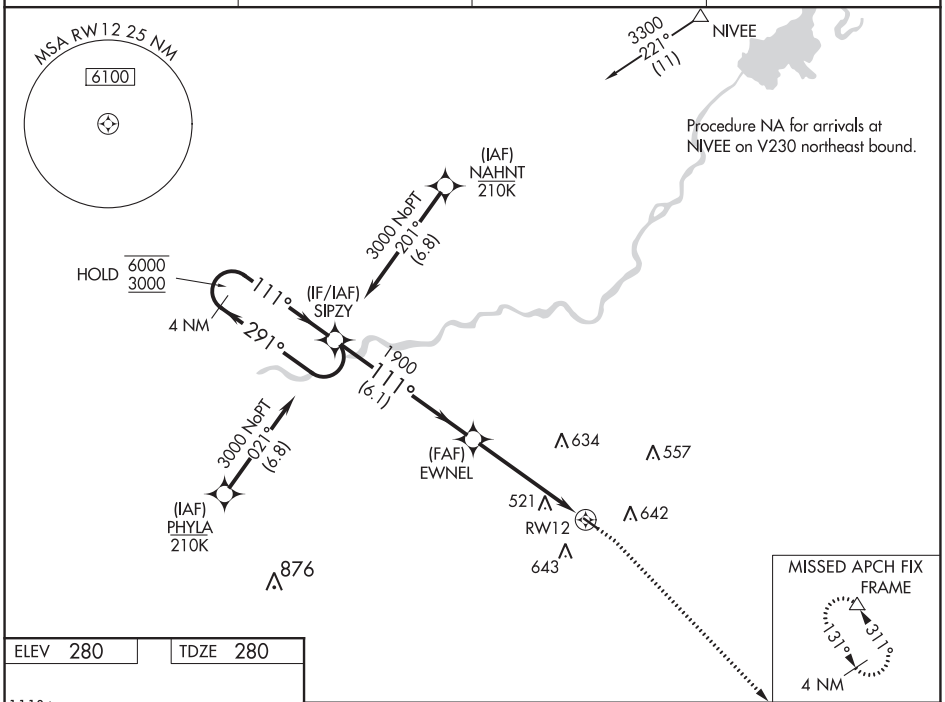
RNAV (GPS) RWY 12
FRESNO CHANDLER EXECUTIVE (FCH)

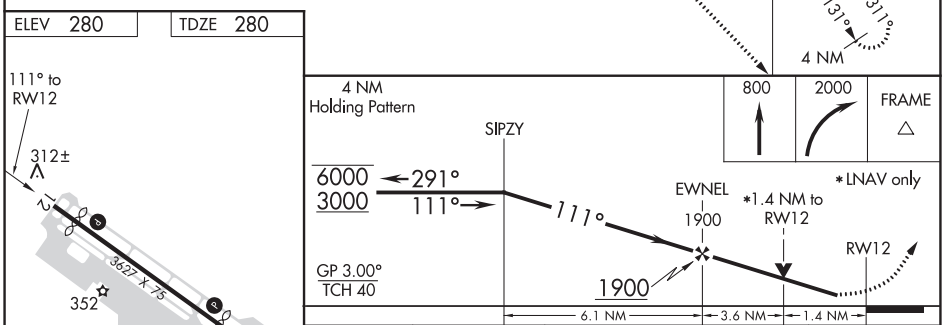
RNP APCH.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1° C or above 54°C.
Rwy 12 helicopter visibility reduction below ¾ SM NA.
Circling Rwy 30 NA at night.

MISSED APPROACH: Climb to 800 then climbing right turn to 2000 direct FRAME and hold.

AWOS-3	FRESNO APP CON	CLNC DEL	UNICOM
135.225	119.0 323.25	119.0	123.0 (CTAF) L





MIRL Rwy 12-30 L
REIL Rwys 12 and 30 L

CATEGORY	A	B	C	D
LPV DA	530-¾ 250 (300-¾)			NA
LNAV/VNAV DA	809-1½ 529 (600-1½)			NA
LNAV MDA	780-1 500 (500-1)		780-1⅜ 500 (500-1⅜)	NA
C CIRCLING	960-1 680 (700-1)		960-2 680 (700-2)	NA

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RNAV (GPS) RWY 30
FRESNO CHANDLER EXECUTIVE (FCH)

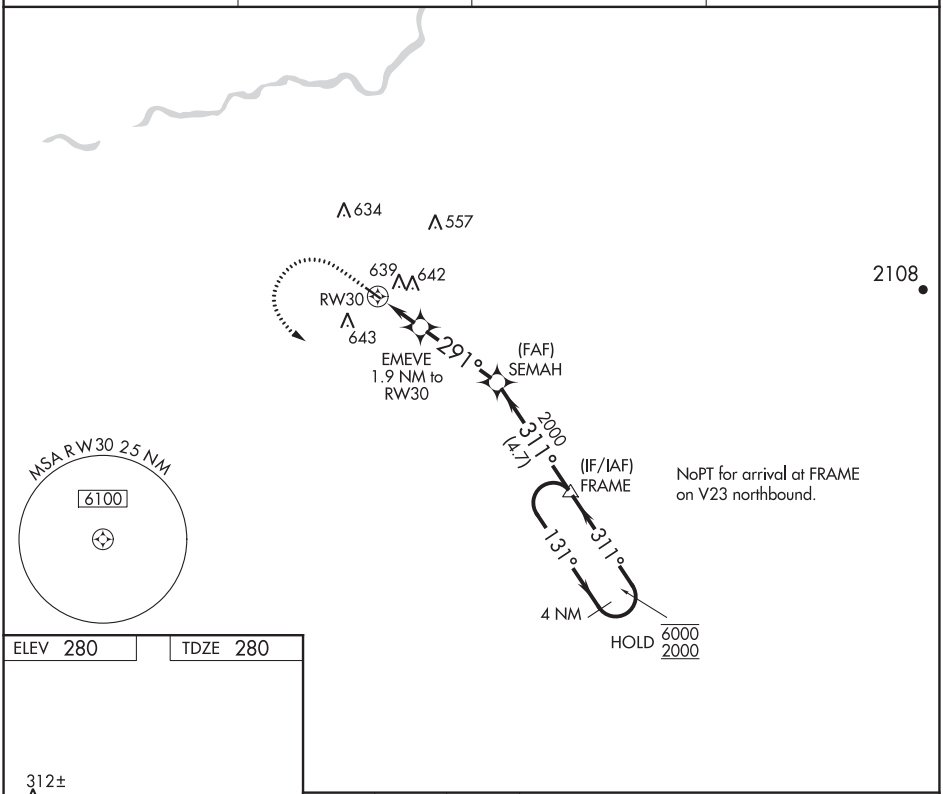
APP CRS	Rwy ldg	3089
291°	TDZE	280
	Apt Elev	280

RNP APCH.

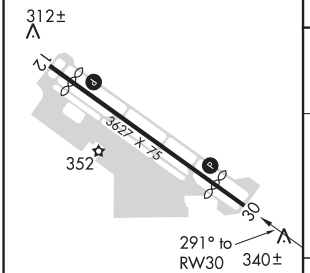
Straight-in Rwy 30 NA at night, Circling Rwy 30 NA at night.
Rwy 30 helicopter visibility reduction below 1 SM NA.

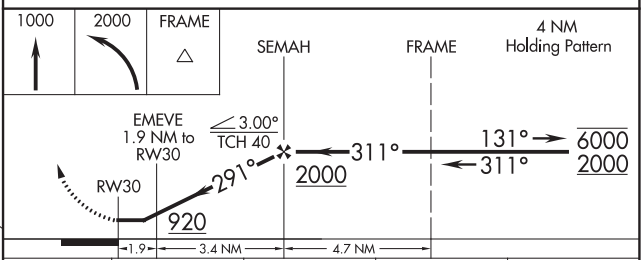
MISSED APPROACH: Climb to 1000 then climbing left turn to 2000 direct FRAME and hold.

AWOS-3	FRESNO APP CON	CLNC DEL	UNICOM
135.225	119.0 323.25	119.0	123.0 (CTAF) L



ELEV 280 TDZE 280





CATEGORY	A	B	C	D
LNAV MDA	800-1 520 (600-1)		800-1⅜ 520 (600-1⅜)	NA
C CIRCLING	960-1 680 (700-1)		960-2 680 (700-2)	NA

MIRL Rwy 12-30 L
REIL Rwys 12 and 30 L

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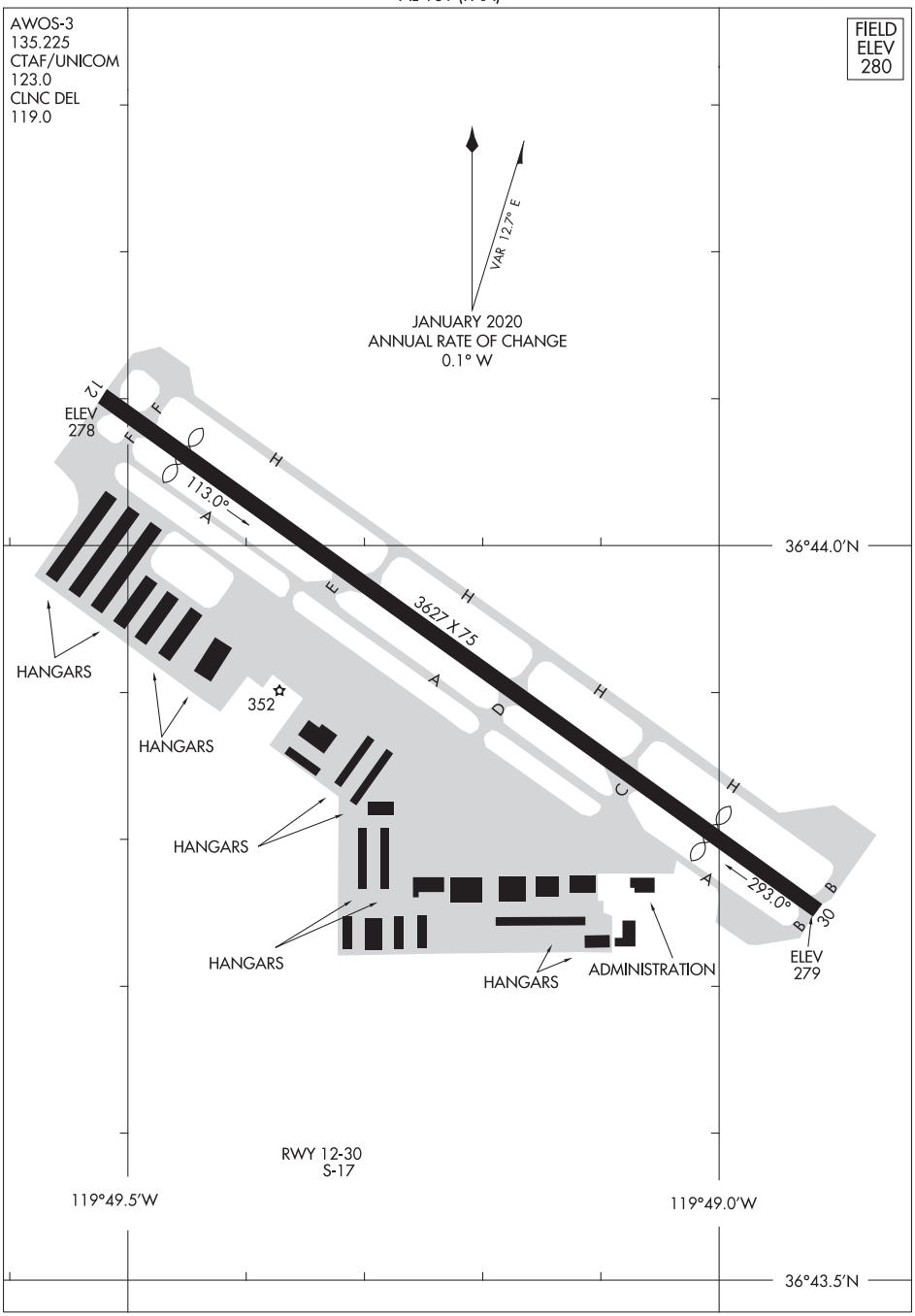
20086

AIRPORT DIAGRAM

FRESNO CHANDLER EXECUTIVE (FCH)
FRESNO, CALIFORNIA

AL-161 (FAA)



SW-2, 25 FEB 2021 to 22 APR 2021

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AIRPORT DIAGRAM
20086
FRESNO, CALIFORNIA
FRESNO CHANDLER EXECUTIVE (FCH)

ILS Y or LOC Y RWY 29R

FRESNO YOSEMITE INTL (FAT)

LOC/DME I-FAT	APP CRS		29R	29L
111.3	292°	Rwy ldg	9227	8008
Chan 50		TDZE	333	331
		Apt Elev	336	336

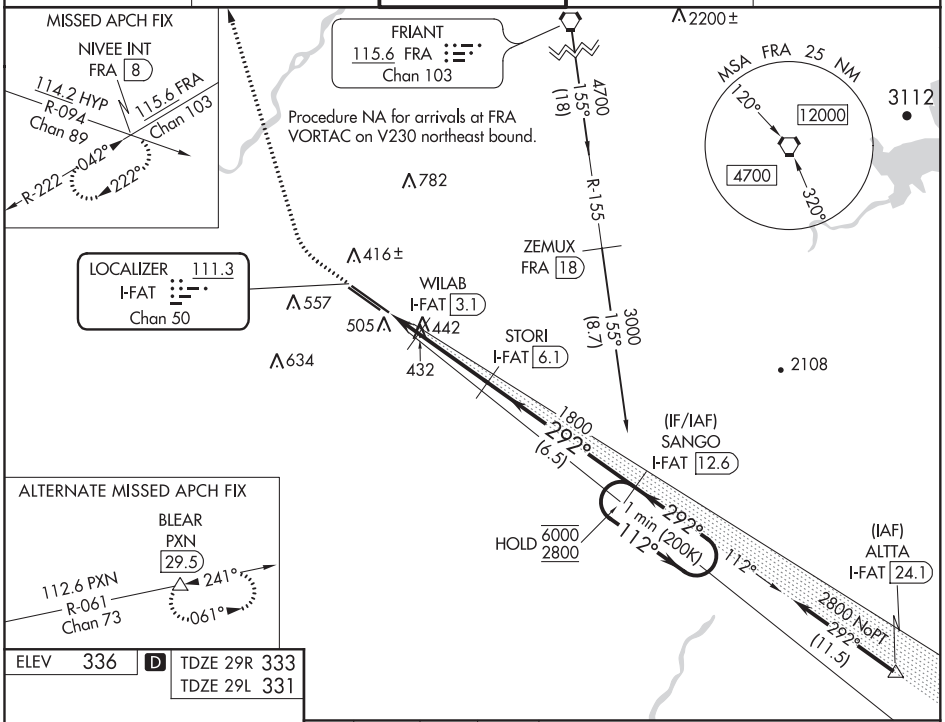
DME required.

T A For inop ALS, increase S-ILS 29R Cat E visibility to RVR 4000 and S-LOC 29R Cat E visibility to RVR 5500. Hold in lieu of PT NA for Cat E aircraft.

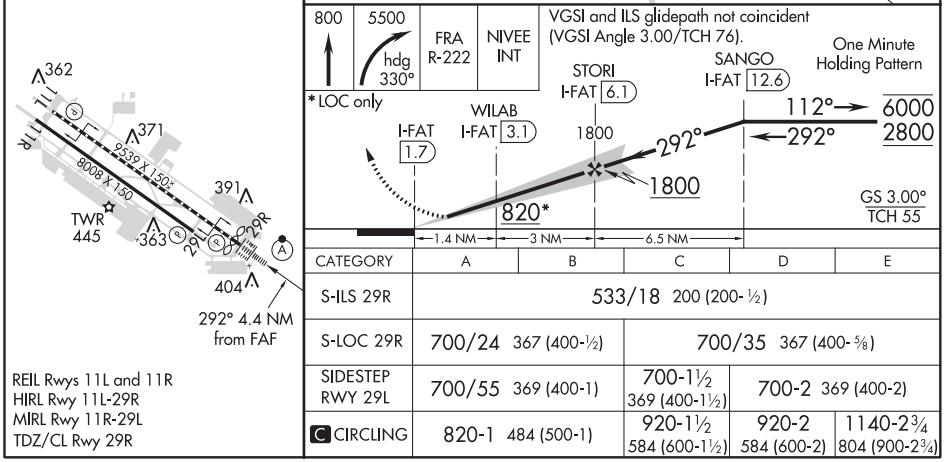
ALSF-2 Rwy 29R

MISSED APPROACH: Climb to 800 then climbing right turn to 5500 on heading 330° and FRA VORTAC R-222 to NIVEE INT/FRA 8 DME and hold, continue climb-in-hold to 5500.

ATIS	FRESNO APP CON	FRESNO TOWER	GND CON	CLNC DEL
121.35 273.6	119.6 351.95	118.2 251.1	121.7 348.6	124.35 348.6



ELEV 336	D	TDZE 29R 333
		TDZE 29L 331



CATEGORY	A	B	C	D	E
S-ILS 29R	533/18 200 (200-½)				
S-LOC 29R	700/24 367 (400-½)		700/35 367 (400-⅝)		
SIDESTEP RWY 29L	700/55 369 (400-1)		700-1½ 369 (400-1½)	700-2 369 (400-2)	
C CIRCLING	820-1 484 (500-1)		920-1½ 584 (600-1½)	920-2 584 (600-2)	1140-2¾ 804 (900-2¾)

REIL Rwys 11L and 11R
HIRL Rwy 11L-29R
MIRL Rwy 11R-29L
TDZ/CL Rwy 29R

FRESNO, CALIFORNIA AL-162 (FAA) 19311

LOC/DME I-FAT	APP CRS	Rwy ldg	9227
111.3	292°	TDZE	333
Chan 50		Apt Elev	336

ILS Y RWY 29R (SA CAT I)
FRESNO YOSEMITE INTL (FAT)

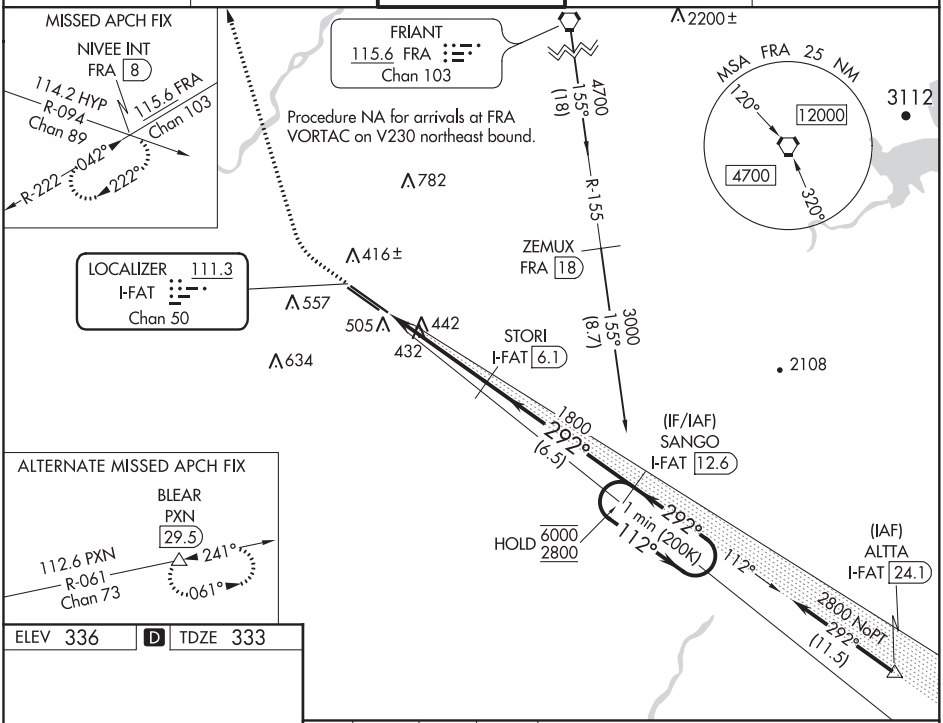
DME required.

Requires specific OPSPEC, MSPEC, or LOA approval and use of HUD to DH.

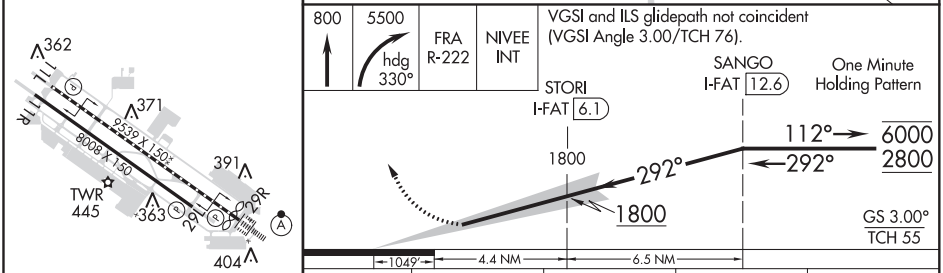
ALSF-2

MISSED APPROACH: Climb to 800 then climbing right turn to 5500 on heading 330° and FRA VORTAC R-222 to NIVEE INT/FRA 8 DME and hold, continue climb-in-hold to 5500.

ATIS	FRESNO APP CON	FRESNO TOWER	GND CON	CLNC DEL
121.35 273.6	119.6 351.95	118.2 251.1	121.7 348.6	124.35 348.6



ELEV 336 D TDZE 333



CATEGORY	A	B	C	D
S-ILS 29R	RA 151/14 150 DA 483			

REIL Rwys 11L and 11R
HIRL Rwy 11L-29R
MIRL Rwy 11R-29L
TDZ/CL Rwy 29R

SA CATEGORY I ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

SW-2, 25 FEB 2021 to 22 APR 2021

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LOC/DME I-FAT	APP CRS	Rwy ldg	9227
111.3	292°	TDZE	333
Chan 50		Apt Elev	336

ILS Y RWY 29R (CAT II & III)
FRESNO YOSEMITE INTL (FAT)

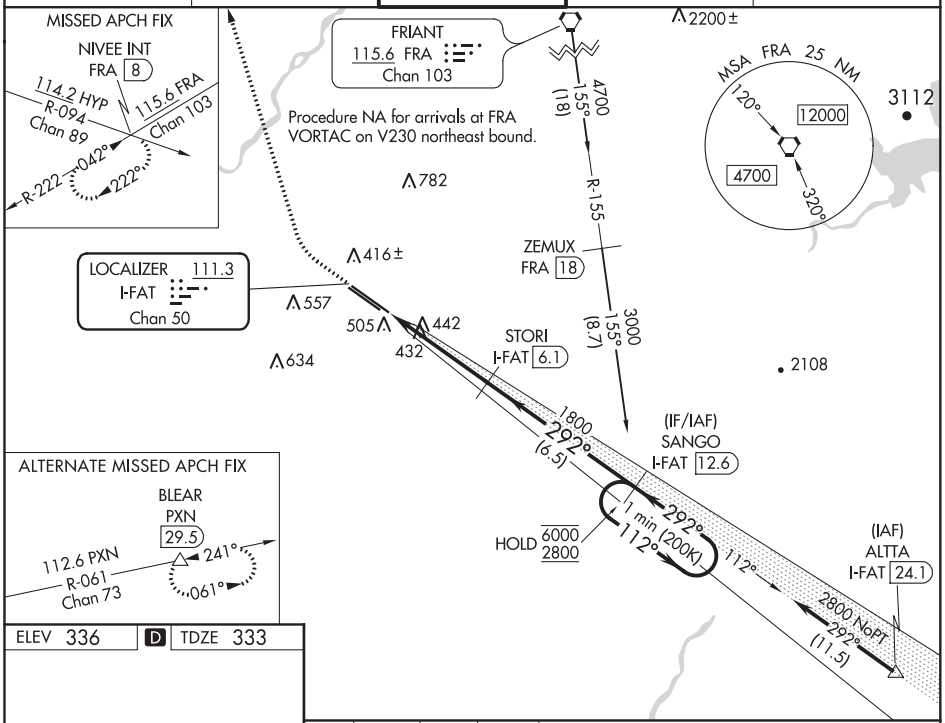
DME required.

CAT II: RVR 1000 authorized with specific OPSPEC, MSPEC, or LOA approval and use of autoland or HUD to touchdown.

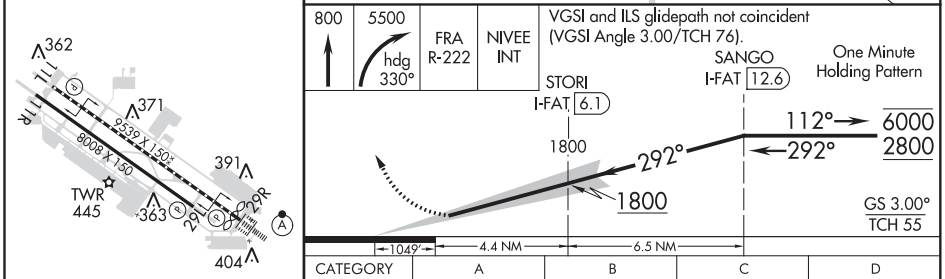
ALSF-2

MISSED APPROACH: Climb to 800 then climbing right turn to 5500 on heading 330° and FRA VORTAC R-222 to NIVEE INT/FRA 8 DME and hold, continue climb-in-hold to 5500.

ATIS	FRESNO APP CON	FRESNO TOWER	GND CON	CLNC DEL
121.35 273.6	119.6 351.95	118.2 251.1	121.7 348.6	124.35 348.6



ELEV 336 D TDZE 333



CATEGORY	A	B	C	D
S-ILS 29R	CAT II RA 101/12 100 DA 433			
S-ILS 29R	CAT III RVR 06			

REIL Rwys 11L and 11R
HIRL Rwy 11L-29R
MIRL Rwy 11R-29L
TDZ/CL Rwy 29R

CATEGORY II & III ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

SW-2, 25 FEB 2021 to 22 APR 2021

FRESNO, CALIFORNIA AL-162 (FAA) 19283

WAAS CH 77505 W11A	APP CRS 112°	Rwy ldg 9279 TDZE 336 Apt Elev 336

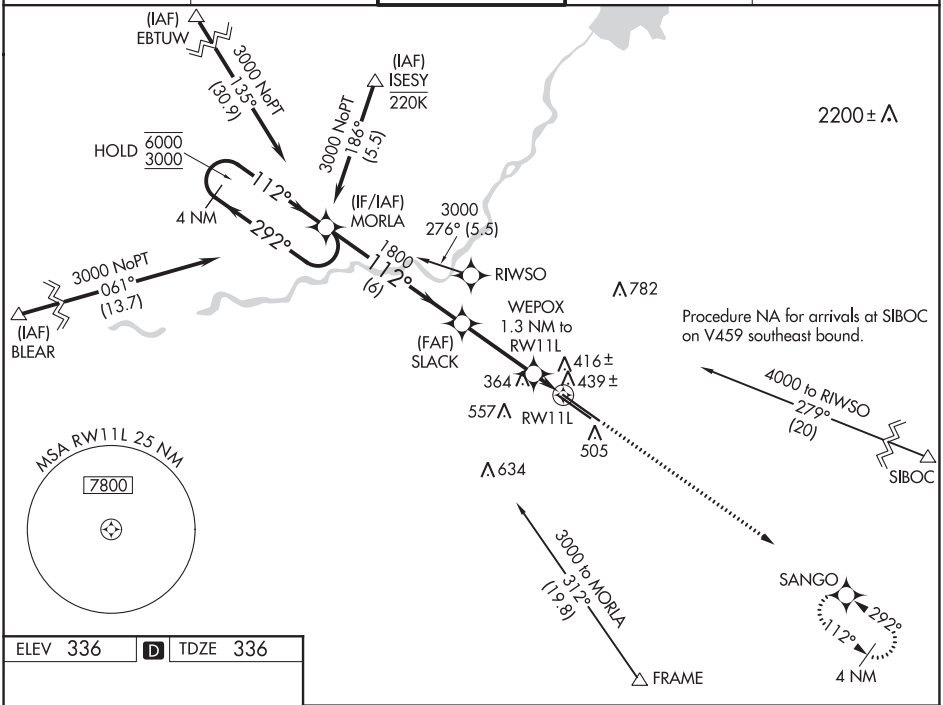
RNAV (GPS) RWY 11L
FRESNO YOSEMITE INTL (FAT)

RNP APCH.

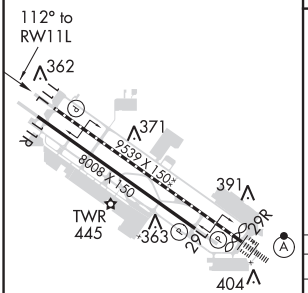
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1°C or above 54°C .

MISSED APPROACH: Climb to 2600 direct SANGO and hold.

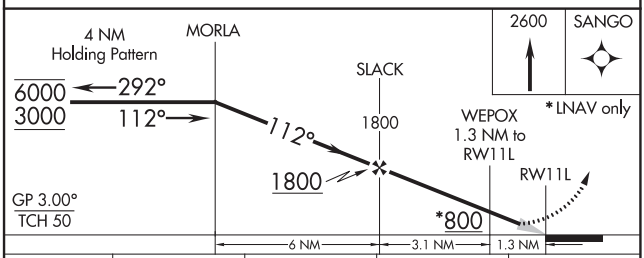
ATIS	FRESNO APP CON	FRESNO TOWER	GND CON	CLNC DEL
121.35 273.6	119.6 351.95	118.2 251.1	121.7 348.6	124.35 348.6



ELEV 336 | D | TDZE 336



REIL Rwys 11L and 11R
HIRL Rwy 11L-29R
MIRL Rwy 11R-29L
TDZ/CL Rwy 29R



CATEGORY	A	B	C	D
LPV DA	536/40 200 (200-¾)			
LNAV/VNAV DA	620/45 284 (300-⅞)			
LNAV MDA	700/55 364 (400-1)			
C CIRCLING	820-1 484 (500-1)		920-1½ 584 (600-1½)	920-2 584 (600-2)

FRESNO, CALIFORNIA
Amdt 2 10OCT19

36°47'N-119°43'W

FRESNO YOSEMITE INTL (FAT)
RNAV (GPS) RWY 11L

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SW-2, 25 FEB 2021 to 22 APR 2021

WAAS CH 78330 W11B	APP CRS 112°	Rwy ldg 8008 TDZE 333 Apt Elev 336

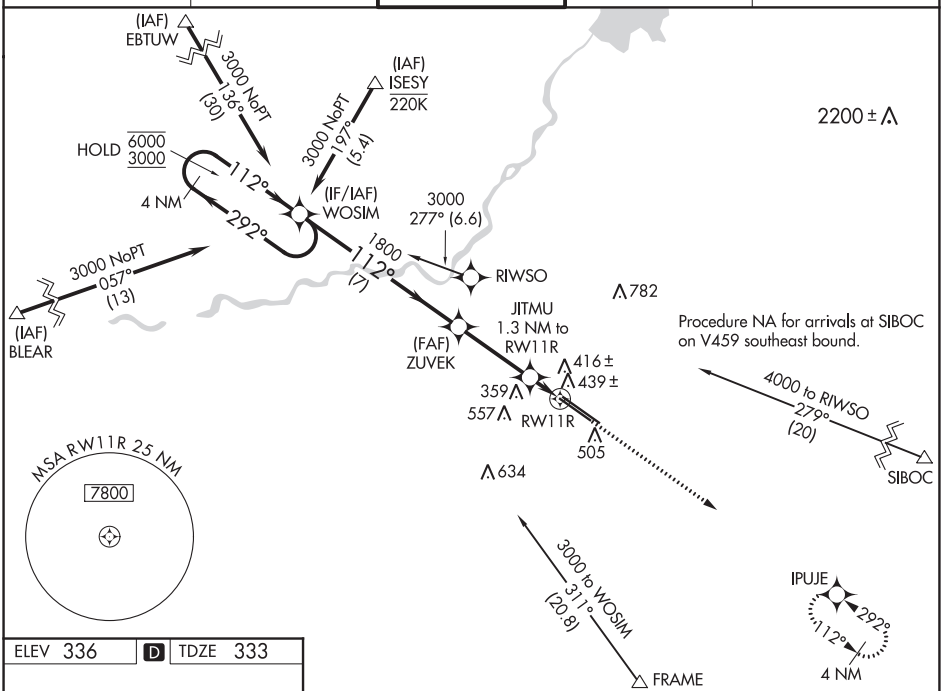
RNAV (GPS) RWY 11R
FRESNO YOSEMITE INTL (FAT)

RNP APCH.

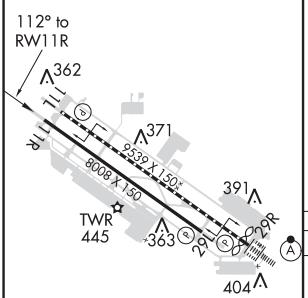
Rwy 11R helicopter visibility reduction below ¾ SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1°C or above 54°C.

MISSED APPROACH: Climb to 2600 direct IPUJE and hold.

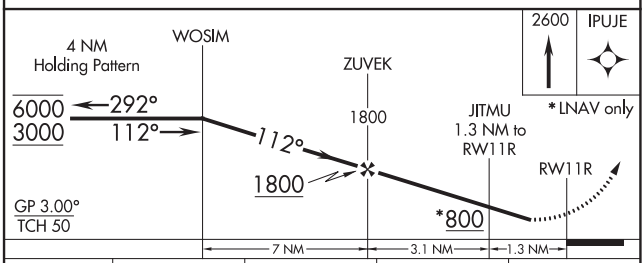
ATIS	FRESNO APP CON	FRESNO TOWER	GND CON	CLNC DEL
121.35 273.6	119.6 351.95	118.2 251.1	121.7 348.6	124.35 348.6



ELEV 336 | D | TDZE 333



REIL Rwys 11L and 11R
HIRL Rwy 11L-29R
MIRL Rwy 11R-29L
TDZ/CL Rwy 29R



CATEGORY	A	B	C	D
LPV DA	584-¾ 251 (300-¾)			
LNAV/VNAV DA	620-⅞ 287 (300-⅞)			
LNAV MDA	700-1 367 (400-1)			
C CIRCLING	820-1 484 (500-1)		920-1½ 584 (600-1½)	920-2 584 (600-2)

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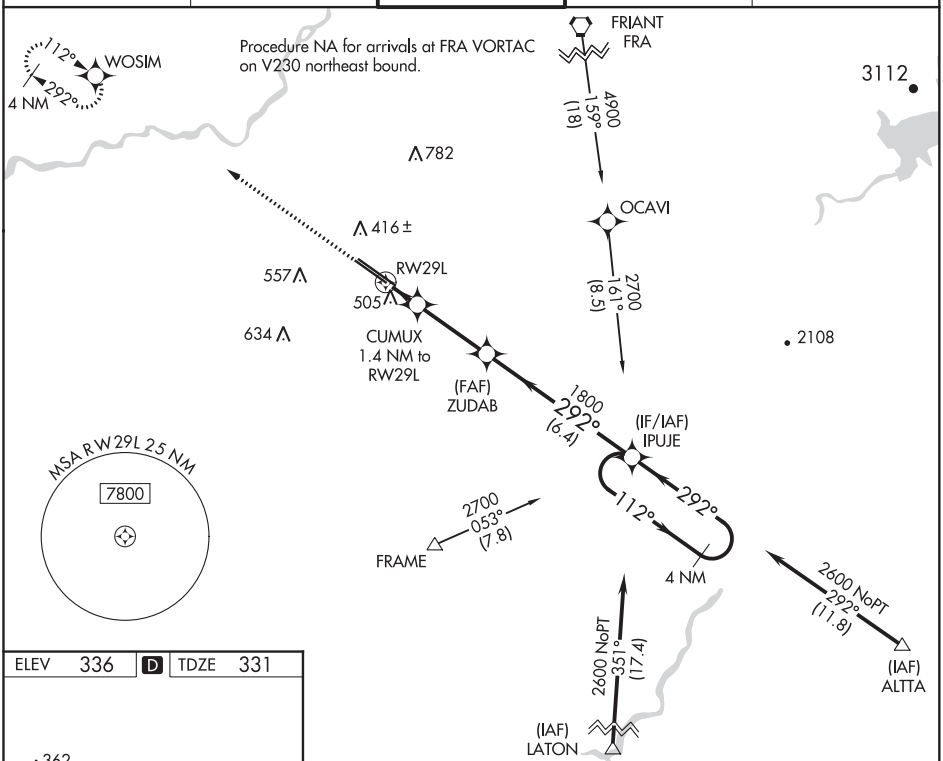
WAAS CH 50530 W29B	APP CRS 292°	Rwy ldg 8008 TDZE 331 Apt Elev 336

RNAV (GPS) RWY 29L
FRESNO YOSEMITE INTL (FAT)

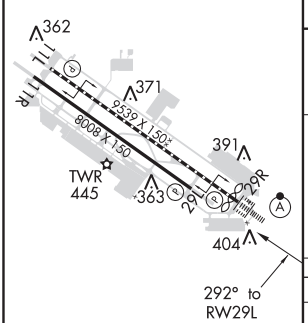
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C (32°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Helicopter visibility reduction below ¾ SM NA.

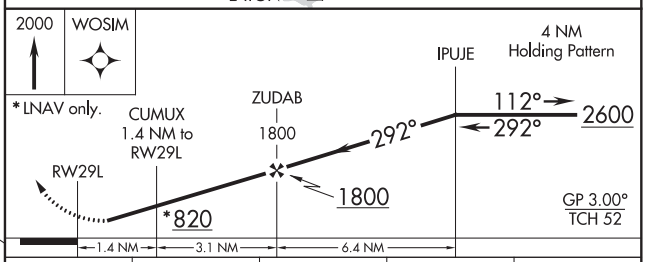
MISSED APPROACH: Climb to 2000 direct WOSIM and hold.

ATIS	FRESNO APP CON	FRESNO TOWER	GND CON	CLNC DEL
121.35 273.6	119.6 351.95	118.2 251.1	121.7 348.6	124.35 348.6



ELEV 336 D TDZE 331





CATEGORY	A	B	C	D
LPV DA	581-¾ 250 (300-¾)			
LNAV/VNAV DA	667-1⅛ 336 (400-1⅛)			
LNAV MDA	760-1 429 (500-1)		760-1¼ 429 (500-1¼)	
C CIRCLING	820-1 484 (500-1)		920-1½ 584 (600-1½)	920-2 584 (600-2)

REIL Rwys 11L and 11R
HIRL Rwy 11L-29R
MIRL Rwy 11R-29L
TDZ/CL Rwy 29R

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WAAS CH 81803 W29A	APP CRS 292°	Rwy ldg 9227 TDZE 333 Apt Elev 336

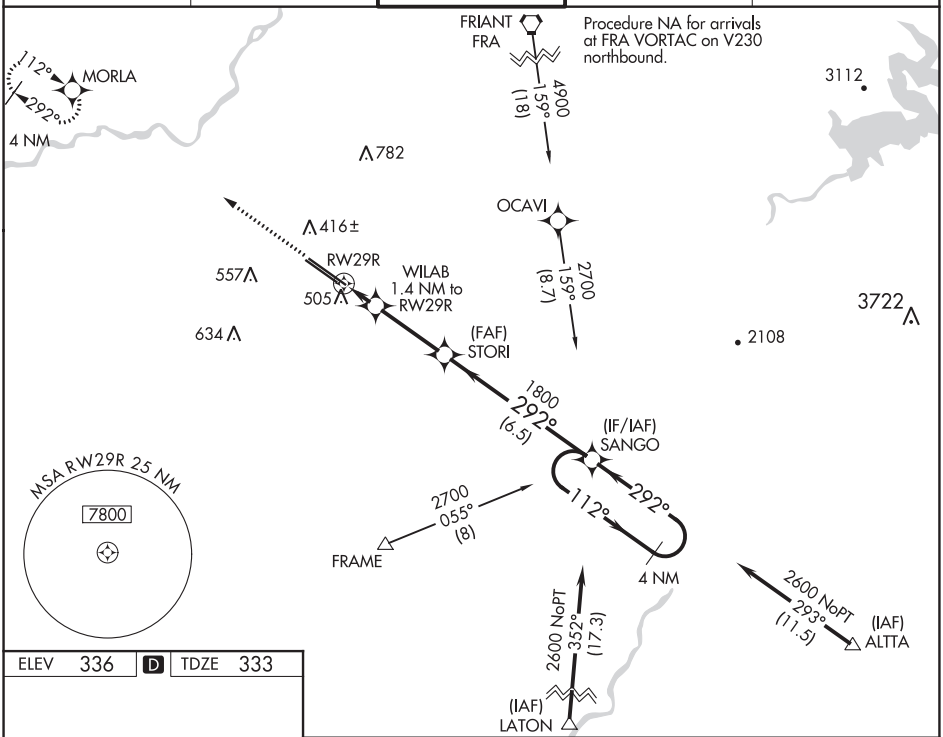
RNAV (GPS) RWY 29R
FRESNO YOSEMITE INTL (FAT)

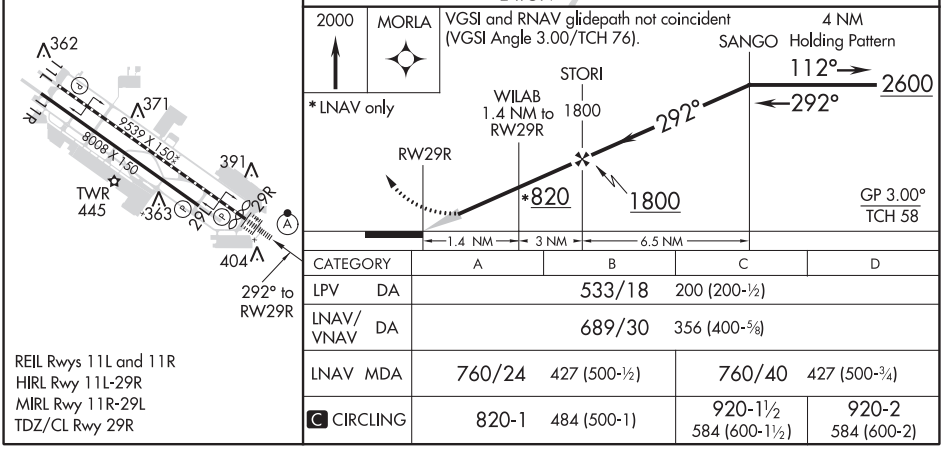
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C (32°F) or above 54°C (130°F). DME/DME RNP-0.3 NA.

ALSF-2

MISSED APPROACH: Climb to 2000 direct MORLA and hold.

ATIS	FRESNO APP CON	FRESNO TOWER	GND CON	CLNC DEL
121.35 273.6	119.6 351.95	118.2 251.1	121.7 348.6	124.35 348.6





REIL Rwys 11L and 11R
HIRL Rwy 11L-29R
MIRL Rwy 11R-29L
TDZ/CL Rwy 29R

CATEGORY	A	B	C	D
LPV DA	533/18 200 (200-½)			
LNAV/VNAV DA	689/30 356 (400-⅝)			
LNAV MDA	760/24 427 (500-½)		760/40 427 (500-¾)	
C CIRCLING	820-1 484 (500-1)		920-1½ 584 (600-1½)	920-2 584 (600-2)

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FRESNO, CALIFORNIA

AL-162 (FAA)

20030

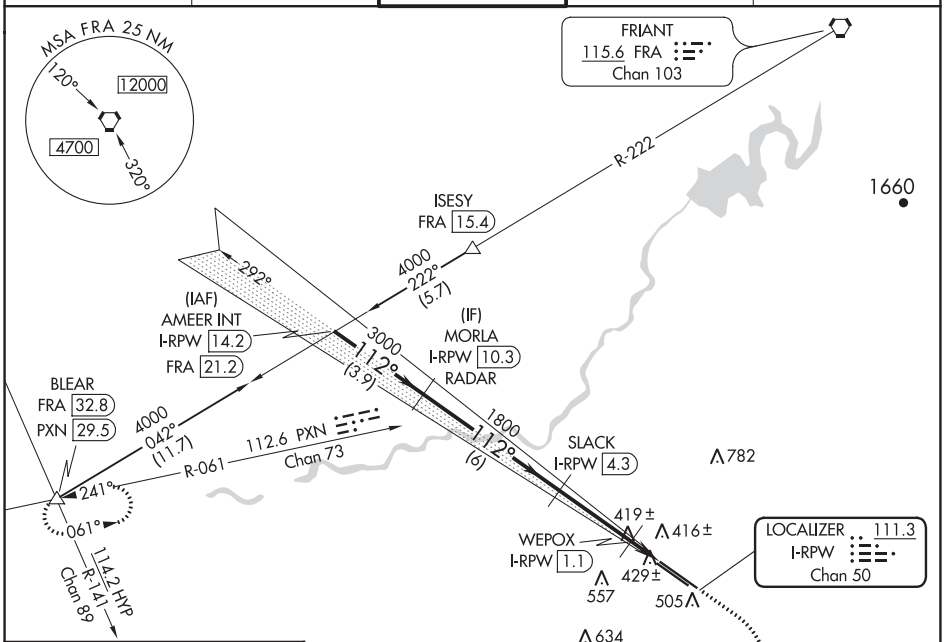
LOC Y RWY 11L
FRESNO YOSEMITE INTL (FAT)

LOC/DME I-RPW	APP CRS		11L	11R
111.3	112°	Rwy ldg	9279	8008
Chan 50		TDZE	336	333
		Apt Elev	336	336

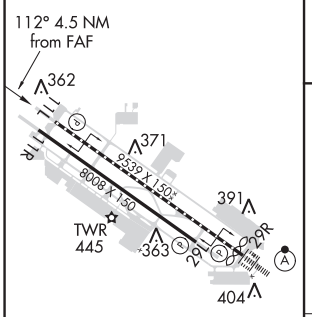
DME required.

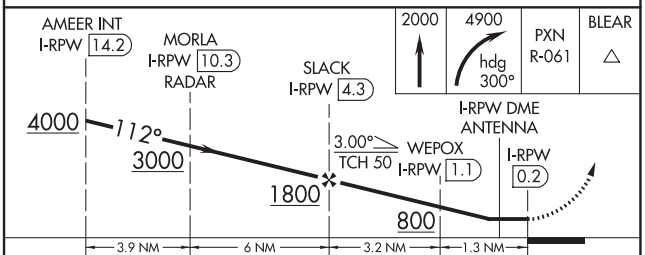
MISSED APPROACH: Climb to 2000 then climbing right turn to 4900 on heading 300° and PXN VORTAC R-061 to BLEAR INT/PXN VORTAC 29.5 DME and hold.

ATIS	FRESNO APP CON	FRESNO TOWER	GND CON	CLNC DEL
121.35 273.6	119.6 351.95	118.2 251.1	121.7 348.6	124.35 348.6



ELEV 336 D TDZE 11L 336 TDZE 11R 333





CATEGORY	A	B	C	D	E
S-LOC 11L	680/55 344 (400-1)				
SIDESTEP 11R	680-1 347 (400-1)		680-1½ 347 (400-1½)	680-2 347 (400-2)	

REIL Rwys 11L and 11R
HIRL Rwy 11L-29R
MIRL Rwy 11R-29L
TDZ/CL Rwy 29R

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TACAN RWY 11L
FRESNO YOSEMITE INTL (FAT)

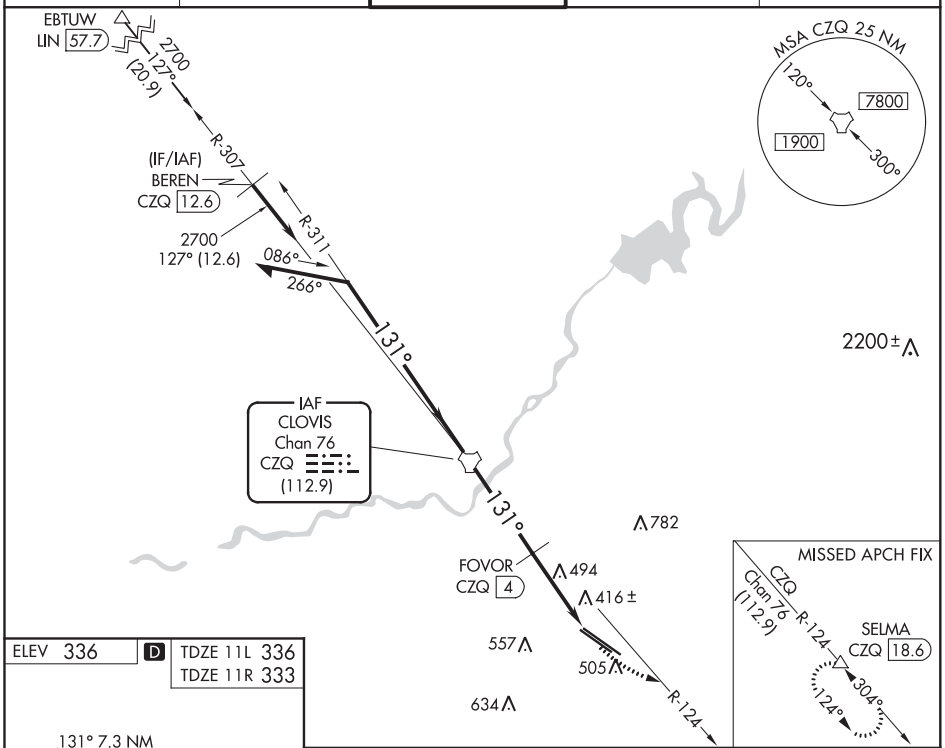
TACAN CZQ Chan 76 (112.9)	APP CRS 131°	Rwy ldg / TDZE / Apt Elev	11L	11R
		Rwy ldg	9279	8008
		TDZE	336	333
		Apt Elev	336	336

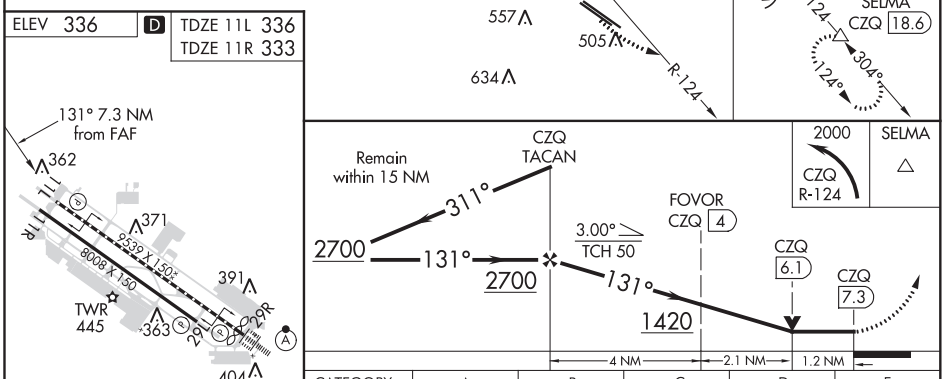
DME required.

Rwy 11L helicopter visibility reduction below ¾ SM NA.

MISSED APPROACH: Climbing left turn to 2000 on CZQ TACAN R-124 to SELMA/CZQ 18.6 DME and hold.

ATIS	FRESNO APP CON	FRESNO TOWER	GND CON	CLNC DEL
121.35 273.6	119.6 351.95	118.2 251.1	121.7 348.6	124.35 348.6





REIL Rwys 11L and 11R
HIRL Rwy 11L-29R
MIRL Rwy 11R-29L
TDZ/CL Rwy 29R

CATEGORY	A	B	C	D	E
S-11L	760/55 424 (500-1)		760-1¼ 424 (500-1¼)		
SIDESTEP 11R	760-1 427 (500-1)		760-1½ 427 (500-1½)	760-2 427 (500-2)	
C CIRCLING	820-1 484 (500-1)		920-1½ 584 (600-1½)	920-2 584 (600-2)	1140-2¾ 804 (900-2¾)

SW-2, 25 FEB 2021 to 22 APR 2021

FRESNO, CALIFORNIA AL-162 (FAA) 20030

TACAN RWY 29R
FRESNO YOSEMITE INTL (FAT)

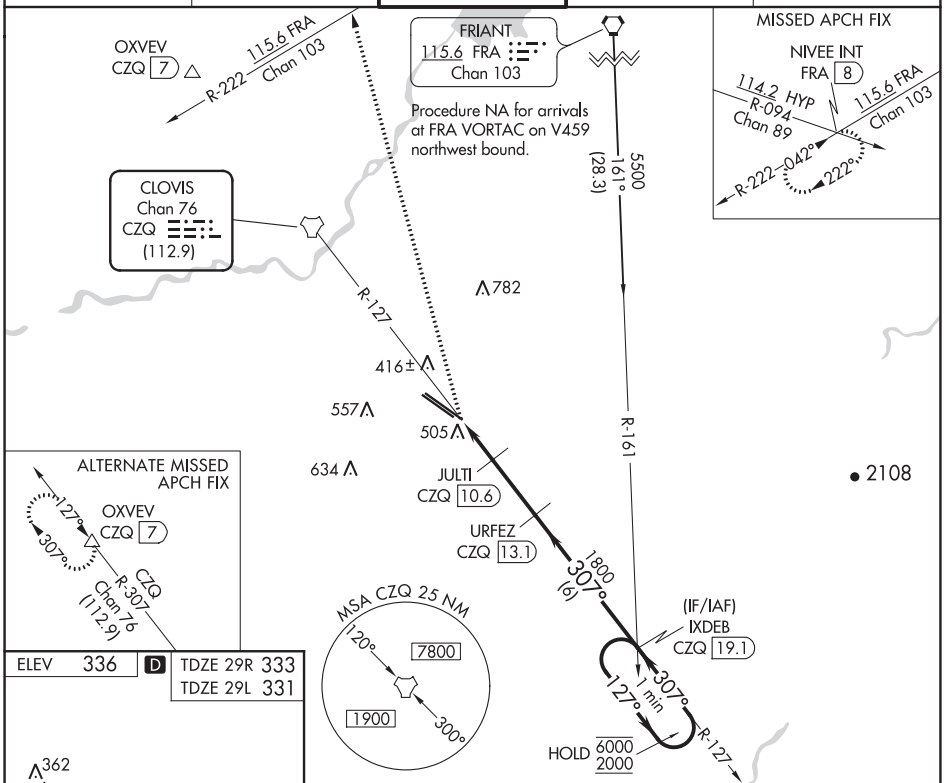
TACAN CZQ Chan 76 (112.9)	APP CRS 307°		29R	29L
		Rwy ldg	9227	8008
		TDZE	333	331
		Apt Elev	336	336

Rwy 29R helicopter visibility reduction below RVR 4000 NA. For inop ALS, increase S-29R Cat A/B visibility to RVR 5500 and Cat E visibility to 1¼ mile.

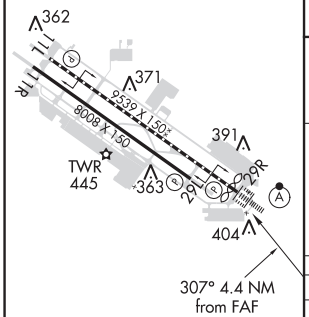
ALSF-2 Rwy 29R

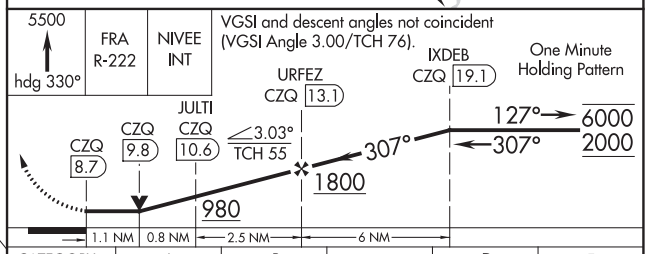
MISSED APPROACH: Climb to 5500 on heading 330° and FRA VORTAC R-222 to NIVEE INT/FRA 8 DME and hold, continue climb-in-hold to 5500.

ATIS	FRESNO APP CON	FRESNO TOWER	GND CON	CLNC DEL
121.35 273.6	119.6 351.95	118.2 251.1	121.7 348.6	124.35 348.6



ELEV 336 | D | TDZE 29R 333 | TDZE 29L 331



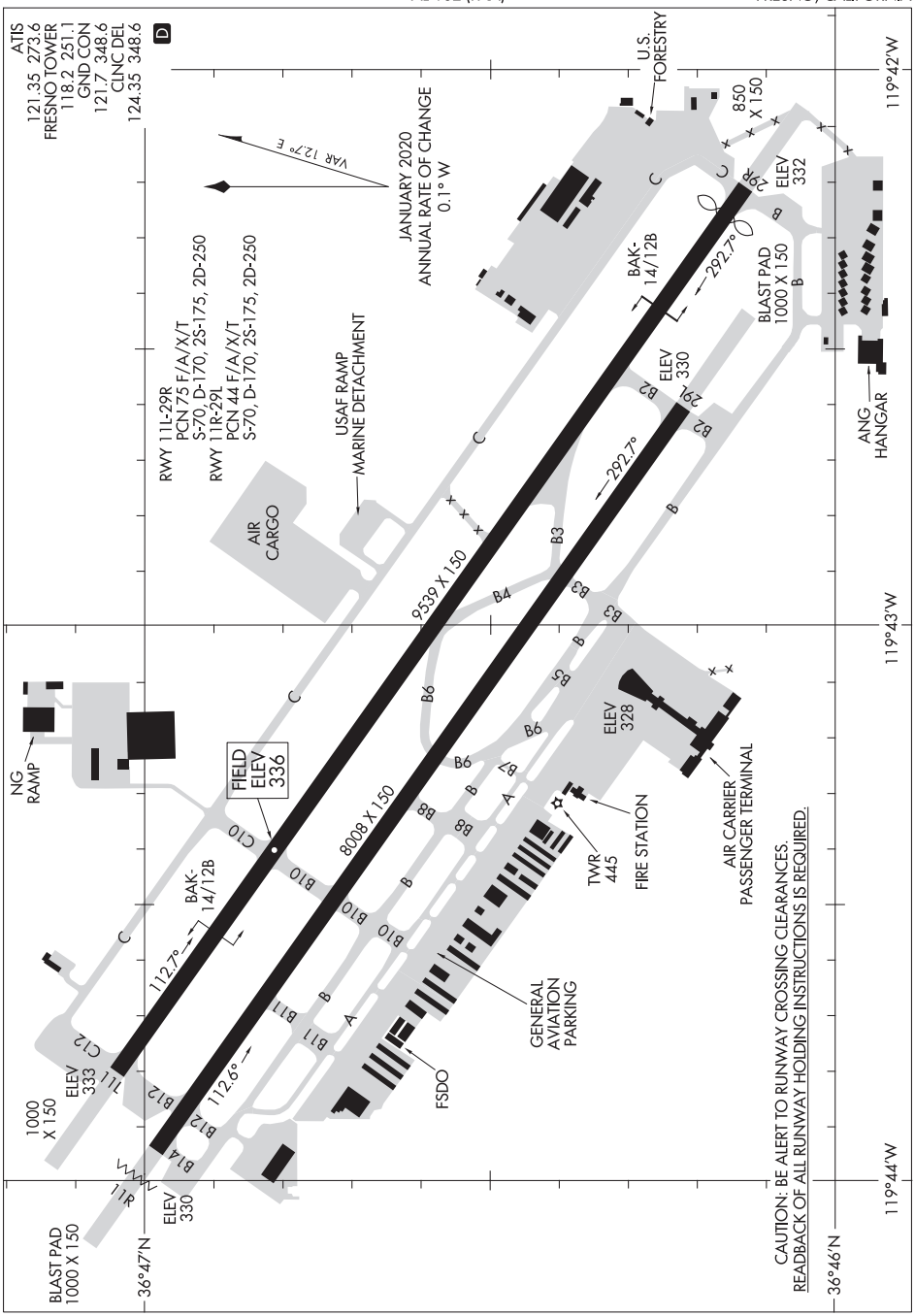


CATEGORY	A	B	C	D	E
S-29R	760/40 427 (500-¾)				
SIDESTEP 29L	760/55 429 (500-1)		760-1½ 429 (500-1½)	760-2 429 (500-2)	
C CIRCLING	820-1 484 (500-1)		920-1½ 584 (600-1½)	920-2 584 (600-2)	1140-2¾ 804 (900-2¾)

REIL Rwys 11L and 11R
HIRL Rwy 11L-29R
MIRL Rwy 11R-29L
TDZ/CL Rwy 29R

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021



SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

(BULL3.NTELL) 18200

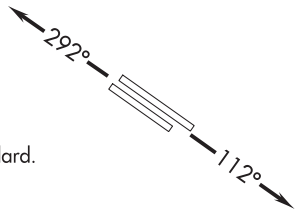
BULLDOG THREE DEPARTURE

AL-162 (FAA)

FRESNO YOSEMITE INTL (FAT)
FRESNO, CALIFORNIA

TOP ALTITUDE: ASSIGNED BY ATC

ATIS
121.35 273.6
CLNC DEL
124.35 348.6
GND CON
121.7 348.6
FRESNO TOWER
118.2 251.1
FRESNO DEP CON
132.35 323.25



TAKEOFF MINIMUMS
Rwys 11L/R, 29L/R: Standard.

NOTE: RADAR required.

FRAME △
N36°36.78′
W119°40.43′
L-3-9

TULE
109.2 TTE
Chan 29
N35°54.78′-W119°01.25′
L-3-7, H-4

AVENAL
117.1 AVE
Chan 118
N35°38.82′-W119°58.72′
L-3-7, H-4

SHAFTER
115.4 EHF
Chan 101
N35°29.07′-W119°05.84′
L-3-7, H-4

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 11L/R: Climb heading 112° thence. . . .

TAKEOFF RUNWAYS 29L/R: Climb heading 292° thence. . . .

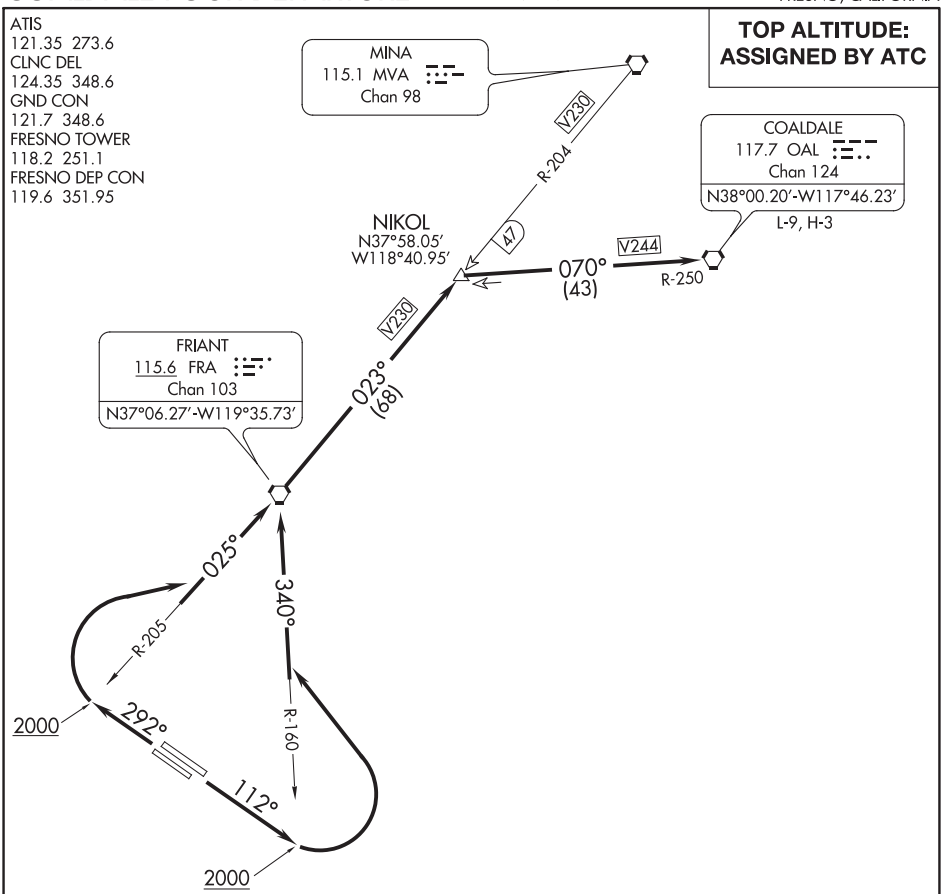
. . . .maintain ATC assigned altitude; expect clearance to filed altitude five minutes after departure.

SW-2, 25 FEB 2021 to 22 APR 2021

COALDALE FOUR DEPARTURE

ATIS
121.35 273.6
CLNC DEL
124.35 348.6
GND CON
121.7 348.6
FRESNO TOWER
118.2 251.1
FRESNO DEP CON
119.6 351.95

TOP ALTITUDE: ASSIGNED BY ATC



TAKEOFF MINIMUMS
Rwys 11L/R, 29L/R: Standard with minimum climb of 260′ per NM to 10700.

NOTE: Chart not to scale.

T

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 11L/R: Climb on heading 112° to 2000′, then climbing left turn to intercept FRA R-160 to FRA VORTAC, thence. . . .
TAKEOFF RUNWAYS 29L/R: Climb on heading 292° to 2000′, then climbing right turn to intercept FRA R-205 to FRA VORTAC, thence. . . .

. . . .continue climb to 14300 on FRA VORTAC R-023 and MVA VORTAC R-204 to NIKOL INT and on OAL VORTAC R-250 to OAL VORTAC. Maintain ATC assigned altitude.

(YOSE3.NTELL) 18200

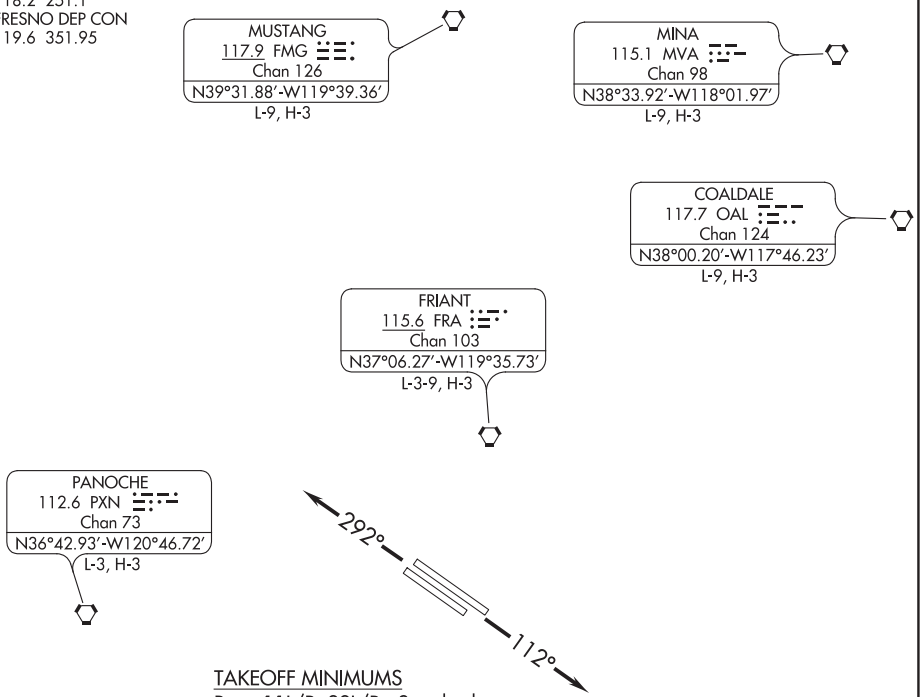
YOSEMITE THREE DEPARTURE

AL-162 (FAA)

FRESNO YOSEMITE INTL (FAT)
FRESNO, CALIFORNIA

TOP ALTITUDE: ASSIGNED BY ATC

ATIS
121.35 273.6
CLNC DEL
124.35 348.6
GND CON
121.7 348.6
FRESNO TOWER
118.2 251.1
FRESNO DEP CON
119.6 351.95



TAKEOFF MINIMUMS
Rwys 11L/R, 29L/R: Standard.

NOTE: RADAR required.

NOTE: Chart not to scale.

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 11L/R: Climb heading 112°, thence. . . .

TAKEOFF RUNWAYS 29L/R: Climb heading 292°, thence. . . .

. . . .maintain ATC assigned altitude; expect clearance to filed altitude five minutes after departure.

LOST COMMUNICATIONS: If not in contact with Fresno Departure Control within two minutes of takeoff, aircraft enroute to FRA, MVA, FMG and OAL proceed direct FRA VORTAC, cross FRA VORTAC at or above 9000, thence via assigned route to filed altitude.

WAAS CH 90240 W07A	APP CRS 071°	Rwy ldg 4657 TDZE 3131 Apt Elev 3158

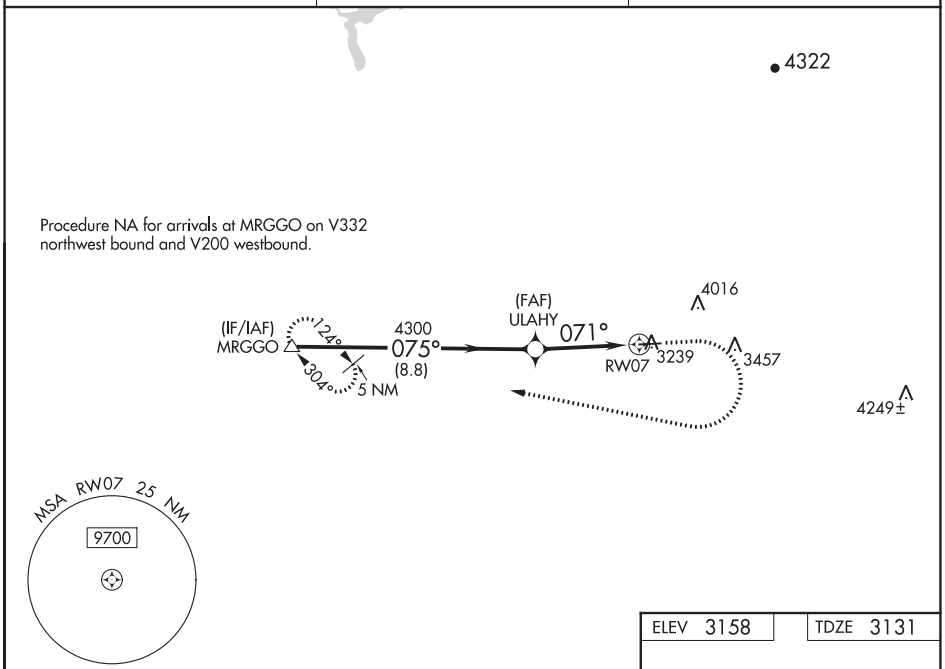
RNAV (GPS) RWY 7
NEVADA COUNTY (GOO)

RNP APCH.

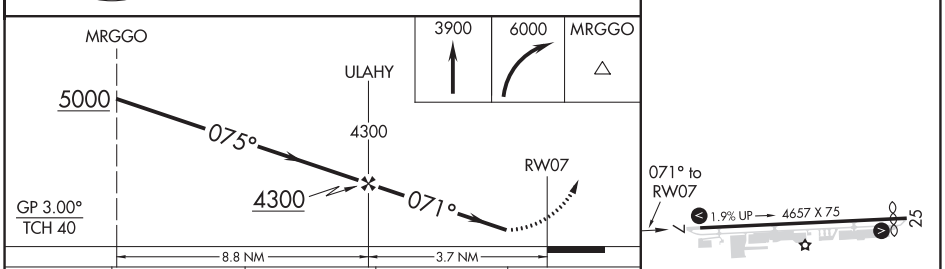
Circling NA north of Rwy 7-25. Rwy 7 helicopter visibility reduction below ¾ SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -21°C or above 54°C.

MISSED APPROACH: (Do not exceed 250K until MRGGO) Climb to 3900 then climbing right turn to 6000 direct MRGGO and hold.

AWOS-3	NORCAL APP CON	UNICOM
121.325	125.4 259.1	122.725 (CTAF) L



ELEV 3158	TDZE 3131



CATEGORY	A	B	C	D
LPV DA	3606-1⅜ 475 (500-1⅜)			
LNAV/VNAV DA	3772-1⅞ 641 (700-1⅞)			
LNAV MDA	3860-1 729 (800-1)		3860-2 729 (800-2)	
C CIRCLING	3860-1 702 (800-1)		3880-2 722 (800-2)	3880-2¼ 722 (800-2¼)

REIL Rwys 7 and 25
MIRL Rwy 7-25 L

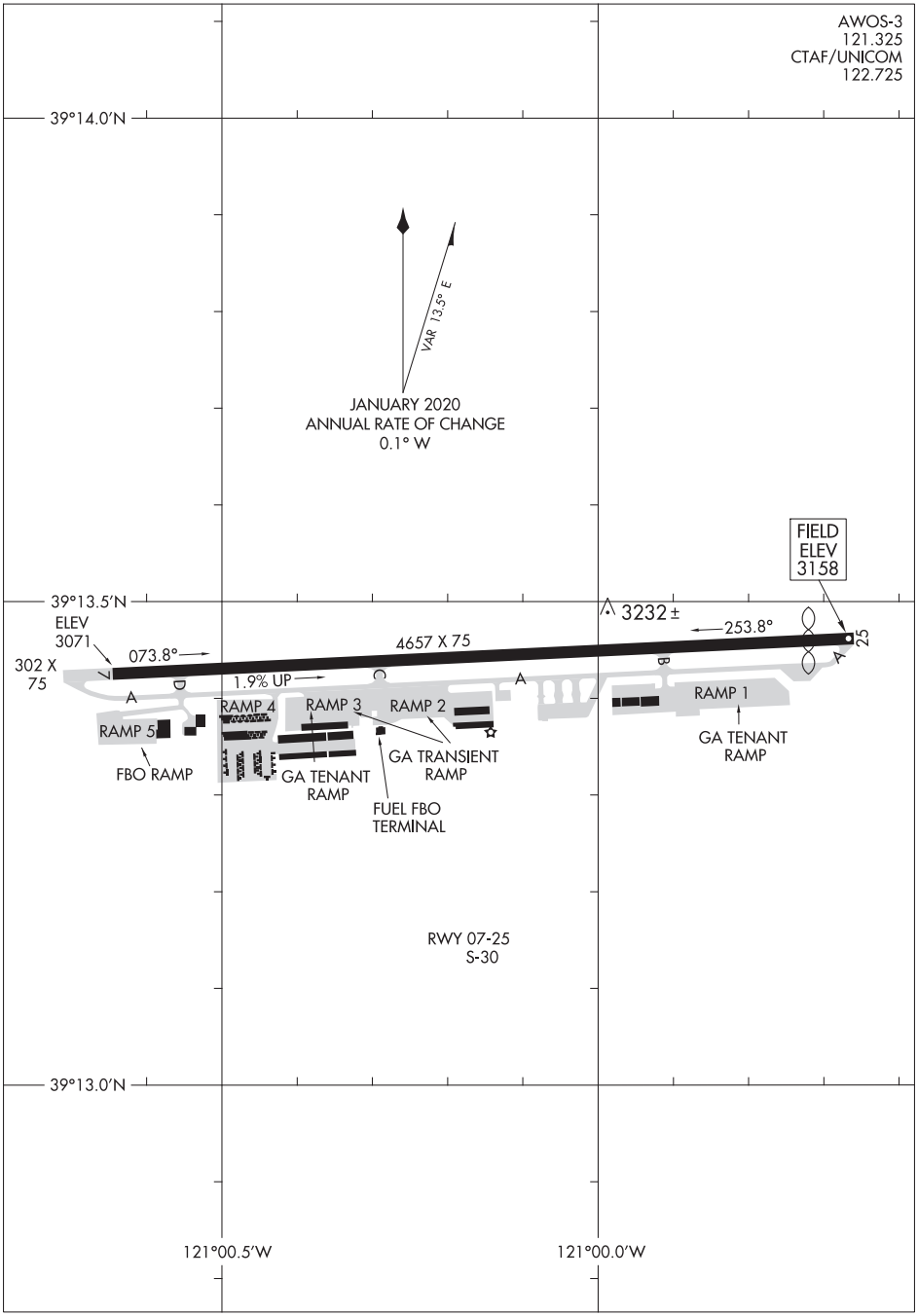
SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

20310

AIRPORT DIAGRAM

AL-6659 (FAA)

NEVADA COUNTY (GOO)
GRASS VALLEY, CALIFORNIA



SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

AIRPORT DIAGRAM
20310
GRASS VALLEY, CALIFORNIA
NEVADA COUNTY (GOO)

RNAV (GPS) RWY 9
PINE MOUNTAIN LAKE (E45)

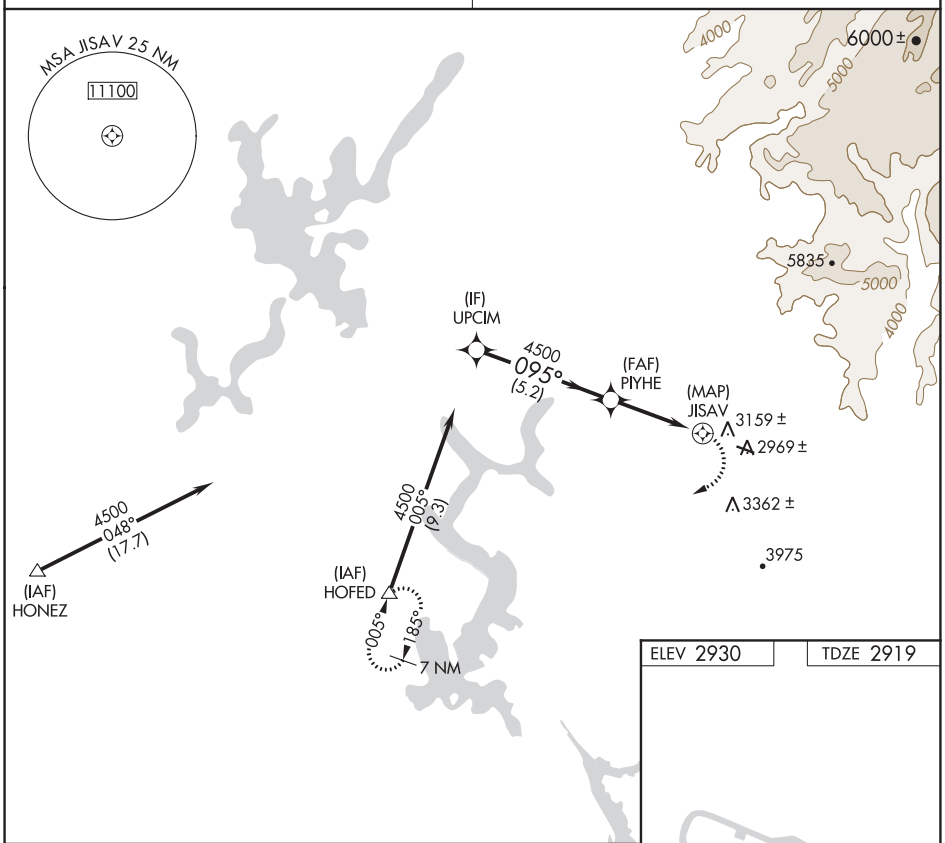
APP CRS	Rwy ldg	3624
095°	TDZE	2919
	Apt Elev	2930

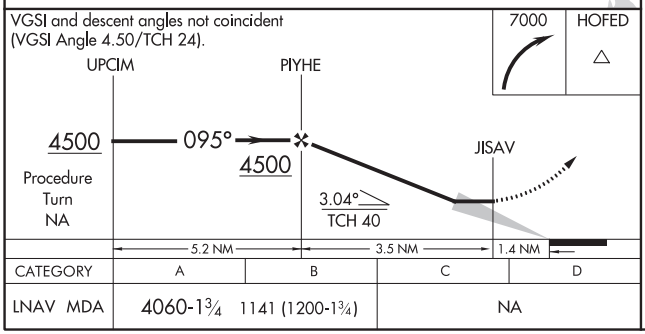
RNP APCH.

Use Columbia altimeter setting; when not received, use Castle altimeter setting and increase all MDA 560 feet.

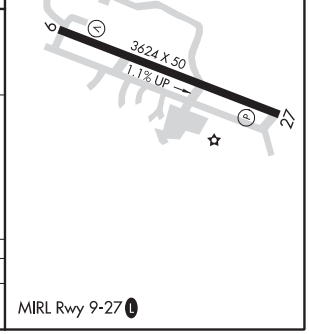
MISSED APPROACH: Climbing right turn to 7000 direct HOFED and hold, continue climb-in-hold to 7000.

OAKLAND CENTER	CTAF
121.25 327.0	122.9 L





CATEGORY	A	B	C	D
LNAV MDA	4060-1¾ 1141 (1200-1¾)		NA	



GROVELAND, CALIFORNIA

AL-9084 (FAA)

20310

GPS RWY 27
PINE MOUNTAIN LAKE (E45)

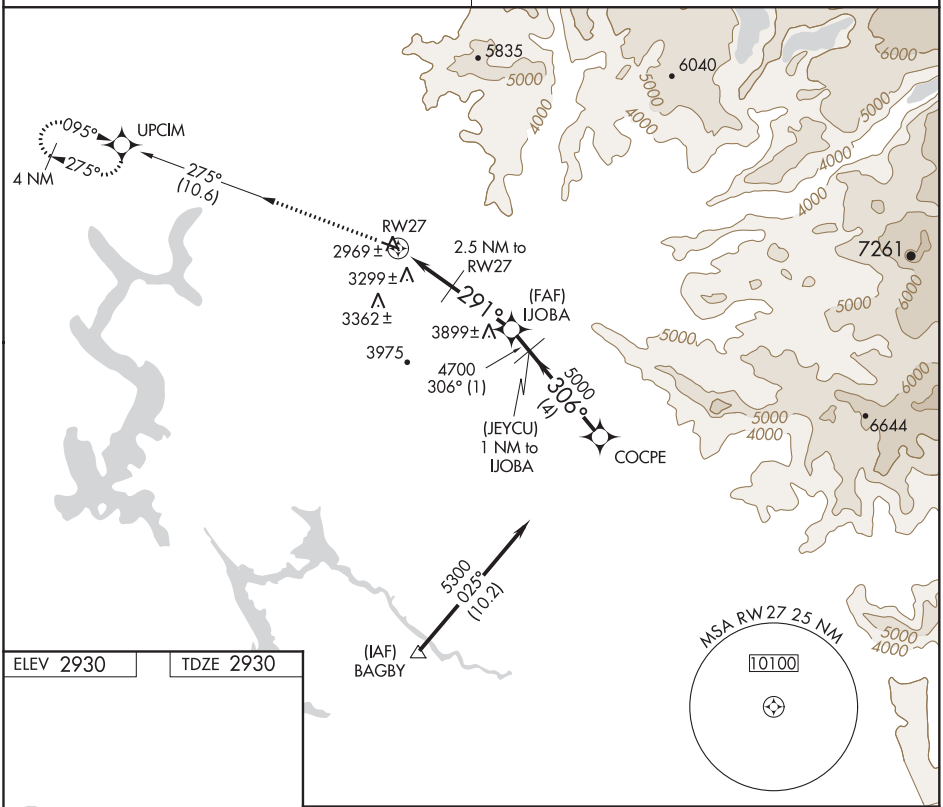
APP CRS	Rwy ldg	3624
291°	TDZE	2930
	Apt Elev	2930

NA

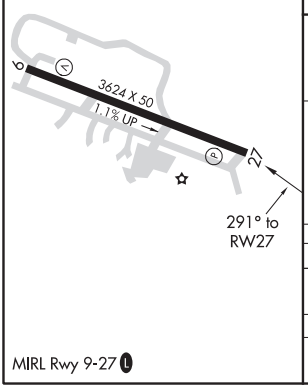
Obtain local altimeter setting on CTAF; when not received, use Columbia altimeter setting.

MISSED APPROACH: Climb to 4500 on 275° course to UPCIM and hold.

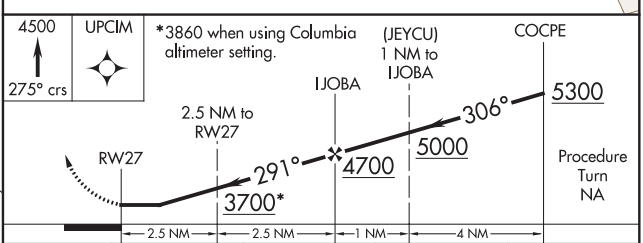
OAKLAND CENTER	CTAF
121.25 327.0	122.9 L



ELEV 2930 | TDZE 2930



MIRL Rwy 9-27 L



CATEGORY	A	B	C	D
S-27	3560-1 630 (700-1)		NA	
COLUMBIA ALTIMETER SETTING MINIMUMS				
S-27	3700-1 770 (800-1)	3700-1¼ 770 (800-1¼)	NA	

GROVELAND, CALIFORNIA
Orig-C 15AUG19

37°52′N-120°11′W

PINE MOUNTAIN LAKE (E45)
GPS RWY 27

SW-2, 25 FEB 2021 to 22 APR 2021

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WAAS CH 99742 W12A	APP CRS 122°	Rwy ldg 4248 TDZE 59 Apt Elev 66

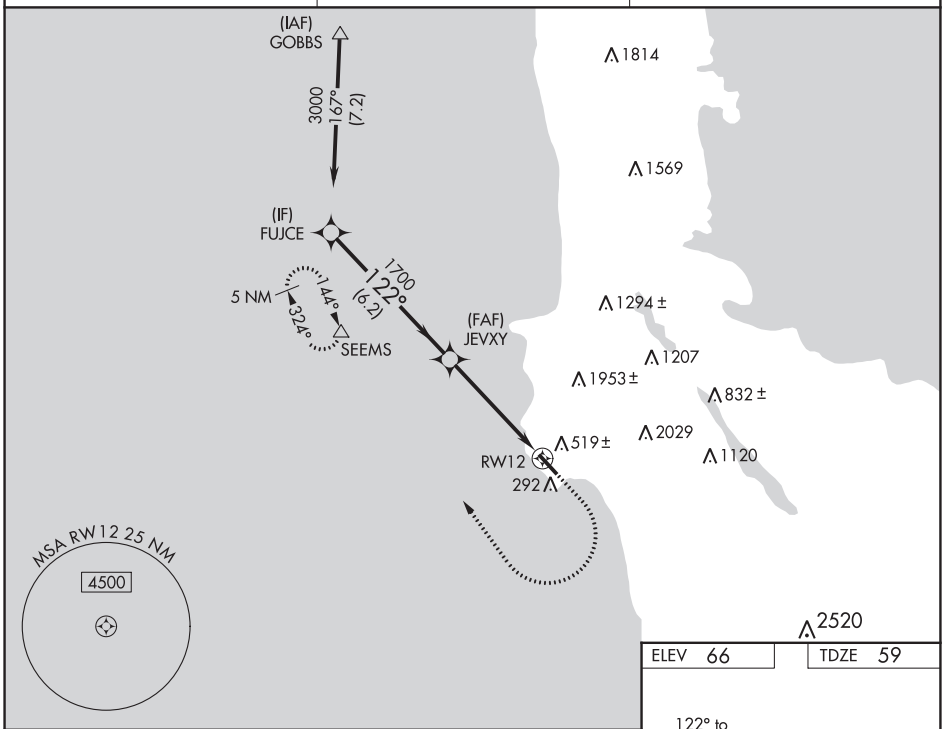
RNAV (GPS) RWY 12
HALF MOON BAY (HAF)

RNP APCH.

Rwy 12 helicopter visibility reduction below ¾ SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15° C or above 54° C.

MISSED APPROACH: Climb to 700 then climbing right turn to 4000 direct SEEMS and hold, continue climb-in-hold to 4000.

AWOS	NORCAL APP CON	UNICOM
127.275	135.1 307.2	122.8 (CTAF) L



SW-2, 25 FEB 2021 to 22 APR 2021

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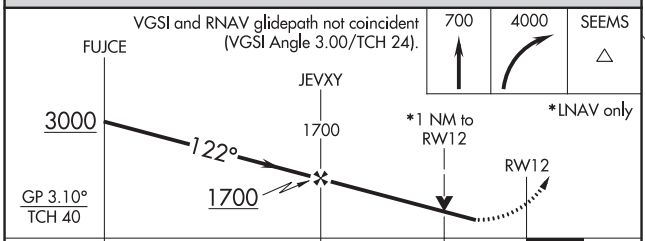
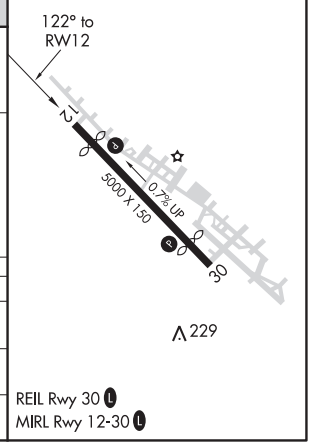
ELEV 66	TDZE 59

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 24).

700	4000	SEEMS

*LNAV only





CATEGORY	A	B	C	D
LPV DA	360-⅞ 301 (300-⅞)			
LNAV/VNAV DA	652-1¾ 593 (600-1¾)			
LNAV MDA	660-1 601 (600-1)		660-1¾ 601 (600-1¾)	

REIL Rwy 30 L
MIRL Rwy 12-30 L

HALF MOON BAY, CALIFORNIA AL-6675 (FAA) 19199

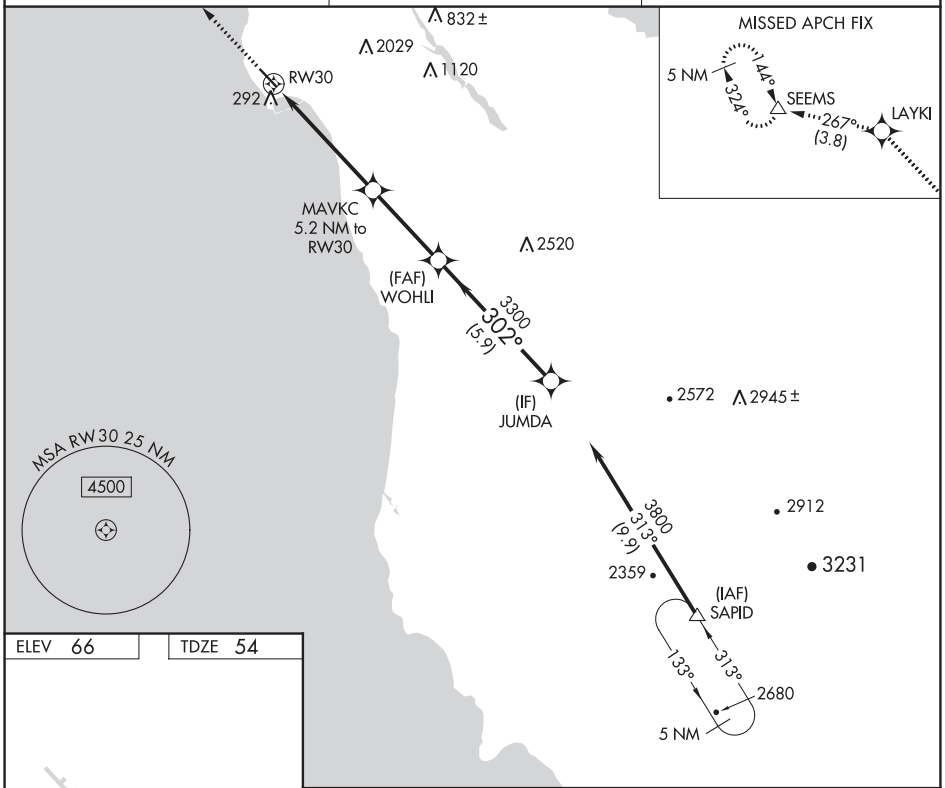
WAAS CH 50302 W30A	APP CRS 302°	Rwy ldg 4238 TDZE 54 Apt Elev 66

RNAV (GPS) RWY 30
HALF MOON BAY (HAF)

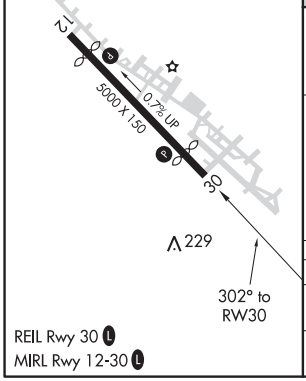
RNP APCH.

MISSED APPROACH: Climb to 4000 direct LAYKI and on track 267° to SEEMS and hold, continue climb-in-hold to 4000.

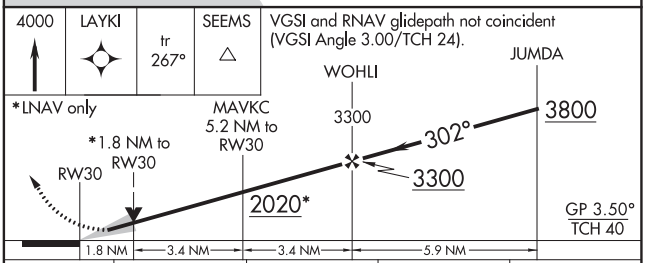
AWOS-3	NORCAL APP CON	UNICOM
127.275	135.1 307.2	122.8 (CTAF) L



ELEV 66	TDZE 54



REIL Rwy 30 L
MIRL Rwy 12-30 L



CATEGORY	A	B	C	D
LPV DA	381-1 327 (400-1)			
LNAV MDA	620-1 566 (600-1)		620-1⅝ 566 (600-1⅝)	

SW-2, 25 FEB 2021 to 22 APR 2021

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RNAV (GPS) RWY 32
HANFORD MUNI (HJO)

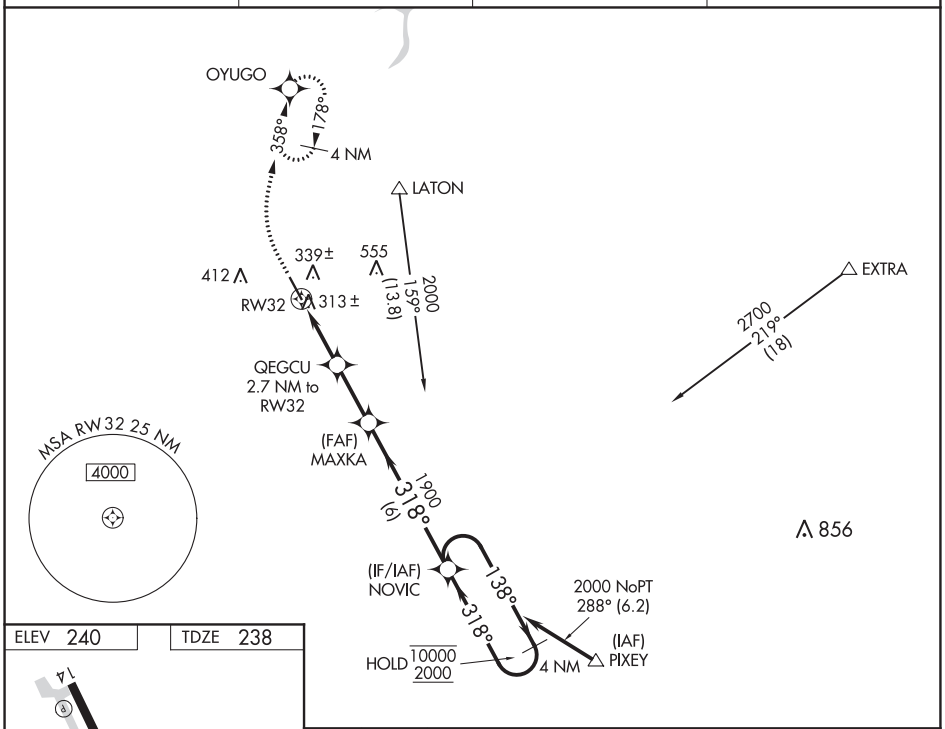
WAAS CH 70344 W32A	APP CRS 318°	Rwy ldg 5179 TDZE 238 Apt Elev 240

RNP APCH.

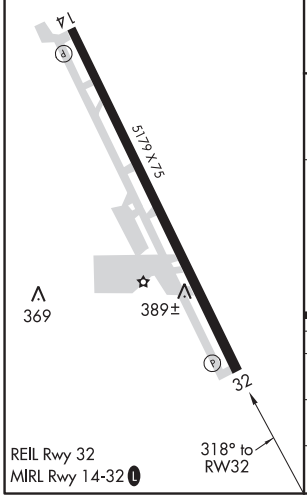
Rwy 32 helicopter visibility reduction below ¾ SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -3°C or above 54°C.

MISSED APPROACH: Climb to 700 then climbing right turn to 2000 direct OYUGO and hold, continue climb-in-hold to 2000.

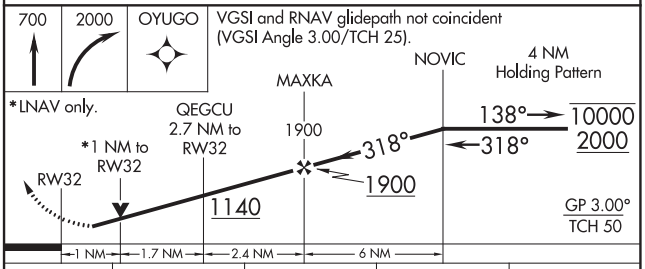
ASOS	FRESNO APP CON	CLNC DEL	UNICOM
134.75	123.9	123.9	122.8 (CTAF) L



ELEV 240 TDZE 238



REIL Rwy 32
MIRL Rwy 14-32 L



CATEGORY	A	B	C	D
LPV DA	488-¾ 250 (300-¾)			NA
LNAV/VNAV DA	488-¾ 250 (300-¾)			NA
LNAV MDA	580-1 342 (400-1)		580-1½ 342 (400-1½)	NA

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

HANFORD, CALIFORNIA | AL-5736 (FAA) | 19227

RNAV (GPS)-B
HANFORD MUNI (HJO)

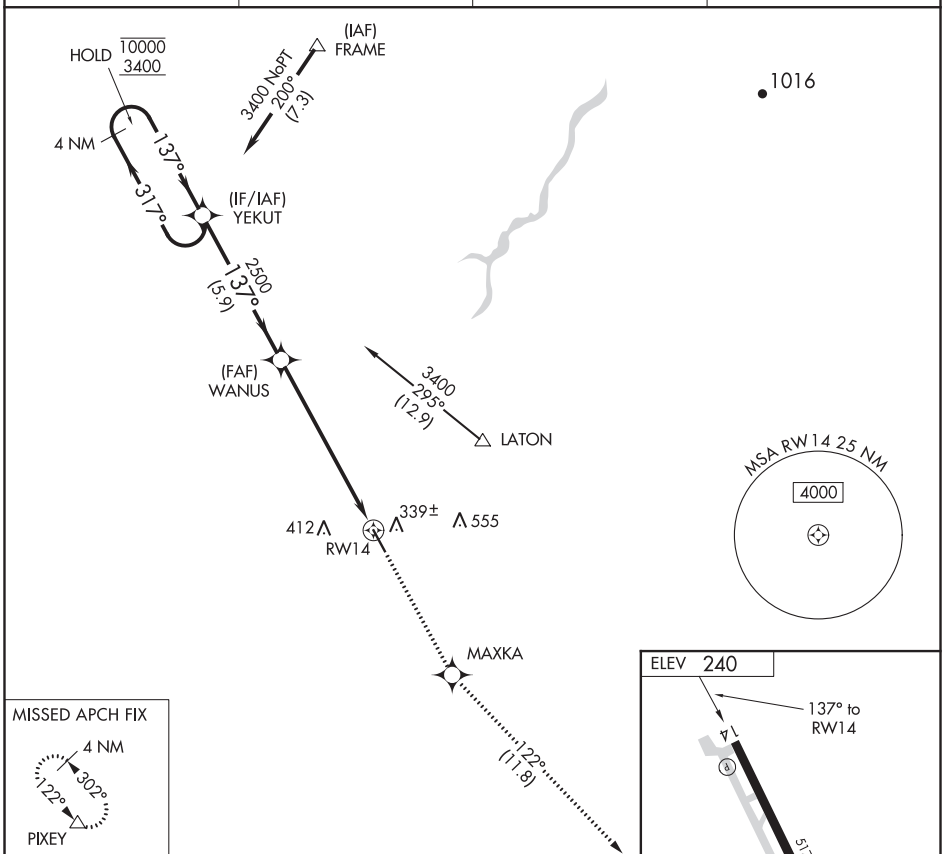
APP CRS	Rwy ldg	N/A
137°	TDZE	N/A
	Apt Elev	240

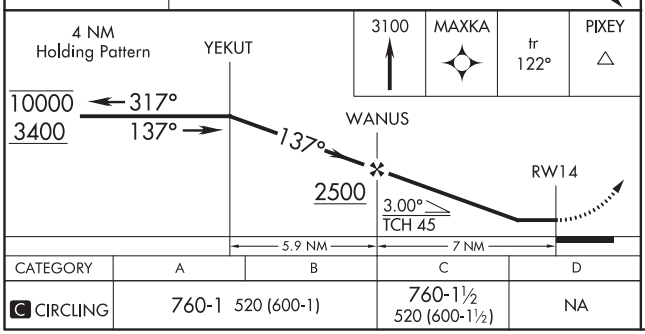
RNP APCH.

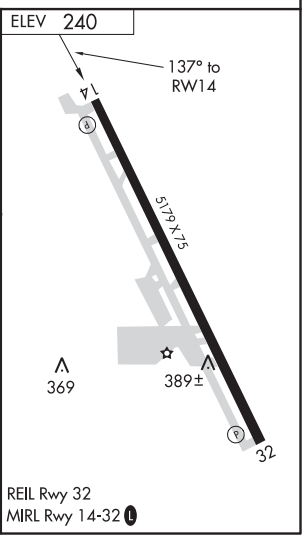
Circling Rwy 14 NA at night.

MISSED APPROACH: Climb to 3100 direct MAXKA and on track 122° to PIXEY and hold.

ASOS	FRESNO APP CON	CLNC DEL	UNICOM
134.75	123.9	123.9	122.8 (CTAF) L







CATEGORY	A	B	C	D
C CIRCLING	760-1 520 (600-1)		760-1½ 520 (600-1½)	NA

REIL Rwy 32
MIRL Rwy 14-32 L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

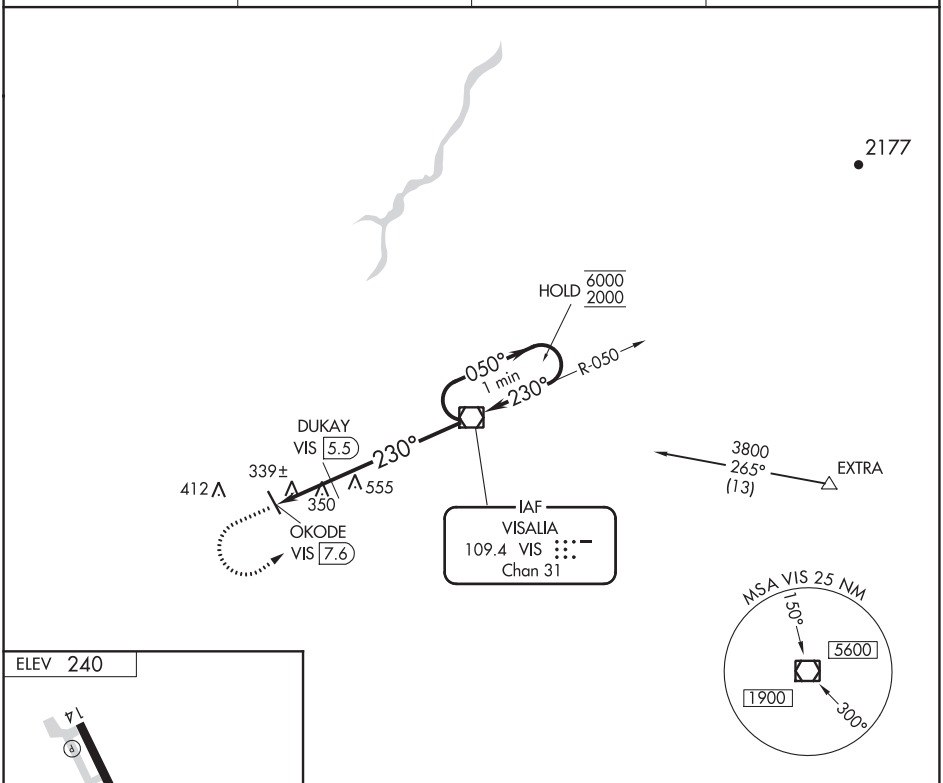
VOR/DME VIS	APP CRS	Rwy ldg	N/A
109.4	230°	TDZE	N/A
Chan 31		Apt Elev	240

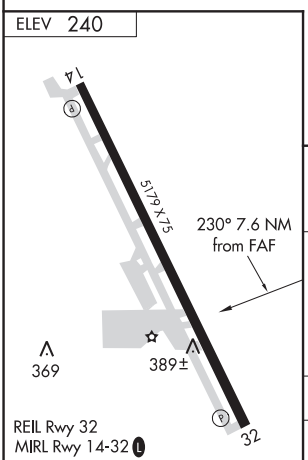
VOR-A
HANFORD MUNI (HJO)

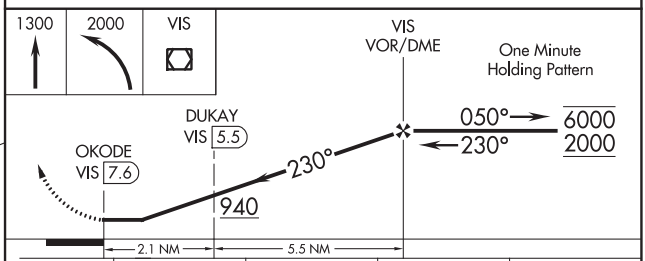
Circling Rwy 14 NA at night.

MISSED APPROACH: Climb to 1300 then climbing left turn to 2000 direct VIS VOR/DME and hold.

ASOS	FRESNO APP CON	CLNC DEL	UNICOM
134.75	123.9	123.9	122.8 (CTAF) L







FAF to MAP 7.6 NM					
Knots	60	90	120	150	180
Min:Sec	7:36	5:04	3:48	3:02	2:32

CATEGORY	A	B	C	D
C CIRCLING	940-1 700 (700-1)		940-2 700 (700-2)	NA
DUKAY FIX MINIMUMS				
C CIRCLING	680-1 440 (500-1)	720-1 480 (500-1)	720-1½ 480 (500-1½)	NA

SW-2, 25 FEB 2021 to 22 APR 2021
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HAYWARD, CALIFORNIA AL-5015 (FAA) 20030

WAAS CH 40330 W28A	APP CRS 285°	Rwy ldg 5018 TDZE 50 Apt Elev 52

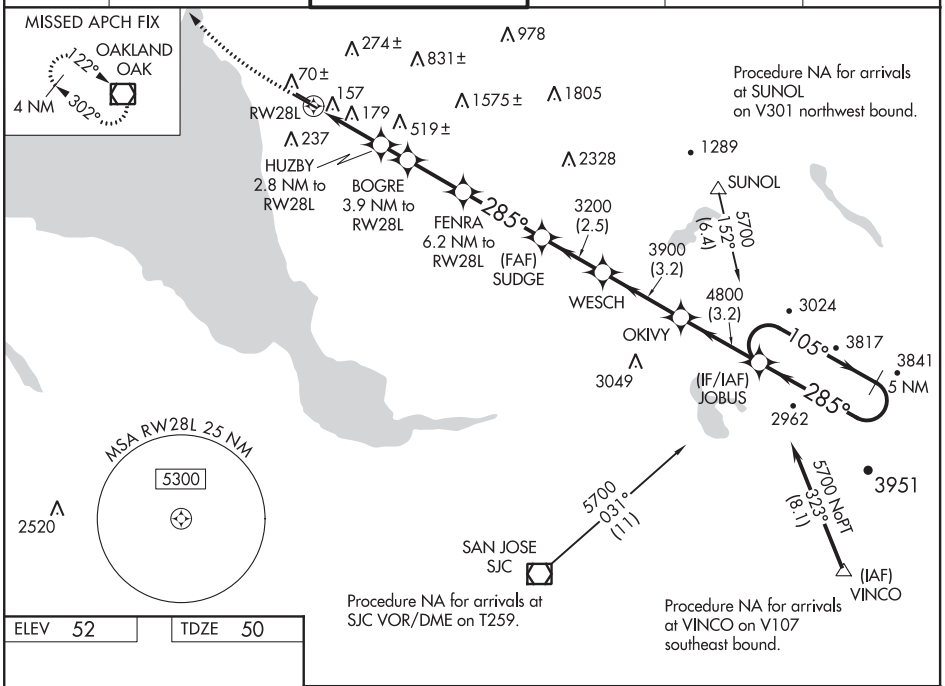
RNAV (GPS) RWY 28L
HAYWARD EXECUTIVE (HWD)

RNP APCH.

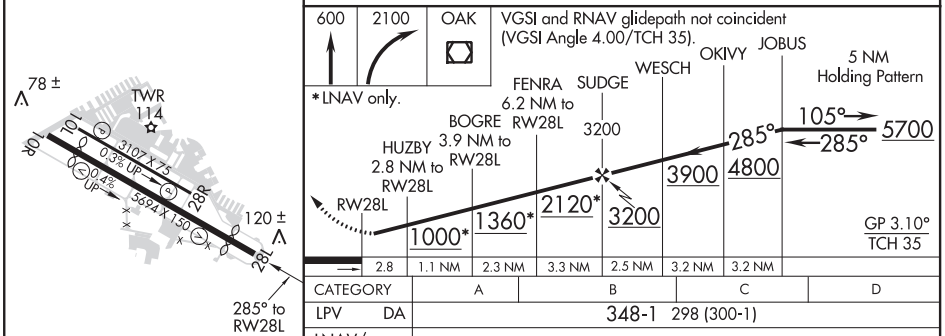
Baro-VNAV NA. When local altimeter setting not received, use Oakland altimeter setting and increase all DA and MDA 20 feet, and increase all LNAV/VNAV and LNAV Cats C and D visibility ⅛ mile. Circling NA north of Rwy 10L-28R. Rwy 28L: Helicopter visibility reduction below ¾ SM NA.

MISSED APPROACH: Climb to 600 then climbing right turn to 2100 direct OAK VOR/DME and hold.

ATIS	NORCAL APP CON	HAYWARD TOWER ★	GND CON	CLNC DEL	UNICOM
126.7	124.4 351.8	120.2 (CTAF) L 257.8	121.4	128.05	122.95



ELEV 52	TDZE 50



CATEGORY	A	B	C	D
LPV DA	348-1 298 (300-1)			
LNAV/VNAV DA	400-1⅛ 350 (400-1⅛)			
LNAV MDA	460-1 410 (500-1)		460-1⅛ 410 (500-1⅛)	
CIRCLING	540-1 488 (500-1)		540-1½ 488 (500-1½)	620-2 568 (600-2)

MIRL Rwy 10R-28L L
MIRL Rwy 10L-28R
REIL Rwys 10R and 28L

SW-2, 25 FEB 2021 to 22 APR 2021

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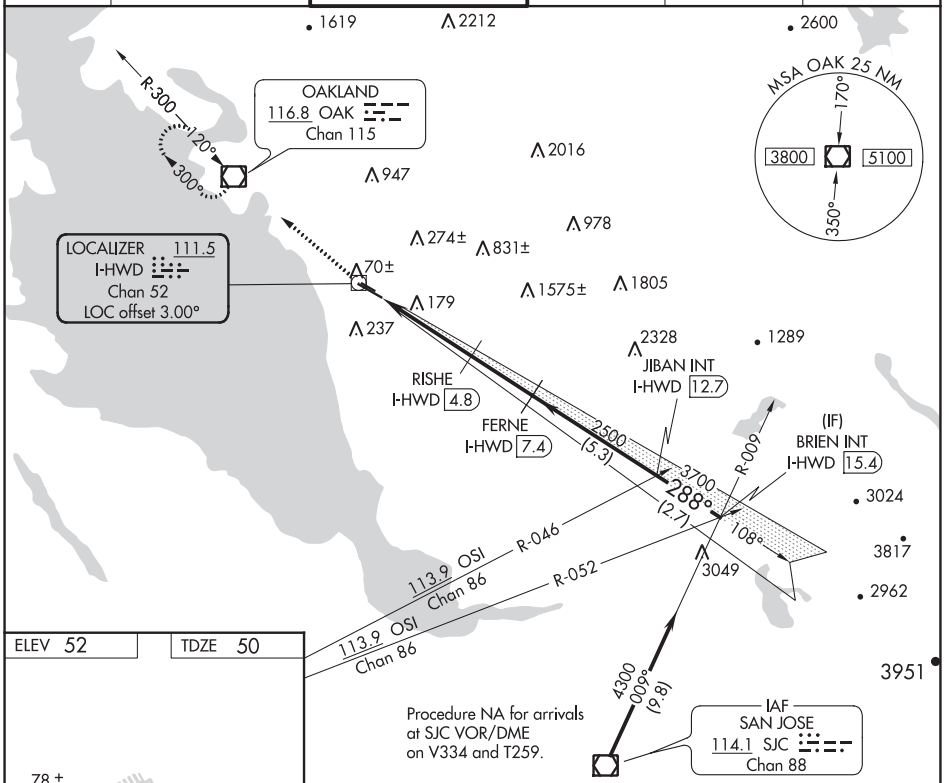
LOC/DME I-HWD 111.5 Chan 52	APP CRS 288°	Rwy ldg 5018 TDZE 50 Apt Elev 52

LOC/DME RWY 28L
HAYWARD EXECUTIVE (HWD)

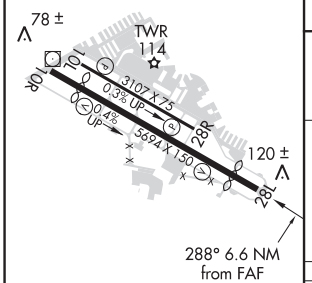
Circling NA north of Rwy 10L-28R. When local altimeter setting not received, use Oakland altimeter setting and increase all MDA 20 feet. Rwy 28L helicopter visibility reduction below ¾ SM NA.

MISSED APPROACH: Climb to 2100 direct OAK VOR/DME and hold.

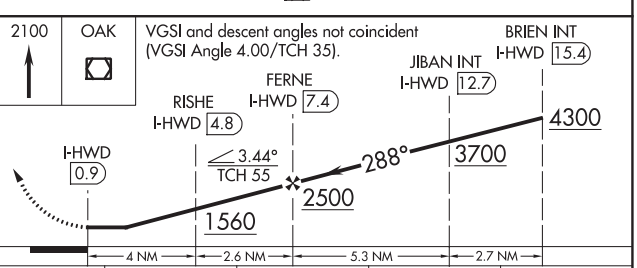
ATIS	NORCAL APP CON	HAYWARD TOWER ★	GND CON	CLNC DEL	UNICOM
126.7	124.4 351.8	120.2 (CTAF) L 257.8	121.4	128.05	122.95



ELEV 52 TDZE 50



MIRL Rwy 10R-28L L
MIRL Rwy 10L-28R
REIL Rwys 10R and 28L



CATEGORY	A	B	C	D
S-28L	500-1 450 (500-1)		500-1⅜ 450 (500-1⅜)	
CIRCLING	540-1 488 (500-1)		540-1½ 488 (500-1½)	620-2 568 (600-2)

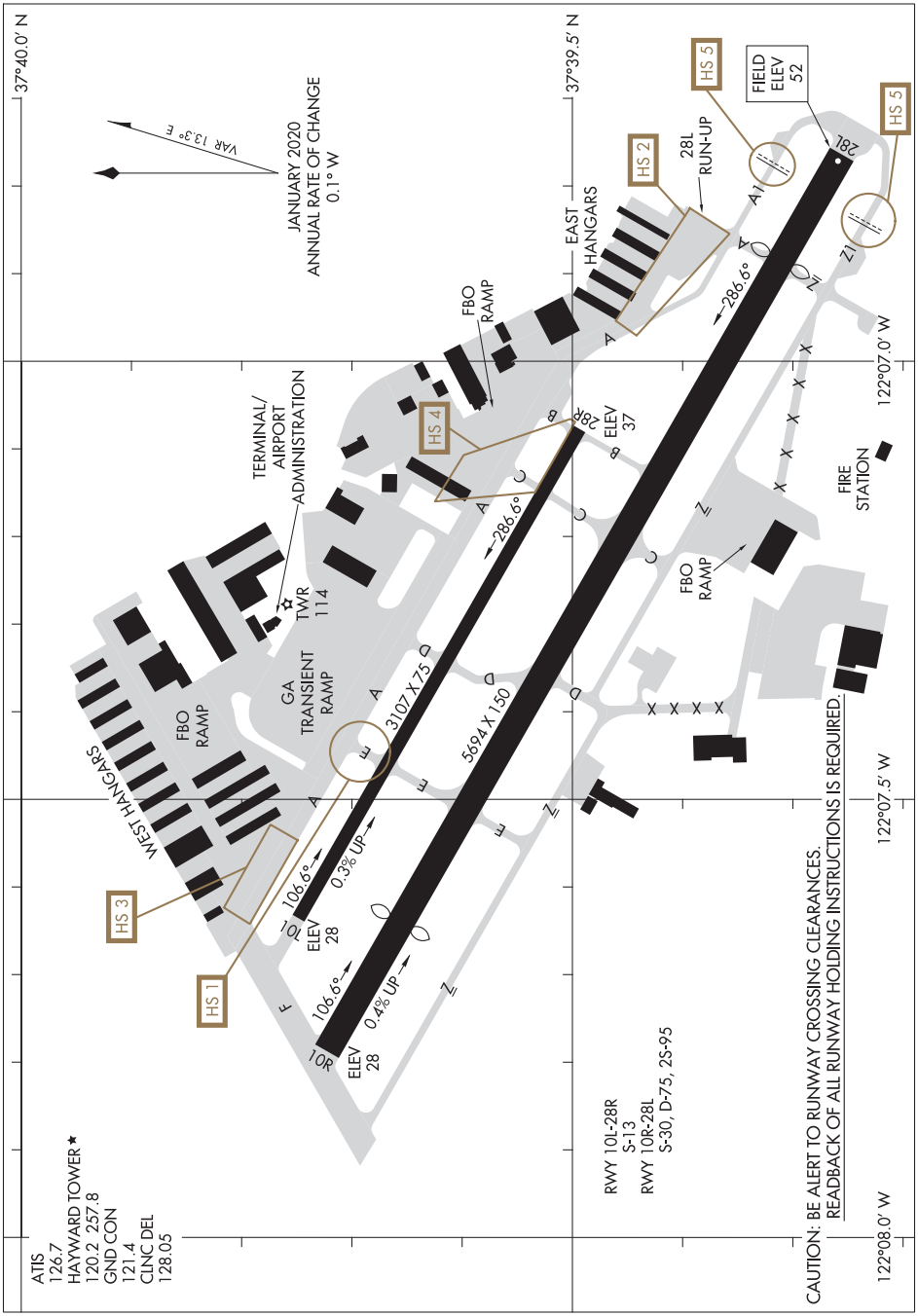
SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

20086

AIRPORT DIAGRAM

AL-5015 (FAA)

HAYWARD EXECUTIVE (HWD)
HAYWARD, CALIFORNIA



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SW-2, 25 FEB 2021 to 22 APR 2021

AIRPORT DIAGRAM
20086
HAYWARD, CALIFORNIA
HAYWARD EXECUTIVE (HWD)

WAAS CH 93806 W31A	APP CRS 307°	Rwy ldg 6350 TDZE 231 Apt Elev 231

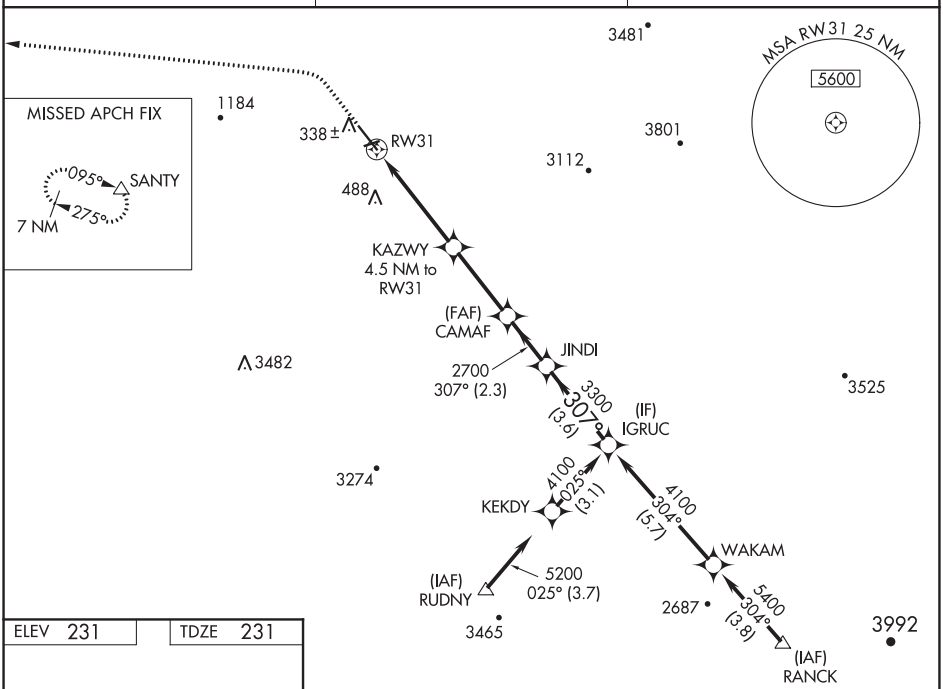
RNAV (GPS) RWY 31
HOLLISTER MUNI (CVH)

RNP APCH.

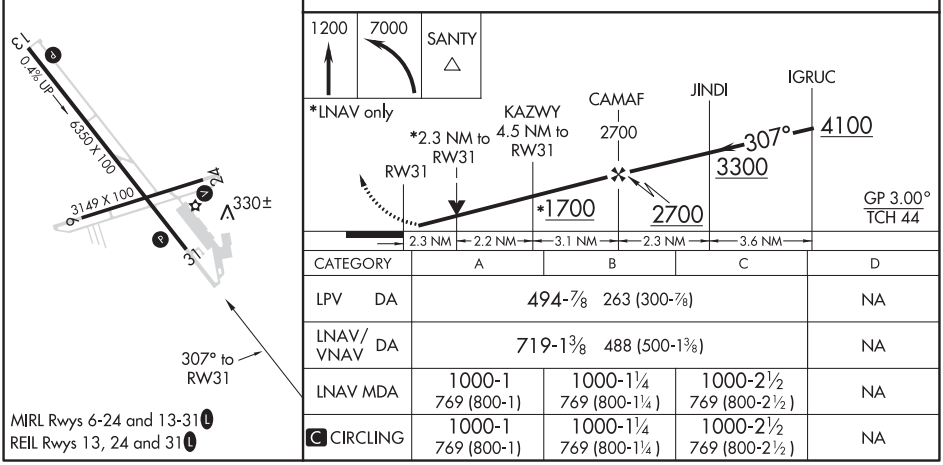
Circling to Rwy 6 NA at night. Rwy 31 helicopter visibility reduction below ¾ SM NA.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 54°C.

MISSED APPROACH: Climb to 1200, then climbing left turn to 7000 direct SANTY and hold, continue climb-in-hold to 7000.

AWOS-3	NORCAL APP CON	UNICOM
120.425	124.525 348.675	123.0 (CTAF) L



ELEV 231 TDZE 231



CATEGORY	A	B	C	D
LPV DA	494-⅞ 263 (300-⅞)			NA
LNAV/VNAV DA	719-1⅜ 488 (500-1⅜)			NA
LNAV MDA	1000-1 769 (800-1)	1000-1¼ 769 (800-1¼)	1000-2½ 769 (800-2½)	NA
C CIRCLING	1000-1 769 (800-1)	1000-1¼ 769 (800-1¼)	1000-2½ 769 (800-2½)	NA

MIRL Rwys 6-24 and 13-31 L
REIL Rwys 13, 24 and 31 L

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JACKSON, CALIFORNIA AL-9086 (FAA) 20310

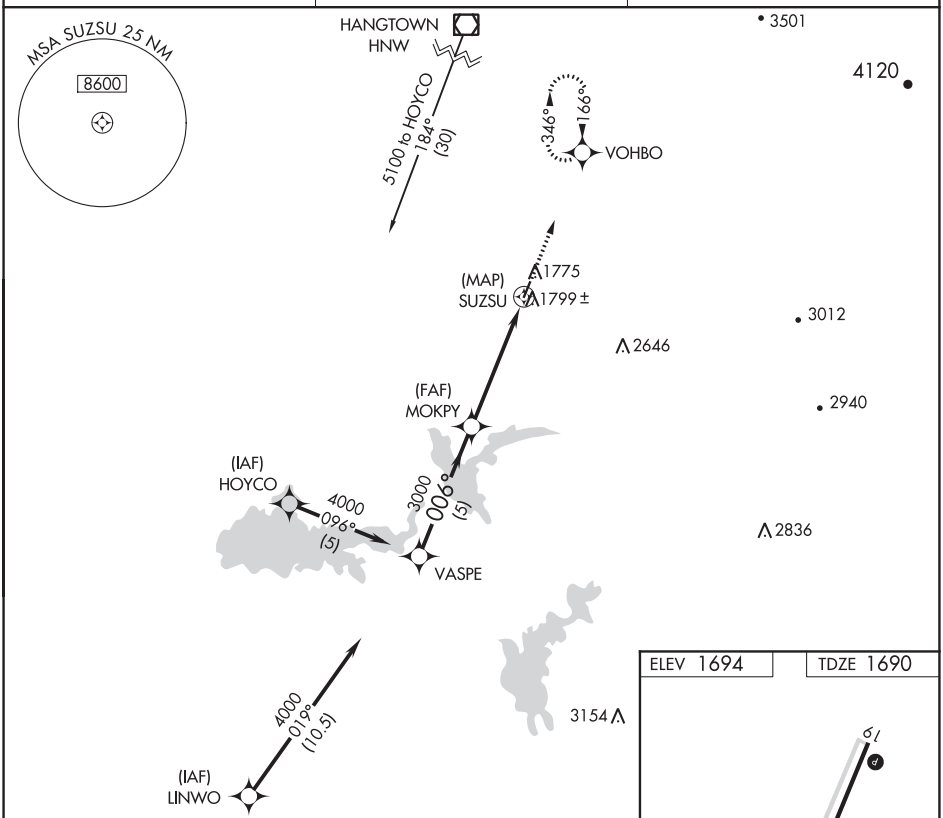
APP CRS	Rwy ldg	3401
006°	TDZE	1690
	Apt Elev	1694

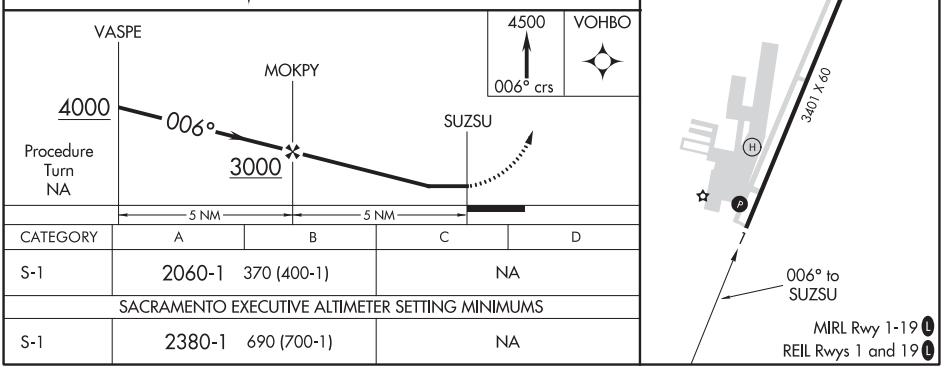
GPS RWY 1
WESTOVER FIELD AMADOR COUNTY (JAQ)

When local altimeter setting not received, use Sacramento Executive altimeter setting.

MISSED APPROACH: Climb to 4500 on 006° course to VOHBO and hold.

AWOS-3	NORCAL APP CON	UNICOM
121.125	125.1 363.2	123.075 (CTAF) L





CATEGORY	A	B	C	D
S-1	2060-1 370 (400-1)		NA	
SACRAMENTO EXECUTIVE ALTIMETER SETTING MINIMUMS				
S-1	2380-1 690 (700-1)		NA	

SW-2, 25 FEB 2021 to 22 APR 2021

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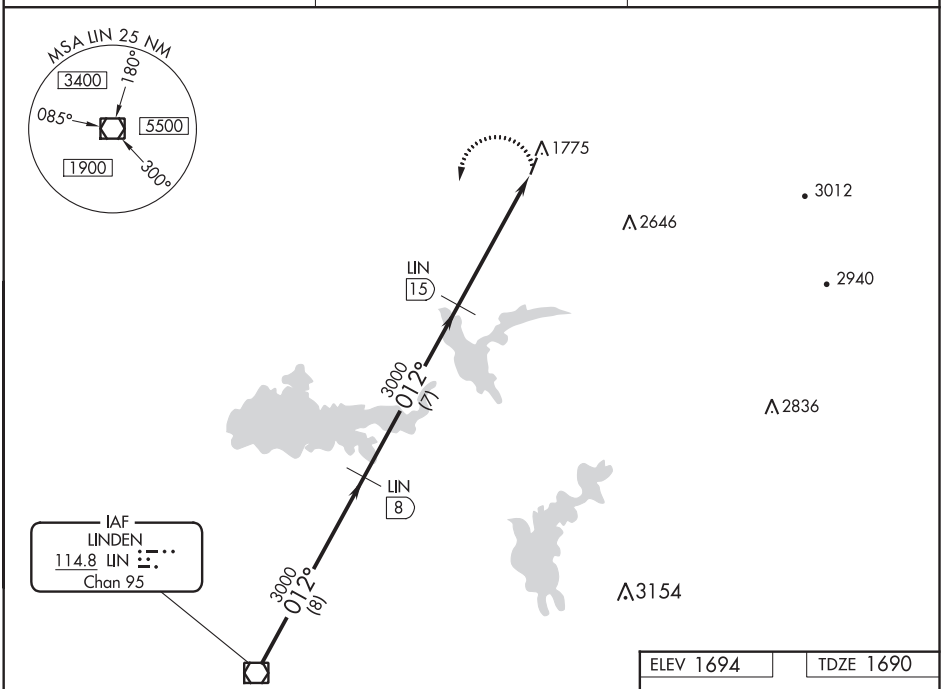
VOR/DME LIN 114.8 Chan 95	APP CRS 012°	Rwy ldg 3401 TDZE 1690 Apt Elev 1694

VOR/DME RWY 1
WESTOVER FIELD AMADOR COUNTY (JAQ)

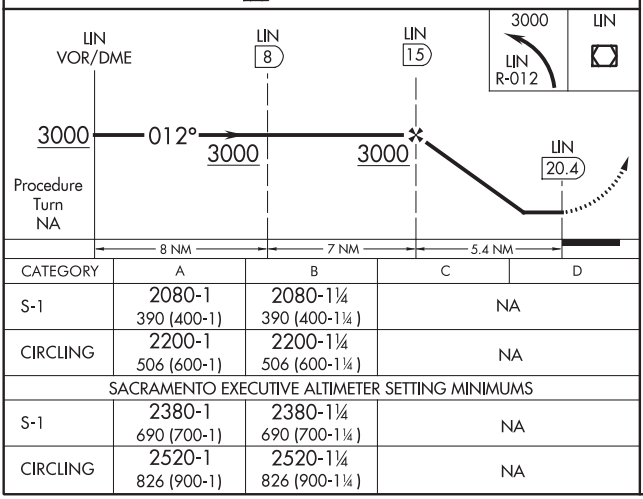
T NA If local altimeter not received, use Sacramento Executive altimeter setting.

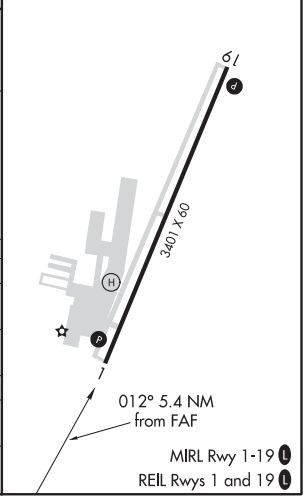
MISSED APPROACH: Climbing left turn to 3000 via LIN R-012 to LIN VOR/DME.

AWOS-3	NORCAL APP CON	UNICOM
121.125	125.1 363.2	123.075 (CTAF) L



ELEV 1694 TDZE 1690





CATEGORY	A	B	C	D
S-1	2080-1 390 (400-1)	2080-1¼ 390 (400-1¼)	NA	
CIRCLING	2200-1 506 (600-1)	2200-1¼ 506 (600-1¼)	NA	
SACRAMENTO EXECUTIVE ALTIMETER SETTING MINIMUMS				
S-1	2380-1 690 (700-1)	2380-1¼ 690 (700-1¼)	NA	
CIRCLING	2520-1 826 (900-1)	2520-1¼ 826 (900-1¼)	NA	

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LAKEPORT, CALIFORNIA | AL-6939 (FAA) | 20310

RNAV (GPS)-A
LAMPSON FIELD (102)

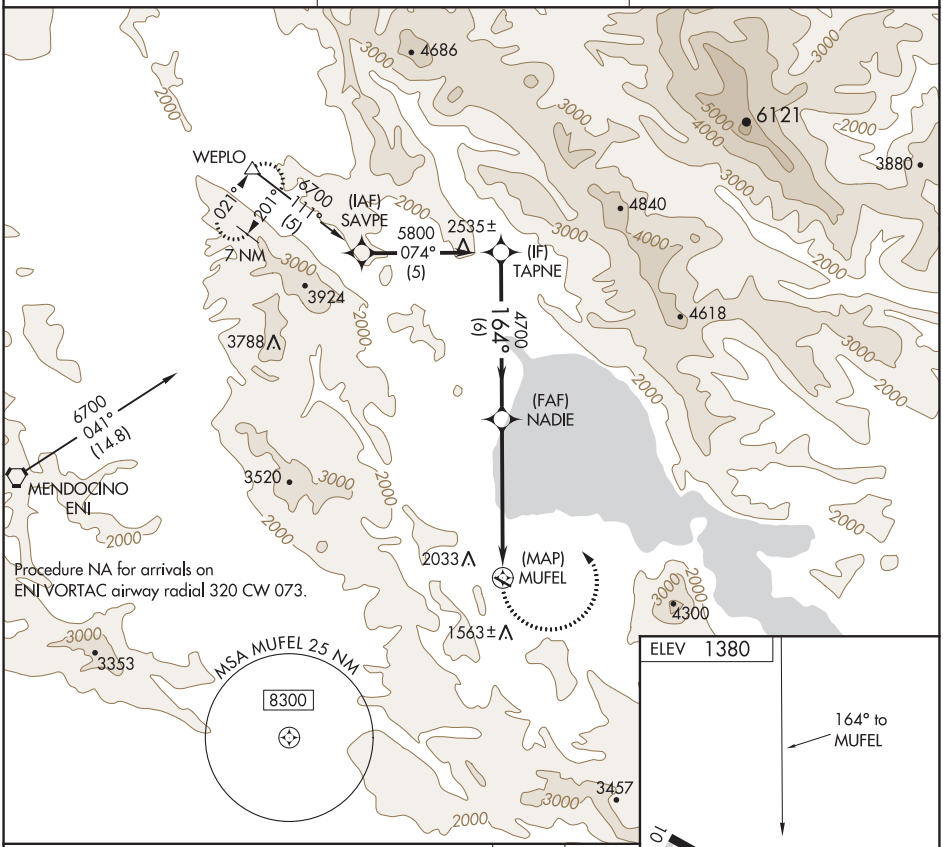
APP CRS	Rwy ldg	N/A
164°	TDZE	N/A
	Apt Elev	1380

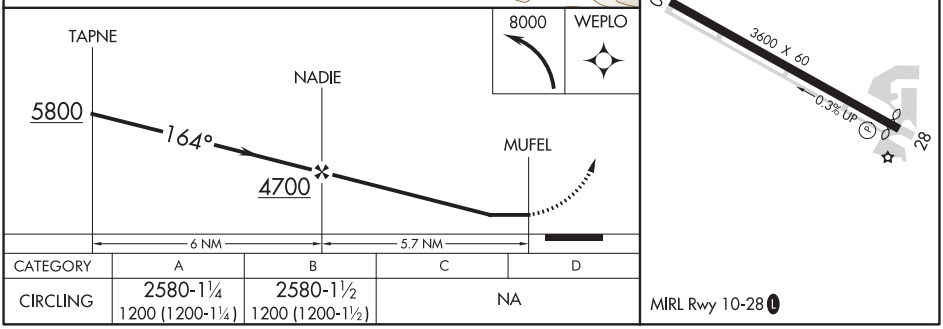
T
NA

Circling NA south of Rwy 10-28. DME/DME RNP-0.3 NA. Procedure NA at night. When local altimeter setting not received, use Ukiah altimeter setting and increase all MDA 560 feet.

MISSED APPROACH: Climbing left turn to 8000 direct WEPLO and hold.

AWOS-3	OAKLAND CENTER	UNICOM
118.35	127.8 353.5	122.8 (CTAF) L





CATEGORY	A	B	C	D
CIRCLING	2580-1¼ 1200 (1200-1¼)	2580-1½ 1200 (1200-1½)	NA	

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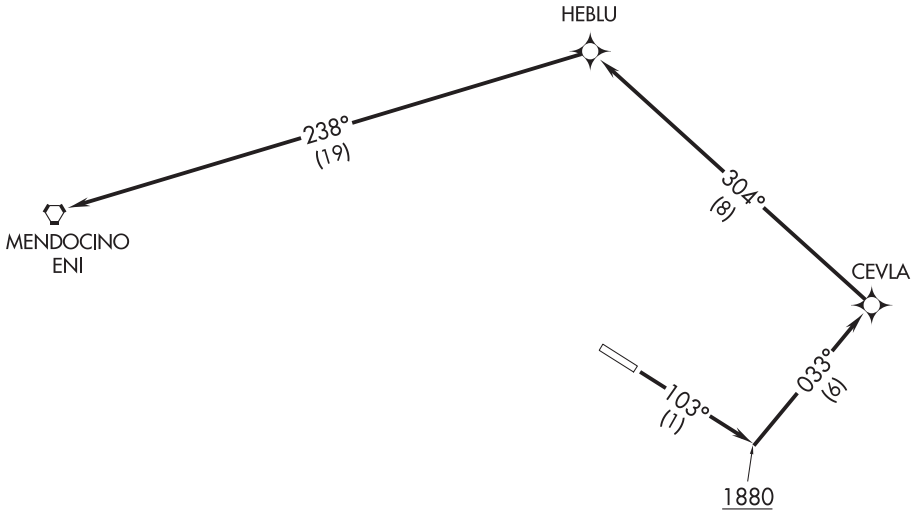
OAKLAND CENTER
127.8 353.5

TOP ALTITUDE: 6000



NOTE: GPS required.

NOTE: RNAV 1.

NOTE: Takeoff Rwy 10: Do not exceed 175K until passing HEBLU.

TAKEOFF MINIMUMS
Rwy 10: Standard with minimum climb of 496′ per NM to 4500.
Rwy 28: NA- Rapidly rising terrain.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 10: Climb heading 103° to 1880, then climb on 033° course to CEVLA, then via 304° track to HEBLU, then via 238° track to ENI VORTAC, thence . . . .

. . . . via assigned route, expect clearance to filed altitude 10 minutes after departure.

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LEMOORE, CALIFORNIA

RNAV (GPS) RWY 14L

WAAS Chan 70209 W14A	APCH CRS 142°	Rwy ldg 13,502 TDZE 219 Arpt Elev 228

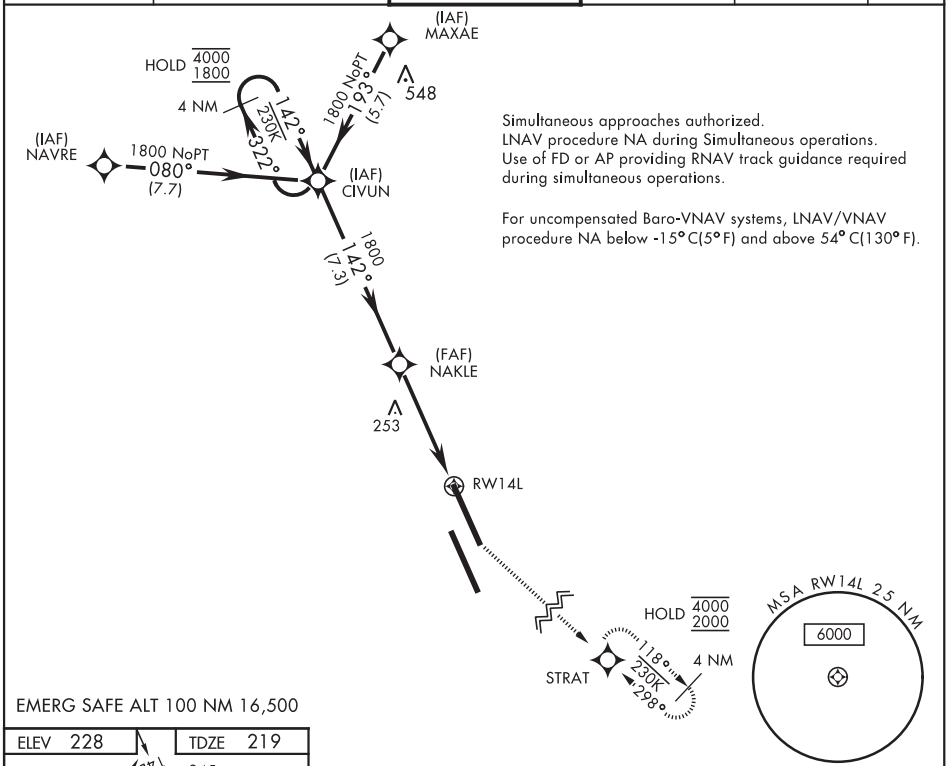
AL-5067 [USN]

LEMOORE NAS (REEVES FIELD) (KNLC)

DME/DME RNP-0.3 NA

MISSED APPROACH: Climb to 1200, then climb left turn to 2000 direct STRAT and hold.

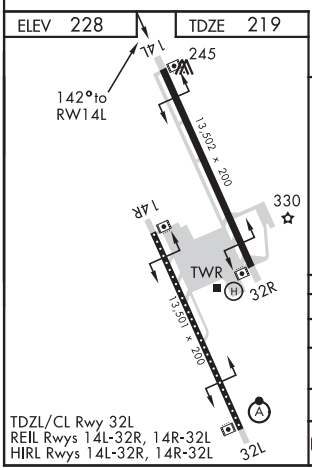
ATIS ★	LEMOORE APP CON	LEMOORE TOWER ★	GND CON	CLNC DEL	ASR/PAR
121.575 327.15	124.1 N 118.15 S 269.025	128.3 340.2	121.65 305.2	124.1 371.9	

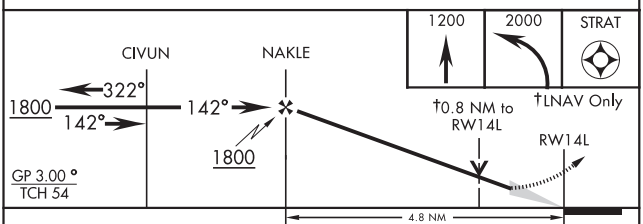


Simultaneous approaches authorized.
LNAV procedure NA during Simultaneous operations.
Use of FD or AP providing RNAV track guidance required during simultaneous operations.

For uncompensated Baro-VNAV systems, LNAV/VNAV procedure NA below -15°C(5°F) and above 54°C(130°F).

EMERG SAFE ALT 100 NM 16,500





CATEGORY	A	B	C	D
LPV DA	420/40 200 (200-¾)			
LNAV/VNAV DA	470/40 250 (300-¾)			
LNAV MDA	520/55 300 (300-1)		520/45 300 (300-⅞)	
C CIRCLING	680-1 451 (500-1)		680-1½ 451 (500-1½)	780-2 551 (600-2)

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

LEMOORE, CALIFORNIA

RNAV (GPS) RWY 14R

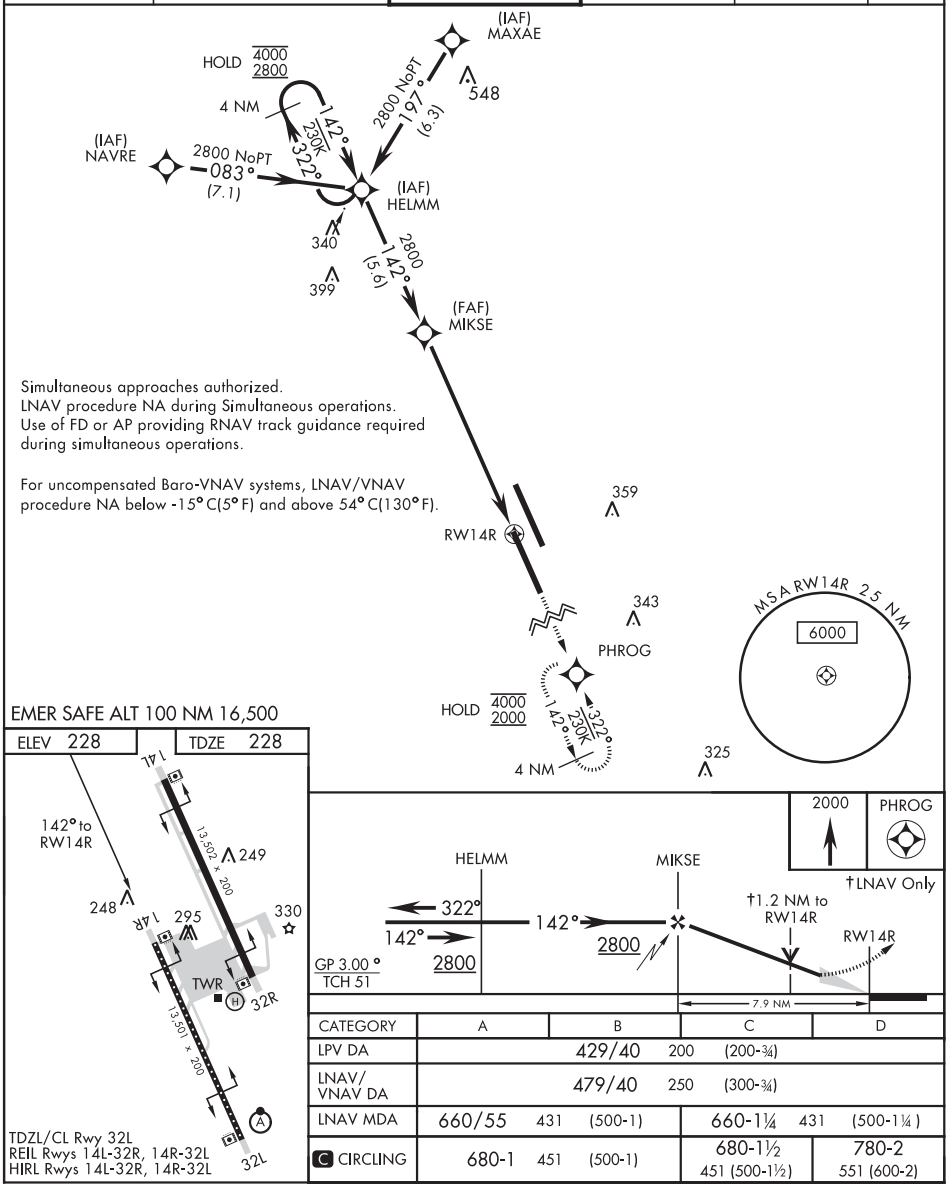
WAAS Chan 80286 W14B	APCH CRS 142°	Rwy ldg 13,501 TDZE 228 Arpt Elev 228

AL-5067 [USN] LEMOORE NAS (REEVES FIELD) (KNLC)

DME/DME RNP-0.3 NA

MISSED APPROACH: Climb to 2000 direct PHROG and hold.

ATIS ★	LEMOORE APP CON	LEMOORE TOWER ★	GND CON	CLNC DEL	ASR/PAR
121.575 327.15	124.1 N 118.15 S 269.025	128.3 340.2	121.65 305.2	124.1 371.9	



CATEGORY	A	B	C	D
LPV DA	429/40 200 (200-¾)			
LNAV/VNAV DA	479/40 250 (300-¾)			
LNAV MDA	660/55 431 (500-1)		660-1¼ 431 (500-1¼)	
C CIRCLING	680-1 451 (500-1)		680-1½ 451 (500-1½)	780-2 551 (600-2)

SW-2, 25 FEB 2021 to 22 APR 2021
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LEMOORE, CALIFORNIA

RNAV (GPS) RWY 32L

WAAS Chan 50085 W32A	APCH CRS 322°	Rwy ldg 13,501 TDZE 227 Arpt Elev 228	AL-5067 [USN]	LEMOORE NAS (REEVES FIELD) (KNLC)

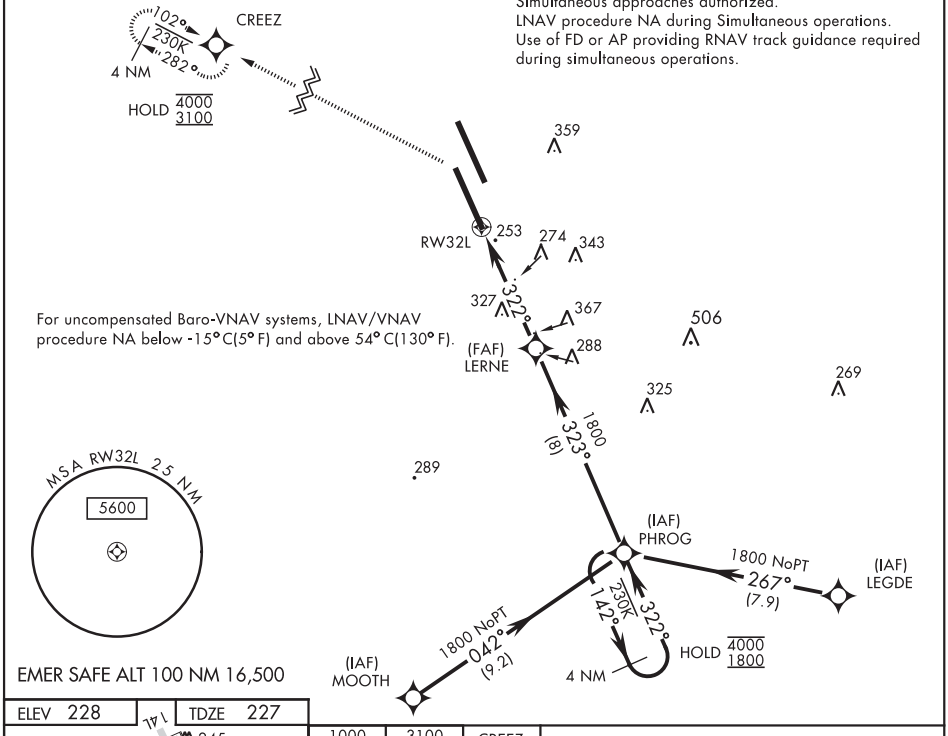
* When ALS inop, increase CAT ABCD RVR to 40 and vis to ¾ mile.
** When ALS inop, increase RVR to 55 and vis to 1 mile.
DME/DME RNP-0.3 NA

ALSF-2

MISSED APPROACH: Climb to 1000, then climbing left turn to 3100 direct CREEZ and hold.

ATIS ★	LEMOORE APP CON	LEMOORE TOWER ★	GND CON	CLNC DEL	ASR/PAR
121.575 327.15	124.1 N 118.15 S 269.025	128.3 340.2	121.65 305.2	124.1 371.9	

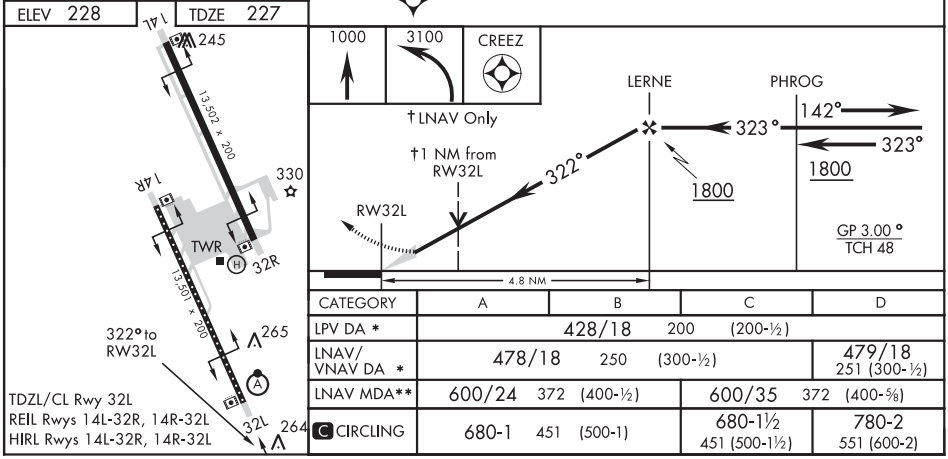
Simultaneous approaches authorized.
LNAV procedure NA during Simultaneous operations.
Use of FD or AP providing RNAV track guidance required during simultaneous operations.



For uncompensated Baro-VNAV systems, LNAV/VNAV procedure NA below -15°C(5°F) and above 54°C(130°F).

EMER SAFE ALT 100 NM 16,500

ELEV 228 | TDZE 227



TDZL/CL Rwy 32L
REIL Rwys 14L-32R, 14R-32L
HIRL Rwys 14L-32R, 14R-32L

CATEGORY	A	B	C	D
LPV DA *	428/18 200 (200-½)			
LNAV/VNAV DA *	478/18 250 (300-½)			479/18 251 (300-½)
LNAV MDA**	600/24 372 (400-½)		600/35 372 (400-⅝)	
C CIRCLING	680-1 451 (500-1)		680-1½ 451 (500-1½)	780-2 551 (600-2)

SW-2, 25 FEB 2021 to 22 APR 2021
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LEMOORE, CALIFORNIA

RNAV (GPS) RWY 32R

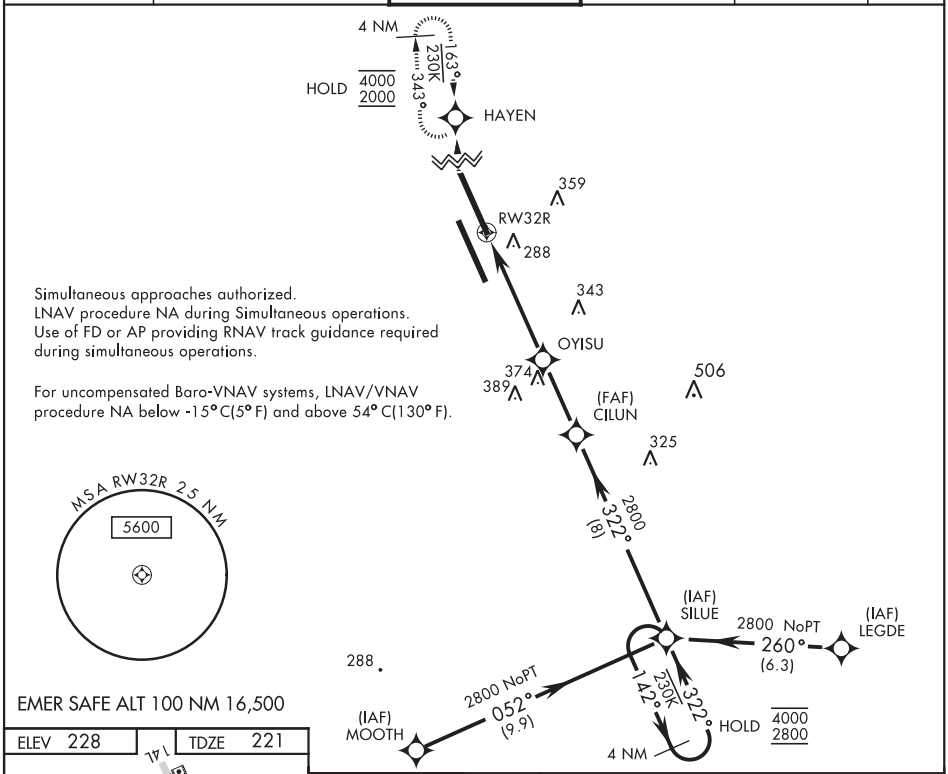
WAAS Chan 60335 W32B	APCH CRS 322°	Rwy ldg 13,502 TDZE 221 Arpt Elev 228

AL-5067 [USN] LEMOORE NAS (REEVES FIELD) (KNLC)

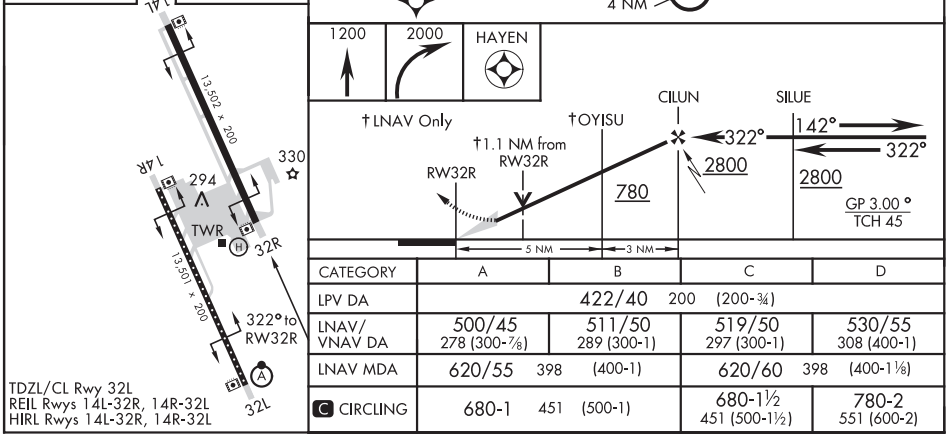
DME/DME RNP-0.3 NA

MISSED APPROACH: Climb to 1200, then climbing right turn to 2000 direct HAYEN and hold.

ATIS ★	LEMOORE APP CON	LEMOORE TOWER ★	GND CON	CLNC DEL	ASR/PAR
121.575 327.15	124.1 N 118.15 S 269.025	128.3 340.2	121.65 305.2	124.1 371.9	



ELEV 228	TDZE 221



CATEGORY	A	B	C	D
LPV DA	422/40 200 (200-¾)			
LNAV/VNAV DA	500/45 278 (300-⅞)	511/50 289 (300-1)	519/50 297 (300-1)	530/55 308 (400-1)
LNAV MDA	620/55 398 (400-1)		620/60 398 (400-1⅛)	
C CIRCLING	680-1 451 (500-1)		680-1½ 451 (500-1½)	780-2 551 (600-2)

TDZL/CL Rwy 32L
REIL Rwys 14L-32R, 14R-32L
HIRL Rwys 14L-32R, 14R-32L

LEMOORE, CALIFORNIA 36° 20′N-119° 57′W LEMOORE NAS (REEVES FIELD) (KNLC)

Amdt 4 24MAY18

RNAV (GPS) RWY 32R

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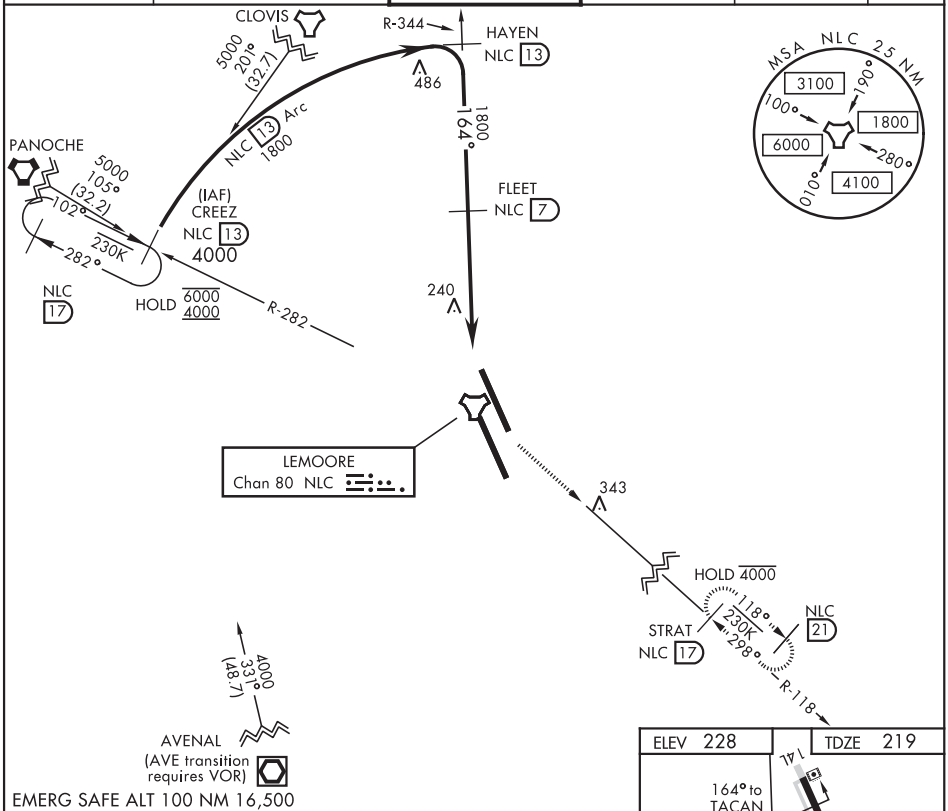
LEMOORE, CALIFORNIA

TACAN RWY 14L

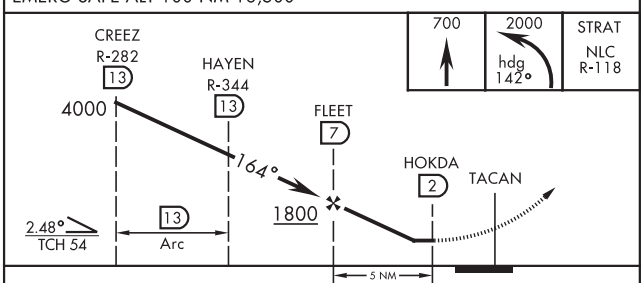
TACAN NLC Chan 80	APCH CRS 164°	Rwy ldg 13,502 TDZE 219 Arpt Elev 228	AL-5067 [USN]	LEMOORE NAS (REEVES FIELD) (KNLC)

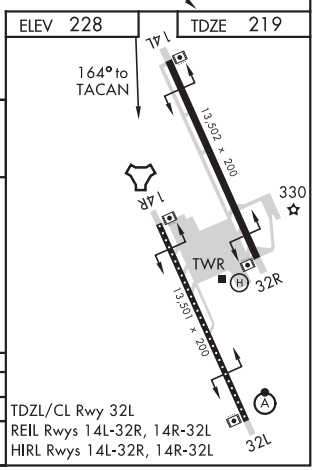
MISSED APPROACH: Climb to 700 then climbing left turn to 2000 via heading 142°, intercept NLC TACAN R-118 to STRAT and hold.

ATIS ★	LEMOORE APP CON	LEMOORE TOWER ★	GND CON	CLNC DEL	ASR/PAR
121.575 327.15	124.1 N 118.15 S 269.025	128.3 340.2	121.65 305.2	124.1 371.9	



EMERG SAFE ALT 100 NM 16,500





TDZL/CL Rwy 32L
REIL Rwys 14L-32R, 14R-32L
HIRL Rwys 14L-32R, 14R-32L

CATEGORY	A	B	C	D
S-14L	560/55 340 (400-1)			
C CIRCLING	680-1 451 (500-1)		680-1½ 451 (500-1½)	780-2 551 (600-2)

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LEMOORE, CALIFORNIA

TACAN RWY 14R

TACAN NLC Chan 80	APCH CRS 142°	Rwy ldg 13,501 TDZE 228 Arpt Elev 228	AL-5067 [USN]	LEMOORE NAS (REEVES FIELD) (KNLC)

MISSED APPROACH: Climb to 3000 via R-142 to HORNN, then arc SW of NLC TACAN via the 13 DME Arc to CREEZ and hold.

ATIS ★	LEMOORE APP CON	LEMOORE TOWER ★	GND CON	CLNC DEL	ASR/PAR
121.575 327.15	124.1 N 118.15 S 269.025	128.3 340.2	121.65 305.2	124.1 371.9	

Simultaneous approaches authorized.

CLOVIS
R-322
5000
20°
(32.7)
HELMM
NLC 13
2800
(3.5)
NLC 13 Arc
2800
FINUG
NLC 9.5
1800
142°
(4.5)
SUNGE
NLC 5
PANOCHE
5000 NoPT
105°
(32.2)
102°
(IAF)
CREEZ
NLC 13
230K
282°
NLC 17
HOLD 6000 3000
R-282
359
368
343
LEMOORE
Chan 80 NLC
NLC 13 Arc
4000
4000 NoPT
331°
(48.7)
R-142
HORNN
NLC 13
AVENAL
(AVE transition requires VOR)
EMERG SAFE ALT 100 NM 16,500

MSA NLC 25 NM
3100
190°
100°
1800
6000
280°
010°
4100

ELEV 228 | TDZE 228

142° to TACAN

14L
249
13,502 x 200
14R
330
TWR
32R
13,501 x 200
32L

3000
NLC R-142
HORNN NLC 13

CREEZ 13
4000
HELMM 13
FINUG 9.5
2800
2800
142°
SUNGE 5
1800
TACAN
WHIMP 0.3
2.60°
TCH 50
13 Arc
4.7 NM

CATEGORY	A	B	C	D
S-14R	560/55 331 (400-1)			
C CIRCLING	680-1 451 (500-1)		680-1½ 451 (500-1½)	780-2 551 (600-2)

TDZL/CL Rwy 32L
REIL Rwys 14L-32R, 14R-32L
HIRL Rwys 14L-32R, 14R-32L

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LEMOORE, CALIFORNIA

21056

TACAN RWY 32L

TACAN NLC Chan 80	APCH CRS 322°	Rwy ldg 13,501 TDZE 227 Arpt Elev 228	AL-5067 [USN]	LEMOORE NAS (REEVES FIELD) (KNLC)

* When ALS inop, increase CAT ABCD RVR to 55 and vis to 1 mile.

ALSF-2

MISSED APPROACH: Climb to 3000 via R-142 to NLC TACAN, then via R-282 to CREEZ and hold.

ATIS ★	LEMOORE APP CON	LEMOORE TOWER ★	GND CON	CLNC DEL	ASR/PAR
121.575 327.15	N124.1 S118.15 269.025	128.3 340.2	121.65 305.2	124.1 371.9	

Simultaneous approaches authorized.

CREEZ NLC 13

102° 230K 282°

NLC 17

HOLD 6000 3000

R-282

LEMOORE Chan 80 NLC

CLOVIS

3000 NoPT 158° (44.1)

OWLES NLC 5

PHARO NLC 7

1800 322°

R-118

HOLD 6000

(IAF) STRAT NLC 17 3000

NLC 21

118°

298°

NLC 17 Arc 1800

3000 NoPT 310° (49.9)

SHAFTER

SINKE NLC 17

R-142

3000 008° (33.2)

AVENAL (AVE transition requires VOR)

MSA NLC 2.5 NM

3100 190° 100° 1800 6000 280° 010° 4100

EMERG SAFE ALT 100 NM 16,500

ELEV 228	TDZE 227

14L 13,502 × 200 330 14R TWR 32R 13,501 × 200 322° to TACAN 32L

TDZL/CL Rwy 32L
REIL Rwys 14L-32R, 14R-32L
HIRL Rwys 14L-32R, 14R-32L

3000 NLC R-142 | NLC | NLC R-282

TACAN SUZIQ 3.4 OWLES 5 PHARO 7 1080 1800 322° SINKE R-142 17 1800 STRAT R-118 17 3000 17 Arc 3.37° TCH 50

1.6 NM 2 NM

CATEGORY	A	B	C	D
S-32L *	540/24 313 (400-½)			
C CIRCLING	680-1 451 (500-1)		680-1½ 451 (500-1½)	780-2 551 (600-2)

LEMOORE, CALIFORNIA 36°20′N-119°57′W LEMOORE NAS (REEVES FIELD) (KNLC)

Amdt 6 24MAY18

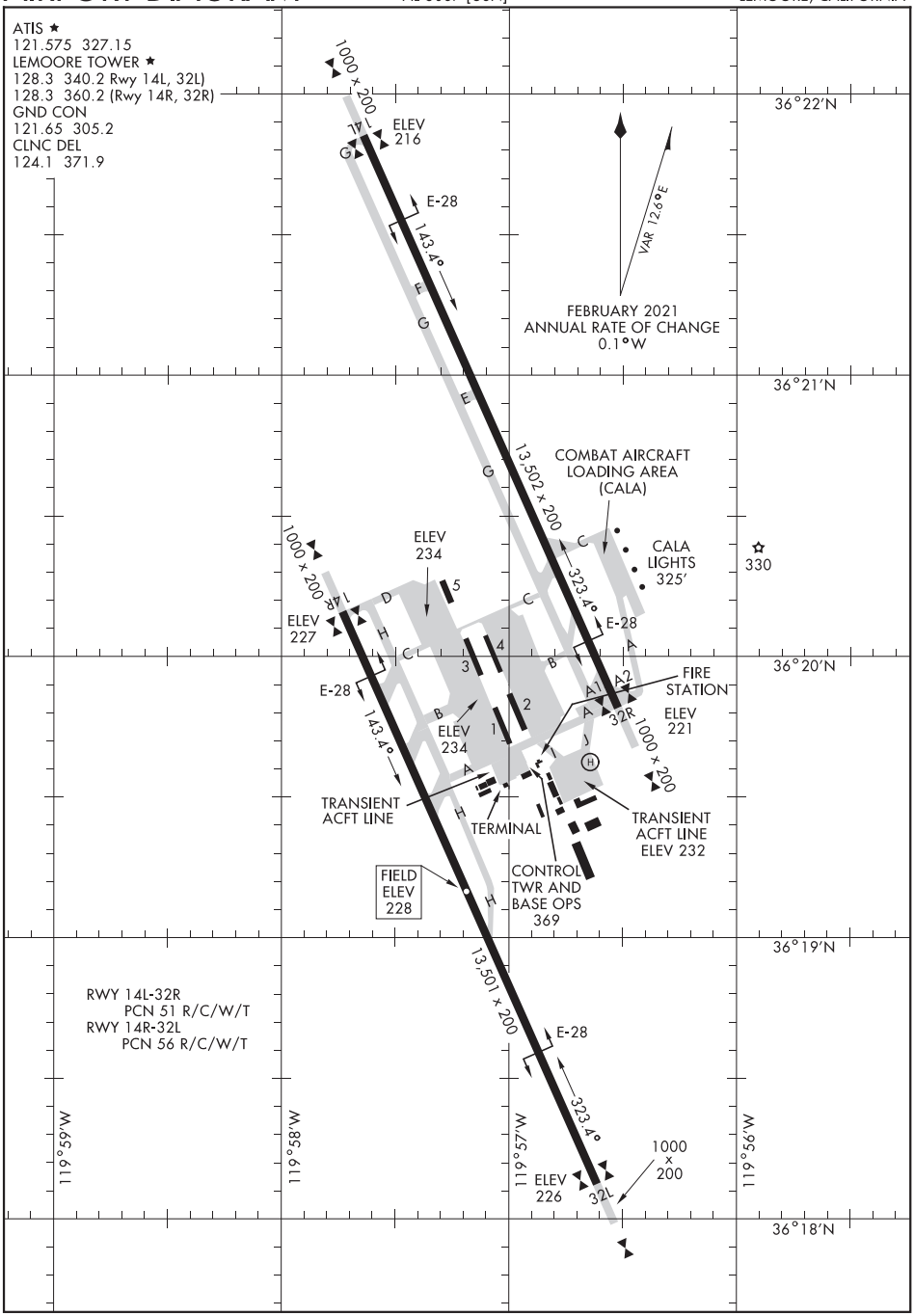
TACAN RWY 32L

SW-2, 25 FEB 2021 to 22 APR 2021

AIRPORT DIAGRAM

AL-5067 [USN]

LEMOORE, CALIFORNIA



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SW-2, 25 FEB 2021 to 22 APR 2021

18144

LEMOORE NAS (REEVES FIELD) (KNLC)

LEMOORE-NINE DEPARTURE (NLC9•NLC)

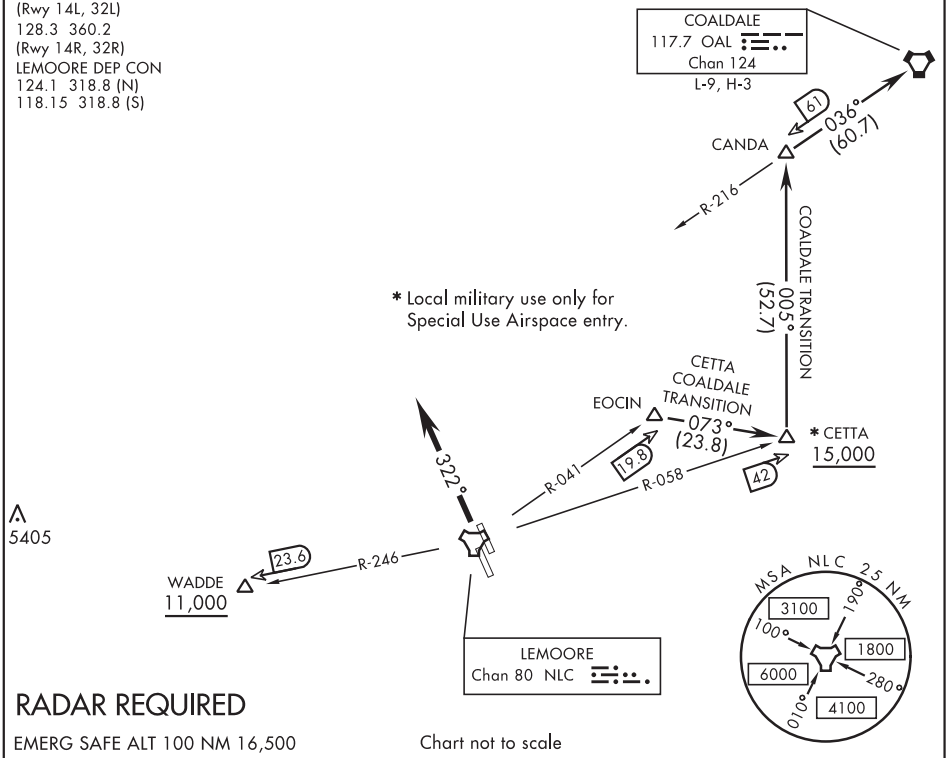
SHL-5067 [USN]

LEMOORE, CALIFORNIA

ATIS ★ 121.575 327.15
CLNC DEL
124.1 371.9
GND CON
121.65 305.2
LEMOORE TOWER ★
128.3 340.2
(Rwy 14L, 32L)
128.3 360.2
(Rwy 14R, 32R)
LEMOORE DEP CON
124.1 318.8 (N)
118.15 318.8 (S)

Rwy	Knots	60	120	180	240	300	360
†32L/R	V/V(fpm)	318	636	954	1272	1590	1908
††32L/R	V/V(fpm)	397	794	1191	1588	1985	2382

† ATC climb rate, CETTA transition to 15,000
†† ATC climb rate, WADDE transition to 11,000



RADAR REQUIRED

EMERG SAFE ALT 100 NM 16,500

Chart not to scale

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAYS 32L/32R: Climb to 2000 via heading 322° then radar vectors to join assigned transition or route.

CETTA TRANSITION (NLC9·CETTA): From over EOCIN direct CETTA thence as filed. Cross CETTA at or above 15,000.

COALDALE TRANSITION (NLC9·OAL): From over EOCIN direct CETTA, direct CANDA, direct COALDALE VORTAC. Cross CETTA at or above 15,000.

WADDE TRANSITION (NLC9·WADDE): From over WADDE thence as filed. Cross WADDE at or above 11,000.

LOST COMMUNICATIONS: If no transmissions are received within 8 DME of NLC TACAN, fly departure heading to intercept NLC 10 DME arc, arc to respective departure radial then via departure radial to assigned departure fix . Then via assigned route. Once established on departure radial climb to filed altitude.

SW-2, 25 FEB 2021 to 22 APR 2021
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LEMOORE NAS (REEVES FIELD) (KNLC)

REEVES-THREE DEPARTURE (REVES3•NLC)

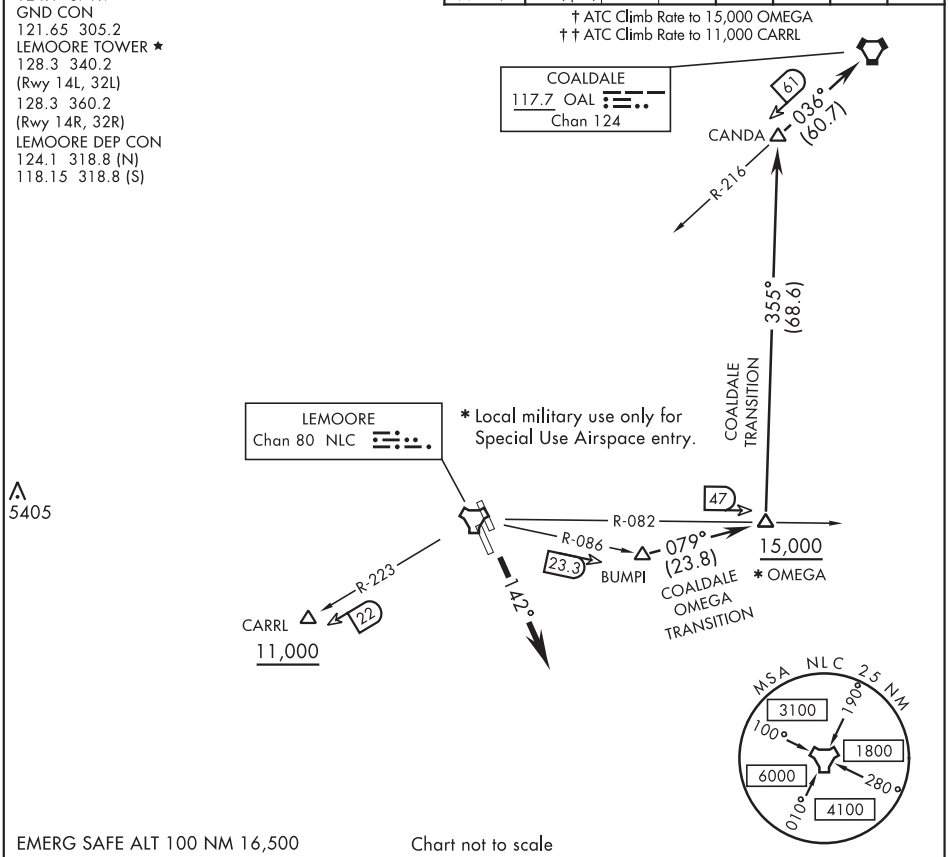
SHL-5067 [USN]

LEMOORE, CALIFORNIA

Rwy	Knots	60	120	180	240	300	360
†14L/R	V/V(fpm)	320	640	960	1280	1600	1920
††14L/R	V/V(fpm)	364	728	1092	1456	1820	2184

† ATC Climb Rate to 15,000 OMEGA
† † ATC Climb Rate to 11,000 CARRL

ATIS ★ 121.575 327.15
CLNC DEL
124.1 371.9
GND CON
121.65 305.2
LEMOORE TOWER ★
128.3 340.2
(Rwy 14L, 32L)
128.3 360.2
(Rwy 14R, 32R)
LEMOORE DEP CON
124.1 318.8 (N)
118.15 318.8 (S)



EMERG SAFE ALT 100 NM 16,500

Chart not to scale

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAY 14L/14R: Climb to 2000 via heading 142° then radar vectors to join assigned transition or route.

CARRL TRANSITION (REVES3.CARRL): From over CARRL thence as filed. Cross CARRL at or above 11,000.

COALDALE TRANSITION (REVES3.OAL): From over BUMPI direct OMEGA, direct CANDA, direct COALDALE VORTAC. Cross OMEGA at or above 15,000.

OMEGA TRANSITION (REVES3.OMEGA): From over BUMPI direct OMEGA thence as filed.

LOST COMMUNICATIONS: If no transmissions are received within 8 DME of NLC TACAN, fly departure heading to intercept NLC 10 DME arc, arc to respective departure radial then via departure radial to assigned departure fix. Then via assigned route. Once estalished on departure radial climb to filed altitude.

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LINCOLN, CALIFORNIA AL-5850 (FAA) 19171

ILS or LOC RWY 15
LINCOLN RGNL/KARL HARDER FIELD (LHM)

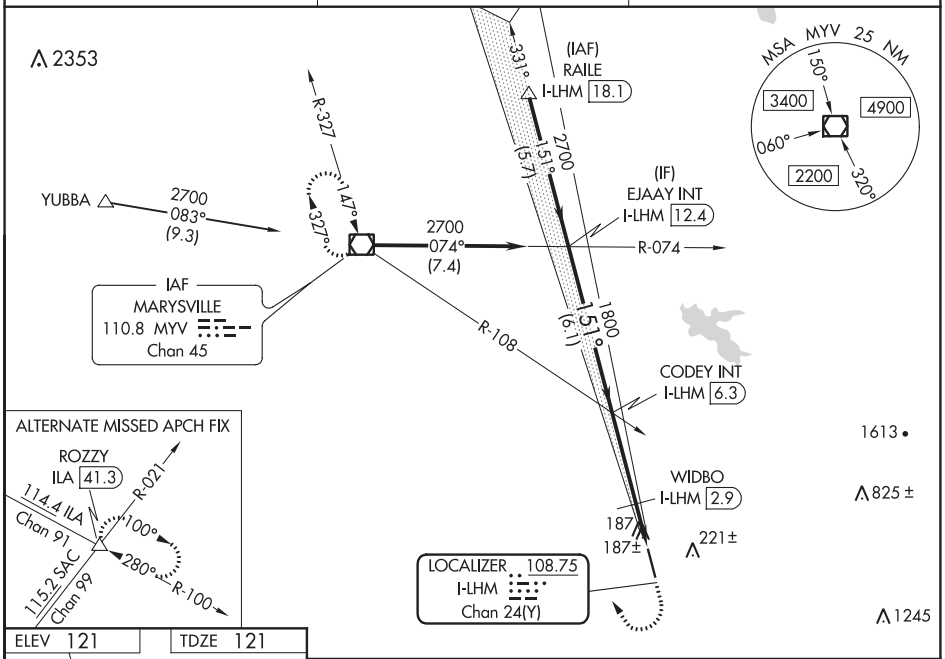
LOC/DME I-LHM	APP CRS	Rwy ldg	6001
108.75	151°	TDZE	121
Chan 24 (Y)		Apt Elev	121

T A NA — When local altimeter setting not received, use Beale AFB altimeter setting and increase all DA/MDA 40 feet, and increase S-LOC 15 Cat C/D visibility ¼ mile. VDP NA with Beale AFB altimeter setting. WIDBO fix minimums: for inop ALS, increase S-LOC 15 Cat D visibility to 1 mile.

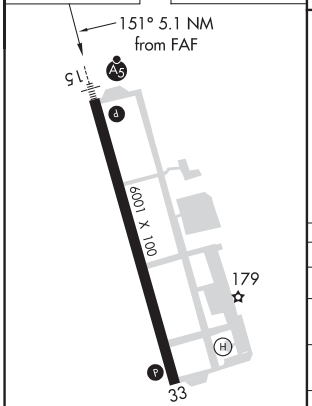
MALSR A5

MISSED APPROACH: Climb to 1200 then climbing right turn to 3000 direct MYV VOR/DME and hold.

AWOS-3	NORCAL APP CON	UNICOM
124.25	125.4 259.1	123.0 (CTAF) L

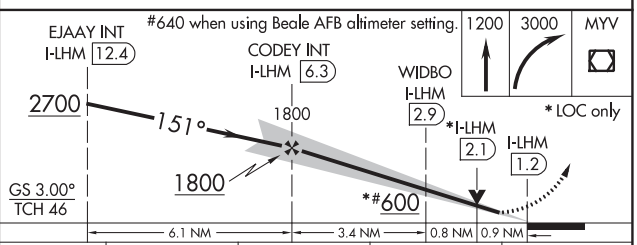


ELEV 121	TDZE 121



MIRL Rwy 15-33 L

FAF to MAP 5.1 NM					
Knots	60	90	120	150	180
Min:Sec	5:06	3:24	2:33	2:02	1:42



CATEGORY	A	B	C	D
S-ILS 15	321-½ 200 (200-½)			
S-LOC 15	600-½ 479 (500-½)		600-¾ 479 (500-¾)	600-1 479 (500-1)
CIRCLING	600-1 479 (500-1)		600-1½ 479 (500-1½)	680-2 559 (600-2)
WIDBO FIX MINIMUMS				
S-LOC 15	460-½ 339 (400-½)			460-¾ 339 (400-¾)
CIRCLING	520-1 399 (400-1)	580-1 459 (500-1)	580-1½ 459 (500-1½)	680-2 559 (600-2)

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WAAS CH 82618 W15A	APP CRS 151°	Rwy ldg 6001 TDZE 121 Apt Elev 121

RNAV (GPS) RWY 15

LINCOLN RGNL/KARL HARDER FIELD (LHM)

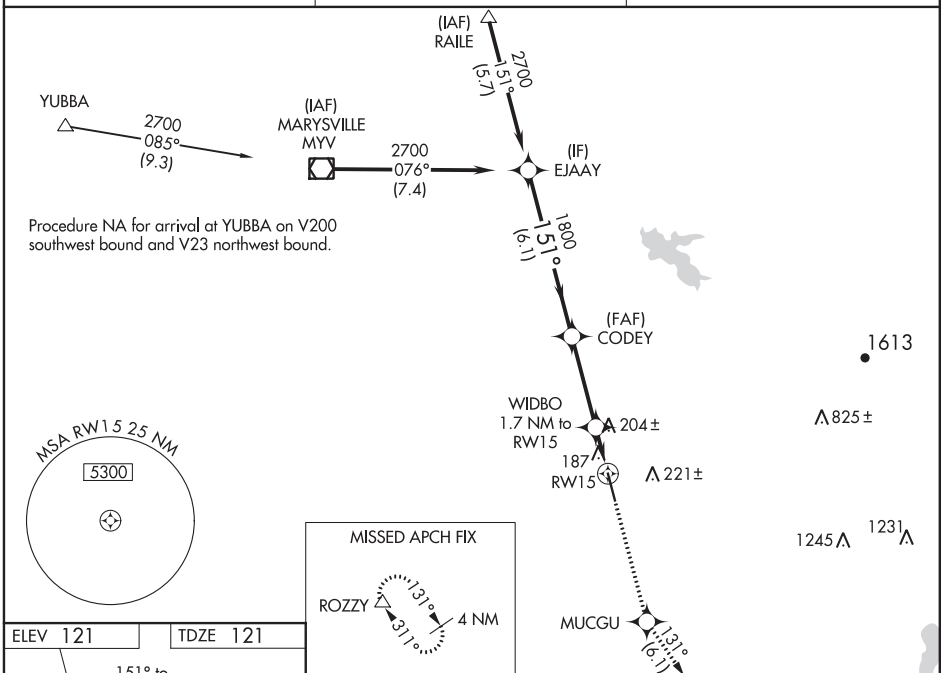
RNP APCH.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 48°C. VDP and Baro-VNAV NA when using Beale AFB altimeter setting. When local altimeter setting not received, use Beale AFB altimeter setting and increase all DA/MDA 40 feet. For inop ALS when using Beale AFB altimeter setting, increase LNAV Cat D visibility to 1¼.

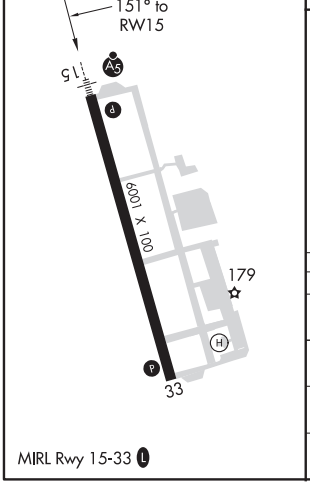
MALSR

MISSED APPROACH: Climb to 2500 direct MUCGU and on track 131° to ROZZY and hold.

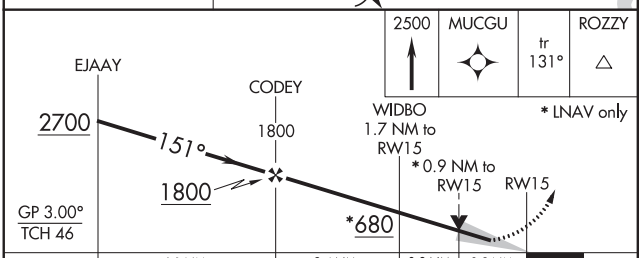
AWOS-3	NORCAL APP CON	UNICOM
124.25	125.4 259.1	123.0 (CTAF) L



ELEV 121	TDZE 121



MIRL Rwy 15-33 L



CATEGORY	A	B	C	D
LPV DA	321-½ 200 (200-½)			
LNAV/VNAV DA	452-¾ 331 (400-¾)			
LNAV MDA	460-½ 339 (400-½)			460-1 339 (400-1)
CIRCLING	520-1 399 (400-1)	580-1 459 (500-1)	580-1½ 459 (500-1½)	680-2 559 (600-2)

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SW-2, 25 FEB 2021 to 22 APR 2021

LINCOLN, CALIFORNIA | AL-5850 (FAA) | 19311

APP CRS	Rwy ldg	6001
331°	TDZE	121
	Apt Elev	121

RNAV (GPS) RWY 33

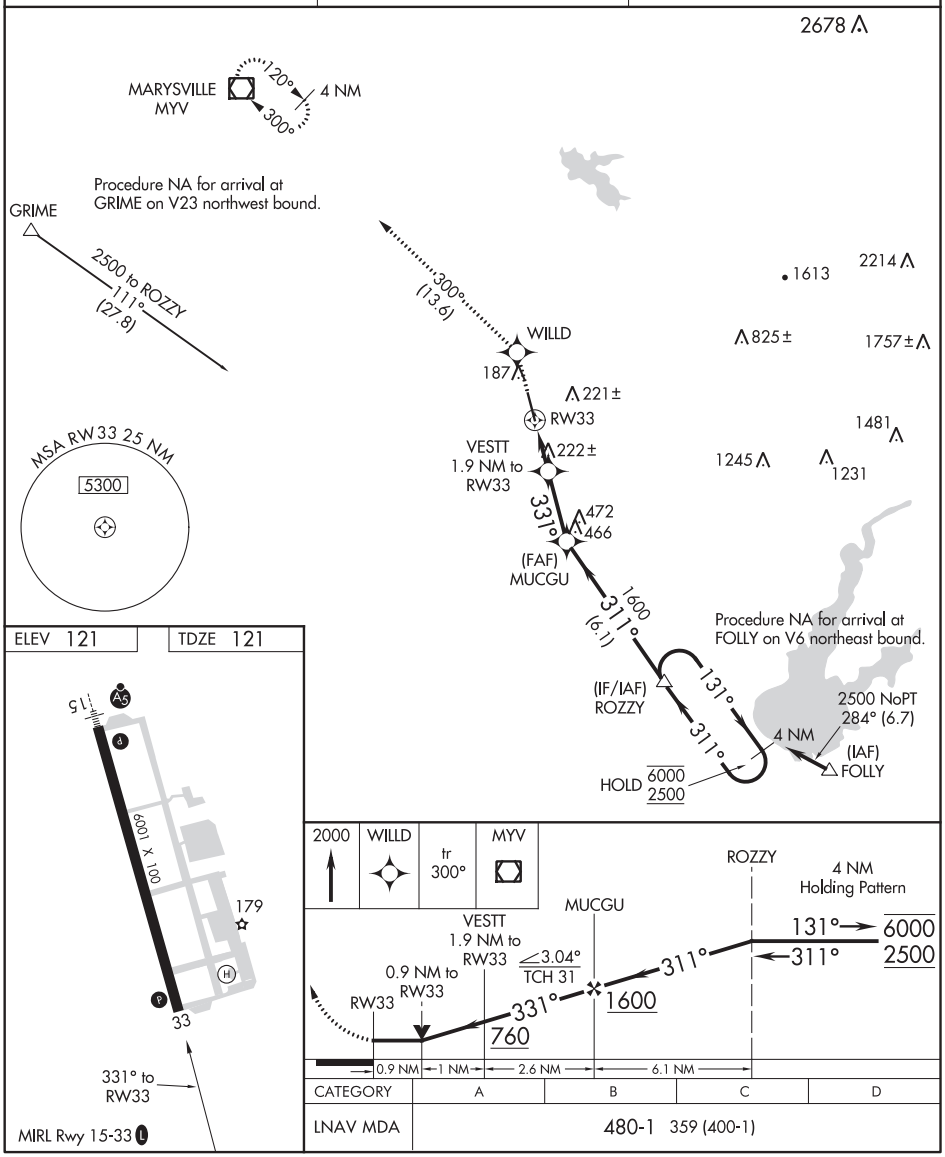
LINCOLN RGNL/KARL HARDER FIELD (LHM)

RNP APCH.

Rwy 33 helicopter visibility reduction below ¾ SM NA. When local altimeter setting not received, use Beale AFB altimeter setting and increase all MDA 40 feet, and increase LNAV Cat C/D visibility ⅛ mile. VDP NA with Beale AFB altimeter setting.

MISSED APPROACH: Climb to 2000 direct WILLD and on track 300° to MYV VOR/DME and hold.

AWOS-3	NORCAL APP CON	UNICOM
124.25	125.4 259.1	123.0 (CTAF) L



CATEGORY	A	B	C	D
LNAV MDA	480-1 359 (400-1)			

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WAAS CH 77829 W29A	APP CRS 293°	Rwy ldg 5249 TDZE 574 Apt Elev 574

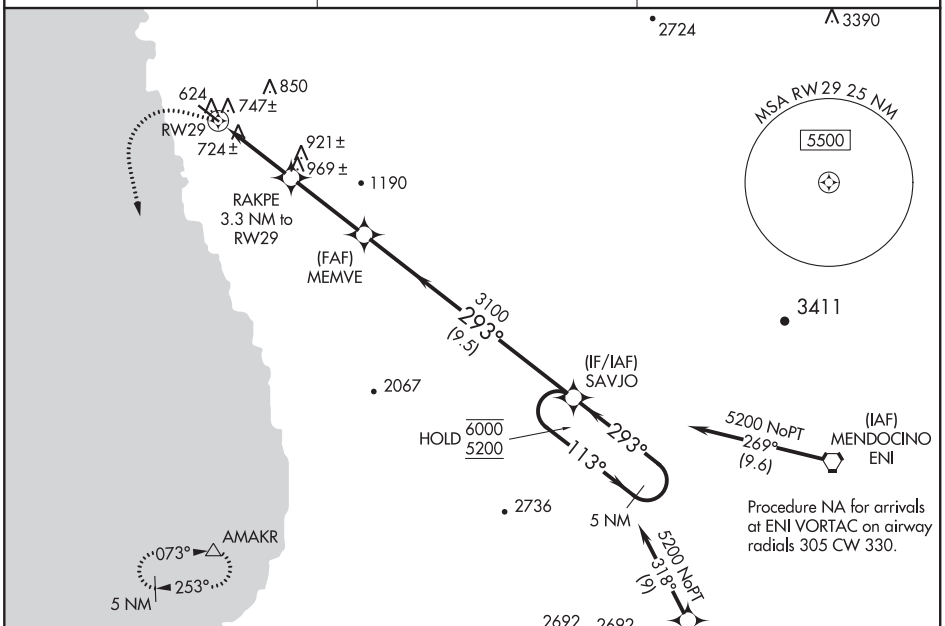
RNAV (GPS) RWY 29
LITTLE RIVER (LLR)

RNP APCH.

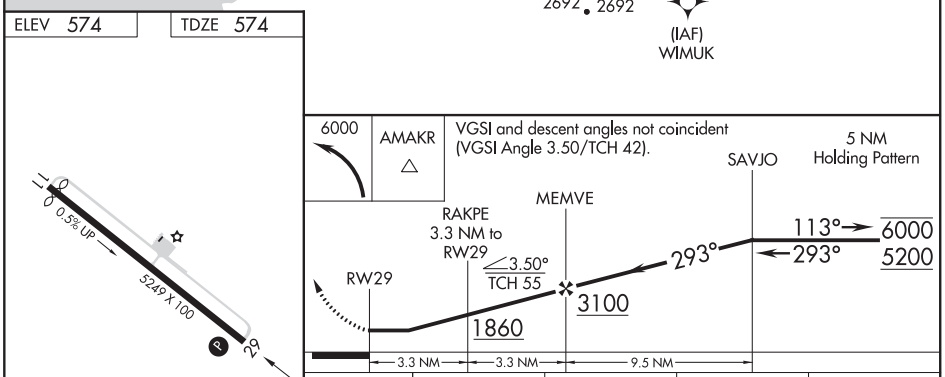
Circling NA northeast of Rwy 11-29.
Procedure NA at night.
Rwy 29 helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climbing left turn to 6000 direct AMAKR and hold, continue climb-in-hold to 6000.

AWOS-AV	OAKLAND CENTER	AUNICOM
121.125	132.2 350.3	122.7 (CTAF) L



ELEV 574 TDZE 574



CATEGORY	A	B	C	D
LP MDA	980-1 406 (500-1)		980-1⅛ 406 (500-1⅛)	
LNAV MDA	1000-1 426 (500-1)		1000-1¼ 426 (500-1¼)	
C CIRCLING	1040-1 466 (500-1)		1080-1½ 506 (600-1½)	1400-2¾ 826 (900-2¾)

MIRL Rwy 11-29 L

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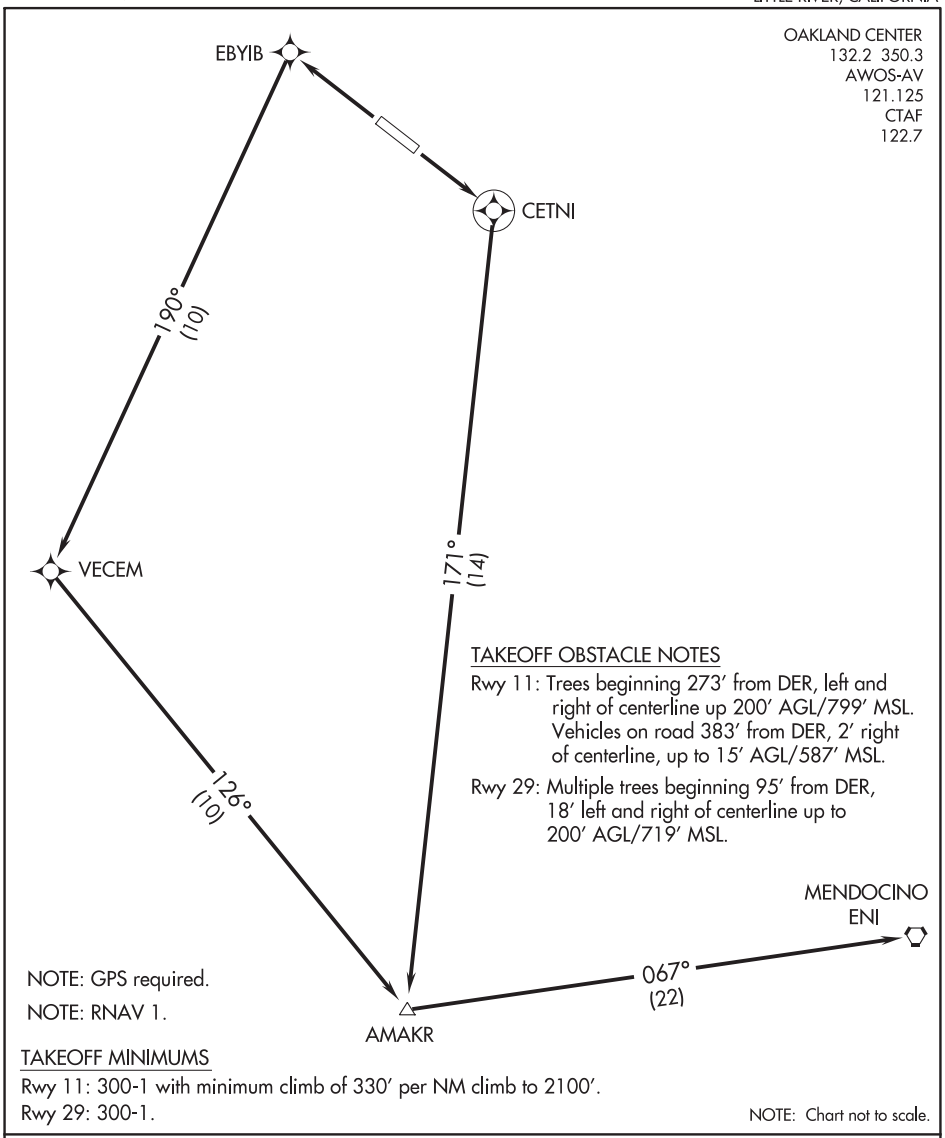
(LTLRV1.LTLRV) 16091

SL-10390 (FAA)

LITTLE RIVER ONE DEPARTURE (OBSTACLE) (RNAV)

LITTLE RIVER (LLR)
LITTLE RIVER, CALIFORNIA



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 11: Climb to 6000 direct CETNI and via track 171° to AMAKR and left turn via track 067° to ENI VORTAC, thence . . . .

TAKEOFF RUNWAY 29: Climb to 6000 direct EBYIB and left turn via track 190° to VECEM and via track 126° to AMAKR and via track 067° to ENI VORTAC, thence . . . .

. . . . via assigned route.

LITTLE RIVER ONE DEPARTURE (OBSTACLE) (RNAV)

LITTLE RIVER, CALIFORNIA
LITTLE RIVER (LLR)

(LTLRV1.LTLRV) 03JUN10

SW-2, 25 FEB 2021 to 22 APR 2021

LOC/DME I-LVK	APP CRS	Rwy ldg	5253
110.5	255°	TDZE	400
Chan 42		Apt Elev	400

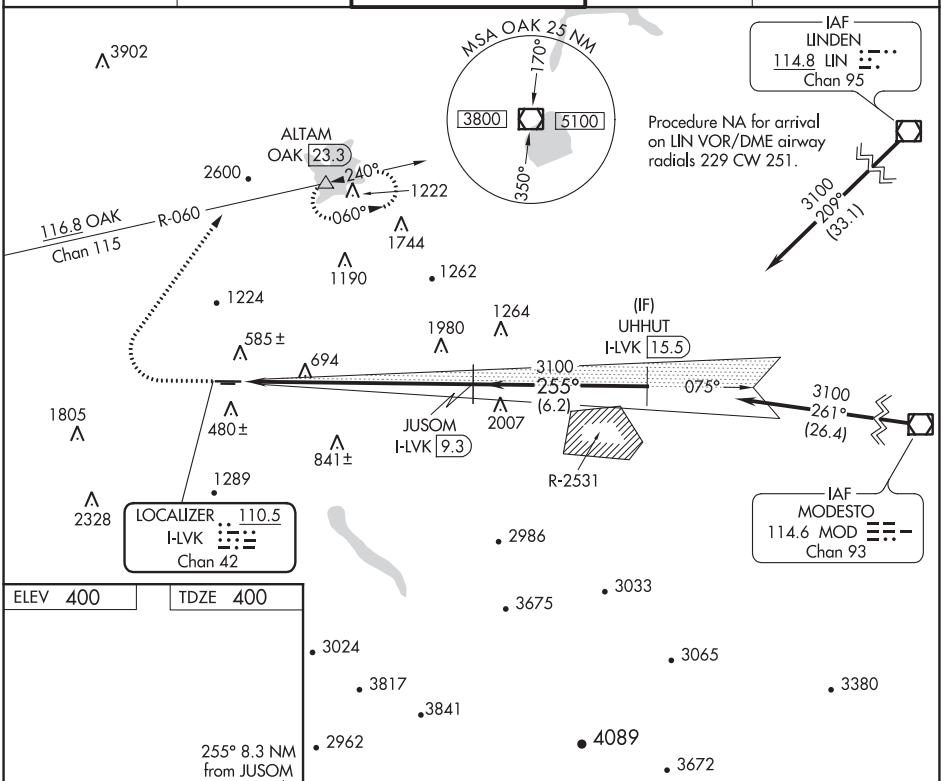
ILS RWY 25R
LIVERMORE MUNI (LVK)

DME required.

MALSR

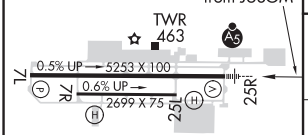
MISSED APPROACH: Climb to 1200 then climbing right turn to 5000 on heading 020° and OAK VOR/DME R-060 to ALTAM/OAK VOR/DME 23.3 DME and hold, continue climb-in-hold to 5000.
*Missed approach requires a minimum climb of 358 feet per NM to 3600, if unable to meet climb gradient, see LOC RWY 25R.

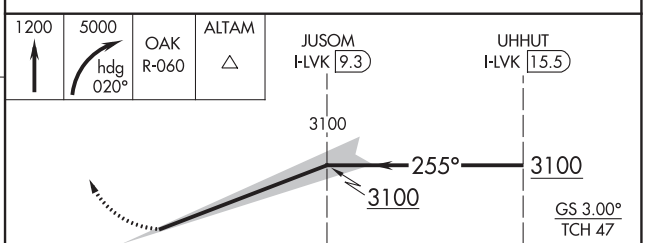
ATIS	NORCAL APP CON	LIVERMORE TOWER *	GND CON	UNICOM
119.65	123.85 278.3	118.1 (CTAF) L 239.25	121.6	122.95



ELEV 400 | TDZE 400

255° 8.3 NM from JUSOM





CATEGORY	A	B	C	D
S-ILS 25R	600-½ 200 (200-½)			

HIRL Rwy 7L-25R L
MIRL Rwy 7R-25L

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WAAS CH 50214 W25A	APP CRS 255°	Rwy ldg 5253 TDZE 400 Apt Elev 400

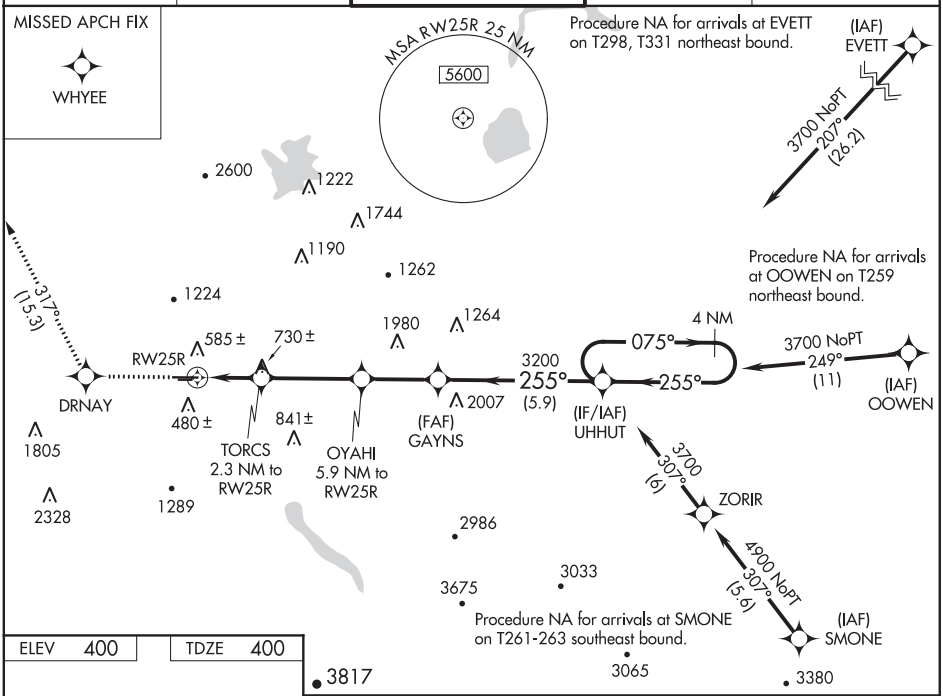
RNAV (GPS) RWY 25R
LIVERMORE MUNI (LVK)

Circling to Rwy 25L NA at night. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -5°C (23°F) or above 54°C (130°F). Circling NA north of Rwy 7L-25R. RADAR Required. DME/DME RNP-0.3 NA. For inop ALS, increase LNAV Cat C/D to 1⅝ SM.

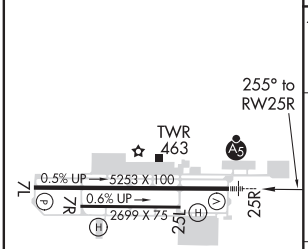
MALSR

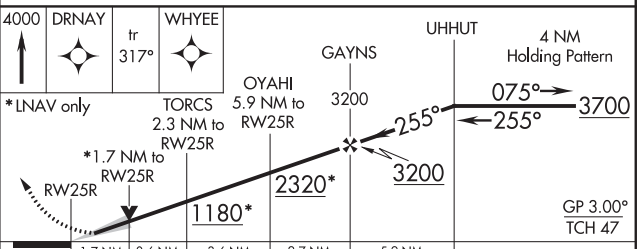
MISSED APPROACH: Climb to 4000 direct DRNAY and on track 317° to WHYEE.

ATIS	NORCAL APP CON	LIVERMORE TOWER *	GND CON	UNICOM
119.65	123.85 278.3	118.1 (CTAF) L 239.25	121.6	122.95



ELEV 400	TDZE 400





CATEGORY	A	B	C	D
LPV DA	600-½ 200 (200-½)			
LNAV/VNAV DA	843-⅞ 443 (500-⅞)			
LNAV MDA	980-½ 580 (600-½)		980-1¼ 580 (600-1¼)	
C CIRCLING	980-1 580 (600-1)		1140-2 740 (800-2)	1780-3 1380 (1400-3)

MIRL Rwy 7R-25L
HIRL Rwy 7L-25R L

SW-2, 25 FEB 2021 to 22 APR 2021

LOC/DME I-LVK	APP CRS	Rwy ldg	5253
110.5	255°	TDZE	400
Chan 42		Apt Elev	400

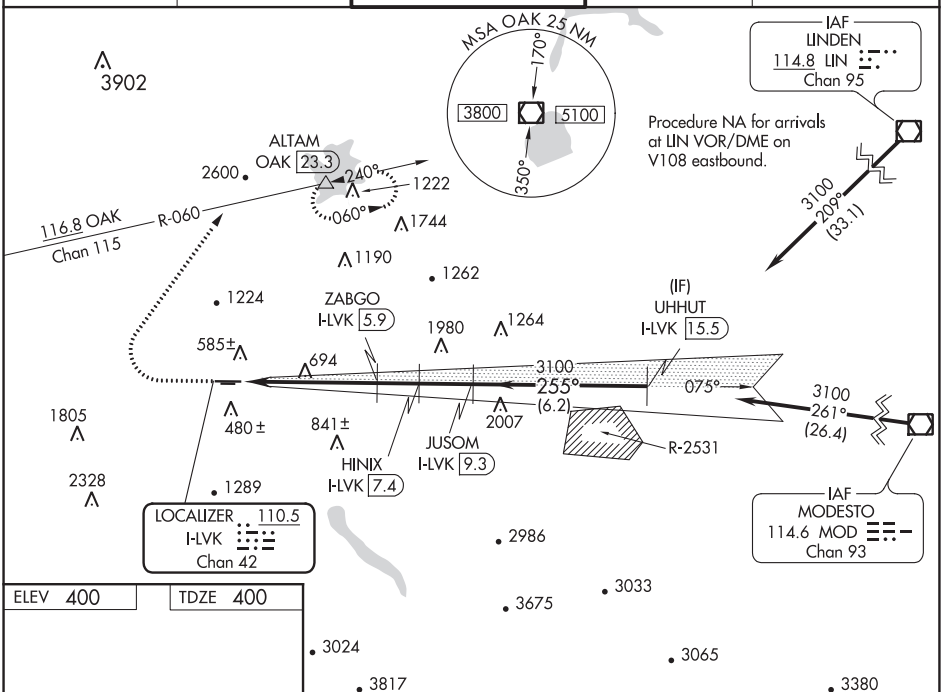
LOC RWY 25R
LIVERMORE MUNI (LVK)

Circling to Rwy 25L NA at night.
Inop table does not apply to S-25R Cats C/D.
Circling NA north of Rwy 7L-25R.
DME required.

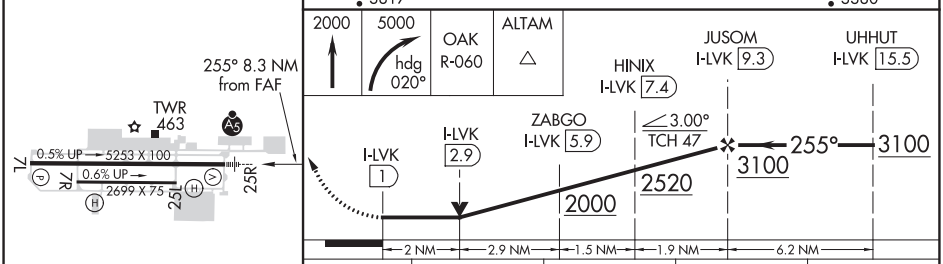
MALSR

MISSED APPROACH: Climb to 2000 then climbing right turn to 5000 on heading 020° and OAK VOR/DME R-060 to ALTAM/OAK VOR/DME 23.3 DME and hold, continue climb-in-hold to 5000.
*Missed approach requires minimum climb of 235 feet per NM to 3600.

ATIS	NORCAL APP CON	LIVERMORE TOWER *	GND CON	UNICOM
119.65	123.85 278.3	118.1 (CTAF) L 239.25	121.6	122.95



ELEV 400 | TDZE 400



CATEGORY	A	B	C	D
S-LOC 25R*	1080-½ 680 (700-½)		1080-1½ 680 (700-1½)	
S-LOC 25R	2000-¾ 1600 (1600-¾)	2000-1 1600 (1600-1)	2000-3 1600 (1600-3)	
C CIRCLING	2000-1¼ 1600 (1600-1¼)	2000-1½ 1600 (1600-1½)	2000-3 1600 (1600-3)	

HIRL Rwy 7L-25R L
MIRL Rwy 7R-25L

SW-2, 25 FEB 2021 to 22 APR 2021

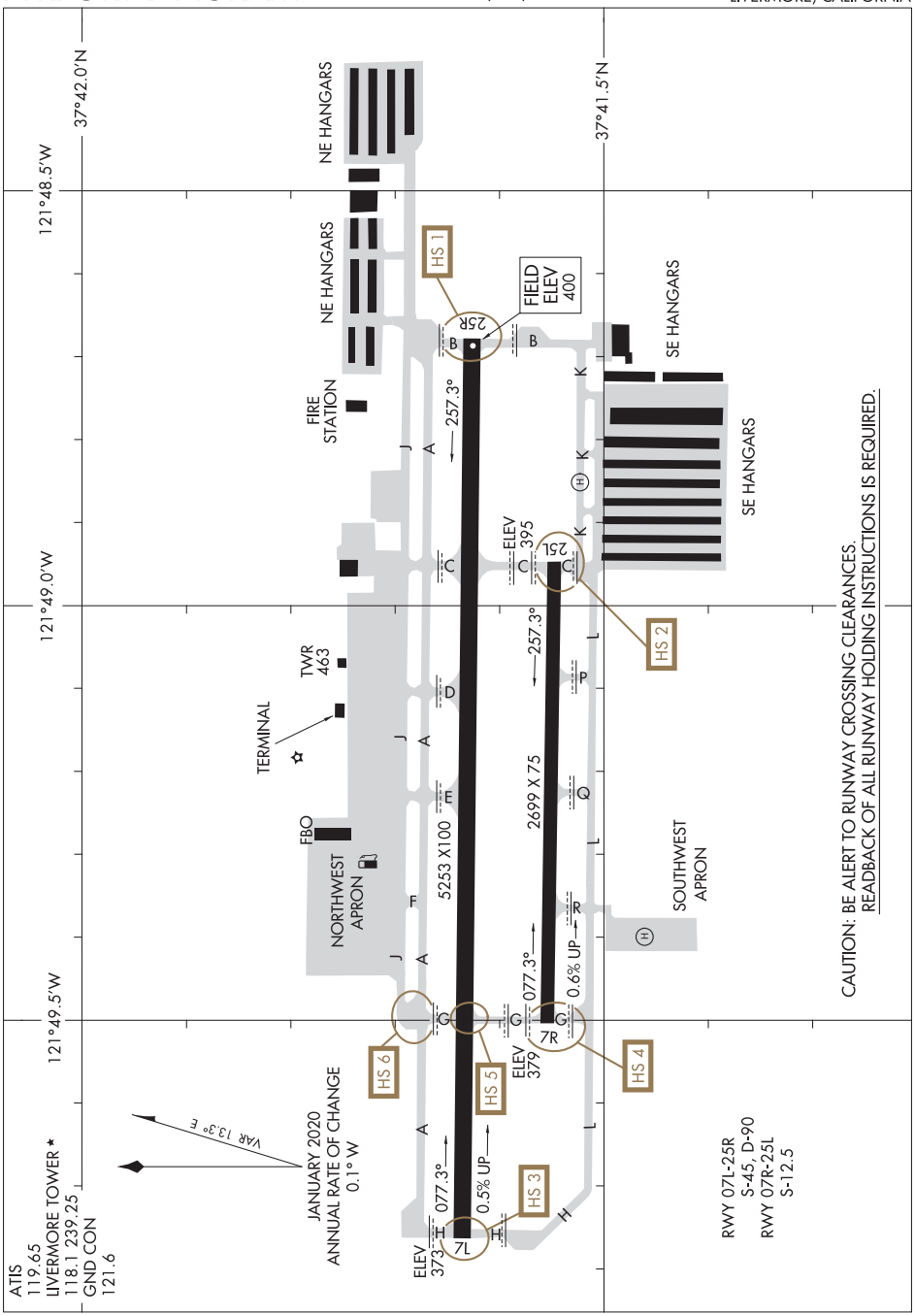
SW-2, 25 FEB 2021 to 22 APR 2021

21056

AIRPORT DIAGRAM

AL-6075 (FAA)

LIVERMORE MUNI (LVK)
LIVERMORE, CALIFORNIA



SW-2, 25 FEB 2021 to 22 APR 2021

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AIRPORT DIAGRAM

LIVERMORE, CALIFORNIA
LIVERMORE MUNI (LVK)

21056

LIVERMORE THREE DEPARTURE (OBSTACLE)

AL-6075 (FAA)

ATIS 119.65
GND CON 121.6
LIVERMORE TOWER★ 118.1 239.25
NORCAL DEP CON Rwys 7L/R 123.85 278.3 Rwys 25L/R 125.35 354.1

SACRAMENTO 115.2 SAC Chan 99

LINDEN 114.8 LIN Chan 95

OAKLAND 116.8 OAK Chan 115

R-177 V334-392 39 R-229 ALTAM N37°48.73′ W121°44.83′ L-2-3 V334 23 V28-244-392 R-060 R-177 340° 357° 060° 020° 075° 255° 1000 1200 N

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 7L/R: Climb heading 075° to 1000, then climbing left turn heading 340° and on SAC VORTAC R-177 to ALTAM, thence . . . .

TAKEOFF RUNWAYS 25L/R: Climb heading 255° to 1200, then climbing right turn heading 020° and on OAK VOR/DME R-060 to ALTAM, thence . . . .

VCOA ALL RUNWAYS: Obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross Livermore Airport at or above 3100, thence . . . .

. . . . continue climb on course to the MEA/MCA for route of flight.

TAKEOFF MINIMUMS
Rwys 7L/R: Standard with minimum climb of 375′ per NM to 3500 or 2900-3 for VCOA.
Rwys 25L/R: Standard with minimum climb of 295′ per NM to 3400 or 2900-3 for VCOA.

(NOTES CONTINUED ON FOLLOWING PAGE)

NOTE: Chart not to scale.

SW-2, 25 FEB 2021 to 22 APR 2021

TAKEOFF OBSTACLE NOTES

Rwy 7L: Sign 20′ from DER, 475′ right of centerline, up to 3′ AGL/403′ MSL.
Bush 48′ from DER, 501′ left of centerline, 403′ MSL.
Poles, buildings, electrical system, antenna on building, tree, and tanks beginning 447′ from DER, 567′ right of centerline, up to 42′ AGL/445′ MSL.
Hangar and building beginning 459′ from DER, 558′ left of centerline, up to 414′ MSL.
Tree 708′ from DER, 603′ left of centerline, 421′ MSL.
Trees beginning 711′ from DER, 567′ left of centerline, up to 439′ MSL.
Trees beginning 1623′ from DER, 690′ left of centerline, up to 450′ MSL.
Tree 1626′ from DER, 796′ left of centerline, 455′ MSL.
Trees beginning 1732′ from DER, 528′ right of centerline, up to 461′ MSL.
Tree 1767′ from DER, 816′ left of centerline, 463′ MSL.
Tree 2217′ from DER, 1040′ right of centerline, 465′ MSL.
Tree 2368′ from DER, 1027′ right of centerline, 466′ MSL.
Tree 3922′ from DER, 1480′ left of centerline, 528′ MSL.

Rwy 7R: Building 3′ from DER, 287′ right of centerline, 411′ MSL.
Terrain 3′ from DER, 9′ left of centerline, 396′ MSL.
Buildings beginning 29′ from DER, 287′ right of centerline, up to 412′ MSL.
Buildings and hangar beginning 137′ from DER, 287′ right of centerline, up to 413′ MSL.
Tower and navaid beginning 308′ from DER, 249′ left of centerline, up to 39′ AGL/432′ MSL.
Building 435′ from DER, 287′ right of centerline, 414′ MSL.
Buildings beginning 463′ from DER, 287′ right of centerline, up to 416′ MSL.
Building 668′ from DER, 287′ right of centerline, 417′ MSL.
Building 701′ from DER, 403′ right of centerline, 418′ MSL.
Buildings beginning 799′ from DER, 287′ right of centerline, up to 436′ MSL.
Tree 1146′ from DER, 399′ right of centerline, 438′ MSL.
Buildings and trees beginning 1169′ from DER, 344′ right of centerline, up to 445′ MSL.
Hangar and pole beginning 1402′ from DER, 66′ right of centerline, up to 446′ MSL.
Trees beginning 2349′ from DER, 672′ right of centerline, up to 467′ MSL.
Tree 3980′ from DER, 1563′ right of centerline, 497′ MSL.

Rwy 25L: Tree 388′ from DER, 532′ left of centerline, 442 MSL.

Rwy 25R: Sign 34′ from DER, 203′ right of centerline, 5′ AGL/376′ MSL.
Terrain beginning 43′ from DER, 486′ right of centerline, up to 378′ MSL.
Fences beginning 169′ from DER, 413′ right of centerline, up to 379′ MSL.
Tree 305′ from DER, 298′ right of centerline, 385′ MSL.
Tree 349′ from DER, 580′ right of centerline, 411′ MSL.
Tree 464′ from DER, 509′ right of centerline, 417′ MSL.
Trees beginning 477′ from DER, 426′ right of centerline, up to 424′ MSL.
Pole 662′ from DER, 411′ left of centerline, 33′ AGL/400′ MSL.
Trees beginning 805′ from DER, 248′ right of centerline, up to 427′ MSL.
Trees beginning 1405′ from DER, 747′ right of centerline, up to 432′ MSL.
Tree 1426′ from DER, 186′ left of centerline, 411′ MSL.
Tree 1596′ from DER, 244′ left of centerline, 413′ MSL.
Tree 1719′ from DER, 127′ left of centerline, 421′ MSL.
Trees beginning 1946′ from DER, 50′ right of centerline, up to 436′ MSL.

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APP CRS	Rwy ldg	N/A
285°	TDZE	N/A
	Apt Elev	60

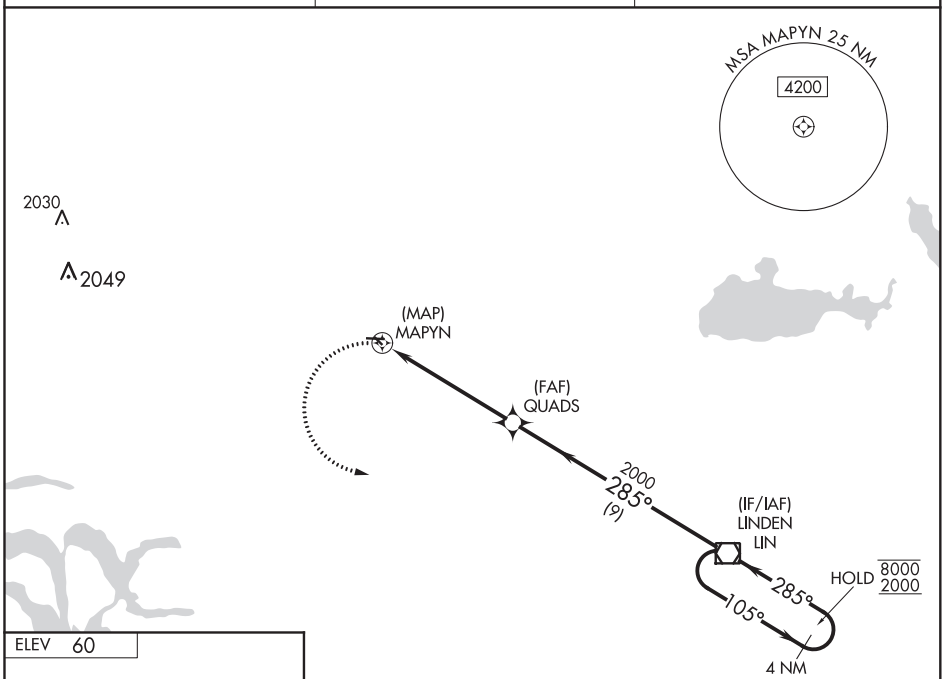
RNAV (GPS)-B
LODI (103)

RNP APCH.

Procedure NA at night.
NA Use Stockton altimeter setting; when not received, use Sacramento Intl altimeter setting and increase all MDA 40 feet.

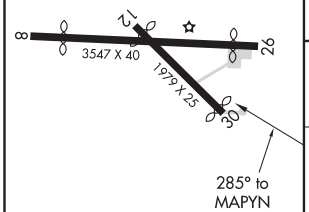
MISSED APPROACH: Climbing left turn to 2000 direct LIN VOR/DME and hold.

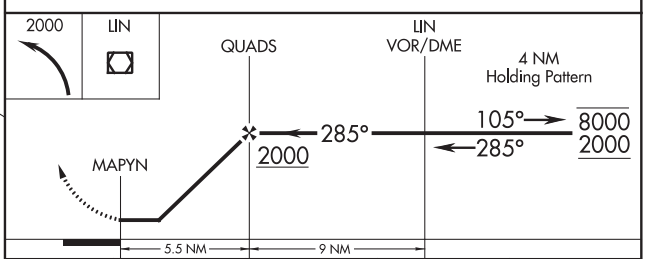
SCK ASOS	NORCAL APP CON	CTAF
118.25	125.1 363.2	122.9



NoPT for arrival on LIN VOR/DME airway radials 124 CW 158.

ELEV 60





CATEGORY	A	B	C	D
C CIRCLING	640-1 580 (600-1)		NA	

LIRL Rwy 8-26

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

LOS BANOS, CALIFORNIA

AL-5819 (FAA)

19199

RNAV (GPS) RWY 14
LOS BANOS MUNI (LSN)

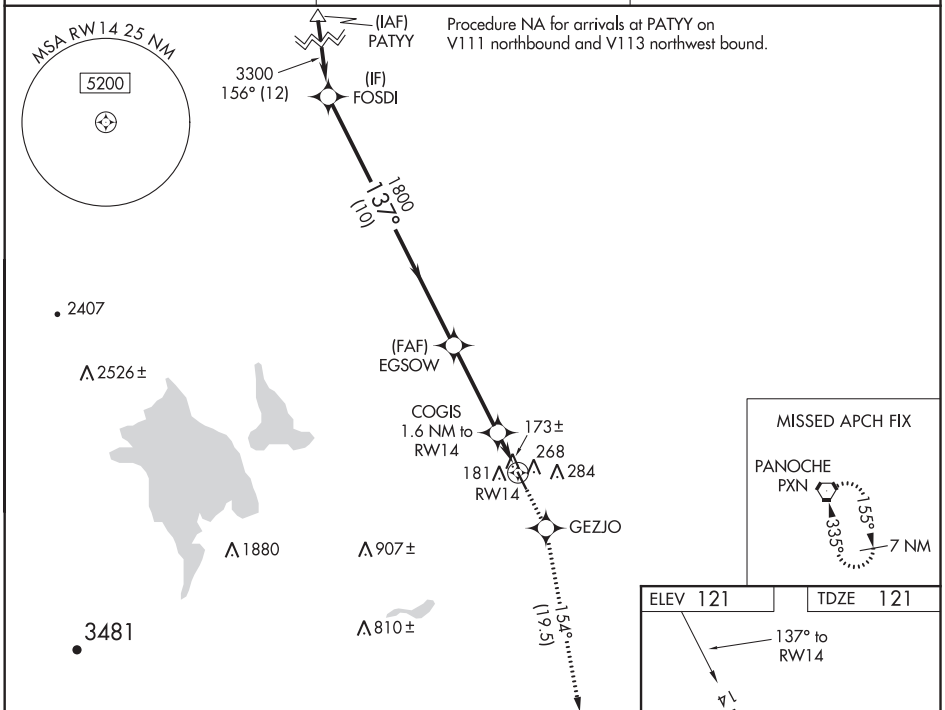
WAAS CH 53715 W14A	APP CRS 137°	Rwy ldg 3801 TDZE 121 Apt Elev 121

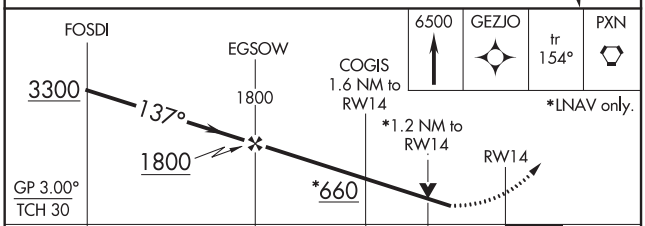
RNP APCH.

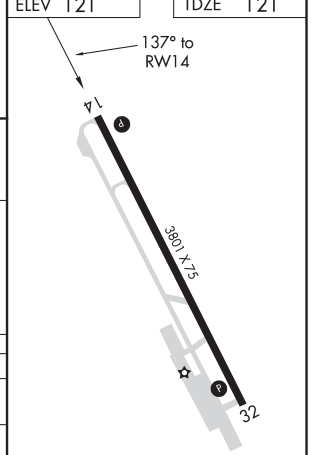
NA Rwy 14 helicopter visibility reduction below ¾ SM NA. Baro-VNAV and VDP NA when using Merced Rgnl/Macready Field altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 54°C. When local altimeter setting not received, use Merced Rgnl/Macready Field altimeter setting and increase all DA/MDA 60 feet, and all visibility ¼ SM.

MISSED APPROACH: Climb to 6500 direct GEZJO and on track 154° to PXN VORTAC and hold, continue climb-in-hold to 6500.

AWOS-3	NORCAL APP CON	UNICOM
118.675	120.95 269.45	122.8 (CTAF) L







CATEGORY	A	B	C	D
LPV DA	455-1¼ 334 (400-1¼)			
LNAV/VNAV DA	519-1½ 398 (400-1½)			
LNAV MDA	520-1 399 (400-1)		520-1⅛ 399 (400-1⅛)	520-1¼ 399 (400-1¼)

MIRL Rwy 14-32 L
REIL Rwys 14 and 32 L

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SW-2, 25 FEB 2021 to 22 APR 2021

LOS BANOS, CALIFORNIA
Orig-D 18JUL19

37°04′N-120°52′W

LOS BANOS MUNI (LSN)
RNAV (GPS) RWY 14

APP CRS	Rwy ldg	3801
317°	TDZE	121
	Apt Elev	121

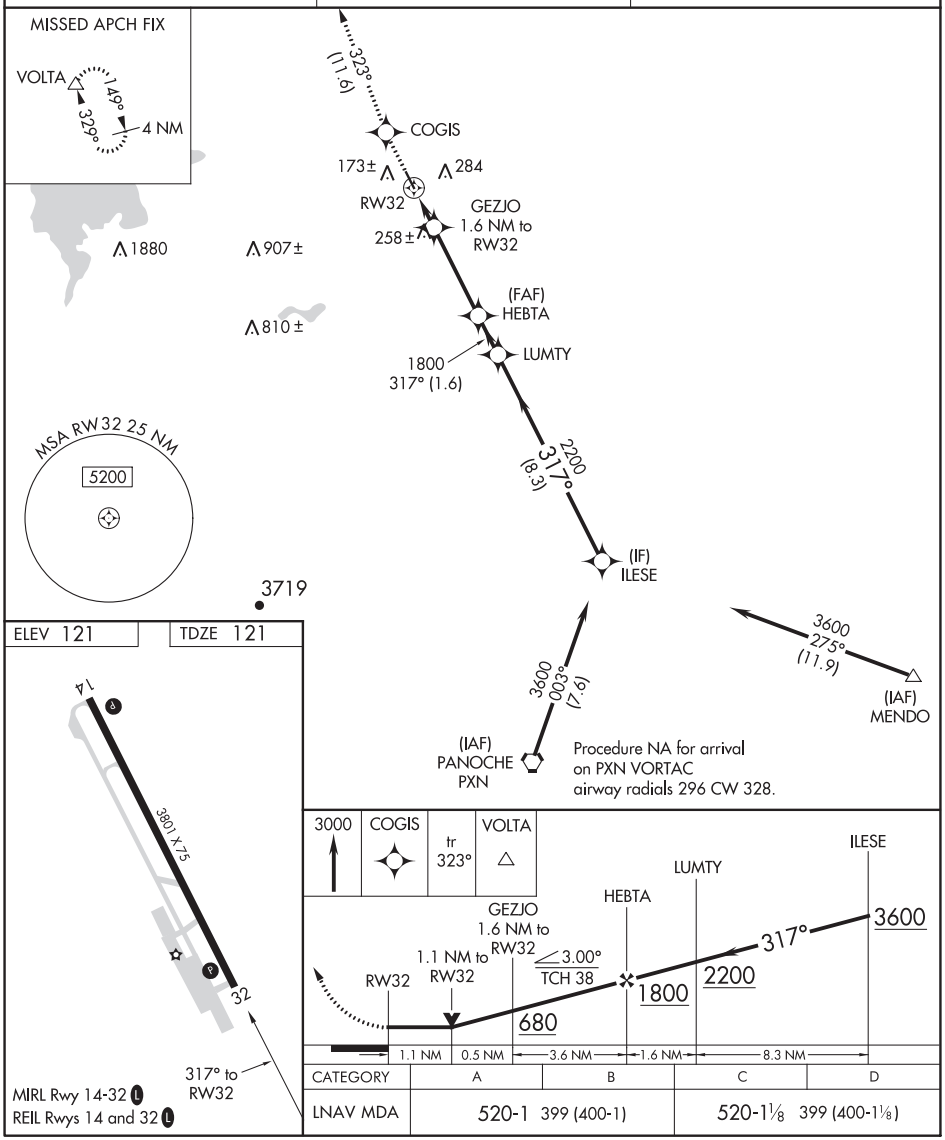
RNAV (GPS) RWY 32
LOS BANOS MUNI (LSN)

RNP APCH.

NA Rwy 32 helicopter visibility reduction below ¾ SM NA. VDP NA when using Merced Rgnl/Macready Field altimeter setting. When local altimeter setting not received, use Merced Rgnl/Macready Field altimeter setting and increase all MDA 60 feet, and all visibility ¼ SM.

MISSED APPROACH: Climb to 3000 direct COGIS and on track 323° to VOLTA and hold.

AWOS-3	NORCAL APP CON	UNICOM
118.675	120.95 269.45	122.8 (CTAF) L



CATEGORY	A	B	C	D
LNAV MDA	520-1 399 (400-1)		520-1⅛ 399 (400-1⅛)	

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MADERA, CALIFORNIA AL-6399 (FAA) 21028

WAAS CH 62909 W12A	APP CRS 122°	Rwy ldg 5545 TDZE 253 Apt Elev 255

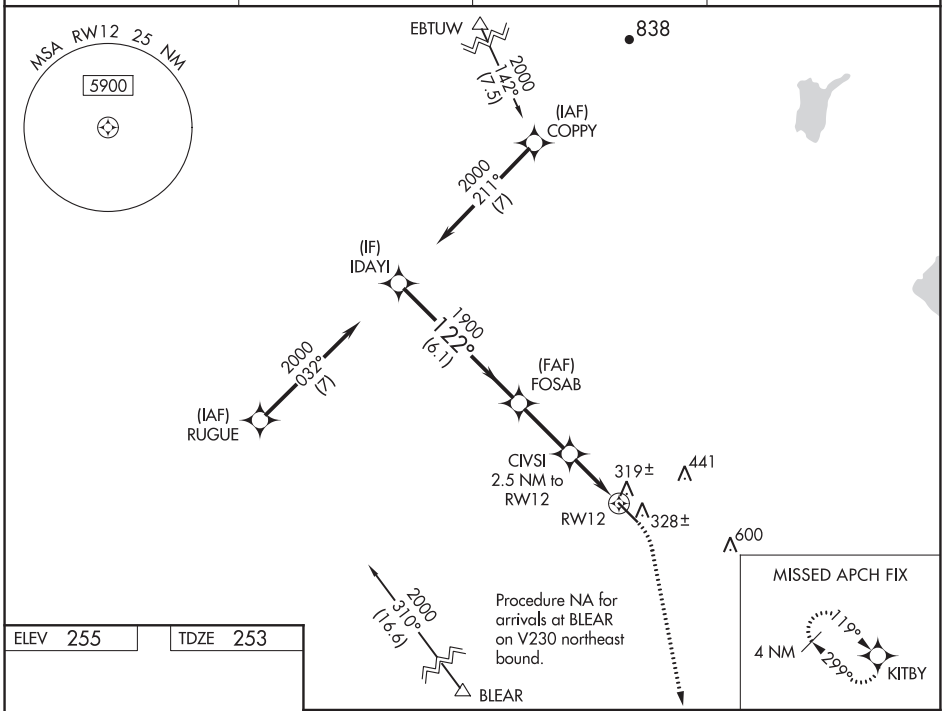
RNAV (GPS) RWY 12
MADERA MUNI (MAE)

RNP APCH.

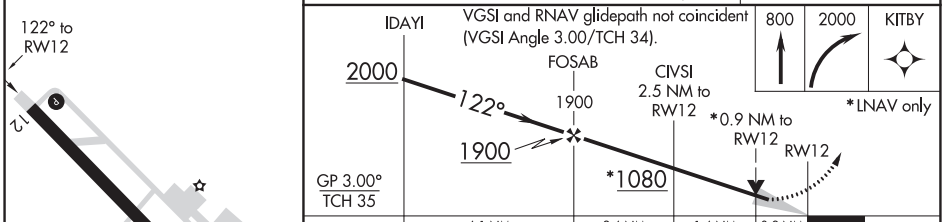
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -3°C or above 54°C.

MISSED APPROACH: Climb to 800 then climbing right turn to 2000 direct KITBY and hold.

ASOS	FRESNO APP CON	CLNC DEL	UNICOM
134.725	119.45	119.45	122.8 (CTAF)



ELEV 255 TDZE 253



CATEGORY		A	B	C	D
LPV	DA	503-¾ 250 (300-¾)			NA
LNAV/VNAV	DA	503-¾ 250 (300-¾)			NA
LNAV	MDA	580-1 327 (400-1)			NA
C CIRCLING		680-1 425 (500-1)	720-1 465 (500-1)	740-1½ 485 (500-1½)	NA

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WAAS CH 90209 W30A	APP CRS 302°	Rwy ldg 5545 TDZE 255 Apt Elev 255

RNAV (GPS) RWY 30
MADERA MUNI (MAE)

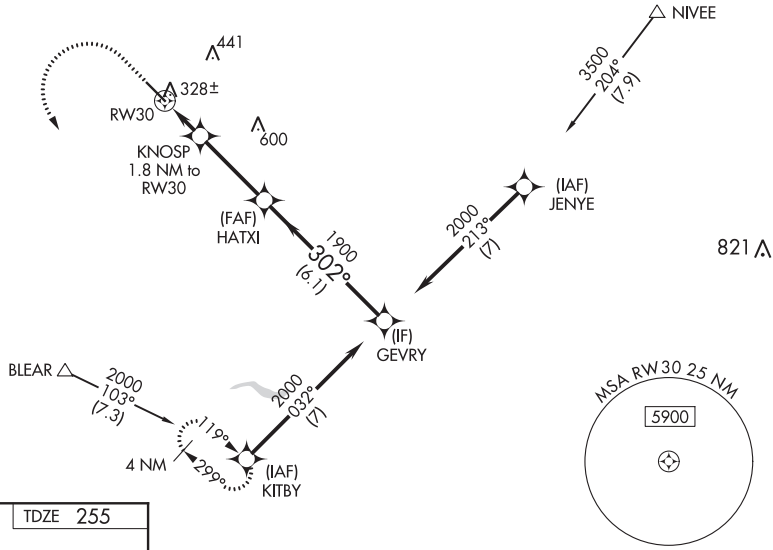
RNP APCH.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -3°C or above 54°C. Inop table does not apply to LPV and LNAV/VNAV Cat A/B/C.

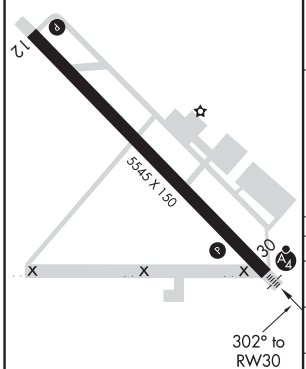
MALSF

MISSED APPROACH: Climb to 800 then climbing left turn to 2000 to KITBY and hold.

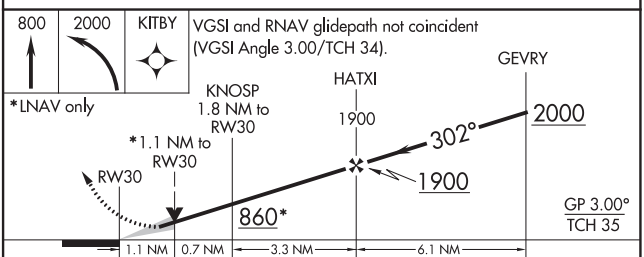
ASOS	FRESNO APP CON	CLNC DEL	UNICOM
134.725	119.45	119.45	122.8 (CTAF) L



ELEV 255 TDZE 255



REIL Rwy 12 L
MIRL Rwy 12-30 L



CATEGORY	A	B	C	D
LPV DA	505-¾ 250 (300-¾)			NA
LNAV/VNAV DA	505-¾ 250 (300-¾)			NA
LNAV MDA	640-¾ 385 (400-¾)		640-⅞ 385 (400-⅞)	NA
C CIRCLING	680-1 425 (500-1)	720-1 465 (500-1)	740-1½ 485 (500-1½)	NA

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MAMMOTH LAKES, CALIFORNIA AL-6841 (FAA) 19227

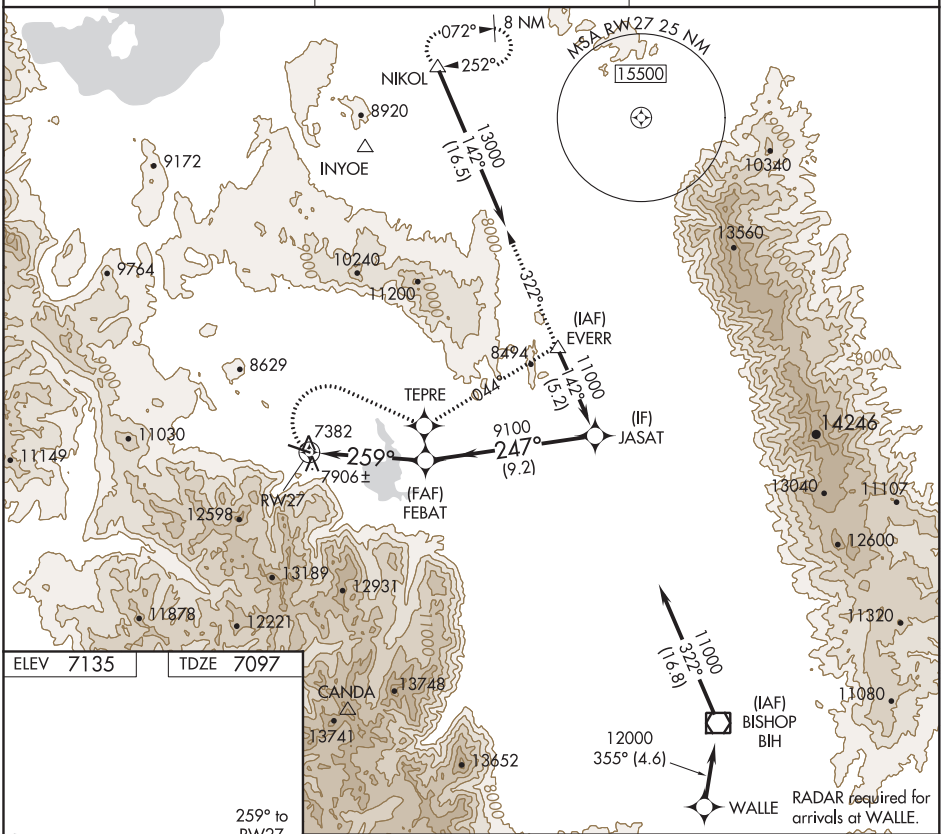
RNAV (GPS) RWY 27
MAMMOTH YOSEMITE (MMH)

APP CRS	Rwy ldg	7000
259°	TDZE	7097
	Apt Elev	7135

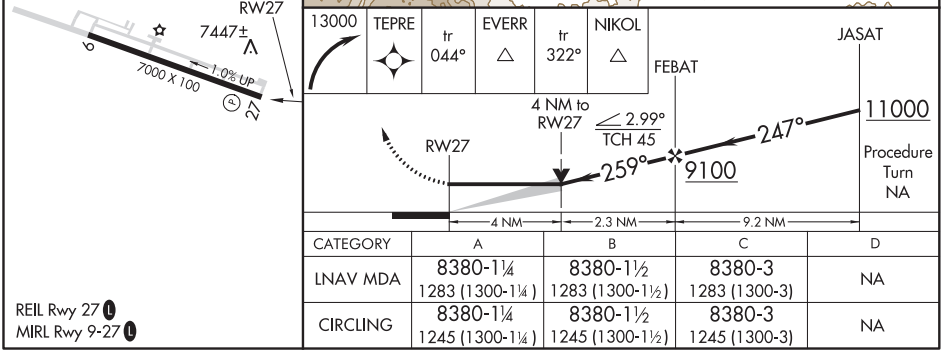
Circling NA at night. Circling NA south of Rwy 9-27. DME/DME RNP-0.3 NA. When local altimeter setting not received, procedure NA.

MISSED APPROACH: Climbing right turn to 13000 direct TEPRE and via track 044° to EVERR and via track 322° to NIKOL and hold.

AWOS-3	OAKLAND CENTER	UNICOM
118.05	125.75 284.65	122.8 (CTAF) L



ELEV 7135 TDZE 7097



CATEGORY	A	B	C	D
LNAV MDA	8380-1¼ 1283 (1300-1¼)	8380-1½ 1283 (1300-1½)	8380-3 1283 (1300-3)	NA
CIRCLING	8380-1¼ 1245 (1300-1¼)	8380-1½ 1245 (1300-1½)	8380-3 1245 (1300-3)	NA

REIL Rwy 27 L
MIRL Rwy 9-27 L

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SW-2, 25 FEB 2021 to 22 APR 2021

NIKOL ONE DEPARTURE (OBSTACLE)

SL-6841 (FAA)

OAKLAND CENTER
125.75 284.65
UNICOM
122.8 (CTAF)
AWOS-3
118.05

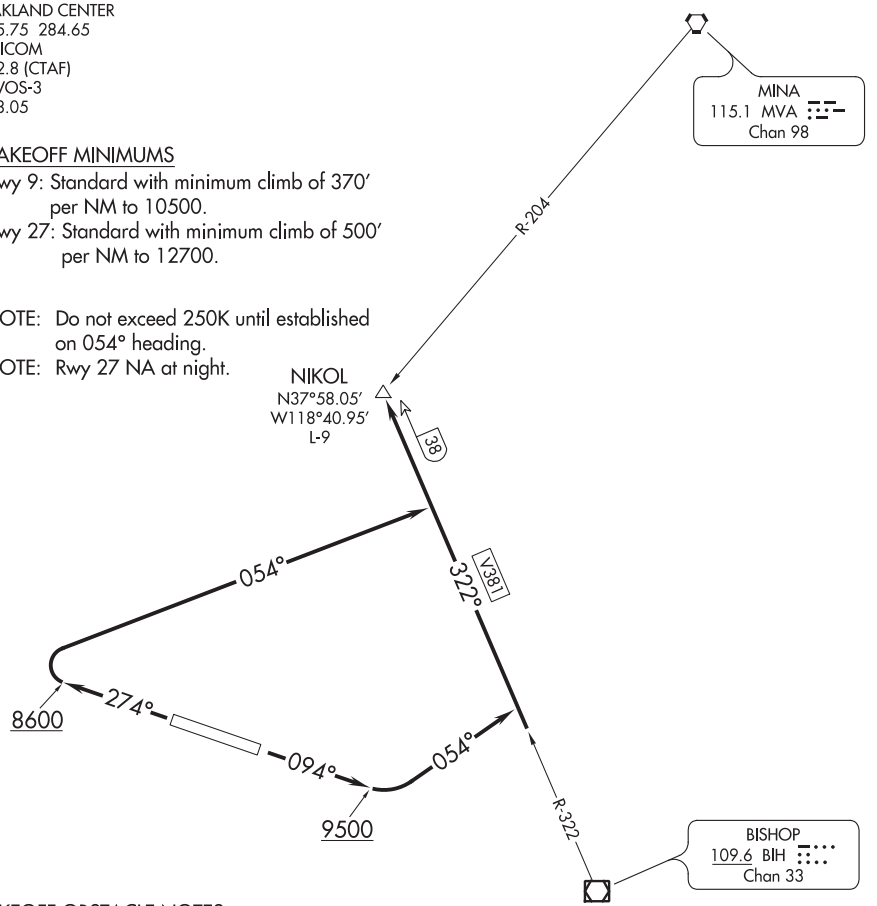
TAKEOFF MINIMUMS

Rwy 9: Standard with minimum climb of 370′ per NM to 10500.

Rwy 27: Standard with minimum climb of 500′ per NM to 12700.

NOTE: Do not exceed 250K until established on 054° heading.

NOTE: Rwy 27 NA at night.



TAKEOFF OBSTACLE NOTES

Rwy 9: Vehicles on roadway beginning 11′ from DER, 460′ right of centerline, up to 17′ AGL/7078′ MSL.
Trees beginning 1956′ from DER, 554′ left of centerline, up to 100′ AGL/7186′ MSL.
Trees beginning 3994′ from DER, 963′ right of centerline, up to 100′ AGL/7252′ MSL.

Rwy 27: Vehicles on roadway and bushes beginning 178′ from DER, 269′ left of centerline, up to 17′ AGL/7160′ MSL. Building 386′ from DER, 434′ right of centerline, 21′ AGL/7155′ MSL.
Terrain and trees beginning 1.9 NM from DER, 334′ right of centerline, up to 68′ AGL/7970′ MSL.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 9: Climb heading 094° to 9500, then climbing left turn heading 054° to intercept BIH R-322 to NIKOL INT.

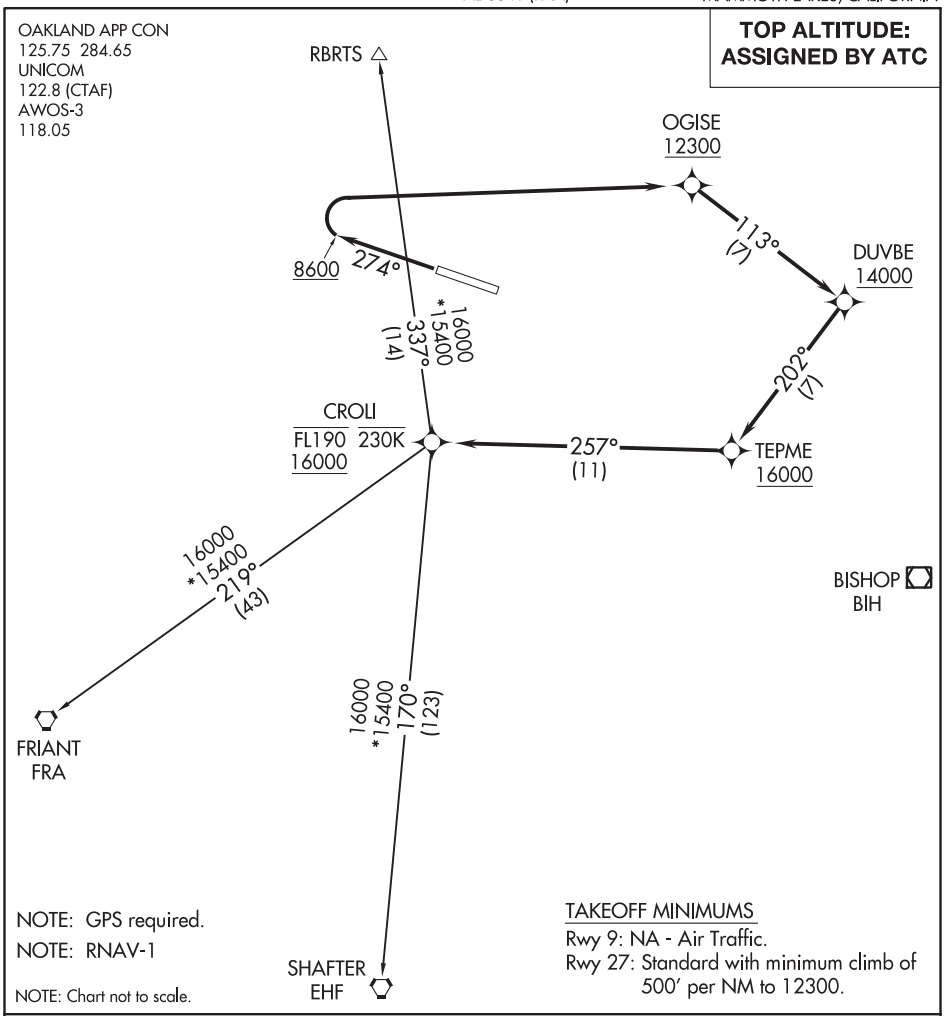
TAKEOFF RUNWAY 27: Climb heading 274° to 8600, then climbing right turn heading 054° to intercept BIH R-322 to NIKOL INT.

(CROLI1.CROLI) 18312

CROLI ONE DEPARTURE (RNAV)

AL-6841 (FAA)

MAMMOTH YOSEMITE (MMH)
MAMMOTH LAKES, CALIFORNIA



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SW-2, 25 FEB 2021 to 22 APR 2021

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 27: Climb heading 274° to 8600, then right turn direct to cross OGISE at or above 12300, then on track 113° to cross DUVBE at or above 14000, then on track 202° to cross TEPME at or above 16000, then on track 257° to cross CROLI at or above 16000 and at or below FL190, thence. . . .

. . . .on (transition) maintain 16000, expect filed altitude 10 minutes after departure.

SHAFTER TRANSITION (CROLI1.EHF)

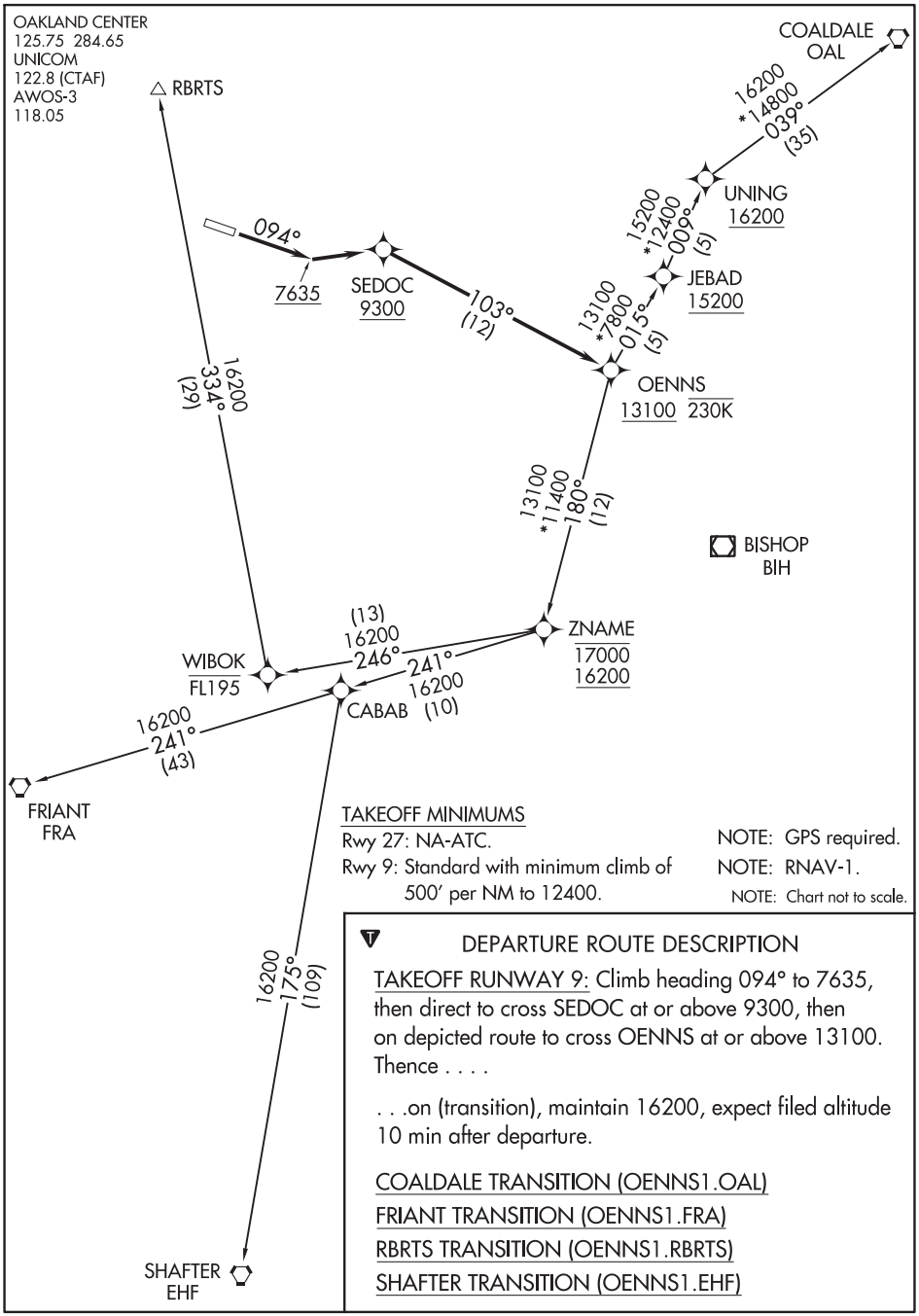
FRIANT TRANSITION (CROLI1.FRA)

RBRTS TRANSITION (CROLI1.RBRTS)

OENNS ONE DEPARTURE (RNAV)

AL-6841 (FAA)

MAMMOTH YOSEMITE (MMH)
MAMMOTH LAKES, CALIFORNIA



TAKEOFF MINIMUMS
Rwy 27: NA-ATC.
Rwy 9: Standard with minimum climb of 500′ per NM to 12400.

NOTE: GPS required.
NOTE: RNAV-1.
NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 9: Climb heading 094° to 7635, then direct to cross SEDOC at or above 9300, then on depicted route to cross OENNS at or above 13100. Thence . . . .

. . .on (transition), maintain 16200, expect filed altitude 10 min after departure.

COALDALE TRANSITION (OENNS1.OAL)
FRIANT TRANSITION (OENNS1.FRA)
RBRTS TRANSITION (OENNS1.RBRTS)
SHAFTER TRANSITION (OENNS1.EHF)

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SW-2, 25 FEB 2021 to 22 APR 2021

MARINA, CALIFORNIA AL-5271 (FAA) 20254

RNAV (GPS) RWY 11
MARINA MUNI (OAR)

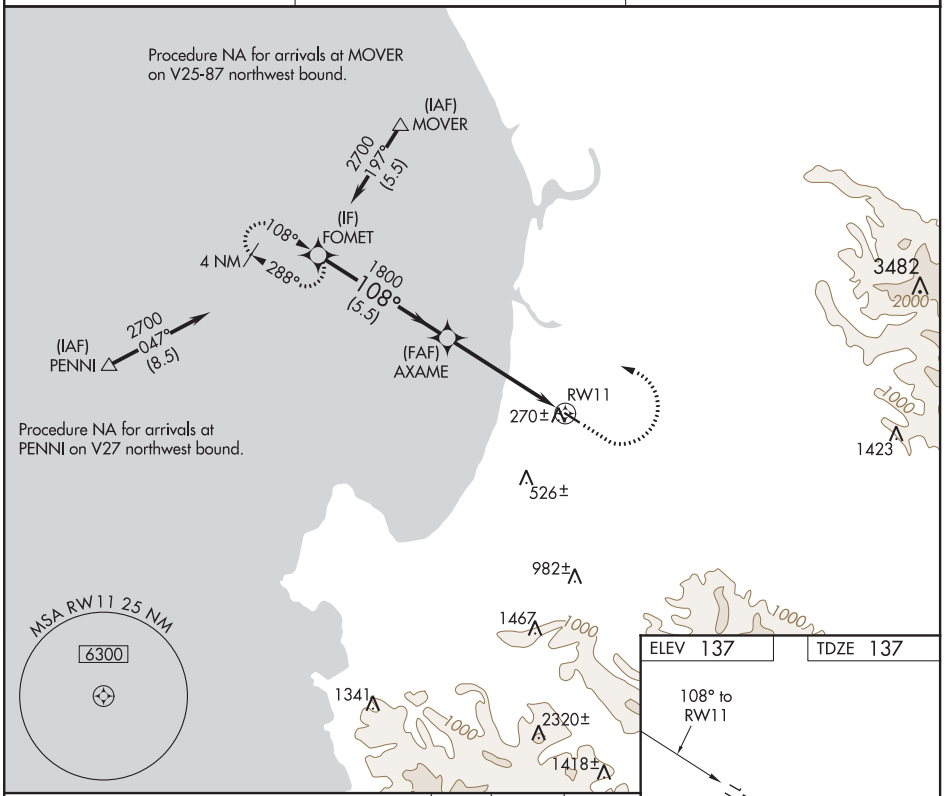
APP CRS	Rwy ldg	3483
108°	TDZE	137
	Apt Elev	137

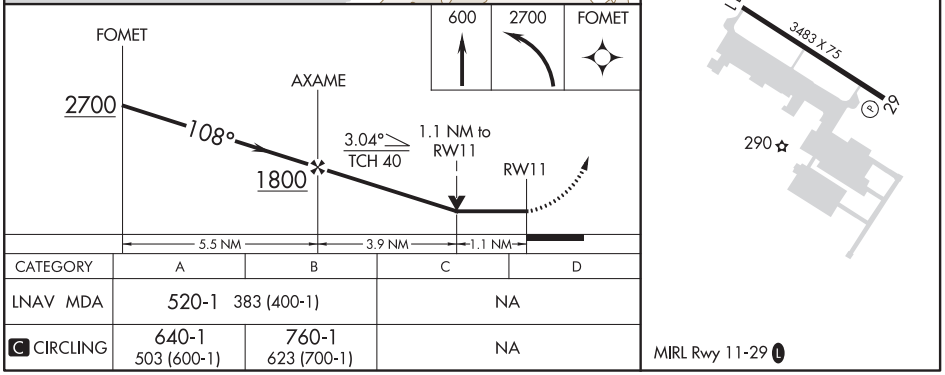
RNP APCH.

T A NA Rwy 11 helicopter visibility reduction below ¾ SM NA.

MISSED APPROACH: Climb to 600, then climbing left turn to 2700 direct FOMET and hold, continue climb-in-hold to 2700.

AWOS-3PT	NORCAL APP CON	UNICOM
134.025	133.0 251.15	122.7 (CTAF) L





CATEGORY	A	B	C	D
LNAV MDA	520-1 383 (400-1)		NA	
C CIRCLING	640-1 503 (600-1)	760-1 623 (700-1)	NA	

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SW-2, 25 FEB 2021 to 22 APR 2021

APP CRS	Rwy ldg	3483
288°	TDZE	137
	Apt Elev	137

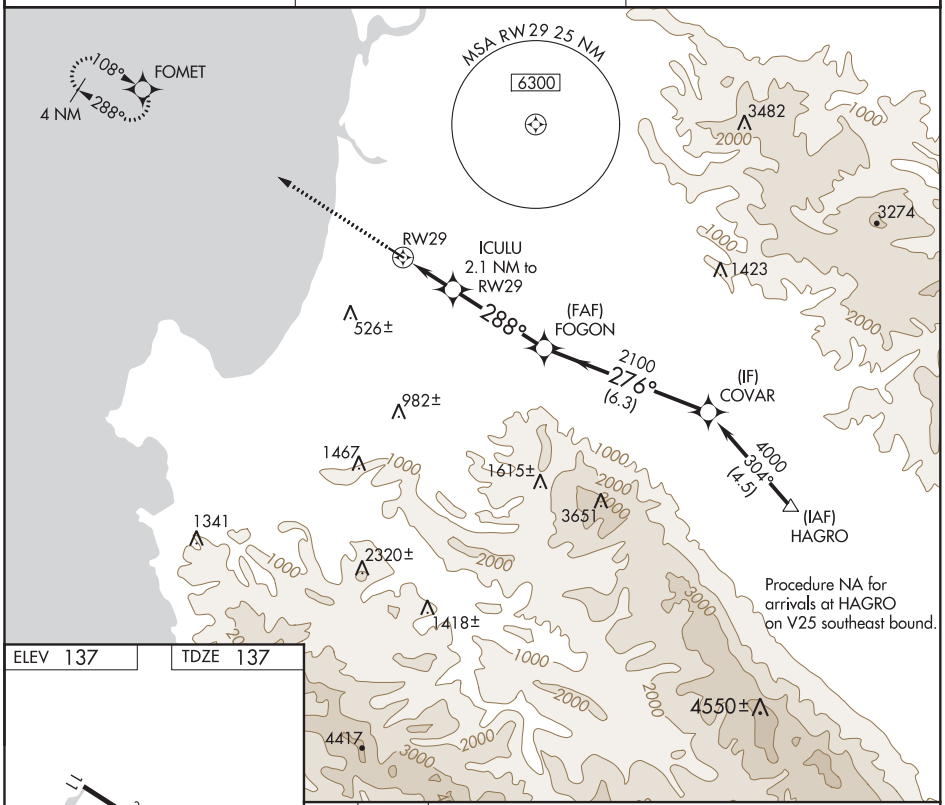
RNAV (GPS) RWY 29
MARINA MUNI (OAR)

RNP APCH.

NA

MISSED APPROACH: Climb to 2700 direct FOMET and hold, continue climb-in-hold to 2700.

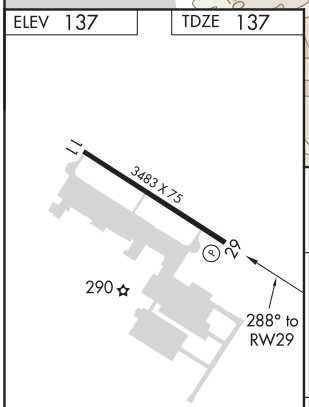
AWOS-3PT	NORCAL APP CON	UNICOM
134.025	133.0 251.15	122.7 (CTAF) L

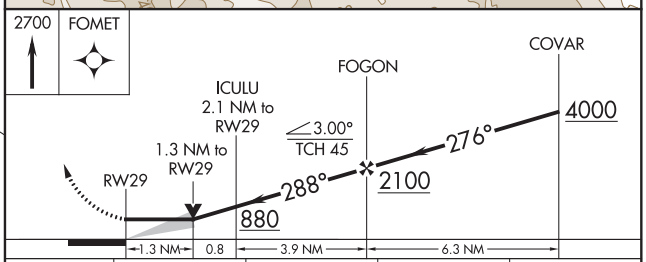


SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

ELEV 137 TDZE 137





CATEGORY	A	B	C	D
LNAV MDA	600-1 463 (500-1)		NA	
C CIRCLING	640-1 503 (600-1)	760-1 623 (700-1)	NA	

MIRL Rwy 11-29 L

MARIPOSA, CALIFORNIA | AL-9969 (FAA) | 20310

RNAV (GPS)-A
MARIPOSA-YOSEMITE (MPI)

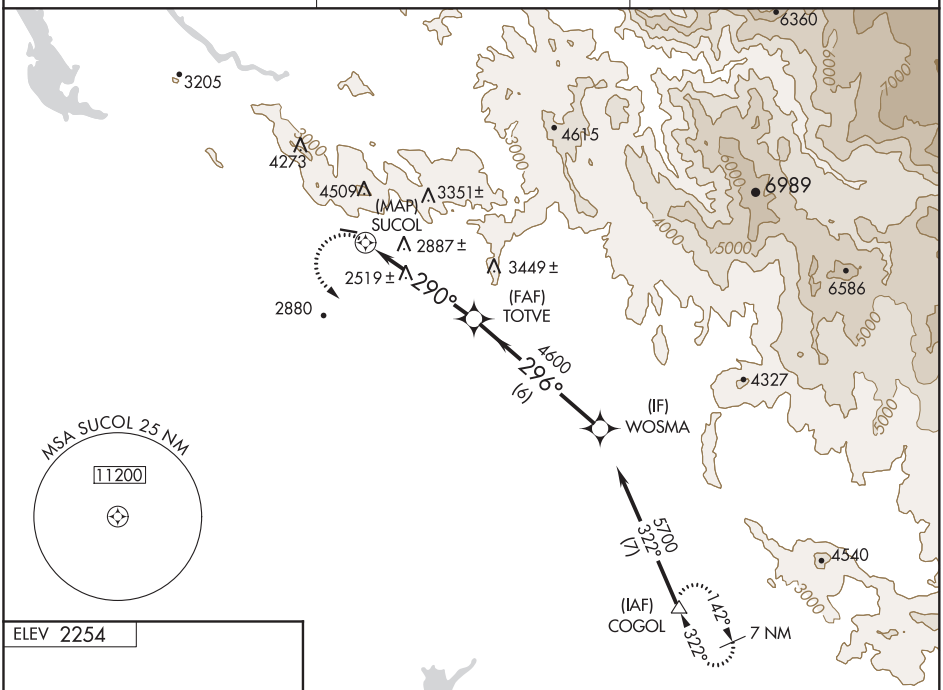
APP CRS	Rwy ldg	N/A
290°	TDZE	N/A
	Apt Elev	2254

NA

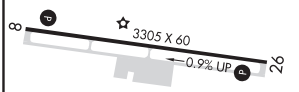
DME/DME RNP-0.3 NA.
Circling NA north of Rwy 8-26. Procedure NA at night. When local altimeter setting not received, use Atwater altimeter setting and increase all MDA 360 feet.

MISSED APPROACH: Climbing left turn to 7000 direct COGOL and hold.

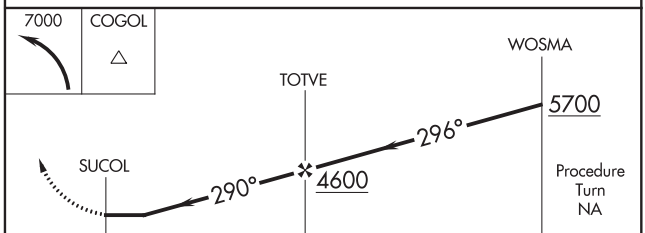
AWOS-3	OAKLAND CENTER	UNICOM
135.6	121.25 327.0	122.7 (CTAF) L



ELEV 2254



MIRL Rwy 8-26 L



CATEGORY	A	B	C	D
C CIRCLING	3900-1¼ 1646 (1700-1¼)	3900-1½ 1646 (1700-1½)	NA	

SW-2, 25 FEB 2021 to 22 APR 2021

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APP CRS	Rwy ldg	N/A
098°	TDZE	N/A
	Apt Elev	2254

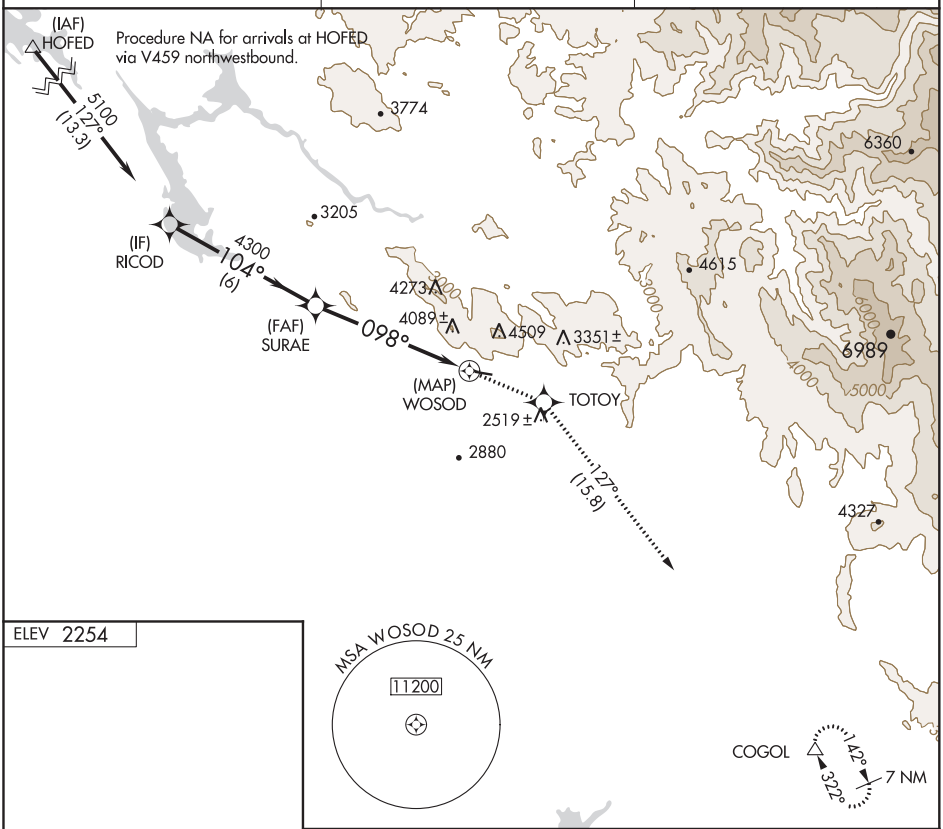
RNAV (GPS)-B
MARIPOSA-YOSEMITE (MPI)

T
A NA

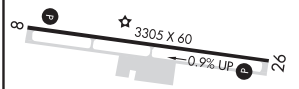
DME/DME RNP-0.3 NA.
Circling NA north of Rwy 8-26. Procedure NA at night.
When local altimeter setting not received, procedure NA.

MISSED APPROACH: Climb to 7000 direct TOTOY and via 127° track to COGOL and hold.

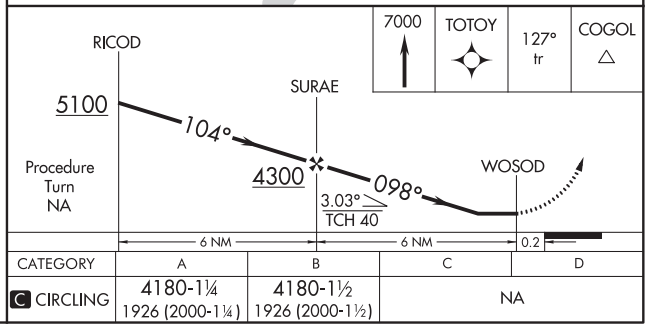
AWOS-3	OAKLAND CENTER	UNICOM
135.6	121.25 327.0	122.7 (CTAF) L



ELEV 2254



MIRL Rwy 8-26 L



CATEGORY	A	B	C	D
C CIRCLING	4180-1¼ 1926 (2000-1¼)	4180-1½ 1926 (2000-1½)	NA	

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

MARYSVILLE, CALIFORNIA | AL-664 (FAA) | 20310

ILS or LOC RWY 14
YUBA COUNTY (MYV)

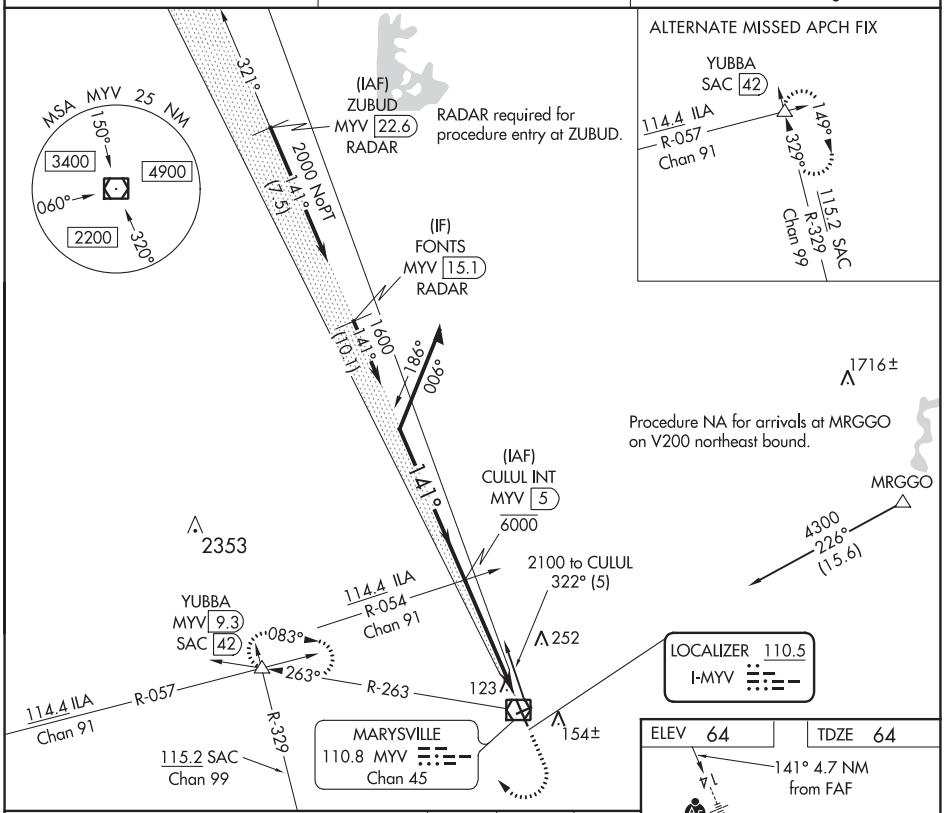
LOC I-MYV	APP CRS	Rwy ldg / TDZE / Apt Elev
110.5	141°	6007 / 64 / 64

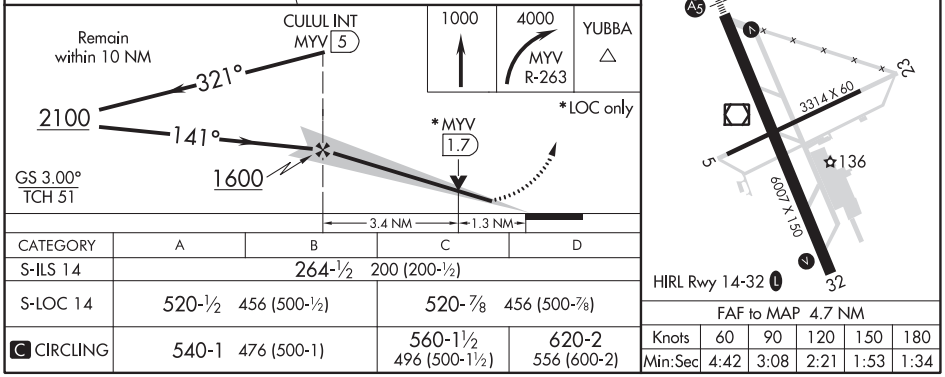
T NA — Circling Rwy 5, 23 NA at night. Autopilot coupled approach NA below 695.

MALSR A5

MISSED APPROACH: Climb to 1000 then climbing right turn to 4000 on MYV VOR/DME R-263 to YUBBA INT/ MYV 9.3 DME and hold, continue climb in hold to 4000.

ASOS	NORCAL APP CON	UNICOM
118.475	125.4 259.1	123.05 (CTAF) L





CATEGORY	A	B	C	D
S-ILS 14	264-½ 200 (200-½)			
S-LOC 14	520-½ 456 (500-½)		520-⅞ 456 (500-⅞)	
C CIRCLING	540-1 476 (500-1)		560-1½ 496 (500-1½)	620-2 556 (600-2)

FAF to MAP 4.7 NM

Knots	60	90	120	150	180
Min:Sec	4:42	3:08	2:21	1:53	1:34

SW-2, 25 FEB 2021 to 22 APR 2021

WAAS CH 42814 W14A	APP CRS 141°	Rwy ldg 6007 TDZE 64 Apt Elev 64

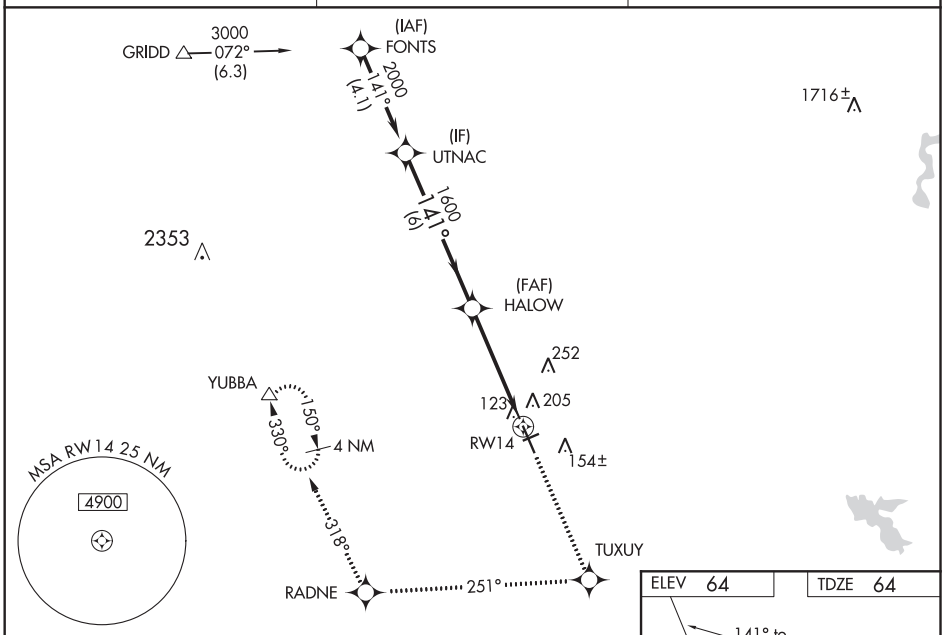
RNAV (GPS) RWY 14
YUBA COUNTY (MYV)

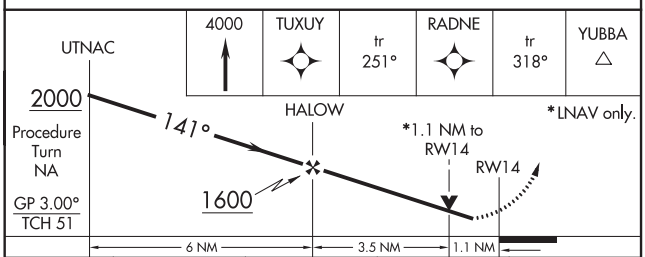
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Helicopter visibility reduction below ¾ SM NA. Baro-VNAV and VDP NA when using Lincoln altimeter setting. When local altimeter setting not received, use Lincoln altimeter setting and increase LPV DA to 308 feet, LNAV/VNAV DA to 514 feet and all MDA 60 feet; increase LNAV/VNAV all Cats visibility ⅛ mile, LNAV Cats C/D visibility ⅛ mile. Inop table does not apply to LPV all Cats. For inop MALSR increase LNAV Cats A/B visibility ¼ mile. Night landing: Rwy 5, 23 NA.

MALSR

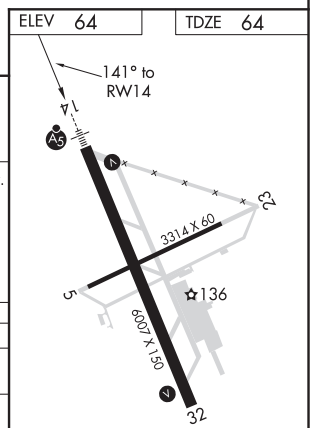
MISSED APPROACH: Climb to 4000 direct TUXUY and via track 251° to RADNE and via track 318° to YUBBA and hold.

ASOS	NORCAL APP CON	UNICOM
118.475	125.4 259.1	123.05 (CTAF) L





CATEGORY	A	B	C	D
LPV DA	264-¾ 200 (200-¾)			
LNAV/VNAV DA	470-⅞ 406 (500-⅞)			
LNAV MDA	500-¾ 436 (500-¾)			
CIRCLING	540-1 476 (500-1)		540-1½ 476 (500-1½)	620-2 556 (600-2)



HIRL Rwy 14-32 L

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

MARYSVILLE, CALIFORNIA | AL-664 (FAA) | 20310

RNAV (GPS) RWY 32

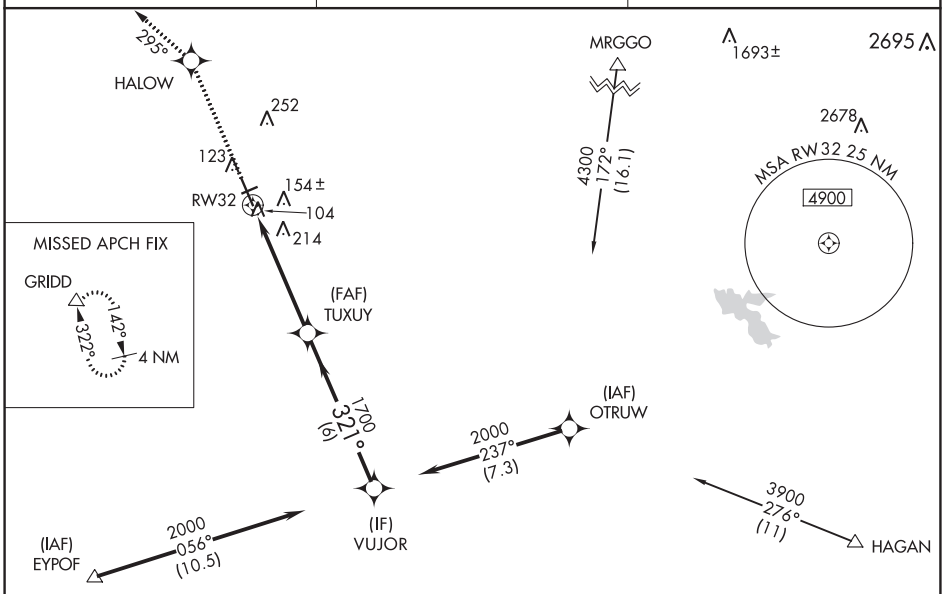
YUBA COUNTY (MYV)

WAAS CH 87014 W32A	APP CRS 321°	Rwy ldg 6007 TDZE 63 Apt Elev 64

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. When local altimeter setting not received, use Lincoln altimeter setting and increase LPV DA to 357 feet, LNAV/VNAV DA to 418 feet and all MDA 60 feet; increase LPV and LNAV/VNAV all Cats visibility ⅛ mile, LNAV Cats C/D visibility ¼ mile. Night landing: Rwy 5, 23 NA. Baro-VNAV and VDP NA when using Lincoln altimeter setting.

MISSED APPROACH: Climb to 4000 direct HALOW and via track 295° to GRIDD and hold.

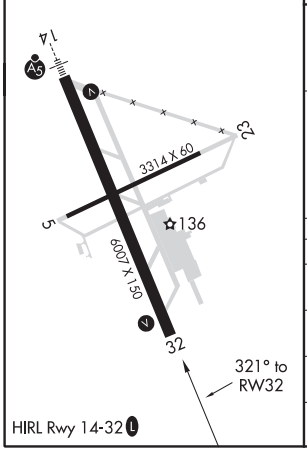
ASOS	NORCAL APP CON	UNICOM
118.475	125.4 259.1	123.05 (CTAF) L

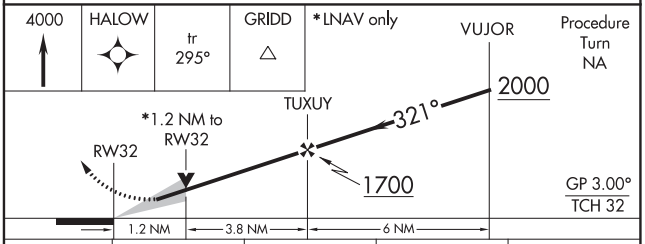


SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

ELEV 64	TDZE 63





CATEGORY	A	B	C	D
LPV DA	313-⅞ 250 (300-⅞)			
LNAV/VNAV DA	374-1⅛ 311 (400-1⅛)			
LNAV MDA	480-1 417 (500-1)		480-1⅛ 417 (500-1⅛)	
CIRCLING	540-1 476 (500-1)		540-1½ 476 (500-1½)	620-2 556 (600-2)

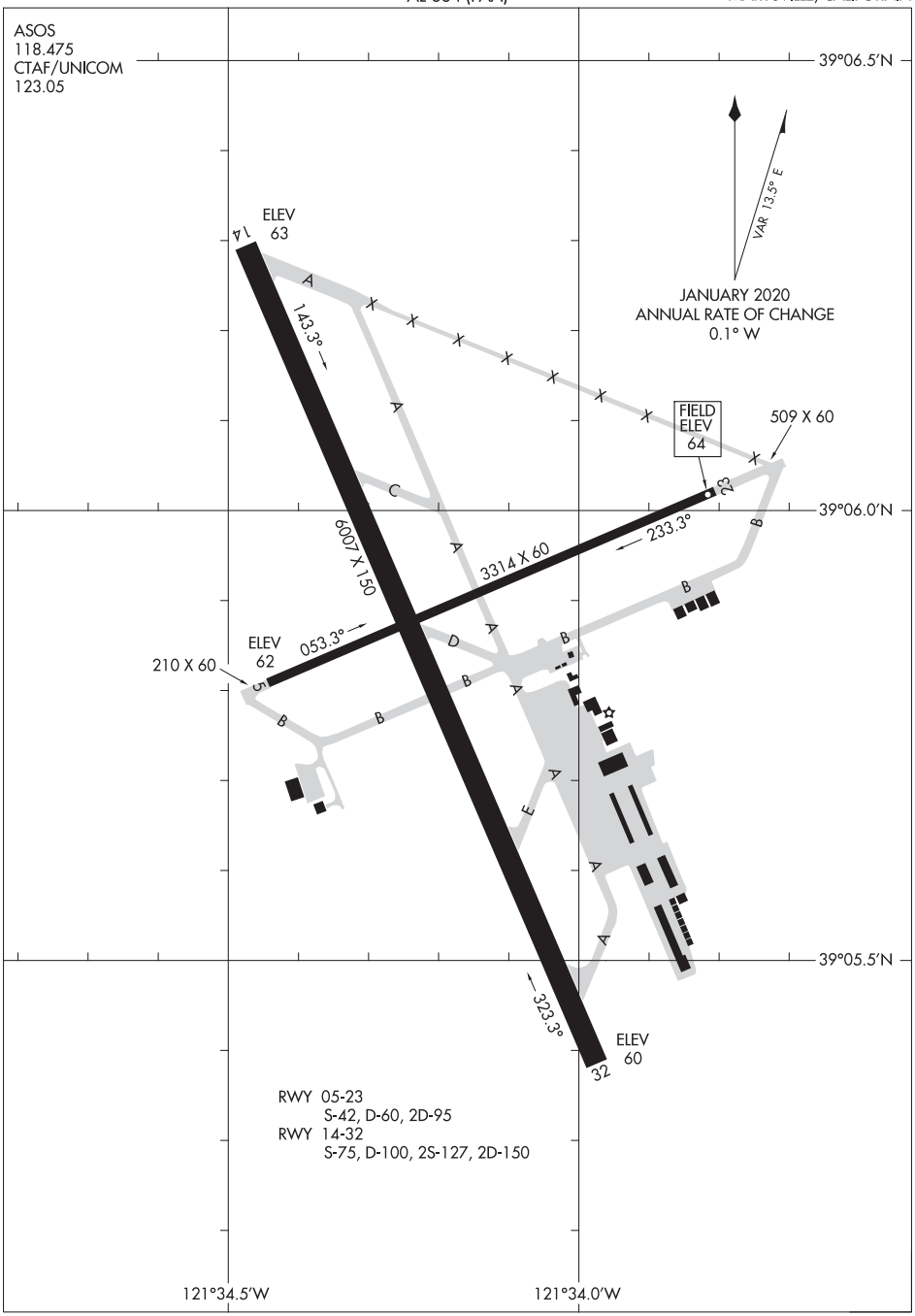
MARYSVILLE, CALIFORNIA

Orig-D 12NOV15

39°06'N-121°34'W

YUBA COUNTY (MYV)

RNAV (GPS) RWY 32



SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

MERCED, CALIFORNIA AL-665 (FAA) 20030

LOC/DME I-MCE	APP CRS	Rwy ldg	5914
109.3	304°	TDZE	155
Chan 30		Apt Elev	155

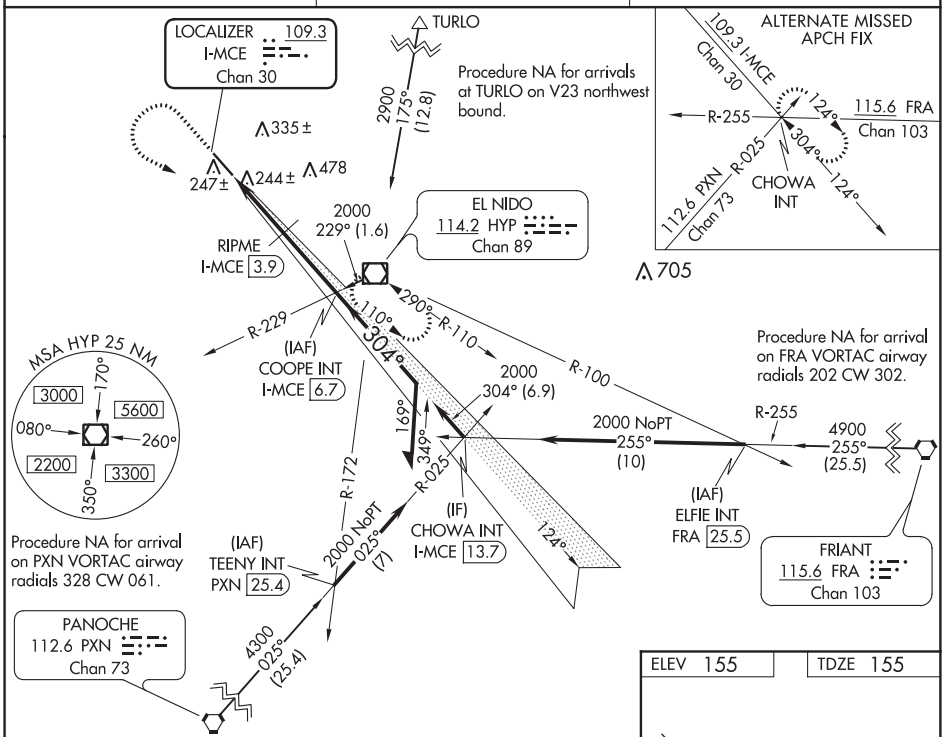
ILS or LOC RWY 30
MERCED RGNL/MACREADY FIELD (MCE)

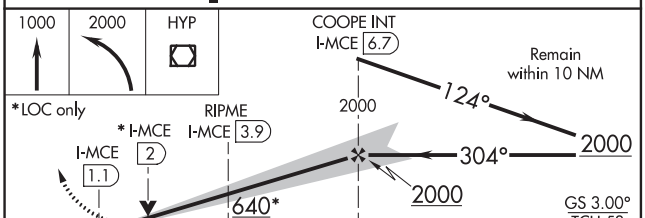
NA For inop ALS, increase S-LOC visibility to 1 SM.

MALSR

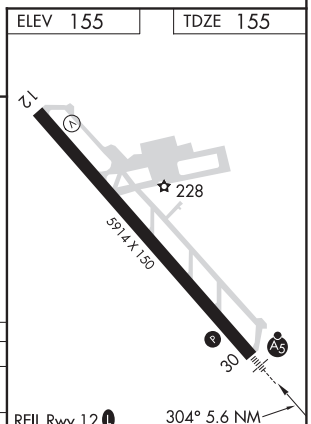
MISSED APPROACH: Climb to 1000 then climbing left turn to 2000 direct HYP VOR/DME and hold.

ASOS	NORCAL APP CON	UNICOM
132.175	120.95 269.45	122.7 (CTAF) L





CATEGORY	A	B	C	D
S-ILS 30	355-½ 200 (200-½)			
S-LOC 30	640-¾ 485 (500-¾)		640-1 485 (500-1)	
RIPME FIX MINIMUMS				
S-LOC 30	500-¾ 345 (400-¾)			



FAF to MAP 5.6 NM					
Knots	60	90	120	150	180
Min:Sec	5:36	3:44	2:48	2:14	1:52

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

WAAS CH 93923 W12A	APP CRS 123°	Rwy ldg 5914 TDZE 155 Apt Elev 155

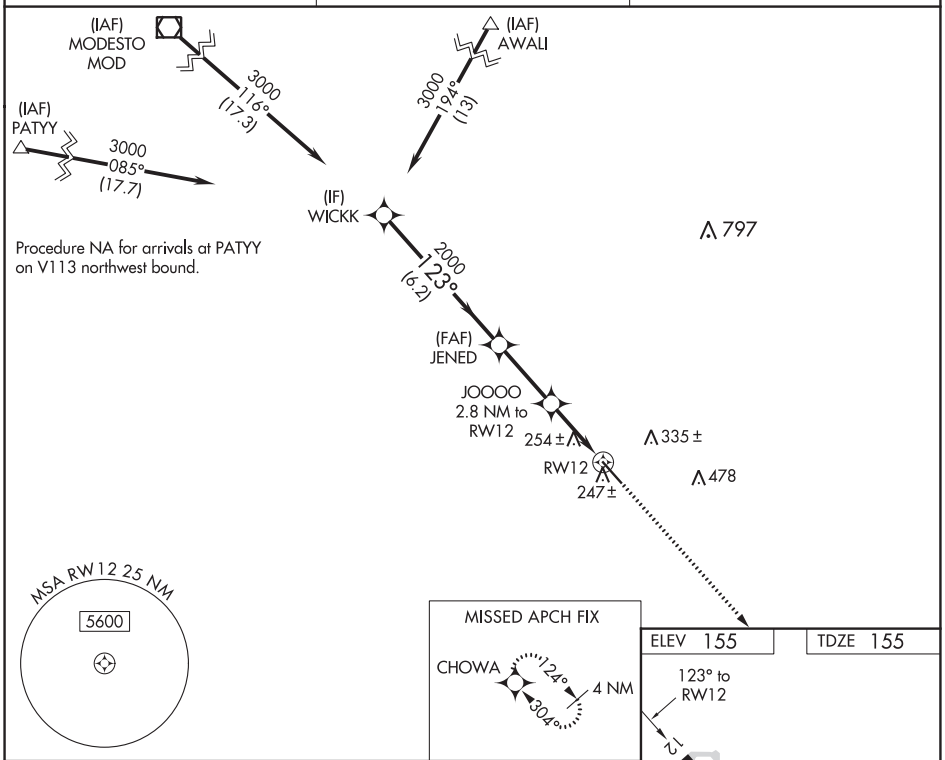
RNAV (GPS) RWY 12
MERCED RGNL/MACREADY FIELD (MCE)

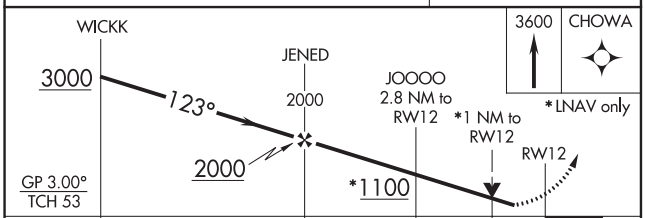
RNP APCH.

Rwy 12 helicopter visibility reduction below ¾ SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -3°C or above 54°C.

MISSED APPROACH: Climb to 3600 direct CHOWA and hold.

ASOS	NORCAL APP CON	UNICOM
132.175	120.95 269.45	122.7 (CTAF) L





CATEGORY	A	B	C	D
LPV DA	405-¾ 250 (300-¾)			
LNAV/VNAV DA	434-⅞ 279 (300-⅞)			
LNAV MDA	520-1 365 (400-1)			

REIL Rwy 12 L
HIRL Rwy 12-30 L

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MERCED, CALIFORNIA | AL-665 (FAA) | 19227

WAAS CH 93709 W30A	APP CRS 304°	Rwy ldg 5914 TDZE 155 Apt Elev 155

RNAV (GPS) RWY 30
MERCED RGNL/MACREADY FIELD (MCE)

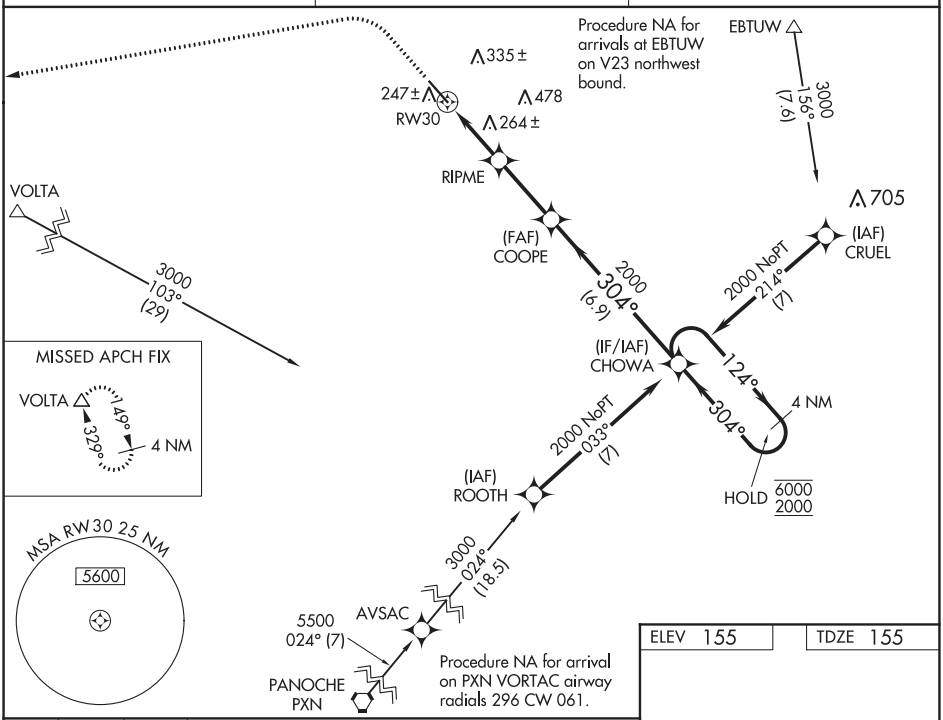
RNP APCH.

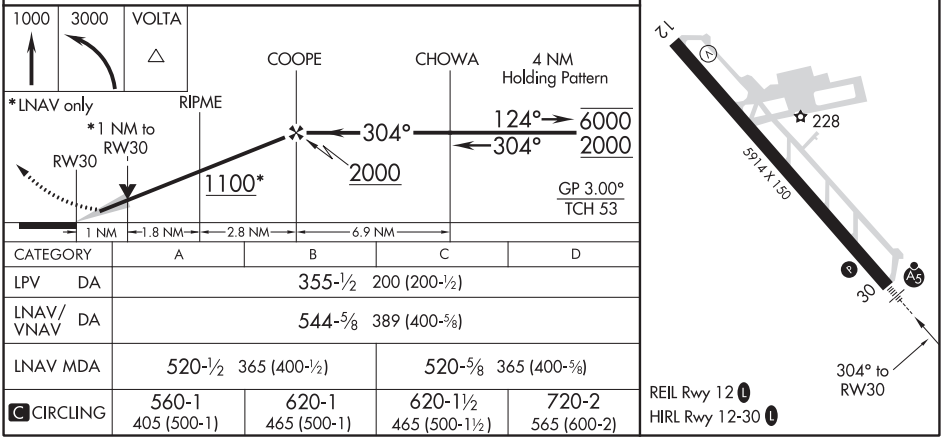
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -3°C or above 54°C. For inoperative ALS, increase LNAV Cats C/D visibility to 1⅜ SM. Circling NA northeast of Rwy 12-30.

MALSR

MISSED APPROACH: Climb to 1000 then climbing left turn to 3000 direct VOLTA and hold.

ASOS	NORCAL APP CON	UNICOM
132.175	120.95 269.45	122.7 (CTAF) L





CATEGORY	A	B	C	D
LPV DA	355-½ 200 (200-½)			
LNAV/VNAV DA	544-⅝ 389 (400-⅝)			
LNAV MDA	520-½ 365 (400-½)		520-⅝ 365 (400-⅝)	
C CIRCLING	560-1 405 (500-1)	620-1 465 (500-1)	620-1½ 465 (500-1½)	720-2 565 (600-2)

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

LOC/DME I-MCE 109.3 Chan 30	APP CRS 123°	Rwy ldg 5914 TDZE 155 Apt Elev 155

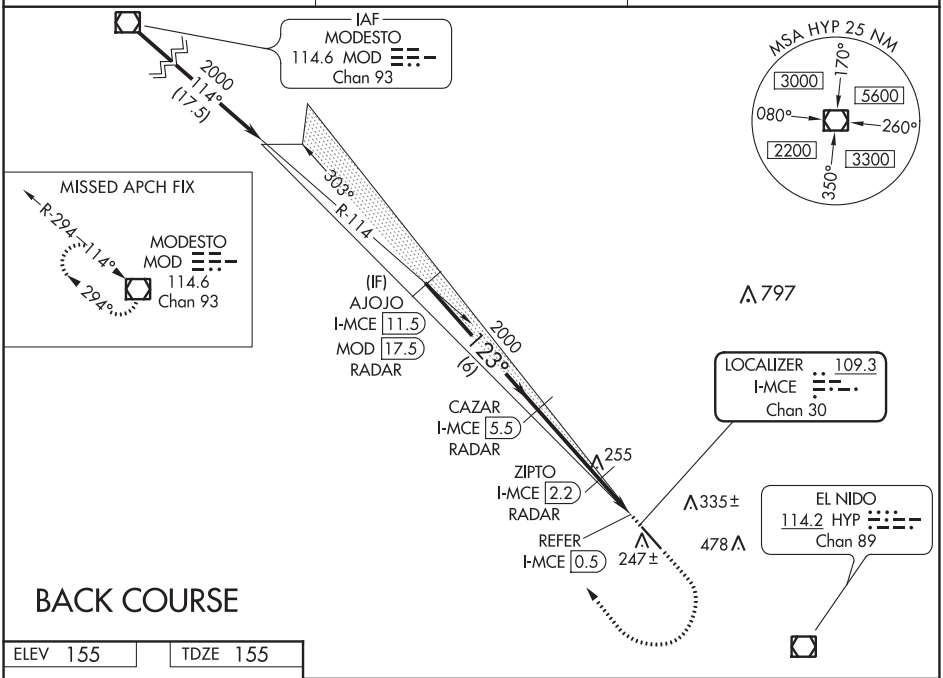
LOC BC RWY 12
MERCED RGNL/MACREADY FIELD (MCE)

DME or RADAR required.

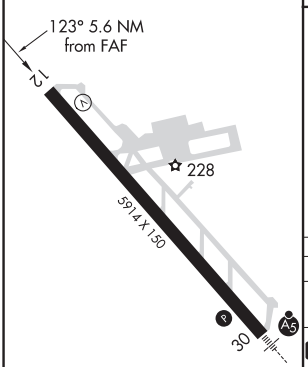
Rwy 12 helicopter visibility reduction below ¾ SM NA. Circling NA northeast of Rwy 12-30.

MISSED APPROACH: Climb to 1000 then climbing right turn to 3000 direct MOD VOR/DME and hold.

ASOS	NORCAL APP CON	UNICOM
132.175	120.95 269.45	122.7 (CTAF) L

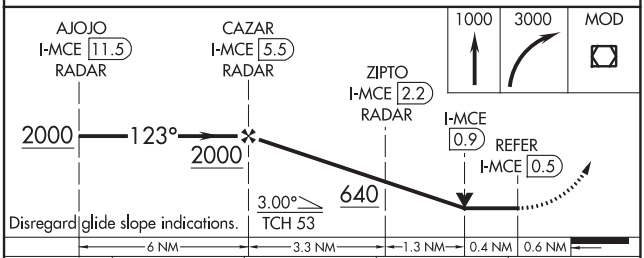


ELEV 155	TDZE 155



REIL Rwy 12 L
HIRL Rwy 12-30 L

FAF to MAP 5 NM					
Knots	60	90	120	150	180
Min:Sec	5:00	3:20	2:30	2:00	1:40



CATEGORY	A	B	C	D
S-12	640-1 485 (500-1)		640-1⅜ 485 (500-1⅜)	
C CIRCLING	640-1 485 (500-1)		640-1½ 485 (500-1½)	720-2 565 (600-2)
ZIPTO FIX MINIMUMS				
S-12	520-1 365 (400-1)	NA		
C CIRCLING	560-1 405 (500-1)	620-1 465 (500-1)	620-1½ 465 (500-1½)	720-2 565 (600-2)

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

LOC I-MOD	APP CRS	Rwy ldg	5904
111.9	288°	TDZE	91
		Apt Elev	99

ILS or LOC RWY 28R
MODESTO CITY-COUNTY-HARRY SHAM FIELD (MOD)

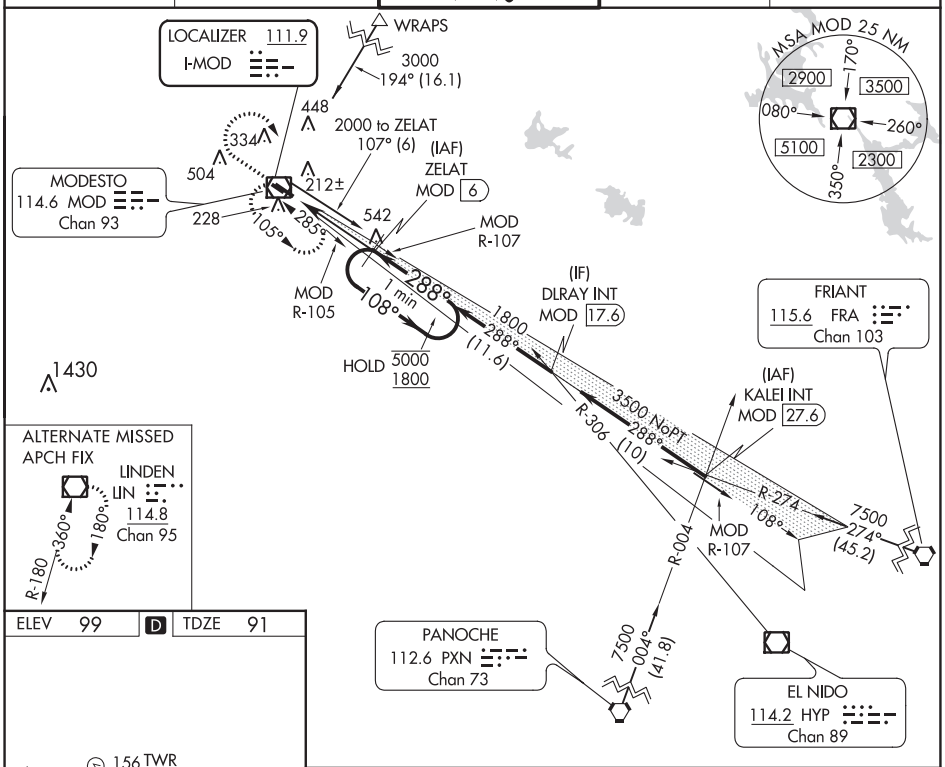
DME required for LOC only.

T A Autopilot coupled approach NA below 1080. DME from MOD VOR/DME. Simultaneous reception of I-MOD and MOD DME required. For inop ALS, increase S-LOC 28R Cat C/D visibility to 1⅜ SM.

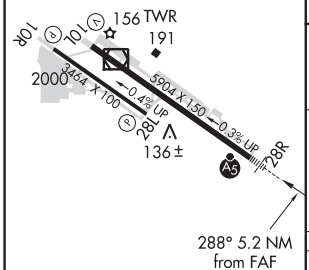
MALSR A5

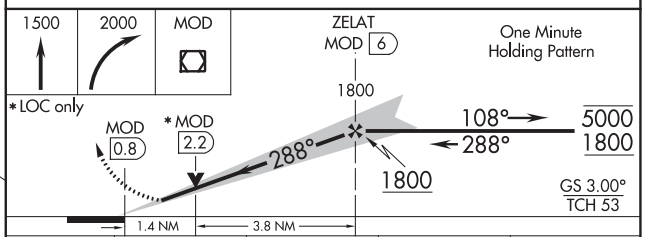
MISSED APPROACH: Climb to 1500 then climbing right turn to 2000 direct MOD VOR/DME and hold.

ATIS	NORCAL APP CON	MODESTO TOWER ★	GND CON	UNICOM
127.7	120.95 269.45	125.3 (CTAF) L 257.8	121.7	122.95



ELEV 99 D TDZE 91





CATEGORY	A	B	C	D
S-ILS 28R	291-½ 200 (200-½)			
S-LOC 28R	580-½ 489 (500-½)		580-1 489 (500-1)	
C CIRCLING	580-1 481 (500-1)	600-1 501 (600-1)	700-1¾ 601 (700-1¾)	820-2¼ 721 (800-2¼)

REIL Rwy 10L L
MIRL Rwy 10R-28L
HIRL Rwy 10L-28R L

SW-2, 25 FEB 2021 to 22 APR 2021

WAAS CH 70609 W28A	APP CRS 288°	Rwy ldg 5904 TDZE 91 Apt Elev 99

RNAV (GPS) RWY 28R
MODESTO CITY-COUNTY-HARRY SHAM FIELD (MOD)

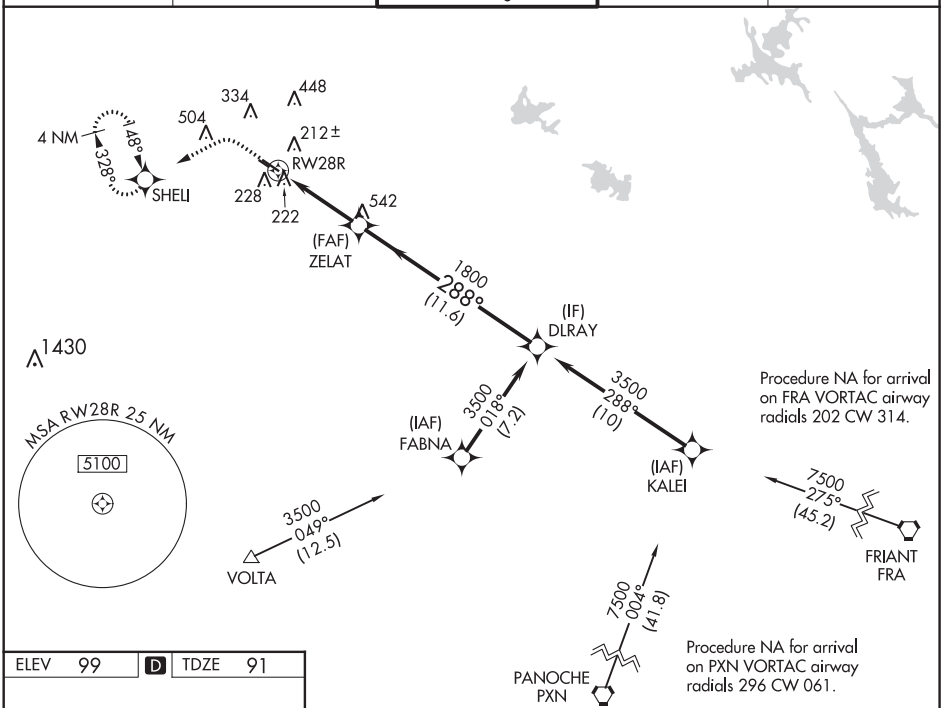
RNP APCH.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1°C or above 54°C. For inoperative ALS, increase LNAV/VNAV all Cats visibility to ⅞ SM.

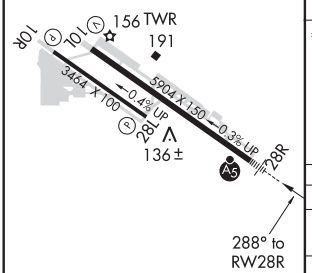
MALSR

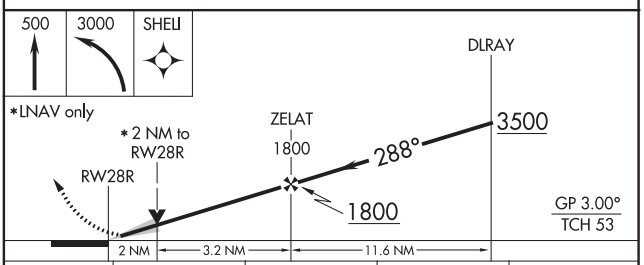
MISSED APPROACH: Climb to 500 then climbing left turn to 3000 direct SHELI and hold, continue climb-in-hold to 3000.

ATIS	NORCAL APP CON	MODESTO TOWER*	GND CON	UNICOM
127.7	120.95 269.45	125.3 (CTAF) L 257.8	121.7	122.95



ELEV 99 D TDZE 91





CATEGORY	A	B	C	D
LPV DA	291-½ 200 (200-½)			
LNAV/VNAV DA	393-½ 302 (300-½)			
LNAV MDA	480-½ 389 (400-½)		480-⅝ 389 (400-⅝)	
C CIRCLING	540-1 441 (500-1)	600-1 501 (600-1)	700-1¾ 601 (700-1¾)	820-2¼ 721 (800-2¼)

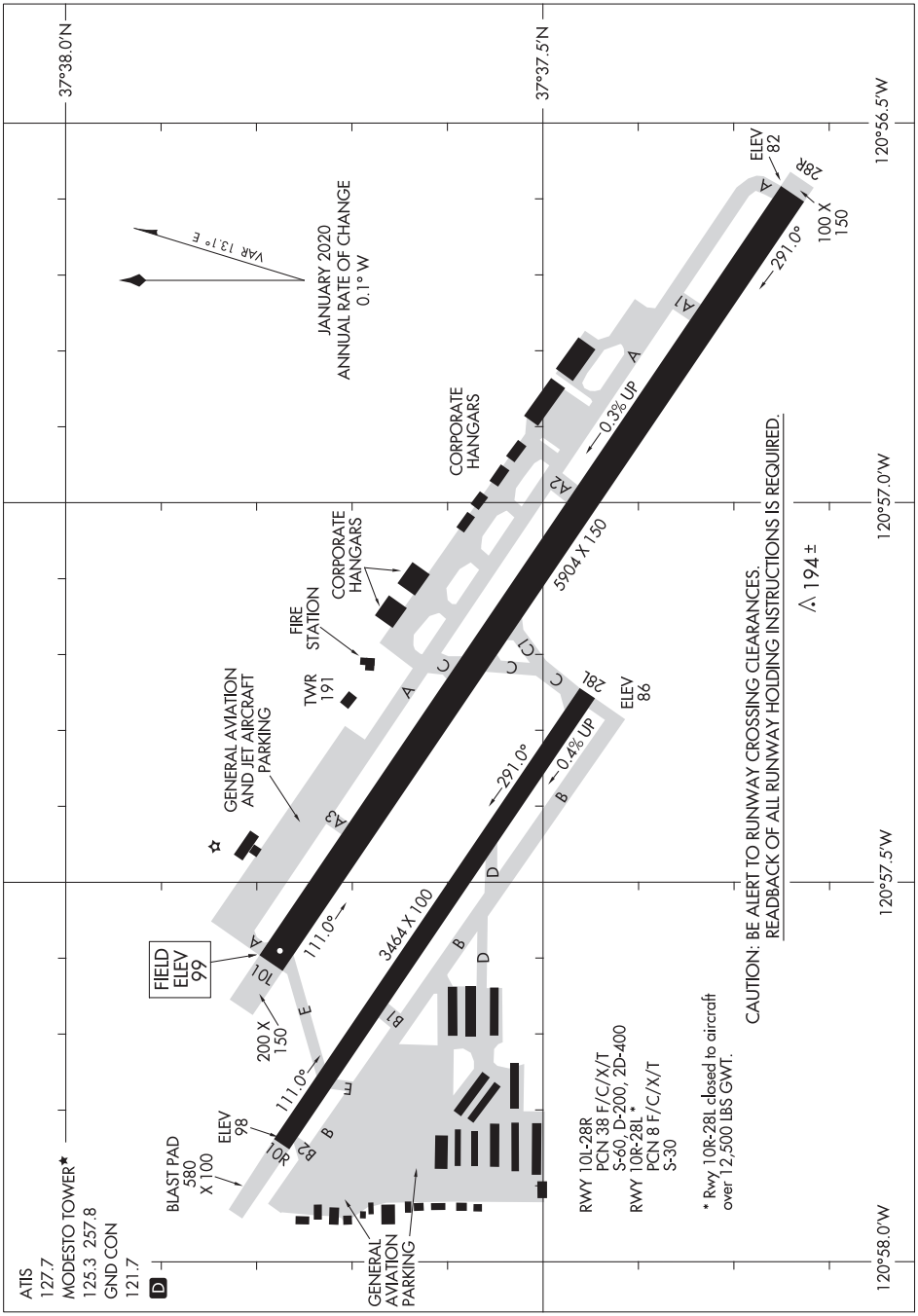
REIL Rwy 10L L
MIRL Rwy 10R-28L
HIRL Rwy 10L-28R L

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

20366

AIRPORT DIAGRAM

MODESTO CITY-COUNTY-HARRY SHAM FLD (MOD)
AL-643 (FAA)
MODESTO, CALIFORNIA



SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

AIRPORT DIAGRAM
20366
MODESTO, CALIFORNIA
MODESTO CITY-COUNTY-HARRY SHAM FLD (MOD)

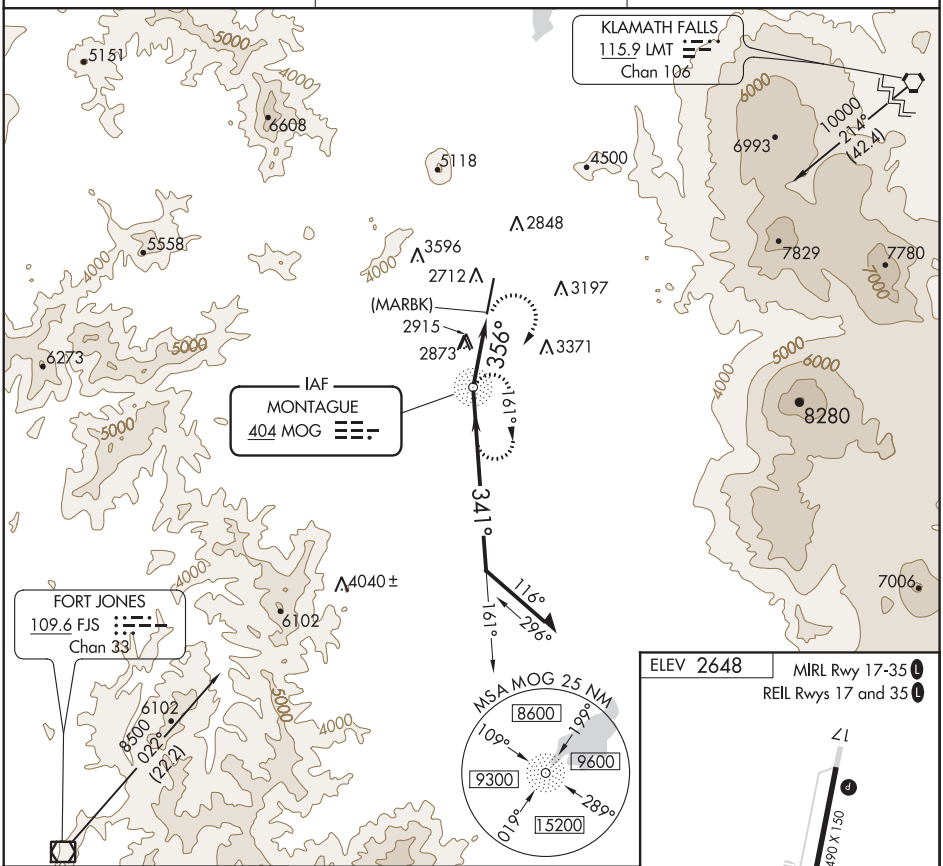
NDB MOG	APP CRS	Rwy ldg	N/A
404	356°	TDZE	N/A
		Apt Elev	2648

NDB or GPS-A
SISKIYOU COUNTY (SIY)

Use Siskiyou County altimeter setting; when not available, use Montague-Yreka Rohrer Field altimeter setting; when neither received, procedure not authorized.

MISSED APPROACH: Climbing right turn to 6800 direct MOG NDB and hold.

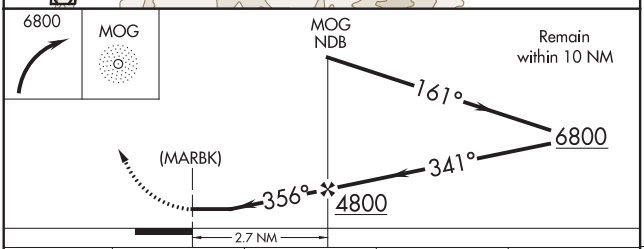
ASOS	SEATTLE CENTER	UNICOM
121.125	124.85 306.3	123.0 (CTAF) L

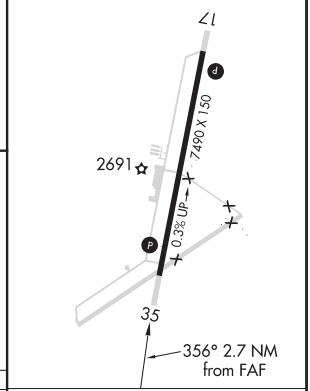


ELEV 2648

MIRL Rwy 17-35 L

REIL Rwys 17 and 35 L





CATEGORY	A	B	C	D
CIRCLING	3760-1¼ 1112 (1200-1¼)	3760-1½ 1112 (1200-1½)	3760-3 1112 (1200-3)	

FAF to MAP 2.7 NM					
Knots	60	90	120	150	180
Min:Sec	2:42	1:48	1:21	1:05	0:54

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SW-2, 25 FEB 2021 to 22 APR 2021

LOC/DME I-MRY	APP CRS	Rwy ldg	7000
110.7	098°	TDZE	198
Chan 44		Apt Elev	257

ILS or LOC RWY 10R
MONTEREY RGNL (MRY)

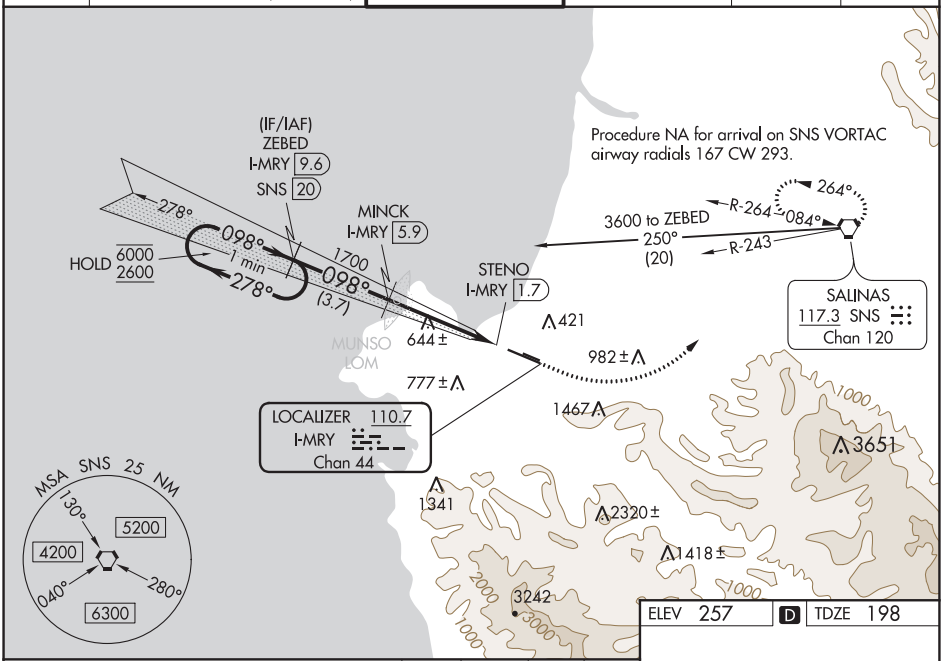
DME required.

Circling NA south of Rwy 10R-28L.
For inop ALS, increase S-ILS 10R all Cats visibility to RVR 6000, and increase S-LOC 10R Cat C and D visibility to 2 SM.

MALSR

MISSED APPROACH: Climb to 600 then climbing left turn to 5000 on heading 030° and on SNS VORTAC R-243 to SNS VORTAC and hold, continue climb-in-hold to 5000.
Missed approach requires minimum climb of 265 feet per NM to 1360.

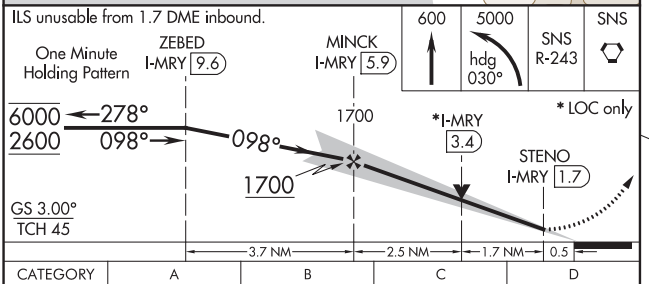
ATIS	NORCAL APP CON	MONTEREY TOWER ★	GND CON	CLNC DEL	UNICOM
119.25	133.0 251.15 (360°-150°) 127.15 307.125 (151°-359°)	118.4 (CTAF) L 257.8	120.875 348.6	135.45	122.95

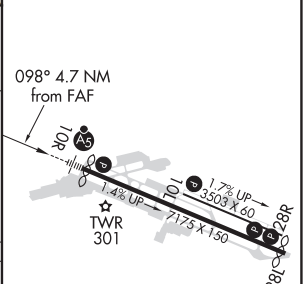


ELEV 257 D TDZE 198

ILS unusable from 1.7 DME inbound.

600	5000	SNS R-243	SNS
↑	hdg 030°		⬡





CATEGORY	A	B	C	D
S-ILS 10R #	398/24 200 (200-½)			
S-ILS 10R	583/35 385 (400-⅝)			
S-LOC 10R	920/24 722 (700-½)		920-1⅝ 722 (700-1⅝)	
C CIRCLING	920-1 663 (700-1)		1280-3 1023 (1100-3)	NA

MIRL Rwy 10L-28R
HIRL Rwy 10R-28L L
REIL Rwy 28L L
REIL Rwys 10L and 28R

SW-2, 25 FEB 2021 to 22 APR 2021

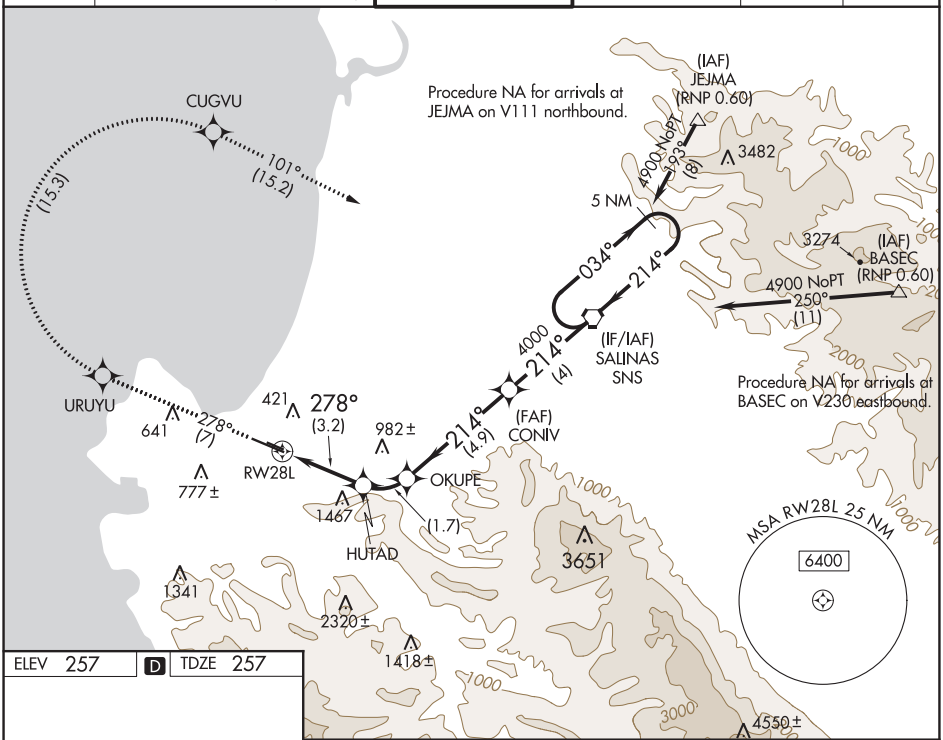
APP CRS	Rwy ldg	7000
278°	TDZE	257
	Apt Elev	257

RNAV (RNP) Z RWY 28L
MONTEREY RGNL (MRY)

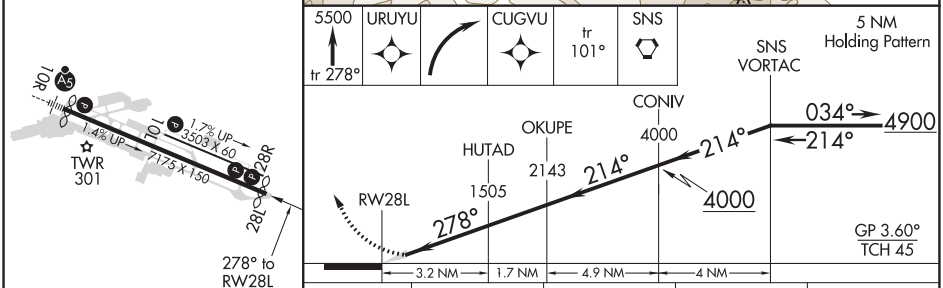
For uncompensated Baro-VNAV systems, procedure NA below 0°C (32°F) or above 48°C (120°F). RF required. GPS required.

MISSED APPROACH: Climb to 5500 on track 278° to URUYU, right turn to CUGVU, and on track 101° to SNS VORTAC and hold.

ATIS	NORCAL APP CON	MONTEREY TOWER*	GND CON	CLNC DEL	UNICOM
119.25	133.0 251.15 (360°-150°) 127.15 307.125 (151°-359°)	118.4 (CTAF) L 257.8	120.875 348.6	135.45	122.95



ELEV 257 D TDZE 257



MIRL Rwy 10L-28R
HIRL Rwy 10R-28L L
REIL Rwy 28L L
REIL Rwys 10L and 28R

CATEGORY	A	B	C	D
RNP 0.10 DA	527/45	270 (300-⅞)		NA
RNP 0.15 DA	767- 1½	510 (600-1½)		NA
RNP 0.20 DA	1236-3	979 (1000-3)		NA

AUTHORIZATION REQUIRED

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

WAAS CH 69602 W10A	APP CRS 098°	Rwy ldg 7000 TDZE 198 Apt Elev 257

RNAV (GPS) RWY 10R
MONTEREY RGNL (MRY)

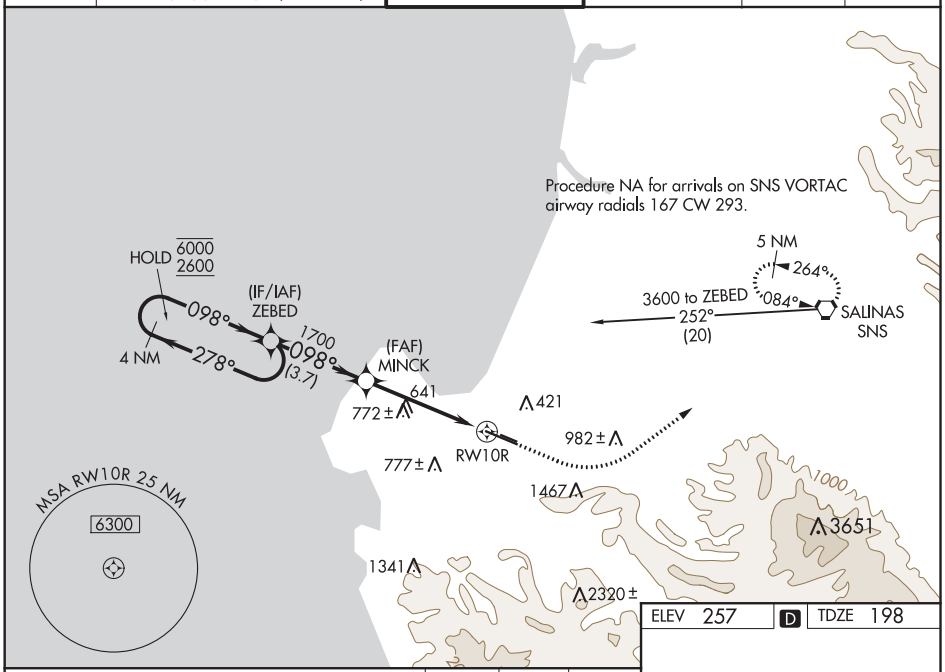
RNP APCH.

Circling NA south of Rwys 10R and 28L. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C or above 54°C. For inop ALS, increase LPV visibility all Cats to 1⅞ SM, LNAV/VNAV visibility all Cats and LNAV Cat C/D to 2½ SM.

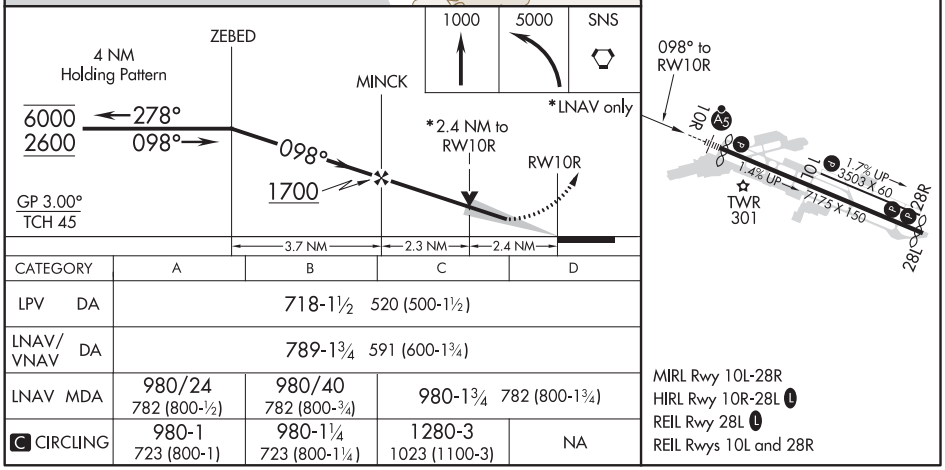
MALSR

MISSED APPROACH: Climb to 1000 then climbing left turn to 5000 direct SNS VORTAC and hold, continue climb-in-hold to 5000.

ATIS	NORCAL APP CON	MONTEREY TOWER ★	GND CON	CLNC DEL	UNICOM
119.25	133.0 251.15 (360°-150°) 127.15 307.125 (151°-359°)	118.4 (CTAF) L 257.8	120.875 348.6	135.45	122.95



ELEV 257 D TDZE 198



CATEGORY	A	B	C	D
LPV DA	718-1½ 520 (500-1½)			
LNAV/VNAV DA	789-1¾ 591 (600-1¾)			
LNAV MDA	980/24 782 (800-½)	980/40 782 (800-¾)	980-1¾ 782 (800-1¾)	
C CIRCLING	980-1 723 (800-1)	980-1¼ 723 (800-1¼)	1280-3 1023 (1100-3)	NA

SW-2, 25 FEB 2021 to 22 APR 2021

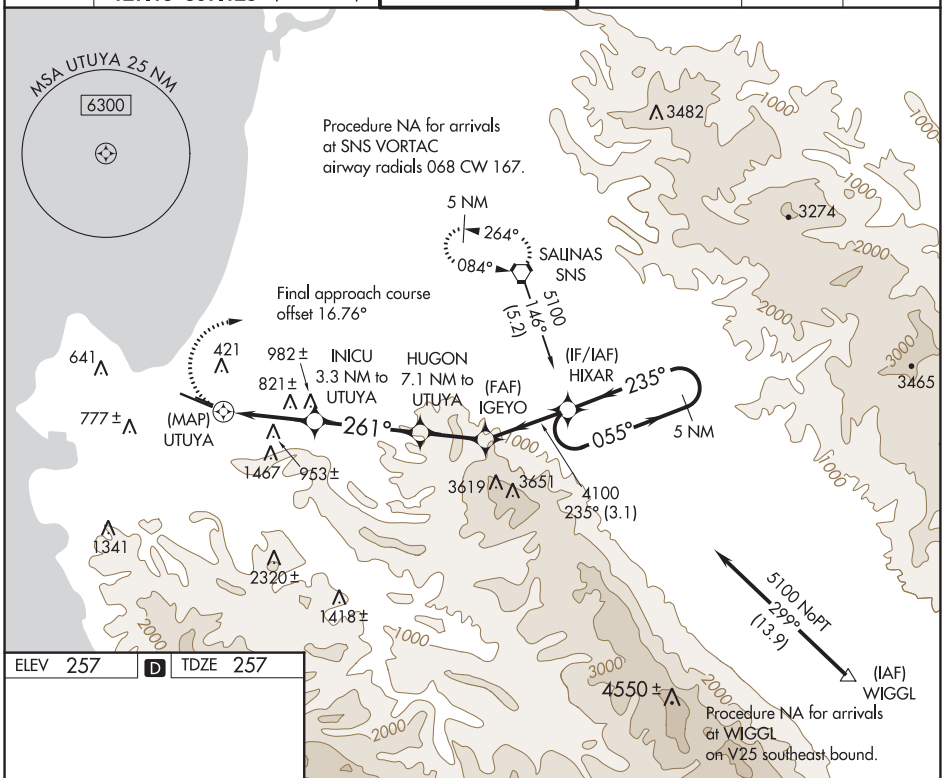
WAAS CH 61237 W28A	APP CRS 261°	Rwy ldg 7000 TDZE 257 Apt Elev 257

RNAV (GPS) Y RWY 28L
MONTEREY RGNL (MRY)

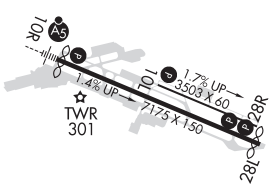
Circling NA South of Rwy 28L-10R. DME/DME RNP-0.3 NA.
Helicopter visibility reduction below RVR 4000 NA.

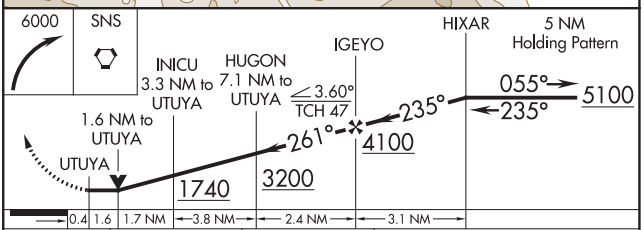
MISSED APPROACH: Climbing right turn to 6000 direct SNS VORTAC and hold, continue climb-in-hold to 6000.

ATIS	NORCAL APP CON	MONTEREY TOWER ★	GND CON	CLNC DEL	UNICOM
119.25	133.0 251.15 (360°-150°) 127.15 307.125 (151°-359°)	118.4 (CTAF) L 257.8	120.875 348.6	135.45	122.95



ELEV 257 | D | TDZE 257





CATEGORY	A	B	C	D
LP MDA	1080/55 823 (900-1)	1080/60 823 (900-1¼)	1080-2½ 823 (900-2½)	NA
LNAV MDA	1120/55 863 (900-1)	1120/60 863 (900-1¼)	1120-2½ 863 (900-2½)	NA
C CIRCLING	1120-1¼ 863 (900-1¼)		1260-3 1003 (1100-3)	NA

MIRL Rwy 10L-28R
HIRL Rwy 10R-28L L
REIL Rwy 28L L
REIL Rwys 10L and 28R

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

LOC/DME I-MTB	APP CRS	Rwy ldg	7000
110.7	278°	TDZE	257
Chan 44		Apt Elev	257

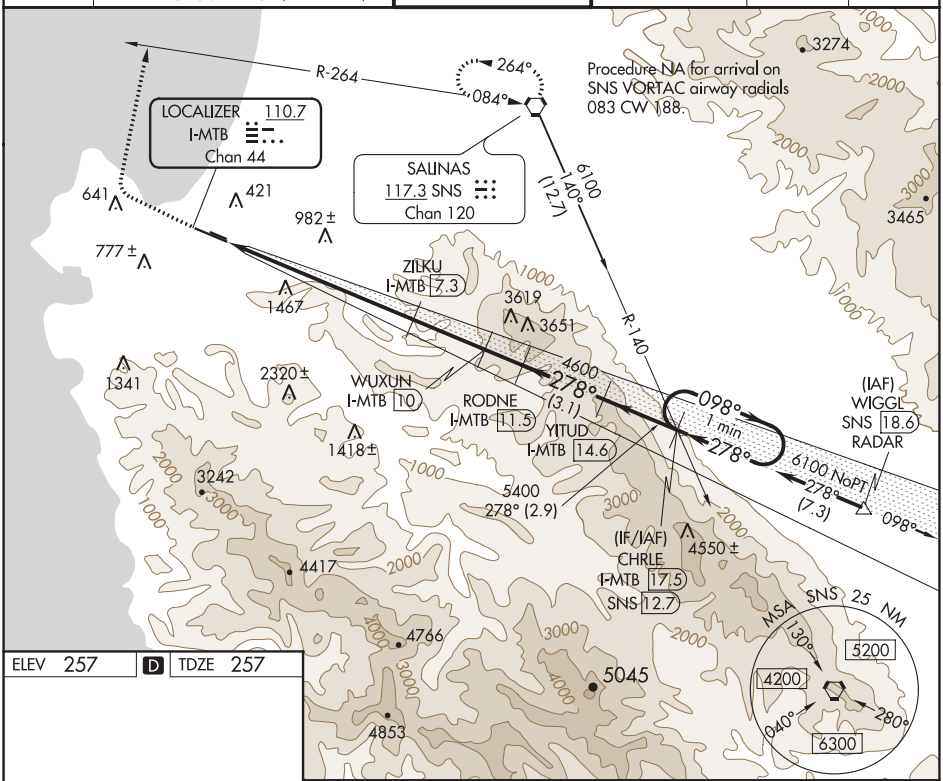
LOC RWY 28L
MONTEREY RGNL (MRY)

DME required. DME or RADAR required for procedure entry.

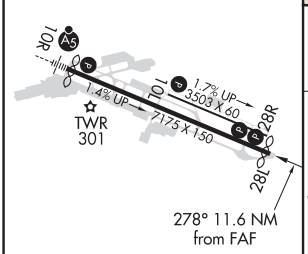
Circling NA south of Rwy 10R-28L. Rwy 28L helicopter visibility reduction below ¾ SM NA.

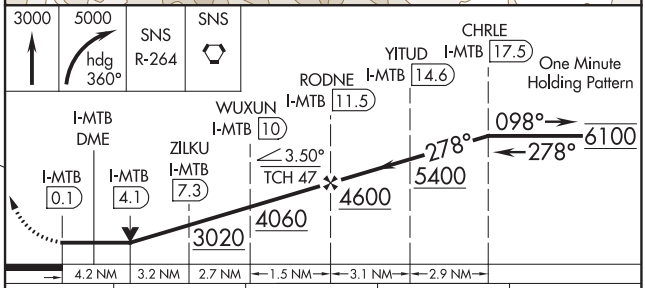
MISSED APPROACH: Climb to 3000 then climbing right turn to 5000 on heading 360° and SNS VORTAC R-264 to SNS VORTAC and hold.

ATIS	NORCAL APP CON	MONTEREY TOWER★	GND CON	CLNC DEL	UNICOM
119.25	133.0 251.15 (360°-150°) 127.15 307.125 (151°-359°)	118.4 (CTAF) L 257.8	120.875 348.6	135.45	122.95



ELEV 257 | D | TDZE 257





CATEGORY	A	B	C	D
S-LOC 28L	1860-1¼ 1603 (1700-1¼)	1860-1½ 1603 (1700-1½)	1860-3	1603 (1700-3)
C CIRCLING	1860-1¼ 1603 (1700-1¼)	1860-1½ 1603 (1700-1½)	1860-3	1603 (1700-3)

MIRL Rwy 10L-28R
HIRL Rwy 10R-28L L
REIL Rwy 28L L
REIL Rwys 10L and 28R

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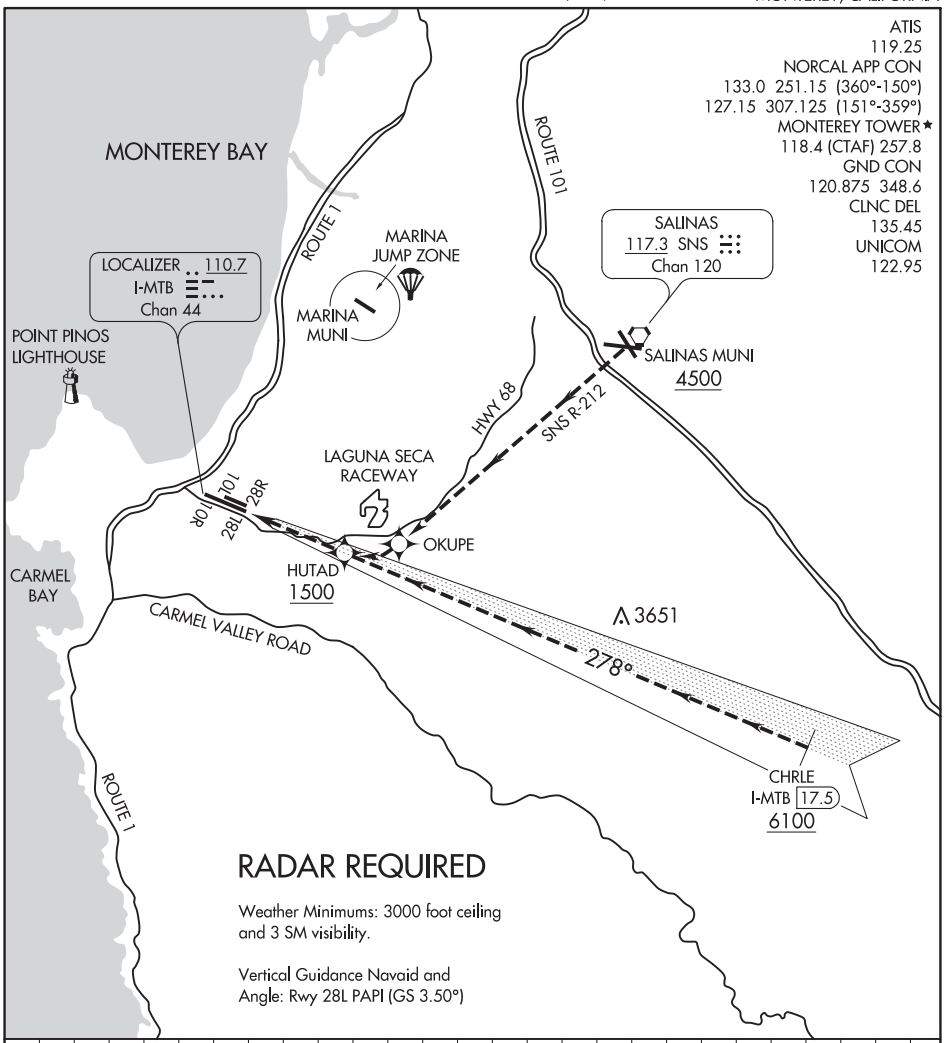
SW-2, 25 FEB 2021 to 22 APR 2021

RACEWAY VISUAL RWY 28L

AL-271 (FAA)

MONTEREY RGNL (MRY)
MONTEREY, CALIFORNIA



RACEWAY VISUAL APPROACH RWY 28L

PROCEDURE NOT AUTHORIZED AT NIGHT.

From the east, proceed to Salinas Municipal Airport, then proceed southwest, remaining east of State Highway 68 until abeam Laguna Seca Raceway.
From the southeast, proceed from CHRLE on 278° course to HUTAD (1 mile south of Laguna Seca Raceway).

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RACEWAY VISUAL RWY 28L
MONTEREY, CALIFORNIA
MONTEREY RGNL (MRY)

Amdt 1 31DEC20

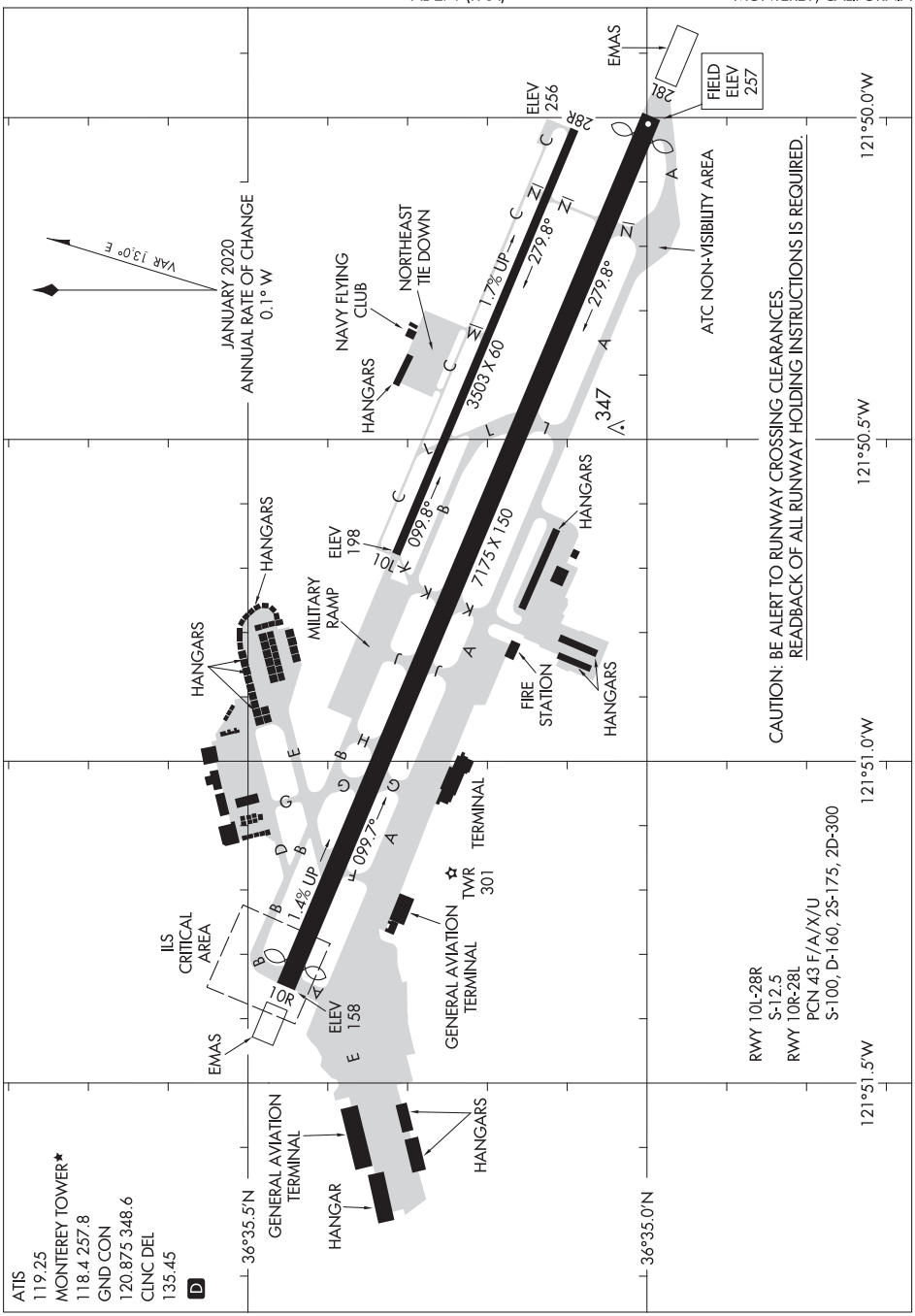
36°35′N-121°51′W

20254

AIRPORT DIAGRAM

AL-271 (FAA)

MONTEREY RGNL (MRY)
MONTEREY, CALIFORNIA



SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

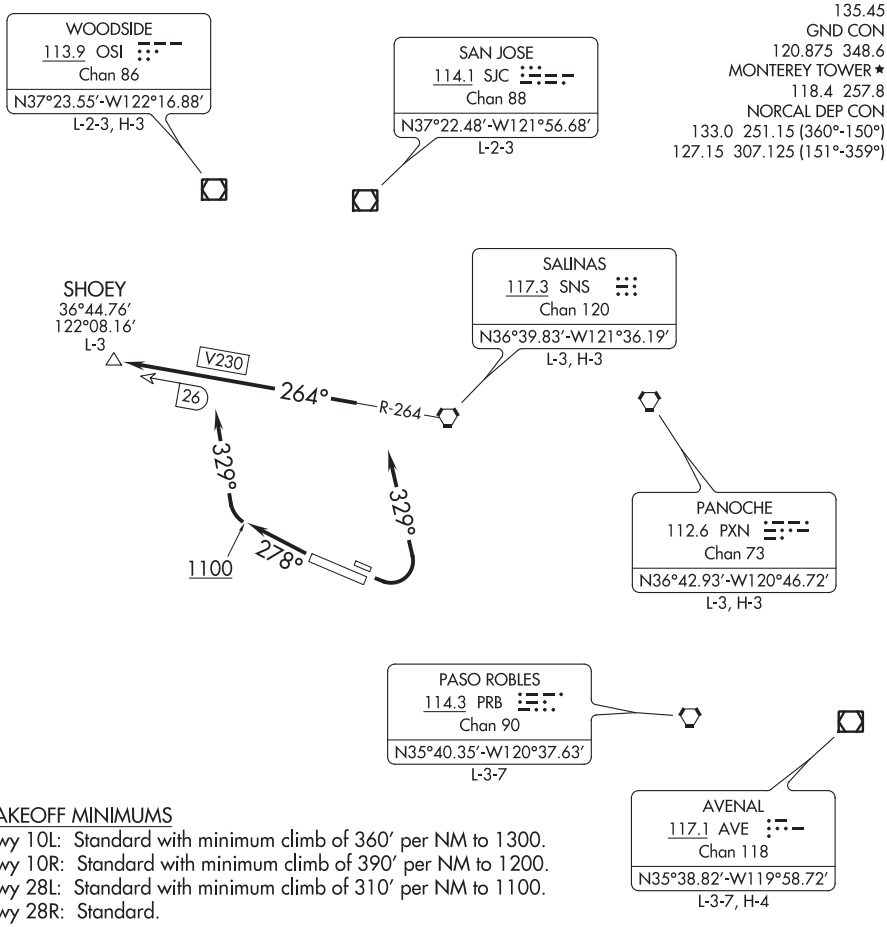
AIRPORT DIAGRAM
20254
MONTEREY, CALIFORNIA
MONTEREY RGNL (MRY)

MONTEREY FIVE DEPARTURE

AL-271 (FAA)

TOP ALTITUDE: 7000

ATIS
119.25
CLNC DEL
135.45
GND CON
120.875 348.6
MONTEREY TOWER ★
118.4 257.8
NORCAL DEP CON
133.0 251.15 (360°-150°)
127.15 307.125 (151°-359°)



TAKEOFF MINIMUMS
Rwy 10L: Standard with minimum climb of 360′ per NM to 1300.
Rwy 10R: Standard with minimum climb of 390′ per NM to 1200.
Rwy 28L: Standard with minimum climb of 310′ per NM to 1100.
Rwy 28R: Standard.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 10L/R: Climbing left turn heading 329°. Thence. . . .

TAKEOFF RUNWAYS 28L/R: Climb heading 278° until leaving 1100 or as directed by Monterey Tower. Then climbing right turn heading 329°. Thence. . . .

. . . .intercept SNS R-264 westbound to SHOEY intersection. Maintain 7000 or assigned altitude. Expect clearance to filed altitude five minutes after departure.

(TORO7.TORO) 17341

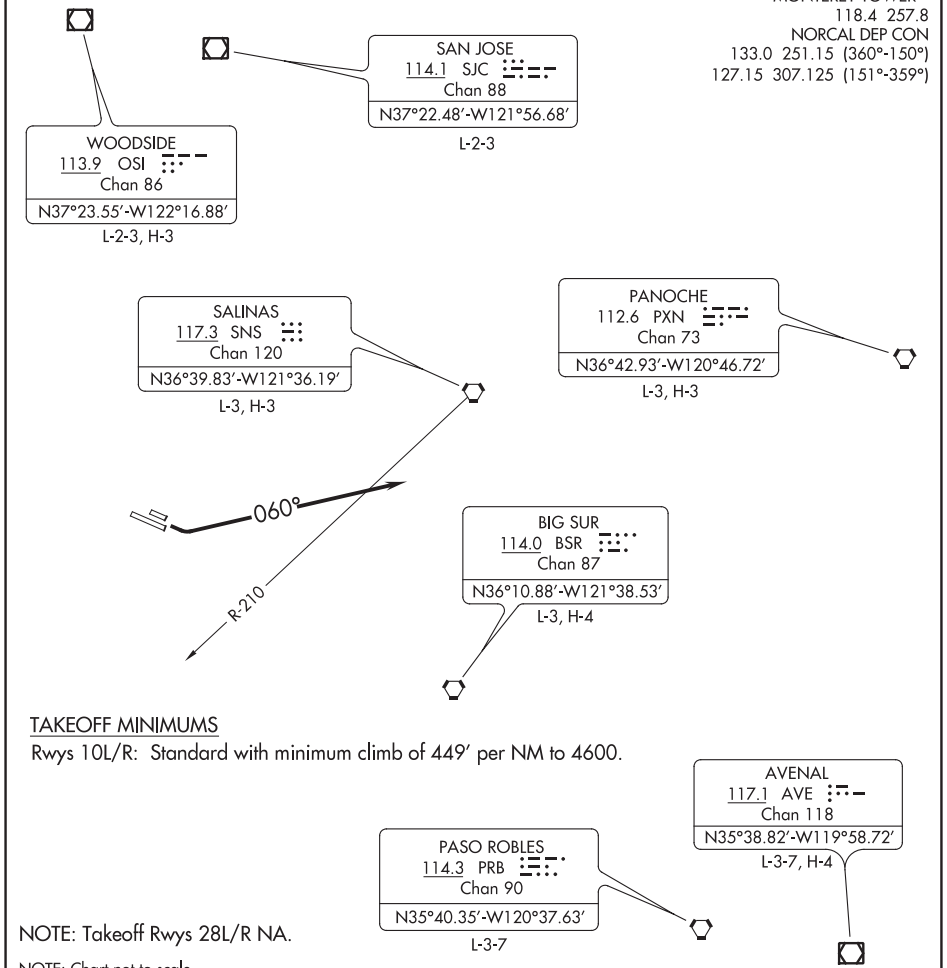
TORO SEVEN DEPARTURE

AL-271 (FAA)

MONTEREY RGNL (MRY)
MONTEREY, CALIFORNIA

TOP ALTITUDE: 7000

ATIS
119.25
GND CON
120.875 348.6
MONTEREY TOWER ★
118.4 257.8
NORCAL DEP CON
133.0 251.15 (360°-150°)
127.15 307.125 (151°-359°)



TAKEOFF MINIMUMS

Rwys 10L/R: Standard with minimum climb of 449′ per NM to 4600.

NOTE: Takeoff Rwys 28L/R NA.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 10L/R: Climbing left turn heading 060°. Expect vectors to filed route after passing SNS R-210. Maintain 7000 or assigned altitude. Expect clearance to filed altitude five minutes after departure.

LOST COMMUNICATIONS: If no transmissions are received within one minute after departure, climb direct SNS VORTAC, then via assigned fix/route. Maintain 7000.

SW-2, 25 FEB 2021 to 22 APR 2021

ILS or LOC RWY 32R
MOFFETT FEDERAL AFLD (NUQ)

LOC/DME I-NUQ	APP CRS	Rwy ldg	9006
110.35	322°	TDZE	31
Chan 40 (Y)		Apt Elev	37

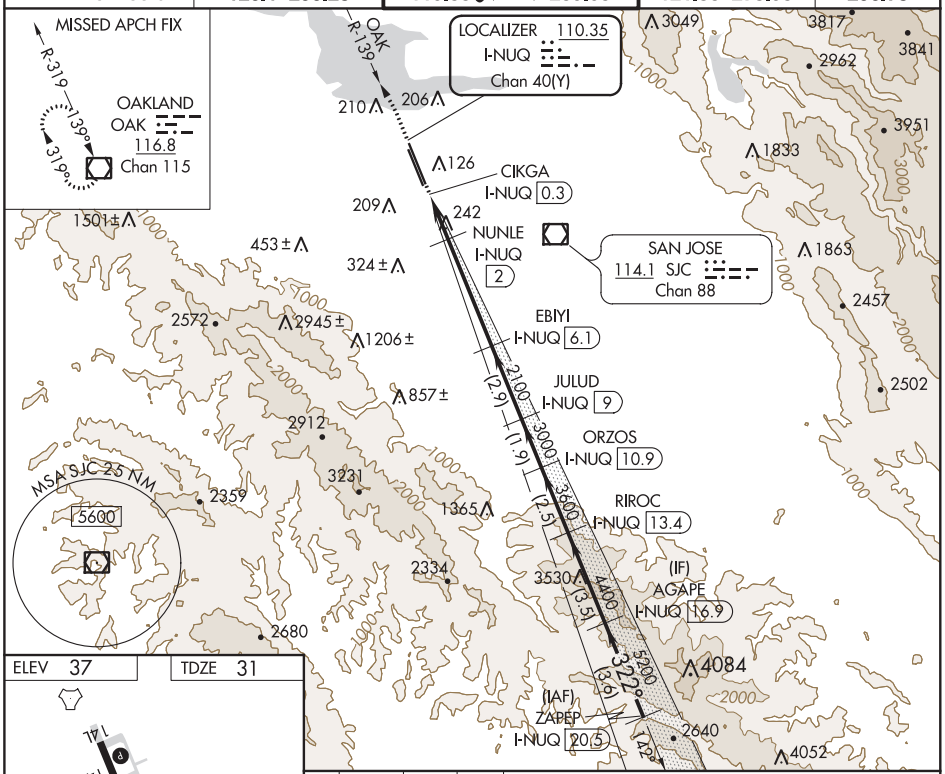
DME required. RADAR required for procedure entry.

For inop ALS, increase S-ILS 32R Cat E visibility to ¾ SM and S-LOC 32R Cat C/D/E to 1⅜ SM.

MALSR

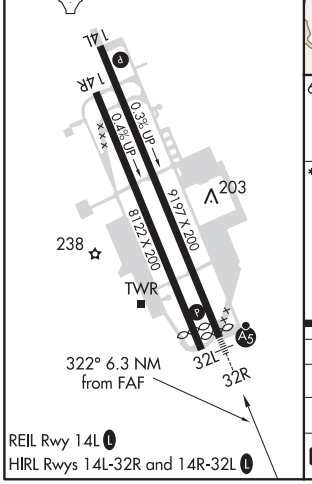
MISSED APPROACH: Climb to 600 then climbing left turn to 4000 on heading 310° and on OAK VOR/DME R-139 to OAK VOR/DME and hold.

ATIS	NORCAL APP CON	MOFFETT TOWER ★	GND CON	CLNC DEL
124.175 283.0	120.1 290.25	119.55 (L) (CTAF) 259.65	121.85 278.95	296.75



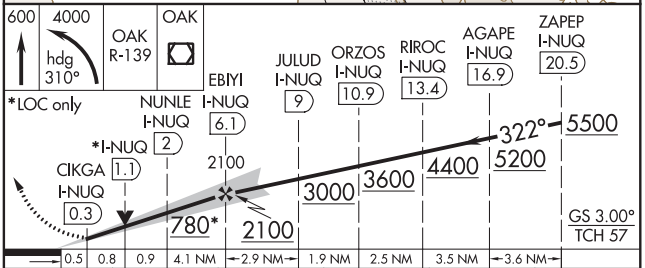
SW-2, 25 FEB 2021 to 22 APR 2021

ELEV 37 TDZE 31



REIL Rwy 14L (L)

HIRL Rwys 14L-32R and 14R-32L (L)



CATEGORY	A	B	C	D	E
S-ILS 32R	231-½ 200 (200-½)				
S-LOC 32R	500-½ 469 (500-½)		500-1 469 (500-1)		
(C) CIRCLING	540-1 503 (600-1)	600-1 563 (600-1)	620-1½ 583 (600-1½)	780-2½ 743 (800-2½)	940-3 903 (1000-3)

MOUNTAIN VIEW, CALIFORNIA AL-410 (FAA) 20254

RNAV (GPS) RWY 14L
MOFFETT FEDERAL AFLD (NUQ)

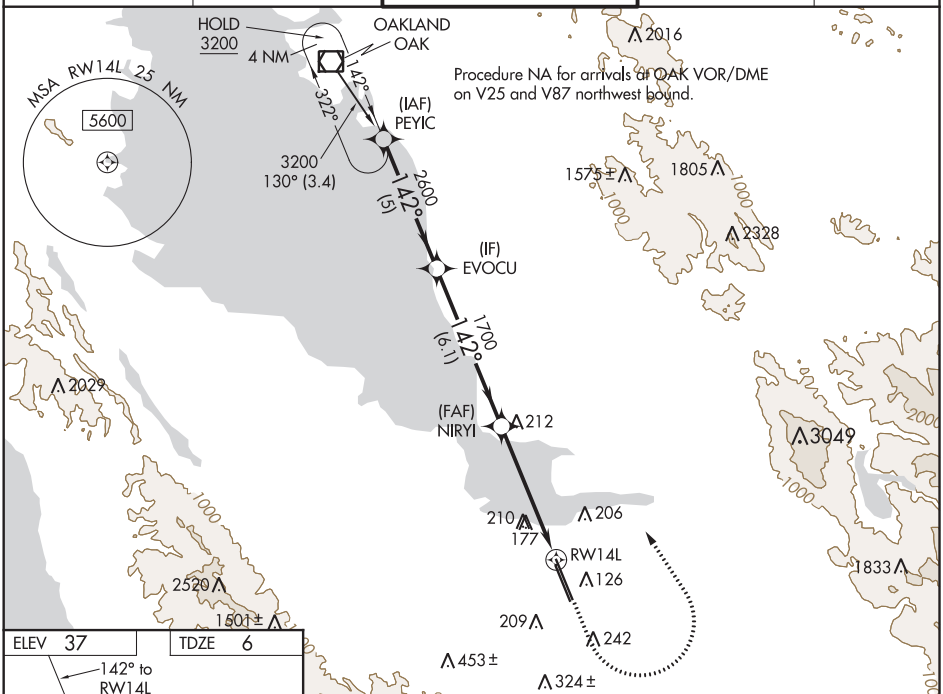
WAAS CH 70442 W14A	APP CRS 142°	Rwy ldg 9197 TDZE 6 Apt Elev 37

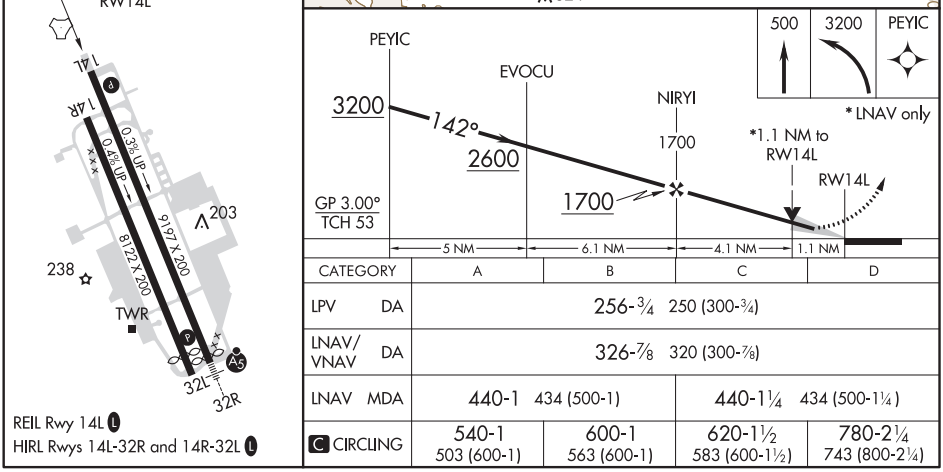
RNP APCH.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C or above 54°C .

MISSED APPROACH: Climb to 500 then climbing left turn to 3200 direct PEYIC and hold.

ATIS	NORCAL APP CON	MOFFETT TOWER ★	GND CON	CLNC DEL
124.175 283.0	120.1 290.25	119.55 L (CTAF) 259.65	121.85 278.95	296.75





CATEGORY	A	B	C	D
LPV DA	256-¾ 250 (300-¾)			
LNAV/VNAV DA	326-⅞ 320 (300-⅞)			
LNAV MDA	440-1 434 (500-1)		440-1¼ 434 (500-1¼)	
C CIRCLING	540-1 503 (600-1)	600-1 563 (600-1)	620-1½ 583 (600-1½)	780-2¼ 743 (800-2¼)

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WAAS CH 81942 W14B	APP CRS 142°	Rwy ldg 8122 TDZE 14 Apt Elev 37

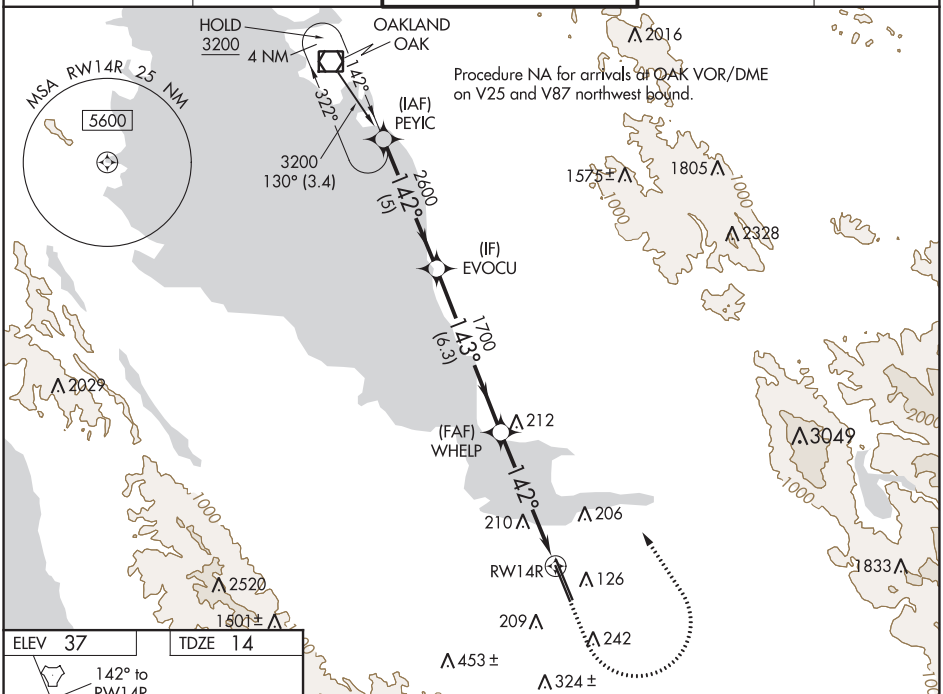
RNAV (GPS) RWY 14R
MOFFETT FEDERAL AFLD (NUQ)

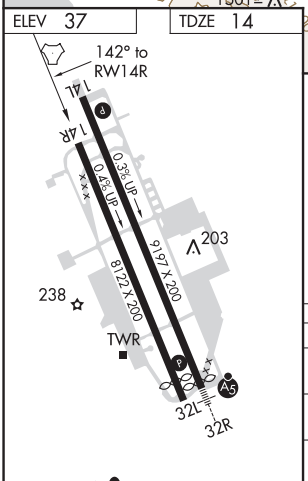
RNP APCH.

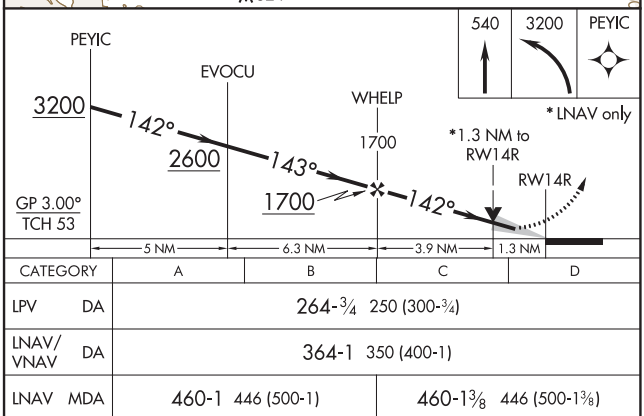
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C or above 54°C.

MISSED APPROACH: Climb to 540 then climbing left turn to 3200 direct PEYIC and hold.

ATIS	NORCAL APP CON	MOFFETT TOWER ★	GND CON	CLNC DEL
124.175 283.0	120.1 290.25	119.55 L (CTAF) 259.65	121.85 278.95	296.75







CATEGORY	A	B	C	D
LPV DA	264-¾ 250 (300-¾)			
LNAV/VNAV DA	364-1 350 (400-1)			
LNAV MDA	460-1 446 (500-1)		460-1⅜ 446 (500-1⅜)	
C CIRCLING	540-1 503 (600-1)	600-1 563 (600-1)	620-1½ 583 (600-1½)	780-2¼ 743 (800-2¼)

REIL Rwy 14L L
HIRL Rwys 14L-32R and 14R-32L L

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RNAV (GPS) RWY 32L
MOFFETT FEDERAL AFLD (NUQ)

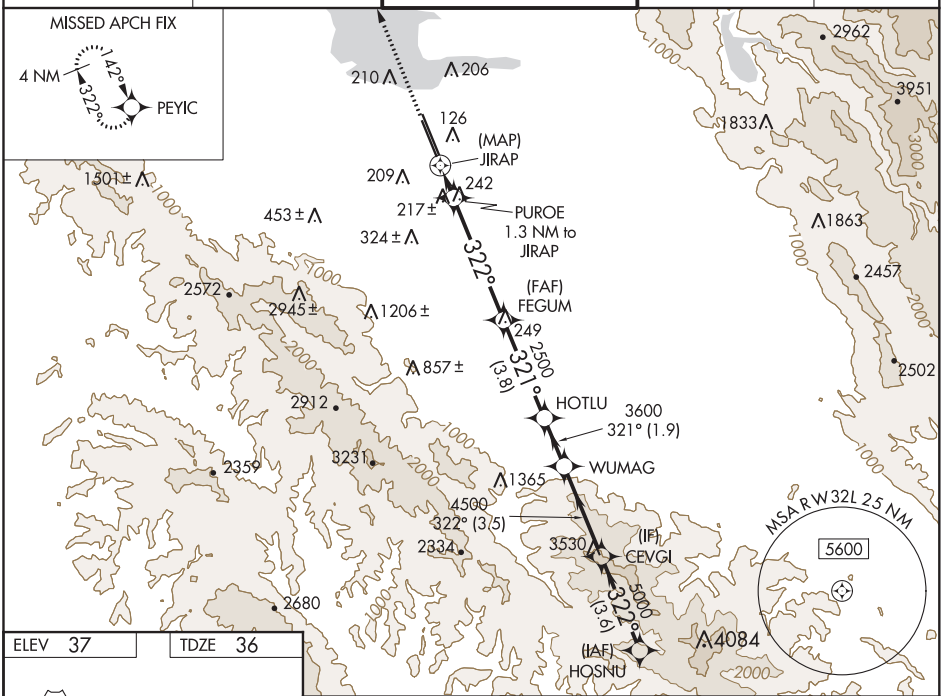
WAAS CH 50242 W32A	APP CRS 322°	Rwy ldg 7520 TDZE 36 Apt Elev 37

RNP APCH.

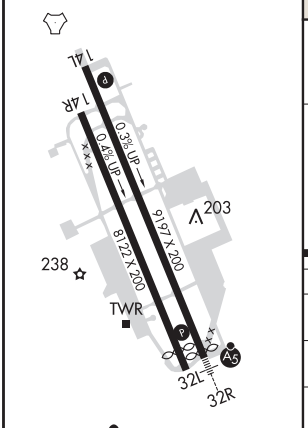
Rwy 32L helicopter visibility reduction below ¾ SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C or above 47°C .

MISSED APPROACH: Climb to 3200 direct PEYIC and hold.

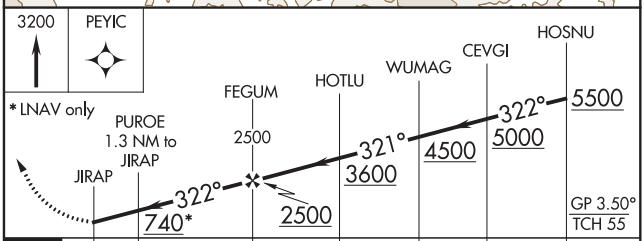
ATIS	NORCAL APP CON	MOFFETT TOWER ★	GND CON	CLNC DEL
124.175 283.0	120.1 290.25	119.55 (L) (CTAF) 259.65	121.85 278.95	296.75



ELEV 37 | TDZE 36



REIL Rwy 14L (L)
HIRL Rwys 14L-32R and 14R-32L (L)



CATEGORY	A	B	C	D
LPV DA	337-⅞ 301 (300-⅞)			
LNAV/VNAV DA	421-1⅛ 385 (400-1⅛)			
LNAV MDA	480-1 444 (500-1)		480-1⅜ 444 (500-1⅜)	
(C) CIRCLING	540-1 503 (600-1)	600-1 563 (600-1)	620-1½ 583 (600-1½)	780-2¼ 743 (800-2¼)

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WAAS CH 53343 W32B	APP CRS 322°	Rwy ldg 9006 TDZE 31 Apt Elev 37

RNAV (GPS) RWY 32R
MOFFETT FEDERAL AFLD (NUQ)

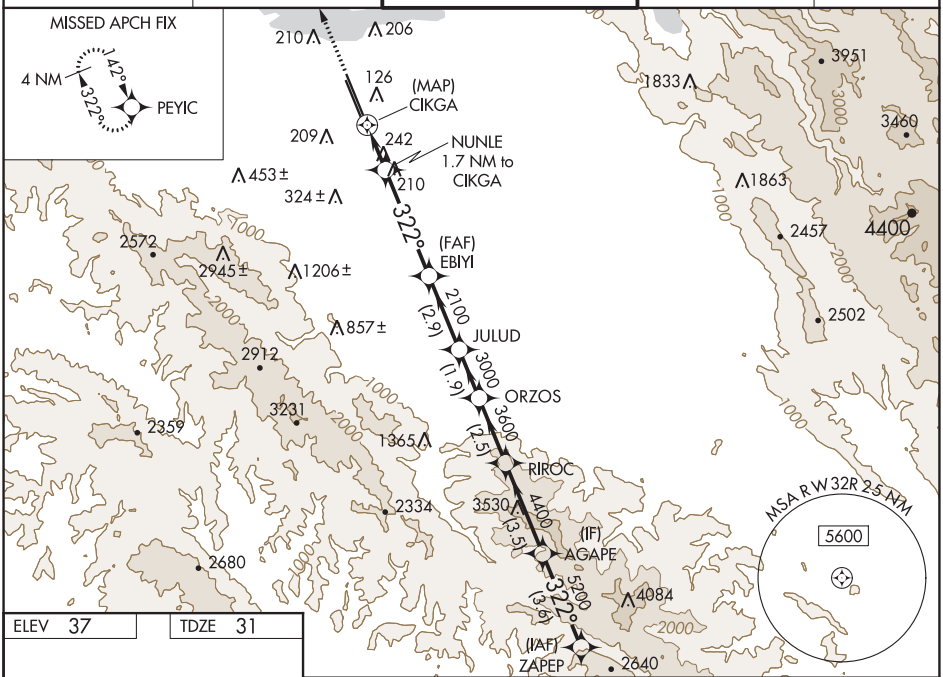
RNP APCH.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C or above 54°C . For inop ALS, increase LNAV/VNAV all Cats visibility to 1⅛ SM and LNAV Cat C/D visibility to 1⅜ SM.

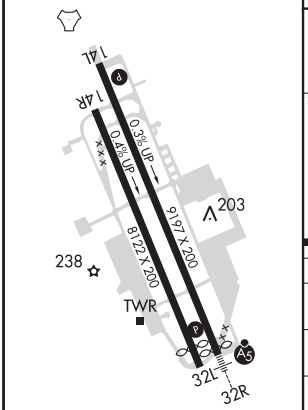
MALSR

MISSED APPROACH: Climb to 3200 direct PEYIC and hold.

ATIS	NORCAL APP CON	MOFFETT TOWER ★	GND CON	CLNC DEL
124.175 283.0	120.1 290.25	119.55 L (CTAF) 259.65	121.85 278.95	296.75

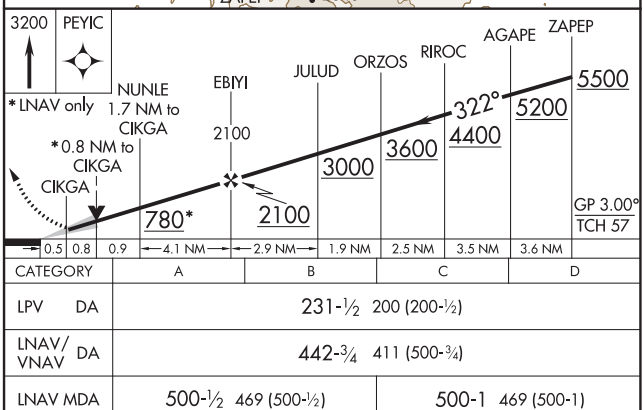


ELEV 37	TDZE 31



REIL Rwy 14L L

HIRL Rwys 14L-32R and 14R-32L L



CATEGORY	A	B	C	D
LPV DA	231-½ 200 (200-½)			
LNAV/VNAV DA	442-¾ 411 (500-¾)			
LNAV MDA	500-½ 469 (500-½)		500-1 469 (500-1)	
C CIRCLING	540-1 503 (600-1)	600-1 563 (600-1)	620-1½ 583 (600-1½)	780-2½ 743 (800-2½)

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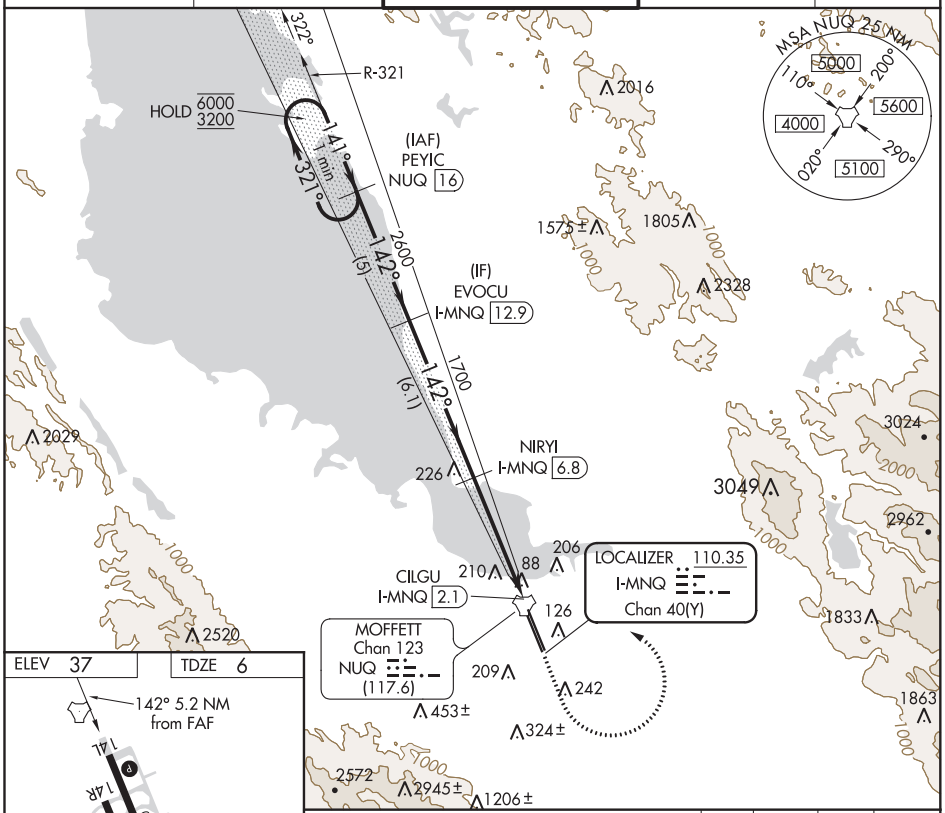
LOC RWY 14L
MOFFETT FEDERAL AFLD (NUQ)

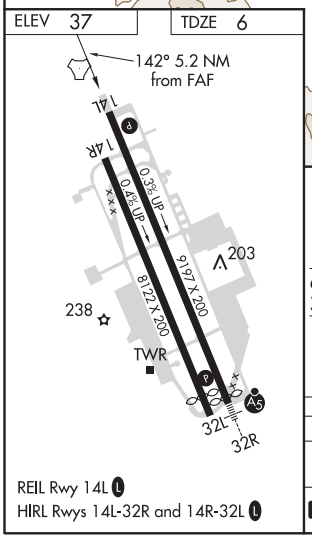
LOC/DME I-MNQ 110.35 Chan 40 (Y)	APP CRS 142°	Rwy ldg 9197 TDZE 6 Apt Elev 37

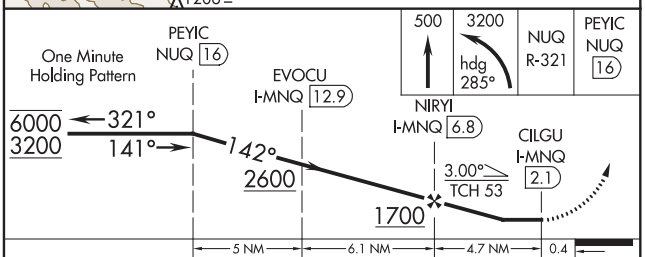
DME required. RADAR required for procedure entry. TACAN required.

MISSED APPROACH: Climb to 500 then climbing left turn to 3200 on heading 285° and on NUQ TACAN R-321 to PEYIC/NUQ TACAN 16 DME and hold.

ATIS	NORCAL APP CON	MOFFETT TOWER ★	GND CON	CLNC DEL
124.175 283.0	120.1 290.25	119.55 L (CTAF) 259.65	121.85 278.95	296.75







CATEGORY	A	B	C	D
S-LOC 14L	340-1 334 (400-1)			
C CIRCLING	540-1 503 (600-1)	600-1 563 (600-1)	620-1½ 583 (600-1½)	780-2½ 743 (800-2½)

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TACAN RWY 32L
MOFFETT FEDERAL AFLD (NUQ)

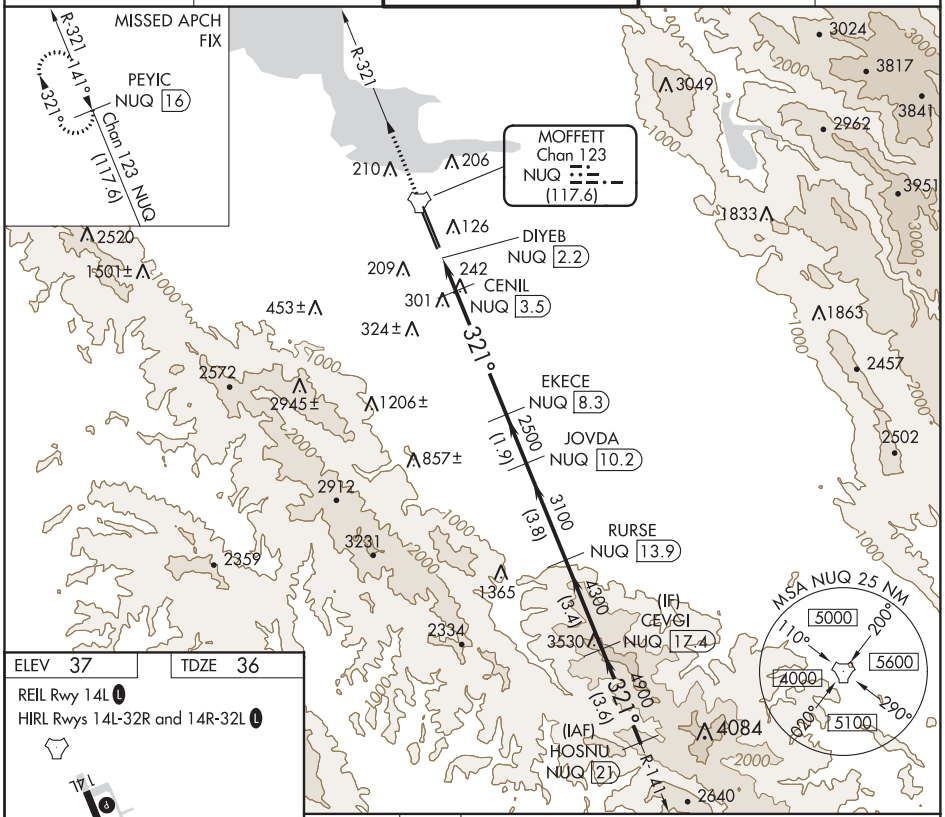
TACAN NUQ Chan 123 (117.6)	APP CRS 321°	Rwy ldg 7520 TDZE 36 Apt Elev 37

RADAR required for procedure entry.

Rwy 32L helicopter visibility reduction below ¾ SM NA.

MISSED APPROACH: Climb to 3200 on NUQ TACAN R-321 to PEYIC/16 DME and hold.

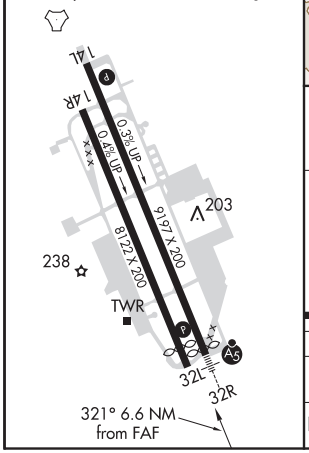
ATIS	NORCAL APP CON	MOFFETT TOWER ★	GND CON	CLNC DEL
124.175 283.0	120.1 290.25	119.55 L (CTAF) 259.65	121.85 278.95	296.75

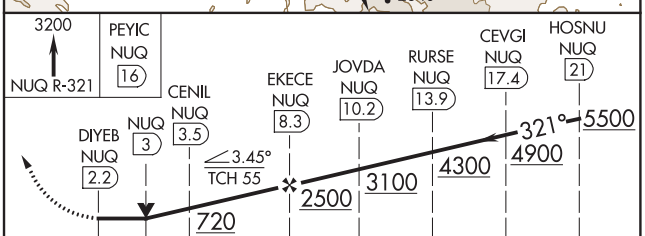


ELEV 37 TDZE 36

REIL Rwy 14L L

HIRL Rwys 14L-32R and 14R-32L L





CATEGORY	A	B	C	D	E
S-32L	560-1 524 (600-1)		560-1½ 524 (600-1½)		
C CIRCLING	560-1 523 (600-1)	600-1 563 (600-1)	620-1½ 583 (600-1½)	780-2½ 743 (800-2½)	940-3 903 (1000-3)

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MOUNTAIN VIEW, CALIFORNIA — AL-410 (FAA) — 20254

TACAN RWY 32R
MOFFETT FEDERAL AFLD (NUQ)

TACAN NUQ Chan 123 (117.6)	APP CRS 321°	Rwy ldg 9006 / TDZE 31 / Apt Elev 37

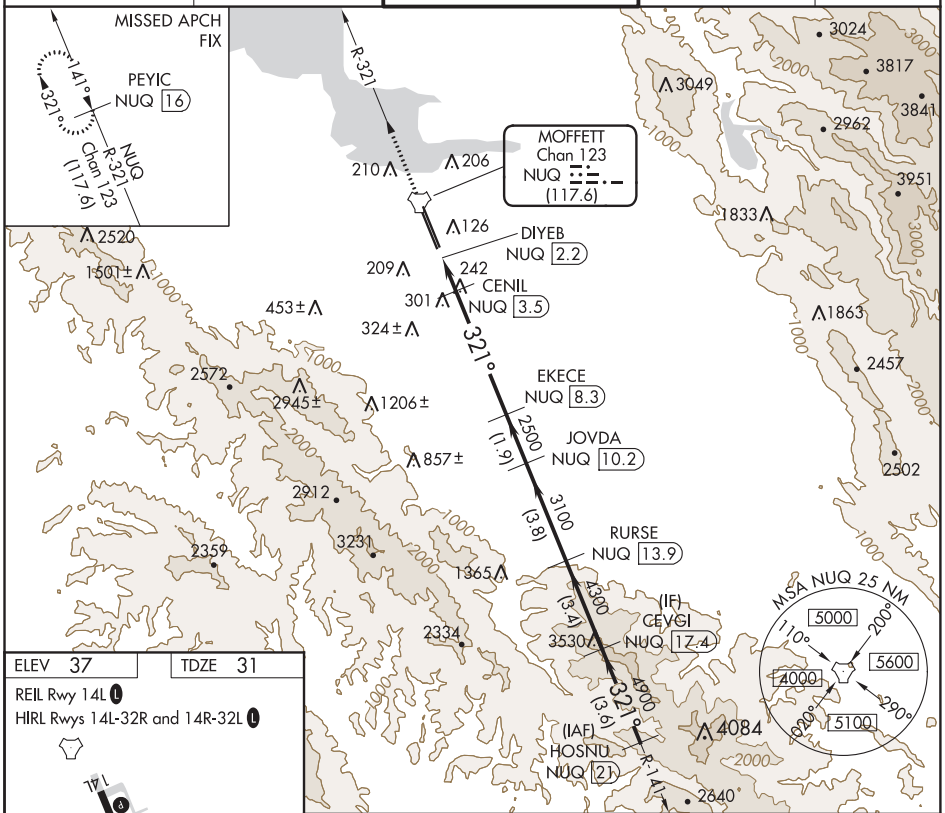
RADAR required for procedure entry.

For inop ALS, increase Cat E visibility to 1½ SM.

MALSR

MISSED APPROACH: Climb to 3200 on NUQ TACAN R-321 to PEYIC/16 DME and hold.

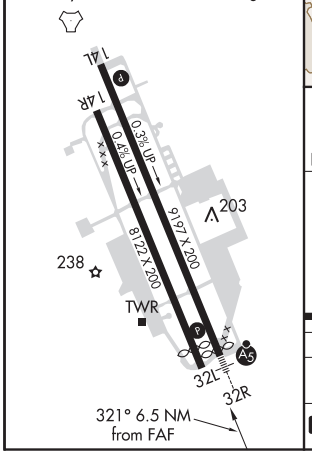
ATIS	NORCAL APP CON	MOFFETT TOWER ★	GND CON	CLNC DEL
124.175 283.0	120.1 290.25	119.55 (L) (CTAF) 259.65	121.85 278.95	296.75



ELEV 37	TDZE 31

REIL Rwy 14L (L)

HIRL Rwys 14L-32R and 14R-32L (L)



CATEGORY	A	B	C	D	E
S-32R	560-½ 529 (600-½)		560-1 529 (600-1)		
(C) CIRCLING	560-1 523 (600-1)	600-1 563 (600-1)	620-1½ 583 (600-1½)	780-2½ 743 (800-2½)	940-3 903 (1000-3)

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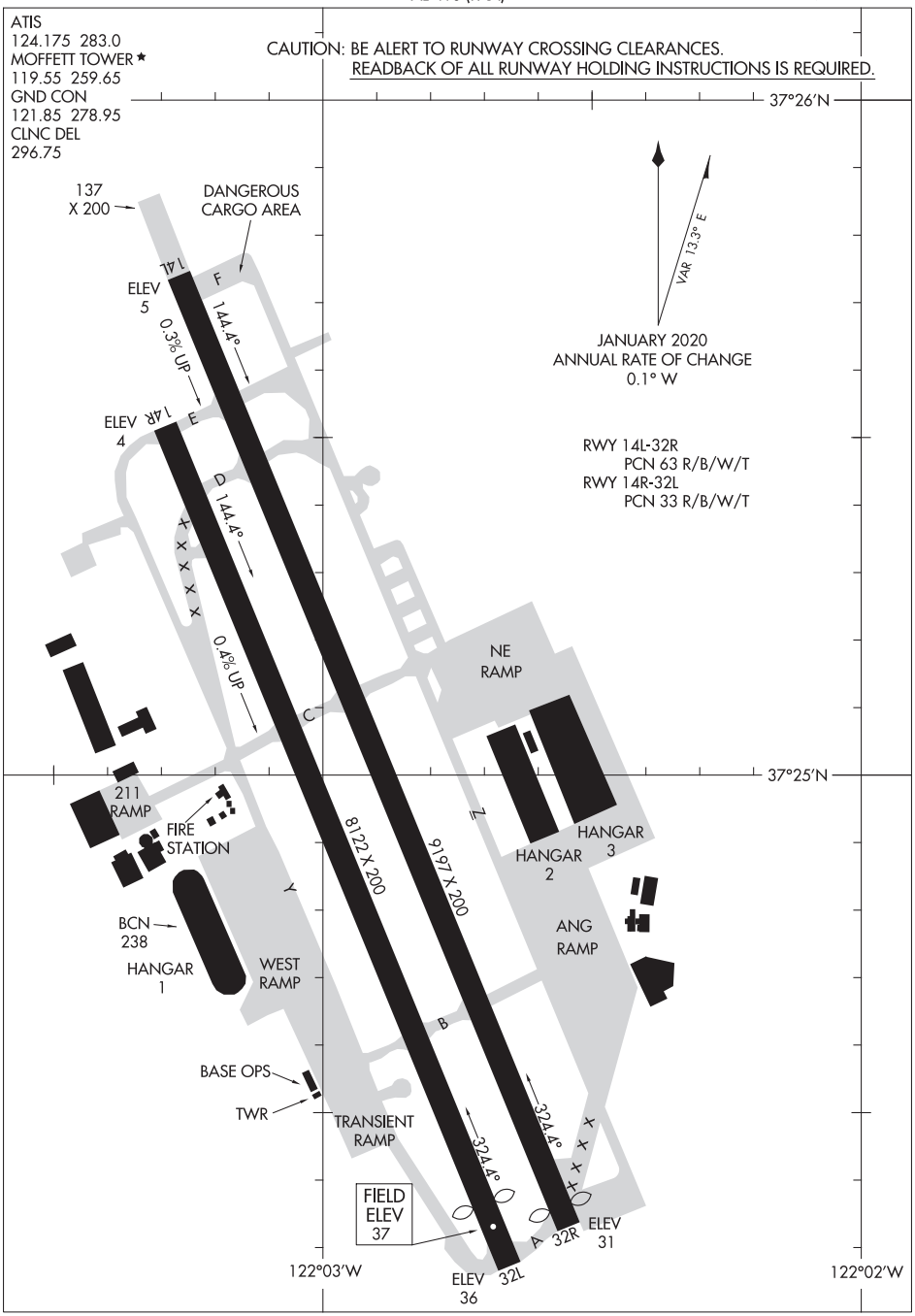
AL-410 (FAA)



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SW-2, 25 FEB 2021 to 22 APR 2021

(HOOKS2.HOOKS) 17341

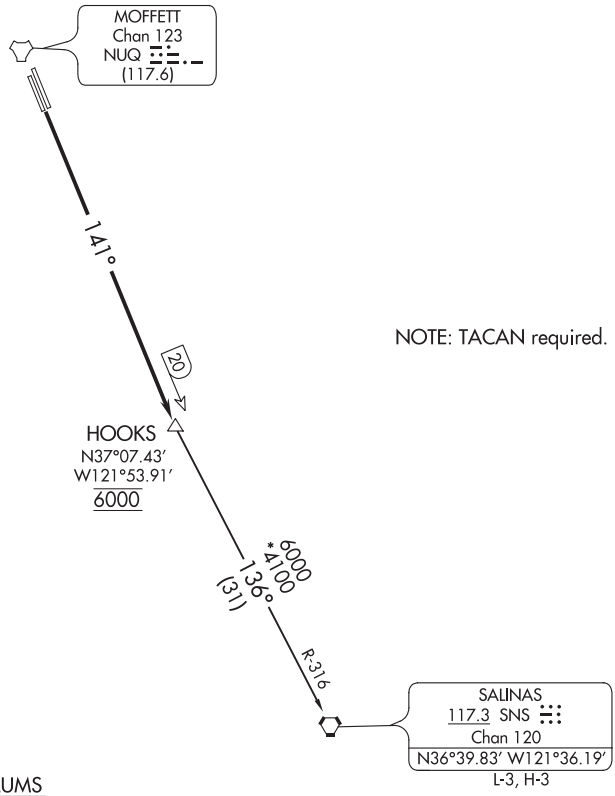
HOOKS TWO DEPARTURE

AL-410 (FAA)

MOFFETT FEDERAL AFLD (NUQ)
MOUNTAIN VIEW, CALIFORNIA

TOP ALTITUDE: ASSIGNED BY ATC

ATIS
124.175 283.0
CLNC DEL
296.75
GND CON
121.85 278.95
MOFFETT TOWER*
119.55 (CTAF) 259.65
NORCAL DEP CON
120.1 290.25



NOTE: TACAN required.

TAKEOFF MINIMUMS

Rwy 14R/L: Standard with the following minimum climb gradients:
Rwy 14R: Obstacle climb of 314' per NM to 4900, ATC climb of 332' per NM to 6000.
Rwy 14L: Obstacle climb of 314' per NM to 4900, ATC climb of 328' per NM to 6000.
Rwy 32R/L: NA, ATC.

NOTE: Chart not to scale.

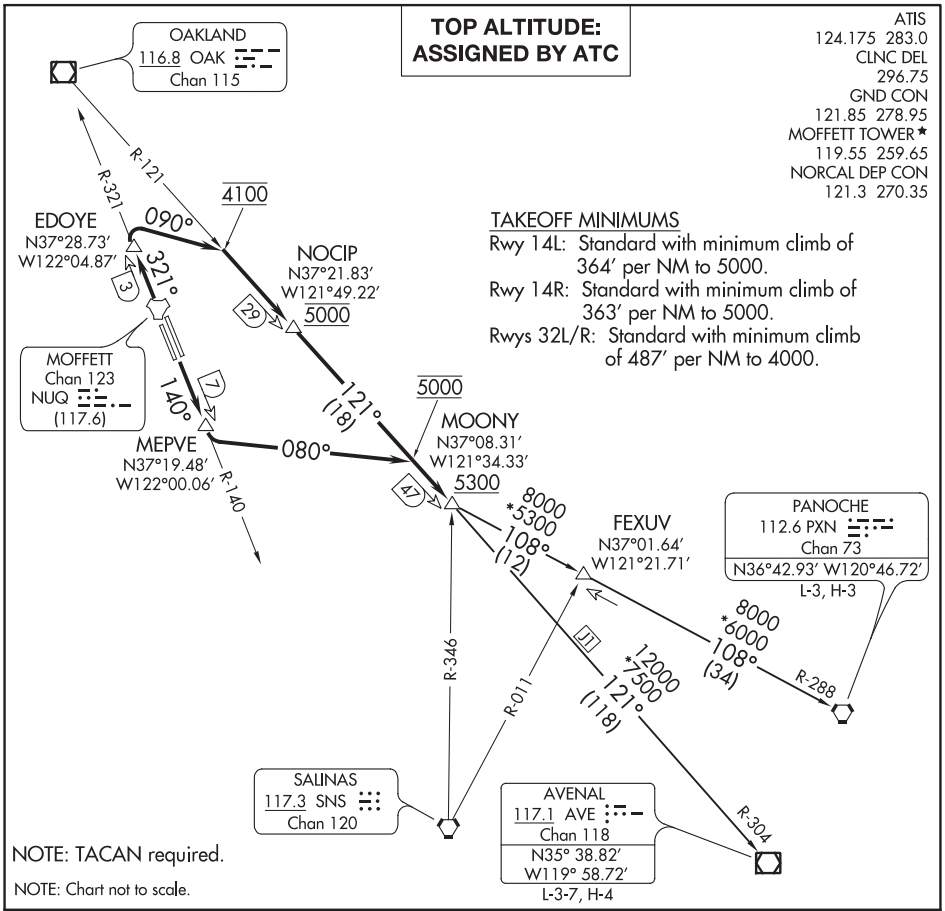
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 14L/R: Climb via NUQ R-141 to cross HOOKS/NUQ 20 DME at 6000, thence . . . .

. . . . via (transition).

VALLEY TRANSITION (HOOKS2.SNS): From over HOOKS DME on SNS R-316 to SNS VORTAC.

SW-2, 25 FEB 2021 to 22 APR 2021



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 14L/R: Climb on NUQ R-140 to MEPVE/NUQ 7 DME, then climbing left turn on heading 080° to intercept OAK R-121 at 5000, then on OAK R-121 to cross MOONY INT at or above 5300, thence . . . .

TAKEOFF RUNWAYS 32L/R: Climb on NUQ R-321 to EDOYE/NUQ 3 DME, then climbing right turn on heading 090° to intercept OAK R-121 at 4100, then on OAK R-121 to cross NOCIP/OAK 29 DME at 5000, then on OAK R-121 to cross MOONY INT at or above 5300, thence . . . .

. . . . on (transition), maintain ATC assigned altitude.

AVENAL TRANSITION (SOLN3.AVE): From over MOONY INT on OAK R-121 and AVE R-304 to AVE VOR/DME.
PANOCHE TRANSITION (SOLN3.PXN): From over MOONY INT on PXN R-288 to PXN VORTAC.

(OSI2.OSI) 17341

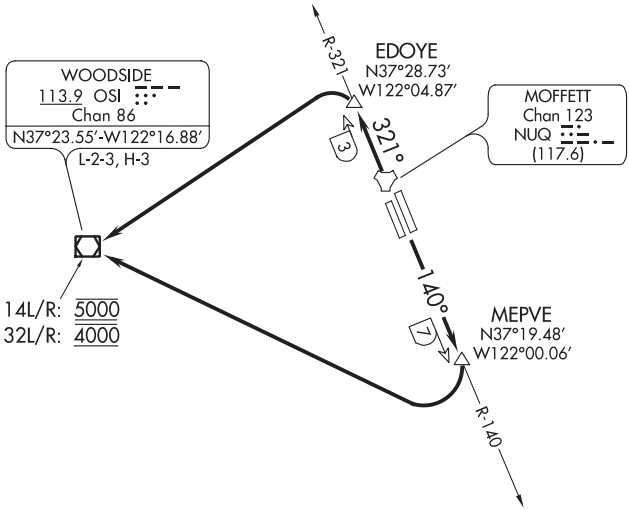
WOODSIDE TWO DEPARTURE

AL-410 (FAA)

MOFFETT FEDERAL AFLD (NUQ)
MOUNTAIN VIEW, CALIFORNIA

ATIS
124.175 283.0
CLNC DEL
296.75
GND CON
121.85 278.95
MOFFETT TOWER ★
119.55 (CTAF) 259.65
NORCAL DEP CON
121.3 270.35

TOP ALTITUDE: ASSIGNED BY ATC



NOTE: TACAN required.

TAKEOFF MINIMUMS

Rwys 14L/R: Standard with minimum climb of 402′ per NM to 5000.
Rwy 32R: Standard with minimum climb of 250′ per NM to 4000.
Rwy 32L: Standard with minimum climb of 246′ per NM to 4000.

NOTE: Chart not to scale.

T

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 14L/R: Climb via NUQ R-140 to MEPVE/NUQ 7 DME, then right turn direct to cross OSI VOR/DME at 5000, thence . . . .

TAKEOFF RUNWAYS 32L/R: Climb via NUQ R-321 to EDOYE/NUQ 3 DME, then turn left direct to cross OSI VOR/DME at 4000, thence . . . .

. . . . via RADAR vectors or assigned route.

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ILS or LOC Z RWY 1L
NAPA COUNTY (APC)

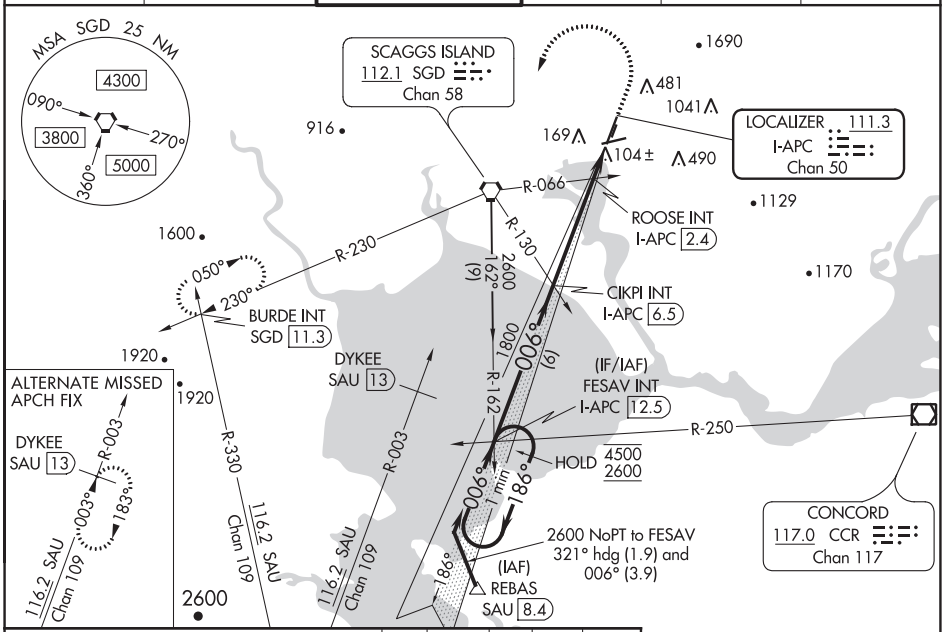
LOC/DME I-APC	APP CRS	Rwy ldg	5930
111.3	006°	TDZE	17
Chan 50		Apt Elev	36

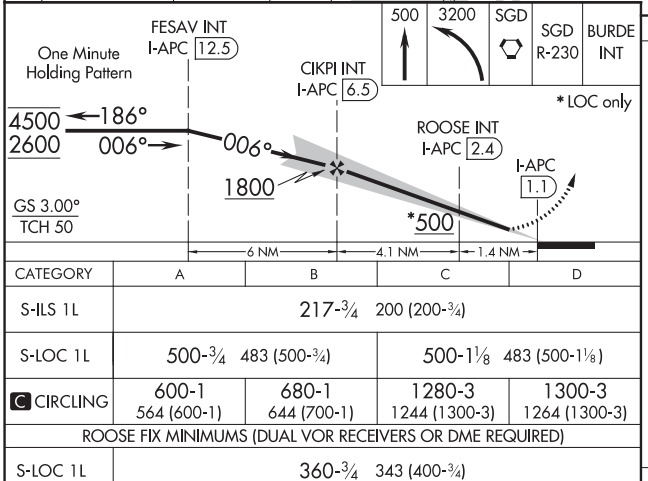
Autopilot coupled approach NA below 530. Inop table does not apply to S-ILS 1L. Circling Cats A/B/C NA northeast of Rwys 19R and 24. Circling Cat D NA east of Rwy 19L-1R. Circling Rwy 6 NA at night.

MALS

MISSED APPROACH: Climb to 500 then climbing left turn to 3200 direct SGD VORTAC and on SGD VORTAC R-230 to BURDE INT/SGD 11.3 DME and hold, continue climb-in-hold to 3200.

ATIS	OAKLAND CENTER	NAPA TOWER ★	GND CON	CLNC DEL	UNICOM
124.05	127.8 353.5	118.7 (CTAF) L 257.8	121.7	127.85	122.95



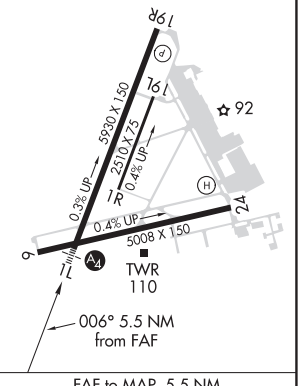


CATEGORY	A	B	C	D
S-ILS 1L	217-¾ 200 (200-¾)			
S-LOC 1L	500-¾ 483 (500-¾)		500-1⅛ 483 (500-1⅛)	
C CIRCLING	600-1 564 (600-1)	680-1 644 (700-1)	1280-3 1244 (1300-3)	1300-3 1264 (1300-3)
ROOSE FIX MINIMUMS (DUAL VOR RECEIVERS OR DME REQUIRED)				
S-LOC 1L	360-¾ 343 (400-¾)			
C CIRCLING	600-1 564 (600-1)	680-1 644 (700-1)	1280-3 1244 (1300-3)	1300-3 1264 (1300-3)

ELEV 36 TDZE 17

MIRL Rwys 6-24 and 1L-19R L

REIL Rwy 6 L



FAF to MAP 5.5 NM					
Knots	60	90	120	150	180
Min:Sec	5:30	3:40	2:45	2:12	1:50

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NAPA, CALIFORNIA AL-281 (FAA) 19283

APP CRS	Rwy ldg	5008
062°	TDZE	21
	Apt Elev	36

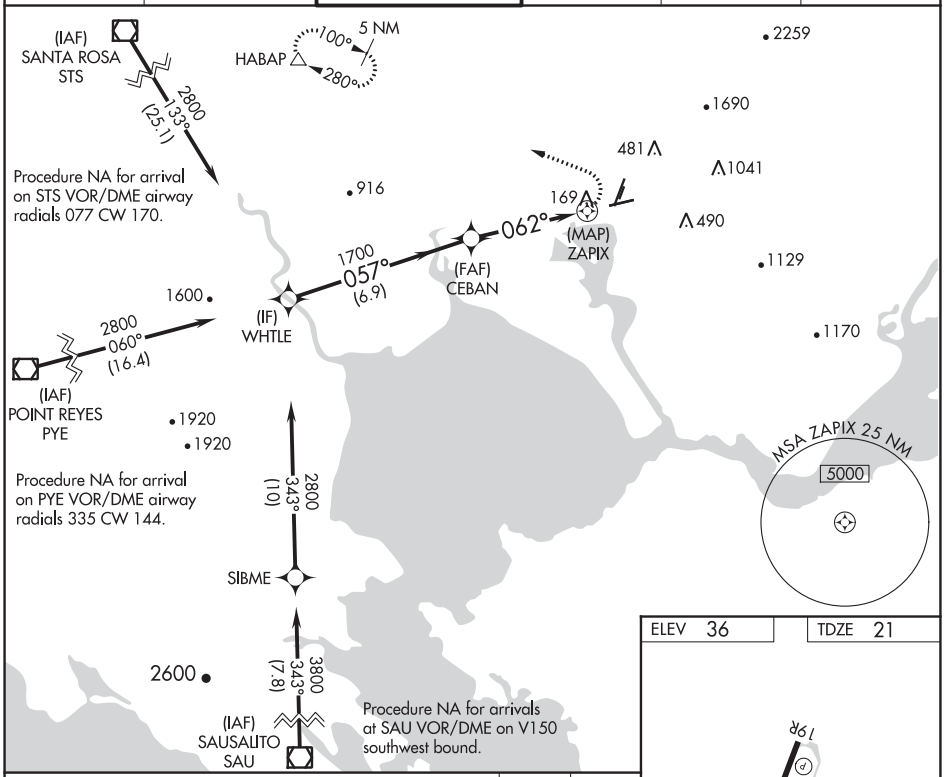
RNAV (GPS) RWY 6
NAPA COUNTY (APC)

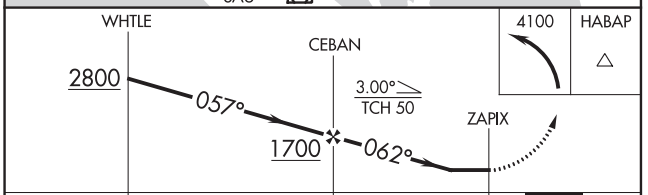
RNP APCH.

Rwy 6 helicopter visibility reduction below 1 SM NA.
Circling Cats A/B/C NA northeast of Rwys 19R and 24.
Circling Cat D NA east of Rwy 19L-1R.
Straight-in Rwy 6 NA at night, Circling Rwy 6 NA at night.

MISSED APPROACH: Climbing left turn to 4100 direct HABAP and hold, continue climb-in-hold to 4100.
*Missed approach requires minimum climb of 355 feet per NM to 2300.

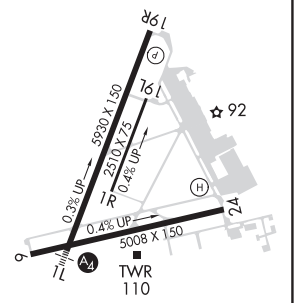
ATIS	OAKLAND CENTER	NAPA TOWER *	GND CON	CLNC DEL	UNICOM
124.05	127.8 353.5	118.7 (CTAF) L 257.8	121.7	127.85	122.95





CATEGORY	A	B	C	D
LNAV MDA*	480-1 459 (500-1)		480-1⅜ 459 (500-1⅜)	
LNAV MDA	940-1¼ 919 (1000-1¼)		940-2½ 919 (1000-2½)	
C CIRCLING	940-1¼ 904 (1000-1¼)		1280-3 1244 (1300-3)	1300-3 1264 (1300-3)

ELEV 36 TDZE 21



REIL Rwy 6 L
MIRL Rwys 6-24 and 1L-19R L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

RNAV (GPS) Y RWY 1L
NAPA COUNTY (APC)

WAAS CH 56613 W01A	APP CRS 006°	Rwy ldg 5930 TDZE 17 Apt Elev 36

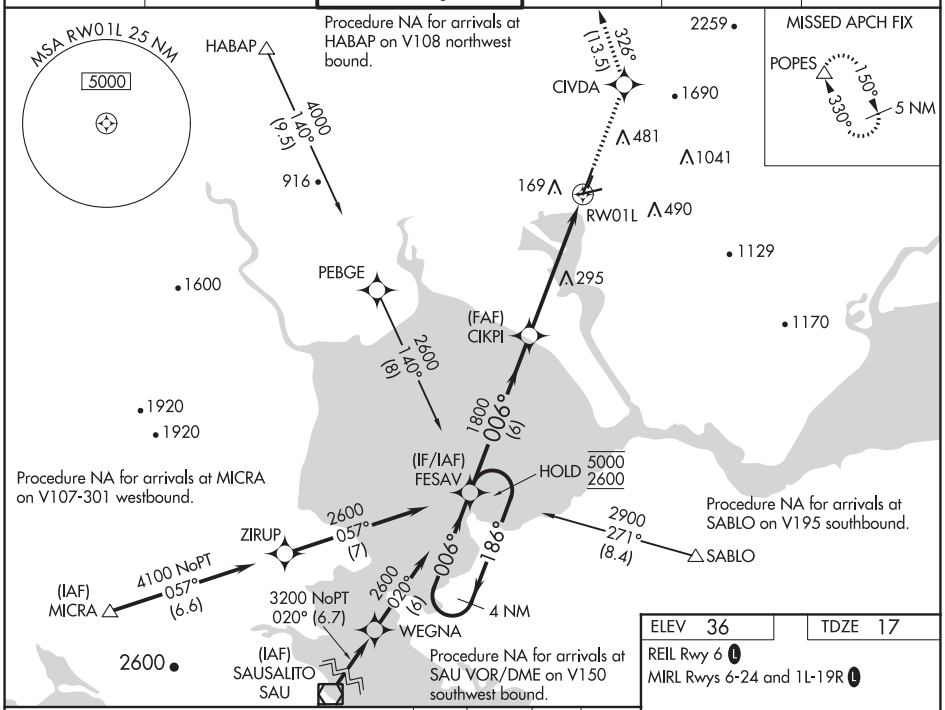
RNP APCH.

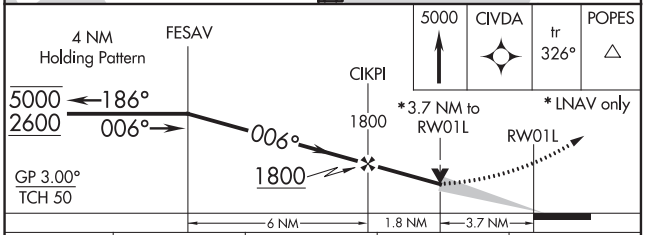
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -4°C or above 54°C. Circling Cats A/B/C NA northeast or Rwys 19R and 24. Circling Cat D NA east of Rwy 19L-1R. Inop table does not apply to LPV, LNAV/VNAV all Cats, and LNAV Cats C/D. Circling Rwy 6 NA at night.

MALS

MISSED APPROACH: Climb to 5000 direct CIVDA and on track 326° to POPES and hold, continue climb-in-hold to 5000.

ATIS	OAKLAND CENTER	NAPA TOWER ★	GND CON	CLNC DEL	UNICOM
124.05	127.8 353.5	118.7 (CTAF) L 257.8	121.7	127.85	122.95



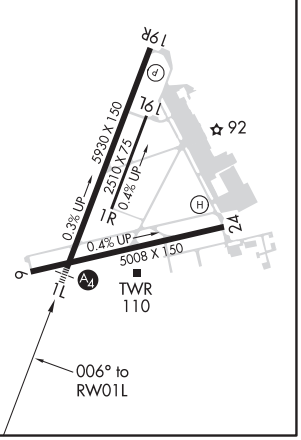


CATEGORY	A	B	C	D
LPV DA	1252-5 1235 (1300-5)			
LNAV/VNAV DA	1051-4 1034 (1100-4)			
LNAV MDA	1260-1 1243 (1300-1)	1260-1¼ 1243 (1300-1¼)	1260-3 1243 (1300-3)	
C CIRCLING	1260-1¼ 1224 (1300-1¼)	1260-1½ 1224 (1300-1½)	1280-3 1244 (1300-3)	1300-3 1264 (1300-3)

ELEV 36 TDZE 17

REIL Rwy 6 L

MIRL Rwys 6-24 and 1L-19R L



SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

NAPA, CALIFORNIA | AL-281 (FAA) | 19283

RNAV (GPS) Z RWY 1L
NAPA COUNTY (APC)

WAAS CH 40313 W01B	APP CRS 006°	Rwy ldg 5930 / TDZE 17 / Apt Elev 36

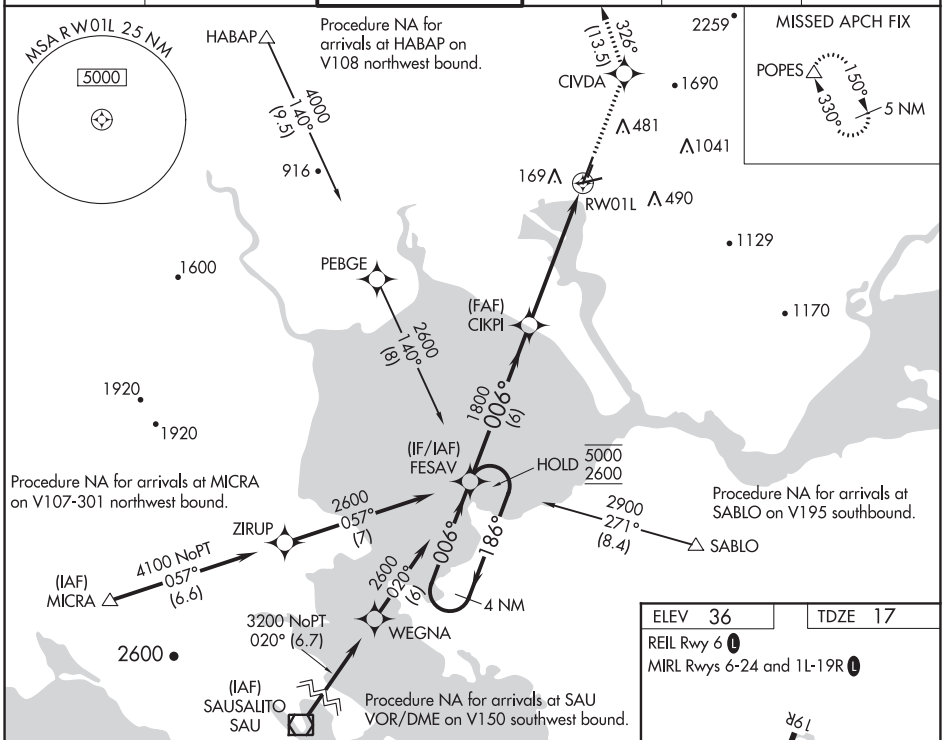
RNP APCH.

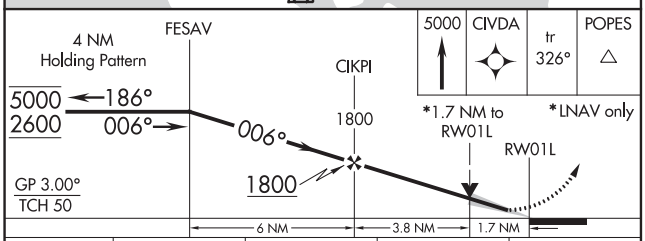
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -4°C or above 54°C. Inop table does not apply to LPV minimums. For inop ALS, increase visibility LNAV/VNAV to ⅞ SM. Missed approach requires minimum climb of 420 feet per NM to 2200. If unable to meet climb gradient see RNAV (GPS) Y RWY 1L.

MALS

MISSED APPROACH: Climb to 5000 direct CIVDA and on track 326° to POPES and hold, continue climb-in-hold to 5000.

ATIS	OAKLAND CENTER	NAPA TOWER ★	GND CON	CLNC DEL	UNICOM
124.05	127.8 353.5	118.7 (CTAF) L 257.8	121.7	127.85	122.95



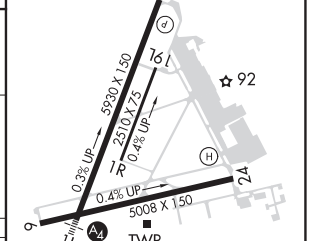


CATEGORY	A	B	C	D
LPV DA	217-¾ 200 (200-¾)			
LNAV/VNAV DA	330-¾ 313 (300-¾)			
LNAV MDA	560-¾ 543 (600-¾)		560-1⅜ 543 (600-1⅜)	

ELEV 36 | TDZE 17

REIL Rwy 6 L

MIRL Rwys 6-24 and 1L-19R L



SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

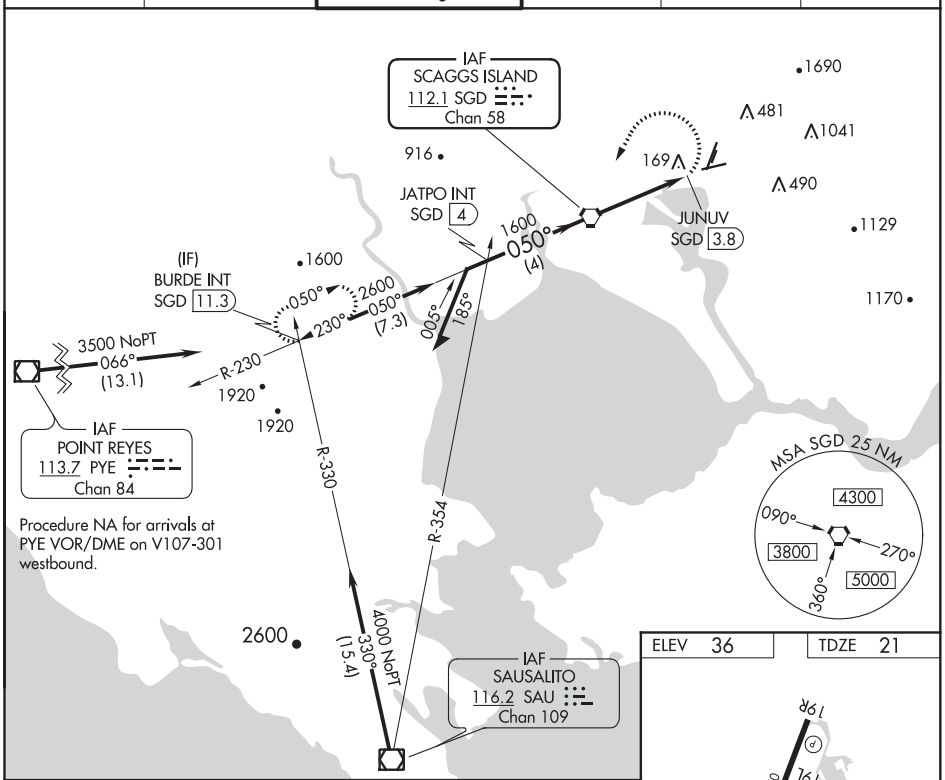
VORTAC SGD 112.1 Chan 58	APP CRS 050°	Rwy ldg 5008 TDZE 21 Apt Elev 36

VOR RWY 6
NAPA COUNTY (APC)

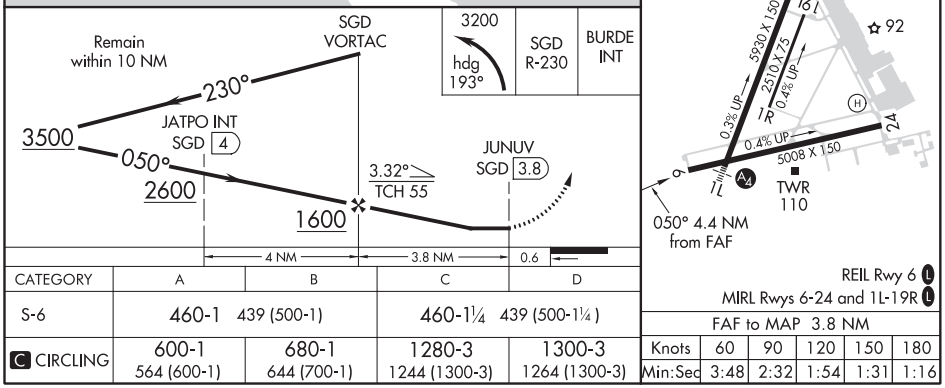
Rwy 6 helicopter visibility reduction below 1 SM NA. Straight-in Rwy 6 NA at night, Circling Rwy 6 NA at night. Circling Cats A/B/C NA northeast of Rwys 19R and 24. Circling Cat D NA east of Rwy 19L-1R.

MISSED APPROACH: Climbing left turn to 3200 on heading 193° and SGD VORTAC R-230 to BURDE INT/SGD 11.3 DME and hold, continue climb-in-hold to 3200.

ATIS	OAKLAND CENTER	NAPA TOWER ★	GND CON	CLNC DEL	UNICOM
124.05	127.8 353.5	118.7 (CTAF) L 257.8	121.7	127.85	122.95



SW-2, 25 FEB 2021 to 22 APR 2021



CATEGORY	A	B	C	D
S-6	460-1 439 (500-1)		460-1¼ 439 (500-1¼)	
C CIRCLING	600-1 564 (600-1)	680-1 644 (700-1)	1280-3 1244 (1300-3)	1300-3 1264 (1300-3)

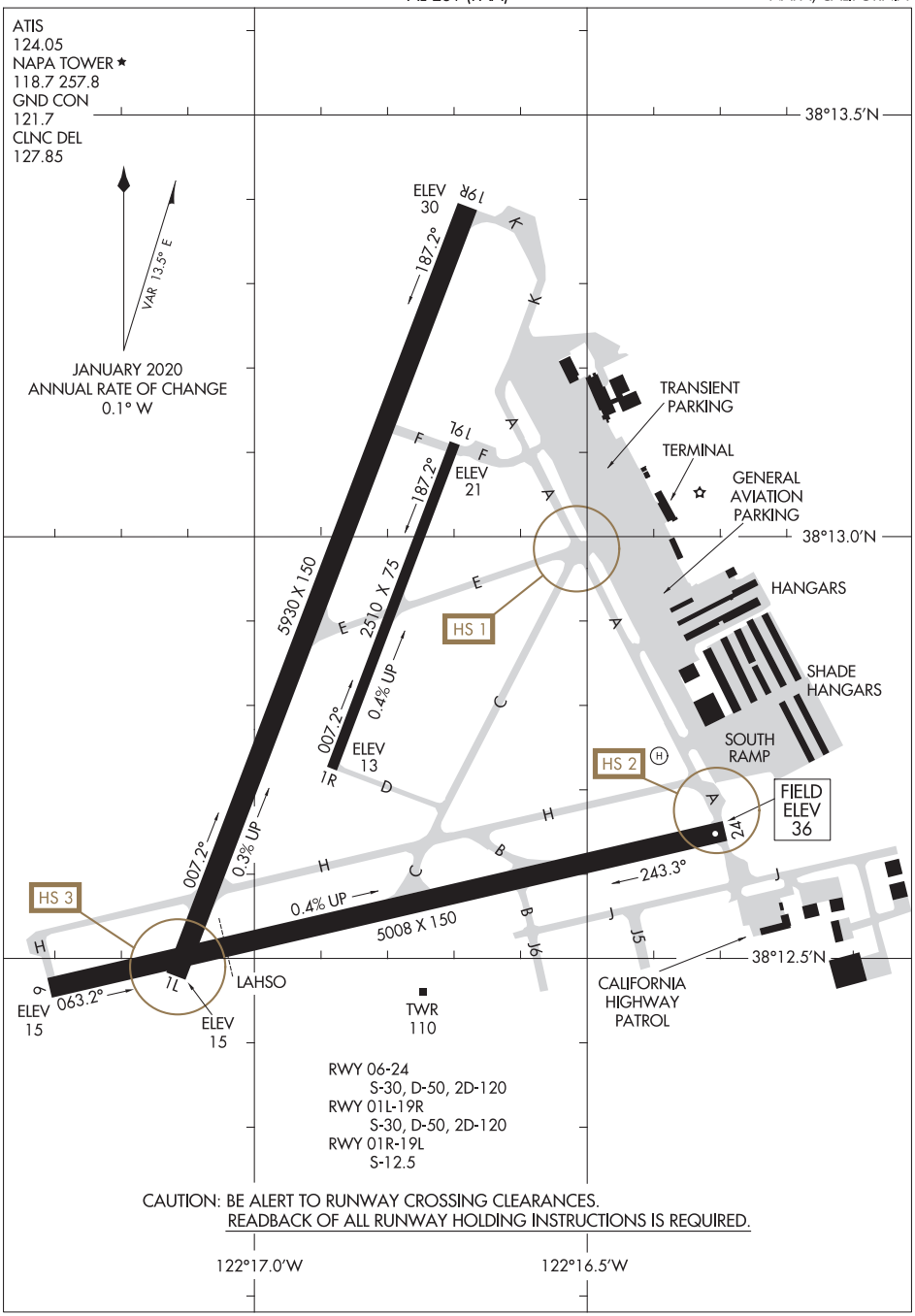
FAF to MAP 3.8 NM					
Knots	60	90	120	150	180
Min:Sec	3:48	2:32	1:54	1:31	1:16

20086

AIRPORT DIAGRAM

AL-281 (FAA)

NAPA COUNTY (APC)
NAPA, CALIFORNIA



SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

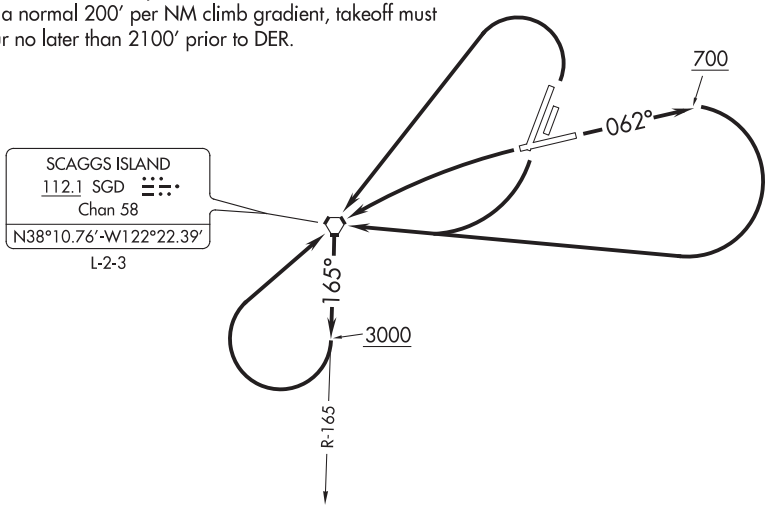
AIRPORT DIAGRAM
20086
NAPA, CALIFORNIA
NAPA COUNTY (APC)

NAPAA FOUR DEPARTURE (OBSTACLE)

AL-281 (FAA)

ATIS
124.05
GND CON
121.7
CLNC DEL
127.85
NAPA TOWER★
118.7 (CTAF) 257.8
OAKLAND CENTER
127.8 353.5

TAKEOFF MINIMUMS
Rwys 19L/R: Standard.
Rwy 1L: Standard with minimum climb of 310′ per NM to 900 or 2400-3 for VCOA.
Rwy 1R: Standard with minimum climb of 360′ per NM to 700 or 2400-3 for VCOA.
Rwy 6: Standard with minimum climb of 440′ per NM to 1700 or 2400-3 for VCOA.
Rwy 24: 300-1⅛ or standard with minimum climb of 255′ per NM to 300, or alternatively, with standard takeoff minimums and a normal 200′ per NM climb gradient, takeoff must occur no later than 2100′ prior to DER.



(NOTES CONTINUED ON FOLLOWING PAGE)

NOTE: Chart not to scale.

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 6: Climb on heading 062° to 700, then turn right direct SGD VORTAC, thence. . . .
TAKEOFF RUNWAYS 1L/R, 24: Turn left direct SGD VORTAC, thence. . . .
TAKEOFF RUNWAYS 19L/R: Turn right direct SGD VORTAC, thence. . . .

VCOA RUNWAYS 1L/R, 6: Obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross Napa County Airport at or above 2300, then direct SGD VORTAC, thence. . . .

. . . .aircraft departing SGD VORTAC on R-165 climb on course. All other aircraft continue climb on SGD VORTAC R-165 to 3000, then turn right direct SGD VORTAC before proceeding on course.

(NAPAA4.NAPAA) 19283

NAPAA FOUR DEPARTURE (OBSTACLE)

AL-281 (FAA)

NAPA COUNTY (APC)
NAPA, CALIFORNIA

TAKEOFF OBSTACLE NOTES

Rwy 1L: Terrain beginning 7′ from DER, 340′ left of centerline up to 37′ MSL.
Lighting 10′ from DER, 51′ right of centerline, 1′ AGL/30′ MSL.
Vehicles on road beginning 105′ from DER, 317′ right of centerline, up to 41′ MSL.
Vehicles on road and terrain, beginning 105′ from DER, 298′ left of centerline, up to 43′ MSL.
Vehicles on road 203′ from DER, 300′ left of centerline, 44′ MSL.
Vehicles on road beginning 363′ from DER, 302′ left of centerline, up to 45′ MSL.
Vehicles on road 559′ from DER, 544′ right of centerline, 44′ MSL.
Trees beginning 3205′ from DER, 790′ right of centerline, up to 124′ MSL.
Trees beginning 4610′ from DER, 306′ right of centerline, up to 168′ MSL.
Tree 1.1 NM from DER, 2025′ right of centerline, 226′ MSL.
Trees beginning 1.1 NM from DER, 1674′ right of centerline, up to 249′ MSL.
Tree 1.1 NM from DER, 1839′ right of centerline, 253′ MSL.
Trees and terrain beginning 1.1 NM from DER, 1648′ right of centerline, up to 282′ MSL.
Trees, terrain and fence beginning 1.1 NM from DER, 1634′ right of centerline, up to 298′ MSL.
Tree and fence beginning 1.7 NM from DER, 3269′ right of centerline, up to 345′ MSL.
Electrical system, terrrain, fence and tree beginning 1.8 NM from DER, 606′ right of centerline, up to 129′ AGL/446′ MSL.
Trees and terrain beginning 2 NM from DER, 542′ right of centerline, up to 526′ MSL.
Terrrain, fence and tree beginning 2 NM from DER, 1089′ right of centerline, up to 528′ MSL
Fence, trees, terrrain and building beginning 2.1 NM from DER, 2007′ right of centerline, up to 5′ AGL/554′ MSL.
Terrrain and trees beginning 2.1 NM from DER, 2139′ right of centerline, up to 581′ MSL
Tree 2.2 NM from DER, 3913′ right of centerline, 585′ MSL.
Trees, terrrain and fence, beginning 2.2 NM from DER, 2013′ right of centerline, up to 587′ MSL.
Trees and terrain beginning 2.3 NM from DER, 2566′ right of centerline, up to 599′ MSL.

Rwy 1R: Lighting 43′ from DER, 493′ right of centerline, 1′ AGL/25′ MSL.
Sign 51′ from DER, 420′ left of centerline, 2′ AGL/23′ MSL.
Poles and vehicles on road beginning 262′ from DER, 63′ right of centerline, up to 36′ AGL/59′ MSL.
Vehicles on road 639′ from DER, 436′ left of centerline, 38′ MSL.
Vehicles on road beginning 640′ from DER, 95′ left of centerline, up to 39′ MSL.
Tree 812′ from DER, 673′ right of centerline, 70′ MSL.
Tree 1870′ from DER, 470′ right of centerline, 71′ MSL.
Tree 1.2 NM from DER, 2507′ right of centerline, 240′ MSL.
Tree 1.2 NM from DER, 2314′ right of centerline, 243′ MSL.
Trees beginning 1.2 NM from DER, 2143′ right of centerline, up to 286′ MSL.
Trees, fence and terrain beginning 1.3 NM from DER, 2073′ right of centerline, up to 309′ MSL.
Tree 1.3 NM from DER, 2552′ right of centerline, 322′ MSL.
Trees and terrain beginning 1.3 NM from DER, 1204′ right of centerline, up to 368′ MSL.
Trees, terrain and fence beginning 1.4 NM from DER, 1286′ right of centerline, up to 391′ MSL.
Trees beginning 1.4 NM from DER, 1312′ right of centerline, up to 400′ MSL.
Trees, terrrain, building and fence beginning 1.4 NM from DER, 2008′ right of centerline, up to 417′ MSL.
Electrical system, fence and terrrain beginning 2.1 NM from DER, 2329′ right of centerline, up to 129′ AGL/446′ MSL.
Transmission line 2.2 NM from DER, 3214′ right of centerline, 123′ AGL/542′ MSL.
Electrical system, fence, pole, terrrain and trees beginning 2.2 NM from DER, 1515′ right of centerline, up to 116′ AGL/544′ MSL.
Terrrain and fence beginning 2.3 NM from DER, 2076′ right of centerline, up to 551′ MSL.
Trees, fence, terrrain and building beginning 2.3 NM from DER, 1494′ right of centerline, up to 561′ MSL.
Terrrain and tree beginning 2.4 NM from DER, 1626′ right of centerline, up to 581′ MSL.
Terrrain and tree beginning 2.4 NM from DER, 2067′ right of centerline, up to 612′ MSL.
Terrain and trees beginning 2.4 NM from DER, 2564′ right of centerline, up to 643′ MSL.
Tree 2.4 NM from DER, 3917′ right of centerline, 671′ MSL.
Trees beginning 2.5 NM from DER, 1954′ right of centerline, up to 687′ MSL.

(CONTINUED ON FOLLOWING PAGE)

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

(NOTES CONTINUED)

TAKEOFF OBSTACLE NOTES

Rwy 6: Pole 1′ from DER, 59′ left of centerline, 3′ AGL/37′ MSL.
Pole 2′ from DER, 60′ right of centerline, 2′ AGL/36′ MSL.
Pole 98′ from DER, 480′ left of centerline, 34′ AGL/67′ MSL.
Pole 333′ from DER, 476′ left of centerline, 34′ AGL/68′ MSL.
Pole and vehicles on road beginning 573′ from DER, 0′ left of centerline, up to 33′ AGL/69′ MSL.
Building 773′ from DER, 660′ right of centerline, 29′ AGL/70′ MSL.
Buildings and pole beginning 1104′ from DER, 472′ right of centerline, up to 37′ AGL/80′ MSL.
Trees beginning 1288′ from DER, 516′ left of centerline, up to 98′ MSL.
Trees beginning 2082′ from DER, 98′ right of centerline, up to 113′ MSL.
Trees beginning 2306′ from DER, 53′ right of centerline, up to 130′ MSL.
Tree 4681′ from DER, 1103′ left of centerline, 180′ MSL.
Trees beginning 4859′ from DER, 1063′ left of centerline, up to 187′ MSL.
Terrain 5855′ from DER, 2050′ right of centerline, 195′ MSL.
Trees and fence beginning 5865′ from DER, 1761′ left of centerline, up to 211′ MSL.
Trees, terrrain and fence beginning 6068′ from DER, 1419′ right of centerline, up to 281′ MSL.
Tree 1 NM from DER, 2035′ left of centerline, 212′ MSL.
Trees beginning 1 NM from DER, 1796′ left of centerline, up to 224′ MSL.
Tree 2 NM from DER, 2933′ left of centerline, 340′ MSL.
Tree 2 NM from DER, 2803′ left of centerline, 359′ MSL.
Trees beginning 2.1 NM from DER, 3827′ right of centerline, up to 386′ MSL.
Terrain 2.2 NM from DER, 3202′ right of centerline, up to 405′ MSL.
Terrain beginning 2.3 NM from DER, 911′ right of centerline, up to 464′ MSL.
Fence and terrrain beginning 2.4 NM′ from DER, 3273′ left of centerline, up to 4′ AGL/452′ MSL.
Terrain 2.4 NM from DER, 3353′ left of centerline, 457′ MSL.
Terrain and trees beginning 2.4 NM from DER, 61′ left of centerline, up to 525′ MSL.
Fence beginning 2.5 NM from DER, 100′ right of centerline, up to 6′ AGL/519′ MSL.

Rwy 19L: Sign and terrain beginning 14′ from DER, 125′ left of centerline, up to 2′ AGL/14′ MSL.
Lighting 15′ from DER, 429′ right of centerline, 1′ AGL/14′ MSL.
Terrain 49′ from DER, 483′ left of centerline, 17′ MSL.
Navaid 1278′ from DER, 816′ left of centerline, 35′ AGL/52′ MSL.
Tree 3852′ from DER, 1304′ left of centerline, 111′ MSL.

Rwy 19R: Lighting 9′ from DER, 4′ left of centerline, 1′ AGL/15′ MSL.
Pole 10′ from DER, 44′ right of centerline, 1′ AGL/15′ MSL.
Lighting 10′ from DER, 96′ left of centerline, 3′ AGL/17′ MSL.
Vehicles on road beginning 350′ from DER, 584′ left of centerline, up to 34′ MSL.
Tree 3158′ from DER, 764′ left of centerline, 101′ MSL.
Tree 3503′ from DER, 1006′ left of centerline, 104′ MSL..

Rwy 24: Vehicles on road and general utility beginning 56′ from DER, 125′ right of centerline, up to 21′ MSL.
General utility 59′ from DER, 122′ left of centerline, 4′ AGL/17′ MSL.
Vehicles on road beginning 60′ from DER, 18′ left of centerline, up to 25′ MSL.
Vehicles on road beginning 167′ from DER, 9′ right of centerline, up to 22′ MSL.
Vehicles on road beginning 354′ from DER, 259′ right of centerline, up to 26′ MSL.
Trees beginning 1455′ from DER, 776′ left of centerline, up to 76′ MSL.
Trees beginning 2324′ from DER, 540′ left of centerline, up to 90′ MSL.
Tree 2650′ from DER, 527′ left of centerline, 93′ MSL.
Tree 4552′ from DER, 554′ left of centerline, 135′ MSL.
Vehicles on road and bridge beginning 4943′ from DER, 1631′ right of centerline, up to 165′ AGL/170′ MSL.

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

(LIZRD5.LIZRD) 19283

LIZRD FIVE DEPARTURE

AL-281 (FAA)

NAPA COUNTY (APC)
NAPA, CALIFORNIA

TOP ALTITUDE: ASSIGNED BY ATC

ATIS 124.05
CLNC DEL 127.85
GND CON 121.7
OAKLAND CENTER 127.8 353.5

SCAGGS ISLAND
112.1 SGD
Chan 58
N38°10.76′-W122°22.39′

180°
180°
127° (9)
R-114
R-220
6000
*4100
255°
(13)
R-075
LAKCI
N38°04.23′
W122°35.22′
4100
*4100
255°
(15)
3200
*3200
075°
(3)
CROIT
N38°03.37′
W122°11.66′
L-2-3
CONCORD
117.0 CCR
Chan 117
R-259
LIZRD
N38°03.53′
W122°15.74′
3200
*3200
127°
(5)
4000
R-347
R-229
POINT REYES
113.7 PYE
Chan 84
N38°04.79′-W122°52.07′
L-2-3, H-3
R-035
SABLO
N37°59.45′
W122°12.01′
V195
R-045
SAUSALITO
116.2 SAU
Chan 109
4200
*4200
167°
(16)
R-347
OAKLAND
116.8 OAK
Chan 115
N37°43.56′-W122°13.42′
L-2-3, H-3

TAKEOFF MINIMUMS
Rwy 6: NA-Obstacles.
Rwys 19L/R: Standard
Rwys 1L/R: Standard with minimum climb of 370′ per NM to 1200′.
Rwy 24: Standard with minimum climb of 255′ per NM to 3000′.

NOTE: Chart not to scale.

SW-2, 25 FEB 2021 to 22 APR 2021

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 1L/R: Climbing left turn direct SGD VORTAC, proceed outbound on the SGD R-127 to LIZRD INT. Cross LIZRD INT at or above 3200. Thence. . . .
TAKEOFF RUNWAYS 19L/R: Climb on heading 180° to intercept and proceed outbound on the SGD R-127 to LIZRD INT. Cross LIZRD INT at or above 3200. Thence. . . .
TAKEOFF RUNWAY 24: Climbing left turn on heading 180° to intercept and proceed outbound on the SGD R-127 to LIZRD INT. Cross LIZRD INT at or above 3200. Thence. . . .

. . . . on (transition) or (assigned route). Maintain ATC assigned altitude.

CROIT TRANSITION (LIZRD5.CROIT): From over LIZRD on PYE R-075 to CROIT.
OAKLAND TRANSITION (LIZRD5.OAK): From over LIZRD on SGD R-127 and OAK R-347 to OAK VOR/DME.
POINT REYES TRANSITION (LIZRD5.PYE): From over LIZRD on PYE R-075 to PYE VOR/DME.

SW-2, 25 FEB 2021 to 22 APR 2021

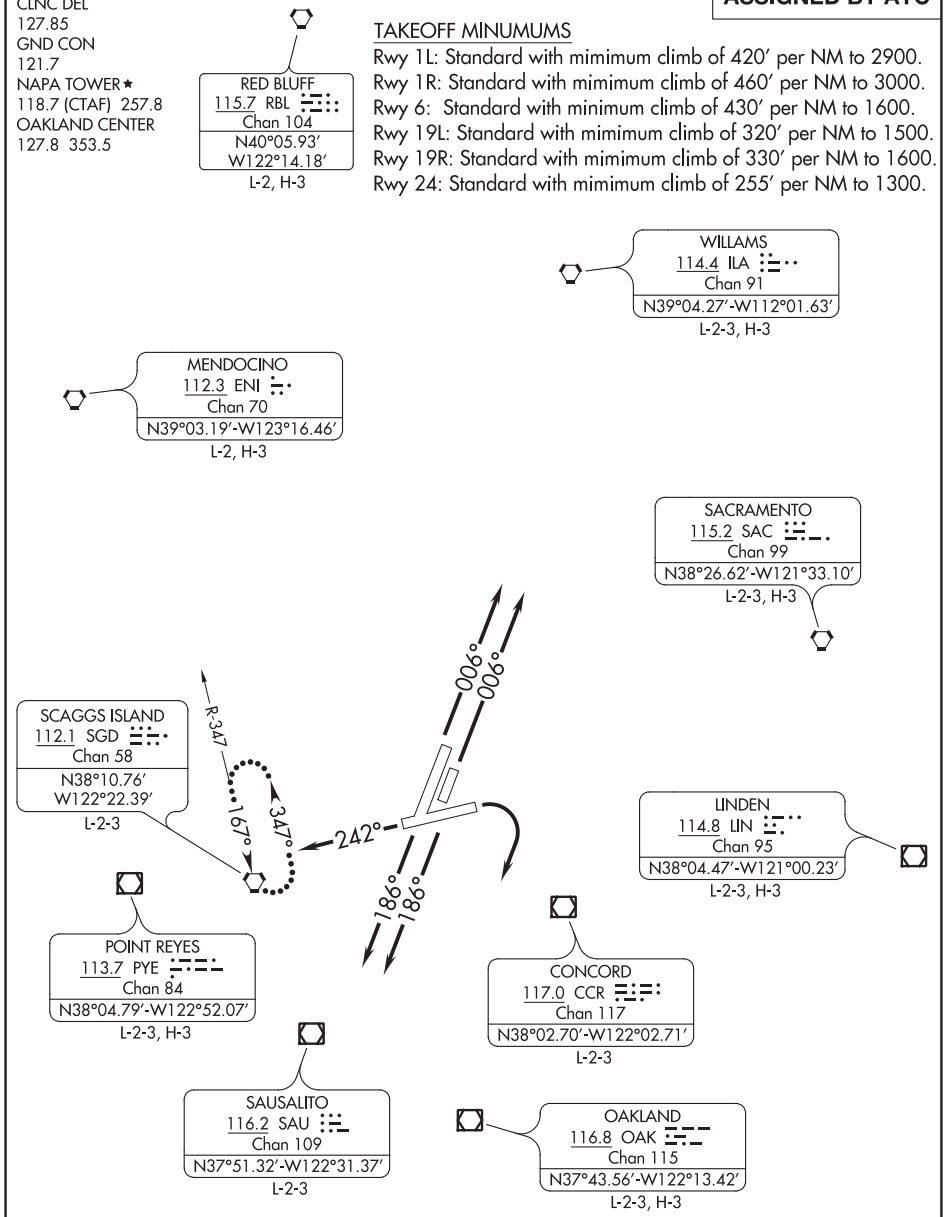
MERLOT THREE DEPARTURE

AL-281 (FAA)

ATIS
124.05
CLNC DEL
127.85
GND CON
121.7
NAPA TOWER★
118.7 (CTAF) 257.8
OAKLAND CENTER
127.8 353.5

TOP ALTITUDE: ASSIGNED BY ATC

TAKEOFF MINUMUMS
Rwy 1L: Standard with mimimum climb of 420′ per NM to 2900.
Rwy 1R: Standard with mimimum climb of 460′ per NM to 3000.
Rwy 6: Standard with minimum climb of 430′ per NM to 1600.
Rwy 19L: Standard with mimimum climb of 320′ per NM to 1500.
Rwy 19R: Standard with mimimum climb of 330′ per NM to 1600.
Rwy 24: Standard with mimimum climb of 255′ per NM to 1300.



NOTE: RADAR required.

(NARRATIVE ON FOLLOWING PAGE)

NOTE: Chart not to scale.

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 1L/R: Climb on heading 006° (or climbing left turn on ATC assigned heading 186° CW 006°); thence. . . .

TAKEOFF RUNWAY 6: Climbing right turn on assigned heading between 130° CW 242°; thence. . . .

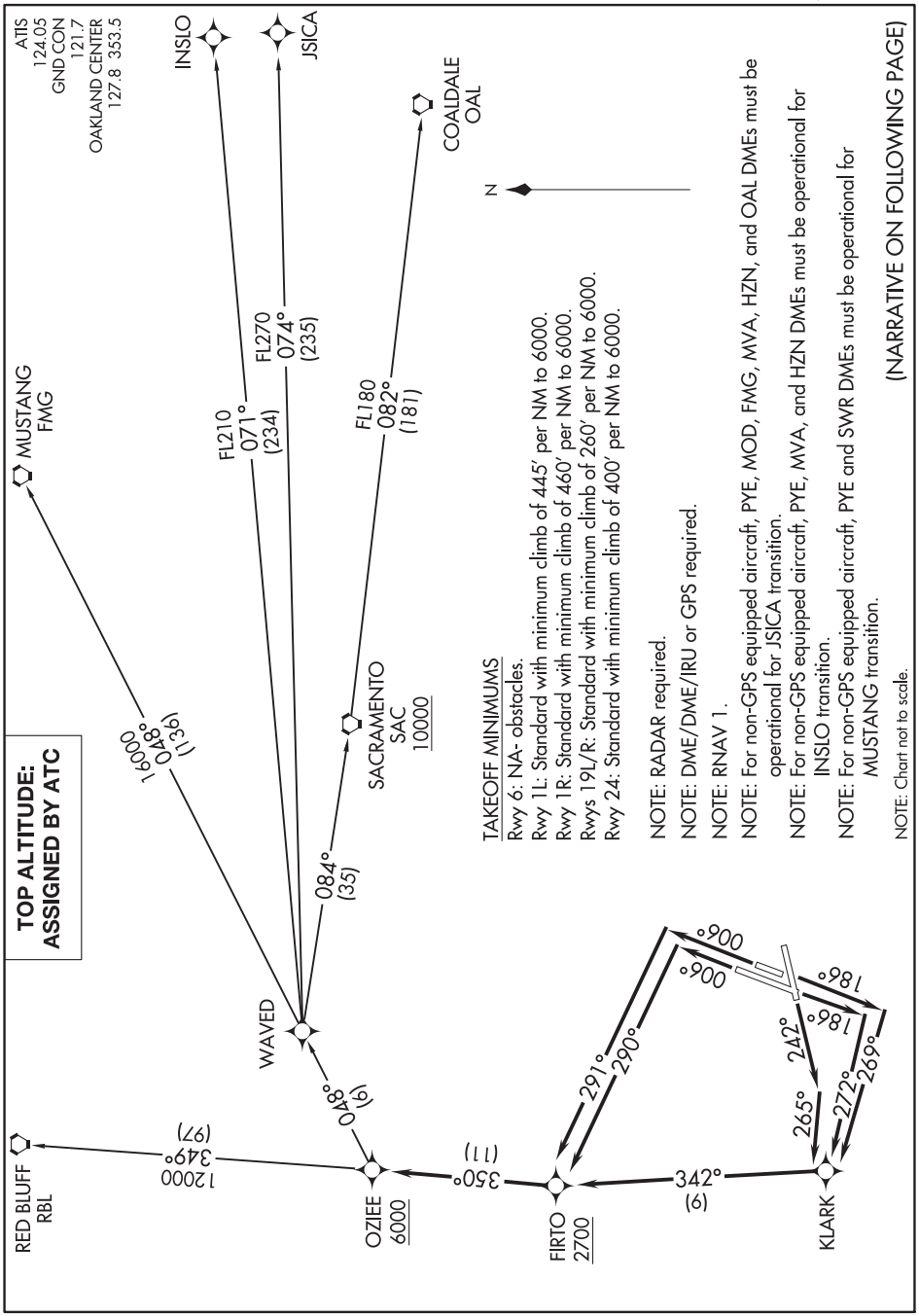
TAKEOFF RUNWAYS 19L/R: Climb on heading 186° (or ATC assigned heading 130° CW 270°); thence. . . .

TAKEOFF RUNWAY 24: Climb on heading 242° (or ATC assigned heading 130° CW 270°); thence. . . .

. . . . expect vectors to join assigned route. Maintain ATC assigned altitude; expect filed altitude/flight level ten minutes after departure.

LOST COMMUNICATIONS

If not in contact with Oakland Center after reaching 4000, proceed to the SGD VORTAC and hold.



TAKEOFF MINIMUMS
Rwy 6: NA- obstacles.
Rwy 1L: Standard with minimum climb of 445′ per NM to 6000.
Rwy 1R: Standard with minimum climb of 460′ per NM to 6000.
Rwys 19L/R: Standard with minimum climb of 260′ per NM to 6000.
Rwy 24: Standard with minimum climb of 400′ per NM to 6000.

NOTE: RADAR required.
NOTE: DME/DME/IRU or GPS required.
NOTE: RNAV 1.
NOTE: For non-GPS equipped aircraft, PYE, MOD, FMG, MVA, HZN, and OAL DMEs must be operational for JSICA transition.
NOTE: For non-GPS equipped aircraft, PYE, MVA, and HZN DMEs must be operational for INSLO transition.
NOTE: For non-GPS equipped aircraft, PYE and SWR DMEs must be operational for MUSTANG transition.
NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

SW-2, 25 FEB 2021 to 22 APR 2021

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(OZIEE4.OZIEE) 19283

OZIEE FOUR DEPARTURE (RNAV)

AL-281 (FAA)

NAPA COUNTY (APC)
NAPA, CALIFORNIA

V

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 1L: Climb on heading 006° to intercept course 290° to FIRTO at or above 2700, then on track 350° to OZIEE at or above 6000, thence. . . .

TAKEOFF RUNWAY 1R: Climb on heading 006° to intercept course 291° to FIRTO at or above 2700, then on track 350° to OZIEE at or above 6000, thence. . . .

TAKEOFF RUNWAY 19L: Climb on heading 186° to intercept course 269° to KLARK, then on track 342° to FIRTO at or above 2700, then on track 350° to OZIEE at or above 6000, thence. . . .

TAKEOFF RUNWAY 19R: Climb on heading 186° to intercept course 272° to KLARK, then on track 342° to FIRTO at or above 2700, then on track 350° to OZIEE at or above 6000, thence. . . .

TAKEOFF RUNWAY 24: Climb on heading 242° to intercept course 265° to KLARK, then on track 342° to FIRTO at or above 2700, then on track 350° to OZIEE at or above 6000, thence. . . .

. . . .on (transition). Maintain ATC assigned altitude. Expect filed altitude 10 minutes after departure.

COALDALE TRANSITION (OZIEE4.OAL)

INSLO TRANSITION (OZIEE4.INSLO)

JSICA TRANSITION (OZIEE4.JSICA)

MUSTANG TRANSITION (OZIEE4.FMG)

RED BLUFF TRANSITION (OZIEE4.RBL)

SW-2, 25 FEB 2021 to 22 APR 2021

APP CRS	Rwy ldg	3300
147°	TDZE	2
	Apt Elev	2

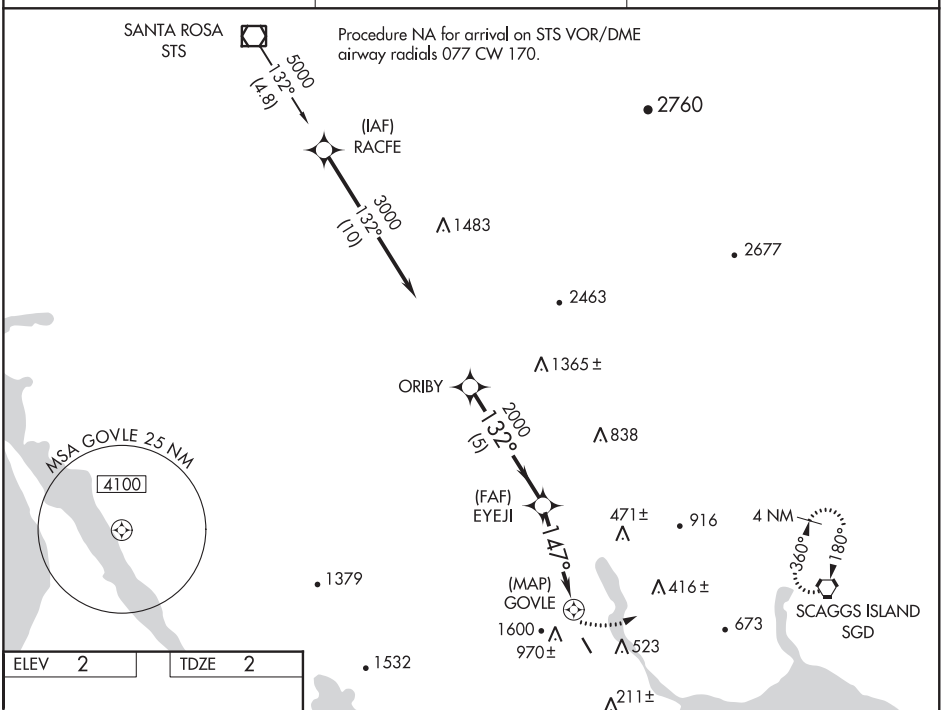
GPS RWY 13
GNOSS FIELD (DVO)

NA

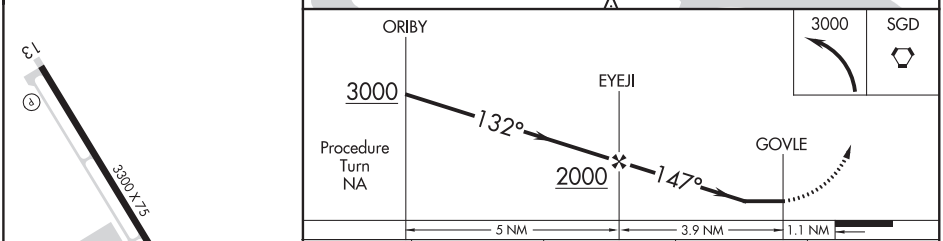
Circling NA west of Rwy 13-31. When local altimeter not received, use Napa altimeter setting and increase all MDAs 40 feet. If neither is received procedure is NA. Rwy 13 helicopter visibility reduction below ¾ SM NA.

MISSED APPROACH: Climbing left turn to 3000 direct SGD VORTAC and hold.

AWOS-3P	OAKLAND CENTER	UNICOM
120.675	127.8 353.5	123.075 (CTAF)



ELEV	2	TDZE	2



CATEGORY	A	B	C	D
S-13	1000-1¼ 998 (1000-1¼)	1000-1½ 998 (1000-1½)	NA	
CIRCLING	1000-1¼ 998 (1000-1¼)	1000-1½ 998 (1000-1½)	NA	
NAPA ALTIMETER SETTING MINIMUMS				
S-13	1040-1¼ 1038 (1100-1¼)	1040-1½ 1038 (1100-1½)	NA	
CIRCLING	1040-1¼ 1038 (1100-1¼)	1040-1½ 1038 (1100-1½)	NA	

MIRL Rwy 13-31

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

OAKDALE, CALIFORNIA AL-6135 (FAA) 19283

WAAS CH 42524 W10A	APP CRS 096°	Rwy ldg 3013 TDZE 237 Apt Elev 237

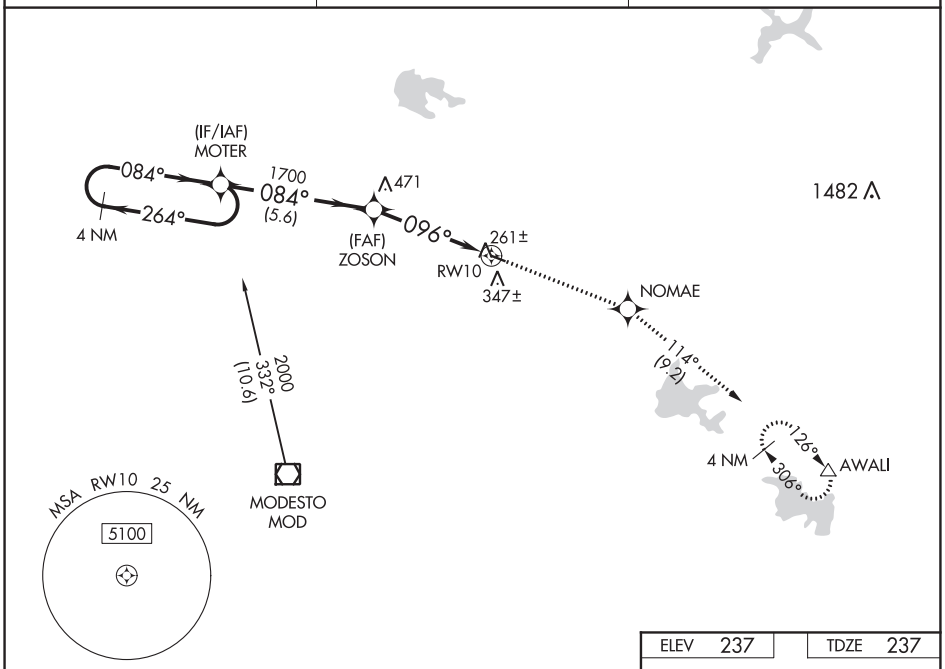
RNAV (GPS) RWY 10
OAKDALE (O27)

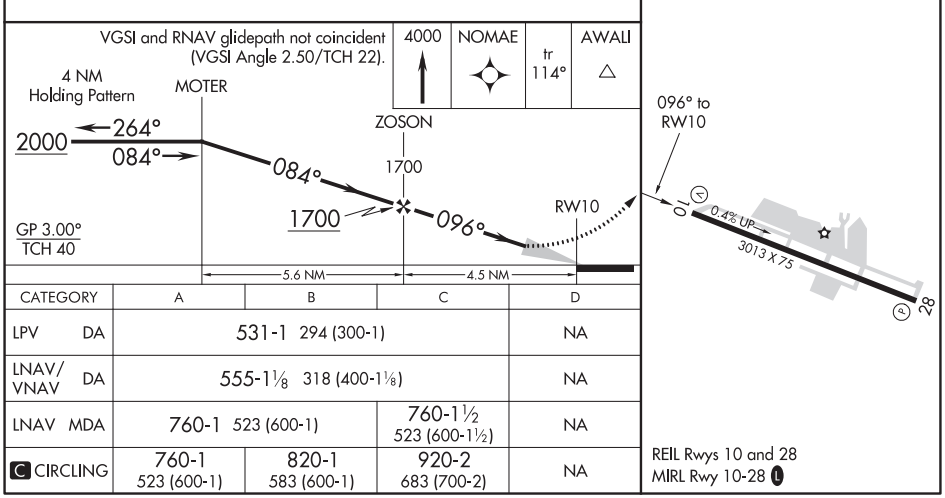
T A NA

Baro-VNAV NA. DME/DME RNP-0.3 NA.
Use Modesto altimeter setting; when not received, use Stockton altimeter setting and increase all DA 36 feet and all MDA 40 feet; increase LPV and LNAV/VNAV all Cats and LNAV Cat C visibility ⅛ SM.

MISSED APPROACH: Climb to 4000 direct NOMAE and on track 114° to AWALI and hold, continue climb-in-hold to 4000.

MOD ASOS	NORCAL APP CON	UNICOM
127.7	125.1 363.2	122.8 (CTAF) L





CATEGORY	A	B	C	D
LPV DA	531-1 294 (300-1)			NA
LNAV/VNAV DA	555-1⅛ 318 (400-1⅛)			NA
LNAV MDA	760-1 523 (600-1)		760-1½ 523 (600-1½)	NA
C CIRCLING	760-1 523 (600-1)	820-1 583 (600-1)	920-2 683 (700-2)	NA

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WAAS CH 70523 W28A	APP CRS 277°	Rwy ldg 3013 TDZE 237 Apt Elev 237

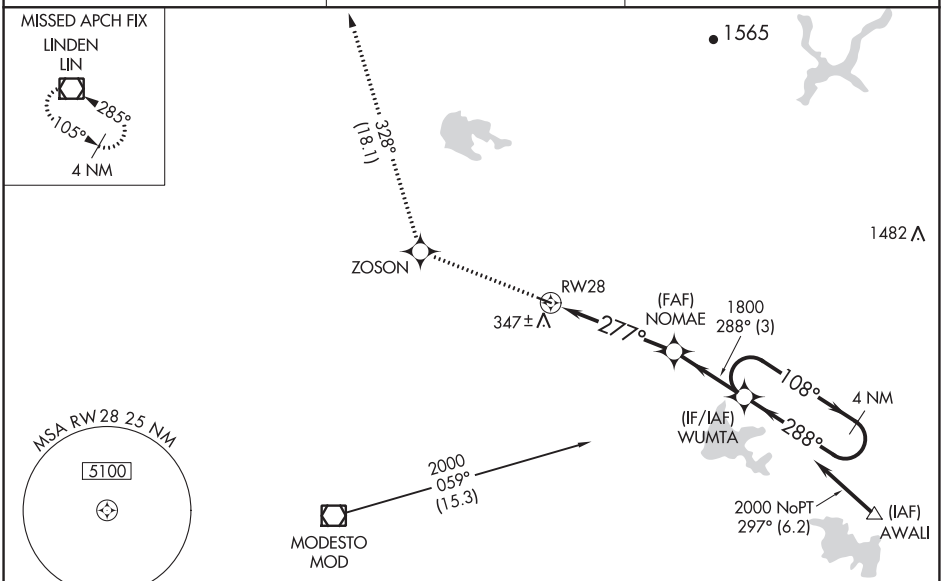
RNAV (GPS) RWY 28
OAKDALE (O27)

NA

Baro-VNAV NA. DME/DME RNP-0.3 NA. Use Modesto altimeter setting; when not received, use Stockton altimeter setting and increase LPV DA to 567 feet and all visibilities ¼ SM; increase LNAV/VNAV DA to 570 feet and all visibilities ⅛ SM; increase all MDAs 40 feet.

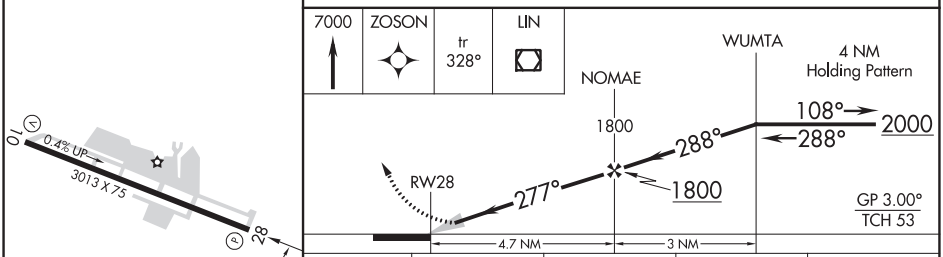
MISSED APPROACH: Climb to 7000 direct ZOSON and on track 328° to LIN VOR/DME and hold, continue climb-in-hold to 7000.

MOD ASOS	NORCAL APP CON	UNICOM
127.7	125.1 363.2	122.8 (CTAF) L



Procedure NA for arrivals at AWALI on V23 southeast bound.

ELEV 237	TDZE 237



CATEGORY		A	B	C	D
LPV	DA	531-⅞ 294 (300-⅞)			NA
LNAV/VNAV	DA	534-1 297 (300-1)			NA
LNAV	MDA	820-1 583 (600-1)		820-1¾ 583 (600-1¾)	NA
C CIRCLING		820-1 583 (600-1)		920-2 683 (700-2)	NA

REIL Rwys 10 and 28
MIRL Rwy 10-28 L

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OAKDALE, CALIFORNIA

AL-6135 (FAA)

20310

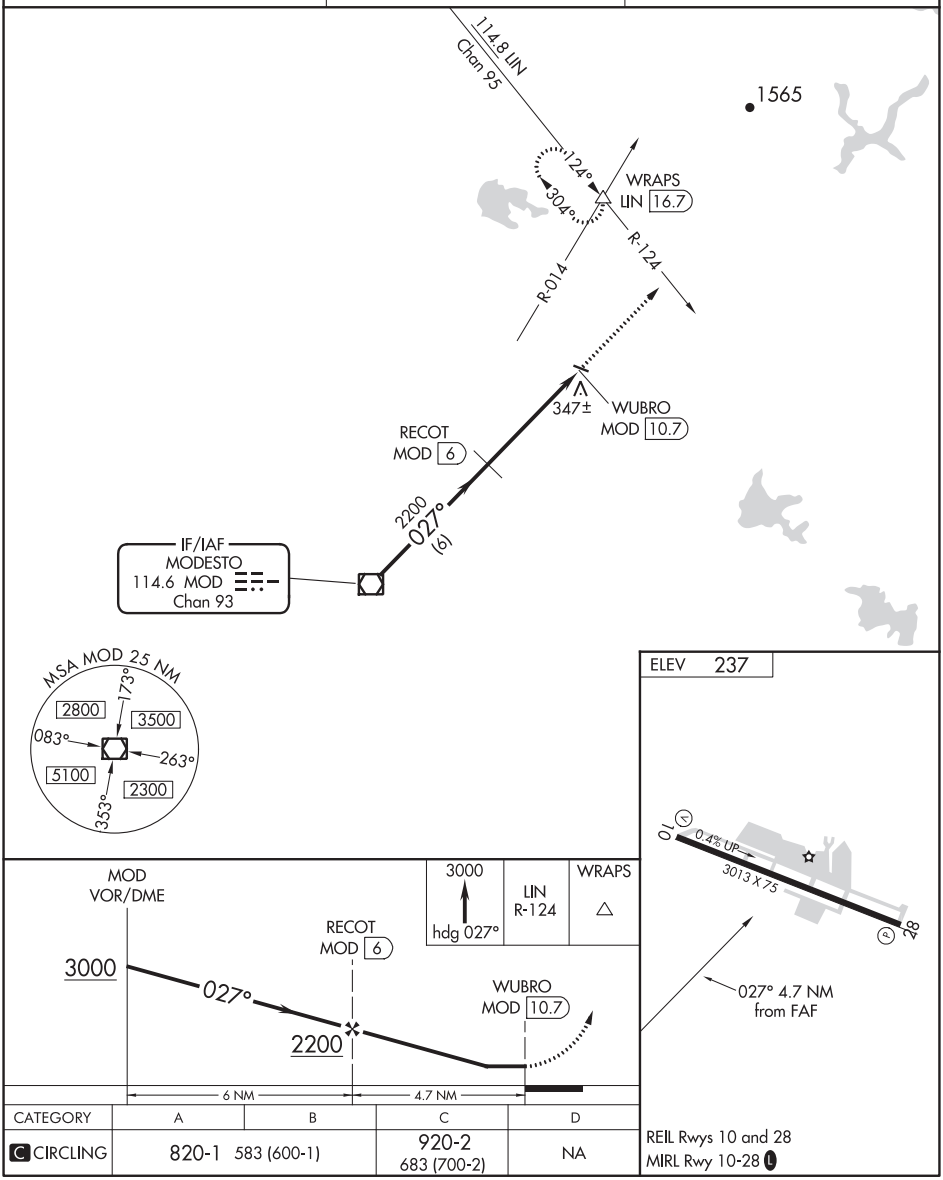
VOR-A
OAKDALE (O27)

VOR/DME MOD	APP CRS	Rwy ldg	N/A
114.6	027°	TDZE	N/A
Chan 93		Apt Elev	237

DME required.
Use Modesto altimeter setting, when not received, use Stockton altimeter setting and increase all MDA 40 feet.

MISSED APPROACH: Climb to 3000 on heading 027° and LIN R-124 to WRAPS INT/LIN 16.7 DME and hold, continue climb-in-hold to 3000.

MOD ASOS	NORCAL APP CON	UNICOM
127.7	125.1 363.2	122.8 (CTAF) L



CATEGORY	A	B	C	D
C CIRCLING	820-1 583 (600-1)		920-2 683 (700-2)	NA

REIL Rwys 10 and 28
MIRL Rwy 10-28 L

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ILS or LOC RWY 12

METROPOLITAN OAKLAND INTL (OAK)

LOC I-AAZ	APP CRS	Rwy ldg	10000
111.9	116°	TDZE	9
		Apt Elev	9

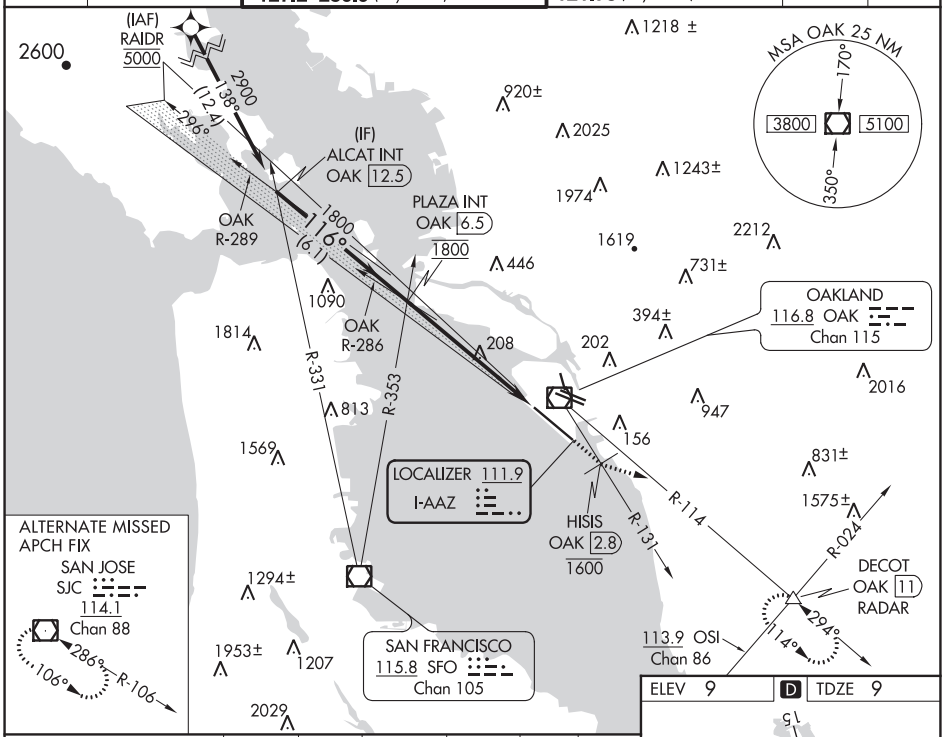
DME required. From RAIDR: RNAV 1-GPS required.

* RVR 1800 authorized with the use of FD or AP or HUD to DA.

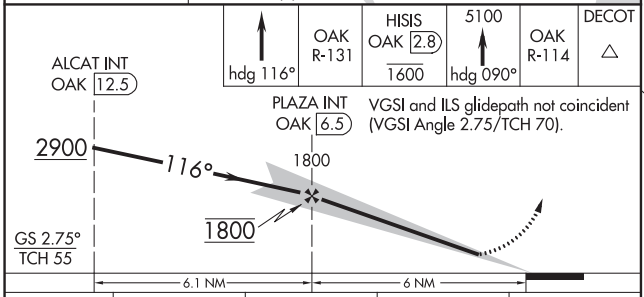
MALSR

MISSED APPROACH: Climb on heading 116° and on OAK VOR/DME R-131 to cross HISIS/OAK 2.8 DME at or below 1600 then climb to 5100 on heading 090° and on OAK VOR/DME R-114 to DECOT INT/ OAK 11 DME/RADAR and hold, continue climb-in-hold to 5100.

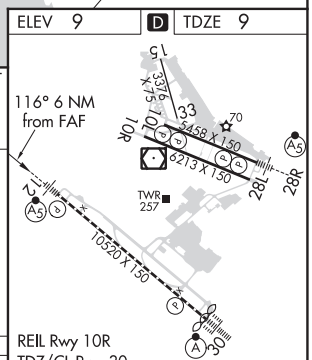
D-ATIS	NORCAL APP CON	OAKLAND TOWER	GND CON	CLNC DEL	CPDLC
133.775	125.35 263.15	118.3 291.65 (Rwys 10L/R-28L/R, 15-33) 127.2 256.9 (Rwy 12-30)	121.9 (Rwys 10L/R-28L/R, 15-33) 121.75 (Rwy 12-30)	121.1	



hdg 116°	OAK R-131	HISIS OAK 2.8 1600	5100 hdg 090°	OAK R-114	DECOT △



VGSI and ILS glidepath not coincident (VGSI Angle 2.75/TCH 70).



CATEGORY	A	B	C	D
S-ILS 12*	209/24		200 (200-½)	
S-LOC 12	460/24 451 (500-½)		460/45 451 (500-⅞)	
C CIRCLING	560-1 551 (600-1)		660-1¾ 651 (700-1¾)	1400-3 1391 (1400-3)

FAF to MAP 6 NM					
Knots	60	90	120	150	180
Min:Sec	6:00	4:00	3:00	2:24	2:00

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ILS or LOC RWY 30
METROPOLITAN OAKLAND INTL (OAK)

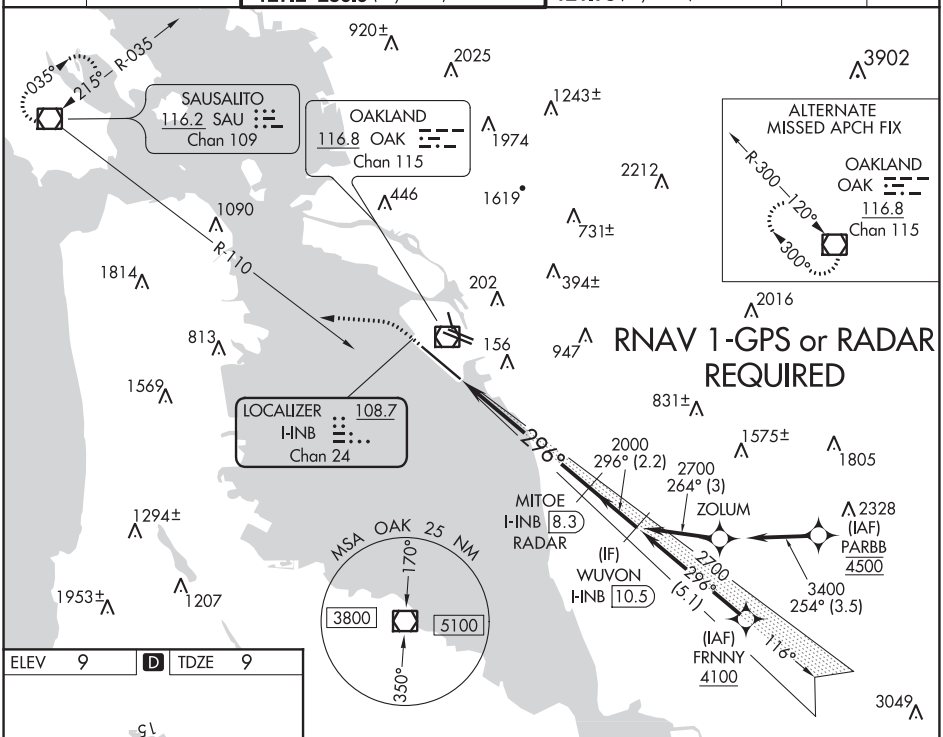
LOC/DME I-INB 108.7 Chan 24	APP CRS 296°	Rwy ldg 10000 TDZE 9 Apt Elev 9

T A DME or RADAR required.

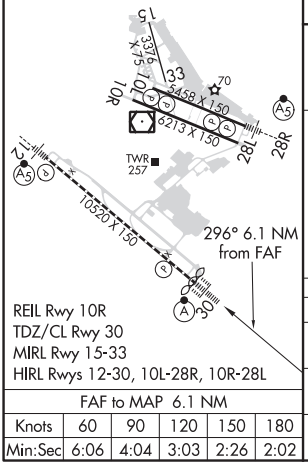
ALSF-2

MISSED APPROACH: Climb to 600 then climbing left turn to 4000 on heading 260° and on SAU VOR/DME R-110 to SAU VOR/DME and hold, continue climb-in-hold to 4000.

D-ATIS	NORCAL APP CON	OAKLAND TOWER	GND CON	CLNC DEL	CPDLC
133.775	125.35 263.15	118.3 291.65 (Rwys 10L/R-28L/R, 15-33) 127.2 256.9 (Rwy 12-30)	121.9 (Rwys 10L/R-28L/R, 15-33) 121.75 (Rwy 12-30)	121.1	



ELEV 9	D	TDZE 9

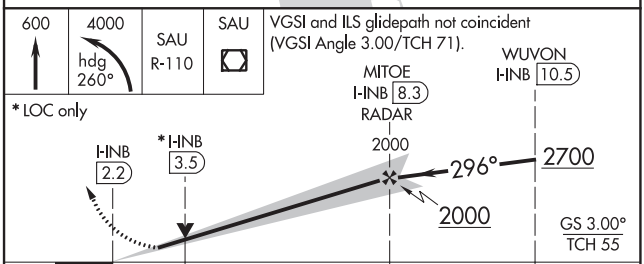


REIL Rwy 10R
TDZ/CL Rwy 30
MIRL Rwy 15-33
HIRL Rwys 12-30, 10L-28R, 10R-28L

FAF to MAP 6.1 NM					
Knots	60	90	120	150	180
Min:Sec	6:06	4:04	3:03	2:26	2:02

600	4000 hdg 260°	SAU R-110	SAU

VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 71).



CATEGORY	A	B	C	D
S-ILS 30	209/18 200 (200-½)			
S-LOC 30	500/24 491 (500-½)		500/50 491 (500-1)	
C CIRCLING	560-1 551 (600-1)		660-1¾ 651 (700-1¾)	1400-3 1391 (1400-3)

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ILS or LOC/DME RWY 28R

METROPOLITAN OAKLAND INTL (OAK)

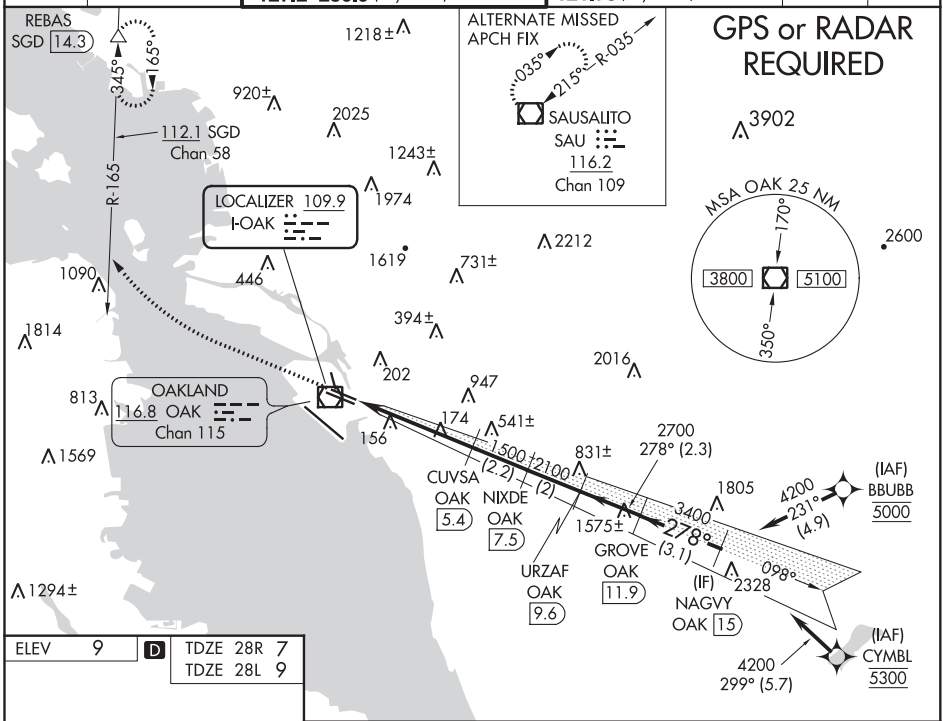
LOC I-OAK	APP CRS	Rwy ldg	28R	28L
109.9	278°		5458	6213
		TDZE	7	9
		Apt Elev	9	9

DME required. DME from OAK VOR/DME. Simultaneous reception of I-OAK and OAK DME required.
*RVR 1800 authorized with use of FD or AP or HUD to DA.

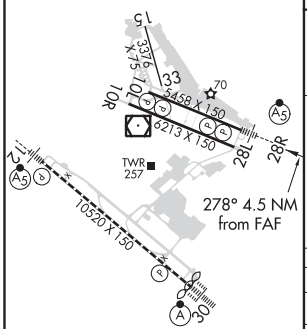
MALSR Rwy 28R

MISSED APPROACH: Climb to 1900 then climbing right turn to 3000 on heading 340° and SGD VORTAC R-165 to REBAS/SGD 14.3 DME and hold.

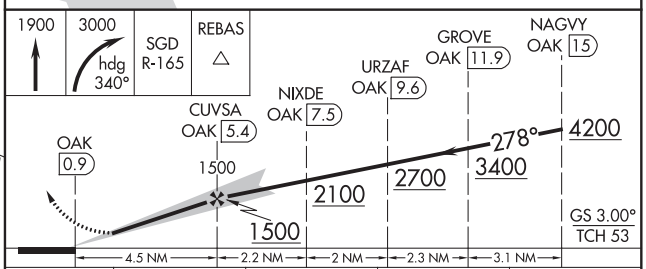
D-ATIS	NORCAL APP CON	OAKLAND TOWER	GND CON	CLNC DEL	CPDLC
133.775	125.35 263.15	118.3 291.65 (Rwys 10L/R-28L/R, 15-33) 127.2 256.9 (Rwy 12-30)	121.9 (Rwys 10L/R-28L/R, 15-33) 121.75 (Rwy 12-30)	121.1	



ELEV	9	D	TDZE 28R	7
			TDZE 28L	9



REIL Rwy 10R
TDZ/CL Rwy 30
MIRL Rwy 15-33
HIRL Rwys 12-30, 10L-28R, 10R-28L



CATEGORY	A	B	C	D
*S-ILS 28R	207/24 200 (200-½)			
S-LOC 28R	440/24 433 (500-½)			
SIDESTEP 28L	440/55 431 (500-1)		440-1½ 431 (500-1½)	
C CIRCLING	560-1 551 (600-1)		660-1¾ 651 (700-1¾)	1400-3 1391 (1400-3)

OAKLAND, CALIFORNIA | AL-294 (FAA) | 20310

ILS RWY 12 (SA CAT I)
METROPOLITAN OAKLAND INTL (OAK)

LOC I-AAZ	APP CRS	Rwy ldg	10000
111.9	116°	TDZE	9
		Apt Elev	9

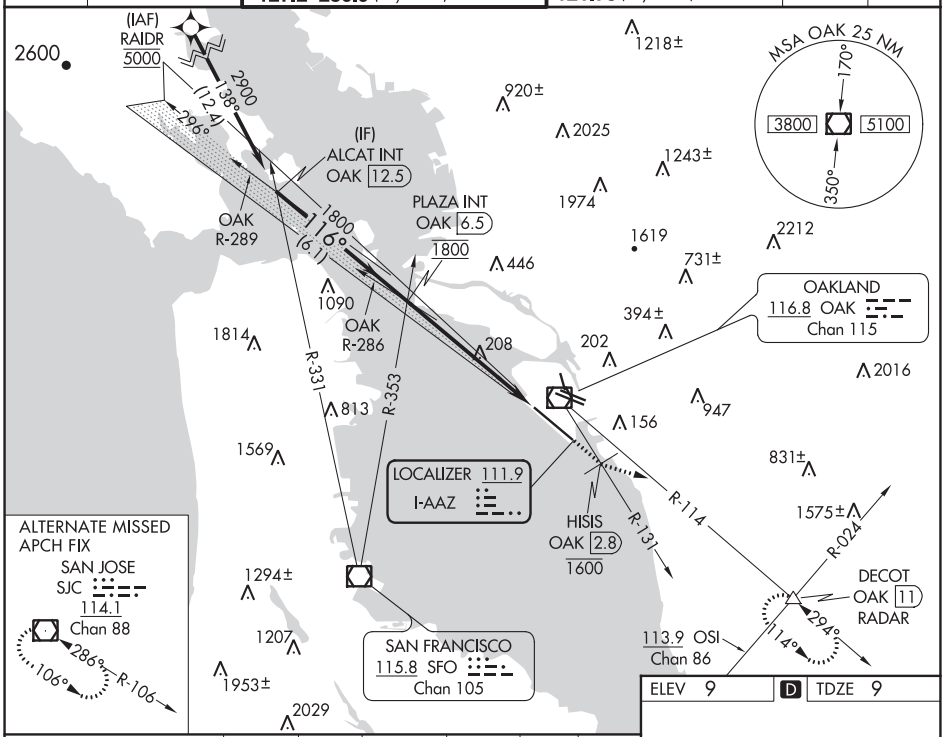
DME required. From RAIDR: RNAV 1-GPS required.

T Requires specific OPSPEC, MSPEC, or LOA approval and use of HUD to DH.

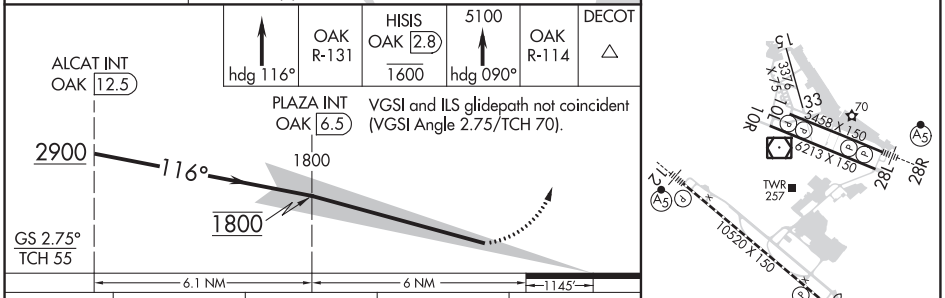
MALSR

MISSED APPROACH: Climb on heading 116° and on OAK VOR/DME R-131 to cross HISIS/OAK 2.8 DME at or below 1600 then climb to 5100 on heading 090° and on OAK VOR/DME R-114 to DECOT INT/ OAK 11 DME/RADAR and hold, continue climb-in-hold to 5100.

D-ATIS	NORCAL APP CON	OAKLAND TOWER	GND CON	CLNC DEL	CPDLC
133.775	125.35 263.15	118.3 291.65 (Rwys 10L/R-28L/R, 15-33) 127.2 256.9 (Rwy 12-30)	121.9 (Rwys 10L/R-28L/R, 15-33) 121.75 (Rwy 12-30)	121.1	



ELEV 9 | D | TDZE 9



CATEGORY	A	B	C	D
S-ILS 12	RA 153/14 150 DA 159			

SA CATEGORY I ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

REIL Rwy 10R
TDZ/CL Rwy 30
MIRL Rwy 15-33
HIRL Rwys 12-30, 10L-28R, 10R-28L

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ILS RWY 30 (SA CAT I)
METROPOLITAN OAKLAND INTL (OAK)

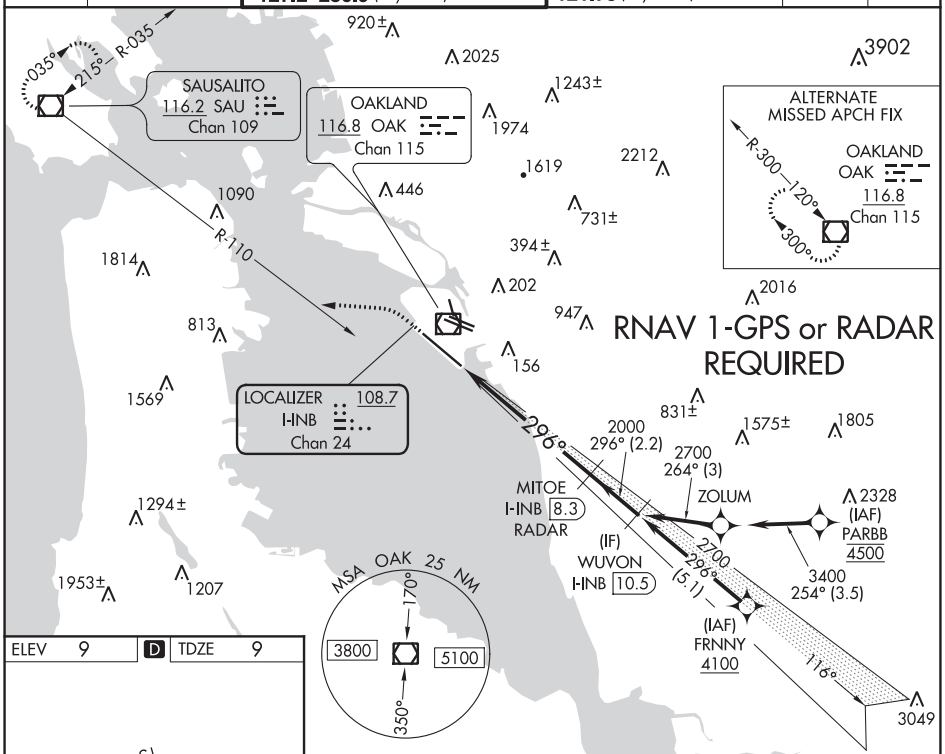
LOC/DME I-INB	APP CRS	Rwy ldg	10000
108.7	296°	TDZE	9
Chan 24		Apt Elev	9

T A DME or RADAR required. Requires specific OPSPEC, MSPEC or LOA approval and use of HUD to DH. Missed approach requires minimum climb of 240 feet per NM to 2700, if unable to meet climb gradient, see ILS or LOC RWY 30.

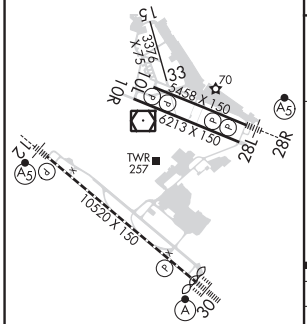
ALSF-2

MISSED APPROACH: Climb to 600 then climbing left turn to 4000 on heading 260° and on SAU VOR/DME R-110 to SAU VOR/DME and hold, continue climb-in-hold to 4000.

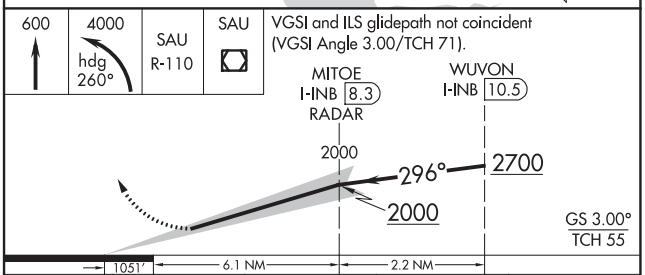
D-ATIS	NORCAL APP CON	OAKLAND TOWER	GND CON	CLNC DEL	CPDLC
133.775	125.35 263.15	118.3 291.65 (Rwys 10L/R-28L/R, 15-33) 127.2 256.9 (Rwy 12-30)	121.9 (Rwys 10L/R-28L/R, 15-33) 121.75 (Rwy 12-30)	121.1	



ELEV	9	D	TDZE	9



REIL Rwy 10R
TDZ/CL Rwy 30
MIRL Rwy 15-33
HIRL Rwys 12-30, 10L-28R, 10R-28L



CATEGORY	A	B	C	D
S-ILS 30	RA 159/14 150 DA 159			

SA CATEGORY I ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

SW-2, 25 FEB 2021 to 22 APR 2021

ILS RWY 30 (CAT II & III)
METROPOLITAN OAKLAND INTL (OAK)

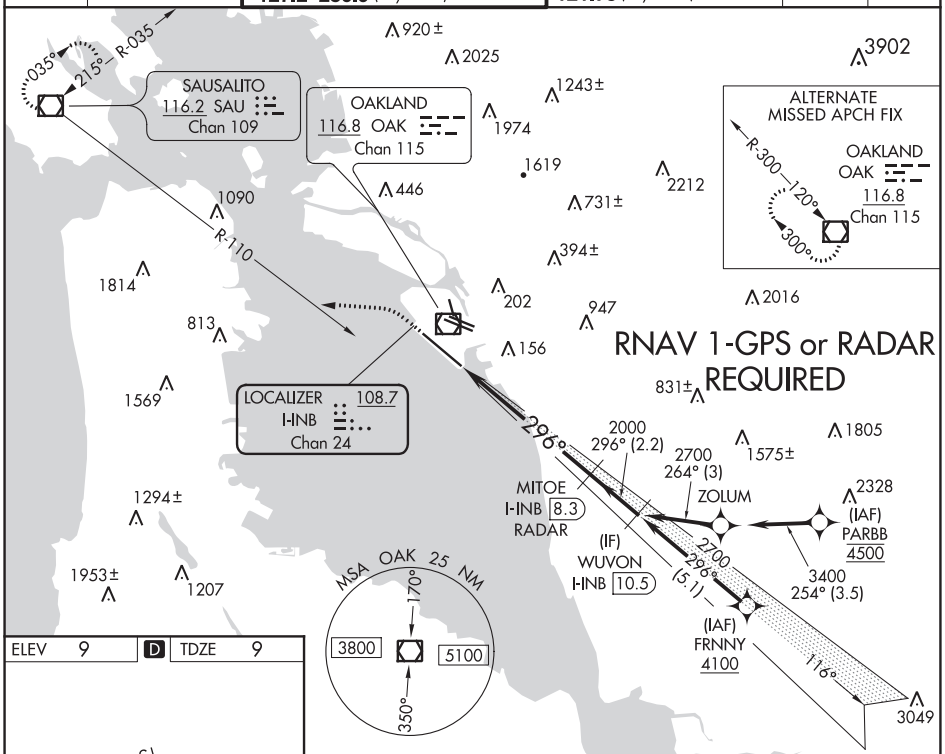
LOC/DME I-INB 108.7 Chan 24	APP CRS 296°	Rwy ldg 10000 TDZE 9 Apt Elev 9

T A DME or RADAR required. CAT II: RVR 1000 authorized with specific OPSPEC, MSPEC, or LOA approval and use of autoland or HUD to touchdown. Missed approach requires minimum climb of 240 feet per NM to 2700, if unable to meet climb gradient, see ILS or LOC RWY 30.

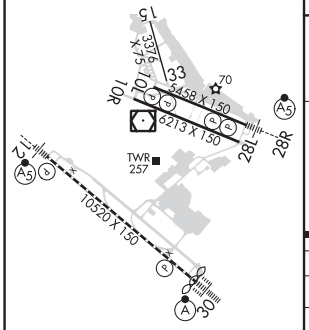
ALSF-2

MISSED APPROACH: Climb to 600 then climbing left turn to 4000 on heading 260° and on SAU VOR/DME R-110 to SAU VOR/DME and hold, continue climb-in-hold to 4000.

D-ATIS	NORCAL APP CON	OAKLAND TOWER	GND CON	CLNC DEL	CPDLC
133.775	125.35 263.15	118.3 291.65 (Rwys 10L/R-28L/R, 15-33) 127.2 256.9 (Rwy 12-30)	121.9 (Rwys 10L/R-28L/R, 15-33) 121.75 (Rwy 12-30)	121.1	



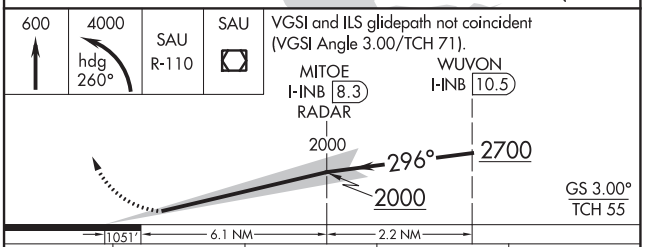
ELEV 9	D	TDZE 9



REIL Rwy 10R
TDZ/CL Rwy 30
MIRL Rwy 15-33
HIRL Rwys 12-30, 10L-28R, 10R-28L

600	4000 hdg 260°	SAU R-110	SAU

VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 71).



CATEGORY	A	B	C	D
S-ILS 30	CAT II RA 109/12 100 DA 109			
S-ILS 30	CAT III RVR 06			

CATEGORY II & III ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

SW-2, 25 FEB 2021 to 22 APR 2021

APP CRS	Rwy ldg	10000
116°	TDZE	9
	Apt Elev	9

RNAV (RNP) Z RWY 12
METROPOLITAN OAKLAND INTL (OAK)

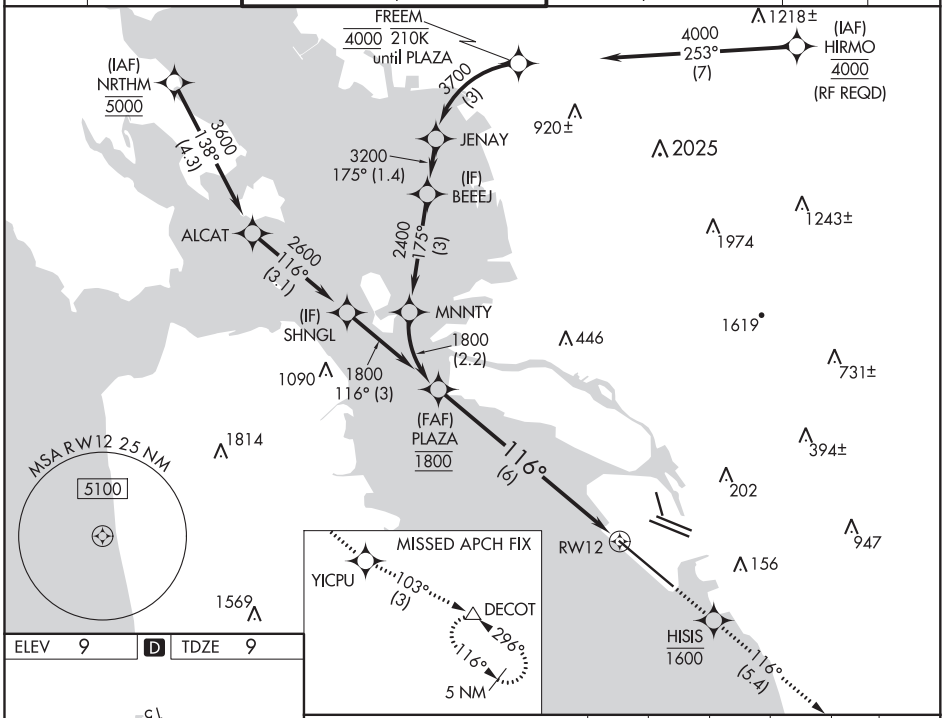
RNP AR APCH.

For uncompensated Baro-VNAV systems, procedure NA below 0°C or above 54°C. For inop ALS increase RNP 0.15 visibility all Cats to RVR 4500, RNP 0.30 visibility all Cats to RVR 5500.

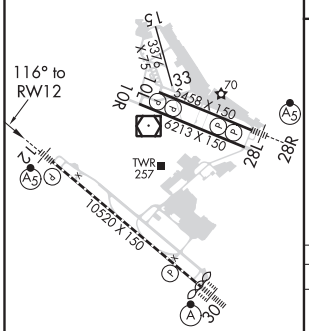
MALSR

MISSED APPROACH: Climb direct HISIS to cross HISIS at or below 1600 then climb to 5400 on track 116° to YICPU and on track 103° to DECOT and hold, continue climb-in-hold to 5400.

D-ATIS	NORCAL APP CON	OAKLAND TOWER	GND CON	CLNC DEL	CPDLC
133.775	125.35 263.15	118.3 291.65 (Rwys 10L/R-28L/R, 15-33) 127.2 256.9 (Rwy 12-30)	121.9 (Rwys 10L/R-28L/R, 15-33) 121.75 (Rwy 12-30)	121.1	



ELEV	9	D	TDZE	9

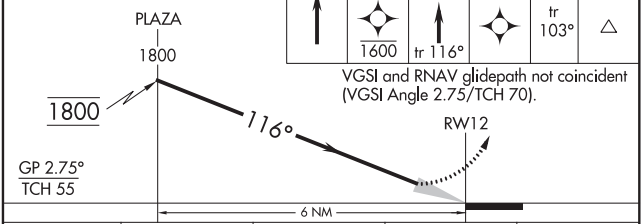


REIL Rwy 10R
TDZ/CL Rwy 30
MIRL Rwy 15-33
HIRL Rwys 12-30, 10L-28R, 10R-28L

See planview for multiple IF locations.

	HISIS	5400	YICPU		DECOT
	1600	tr 116°		tr 103°	

VGSI and RNAV glidepath not coincident (VGSI Angle 2.75/TCH 70).



CATEGORY	A	B	C	D
RNP 0.15 DA	289/24 280 (300-½)			
RNP 0.30 DA	386/35 377 (400-⅝)			

AUTHORIZATION REQUIRED

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

OAKLAND, CALIFORNIA AL-294 (FAA) 20310

APP CRS	Rwy ldg	6213
278°	TDZE	9
	Apt Elev	9

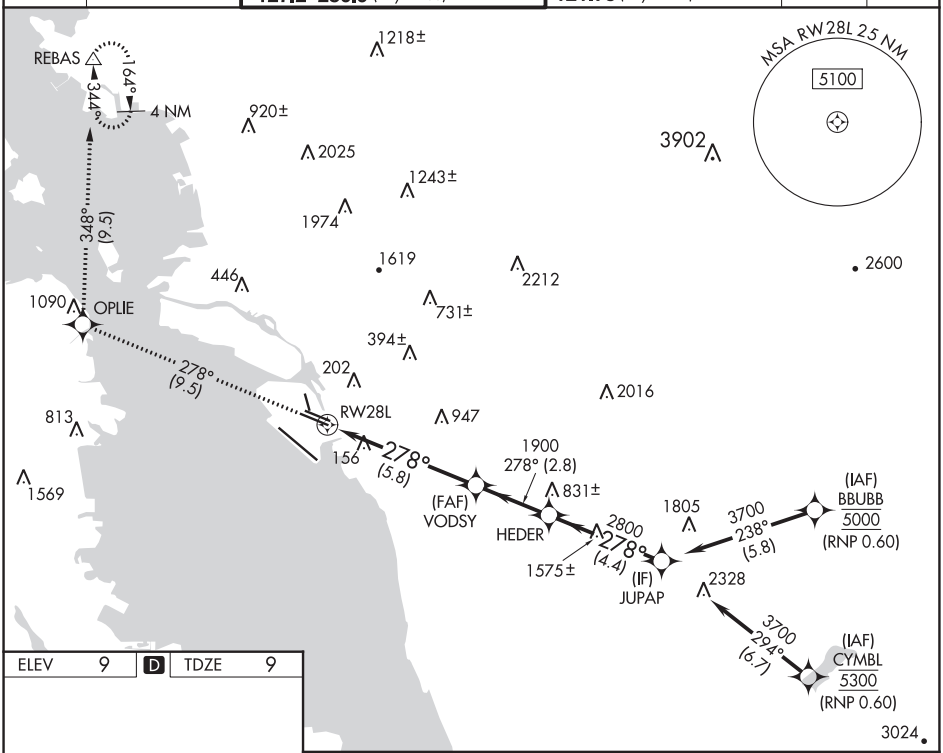
RNAV (RNP) Z RWY 28L

METROPOLITAN OAKLAND INTL (OAK)

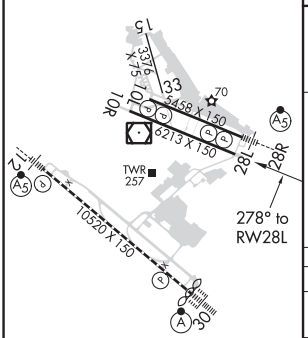
For uncompensated Baro-VNAV systems, procedure NA below 0°C (32°F) or above 54°C (130°F). GPS required.

MISSED APPROACH: Climb to 3000 on track 278° to OPLIE and on track 348° to REBAS and hold.

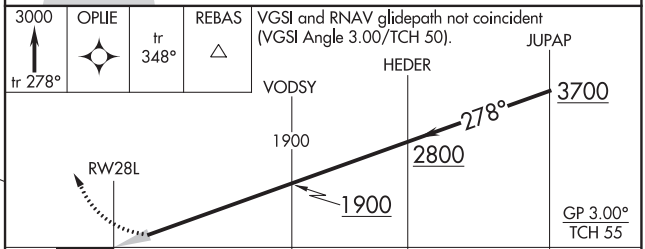
D-ATIS	NORCAL APP CON	OAKLAND TOWER	GND CON	CLNC DEL	CPDLC
133.775	125.35 263.15	118.3 291.65 (Rwys 10L/R-28L/R, 15-33) 127.2 256.9 (Rwy 12-30)	121.9 (Rwys 10L/R-28L/R, 15-33) 121.75 (Rwy 12-30)	121.1	



ELEV	9	D	TDZE	9



REIL Rwy 10R
TDZ/CL Rwy 30
MIRL Rwy 15-33
HIRL Rwys 12-30, 10L-28R, 10R-28L



CATEGORY	A	B	C	D
RNP 0.15 DA	341/53 332 (400-1)			
RNP 0.30 DA	399-1¼ 390 (400-1¼)			

AUTHORIZATION REQUIRED

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

APP CRS	Rwy ldg	5458
278°	TDZE	7
	Apt Elev	9

RNAV (RNP) Z RWY 28R

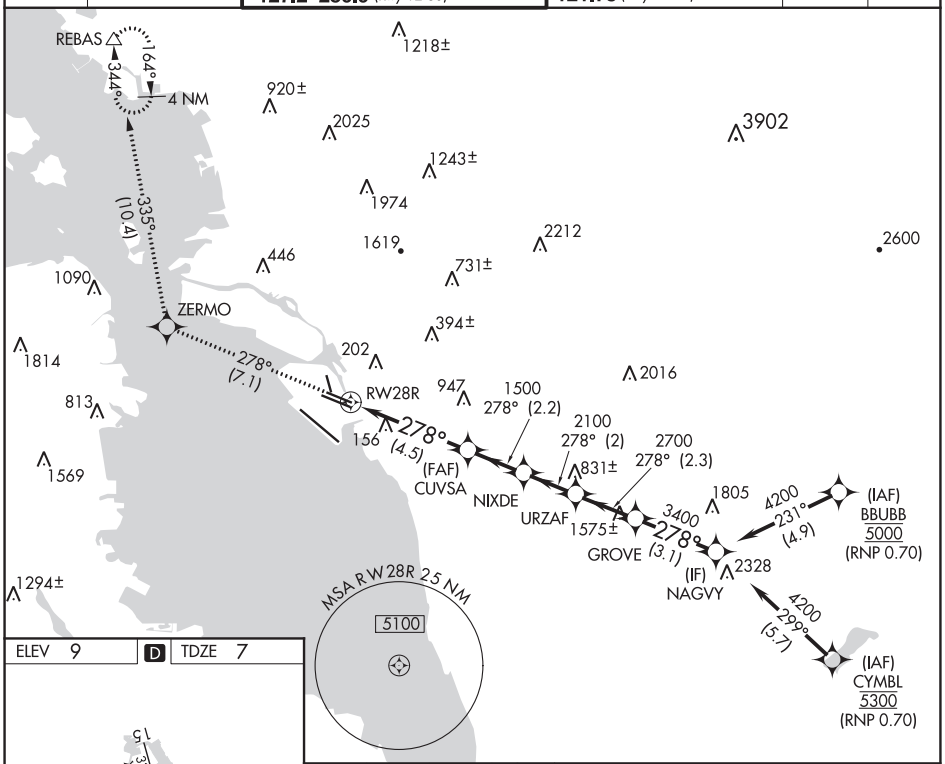
METROPOLITAN OAKLAND INTL (OAK)

For uncompensated Baro-VNAV systems, procedure NA below 1°C (34°F) or above 54°C (130°F). For inop MALSR, increase RNP 0.11 DA all Cats visibility to RVR 4500. GPS required.

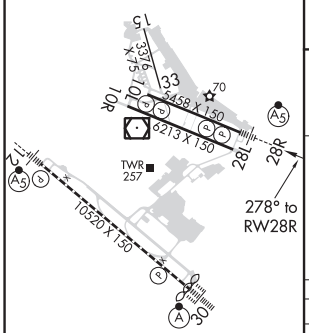
MALSR

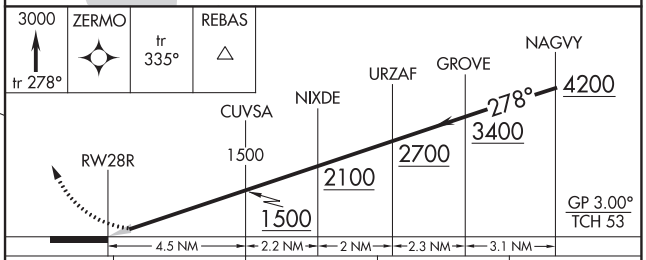
MISSED APPROACH: Climb to 3000 on track 278° to ZERMO and on track 335° to REBAS and hold.

D-ATIS	NORCAL APP CON	OAKLAND TOWER	GND CON	CLNC DEL	CPDLC
133.775	125.35 263.15	118.3 291.65 (Rwys 10L/R-28L/R, 15-33) 127.2 256.9 (Rwy 12-30)	121.9 (Rwys 10L/R-28L/R, 15-33) 121.75 (Rwy 12-30)	121.1	



ELEV 9	D	TDZE 7





CATEGORY	A	B	C	D
RNP 0.11 DA	276/24	269 (300-½)		
RNP 0.30 DA	414/45	407 (500-⅞)		

REIL Rwy 10R
TDZ/CL Rwy 30
MIRL Rwy 15-33
HIRL Rwys 12-30, 10L-28R, 10R-28L

AUTHORIZATION REQUIRED

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

APP CRS	Rwy ldg	10000
296°	TDZE	9
	Apt Elev	9

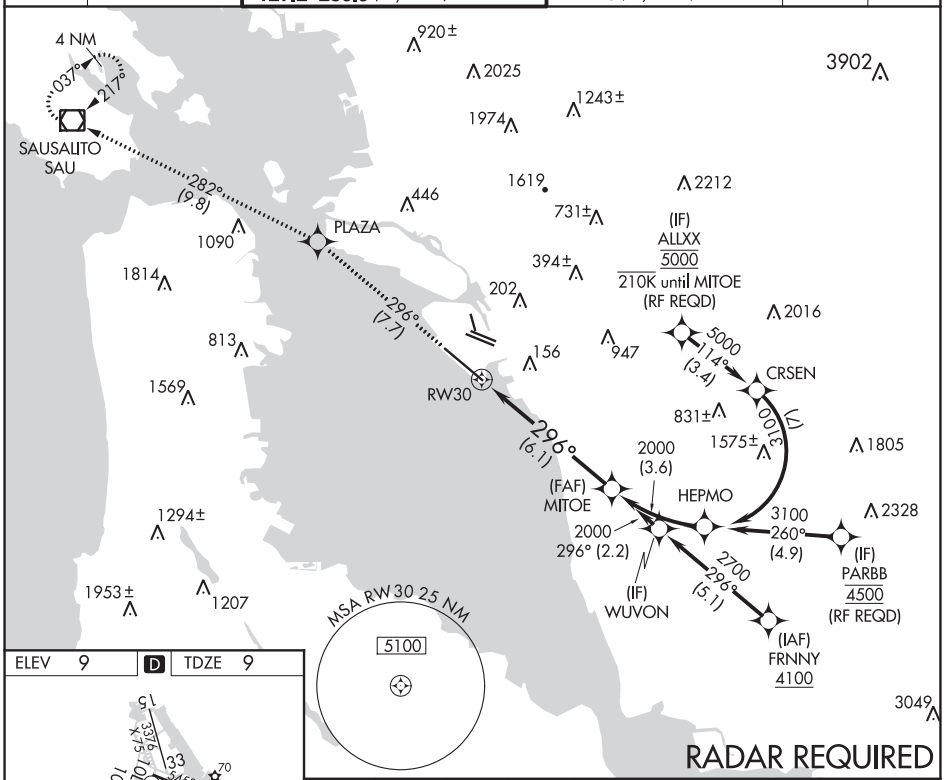
RNAV (RNP) Z RWY 30
METROPOLITAN OAKLAND INTL (OAK)

GPS required. For uncompensated Baro-VNAV systems, procedure NA below 1°C (34°F) or above 54°C (130°F). For inop ALS increase RNP 0.11 visibility all Cats to RVR 4000.

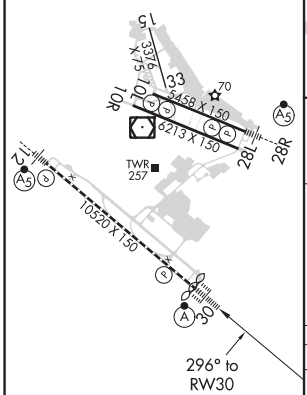
ALSF-2

MISSED APPROACH: Climb to 4000 on track 296° to PLAZA and on track 282° to SAU VOR/DME and hold, continue climb-in-hold to 4000.

D-ATIS	NORCAL APP CON	OAKLAND TOWER	GND CON	CLNC DEL	CPDLC
133.775	125.35 263.15	118.3 291.65 (Rwys 10L/R-28L/R, 15-33) 127.2 256.9 (Rwy 12-30)	121.9 (Rwys 10L/R-28L/R, 15-33) 121.75 (Rwy 12-30)	121.1	



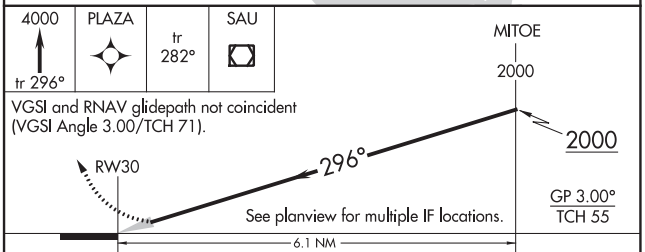
ELEV	9	D	TDZE	9



REIL Rwy 10R
TDZ/CL Rwy 30
MIRL Rwy 15-33
HIRL Rwys 12-30, 10L-28R, 10R-28L

4000	PLAZA	tr	SAU
tr 296°		282°	

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 71).



CATEGORY	A	B	C	D
RNP 0.11 DA	267/24		258 (300-½)	
RNP 0.30 DA	317/24		308 (400-½)	

AUTHORIZATION REQUIRED

SW-2, 25 FEB 2021 to 22 APR 2021

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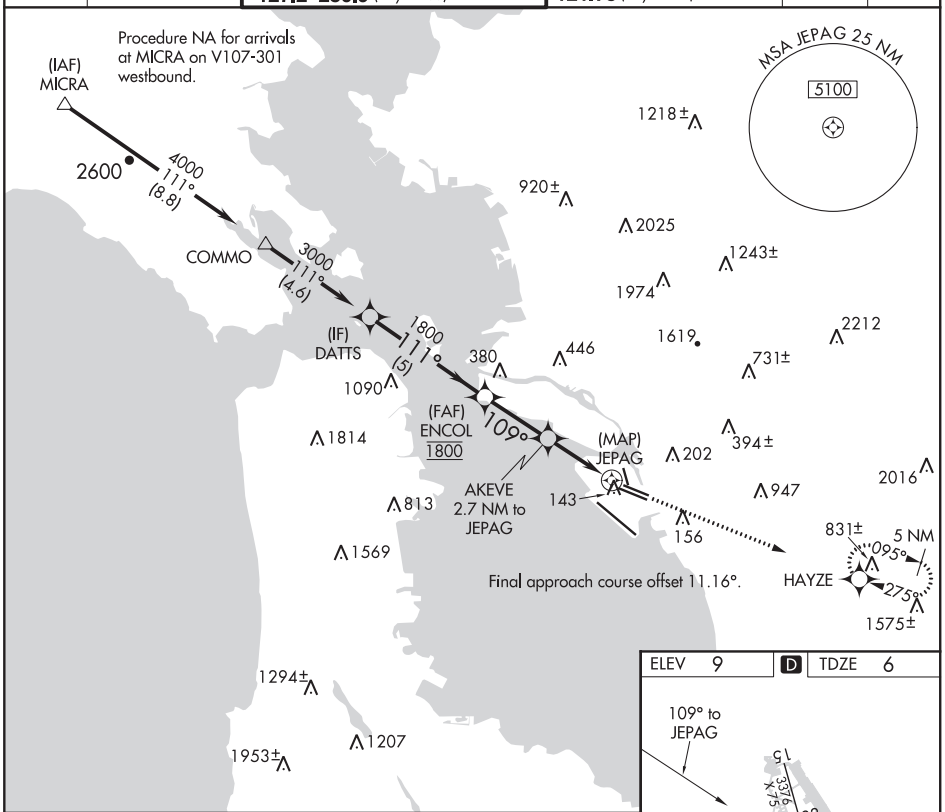
APP CRS	Rwy ldg	5336
109°	TDZE	6
	Apt Elev	9

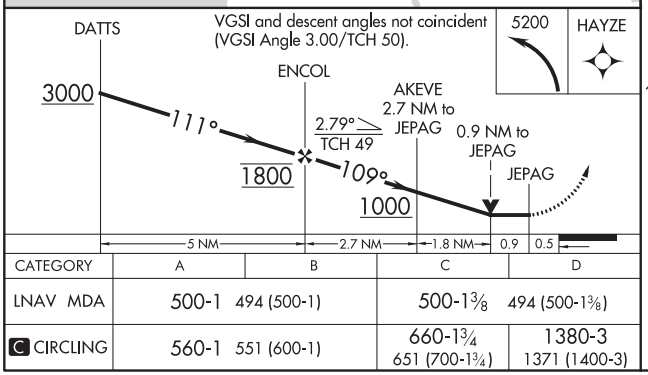
RNAV (GPS) RWY 10L
METROPOLITAN OAKLAND INTL (OAK)

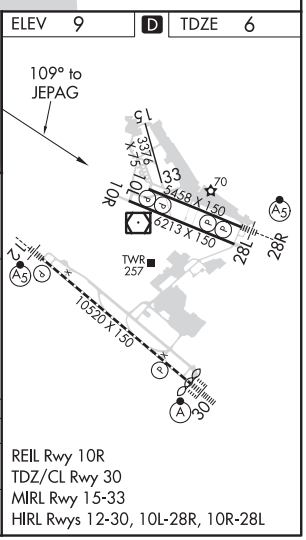
DME/DME RNP-0.3 NA.
Helicopter visibility reduction below ¾ SM not authorized.

MISSED APPROACH: Climbing left turn to 5200 direct HAYZE and hold, continue climb-in-hold to 5200.

D-ATIS	NORCAL APP CON	OAKLAND TOWER	GND CON	CLNC DEL	CPDLC
133.775	125.35 263.15	118.3 291.65 (Rwys 10L/R-28L/R, 15-33) 127.2 256.9 (Rwy 12-30)	121.9 (Rwys 10L/R-28L/R, 15-33) 121.75 (Rwy 12-30)	121.1	







CATEGORY	A	B	C	D
LNAV MDA	500-1 494 (500-1)		500-1⅜ 494 (500-1⅜)	
C CIRCLING	560-1 551 (600-1)		660-1¾ 651 (700-1¾)	1380-3 1371 (1400-3)

REIL Rwy 10R
TDZ/CL Rwy 30
MIRL Rwy 15-33
HIRL Rwys 12-30, 10L-28R, 10R-28L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

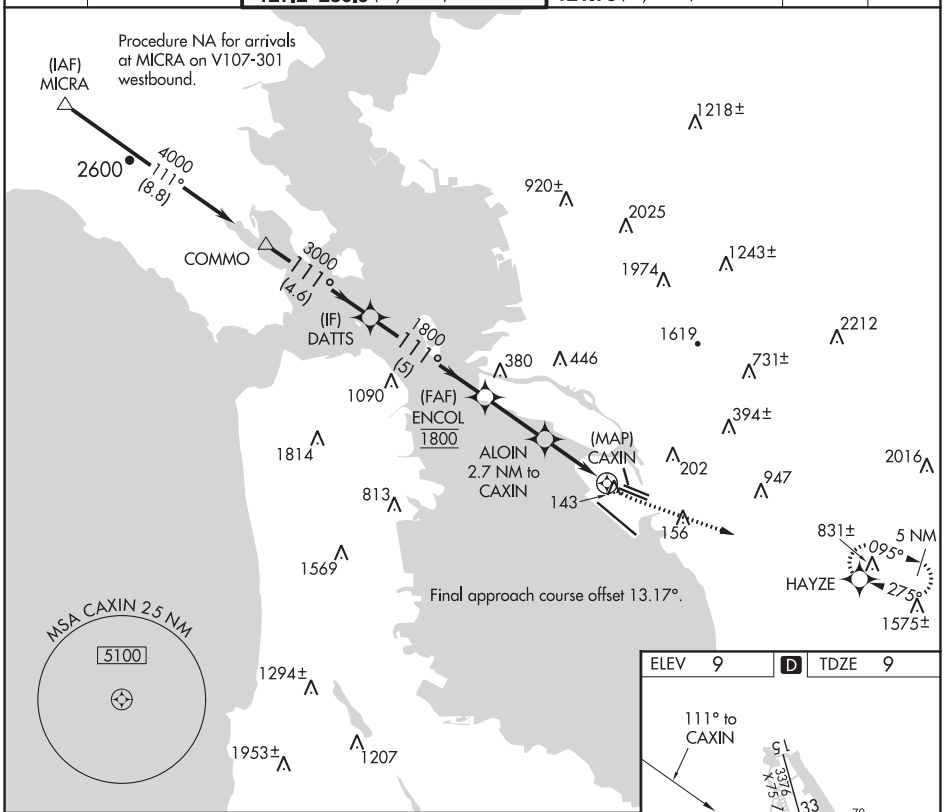
APP CRS	Rwy ldg	6213
111°	TDZE	9
	Apt Elev	9

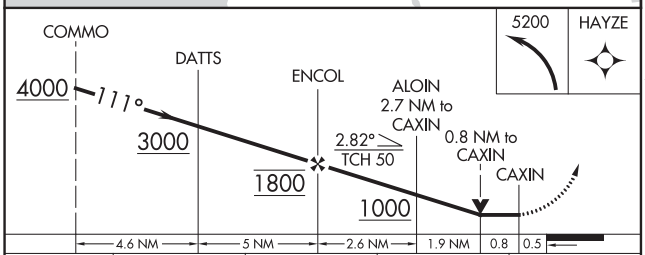
RNAV (GPS) RWY 10R
METROPOLITAN OAKLAND INTL (OAK)

DME/DME RNP-0.3 NA.
Helicopter visibility reduction below ¾ SM not authorized.

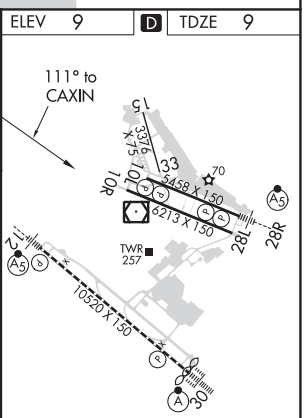
MISSED APPROACH: Climbing left turn to 5200 direct HAYZE and hold, continue climb-in-hold to 5200.

D-ATIS	NORCAL APP CON	OAKLAND TOWER	GND CON	CLNC DEL	CPDLC
133.775	125.35 263.15	118.3 291.65 (Rwys 10L/R-28L/R, 15-33) 127.2 256.9 (Rwy 12-30)	121.9 (Rwys 10L/R-28L/R, 15-33) 121.75 (Rwy 12-30)	121.1	





CATEGORY	A	B	C	D
LNAV MDA	480-1 471 (500-1)		480-1⅜ 471 (500-1⅜)	
C CIRCLING	560-1 551 (600-1)		660-1¾ 651 (700-1¾)	1380-3 1371 (1400-3)



REIL Rwy 10R
TDZ/CL Rwy 30
MIRL Rwy 15-33
HIRL Rwys 12-30, 10L-28R, 10R-28L

SW-2, 25 FEB 2021 to 22 APR 2021

WAAS CH 86418 W12A	APP CRS 116°	Rwy ldg 10000 TDZE 9 Apt Elev 9

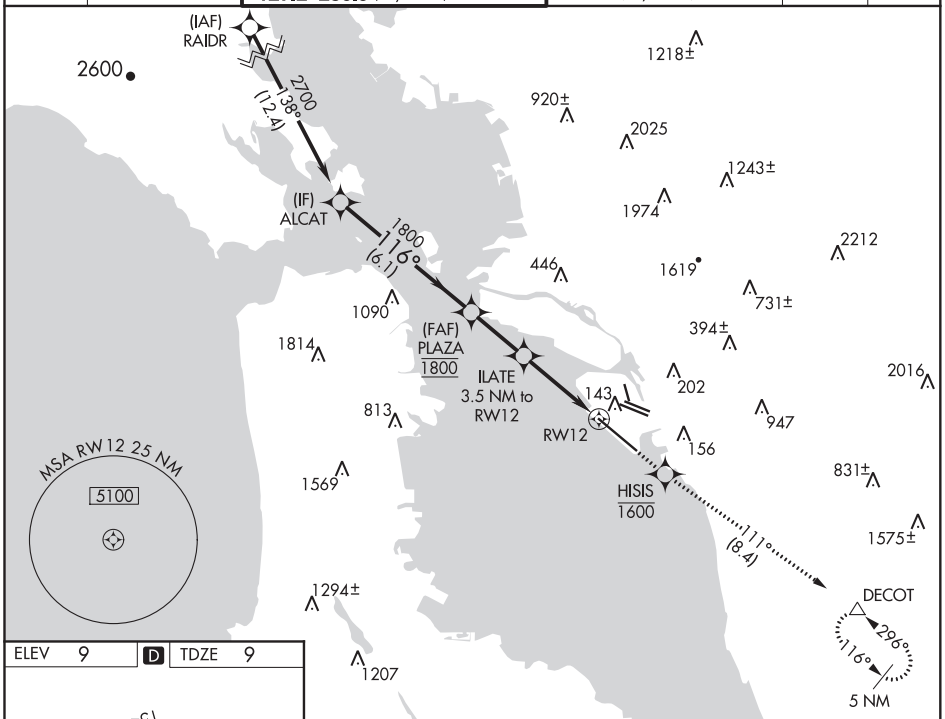
RNAV (GPS) Y RWY 12
METROPOLITAN OAKLAND INTL (OAK)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C (32°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. #RVR 1800 authorized with use of FD or AP or HUD to DA.

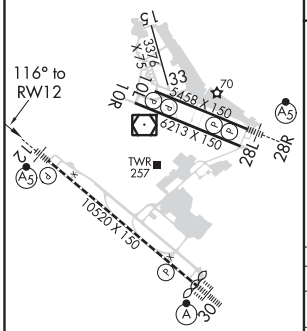
MALSR

MISSED APPROACH: Climb direct HISIS to cross HISIS at or below 1600, then climb to 5400 on track 111° to DECOT and hold, continue climb-in-hold to 5400.

D-ATIS	NORCAL APP CON	OAKLAND TOWER	GND CON	CLNC DEL	CPDLC
133.775	125.35 263.15	118.3 291.65 (Rwys 10L/R-28L/R, 15-33) 127.2 256.9 (Rwy 12-30)	121.9 (Rwys 10L/R-28L/R, 15-33) 121.75 (Rwy 12-30)	121.1	

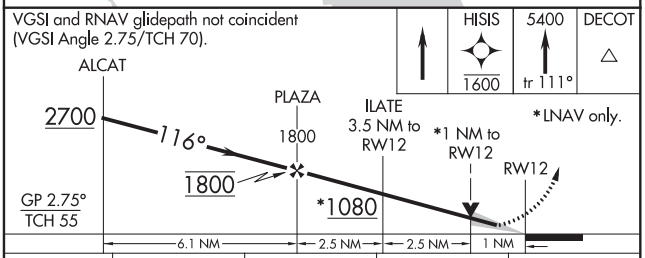


ELEV 9 | D | TDZE 9



REIL Rwy 10R
TDZ/CL Rwy 30
MIRL Rwy 15-33
HIRL Rwys 12-30, 10L-28R, 10R-28L

VGSI and RNAV glidepath not coincident (VGSI Angle 2.75/TCH 70).



CATEGORY	A	B	C	D
LPV DA#	209/24 200 (200-½)			
LNAV/VNAV DA	304/27 295 (300-⅝)			
LNAV MDA	360/24 351 (400-½)		360/30 351 (400-⅝)	
C CIRCLING	560-1 551 (600-1)		660-1¾ 651 (700-1¾)	1380-3 1371 (1400-3)

SW-2, 25 FEB 2021 to 22 APR 2021
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OAKLAND, CALIFORNIA AL-294 (FAA) 20310

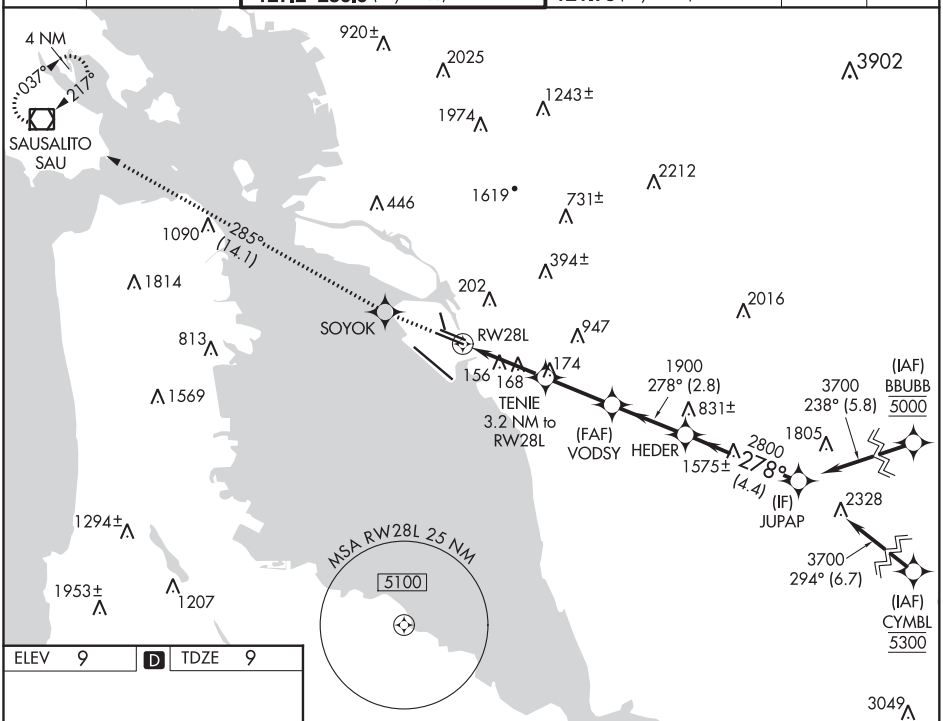
RNAV (GPS) Y RWY 28L
METROPOLITAN OAKLAND INTL (OAK)

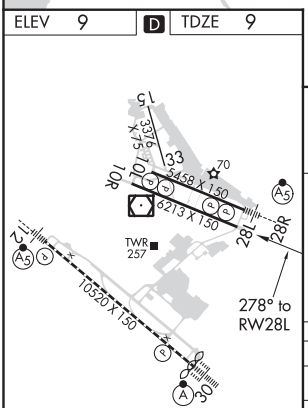
WAAS CH 72700 W28A	APP CRS 278°	Rwy ldg 6213 TDZE 9 Apt Elev 9

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C (32°F) or above 54°C (130°F). DME/DME RNP-0.3 NA.

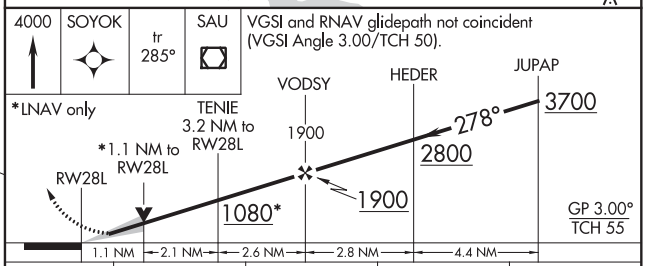
MISSED APPROACH: Climb to 4000 direct SOYOK and on track 285° to SAU VOR/DME and hold, continue climb-in-hold to 4000.

D-ATIS	NORCAL APP CON	OAKLAND TOWER	GND CON	CLNC DEL	CPDLC
133.775	125.35 263.15	118.3 291.65 (Rwys 10L/R-28L/R, 15-33) 127.2 256.9 (Rwy 12-30)	121.9 (Rwys 10L/R-28L/R, 15-33) 121.75 (Rwy 12-30)	121.1	





REIL Rwy 10R
TDZ/CL Rwy 30
MIRL Rwy 15-33
HIRL Rwys 12-30, 10L-28R, 10R-28L



CATEGORY	A	B	C	D
LPV DA	209/40 200 (200-¾)			
LNAV/VNAV DA	387-1¼ 378 (400-1¼)			
LNAV MDA	420/55 411 (500-1)		420/60 411 (500-1¼)	
C CIRCLING	560-1 551 (600-1)		660-1¾ 651 (700-1¾)	1400-3 1391 (1400-3)

OAKLAND, CALIFORNIA
Amdt 4A 15SEP16

37°43′N-122°13′W

METROPOLITAN OAKLAND INTL (OAK)
RNAV (GPS) Y RWY 28L

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WAAS CH 42535 W28B	APP CRS 278°	Rwy ldg 5458 TDZE 7 Apt Elev 9

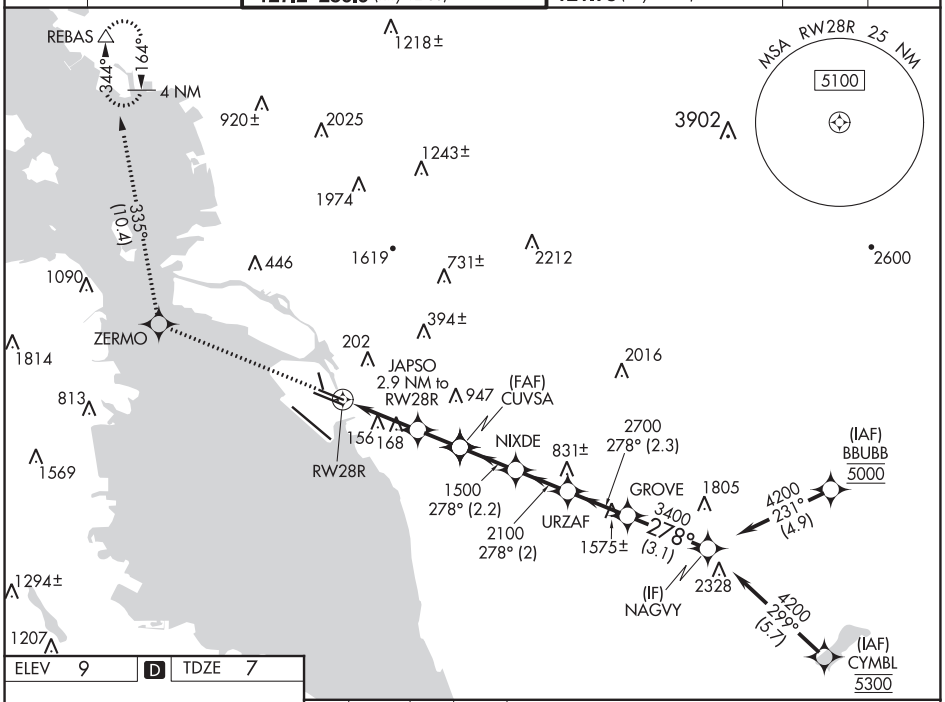
RNAV (GPS) Y RWY 28R
METROPOLITAN OAKLAND INTL (OAK)

DME/DME RNP-0.3 NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 1°C (34°F) or above 54°C (130°F). #RVR 1800 authorized with use of FD or AP or HUD to DA.

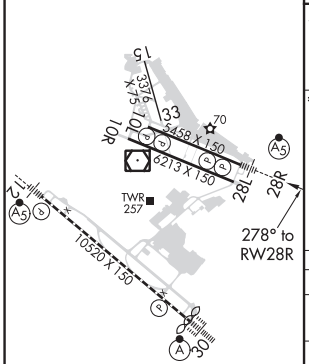
MALSR

MISSED APPROACH: Climb to 3000 direct ZERMO and on track 335° to REBAS and hold.

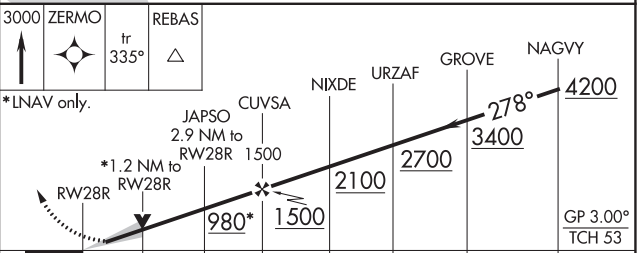
D-ATIS	NORCAL APP CON	OAKLAND TOWER	GND CON	CLNC DEL	CPDLC
133.775	125.35 263.15	118.3 291.65 (Rwys 10L/R-28L/R, 15-33) 127.2 256.9 (Rwy 12-30)	121.9 (Rwys 10L/R-28L/R, 15-33) 121.75 (Rwy 12-30)	121.1	



ELEV 9 | D | TDZE 7



REIL Rwy 10R
TDZ/CL Rwy 30
MIRL Rwy 15-33
HIRL Rwys 12-30, 10L-28R, 10R-28L



CATEGORY	A	B	C	D
LPV DA #	207/24 200 (200-½)			
LNAV/VNAV DA	387/40 380 (400-¾)			
LNAV MDA	440/24 433 (500-½)		440/40 433 (500-¾)	
C CIRCLING	560-1 551 (600-1)		660-1¾ 651 (700-1¾)	1400-3 1391 (1400-3)

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OAKLAND, CALIFORNIA | AL-294 (FAA) | 20310

RNAV (GPS) Y RWY 30
METROPOLITAN OAKLAND INTL (OAK)

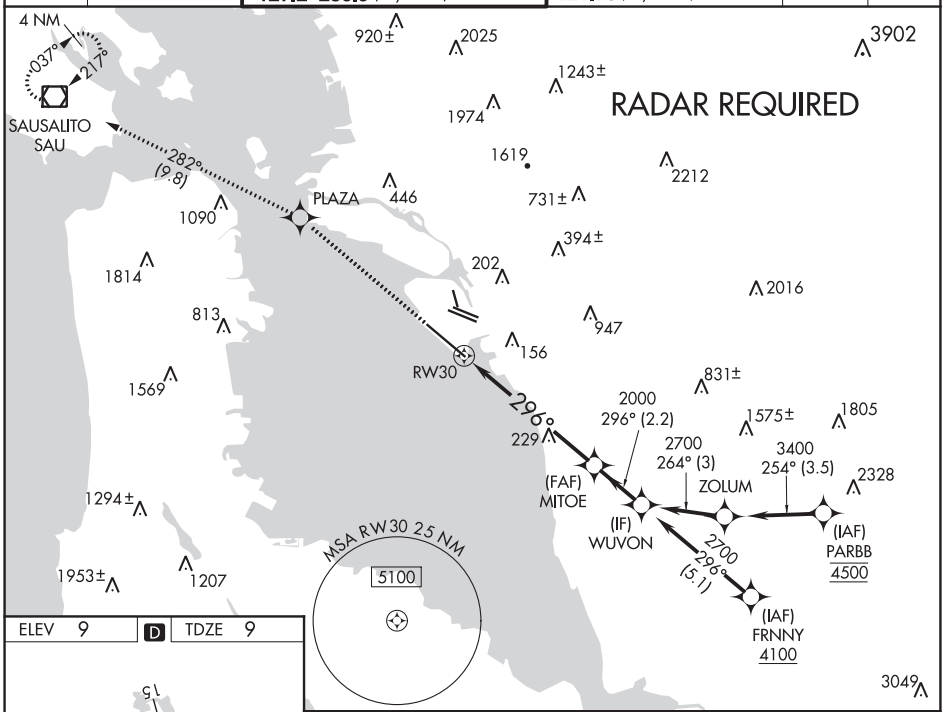
WAAS CH 93535 W30A	APP CRS 296°	Rwy ldg 10000 TDZE 9 Apt Elev 9

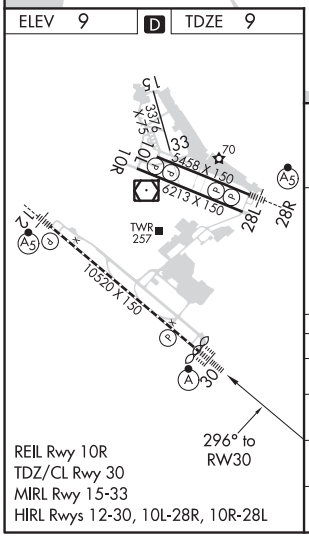
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 1°C (34°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. For inop ALS, increase LNAV/VNAV all Cats visibility to RVR 4500 and LNAV Cat C/D visibility to 1⅝ SM.

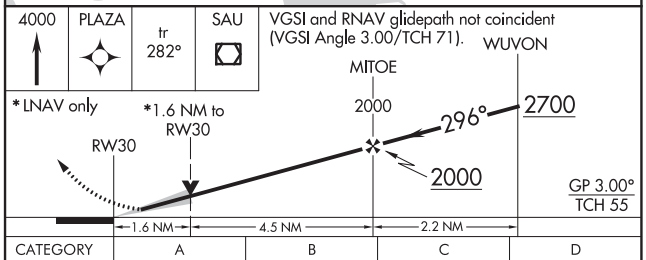
ALSF-2

MISSED APPROACH: Climb to 4000 direct PLAZA and on track 282° to SAU VOR/DME and hold, continue climb-in-hold to 4000.

D-ATIS	NORCAL APP CON	OAKLAND TOWER	GND CON	CLNC DEL	CPDLC
133.775	125.35 263.15	118.3 291.65 (Rwys 10L/R-28L/R, 15-33) 127.2 256.9 (Rwy 12-30)	121.9 (Rwys 10L/R-28L/R, 15-33) 121.75 (Rwy 12-30)	121.1	







CATEGORY	A	B	C	D
LPV DA	209/18 200 (200-½)			
LNAV/VNAV DA	283/24 274 (300-½)			
LNAV MDA	580/24 571 (600-½)		580-1¼ 571 (600-1¼)	
C CIRCLING	580-1 571 (600-1)		660-1¾ 651 (700-1¾)	1400-3 1391 (1400-3)

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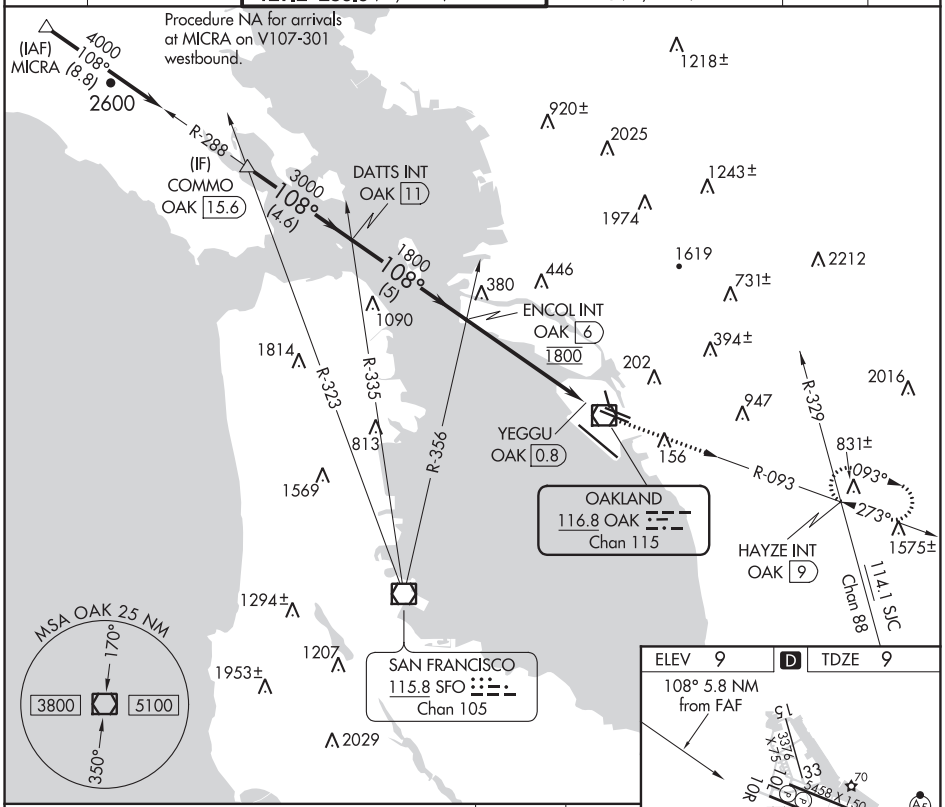
VOR RWY 10R
METROPOLITAN OAKLAND INTL (OAK)

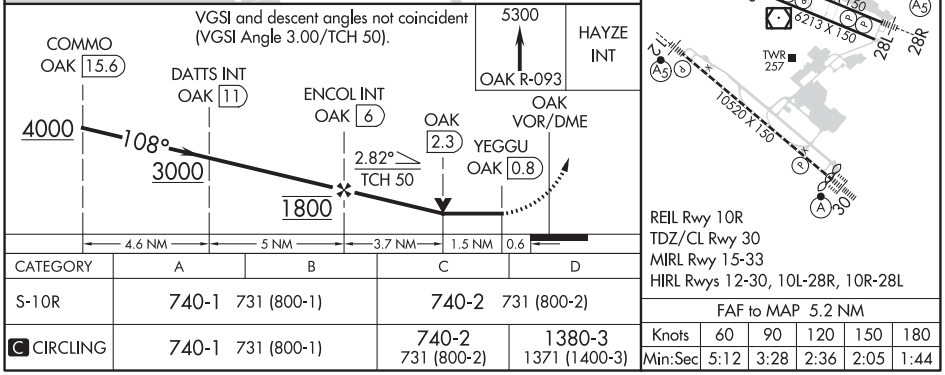
VOR/DME OAK 116.8 Chan 115	APP CRS 108°	Rwy ldg 6213 TDZE 9 Apt Elev 9

Helicopter visibility reduction below ¾ SM NA.

MISSED APPROACH: Climb to 5300 on OAK VOR/DME R-093 to HAYZE INT/OAK 9 DME and hold, continue climb-in-hold to 5300.

D-ATIS	NORCAL APP CON	OAKLAND TOWER	GND CON	CLNC DEL	CPDLC
133.775	125.35 263.15	118.3 291.65 (Rwys 10L/R-28L/R, 15-33) 127.2 256.9 (Rwy 12-30)	121.9 (Rwys 10L/R-28L/R, 15-33) 121.75 (Rwy 12-30)	121.1	





CATEGORY	A	B	C	D
S-10R	740-1 731 (800-1)		740-2 731 (800-2)	
C CIRCLING	740-1 731 (800-1)		740-2 731 (800-2)	1380-3 1371 (1400-3)

FAF to MAP 5.2 NM					
Knots	60	90	120	150	180
Min:Sec	5:12	3:28	2:36	2:05	1:44

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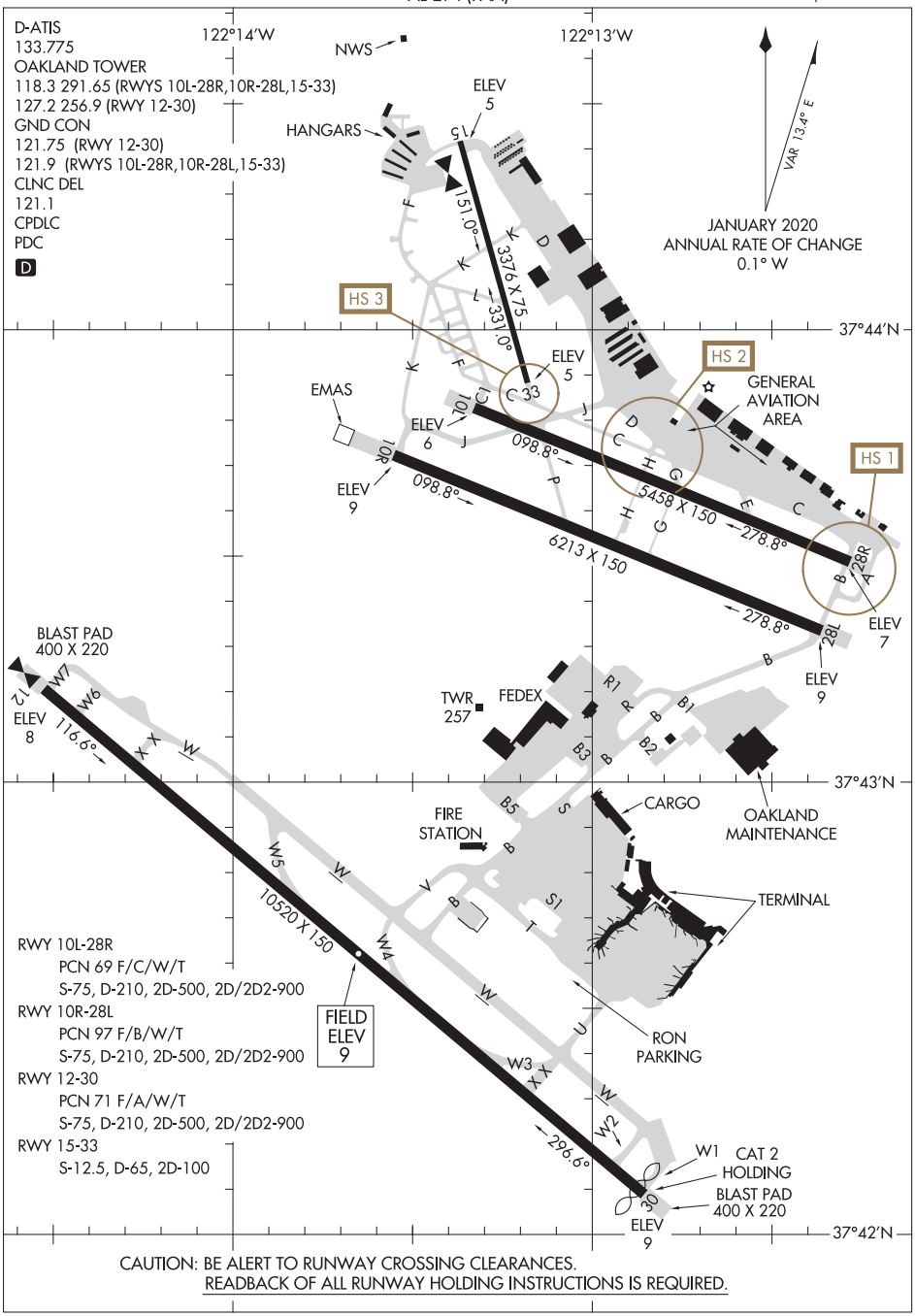
20366

AIRPORT DIAGRAM

AL-294 (FAA)

METROPOLITAN OAKLAND INTL (OAK)

OAKLAND, CALIFORNIA



SW-2, 25 FEB 2021 to 22 APR 2021

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AIRPORT DIAGRAM
20366
OAKLAND, CALIFORNIA
METROPOLITAN OAKLAND INTL (OAK)

D-ATIS 133.775
CLNC DEL
121.1
CPDLC
GND CON
121.9 (Rwys 28L/R)
121.75 (Rwy 30)
OAKLAND TOWER
118.3 291.65 (Rwys 28L/R)
127.2 256.9 (Rwy 30)
NORCAL DEP CON
135.1 307.2

TOP ALTITUDE: 10000

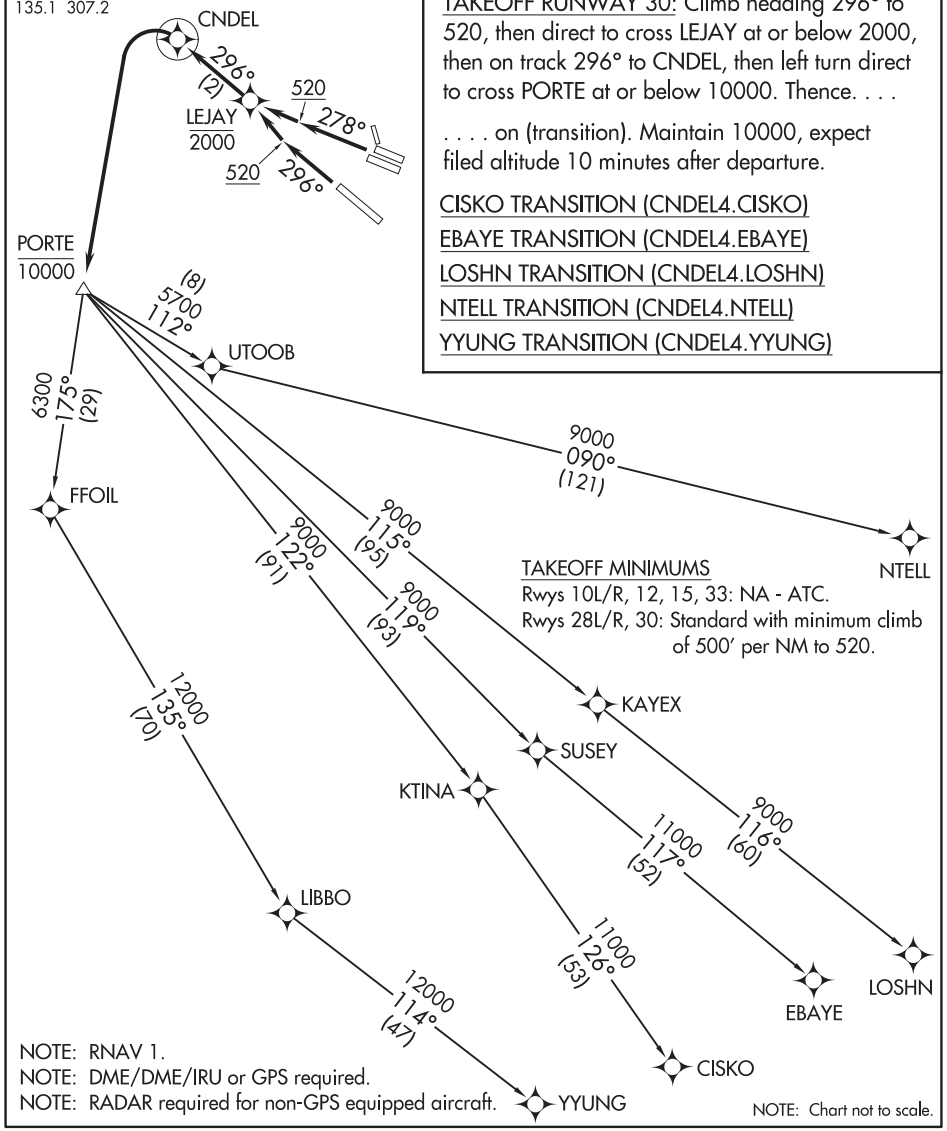
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 28L, 28R: Climb heading 278° to 520, then direct to cross LEJAY at or below 2000, then on track 296° to CNDEL, then left turn direct to cross PORTE at or below 10000. Thence. . . .

TAKEOFF RUNWAY 30: Climb heading 296° to 520, then direct to cross LEJAY at or below 2000, then on track 296° to CNDEL, then left turn direct to cross PORTE at or below 10000. Thence. . . .

. . . . on (transition). Maintain 10000, expect filed altitude 10 minutes after departure.

CISKO TRANSITION (CNDEL4.CISKO)
EBAYE TRANSITION (CNDEL4.EBAYE)
LOSHN TRANSITION (CNDEL4.LOSHN)
NTELL TRANSITION (CNDEL4.NTELL)
YYUNG TRANSITION (CNDEL4.YYUNG)



TAKEOFF MINIMUMS
Rwys 10L/R, 12, 15, 33: NA - ATC.
Rwys 28L/R, 30: Standard with minimum climb of 500′ per NM to 520.

NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: RADAR required for non-GPS equipped aircraft.

NOTE: Chart not to scale.

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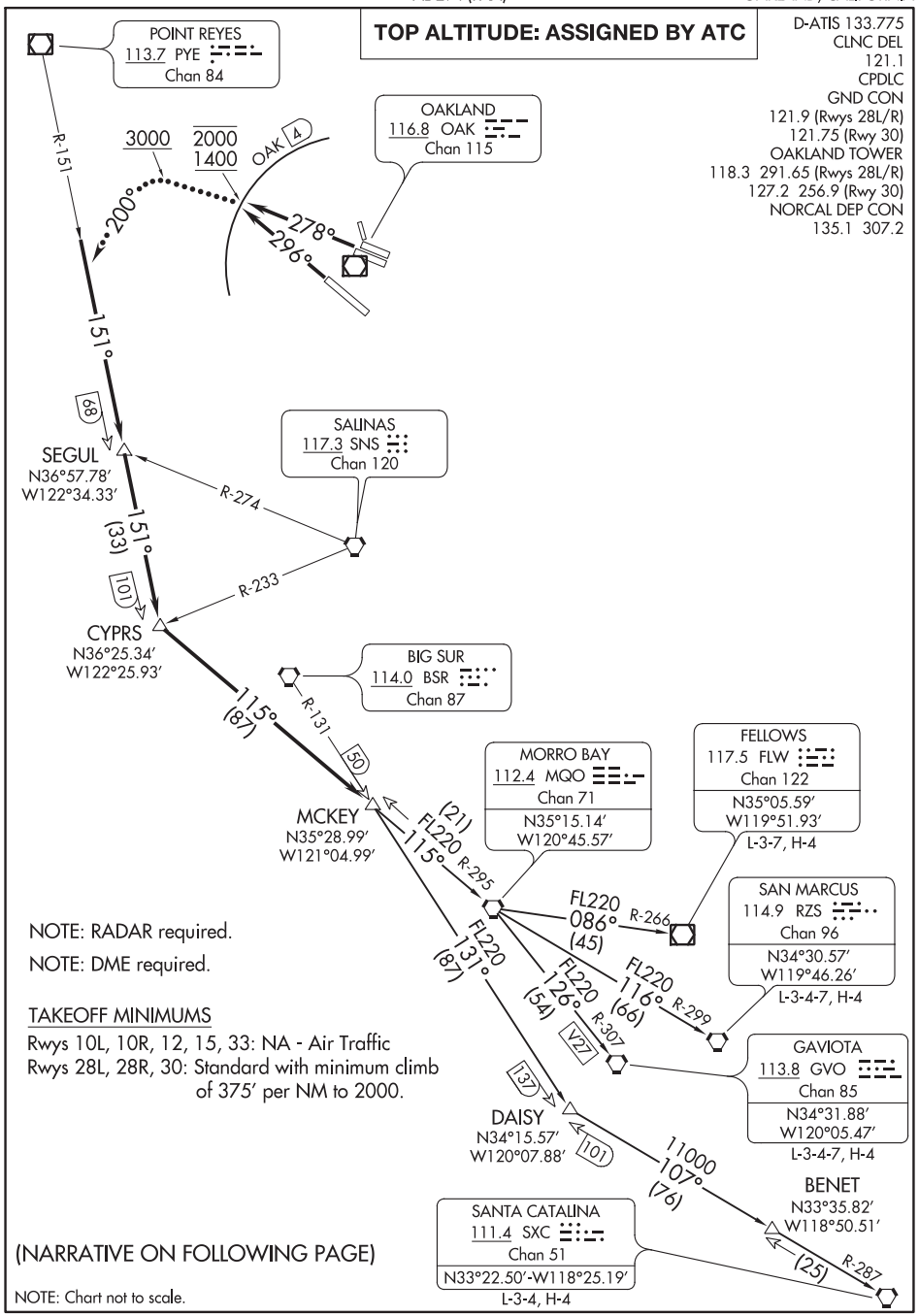
(COAST9.MCKEY) 19339

COAST NINE DEPARTURE

AL-294 (FAA)

METROPOLITAN OAKLAND INTL (OAK)
OAKLAND, CALIFORNIA



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COAST NINE DEPARTURE

(COAST9.MCKEY) 01FEB18

OAKLAND, CALIFORNIA
METROPOLITAN OAKLAND INTL (OAK)

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 28L/R: Climb heading 278° for RADAR vectors to PYE R-151, cross 4 DME northwest of OAK VOR/DME at or above 1400 and at or below 2000. Thence . . . .

TAKEOFF RUNWAY 30: Climb heading 296° for RADAR vectors to PYE R-151, cross 4 DME northwest of OAK VOR/DME at or above 1400 and at or below 2000. Thence . . . .

. . . . intercept and proceed on the PYE R-151 to SEGUL INT, then on PYE R-151 to CYPRS INT, then on MQO R-295 to MCKEY INT, then on assigned (transition). Maintain FL220. Expect clearance to filed altitude ten minutes after departure.

LOST COMMUNICATIONS: After reaching 3000, turn left heading 200° to intercept and proceed on PYE R-151, then resume own navigation.

FELLOWS TRANSITION (COAST9.FLW): From over MCKEY INT on MQO R-295 to MQO VORTAC, then on MQO R-086 and FLW R-266 to FLW VOR/DME.

GAVIOTA TRANSITION (COAST9.GVO): From over MCKEY INT on MQO R-295 to MQO VORTAC, then on MQO R-126 and GVO R-307 to GVO VORTAC.

SAN MARCUS TRANSITION (COAST9.RZS): From over MCKEY INT on MQO R-295 to MQO VORTAC, then on MQO R-116 and RZS R-299 to RZS VORTAC.

SANTA CATALINA TRANSITION (COAST9.SXC): From over MCKEY INT on BSR R-131 to DAISY INT, then on SXC R-287 to SXC VORTAC.

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(HUSSH2.HUSSH) 17285

HUSSH TWO DEPARTURE (RNAV)

AL-294 (FAA)

METROPOLITAN OAKLAND INTL (OAK)
OAKLAND, CALIFORNIA

TOP ALTITUDE: FL190

TIPRE
SYRAH
MOGEE
ORRCA
DEDHD
GRTFL
TAMMM
REBAS 8000
NIITE
GOBBS
HUSSH
N
520
296°
324° (9)
348° *2900 8000 (6)
237° (14) 5300 *3200
062° (12) 10300 *3500
FL180 *4700 075° (50)
FL180 *3600 062° (54)
FL180 *3300 049° (51)
FL180 *3400 038° (50)
FL180 *5100 014° (27)
FL180 *4900 002° (26)
FL180 *3100

D-ATIS 133.775
CLNC DEL 121.1
CPDLC
GND CON 121.75 (Rwy 30)
OAKLAND TOWER 127.2 256.9 (Rwy 30)
NORCAL DEP CON 120.9 323.2

NOTE: RNAV-1.
NOTE: RADAR required for non-GPS equipped aircraft.
NOTE: DME/DME/IRU or GPS required.

NOTE: Chart not to scale.

TAKEOFF MINIMUMS
Rwys 10L, 10R, 12, 15, 28L, 28R, 33: NA-ATC.
Rwy 30: Standard with minimum climb of 500' per NM to 520.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 30: Climb heading 296° to at or above 520, then left turn direct HUSSH, then on depicted route, maintain FL190. Expect filed altitude 10 minutes after departure.

DEDHD TRANSITION (HUSSH2.DEDHD)
GOBBS TRANSITION (HUSSH2.GOBBS)
GRTFL TRANSITION (HUSSH2.GRTFL)
MOGEE TRANSITION (HUSSH2.MOGEE)
ORRCA TRANSITION (HUSSH2.ORRCA)
SYRAH TRANSITION (HUSSH2.SYRAH)
TIPRE TRANSITION (HUSSH2.TIPRE)

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HUSSH TWO DEPARTURE (RNAV)

(HUSSH2.HUSSH) 25JUN15

OAKLAND, CALIFORNIA
METROPOLITAN OAKLAND INTL (OAK)

D-ATIS 133.775
CLNC DEL
121.1
CPDLC
GND CON
121.9 (Rwys 10L/R)
121.75 (Rwy 12)
OAKLAND TOWER
118.3 291.65 (Rwys 10L/R)
127.2 256.9 (Rwy 12)
NORCAL DEP CON
135.1 307.2

TOP ALTITUDE: 3000

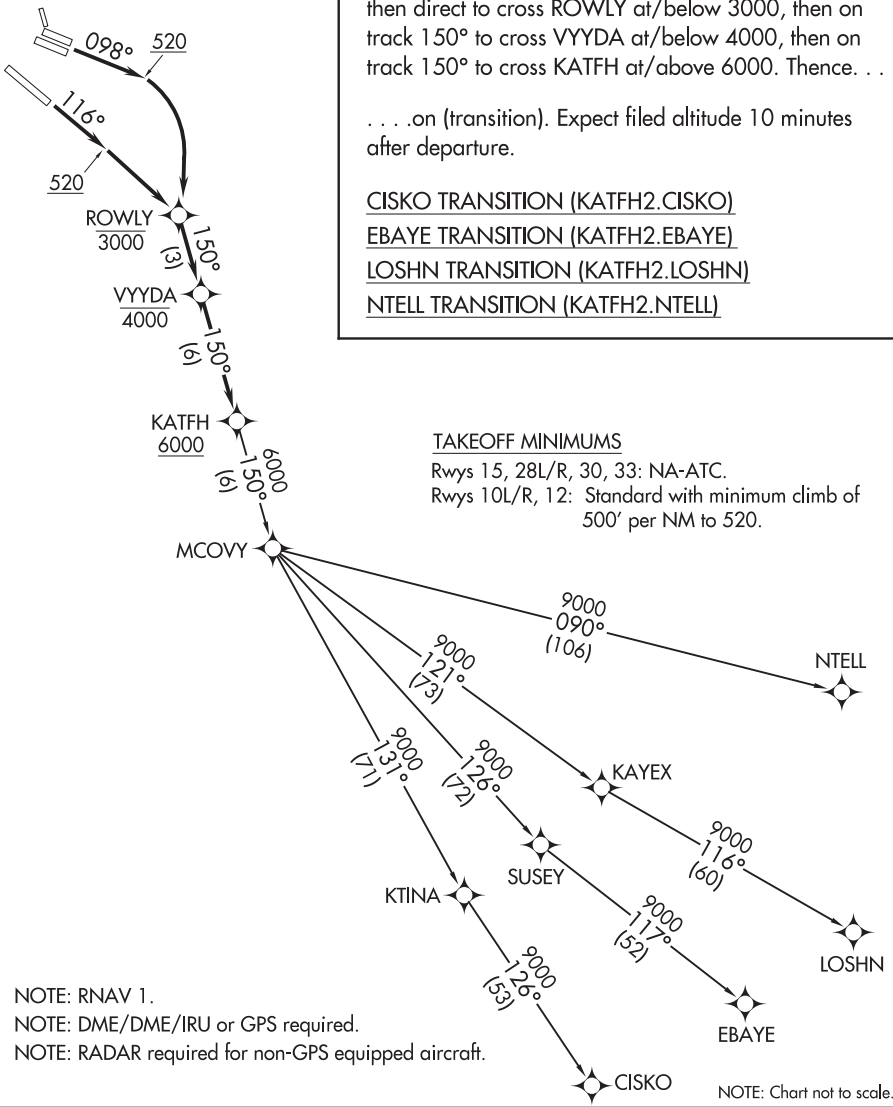
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 10L, 10R: Climb heading 098° to 520, then right turn direct to cross ROWLY at/below 3000, then on track 150° to cross VYYDA at/below 4000, then on track 150° to cross KATFH at/above 6000. Thence. . . .

TAKEOFF RUNWAY 12: Climb heading 116° to 520, then direct to cross ROWLY at/below 3000, then on track 150° to cross VYYDA at/below 4000, then on track 150° to cross KATFH at/above 6000. Thence. . . .

. . . .on (transition). Expect filed altitude 10 minutes after departure.

CISKO TRANSITION (KATFH2.CISKO)
EBAYE TRANSITION (KATFH2.EBAYE)
LOSHN TRANSITION (KATFH2.LOSHN)
NTELL TRANSITION (KATFH2.NTELL)



TAKEOFF MINIMUMS
Rwys 15, 28L/R, 30, 33: NA-ATC.
Rwys 10L/R, 12: Standard with minimum climb of 500′ per NM to 520.

NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: RADAR required for non-GPS equipped aircraft.

NOTE: Chart not to scale.

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(NIMI5.OAK) 17285

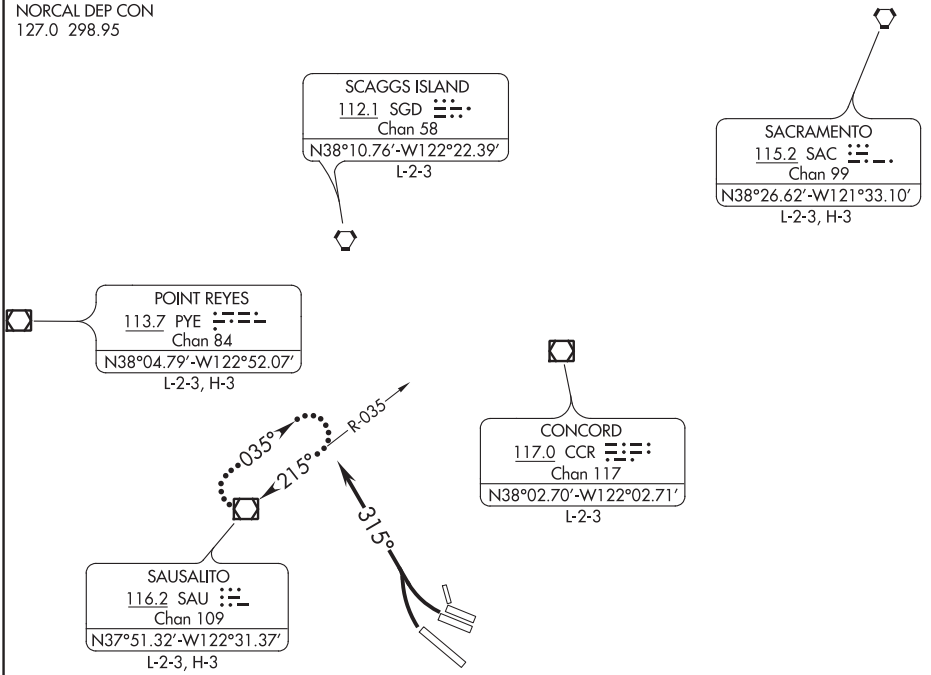
NIMITZ FIVE DEPARTURE

AL-294 (FAA)

METROPOLITAN OAKLAND INTL (OAK)
OAKLAND, CALIFORNIA

D-ATIS
133.775
CLNC DEL
121.1
CPDLC
NORCAL DEP CON
127.0 298.95

TOP ALTITUDE: ASSIGNED BY ATC



NOTE: RADAR required.

TAKEOFF MINIMUMS
Rwys 10L, 10R, 12, 15, 33: NA-Air Traffic.
Rwys 28L, 28R, 30: Standard with minimum climb of 375′ per NM to 2000.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 28L/R and 30: Climbing right turn heading 315° for RADAR vectors to assigned route/fix. Maintain ATC assigned altitude. Expect filed altitude ten minutes after departure.

LOST COMMUNICATIONS: If not in contact with departure control after reaching 4000, proceed direct to SAU VOR/DME and hold on SAU R-035. Climb in holding pattern to assigned altitude, then proceed to assigned fix/route.

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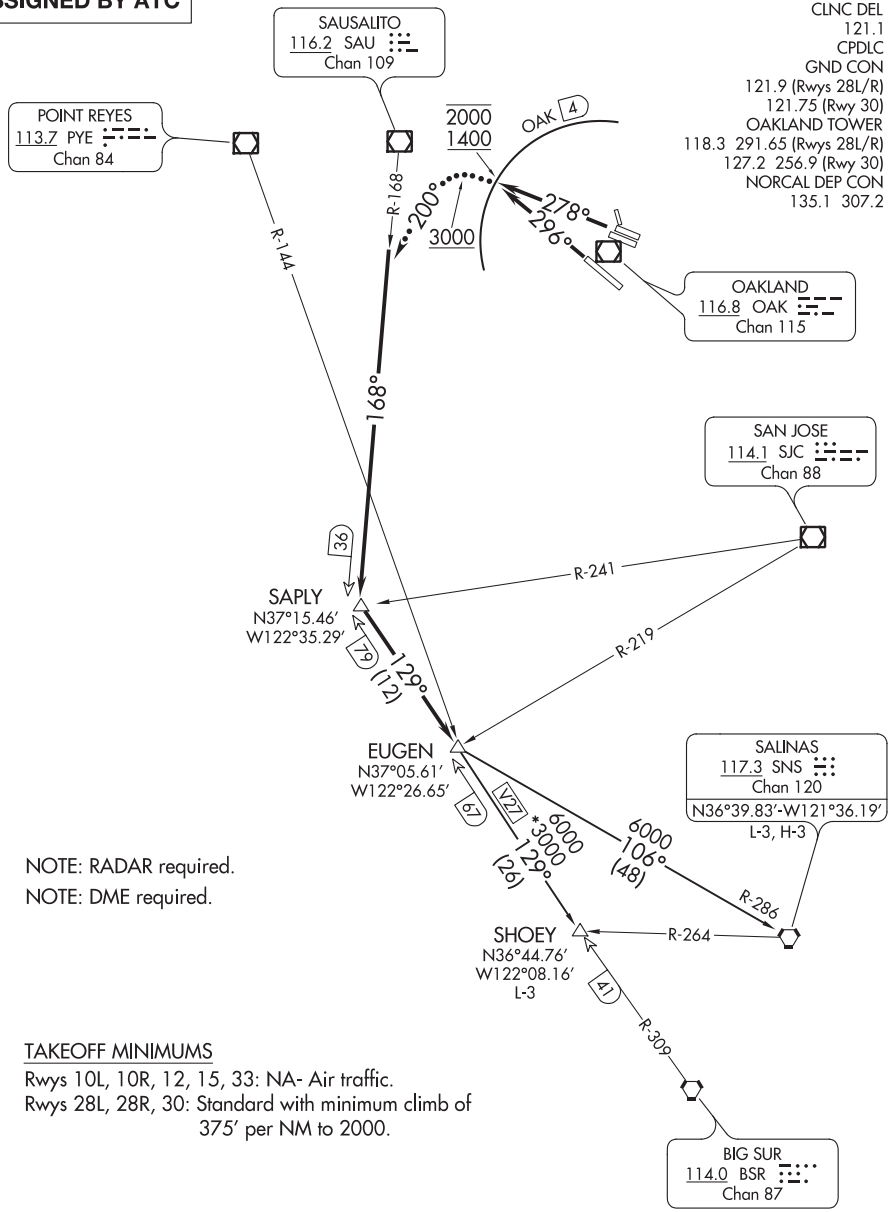
NIMITZ FIVE DEPARTURE
(NIMI5.OAK) 17AUG17
OAKLAND, CALIFORNIA
METROPOLITAN OAKLAND INTL (OAK)

TOP ALTITUDE: ASSIGNED BY ATC

D-ATIS
133.775
CLNC DEL
121.1
CPDLC
GND CON
121.9 (Rwys 28L/R)
121.75 (Rwy 30)
OAKLAND TOWER
118.3 291.65 (Rwys 28L/R)
127.2 256.9 (Rwy 30)
NORCAL DEP CON
135.1 307.2



NOTE: RADAR required.

NOTE: DME required.

TAKEOFF MINIMUMS

Rwys 10L, 10R, 12, 15, 33: NA- Air traffic.
Rwys 28L, 28R, 30: Standard with minimum climb of 375′ per NM to 2000.

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 28L/R: Climb heading 278° for RADAR vectors to SAU R-168, cross 4 DME northwest of OAK VOR/DME at or above 1400 and at or below 2000. Thence . . . .
TAKEOFF RUNWAY 30: Climb heading 296° for RADAR vectors to SAU R-168, cross 4 DME northwest of OAK VOR/DME at or above 1400 and at or below 2000. Thence . . . .

. . . . intercept and proceed on the SAU R-168 to SAPLY INT and on BSR R-309 to EUGEN INT, then via assigned (transition). Expect clearance to filed altitude ten minutes after departure.

LOST COMMUNICATIONS: After reaching 3000, turn left heading 200° to intercept and proceed via SAU R-168, then resume own navigation.

SALINAS TRANSITION (NUEVO8.SNS): From over EUGEN INT on SNS R-286 to SNS VORTAC.
SHOEY TRANSITION (NUEVO8.SHOEY): From over EUGEN INT on BSR R-309 to SHOEY INT.

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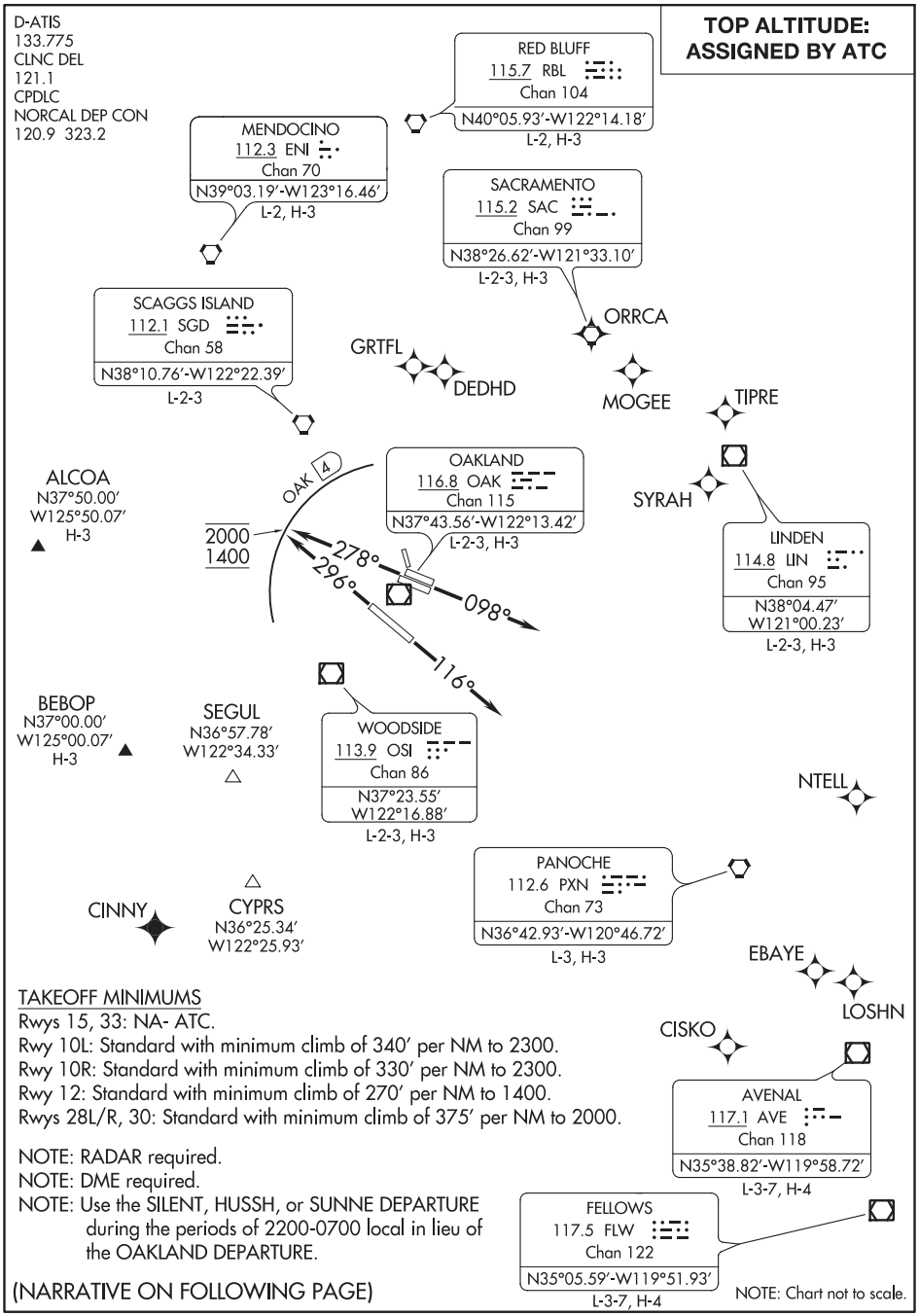
SW-2, 25 FEB 2021 to 22 APR 2021



TAKEOFF MINIMUMS
Rwys 15, 33: NA- ATC.
Rwy 10L: Standard with minimum climb of 340′ per NM to 2300.
Rwy 10R: Standard with minimum climb of 330′ per NM to 2300.
Rwy 12: Standard with minimum climb of 270′ per NM to 1400.
Rwys 28L/R, 30: Standard with minimum climb of 375′ per NM to 2000.

NOTE: RADAR required.
NOTE: DME required.
NOTE: Use the SILENT, HUSSH, or SUNNE DEPARTURE during the periods of 2200-0700 local in lieu of the OAKLAND DEPARTURE.

(NARRATIVE ON FOLLOWING PAGE)

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 10L/R: Climb on heading 098° for RADAR vectors to assigned route/fix, thence. . . .
TAKEOFF RUNWAY 12: Climb on heading 116° for RADAR vectors to assigned route/fix, thence. . . .
TAKEOFF RUNWAYS 28L/R: Climb on heading 278° for RADAR vectors to assigned route/fix. Cross 4 DME northwest of OAK VOR/DME at or above 1400 and at or below 2000, thence. . . .
TAKEOFF RUNWAY 30: Climb on heading 296° for RADAR vectors to assigned route/fix. Cross 4 DME northwest of OAK VOR/DME at or above 1400 and at or below 2000, thence. . . .

. . . .maintain ATC assigned altitude. Expect filed altitude ten minutes after departure.

LOST COMMUNICATIONS: If not in contact with departure control after reaching 5000′, continue climb to assigned altitude and proceed direct to assigned route/fix.

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SW-2, 25 FEB 2021 to 22 APR 2021

QUAKE TWO DEPARTURE

(QUAKE2.QAK) 05NOV20

D-ATIS
133.775
CLNC DEL
121.1
CPDLC
NORCAL DEP CON
135.1 307.2

TOP ALTITUDE: ASSIGNED BY ATC

ALCOA
N37°50.00′
W125°50.07′
H-3

TAKEOFF MINIMUMS
Rwys 15, 33: NA- ATC.
Rwys 10L/R,12, 30: Standard.
Rwys 28L/R: Standard with minimum climb of 375′ per NM to 2000.

OAKLAND
116.8 OAK
Chan 115
N37°43.56′-W122°13.42′
L-2-3, H-3

OAK 4
2000
1400
278°
296°
270°

N

WOODSIDE
113.9 OSI
Chan 86
N37°23.55′
W122°16.88′
L-2-3, H-3

ALLBE

BEBOP
N37°00.00′
W125°00.07′
H-3

BAART

FFOIL

NTELL

CINNY

KAYEX

KTINA

SUSEY

ALANN

LIBBO

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 10L/R, 12: Climbing right turn heading 270° for RADAR vectors to assigned route/fix, thence. . . .
TAKEOFF RUNWAYS 28L/R: Climb on heading 278° for RADAR vectors to assigned route/fix. Cross 4 DME northwest of OAK VOR/DME at or above 1400 and at or below 2000, thence. . . .
TAKEOFF RUNWAY 30: Climb on heading 296° for RADAR vectors to assigned route/fix. Cross 4 DME northwest of OAK VOR/DME at or above 1400 and at or below 2000, thence. . . .

. . . .maintain ATC assigned altitude. Expect filed altitude ten minutes after departure.

NOTE: RADAR required.

NOTE: Chart not to scale.

(QUAKE2.QAK) 20310
QUAKE TWO DEPARTURE

AL-294 (FAA)

METROPOLITAN OAKLAND INTL (OAK)
OAKLAND, CALIFORNIA

OAKLAND, CALIFORNIA
METROPOLITAN OAKLAND INTL (OAK)

(SALAD5.SALAD) 17341

SALAD FIVE DEPARTURE

AL-294 (FAA)

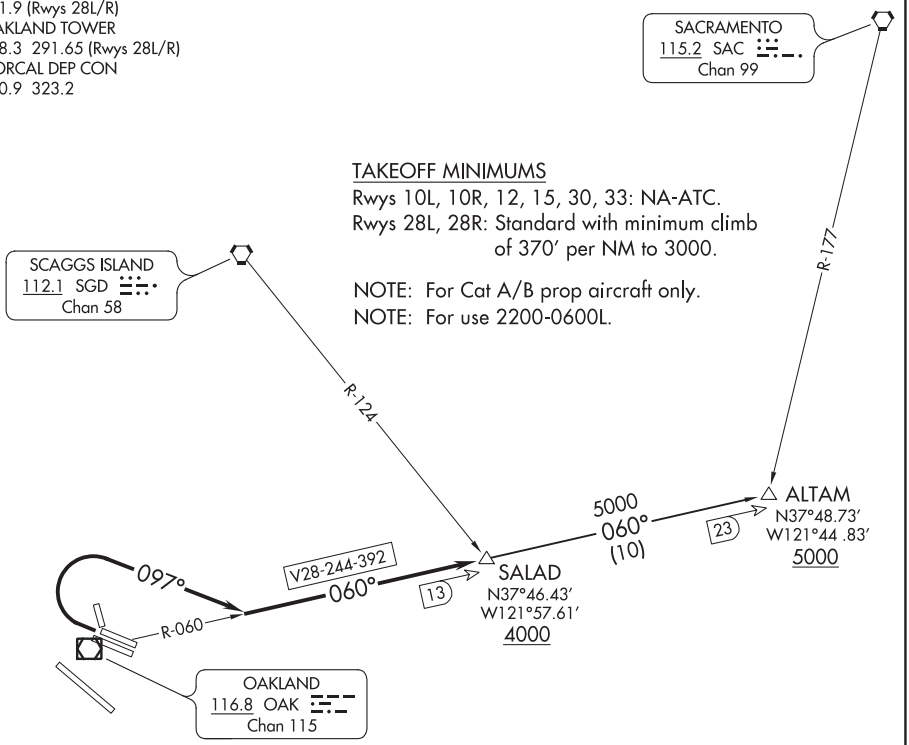
METROPOLITAN OAKLAND INTL (OAK)
OAKLAND, CALIFORNIA

D-ATIS
133.775
CLNC DEL
121.1
CPDLC
GND CON
121.9 (Rwys 28L/R)
OAKLAND TOWER
118.3 291.65 (Rwys 28L/R)
NORCAL DEP CON
120.9 323.2

TOP ALTITUDE: ASSIGNED BY ATC

TAKEOFF MINIMUMS
Rwys 10L, 10R, 12, 15, 30, 33: NA-ATC.
Rwys 28L, 28R: Standard with minimum climb of 370′ per NM to 3000.

NOTE: For Cat A/B prop aircraft only.
NOTE: For use 2200-0600L.



NOTE: Chart not to scale.

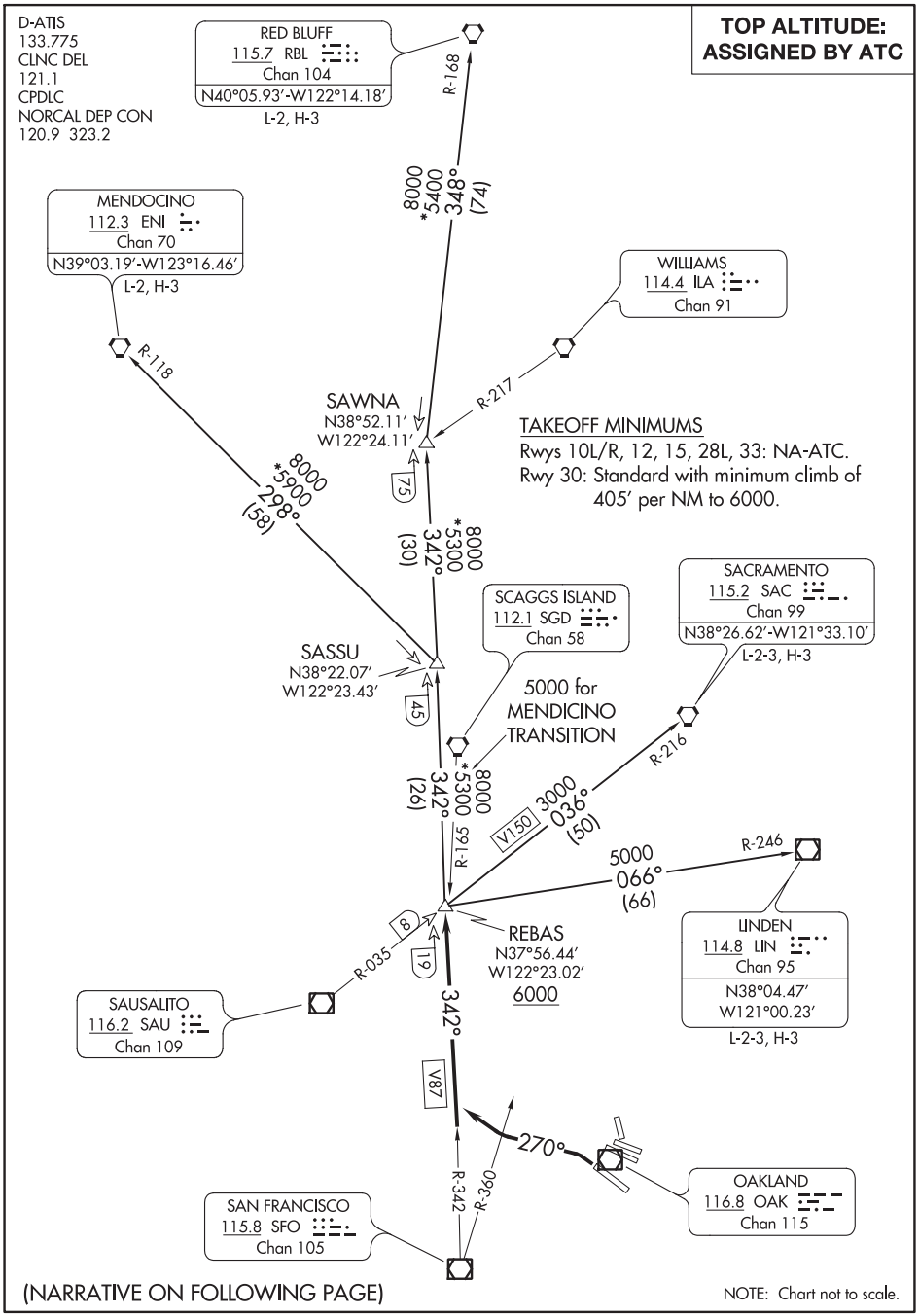
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 28 L/R: Climbing right turn heading 097° to intercept OAK VOR/DME R-060 to cross SALAD/OAK 13 DME at or above 4000, thence . . . .

. . . . on ALTAM transition. Maintain ATC assigned altitude. Expect filed altitude 10 minutes after departure.

ALTAM TRANSITION (SALAD5.ALTAM): From over SALAD on OAK R-060 to ALTAM.

SW-2, 25 FEB 2021 to 22 APR 2021



SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 30: Climbing left turn heading 270° to V87 (commence right turn at SFO R-360) to REBAS INT/SFO 19 DME. Cross REBAS INT at or above 6000. Thence . . . .

. . . . (transition). Expect filed altitude 10 minutes after departure.

LINDEN TRANSITION (SLNT2.LIN): From over REBAS INT on LIN R-246 to LIN VOR/DME.

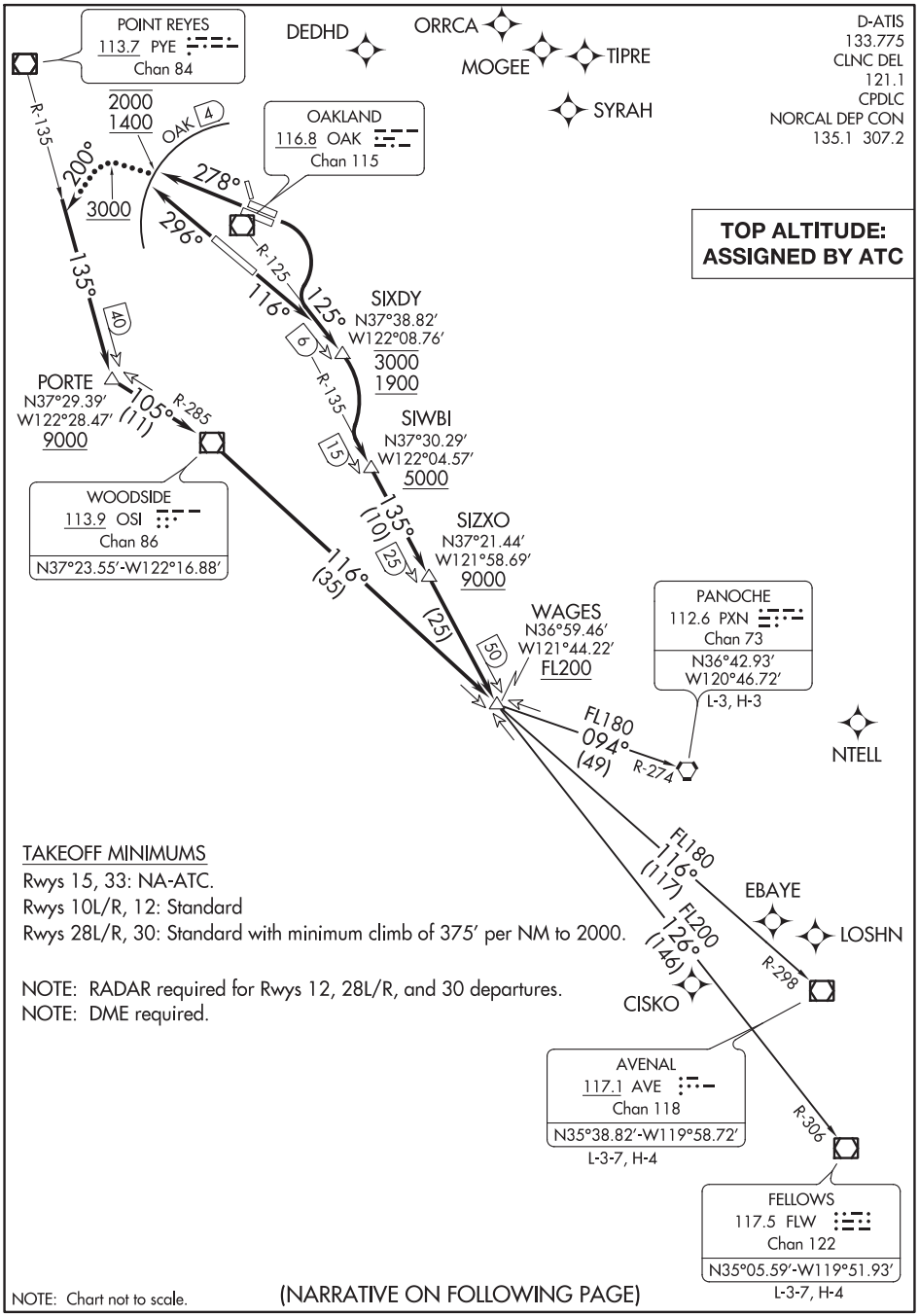
MENDOCINO TRANSITION (SLNT2.ENI): From over REBAS INT on SFO R-342 to SASSU INT, then on ENI R-118 to ENI VORTAC.

RED BLUFF TRANSITION (SLNT2.RBL): From over REBAS INT on SFO R-342 to SAWNA INT, then on RBL R-168 to RBL VORTAC.

SACRAMENTO TRANSITION (SLNT2.SAC): From over REBAS INT on SAC R-216 to SAC VORTAC.

SW-2, 25 FEB 2021 to 22 APR 2021

AL-294 (FAA)



TAKEOFF MINIMUMS

Rwys 15, 33: NA-ATC.
Rwys 10L/R, 12: Standard
Rwys 28L/R, 30: Standard with minimum climb of 375′ per NM to 2000.

NOTE: RADAR required for Rwys 12, 28L/R, and 30 departures.
NOTE: DME required.

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 10L/R: Climbing right turn to intercept OAK R-125, to cross SIXDY/OAK VOR/DME 6 DME at or above 1900 and at or below 3000, then climbing right turn to intercept and proceed on the OAK R-135 to cross SIWBI/OAK 15 DME at or above 5000 and to cross SIZXO/OAK 25 DME at or above 9000 and to cross WAGES INT/OAK 50 DME at or above FL200, thence. . . .
TAKEOFF RUNWAY 12: Climb on heading 116° for vectors to assigned route/fix, thence. . . .
TAKEOFF RUNWAYS 28L/R: Climb on heading 278° for vectors to PYE R-135 to cross 4 DME northwest of OAK VOR/DME at or above 1400 and at or below 2000. Intercept and proceed on the PYE R-135 to cross PORTE INT/PYE 40 DME at or above 9000, then on OSI R-285 to OSI VOR/DME, then on OSI R-116 to cross WAGES INT/OSI 35 DME at or above FL200, thence. . . .
TAKEOFF RUNWAY 30: Climb on heading 296° for vectors to assigned route/fix. Cross 4 DME northwest of OAK VOR/DME at or above 1400 and at or below 2000, thence. . . .

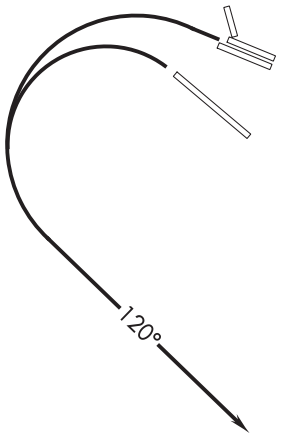
. . . .on (transition) or (assigned route) maintain ATC assigned altitude.
Expect filed altitude 10 minutes after departure.

LOST COMMUNICATIONS
TAKEOFF RUNWAYS 28L/R and 30: After reaching 3000, turn left heading 200°, intercept and proceed via the PYE R-135. Resume your own navigation.

AVENAL TRANSITION (SKYL1.AVE): From over WAGES INT on OSI R-116 and AVE R-298 to AVE VOR/DME.
FELLOWS TRANSITION (SKYL1.FLW): From over WAGES INT on FLW R-306 to FLW VOR/DME.
PANOCHE TRANSITON (SKYL1.PXN): From over WAGES INT on PXN R-274 to PXN VORTAC.

D-ATIS
133.775
CLNC DEL
121.1
CPDLC
NORCAL DEP CON
135.1 307.2

TOP ALTITUDE: 5000



TAKEOFF MINIMUMS
Rwys 10L/R, 12, 15, 33: NA-Air Traffic.
Rwys 28L/R, 30: Standard.

SUNNE △
N37°26.29′
W122°00.77′

NOTE: RADAR required.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 28L/R, 30: Climbing left turn on heading 120° for vectors to SUNNE. Maintain 5000. Expect higher altitude five minutes after departure.

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

ORLAND, CALIFORNIA | AL-6410 (FAA) | 20310

RNAV (GPS)-A
HAIGH FIELD (O37)

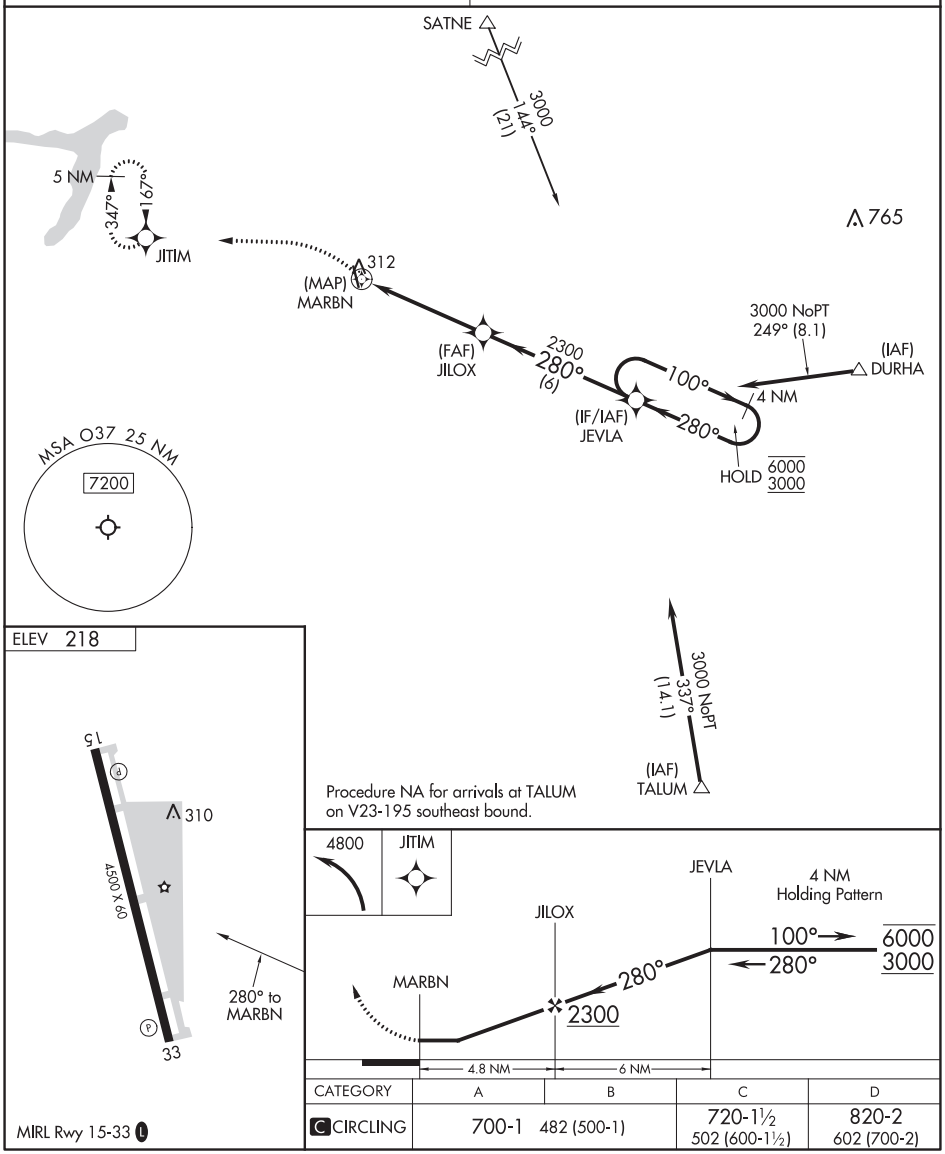
APP CRS	Rwy ldg	N/A
280°	TDZE	N/A
	Apt Elev	218

RNP APCH.

NA: Use Chico altimeter setting; when not received, use Redding altimeter setting and increase all MDA 120 feet. Increase visibility Cat C and D ¼ SM.

MISSED APPROACH: Climbing left turn to 4800 direct JITIM and hold, continue climb-in-hold to 4800.

OAKLAND CENTER	UNICOM
132.2 350.3	122.7 (CTAF) L



CATEGORY	A	B	C	D
C CIRCLING	700-1 482 (500-1)		720-1½ 502 (600-1½)	820-2 602 (700-2)

MIRL Rwy 15-33 L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

ORLAND, CALIFORNIA
Orig 21MAY20

39°43′N-122°09′W

HAIGH FIELD (O37)
RNAV (GPS)-A

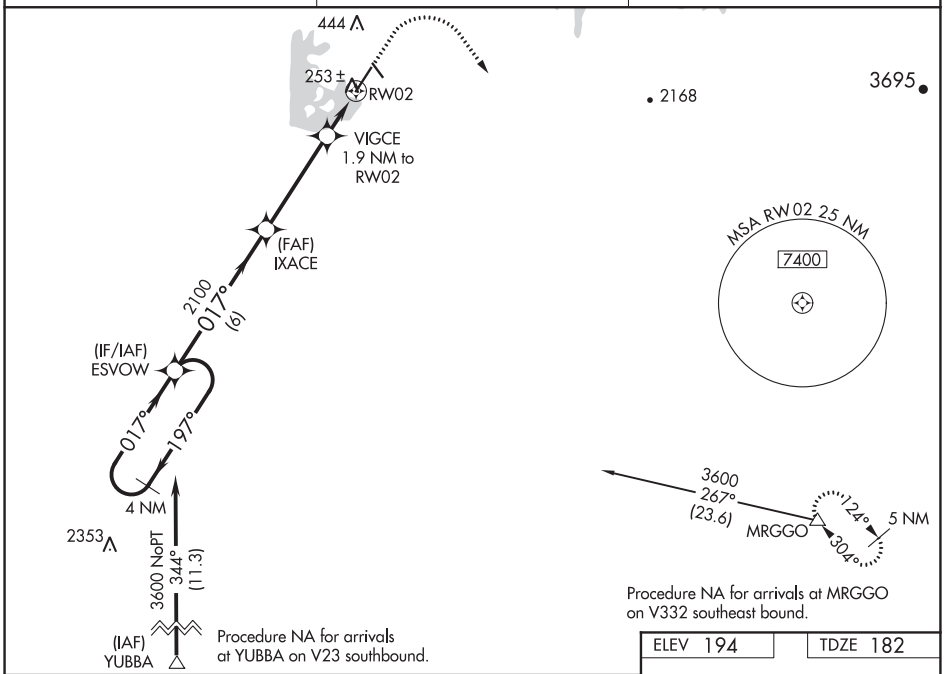
WAAS CH 49026 W02A	APP CRS 017°	Rwy ldg 6020 TDZE 182 Apt Elev 194

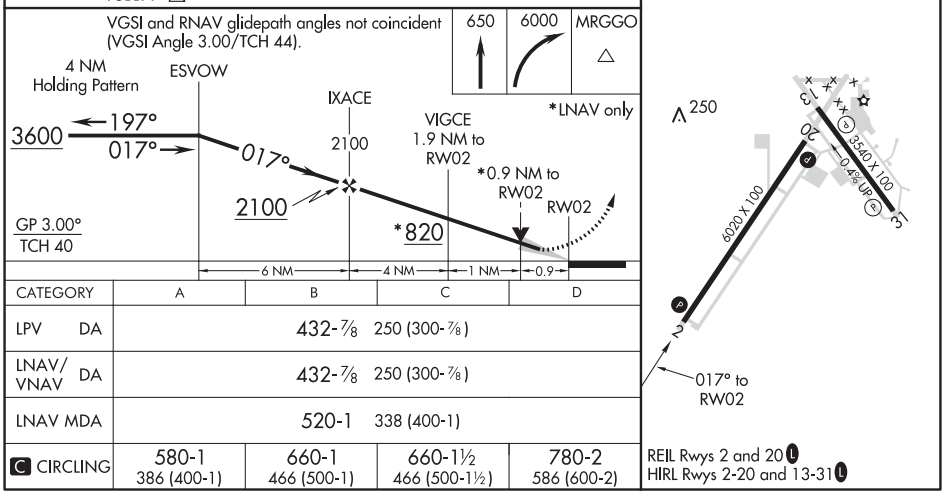
RNAV (GPS) RWY 2
OROVILLE MUNI (OVE)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -2°C (29°F) or above 54°C (130°F). Circling NA northeast of Rwy 13-31. DME/DME RNP-0.3 NA.

MISSED APPROACH: Climb to 650 then climbing right turn to 6000 direct MRGGO and hold, continue climb-in-hold to 6000.

ASOS	NORCAL APP CON	UNICOM
121.425	125.4 259.1	122.8 (CTAF) L





CATEGORY	A	B	C	D
LPV DA	432-⅞ 250 (300-⅞)			
LNAV/VNAV DA	432-⅞ 250 (300-⅞)			
LNAV MDA	520-1 338 (400-1)			
C CIRCLING	580-1 386 (400-1)	660-1 466 (500-1)	660-1½ 466 (500-1½)	780-2 586 (600-2)

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

OROVILLE, CALIFORNIA | AL-5938 (FAA) | 20310

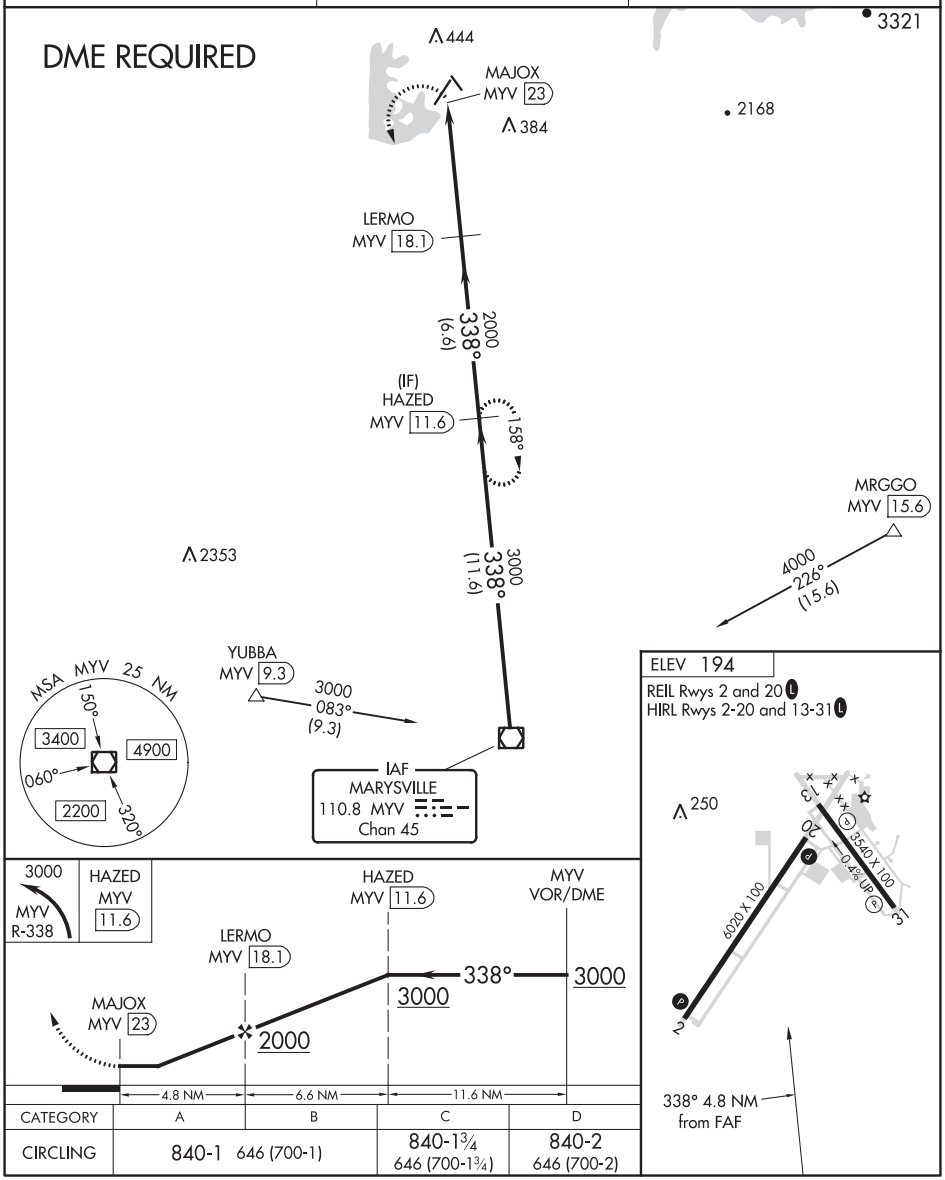
VOR-A
OROVILLE MUNI (OVE)

VOR/DME MYV 110.8 Chan 45	APP CRS 338°	Rwy ldg N/A TDZE N/A Apt Elev 194

Circling NA northeast of Rwy 13-31. DME required.

MISSED APPROACH: Climbing left turn to 3000 on MYV VOR/DME R-338 to HAZED/MYV 11.6 DME and hold.

ASOS	NORCAL APP CON	UNICOM
121.425	125.4 259.1	122.8 (CTAF) L



CATEGORY	A	B	C	D
CIRCLING	840-1 646 (700-1)		840-1¾ 646 (700-1¾)	840-2 646 (700-2)

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

APP CRS	Rwy ldg	2443
322°	TDZE	7
	Apt Elev	7

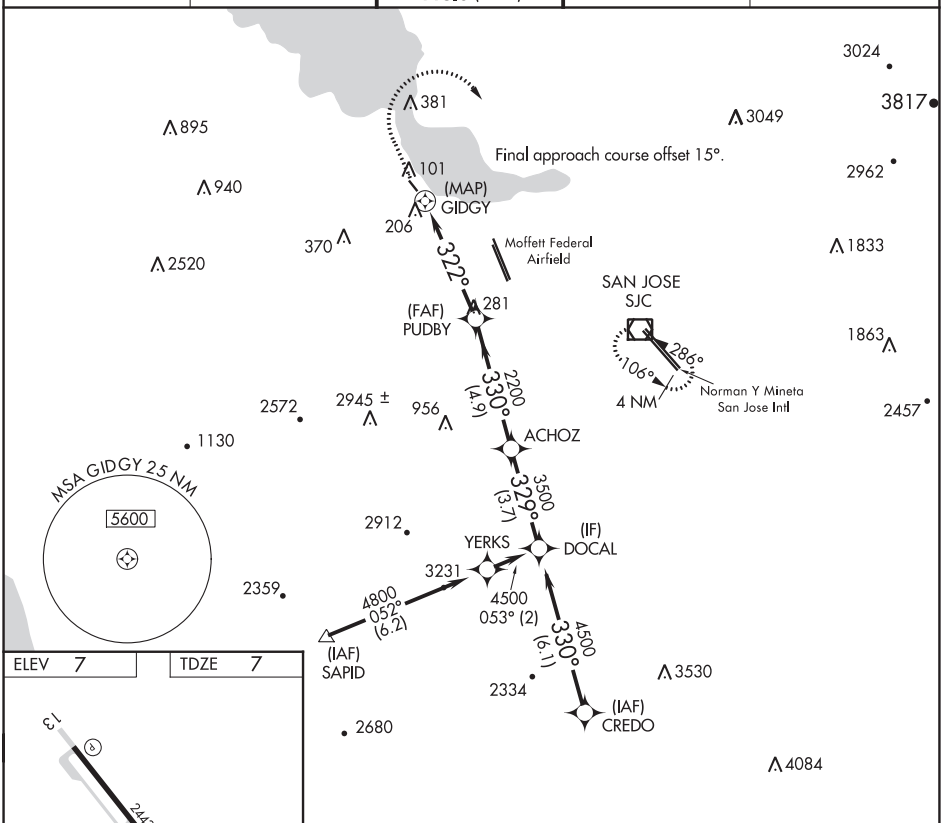
RNAV (GPS) RWY 31
PALO ALTO (PAO)

RNP APCH.

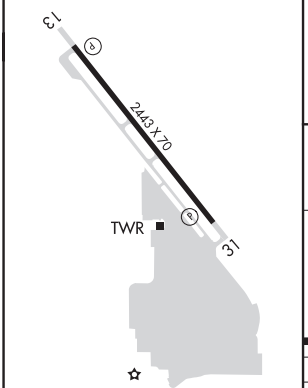
Circling NA southwest of Rwy 13-31. Rwy 31 helicopter visibility reduction below 1 SM NA. Procedure NA at night. When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase all MDAs 40 feet.

MISSED APPROACH: Climb to 1400 then climbing right turn to 3000 direct SJC VOR/DME and hold.

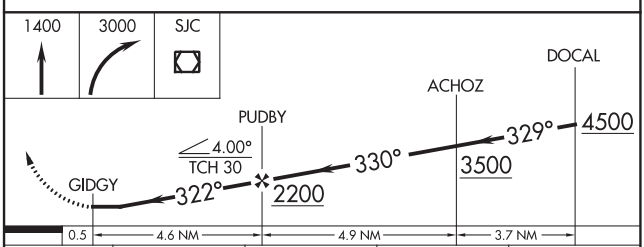
ATIS	NORCAL APP CON	PALO ALTO TOWER★	GND CON	UNICOM
135.275	121.3 270.35	118.6 (CTAF)	125.0	122.95



ELEV 7 TDZE 7



REIL Rwys 13 and 31
MIRL Rwy 13-31



CATEGORY	A	B	C	D
LNAV MDA	460-1 453 (500-1)		NA	
C CIRCLING	460-1 453 (500-1)	520-1 513 (600-1)	NA	

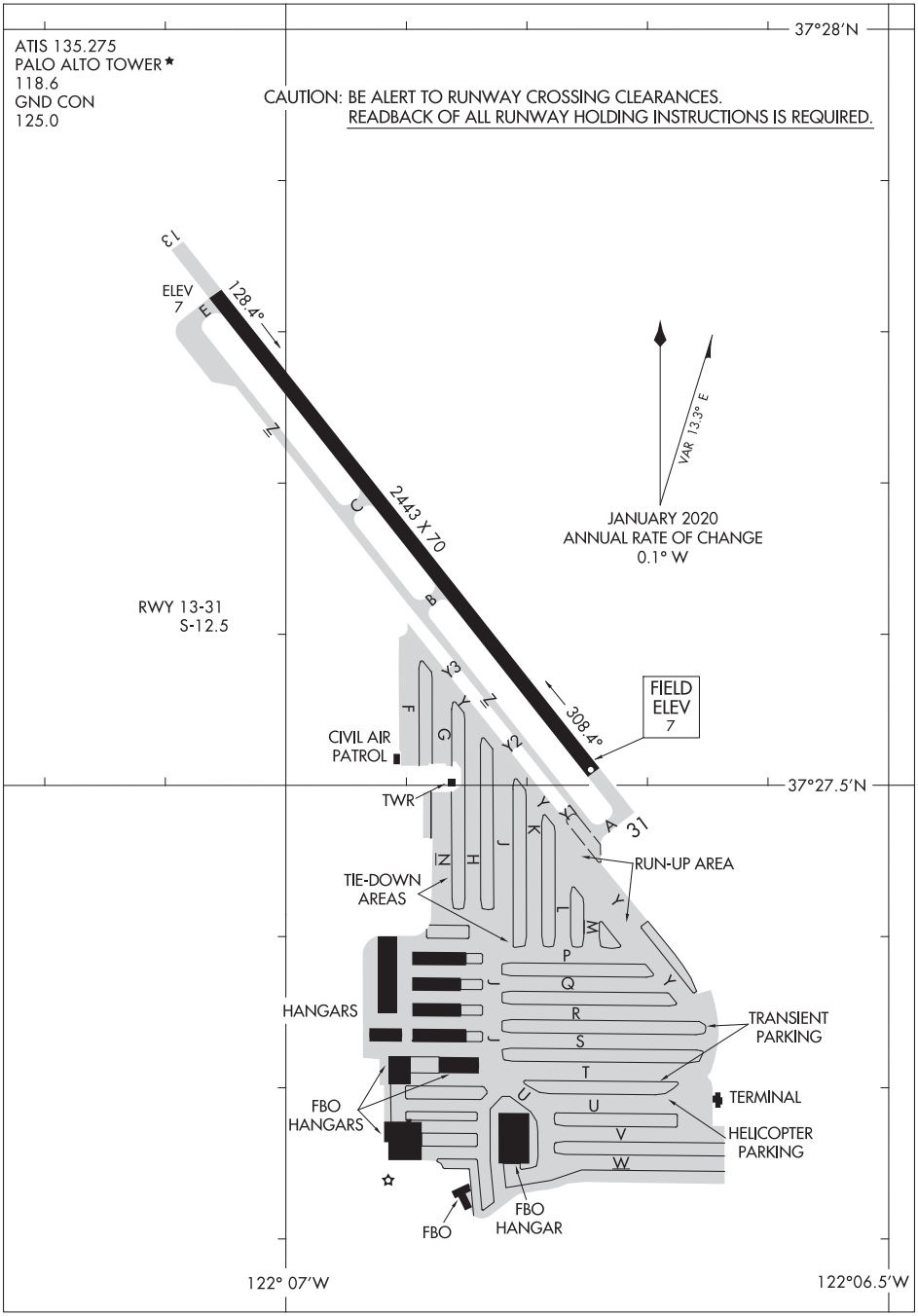
SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

20086

AIRPORT DIAGRAM

AL-9216 (FAA)

PALO ALTO (PAO)
PALO ALTO, CALIFORNIA



SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

AIRPORT DIAGRAM
20086
PALO ALTO, CALIFORNIA
PALO ALTO (PAO)

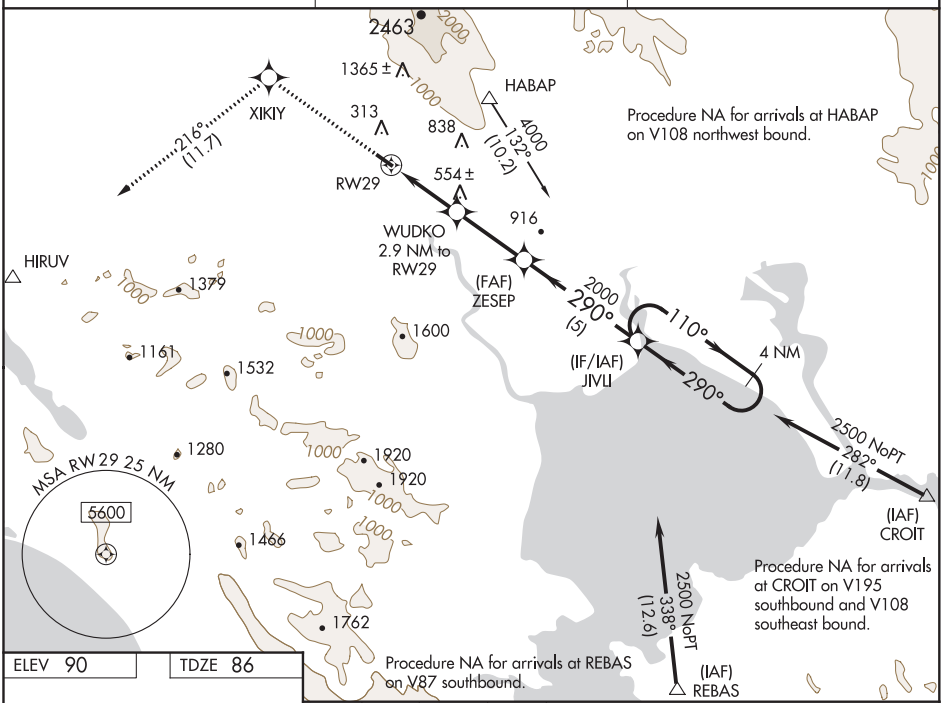
WAAS CH 49124 W29A	APP CRS 290°	Rwy ldg 3600 TDZE 86 Apt Elev 90

RNAV (GPS) RWY 29
PETALUMA MUNI (O69)

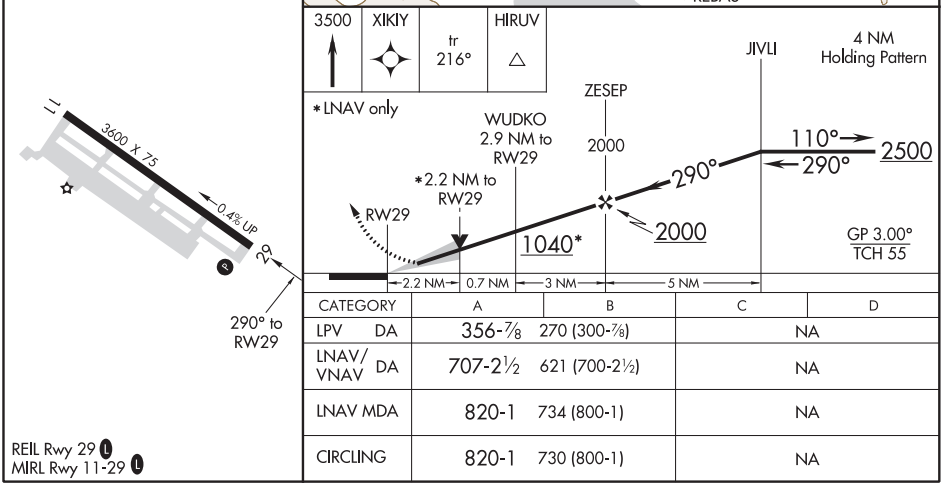
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Night landing: Rwy 11 NA.

MISSED APPROACH: Climb to 3500 direct XIKIY and on track 216° to HIRUV.

AWOS-3P	OAKLAND CENTER	UNICOM
132.325	127.8 353.5	122.7 (CTAF) L



ELEV 90	TDZE 86



CATEGORY	A	B	C	D
LPV DA	356-⅞ 270 (300-⅞)		NA	
LNAV/VNAV DA	707-2½ 621 (700-2½)		NA	
LNAV MDA	820-1 734 (800-1)		NA	
CIRCLING	820-1 730 (800-1)		NA	

REIL Rwy 29 L
MIRL Rwy 11-29 L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

PETALUMA, CALIFORNIA | AL-6838 (FAA) | 20310

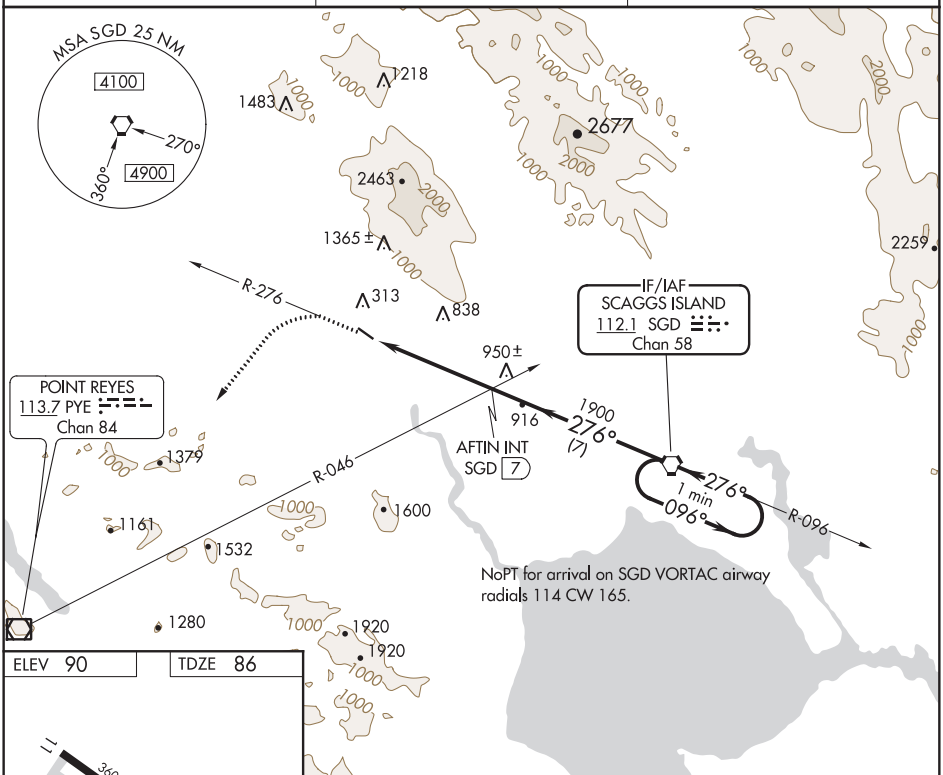
VOR RWY 29
PETALUMA MUNI (O69)

VORTAC SGD 112.1 Chan 58	APP CRS 276°	Rwy ldg 3600 TDZE 86 Apt Elev 90

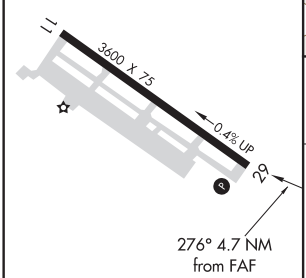
T NA Night landing: Rwy 11 NA, Rwy 29 operational VGSI required, remain on or above VGSI glidepath until threshold. Helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climb to 2000 via SGD R-276 then climbing left turn to 3500 direct PYE VOR/DME.

AWOS-3P	OAKLAND CENTER	UNICOM
132.325	127.8 353.5	122.7 (CTAF) L



ELEV 90 | TDZE 86

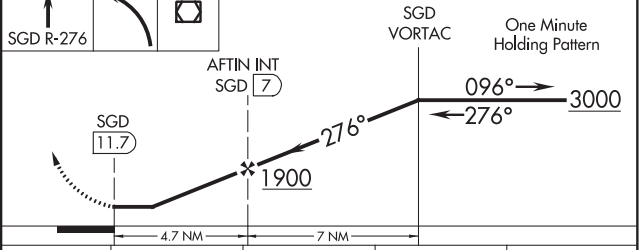


REIL Rwy 29 L
MIRL Rwy 11-29 L

FAF to MAP 4.7 NM					
Knots	60	90	120	150	180
Min:Sec	4:42	3:08	2:21	1:53	1:34

2000	3500	PYE
SGD R-276		

DME unusable from SGD VORTAC 11.1 DME to MAP.



CATEGORY	A	B	C	D
S-29	1260-1¼ 1174 (1200-1¼)	1260-1½ 1174 (1200-1½)	NA	
CIRCLING	1260-1⅛ 1170 (1200-1⅛)	1260-1½ 1170 (1200-1½)	NA	

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

PETALUMA, CALIFORNIA
Orig-D 15SEP16

38°15′N-122°36′W

PETALUMA MUNI (O69)
VOR RWY 29

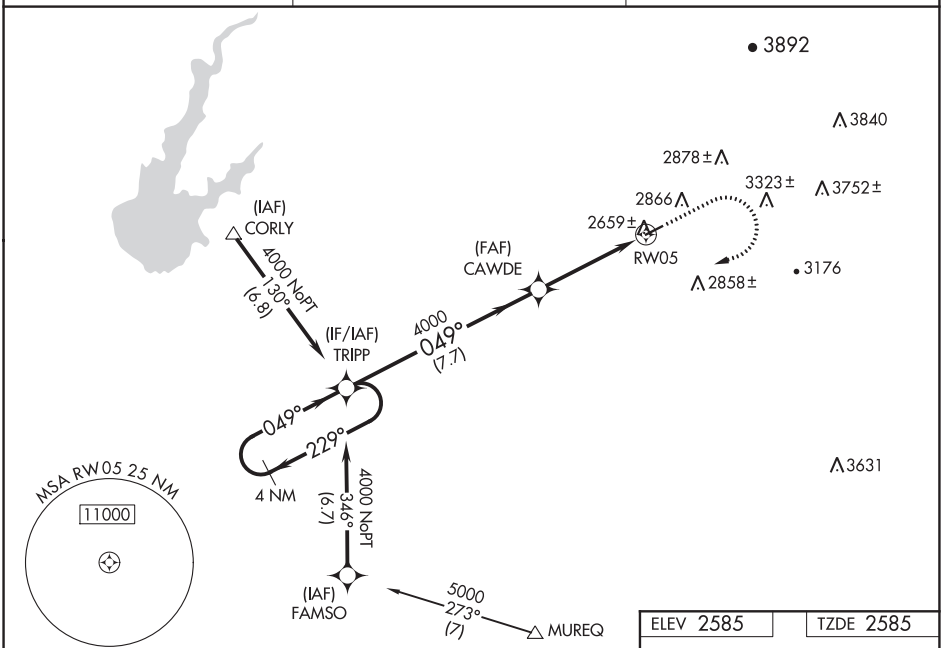
WAAS CH 78324 W05A	APP CRS 049°	Rwy ldg 3914 TDZE 2585 Apt Elev 2585

RNAV (GPS) RWY 5
PLACERVILLE (PVF)

Night landing: Rwy 23 NA. Baro-VNAV NA when using Auburn altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -20°C (-4°F) or above 54°C (130°F). Circling NA northwest of Rwy 5-23. DME/DME RNP-0.3 NA. VDP NA with Auburn altimeter setting. When local altimeter setting not received, use Auburn altimeter setting and increase all DA/MDA 200 feet, and all visibilities ¾ mile.

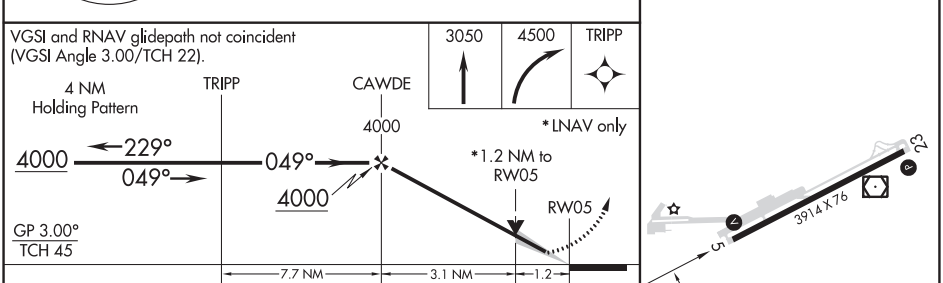
MISSED APPROACH: Climb to 3050 then climbing right turn to 4500 direct TRIPP and hold.

AWOS-3	NORCAL APP CON	UNICOM
128.125	127.4 317.5	122.8 (CTAF) L



ELEV 2585 TZDE 2585

VGSI and RNAV glidepath not coincident
(VGSI Angle 3.00/TCH 22).



CATEGORY	A	B	C	D
LPV DA	2835-¾ 250 (300-¾)		NA	
LNAV/VNAV DA	2874-1 289 (300-1)		NA	
LNAV MDA	3040-1 455 (500-1)		NA	
CIRCLING	3200-1 615 (700-1)	3260-1 675 (700-1)	NA	

MIRL Rwy 5-23 L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

PORTERVILLE, CALIFORNIA

AL-569 (FAA)

18312

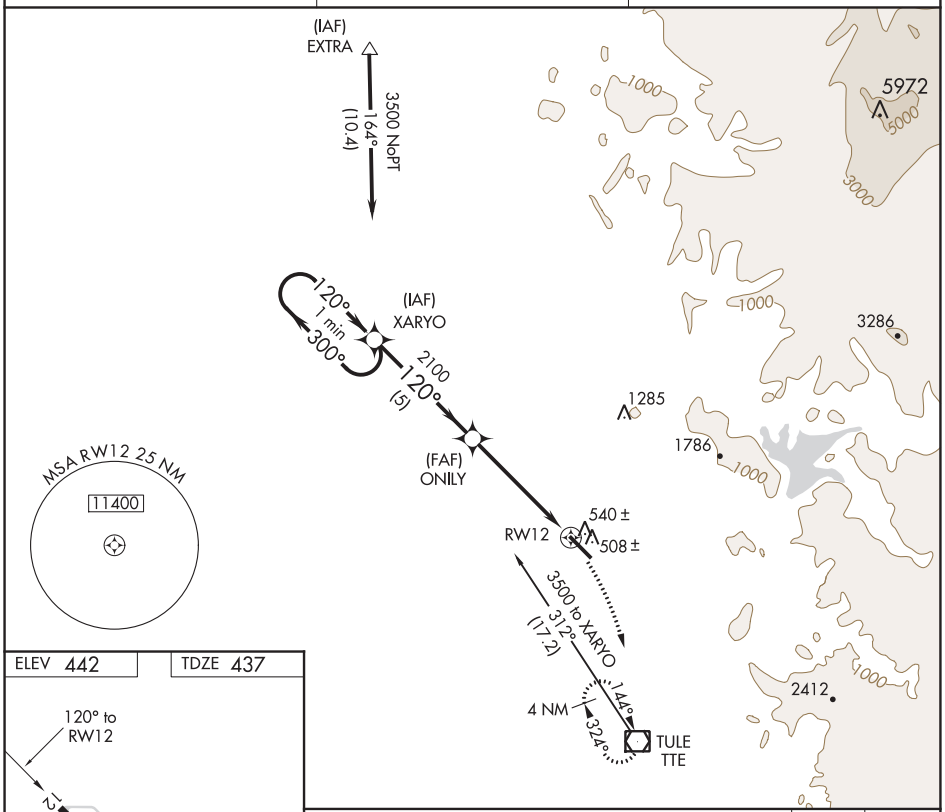
GPS RWY 12
PORTERVILLE MUNI (PTV)

APP CRS	Rwy ldg	5960
120°	TDZE	437
	Apt Elev	442

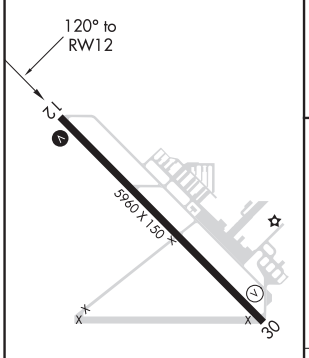
NA

MISSED APPROACH: Climbing right turn to 3100 direct TTE VOR/DME and hold.

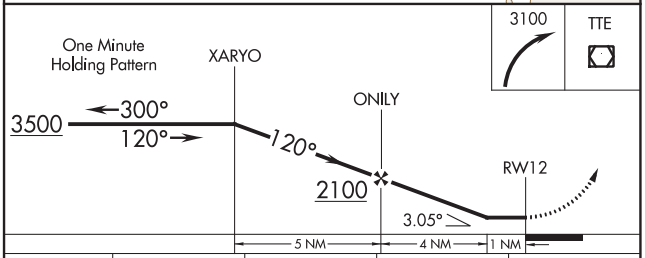
AWOS-3PT	BAKERSFIELD APP CON ★	UNICOM
134.625	120.5	122.8 (CTAF)



ELEV 442 | TDZE 437



REIL Rwy 30
HIRL Rwy 12-30



CATEGORY	A	B	C	D
S-12	800-1 363 (400-1)			800-1¼ 363 (400-1¼)
CIRCLING	880-1 438 (500-1)	900-1 458 (500-1)	900-1½ 458 (500-1½)	1000-2 558 (600-2)

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

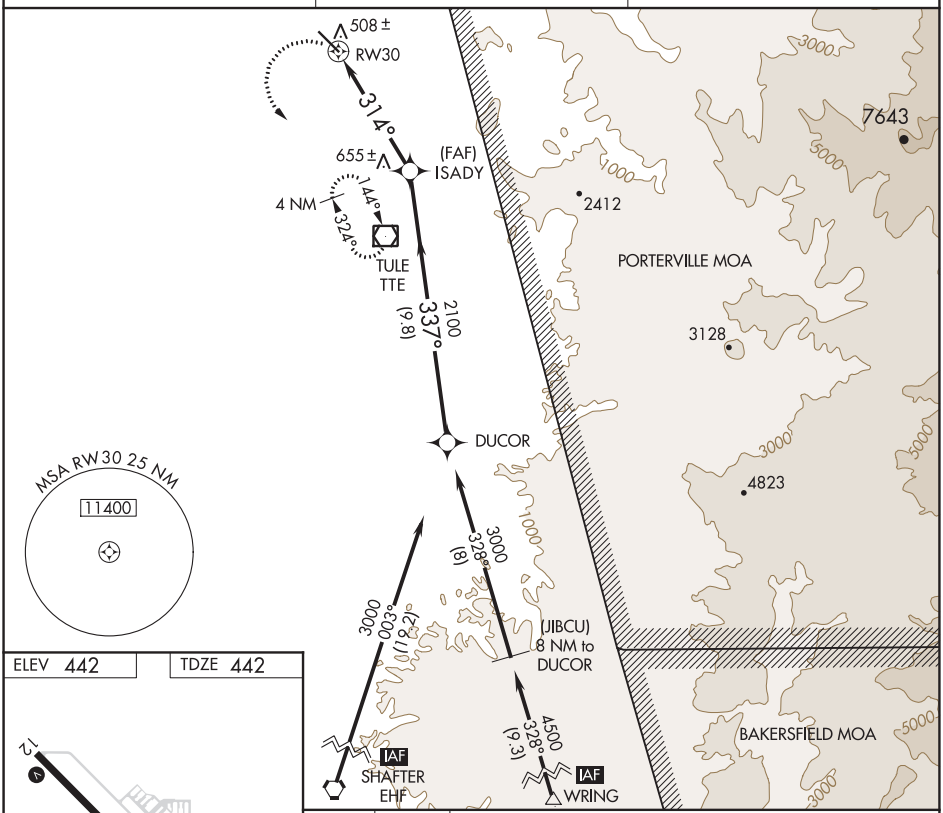
APP CRS	Rwy ldg	5960
314°	TDZE	442
	Apt Elev	442

GPS RWY 30
PORTERVILLE MUNI (PTV)

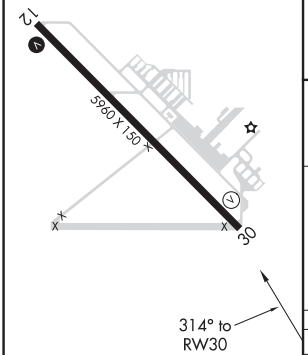
IAF ARM APPROACH MODE PRIOR TO IAF.
NA Helicopter visibility reduction below ¾ SM NA.

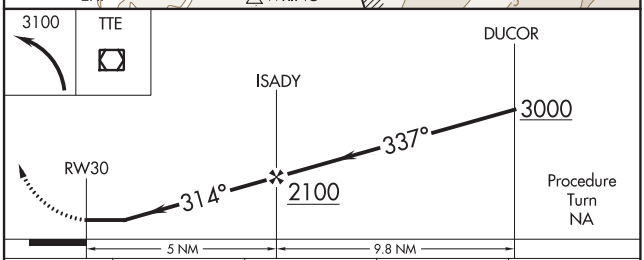
MISSED APPROACH: Climbing left turn to 3100 direct TTE VOR/DME and hold.

AWOS-3PT	BAKERFIELD APP CON★	UNICOM
134.625	120.5	122.8 (CTAF) L



ELEV 442 TDZE 442





CATEGORY	A	B	C	D
S-30	900-1 458 (500-1)		900-1¼ 458 (500-1¼)	900-1½ 458 (500-1½)
CIRCLING	900-1 458 (500-1)		900-1½ 458 (500-1½)	1000-2 558 (600-2)

REIL Rwy 30
HIRL Rwy 12-30 L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

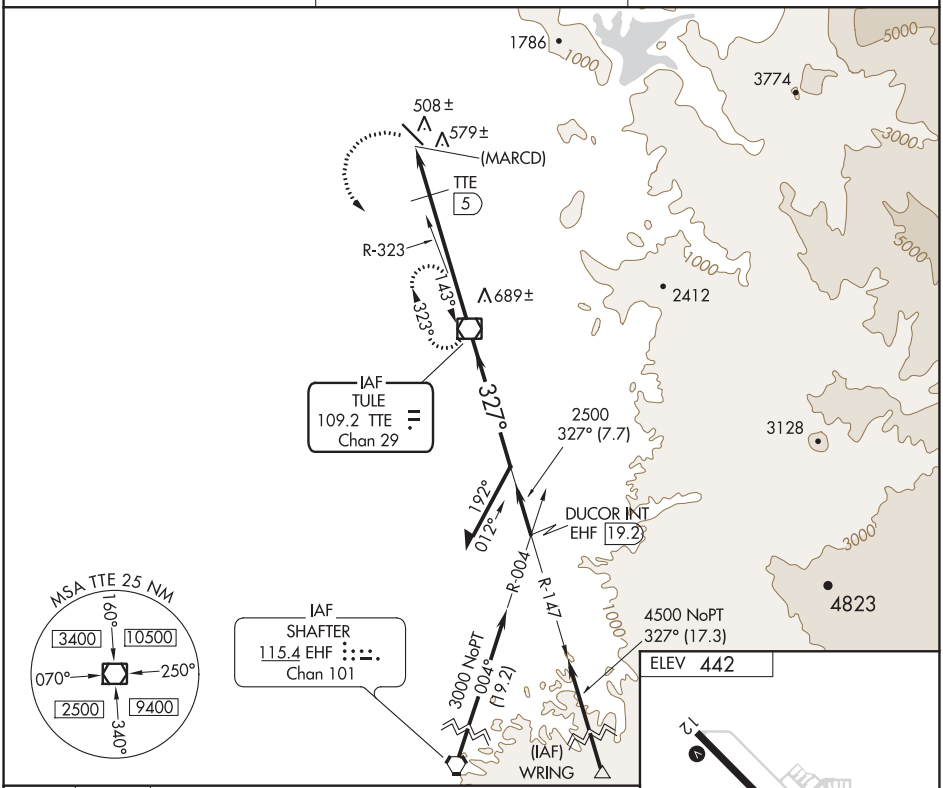
PORTERVILLE, CALIFORNIA | AL-569 (FAA) | 20310

VOR/DME TTE 109.2 Chan 29	APP CRS 327°	Rwy ldg N/A TDZE N/A Apt Elev 442

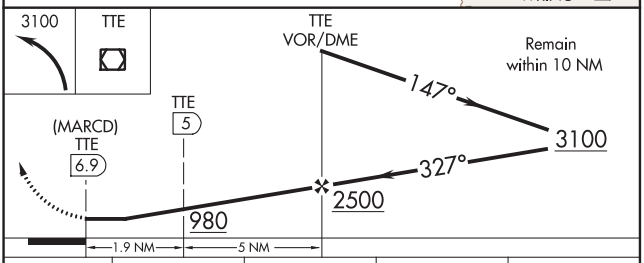
VOR or GPS-A
PORTERVILLE MUNI (PTV)

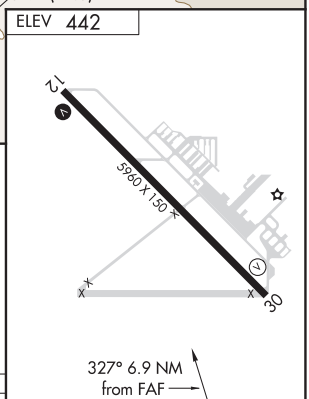
MISSED APPROACH: Climbing left turn to 3100 direct TTE VOR/DME and hold.

AWOS-3PT	BAKERFIELD APP CON★	UNICOM
134.625	120.5	122.8 (CTAF)



ELEV 442





REIL Rwy 30
HIRL Rwy 12-30

CATEGORY	A	B	C	D
CIRCLING	980-1 538 (600-1)		980-1½ 538 (600-1½)	1000-2 558 (600-2)
DME MINIMA				
CIRCLING	880-1 438 (500-1)	900-1 458 (500-1)	900-1½ 458 (500-1½)	1000-2 558 (600-2)

FAF to MAP 6.9 NM					
Knots	60	90	120	150	180
Min:Sec	6:54	4:36	3:27	2:46	2:18

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

WAAS CH 73008 W15A	APP CRS 151°	Rwy ldg 5431 TDZE 352 Apt Elev 352

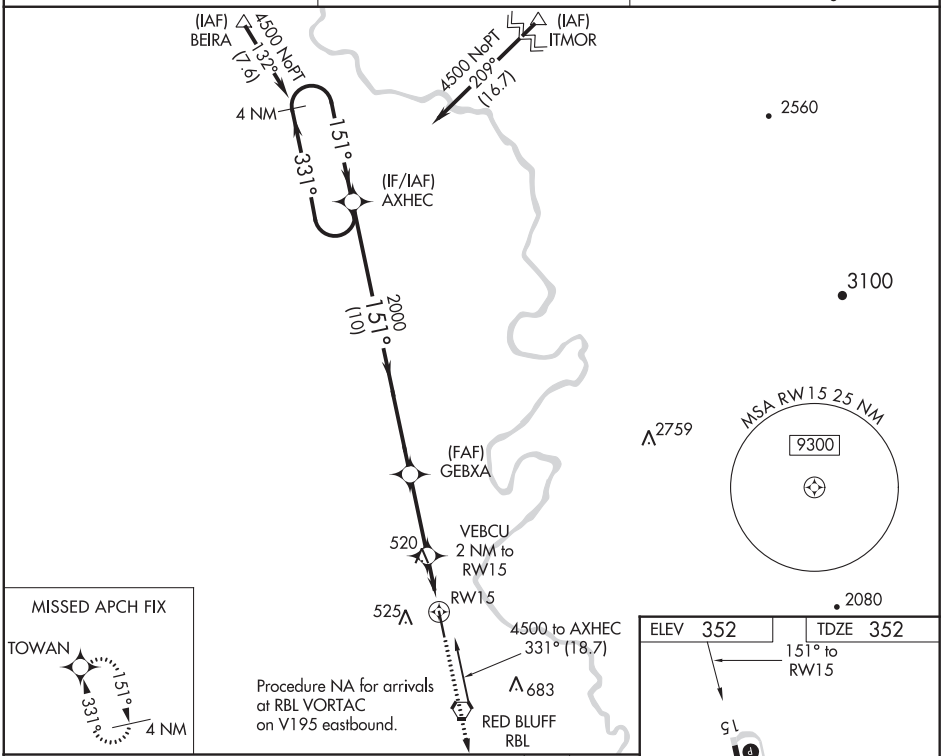
RNAV (GPS) RWY 15
RED BLUFF MUNI (RBL)

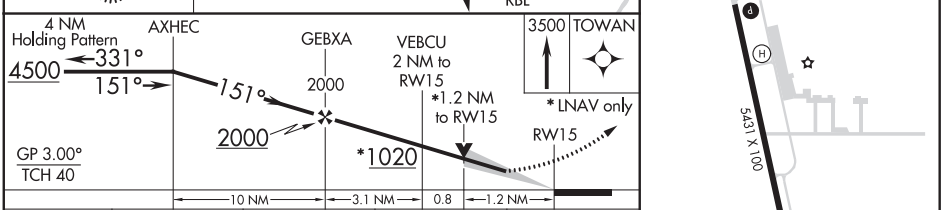
RNP APCH.

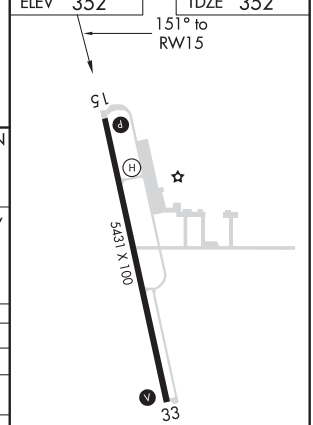
Circling to Rwy 33 NA at night. Baro-VNAV and VDP NA when using Redding altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -2°C or above 54°C. When local altimeter setting not received; use Redding altimeter setting and increase LPV DA to 674 feet and increase LNAV/VNAV DA to 860 feet and increase visibility all Cats ⅛ SM; increase all MDAs 80 feet and LNAV visibility Cats C/D ⅛ SM and Circling visibility Cats C/D ¼ SM.

MISSED APPROACH: Climb to 3500 direct TOWAN and hold.

ASOS	OAKLAND CENTER	UNICOM
120.775	132.2 350.3	123.0 (CTAF) L







CATEGORY	A	B	C	D
LPV DA	602-⅞ 250 (300-⅞)			
LNAV/VNAV DA	788-1¼ 436 (500-1¼)			
LNAV MDA	780-1 428 (500-1)		780-1¼ 428 (500-1¼)	
C CIRCLING	860-1 508 (600-1)		900-1½ 548 (600-1½)	1060-2¼ 708 (800-2¼)

MIRL Rwy 15-33 L
REIL Rwys 15 and 33

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

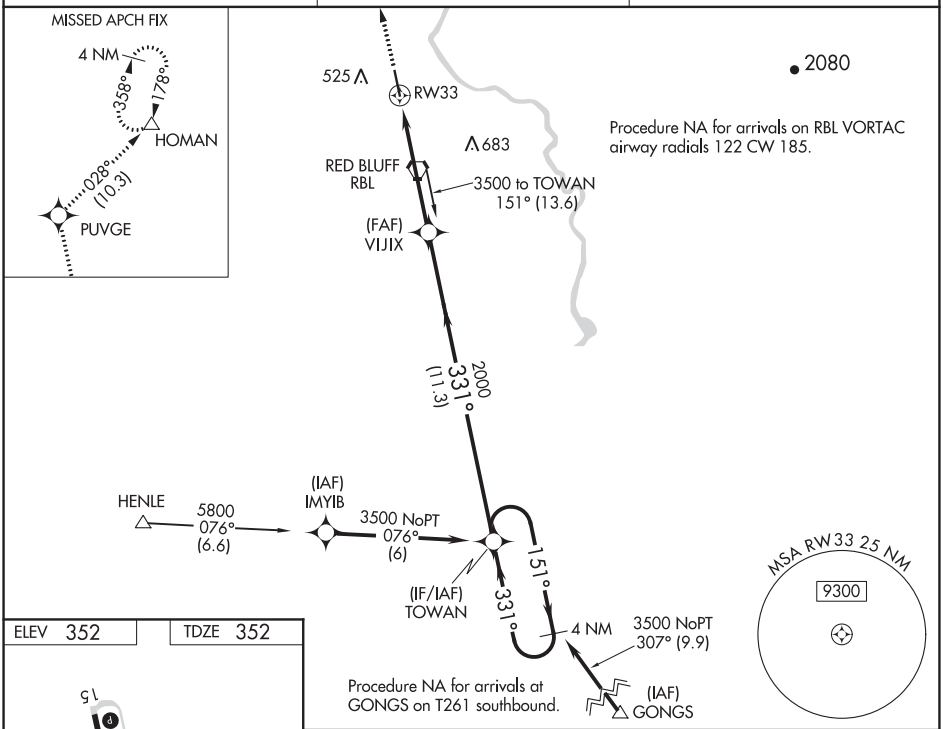
WAAS CH 42609 W33A	APP CRS 331°	Rwy ldg 5431 TDZE 352 Apt Elev 352

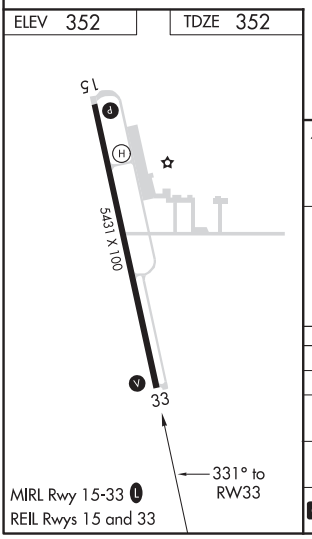
RNAV (GPS) RWY 33
RED BLUFF MUNI (RBL)

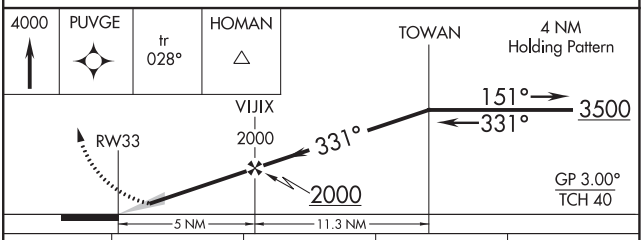
Baro-VNAV NA when using Redding altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 48°C (118°F). DME/DME RNP-0.3 NA. When local altimeter setting not received, use Redding altimeter setting and increase all DA/MDA 80 feet and increase LPV all Cats visibility ¼ SM, LNAV/VNAV all Cats visibility ¼ SM, LNAV Cat C visibility ¼ SM and Circling Cats C and D visibility ¼ SM.

MISSED APPROACH: Climb to 4000 direct PUVGE and track 028° to HOMAN and hold.

ASOS	OAKLAND CENTER	UNICOM
120.775	132.2 350.3	123.0 (CTAF) L







CATEGORY	A	B	C	D
LPV DA	602-1 250 (300-1)			
LNAV/VNAV DA	718-1¼ 366 (400-1¼)			
LNAV MDA	780-1 428 (500-1)		780-1¼ 428 (500-1¼)	780-1½ 428 (500-1½)
C CIRCLING	860-1 508 (600-1)		900-1½ 548 (600-1½)	1060-2¼ 708 (800-2¼)

SW-2, 25 FEB 2021 to 22 APR 2021

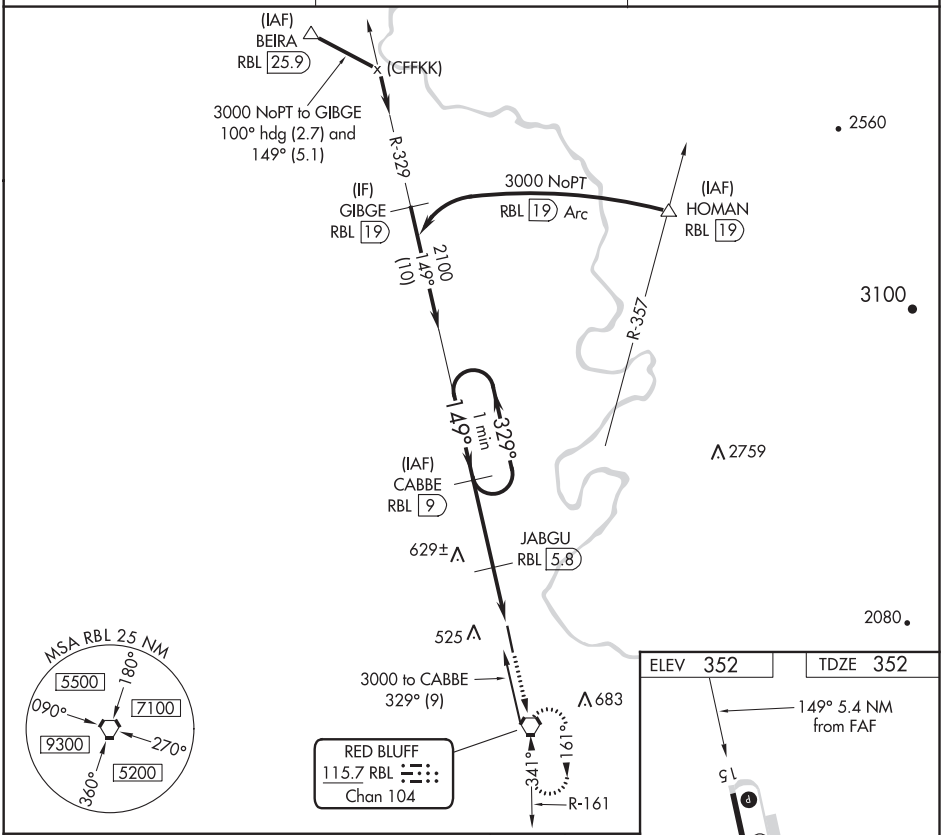
VORTAC RBL	APP CRS	Rwy ldg	5431
115.7	149°	TDZE	352
Chan 104		Apt Elev	352

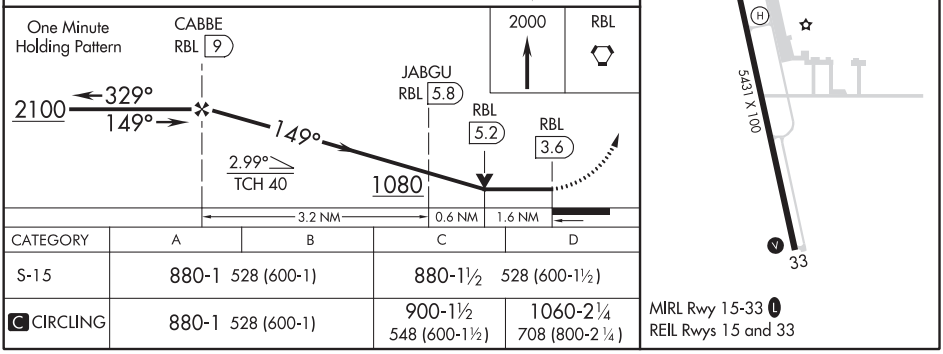
VOR/DME RWY 15
RED BLUFF MUNI (RBL)

When local altimeter setting not received, use Redding altimeter setting and increase all MDAs and all Cat C/D visibility ¼ SM. VDP NA with Redding altimeter setting.

MISSED APPROACH: Climb to 2000 direct RBL VORTAC and hold.

ASOS	OAKLAND CENTER	UNICOM
120.775	132.2 350.3	123.0 (CTAF) L





CATEGORY	A	B	C	D
S-15	880-1 528 (600-1)		880-1½ 528 (600-1½)	
C CIRCLING	880-1 528 (600-1)		900-1½ 548 (600-1½)	1060-2¼ 708 (800-2¼)

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

RED BLUFF, CALIFORNIA | AL-344 (FAA) | 20114

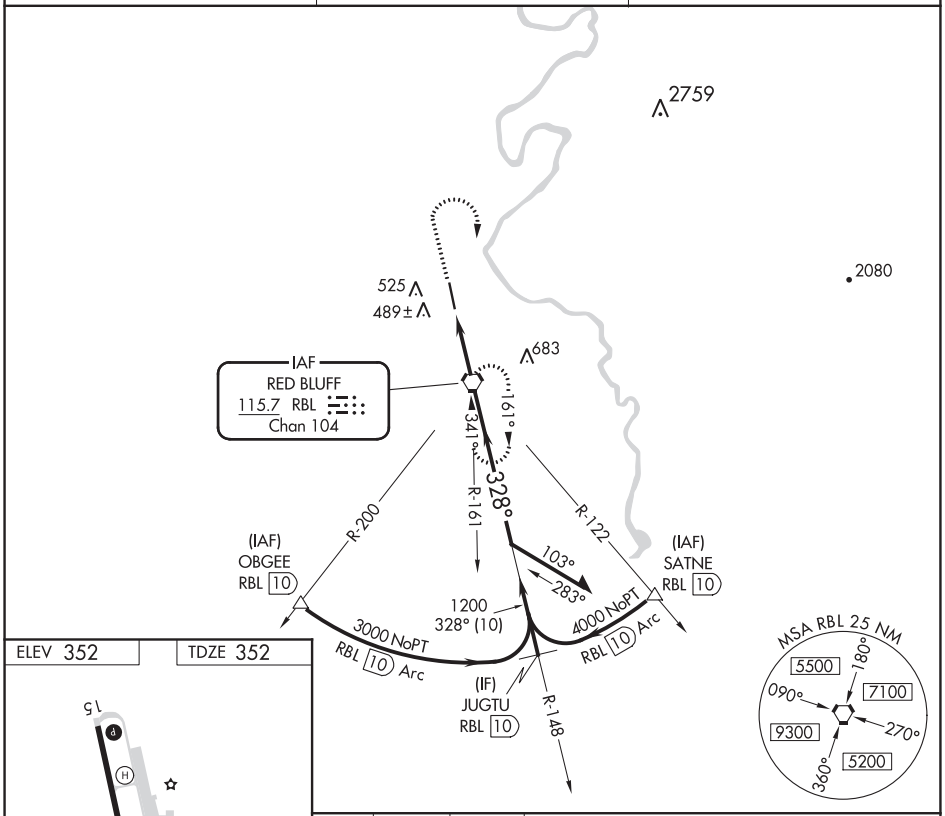
VOR RWY 33
RED BLUFF MUNI (RBL)

VORTAC RBL	APP CRS	Rwy ldg	5431
115.7	328°	TDZE	352
Chan 104		Apt Elev	352

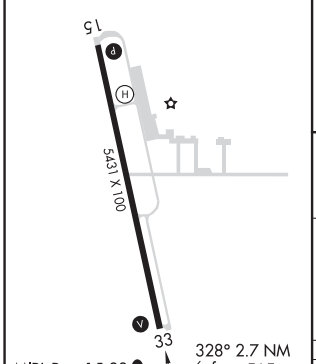
When local altimeter setting not received, use Redding altimeter setting and increase all MDAs 80 feet and all Cat C/D visibilities ¼ SM.

MISSED APPROACH: Climb to 1500, then climbing right turn to 2000 direct RBL VORTAC and hold.

ASOS	OAKLAND CENTER	UNICOM
120.775	132.2 350.3	123.0 (CTAF)



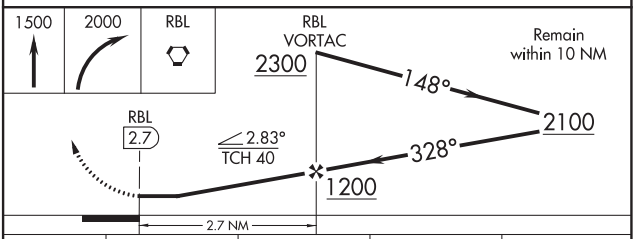
ELEV 352 | TDZE 352



MIRL Rwy 15-33
REIL Rwys 15 and 33

328° 2.7 NM from FAF

FAF to MAP 2.7 NM					
Knots	60	90	120	150	180
Min:Sec	2:42	1:48	1:21	1:05	0:54



CATEGORY	A	B	C	D
S-33	740-1 388 (400-1)			740-1¼ 388 (400-1¼)
C CIRCLING	880-1 528 (600-1)		900-1½ 548 (600-1½)	1060-2¼ 708 (800-2¼)

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

LOC/DME I-RDD	APP CRS	Rwy ldg 7003
108.7	346°	TDZE 499
Chan 24		Apt Elev 505

ILS or LOC RWY 34
REDDING MUNI (RDD)

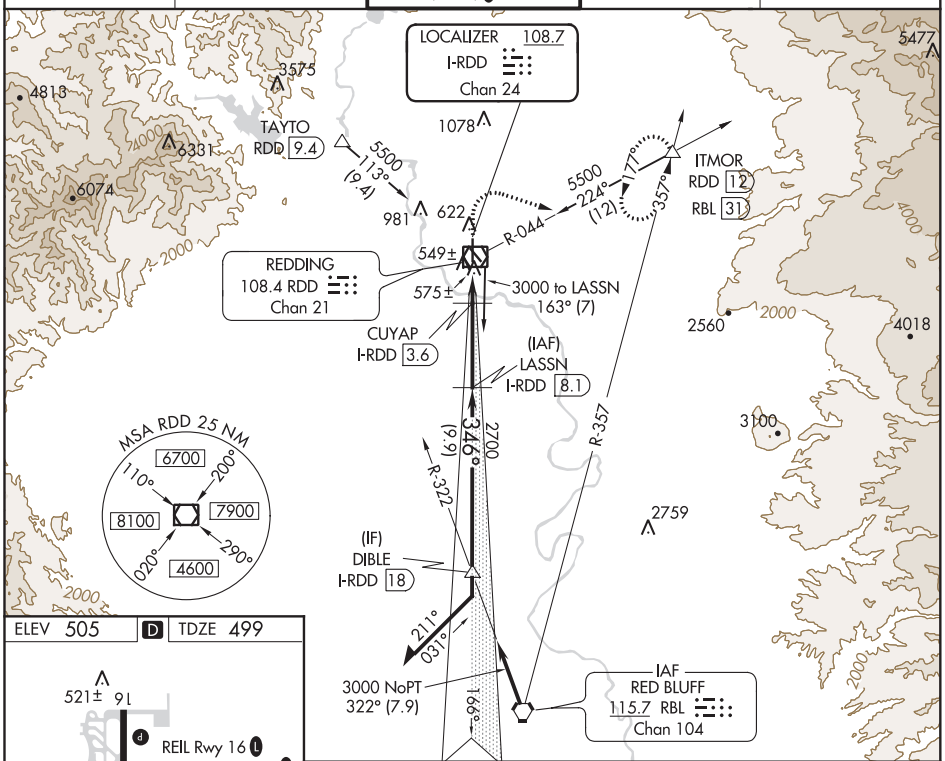
DME required for LOC only.

For inop ALS, increase S-ILS 34 Cat E visibility to ¾ SM and S-LOC 34 Cat C/D/E visibility to 1 SM.

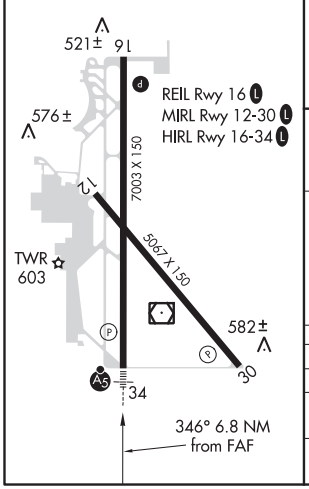
MALSR

MISSED APPROACH: Climb to 1700 then climbing right turn to 5000 on heading 090° and RDD R-044 to ITMOR INT/RDD 12 DME and hold, continue climb-in-hold to 5000.

ATIS	OAKLAND CENTER	REDDING TOWER ★	GND CON	UNICOM
124.1	132.2 350.3	119.8 (CTAF) L 269.25	121.7	122.95



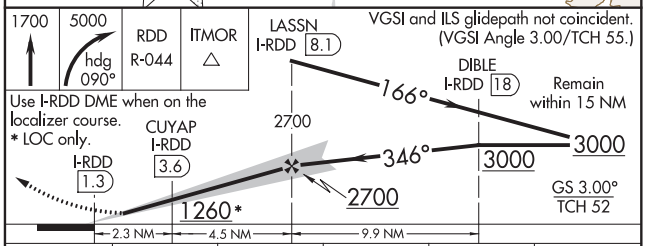
ELEV 505 D TDZE 499



1700	5000 hdg 090°	RDD R-044	ITMOR △

VGSI and ILS glidepath not coincident. (VGSI Angle 3.00/TCH 55.)

Use I-RDD DME when on the localizer course.
* LOC only.



CATEGORY	A	B	C	D	E
S-ILS 34	699-½ 200 (200-½)				
S-LOC 34	840-½ 341 (400-½)		840-⅝ 341 (400-⅝)		
C CIRCLING	940-1 435 (500-1)	1000-1 495 (500-1)	1120-1¾ 615 (700-1¾)	1340-2¾ 835 (900-2¾)	1340-3 835 (900-3)

SW-2, 25 FEB 2021 to 22 APR 2021
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REDDING, CALIFORNIA | AL-688 (FAA) | 20030

RNAV (GPS) RWY 16
REDDING MUNI (RDD)

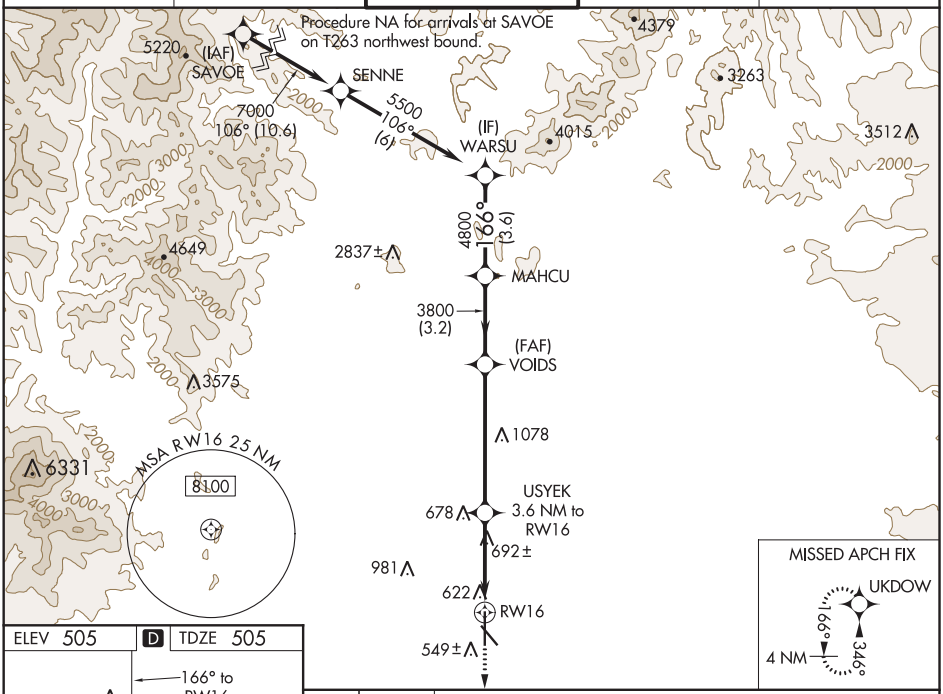
WAAS CH 86443 W16A	APP CRS 166°	Rwy ldg 7003 TDZE 505 Apt Elev 505

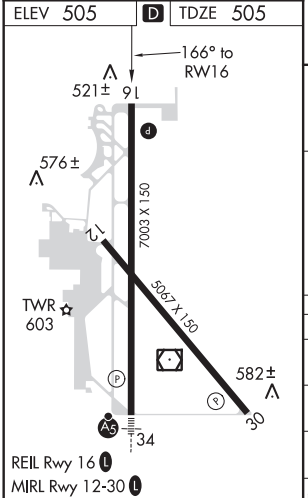
RNP APCH.

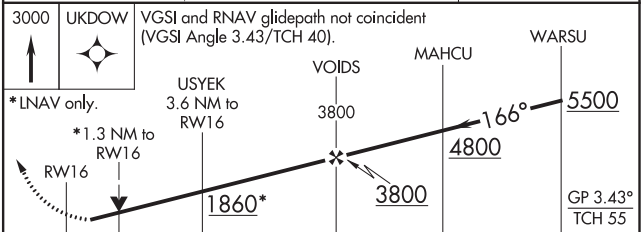
T Rwy 16 helicopter visibility reduction below ¾ SM NA.
A For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -4°C or above 53°C.

MISSED APPROACH: Climb to 3000 direct UKDOW and hold.

ATIS	OAKLAND CENTER	REDDING TOWER ★	GND CON	UNICOM
124.1	132.2 350.3	119.8 (CTAF) L 269.25	121.7	122.95







CATEGORY	A	B	C	D
LPV DA	755-¾ 250 (300-¾)		775-⅞ 270 (300-⅞)	
LNAV/VNAV DA	892-1⅛ 387 (400-1⅛)			
LNAV MDA	960-1 455 (500-1)		960-1⅜ 455 (500-1⅜)	
C CIRCLING	960-1 455 (500-1)	1000-1 495 (500-1)	1120-1¾ 615 (700-1¾)	1340-2¾ 835 (900-2¾)

SW-2, 25 FEB 2021 to 22 APR 2021

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WAAS CH 56402 W34A	APP CRS 346°	Rwy ldg 7003 TDZE 499 Apt Elev 505

RNAV (GPS) RWY 34
REDDING MUNI (RDD)

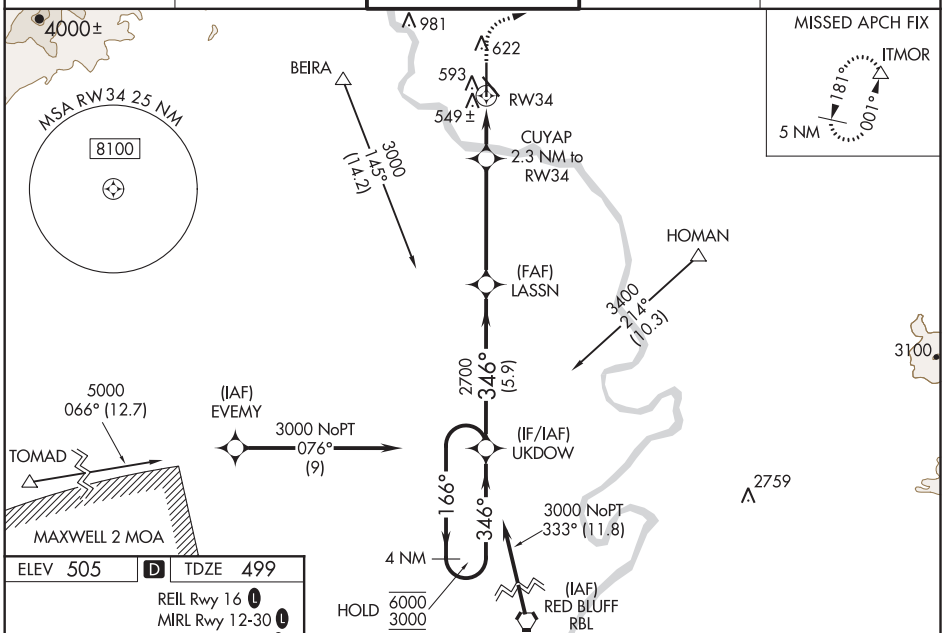
RNP APCH.

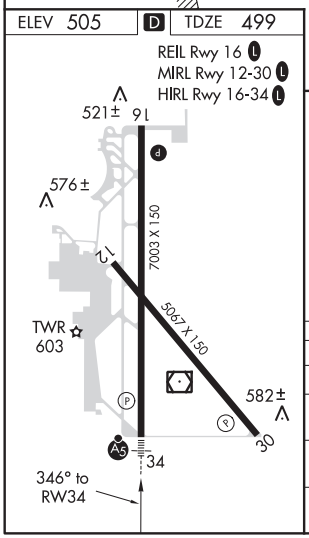
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -4°C or above 54°C. For inop ALS, increase LNAV/VNAV all Cats visibility to ¾ SM and LNAV Cat C, D visibility to 1 SM.

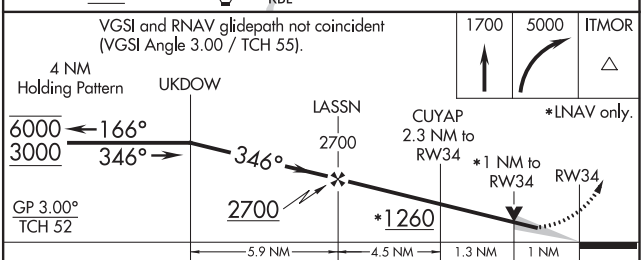
MALSR

MISSED APPROACH: Climb to 1700 then climbing right turn to 5000 direct ITMOR, continue climb-in-hold to 5000.

ATIS	OAKLAND CENTER	REDDING TOWER ★	GND CON	UNICOM
124.1	132.2 350.3	119.8 (CTAF) L 269.25	121.7	122.95







CATEGORY	A	B	C	D
LPV DA	699-½ 200 (200-½)			
LNAV/VNAV DA	754-½ 255 (300-½)			
LNAV MDA	860-½ 361 (400-½)		860-⅝ 361 (400-⅝)	
C CIRCLING	940-1 435 (500-1)	1000-1 495 (500-1)	1120-1¾ 615 (700-1¾)	1340-2¾ 835 (900-2¾)

SW-2, 25 FEB 2021 to 22 APR 2021

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REDDING, CALIFORNIA | AL-688 (FAA) | 20030

LOC BC RWY 16
REDDING MUNI (RDD)

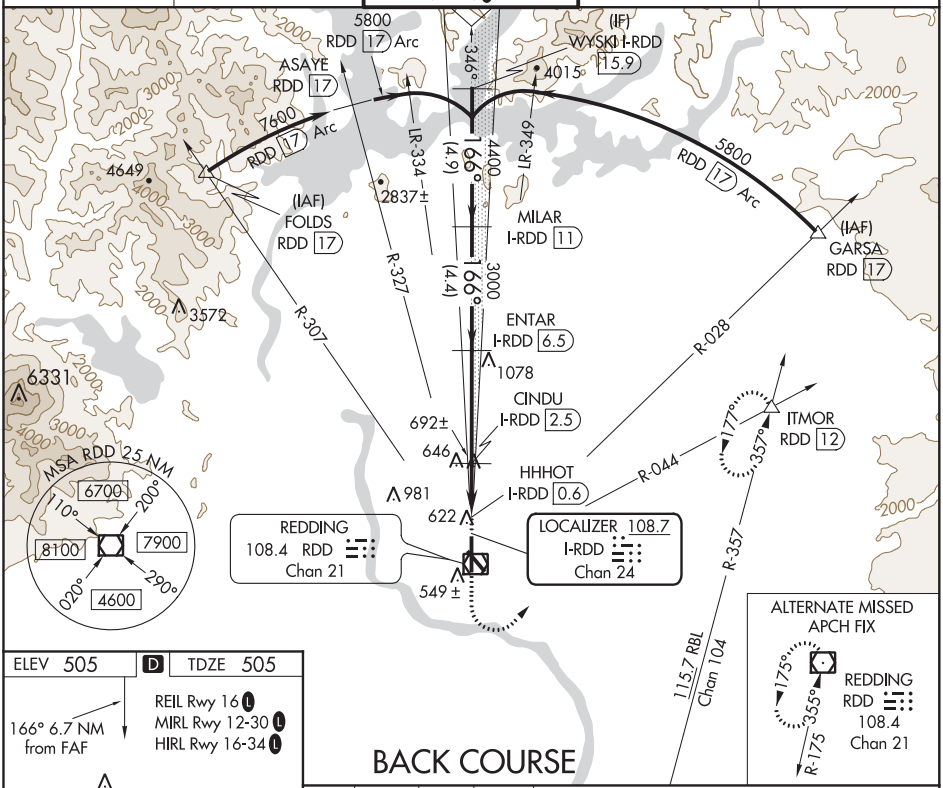
LOC/DME I-RDD	APP CRS	Rwy ldg 7003
108.7	166°	TDZE 505
Chan 24		Apt Elev 505

DME required.

Rwy 16 helicopter visibility reduction below ¾ SM NA.

MISSED APPROACH: Climb to 2000 then climbing left turn to 5000 on heading 015° and RDD VOR/DME R-044 to ITMOR INT/RDD 12 DME and hold, continue climb-in-hold to 5000.

ATIS	OAKLAND CENTER	REDDING TOWER ★	GND CON	UNICOM
124.1	132.2 350.3	119.8 (CTAF) L 269.25	121.7	122.95

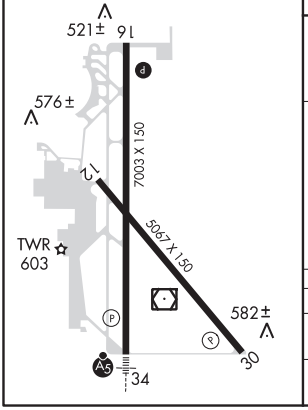


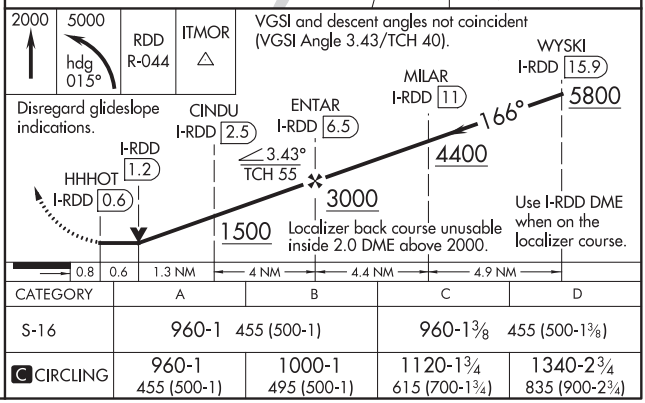
BACK COURSE

ELEV 505	D	TDZE 505

166° 6.7 NM from FAF

REIL Rwy 16 L
MIRL Rwy 12-30 L
HIRL Rwy 16-34 L





CATEGORY	A	B	C	D
S-16	960-1 455 (500-1)		960-1⅜ 455 (500-1⅜)	
C CIRCLING	960-1 455 (500-1)	1000-1 495 (500-1)	1120-1¾ 615 (700-1¾)	1340-2¾ 835 (900-2¾)

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VOR RWY 34
REDDING MUNI (RDD)

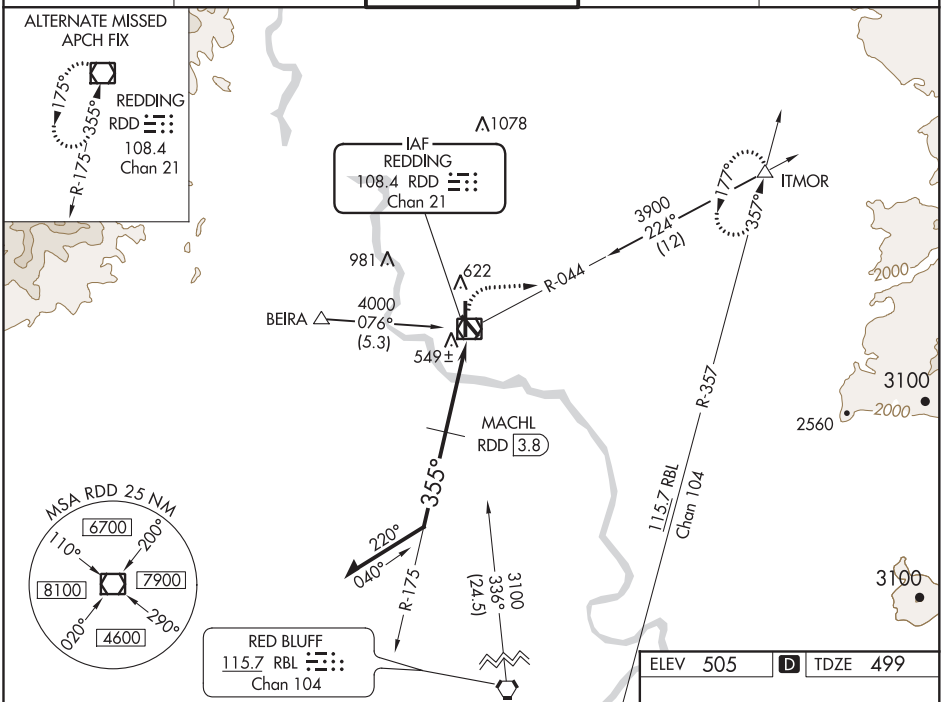
VOR/DME RDD 108.4 Chan 21	APP CRS 355°	Rwy ldg 7003 TDZE 499 Apt Elev 505

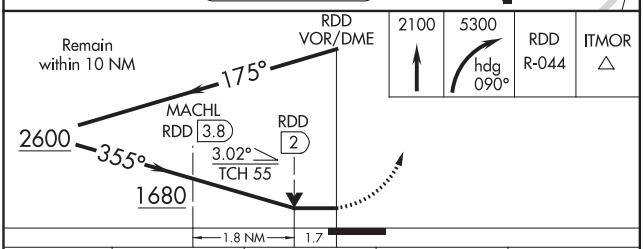
T A Inop table does not apply to S-34 Cats C/D. MACHL fix minimums: for inop ALS, increase S-34 Cat C/D visibility to 1¾ SM.

MALSR A5

MISSED APPROACH: Climb to 2100 then climbing right turn to 5300 on heading 090° and on RDD VOR/DME R-044 to ITMOR INT and hold, continue climb-in-hold to 5300.

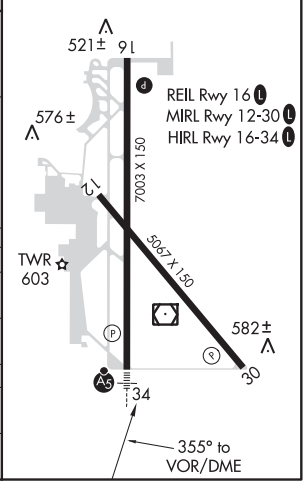
ATIS	OAKLAND CENTER	REDDING TOWER ★	GND CON	UNICOM
124.1	132.2 350.3	119.8 (CTAF) L 269.25	121.7	122.95





CATEGORY	A	B	C	D
S-34	1680-¾ 1181 (1200-¾)	1680-1 1181 (1200-1)	1680-3 1181 (1200-3)	
C CIRCLING	1680-1¼ 1175 (1200-1¼)	1680-1½ 1175 (1200-1½)	1680-3 1175 (1200-3)	
MACHL FIX MINIMUMS				
S-34	1100-½ 601 (600-½)		1100-1⅜ 601 (600-1⅜)	
C CIRCLING	1100-1 595 (600-1)		1120-1¾ 615 (700-1¾)	1340-2¾ 835 (900-2¾)

ELEV 505 D TDZE 499



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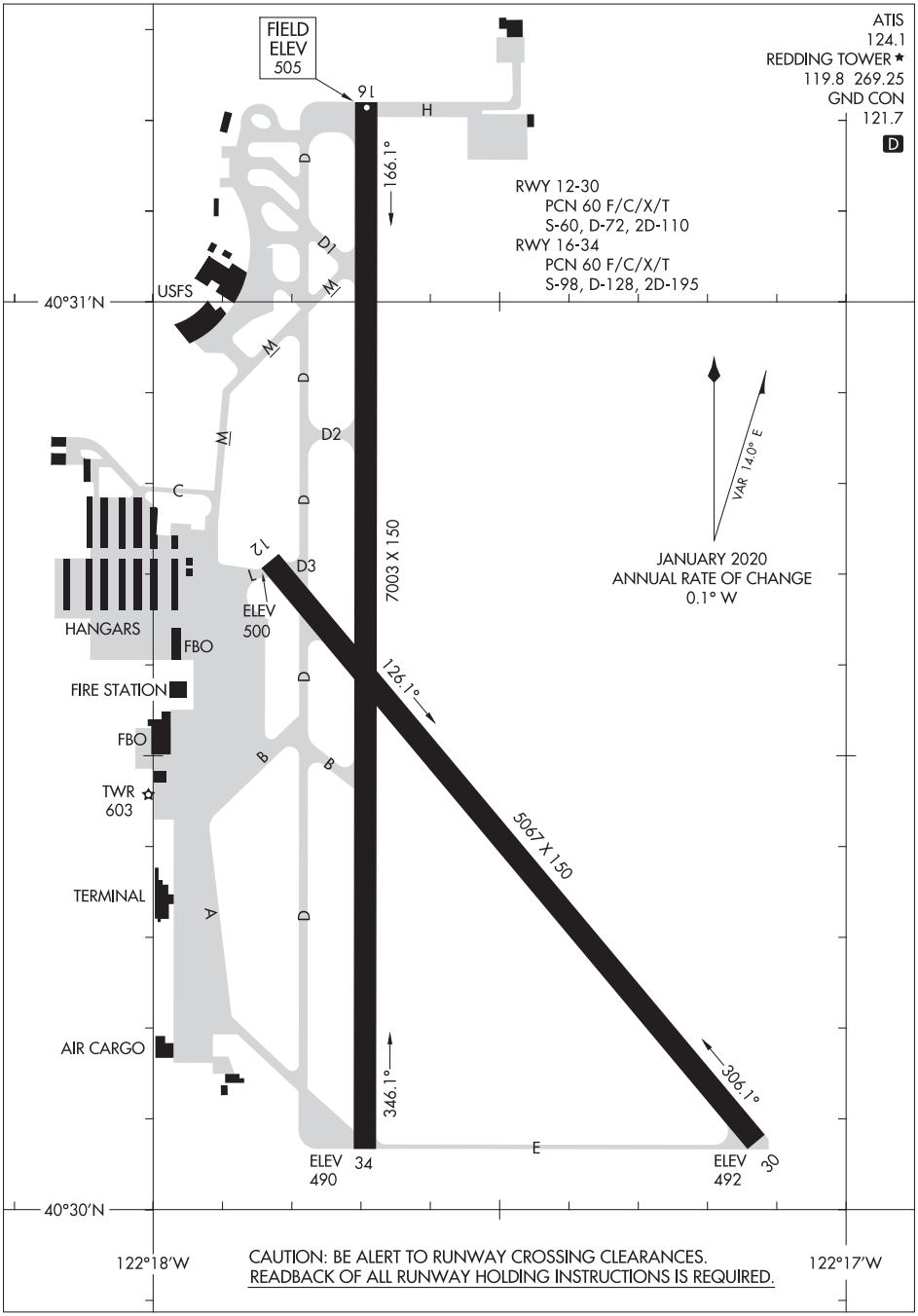
SW-2, 25 FEB 2021 to 22 APR 2021

20086

AIRPORT DIAGRAM

AL-688 (FAA)

REDDING MUNI (RDD)
REDDING, CALIFORNIA



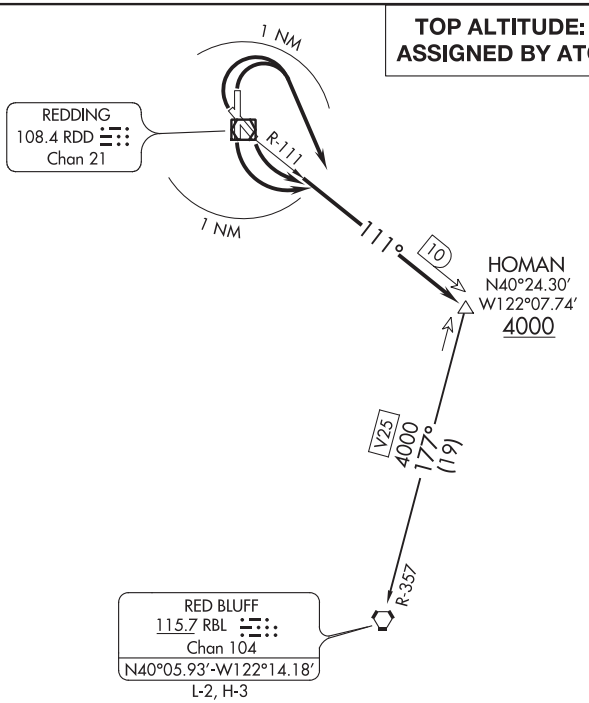
SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

AIRPORT DIAGRAM
20086
REDDING, CALIFORNIA
REDDING MUNI (RDD)

TOP ALTITUDE: ASSIGNED BY ATC

ATIS
124.1
GND CON
121.7
REDDING TOWER★
119.8 (CTAF) 269.25
OAKLAND CENTER
132.2 350.3



TAKEOFF MINIMUMS:
Rwys 12, 16, 30, 34: Standard with minimum climb of 400′ per NM to 4000.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 12, 16: Climbing left turn within 1 NM, thence. . . .
TAKEOFF RUNWAYS 30, 34: Climbing right turn within 1 NM, thence. . . .

. . . .Intercept the RDD R-111, to HOMAN INT/RDD 10 DME, cross HOMAN INT/RDD 10 DME at or above 4000′; then on (transition) or (assigned route). Expect filed altitude 10 minutes after departure.

RED BLUFF TRANSITION (HOMAN3.RBL): From over HOMAN INT/RDD 10 DME on RBL R-357 to RBL VORTAC.

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SW-2, 25 FEB 2021 to 22 APR 2021

(KENDL4.KENDL) 20030

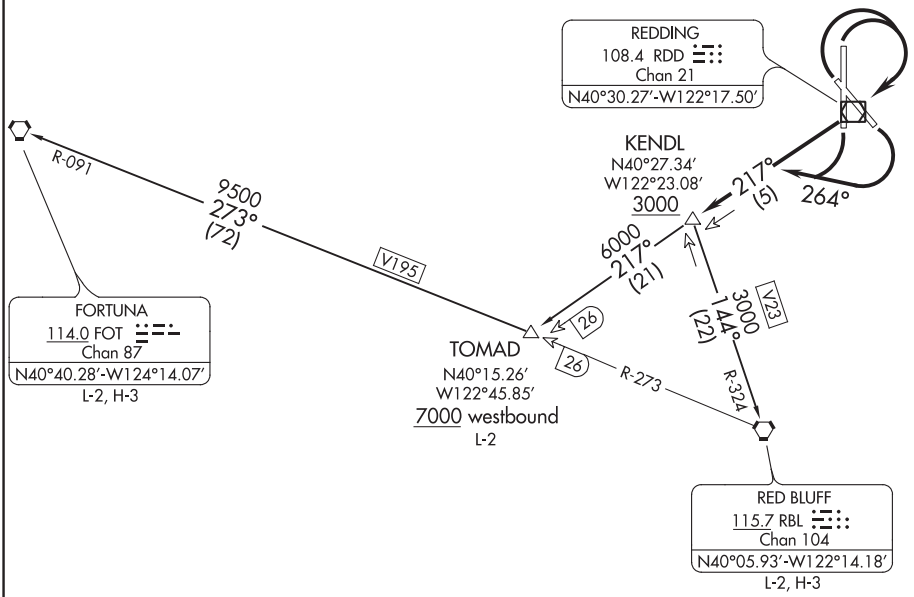
KENDL FOUR DEPARTURE

AL-688 (FAA)

REDDING MUNI (RDD)
REDDING, CALIFORNIA

ATIS
124.1
REDDING TOWER*
119.8 269.25
OAKLAND CENTER
132.2 350.3

TOP ALTITUDE: ASSIGNED BY ATC



TAKEOFF MINIMUMS
Rwys 12: Standard with minimum climb of 410′ per NM to 3000.
Rwy 16: Standard with minimum climb of 495′ per NM to 3000.
Rwy 30: Standard with minimum climb of 440′ per NM to 3000.
Rwy 34: Standard with minimum climb of 410′ per NM to 3000.

NOTE: Chart not to scale.

T

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 12 and 16: Climbing right turn heading 264° to intercept RDD VOR/DME R-217 to KENDL, cross KENDL at or above 3000, thence . . .
TAKEOFF RUNWAYS 30 and 34: Climbing right turn direct RDD VOR/DME then on RDD VOR/DME R-217 to KENDL, cross KENDL at or above 3000, thence . . .

. . . . via (transition) or (assigned route) maintain ATC assigned altitude.

FORTUNA TRANSITION (KENDL4.FOT): From over KENDL on RDD R-217 to TOMAD, thence on RBL R-273 and FOT R-091 to FOT VORTAC.
RED BLUFF TRANSITION (KENDL4.RBL): From over KENDL on RBL R-324 to RBL VORTAC.
TOMAD TRANSITION (KENDL4.TOMAD): From over KENDL on RDD R-217 to TOMAD.

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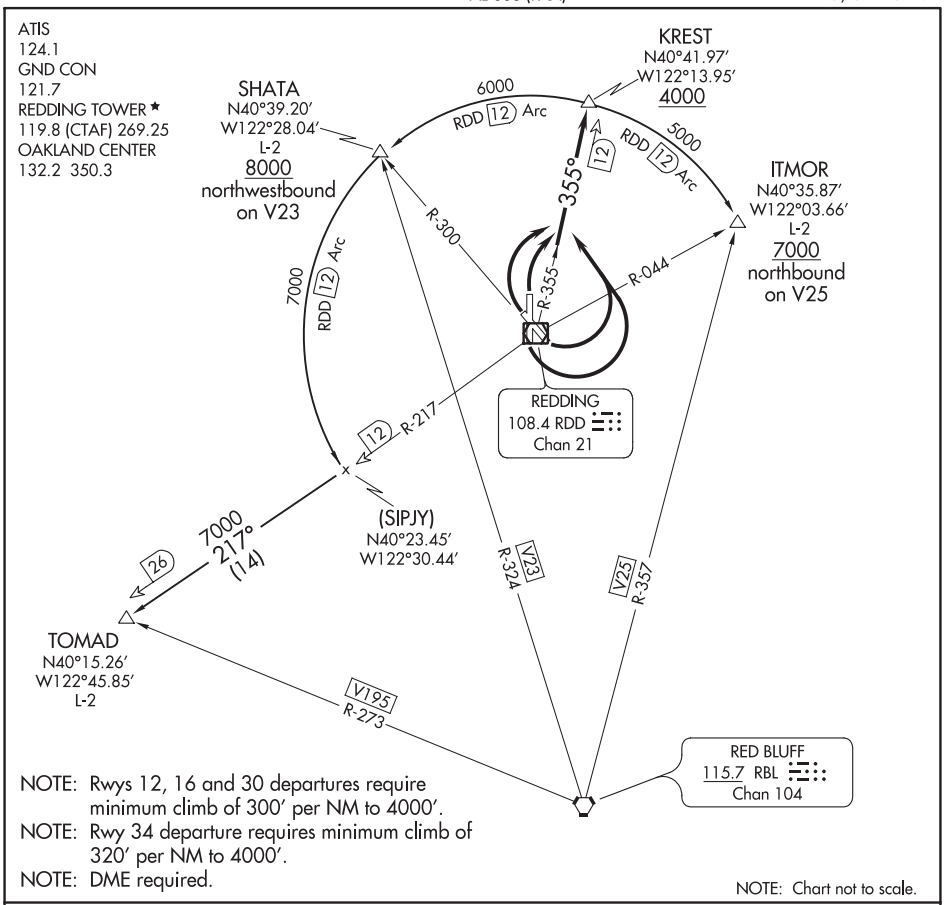
KENDL FOUR DEPARTURE
REDDING, CALIFORNIA
REDDING MUNI (RDD)
(KENDL4.KENDL) 30JAN20

KREST THREE DEPARTURE

AL-688 (FAA)



NOTE: Rwys 12, 16 and 30 departures require minimum climb of 300′ per NM to 4000′.
NOTE: Rwy 34 departure requires minimum climb of 320′ per NM to 4000′.
NOTE: DME required.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 12 and 16: Turn left immediately after departure to intercept and proceed on the RDD R-355 to KREST DME Fix. Cross KREST DME Fix at or above 4000, thence on (transition) or (assigned route).
TAKEOFF RUNWAYS 30 and 34: Turn right immediately after departure to intercept and proceed on RDD R-355 to KREST DME Fix. Cross KREST DME Fix at or above 4000, thence on (transition) or (assigned route).

ITMOR TRANSITION (KREST3.ITMOR): From over KREST DME Fix on RDD 12 DME Arc clockwise to ITMOR INT.
SHATA TRANSITION (KREST3.SHATA): From over KREST DME Fix on RDD 12 DME Arc counterclockwise to SHATA INT.
TOMAD TRANSITION (KREST3.TOMAD): From over KREST DME Fix on RDD 12 DME Arc counterclockwise to RDD R-217, thence on RDD R-217 to TOMAD INT.

(SHA4.RDD) 20254

SHASTA FOUR DEPARTURE

AL-688 (FAA)

REDDING MUNI (RDD)
REDDING, CALIFORNIA

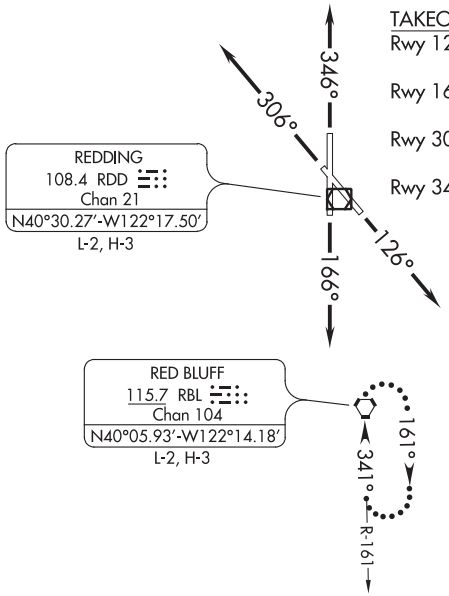
ATIS
124.1
GND CON
121.7
REDDING TOWER ★
119.8 (CTAF) 269.25
OAKLAND CENTER
132.2 350.3

TOP ALTITUDE: ASSIGNED BY ATC

KLAMATH FALLS
115.9 LMT
Chan 106
N42°09.19′-W121°43.65′
L-2, H-3

FORT JONES
109.6 FJS
Chan 33
N41°26.98′-W122°48.39′
L-2

TAKEOFF MINIMUMS
Rwy 12: Standard with a minimum climb of 375′ per NM to 13900.
Rwy 16: Standard with a minimum climb of 370′ per NM to 13900.
Rwy 30: Standard with a minimum climb of 460′ per NM to 8400.
Rwy 34: Standard with a minimum climb of 452′ per NM to 8200.



MUSTANG
117.9 FMG
Chan 126
N39°31.88′-W119°39.36′
L-9, H-3

WILLIAMS
114.4 ILA
Chan 91
N39°04.27′-W122°01.63′
L-2-3, H-3

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 12: Climb heading 126° (or ATC assigned 344° CW 234°), thence . . . .
TAKEOFF RUNWAY 16: Climb heading 166° (or ATC assigned 354° CW 234°), thence . . . .
TAKEOFF RUNWAY 30: Climb heading 306° (or ATC assigned 134° CW 004°), thence . . . .
TAKEOFF RUNWAY 34: Climb heading 346° (or ATC assigned 174° CW 004°), thence . . . .

. . . . expect vectors to join assigned route. Maintain ATC assigned altitude; expect filed altitude/flight level ten minutes after departing.

LOST COMMUNICATIONS: If no contact with Oakland Center after reaching 4000 proceed to RBL VORTAC and hold.

NOTE: RADAR required.

NOTE: Chart not to scale.

SW-2, 25 FEB 2021 to 22 APR 2021

SHASTA FOUR DEPARTURE
REDDING, CALIFORNIA
REDDING MUNI (RDD)

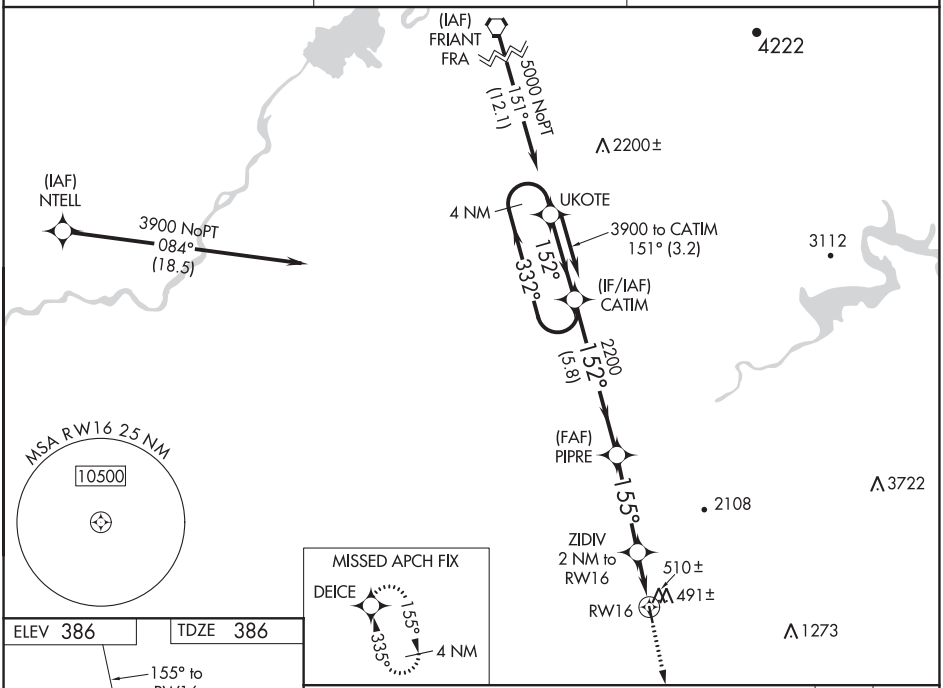
WAAS CH 77841 W16A	APP CRS 155°	Rwy ldg 3300 TDZE 386 Apt Elev 386

RNAV (GPS) RWY 16
REEDLEY MUNI (O32)

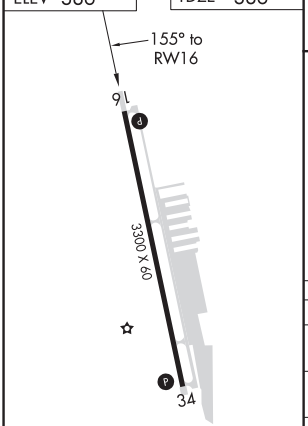
T A NA — For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 54°C (130°F). Circling NA east of Rwy 16-34. Baro-VNAV and VDP NA when using Fresno Yosemite Intl altimeter setting. DME/DME RNP-0.3 NA. When local altimeter setting not received, use Fresno Yosemite Intl altimeter setting: increase all DAs 41 feet and all visibilities ⅛ SM; increase all MDAs 60 feet.

MISSED APPROACH: Climb to 3100 direct DEICE and hold, continue climb-in-hold to 3100.

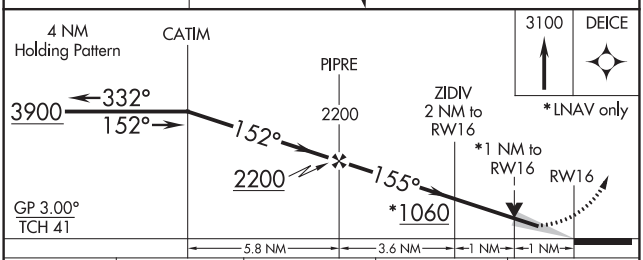
AWOS-3PT	FRESNO APP CON	UNICOM
120.175	132.35 323.25	122.7 (CTAF) L



ELEV 386 | TDZE 386



MIRL Rwy 16-34 L



CATEGORY	A	B	C	D
LPV DA	636-¾ 250 (300-¾)		NA	
LNAV/VNAV DA	672-⅞ 286 (300-⅞)		NA	
LNAV MDA	760-1 374 (400-1)		NA	
C CIRCLING	800-1 414 (500-1)	840-1 454 (500-1)	NA	

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

REEDLEY, CALIFORNIA | AL-9965 (FAA) | 19003

RNAV (GPS) RWY 34
REEDLEY MUNI (O32)

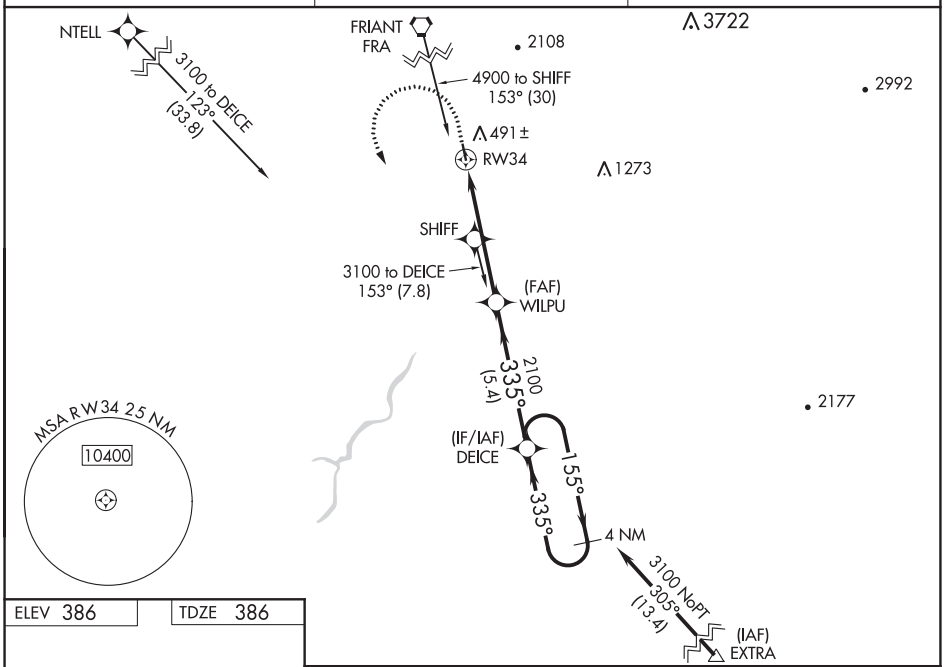
WAAS CH 99641 W34A	APP CRS 335°	Rwy ldg 3300 TDZE 386 Apt Elev 386

T NA

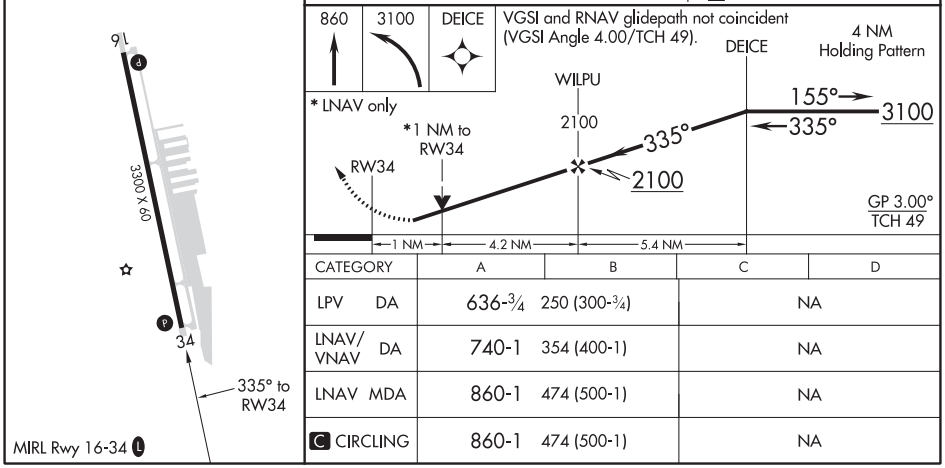
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 54°C (130°F). Circling NA east of Rwy 16-34. Baro-VNAV and VDP NA when using Fresno Yosemite Intl altimeter setting. Rwy 34 helicopter visibility reduction below ¾ SM NA. DME/DME RNP-0.3 NA. When local altimeter setting not received, use Fresno Yosemite Intl altimeter setting: increase all DAs 41 feet and all visibilities ⅛ SM; increase all MDAs 60 feet.

MISSED APPROACH: Climb to 860 then climbing left turn to 3100 direct DEICE and hold, continue climb-in-hold to 3100.

AWOS-3PT	FRESNO APP CON	UNICOM
120.175	132.35 323.25	122.7 (CTAF) L



ELEV 386 | TDZE 386



CATEGORY	A	B	C	D
LPV DA	636-¾ 250 (300-¾)		NA	
LNAV/VNAV DA	740-1 354 (400-1)		NA	
LNAV MDA	860-1 474 (500-1)		NA	
C CIRCLING	860-1 474 (500-1)		NA	

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

WAAS CH 82325 W25A	APP CRS 252°	Rwy ldg 4199 TDZE 23 Apt Elev 23

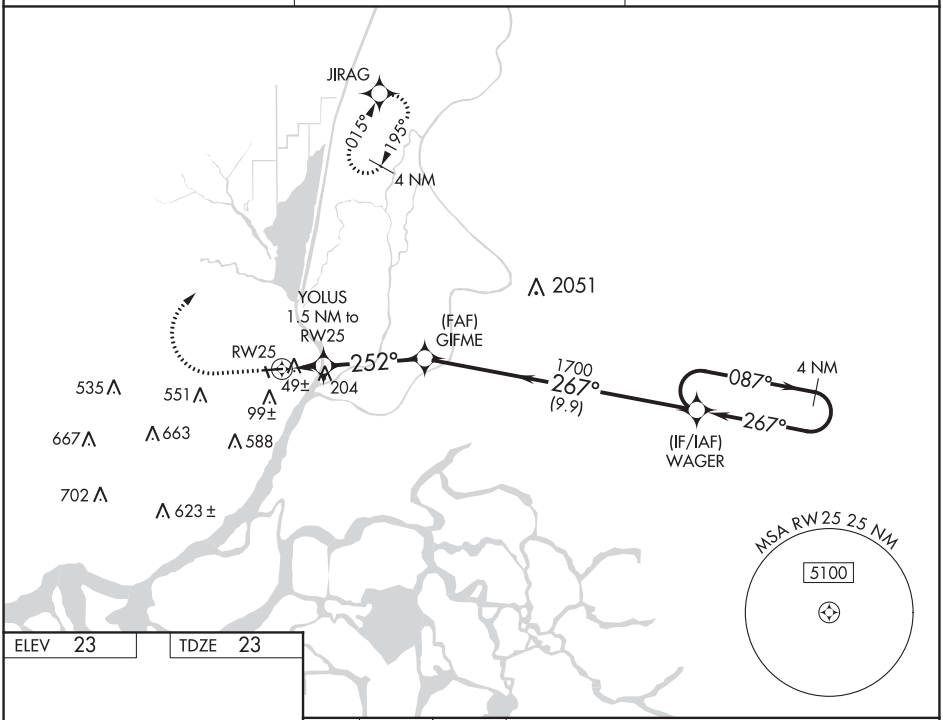
RNAV (GPS) RWY 25
RIO VISTA MUNI (O88)

T NA

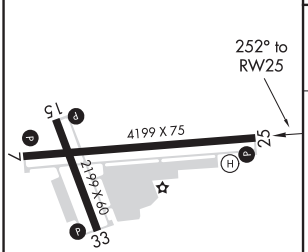
Circling Rwy 33 NA at night. DME/DME RNP-0.3 NA. VDP NA when using Concord altimeter setting. When local altimeter setting not received, use Concord altimeter setting and increase all MDA 60 feet and increase LP and LNAV Cat C visibility ⅛ mile and Circling Cat C visibility ¼ mile.

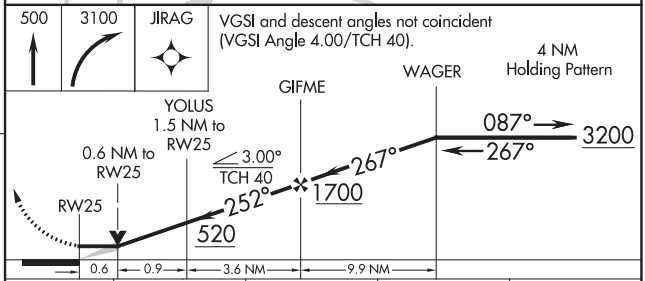
MISSED APPROACH: Climb to 500 then climbing right turn to 3100 direct JIRAG and hold, continue climb-in-hold to 3100.

AWOS-AV	TRAVIS APP CON	UNICOM
127.075	119.9 322.325	122.725 (CTAF) L



ELEV 23 TDZE 23





CATEGORY	A	B	C	D
LP MDA	300-1	277 (300-1)	300-⅞ 277 (300-⅞)	NA
LNAV MDA	460-1	437 (500-1)	460-1¼ 437 (500-1¼)	NA
CIRCLING	520-1 497 (500-1)	560-1 537 (600-1)	580-1½ 557 (600-1½)	NA

REIL Rwy 25 L

MIRL Rwys 7-25 and 15-33 L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

LOC I-MCC	APP CRS	Rwy ldg	10599
109.7	163°	TDZE	77
		Apt Elev	77

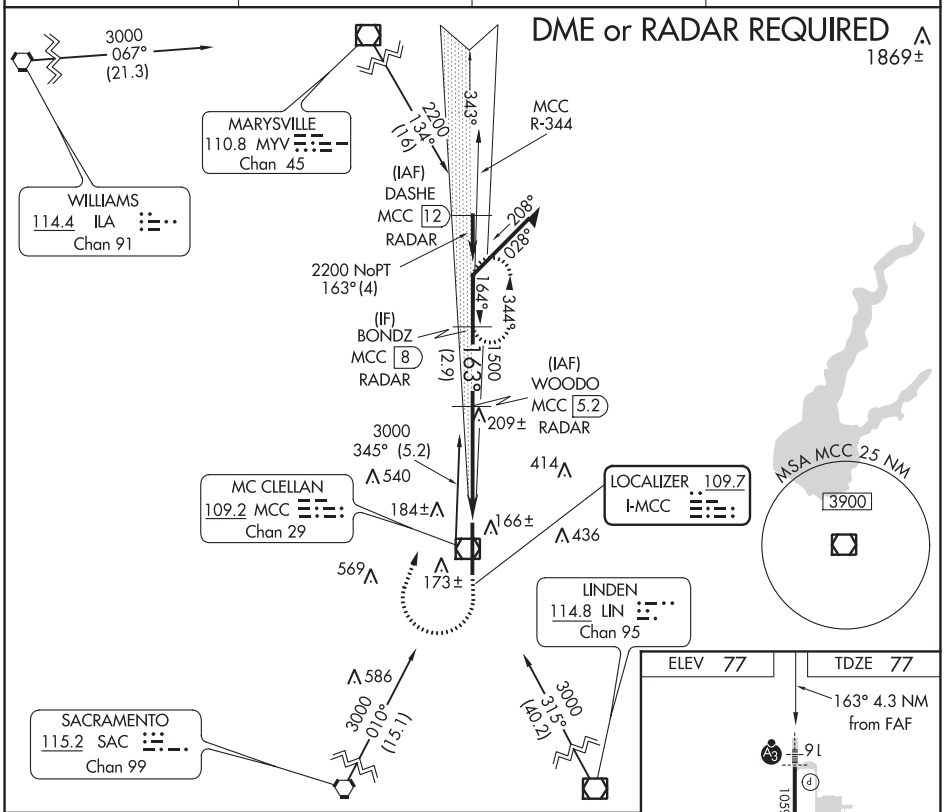
ILS or LOC RWY 16
MC CLELLAN AIRFIELD (MCC)

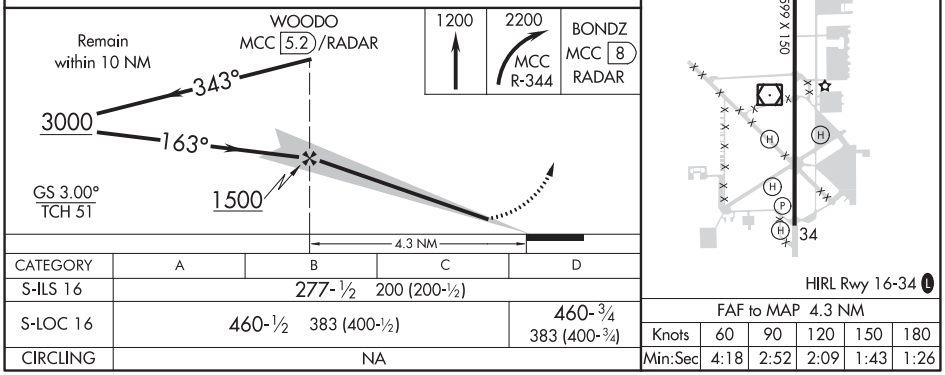
NA DME from MCC VOR/DME. If local altimeter setting is not received, use Sacramento Intl altimeter setting and increase all DH/MDAs 40 feet.

SSALR

MISSED APPROACH: Climb to 1200 then climbing right turn to 2200 via MCC VOR/DME R-344 to BONDZ/MCC 8 DME/RADAR and hold.

AWOS-3	NORCAL APP CON	CLNC DEL	UNICOM
125.975	127.4 317.5	119.825	122.975 (CTAF) L





CATEGORY	A	B	C	D
S-ILS 16	277-½ 200 (200-½)			
S-LOC 16	460-½ 383 (400-½)			460-¾ 383 (400-¾)
CIRCLING	NA			

FAF to MAP 4.3 NM					
Knots	60	90	120	150	180
Min:Sec	4:18	2:52	2:09	1:43	1:26

SW-2, 25 FEB 2021 to 22 APR 2021

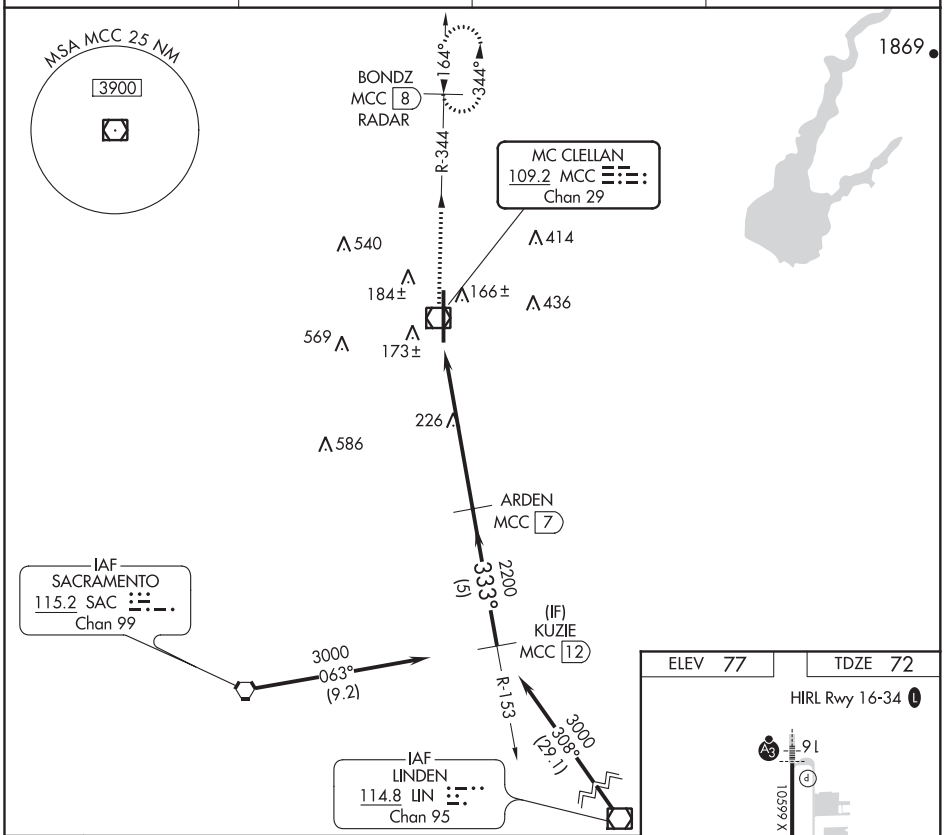
VOR/DME MCC	APP CRS	Rwy ldg	10599
109.2	333°	TDZE	72
Chan 29		Apt Elev	77

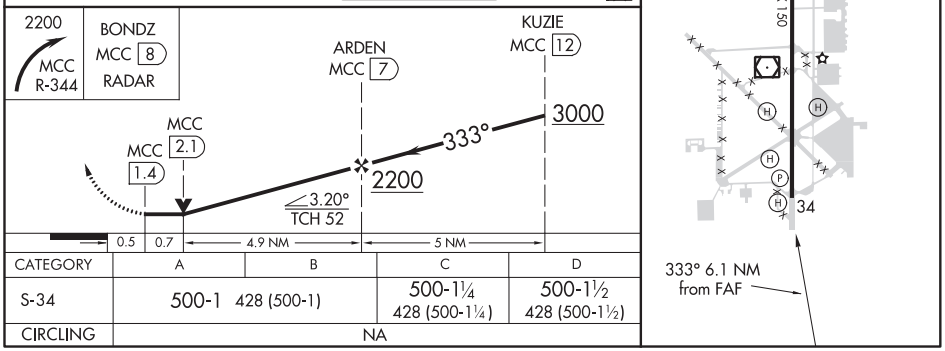
VOR/DME RWY 34
MC CLELLAN AIRFIELD (MCC)

NA VDP NA when using Sacramento Intl altimeter setting. When local altimeter setting not received, use Sacramento Intl altimeter setting and increase all MDAs 40 feet.

MISSED APPROACH: Climbing right turn to 2200 via MCC R-344 to BONDZ/MCC 8 DME/RADAR and hold.

AWOS-3	NORCAL APP CON	CLNC DEL	UNICOM
125.975	127.4 317.5	119.825	122.975 (CTAF) L





CATEGORY	A	B	C	D
S-34	500-1 428 (500-1)		500-1¼ 428 (500-1¼)	500-1½ 428 (500-1½)
CIRCLING	NA			

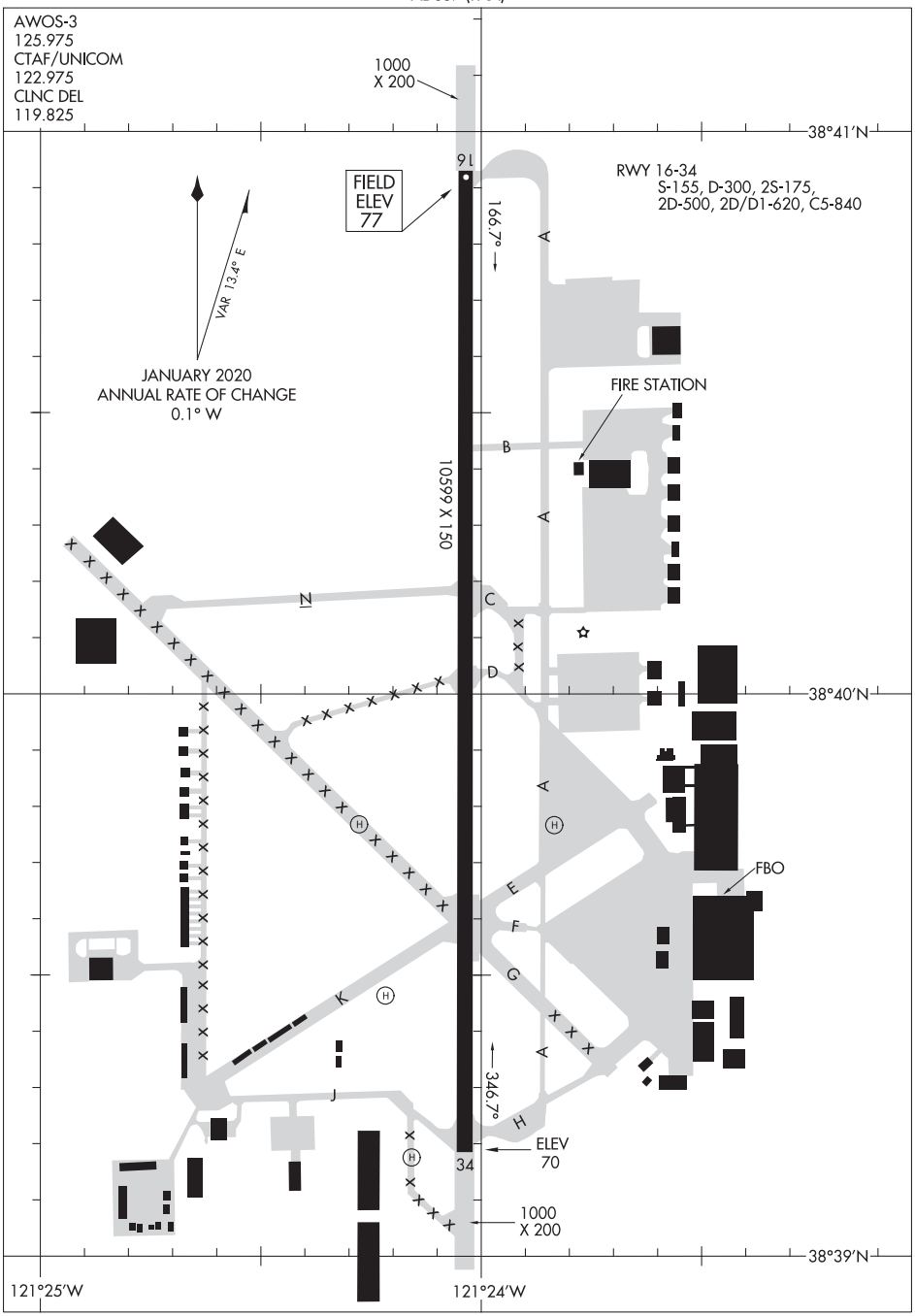
SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

20086

AIRPORT DIAGRAM

MC CLELLAN AIRFIELD (MCC)
SACRAMENTO, CALIFORNIA

AL-357 (FAA)



SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

AIRPORT DIAGRAM
20086
SACRAMENTO, CALIFORNIA
MC CLELLAN AIRFIELD (MCC)

LOC I-SAC	APP CRS	Rwy ldg	5503
110.3	019°	TDZE	21
		Apt Elev	24

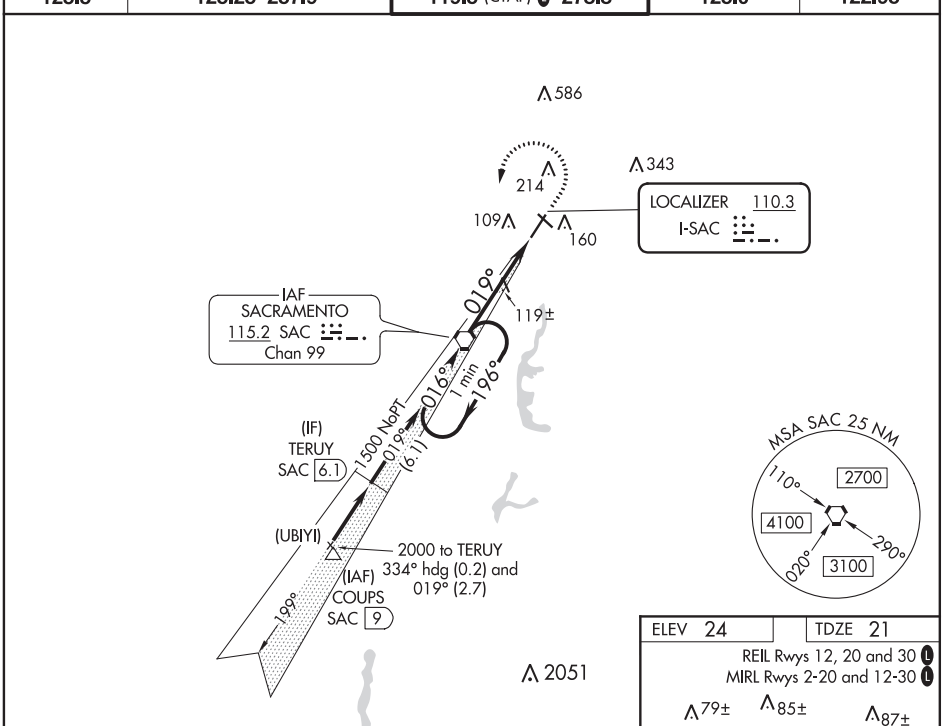
ILS or LOC RWY 2
SACRAMENTO EXECUTIVE (SAC)

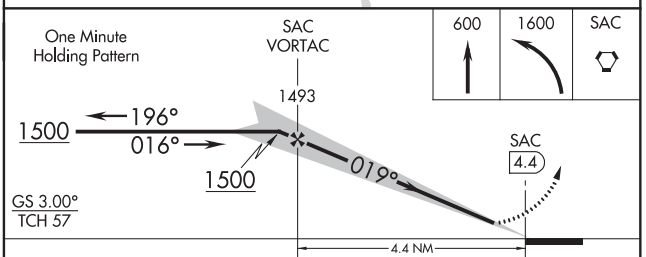
When local altimeter setting not received, use Sacramento Intl altimeter setting and increase DA to 322, increase all MDA 40 feet. Autopilot coupled approach NA below 335 feet. For inop MALSR, increase S-ILS 2 all Cats visibility to ⅞ SM and S-LOC 2 Cat C/D visibility to 1 SM. For inop MALSR when using Sacramento Intl altimeter setting, increase S-ILS 2 all Cats visibility to ⅞ SM.

MALSR

MISSED APPROACH: Climb to 600 then climbing left turn to 1600 direct SAC VORTAC and hold.

ATIS	NORCAL APP CON	EXEC TOWER ★	GND CON	UNICOM
125.5	125.25 257.9	119.5 (CTAF) L 278.8	125.0	122.95



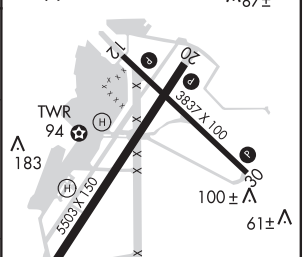


CATEGORY	A	B	C	D
S-ILS 2	294-½ 273 (300-½)			
S-LOC 2	380-½ 359 (400-½)		380-⅝ 359 (400-⅝)	
CIRCLING	500-1 476 (500-1)	520-1 496 (500-1)	520-1½ 496 (500-1½)	580-2 556 (600-2)

ELEV 24 TDZE 21

REIL Rwys 12, 20 and 30 L

MIRL Rwys 2-20 and 12-30 L



FAF to MAP 4.4 NM					
Knots	60	90	120	150	180
Min:Sec	4:24	2:56	2:12	1:46	1:28

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

WAAS CH 62810 W02A	APP CRS 019°	Rwy ldg 5503 TDZE 21 Apt Elev 24

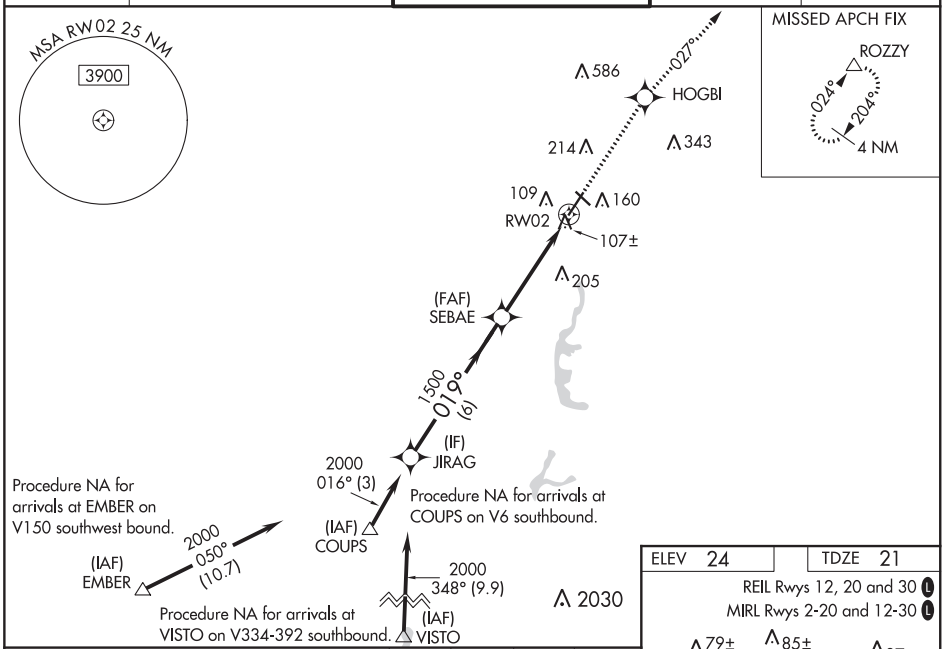
RNAV (GPS) RWY 2
SACRAMENTO EXECUTIVE (SAC)

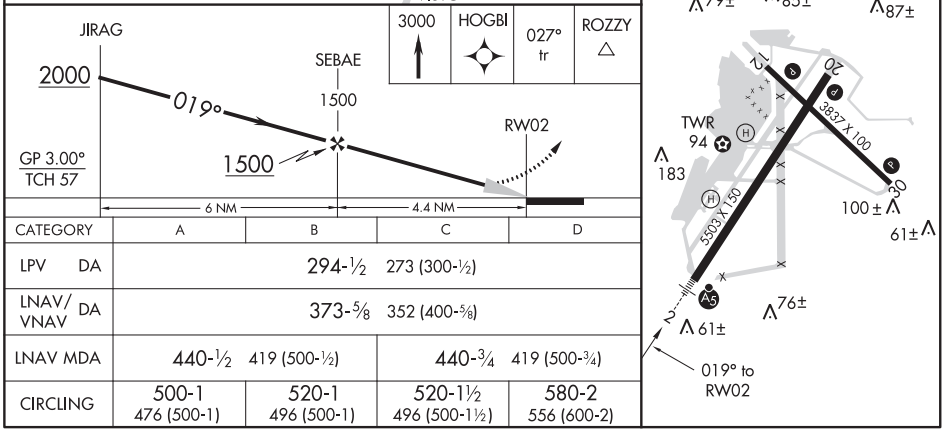
Baro-VNAV NA when using Sacramento Intl altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. When local altimeter setting not received, use Sacramento Intl altimeter setting and increase LPV DA to 322; increase LNAV/VNAV DA to 401 and all visibilities ⅛ mile; increase all MDA 40 feet and LNAV Cats C/D visibility ⅛ mile. For inop MALSR, increase LPV all Cats visibility to ⅞. For inop MALSR when using Sacramento Intl altimeter setting, increase LPV all Cats visibility to 1.

MALSR

MISSED APPROACH: Climb to 3000 direct HOGBI and on track 027° to ROZZY and hold.

ATIS	NORCAL APP CON	EXEC TOWER*	GND CON	UNICOM
125.5	125.25 257.9	119.5 (CTAF) L 278.8	125.0	122.95





CATEGORY	A	B	C	D
LPV DA	294-½ 273 (300-½)			
LNAV/VNAV DA	373-⅝ 352 (400-⅝)			
LNAV MDA	440-½ 419 (500-½)		440-¾ 419 (500-¾)	
CIRCLING	500-1 476 (500-1)	520-1 496 (500-1)	520-1½ 496 (500-1½)	580-2 556 (600-2)

SW-2, 25 FEB 2021 to 22 APR 2021

VORTAC SAC	APP CRS	Rwy ldg	5503
115.2	016°	TDZE	21
Chan 99		Apt Elev	24

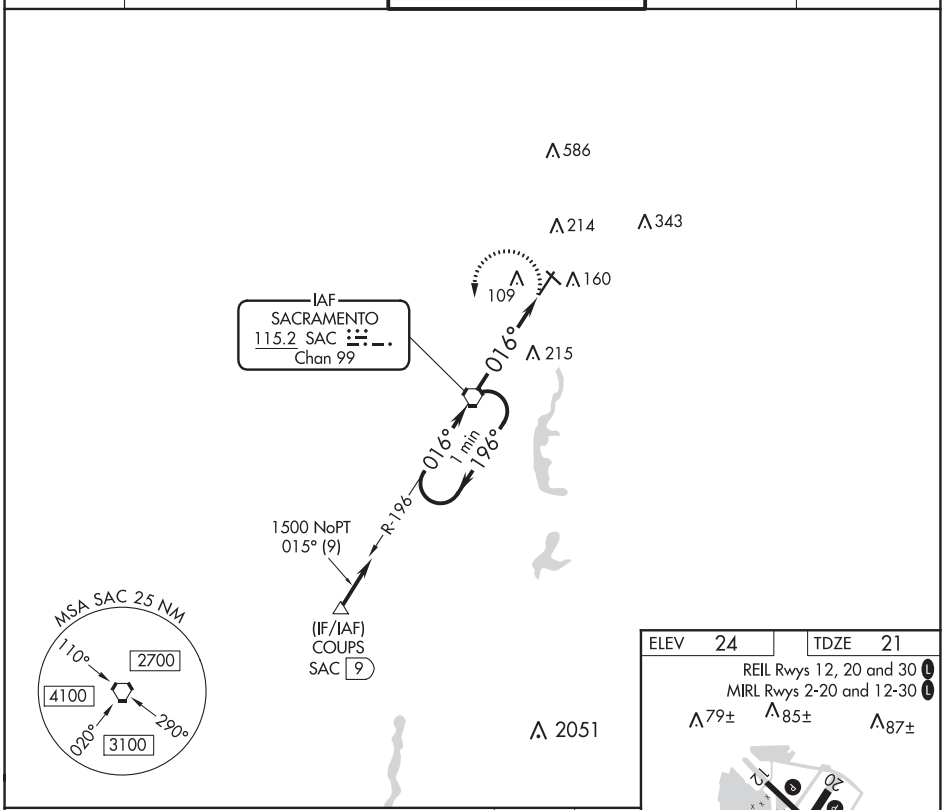
VOR RWY 2
SACRAMENTO EXECUTIVE (SAC)

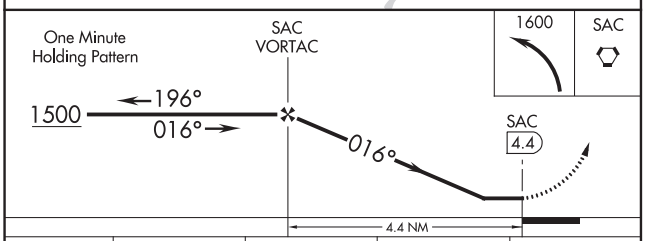
When local altimeter setting not received, use Sacramento Intl altimeter setting and increase all MDA 40 feet.

MALSR

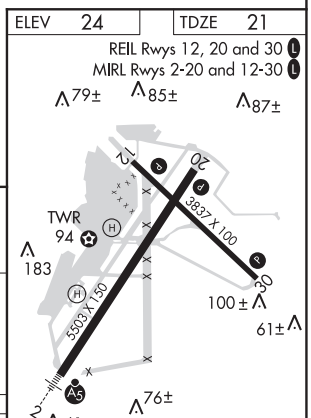
MISSED APPROACH: Climbing left turn to 1600 direct SAC VORTAC and hold.

ATIS	NORCAL APP CON	EXEC TOWER ★	GND CON	UNICOM
125.5	125.25 257.9	119.5 (CTAF) L 278.8	125.0	122.95





CATEGORY	A	B	C	D
S-2	520-½ 499 (500-½)		520-1 499 (500-1)	
CIRCLING	520-1 496 (500-1)		520-1½ 496 (500-1½)	580-2 556 (600-2)



FAF to MAP 4.4 NM					
Knots	60	90	120	150	180
Min:Sec	4:24	2:56	2:12	1:46	1:28

SW-2, 25 FEB 2021 to 22 APR 2021

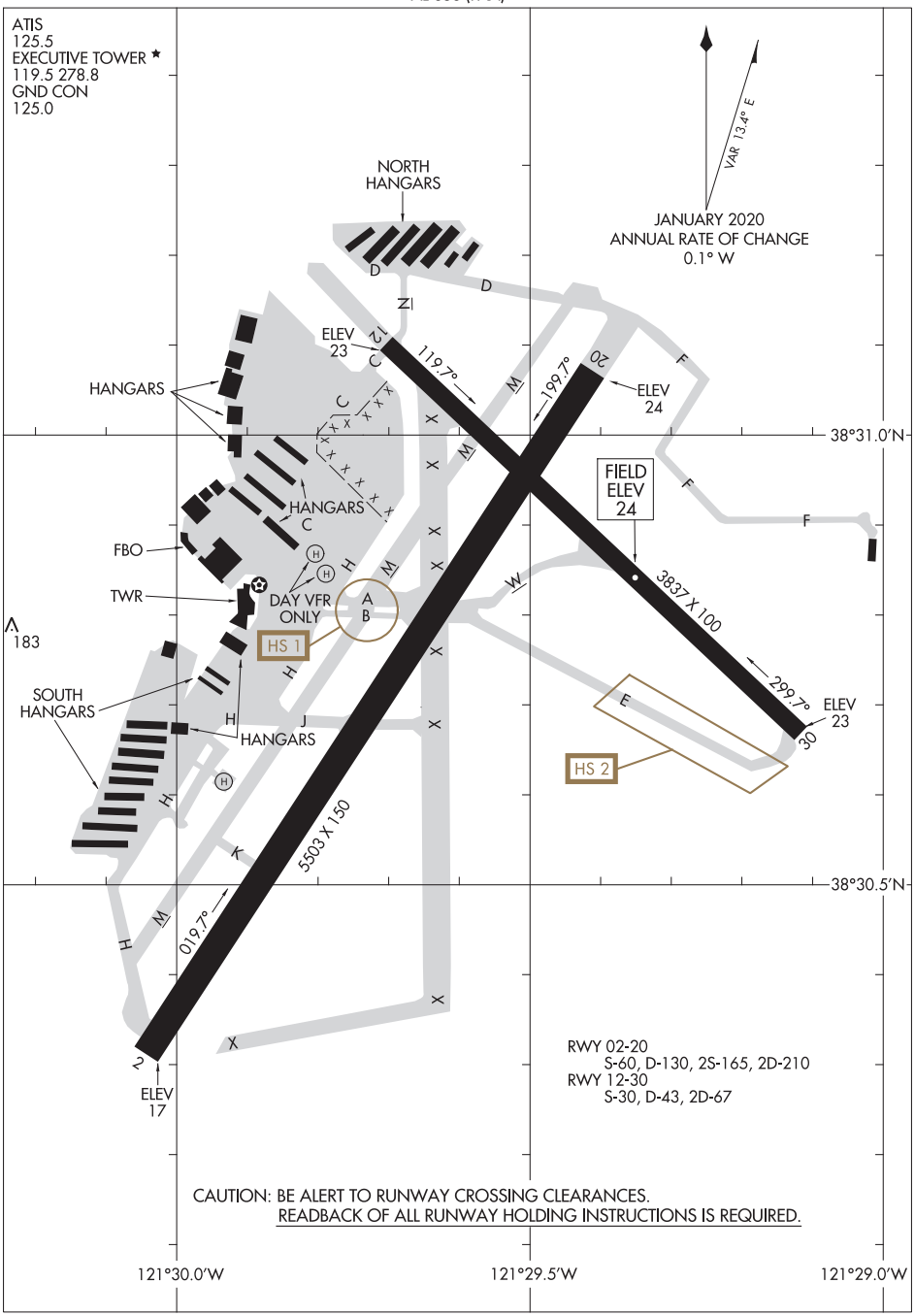
SW-2, 25 FEB 2021 to 22 APR 2021

20254

AIRPORT DIAGRAM

AL-358 (FAA)

SACRAMENTO EXECUTIVE (SAC)
SACRAMENTO, CALIFORNIA



SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

AIRPORT DIAGRAM
20254
SACRAMENTO, CALIFORNIA
SACRAMENTO EXECUTIVE (SAC)

LOC/DME I-MDK	APP CRS	Rwy ldg	8605
111.75	168°	TDZE	27
Chan 54 (Y)		Apt Elev	27

ILS or LOC RWY 17L
SACRAMENTO INTL (SMF)

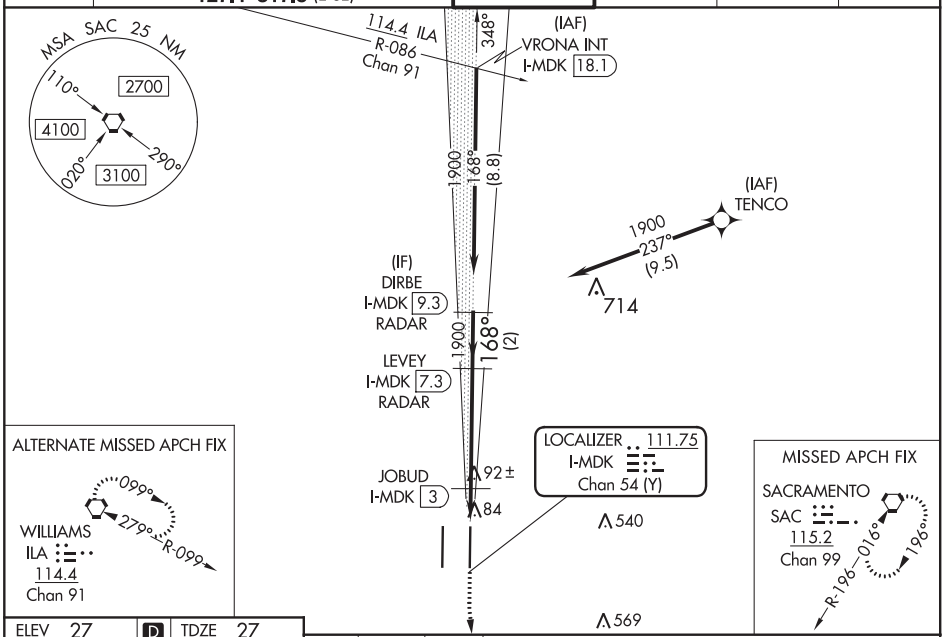
RNAV 1-GPS or RADAR required for procedure entry.
From TENCO: RNAV 1-GPS required. DME or RADAR required.

T A Simultaneous approach authorized. Circling NA west of Rwy 17L-35R.
For inop ALS, increase S-LOC 17L Cat C/D visibility to 1⅜ SM and S-LOC 17L JOBUD fix minimums Cat C/D visibility to RVR 4500.

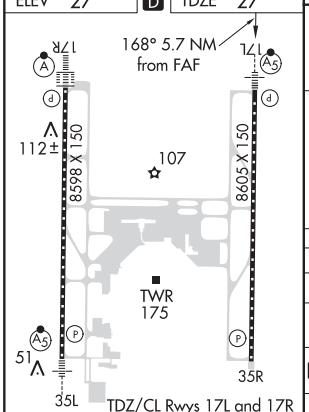
MALSR A5

MISSED APPROACH: Climb to 500 then climbing left turn to 3000 direct SAC VORTAC and hold.

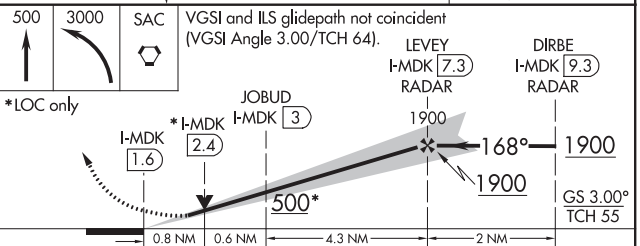
D-ATIS	NORCAL APP CON	CAPITOL TOWER	GND CON	CLNC DEL	CPDLC
126.75	125.4 259.1 (W-NE) 125.25 257.9 (SW) 127.4 317.5 (E-SE)	125.7 256.7	121.7 256.7	121.1 256.7	



ELEV 27	D	TDZE 27



FAF to MAP 5.7 NM					
Knots	60	90	120	150	180
Min:Sec	5:42	3:48	2:51	2:17	1:54



CATEGORY	A	B	C	D
S-ILS 17L	227/18 200 (200-½)			
S-LOC 17L	500/24 473 (500-½)		500/50 473 (500-1)	
C CIRCLING	500-1 473 (500-1)		500-1½ 473 (500-1½)	840-2¾ 813 (900-2¾)
JOBUD FIX MINIMUMS (DME REQUIRED)				
S-LOC 17L	340/24 313 (400-½)			
C CIRCLING	400-1 373 (400-1)	480-1 453 (500-1)	480-1½ 453 (500-1½)	840-2¾ 813 (900-2¾)

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ILS or LOC RWY 17R
SACRAMENTO INTL (SMF)

LOC/DME I-SMF	APP CRS	Rwy ldg	8598
111.1	168°	TDZE	25
Chan 48		Apt Elev	27

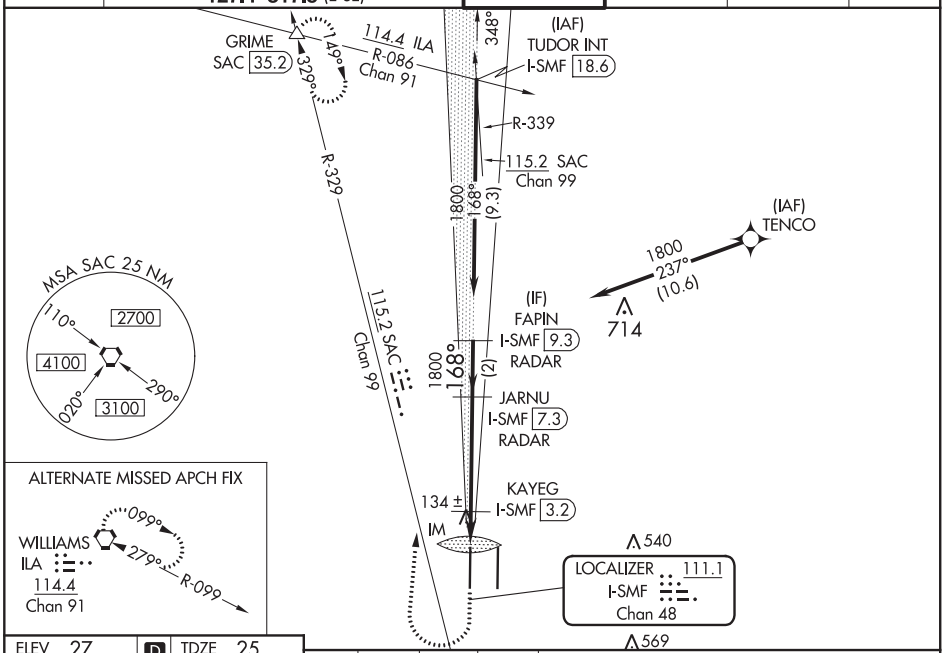
RNAV 1-GPS or RADAR required for procedure entry.
From TENCO: RNAV 1-GPS required. DME or RADAR required.

T Simultaneous approach authorized. Circling NA east of Rwy 17R-35L.

ALSF-2

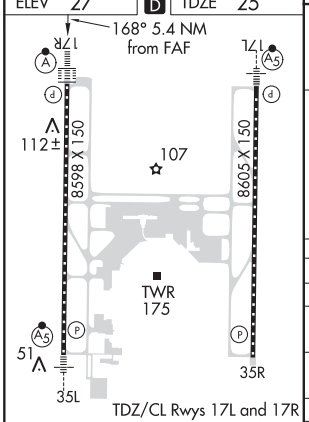
MISSED APPROACH: Climb to 500 then climbing right turn to 2000 on heading 350° and SAC VORTAC R-329 to GRIME INT/SAC 35.2 DME and hold.

D-ATIS	NORCAL APP CON	CAPITOL TOWER	GND CON	CLNC DEL	CPDLC
126.75	125.4 259.1 (W-NE) 125.25 257.9 (SW) 127.4 317.5 (E-SE)	125.7 256.7	121.7 256.7	121.1 256.7	



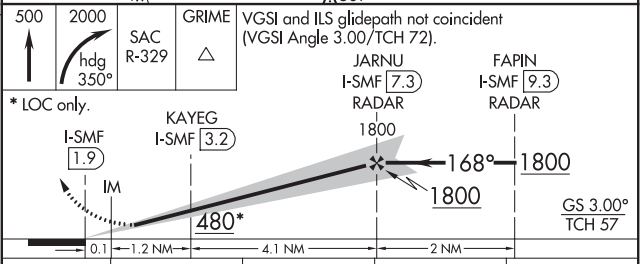
ALTERNATE MISSED APCH FIX

ELEV	27	D	TDZE	25



TDZ/CL Rwys 17L and 17R
HIRL Rwys 17R-35L and 17L-35R

FAF to MAP 5.4 NM					
Knots	60	90	120	150	180
Min:Sec	5:24	3:36	2:42	2:10	1:48



CATEGORY	A	B	C	D
S-ILS 17R	225/18 200 (200-½)			
S-LOC 17R	480/24 455 (500-½)		480/45 455 (500-⅞)	
C CIRCLING	480-1 453 (500-1)		480-1½ 453 (500-1½)	580-2 553 (600-2)
KAYEG FIX MINIMUMS (DME REQUIRED)				
S-LOC 17R	400/24 375 (400-½)		400/35 375 (400-⅝)	
C CIRCLING	440-1 413 (500-1)	480-1 453 (500-1)	480-1½ 453 (500-1½)	580-2 553 (600-2)

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LOC/DME I-HUX 111.1 Chan 48	APP CRS 348°	Rwy ldg 8598 TDZE 24 Apt Elev 27

ILS or LOC RWY 35L
SACRAMENTO INTL (SMF)

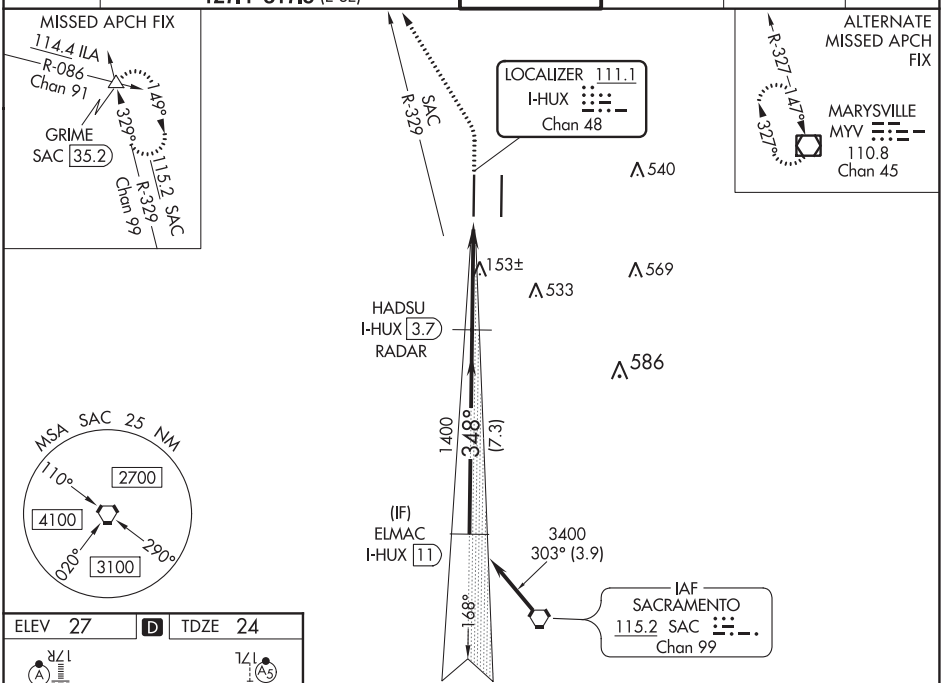
DME required for procedure entry. RADAR or DME required for LOC only.

T Circling NA east of Rwy 17R-35L. Autopilot coupled approach NA below 312 MSL. For inop ALS, increase S-LOC 35L Cats C and D visibility to RVR 6000.
*RVR 1800 authorized with the use of FD or AP or HUD to DA.

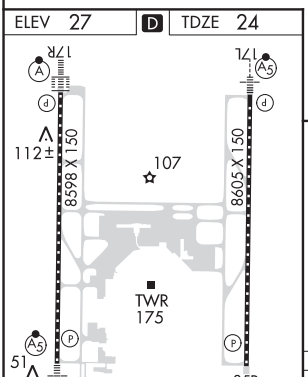
MALSR A5

MISSED APPROACH: Climb to 500 then climbing left turn to 2000 on heading 320° and SAC VORTAC R-329 to GRIME INT/SAC 35.2 DME and hold.

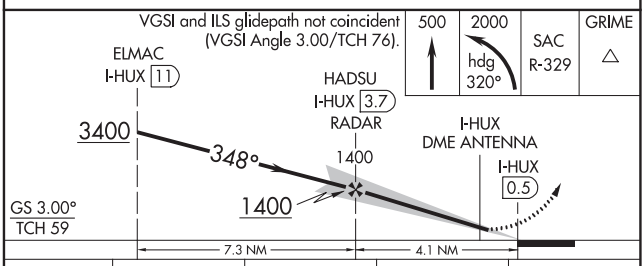
D-ATIS	NORCAL APP CON	CAPITOL TOWER	GND CON	CLNC DEL	CPDLC
126.75	125.4 259.1 (W-NE) 125.25 257.9 (SW) 127.4 317.5 (E-SE)	125.7 256.7	121.7 256.7	121.1 256.7	



Procedure NA for arrivals on SAC VORTAC airway radials 257 CW 329.



FAF to MAP 4.1 NM					
Knots	60	90	120	150	180
Min:Sec	4:06	2:44	2:03	1:38	1:22



CATEGORY	A	B	C	D
S-ILS 35L*	224/24 200 (200-½)			
S-LOC 35L	420/24 396 (400-½)		420/35 396 (400-⅝)	420/40 396 (400-¾)
C CIRCLING	440-1 413 (500-1)	480-1 453 (500-1)	480-1½ 453 (500-1½)	580-2 553 (600-2)

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ILS RWY 17R (SA CAT I)
SACRAMENTO INTL (SMF)

LOC/DME I-SMF	APP CRS	Rwy ldg	8598
111.1	168°	TDZE	25
Chan 48		Apt Elev	27

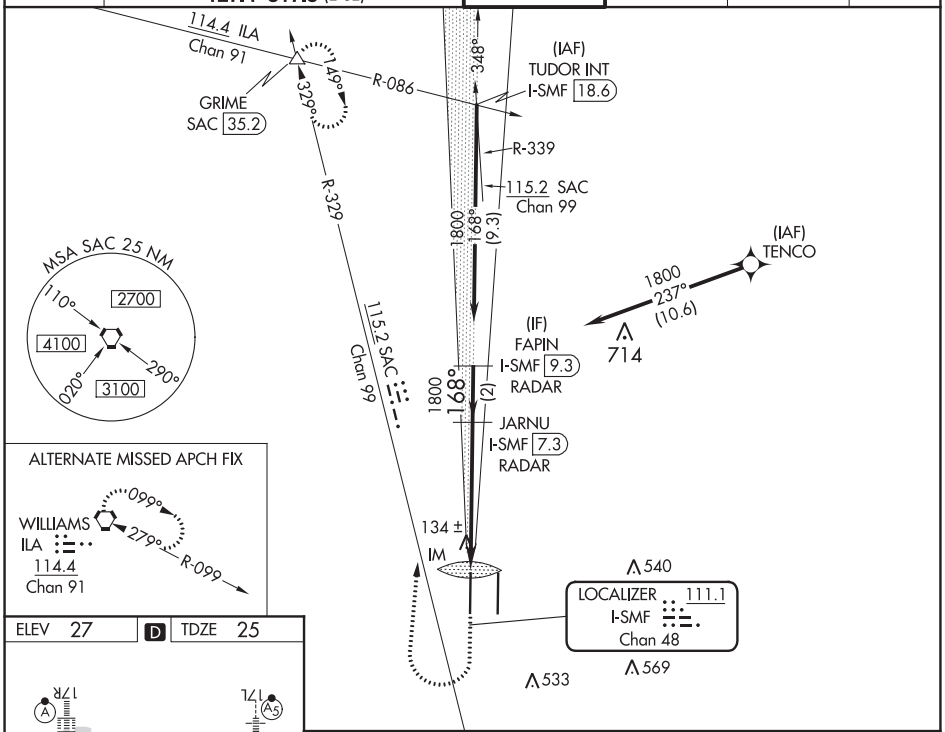
RNAV 1-GPS or RADAR required for procedure entry.
From TENCO: RNAV 1-GPS required. DME or RADAR required.

Simultaneous approach authorized. Requires specific OPSPEC, MSPEC, or LOA approval and use of HUD to DH.

ALSF-2

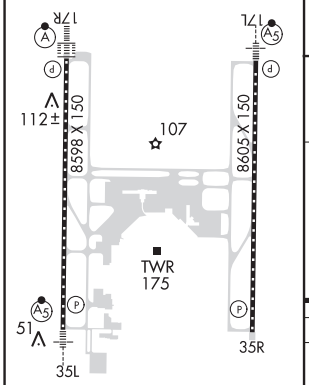
MISSED APPROACH: Climb to 500 then climbing right turn to 2000 on heading 350° and SAC VORTACR-329 to GRIME INT/SAC 35.2 DME and hold.

D-ATIS	NORCAL APP CON	CAPITOL TOWER	GND CON	CLNC DEL	CPDLC
126.75	125.4 259.1 (W-NE) 125.25 257.9 (SW) 127.4 317.5 (E-SE)	125.7 256.7	121.7 256.7	121.1 256.7	



ALTERNATE MISSED APCH FIX

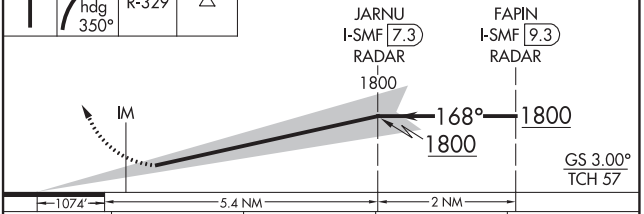
ELEV 27 | D | TDZE 25



TDZ/CL Rwys 17L and 17R
HIRL Rwys 17R-35L and 17L-35R

500	2000 hdg 350°	SAC R-329	GRIME

VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 72).



CATEGORY	A	B	C	D
S-ILS 17R	RA 154/14 150 DA 175			

SA CATEGORY I ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

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LOC/DME I-SMF	APP CRS	Rwy ldg 8598
111.1	168°	TDZE 25
Chan 48		Apt Elev 27

ILS RWY 17R (CAT II & III)
SACRAMENTO INTL (SMF)

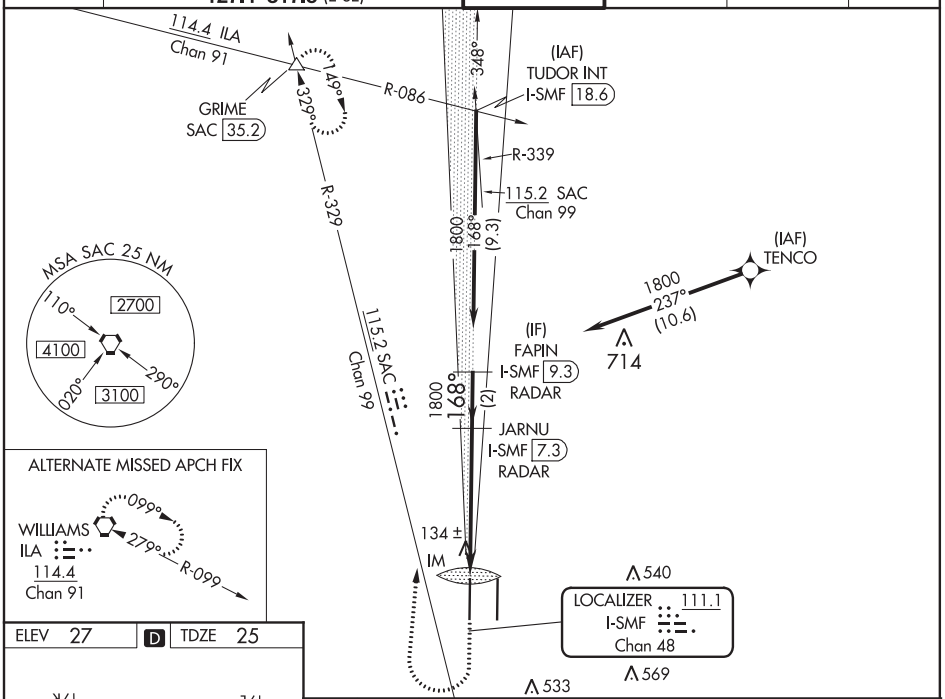
RNAV 1-GPS or RADAR required for procedure entry.
From TENCO: RNAV 1-GPS required. DME or RADAR required.

Simultaneous approach authorized.

ALSF-2

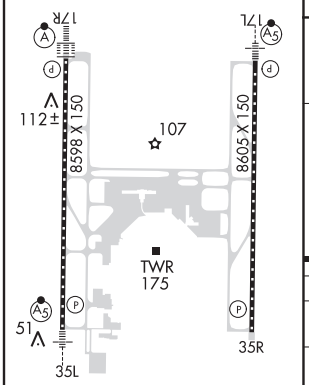
MISSED APPROACH: Climb to 500 then climbing right turn to 2000 on heading 350° and SAC VORTAC R-329 to GRIME INT/SAC 35.2 DME and hold.

D-ATIS	NORCAL APP CON	CAPITOL TOWER	GND CON	CLNC DEL	CPDLC
126.75	125.4 259.1 (W-NE) 125.25 257.9 (SW) 127.4 317.5 (E-SE)	125.7 256.7	121.7 256.7	121.1 256.7	



ALTERNATE MISSED APCH FIX

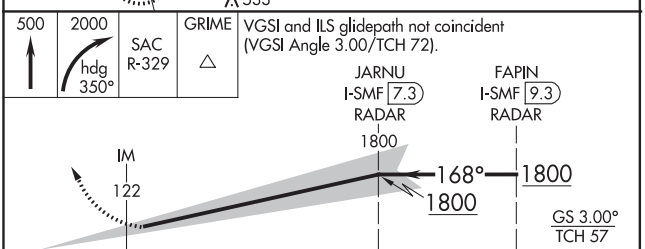
ELEV 27 D TDZE 25



TDZ/CL Rwys 17L and 17R
HIRL Rwys 17R-35L and 17L-35R

500	2000 hdg 350°	SAC R-329	GRIME △

VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 72).



CATEGORY	A	B	C	D
S-ILS 17R	CAT II RA 103/12 100 DA 125			
S-ILS 17R	CAT III RVR 06			

CATEGORY II & III ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

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ILS RWY 17L (SA CAT II)
SACRAMENTO INTL (SMF)

LOC/DME I-MDK	APP CRS	Rwy ldg 8605
111.75	168°	TDZE 27
Chan 54 (Y)		Apt Elev 27

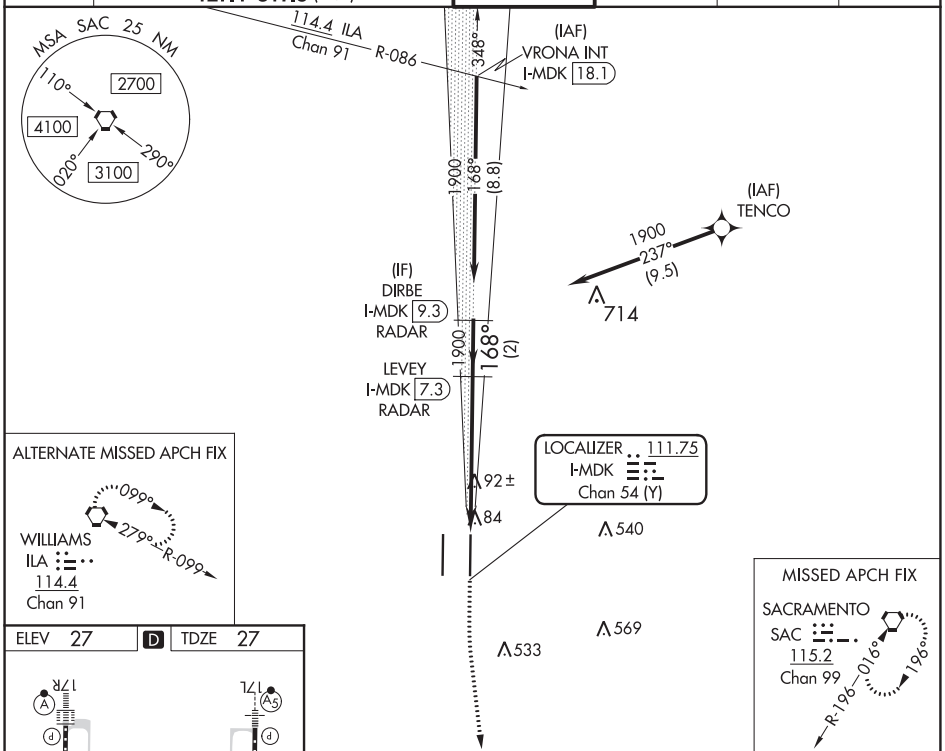
RNAV 1-GPS or RADAR required for procedure entry.
From TENCO: RNAV 1-GPS required. DME or RADAR required.

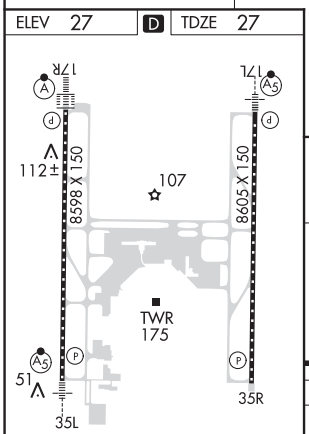
T A Simultaneous approach authorized. Reduced lighting: Requires specific OPSPEC, MSPEC, or LOA approval and use of autoland or HUD to touchdown.

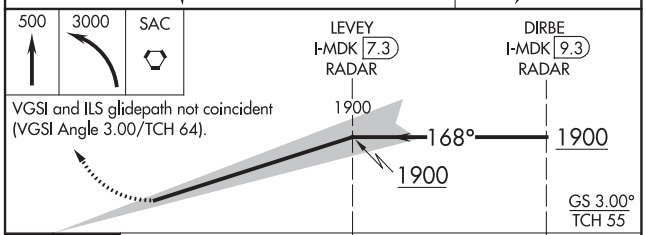
MALSR A5

MISSED APPROACH: Climb to 500 then climbing left turn to 3000 direct SAC VORTAC and hold.

D-ATIS	NORCAL APP CON	CAPITOL TOWER	GND CON	CLNC DEL	CPDLC
126.75	125.4 259.1 (W-NE) 125.25 257.9 (SW) 127.4 317.5 (E-SE)	125.7 256.7	121.7 256.7	121.1 256.7	







CATEGORY	A	B	C	D
S-ILS 17L	RA 108/12 100 DA 127			

TDZ/CL Rwys 17L and 17R
HIRL Rwys 17R-35L and 17L-35R

SA CATEGORY II ILS-SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

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APP CRS	Rwy ldg	8605
168°	TDZE	27
	Apt Elev	27

RNAV (RNP) Z RWY 17L
SACRAMENTO INTL (SMF)

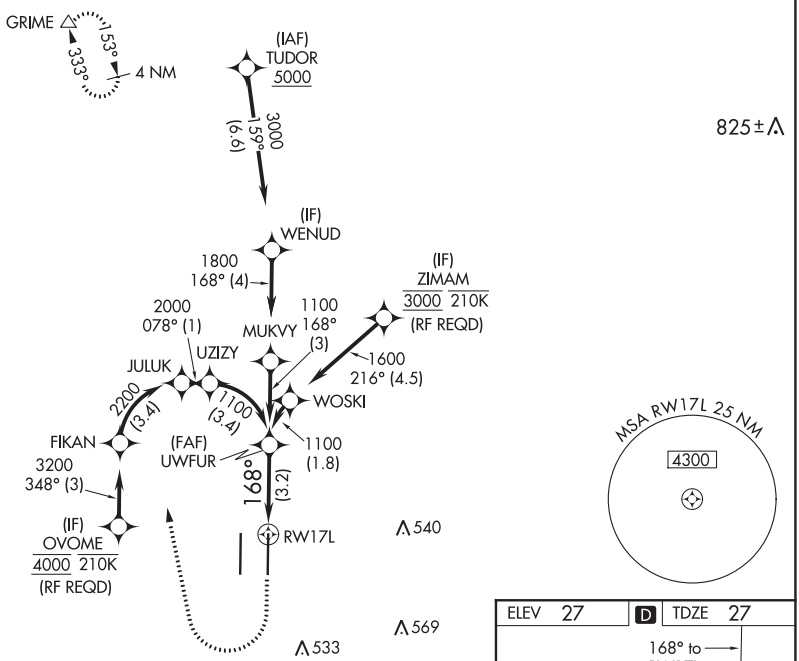
RNP AR APCH.

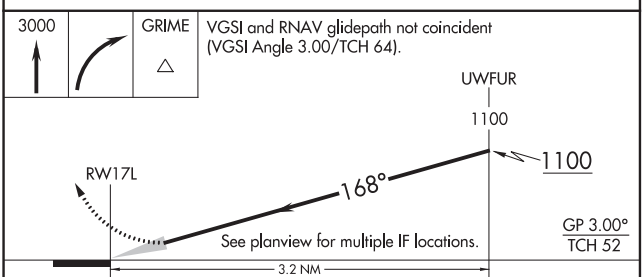
For uncompensated Baro-VNAV systems, procedure NA below -4°C or above 54°C.

MALSR

MISSED APPROACH: Climb to 3000 then right turn direct GRIME and hold.

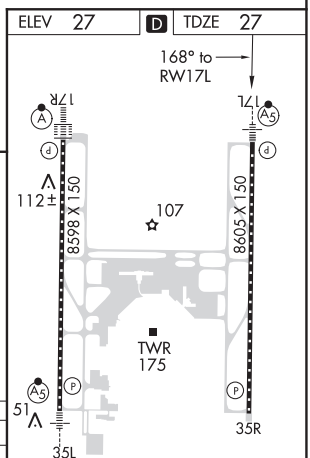
D-ATIS	NORCAL APP CON	CAPITOL TOWER	GND CON	CLNC DEL	CPDLC
126.75	125.4 259.1 (W-NE) 125.25 257.9 (SW) 127.4 317.5 (E-SE)	125.7 256.7	121.7 256.7	121.1 256.7	





CATEGORY	A	B	C	D
RNP 0.30 DA	322-½ 295 (300-½)			

AUTHORIZATION REQUIRED



TDZ/CL Rwys 17L and 17R
HIRL Rwys 17R-35L and 17L-35R

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SACRAMENTO, CALIFORNIA AL-5490 (FAA) 20142

RNAV (RNP) Z RWY 17R
SACRAMENTO INTL (SMF)

APP CRS	Rwy ldg	8598
168°	TDZE	25
	Apt Elev	27

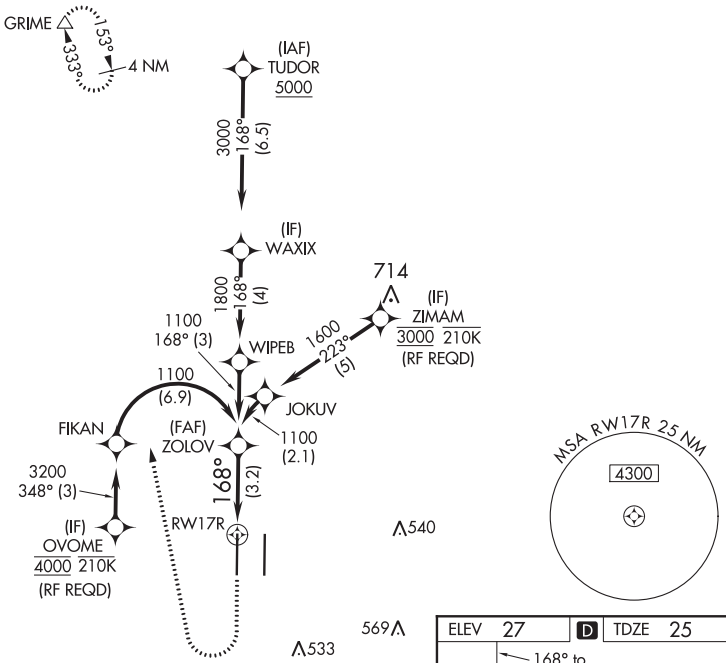
RNP AR APCH.

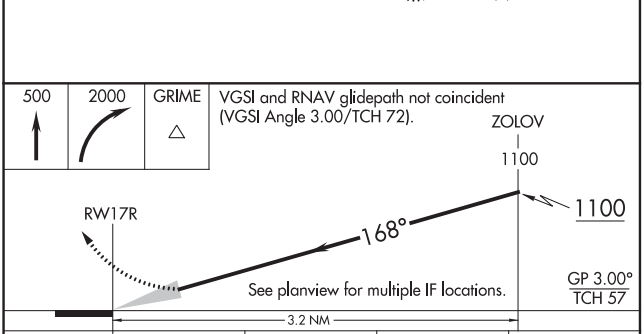
For uncompensated Baro-VNAV systems, procedure NA below -4°C or above 54°C. For inop ALS, increase RNP 0.10 all Cats visibility to RVR 4500 and RNP 0.30 all Cats visibility to RVR 6000.

ALSF-2

MISSED APPROACH: Climb to 500 then climbing right turn to 2000 direct GRIME and hold.

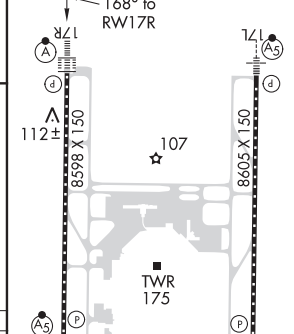
D-ATIS	NORCAL APP CON	CAPITOL TOWER	GND CON	CLNC DEL	CPDLC
126.75	125.4 259.1 (W-NE) 125.25 257.9 (SW) 127.4 317.5 (E-SE)	125.7 256.7	121.7 256.7	121.1 256.7	





CATEGORY	A	B	C	D
RNP 0.10 DA	323/24 298 (300-½)			
RNP 0.30 DA	388/40 363 (400-¾)			

AUTHORIZATION REQUIRED



TDZ/CL Rwys 17L and 17R
HIRL Rwys 17R-35L and 17L-35R

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APP CRS	Rwy ldg	8598
348°	TDZE	24
	Apt Elev	27

RNAV (RNP) Z RWY 35L
SACRAMENTO INTL (SMF)

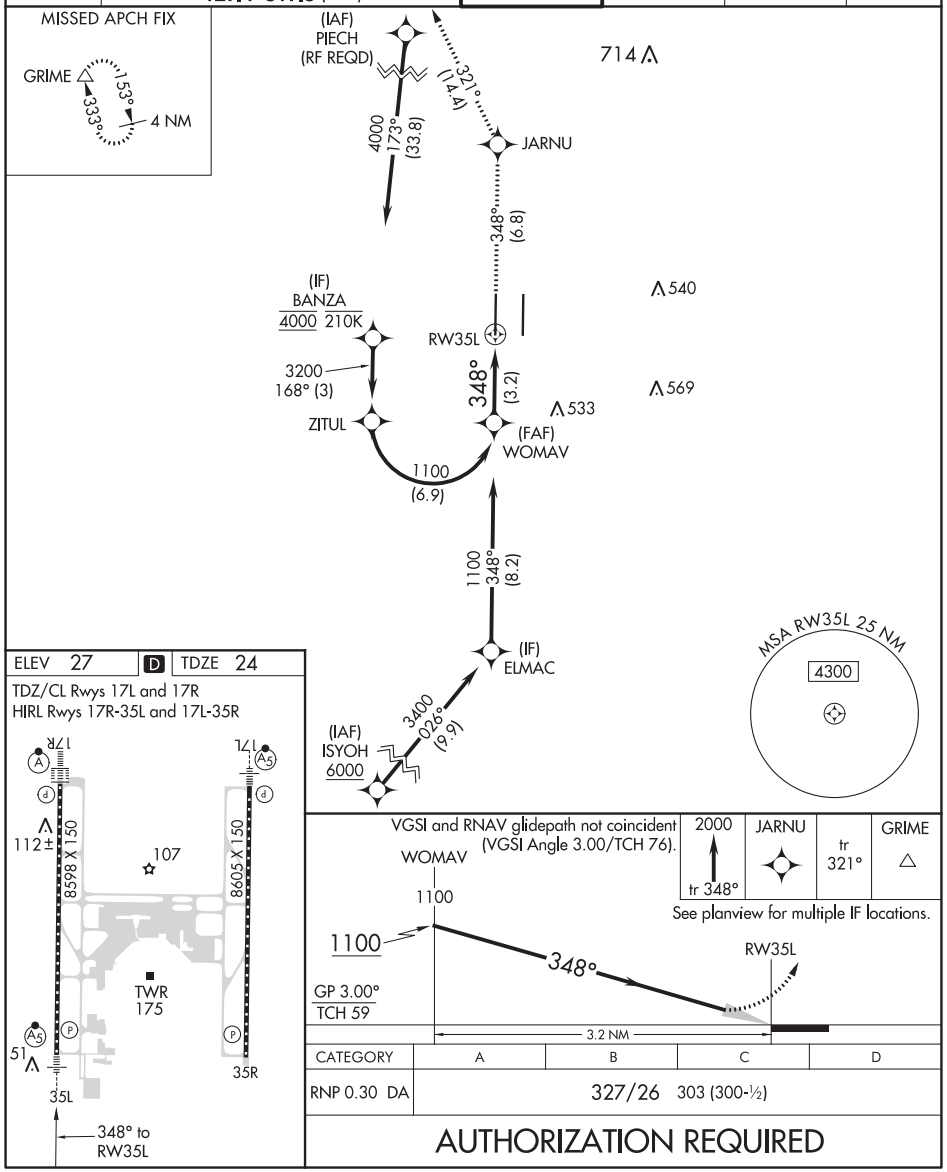
RNP AR APCH.

For uncompensated Baro-VNAV systems, procedure NA below -4°C or above 54°C. For inop ALS, increase RNP 0.30 all Cats visibility to RVR 5000.

MALSR

MISSED APPROACH: Climb to 2000 on track 348° to JARNU and track 321° to GRIME and hold.

D-ATIS	NORCAL APP CON	CAPITOL TOWER	GND CON	CLNC DEL	CPDLC
126.75	125.4 259.1 (W-NE) 125.25 257.9 (SW) 127.4 317.5 (E-SE)	125.7 256.7	121.7 256.7	121.1 256.7	



CATEGORY	A	B	C	D
RNP 0.30 DA	327/26 303 (300-½)			

AUTHORIZATION REQUIRED

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RNAV (RNP) Z RWY 35R
SACRAMENTO INTL (SMF)

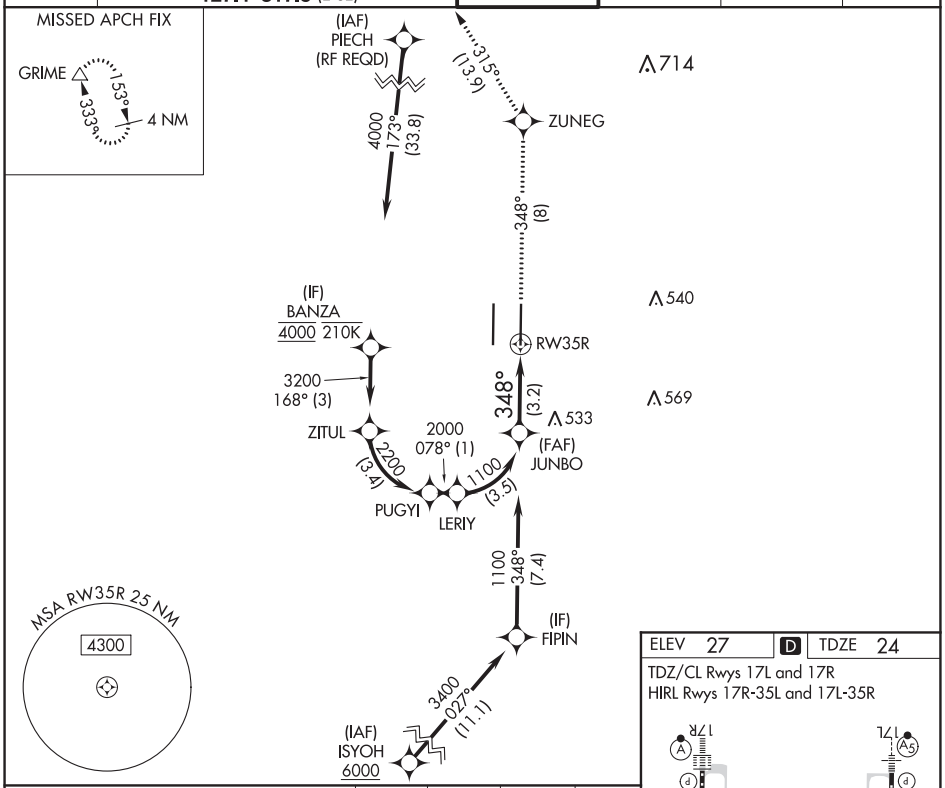
APP CRS	Rwy ldg	8605
348°	TDZE	24
	Apt Elev	27

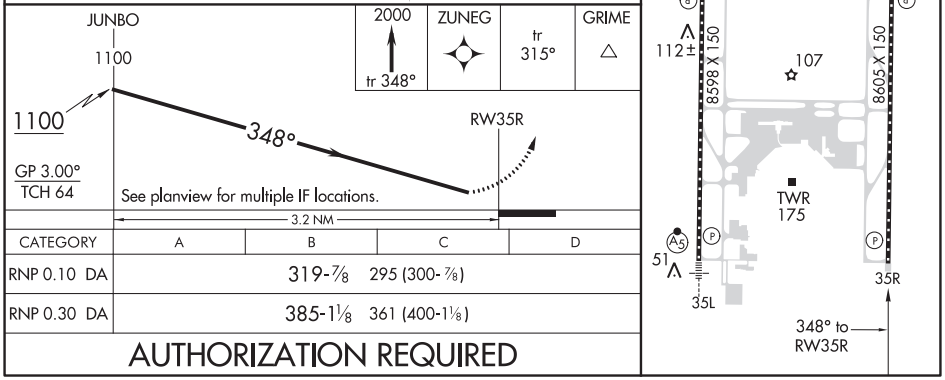
RNP AR APCH.

For uncompensated Baro-VNAV systems, procedure NA below -4°C or above 54°C.

MISSED APPROACH: Climb to 2000 on track 348° to ZUNEG and on track 315° to GRIME and hold.

D-ATIS	NORCAL APP CON	CAPITOL TOWER	GND CON	CLNC DEL	CPDLC
126.75	125.4 259.1 (W-NE) 125.25 257.9 (SW) 127.4 317.5 (E-SE)	125.7 256.7	121.7 256.7	121.1 256.7	





CATEGORY	A	B	C	D
RNP 0.10 DA	319-⅞ 295 (300-⅞)			
RNP 0.30 DA	385-1⅛ 361 (400-1⅛)			

AUTHORIZATION REQUIRED

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WAAS CH 78327 W17B	APP CRS 168°	Rwy ldg 8605 TDZE 27 Apt Elev 27

RNAV (GPS) Y RWY 17L
SACRAMENTO INTL (SMF)

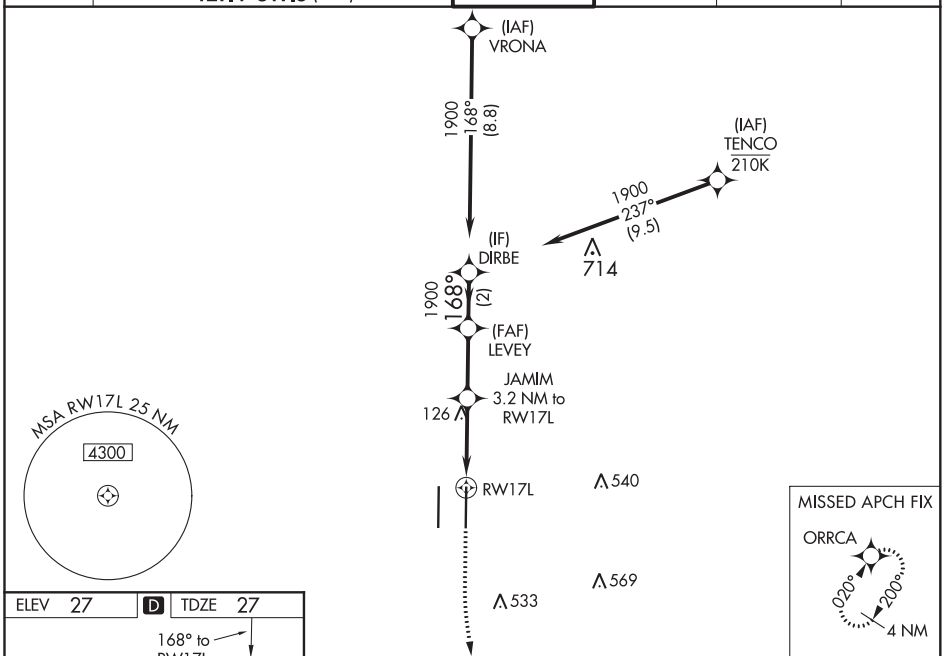
RNP APCH.

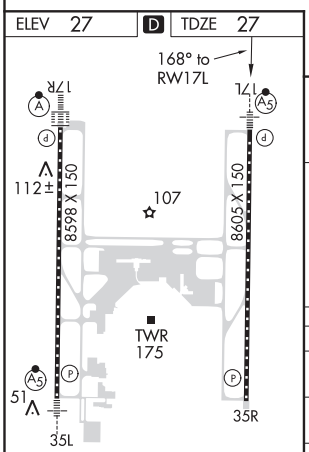
Circling NA west of Rwy 17L-35R. Simultaneous approach authorized. LNAV procedure NA during simultaneous operations. Use of FD or AP required during simultaneous operations. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -4°C or above 54°C. For inop ALS, increase LNAV/VNAV all Cats visibility to RVR 4000 and LNAV C/D visibility to RVR 5500.

MALSR

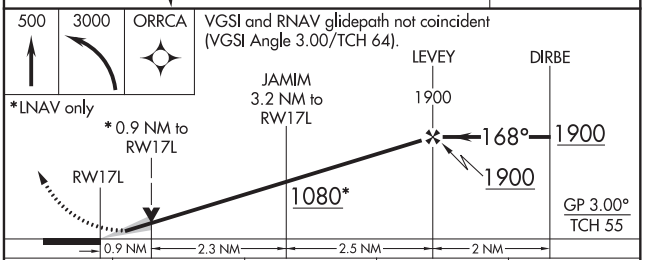
MISSED APPROACH: Climb to 500 then climbing left turn to 3000 direct ORRCA and hold.

D-ATIS	NORCAL APP CON	CAPITOL TOWER	GND CON	CLNC DEL	CPDLC
126.75	125.4 259.1 (W-NE) 125.25 257.9 (SW) 127.4 317.5 (E-SE)	125.7 256.7	121.7 256.7	121.1 256.7	





TDZ/CL Rwys 17L and 17R
HIRL Rwys 17R-35L and 17L-35R



CATEGORY	A	B	C	D
LPV DA	227/18 200 (200-½)			
LNAV/VNAV DA	277/24 250 (300-½)			
LNAV MDA	380/24 353 (400-½)		380/30 353 (400-⅝)	
C CIRCLING	400-1 373 (400-1)	480-1 453 (500-1)	480-1½ 453 (500-1½)	840-2¾ 813 (900-2¾)

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WAAS CH 65728 W17A	APP CRS 168°	Rwy ldg 8598 TDZE 25 Apt Elev 27

RNAV (GPS) Y RWY 17R

SACRAMENTO INTL (SMF)

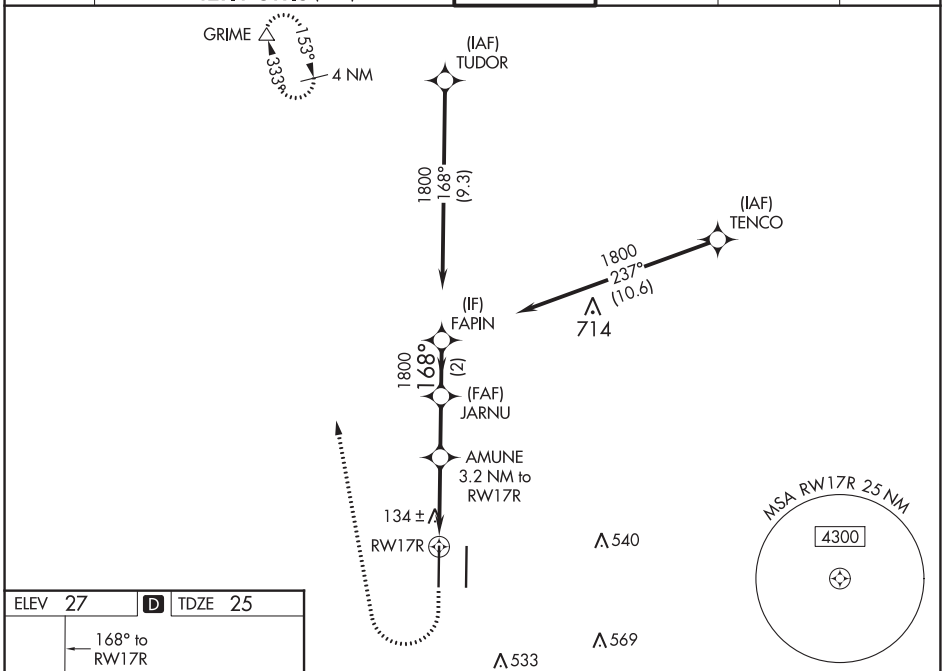
RNP APCH.

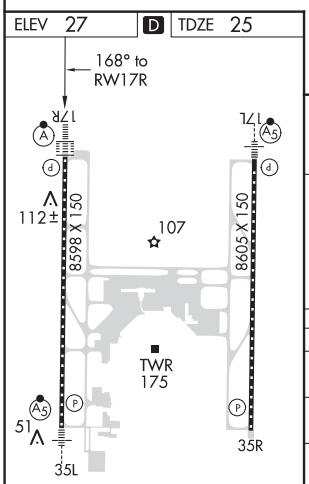
T Circling NA east of Rwy 17R-35L. Simultaneous approach authorized. Use of FD or AP required during simultaneous operations. LNAV procedure NA during simultaneous operations. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -4°C or above 54°C. For inop ALS, increase LNAV/VNAV all Cats visibility to RVR 4500 and LNAV all Cats visibility to RVR 5500.

ALSF-2

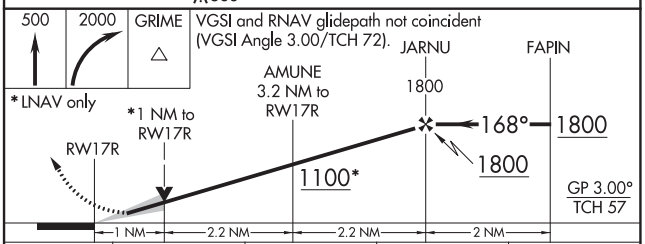
MISSED APPROACH: Climb to 500 then climbing right turn to 2000 direct GRIME and hold.

D-ATIS	NORCAL APP CON	CAPITOL TOWER	GND CON	CLNC DEL	CPDLC
126.75	125.4 259.1 (W-NE) 125.25 257.9 (SW) 127.4 317.5 (E-SE)	125.7 256.7	121.7 256.7	121.1 256.7	





TDZ/CL Rwys 17L and 17R
HIRL Rwys 17R-35L and 17L-35R



CATEGORY	A	B	C	D
LPV DA	225/18 200 (200-½)			
LNAV/VNAV DA	323/24 298 (300-½)			
LNAV MDA	400/24 375 (400-½)		400/35 375 (400-⅝)	
C CIRCLING	440-1 413 (500-1)	480-1 453 (500-1)	480-1½ 453 (500-1½)	580-2 553 (600-2)

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

WAAS CH 86602 W35A	APP CRS 348°	Rwy ldg 8598 TDZE 24 Apt Elev 27

RNAV (GPS) Y RWY 35L
SACRAMENTO INTL (SMF)

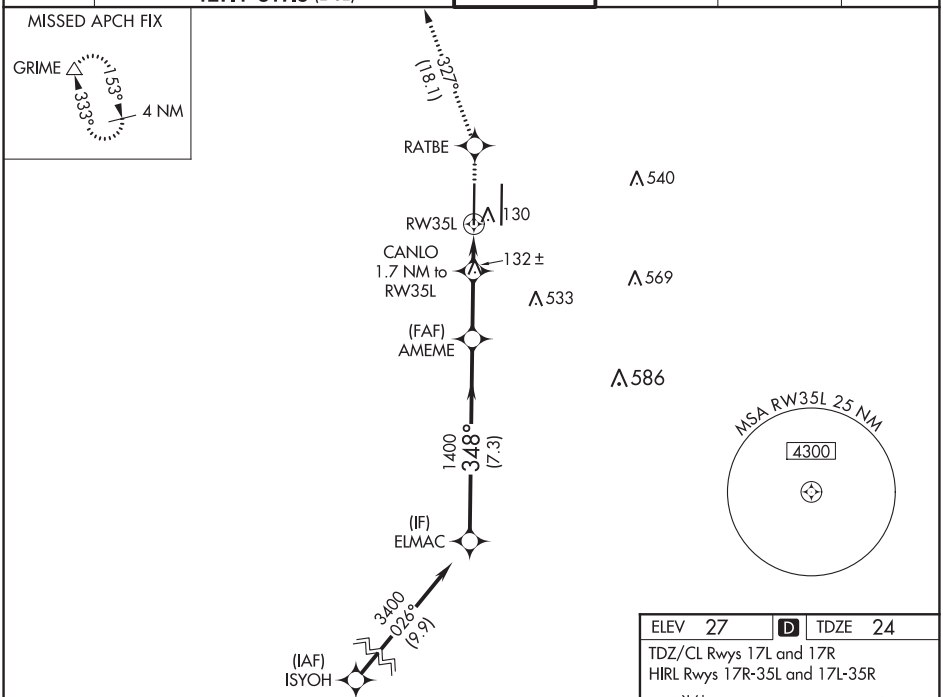
RNP APCH.

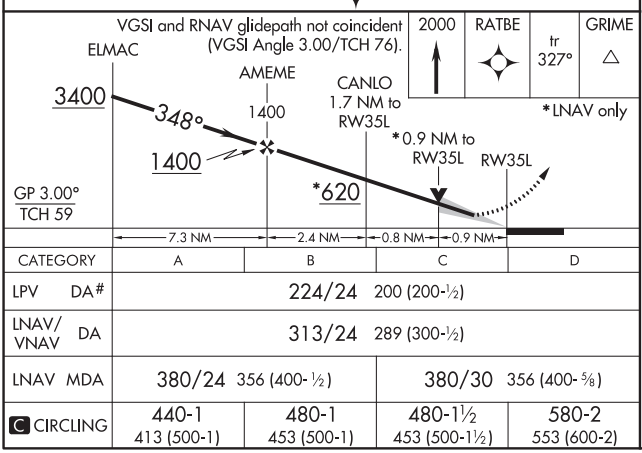
T Circling NA east of Rwy 17R-35L. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -4°C or above 54°C. For inop ALS, increase LPV all Cats visibility to RVR 4000 and LNAV Cat C/D visibility to RVR 5500.
RVR 1800 authorized with use of FD or AP or HUD to DA.

MALSR A5

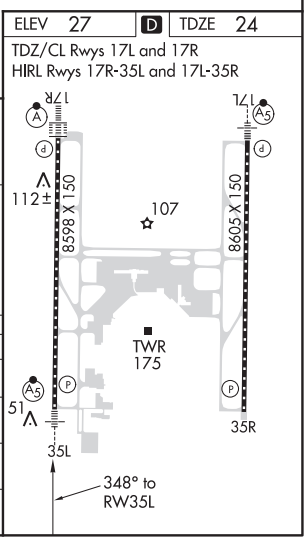
MISSED APPROACH: Climb to 2000 direct RATBE and track 327° to GRIME and hold.

D-ATIS	NORCAL APP CON	CAPITOL TOWER	GND CON	CLNC DEL	CPDLC
126.75	125.4 259.1 (W-NE) 125.25 257.9 (SW) 127.4 317.5 (E-SE)	125.7 256.7	121.7 256.7	121.1 256.7	





CATEGORY	A	B	C	D
LPV DA#	224/24 200 (200-½)			
LNAV/VNAV DA	313/24 289 (300-½)			
LNAV MDA	380/24 356 (400-½)		380/30 356 (400-⅝)	
C CIRCLING	440-1 413 (500-1)	480-1 453 (500-1)	480-1½ 453 (500-1½)	580-2 553 (600-2)



SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

SACRAMENTO, CALIFORNIA AL-5490 (FAA) 20198

APP CRS	Rwy ldg	8605
348°	TDZE	24
	Apt Elev	27

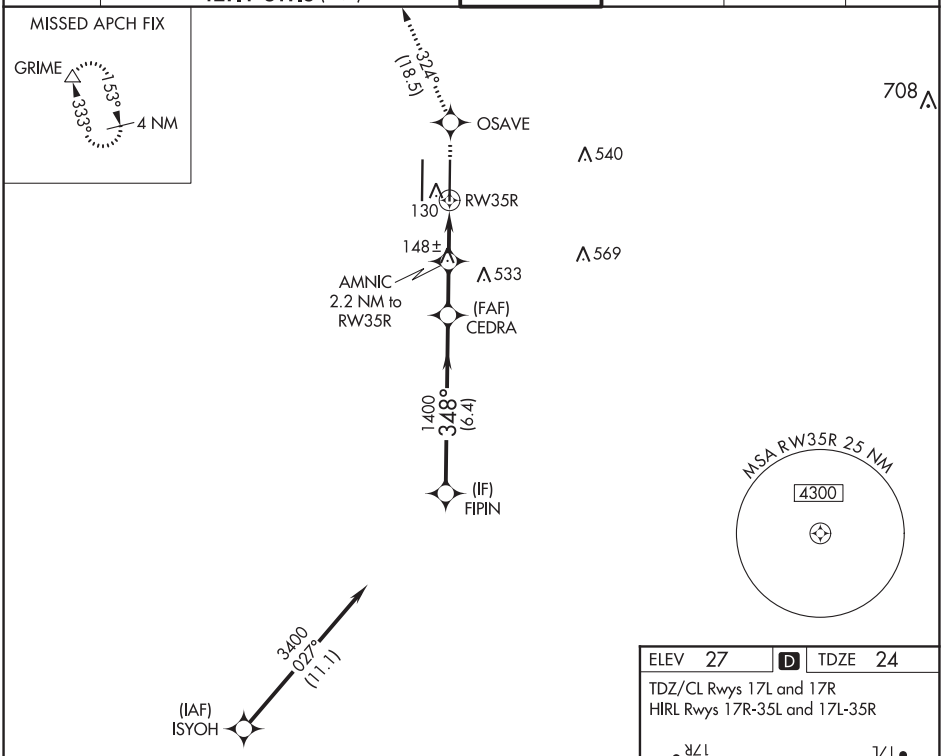
RNAV (GPS) Y RWY 35R
SACRAMENTO INTL (SMF)

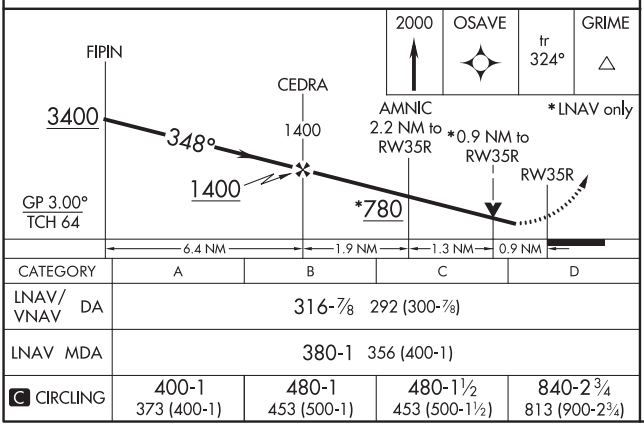
RNP APCH.

Circling NA west of Rwy 17L-35R. Rwy 35R helicopter visibility reduction below ¾ SM NA.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -4°C or above 54°C.

MISSED APPROACH: Climb to 2000 direct OSAVE and track 324° to GRIME and hold.

D-ATIS	NORCAL APP CON	CAPITOL TOWER	GND CON	CLNC DEL	CPDLC
126.75	125.4 259.1 (W-NE) 125.25 257.9 (SW) 127.4 317.5 (E-SE)	125.7 256.7	121.7 256.7	121.1 256.7	

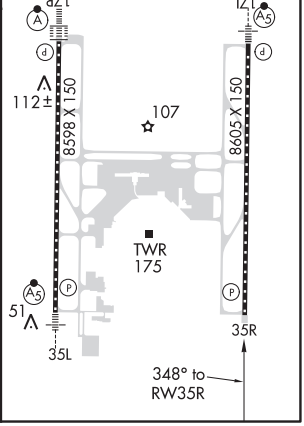




CATEGORY	A	B	C	D
LNAV/VNAV DA	316-⅞ 292 (300-⅞)			
LNAV MDA	380-1 356 (400-1)			
C CIRCLING	400-1 373 (400-1)	480-1 453 (500-1)	480-1½ 453 (500-1½)	840-2¾ 813 (900-2¾)

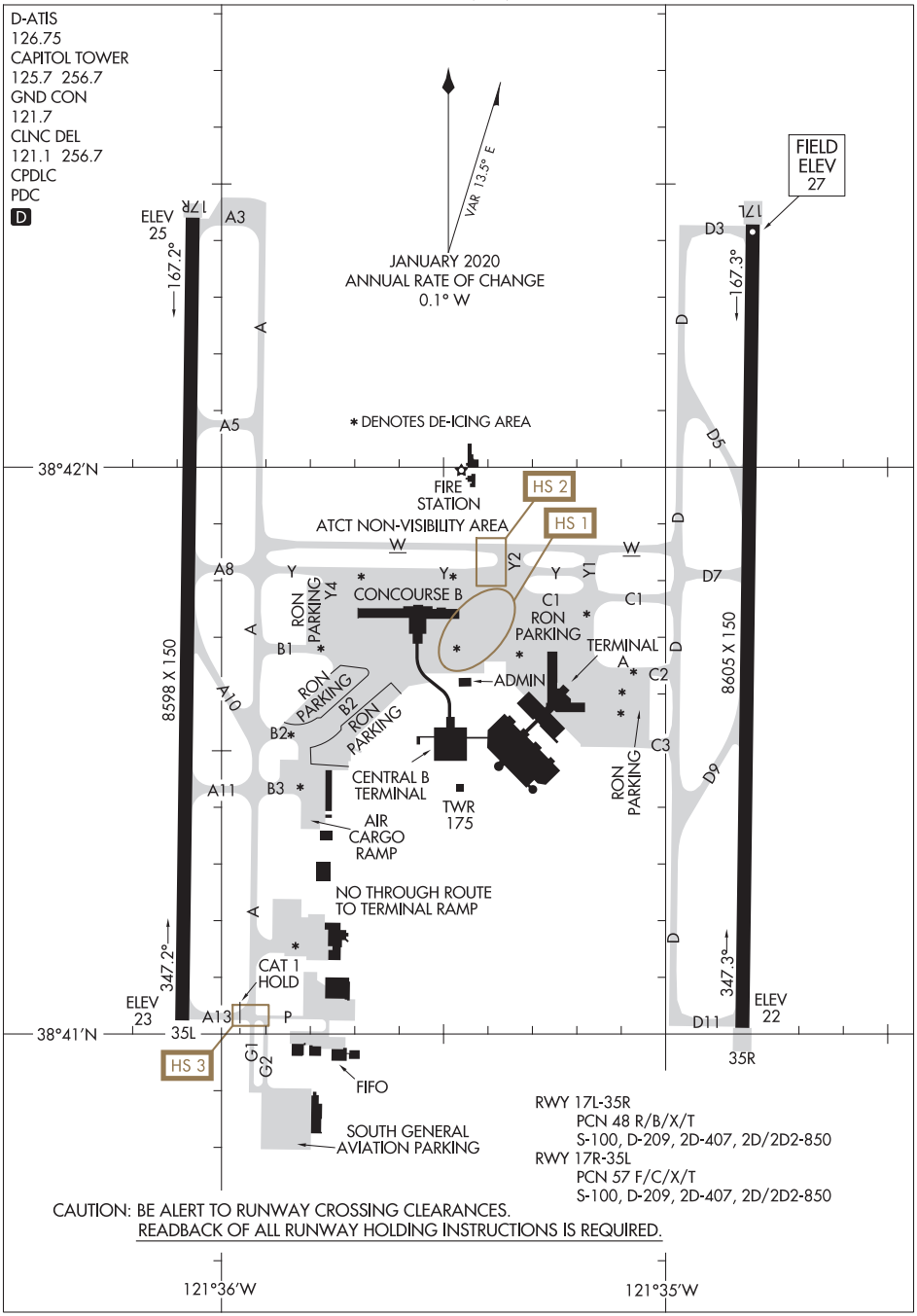
ELEV 27 D TDZE 24

TDZ/CL Rwys 17L and 17R
HIRL Rwys 17R-35L and 17L-35R



SW-2, 25 FEB 2021 to 22 APR 2021

AL-5490 (FAA)



SW-2, 25 FEB 2021 to 22 APR 2021

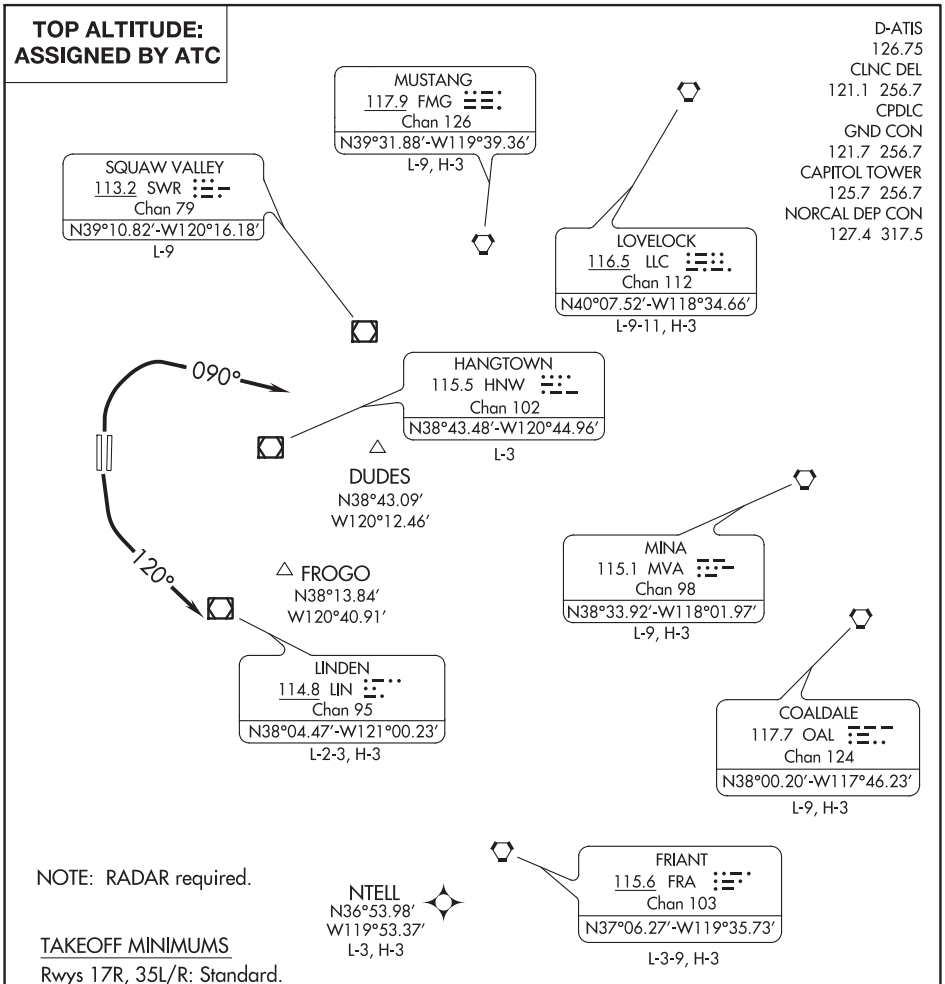
SW-2, 25 FEB 2021 to 22 APR 2021

(FROGO1.FROGO) 20310

FROGO ONE DEPARTURE

AL-5490 (FAA)

SACRAMENTO INTL (SMF)
SACRAMENTO, CALIFORNIA



NOTE: RADAR required.

TAKEOFF MINIMUMS

Rwys 17R, 35L/R: Standard.
Rwy 17L: Standard with minimum climb of 220′ per NM to 700.

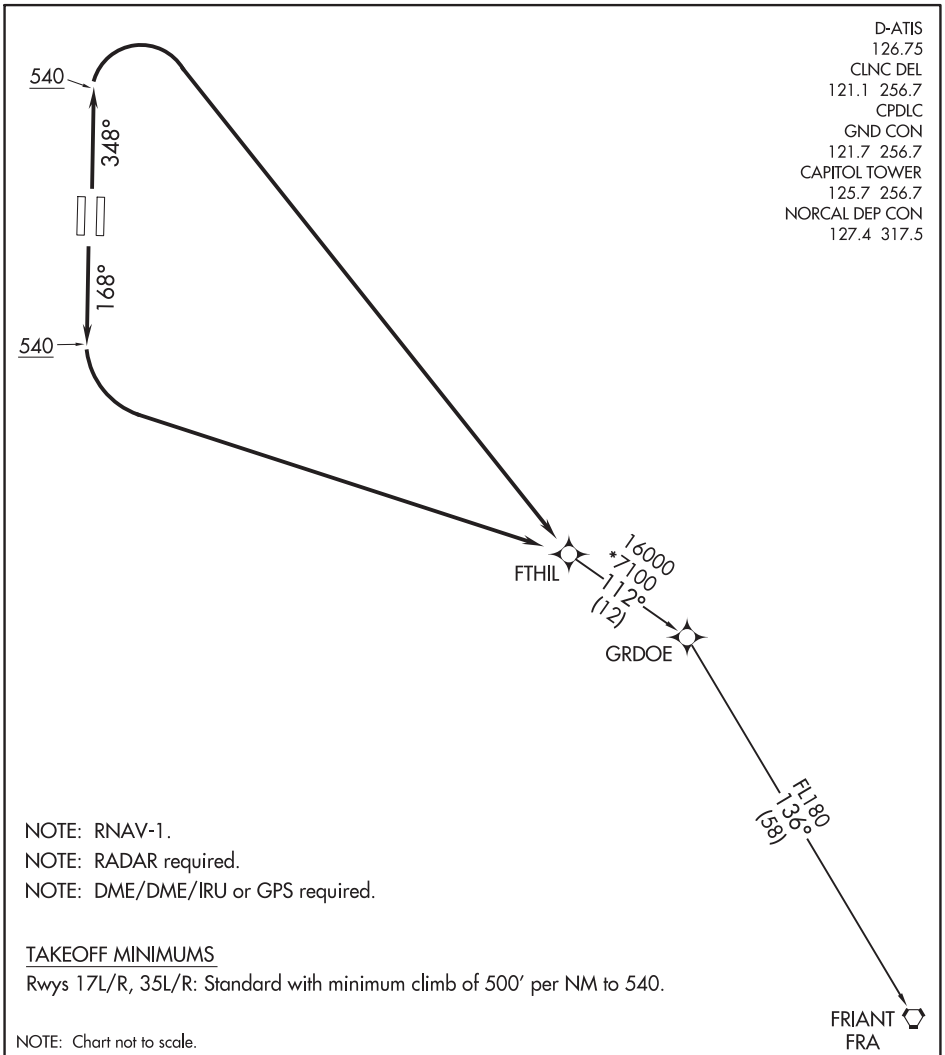
NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 17L/R: Climbing left turn heading 120°, or as assigned by ATC, for RADAR vectors to assigned route/fix, thence...
TAKEOFF RUNWAYS 35L/R: Climbing right turn heading 090°, or as assigned by ATC, for RADAR vectors to assigned route/fix, thence...

...maintain ATC assigned altitude. Expect filed altitude ten minutes after departure.

SW-2, 25 FEB 2021 to 22 APR 2021



NOTE: RNAV-1.
NOTE: RADAR required.
NOTE: DME/DME/IRU or GPS required.

TAKEOFF MINIMUMS
Rwys 17L/R, 35L/R: Standard with minimum climb of 500′ per NM to 540.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 17L/R: Climb on heading 168° to 540, then left turn direct FTHIL. Thence. . . .
TAKEOFF RUNWAYS 35L/R: Climb on heading 348° to 540, then right turn direct FTHIL. Thence. . . .

. . . . on transition. Maintain FL190. Expect filed altitude 10 minutes after departure.

FRIANT TRANSITION (FTHIL3.FRA)

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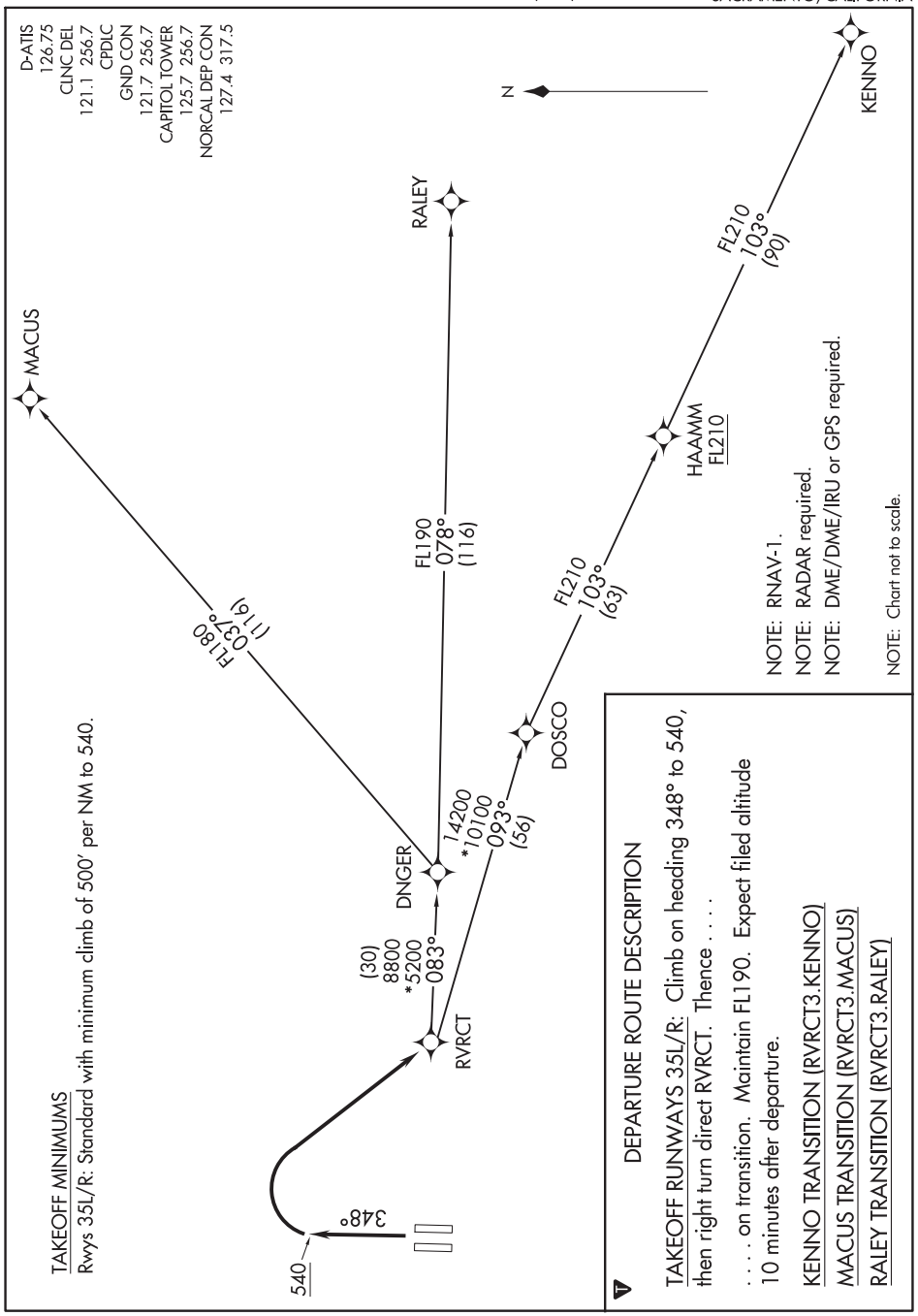
(RVRCT3.RVRCT) 20142

RVRCT THREE DEPARTURE (RNAV)

AL-5490 (FAA)

SACRAMENTO INTL (SMF)
SACRAMENTO, CALIFORNIA



SW-2, 25 FEB 2021 to 22 APR 2021

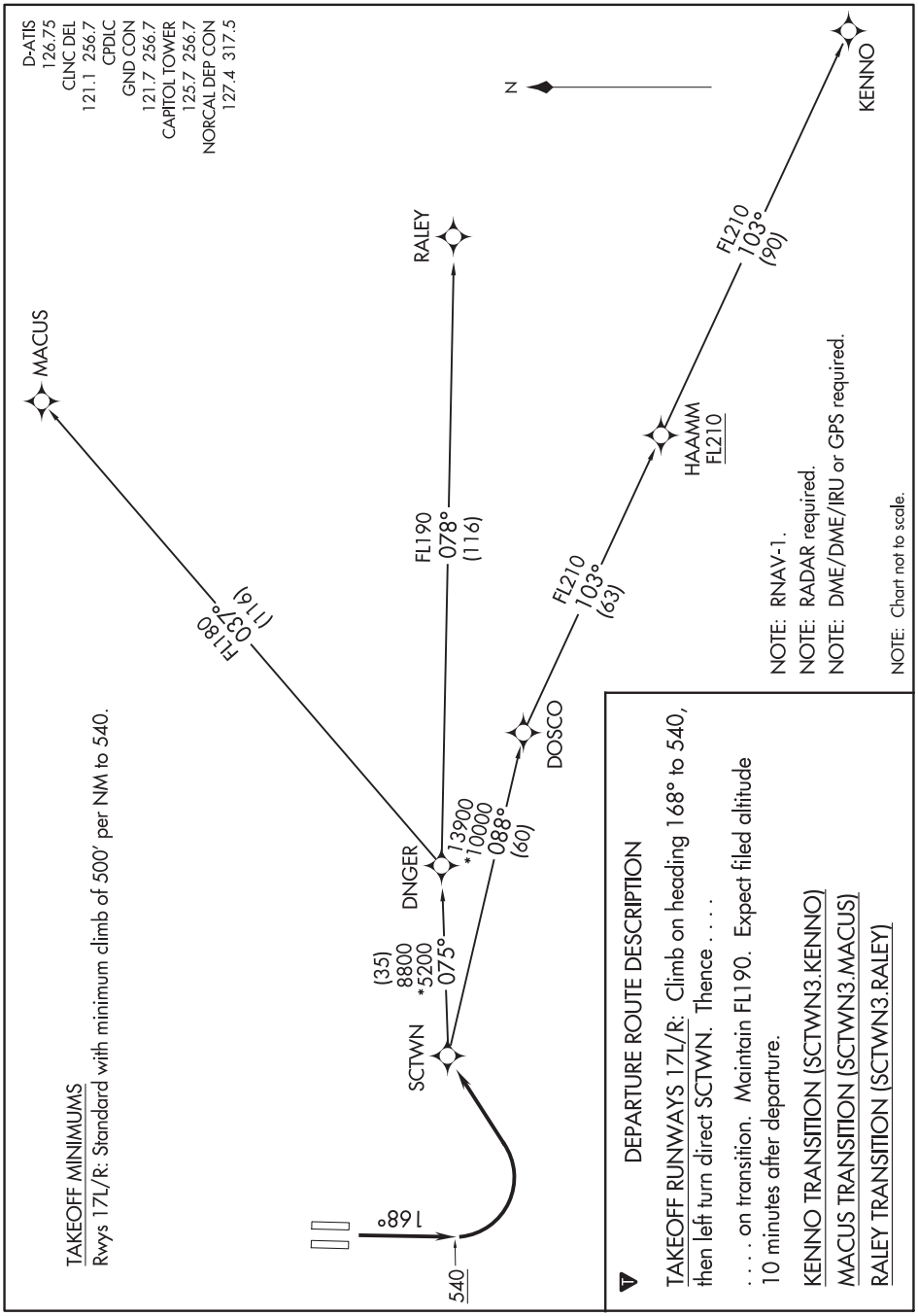
RVRCT THREE DEPARTURE (RNAV)

(RVRCT3.RVRCT) 21MAY20

SACRAMENTO, CALIFORNIA
SACRAMENTO INTL (SMF)

SCTWN THREE DEPARTURE (RNAV)

AL-5490 (FAA)



SACRAMENTO, CALIFORNIA AL-356 (FAA) 20310

ILS or LOC RWY 22L
SACRAMENTO MATHER (MHR)

LOC/DME I-MHR	APP CRS	Rwy ldg	11301
111.35	221°	TDZE	98
Chan 50 (Y)		Apt Elev	98

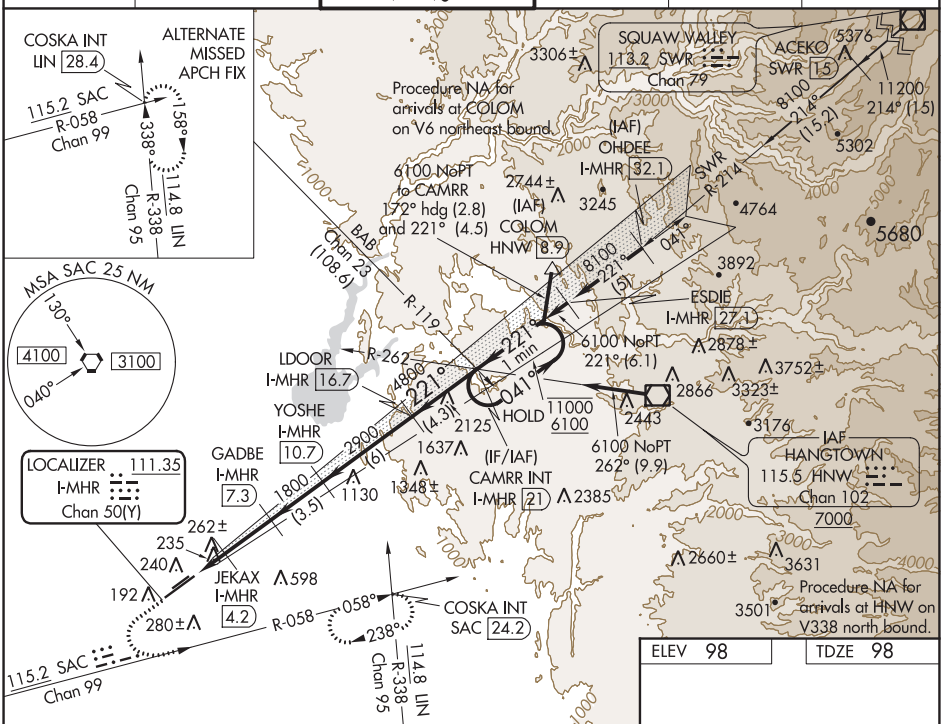
DME required for LOC only.

T A Circling NA northwest of Rwy 4R-22L. For inop ALS, increase S-ILS Cat E visibility to RVR 4000 and S-LOC Cat C/D/E visibility to RVR 6000. Procedure NA when tower closed.
RVR 1800 authorized with use of FD or AP or HUD to DA.

MALSR A5

MISSED APPROACH: Climb to 700 then climbing left turn to 3000 on heading 090° and SAC VORTAC R-058 to COSKA INT/ SAC 24.2 DME and hold.

ATIS	NORCAL APP CON	MATHER TOWER ★	GND CON	CLNC DEL	UNICOM
118.325	127.4 317.5	120.65 (CTAF) L 282.25	121.85 307.9	121.85 307.9	122.95

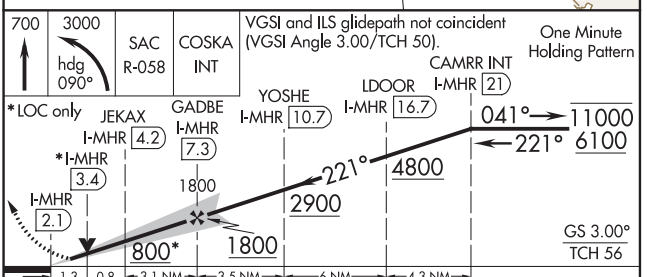


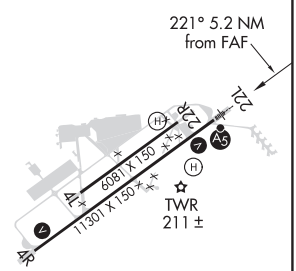
ELEV	TDZE
98	98

700	3000 hdg 090°	SAC R-058	COSKA INT

VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 56).

One Minute Holding Pattern





CATEGORY	A	B	C	D	E
S-ILS 22L#	298/24 200 (200-½)				
S-LOC 22L	500/24 402 (500-½)		500/40 402 (500-¾)		
C CIRCLING	560-1 462 (500-1)		600-1½ 502 (600-1½)	800-2¼ 702 (800-2¼)	800-2½ 702 (800-2½)

MIRL Rwy 4L-22R L
HIRL Rwy 4R-22L L

SW-2, 25 FEB 2021 to 22 APR 2021

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LOC/DME I-MHR	APP CRS	Rwy ldg	11301
111.35	221°	TDZE	98
Chan 50 (Y)		Apt Elev	98

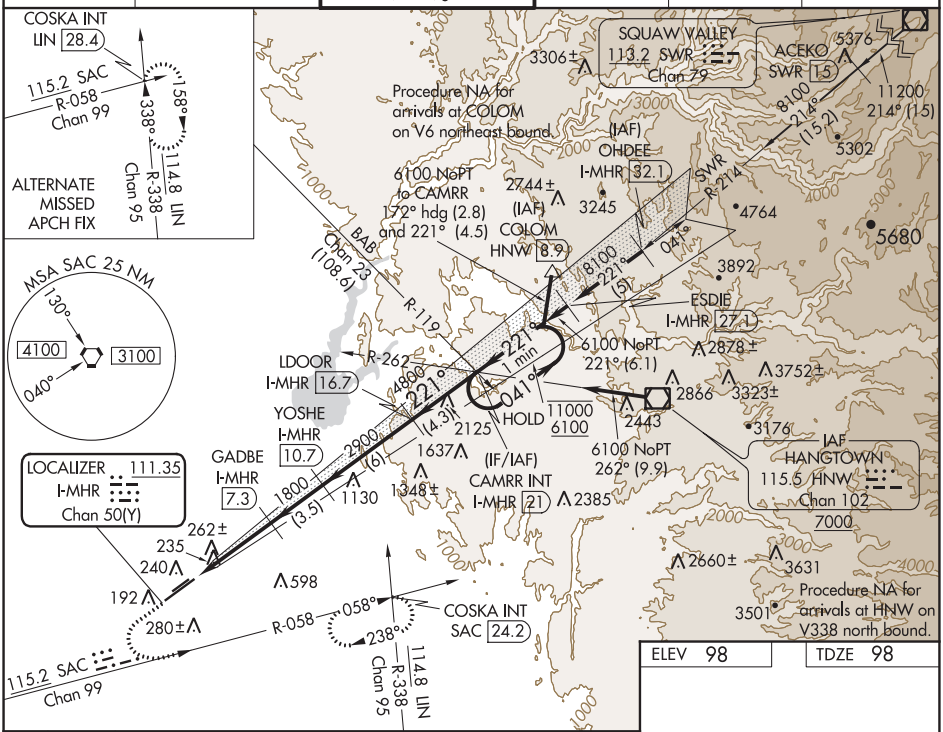
ILS RWY 22L (SA CAT I & II)
SACRAMENTO MATHER (MHR)

SA CAT I: Requires specific OPSPEC, MSPEC, or LOA approval and use of HUD to DH.
SA CAT II: Reduced lighting; requires specific OPSPEC, MSPEC, or LOA approval and use of autoland or HUD to touchdown. Procedure NA when tower closed.

MALSR

MISSED APPROACH: Climb to 700 then climbing left turn to 3000 on heading 090° and SAC VORTAC R-058 to COSKA INT/SAC 24.2 DME and hold.

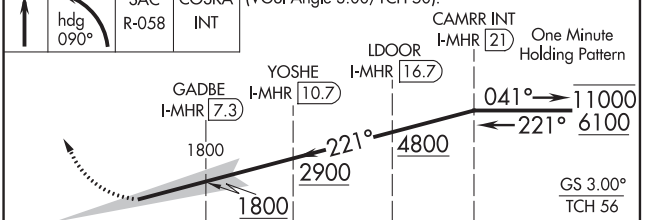
ATIS	NORCAL APP CON	MATHER TOWER ★	GND CON	CLNC DEL	UNICOM
118.325	127.4 317.5	120.65 (CTAF) 282.25	121.85 307.9	121.85 307.9	122.95

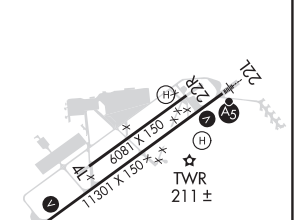


ELEV 98	TDZE 98

700	3000 hdg 090°	SAC R-058	COSKA INT

VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 50).





CATEGORY	A	B	C	D
S-ILS 22L	SA CAT I	RA 136/14	150	DA 248
S-ILS 22L	SA CAT II	RA 95/12	100	DA 198

SA CATEGORY I & II ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

MIRL Rwy 4L-22R
HIRL Rwy 4R-22L

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WAAS CH 45601 W04A	APP CRS 041°	Rwy ldg 11301 TDZE 81 Apt Elev 98

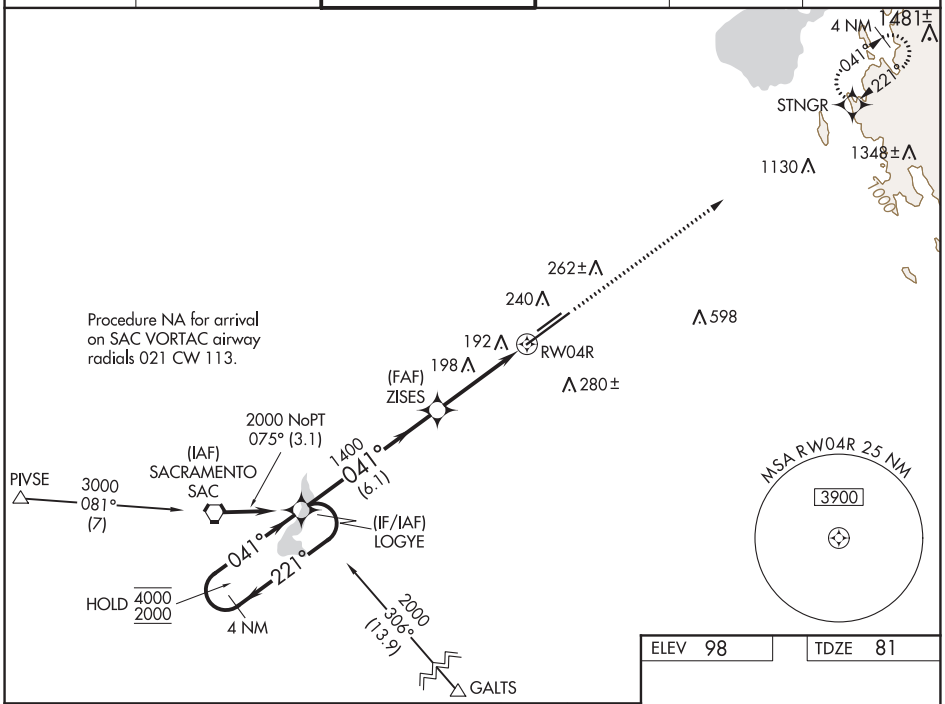
RNAV (GPS) RWY 4R
SACRAMENTO MATHER (MHR)

RNP APCH.

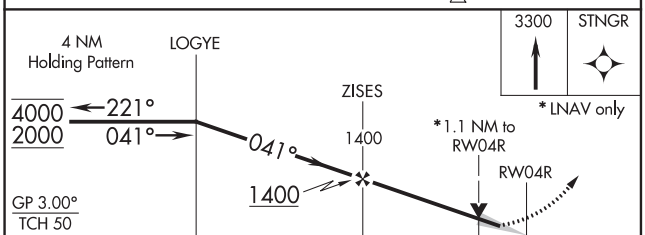
Circling NA northwest of Rwy 4R-22L. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 37°C.

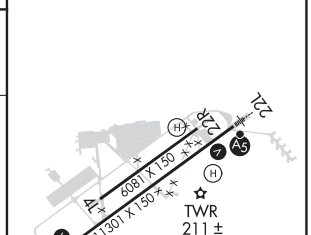
MISSED APPROACH: Climb to 3300 direct STNGR and hold.

ATIS	NORCAL APP CON	MATHER TOWER ★	GND CON	CLNC DEL	UNICOM
118.325	127.4 317.5	120.65 (CTAF) L 282.25	121.85 307.9	121.85 307.9	122.95



ELEV 98	TDZE 81





CATEGORY	A	B	C	D
LPV DA	331-¾ 250 (300-¾)			
LNAV/VNAV DA	375-1 294 (300-1)			
LNAV MDA	480-1 399 (400-1)		480-1¼ 399 (400-1¼)	
C CIRCLING	560-1 462 (500-1)	580-1 482 (500-1)	600-1½ 502 (600-1½)	800-2¼ 702 (800-2¼)

MIRL Rwy 4L-22R L
HIRL Rwy 4R-22L L

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SW-2, 25 FEB 2021 to 22 APR 2021

WAAS CH 40225 W22A	APP CRS 221°	Rwy ldg 11301 TDZE 98 Apt Elev 98

RNAV (GPS) RWY 22L
SACRAMENTO MATHER (MHR)

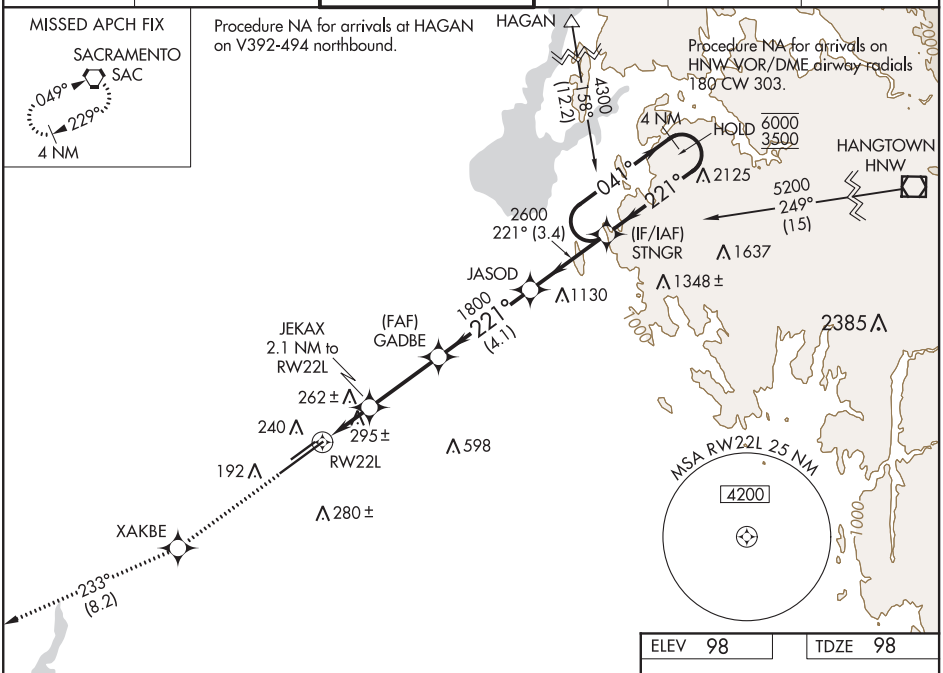
RNP APCH.

Circling NA northwest of Rwy 4R-22L. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 54°C. For inop ALS, increase LNAV/VNAV all Cats visibility to 1⅛ SM and LNAV Cat C/D visibility to 1⅜ SM.

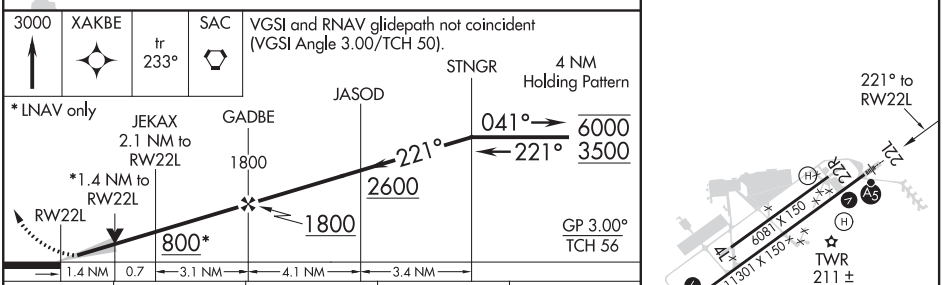
MALSR

MISSED APPROACH: Climb to 3000 direct XAKBE and on track 233° to SAC VORTAC and hold.

ATIS	NORCAL APP CON	MATHER TOWER ★	GND CON	CLNC DEL	UNICOM
118.325	127.4 317.5	120.65 (CTAF) L 282.25	121.85 307.9	121.85 307.9	122.95



ELEV 98	TDZE 98



CATEGORY	A	B	C	D
LPV DA	298-½ 200 (200-½)			
LNAV/VNAV DA	517-¾ 419 (500-¾)			
LNAV MDA	580-½ 482 (500-½)		580-1 482 (500-1)	
C CIRCLING	580-1 482 (500-1)		600-1½ 502 (600-1½)	800-2¼ 702 (800-2¼)

MIRL Rwy 4L-22R L
HIRL Rwy 4R-22L L

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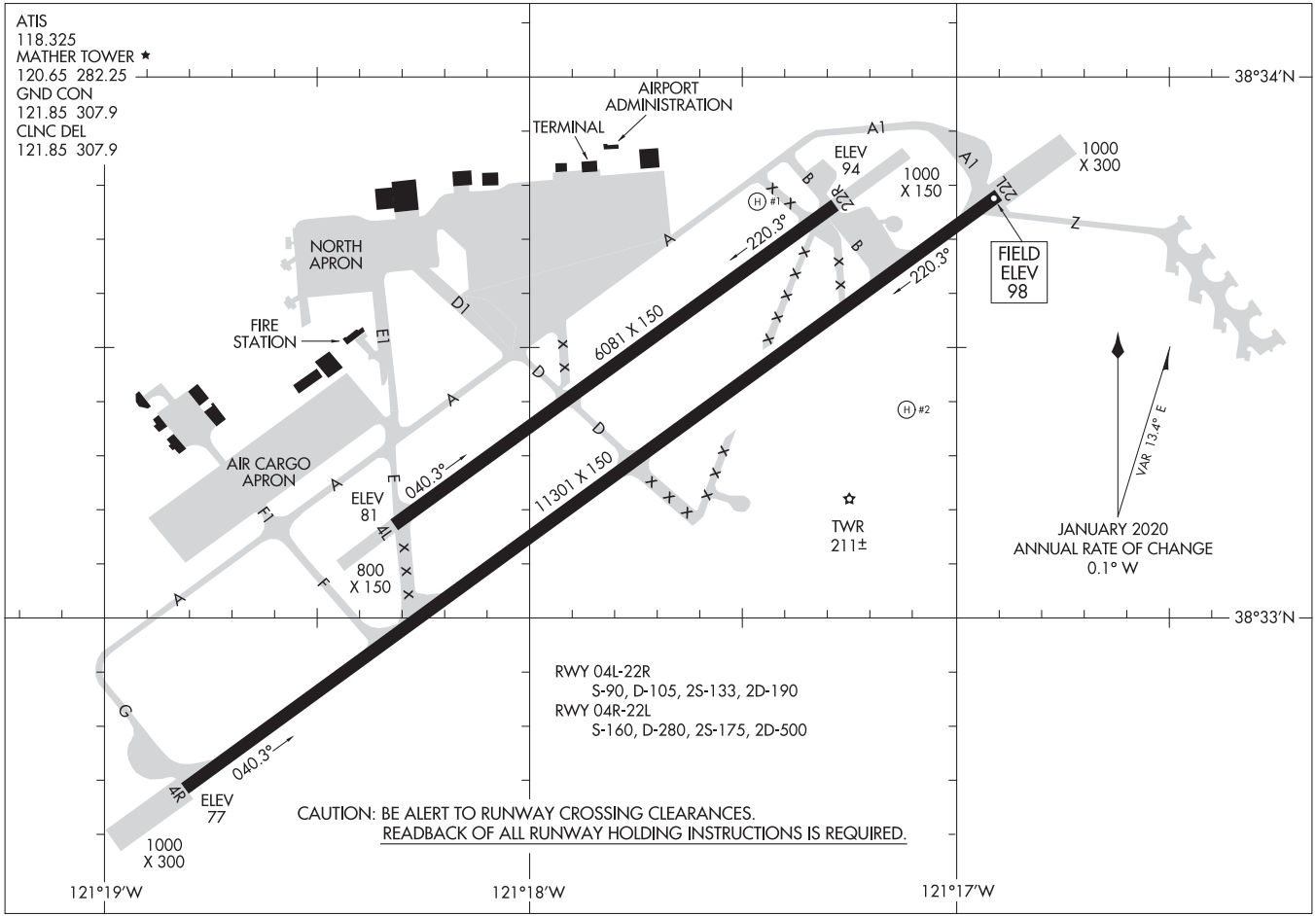
SW-2, 25 FEB 2021 to 22 APR 2021

20086

AIRPORT DIAGRAM

SACRAMENTO MATHER (MHR)
SACRAMENTO, CALIFORNIA

AL-356 (FAA)



20086

AIRPORT DIAGRAM

SACRAMENTO, CALIFORNIA
SACRAMENTO MATHER (MHR)

LOC I-SNS	APP CRS	Rwy ldg	4825
108.5	311°	TDZE	82
		Apt Elev	85

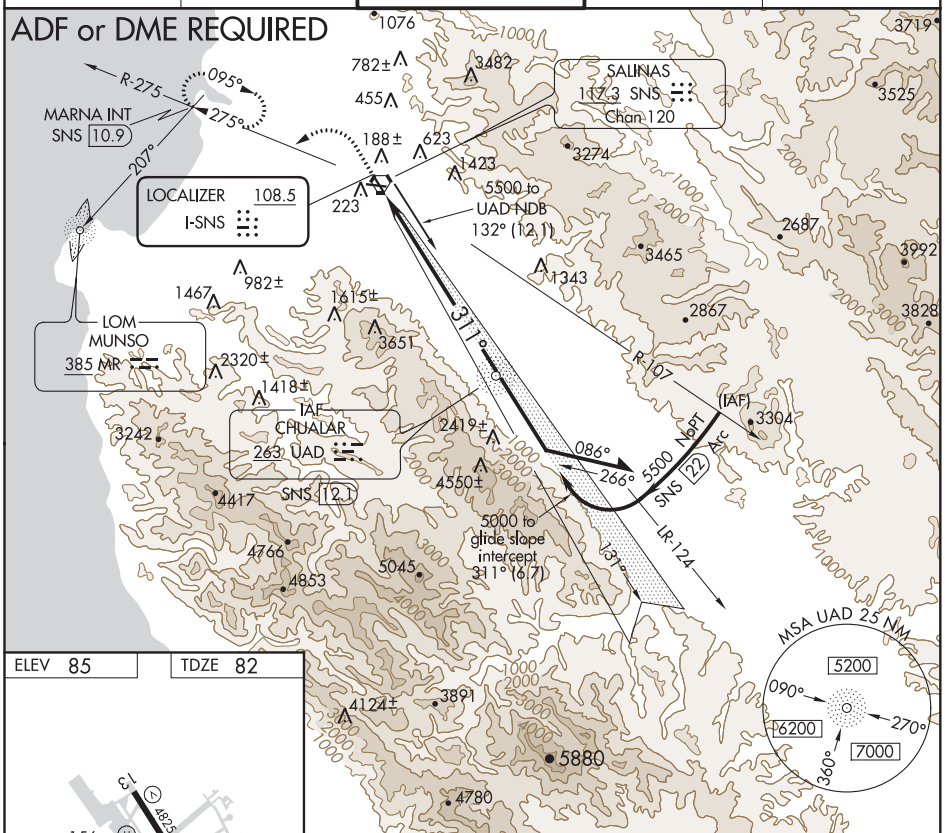
ILS RWY 31
SALINAS MUNI (SNS)

When local altimeter setting not received, use Monterey Rgnl altimeter setting and increase S-ILS 31 DA 53 feet.

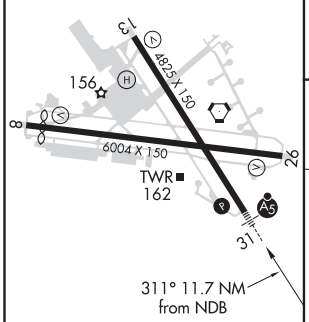
MALSR

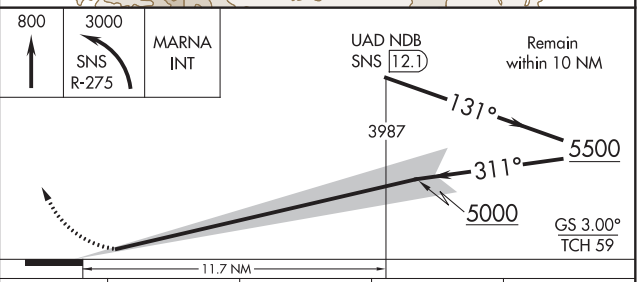
MISSED APPROACH: Climb to 800 then climbing left turn to 3000 via SNS R-275 to MARNA INT/10.9 DME and hold.

ATIS	NORCAL APP CON	SALINAS TOWER ★	GND CON	UNICOM
124.85	133.0 251.15	119.525 (CTAF) L 239.3	121.7	122.95



ELEV 85	TDZE 82





HIRL Rwy 13-31 L
MIRL Rwy 8-26 L
REIL Rwys 13 and 26 L

CATEGORY	A	B	C	D
S-ILS 31	282/24 200 (200-½)			

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SW-2, 25 FEB 2021 to 22 APR 2021

SALINAS, CALIFORNIA | AL-363 (FAA) | 20310

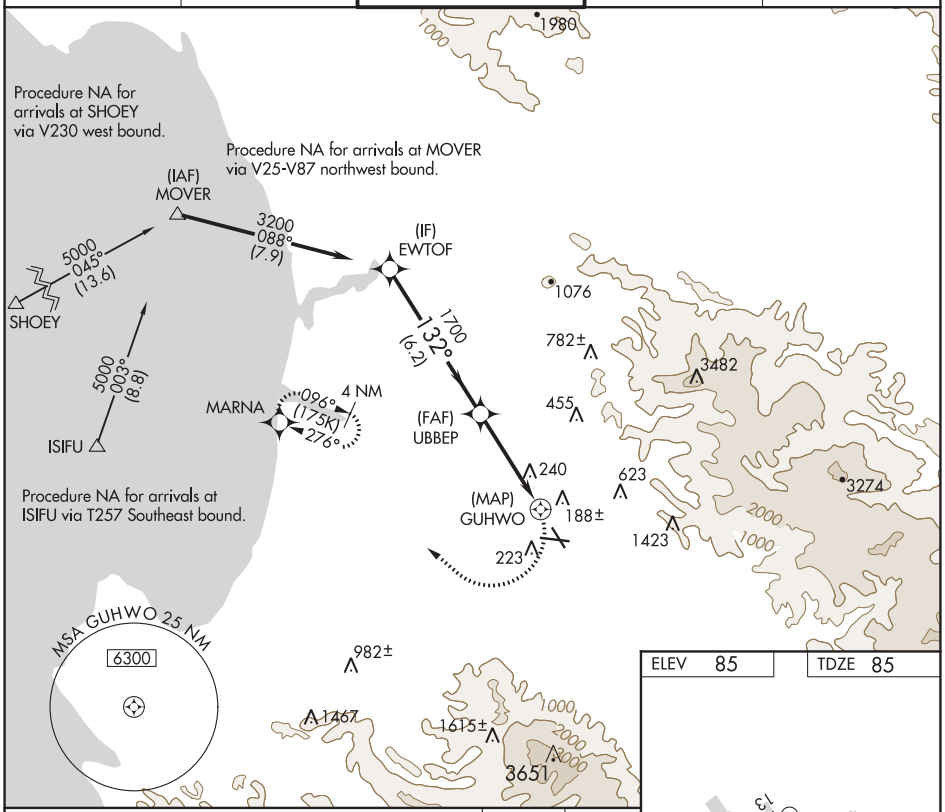
RNAV (GPS) RWY 13
SALINAS MUNI (SNS)

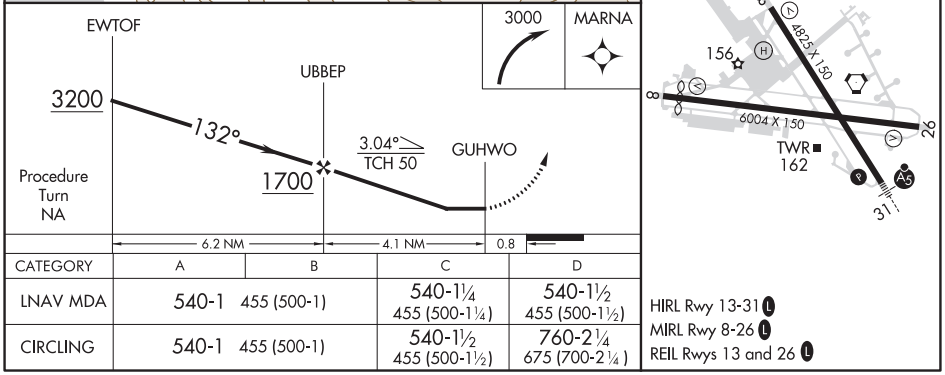
APP CRS	Rwy ldg	4825
132°	TDZE	85
	Apt Elev	85

DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA.
When local altimeter setting not received, use Monterey Rgnl altimeter setting and increase all MDA 60 feet and increase LNAV Cat C and D visibility ¼ mile.

MISSED APPROACH: Climbing right turn to 3000 direct MARNA and hold.

ATIS	NORCAL APP CON	SALINAS TOWER ★	GND CON	UNICOM
124.85	133.0 251.15	119.525 (CTAF) L 239.3	121.7	122.95





CATEGORY	A	B	C	D
LNAV MDA	540-1 455 (500-1)		540-1¼ 455 (500-1¼)	540-1½ 455 (500-1½)
CIRCLING	540-1 455 (500-1)		540-1½ 455 (500-1½)	760-2¼ 675 (700-2¼)

HIRL Rwy 13-31 L
MIRL Rwy 8-26 L
REIL Rwys 13 and 26 L

SW-2, 25 FEB 2021 to 22 APR 2021

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APP CRS	Rwy ldg	4825
312°	TDZE	82
	Apt Elev	85

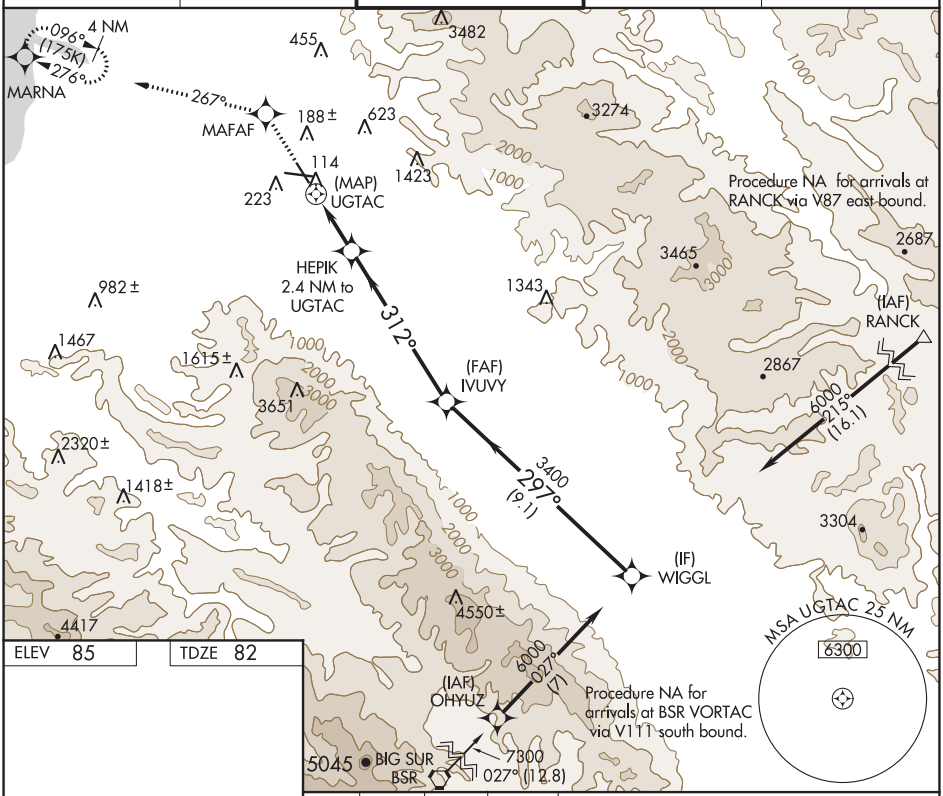
RNAV (GPS) Y RWY 31
SALINAS MUNI (SNS)

For inoperative MALSR, increase LNAV Cat D visibility to RVR 6000. DME/DME RNP-0.3 NA. When local altimeter not received, use Monterey Rgnl altimeter setting and increase all MDA 60 feet and increase LNAV Cat C visibility to RVR 4000.

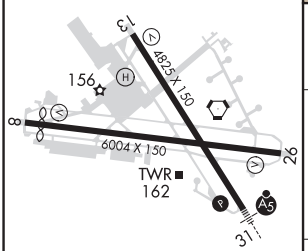
MALSR

MISSED APPROACH: Climb to 3000 direct MAFAF and left turn via track 267° to MARNA and hold.

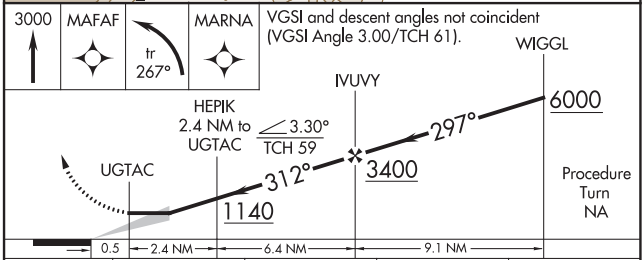
ATIS	NORCAL APP CON	SALINAS TOWER ★	GND CON	UNICOM
124.85	133.0 251.15	119.525 (CTAF) (L) 239.3	121.7	122.95



ELEV 85	TDZE 82



HIRL Rwy 13-31 (L)
MIRL Rwy 8-26 (L)
REIL Rwys 13 and 26 (L)



CATEGORY	A	B	C	D
LNAV MDA	440/24 358 (400-½)			440/50 358 (400-1)
CIRCLING	500-1 415 (500-1)	540-1 455 (500-1)	540-1½ 455 (500-1½)	760-2¼ 675 (700-2¼)

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SALINAS, CALIFORNIA AL-363 (FAA) 20310

WAAS CH 69513 W31A	APP CRS 312°	Rwy ldg 4825 TDZE 82 Apt Elev 85

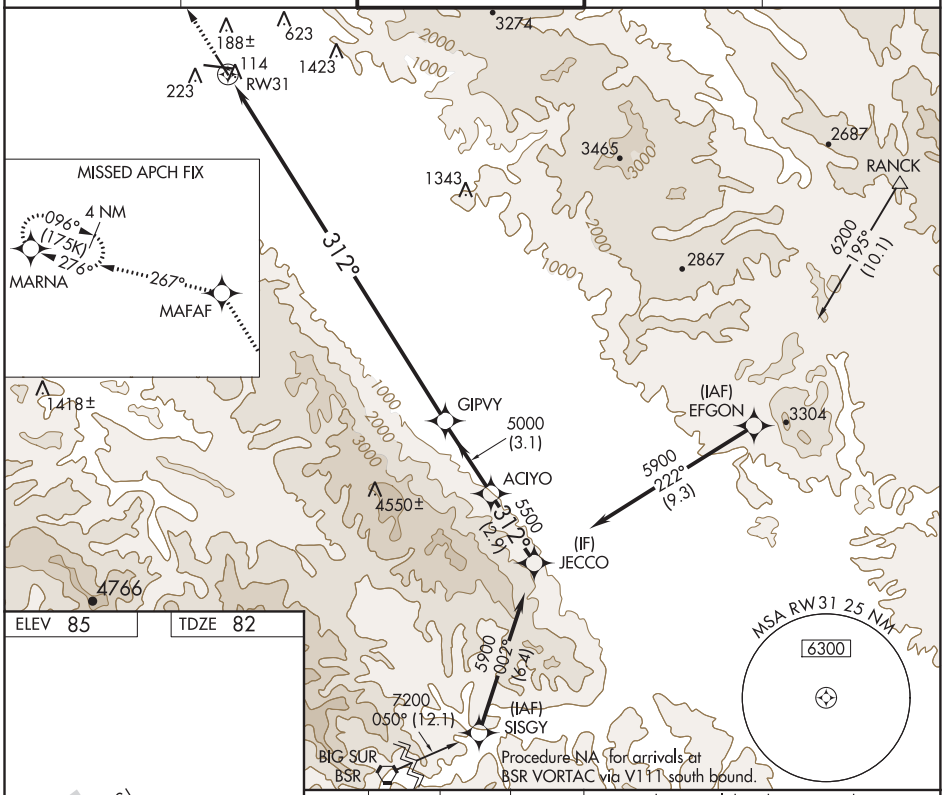
RNAV (GPS) Z RWY 31
SALINAS MUNI (SNS)

Baro-VNAV NA when using Monterey Rgnl altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 50°C (122°F). DME/DME RNP-0.3 NA. When local altimeter setting not received, use Monterey Rgnl altimeter setting and increase all DA 53 feet and LNAV/VNAV all Cats visibility to RVR 5000.

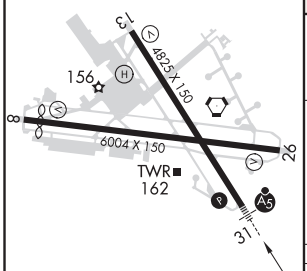
MALSR

MISSED APPROACH: Climb to 3000 direct MAFAF and left turn via track 267° to MARNA and hold.

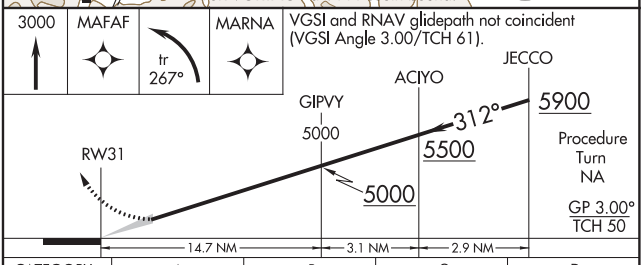
ATIS	NORCAL APP CON	SALINAS TOWER ★	GND CON	UNICOM
124.85	133.0 251.15	119.525 (CTAF) L 239.3	121.7	122.95



ELEV 85 TDZE 82



HIRL Rwy 13-31 L
MIRL Rwy 8-26 L
REIL Rwys 13 and 26 L



CATEGORY		A	B	C	D
LPV	DA	282/24 200 (200-½)			
LNAV/VNAV	DA	478/40 396 (400-¾)			

SALINAS, CALIFORNIA
Orig-A 29JUL10

36°40'N-121°36'W

SALINAS MUNI (SNS)
RNAV (GPS) Z RWY 31

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

LOC/DME RWY 31
SALINAS MUNI (SNS)

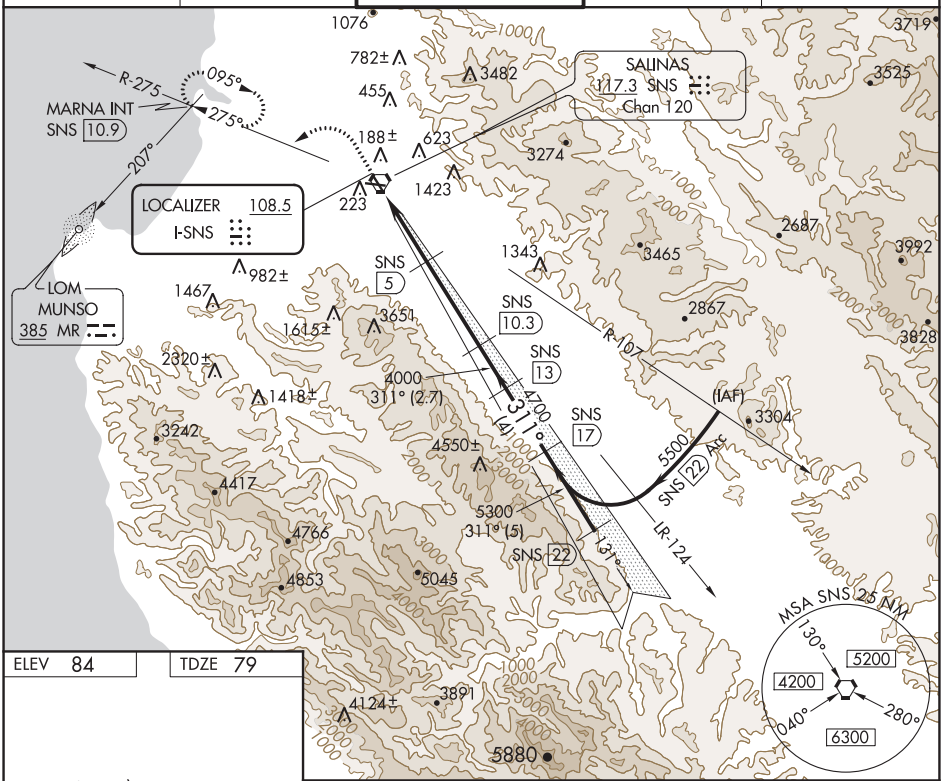
LOC I-SNS	APP CRS	Rwy ldg	4825
108.5	311°	TDZE	79
		Apt Elev	84

For inoperative MALSR increase S-LOC 31 Cat D visibility to RVR 5000.
Simultaneous reception of I-SNS and SNS DME required.

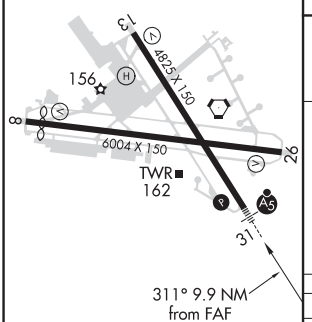
MALSR

MISSED APPROACH: Climb to 800, then climbing left turn to 3000 via SNS R-275 to MARNA INT/10.9 DME and hold.

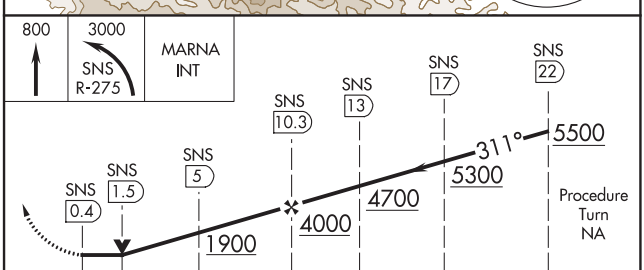
ATIS	NORCAL APP CON	SALINAS TOWER ★	GND CON	UNICOM
124.85	133.0 251.15	119.525 (CTAF) L 239.3	121.7	122.95



ELEV 84	TDZE 79



HIRL Rwy 13-31 L
MIRL Rwy 8-26 L
REIL Rwys 13 and 26 L



CATEGORY	A	B	C	D
S-31	420/24 341 (400-½)			420/40 341 (400-¾)
CIRCLING	560-1 476 (500-1)	580-1 496 (500-1)	580-1½ 496 (500-1½)	780-2¼ 696 (700-2¼)

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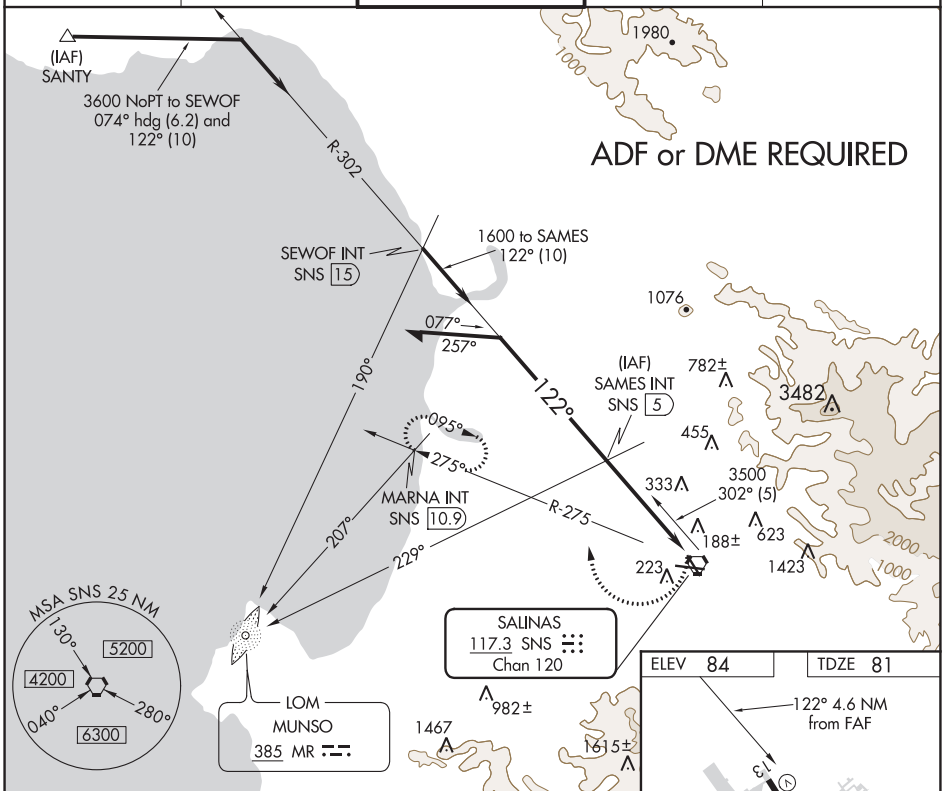
SALINAS, CALIFORNIA | AL-363 (FAA) | 20310

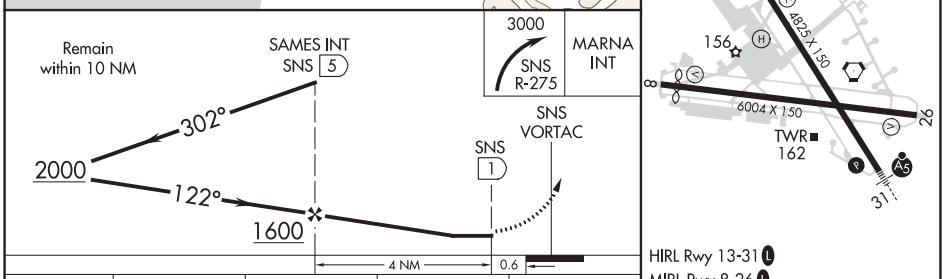
VOR RWY 13
SALINAS MUNI (SNS)

VORTAC SNS 117.3 Chan 120	APP CRS 122°	Rwy ldg 4825 TDZE 81 Apt Elev 84

MISSED APPROACH: Climbing right turn to 3000 via SNS R-275 to MARNA INT and hold.

ATIS	NORCAL APP CON	SALINAS TOWER ★	GND CON	UNICOM
124.85	133.0 251.15	119.525 (CTAF) L 239.3	121.7	122.95





HIRL Rwy 13-31 L
MIRL Rwy 8-26 L
REIL Rwys 13 and 26 L

CATEGORY	A	B	C	D
S-13	500-1 419 (500-1)		500-1¼ 419 (500-1¼)	1020-3 939 (1000-3)
CIRCLING	560-1 476 (500-1)	580-1 496 (500-1)	580-1½ 496 (500-1½)	1020-3 936 (1000-3)

FAF to MAP 4 NM					
Knots	60	90	120	150	180
Min:Sec	4:00	2:40	2:00	1:36	1:20

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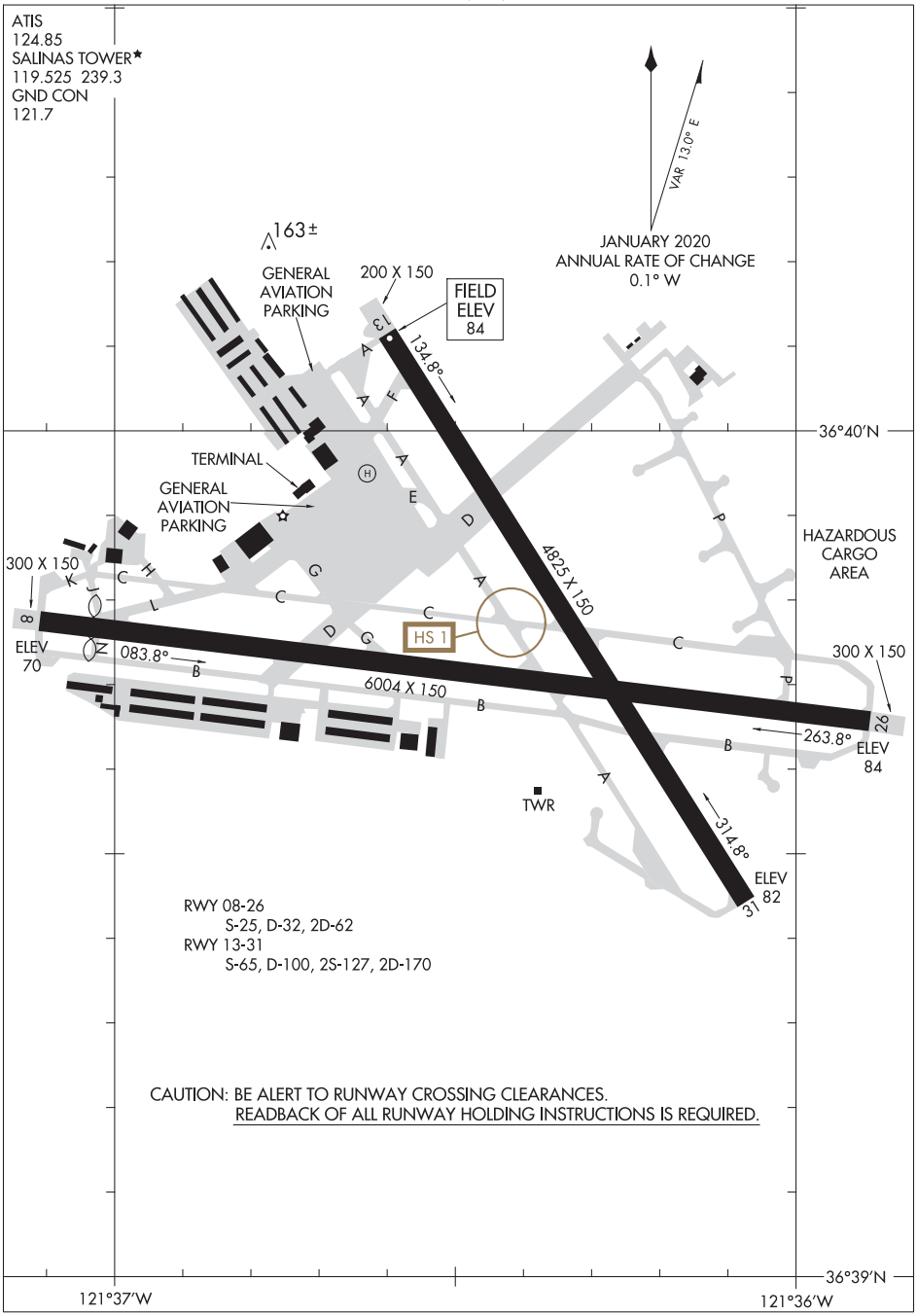

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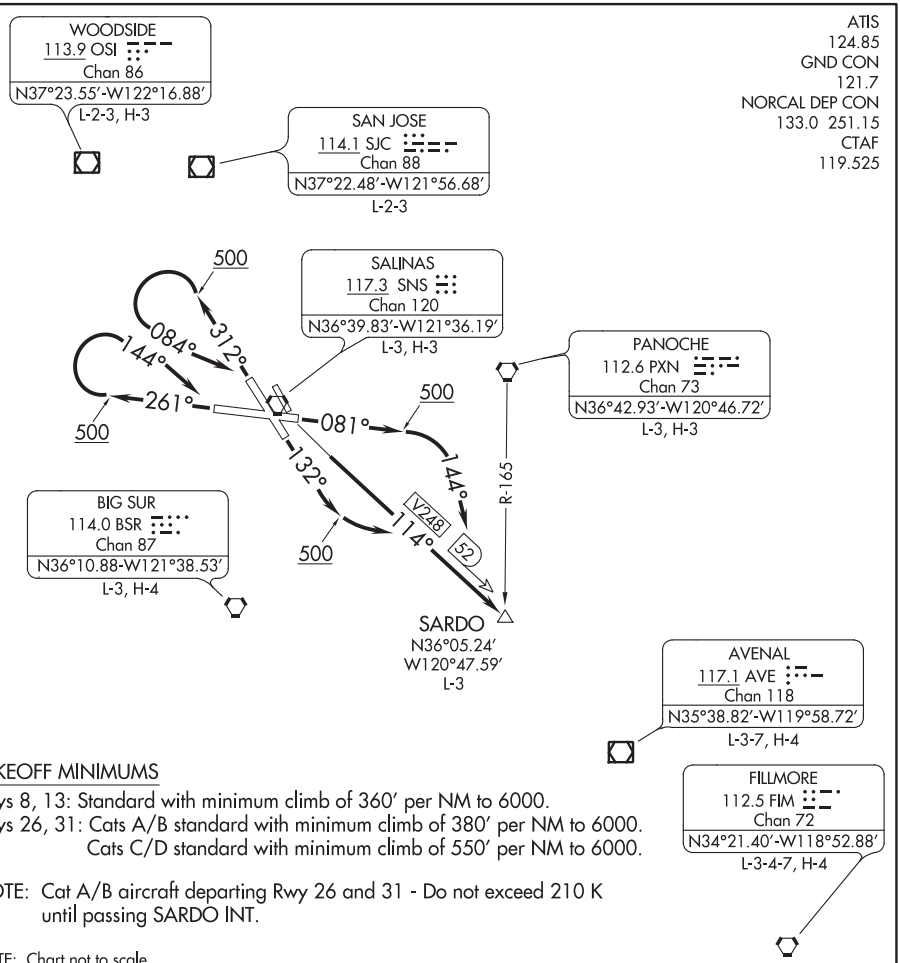
(CHLN3.SNS) 18312

CHALONE THREE DEPARTURE

AL-363 (FAA)

SALINAS MUNI (SNS)
SALINAS, CALIFORNIA



TAKEOFF MINIMUMS

Rwys 8, 13: Standard with minimum climb of 360' per NM to 6000.
Rwys 26, 31: Cats A/B standard with minimum climb of 380' per NM to 6000.
Cats C/D standard with minimum climb of 550' per NM to 6000.

NOTE: Cat A/B aircraft departing Rwy 26 and 31 - Do not exceed 210 K until passing SARDO INT.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 8: Climb heading 081° to 500 then climbing right turn heading 144° to intercept SNS R-114 (V248) southeast bound to SARDO INT. Thence . . . .

TAKEOFF RUNWAY 13: Climb heading 132° to 500 then climbing left turn to intercept SNS R-114 (V248) southeast bound to SARDO INT. Thence . . . .

TAKEOFF RUNWAY 26: Climb heading 261° to 500 then climbing right turn heading 144° to intercept SNS R-114 (V248) southeast bound to SARDO INT. Thence . . . .

TAKEOFF RUNWAY 31: Climb heading 312° to 500 then climbing left turn heading 084° to intercept SNS R-114 (V248) southeast bound to SARDO INT. Thence . . . .

. . . .Proceed on assigned route. Expect clearance to filed altitude 5 minutes after departure.

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ATIS
124.85
GND CON
121.7 239.3
NORCAL DEP CON
133.0 251.15
CTAF
119.525

WOODSIDE
113.9 OSI
Chan 86
N37°23.55′-W122°16.88′
L-2-3, H-3

SAN JOSE
114.1 SJC
Chan 88
N37°22.48′-W121°56.68′
L-2-3

SALINAS
117.3 SNS
Chan 120
N36°39.83′-W121°36.19′
L-3, H-3

255°
R-255
1 NM

BIG SUR
114.0 BSR
Chan 87
N36°10.88-W121°38.53′
L-3, H-4

AVENAL
117.1 AVE
Chan 118
N35°38.82′-W119°58.72′
L-3-7, H-4

FILLMORE
112.5 FIM
Chan 72
N34°21.40′-W118°52.88′
L-3-4-7, H-4

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

All aircraft expect vectors to assigned route. Maintain 6000′. Expect clearance to filed altitude five minutes after departure.

TAKEOFF RUNWAYS 8 and 13: Turn right within one mile to intercept and climb via SNS R-255 for vector.

TAKEOFF RUNWAYS 26 and 31: Climb on SNS R-255 for vector.

SAN ANDREAS, CALIFORNIA — AL-6708 (FAA) — 19171

WAAS CH 81842 W31A	APP CRS 311°	Rwy ldg 3602 TDZE 1328 Apt Elev 1328

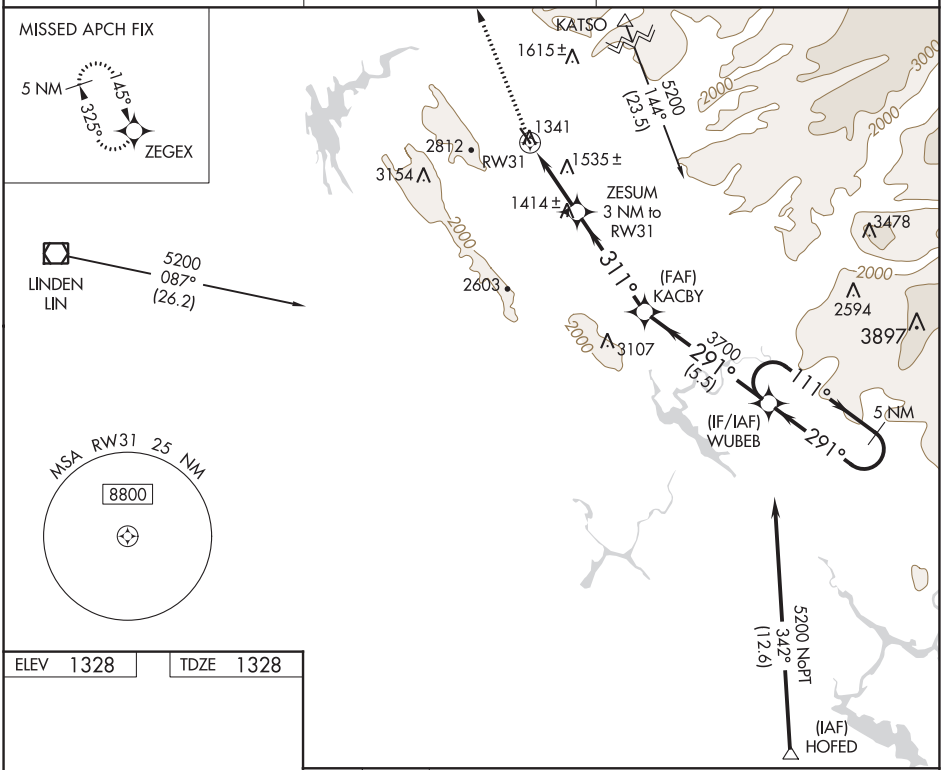
RNAV (GPS) RWY 31
CALAVERAS COUNTY-MAURY RASMUSSEN FIELD (CPU)

RNP APCH.

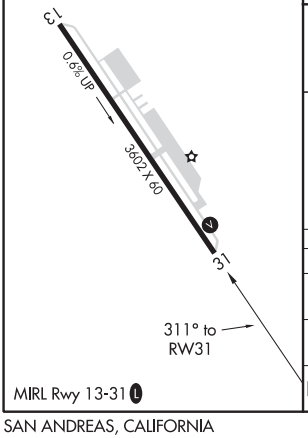
Circling NA southwest of Rwy 31-13.

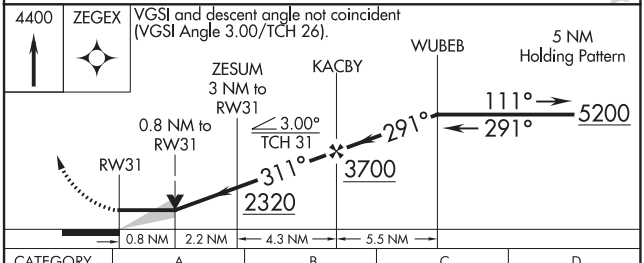
MISSED APPROACH: Climb to 4400 direct ZEGEX and hold, continue climb-in-hold to 4400.

AWOS-3P	NORCAL APP CON	UNICOM
118.525	125.1 363.2	123.0 (CTAF) L



ELEV 1328 | TDZE 1328





CATEGORY	A	B	C	D
LP MDA	1600-1 272 (300-1)			NA
LNAV MDA	1860-1 532 (600-1)		1860-1½ 532 (600-1½)	NA
C CIRCLING	1860-1 532 (600-1)	2040-1 712 (800-1)	2360-3 1032 (1100-3)	NA

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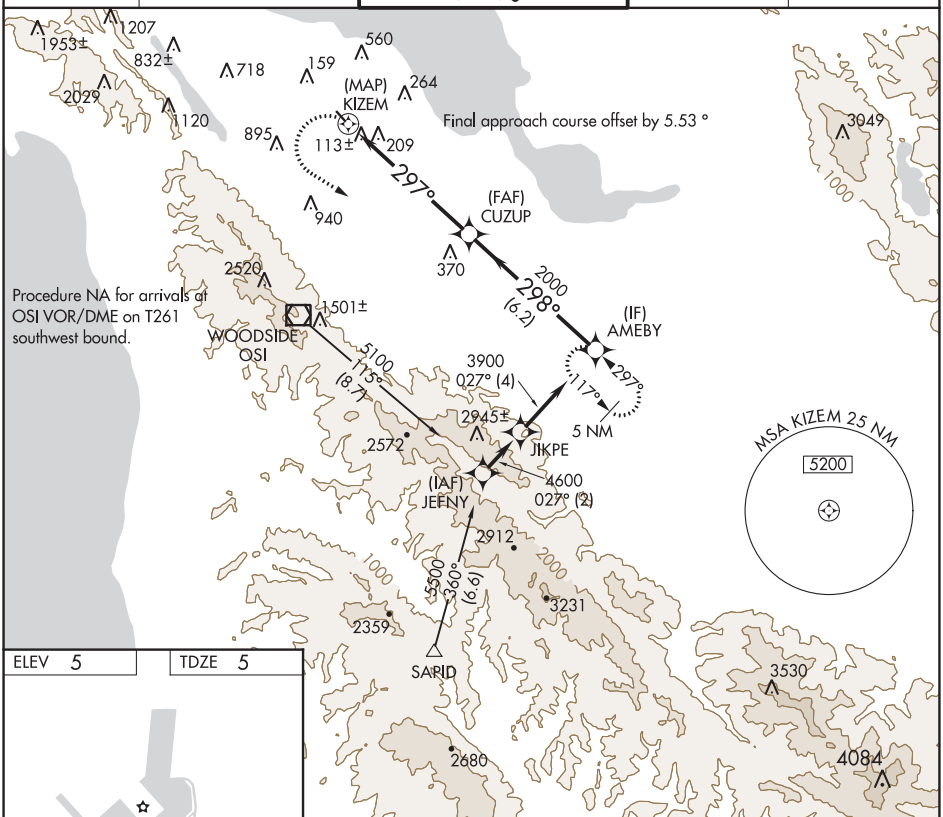
RNAV (GPS) Y RWY 30
SAN CARLOS (SQL)

APP CRS	Rwy ldg	2621
297°	TDZE	5
	Apt Elev	5

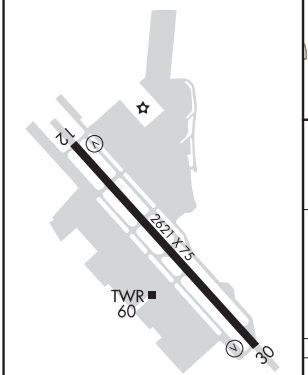
DME/DME RNP-0.3 NA. When local altimeter setting not received, use San Francisco Intl altimeter setting and increase all MDA 40 feet. Rwy 30 visibility reduction by helicopters below 1 SM NA. Circling NA west of Rwy 12-30.

MISSED APPROACH: Climbing left turn to 5400 direct AMEBY and hold, continue climb-in-hold to 5400.

ATIS	NORCAL APP CON	SAN CARLOS TOWER ★	GND CON	UNICOM
125.9	133.95 317.6	119.0 (CTAF) L 326.2	121.6	122.95



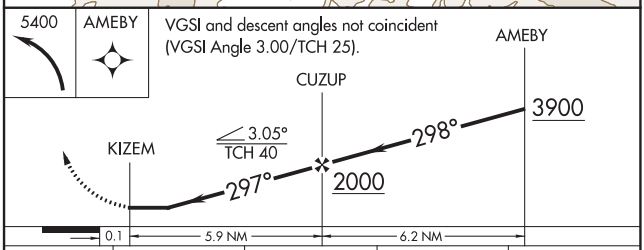
ELEV 5	TDZE 5



REIL Rwys 12 and 30 L
MIRL Rwy 12-30 L

5400 AMEBY

VGSI and descent angles not coincident (VGSI Angle 3.00/TCH 25).



CATEGORY	A	B	C	D
LNAV MDA	1260-1¼ 1255 (1300-1¼)		NA	
CIRCLING	1260-1¼ 1255 (1300-1¼)	1260-1½ 1255 (1300-1½)	NA	

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SW-2, 25 FEB 2021 to 22 APR 2021

SAN CARLOS, CALIFORNIA | AL-9219 (FAA) | 20310

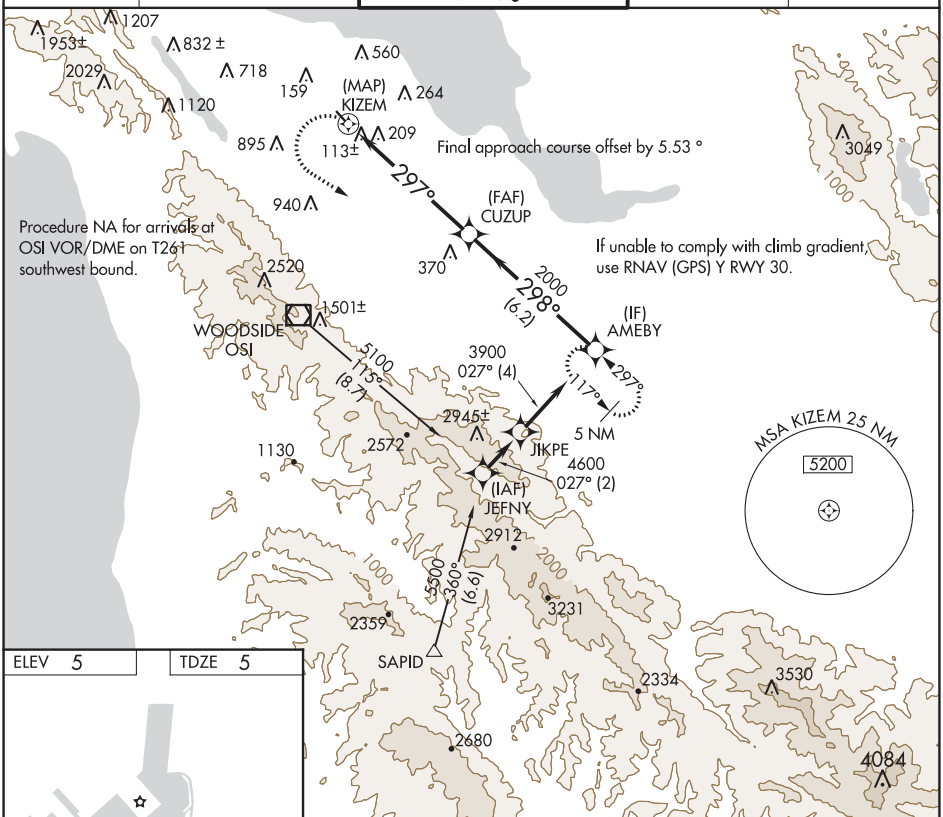
RNAV (GPS) Z RWY 30
SAN CARLOS (SQL)

APP CRS	Rwy ldg	2621
297°	TDZE	5
	Apt Elev	5

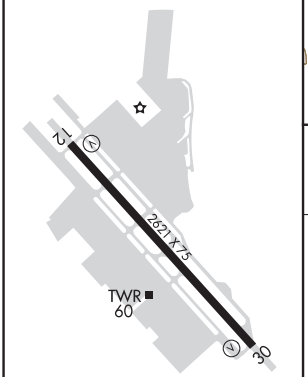
DME/DME RNP-0.3 NA. When local altimeter setting not received, use San Francisco Intl altimeter setting and increase all MDA 40 feet. Rwy 30 visibility reduction by helicopters below 1 SM NA.

MISSED APPROACH: Climbing left turn to 5400 direct AMEBY and hold, continue climb-in-hold to 5400. Missed approach requires minimum climb of 302 feet per NM to 5400.

ATIS	NORCAL APP CON	SAN CARLOS TOWER ★	GND CON	UNICOM
125.9	133.95 317.6	119.0 (CTAF) L 326.2	121.6	122.95



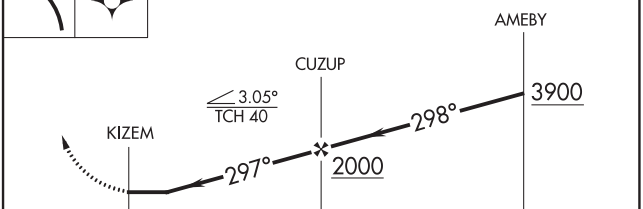
ELEV 5 | TDZE 5



REIL Rwys 12 and 30 L
MIRL Rwy 12-30 L

5400 | AMEBY

VGSI and descent angles not coincident (VGSI Angle 3.00/TCH 25).



CATEGORY	A	B	C	D
LNAV MDA	900-1¼ 895 (900-1¼)	900-1½ 895 (900-1½)	NA	

SAN CARLOS, CALIFORNIA
Amdt 1B 27APR17

37°31′N-122°15′W

SAN CARLOS (SQL)
RNAV (GPS) Z RWY 30

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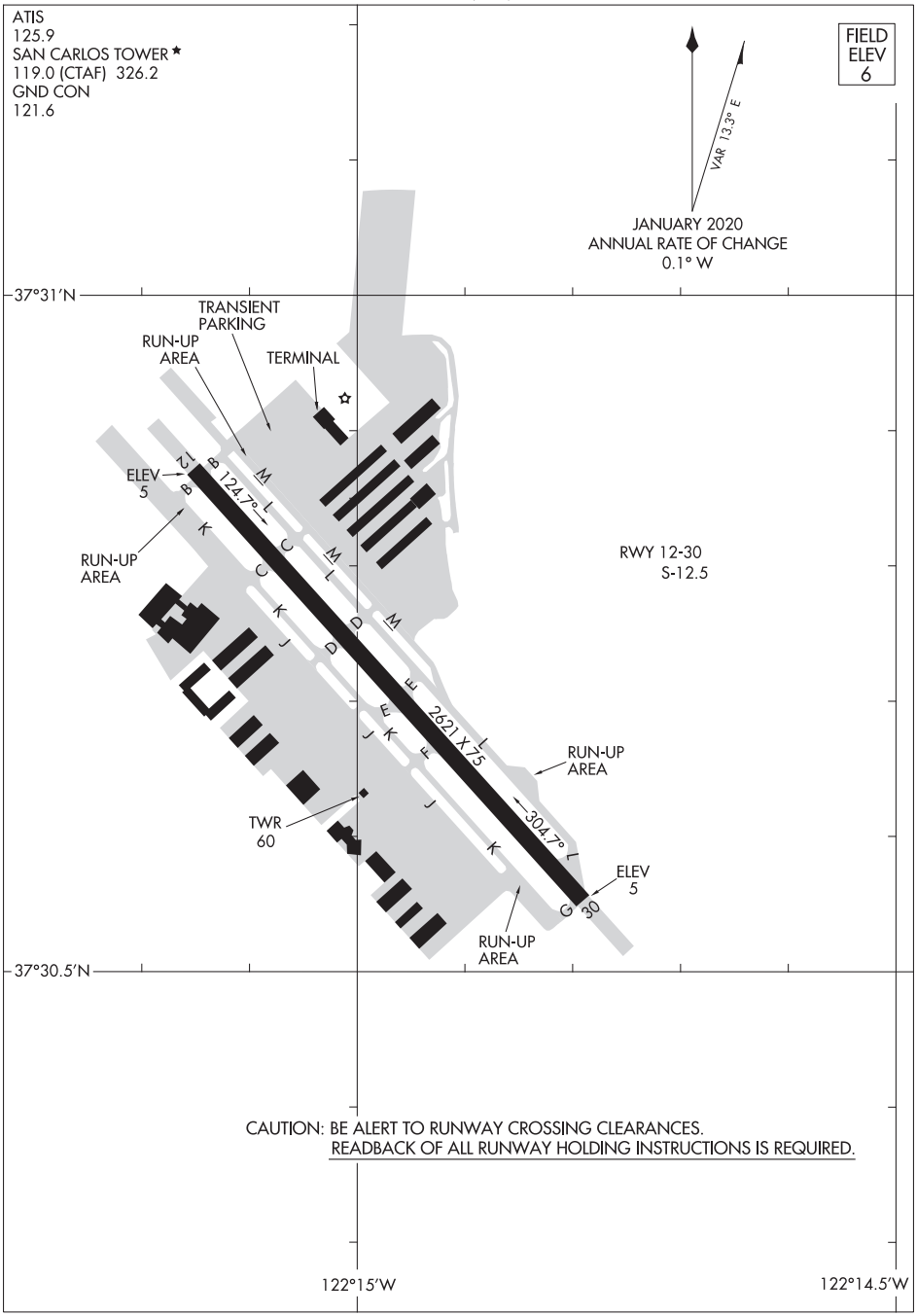

ATIS
125.9
SAN CARLOS TOWER ★
119.0 (CTAF) 326.2
GND CON
121.6
FIELD
ELEV
6
VAR 13.3° E
JANUARY 2020
ANNUAL RATE OF CHANGE
0.1° W
37°31′N
TRANSIENT
PARKING
RUN-UP
AREA
TERMINAL
ELEV
5
124.7°
RUN-UP
AREA
RWY 12-30
S-12.5
2621 X 75
RUN-UP
AREA
304.7°
TWR
60
ELEV
5
RUN-UP
AREA
37°30.5′N
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.
122°15′W
122°14.5′W

ILS or LOC RWY 19L
SAN FRANCISCO INTL (SFO)

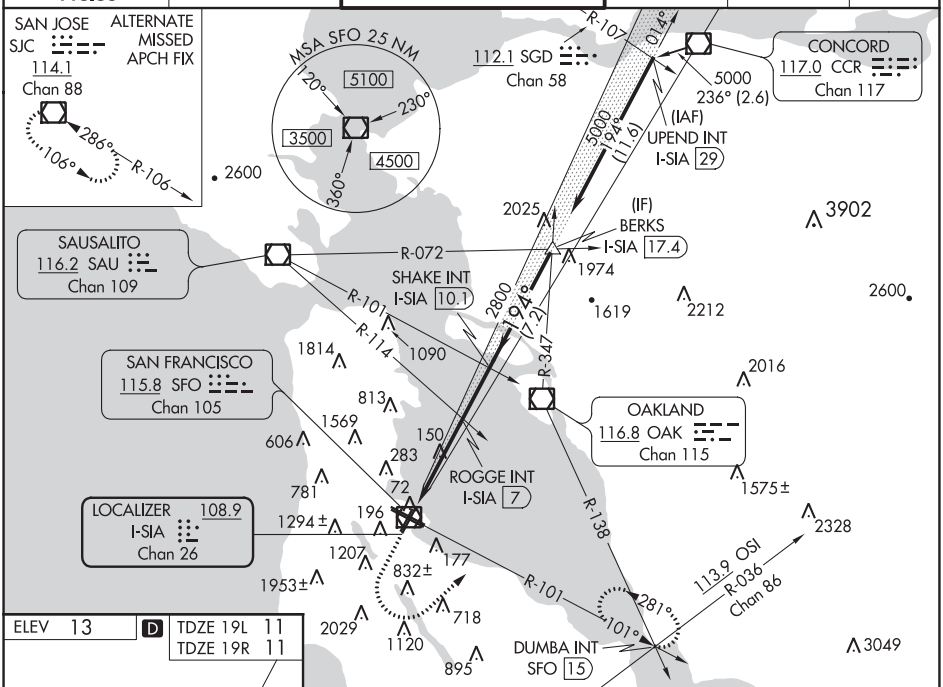
LOC/DME I-SIA	APP CRS		19L	19R
108.9	194°	Rwy ldg	8650	7650
Chan 26		TDZE	11	11
		Apt Elev	13	13

Simultaneous approach authorized. Simultaneous operations require use of vertical guidance; maintain last assigned altitude until established on the glideslope. Sidestep NA until passing ROGGE INT. For inop ALS, increase S-ILS 19L all Cats visibility to RVR 4500. Inop table does not apply to Sidestep 19R or S-LOC 19L Cats C/D.

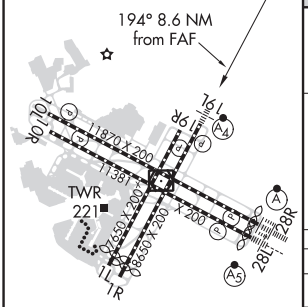
MALSF Rwy 19L

MISSED APPROACH: Climb to 520 then climbing left turn to 4000 on SFO VOR/DME R-101 to DUMBA INT/SFO 15 DME and hold.

D-ATIS	NORCAL APP CON	SAN FRANCISCO TOWER	GND CON	CLNC DEL	CPDLC
113.7 115.8 118.85	134.5 338.2	120.5 269.1	121.8	118.2	

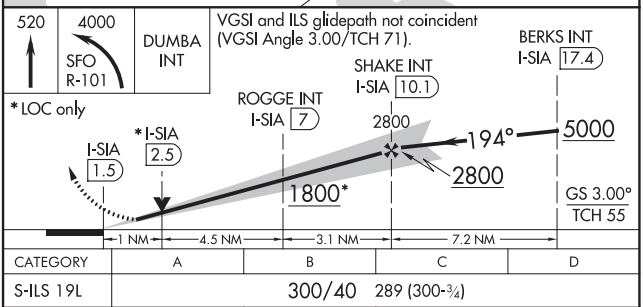


ELEV 13 | D | TDZE 19L 11 | TDZE 19R 11



HIRL all Rwys
TDZ/CL Rwys 19L and 28R
REIL Rwys 1L, 1R and 10L

FAF to MAP 8.6 NM					
Knots	60	90	120	150	180
Min:Sec	8:36	5:44	4:18	3:26	2:52



CATEGORY	A	B	C	D
S-ILS 19L	300/40 289 (300-¾)			
S-LOC 19L	1800/55 1789 (1800-1)	1800-1¼ 1789 (1800-1¼)	1800-3 1789 (1800-3)	
ROGGE FIX MINIMUMS (DUAL VOR RECEIVERS OR DME REQUIRED)				
S-LOC 19L	400/40 389 (400-¾)		400/45 389 (400-⅞)	
SIDESTEP 19R	400/55 389 (400-1)		400-1½ 389 (400-1½)	400-2 389 (400-2)

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ILS or LOC RWY 28L
SAN FRANCISCO INTL (SFO)

LOC/DME I-SFO	APP CRS	Rwy ldg	10275
109.55	284°	TDZE	13
Chan 32 (Y)		Apt Elev	13

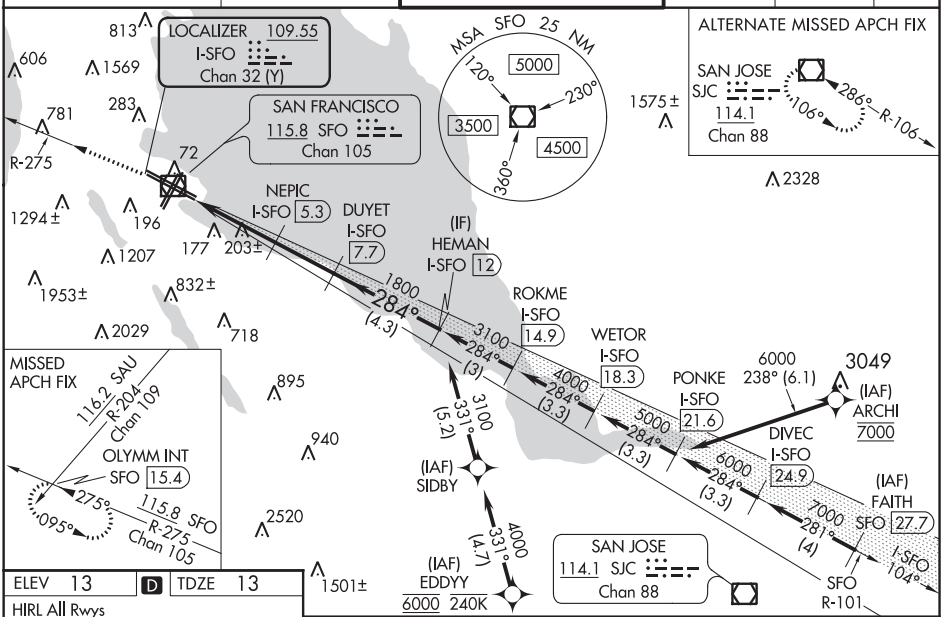
RNAV 1- GPS or RADAR required for procedure entry. DME required.

T A Circling NA to Rwys 10L, 10R, 19L, and 19R. Circling Rwy 1L, 1R NA at night. LOC procedure NA during simultaneous operations. Simultaneous approach authorized. Simultaneous operations require use of vertical guidance; maintain last assigned altitude until established on glideslope.
RVR 1800 authorized with use of FD or AP or HUD to DA.
For inop ALS, increase S-ILS 28L all Cats visibility to 2½ SM.
** For inop ALS increase S-LOC 28L Cat C/D visibility to 2½ SM.

MALSR A5

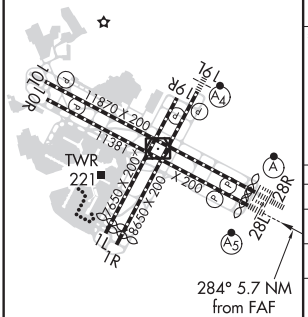
MISSED APPROACH: Climb to 4000 on SFO VOR/DME R-275 to OLYMM INT/SFO 15.4 DME and hold, continue climb-in-hold to 4000.
† Missed approach requires minimum climb of 330 feet per NM to 1600.

D-ATIS	NORCAL APP CON	SAN FRANCISCO TOWER	GND CON	CLNC DEL	CPDLC
113.7 115.8 118.85	134.5 338.2	120.5 269.1	121.8	118.2	

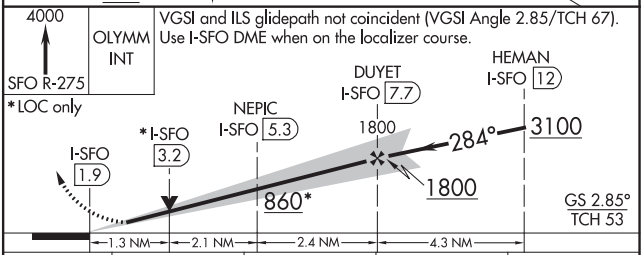


ELEV 13	D	TDZE 13

HIRL All Rwys
TDZ/CL Rwys 19L and 28R
REIL Rwys 1L, 1R and 10L



VGSI and ILS glidepath not coincident (VGSI Angle 2.85/TCH 67).
Use I-SFO DME when on the localizer course.



CATEGORY	A	B	C	D
S-ILS 28L#†	213/24 200 (200-½)			
S-ILS 28L##	789-1¾ 776 (800-1¾)			
S-LOC 28L†	460/24 447 (500-½)		460/45 447 (500-⅞)	
S-LOC 28L**	860/24 847 (900-½)	860/40 847 (900-¾)	860-1⅞ 847 (900-1⅞)	
C CIRCLING	860-1¼ 847 (900-1¼)	960-1¼ 947 (1000-1¼)	1560-3 1547 (1600-3)	NA

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ILS or LOC RWY 28R
SAN FRANCISCO INTL (SFO)

LOC/DME I-GWQ 111.7 Chan 54	APP CRS 284°	Rwy ldg 28R 11236 / 28L 10275	TDZE 28R 13 / 28L 13	Apt Elev 13 / 13

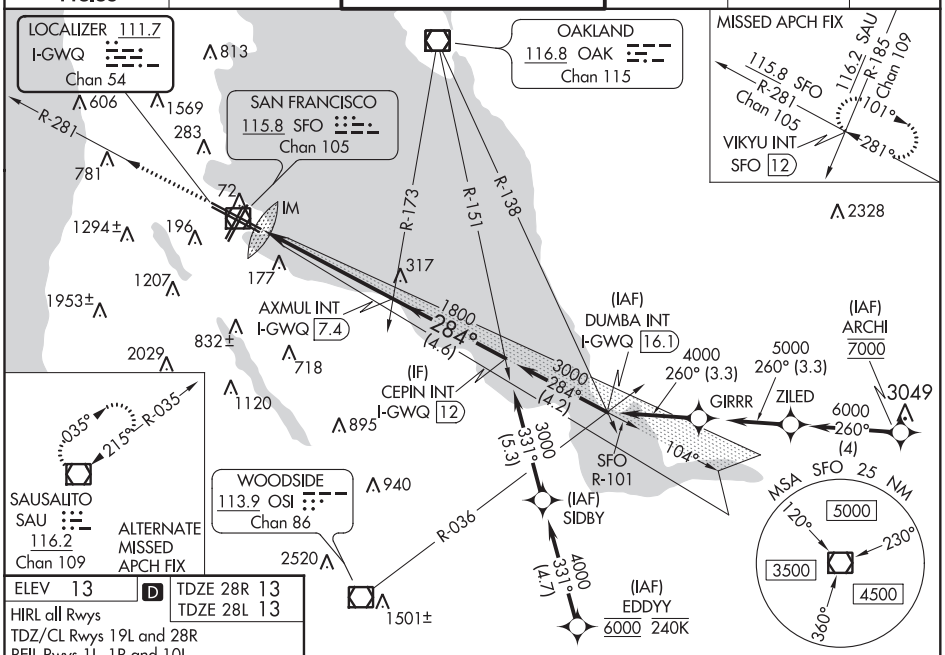
RNAV 1-GPS or RADAR required for procedure entry.

Circling NA to Rwys 10L, 10R, 19L, and 19R. Circling Rwy 1L, 1R NA at night. For inop ALS increase S-LOC 28R# Cat C/D visibility to 1⅜ SM. LOC procedure NA during simultaneous operations. Simultaneous approach authorized. Simultaneous operations require use of vertical guidance; maintain last assigned altitude until established on glideslope.

ALSF-2 Rwy 28R (A) | MALSR Rwy 28L (A5)

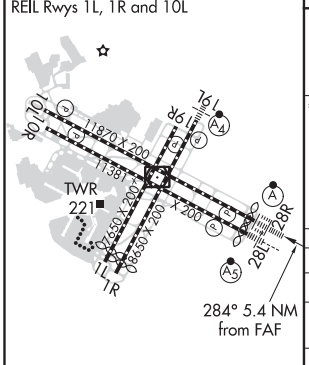
MISSED APPROACH: Climb to 3000 on SFO VOR/DME R-281 to VIKYU INT/SFO 12 DME and hold.
Missed approach requires minimum climb of 350 feet per NM to 1900; if unable to meet climb gradient, see ILS or LOC RWY 28L.

D-ATIS	NORCAL APP CON	SAN FRANCISCO TOWER	GND CON	CLNC DEL	CPDLC
113.7 115.8 118.85	134.5 338.2	120.5 269.1	121.8	118.2	

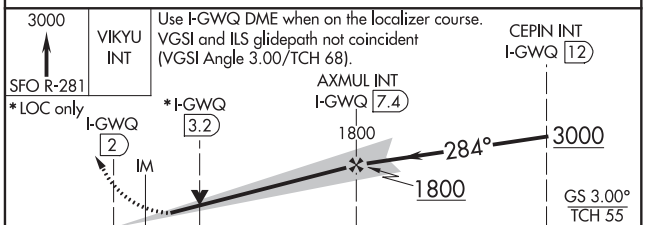


ELEV 13	D	TDZE 28R 13 / TDZE 28L 13

HIRL all Rwys
TDZ/CL Rwys 19L and 28R
REIL Rwys 1L, 1R and 10L



FAF to MAP 5.4 NM					
Knots	60	90	120	150	180
Min:Sec	5:24	3:36	2:42	2:10	1:48



CATEGORY	A	B	C	D
S-ILS 28R#	213/18 200 (200-½)			
S-LOC 28R#	480/24 467 (500-½)		480/50 467 (500-1)	
SIDESTEP # 28L	480/55 467 (500-1)			480-1½ 467 (500-1½)
C CIRCLING	740-1 727 (800-1)	960-1¼ 947 (1000-1¼)	1560-3 1547 (1600-3)	NA

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ILS RWY 28R (SA CAT I)
SAN FRANCISCO INTL (SFO)

LOC/DME I-GWQ	APP CRS	Rwy ldg	11236
111.7	284°	TDZE	13
Chan 54		Apt Elev	13

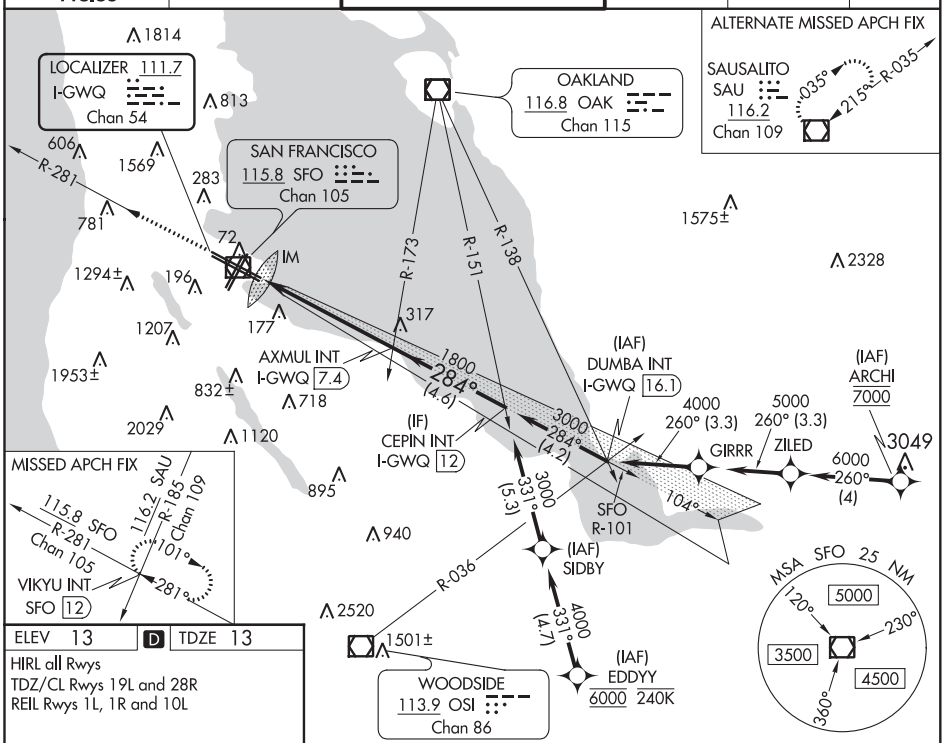
RNAV 1-GPS or RADAR required for procedure entry.

Requires specific OPSPEC, MSPEC, or LOA approval and use of HUD to DH.

ALSF-2

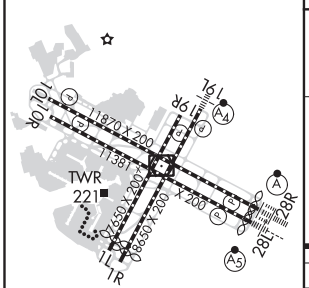
MISSED APPROACH: Climb to 3000 on SFO VOR/DME R-281 to VIKYU INT/SFO 12 DME and hold.
*Missed approach requires minimum climb of 350 feet per NM to 1900; if unable to meet climb gradient, see ILS or LOC RWY 28L.

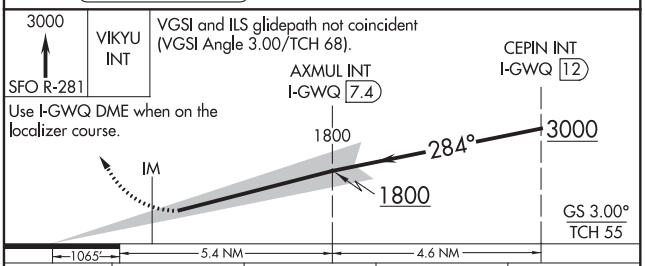
D-ATIS	NORCAL APP CON	SAN FRANCISCO TOWER	GND CON	CLNC DEL	CPDLC
113.7 115.8 118.85	134.5 338.2	120.5 269.1	121.8	118.2	



ELEV 13	D	TDZE 13

HIRL all Rwys
TDZ/CL Rwys 19L and 28R
REIL Rwys 1L, 1R and 10L





CATEGORY	A	B	C	D
S-ILS 28R*	RA 163/14 150 DA 163			

SA CATEGORY I ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

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LOC/DME I-GWQ 111.7 Chan 54	APP CRS 284°	Rwy ldg 11236 TDZE 13 Apt Elev 13

ILS RWY 28R (CAT II & III)

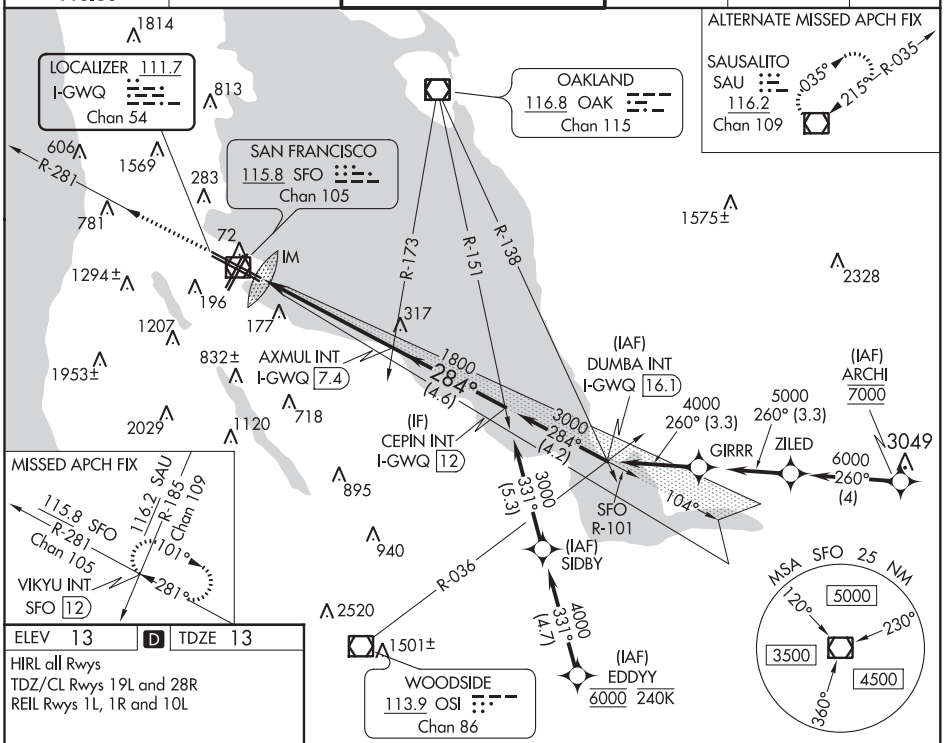
SAN FRANCISCO INTL (SFO)

RNAV 1-GPS or RADAR required for procedure entry.

ALSF-2

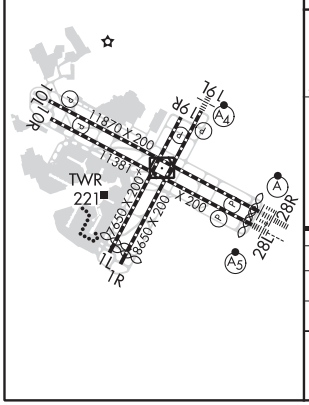
MISSED APPROACH: Climb to 3000 on SFO VOR/DME R-281 to VIKYU INT/SFO 12 DME and hold.
*Missed approach requires minimum climb of 350 feet per NM to 1900; if unable to meet climb gradient, see ILS or LOC RWY 28L.

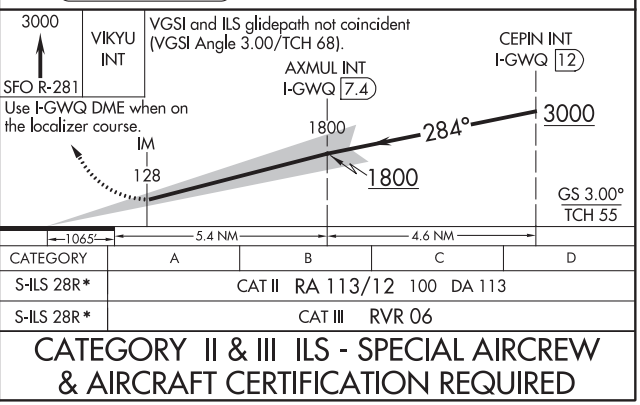
D-ATIS	NORCAL APP CON	SAN FRANCISCO TOWER	GND CON	CLNC DEL	CPDLC
113.7 115.8 118.85	134.5 338.2	120.5 269.1	121.8	118.2	



ELEV 13	D	TDZE 13

HIRL all Rwys
TDZ/CL Rwys 19L and 28R
REIL Rwys 1L, 1R and 10L





CATEGORY	A	B	C	D
S-ILS 28R*	CAT II RA 113/12 100 DA 113			
S-ILS 28R*	CAT III RVR 06			

CATEGORY II & III ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

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LOC/DME I-SFO	APP CRS	Rwy ldg	10275
109.55	284°	TDZE	13
Chan 32 (Y)		Apt Elev	13

ILS RWY 28L (SA CAT II)

SAN FRANCISCO INTL (SFO)

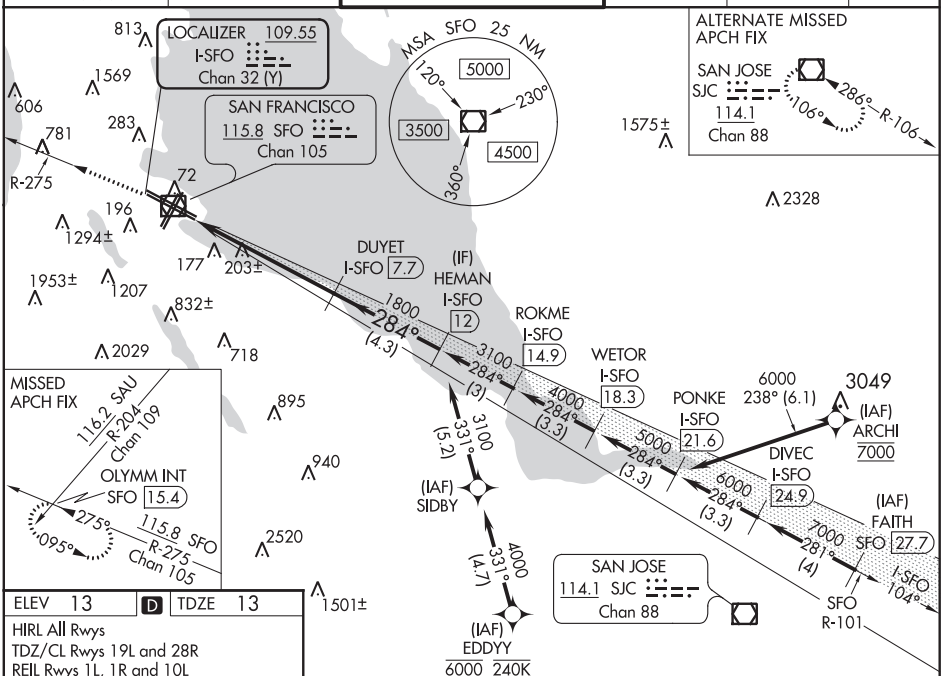
RNAV 1- GPS or RADAR required for procedure entry. DME required.

Reduced lighting: requires specific OPSPEC, MSPEC, or LOA approval and use of autoland or HUD to touchdown.

MALSR

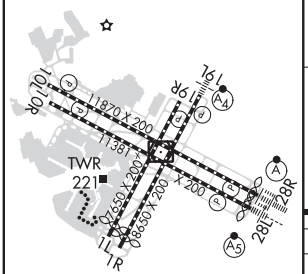
MISSED APPROACH: Climb to 4000 on SFO VOR/DME R-275 to OLYMM INT/ SFO 15.4 DME and hold, continue climb-in-hold to 4000.
† Missed approach requires minimum climb of 330 feet per NM to 1600.

D-ATIS	NORCAL APP CON	SAN FRANCISCO TOWER	GND CON	CLNC DEL	CPDLC
113.7 115.8 118.85	134.5 338.2	120.5 269.1	121.8	118.2	



ELEV 13	D	TDZE 13

HIRL All Rwys
TDZ/CL Rwys 19L and 28R
REIL Rwys 1L, 1R and 10L

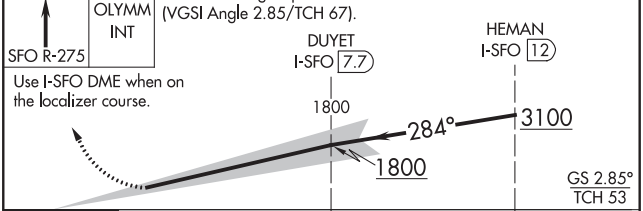


4000
SFO R-275

OLYMM INT

VGSI and ILS glidepath not coincident (VGSI Angle 2.85/TCH 67).

Use I-SFO DME when on the localizer course.



CATEGORY	A	B	C	D
S-ILS 28L †	RA 106/12 100 DA 113			

SA CAT II ILS - SPECIAL AIRCREW AND AIRCRAFT CERTIFICATION REQUIRED

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SW-2, 25 FEB 2021 to 22 APR 2021

APP CRS	Rwy ldg	11236
284°	TDZE	13
	Apt Elev	13

RNAV (RNP) Y RWY 28R
SAN FRANCISCO INTL (SFO)

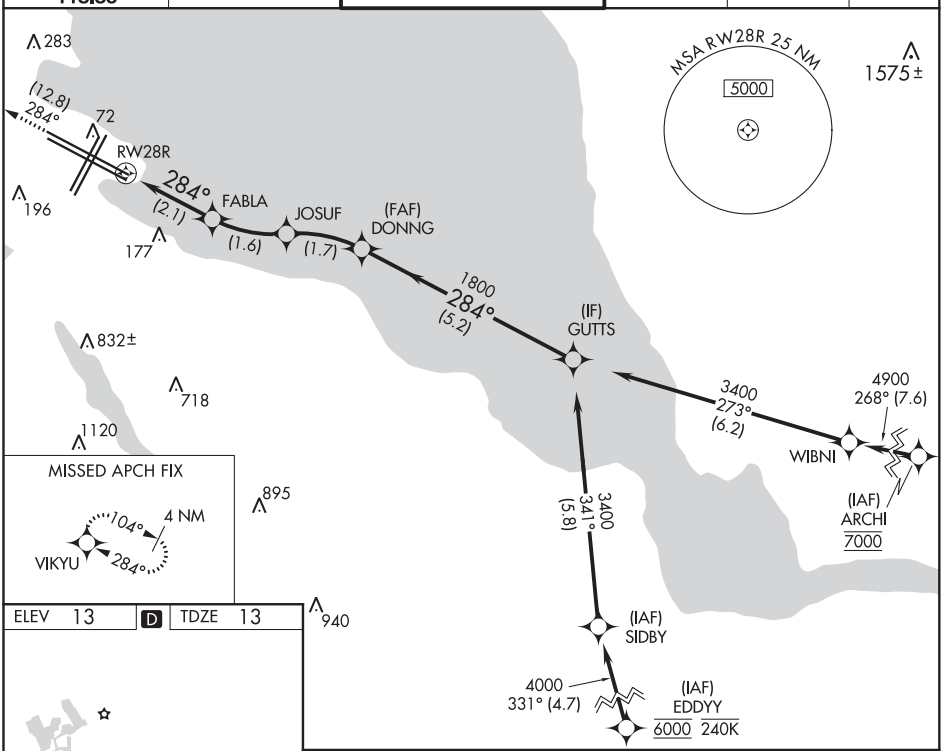
RNP AR APCH, RF required.

For uncompensated Baro-VNAV systems, procedure NA below 3°C or above 54°C. For inop ALS, increase RNP 0.11 all Cats visibility to RVR 4000 and RNP 0.30 all Cats visibility to RVR 4500.

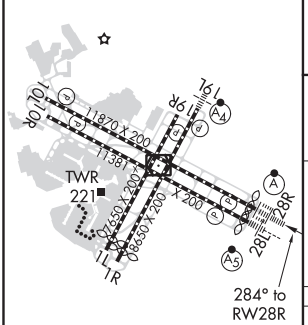
ALSF-2

MISSED APPROACH: Climb to 3000 on track 284° to VIKYU and hold.
*Missed approach requires minimum climb of 250 feet per NM to 1600.
#Missed approach requires minimum climb of 350 feet per NM to 2100.

D-ATIS	NORCAL APP CON	SAN FRANCISCO TOWER	GND CON	CLNC DEL	CPDLC
113.7 115.8 118.85	134.5 338.2	120.5 269.1	121.8	118.2	



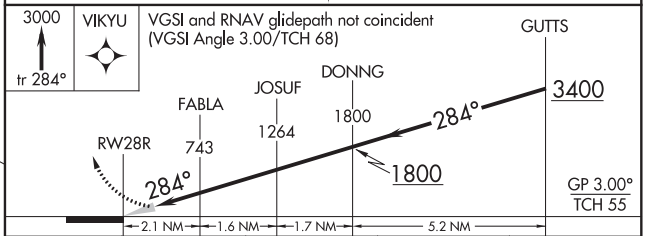
ELEV 13 D TDZE 13



TDZ/CL Rwys 19L and 28R
REIL Rwys 1L, 1R and 10L
HIRL all Rwys

3000 tr 284° VIKYU

VGSI and RNAV glidepath not coincident
(VGSI Angle 3.00/TCH 68)



CATEGORY	A	B	C	D
RNP 0.11 DA*	263/24 250 (300-½)			
RNP 0.30 DA#	326/24 313 (400-½)			

AUTHORIZATION REQUIRED

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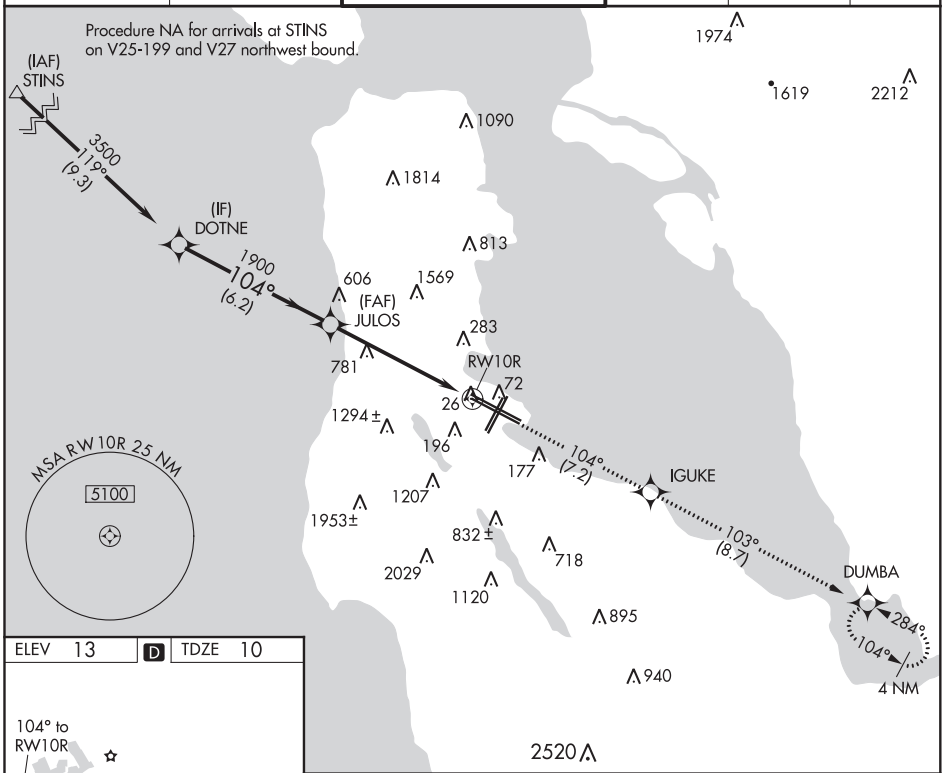
APP CRS	Rwy ldg	10704
104°	TDZE	10
	Apt Elev	13

RNAV (RNP) Z RWY 10R
SAN FRANCISCO INTL (SFO)

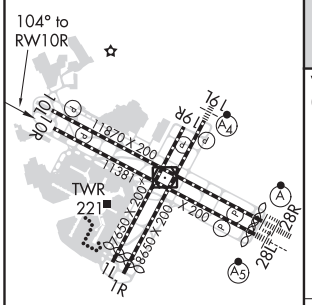
For uncompensated Baro-VNAV systems, procedure NA below 2°C (36°F) or above 54°C (130°F). GPS required. When VGSI inop, procedure NA at night.

MISSED APPROACH: Climb to 3600 on track 104° to IGUKE and on track 103° to DUMBA and hold.

D-ATIS	NORCAL APP CON	SAN FRANCISCO TOWER	GND CON	CLNC DEL	CPDLC
113.7 115.8 118.85	134.5 338.2	120.5 269.1	121.8	118.2	



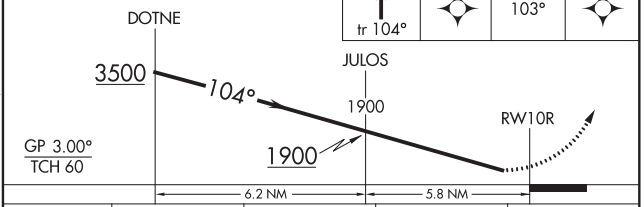
ELEV 13 | D | TDZE 10



TDZ/CL Rwys 19L and 28R
REIL Rwys 1L, 1R and 10L
HIRL all Rwys

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 68).

3600	IGUKE		DUMBA
tr 104°		tr 103°	



CATEGORY	A	B	C	D
RNP 0.20 DA	396-1¼ 386 (400-1¼)			
RNP 0.30 DA	1108-4 1098 (1100-4)			

AUTHORIZATION REQUIRED

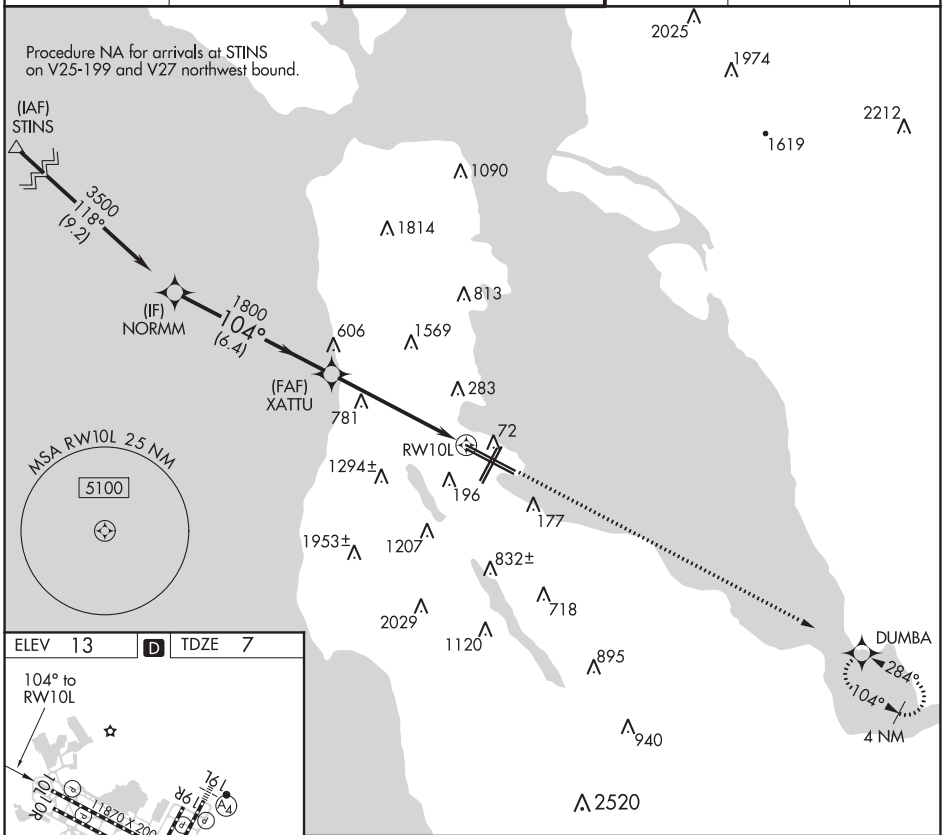
APP CRS	Rwy ldg	11193
104°	TDZE	7
	Apt Elev	13

RNAV (GPS) RWY 10L
SAN FRANCISCO INTL (SFO)

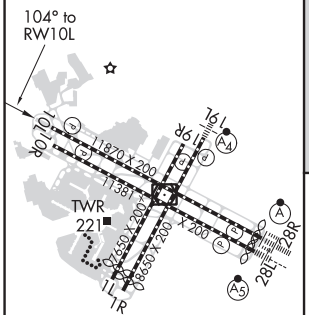
DME/DME RNP-0.3 NA.
Helicopter visibility reduction below RVR 4000 NA.

MISSED APPROACH: Climb to 4000 direct DUMBA and hold.

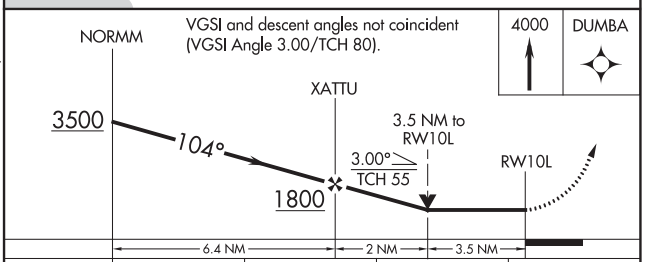
D-ATIS	NORCAL APP CON	SAN FRANCISCO TOWER	GND CON	CLNC DEL	CPDLC
113.7 115.8 118.85	134.5 338.2	120.5 269.1	121.8	118.2	



ELEV 13 | D | TDZE 7



TDZ/CL Rwys 19L and 28R
REIL Rwys 1L, 1R, and 10L
HIRL all Rwys



CATEGORY	A	B	C	D
LNAV MDA	1200/60 1193 (1200-1¼)	1200-1½ 1193 (1200-1½)	1200-3	1193 (1200-3)

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WAAS CH 58015 W19A	APP CRS 194°	Rwy ldg 8650 TDZE 11 Apt Elev 13

RNAV (GPS) RWY 19L
SAN FRANCISCO INTL (SFO)

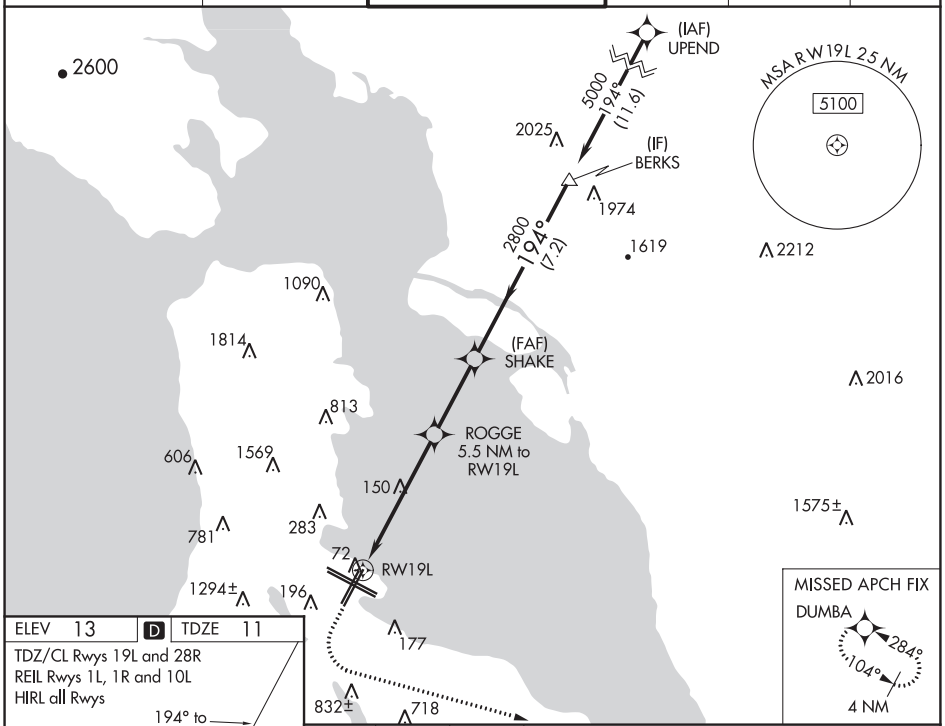
RNP APCH.

Helicopter visibility reduction below 1 SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 3°C or above 54°C. For inop 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. Inop table does not apply to LPV Cat C/D.

MALSF

MISSED APPROACH: Climb to 500 then climbing left turn to 3000 direct DUMBA and hold.

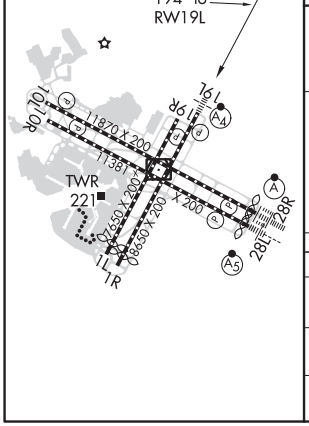
D-ATIS	NORCAL APP CON	SAN FRANCISCO TOWER	GND CON	CLNC DEL	CPDLC
113.7 115.8 118.85	134.5 338.2	120.5 269.1	121.8	118.2	

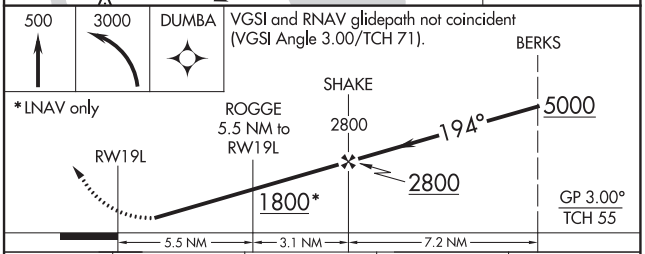


ELEV 13 | D | TDZE 11

TDZ/CL Rwys 19L and 28R
REIL Rwys 1L, 1R and 10L
HIRL all Rwys

194° to RW19L





* LNAV only

CATEGORY		A	B	C	D
LPV	DA	293/40	282 (300-¾)	293/50	282 (300-1)
LNAV/VNAV	DA	350/40	339 (400-¾)	350/50	339 (400-1)
LNAV	MDA	560/40	549 (600-¾)	560-1⅜	549 (600-1⅜)

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SW-2, 25 FEB 2021 to 22 APR 2021

SAN FRANCISCO, CALIFORNIA AL-375 (FAA) 20310

WAAS CH 53533 W19B	APP CRS 194°	Rwy ldg 7650 TDZE 11 Apt Elev 13

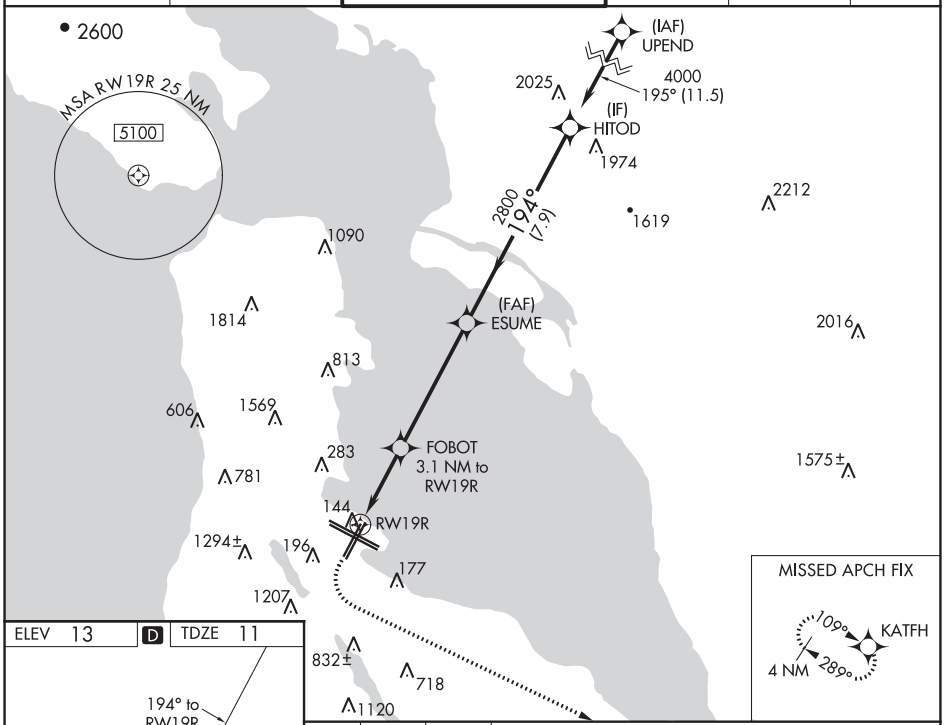
RNAV (GPS) RWY 19R
SAN FRANCISCO INTL (SFO)

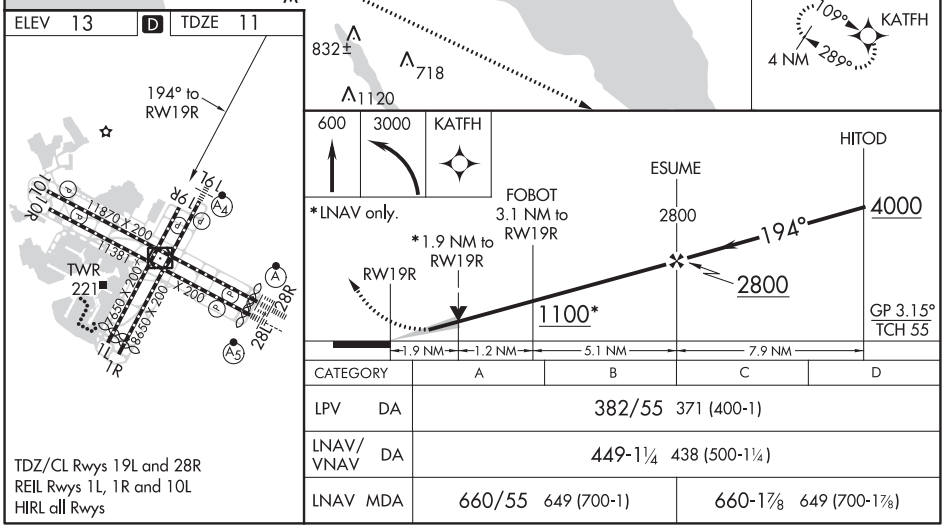
RNP APCH.

LNAV procedure NA during simultaneous operations. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 3°C or above 42°C. Simultaneous approach authorized. Simultaneous operations require use of vertical guidance; maintain last assigned altitude until established on glidepath. Simultaneous approach NA below 28°C (52°F).

MISSED APPROACH: Climb to 600 then climbing left turn to 3000 direct KATFH and hold.

D-ATIS	NORCAL APP CON	SAN FRANCISCO TOWER	GND CON	CLNC DEL	CPDLC
113.7 115.8 118.85	134.5 338.2	120.5 269.1	121.8	118.2	





TDZ/CL Rwys 19L and 28R
REIL Rwys 1L, 1R and 10L
HIRL all Rwys

CATEGORY	A	B	C	D
LPV DA	382/55 371 (400-1)			
LNAV/VNAV DA	449-1¼ 438 (500-1¼)			
LNAV MDA	660/55 649 (700-1)		660-1⅞ 649 (700-1⅞)	

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WAAS CH 53415 W28B	APP CRS 284°	Rwy ldg 10275 TDZE 13 Apt Elev 13

RNAV (GPS) RWY 28L
SAN FRANCISCO INTL (SFO)

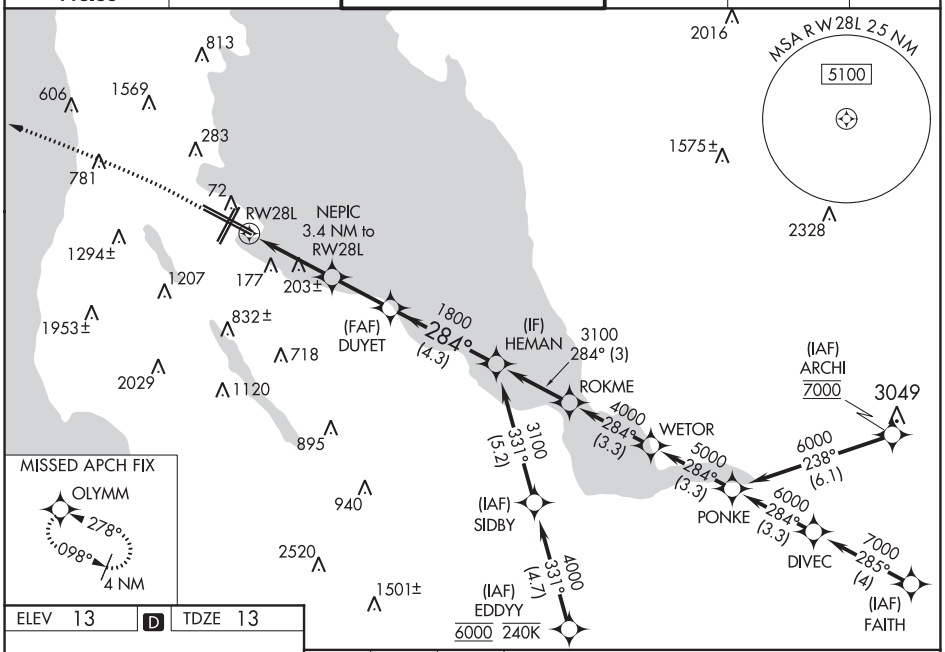
RNP APCH.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 3°C or above 54°C. For inop ALS, increase LPV† all Cats visibility to 2½ SM, increase LNAV/VNAV all Cats visibility to 2 SM. Circling NA to Rwys 10L, 10R, 19L, and 19R. Circling Rwy 1L, 1R NA at night.
#RVR 1800 authorized with use of FD or AP or HUD to DA.

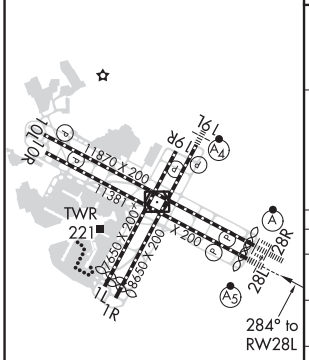
MALSR

MISSED APPROACH: Climb to 1020 then climbing left turn to 4000 direct OLYMM and hold, continue climb-in-hold to 4000.
#Missed approach requires minimum climb of 330 feet per NM to 1600.

D-ATIS	NORCAL APP CON	SAN FRANCISCO TOWER	GND CON	CLNC DEL	CPDLC
113.7 115.8 118.85	134.5 338.2	120.5 269.1	121.8	118.2	



ELEV 13 D TDZE 13

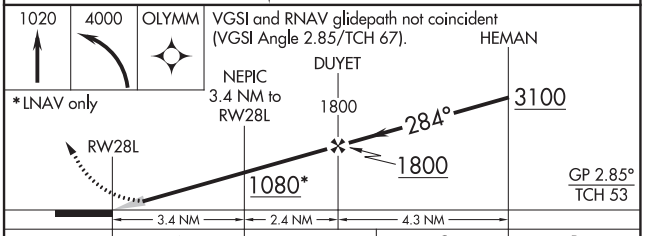


HIRL all Rwys
TDZ/CL Rwys 19L and 28R
REIL Rwys 1L, 1R and 10L

1020	4000	OLYMM

VGSI and RNAV glidepath not coincident (VGSI Angle 2.85/TCH 67).

*LNAV only



CATEGORY	A	B	C	D
LPV DA#	213/24 200 (200-½)			
LPV DA†	798-1¾ 785 (800-1¾)			
LNAV/VNAV DA	770-1¾ 757 (800-1¾)			
LNAV MDA	1020/40 1007 (1100-¾)	1020/55 1007 (1100-1)	1020-2½ 1007 (1100-2½)	
C CIRCLING	1020-1¼ 1007 (1100-1¼)	1020-1½ 1007 (1100-1½)	1560-3 1547 (1600-3)	NA

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APP CRS	Rwy ldg	11236
281°	TDZE	13
	Apt Elev	13

RNAV (GPS) X RWY 28R

SAN FRANCISCO INTL (SFO)

T A NA

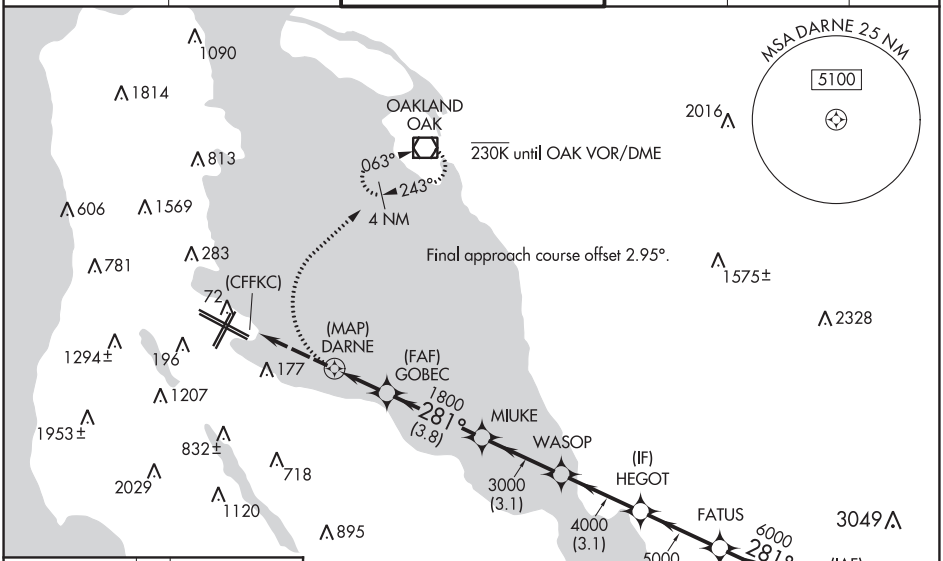
Runway 28L and 28R separated by 750 feet centerline to centerline. DME/DME RNP-0.3 NA. When executing a missed approach or go-around, unless otherwise instructed by ATC, initially turn right to 030° utilizing heading mode. Inoperative table does not apply. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 2°C (36°F) or above 54°C (130°F).

*If a go-around executed after passing DARNE, go-around requires a minimum climb of 380 feet per NM to 1800.

ALSF-2

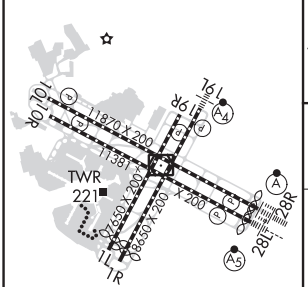
MISSED APPROACH: Climbing right turn to 3000 on heading 030° then direct OAK VOR/DME and hold.

D-ATIS	NORCAL APP CON	SAN FRANCISCO TOWER	GND CON	CLNC DEL	CPDLC
113.7 115.8 118.85	134.5 338.2	120.5 269.1	121.8	118.2	



RADAR REQUIRED

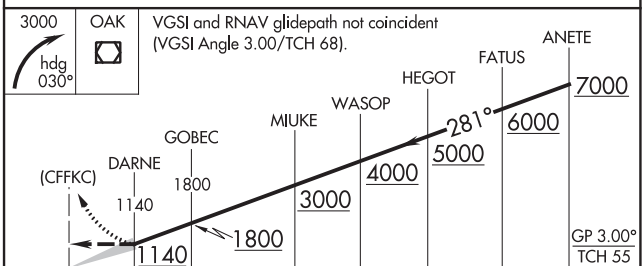
ELEV 13 | D | TDZE 13



TDZ/CL Rwys 19L and 28R
REIL Rwys 1L, 1R, and 10L
HIRL all Rwys

3000 hdg 030° | OAK

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 68).



CATEGORY	A	B	C	D
LNAV/VNAV DA*	1140-4 1127 (1200-4)			

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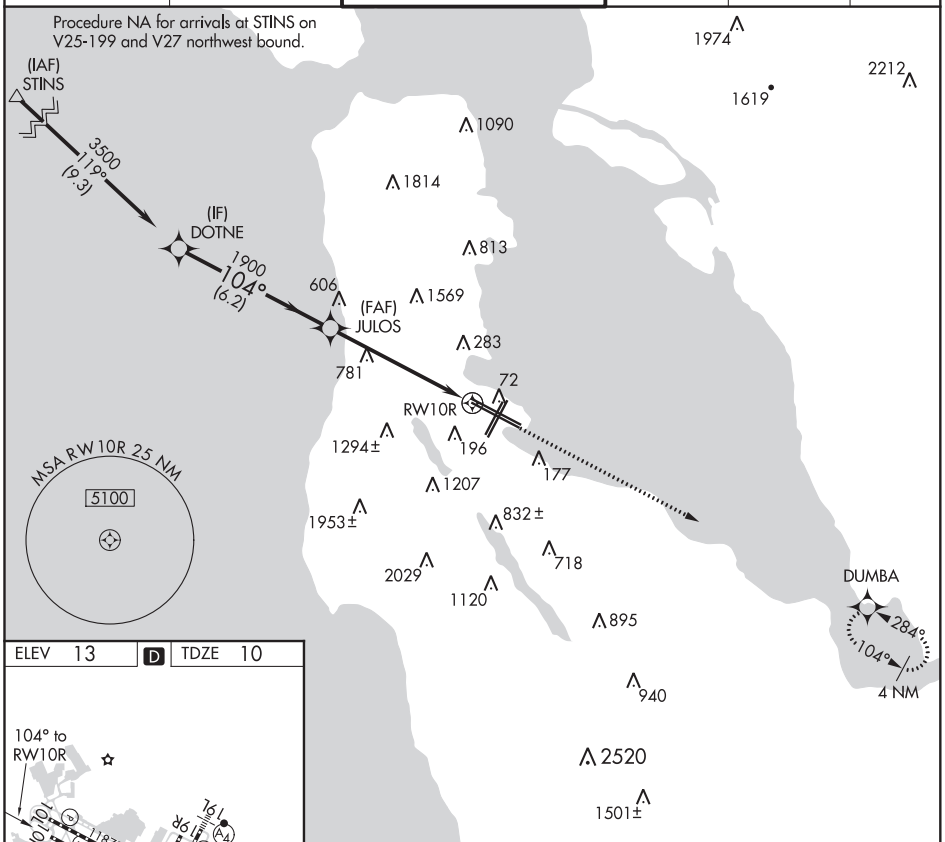
RNAV (GPS) Y RWY 10R
SAN FRANCISCO INTL (SFO)

APP CRS	Rwy ldg	10704
104°	TDZE	10
	Apt Elev	13

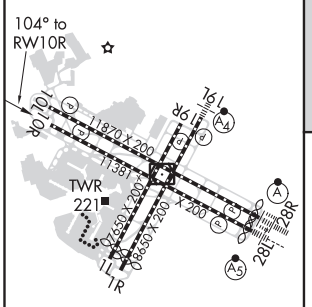
DME/DME RNP-0.3 NA. When VGSI inop, procedure NA at night. Helicopter visibility reduction below RVR 5000 NA.

MISSED APPROACH: Climb to 4000 direct DUMBA and hold.

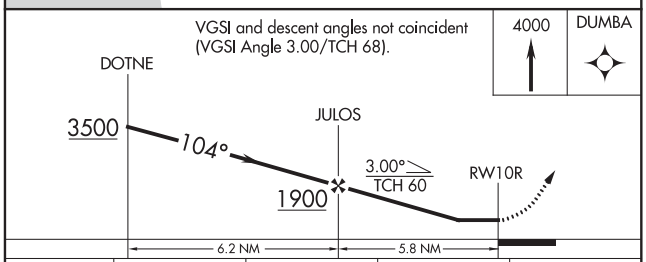
D-ATIS	NORCAL APP CON	SAN FRANCISCO TOWER	GND CON	CLNC DEL	CPDLC
113.7 115.8 118.85	134.5 338.2	120.5 269.1	121.8	118.2	



ELEV 13 D TDZE 10



TDZ/CL Rwys 19L and 28R
REIL Rwys 1L, 1R and 10L
HIRL all Rwys



CATEGORY	A	B	C	D
LNAV MDA	1200/60 1190 (1200-1¼)	1200-1½ 1190 (1200-1½)	1200-3	1190 (1200-3)

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SAN FRANCISCO, CALIFORNIA AL-375 (FAA) 20310

WAAS CH 48803 W28A	APP CRS 284°	Rwy ldg 11236 TDZE 13 Apt Elev 13

RNAV (GPS) Z RWY 28R
SAN FRANCISCO INTL (SFO)

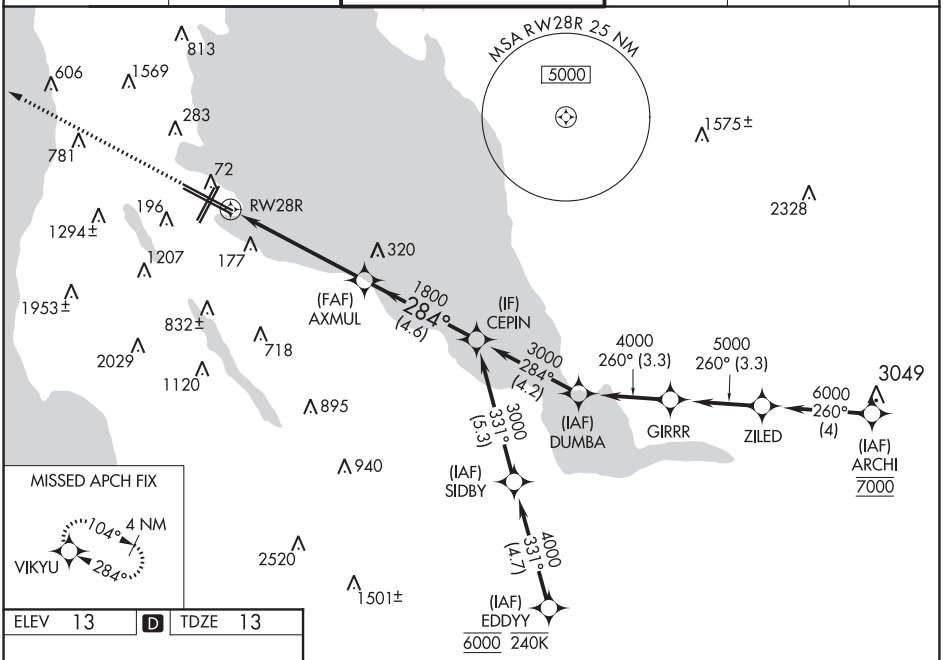
RNP APCH.

Circling NA to Rwys 10L, 10R, 19L, and 19R. Circling Rwy 1L, 1R NA at night. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 3°C or above 54°C. For inop ALS, increase LNAV/VNAV all Cats visibility to 1¾ SM, increase LNAV Cat C/D visibility to 2 SM.

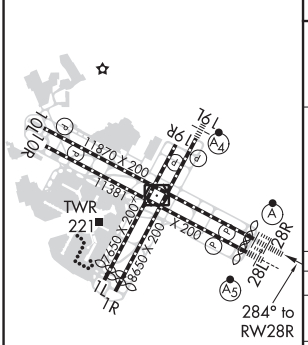
ALSF-2

MISSED APPROACH: Climb to 3200 direct VIKYU and hold, continue climb-in-hold to 3200.

D-ATIS	NORCAL APP CON	SAN FRANCISCO TOWER	GND CON	CLNC DEL	CPDLC
113.7 115.8 118.85	134.5 338.2	120.5 269.1	121.8	118.2	



ELEV 13 | D | TDZE 13

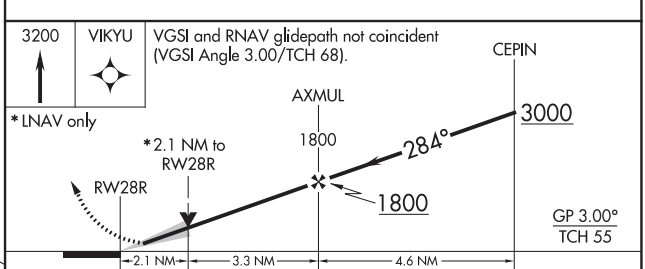


TDZ/CL Rwys 19L and 28R
REIL Rwys 1L, 1R and 10L
HIRL all Rwys

3200 | VIKYU

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 68).

*LNAV only



CATEGORY	A	B	C	D
LPV DA	213/18 200 (200-½)			
LNAV/VNAV DA	642-1⅜ 629 (700-1⅜)			
LNAV MDA	760/24 747 (800-½)	760/40 747 (800-¾)	760-1¾ 747 (800-1¾)	
C CIRCLING	760-1 747 (800-1)	960-1¼ 947 (1000-1¼)	1560-3 1547 (1600-3)	NA

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LOC/DME I-FNP	APP CRS	Rwy ldg	11236
110.75	281°	TDZE	13
Chan 44(Y)		Apt Elev	13

LDA/DME RWY 28R
SAN FRANCISCO INTL (SFO)

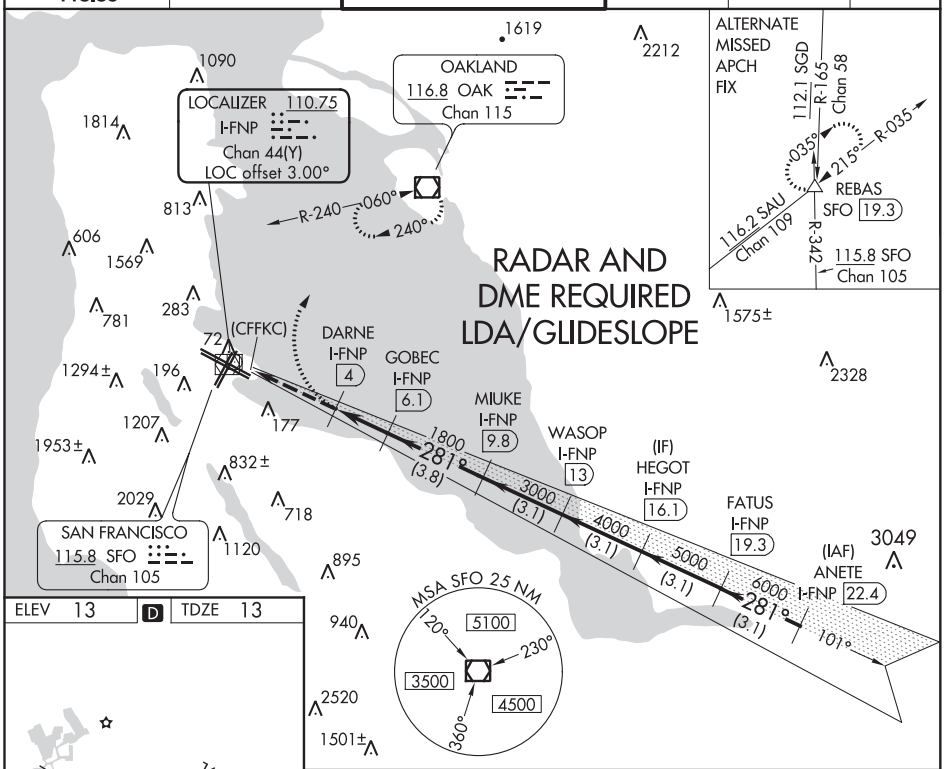
T A NA

Inoperative table does not apply. Runway 28L and 28R separated by 750 feet centerline to centerline. Localizer course 1183′ right of Rwy 28R threshold. Procedure NA when glideslope not available.
*If go around executed after passing DARNE, go around requires minimum climb of 380 feet per NM to 1800.

ALSF-2

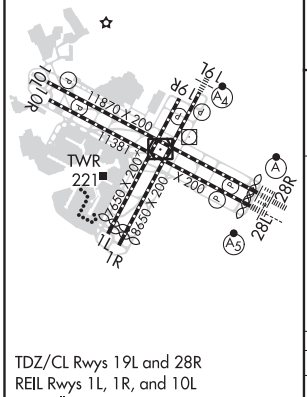
MISSED APPROACH: Climbing right turn to 3000 on heading 030° then direct OAK VOR/DME and hold.

D-ATIS	NORCAL APP CON	SAN FRANCISCO TOWER	GND CON	CLNC DEL	CPDLC
113.7 115.8 118.85	134.5 338.2	120.5 269.1	121.8	118.2	



RADAR AND DME REQUIRED LDA/GLIDESLOPE

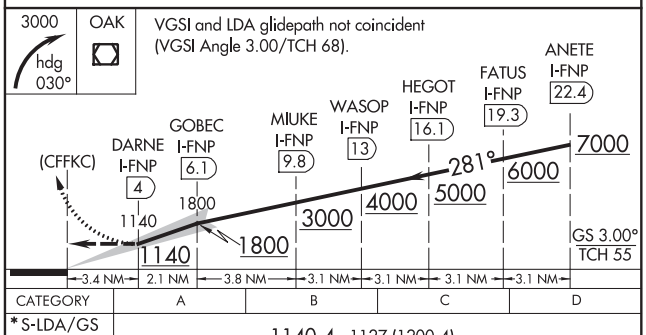
ELEV 13 D TDZE 13



TDZ/CL Rwys 19L and 28R
REIL Rwys 1L, 1R, and 10L
HIRL all Rwys

3000 hdg 030° | OAK

VGSI and LDA glidepath not coincident (VGSI Angle 3.00/TCH 68).



CATEGORY	A	B	C	D
*S-LDA/GS 28R	1140-4 1127 (1200-4)			

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ATTENTION ALL USERS PAGE (AAUP)

Pilots who are unable to participate will be afforded appropriate arrival services as operational conditions permit and must notify the controlling ATC facility as soon as practical, but at least 100 miles from destination.

Simultaneous PRM approaches will only be offered/conducted when the weather is at least 1600 feet (ceiling) and 4 miles (visibility).

ILS PRM Rwy 28L
RNAV (GPS) PRM Rwy 28L
LDA PRM Rwy 28R
RNAV (GPS) PRM X Rwy 28R

General

Review procedure for executing a climbing and descending PRM breakout

Breakout phraseology: "TRAFFIC ALERT (call sign) TURN (left/right) IMMEDIATELY HEADING (degrees) CLIMB/DESCEND AND MAINTAIN (altitude)."

All breakouts: Hand flown, initiate immediately.

Descending on the glideslope/glidepath ensures compliance with any charted crossing restrictions.

Dual VHF Comm.: When assigned or planning a specific PRM approach, tune a second receiver to the PRM monitor frequency or, if silent, another active frequency (i.e. ATIS), set the volume, retune the PRM frequency if necessary, then deselect the audio. When directed by ATC, switch to the appropriate approach control frequency and select the second receiver audio to ON.
Runway 28R: NORCAL approach 120.35
Runway 28L: NORCAL approach 135.65

If later assigned the same runway, non-PRM approach, consider it briefed provided the same minimums are utilized. PRM related chart notes and PRM frequency no longer apply.

TCAS during breakout: Follow TCAS climb/descend if it differs from ATC, while executing the breakout turn.

Runway Specific

ILS PRM Rwy 28L: Straight-in Approach

Briefing Points: (Note: Identify NEPIC WP as 3.3 NM from Rwy 28L WP if not in the FMC approach coding.)

- Inside NEPIC, descending on (not above) the glidepath benefits the trailing 28R aircraft to avoid wake turbulence.
- Other aircraft may be conducting the PRM approach to runway 28R. These aircraft will approach from the right-rear and will re-align with runway 28R after making visual contact with the runway 28L landing traffic.
- Expect to be switched to SFO tower at NEPIC.
- PRM monitor frequency may be de-selected after determining that the aircraft is on the tower frequency.

CONTINUED ON FOLLOWING PAGE

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ATTENTION ALL USERS PAGE (AAUP) (CON'T)

CONTINUED FROM PREVIOUS PAGE

LDA PRM Rwy 28R: Offset Approach with glideslope

Briefing Points: (Note: Identify DARNE as I-FNP LOC/DME 4 NM if not in the FMC approach coding.)

- If required, develop a wake mitigation strategy as soon as practical. Inside DARNE pilots will be operating visually in close proximity to the 28L aircraft and will be responsible for wake turbulence and collision avoidance.
- Descending on the glideslope ensures compliance with any charted crossing restrictions.
- Continuing past DARNE requires reporting the 28L traffic in sight (ATC need not respond), and seeing the runway.
- Remain on the LDA until passing DARNE so as not to penetrate the NTZ.
- Expect to be switched to SFO tower at DARNE.
- PRM monitor frequency may be de-selected after determining that the aircraft is on the tower frequency.
- After passing DARNE, DO NOT PASS.
- Glideslope valid to the runway threshold.
- If executing a go-around between DARNE and runway 28R threshold, initially establish a climbing right turn heading 030° unless otherwise instructed by ATC. Missed approach leg from airport to OAK VOR/DME, if depicted on a map display, is for reference only. Follow IAP published missed approach procedure unless otherwise instructed by ATC.

RNAV (GPS) PRM Rwy 28L: Straight-in Approach

Briefing Points: (Note: Identify NEPIC WP as 3.3 NM from Rwy 28L WP if not in the FMC approach coding.)

- Monitor descent path to ensure that fix crossing requirements are adhered to.
- VDA is 2.85° between all waypoints on the final approach course.
- Inside NEPIC, descending on (not above) the vertical path benefits the trailing 28R aircraft to avoid wake turbulence.
- Other aircraft may be conducting the PRM approach to runway 28R. These aircraft will approach from the right-rear and will re-align with runway 28R after making visual contact with the runway 28L traffic.
- Expect to be switched to SFO tower at NEPIC.
- PRM monitor frequency may be de-selected after determining that the aircraft is on the tower frequency.

RNAV (GPS) PRM X Rwy 28R: Offset Approach

Briefing Points: (Notes: Non-standard RNAV Missed Approach coding initially requires use of heading mode.
Identify DARNE WP as 3.4 NM from CFFKC WP if not in the FMC approach coding.)

- If required, develop a wake mitigation strategy as soon as practical. After passing DARNE WP, pilots will be operating visually in close proximity to the 28L aircraft and will be responsible for wake turbulence and collision avoidance.
- VDA is 3° between all waypoints on the final approach course.
- Continuing past DARNE requires reporting the 28L traffic in sight (ATC need not respond), and seeing the runway.
- Remain on the RNAV track until passing DARNE WP so as not to penetrate the NTZ.
- Expect to be switched to SFO tower at DARNE WP.
- After passing DARNE, DO NOT PASS.
- The VNAV path is valid to the runway threshold.
- PRM monitor frequency may be de-selected after determining that the aircraft is on the tower frequency.
- If executing a missed approach or go-around, initially establish a climbing right turn heading 030°. CAUTION: Missed approach leg from airport to OAK VOR/DME, if depicted on a map display, is for reference only. Follow IAP published missed approach procedure unless otherwise instructed by ATC.

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SAN FRANCISCO, CALIFORNIA

AL-375 (FAA)

20310

ILS PRM RWY 28L
(SIMULTANEOUS CLOSE PARALLEL)
SAN FRANCISCO INTL (SFO)

LOC/DME I-SFO	APP CRS	Rwy ldg	10275
109.55	284°	TDZE	13
Chan 32 (Y)		Apt Elev	13

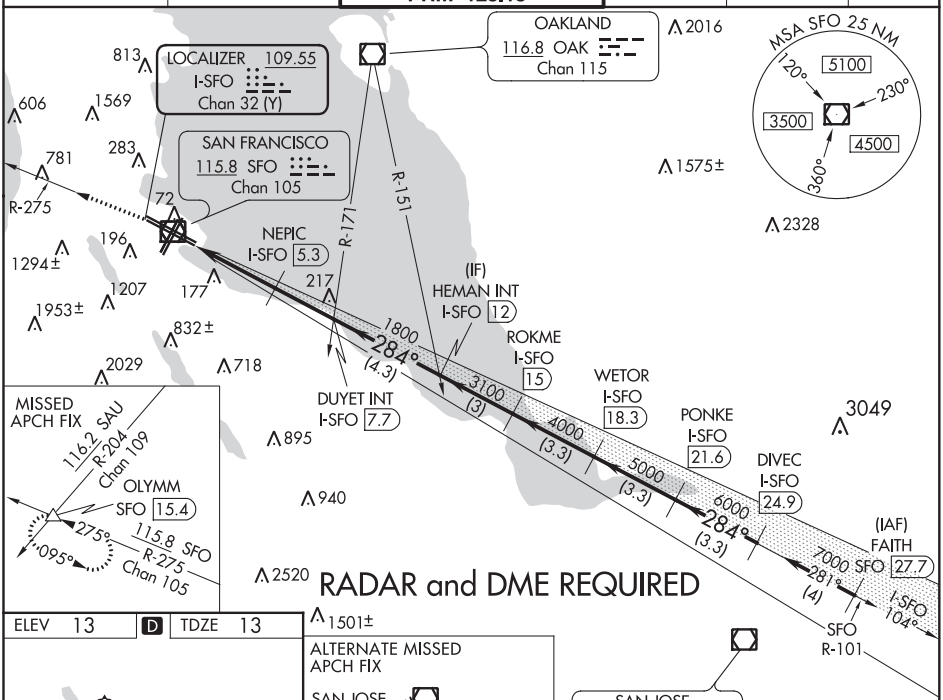
T NA

Rwy 28L and 28R separated by 750 feet centerline to centerline. DME required. Missed approach requires minimum climb of 325 feet per NM to 2100; if unable to meet climb gradient, see ILS or LOC RWY 28L. RVR 1800 authorized with the use of FD or AP or HUD to DA. Simultaneous Close Parallel approach authorized with LDA PRM RWY 28R and RNAV (GPS) PRM X RWY 28R. Procedure NA when glide slope not available. Dual VHF comm required. See additional requirements on AAUP.

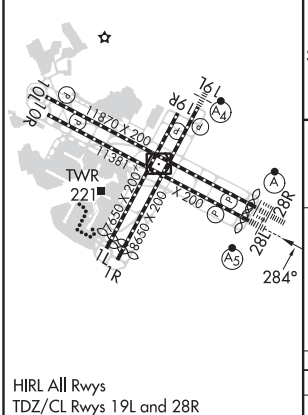
MALSR (A-5)

MISSED APPROACH: Climb to 4000 on SFO VOR/DME R-275 to OLYMM INT/SFO 15.4 DME and hold.

D-ATIS	NORCAL APP CON	SAN FRANCISCO TOWER	GND CON	CLNC DEL	CPDLC
113.7 115.8 118.85	134.5 338.2	120.5 269.1 PRM 125.15	121.8	118.2	



ELEV	13	D	TDZE	13



HIRL All Rwys
TDZ/CL Rwys 19L and 28R
REIL Rwys 1L, 1R and 10L

4000 SFO R-275

OLYMM

VGSI and ILS glidepath not coincident (VGSI Angle 2.85/TCH 67).

Use I-SFO DME when on the LOC course.

NEPIC I-SFO 5.3 — 1080 — 1800 — DUYET INT I-SFO 7.7 — 1800 — HEMAN INT I-SFO 12 — 3100 — ROKME I-SFO 15 — 4000 — WETOR I-SFO 18.3 — 5000 — PONKE I-SFO 21.6 — 6000 — DIVEC I-SFO 24.9 — 7000 — 284°

GS 2.85°
TCH 53

3.3 NM | 2.4 NM | 4.3 NM | 3 NM | 3.3 NM | 3.3 NM | 3.3 NM

CATEGORY	A	B	C	D
S-ILS 28L	213/24 200 (200-½)			

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WAAS CH 53415 W28B	APP CRS 284°	Rwy ldg 10275 TDZE 13 Apt Elev 13

RNAV (GPS) PRM RWY 28L (CLOSE PARALLEL)

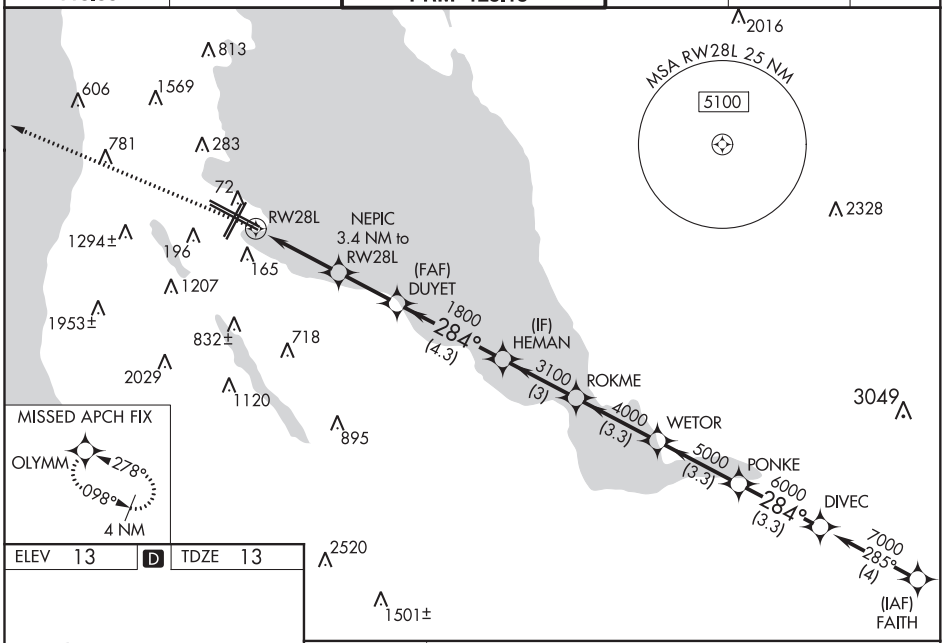
SAN FRANCISCO INTL (SFO)

T DME/DME RNP-0.3 NA. Simultaneous approach authorized with LDA PRM RWY 28R and RNAV (GPS) PRM X RWY 28R. Use of FD or AP required during simultaneous operations. Dual VHF comm required. See additional requirements on AAUP. For inop ALS, increase LNAV/VNAV all Cats visibility to 2 SM. Rwy 28L and 28R separated by 750 feet centerline to centerline. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 3°C (38°F) or above 54°C (130°F).
#RVR 1800 authorized with use of FD or AP or HUD to DA.

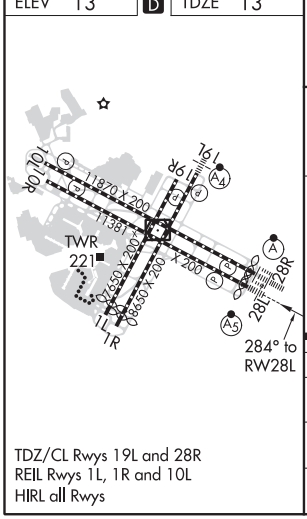
MALSR

MISSED APPROACH: Climb to 4000 direct OLYMM and hold, continue climb-in-hold to 4000.
*Missed approach requires minimum climb of 300 feet per NM to 1500.

D-ATIS	NORCAL APP CON	SAN FRANCISCO TOWER	GND CON	CLNC DEL	CPDLC
113.7 115.8 118.85	134.5 338.2	120.5 269.1 PRM 125.15	121.8	118.2	



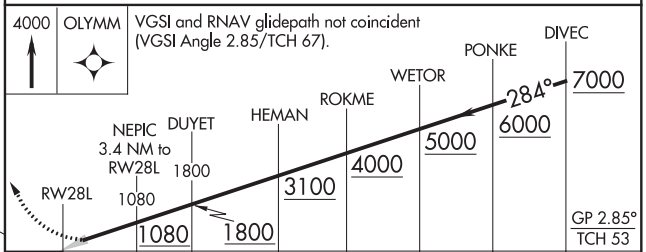
ELEV 13 D TDZE 13



TDZ/CL Rwys 19L and 28R
REIL Rwys 1L, 1R and 10L
HIRL all Rwys

4000 OLYMM

VGSI and RNAV glidepath not coincident (VGSI Angle 2.85/TCH 67).



CATEGORY		A	B	C	D
LPV	DA*#	213/24 200 (200-½)			
LPV	DA	769-1¾ 756 (800-1¾)			
LNAV/VNAV	DA	754-1¾ 741 (800-1¾)			

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SAN FRANCISCO, CALIFORNIA

AL-375 (FAA)

20310

RNAV (GPS) PRM X RWY 28R (SIMULTANEOUS CLOSE PARALLEL)

SAN FRANCISCO INTL (SFO)

APP CRS	Rwy ldg	11236
281°	TDZE	13
	Apt Elev	13

T A NA

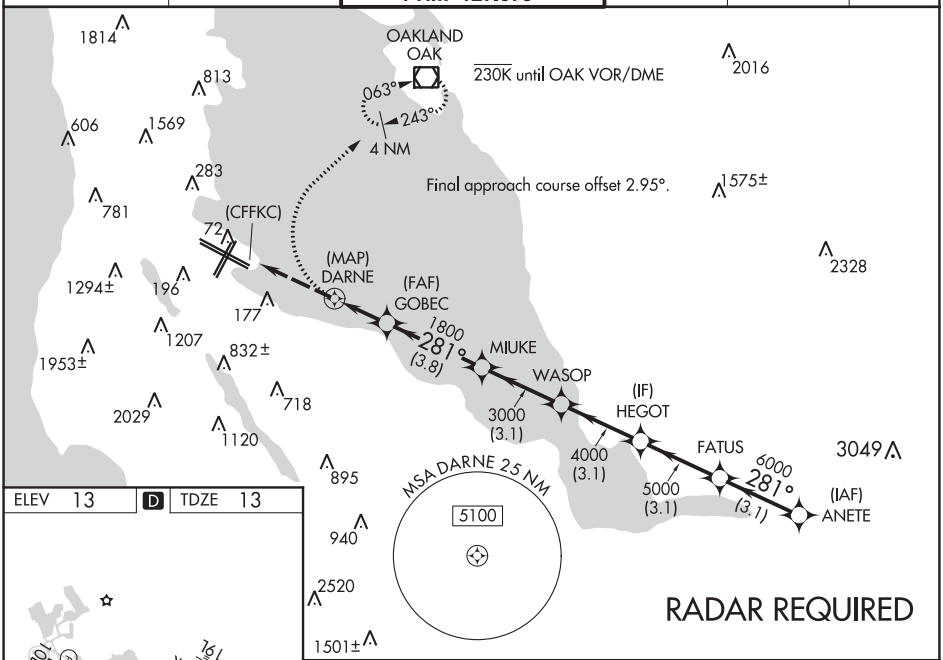
Runway 28L and 28R separated by 750 feet centerline to centerline. DME/DME RNP-0.3 NA. Simultaneous approach authorized with ILS PRM RWY 28L and RNAV (GPS) PRM RWY 28L. Dual VHF comm required. Use of FD or AP providing RNAV track guidance required during simultaneous operations. When executing a missed approach or go-around, unless otherwise instructed by ATC, initially turn right to 030° utilizing heading mode. Inoperative table does not apply. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 2°C (36°F) or above 54°C (130°F). See additional requirements on AAUP.

*If a go-around executed after passing DARNE, go-around requires a minimum climb of 380 feet per NM to 1800.

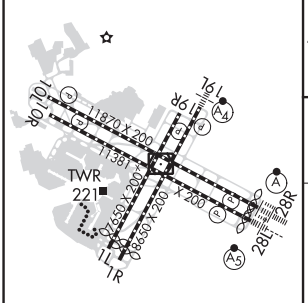
ALSF-2

MISSED APPROACH: Climbing right turn to 3000 on heading 030° then direct OAK VOR/DME and hold.

D-ATIS	NORCAL APP CON	SAN FRANCISCO TOWER	GND CON	CLNC DEL	CPDLC
113.7 115.8 118.85	134.5 338.2	120.5 269.1 PRM 127.675	121.8	118.2	



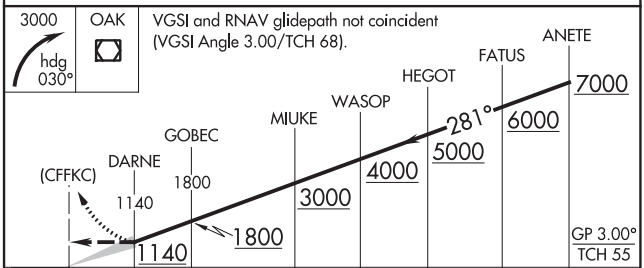
ELEV 13 | D | TDZE 13



TDZ/CL Rwys 19L and 28R
REIL Rwys 1L, 1R, and 10L
HIRL all Rwys

3000 hdg 030° | OAK

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 68).



CATEGORY	A	B	C	D
LNAV/VNAV DA*	1140-4 1127 (1200-4)			

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

SAN FRANCISCO, CALIFORNIA

AL-375 (FAA)

LDA PRM RWY 28R (SIMULTANEOUS CLOSE PARALLEL)

SAN FRANCISCO INTL (SFO)

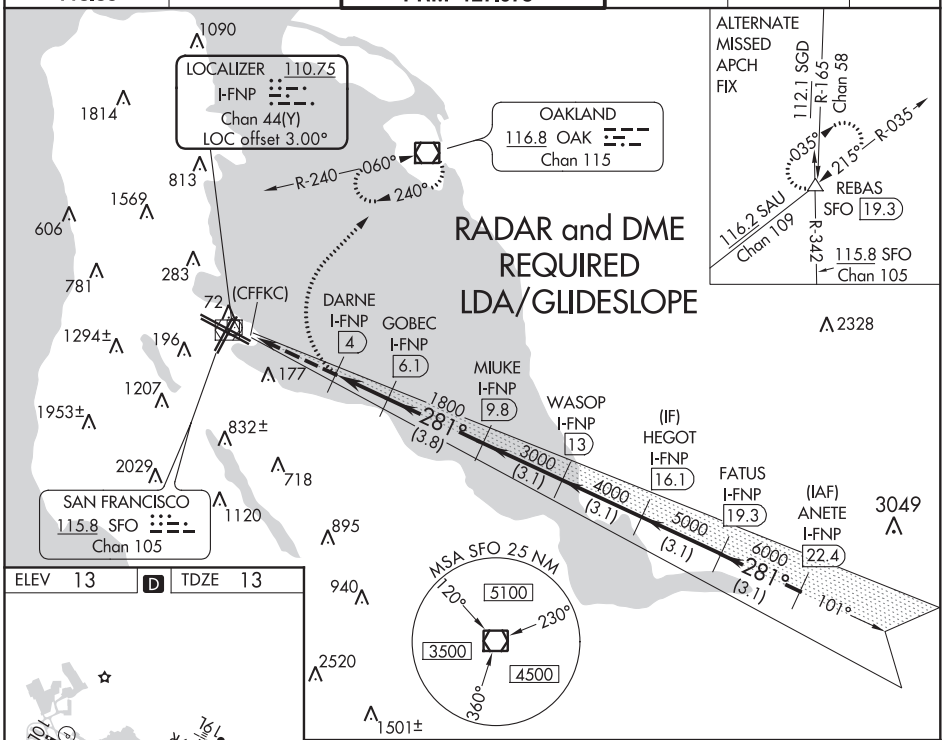
LOC/DME I-FNP	APP CRS	Rwy ldg	11236
110.75	281°	TDZE	13
Chan 44(Y)		Apt Elev	13

T A NA Simultaneous approach authorized with ILS PRM RWY 28L and RNAV (GPS) PRM RWY 28L. Procedure NA when glideslope not available. Dual VHF comm required. See additional requirements on AAUP. Runway 28L and 28R separated by 750 feet centerline to centerline. Inoperative table does not apply. DME required. Localizer course 1183 feet right of Rwy 28R threshold.
*If go around executed after passing DARNE, go around requires minimum climb of 380 feet per NM to 1800.

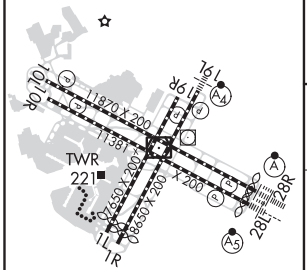
ALSF-2

MISSED APPROACH: Climbing right turn to 3000 on heading 030° then direct OAK VOR/DME and hold.

D-ATIS	NORCAL APP CON	SAN FRANCISCO TOWER	GND CON	CLNC DEL	CPDLC
113.7 115.8 118.85	134.5 338.2	120.5 269.1 PRM 127.675	121.8	118.2	



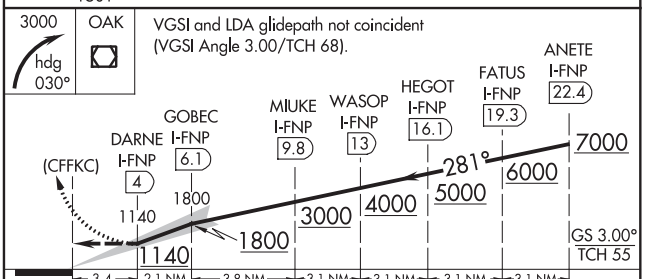
ELEV 13 | D | TDZE 13



TDZ/CL Rwys 19L and 28R
REIL Rwys 1L, 1R, and 10L
HIRL all Rwys

3000 | OAK
hdg 030°

VGSI and LDA glidepath not coincident (VGSI Angle 3.00/TCH 68).



CATEGORY	A	B	C	D
*S-LDA/GS 28R	1140-4 1127 (1200-4)			

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

QUIET BRIDGE VISUAL RWY 28L/R

SAN FRANCISCO INTL (SFO)
SAN FRANCISCO, CALIFORNIA

D-ATIS
113.7 115.8 118.85
NORCAL APP CON
134.5 338.2
SAN FRANCISCO TOWER
120.5 269.1
GND CON
121.8
CLNC DEL
118.2
CPDLC

RADAR REQUIRED

SAN FRANCISCO BAY

OAKLAND
116.8 OAK
Chan 115

LOCALIZER 111.7
I-GWQ
Chan 54

SAN FRANCISCO
115.8 SFO
Chan 105

R-150

SAN MATEO BRIDGE

SFO 6
1800
(for Class B)

SFO 10
2500
(for Class B)

SFO 15
4000
(for Class B)

SFO 20
6000
(for Class B)

ARCHI INT
7000 (for Class B)

LOCALIZER 109.55
I-SFO
Chan 32 (Y)

CEMENT PLANT

275°

255°

330°

R-095

R-056

SFO R-091

DUMBARTON BRIDGES

SIDBY
5000

WOODSIDE
113.9 OSI
Chan 86

EDDYY
6000
(for Class B)

Vertical Guidance Navaid and Angle: LOC I-GWQ (GS 3.00°)

Weather Minimums: SFO 2500′/5 or SFO 1000′/3 with 5 mile visibility in eastern quadrant (030° to 120°) and San Mateo AWOS 2400′/5 (If AWOS inoperative, SQL 2400′/5).

1 NM 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

QUIET BRIDGE VISUAL APPROACH RUNWAY 28L/R

NOTE: Closely spaced parallel visual approaches may be in progress to Runway 28L utilizing I-SFO. In the event of a go-around on Runway 28L, turn left heading 265° or on Runway 28R, heading 280°, climb and maintain 3000 or as directed by ATC.

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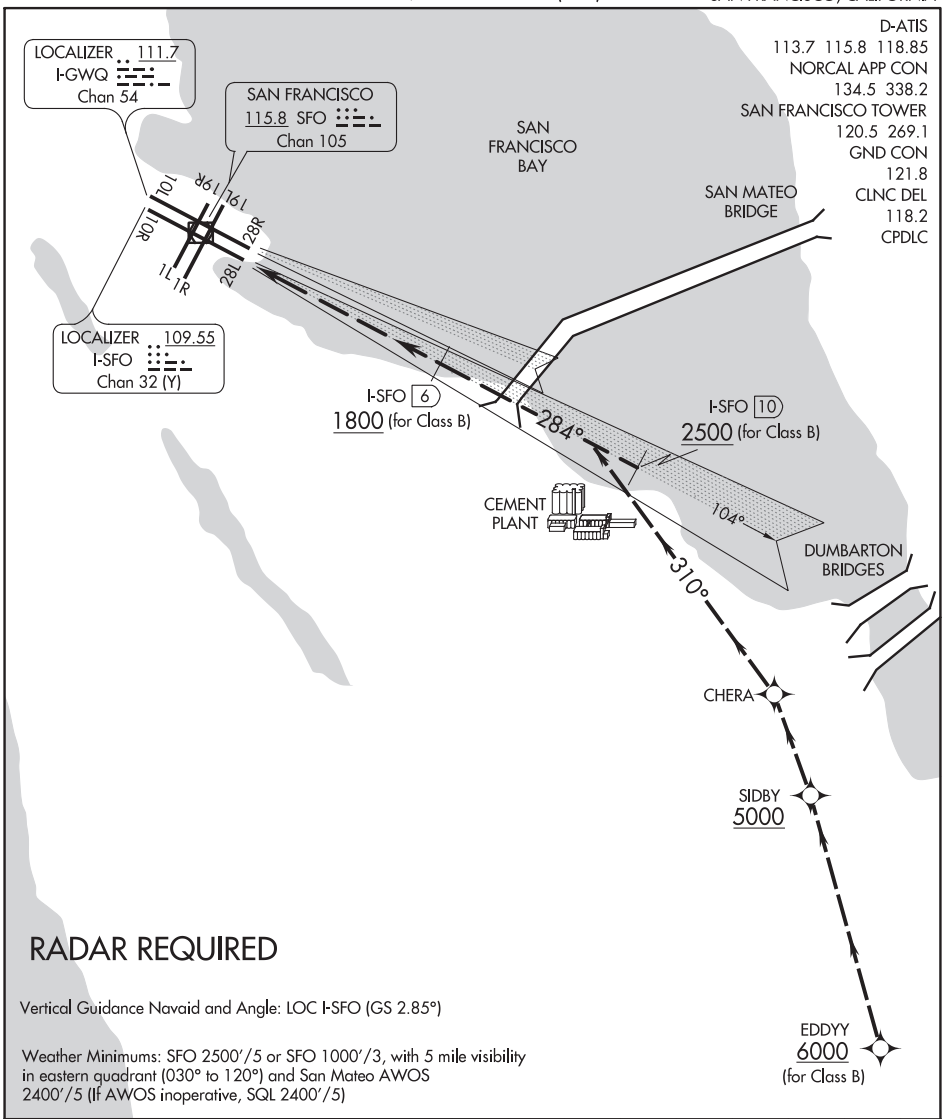
QUIET BRIDGE VISUAL RWY 28L/R

SAN FRANCISCO, CALIFORNIA
SAN FRANCISCO INTL (SFO)

TIPP TOE VISUAL RWY 28L/R

AL-375 (FAA)

SAN FRANCISCO INTL (SFO)
SAN FRANCISCO, CALIFORNIA



RADAR REQUIRED

Vertical Guidance Navaid and Angle: LOC I-SFO (GS 2.85°)

Weather Minimums: SFO 2500′/5 or SFO 1000′/3, with 5 mile visibility in eastern quadrant (030° to 120°) and San Mateo AWOS 2400′/5 (If AWOS inoperative, SQL 2400′/5)

	1 NM	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

TIPP TOE VISUAL APPROACH RUNWAY 28L/R

NOTE: Closely spaced parallel visual approaches may be in progress. In the event of a go-around on Runway 28L, turn left heading 265° or on Runway 28R, heading 280°, climb and maintain 3000 or as directed by ATC.

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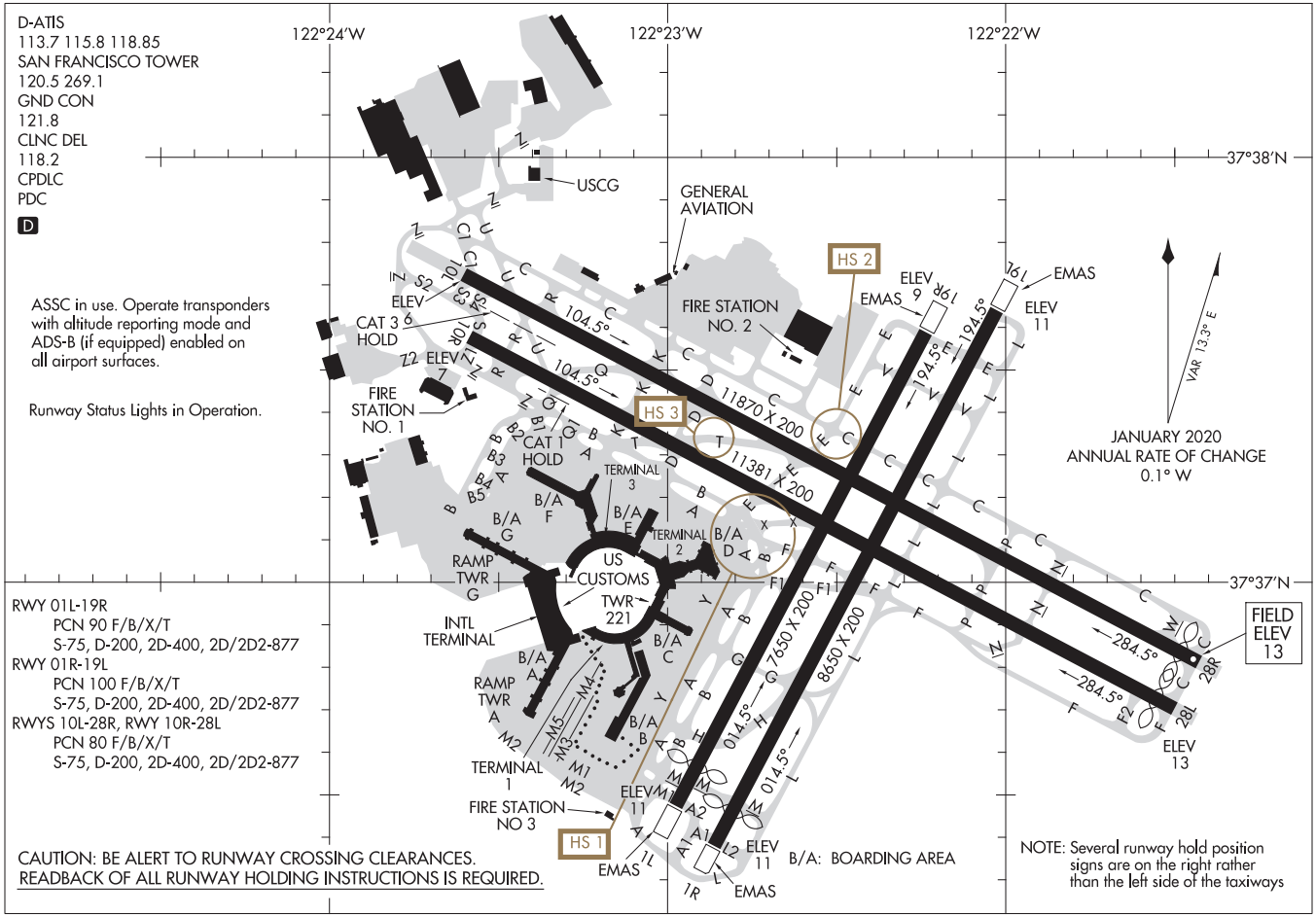
SW-2, 25 FEB 2021 to 22 APR 2021



20366
AIRPORT DIAGRAM
SAN FRANCISCO INTL (SFO)
SAN FRANCISCO, CALIFORNIA

SW-2, 25 FEB 2021 to 22 APR 2021

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 10L: Climb heading 104° to 520, then direct ORYAN, then on track 102° to SAHEY, then on track 101° to cross CIITY at or above 5000. Thence. . . .

TAKEOFF RUNWAY 10R: Climb heading 104° to 520, then direct URRSA, then on track 101° to SAHEY, then on track 101° to cross CIITY at or above 5000. Thence. . . .

TAKEOFF RUNWAYS 19L/19R: Climb heading 194° to 520, then left turn direct to cross CIITY at or above 5000. Thence. . . .

. . . on (transition). Maintain FL190. Expect filed altitude 10 minutes after departure.

DEDHD TRANSITION (CIITY3.DEDHD)

GRTFL TRANSITION (CIITY3.GRTFL)

MOGEE TRANSITION (CIITY3. MOGEE)

ORRCA TRANSITION (CIITY3.ORRCA)

SYRAH TRANSITION (CIITY3.SYRAH)

TIPRE TRANSITION (CIITY3.TIPRE)

TAKEOFF MINIMUMS

Rwys 10L/R: Standard with minimum climb of 500′ per NM to 520.

Rwys 19L/R: Standard with minimum climb of 575′ per NM to 2000.

TOP ALTITUDE: FL190

D-ATIS 113.7 115.8 118.85
CLNC DEL 118.2
CPDLC
GND CON 121.8
SAN FRANCISCO TOWER 120.5 269.1
NORCAL DEP CON 120.9 323.2

NOTE: RNAV 1.
NOTE: RADAR required.
NOTE: DME/DME/IRU or GPS required.

NOTE: Chart not to scale.

SW-2, 25 FEB 2021 to 22 APR 2021

(GAPP7.GAP) 20114

GAP SEVEN DEPARTURE

AL-375 (FAA)

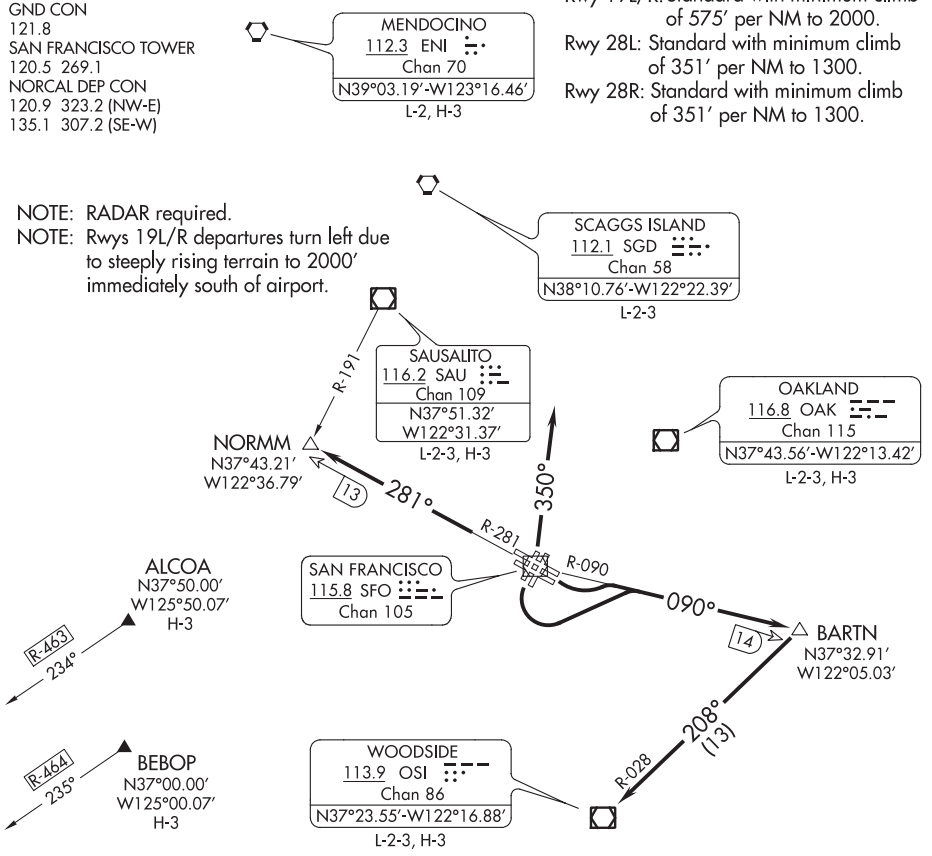
SAN FRANCISCO INTL (SFO)
SAN FRANCISCO, CALIFORNIA

D-ATIS
113.7 115.8 118.85
CPDLC
GND CON
121.8
SAN FRANCISCO TOWER
120.5 269.1
NORCAL DEP CON
120.9 323.2 (NW-E)
135.1 307.2 (SE-W)

TAKEOFF MINIMUMS

Rwy 19L/R: Standard with minimum climb of 575′ per NM to 2000.
Rwy 28L: Standard with minimum climb of 351′ per NM to 1300.
Rwy 28R: Standard with minimum climb of 351′ per NM to 1300.

NOTE: RADAR required.
NOTE: Rwys 19L/R departures turn left due to steeply rising terrain to 2000′ immediately south of airport.



NOTE: Chart not to scale.

T

DEPARTURE ROUTE DESCRIPTION

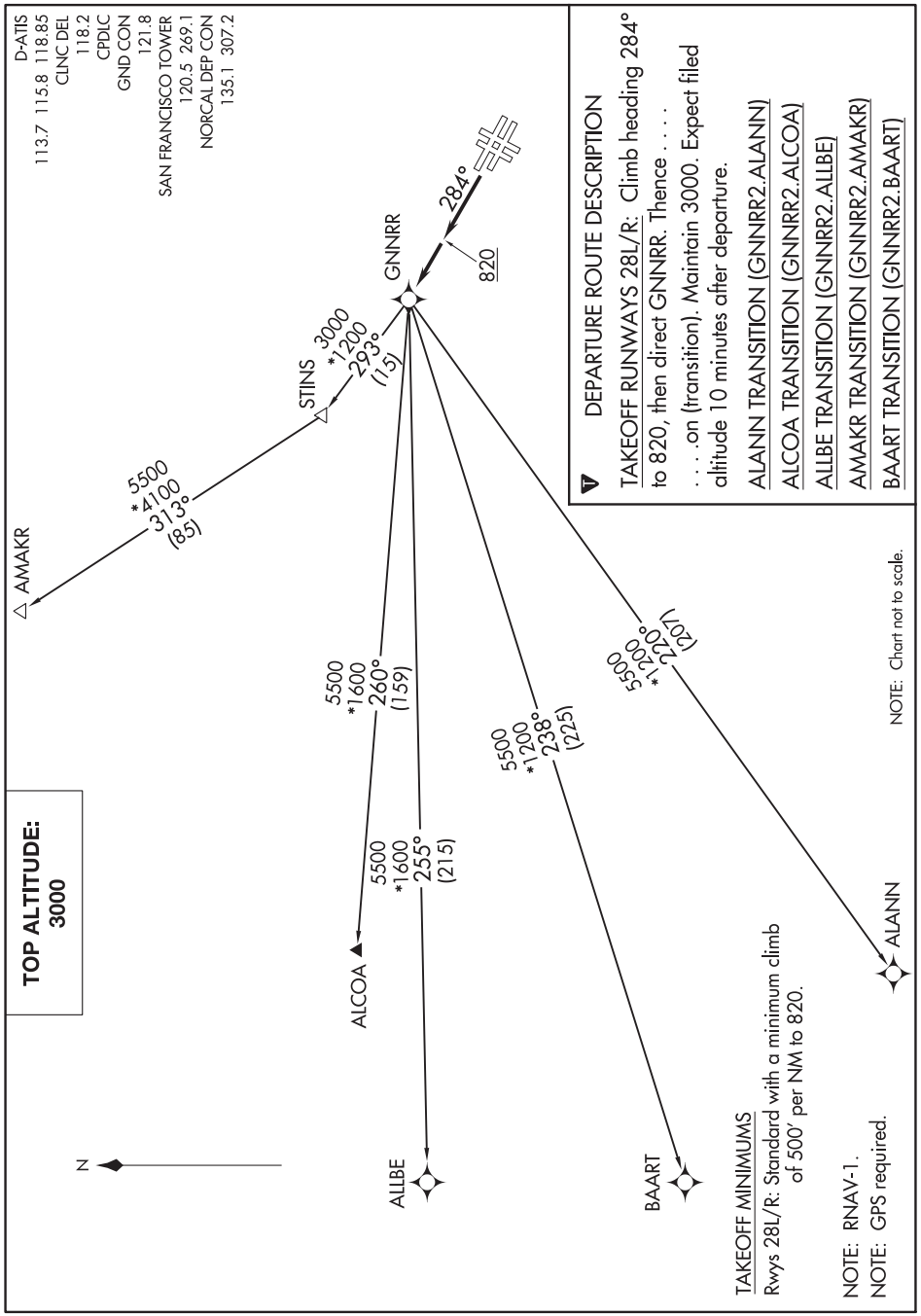
TAKEOFF RUNWAYS 1L/R: Climb on SFO R-350 (or as assigned) for vectors to assigned route/fix. Thence . . . .

TAKEOFF RUNWAYS 10L/R and 19L/R: Turn left and climb on the SFO R-090 and OSI R-028 to OSI VOR/DME; expect vector to assigned route/fix after OSI VOR/DME. Thence . . . .

TAKEOFF RUNWAYS 28L/R: Climb on the SFO VOR/DME R-281 to NORMM INT/ SFO VOR/DME 13 DME; expect vector to assigned route/fix after NORMM INT. Thence . . . .

. . . .expect further clearance to filed altitude 10 minutes after departure.

SW-2, 25 FEB 2021 to 22 APR 2021


D-ATIS
113.7 115.8 118.85
CLNC DEL
118.2
CPDLC
GND CON
121.8
SAN FRANCISCO TOWER
120.5 269.1
NORCAL DEP CON
135.1 307.2
284°
820
GNNRR
3000
*1200
293°
(115)
STINS
5500
*4100
313°
(85)
AMAKR
5500
*1600
260°
(159)
5500
*1600
255°
(215)
5500
*1200
238°
(225)
5500
*1200
242°
(207)
ALCOA
ALLBE
BAART
ALANN
N
TOP ALTITUDE:
3000
DEPARTURE ROUTE DESCRIPTION
TAKEOFF RUNWAYS 28L/R: Climb heading 284° to 820, then direct GNNRR. Thence . . . .
. . . .on (transition). Maintain 3000. Expect filed altitude 10 minutes after departure.
ALANN TRANSITION (GNNRR2.ALANN)
ALCOA TRANSITION (GNNRR2.ALCOA)
ALLBE TRANSITION (GNNRR2.ALLBE)
AMAKR TRANSITION (GNNRR2.AMAKR)
BAART TRANSITION (GNNRR2.BAART)
TAKEOFF MINIMUMS
Rwys 28L/R: Standard with a minimum climb of 500' per NM to 820.
NOTE: RNAV-1.
NOTE: GPS required.
NOTE: Chart not to scale.

(MOLEN8.MOLEN) 17341

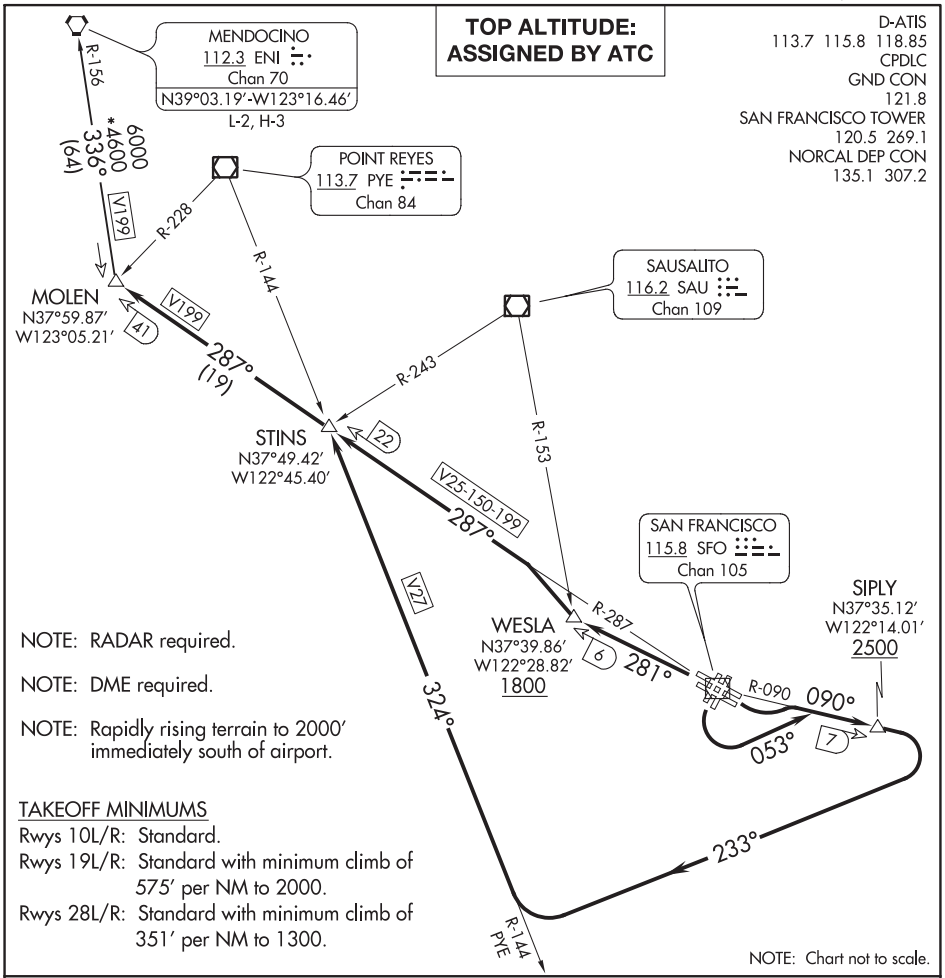
MOLEN EIGHT DEPARTURE

AL-375 (FAA)

SAN FRANCISCO INTL (SFO)
SAN FRANCISCO, CALIFORNIA

TOP ALTITUDE: ASSIGNED BY ATC

D-ATIS
113.7 115.8 118.85
CPDLC
GND CON
121.8
SAN FRANCISCO TOWER
120.5 269.1
NORCAL DEP CON
135.1 307.2



NOTE: RADAR required.

NOTE: DME required.

NOTE: Rapidly rising terrain to 2000′ immediately south of airport.

TAKEOFF MINIMUMS
Rwys 10L/R: Standard.
Rwys 19L/R: Standard with minimum climb of 575′ per NM to 2000.
Rwys 28L/R: Standard with minimum climb of 351′ per NM to 1300.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 10L/R: Climbing left turn to intercept SFO R-090 to cross SIPLY 7 DME FIX at or above 2500, then climbing right turn to 5000 on heading 233° to intercept and proceed on PYE R-144 to STINS INT/SFO 22 DME, then on SFO VOR/DME R-287 to MOLEN INT/SFO 41 DME. Thence . . . .

TAKEOFF RUNWAYS 19L/R: Climbing left turn to heading 053° to intercept SFO R-090 to cross SIPLY 7 DME FIX at or above 2500, then climbing right turn to 5000 heading 233° to intercept and proceed on PYE R-144 to STINS INT/SFO VOR/DME 22 DME, then on SFO VOR/DME R-287 to MOLEN INT/SFO 41 DME. Thence . . . .

TAKEOFF RUNWAYS 28 L/R: Climb on SFO VOR/DME R-281 to cross WESLA INT/SFO VOR/DME 6 DME at or above 1800 then turn right to intercept SFO R-287 to MOLEN INT/SFO 41 DME. Thence . . . .

. . . . (transition). Expect clearance to filed altitude 10 minutes after departure.

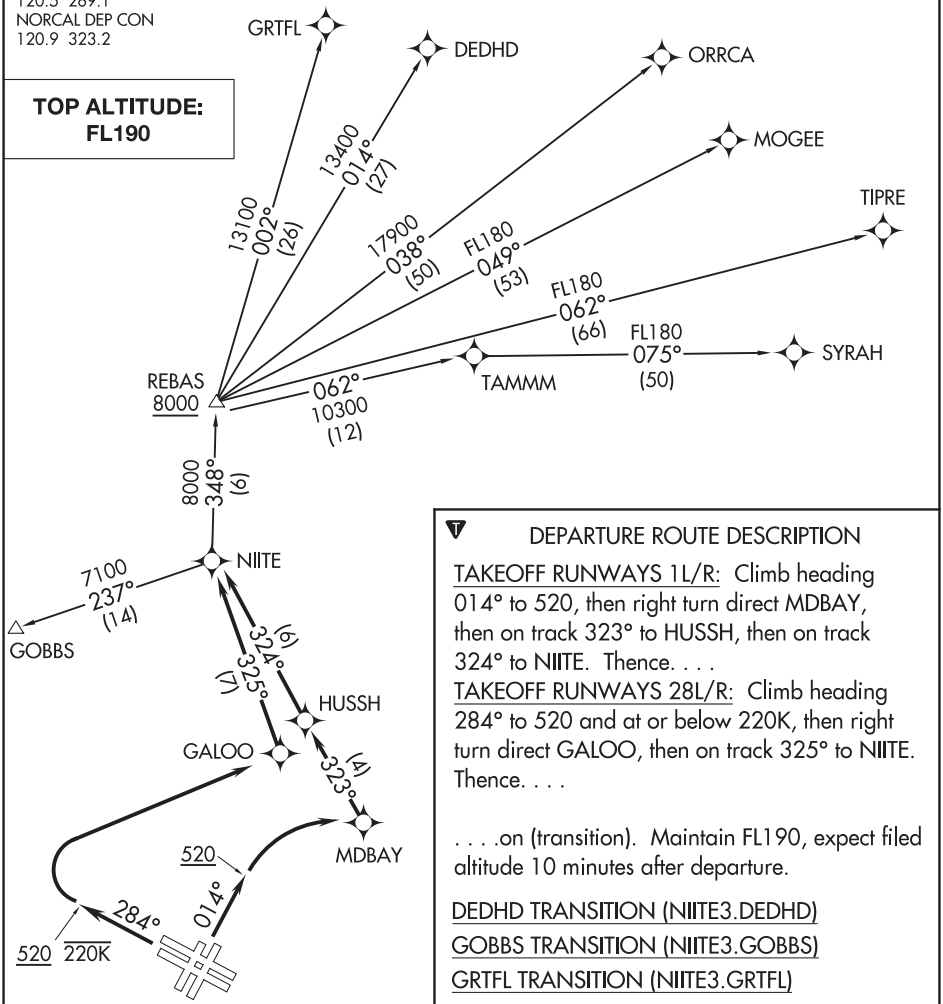
MENDOCINO TRANSITION (MOLEN8.ENI): From over MOLEN INT on ENI R-156 to ENI VORTAC.

SW-2, 25 FEB 2021 to 22 APR 2021

D-ATIS
113.7 115.8 118.85
CLNC DEL
118.2
CPDLC
GND CON
121.8
SAN FRANCISCO TOWER
120.5 269.1
NORCAL DEP CON
120.9 323.2

TAKEOFF MINIMUMS
Rwys 1L/R: Standard with a minimum climb of 500′ per NM to 520.
Rwy 28L: Standard with minimum climb of 535′ per NM to 2100.
Rwy 28R: Standard with minimum climb of 560′ per NM to 2100.

TOP ALTITUDE: FL190



NOTE: RNAV 1.
NOTE: RADAR required.
NOTE: DME/DME/IRU or GPS required.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 1L/R: Climb heading 014° to 520, then right turn direct MDBAY, then on track 323° to HUSSH, then on track 324° to NIITE. Thence. . . .

TAKEOFF RUNWAYS 28L/R: Climb heading 284° to 520 and at or below 220K, then right turn direct GALOO, then on track 325° to NIITE. Thence. . . .

. . . .on (transition). Maintain FL190, expect filed altitude 10 minutes after departure.

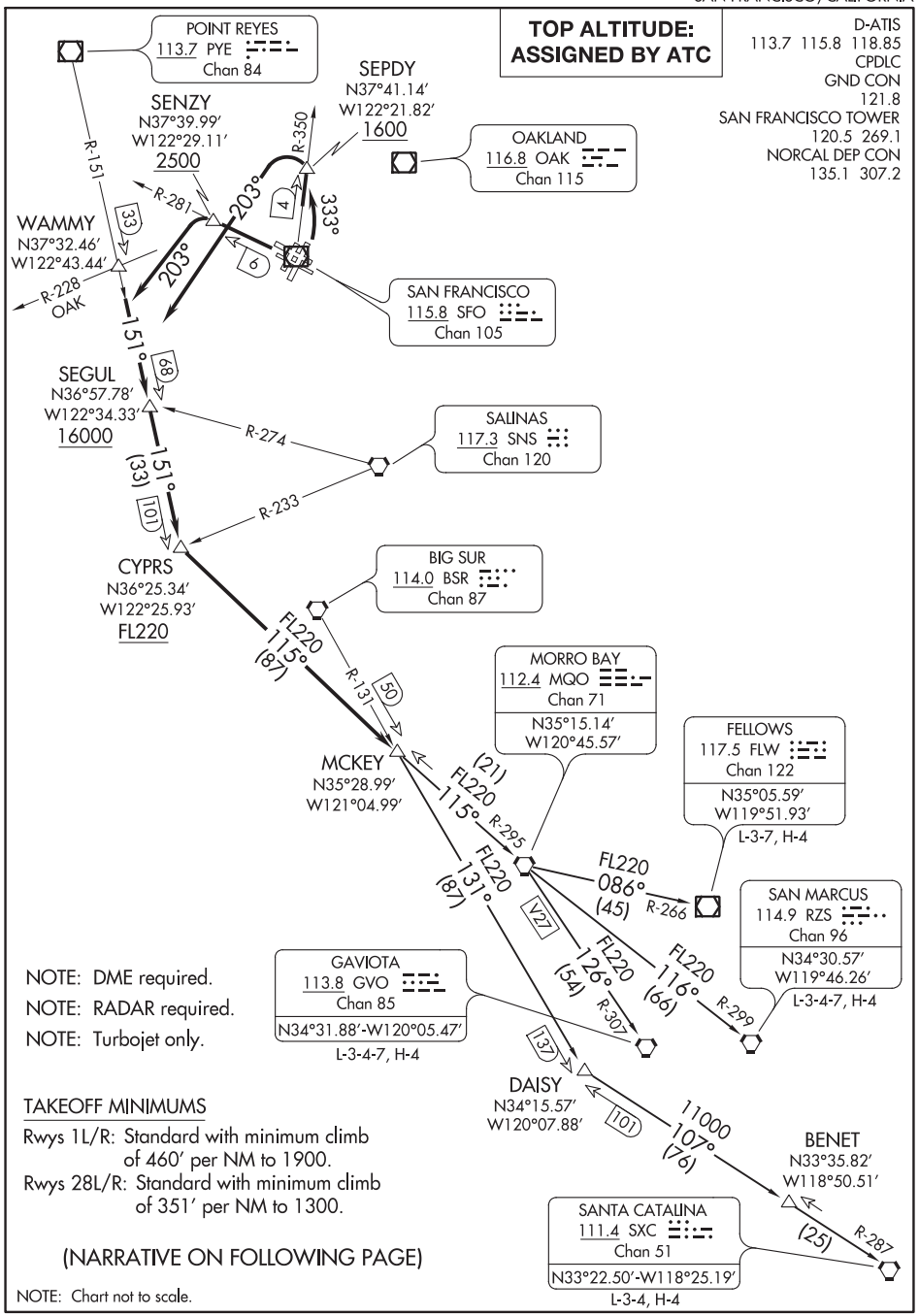
DEDHD TRANSITION (NIITE3.DEDHD)
GOBBS TRANSITION (NIITE3.GOBBS)
GRTFL TRANSITION (NIITE3.GRTFL)
MOGEE TRANSITION (NIITE3.MOGEE)
ORRCA TRANSITION (NIITE3.ORRCA)
SYRAH TRANSITION (NIITE3.SYRAH)
TIPRE TRANSITION (NIITE3.TIPRE)

(OFFSH2.MCKEY) 19339

OFFSHORE TWO DEPARTURE

AL-375 (FAA)

SAN FRANCISCO INTL (SFO)
SAN FRANCISCO, CALIFORNIA



NOTE: DME required.

NOTE: RADAR required.

NOTE: Turbojet only.

TAKEOFF MINIMUMS

Rwys 1L/R: Standard with minimum climb of 460′ per NM to 1900.

Rwys 28L/R: Standard with minimum climb of 351′ per NM to 1300.

(NARRATIVE ON FOLLOWING PAGE)

NOTE: Chart not to scale.

SW-2, 25 FEB 2021 to 22 APR 2021

OFFSHORE TWO DEPARTURE
(OFFSH2.MCKEY) 25APR19
SAN FRANCISCO, CALIFORNIA
SAN FRANCISCO INTL (SFO)

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 1L/R: Climbing left turn heading 333° to intercept SFO VOR/DME R-350 to cross SEPDY INT/SFO VOR/DME 4 DME at or above 1600. Thence . . . .
TAKEOFF RUNWAYS 28L/R: Climb on SFO VOR/DME R-281 to cross SENZY INT/ SFO VOR/DME 6 DME at or above 2500. Thence . . . .

. . . . climbing left turn heading 203° to intercept PYE R-151 to cross SEGUL INT/PYE 68 DME at or above 16000, then on PYE R-151 to cross CYPRS INT/PYE 101 DME at or above FL220. Then on MQO R-295 to MCKEY INT/MQO 21 DME, then on assigned (transition). Maintain ATC assigned altitude. Expect filed altitiude 10 minutes after departure.

FELLOWS TRANSITION (OFFSH2.FLW): From over MCKEY INT on MQO R-295 to MQO VORTAC, then on MQO R-086 and FLW R-266 to FLW VOR/DME.
GAVIOTA TRANSITION (OFFSH2.GVO): From over MCKEY INT on MQO R-295 to MQO VORTAC, then on MQO R-126 and GVO R-307 to GVO VORTAC.
SAN MARCUS TRANSITION (OFFSH2.RZS): From over MCKEY INT on MQO R-295 to MQO VORTAC, then on MQO R-116 and RZS R-299 to RZS VORTAC.
SANTA CATALINA TRANSITION (OFFSH2.SXC): From over MCKEY INT on BSR R-131 to DAISY INT then on SXC R-287 to SXC VORTAC.

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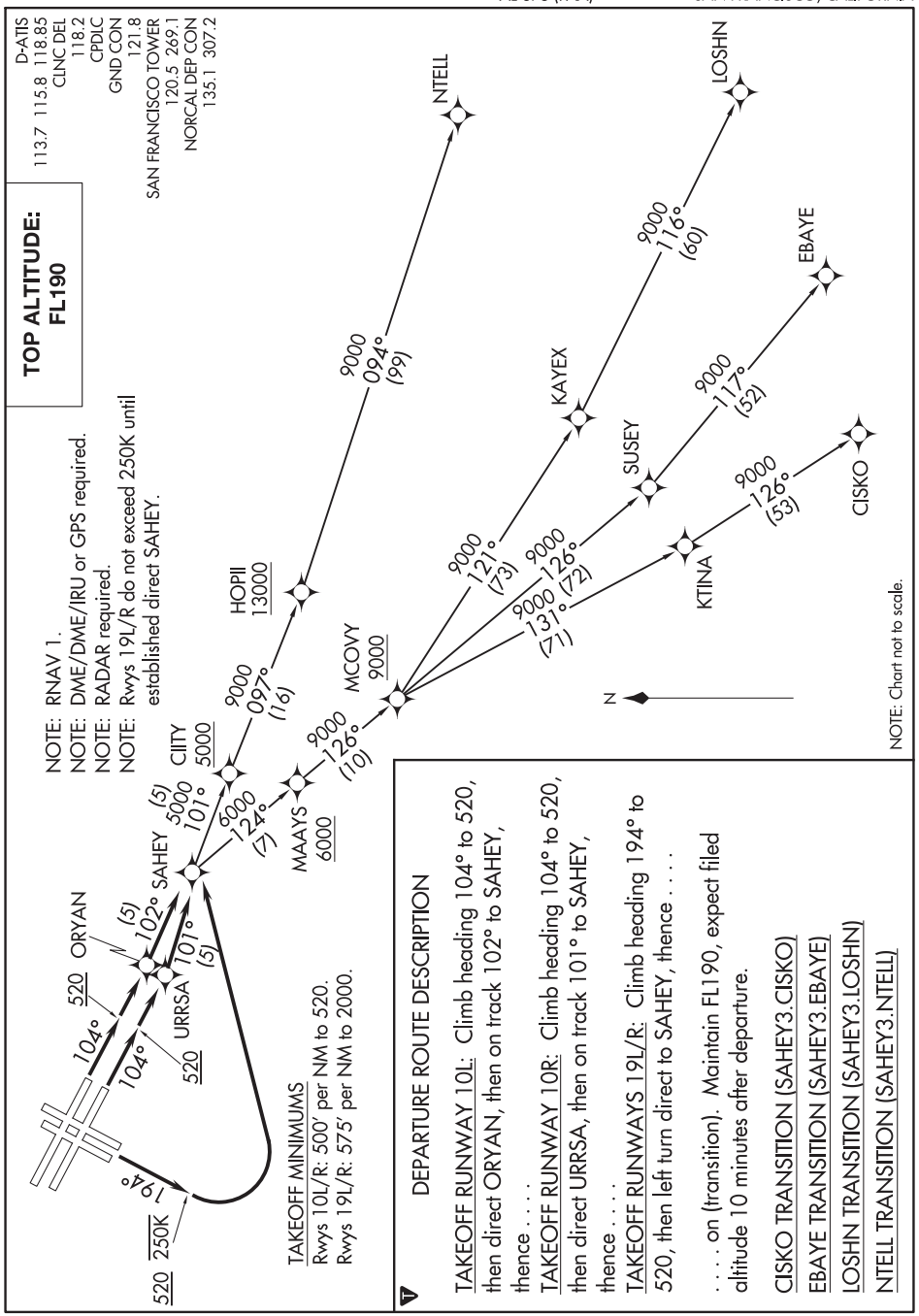
(SAHEY3.SAHEY) 17341

SAHEY THREE DEPARTURE (RNAV)

AL-375 (FAA)

SAN FRANCISCO INTL (SFO)
SAN FRANCISCO, CALIFORNIA



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SW-2, 25 FEB 2021 to 22 APR 2021

SAHEY THREE DEPARTURE (RNAV)

(SAHEY3.SAHEY) 20AUG15

SAN FRANCISCO, CALIFORNIA
SAN FRANCISCO INTL (SFO)

SAN FRANCISCO FOUR DEPARTURE

AL-375 (FAA)

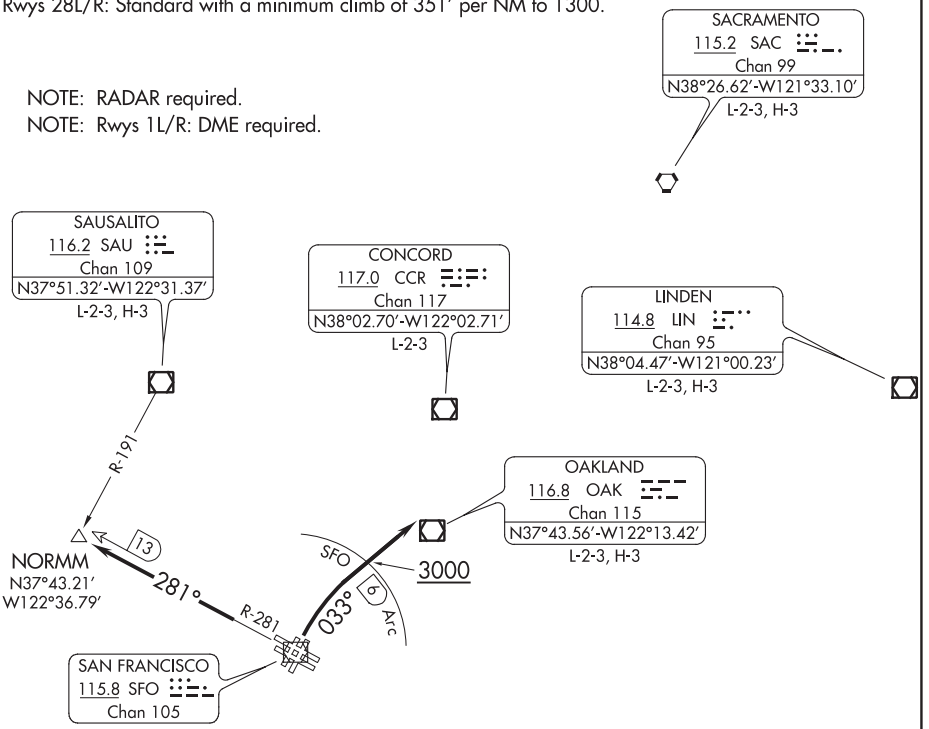
SAN FRANCISCO INTL (SFO)
SAN FRANCISCO, CALIFORNIA

TOP ALTITUDE: ASSIGNED BY ATC

D-ATIS
113.7 115.8 118.85
CPDLC
GND CON
121.8
SAN FRANCISCO TOWER
120.5 269.1
NORCAL DEP CON
120.9 323.2

TAKEOFF MINIMUMS
Rwys 1L/R: Standard.
Rwys 28L/R: Standard with a minimum climb of 351′ per NM to 1300.

NOTE: RADAR required.
NOTE: Rwys 1L/R: DME required.



NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 1L/R: Climbing right turn heading 033° or ATC assigned heading to cross SFO 6 DME at or above 3000 for RADAR vectors to assigned route/fix. Expect further clearance to filed altitude 10 minutes after departure.

TAKEOFF RUNWAYS 28L/R: Climb on SFO VOR/DME R-281 to NORMM INT/SFO 13 DME; then expect RADAR vectors to assigned route/fix. Expect further clearance to filed altitude 10 minutes after departure.

LOST COMMUNICATIONS:
If not in contact with departure control after reaching 3000, continue climb to filed altitude and proceed direct to assigned route/fix.

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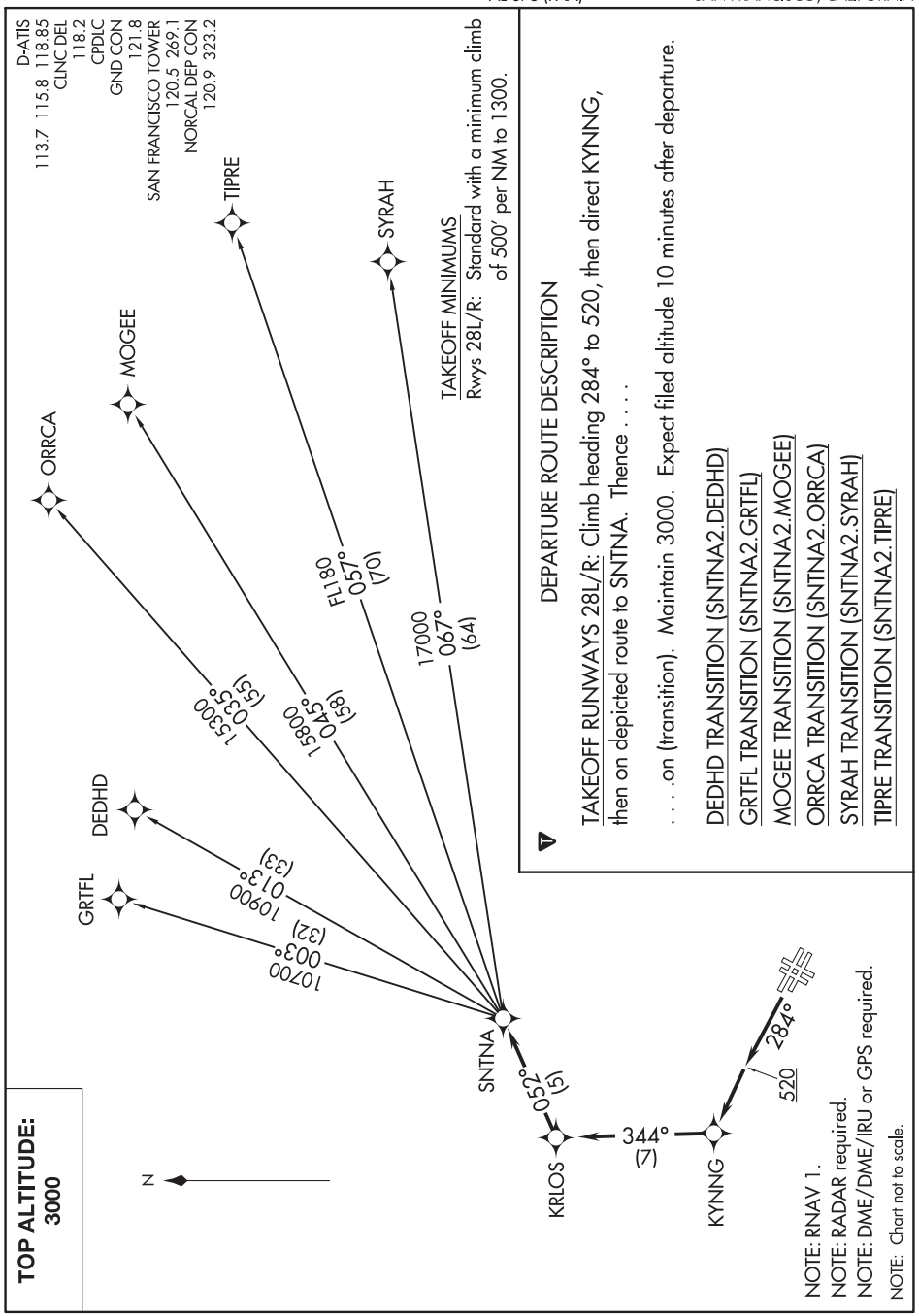
SW-2, 25 FEB 2021 to 22 APR 2021

(SNTNA2.SNTNA) 17341

SNTNA TWO DEPARTURE (RNAV)

AL-375 (FAA)

SAN FRANCISCO INTL (SFO)
SAN FRANCISCO, CALIFORNIA



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SW-2, 25 FEB 2021 to 22 APR 2021

D-ATIS
113.7 115.8 118.85
CLNC DEL
118.2
CPDLC
GND CON
121.8
SAN FRANCISCO TOWER
120.5 269.1
NORCAL DEP CON
135.1 307.2

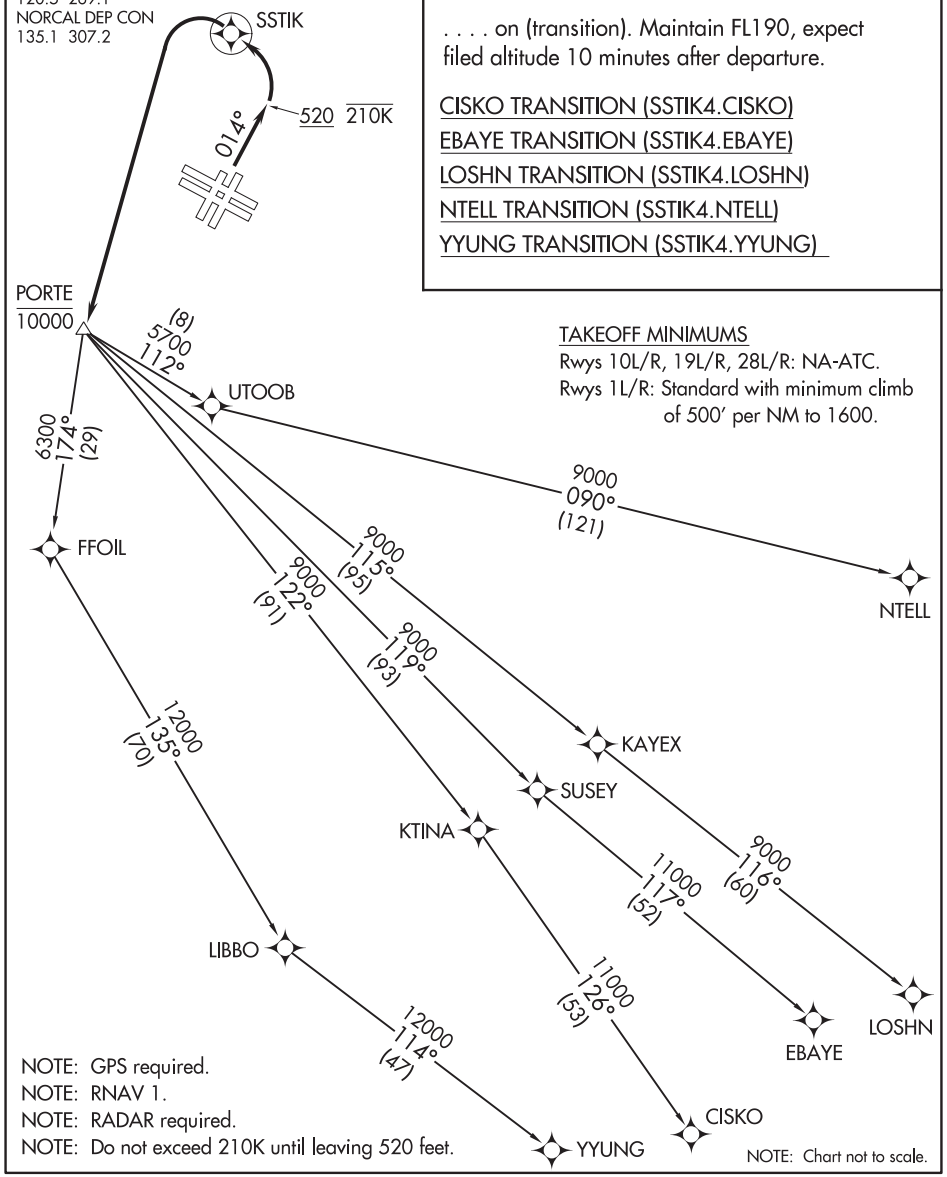
TOP ALTITUDE: FL190

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 1L/R: Climb heading 014° to 520 and at or below 210K, then climbing left turn direct SSTIK, then climbing left turn direct PORTE at or below 10000. Thence. . . .

. . . . on (transition). Maintain FL190, expect filed altitude 10 minutes after departure.

CISKO TRANSITION (SSTIK4.CISKO)
EBAYE TRANSITION (SSTIK4.EBAYE)
LOSHN TRANSITION (SSTIK4.LOSHN)
NTELL TRANSITION (SSTIK4.NTELL)
YYUNG TRANSITION (SSTIK4.YYUNG)



TAKEOFF MINIMUMS
Rwys 10L/R, 19L/R, 28L/R: NA-ATC.
Rwys 1L/R: Standard with minimum climb of 500′ per NM to 1600.

NOTE: GPS required.
NOTE: RNAV 1.
NOTE: RADAR required.
NOTE: Do not exceed 210K until leaving 520 feet.

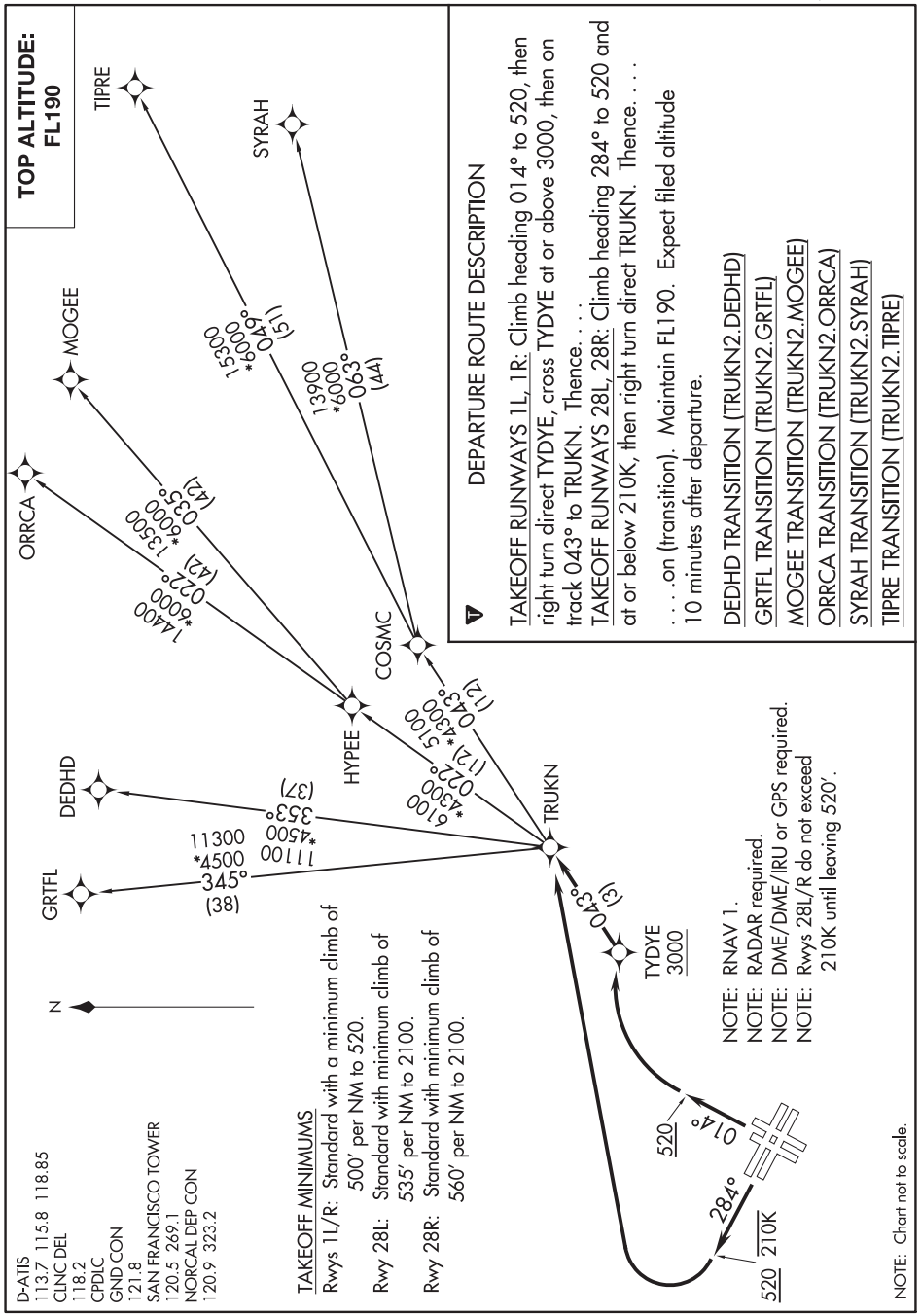
NOTE: Chart not to scale.

(TRUKN2.TRUKN) 17341

TRUKN TWO DEPARTURE (RNAV)

AL-375 (FAA)

SAN FRANCISCO INTL (SFO)
SAN FRANCISCO, CALIFORNIA



SW-2, 25 FEB 2021 to 22 APR 2021

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TRUKN TWO DEPARTURE (RNAV)

SAN FRANCISCO, CALIFORNIA
SAN FRANCISCO INTL (SFO)

(TRUKN2.TRUKN) 25JUN15

WESLA FOUR DEPARTURE (RNAV)

AL-375 (FAA)

D-ATIS
113.7 115.8 118.85
CLNC DEL
118.2
CPDLC
GND CON
121.8
SAN FRANCISCO TOWER
120.5 269.1
NORCAL DEP CON
135.1 307.2

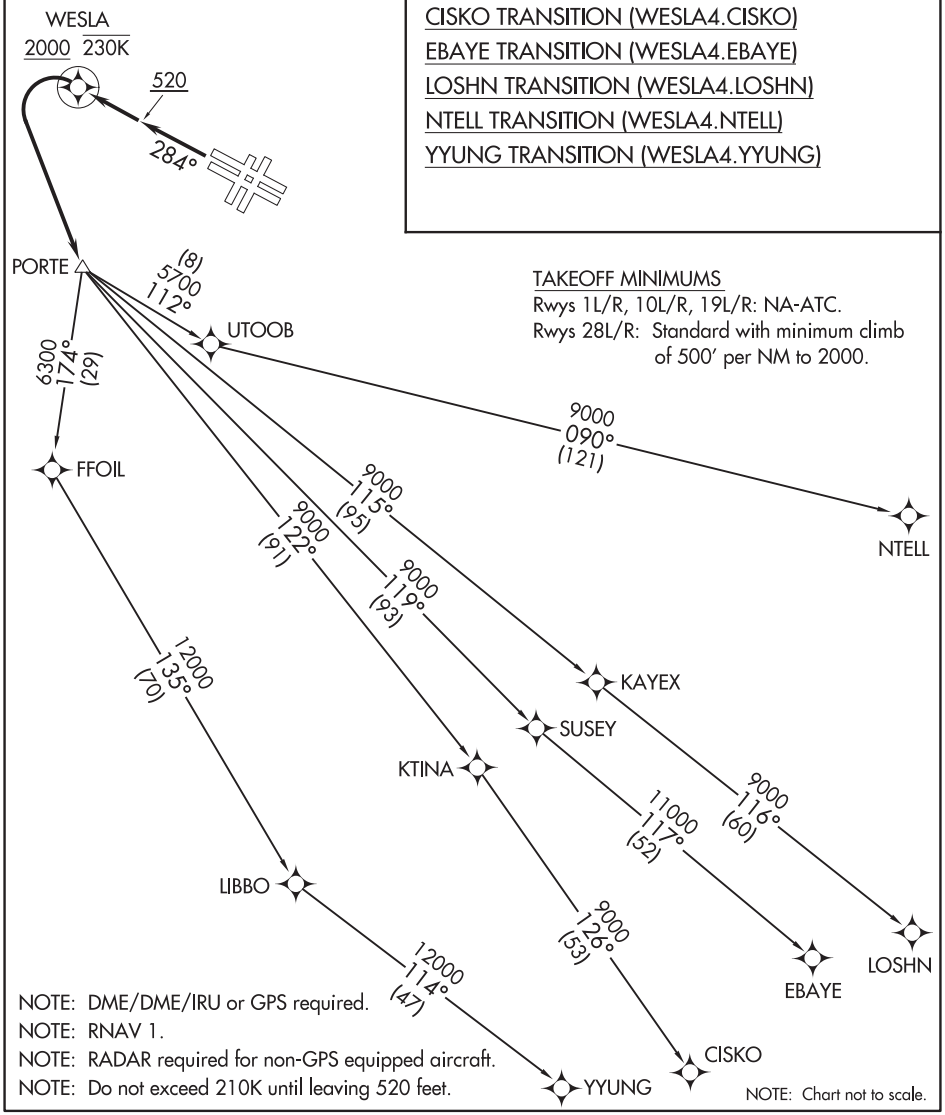
TOP ALTITUDE: 3000

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 28L/R: Climb heading 284° to 520, then direct WESLA at or above 2000 at or below 230K, then left turn direct PORTE, thence . . . .

. . . . on (transition) maintain 3000, expect filed altitude 10 minutes after departure.

CISKO TRANSITION (WESLA4.CISKO)
EBAYE TRANSITION (WESLA4.EBAYE)
LOSHN TRANSITION (WESLA4.LOSHN)
NTELL TRANSITION (WESLA4.NTELL)
YYUNG TRANSITION (WESLA4.YYUNG)



TAKEOFF MINIMUMS
Rwys 1L/R, 10L/R, 19L/R: NA-ATC.
Rwys 28L/R: Standard with minimum climb of 500′ per NM to 2000.

NOTE: DME/DME/IRU or GPS required.
NOTE: RNAV 1.
NOTE: RADAR required for non-GPS equipped aircraft.
NOTE: Do not exceed 210K until leaving 520 feet.

NOTE: Chart not to scale.

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SAN JOSE, CALIFORNIA AL-693 (FAA)

20366

ILS or LOC RWY 12R
NORMAN Y MINETA SAN JOSE INTL (SJC)

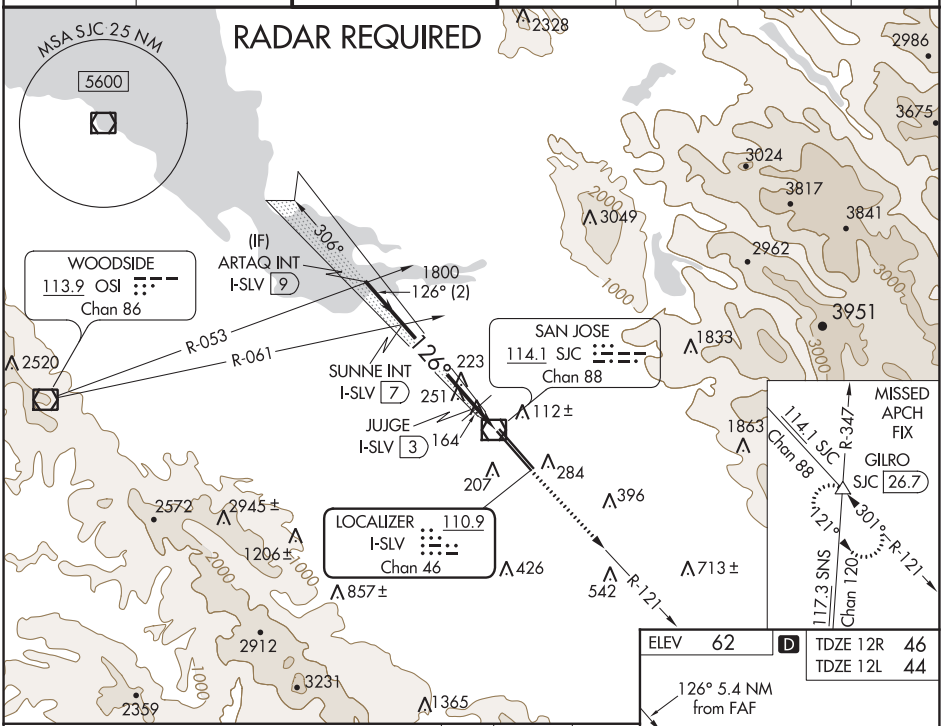
LOC/DME I-SLV 110.9 Chan 46	APP CRS 126°	Rwy ldg	12R 8587	12L 8831
		TDZE	46	44
		Apt Elev	62	62

T A DME required.
For inoperative MALSR, increase S-LOC 12R Cat C/D visibility to 1 mile.

MALSR Rwy 12R A5

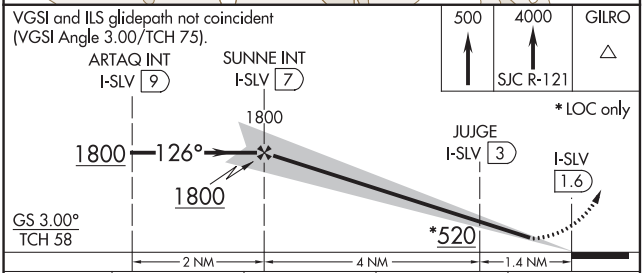
MISSED APPROACH: Climb to 500 then climb to 4000 on SJC VOR/DME R-121 to GILRO/SJC 26.7 DME and hold.

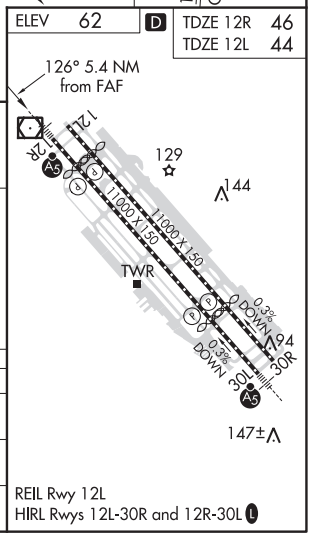
D-ATIS	NORCAL APP CON		SAN JOSE TOWER ★		GND CON	CLNC DEL	CPDLC	UNICOM
126.95	120.1	290.25	124.0 (CTAF) L	257.6	121.7	118.0		122.95



ELEV 62	D	TDZE 12R 46
		TDZE 12L 44

VGSI and ILS glidepath not coincident
(VGSI Angle 3.00/TCH 75).





CATEGORY	A	B	C	D
S-ILS 12R	251-½ 205 (200-½)			
S-LOC 12R	420-½ 374 (400-½)		420-⅝ 374 (400-⅝)	
SIDESTEP RWY 12L	600-1 556 (600-1)		600-1½ 556 (600-1½)	600-2 556 (600-2)

REIL Rwy 12L
HIRL Rwys 12L-30R and 12R-30L L

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LOC/DME I-SJC	APP CRS	Rwy ldg	30L	30R
110.9	306°		7614	7597
Chan 46		TDZE	57	55
		Apt Elev	62	62

ILS or LOC RWY 30L

NORMAN Y MINETA SAN JOSE INTL (SJC)

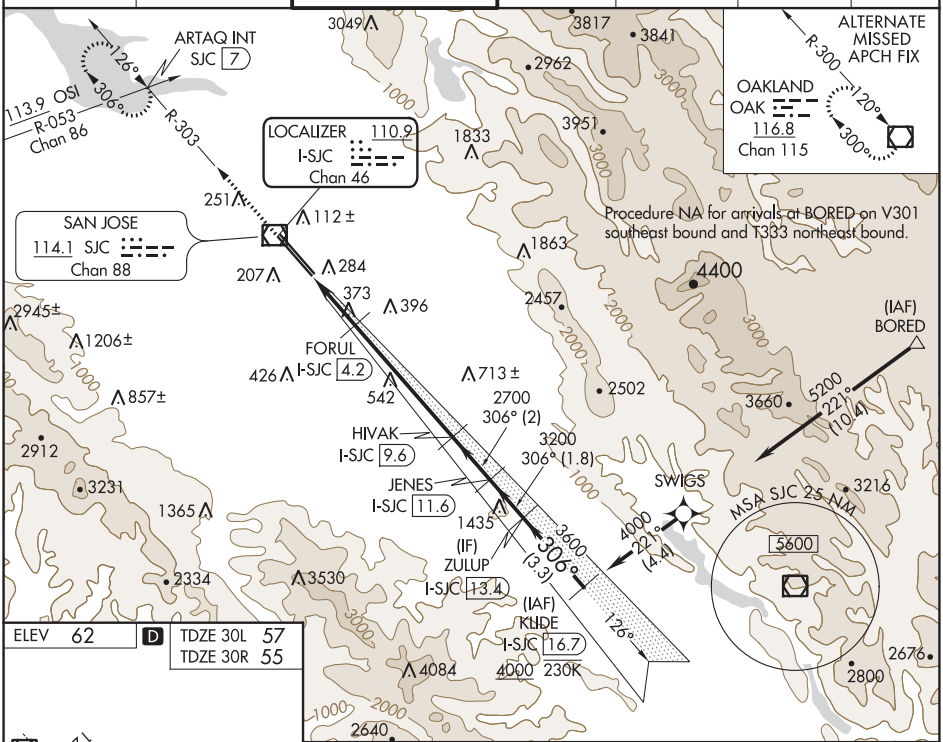
RNAV 1-GPS or RADAR required for procedure entry. DME required.
From BORED: RNAV 1-GPS required.

T A #RVR 1800 authorized with use of FD or AP or HUD to DA.

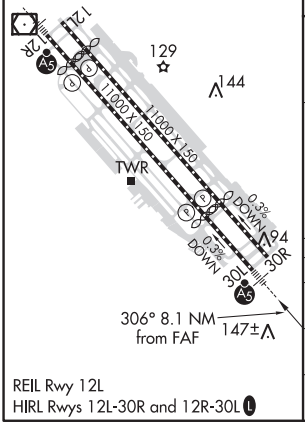
MALSR Rwy 30L A5

MISSED APPROACH: Climb to 1900 on SJC VOR/DME R-303 to ARTAQ INT/SJC 7 DME and hold.

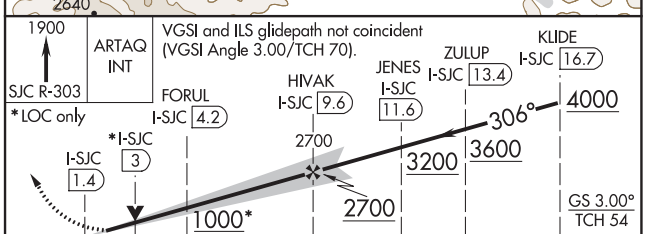
D-ATIS	NORCAL APP CON	SAN JOSE TOWER ★	GND CON	CLNC DEL	CPDLC	UNICOM
126.95	120.1 290.25	124.0 (CTAF) L 257.6	121.7	118.0		122.95



ELEV 62	D	TDZE 30L 57
		TDZE 30R 55



REIL Rwy 12L
HIRL Rwys 12L-30R and 12R-30L L



CATEGORY	A	B	C	D
S-ILS 30L#	257/24 200 (200-½)			
S-LOC 30L	640/24 583 (600-½)		640-1¼ 583 (600-1¼)	
SIDESTEP 30R	640-1 585 (600-1)		640-1¾ 585 (600-1¾)	640-2 585 (600-2)

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AL-693 (FAA)

SAN JOSE, CALIFORNIA

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ILS RWY 30L (SA CAT I & II)

NORMAN Y MINETA SAN JOSE INTL (SJC)

LOC/DME I-SJC	APP CRS	Rwy ldg	7614
110.9	306°	TDZE	57
Chan 46		Apt Elev	62

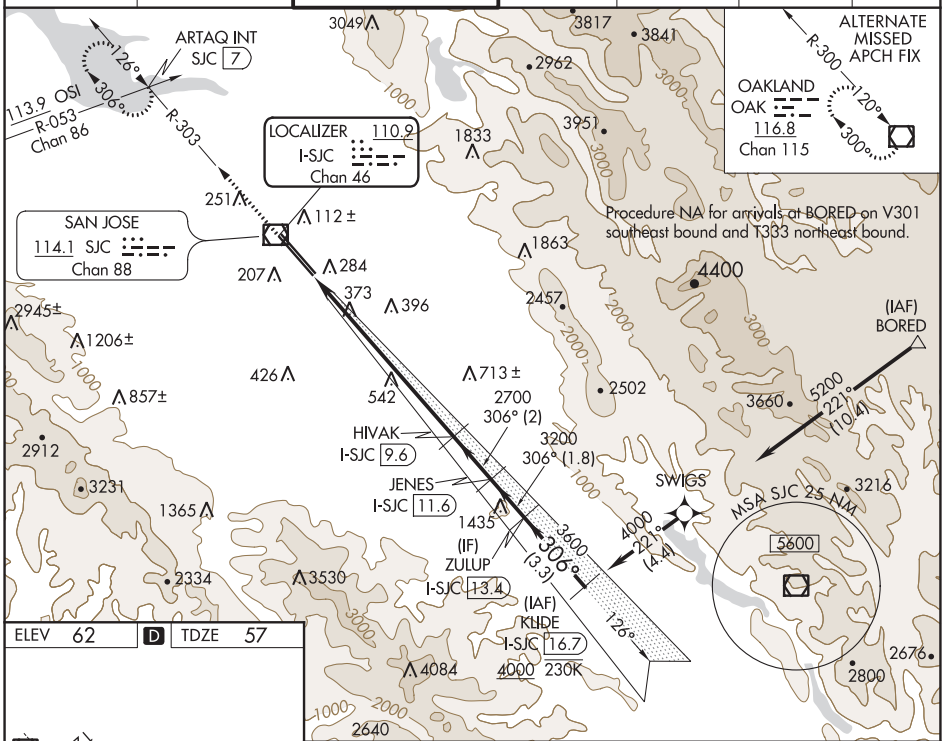
RNAV 1-GPS or RADAR required for procedure entry. DME required.
From BORED: RNAV 1-GPS required.

SA CAT I: Requires specific OPSPEC, MSPEC, or LOA approval and use of HUD to DH.
SA CAT II: Reduced lighting: requires specific OPSPEC, MSPEC, or LOA approval and use of autoland or HUD to touchdown. SA CAT I /II: Procedure NA when tower closed.

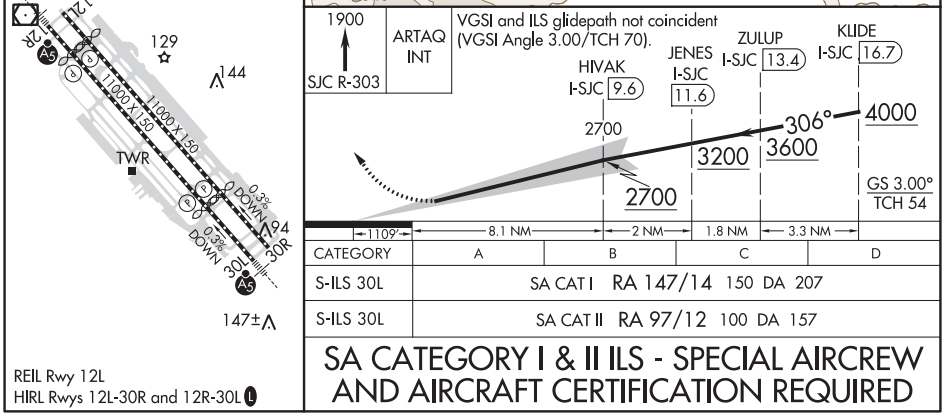
MALSR

MISSED APPROACH: Climb to 1900 on SJC VOR/DME R-303 to ARTAQ INT/SJC 7 DME and hold.

D-ATIS	NORCAL APP CON	SAN JOSE TOWER ★	GND CON	CLNC DEL	CPDLC	UNICOM
126.95	120.1 290.25	124.0 (CTAF) L 257.6	121.7	118.0		122.95



ELEV	62	D	TDZE	57



CATEGORY	A	B	C	D
S-ILS 30L	SA CAT I RA 147/14 150 DA 207			
S-ILS 30L	SA CAT II RA 97/12 100 DA 157			

SA CATEGORY I & II ILS - SPECIAL AIRCREW AND AIRCRAFT CERTIFICATION REQUIRED

REIL Rwy 12L
HIRL Rwys 12L-30R and 12R-30L L

SAN JOSE, CALIFORNIA
Amdt 26 10SEP20

37°22'N-121°56'W

NORMAN Y MINETA SAN JOSE INTL (SJC)
ILS RWY 30L (SA CAT I & II)

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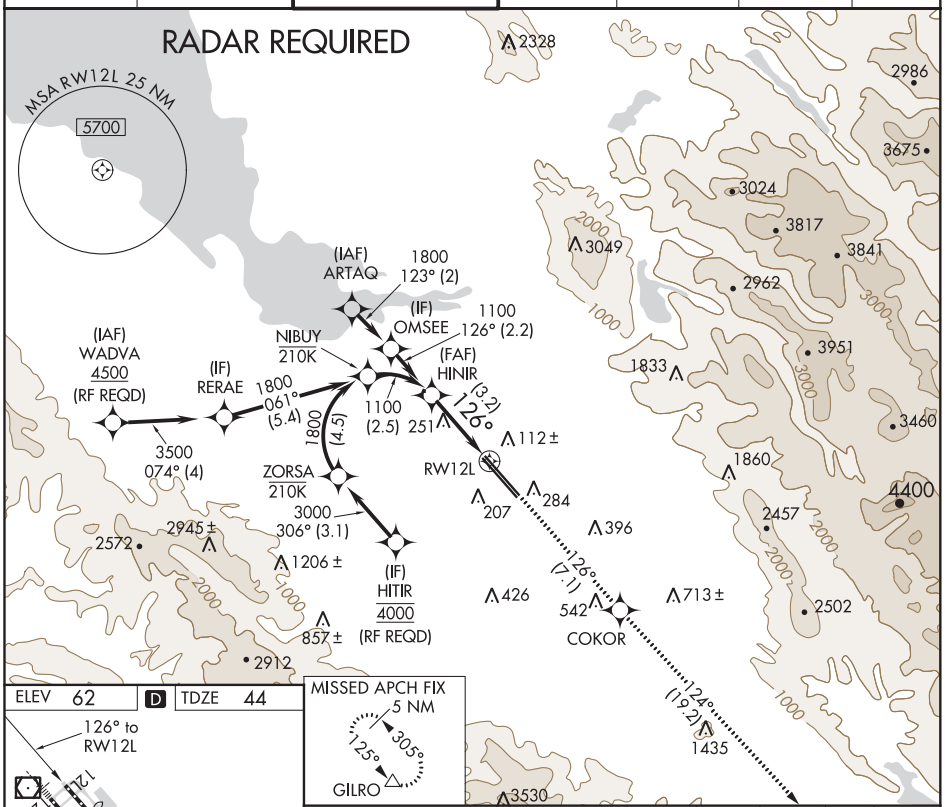
APP CRS	Rwy ldg	8831
126°	TDZE	44
	Apt Elev	62

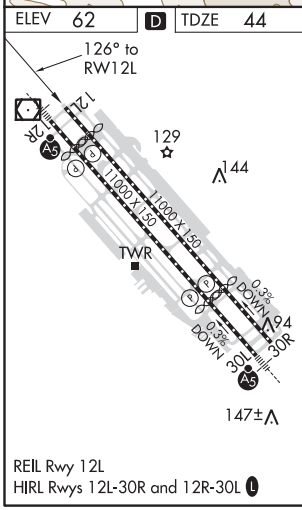
RNAV (RNP) Z RWY 12L
NORMAN Y MINETA SAN JOSE INTL (SJC)

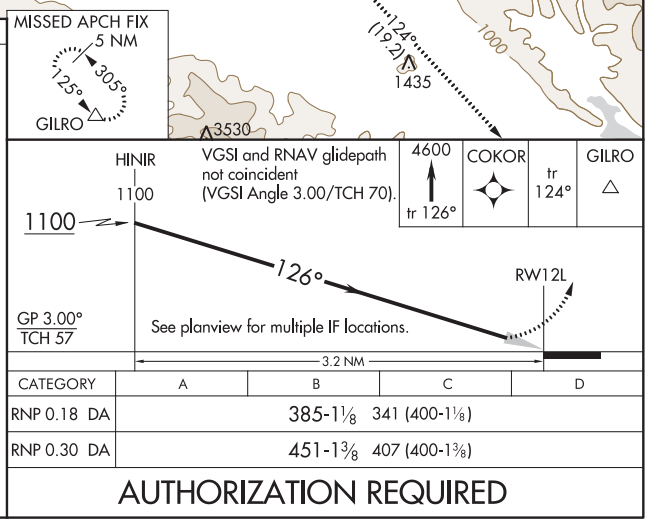
For uncompensated Baro-VNAV systems, procedure NA below 0°C (32°F) or above 54°C (130°F). GPS required.

MISSED APPROACH: Climb to 4600 on track 126° to COKOR and on track 124° to GILRO and hold.

D-ATIS	NORCAL APP CON	SAN JOSE TOWER ★	GND CON	CLNC DEL	CPDLC	UNICOM
126.95	120.1 290.25	124.0 (CTAF) L 257.6	121.7	118.0		122.95







CATEGORY	A	B	C	D
RNP 0.18 DA	385-1⅛ 341 (400-1⅛)			
RNP 0.30 DA	451-1⅜ 407 (400-1⅜)			

AUTHORIZATION REQUIRED

REIL Rwy 12L
HIRL Rwys 12L-30R and 12R-30L L

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RNAV (RNP) Z RWY 12R

NORMAN Y MINETA SAN JOSE INTL (SJC)

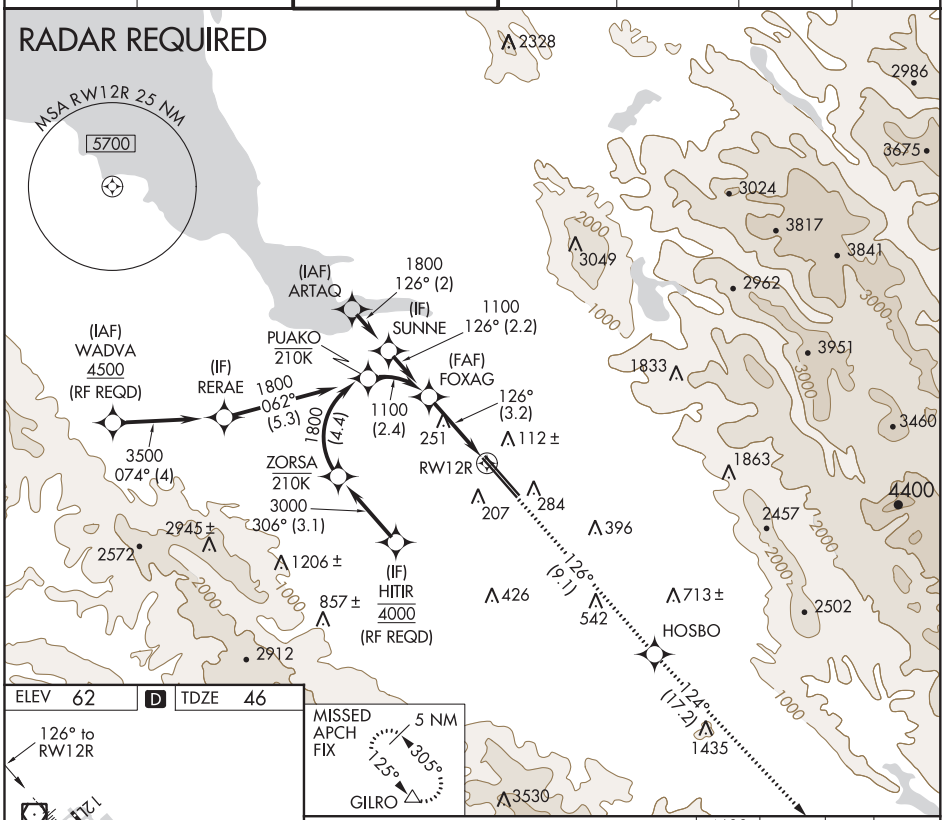
APP CRS	Rwy ldg	8587
126°	TDZE	46
	Apt Elev	62

For uncompensated Baro-VNAV systems, procedure NA below 0°C (32°F) or above 54°C (130°F). GPS required.

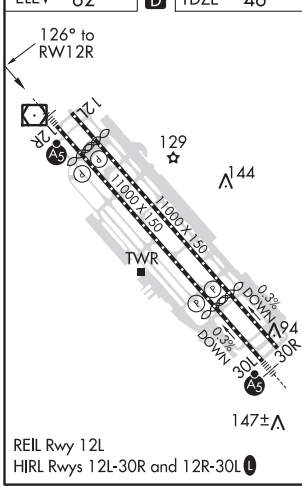
MALSR

MISSED APPROACH: Climb to 4600 on track 126° to HOSBO and on track 124° to GILRO and hold.

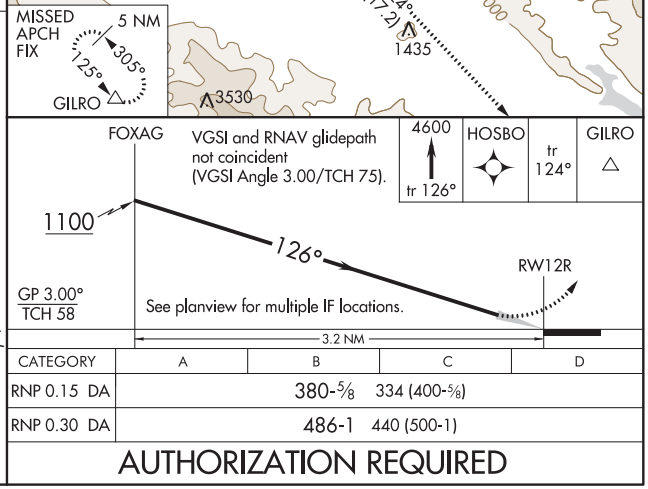
D-ATIS	NORCAL APP CON	SAN JOSE TOWER ★	GND CON	CLNC DEL	CPDLC	UNICOM
126.95	120.1 290.25	124.0 (CTAF) L 257.6	121.7	118.0		122.95



ELEV	62	D	TDZE	46



REIL Rwy 12L
HIRL Rwys 12L-30R and 12R-30L L



CATEGORY	A	B	C	D
RNP 0.15 DA	380-⅝ 334 (400-⅝)			
RNP 0.30 DA	486-1 440 (500-1)			

AUTHORIZATION REQUIRED

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APP CRS	Rwy ldg	7614
306°	TDZE	57
	Apt Elev	62

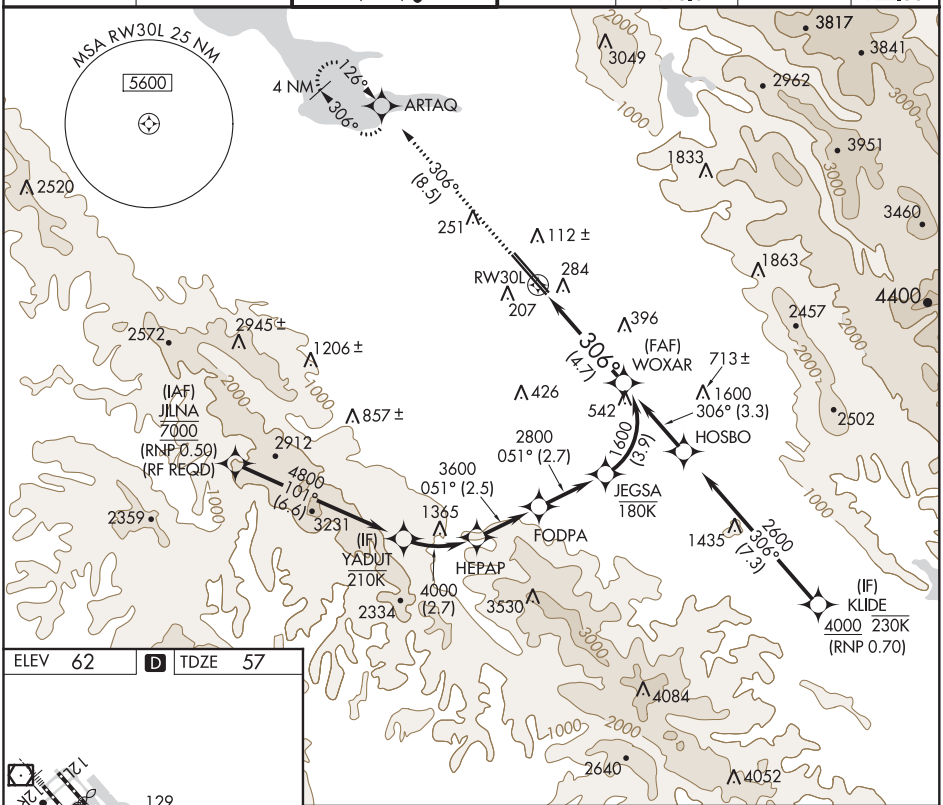
RNAV (RNP) Z RWY 30L
NORMAN Y MINETA SAN JOSE INTL (SJC)

For uncompensated Baro-VNAV systems, procedure NA below -1°C (31°F) or above 54°C (130°F). GPS required. For inoperative MALSR, increase RNP 0.15 all Cats visibility to RVR 6000 and increase RNP 0.30 all Cats visibility to 1⅝ mile.

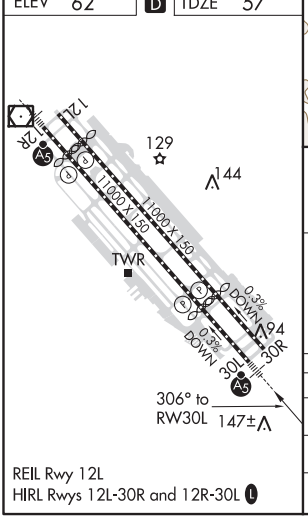
MALSR A5

MISSED APPROACH: Climb to 2300 on track 306° to ARTAQ and hold.

D-ATIS	NORCAL APP CON	SAN JOSE TOWER ★	GND CON	CLNC DEL	CPDLC	UNICOM
126.95	120.1 290.25	124.0 (CTAF) L 257.6	121.7	118.0		122.95



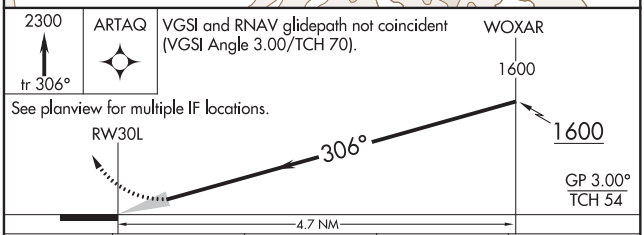
ELEV 62 | D | TDZE 57



REIL Rwy 12L
HIRL Rwys 12L-30R and 12R-30L L

2300 tr 306°	ARTAQ	VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 70).

See planview for multiple IF locations.



CATEGORY	A	B	C	D
RNP 0.15 DA	421/40 364 (400-¾)			
RNP 0.30 DA	544/60 487 (500-1¼)			

AUTHORIZATION REQUIRED

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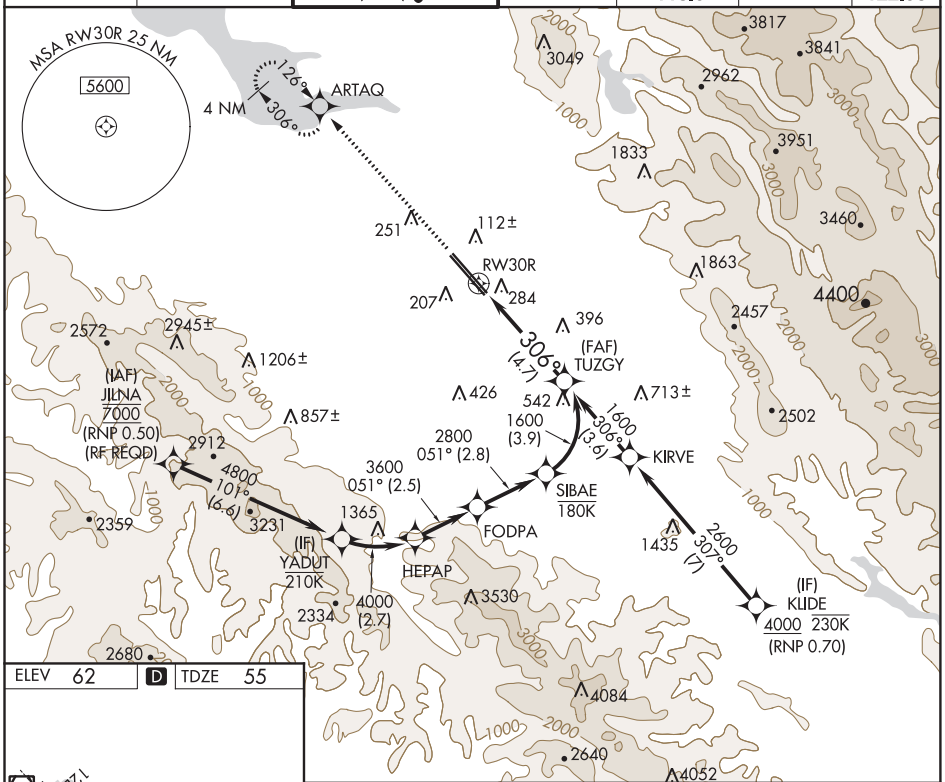
APP CRS	Rwy ldg	7597
306°	TDZE	55
	Apt Elev	62

RNAV (RNP) Z RWY 30R
NORMAN Y MINETA SAN JOSE INTL (SJC)

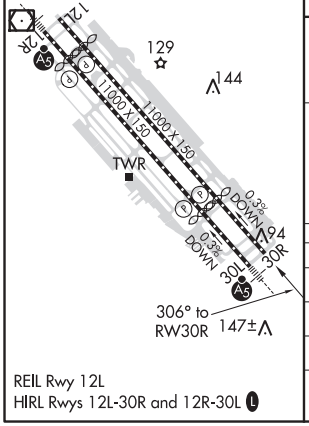
For uncompensated Baro-VNAV systems, procedure NA below -1°C (31°F) or above 54°C (130°F). GPS required.

MISSED APPROACH: Climb to 600 then climb to 2300 direct ARTAQ and hold.

D-ATIS	NORCAL APP CON	SAN JOSE TOWER ★	GND CON	CLNC DEL	CPDLC	UNICOM
126.95	120.1 290.25	124.0 (CTAF) L 257.6	121.7	118.0		122.95



ELEV	62	D	TDZE	55

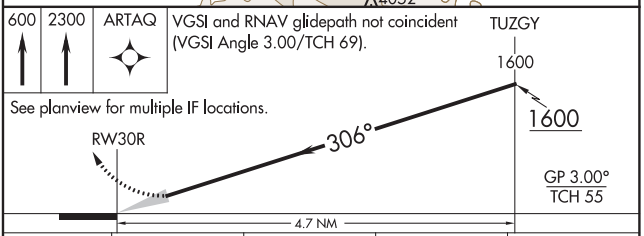


REIL Rwy 12L
HIRL Rwys 12L-30R and 12R-30L L

600	2300	ARTAQ

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 69).

See planview for multiple IF locations.



CATEGORY	A	B	C	D
RNP 0.11 DA	404-1⅛	349 (400-1⅛)		
RNP 0.20 DA	475-1⅜	420 (500-1⅜)		
RNP 0.30 DA	541-1⅝	486 (500-1⅝)		

AUTHORIZATION REQUIRED

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WAAS CH 69501 W12B	APP CRS 126°	Rwy ldg 8831 TDZE 44 Apt Elev 62

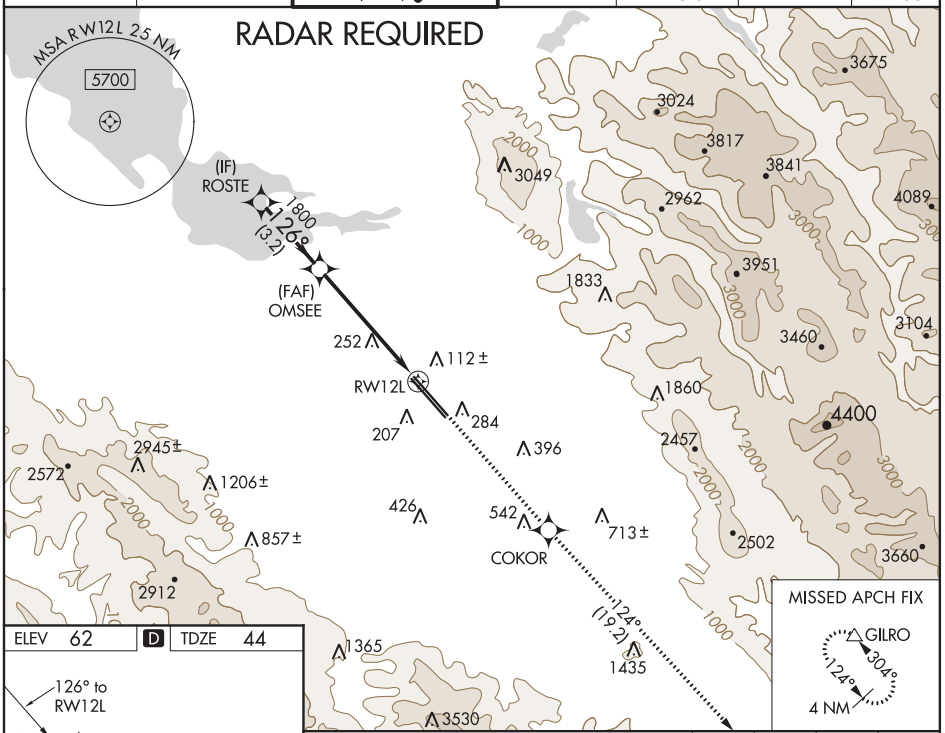
RNAV (GPS) Y RWY 12L

NORMAN Y MINETA SAN JOSE INTL (SJC)

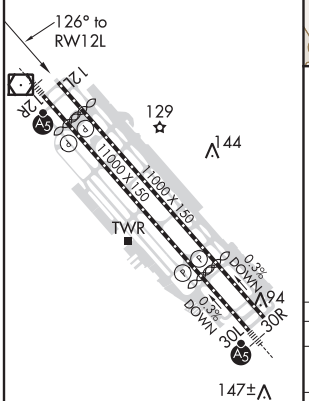
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1°C (31°F) or above 54°C (130°F).
DME/DME RNP- 0.3 NA.

MISSED APPROACH: Climb to 4600 direct COKOR and on track 124° to GILRO and hold.

D-ATIS	NORCAL APP CON	SAN JOSE TOWER ★	GND CON	CLNC DEL	CPDLC	UNICOM
126.95	120.1 290.25	124.0 (CTAF) L 257.6	121.7	118.0		122.95



ELEV 62	D	TDZE 44

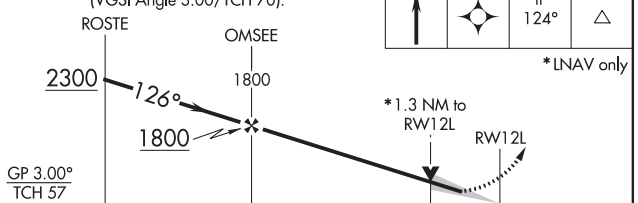


REIL Rwy 12L
HIRL Rwys 12L-30R and 12R-30L L

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 70).

4600	COKOR	tr 124°	GILRO

*LNAV only



CATEGORY		A	B	C	D
LPV	DA	294-¾ 250 (300-¾)			
LNAV/VNAV	DA	341-1 297 (300-1)			
LNAV	MDA	520-1 476 (500-1)		520-1⅜ 476 (500-1⅜)	

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SAN JOSE, CALIFORNIA

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20366

RNAV (GPS) Y RWY 12R

NORMAN Y MINETA SAN JOSE INTL (SJC)

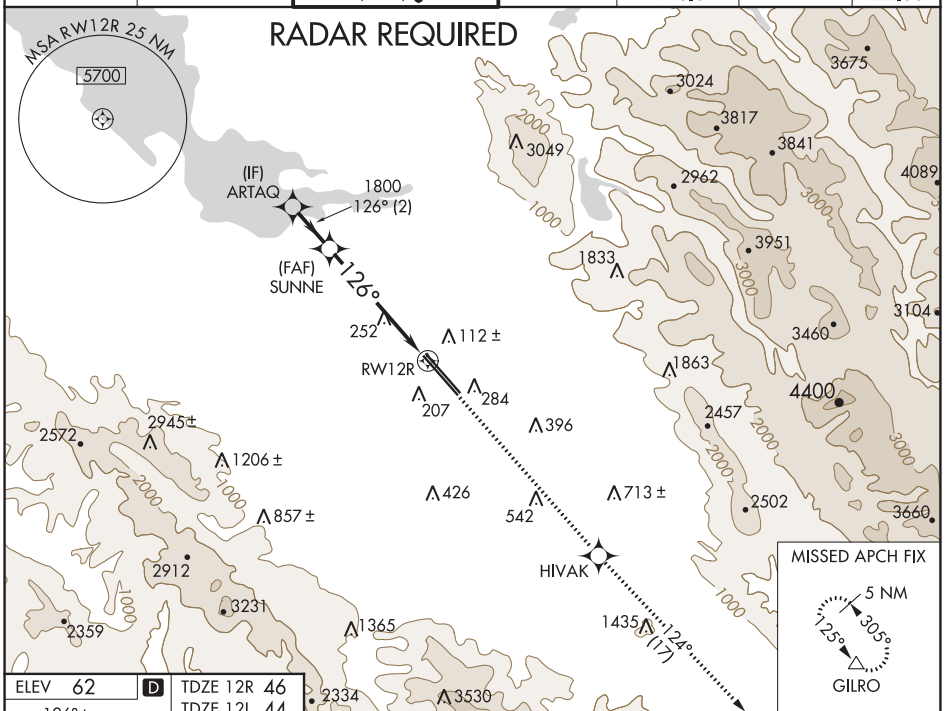
WAAS CH 90106 W12A	APP CRS 126°		12R	12L
		Rwy ldg	8587	8831
		TDZE	46	44
		Apt Elev	62	62

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1°C (31°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. For inoperative MALSR, increase LNAV/VNAV all Cats visibility to 1 mile and LNAV Cats C/D visibility to 1⅜ mile.

MALSR Rwy 12R

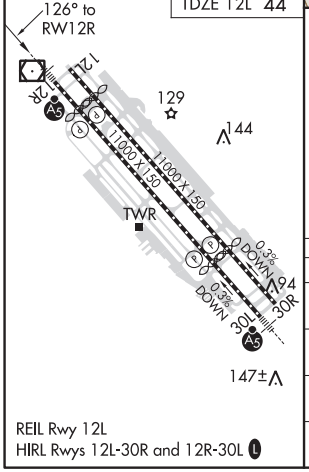
MISSED APPROACH: Climb to 4600 direct HIVAK and on track 124° to GILRO and hold.

D-ATIS	NORCAL APP CON	SAN JOSE TOWER ★	GND CON	CLNC DEL	CPDLC	UNICOM
126.95	120.1 290.25	124.0 (CTAF) L 257.6	121.7	118.0		122.95



ELEV 62 D

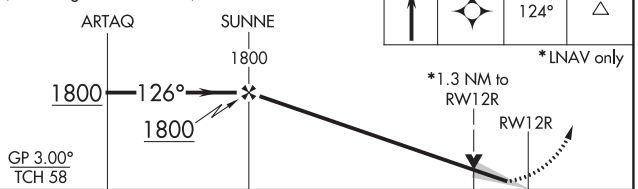
TDZE 12R	46
TDZE 12L	44



REIL Rwy 12L
HIRL Rwys 12L-30R and 12R-30L L

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 75).

4600	HIVAK	tr 124°	GILRO



* LNAV only

CATEGORY	A	B	C	D
LPV DA	246-½ 200 (200-½)			
LNAV/VNAV DA	371-⅝ 325 (400-⅝)	371-1 325 (400-1)		
LNAV MDA	520-½ 474 (500-½)		520-1 474 (500-1)	
SIDESTEP 12L	520-1 476 (500-1)		520-1½ 476 (500-1½)	520-2 476 (500-2)

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RNAV (GPS) Y RWY 30L
NORMAN Y MINETA SAN JOSE INTL (SJC)

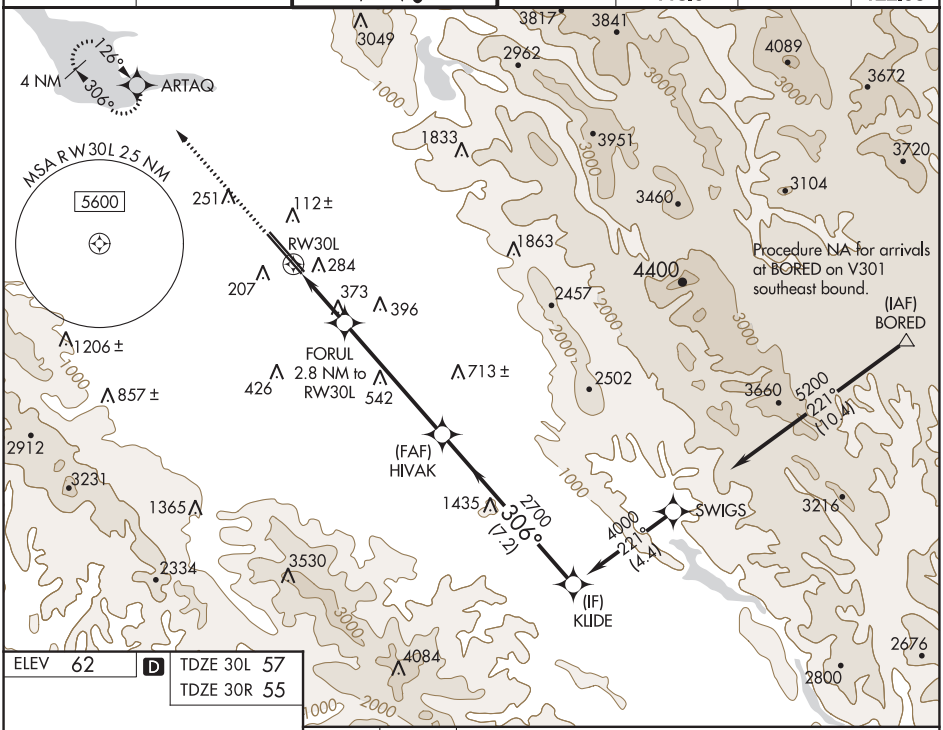
WAAS CH 97306 W30A	APP CRS 306°		30L	30R
		Rwy ldg	7614	7597
		TDZE	57	55
		Apt Elev	62	62

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1°C (31°F) or above 54°C (130°F).
DME/DME RNP-0.3 NA.
RVR 1800 authorized with use of FD or AP or HUD to DA.

MALSR Rwy 30L

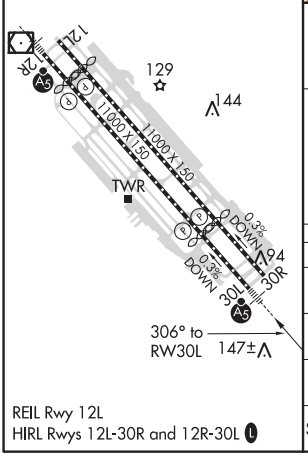
MISSED APPROACH: Climb to 2300 direct ARTAQ and hold.

D-ATIS	NORCAL APP CON	SAN JOSE TOWER ★	GND CON	CLNC DEL	CPDLC	UNICOM
126.95	120.1 290.25	124.0 (CTAF) L 257.6	121.7	118.0		122.95

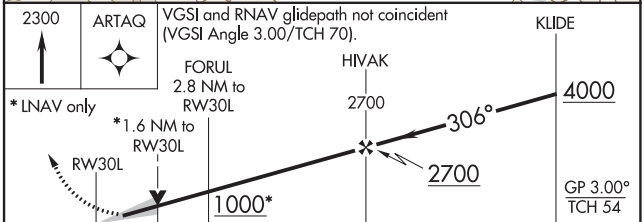


ELEV 62 D

TDZE 30L 57
TDZE 30R 55



REIL Rwy 12L
HIRL Rwys 12L-30R and 12R-30L L



CATEGORY	A	B	C	D
LPV DA #	257/24 200 (200-½)			
LNAV/VNAV DA	540/60 483 (500-1¼)			
LNAV MDA	640/24 583 (600-½)		640-1¼ 583 (600-1¼)	
SIDESTEP 30R	640-1 585 (600-1)			

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SAN JOSE, CALIFORNIA AL-693 (FAA) 20366

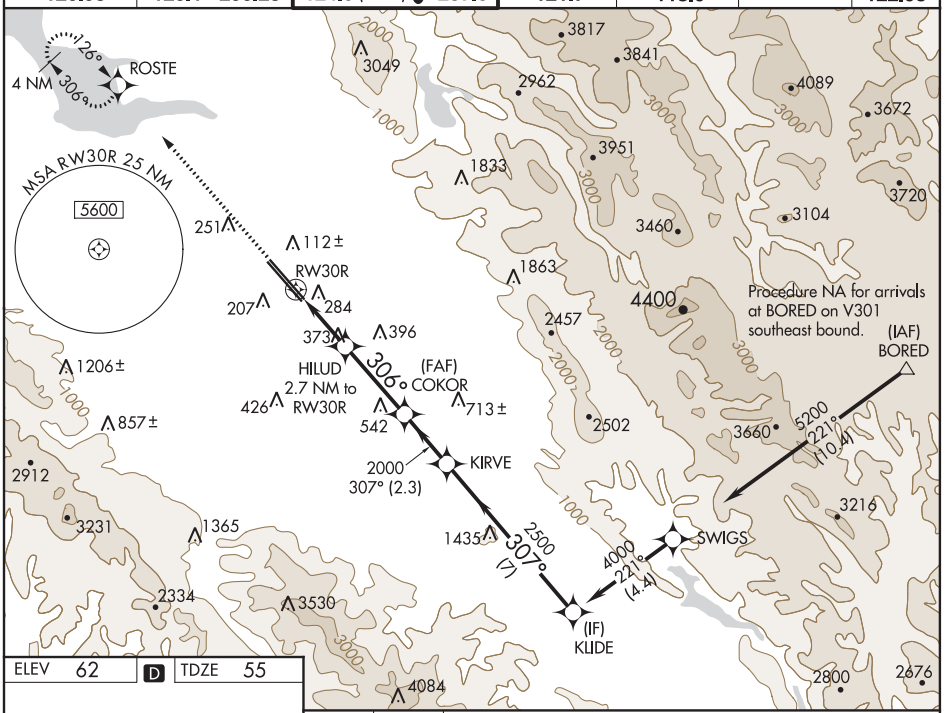
WAAS CH 72901 W30B	APP CRS 306°	Rwy ldg 7597 TDZE 55 Apt Elev 62

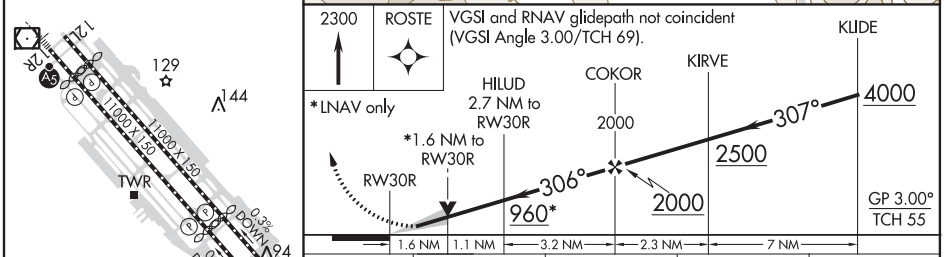
RNAV (GPS) Y RWY 30R
NORMAN Y MINETA SAN JOSE INTL (SJC)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1°C (31°F) or above 54°C (130°F). DME/DME RNP-0.3 NA.

MISSED APPROACH: Climb to 2300 direct ROSTE and hold.

D-ATIS	NORCAL APP CON	SAN JOSE TOWER ★	GND CON	CLNC DEL	CPDLC	UNICOM
126.95	120.1 290.25	124.0 (CTAF) L 257.6	121.7	118.0		122.95





CATEGORY		A	B	C	D
LPV	DA	255-¾ 200 (200-¾)			
LNAV/VNAV	DA	541-1⅝ 486 (500-1⅝)			
LNAV	MDA	640-1 585 (600-1)		640-1¾ 585 (600-1¾)	
C CIRCLING		640-1 578 (600-1)	700-1 638 (700-1)	700-1¾ 638 (700-1¾)	700-2 638 (700-2)

SAN JOSE, CALIFORNIA
Amdt 3A 21JUL16

37°22'N-121°56'W

NORMAN Y MINETA SAN JOSE INTL (SJC)
RNAV (GPS) Y RWY 30R

SW-2, 25 FEB 2021 to 22 APR 2021

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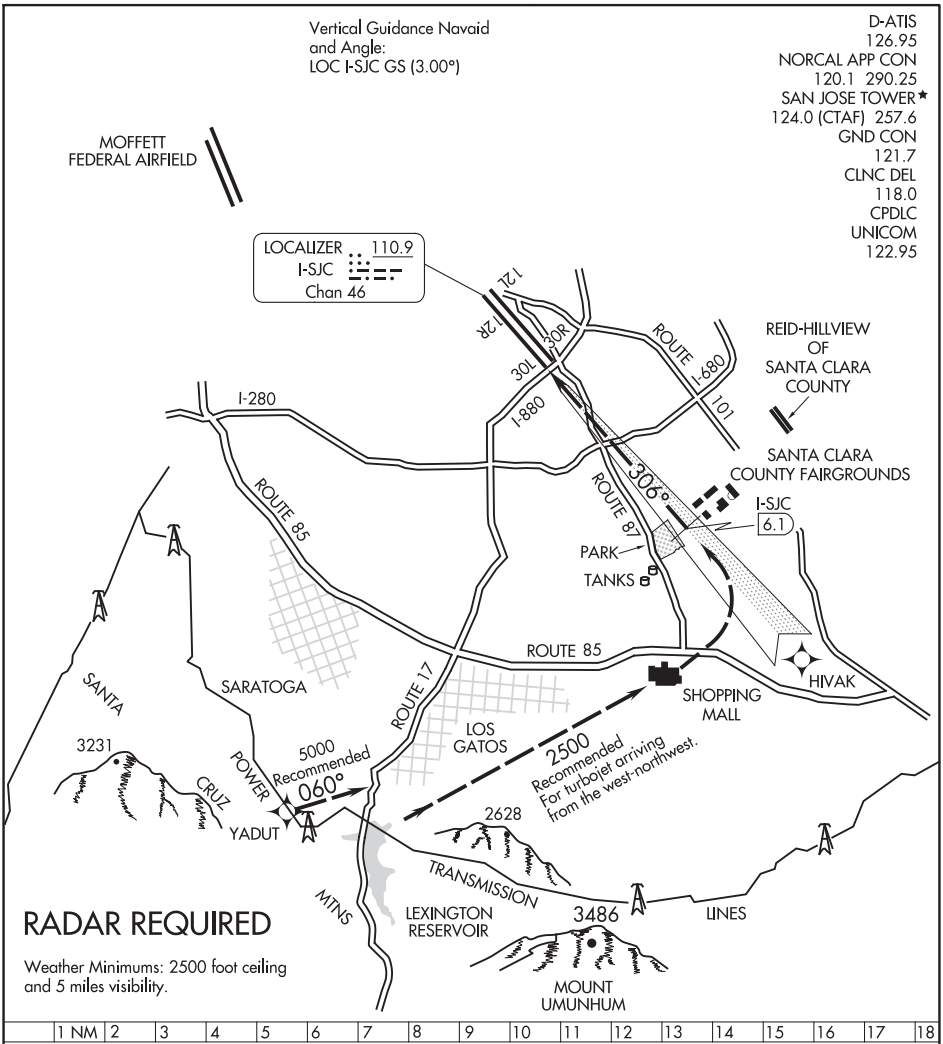
FAIRGROUNDS VISUAL RWYS 30L/R

SAN JOSE, CALIFORNIA



FAIRGROUNDS VISUAL APPROACH RUNWAYS 30L/R

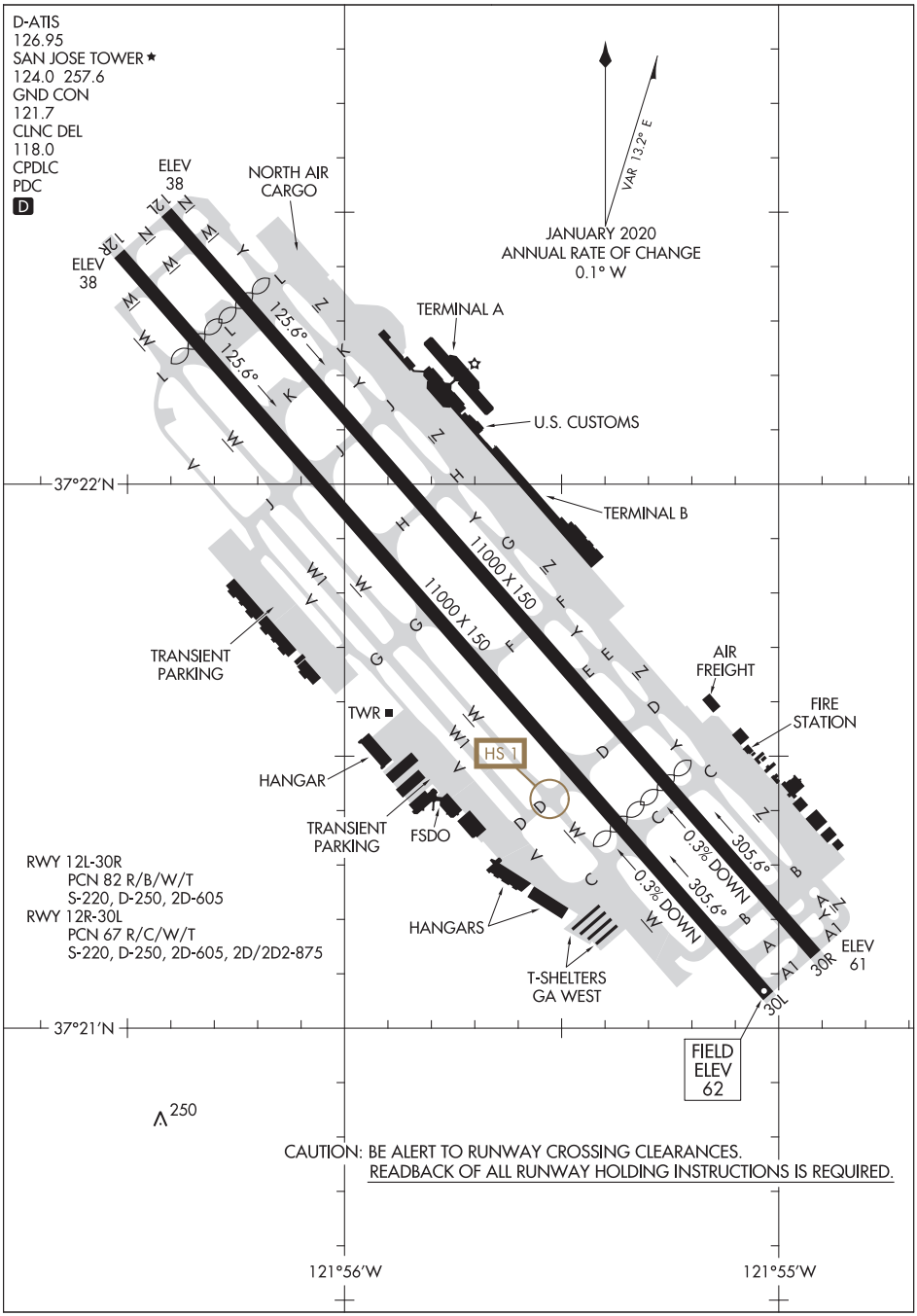
When cleared for Fairgrounds Visual Approach, aircraft should turn final no closer than I-SJC 6.1 DME for noise abatement.

NOTE: Closely spaced parallel visual approaches may be in progress to Runways 30L/R. In the event of a go-around on Runway 30L, proceed straight-ahead heading 300°, or on Runway 30R, turn right heading 120°, climb and maintain 4000, or as directed by ATC.

21056

AIRPORT DIAGRAM

NORMAN Y MINETA SAN JOSE INTL (SJC)
AL-693 (FAA)
SAN JOSE, CALIFORNIA



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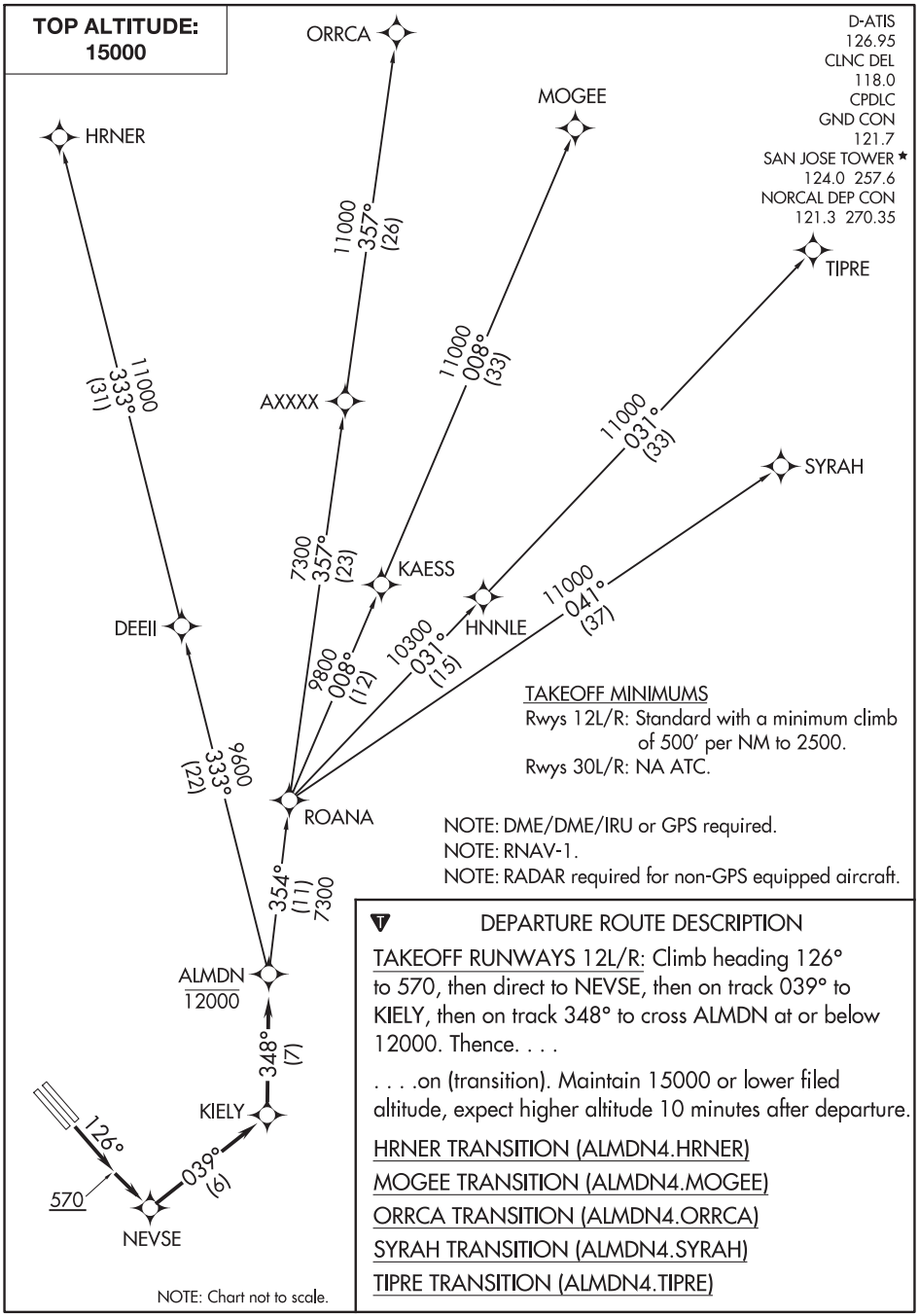
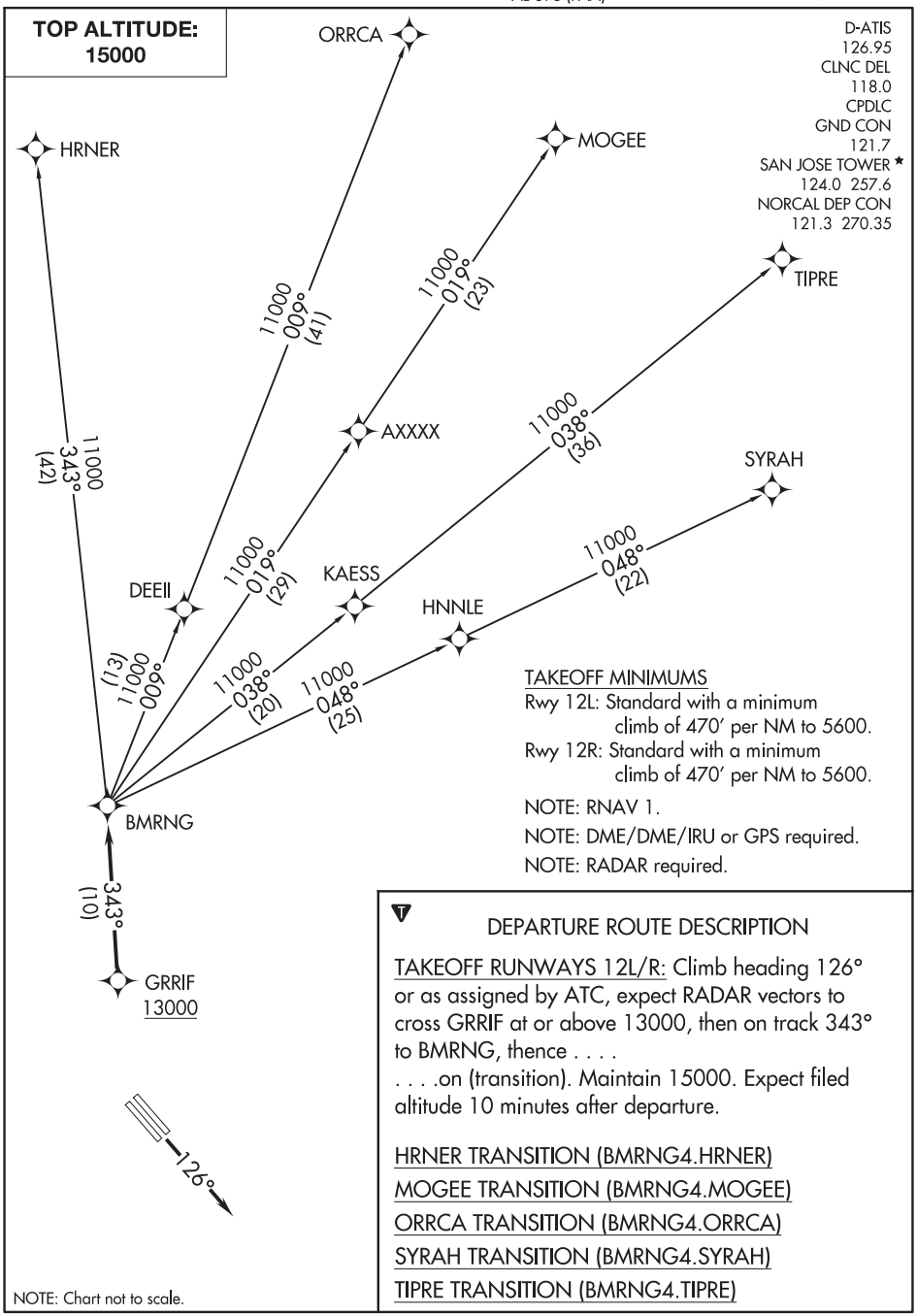
AIRPORT DIAGRAM
21056
NORMAN Y MINETA SAN JOSE INTL (SJC)
SAN JOSE, CALIFORNIA


TOP ALTITUDE: 15000
D-ATIS 126.95
CLNC DEL 118.0
CPDLC
GND CON 121.7
SAN JOSE TOWER ★ 124.0 257.6
NORCAL DEP CON 121.3 270.35
ORRCA
MOGEE
HRNER
TIPRE
SYRAH
AXXXX
KAESS
HNNLE
DEEII
ROANA
ALMDN
12000
KIELY
NEVSE
570
11000 357° (26)
11000 008° (33)
11000 031° (33)
11000 041° (37)
11000 333° (31)
7300 357° (23)
9800 008° (12)
10300 031° (15)
9600 333° (22)
354° (11) 7300
348° (7)
126°
039° (6)
TAKEOFF MINIMUMS
Rwys 12L/R: Standard with a minimum climb of 500′ per NM to 2500.
Rwys 30L/R: NA ATC.
NOTE: DME/DME/IRU or GPS required.
NOTE: RNAV-1.
NOTE: RADAR required for non-GPS equipped aircraft.
DEPARTURE ROUTE DESCRIPTION
TAKEOFF RUNWAYS 12L/R: Climb heading 126° to 570, then direct to NEVSE, then on track 039° to KIELY, then on track 348° to cross ALMDN at or below 12000. Thence. . . .
. . . .on (transition). Maintain 15000 or lower filed altitude, expect higher altitude 10 minutes after departure.
HRNER TRANSITION (ALMDN4.HRNER)
MOGEE TRANSITION (ALMDN4.MOGEE)
ORRCA TRANSITION (ALMDN4.ORRCA)
SYRAH TRANSITION (ALMDN4.SYRAH)
TIPRE TRANSITION (ALMDN4.TIPRE)
NOTE: Chart not to scale.

(BMRNG4.BMRNG) 17341

BMRNG FOUR DEPARTURE (RNAV)

NORMAN Y MINETA SAN JOSE INTL (SJC)
AL-693 (FAA)
SAN JOSE, CALIFORNIA



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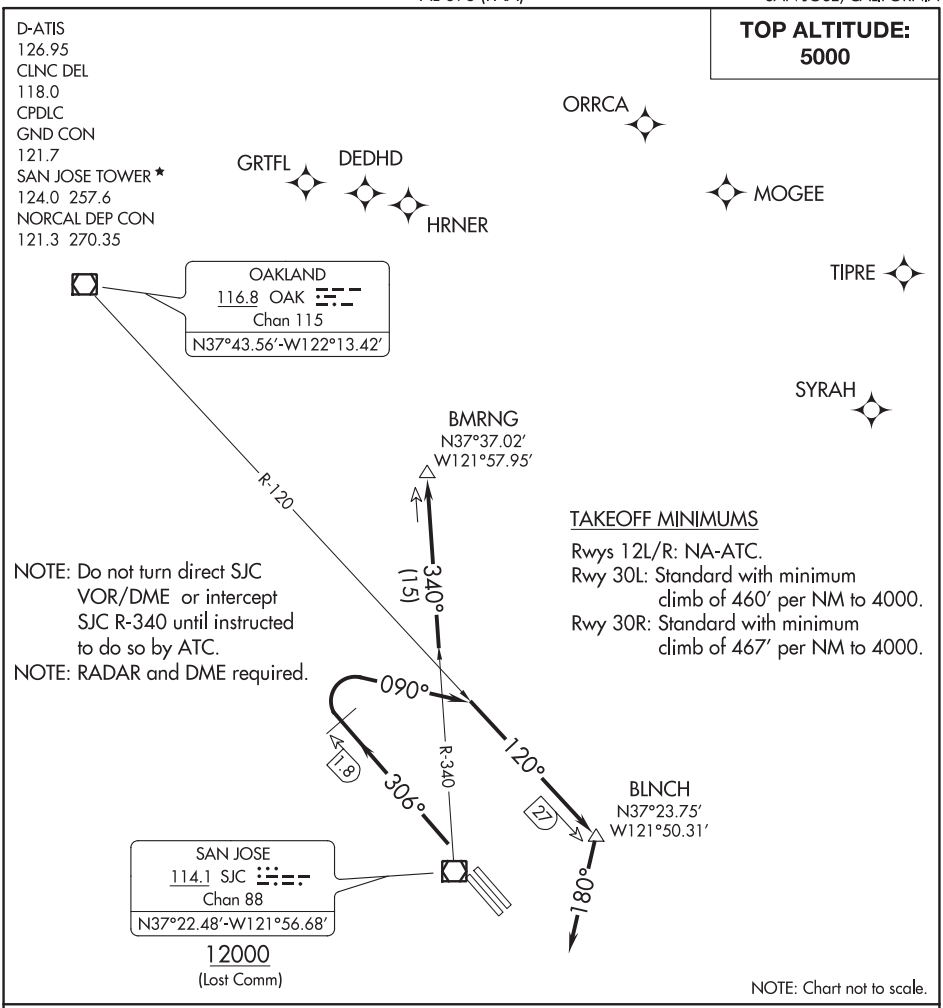
SW-2, 25 FEB 2021 to 22 APR 2021



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DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 30L/R: Climb heading 306°, at SJC VOR/DME 1.8 DME northwest turn right heading 090° to intercept OAK R-120 to BLNCH, then turn right heading 180° for RADAR vectors to SJC VOR/DME, then on SJC R-340 to BMRNG INT. Maintain 5000, expect filed altitude 10 minutes after departure.

LOST COMMUNICATIONS

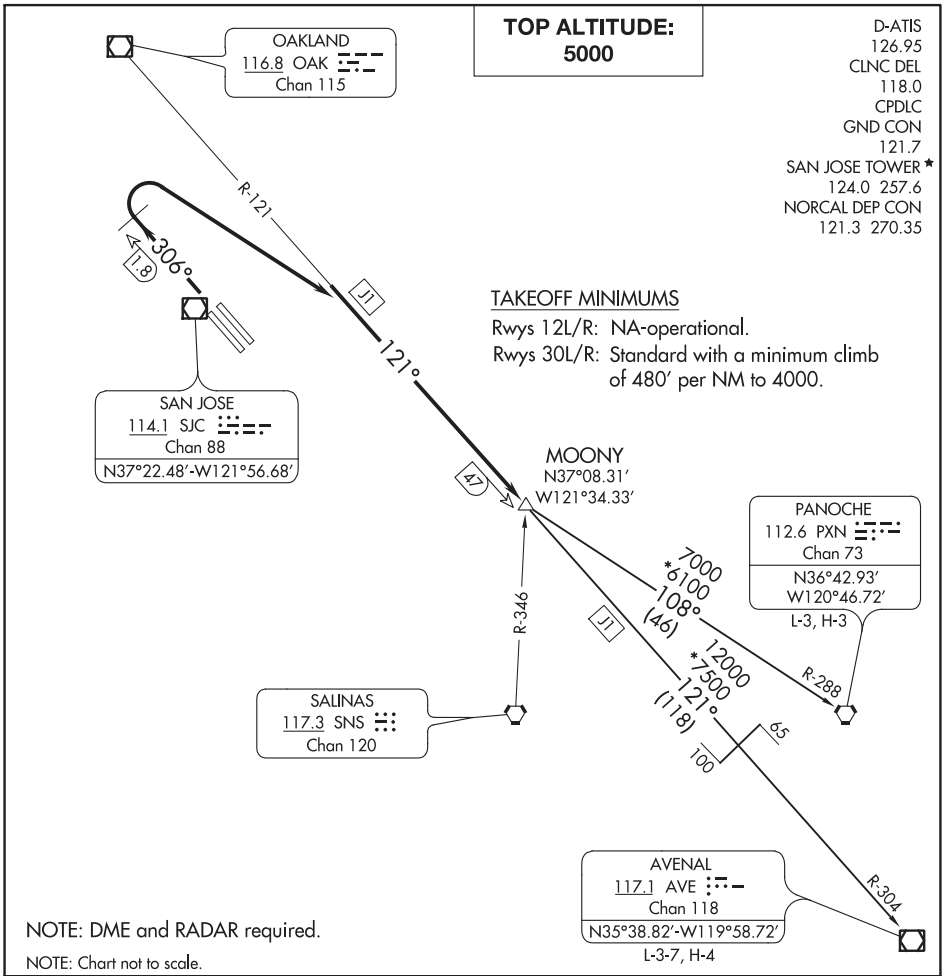
RUNWAYS 30L/R: If not in contact with departure control upon reaching BLNCH, depart BLNCH heading 180°. When able turn right direct SJC VOR/DME, cross SJC VOR/DME at or above 12000, then on SJC R-340 to BMRNG INT before proceding on course.

(SJC3.MOONY) 19227

SAN JOSE THREE DEPARTURE

AL-693 (FAA)

NORMAN Y MINETA SAN JOSE INTL (SJC)
SAN JOSE, CALIFORNIA



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DEPARTURE ROUTE DESCRIPTION

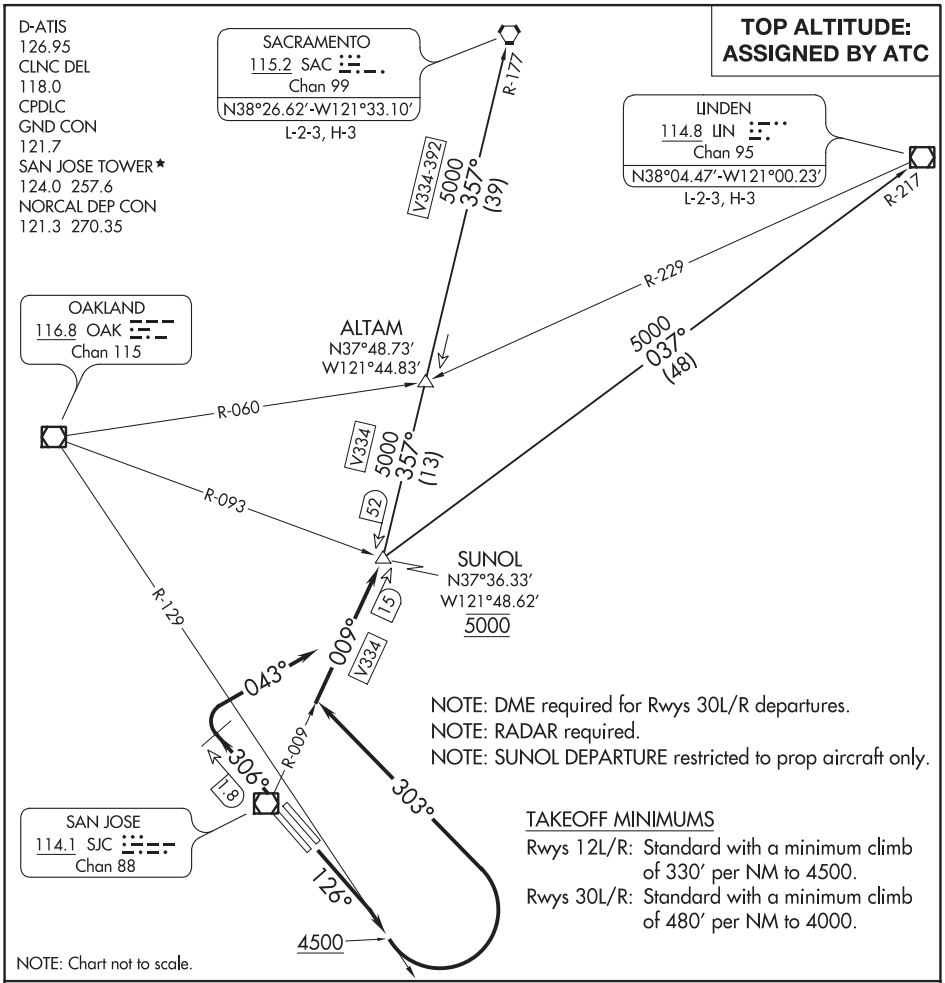
TAKEOFF RUNWAYS 30L/R: Climb heading 306° to SJC 1.8 DME NW of SJC VOR/DME, then turn right to intercept and proceed on OAK R-121 to MOONY INT, thence. . . .

. . . .on (transition) or (assigned route). Maintain 5000, expect clearance to filed altitude ten minutes after departure.

AVENAL TRANSITION (SJC3.AVE): From over MOONY INT on OAK R-121 and AVE R-304 to AVE VOR/DME.

PANOCHE TRANSITION (SJC3.PXN): From over MOONY INT on PXN R-288 to PXN VORTAC.

SUNOL ONE DEPARTURE



NOTE: DME required for Rwys 30L/R departures.
NOTE: RADAR required.
NOTE: SUNOL DEPARTURE restricted to prop aircraft only.

TAKEOFF MINIMUMS

Rwys 12L/R: Standard with a minimum climb of 330′ per NM to 4500.
Rwys 30L/R: Standard with a minimum climb of 480′ per NM to 4000.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 12L/R: Climb heading 126° to intercept and proceed on OAK R-129 to 4500, then turn left heading 303° for RADAR vectors to intercept and proceed on SJC R-009 to cross SUNOL at 5000, thence . . . .

TAKEOFF RUNWAYS 30L/R: Climb heading 306° at SJC 1.8 DME northwest of SJC VOR/DME, turn right heading 043° to intercept and proceed on SJC R-009 to cross SUNOL at 5000, thence . . . .

. . . . then on (transition) or (assigned route). Maintain ATC assigned altitude.

LINDEN TRANSITION (SUNOL1.LIN): From over SUNOL on LIN R-217 to LIN VOR/DME.
SACRAMENTO TRANSITION (SUNOL1.SAC): From over SUNOL on SAC R-177 to SAC VORTAC.

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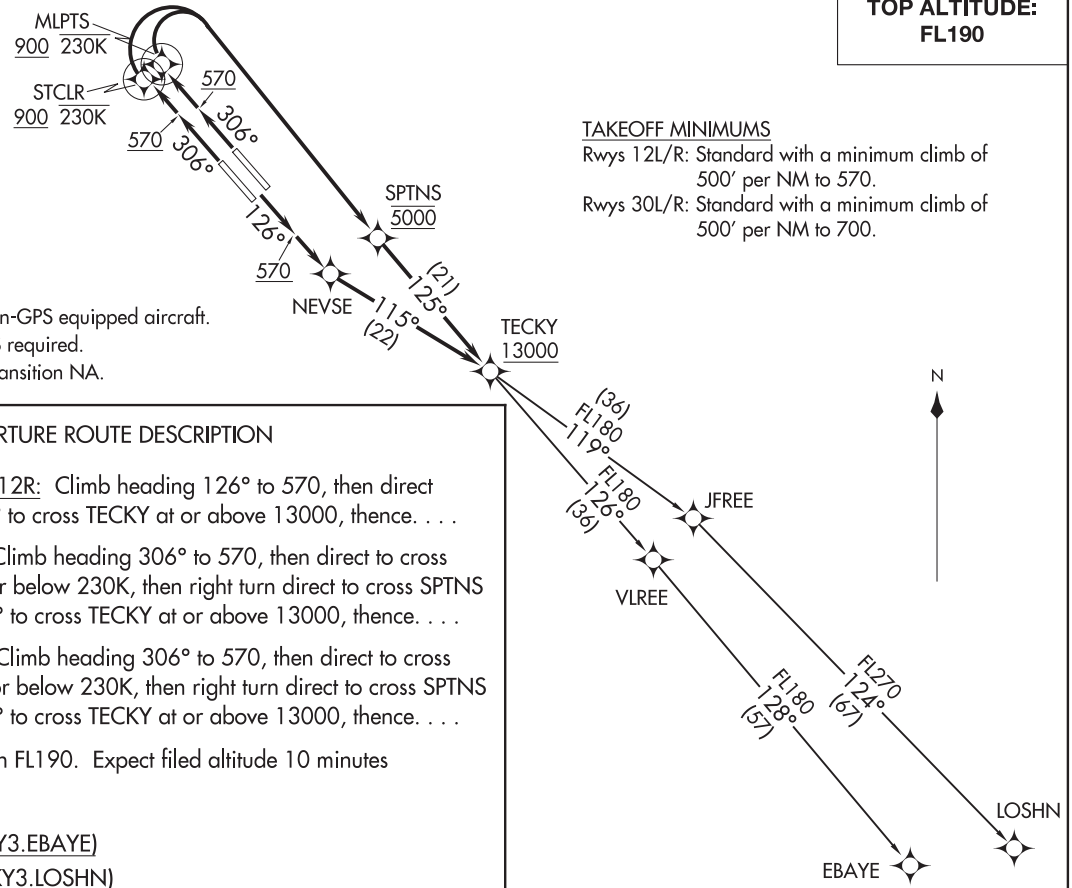
TOP ALTITUDE: FL190

D-ATIS
126.95
CLNC DEL
118.0
CPDLC
GND CON
121.7
SAN JOSE TOWER★
124.0 257.6
NORCAL DEP CON
121.3 270.35



NOTE: Chart not to scale.

TAKEOFF MINIMUMS
Rwys 12L/R: Standard with a minimum climb of 500′ per NM to 570.
Rwys 30L/R: Standard with a minimum climb of 500′ per NM to 700.

NOTE: RNAV 1
NOTE: RADAR required for non-GPS equipped aircraft.
NOTE: DME/DME/IRU or GPS required.
NOTE: Rwys 12L/R: LOSHN transition NA.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 12L, 12R: Climb heading 126° to 570, then direct NEVSE, then on track 115° to cross TECKY at or above 13000, thence. . . .

TAKEOFF RUNWAY 30L: Climb heading 306° to 570, then direct to cross STCLR at or above 900 at or below 230K, then right turn direct to cross SPTNS at 5000, then on track 125° to cross TECKY at or above 13000, thence. . . .

TAKEOFF RUNWAY 30R: Climb heading 306° to 570, then direct to cross MLPTS at or above 900 at or below 230K, then right turn direct to cross SPTNS at 5000, then on track 125° to cross TECKY at or above 13000, thence. . . .

. . . .on (transition), maintain FL190. Expect filed altitude 10 minutes after departure.

EBAYE TRANSITION (TECKY3.EBAYE)
LOSHN TRANSITION (TECKY3.LOSHN)

WAAS CH 82216 W13A	APP CRS 127°	Rwy ldg 2601 TDZE 135 Apt Elev 135

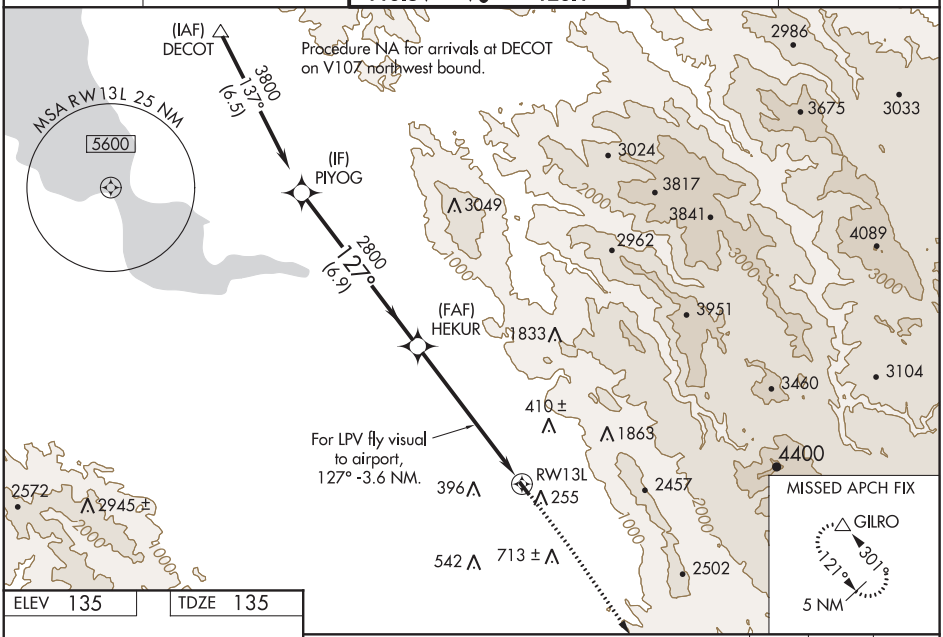
RNAV (GPS) RWY 13L
REID-HILLVIEW OF SANTA CLARA COUNTY (RHV)

RNP APCH.

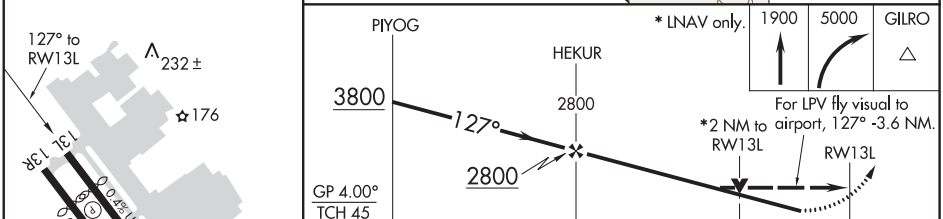
T A NA Circling Rwy 31L NA at night. Rwy 13L helicopter visibility reduction below ¾ SM NA. VDP NA with Norman Y Mineta San Jose Intl altimeter setting. When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase all DAs 25 feet and all MDAs 40 feet; increase LPV# visibility to 1⅜ SM. Circling east of Rwy 13L-31R NA at night.

MISSED APPROACH: Climb to 1900 then climbing right turn to 5000 direct GILRO and hold.
#Missed approach requires minimum climb of 300 feet per NM to 2800.

ATIS	NORCAL APP CON	REID-HILLVIEW TOWER ★ (Rwy 13L-31R) (Rwy 13R-31L)	GND CON	UNICOM
125.2	120.1 290.25	119.8 (CTAF) L 126.1	121.65	122.95



ELEV 135 TDZE 135



CATEGORY	A	B	C	D
LPV DA#	562-1¼ 427 (500-1¼)		NA	
LPV DA	1708-3 1573 (1600-3)		NA	
LNAV MDA#	1040-1¼ 905 (1000-1¼)		NA	
LNAV MDA	1600-1¼ 1465 (1500-1¼)	1600-1½ 1465 (1500-1½)	NA	
C CIRCLING	1600-1¼ 1465 (1500-1¼)	1600-1½ 1465 (1500-1½)	NA	

MIRL Rwy 13L-31R L
REIL Rwys 13L and 31R L

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SAN JOSE, CALIFORNIA AL-5591 (FAA) 20254

APP CRS	Rwy ldg	2690
312°	TDZE	133
	Apt Elev	135

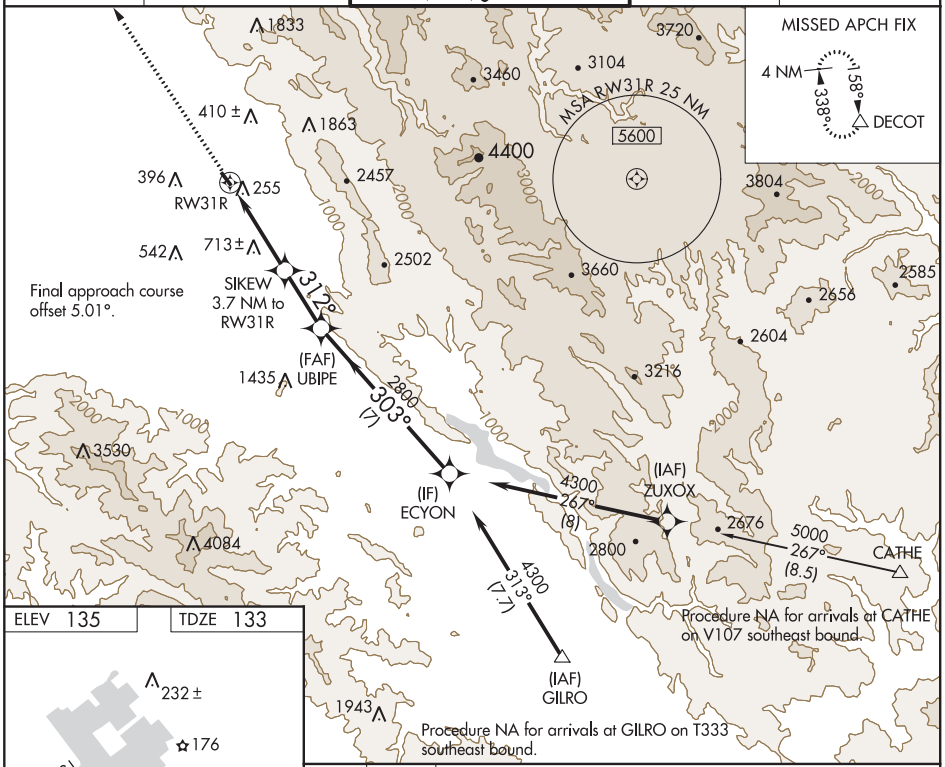
RNAV (GPS) Y RWY 31R
REID-HILLVIEW OF SANTA CLARA COUNTY (RHV)

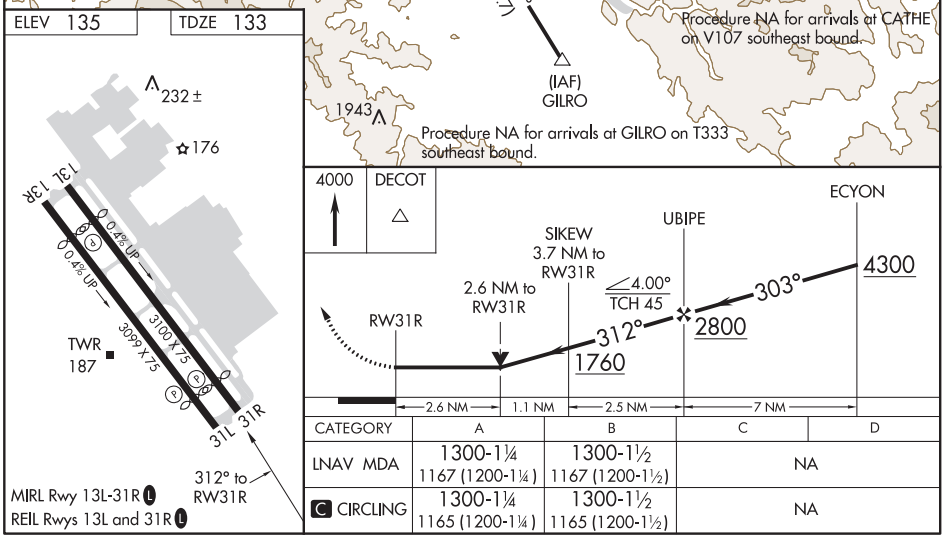
RNP APCH.

T A NA Circling Rwy 31L NA at night. Rwy 31R helicopter visibility reduction below ¾ SM NA. VDP NA when using Norman Y Mineta San Jose Intl altimeter setting. Circling east of Rwy 13L-31R NA at night. When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase all MDAs 40 feet.

MISSED APPROACH: Climb to 4000 direct DECOT and hold.

ATIS	NORCAL APP CON	REID-HILLVIEW TOWER ★ (Rwy 13L-31R) (Rwy 13R-31L)	GND CON	UNICOM
125.2	120.1 290.25	119.8 (CTAF) L 126.1	121.65	122.95





CATEGORY	A	B	C	D
LNAV MDA	1300-1¼ 1167 (1200-1¼)	1300-1½ 1167 (1200-1½)	NA	
C CIRCLING	1300-1¼ 1165 (1200-1¼)	1300-1½ 1165 (1200-1½)	NA	

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WAAS CH 58316 W31A	APP CRS 307°	Rwy ldg 2690 TDZE 133 Apt Elev 135

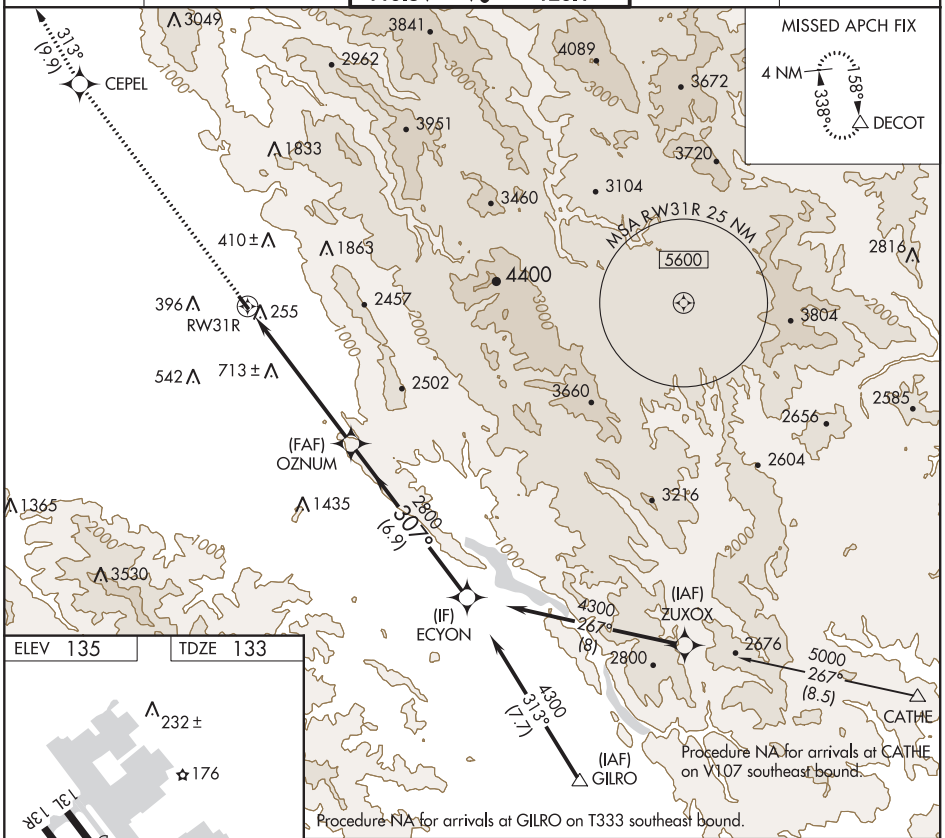
RNAV (GPS) Z RWY 31R
REID-HILLVIEW OF SANTA CLARA COUNTY (RHV)

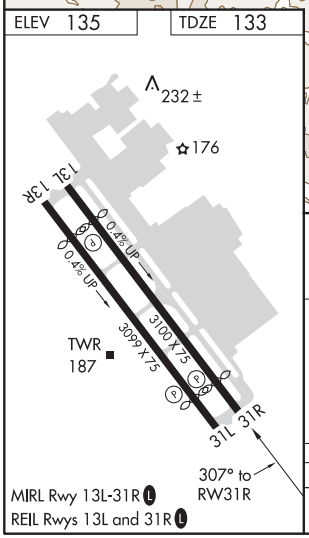
RNP APCH.

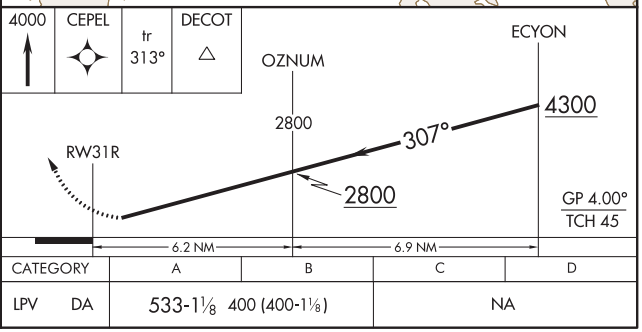
When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase DA to 558 feet and visibility to 1¼ SM. Rwy 31R helicopter visibility reduction below ¾ SM NA.

MISSED APPROACH: Climb to 4000 direct CEPEL and on track 313° to DECOT and hold.

ATIS	NORCAL APP CON	REID-HILLVIEW TOWER ★ (Rwy 13L-31R)	(Rwy 13R-31L)	GND CON	UNICOM
125.2	120.1 290.25	119.8 (CTAF) L	126.1	121.65	122.95







CATEGORY	A	B	C	D
LPV DA	533-1⅛ 400 (400-1⅛)		NA	

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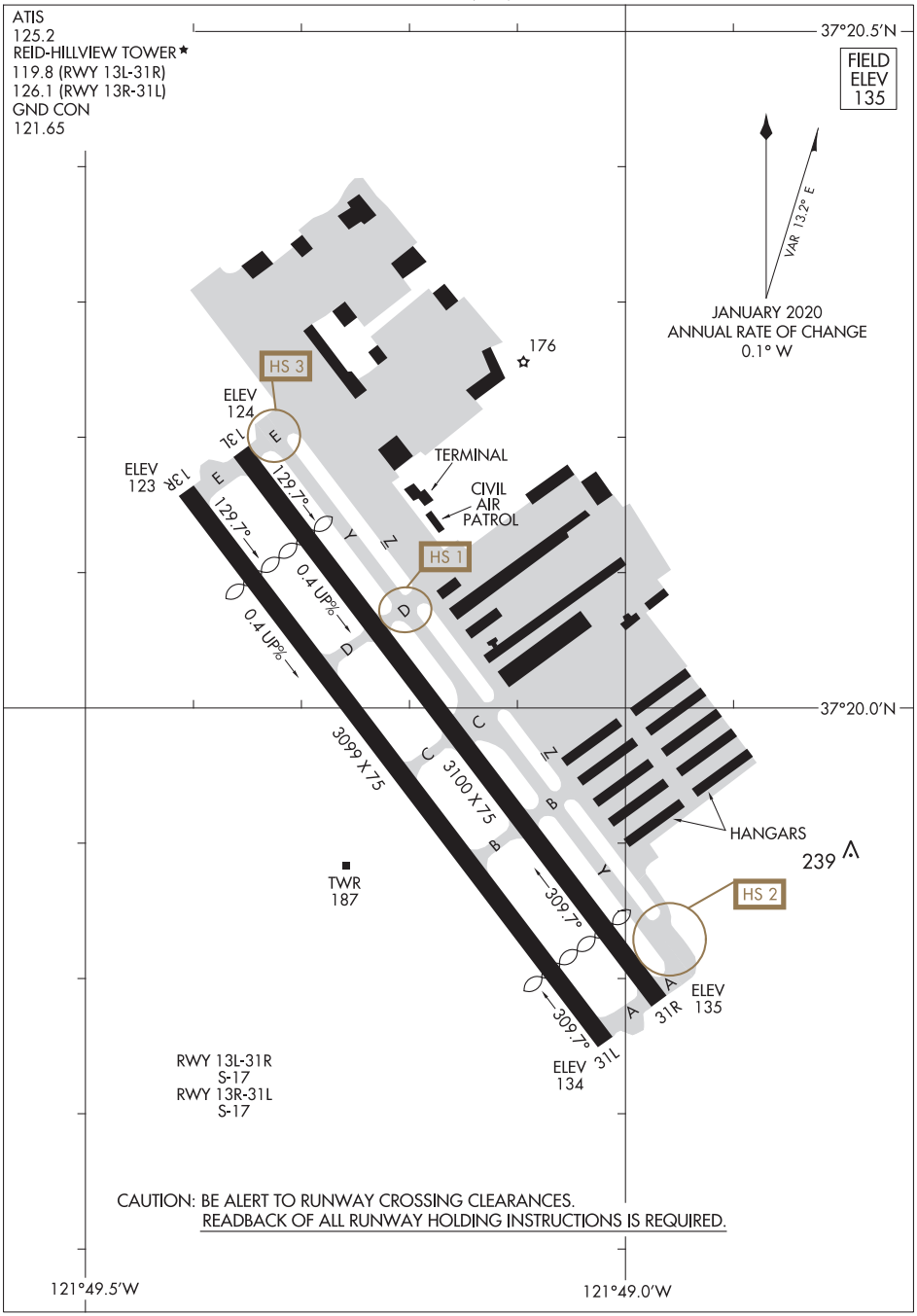
20086

AIRPORT DIAGRAM

REID-HILLVIEW OF SANTA CLARA COUNTY (RHV)
AL-5591 (FAA)
SAN JOSE, CALIFORNIA



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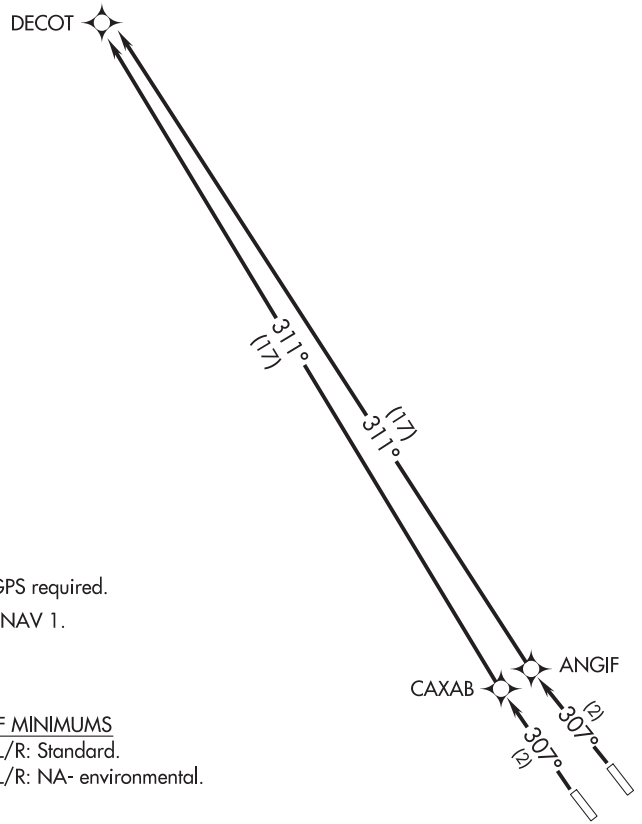
AIRPORT DIAGRAM
20086
SAN JOSE, CALIFORNIA
REID-HILLVIEW OF SANTA CLARA COUNTY (RHV)

DECOT ONE DEPARTURE (OBSTACLE) (RNAV)

SL-5591 (FAA)

SAN JOSE, CALIFORNIA

NORCAL DEP CON
121.3 270.35



NOTE: GPS required.

NOTE: RNAV 1.

TAKEOFF MINIMUMS
Rwys 31L/R: Standard.
Rwys 13L/R: NA- environmental.

TAKEOFF OBSTACLE NOTES
Rwys 31L/R: Trees 1070′ from DER, 500′ right and left of centerline, 173′ and 169′ MSL.
Rwy 31R: Light 125′ from DER, 370′ right of centerline, 159′ MSL.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 31L: Climb to 4000 via 307° course to CAXAB WP and 311° track to DECOT WP. Then via assigned route.

TAKEOFF RUNWAY 31R: Climb to 4000 via 307° course to ANGIF WP and 311° track to DECOT WP. Then via assigned route.

TAKEOFF RUNWAYS 13L/13R: NA.

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SAN MARTIN, CALIFORNIA AL-9260 (FAA) 20310

APP CRS	Rwy ldg	3095
321°	TDZE	284
	Apt Elev	284

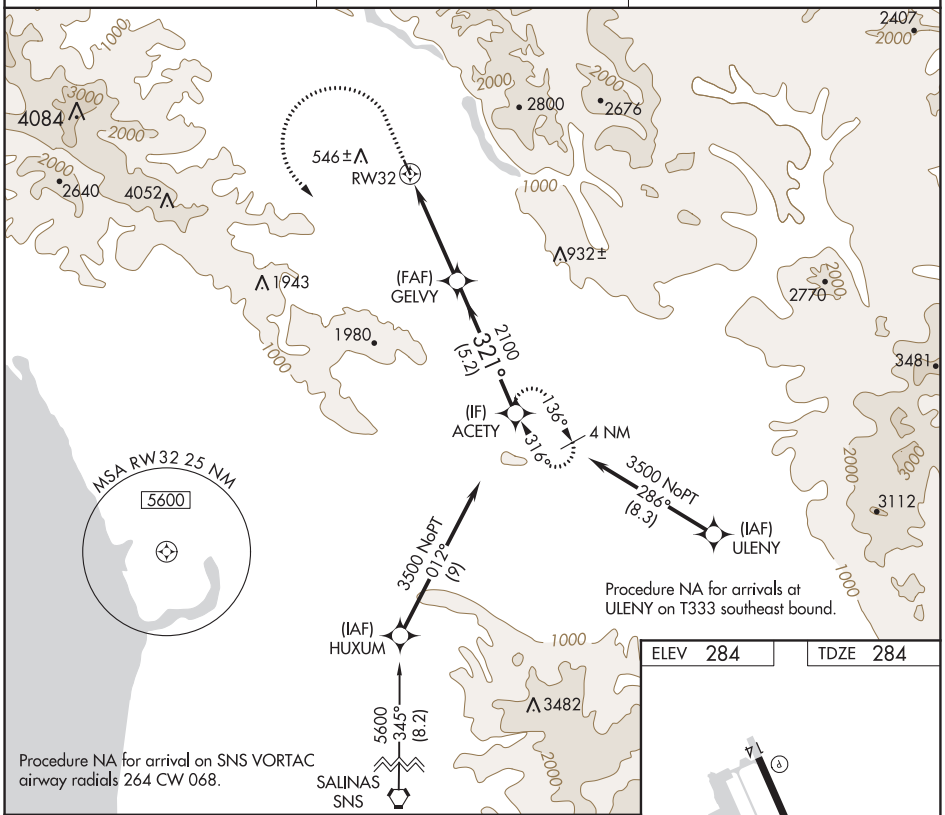
RNAV (GPS) RWY 32
SAN MARTIN (E16)

RNP APCH.

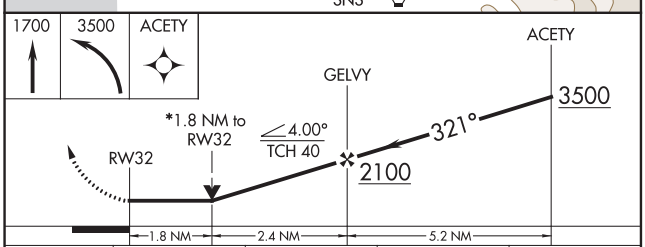
Circling NA southwest of Rwy 14-32. Rwy 32 helicopter visibility reduction below ¾ SM NA.

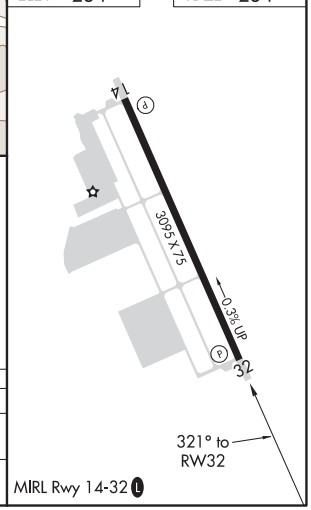
MISSED APPROACH: Climb to 1700 then climbing left turn to 3500 direct ACETY and hold.

AWOS-3P	NORCAL APP CON	UNICOM
118.35	124.525 348.675	122.7 (CTAF) L



ELEV 284	TDZE 284





CATEGORY	A	B	C	D
LNAV MDA	1060-1 776 (800-1)	1060-1¼ 776 (800-1¼)	NA	
C CIRCLING	1060-1 776 (800-1)	1160-1¼ 876 (900-1¼)	NA	

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

LOC I-STS	APP CRS	Rwy ldg	6000
109.3	321°	TDZE	122
		Apt Elev	129

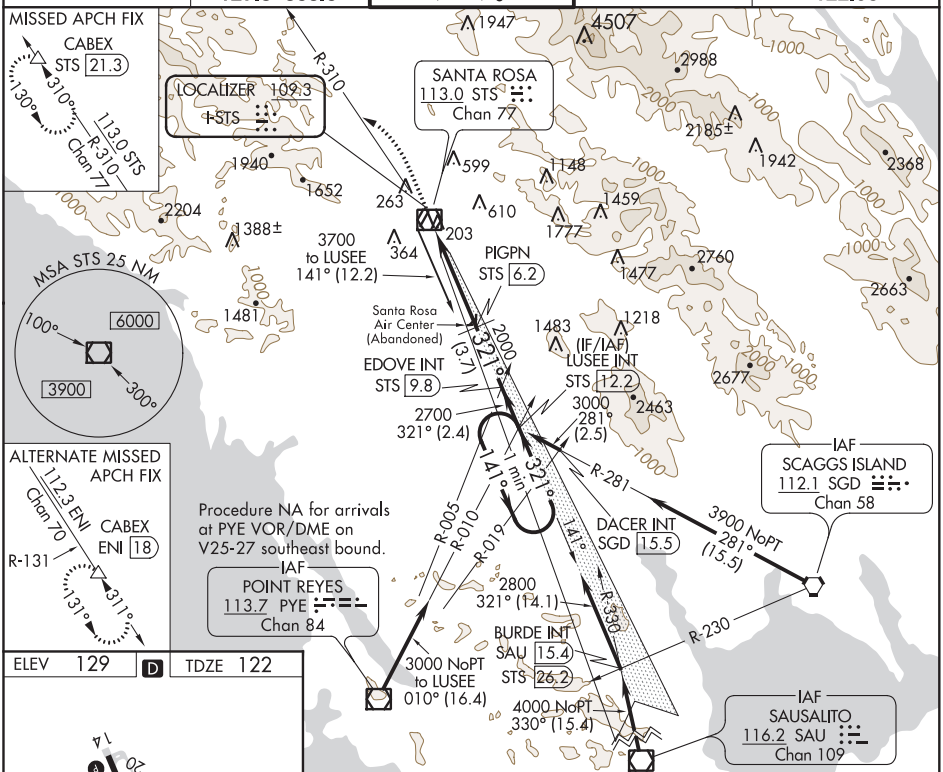
ILS or LOC/DME RWY 32
CHARLES M SCHULZ-SONOMA COUNTY (STS)

DME required.

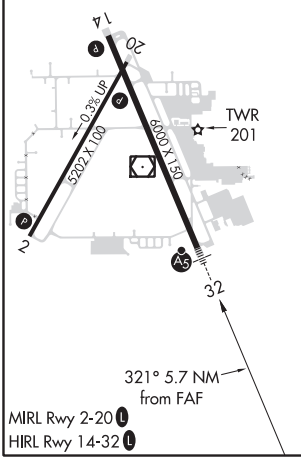
MALSR

MISSED APPROACH: Climb to 1020 on STS VOR/DME R-310 and climbing left turn to 6000 to CABEX/STS 21.3 DME and hold, continue climb-in-hold to 6000.

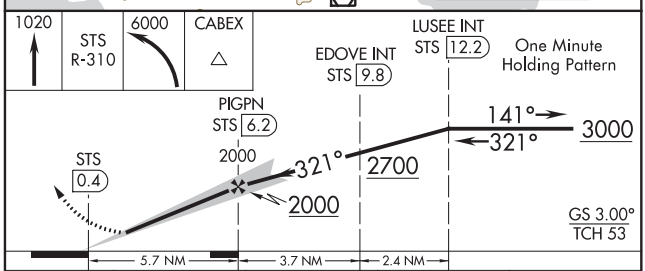
ATIS	OAKLAND CENTER	SANTA ROSA TOWER ★	GND CON	UNICOM
120.55	127.8 353.5	118.5 (CTAF) L 363.0	121.9	122.95



ELEV 129 D TDZE 122



MIRL Rwy 2-20 L
HIRL Rwy 14-32 L



CATEGORY	A	B	C	D
S-ILS 32	377/24 255 (300-½)			
S-LOC 32	580/24 458 (500-½)		580/45 458 (500-⅞)	
C CIRCLING	600-1 471 (500-1)	680-1 551 (600-1)	1080-3 951 (1000-3)	1420-3 1291 (1300-3)

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SW-2, 25 FEB 2021 to 22 APR 2021

SANTA ROSA, CALIFORNIA | AL-696 (FAA) | 20310

WAAS CH 69230 W02A	APP CRS 013°	Rwy ldg 4802 TDZE 129 Apt Elev 129

RNAV (GPS) RWY 2

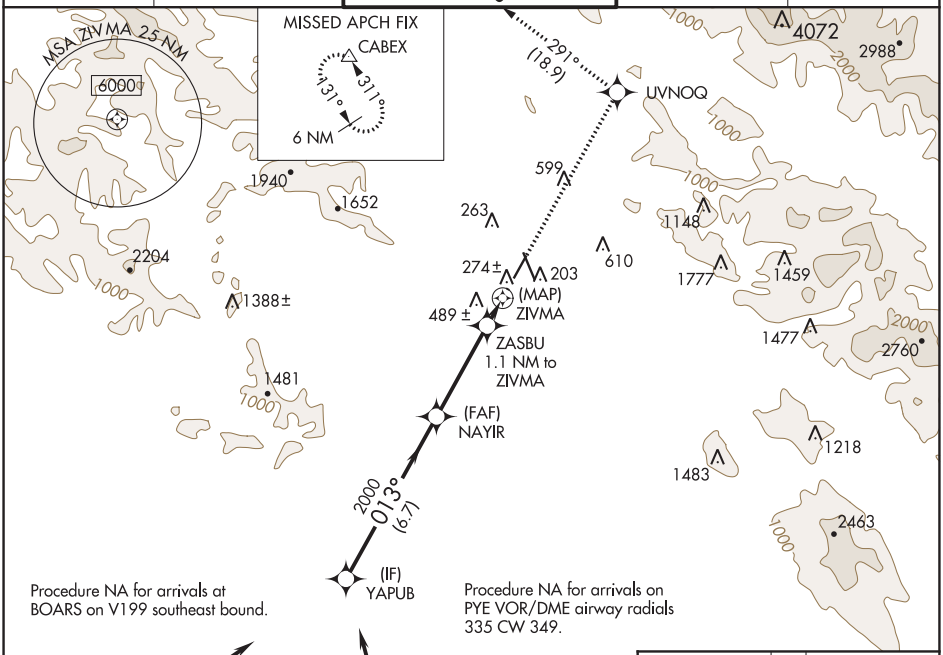
CHARLES M SCHULZ-SONOMA COUNTY (STS)

RNP APCH.

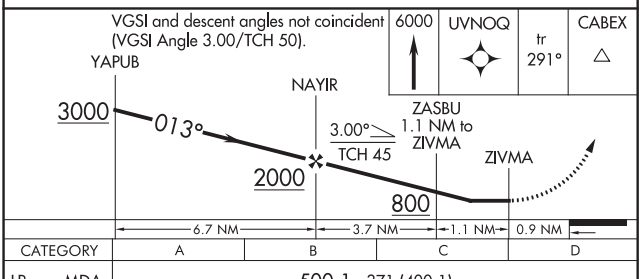
Rwy 2 helicopter visibility reduction below ¾ SM NA.

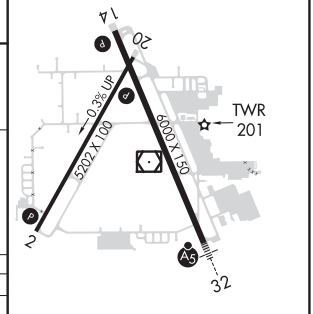
MISSED APPROACH: Climb to 6000 direct UVNOQ and on track 291° to CABEX and hold, continue climb-in-hold to 6000.

ATIS	OAKLAND CENTER	SANTA ROSA TOWER ★	GND CON	UNICOM
120.55	127.8 353.5	118.5 (CTAF) L 363.0	121.9	122.95



ELEV 129 | D | TDZE 129





CATEGORY	A	B	C	D
LP MDA	500-1 371 (400-1)			
LNAV MDA	660-1 531 (600-1)		660-1½ 531 (600-1½)	
C CIRCLING	660-1 531 (600-1)	680-1 551 (600-1)	1080-3 951 (1000-3)	1420-3 1291 (1300-3)

MIRL Rwy 2-20 L
HIRL Rwy 14-32 L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

APP CRS	Rwy ldg	5880
126°	TDZE	122
	Apt Elev	129

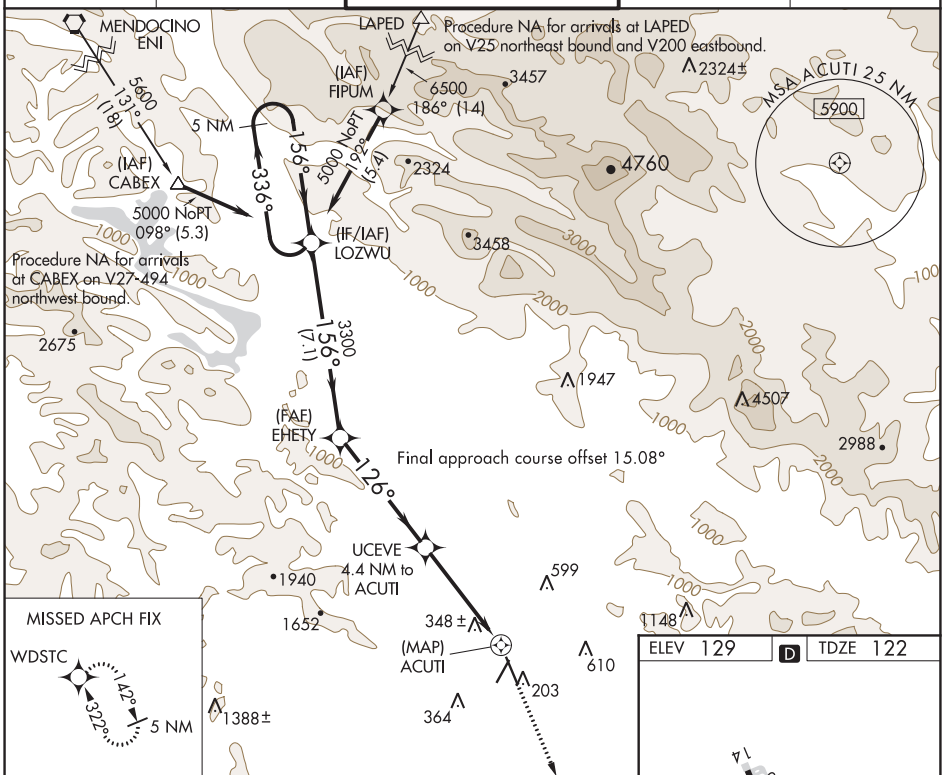
RNAV (GPS) RWY 14
CHARLES M SCHULZ-SONOMA COUNTY (STS)

RNP APCH.

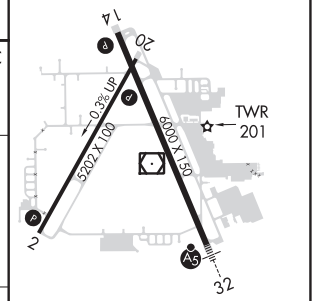
Rwy 14 helicopter visibility reduction below ¾ SM NA.

MISSED APPROACH: Climb to 5000 direct WDSTC and hold, continue climb-in-hold to 5000.

ATIS	OAKLAND CENTER	SANTA ROSA TOWER★	GND CON	UNICOM
120.55	127.8 353.5	118.5 (CTAF) L 363.0	121.9	122.95



ELEV 129 D TDZE 122



CATEGORY	A	B	C	D
LNAV MDA	600-1 478 (500-1)		600-1⅜ 478 (500-1⅜)	
C CIRCLING	600-1 471 (500-1)	680-1 551 (600-1)	1080-3 951 (1000-3)	1420-3 1291 (1300-3)

MIRL Rwy 2-20 L
HIRL Rwy 14-32 L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

SANTA ROSA, CALIFORNIA

AL-696 (FAA)

20310

RNAV (GPS) RWY 32

CHARLES M SCHULZ-SONOMA COUNTY (STS)

WAAS CH 72611 W32A	APP CRS 321°	Rwy ldg 6000 TDZE 122 Apt Elev 129

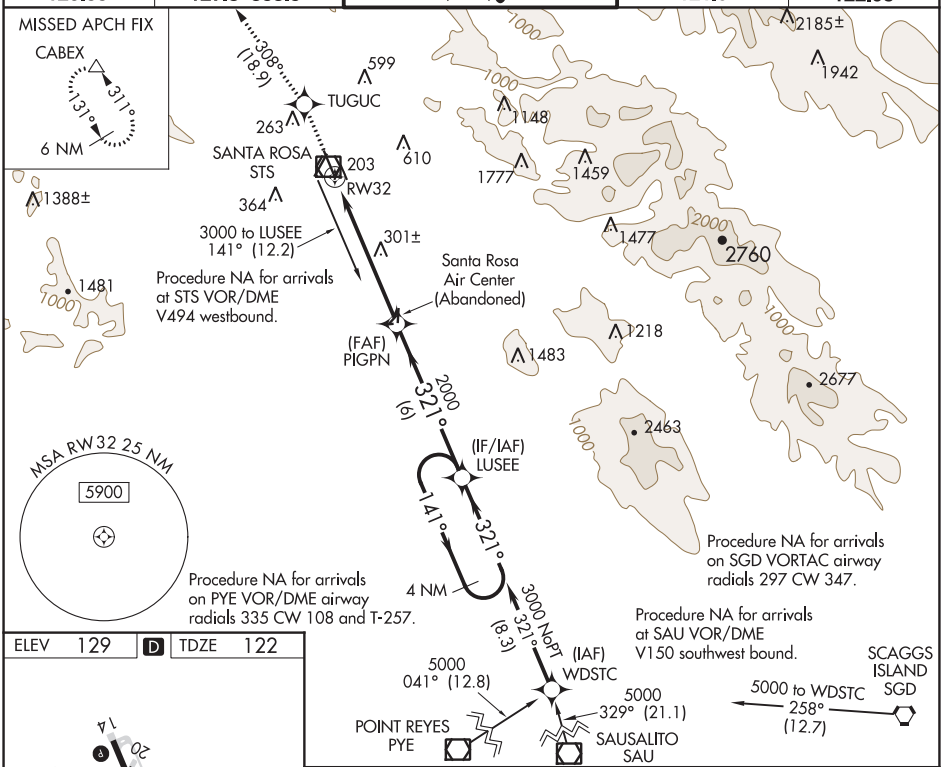
RNP APCH.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -4°C or above 54°C.
RVR 1800 authorized with use of FD or AP or HUD to DA.

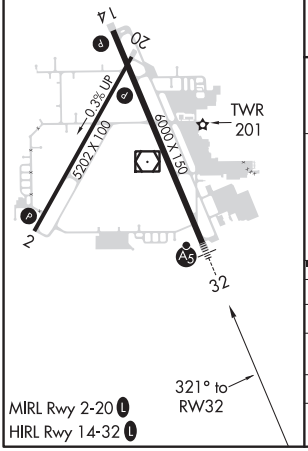
MALSR

MISSED APPROACH: Climb to 6000 direct TUGUC and on track 308° to CABEX and hold, continue climb-in-hold to 6000.

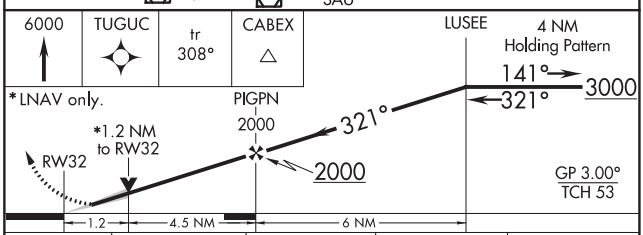
ATIS	OAKLAND CENTER	SANTA ROSA TOWER*	GND CON	UNICOM
120.55	127.8 353.5	118.5 (CTAF) L 363.0	121.9	122.95



ELEV 129	D	TDZE 122



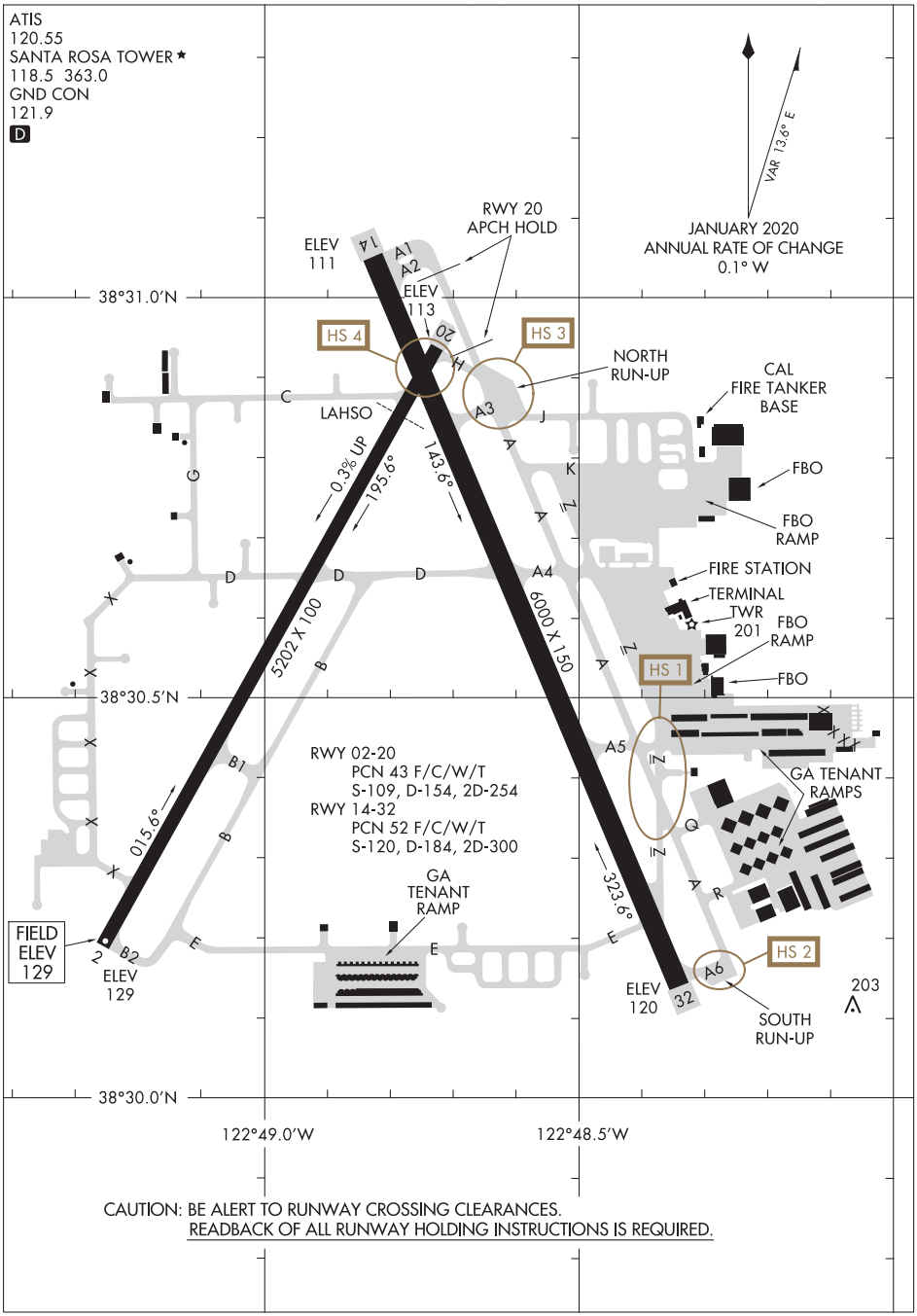
MIRL Rwy 2-20 L
HIRL Rwy 14-32 L



CATEGORY	A	B	C	D
LPV DA #	322/24 200 (200-½)			
LNAV/VNAV DA	570/50 448 (500-1)			
LNAV MDA	560/24 438 (500-½)		560/40 438 (500-¾)	
C CIRCLING	600-1 471 (500-1)	680-1 551 (600-1)	1080-3 951 (1000-3)	1420-3 1291 (1300-3)

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021



CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

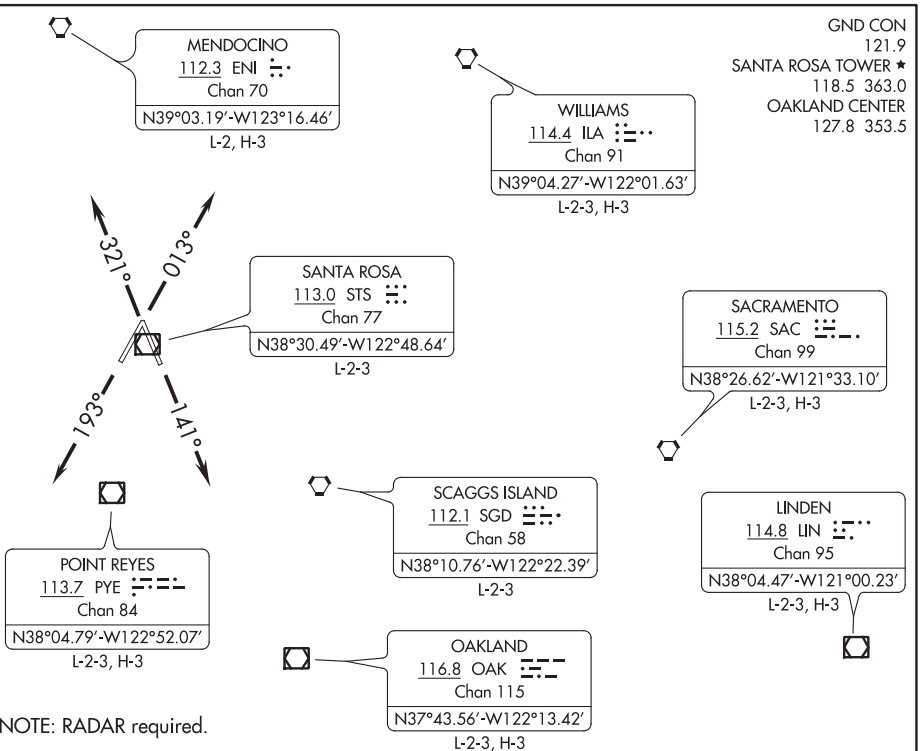
SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

(CHRLY5.STS) 20310

CHARLIE FIVE DEPARTURE

CHARLES M SCHULZ-SONOMA COUNTY (STS)
AL-696 (FAA)
SANTA ROSA, CALIFORNIA



NOTE: RADAR required.

TAKEOFF MINIMUMS

Rwy 2: Standard with minimum climb of 470′ per NM to 6000.
Rwy 14: Standard with minimum climb of 298′ per NM to 5600.
Rwy 20: Standard with minimum climb of 408′ per NM to 5600.
Rwy 32: Standard with minimum climb of 391′ per NM to 7000.

NOTE: Chart not to scale.

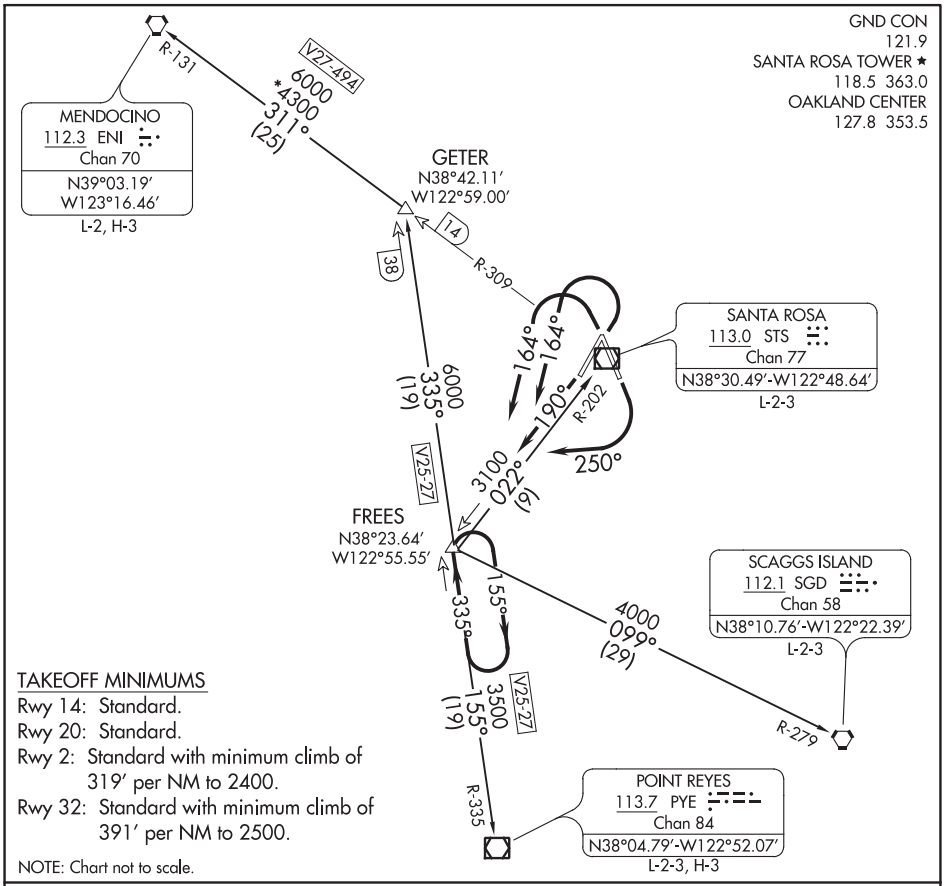
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 2: Climb heading 013° (or assigned heading 295° CW 325° or 130° CW 190°), thence . . . .
TAKEOFF RUNWAY 14: Climb heading 141° (or assigned heading 295° CW 320° or 130° CW 220°), thence . . . .
TAKEOFF RUNWAY 20: Climb heading 193° (or assigned heading 295° CW 325° or 130° CW 220°), thence . . . .
TAKEOFF RUNWAY 32: Climb heading 321° (or assigned heading 295° CW 325° or 141° CW 220°), thence . . . .
. . . . expect RADAR vectors to join assigned route. Maintain assigned altitude; expect filed altitude/flight level ten minutes after departure.

LOST COMMUNICATIONS: If not in contact with Oakland Center after reaching 4000, proceed direct to the PYE VOR/DME. Thence via assigned route.

SW-2, 25 FEB 2021 to 22 APR 2021

FREES NINE DEPARTURE



TAKEOFF MINIMUMS
Rwy 14: Standard.
Rwy 20: Standard.
Rwy 2: Standard with minimum climb of 319′ per NM to 2400.
Rwy 32: Standard with minimum climb of 391′ per NM to 2500.

NOTE: Chart not to scale.

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SW-2, 25 FEB 2021 to 22 APR 2021

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 2, 32: Climbing left turn heading 164°, thence . . . .
TAKEOFF RUNWAY 14: Climbing right turn heading 250°, thence . . . .
TAKEOFF RUNWAY 20: Climb on heading 190°, thence . . . .

. . . . intercept and climb on STS R-202 to cross FREES INT at or above MEA for route of flight, or continue climb in FREES holding pattern to MEA for route of flight then on (transition).

MENDOCINO TRANSITION (FREES9.ENI): From over FREES INT on PYE R-335 to GETER INT, then on ENI R-131 to ENI VORTAC.
POINT REYES TRANSITION (FREES9.PYE): From over FREES INT on PYE R-335 to PYE VOR/DME.
SANTA ROSA TRANSITION (FREES9.STS): From over FREES INT on STS R-202 to STS VOR/DME.
SCAGGS ISLAND TRANSITION (FREES9.SGD): From over FREES INT on SGD R-279 to SGD VORTAC.

(STS8.SNUPY) 17341

SANTA ROSA EIGHT DEPARTURE

CHARLES M SCHULZ-SONOMA COUNTY (STS)
AL-696 (FAA)
SANTA ROSA, CALIFORNIA

GND CON
121.9
SANTA ROSA TOWER★
118.5 363.0
OAKLAND CENTER
127.8 353.5

R-307
070°
TIKOY
N38°36.02′
W122°51.63′
6
321°
127°
270°
320°
360°
R-321
SNUPY
N38°30.10′
W122°40.29′
R-077
SANTA ROSA
113.0 STS
Chan 77
N38°30.49′-W122°48.64′
5000
127°
(24)
R-307
SCAGGS ISLAND
112.1 SGD
Chan 58
N38°10.76′-W122°22.39′
L-2-3

NOTE: DME required.

TAKEOFF MINIMUMS
Rwy 2: Standard with minimum climb of 281′ per NM to 3900.
Rwy 14: Standard with minimum climb of 298′ per NM to 2400.
Rwy 20: Standard with minimum climb of 408′ per NM to 2800.
Rwy 32: Standard with minimum climb of 281′ per NM to 2700.

NOTE: Chart not to scale.

SW-2, 25 FEB 2021 to 22 APR 2021

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 2: Climbing left turn heading 270°, thence . . . .
TAKEOFF RUNWAYS 14 and 20: Climbing right turn heading 360°, thence . . . .
TAKEOFF RUNWAY 32: Climb on heading 320°, thence . . . .

. . . . intercept and climb on STS R-321 to TIKOY/6 DME, then turn right heading 070° to intercept SGD R-307 to SNUPY INT/SGD 24 DME, then on (transition).

SCAGGS ISLAND TRANSITION (STS8.SGD): From over SNUPY INT/SGD 24 DME on SGD R-307 to SGD VORTAC.

WAAS CH 57943 W18A	APP CRS 172°	Rwy ldg 7017 TDZE 6259 Apt Elev 6268

RNAV (GPS) RWY 18
LAKE TAHOE (TVL)

RNP APCH.

Circling NA at night. Rwy 18 helicopter visibility reduction below ¾ SM NA. When local altimeter setting not received, procedure NA. Circling NA east of Rwy 18-36.

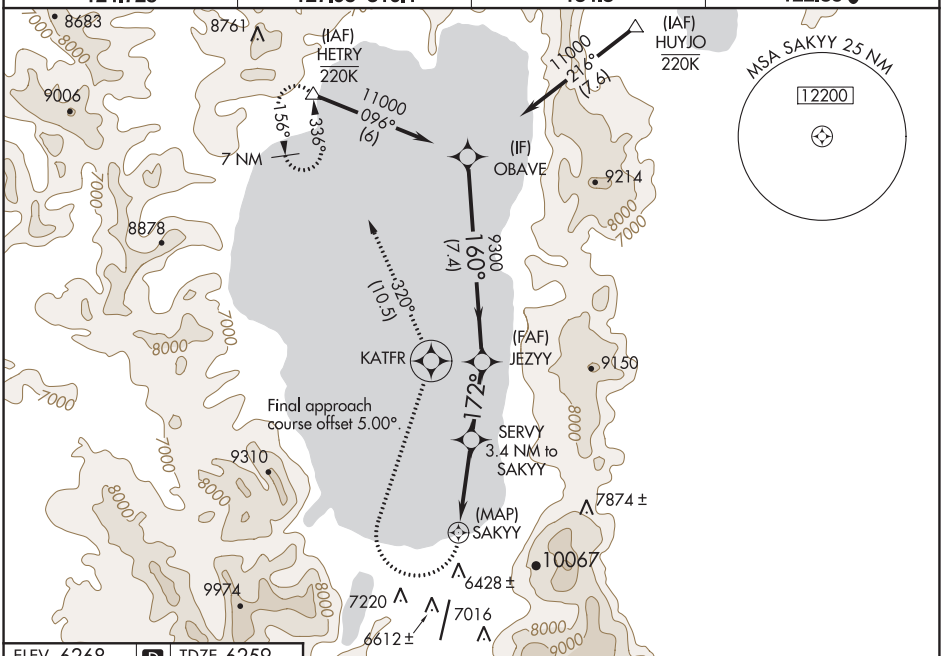
NA

-13°C

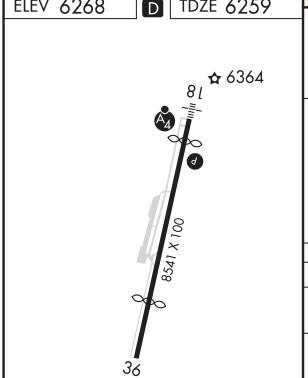
MALSF

MISSED APPROACH: (Do not exceed 185K until KATFR). Climbing right turn to 10000 direct KATFR then on track 320° to HETRY and hold, continue climb-in-hold to 12000. * Missed approach requires minimum climb of 425 feet per NM to 10000.

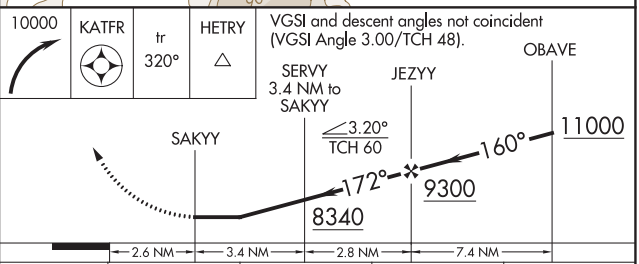
ASOS	OAKLAND CENTER	CLNC DEL	CTAF
124.725	127.95 316.1	134.3	122.85 L



ELEV 6268 D TDZE 6259



REIL Rwy 36
MIRL Rwy 18-36 L



CATEGORY	A	B	C	D
LP MDA *	6680-3 421 (500-3)			
LP MDA	7120-3 861 (900-3)		7140-3 881 (900-3)	7320-3 1061 (1100-3)
LNAV MDA *	6980-3 721 (800-3)			7560-3 1301 (1300-3)
LNAV MDA	7280-3 1021 (1100-3)	7620-3 1361 (1400-3)	8160-3 1901 (1900-3)	NA
C CIRCLING	7420-3 1152 (1200-3)	7680-3 1412 (1500-3)	8160-3 1892 (1900-3)	NA

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SW-2, 25 FEB 2021 to 22 APR 2021

SOUTH LAKE TAHOE, CALIFORNIA | AL-5416 (FAA) | 20198

LDA RWY 18
LAKE TAHOE (TVL)

LOC/DME I-TVL	APP CRS	Rwy ldg	7017
108.9	171°	TDZE	6259
Chan 26		Apt Elev	6268

DME required.

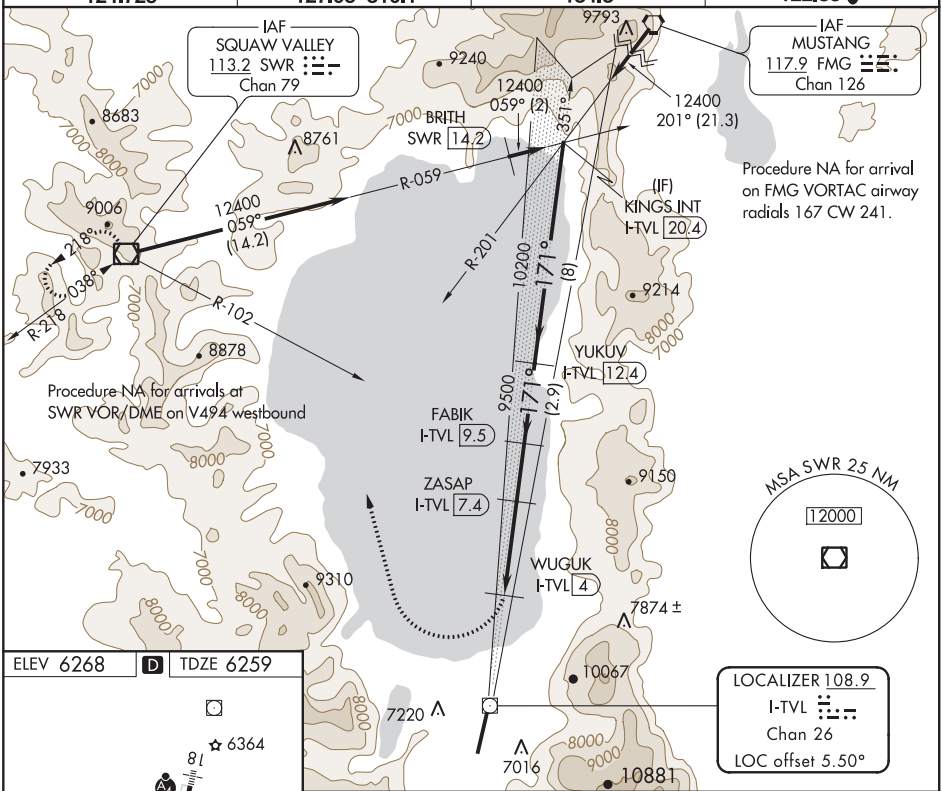
NA
-13°C

Rwy 18 helicopter visibility reduction below ¾ SM NA.
When local altimeter setting not received, procedure NA.

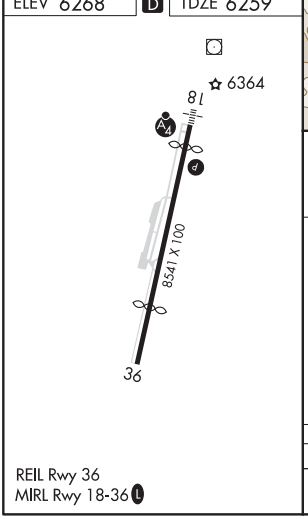
MALSF

MISSED APPROACH: Climbing right turn to 11000 on heading 329° and SWR VOR/DME R-102 to SWR VOR/DME and hold.

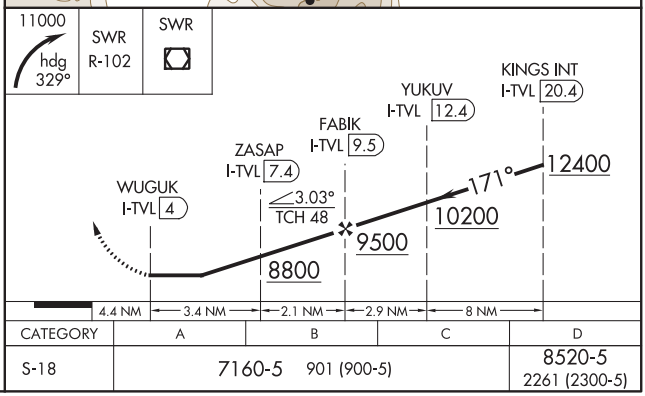
ASOS	OAKLAND CENTER	CLNC DEL	CTAF
124.725	127.95 316.1	134.3	122.85 L



ELEV 6268 | D | TDZE 6259



REIL Rwy 36
MIRL Rwy 18-36 L



CATEGORY	A	B	C	D
S-18	7160-5 901 (900-5)			8520-5 2261 (2300-5)

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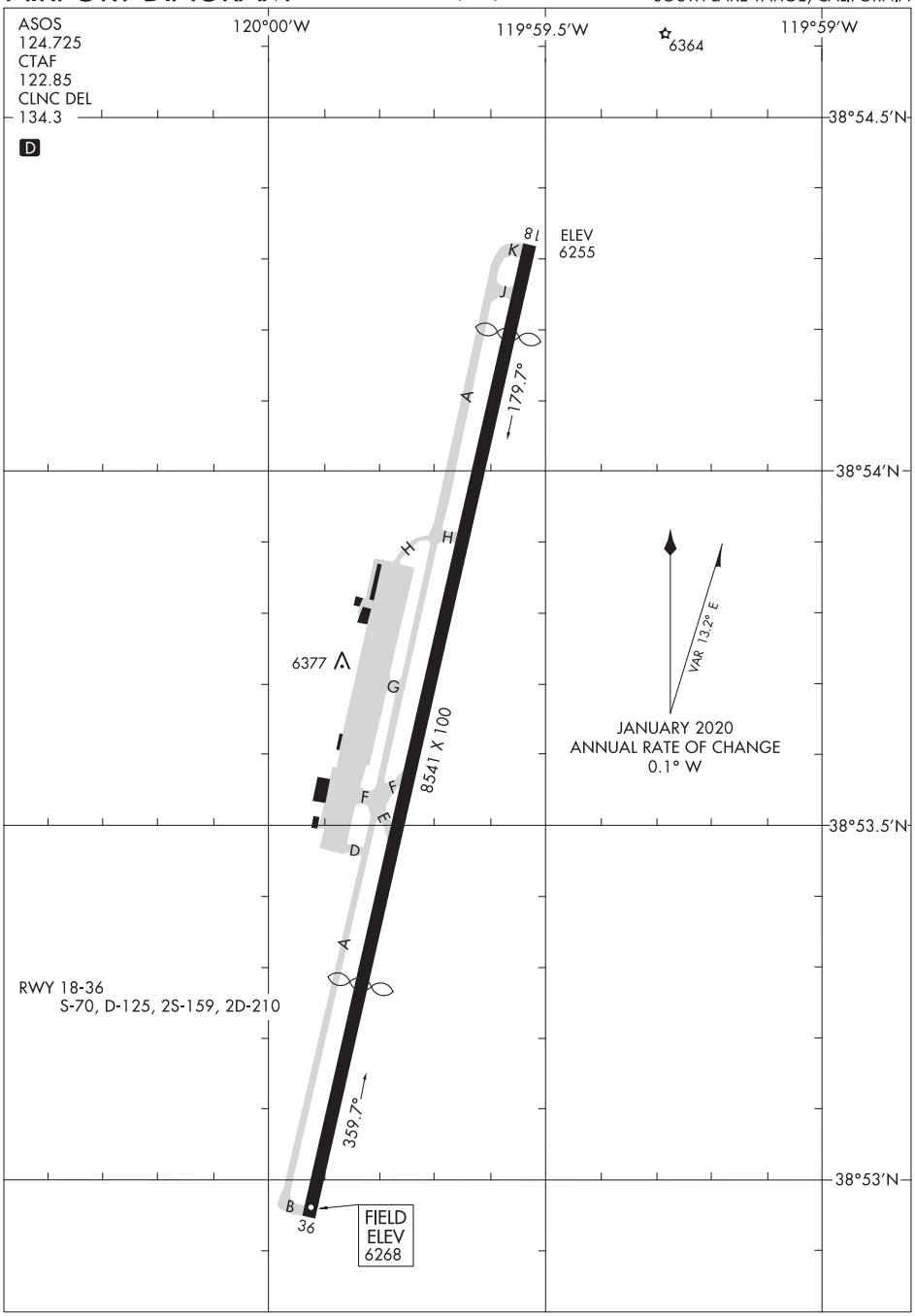
SW-2, 25 FEB 2021 to 22 APR 2021

SOUTH LAKE TAHOE, CALIFORNIA
Amdt 8 15AUG19

38°54'N-120°00'W

LAKE TAHOE (TVL)
LDA RWY 18



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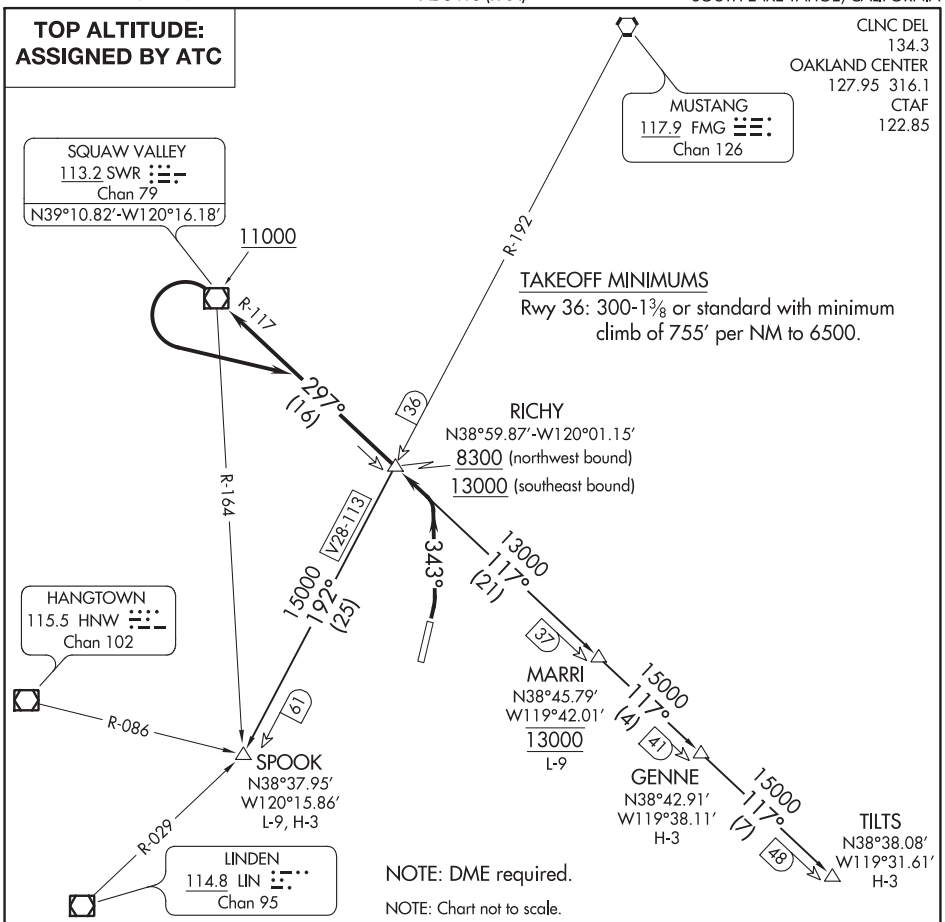
SW-2, 25 FEB 2021 to 22 APR 2021

(RICHY7.SWR) 21056

RICHY SEVEN DEPARTURE

AL-5416 (FAA)

LAKE TAHOE (TVL)
SOUTH LAKE TAHOE, CALIFORNIA



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 36: Climbing left turn on heading 343° to intercept the SWR VOR/DME R-117 northwest bound. Cross RICHY/SWR 16 DME at or above 8300, cross SWR at or above 11000. Thence. . . .

. . . .on assigned route (Aircraft cleared on a transition turn left to intercept the SWR R-117 southeast bound to cross RICHY at or above 13000). Maintain ATC assigned altitude.

GENNE TRANSITION (RICHY7.GENNE): From over RICHY INT on SWR R-117 to GENNE.

MARRI TRANSITION (RICHY7.MARRI): From over RICHY INT on SWR R-117 to MARRI.

SPOOK TRANSITION (RICHY7.SPOOK): From over RICHY INT on FMG R-192 to SPOOK INT.

TILTS TRANSITION (RICHY7.TILTS): From over RICHY INT on SWR R-117 to TILTS.

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ILS or LOC RWY 29R
STOCKTON METROPOLITAN (SCK)

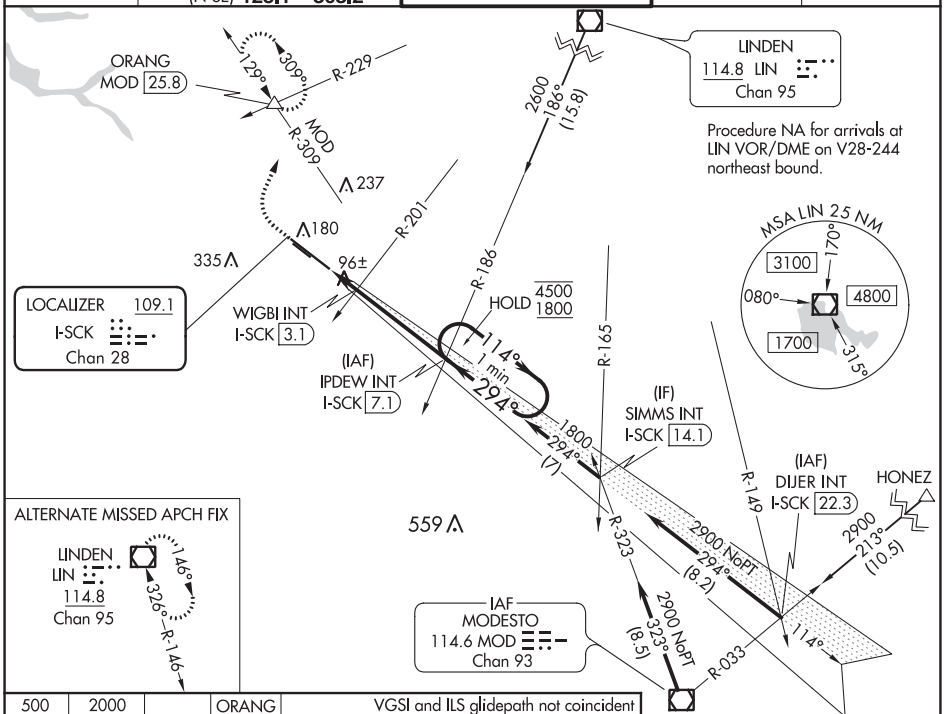
LOC/DME I-SCK	APP CRS	Rwy ldg	8650
109.1	294°	TDZE	32
Chan 28		Apt Elev	33

For inop ALS, increase S-LOC 29R Cat C/D visibility to 1⅜ SM.
RVR 1800 authorized with use of FD or AP or HUD to DA.

MALSR

MISSED APPROACH: Climb to 500 then climbing right turn to 2000 on heading 010° and MOD VOR/DME R-309 to ORANG INT/MOD 25.8 DME and hold.

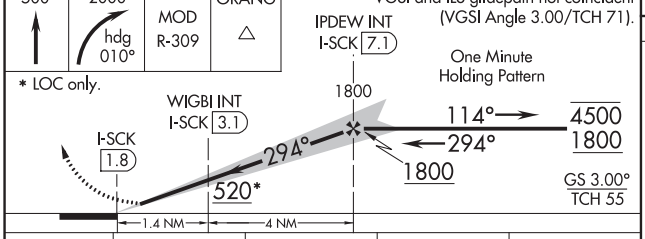
ATIS	NORCAL APP CON	STOCKTON TOWER ★	GND CON	UNICOM
118.25	(SE-NW) 123.85 278.3 (N-SE) 125.1 363.2	120.3 (CTAF) L 239.0	121.9	122.95



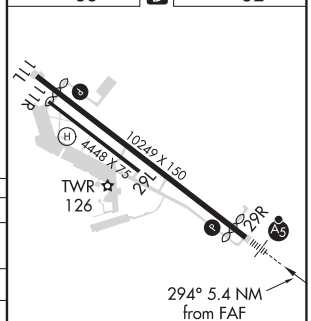
500	2000	MOD	ORANG
	hdg 010°	R-309	△

VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 71).

* LOC only.



ELEV 33	D	TDZE 32



HIRL Rwy 11L-29R L

CATEGORY	A	B	C	D
S-ILS 29R #	232/24 200 (200-½)			
S-LOC 29R	520/24 488 (500-½)		520/50 488 (500-1)	
C CIRCLING	520-1 487 (500-1)	540-1 507 (600-1)	640-1¾ 607 (700-1¾)	640-2 607 (700-2)
WIGBI FIX MINIMUMS (DUAL VOR RECEIVERS or DME REQUIRED)				
S-LOC 29R	360/24 328 (400-½)		360/26 328 (400-½)	
C CIRCLING	500-1 467 (500-1)	540-1 507 (600-1)	640-1¾ 607 (700-1¾)	640-2 607 (700-2)

FAF to MAP 5.4 NM

Knots	60	90	120	150	180
Min:Sec	5:24	3:36	2:42	2:10	1:48

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SW-2, 25 FEB 2021 to 22 APR 2021

STOCKTON, CALIFORNIA | AL-407 (FAA) | 21056

ILS RWY 29R (SA CAT II)
STOCKTON METROPOLITAN (SCK)

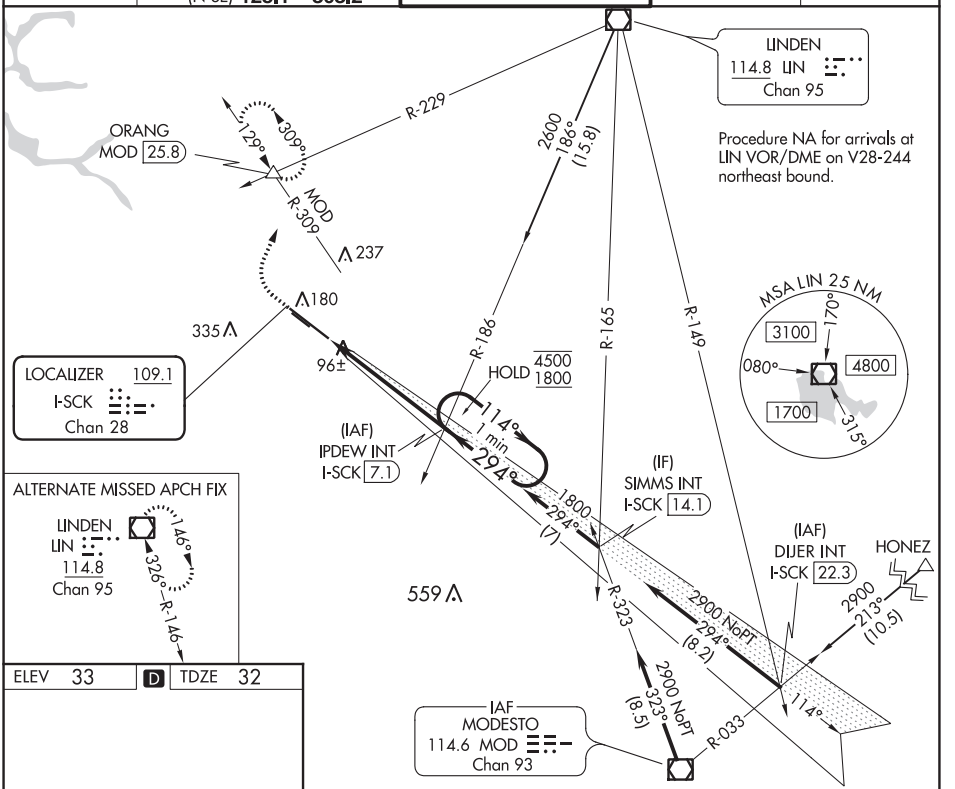
LOC/DME I-SCK	APP CRS	Rwy ldg	8650
109.1	294°	TDZE	32
Chan 28		Apt Elev	33

Reduced lighting: requires specific OPSPEC, MSPEC, or LOA approval and use of autoland or HUD to touchdown. Procedure NA when tower closed.

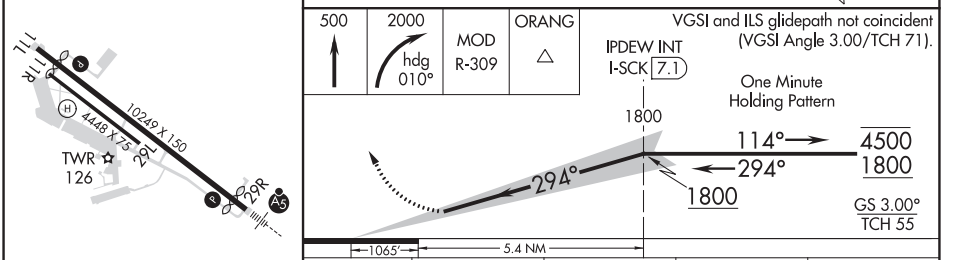
MALSR

MISSED APPROACH: Climb to 500 then climbing right turn to 2000 on heading 010° and MOD VOR/DME R-309 to ORANG INT/MOD 25.8 DME and hold.

ATIS	NORCAL APP CON	STOCKTON TOWER ★	GND CON	UNICOM
118.25	(SE-NW) 123.85 278.3 (N-SE) 125.1 363.2	120.3 (CTAF) L 239.0	121.9	122.95



ELEV 33	D	TDZE 32



CATEGORY	A	B	C	D
S-ILS 29R	RA 105/12 100 DA 132			

SA CATEGORY II ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

HIRL Rwy 11L-29R L

SW-2, 25 FEB 2021 to 22 APR 2021

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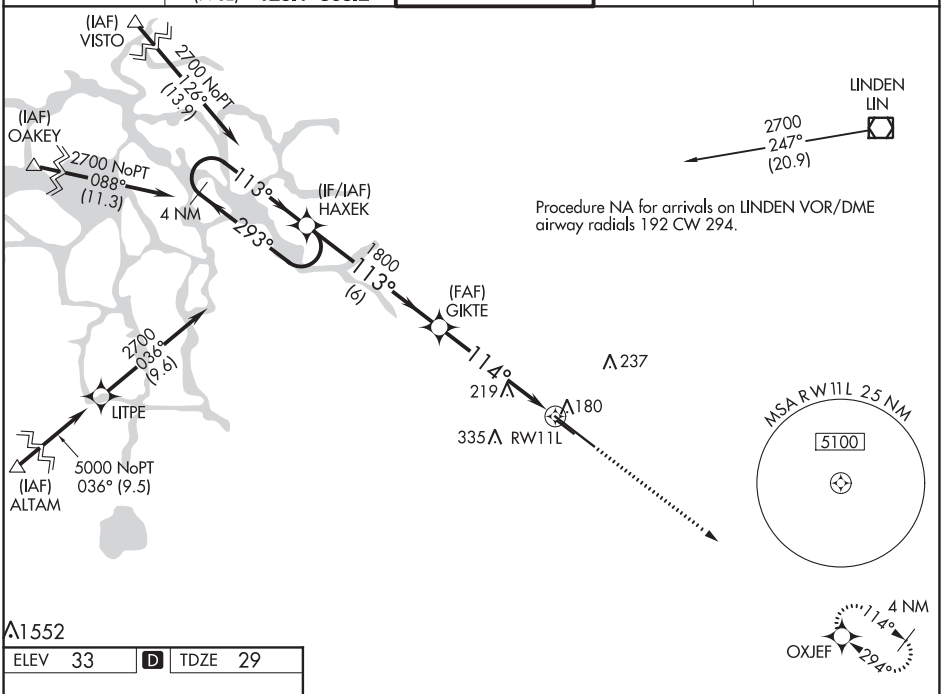
WAAS CH 72910 W11A	APP CRS 114°	Rwy ldg 8650 TDZE 29 Apt Elev 33

RNAV (GPS) RWY 11L
STOCKTON METROPOLITAN (SCK)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -4°C (25°F) or above 54°C (130°F). DME/DME RNP-0.3 NA.

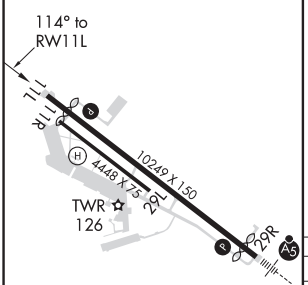
MISSED APPROACH: Climb to 2000 direct OXJEF and hold.

ATIS	NORCAL APP CON	STOCKTON TOWER★	GND CON	UNICOM
118.25	(SE-NW) 123.85 278.3 (N-SE) 125.1 363.2	120.3 (CTAF) L 239.0	121.9	122.95

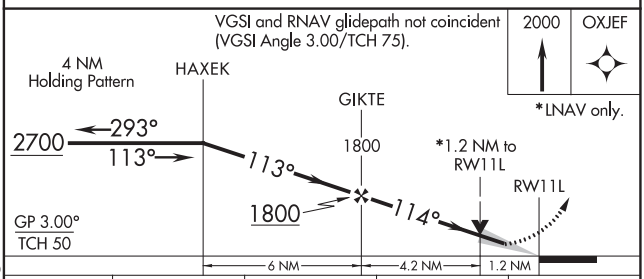


1552

ELEV 33	D	TDZE 29



HIRL Rwy 11L-29R L



CATEGORY	A	B	C	D
LPV DA	229-¾ 200 (200-¾)			
LNAV/VNAV DA	471-1½ 442 (500-1½)			
LNAV MDA	480-1 451 (500-1)		480-1⅜ 451 (500-1⅜)	
C CIRCLING	500-1 467 (500-1)	540-1 507 (600-1)	640-1¾ 607 (700-1¾)	640-2 607 (700-2)

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STOCKTON, CALIFORNIA | AL-407 (FAA) | 21056

WAAS CH 87010 W29A	APP CRS 294°	Rwy ldg 8650 TDZE 32 Apt Elev 33

RNAV (GPS) RWY 29R
STOCKTON METROPOLITAN (SCK)

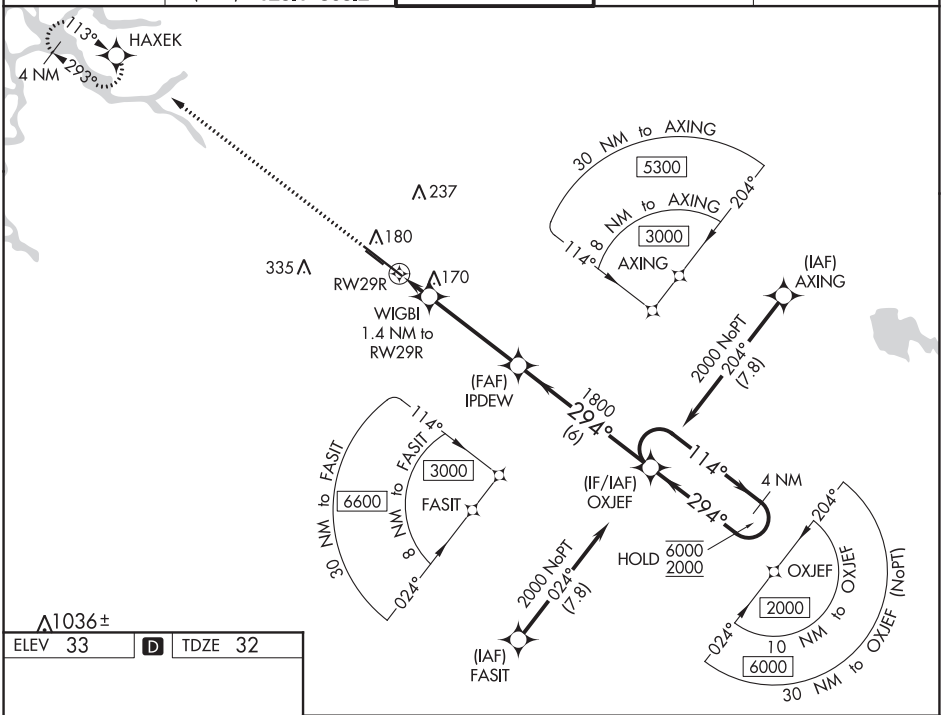
RNP APCH.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -3°C or above 54°C. For inop ALS, increase LNAV/VNAV visibility all Cats to RVR 4500.
#RVR 1800 authorized with use of FD or AP or HUD to DA.

MALSR

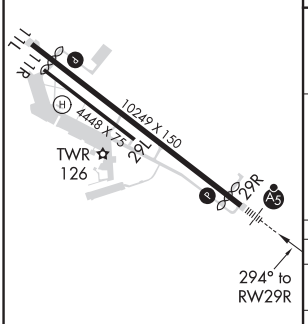
MISSED APPROACH: Climb to 2700 direct HAXEK and hold.

ATIS	NORCAL APP CON	STOCKTON TOWER★	GND CON	UNICOM
118.25	(SE-NW) 123.85 278.3 (N-SE) 125.1 363.2	120.3 (CTAF) L 239.0	121.9	122.95

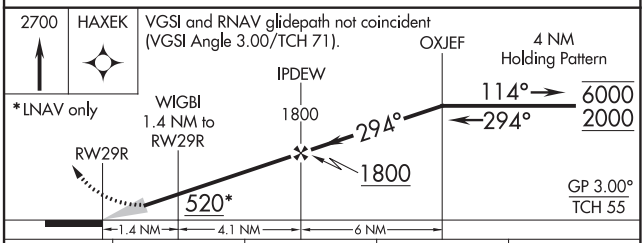


1036±

ELEV 33	D	TDZE 32



HIRL Rwy 11L-29R L



CATEGORY	A	B	C	D
LPV DA#	232/24 200 (200-½)			
LNAV/VNAV DA	320/24 288 (300-½)			
LNAV MDA	420/24 388 (400-½)		420/35 388 (400-⅝)	
C CIRCLING	500-1 467 (500-1)	540-1 507 (600-1)	640-1¾ 607 (700-1¾)	640-2 607 (700-2)

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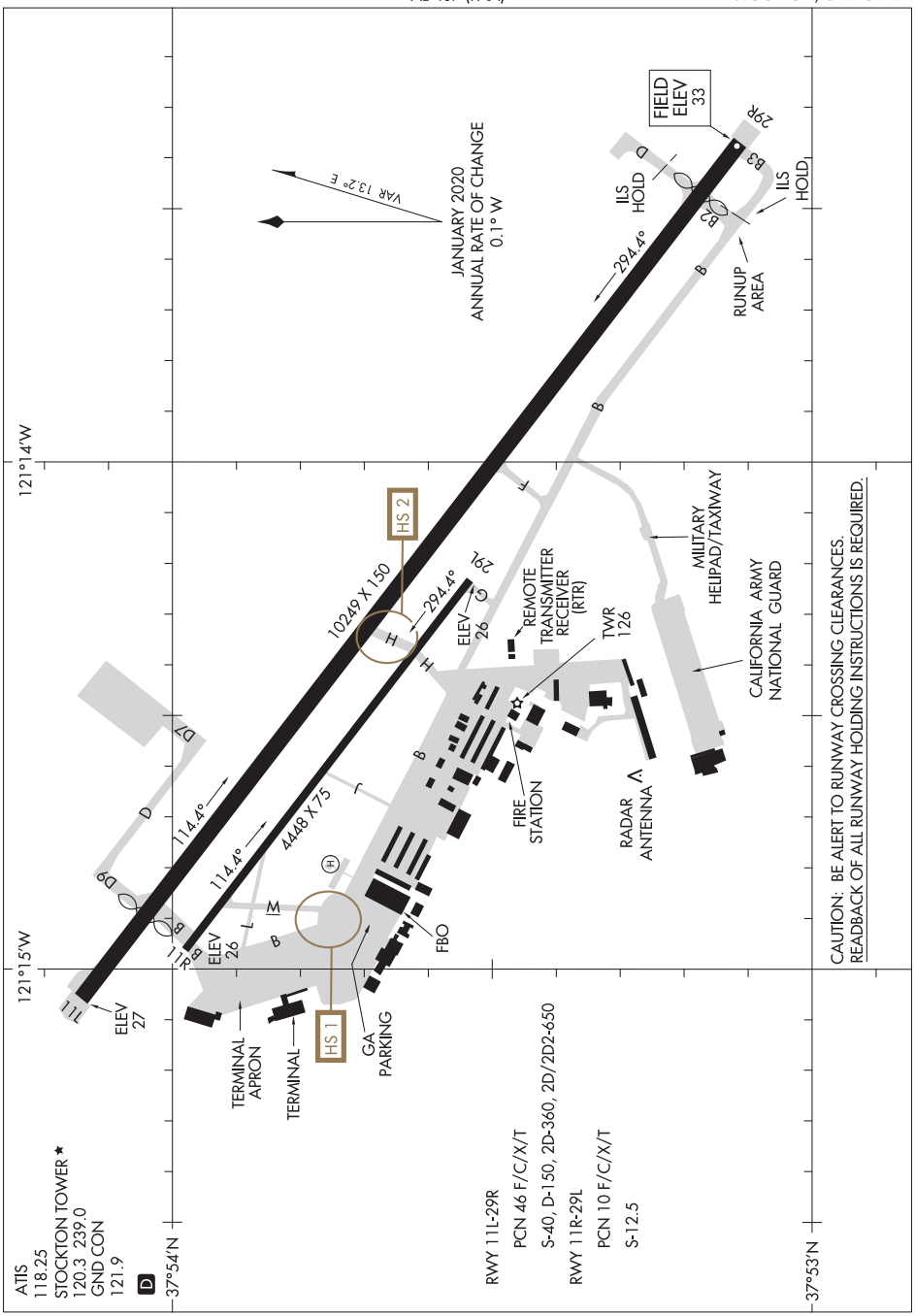
SW-2, 25 FEB 2021 to 22 APR 2021



SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

SUSANVILLE, CALIFORNIA | AL-9479 (FAA) | 20310

RNAV (GPS) RWY 29
SUSANVILLE MUNI (SVE)

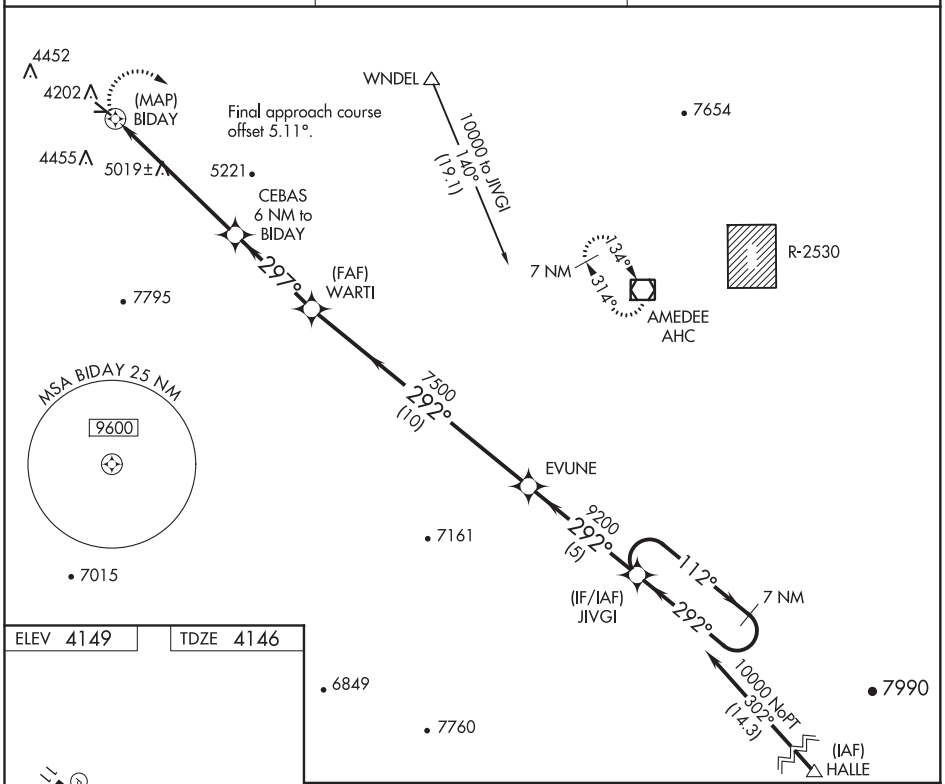
APP CRS	Rwy ldg	4051
297°	TDZE	4146
	Apt Elev	4149

-22°C

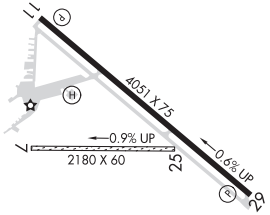
DME/DME RNP- 0.3 NA. When local altimeter setting not received, use Reno/Stead altimeter setting and increase all MDA 720 feet. Circling to Rwy 7/25 NA. Rwy 29 helicopter visibility reduction below ¾ SM NA.

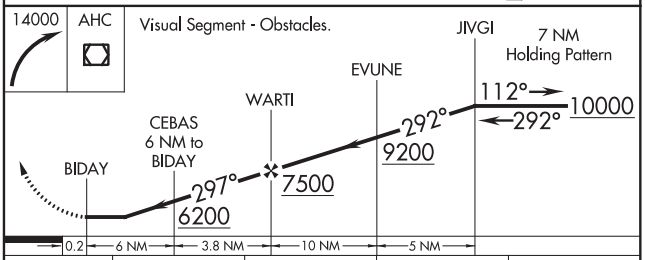
MISSED APPROACH: Climbing right turn to 14000 direct AHC VOR/DME and hold, continue climb-in-hold to 14000.

AWOS-3	OAKLAND CENTER	UNICOM
133.8	128.8 285.5	122.8 (CTAF) L



ELEV 4149 | TDZE 4146





CATEGORY	A	B	C	D
LNAV MDA	5760-1¼ 1614 (1700-1¼)	5760-1½ 1614 (1700-1½)	5760-3 1614 (1700-3)	
CIRCLING	5760-1¼ 1611 (1700-1¼)	5760-1½ 1611 (1700-1½)	5760-3 1611 (1700-3)	

MIRL Rwy 11-29 L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

APP CRS	Rwy ldg	N/A
142°	TDZE	N/A
	Apt Elev	4149

RNAV (GPS)-A
SUSANVILLE MUNI (SVE)

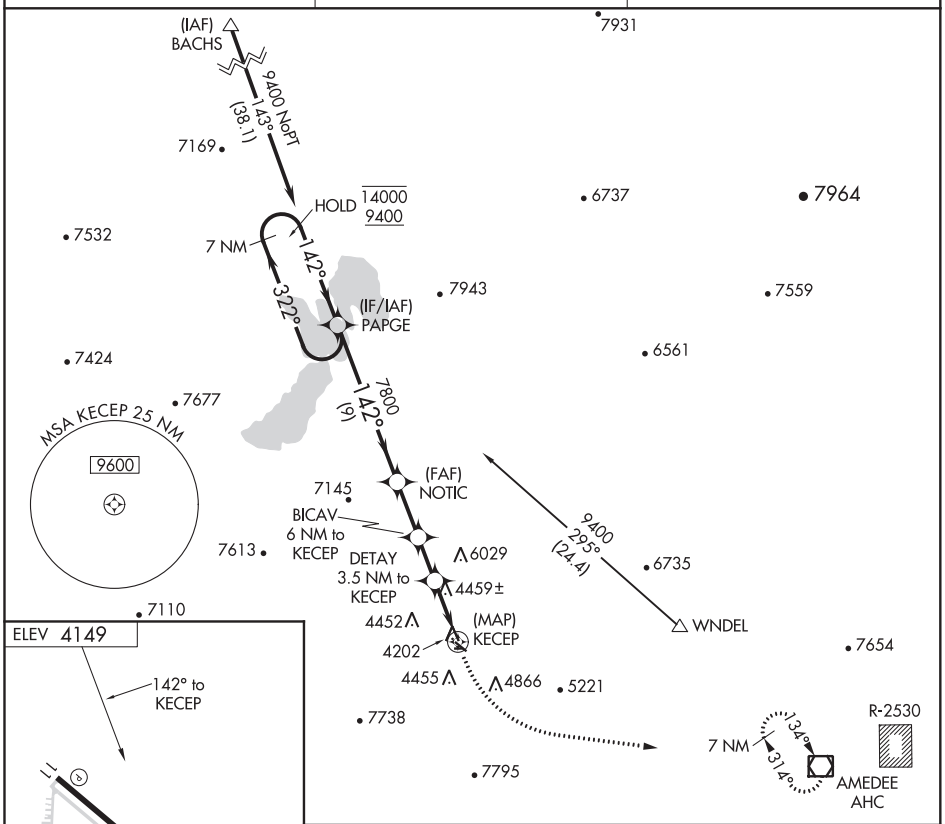
RNP APCH.

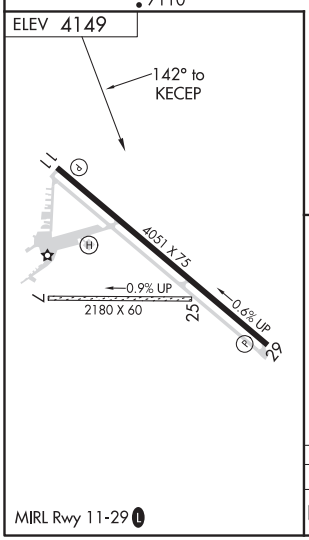
Circling NA for Cat D southwest of Rwy 11-29.
When local altimeter setting not received, procedure NA.
Circling NA to Rwy 7/25.

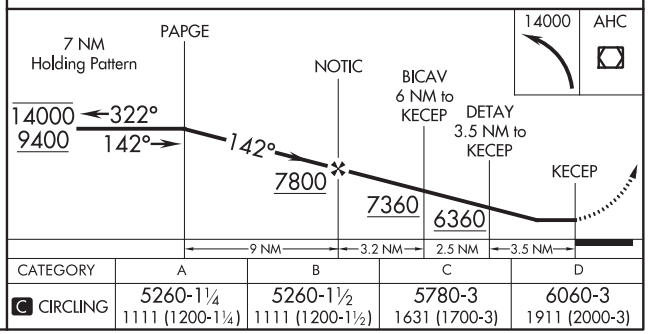
NA
-22°C

MISSED APPROACH: Climbing left turn to 14000 direct AHC VOR/DME and hold, continue climb-in-hold to 14000.

AWOS-3	OAKLAND CENTER	UNICOM
133.8	128.8 285.5	122.8 (CTAF) L







CATEGORY	A	B	C	D
C CIRCLING	5260-1¼ 1111 (1200-1¼)	5260-1½ 1111 (1200-1½)	5780-3 1631 (1700-3)	6060-3 1911 (2000-3)

MIRL Rwy 11-29 L

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

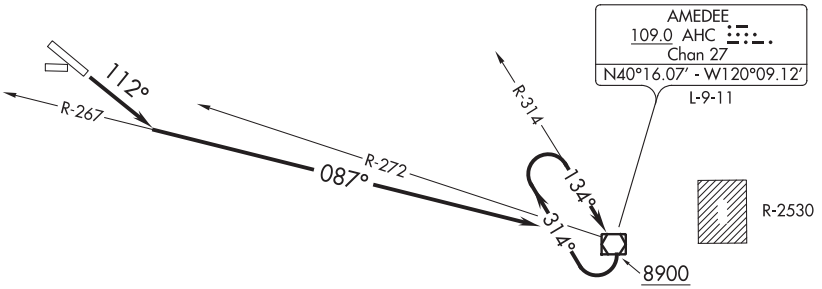
(AHC1.AHC) 16091

AMEDEE ONE DEPARTURE (OBSTACLE)

SL-9479 (FAA)

SUSANVILLE MUNI (SVE)
SUSANVILLE, CALIFORNIA

OAKLAND CENTER
128.8 285.5
CTAF
122.8



TAKEOFF MINIMUMS

Rwys 7, 25, 29: NA- obstacles.

Rwy 11: Standard with minimum climb of 410′ per NM to 6000 or 1900-2½ for climb in visual conditions.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 11: Climb via 112° heading and AHC R-267 to AHC VOR/DME, Thence. . . .
Or climb in visual conditions to cross Susanville Muni Airport eastbound at or above 6000, then via AHC R-272 to AHC VOR/DME, Thence. . . .

. . . .cross AHC VOR/DME at or above 8900′. Climb in AHC holding pattern to depart AHC VOR/DME at or above 14000 before proceeding on course.

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WAAS CH 49200 W12A	APP CRS 116°	Rwy ldg 4001 TDZE 193 Apt Elev 193

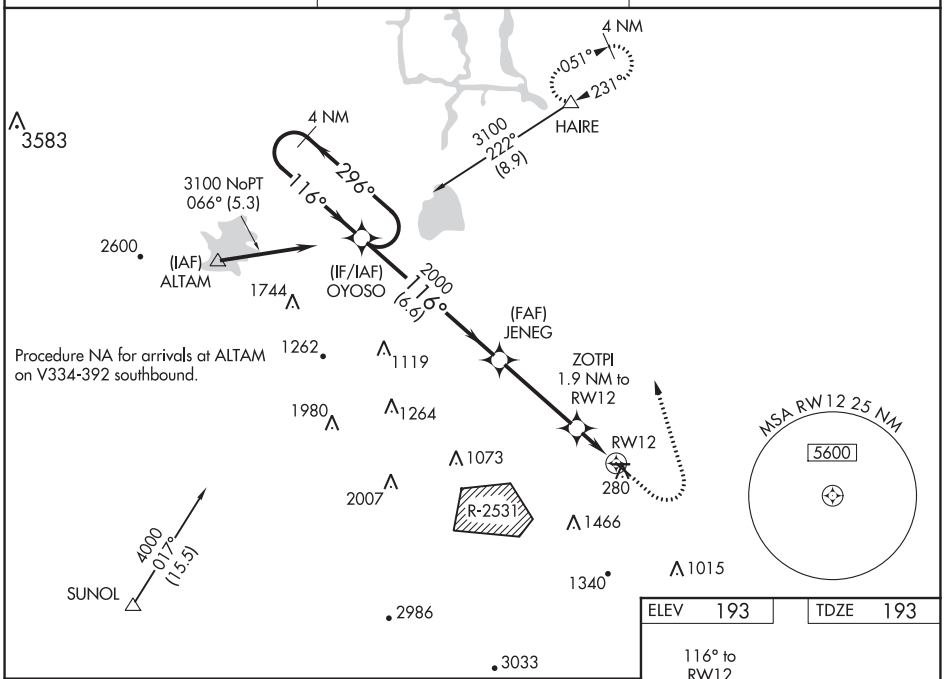
RNAV (GPS) RWY 12
TRACY MUNI (TCY)

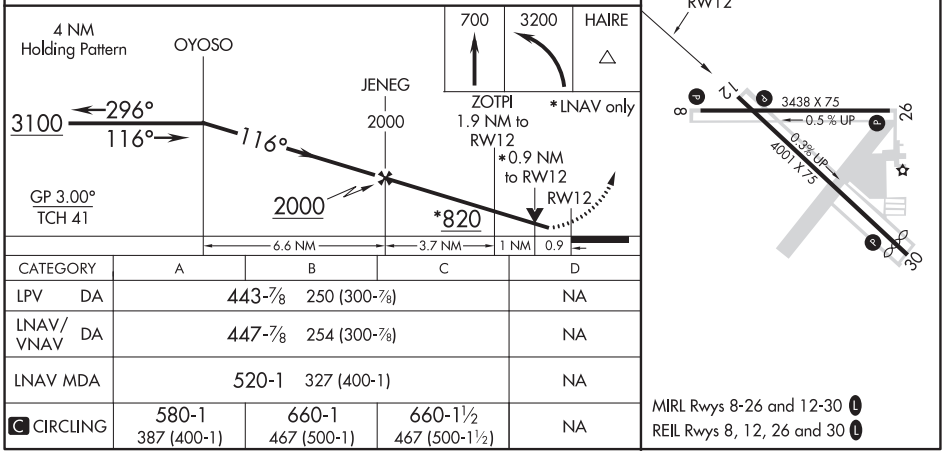
RNP APCH

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 54°C.
Circling NA southwest of Rwy 12-30. Baro-VNAV and VDP NA when using Stockton altimeter setting.
Circling Rwy 30 NA at night. Rwy 12 helicopter visibility reduction below ¾ SM NA.
When local altimeter setting not received, use Stockton altimeter setting: increase all DAs to 507 feet; increase all MDAs 60 feet and visibilities LNAV Cat C ⅛ SM.

MISSED APPROACH: Climb to 700 then climbing left turn to 3200 direct HAIRE and hold.

AWOS-3	NORCAL APP CON	UNICOM
118.375	123.85 278.3	123.075 (CTAF) L





CATEGORY	A	B	C	D
LPV DA	443-⅞ 250 (300-⅞)			NA
LNAV/VNAV DA	447-⅞ 254 (300-⅞)			NA
LNAV MDA	520-1 327 (400-1)			NA
C CIRCLING	580-1 387 (400-1)	660-1 467 (500-1)	660-1½ 467 (500-1½)	NA

MIRL Rwys 8-26 and 12-30 L
REIL Rwys 8, 12, 26 and 30 L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

TRACY, CALIFORNIA | AL-5815 (FAA) | 19339

WAAS CH 49040 W26A	APP CRS 255°	Rwy ldg 3438 TDZE 186 Apt Elev 193

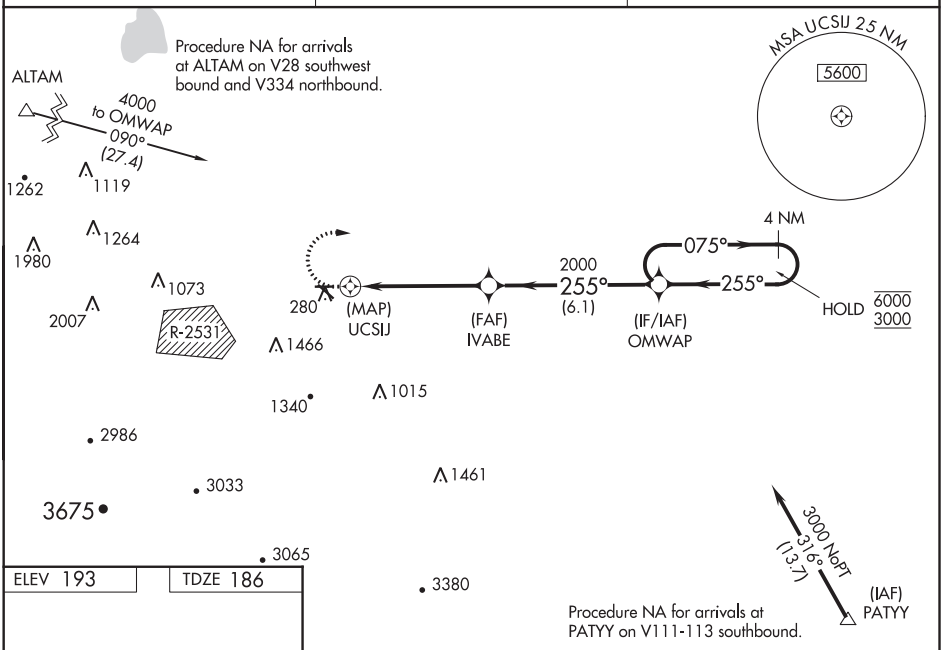
RNAV (GPS) RWY 26
TRACY MUNI (TCY)

RNP APCH.

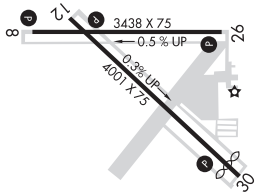
Baro-VNAV NA when using Stockton altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 54°C. Circling NA southwest of Rwy 12-30. Circling Rwy 30 NA at night. Rwy 26 helicopter visibility reduction below ¾ SM NA. When local altimeter setting not received, use Stockton altimeter setting: increase LPV DA to 496 feet, increase LNAV/VNAV DA to 553 feet; increase all MDAs 60 feet and visibility LNAV Cat C ⅛ SM.

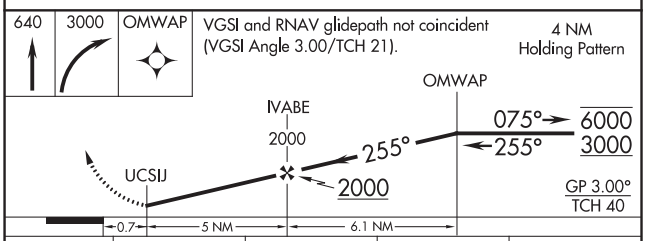
MISSED APPROACH: (Do not exceed 210K until OMWAP) Climb to 640 then climbing right turn to 3000 direct OMWAP and hold.

AWOS-3	NORCAL APP CON	UNICOM
118.375	123.85 278.3	123.075 (CTAF) L



ELEV 193 | TDZE 186





CATEGORY	A	B	C	D
LPV DA	436-⅞ 250 (300-⅞)			NA
LNAV/VNAV DA	493-1⅛ 307 (300-1⅛)			NA
LNAV MDA	540-1 354 (400-1)			NA
C CIRCLING	580-1 387 (400-1)	660-1 467 (500-1)	660-1½ 467 (500-1½)	NA

MIRL Rwys 8-26 and 12-30 L
REIL Rwys 8, 12, 26 and 30 L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

WAAS CH 69201 W30A	APP CRS 297°	Rwy ldg 3740 TDZE 193 Apt Elev 193

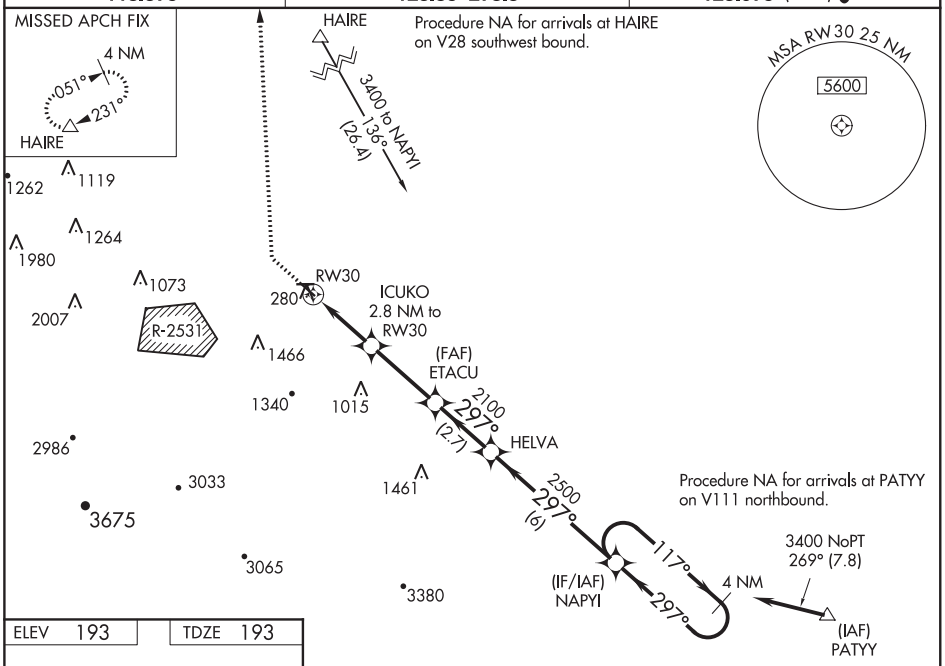
RNAV (GPS) RWY 30
TRACY MUNI (TCY)

RNP APCH

T Baro-VNAV NA when using Stockton altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 54°C. Circling NA southwest of Rwy 12-30. Straight-In Rwy 30 NA at night, Circling Rwy 30 NA at night. Rwy 30 helicopter visibility reduction below 1 SM NA. When local altimeter setting not received, use Stockton altimeter setting; increase all DAs to 507 feet; increase all MDAs 60 feet and visibility LNAV Cat C ⅛ SM.

MISSED APPROACH: Climb to 700 then climbing right turn to 3200 direct HAIRE and hold, continue climb-in-hold to 3200.

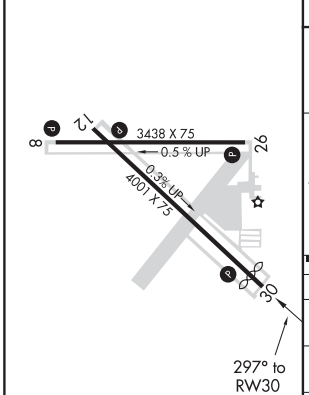
AWOS-3	NORCAL APP CON	UNICOM
118.375	123.85 278.3	123.075 (CTAF) L



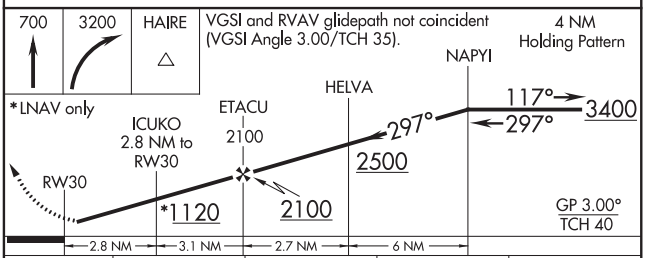
SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

ELEV 193 TDZE 193



MIRL Rwys 8-26 and 12-30 L
REIL Rwys 8, 12, 26 and 30 L



CATEGORY	A	B	C	D
LPV DA	447-1 254 (300-1)			NA
LNAV/VNAV DA	443-1 250 (300-1)			NA
LNAV MDA	540-1 347 (400-1)			NA
C CIRCLING	580-1 387 (400-1)	660-1 467 (500-1)	660-1½ 467 (500-1½)	NA

VOR/DME MOD	APP CRS	Rwy ldg	3438
114.6	263°	TDZE	186
Chan 93		Apt Elev	193

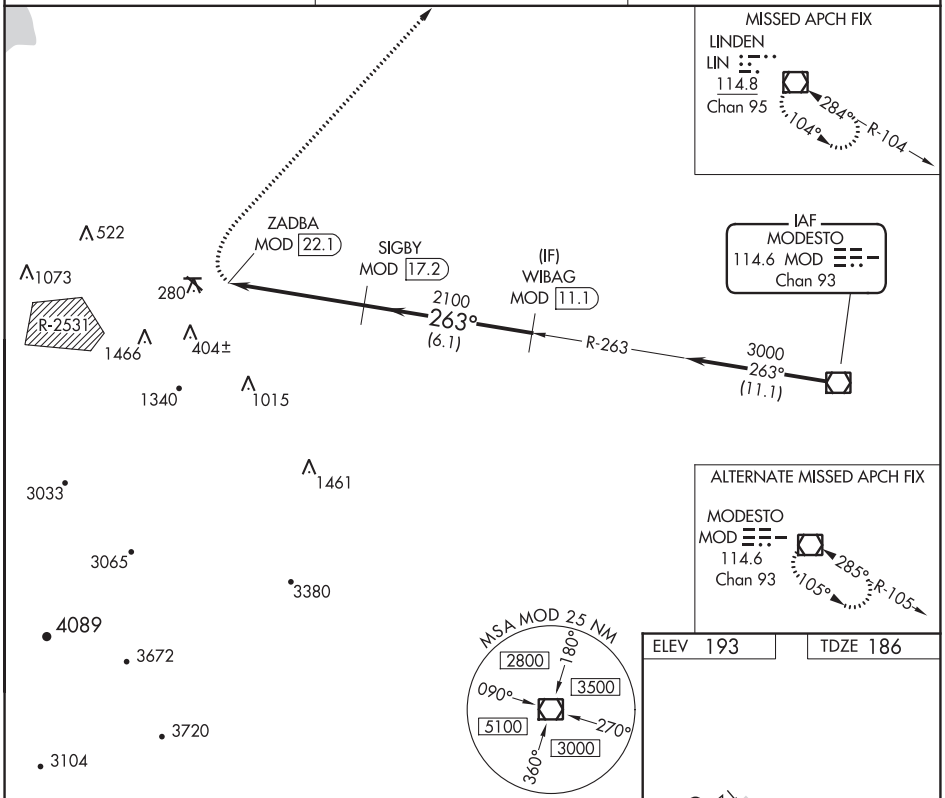
VOR RWY 26
TRACY MUNI (TCY)

DME required.

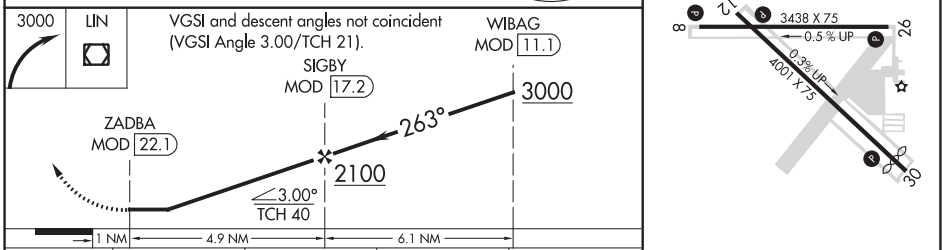
Circling NA southwest of Rwy 12-30. Circling Rwy 30 NA at night. Rwy 26 helicopter visibility reduction below ¾ SM NA. When local altimeter setting not received, use Stockton altimeter setting: increase all MDAs 60 feet and visibility Cat C ⅛ SM.

MISSED APPROACH: Climbing right turn to 3000 direct LIN VOR/DME and hold.

AWOS-3	NORCAL APP CON	UNICOM
118.375	123.85 278.3	123.075 (CTAF) L



ELEV 193 TDZE 186



CATEGORY	A	B	C	D
S-26	760-1¼ 574 (600-1¼)		760-1⅝ 574 (600-1⅝)	NA
C CIRCLING	760-1¼ 567 (600-1¼)		760-1⅝ 567 (600-1⅝)	NA

MIRL Rwys 8-26 and 12-30 L
REIL Rwys 8, 12, 26 and 30 L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

FAIRFIELD, CALIFORNIA

ILS or LOC RWY 3L

LOC I-TXV	APCH CRS	Rwy ldg 11,001 TDZE 34 Arpt Elev 63
108.35	035°	

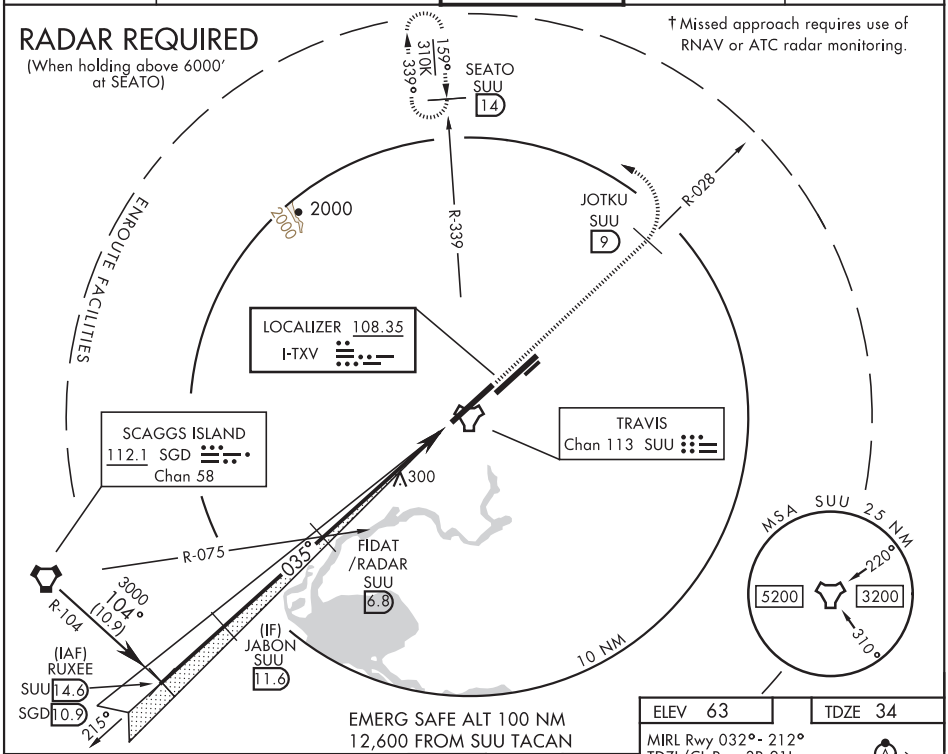
AL-488 [USAF]

TRAVIS AFB (KSUU)

T *When Rwy 3R VGSI inop, circling to Rwy 3R not authorized at night. Circling not authorized NW of Rwy 3L-21R.

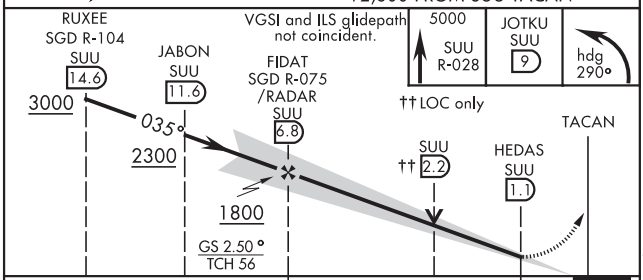
†MISSED APPROACH: Climb to 5000 on SUU R-028 to JOTKU. Then climbing left turn heading 290°, intercept SUU R-339 to SEATO and hold, continue climb and hold to 5000.

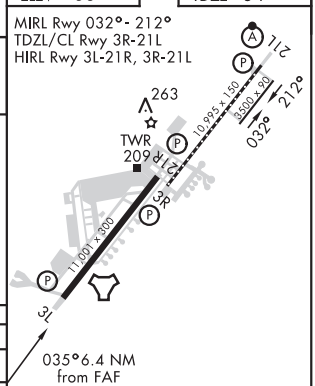
ATIS	TRAVIS APP CON	TRAVIS TOWER	GND CON	CLNC DEL
135.55 292.125	119.9 (S) 126.6 (N) 281.45	120.75 254.4	121.8 289.4	127.55 335.8



ELEV 63 | TDZE 34

MIRL Rwy 032°- 212°
TDZL/CL Rwy 3R-21L
HIRL Rwy 3L-21R, 3R-21L





CATEGORY	A	B	C	D	E
S-ILS 3L	234/40		200	(200-¾)	
S-LOC 3L	560/55 526 (500-1)		560-1½	526	(500-1½)
C CIRCLING*	560-1 497 (500-1)	580-1 517 (600-1)	1100-3 1037(1100-3)	1200-3 1137 (1200-3)	

FAF to MAP 5.8 NM					
Knots	60	90	120	150	180
Min:Sec	5:48	3:52	2:54	2:19	1:56

FAIRFIELD, CALIFORNIA

38°16'N-121°56'W

TRAVIS AFB (KSUU)

Amdt 3 19JUL18

ILS or LOC RWY 3L

SW-2, 25 FEB 2021 to 22 APR 2021

19283

FAIRFIELD, CALIFORNIA

ILS or LOC RWY 21L

TRAVIS AFB (KSUU)

LOC I-SUU	APCH CRS	Rwy ldg 10,995 TDZE 58 Arpt Elev 63
110.1	215°	

AL-488 [USAF]

T * When ALS inop, increase all CATs RVR to 40, vis to ¾ miles. When TDZL/CL inop, increase all CATs RVR to 24.

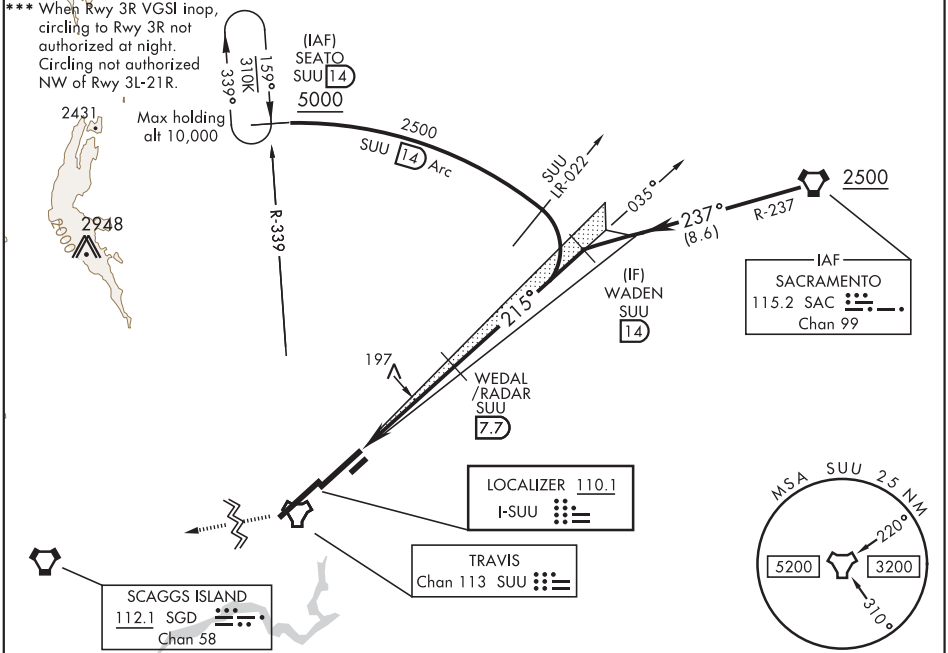
ALSF-2

MISSED APPROACH: Climb straight ahead to SUU TACAN then turn right direct SGD VORTAC climbing to 4400. Expect further clearance prior to SGD.

ATIS	TRAVIS APP CON	TRAVIS TOWER	GND CON	CLNC DEL
135.55 292.125	119.9 (S) 126.6 (N) 281.45	120.75 254.4	121.8 289.4	127.55 335.8

** When ALS inop, increase CAT AB RVR to 55 and vis to 1 mile, CAT CDE vis to 1⅜ mile.

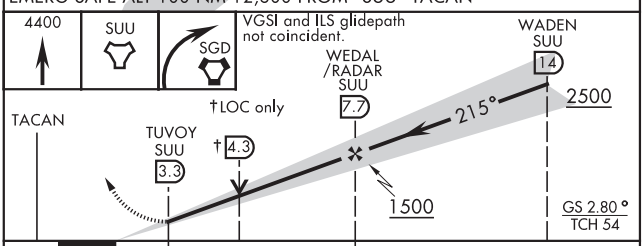
*** When Rwy 3R VGSI inop, circling to Rwy 3R not authorized at night. Circling not authorized NW of Rwy 3L-21R.



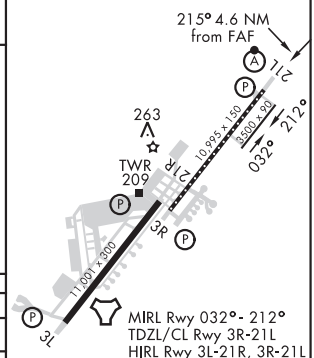
ATC RADAR REQUIRED

(Except for full approach from SAC)

EMERG SAFE ALT 100 NM 12,600 FROM "SUU" TACAN



ELEV 63	TDZE 58



CATEGORY	A	B	C	D	E
S-ILS 21L *	258/18		200 (200-½)		
S-LOC 21L **	500/24 442 (500-½)		500/45 442 (500-⅞)		
C CIRCLING ***	540-1 477 (500-1)	580-1 517 (600-1)	1100-3 1037(1100-3)	1200-3 1137 (1200-3)	

FAF to MAP 4.4 NM					
Knots	60	90	120	150	180
Min:Sec	4:24	2:56	2:12	1:46	1:28

FAIRFIELD, CALIFORNIA 38°16′N-121°56′W TRAVIS AFB (KSUU)

Amdt 2 19JUL18

ILS or LOC RWY 21L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

FAIRFIELD, CALIFORNIA

ILS RWY 21L (CAT II)

LOC I-SUU	APCH CRS	Rwy ldg 10,995
110.1	215°	TDZE 58
		Arpt Elev 63

AL-488 [USAF]

TRAVIS AFB (KSUU)

ALSF-2

† MISSED APPROACH: Climb to 5000 on SUU R-205 to SETSE. Then climbing right turn 020°, intercept SUU R-339 to SEATO and hold, continue climb and hold to 5000.

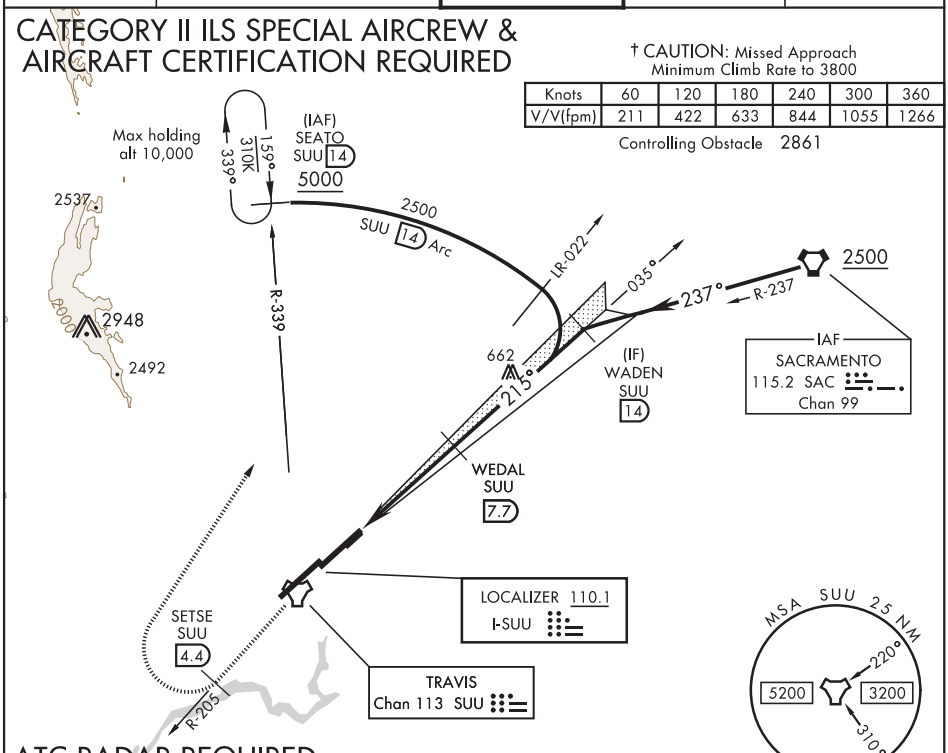
ATIS	TRAVIS APP CON	TRAVIS TOWER	GND CON	CLNC DEL
135.55 292.125	119.9 (S) 126.6 (N) 281.45	120.75 254.4	121.8 289.4	127.55 335.8

CATEGORY II ILS SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

† CAUTION: Missed Approach Minimum Climb Rate to 3800

Knots	60	120	180	240	300	360
V/V(fpm)	211	422	633	844	1055	1266

Controlling Obstacle 2861

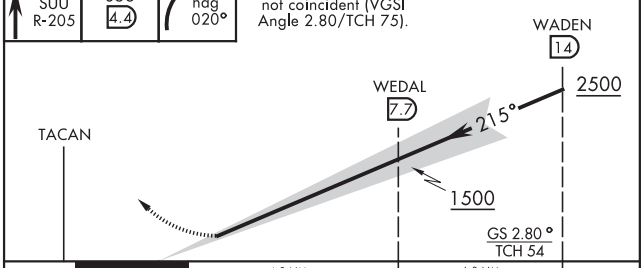


ATC RADAR REQUIRED

EMERG SAFE ALT 100 NM 12,600 FROM "SUU" TACAN

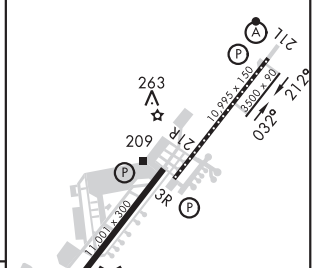
5000	SETSE	hdg
SUU R-205	SUU 4.4	020°

VGSI and ILS Glidepath not coincident (VGSI Angle 2.80/TCH 75).



CATEGORY	A	B	C	D	E
S-ILS 21L	RA 83/12		100	DA 158	

ELEV 63 TDZE 58



MIRL Rwy 032°- 212°
TDZL/CL Rwy 3R-21L
HIRL Rwy 3L-21R, 3R-21L

FAIRFIELD, CALIFORNIA 38°16'N-121°56'W TRAVIS AFB (KSUU)

Amdt 1 05DEC19

ILS RWY 21L (CAT II)

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

19283

FAIRFIELD, CALIFORNIA

RNAV (GPS) RWY 3L

WAAS CH 71275 W03A	APCH CRS 035°	Rwy ldg 11,001 TDZE 34 Arpt Elev 63

AL-488 [USAF]

TRAVIS AFB (KSUU)

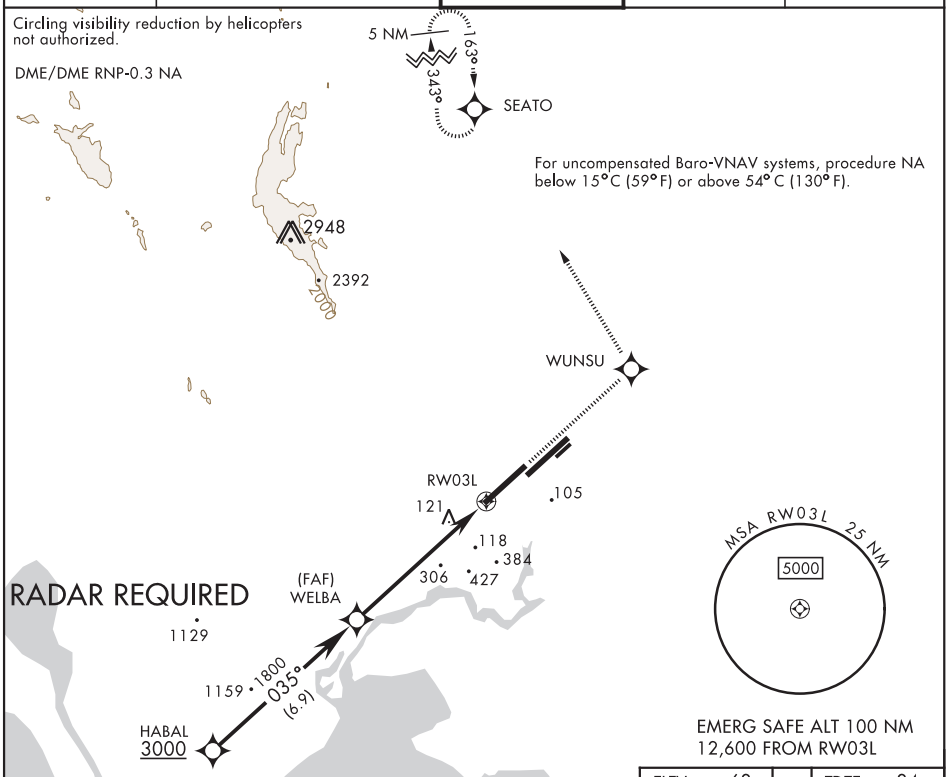
* When Rwy 3R VGSI inop, circling to Rwy 3R not authorized at night. Circling not authorized NW of Rwy 3L-21R.

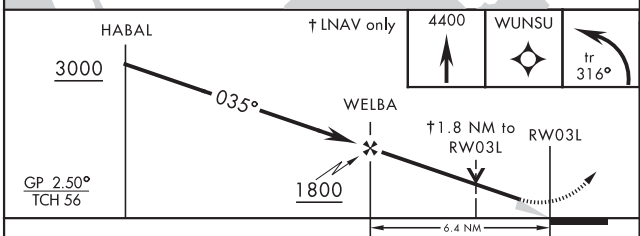
MISSED APPROACH: Climb to 4400 direct WUNSU, track 316° to SEATO and hold, continue climb-in-hold to 4400.

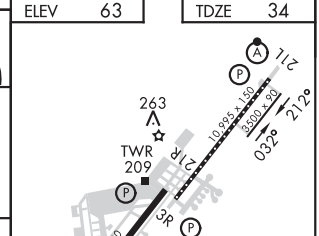
ATIS	TRAVIS APP CON	TRAVIS TOWER	GND CON	CLNC DEL
135.55 292.125	119.9 (S) 126.6 (N) 281.45	120.75 254.4	121.8 289.4	127.55 335.8

Circling visibility reduction by helicopters not authorized.

DME/DME RNP-0.3 NA







CATEGORY	A	B	C	D	E
LPV DA	234/40		200	(200-¾)	
LNAV/VNAV DA	522-2		488	(500-2)	
LNAV MDA	600/55 566 (600-1)		600-1⅝ 566	(600-1⅝)	
C CIRCLING*	600-1 537 (600-1)		1100-3 1037(1100-3)	1200-3 1137 (1200-3)	

035° to RW03L

MIRL Rwy 032°- 212°
TDZL/CL Rwy 3R-21L
HIRL Rwy 3L-21R, 3R-21L

FAIRFIELD, CALIFORNIA 38°16′N-121°56′W TRAVIS AFB (KSUU)

Amdt 2 19JUL18

RNAV (GPS) RWY 3L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

FAIRFIELD, CALIFORNIA

RNAV (GPS) RWY 21L

WAAS CH 71274 W21A	APCH CRS 215°	Rwy ldg 10,995 TDZE 58 Arpt Elev 63

AL-488 [USAF]

TRAVIS AFB (KSUU)

* When ALS inop increase all CAT RVR to 40, vis to ¾ mile.
** When ALS inop increase all CAT vis to 1⅝ mile.
*** When ALS inop, increase CAT AB RVR to 55, vis to 1 mile, CAT CDE vis to 1⅜ miles.

ALSF-2

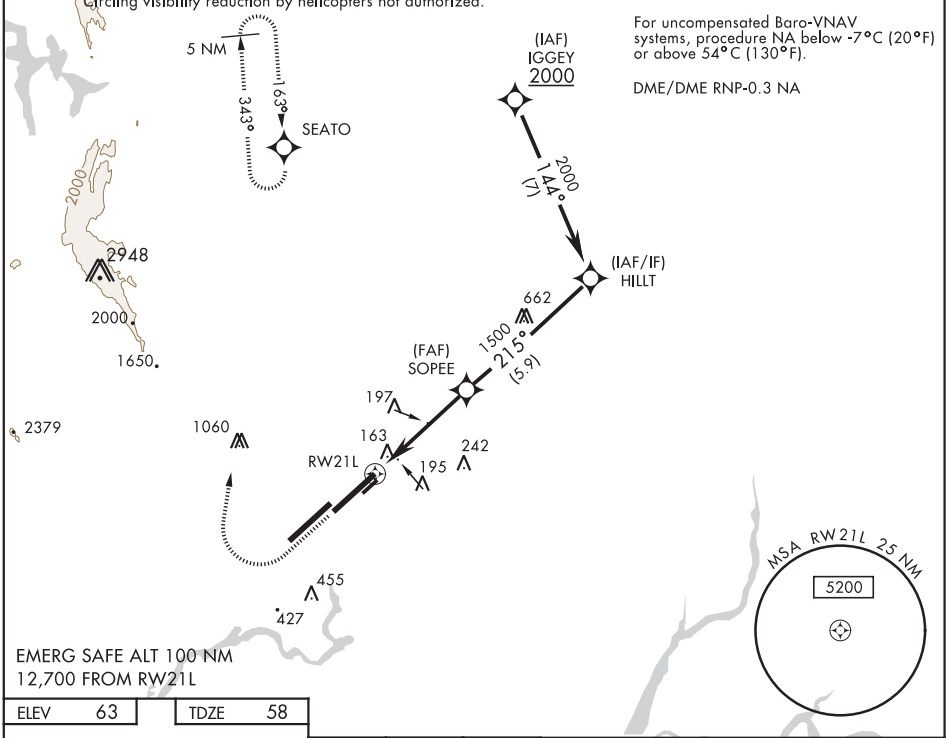
MISSED APPROACH: Climb to 2200 then climbing right turn to 4400 direct SEATO and hold, continue climb-in-hold to 4400.

ATIS	TRAVIS APP CON	TRAVIS TOWER	GND CON	CLNC DEL
135.55 292.125	119.9 (S) 126.6 (N) 281.45	120.75 254.4	121.8 289.4	127.55 335.8

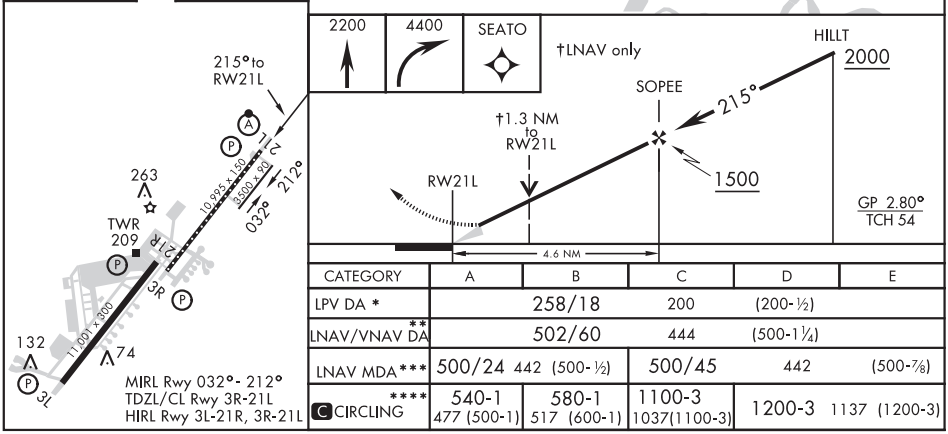
**** When Rwy 3R VGSI inop, circling to Rwy 3R not authorized at night, Circling not authorized NW of Rwy 3L-21R, Circling visibility reduction by helicopters not authorized.

For uncompensated Baro-VNAV systems, procedure NA below -7°C (20°F) or above 54°C (130°F).

DME/DME RNP-0.3 NA



ELEV 63 | TDZE 58



CATEGORY	A	B	C	D	E
LPV DA *	258/18		200	(200-½)	
LNAV/VNAV DA **	502/60		444	(500-1¼)	
LNAV MDA ***	500/24 442 (500-½)		500/45	442	(500-⅞)
C CIRCLING ****	540-1 477 (500-1)	580-1 517 (600-1)	1100-3 1037(1100-3)	1200-3 1137 (1200-3)	

FAIRFIELD, CALIFORNIA

38° 16′N-121° 56′W

TRAVIS AFB (KSUU)

Amdt 3 06DEC18

RNAV (GPS) RWY 21L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

19283

FAIRFIELD, CALIFORNIA

RNAV (GPS) RWY 21R

WAAS CH 71276 W21B	APCH CRS 215°	Rwy ldg 11,001 TDZE 51 Arpt Elev 63

AL-488 [USAF]

TRAVIS AFB (KSUU)

* When Rwy 3R VGSI inop, circling to Rwy 3R not authorized at night. Circling not authorized NW of Rwy 3L-21R.

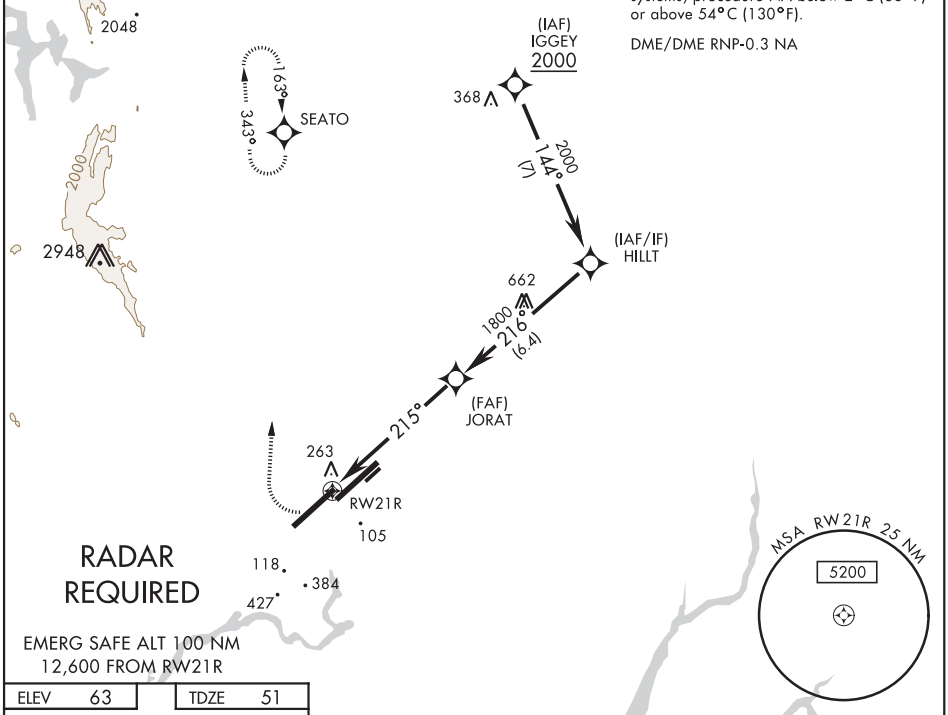
MISSED APPROACH: Climb to 2100 then climbing right turn to 4400 direct SEATO and hold, continue climb-in-hold to 4400.

ATIS	TRAVIS APP CON	TRAVIS TOWER	GND CON	CLNC DEL
135.55 292.125	119.9 (S) 126.6 (N) 281.45	120.75 254.4	121.8 289.4	127.55 335.8

Circling visibility reduction by helicopters not authorized.

For uncompensated Baro-VNAV systems, procedure NA below 2°C (36°F) or above 54°C (130°F).

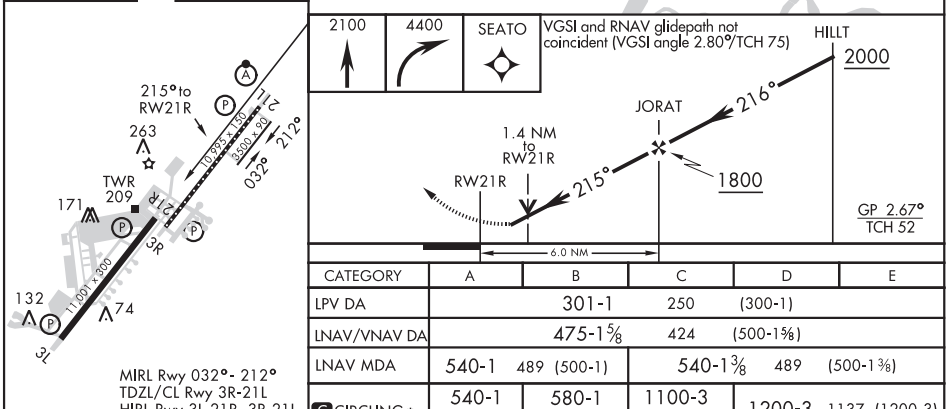
DME/DME RNP-0.3 NA



RADAR REQUIRED

EMERG SAFE ALT 100 NM 12,600 FROM RW21R

ELEV 63	TDZE 51



MIRL Rwy 032°- 212°
TDZL/CL Rwy 3R-21L
HIRL Rwy 3L-21R, 3R-21L

CATEGORY	A	B	C	D	E
LPV DA	301-1		250	(300-1)	
LNAV/VNAV DA	475-1 5/8		424	(500-1 5/8)	
LNAV MDA	540-1	489 (500-1)	540-1 3/8	489	(500-1 3/8)
C CIRCLING *	540-1 477 (500-1)	580-1 517 (600-1)	1100-3 1037(1100-3)	1200-3	1137 (1200-3)

SW-2, 25 FEB 2021 to 22 APR 2021

FAIRFIELD, CALIFORNIA

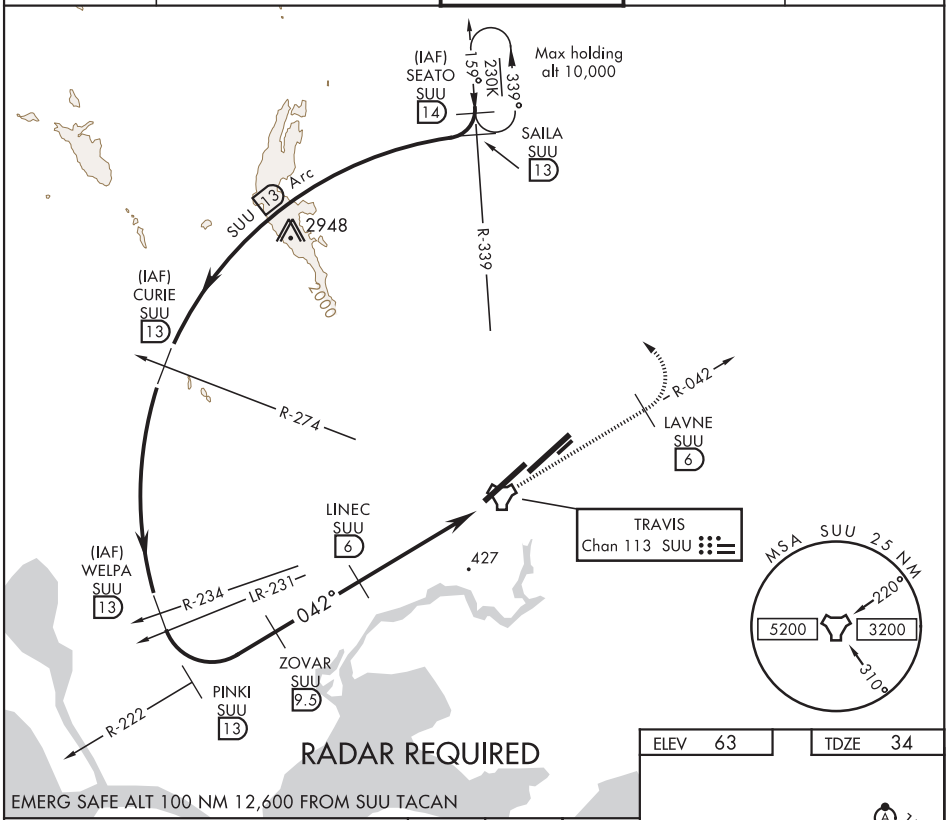
TACAN RWY 3L

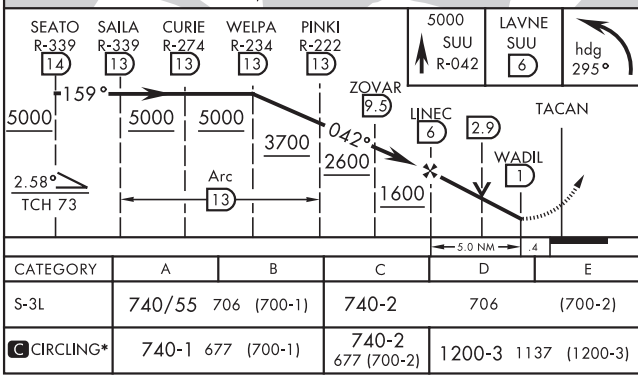
TACAN SUU Chan 113	APCH CRS 042°	Rwy ldg 11,001 TDZE 34 Arpt Elev 63	AL-488 [USAF]	TRAVIS AFB (KSUU)

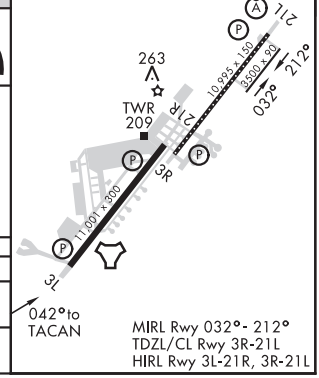
* Circling not authorized NW of Rwy 3L-21R.

MISSED APPROACH: Climb to 5000 via SUU TACAN R-042 to LAVNE, then turn left via 295° course to intercept SUU R-339 to SEATO and hold, continue climb in hold to 5000.

ATIS	TRAVIS APP CON	TRAVIS TOWER	GND CON	CLNC DEL
135.55 292.125	119.9 (S) 126.6 (N) 281.45	120.75 254.4	121.8 289.4	127.55 335.8







CATEGORY	A	B	C	D	E
S-3L	740/55 706 (700-1)		740-2	706	(700-2)
C CIRCLING*	740-1 677 (700-1)		740-2 677 (700-2)	1200-3 1137 (1200-3)	

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

FAIRFIELD, CALIFORNIA

TACAN RWY 21L

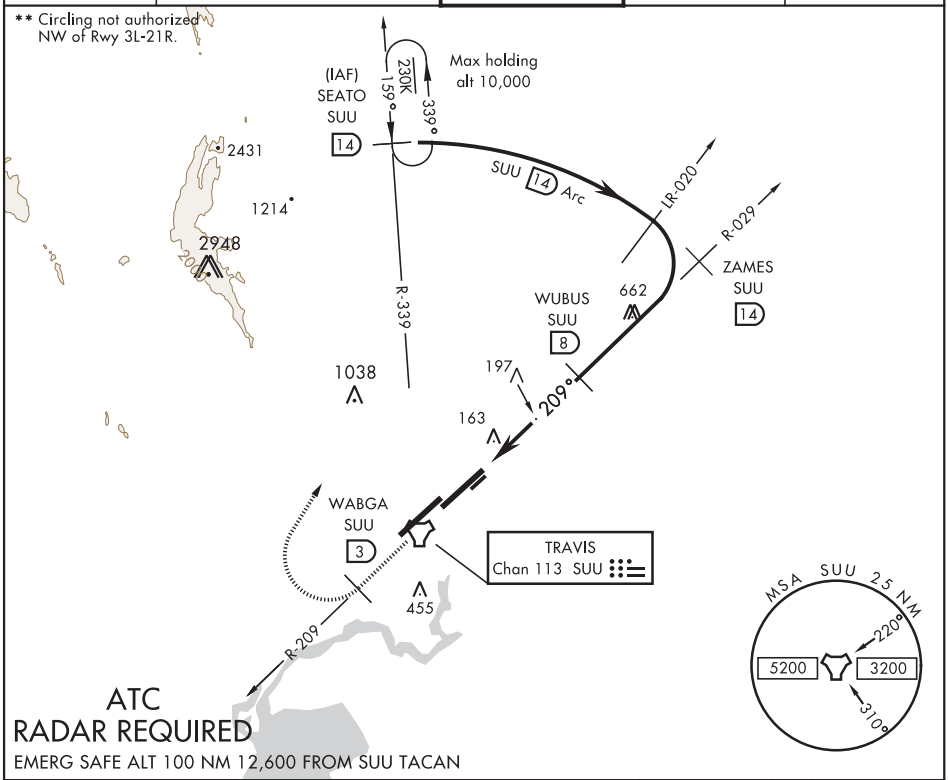
TACAN SUU Chan 113	APCH CRS 209°	Rwy ldg 10,995 TDZE 58 Arpt Elev 63	AL-488 [USAF]	TRAVIS AFB (KSUU)

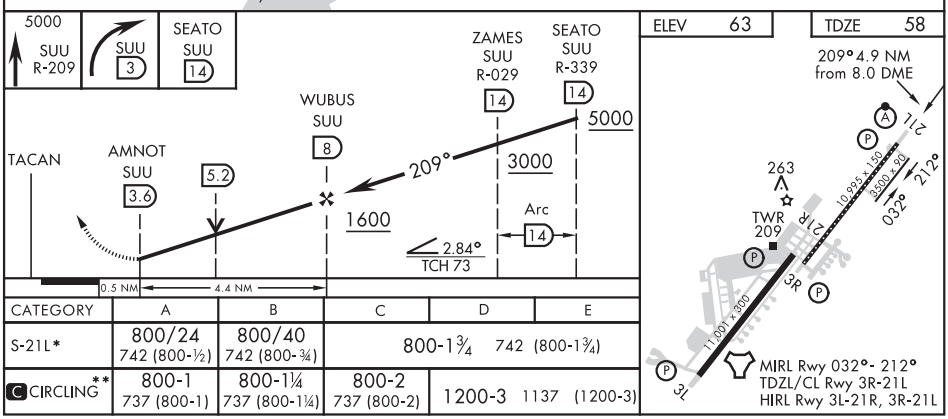
* When ALS inop, increase CAT A RVR to 55 and vis to 1 mile, CAT B RVR to 60 and vis to 1¼ miles, CAT CDE vis to 2 miles.

ALSF-2

MISSED APPROACH: Climb to 5000 via SUU TACAN R-209 to WABGA, then turn right hdg 015° to intercept SUU R-339 to SEATO and hold, continue climb in hold to 5000.

ATIS	TRAVIS APP CON	TRAVIS TOWER	GND CON	CLNC DEL
135.55 292.125	119.9 (S) 126.6 (N) 281.45	120.75 254.4	121.8 289.4	127.55 335.8





CATEGORY	A	B	C	D	E
S-21L*	800/24 742 (800-½)	800/40 742 (800-¾)	800-1¾ 742 (800-1¾)		
C CIRCLING**	800-1 737 (800-1)	800-1¼ 737 (800-1¼)	800-2 737 (800-2)	1200-3 1137 (1200-3)	

FAIRFIELD, CALIFORNIA 38°16′N-121°56′W TRAVIS AFB (KSUU)

Amdt 3 18JUN20

TACAN RWY 21L

SW-2, 25 FEB 2021 to 22 APR 2021

FAIRFIELD, CALIFORNIA

TACAN RWY 21R

TACAN SUU Chan 113	APCH CRS 202°	Rwy ldg 11,001 TDZE 51 Arpt Elev 63	AL-488 [USAF]	TRAVIS AFB (KSUU)

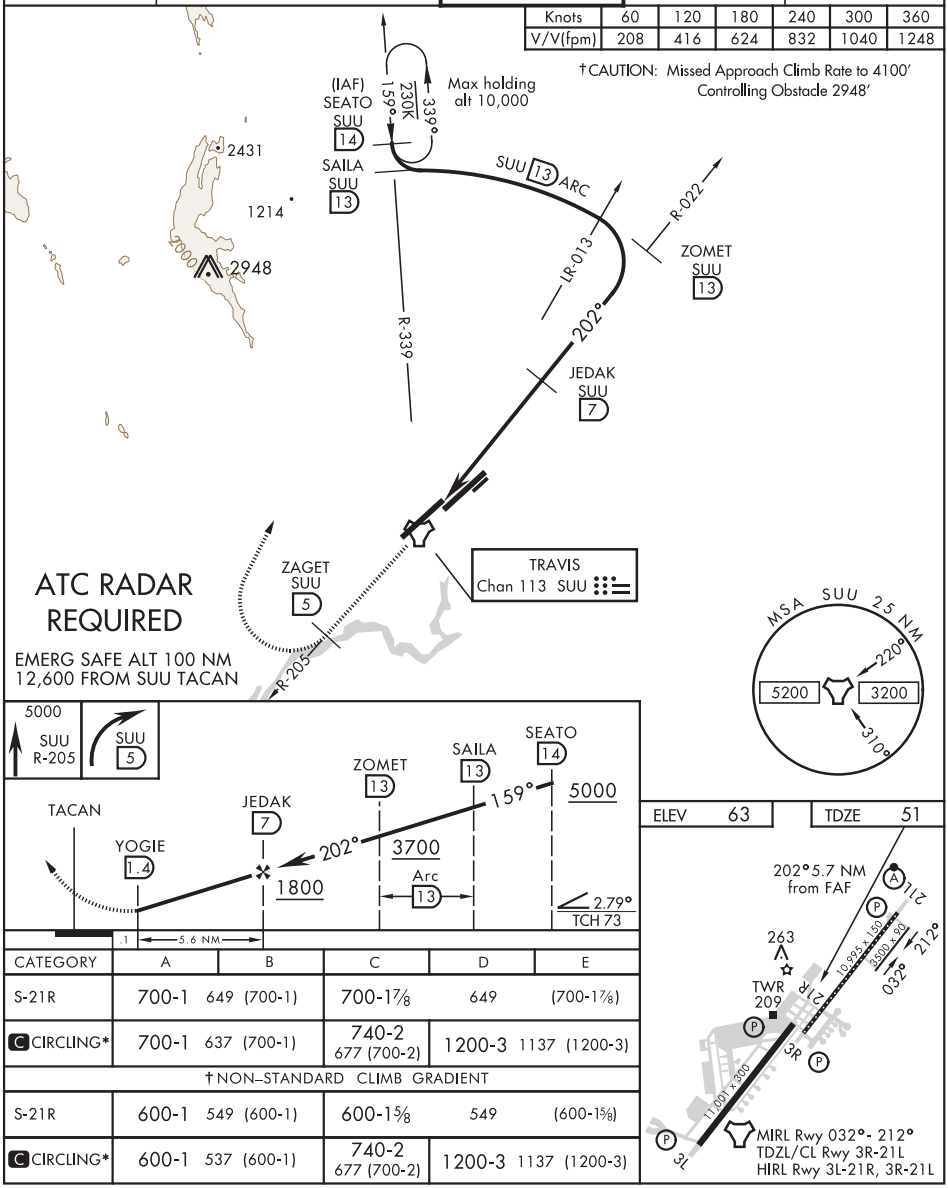
* Circling not authorized NW of Rwy 3L-21R.

†MISSED APPROACH: Climb to 5000 via SUU TACAN R-205 to ZAGET, then turn right heading 010° to intercept SUU R-339 to SEATO and hold, continue climb in hold to 5000.

ATIS	TRAVIS APP CON	TRAVIS TOWER	GND CON	CLNC DEL
135.55 292.125	119.9 (S) 126.6 (N) 281.45	120.75 254.4	121.8 289.4	127.55 335.8

Knots	60	120	180	240	300	360
V/V(fpm)	208	416	624	832	1040	1248

†CAUTION: Missed Approach Climb Rate to 4100' Controlling Obstacle 2948'



CATEGORY	A	B	C	D	E
S-21R	700-1 649 (700-1)		700-1 7/8	649	(700-1 7/8)
C CIRCLING*	700-1 637 (700-1)		740-2 677 (700-2)	1200-3 1137 (1200-3)	
†NON–STANDARD CLIMB GRADIENT					
S-21R	600-1 549 (600-1)		600-1 5/8	549	(600-1 5/8)
C CIRCLING*	600-1 537 (600-1)		740-2 677 (700-2)	1200-3 1137 (1200-3)	

FAIRFIELD, CALIFORNIA 38°16'N-121°56'W TRAVIS AFB (KSUU)

Amdt 6 18JUN20

TACAN RWY 21R

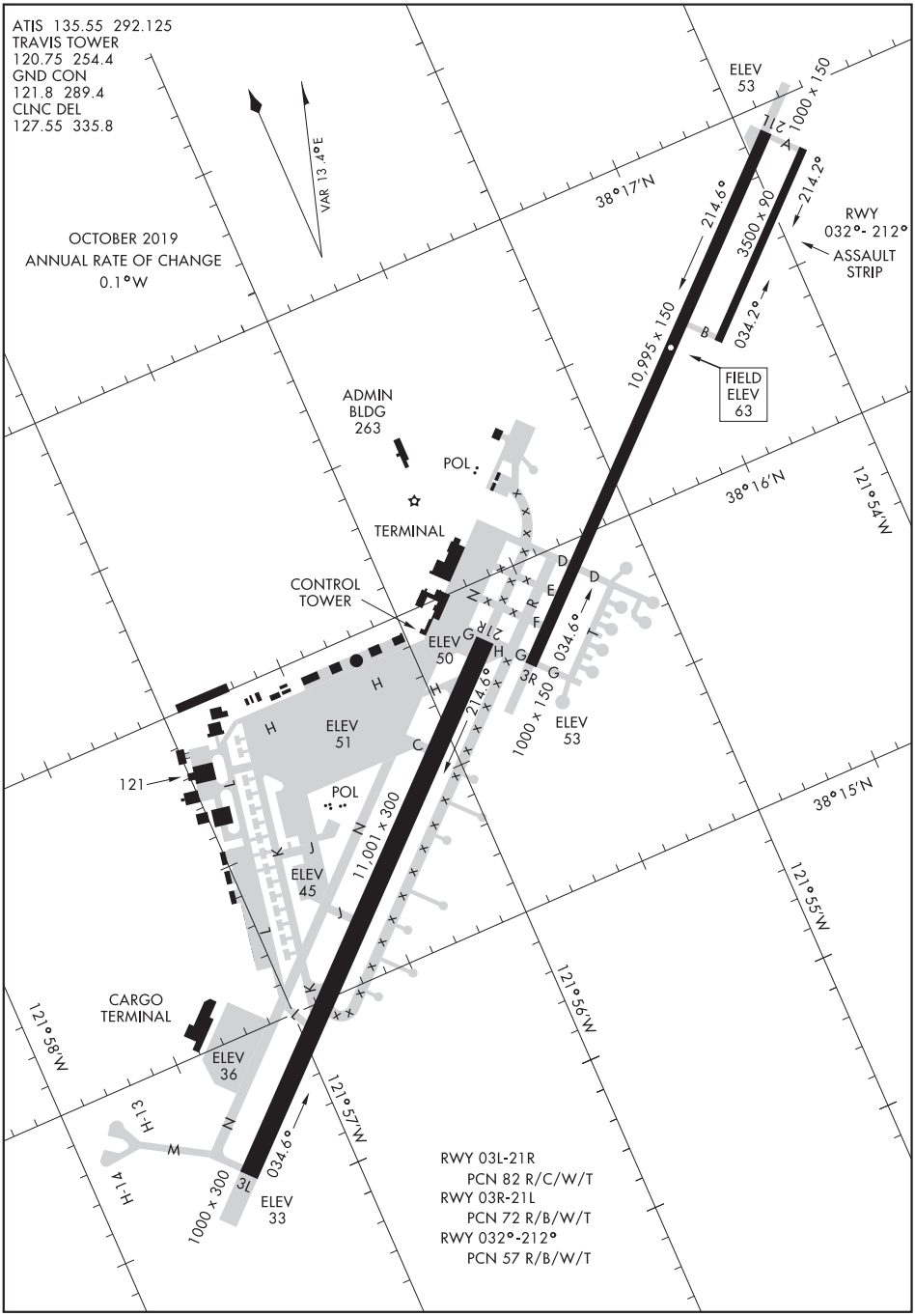
SW-2, 25 FEB 2021 to 22 APR 2021

19283

AIRPORT DIAGRAM

AFD-488 [USAF]

TRAVIS AFB (KSUU)
FAIRFIELD, CALIFORNIA



SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

AIRPORT DIAGRAM

FAIRFIELD, CALIFORNIA
TRAVIS AFB (KSUU)

BESSA ONE DEPARTURE (RNAV) (BESSA1 • BESSA)

TRAVIS AFB (KSUU)
FAIRFIELD, CALIFORNIA

Rwy	Knots	60	120	180	240	300	360
*3R ⓐ	V/V(fpm)	201	402	603	804	1005	1206
†3R ⓑ	V/V(fpm)	295	590	885	1180	1475	1770
†3L ⓑ	V/V(fpm)	299	598	897	1196	1495	1794
*21L/R ⓒ	V/V(fpm)	220	440	660	880	1100	1320
†21R ⓑ	V/V(fpm)	277	554	831	1108	1385	1662
†21L ⓑ	V/V(fpm)	280	560	840	1120	1400	1680

* Minimum † ATC Climb Rate

ⓐ to 500
ⓑ to BESSA to 8000
ⓒ to 4000

SL-488 [USAF]

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RWY 3L/R: Climb on heading 035° to 1500, then left turn direct to cross BESSA at or above 8000. Thence...

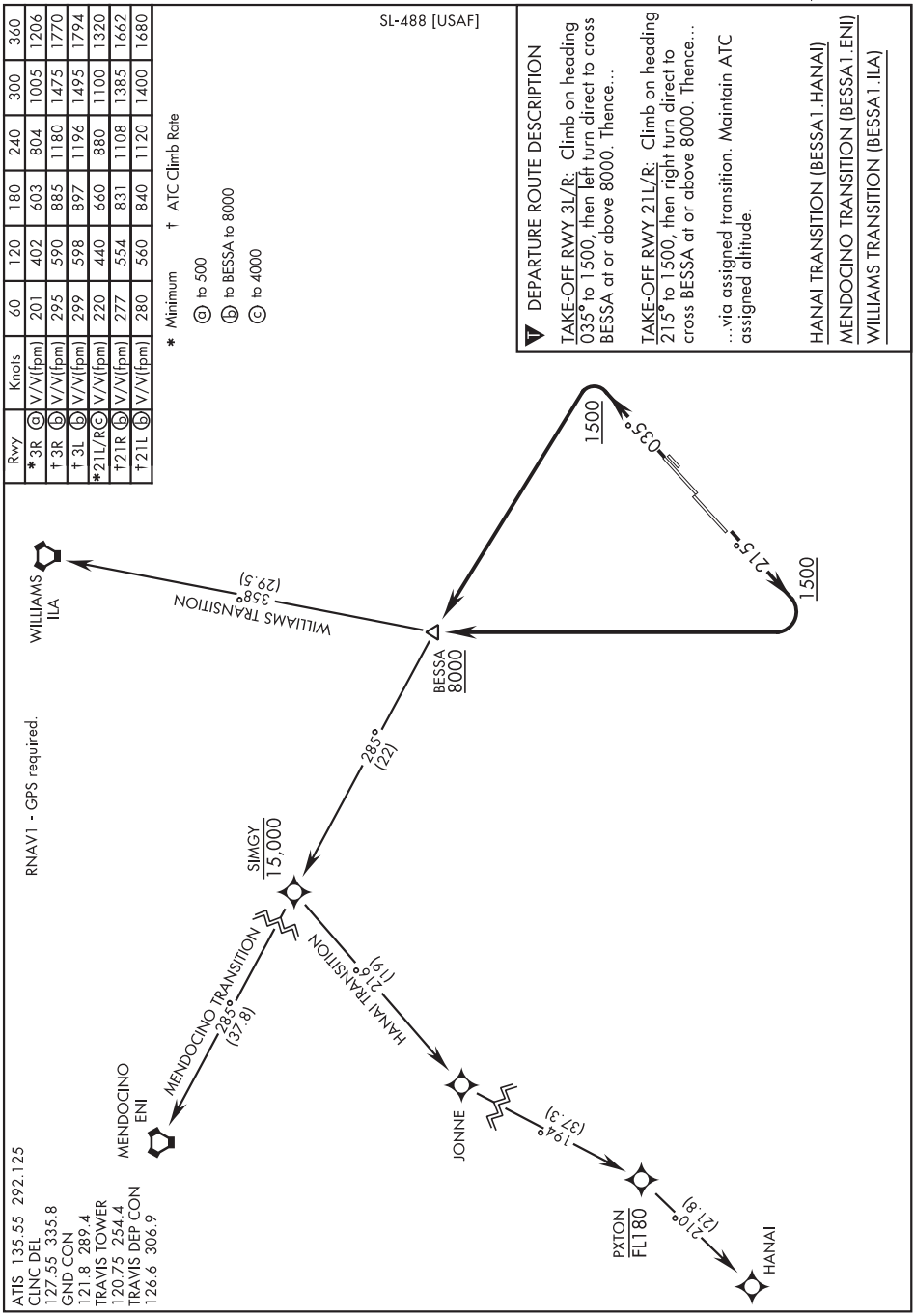
TAKE-OFF RWY 21L/R: Climb on heading 215° to 1500, then right turn direct to cross BESSA at or above 8000. Thence...

...via assigned transition. Maintain ATC assigned altitude.

HANAI TRANSITION (BESSA1.HANAI)

MENDOCINO TRANSITION (BESSA1.ENI)

WILLIAMS TRANSITION (BESSA1.ILA)



SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

TRUCKEE, CALIFORNIA | AL-6021 (FAA) | 20254

APP CRS	Rwy ldg	7001
126°	TDZE	5904
	Apt Elev	5904

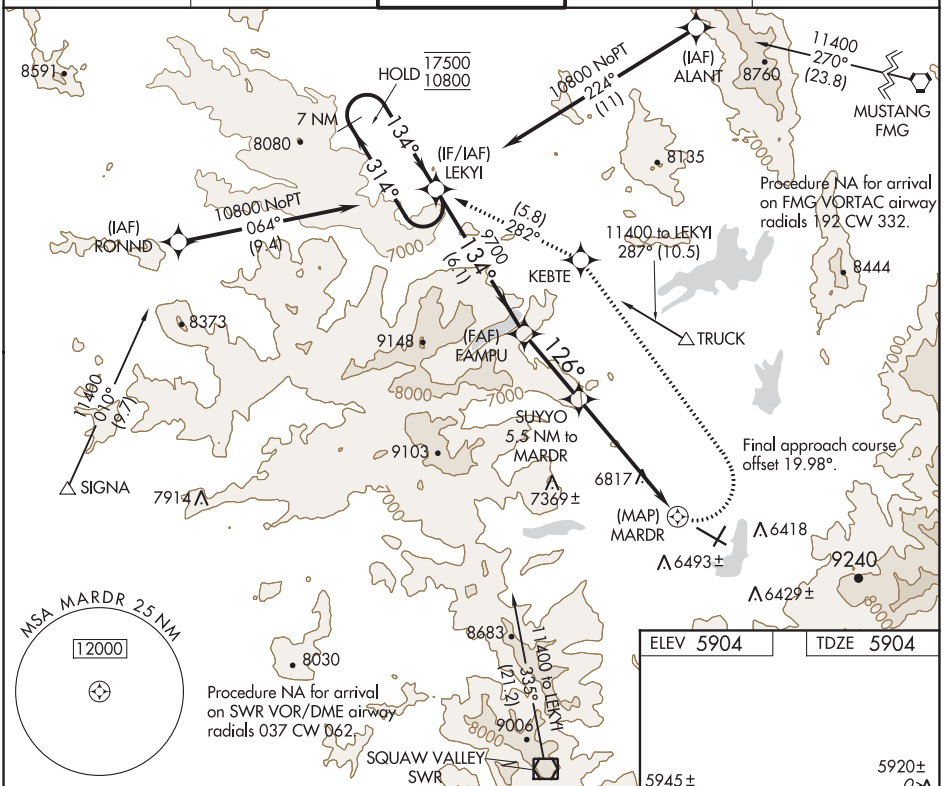
RNAV (GPS) RWY 11
TRUCKEE-TAHOE (TRK)

RNP APCH.

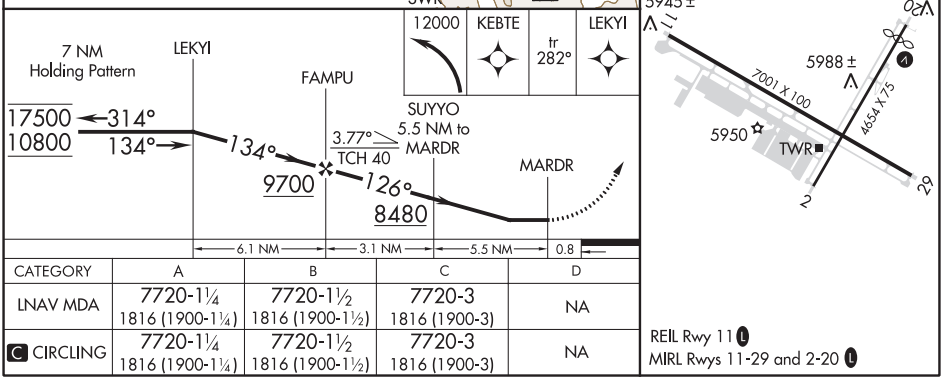
Circling NA for Cat C south of Rwy 29 and east of Rwy 2.
Procedure NA at night. Rwy 11 helicopter visibility reduction below 1 SM NA. When local altimeter setting not received, procedure NA.
-18°C

MISSED APPROACH: (Do not exceed 220K until KEBTE) Climbing left turn to 12000 direct KEBTE and track 282° to LEKYI and hold, continue climb-in-hold 12000.

AWOS-3PT	OAKLAND CENTER	TRUCKEE TOWER ★	GND CON	UNICOM
118.0	127.95 316.1	120.575 (CTAF) L	118.3	122.95



ELEV 5904	TDZE 5904



CATEGORY	A	B	C	D
LNAV MDA	7720-1¼ 1816 (1900-1¼)	7720-1½ 1816 (1900-1½)	7720-3 1816 (1900-3)	NA
C CIRCLING	7720-1¼ 1816 (1900-1¼)	7720-1½ 1816 (1900-1½)	7720-3 1816 (1900-3)	NA

REIL Rwy 11 L
MIRL Rwys 11-29 and 2-20 L

SW-2, 25 FEB 2021 to 22 APR 2021

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WAAS CH 87135 W20A	APP CRS 182°	Rwy ldg 4539 TDZE 5898 Apt Elev 5904

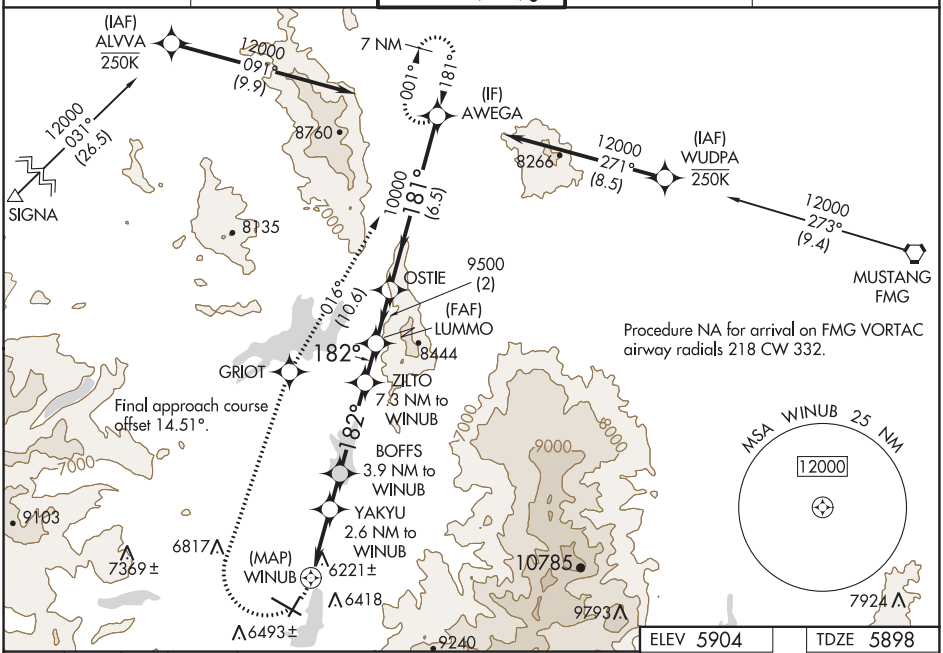
RNAV (GPS) RWY 20
TRUCKEE-TAHOE (TRK)

RNP APCH.

Circling to Rwy 2, 11, 29 NA at night. Circling NA for Cat C south of Rwy 29 and east of Rwy 2. Rwy 20 helicopter visibility reduction below ¾ SM NA. When local altimeter setting not received, procedure NA. -18°C

MISSED APPROACH: (Do not exceed 200K until GRIOT) Climbing right turn to 12000 direct GRIOT and on track 016° to AWEGA and hold, continue climb-in-hold to 12000.
*Missed approach requires minimum climb of 270 feet per NM to 7700.

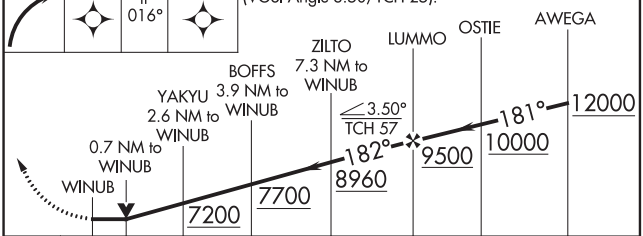
AWOS-3PT	OAKLAND CENTER	TRUCKEE TOWER*	GND CON	UNICOM
118.0	127.95 316.1	120.575 (CTAF) L	118.3	122.95

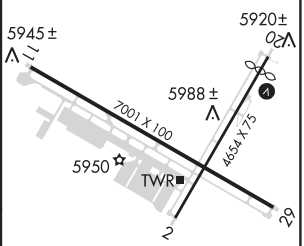


ELEV 5904 TDZE 5898

12000	GRIOT	tr 016°	AWEGA

VGSI and descent angles not coincident (VGSI Angle 3.50/TCH 25).





CATEGORY	A	B	C	D
LP MDA*	6480-1 582 (600-1)		6480-1¾ 582 (600-1¾)	NA
LP MDA	6780-1¼ 882 (900-1¼)		6780-2½ 882 (900-2½)	NA
LNAV MDA	7120-1¼ 1222 (1300-1¼)	7120-1½ 1222 (1300-1½)	7120-3 1222 (1300-3)	NA
C CIRCLING	7120-1¼ 1216 (1300-1¼)	7220-1½ 1316 (1400-1½)	7700-3 1796 (1800-3)	NA

REIL Rwy 11 L
MIRL Rwys 11-29 and 2-20 L

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TRUCKEE, CALIFORNIA AL-6021 (FAA) 20254

RNAV (GPS)-A
TRUCKEE-TAHOE (TRK)

APP CRS	Rwy ldg	N/A
058°	TDZE	N/A
	Apt Elev	5904

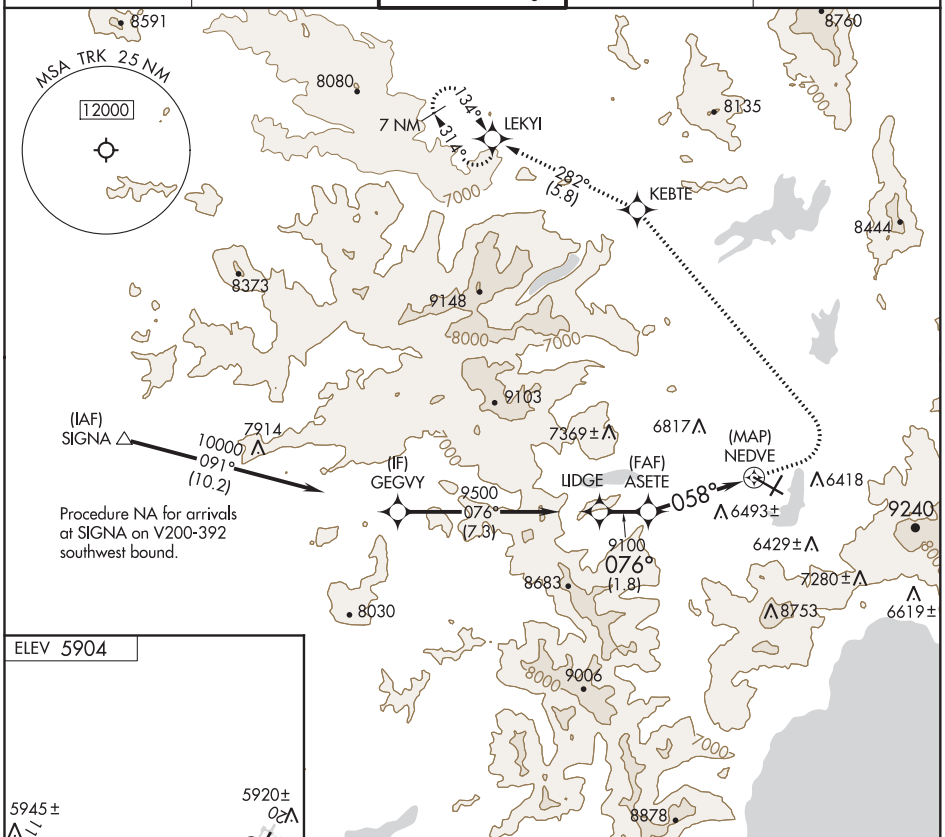
RNP APCH.

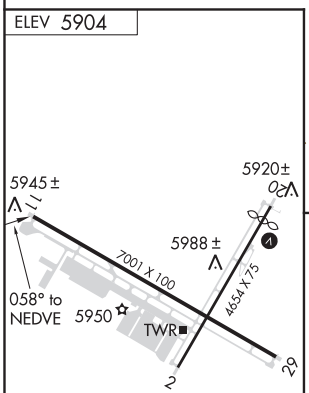
Circling NA for Cat C south of Rwy 29 and east of Rwy 2. Procedure NA at night. When local altimeter setting not received, procedure NA.

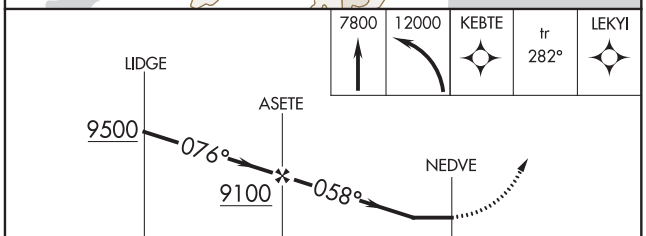
-18°C

MISSED APPROACH: (Do not exceed 200K until KEBTE) Climb to 7800 then climbing left turn to 12000 direct KEBTE and track 282° to LEKYI and hold, continue climb-in-hold 12000.

AWOS-3PT	OAKLAND CENTER	TRUCKEE TOWER ★	GND CON	UNICOM
118.0	127.95 316.1	120.575 (CTAF) L	118.3	122.95







CATEGORY	A	B	C	D
C CIRCLING	7500-1¼ 1596 (1600-1¼)	7500-1½ 1596 (1600-1½)	7700-3 1796 (1800-3)	NA

REIL Rwy 11 L
MIRL Rwys 11-29 and 2-20 L

SW-2, 25 FEB 2021 to 22 APR 2021

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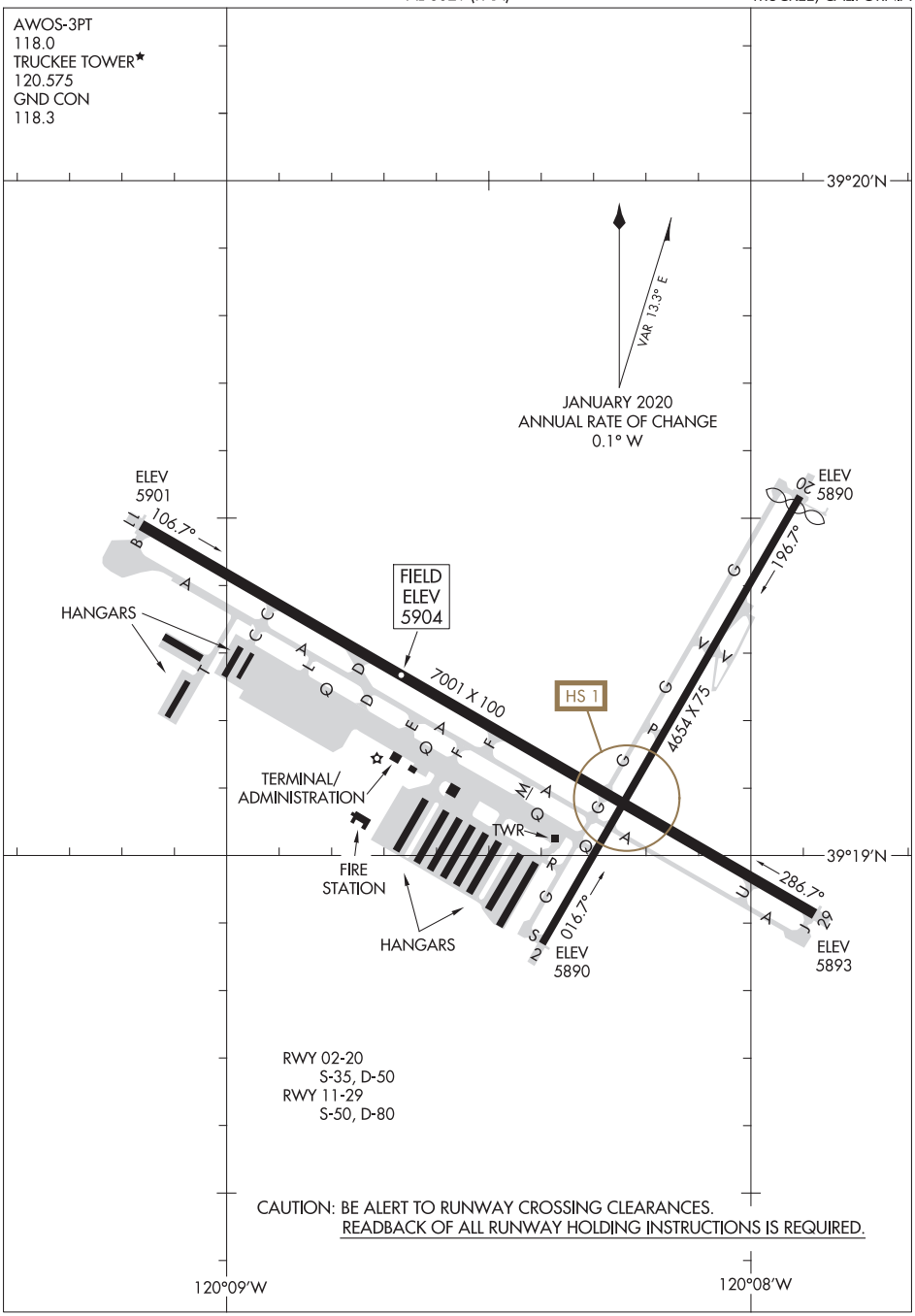

SW-2, 25 FEB 2021 to 22 APR 2021

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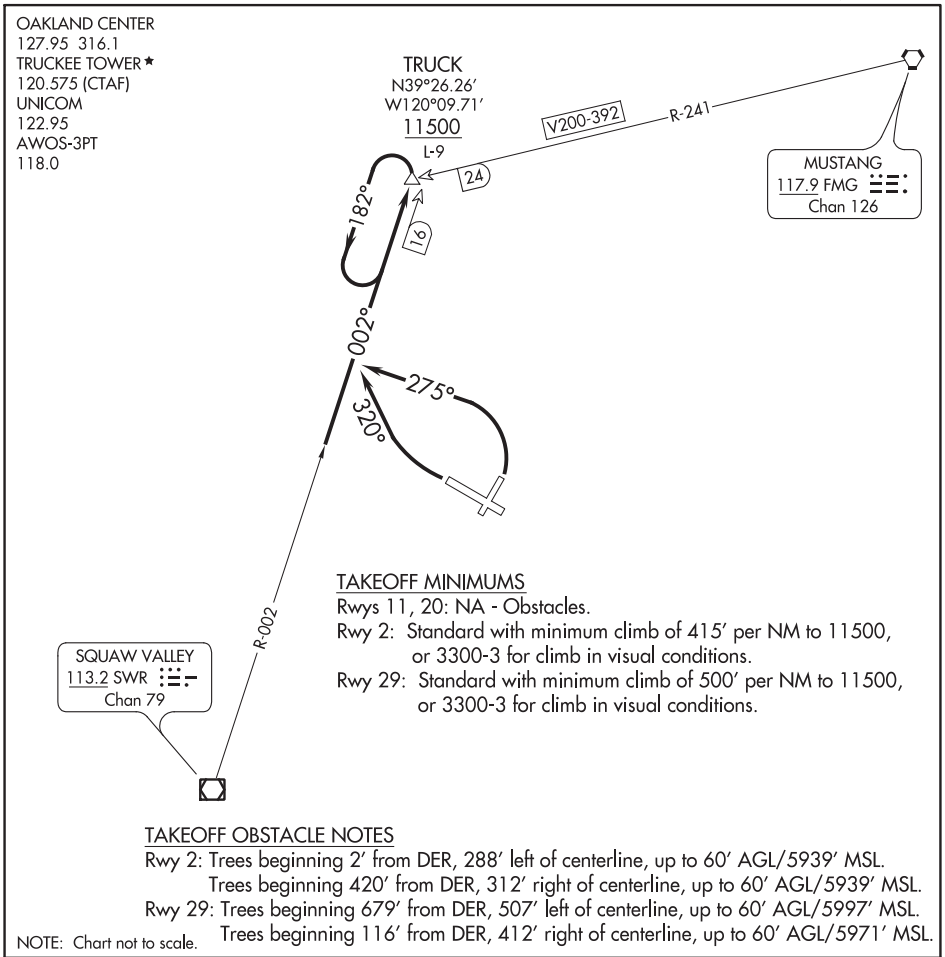
(TRUCK4.TRUCK) 18032

TRUCK FOUR DEPARTURE (OBSTACLE)

AL-6021 (FAA)

TRUCKEE-TAHOE (TRK)
TRUCKEE, CALIFORNIA



TAKEOFF MINIMUMS

Rwys 11, 20: NA - Obstacles.

Rwy 2: Standard with minimum climb of 415′ per NM to 11500, or 3300-3 for climb in visual conditions.

Rwy 29: Standard with minimum climb of 500′ per NM to 11500, or 3300-3 for climb in visual conditions.

TAKEOFF OBSTACLE NOTES

Rwy 2: Trees beginning 2′ from DER, 288′ left of centerline, up to 60′ AGL/5939′ MSL.
Trees beginning 420′ from DER, 312′ right of centerline, up to 60′ AGL/5939′ MSL.

Rwy 29: Trees beginning 679′ from DER, 507′ left of centerline, up to 60′ AGL/5997′ MSL.
Trees beginning 116′ from DER, 412′ right of centerline, up to 60′ AGL/5971′ MSL.

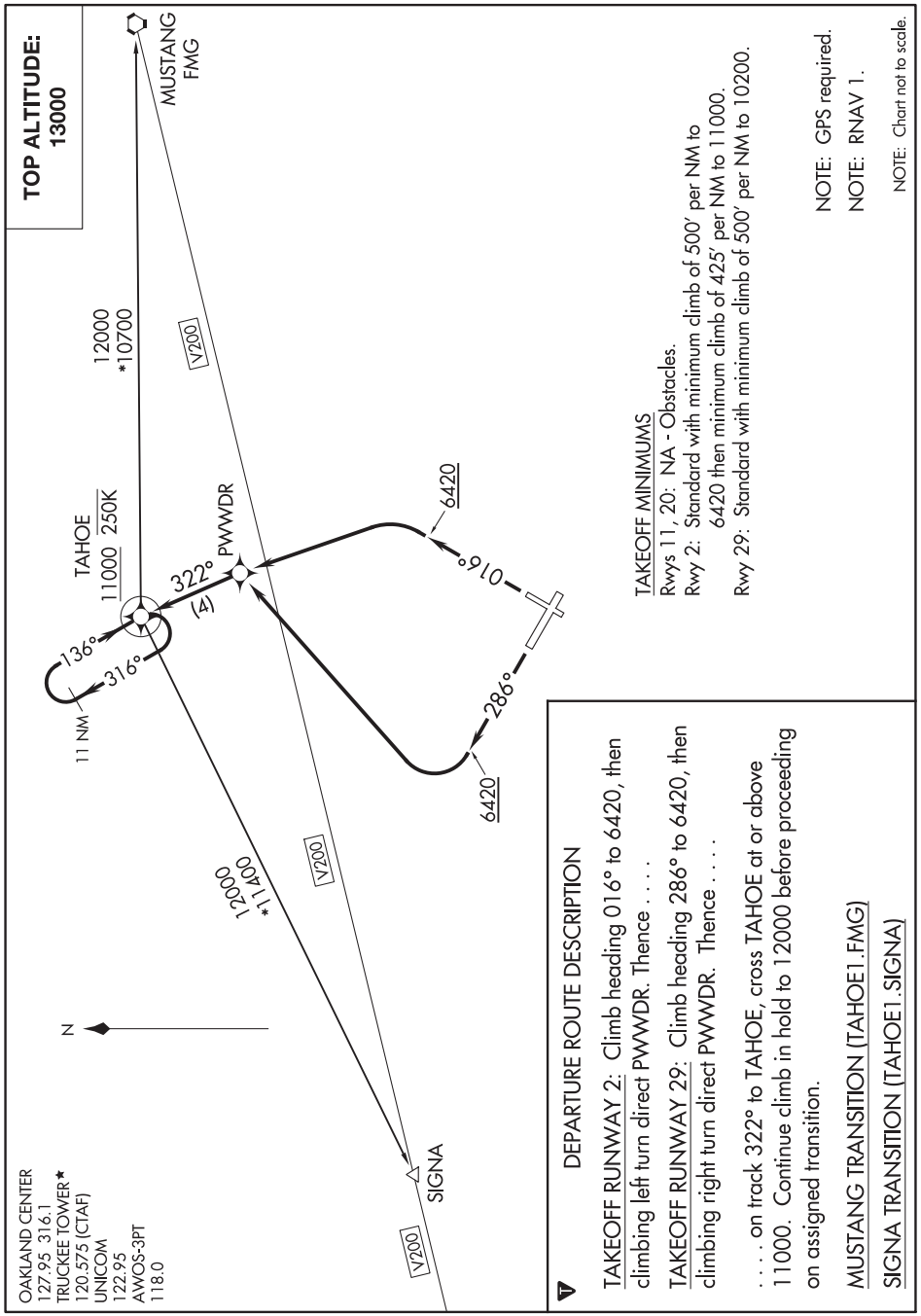
NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 2: Climbing left turn to 11500 on heading 275° and SWR R-002 to TRUCK INT, thence. . . . , or for climb in visual conditions cross Truckee-Tahoe Airport heading 290° at or above 9100, then proceed on SWR R-002 to TRUCK INT. When executing VCOA, notify ATC prior to departure. Thence. . . .

TAKEOFF RUNWAY 29: Climbing right turn to 11500 on heading 320° and SWR R-002 to TRUCK INT, thence. . . . , or for climb in visual conditions cross Truckee-Tahoe Airport heading 290° at or above 9100, then proceed on SWR R-002 to TRUCK INT. When executing VCOA, notify ATC prior to departure. thence. . . .

. . . .continue climb in TRUCK INT holding pattern to cross TRUCK INT at or above 11500 before proceeding on course.


TOP ALTITUDE: 13000
MUSTANG FMG
12000 *10700
V200
TAHOE 11000 250K
322° (4)
PWWDR
6420
016°
286°
6420
136°
316°
11 NM
12000 *11400
V200
N
SIGNA
V200
OAKLAND CENTER 127.95 316.1
TRUCKEE TOWER* 120.575 (CTAF)
UNICOM 122.95
AWOS-3PT 118.0
TAKEOFF MINIMUMS
Rwys 11, 20: NA - Obstacles.
Rwy 2: Standard with minimum climb of 500' per NM to 6420 then minimum climb of 425' per NM to 11000.
Rwy 29: Standard with minimum climb of 500' per NM to 10200.
NOTE: GPS required.
NOTE: RNAV 1.
NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION
TAKEOFF RUNWAY 2: Climb heading 016° to 6420, then climbing left turn direct PWWDR. Thence . . . .
TAKEOFF RUNWAY 29: Climb heading 286° to 6420, then climbing right turn direct PWWDR. Thence . . . .
. . . . on track 322° to TAHOE, cross TAHOE at or above 11000. Continue climb in hold to 12000 before proceeding on assigned transition.
MUSTANG TRANSITION (TAHOE1.FMG)
SIGNA TRANSITION (TAHOE1.SIGNA)

TULARE, CALIFORNIA AL-9107 (FAA) 19059

APP CRS	Rwy ldg	3901
135°	TDZE	265
	Apt Elev	265

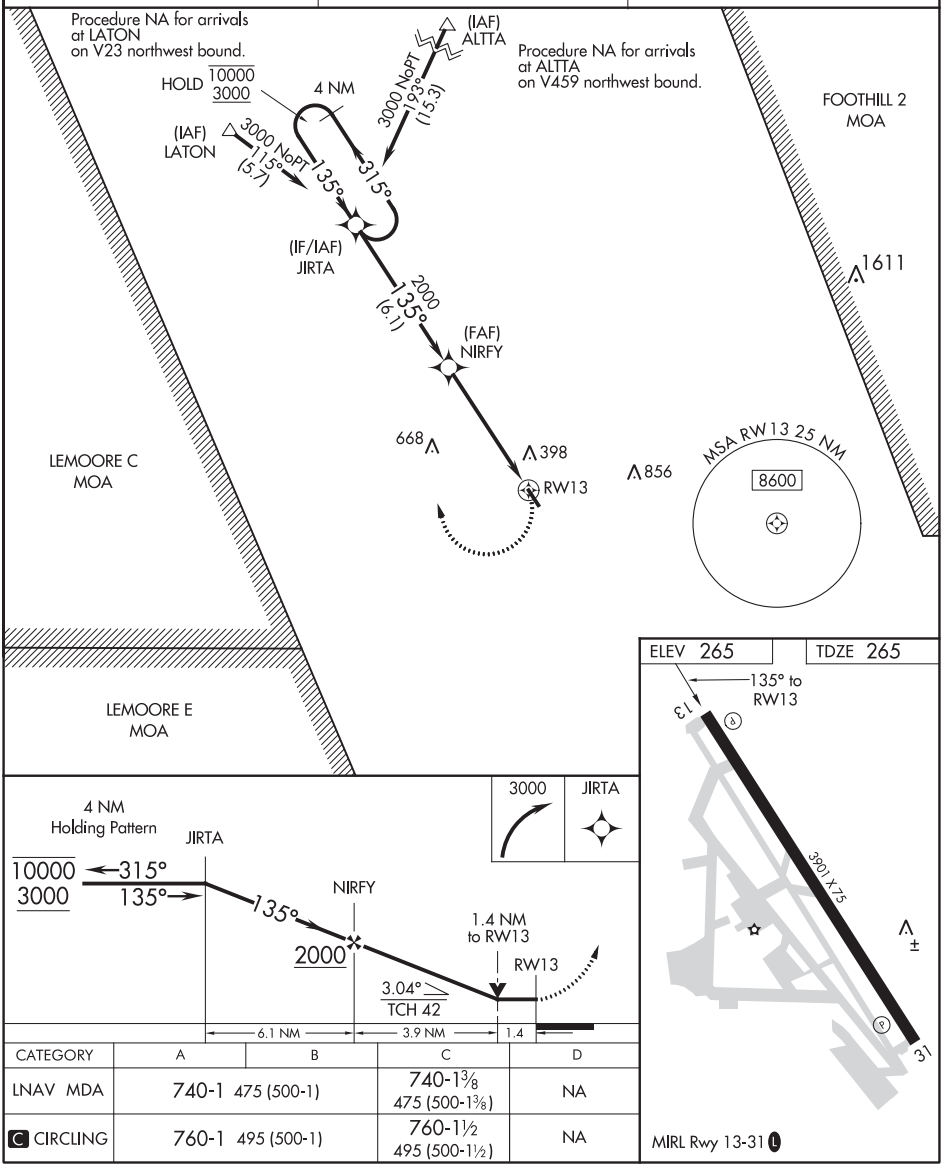
RNAV (GPS) RWY 13
MEFFORD FIELD (TLR)

RNP APCH.

T A NA — Circling Rwy 31 NA at night. Rwy 13 helicopter visibility reduction below ¾ SM NA. When local altimeter setting not received, use Visalia altimeter setting and increase all MDA 40 feet.

MISSED APPROACH: Climbing right turn to 3000 direct JIRTA and hold, Continue climb-in-hold to 3000.

AWOS-3PT	FRESNO APP CON	UNICOM
120.0	118.5 268.7	122.7 (CTAF) L



CATEGORY	A	B	C	D
LNAV MDA	740-1 475 (500-1)		740-1⅜ 475 (500-1⅜)	NA
C CIRCLING	760-1 495 (500-1)		760-1½ 495 (500-1½)	NA

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TULARE, CALIFORNIA
Amdt 1 28FEB19

36°09′N-119°20′W

MEFFORD FIELD (TLR)
RNAV (GPS) RWY 13

VOR/DME VIS	APP CRS	Rwy ldg	3901
109.4	133°	TDZE	265
Chan 31		Apt Elev	265

VOR RWY 13
MEFFORD FIELD (TLR)

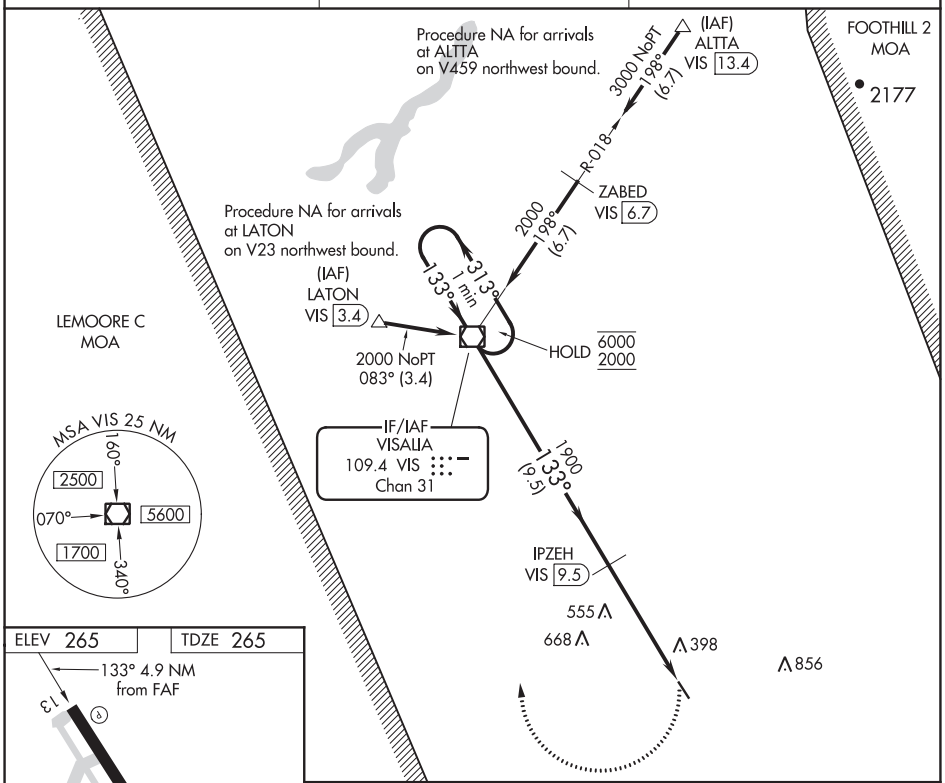
DME required.

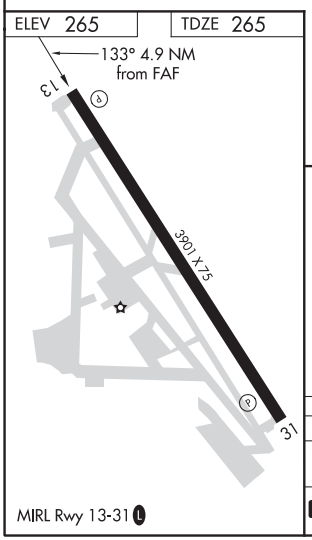
Circling Rwy 31 NA at night. Rwy 13 helicopter visibility reduction below ¾ SM NA. When local altimeter setting not received, use Visalia altimeter setting and increase all MDA 40 feet and increase Cat C visibilities ⅛ SM. VDP NA with Visalia altimeter setting.

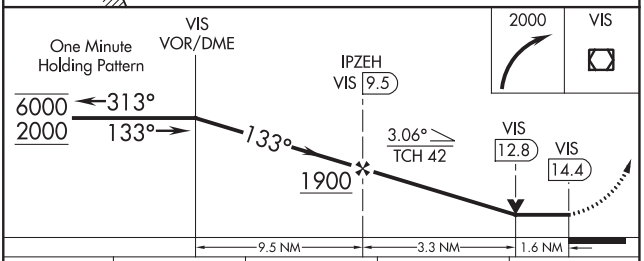
NA

MISSED APPROACH: Climbing right turn to 2000 direct VIS VOR/DME and hold.

AWOS-3PT	FRESNO APP CON	UNICOM
120.0	118.5 268.7	122.7 (CTAF) L







CATEGORY	A	B	C	D
S-13	820-1 555 (600-1)		820-1⅝ 555 (600-1⅝)	NA
C CIRCLING	820-1 555 (600-1)		820-1⅝ 555 (600-1⅝)	NA

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UKIAH, CALIFORNIA | AL-698 (FAA) | 19115

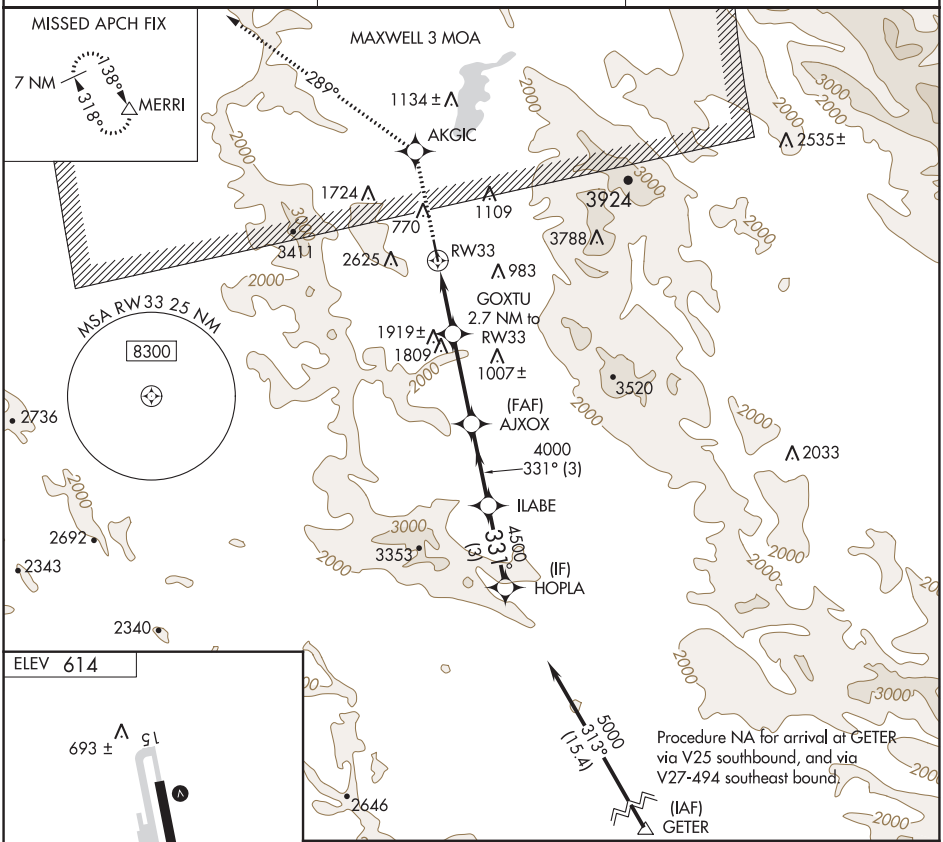
RNAV (GPS)-B
UKIAH MUNI (UKI)

APP CRS	Rwy ldg	N/A
331°	TDZE	N/A
	Apt Elev	614

Circling NA west of Rwy 15-33. DME/DME RNP- 0.3 NA.
When local altimeter setting not received, procedure NA.

MISSED APPROACH: Climb to 6700 direct AKGIC and via track 289° to MERRI and hold, continue climb-in-hold to 6700.

ASOS	OAKLAND CENTER	UNICOM
119.275	127.8 353.5	123.0 (CTAF)



CATEGORY	A	B	C	D
CIRCLING	2540-1¼ 1926 (2000-1¼)	2540-1½ 1926 (2000-1½)	2540-3 1926 (2000-3)	

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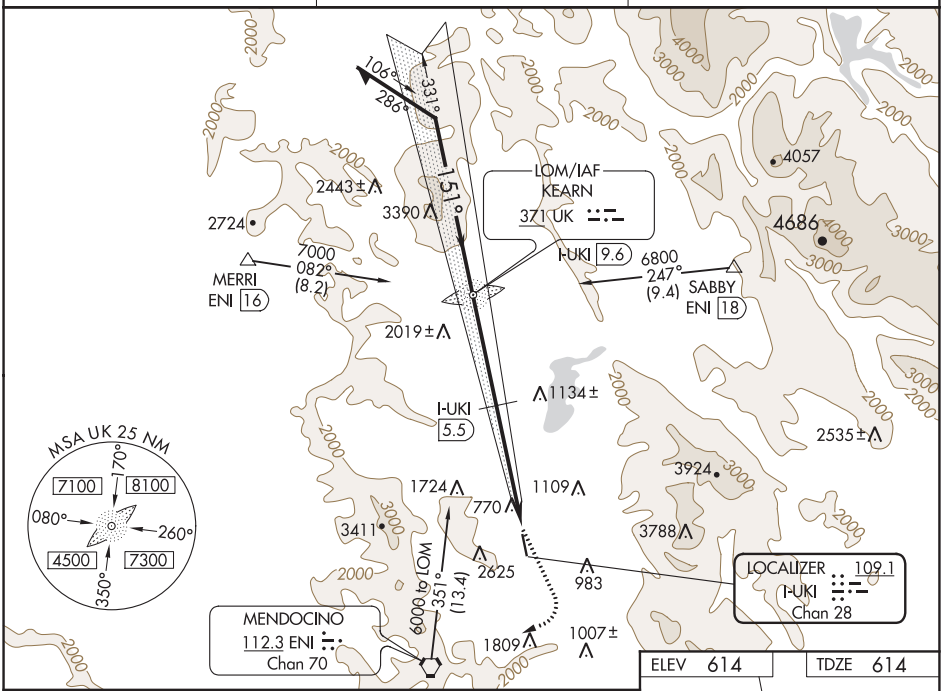
LOC RWY 15
UKIAH MUNI (UKI)

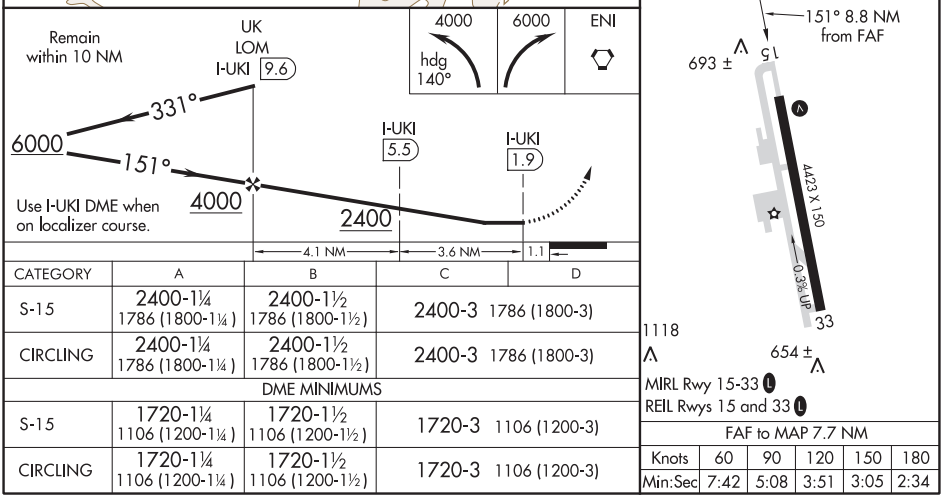
LOC/DME I-UKI	APP CRS	Rwy ldg	4415
109.1	151°	TDZE	614
Chan 28		Apt Elev	614

T Circling NA west of Rwy 15-33. When local altimeter setting not received, procedure NA.
A NA

MISSED APPROACH: Climbing left turn to 4000 via heading 140°, then climbing right turn to 6000 direct ENI VORTAC.

ASOS	OAKLAND CENTER	UNICOM
119.275	127.8 353.5	123.0 (CTAF) L





CATEGORY	A	B	C	D
S-15	2400-1¼ 1786 (1800-1¼)	2400-1½ 1786 (1800-1½)	2400-3 1786 (1800-3)	
CIRCLING	2400-1¼ 1786 (1800-1¼)	2400-1½ 1786 (1800-1½)	2400-3 1786 (1800-3)	
DME MINIMUMS				
S-15	1720-1¼ 1106 (1200-1¼)	1720-1½ 1106 (1200-1½)	1720-3 1106 (1200-3)	
CIRCLING	1720-1¼ 1106 (1200-1¼)	1720-1½ 1106 (1200-1½)	1720-3 1106 (1200-3)	

FAF to MAP 7.7 NM

Knots	60	90	120	150	180
Min:Sec	7:42	5:08	3:51	3:05	2:34

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UKIAH, CALIFORNIA | AL-698 (FAA) | 20310

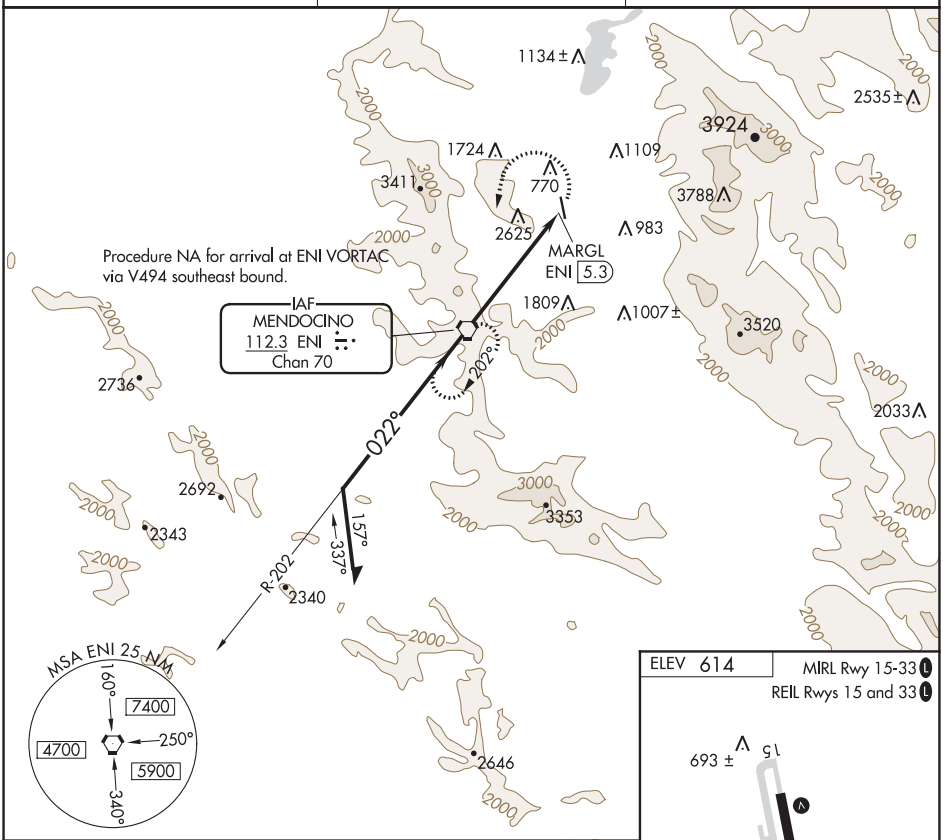
VOR-A
UKIAH MUNI (UKI)

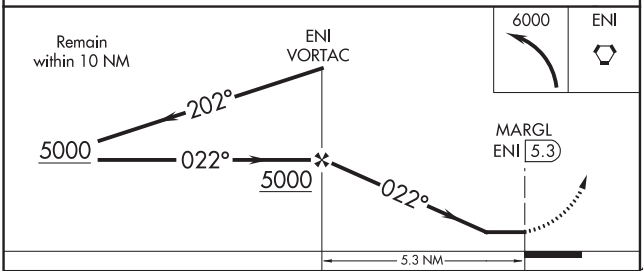
VORTAC ENI	APP CRS	Rwy Idg	N/A
112.3	022°	TDZE	N/A
Chan 70		Apt Elev	614

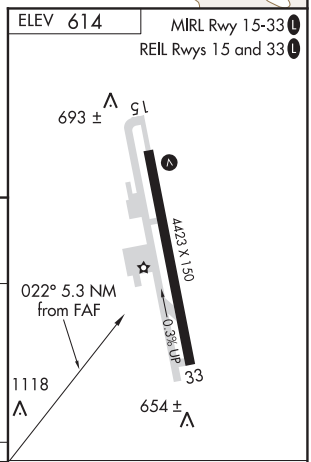
Circling NA west of Rwy 15-33.
When local altimeter setting not received, procedure NA.

MISSED APPROACH: Climbing left turn to 6000 direct ENI VORTAC and hold, continue climb-in-hold to 6000.

ASOS	OAKLAND CENTER	UNICOM
119.275	127.8 353.5	123.0 (CTAF) L







CATEGORY	A	B	C	D
CIRCLING	3400-1¼ 2786 (2800-1¼)	3400-1½ 2786 (2800-1½)	3400-3 2786 (2800-3)	

FAF to MAP 5.3 NM					
Knots	60	90	120	150	180
Min:Sec	5:18	3:32	2:39	2:07	1:46

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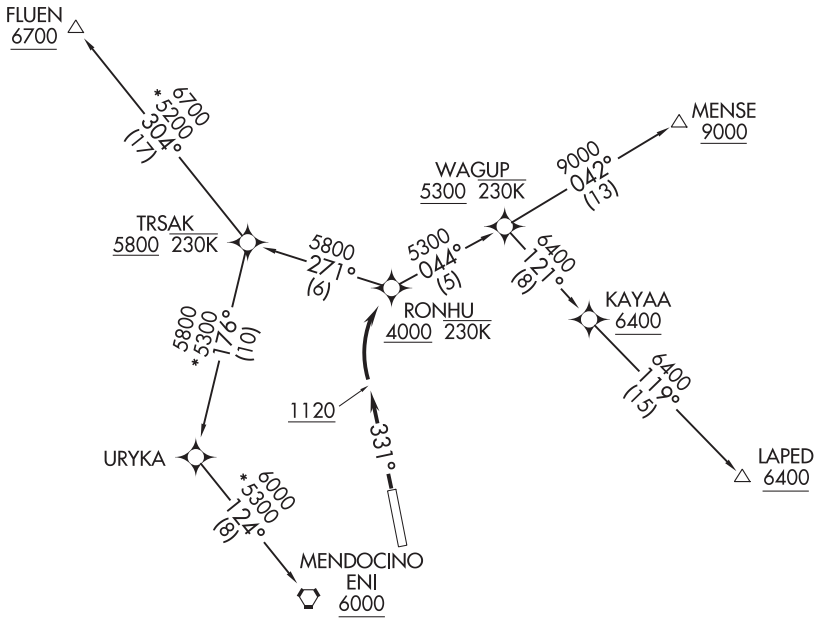
SW-2, 25 FEB 2021 to 22 APR 2021

OAKLAND CENTER
127.8 353.5
CTAF
123.0

TAKEOFF MINIMUMS

Rwy 33: MENSE TRANSITION, minimum climb of 500′ per NM to 1120′, then minimum climb of 316′ per NM to 8200.
LAPED TRANSITION, minimum climb of 500′ per NM to 1120′, then minimum climb of 316′ per NM to 6000.
FLUEN/MENDOCINO TRANSITION, minimum climb of 500′ per NM to 1120′, then minimum climb of 316′ per NM to 5800.



NOTE: Do not exceed 230K until passing WAGUP.
NOTE: Do not exceed 230K until passing TRSAK.
NOTE: GPS required.
NOTE: RNAV-1.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 33: Climb heading 331° to 1120, then right turn direct to cross RONHU at or above 4000, thence . . . .
. . . . on assigned transition, maintain assigned altitude, expect filed altitude/flight level ten minutes after departure.

FLUEN TRANSITION (RONHU1.FLUEN)
LAPED TRANSITION (RONHU1.LAPED)
MENDOCINO TRANSITION (RONHU1.ENI)
MENSE TRANSITION (RONHU1.MENSE)

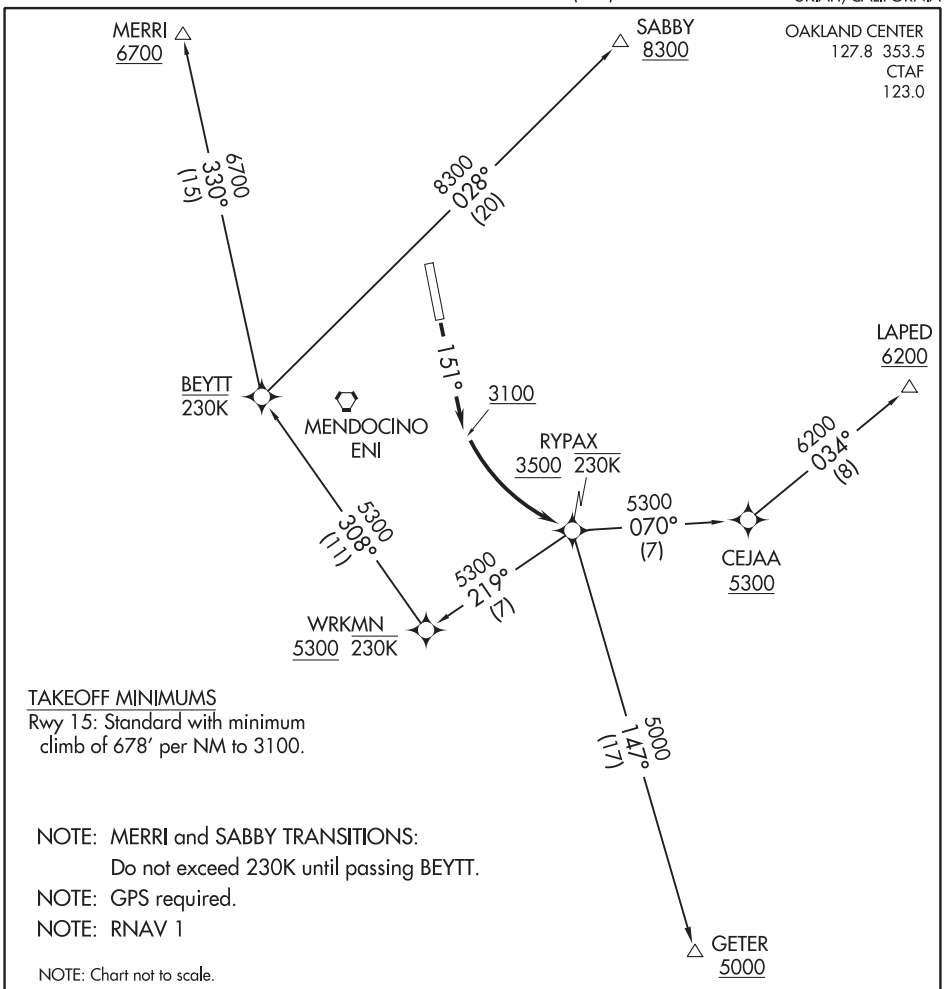
SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

(RYPAX1.RYPAX) 17341

RYPAX ONE DEPARTURE (RNAV)

AL-698 (FAA)

UKIAH MUNI (UKI)
UKIAH, CALIFORNIA



TAKEOFF MINIMUMS
Rwy 15: Standard with minimum climb of 678′ per NM to 3100.

NOTE: MERRI and SABBY TRANSITIONS:
Do not exceed 230K until passing BEYTT.
NOTE: GPS required.
NOTE: RNAV 1

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 15: Climb heading 151° to 3100′, then left turn direct to cross RYPAX at or above 3500′, thence. . . .

. . . . on assigned transition, maintain assigned altitude, expect filed altitude/flight level ten minutes after departure.

GETER TRANSITION (RYPAX1.GETER)
LAPED TRANSITION (RYPAX1.LAPED)
MERRI TRANSITION (RYPAX1.MERRI)
SABBY TRANSITION (RYPAX1.SABBY)

SW-2, 25 FEB 2021 to 22 APR 2021

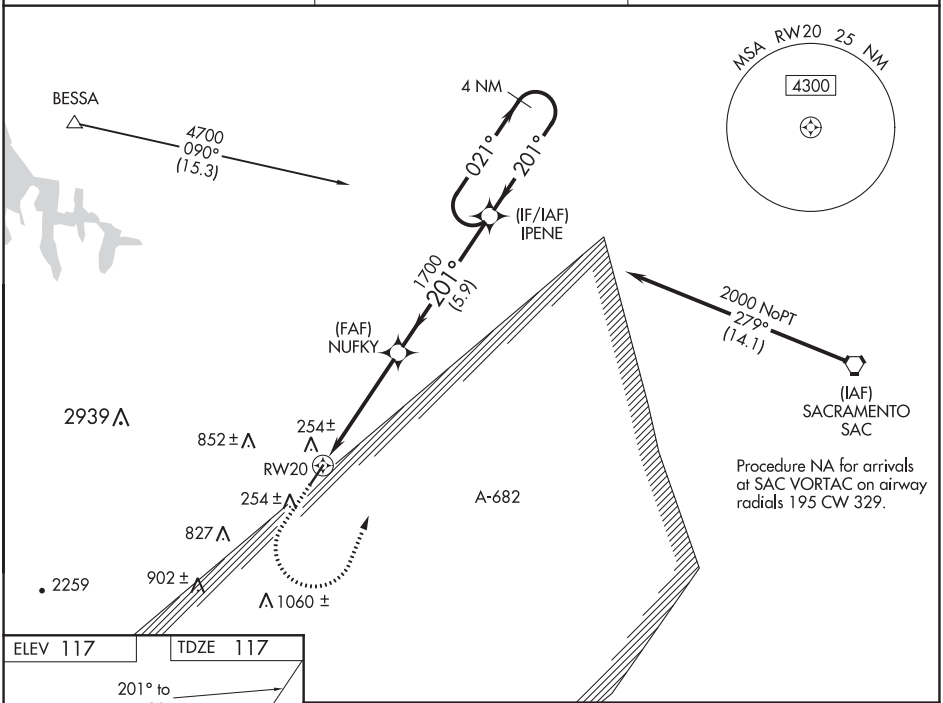
WAAS CH 53740 W20A	APP CRS 201°	Rwy ldg 4700 TDZE 117 Apt Elev 117

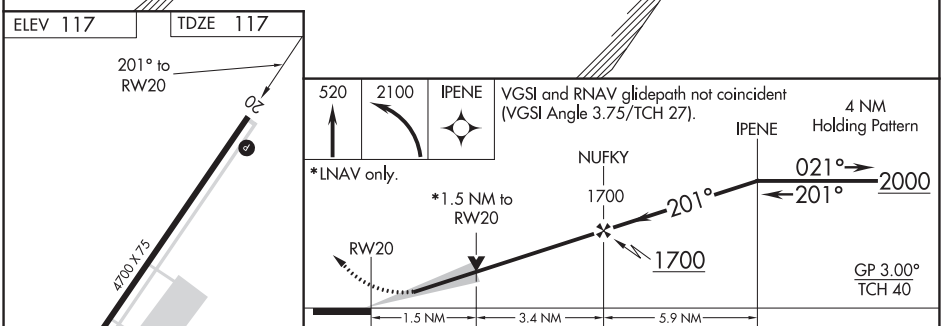
RNAV (GPS) RWY 20
NUT TREE (VCB)

Circling Rwy 2 NA at night. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -5°C (23°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Circling NA west of Rwy 2-20.

MISSED APPROACH: Climb to 520 then climbing left turn to 2100 direct IPENE and hold. # Missed approach requires minimum climb of 229 feet per NM to 1300.

ASOS	TRAVIS APP CON	(CTAF)
134.75	128.4 281.45	122.85 L





CATEGORY	A	B	C	D
LPV DA #	367-⅞ 250 (300-⅞)			
LPV DA	384-⅞ 267 (300-⅞)			
LNAV/VNAV DA	614-1¾ 497 (500-1¾)			
LNAV MDA	720-1 603 (700- 1)		720-1¾ 603 (700-1¾)	
C CIRCLING	720-1 603 (700-1)		960-2½ 843 (900-2½)	1360-3 1243 (1300-3)

MIRL Rwy 2-20 L
REIL Rwys 2 and 20 L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

VACAVILLE, CALIFORNIA | AL-6094 (FAA) | 20310

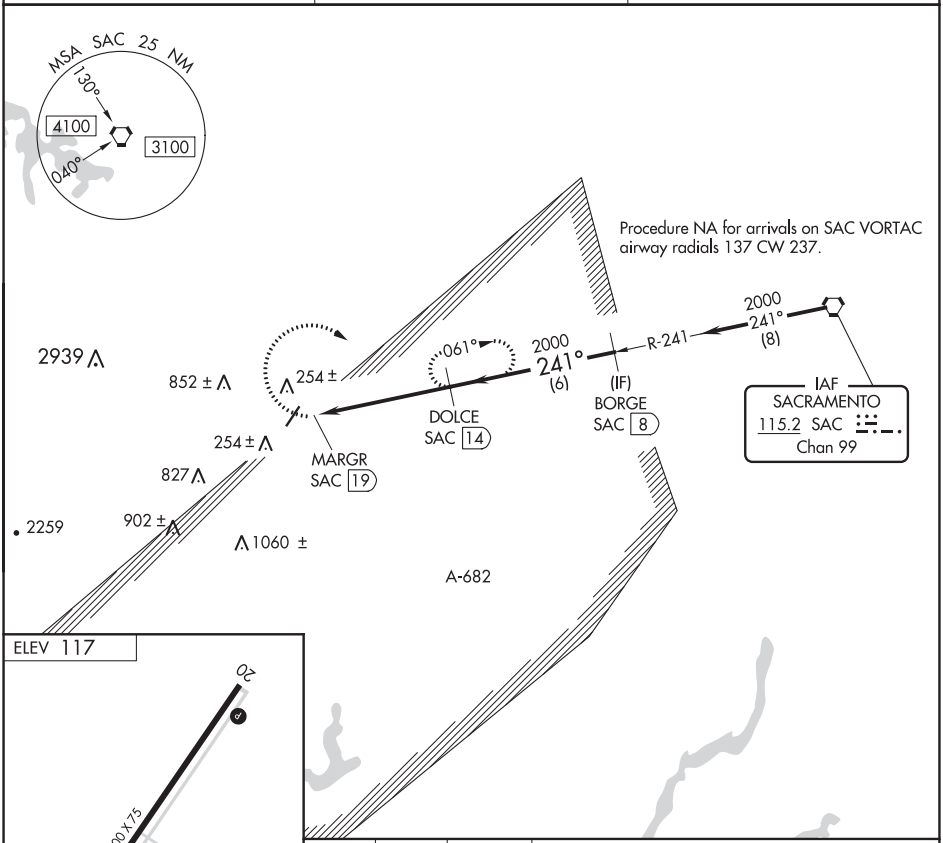
VOR-A
NUT TREE (VCB)

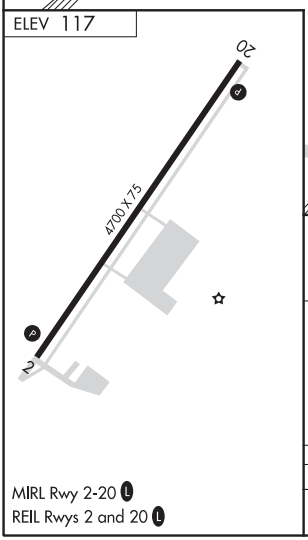
VORTAC SAC	APP CRS	Rwy ldg	N/A
115.2	241°	TDZE	N/A
Chan 99		Apt Elev	117

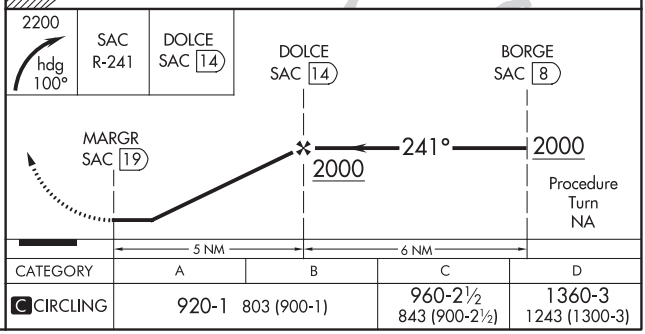
Rwy 2 helicopter visibility reduction below 1 SM NA.
DME required.
Circling Rwy 2 NA at night.
Circling NA west of Rwy 2-20.

MISSED APPROACH: Climbing right turn to 2200 on heading 100° and SAC R-241 to DOLCE/14 DME and hold.

ASOS	TRAVIS APP CON	CTAF
134.75	128.4 281.45	122.85 L







CATEGORY	A	B	C	D
C CIRCLING	920-1	803 (900-1)	960-2½ 843 (900-2½)	1360-3 1243 (1300-3)

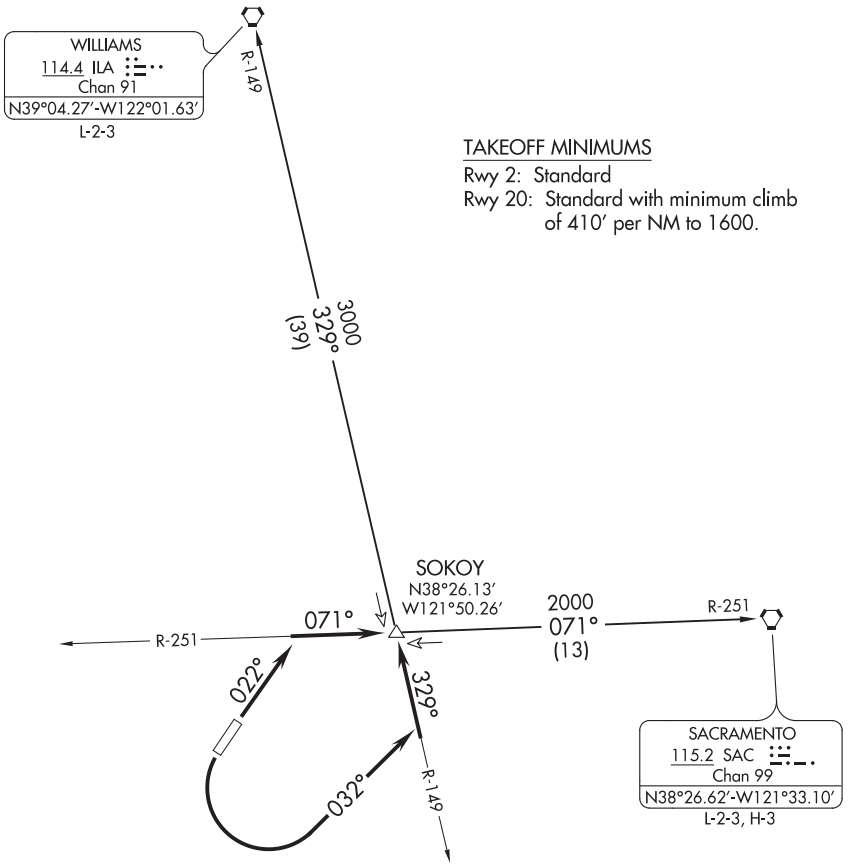
MIRL Rwy 2-20 L
REIL Rwys 2 and 20 L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

TRAVIS DEP CON
128.4 281.45

TOP ALTITUDE: ASSIGNED BY ATC



TAKEOFF MINIMUMS
Rwy 2: Standard
Rwy 20: Standard with minimum climb of 410′ per NM to 1600.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 2: Climb via heading 022°, intercept SAC R-251 to SOKOY/SAC 13 DME.

TAKEOFF RUNWAY 20: Turn left heading 032°, intercept ILA R-149 to SOKOY/ILA 39 DME.

SACRAMENTO TRANSITION (SOKOY3.SAC): From over SOKOY on SAC R-251 to SAC VORTAC.

WILLIAMS TRANSITION (SOKOY3.ILA): From over SOKOY on ILA R-149 to ILA VORTAC.

VISALIA, CALIFORNIA | AL-558 (FAA) | 20030

ILS or LOC RWY 30
VISALIA MUNI (VIS)

LOC I-VIS	APP CRS	Rwy ldg / TDZE / Apt Elev
108.5	301°	5635 / 295 / 295

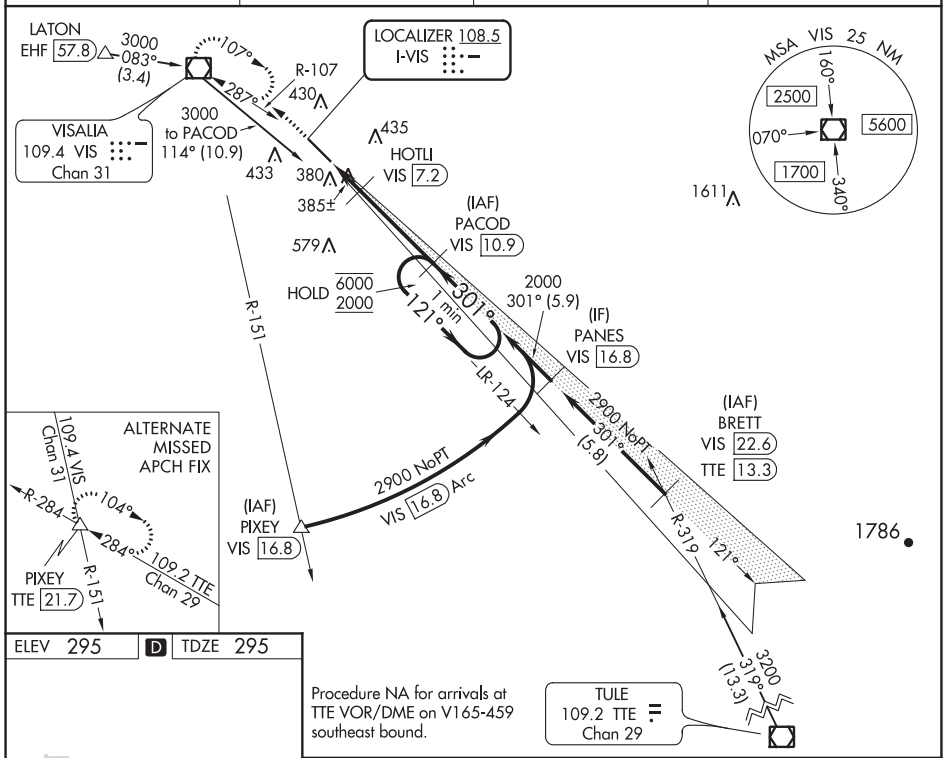
DME required.

DME from VIS VOR/DME.
Simultaneous reception of I-VIS and VIS DME required.
For inop ALS, increase S-LOC 30 Cat C/D visibility to 1 SM.

MALSR

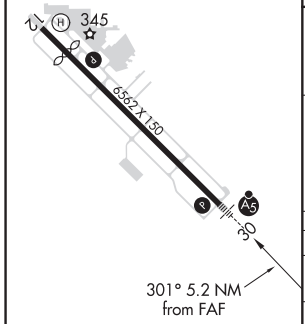
MISSED APPROACH: Climb to 1000 then climbing left turn to 3000 direct VIS VOR/DME and hold, continue climb-in-hold to 3000.

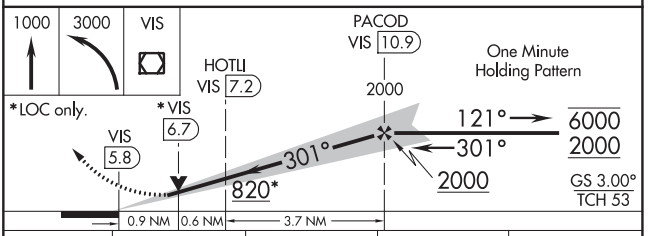
AWOS-3PT	FRESNO APP CON	CLNC DEL	UNICOM
119.925	118.5	118.5	123.05 (CTAF)



ELEV 295 | D | TDZE 295

Procedure NA for arrivals at TTE VOR/DME on V165-459 southeast bound.





CATEGORY	A	B	C	D
S-ILS 30	502-½ 207 (300-½)			
S-LOC 30	640-½ 345 (400-½)		640-⅝ 345 (400-⅝)	
C CIRCLING	720-1 425 (500-1)	760-1 465 (500-1)	760-1½ 465 (500-1½)	940-2 645 (700-2)

REIL Rwy 12
HIRL Rwy 12-30

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

WAAS CH 82423 W12A	APP CRS 121°	Rwy ldg 5635 TDZE 293 Apt Elev 295

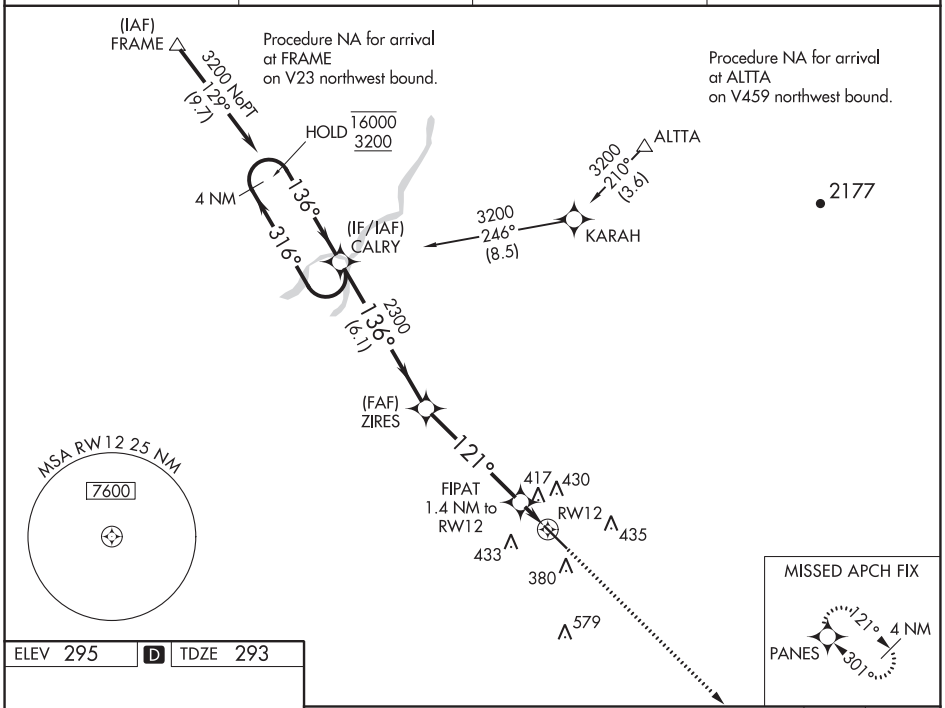
RNAV (GPS) RWY 12
VISALIA MUNI (VIS)

RNP APCH.

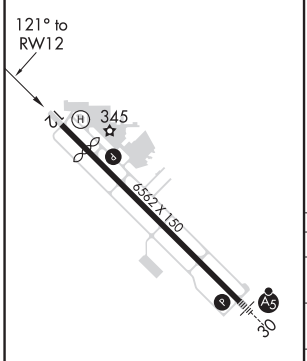
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 54°C.

MISSED APPROACH: Climb to 2900 direct PANES and hold.

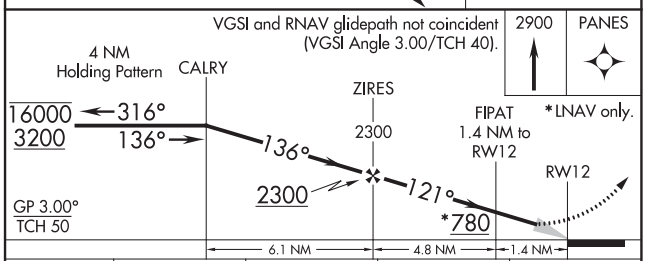
AWOS-3PT	FRESNO APP CON	CLNC DEL	UNICOM
119.925	118.5	118.5	123.05 (CTAF) L



ELEV 295 | D | TDZE 293



REIL Rwy 12 L
HIRL Rwy 12-30 L



CATEGORY	A	B	C	D
LPV DA	543-¾ 250 (300-¾)			
LNAV/VNAV DA	697-1⅛ 404 (500-1⅛)			
LNAV MDA	680-1 387 (400-1)		680-1⅛ 387 (400-1⅛)	
C CIRCLING	720-1 425 (500-1)	760-1 465 (500-1)	760-1½ 465 (500-1½)	940-2 645 (700-2)

SW-2, 25 FEB 2021 to 22 APR 2021
SW-2, 25 FEB 2021 to 22 APR 2021

VISALIA, CALIFORNIA | AL-558 (FAA) | 19227

RNAV (GPS) RWY 30
VISALIA MUNI (VIS)

WAAS CH 77623 W30A	APP CRS 301°	Rwy ldg 5635 TDZE 295 Apt Elev 295

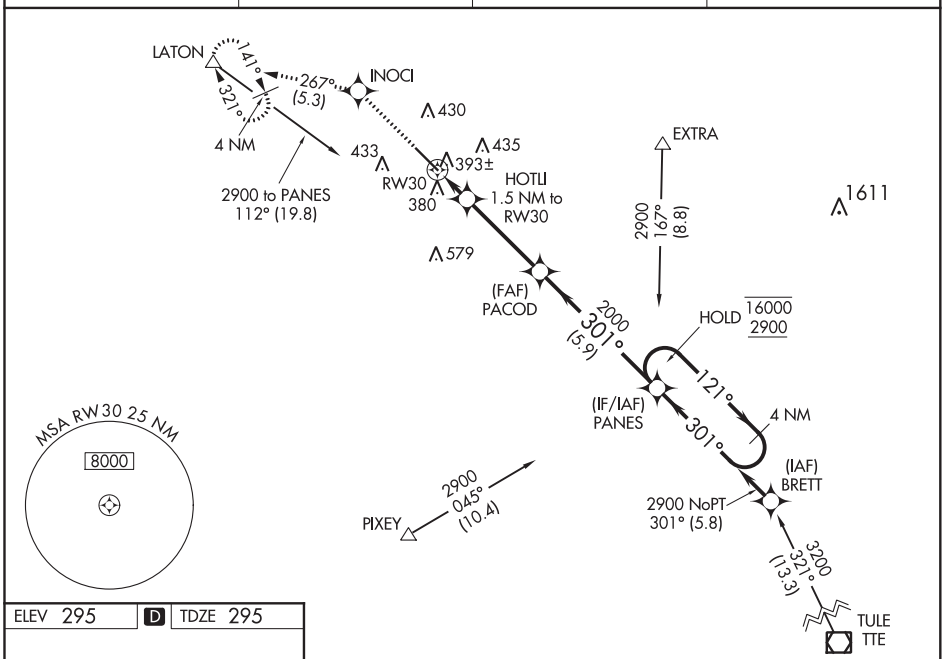
RNP APCH.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 54°C. For inop ALS, increase LNAV/VNAV all Cats visibility to ¾ SM, LNAV Cats C/D to 1 SM.

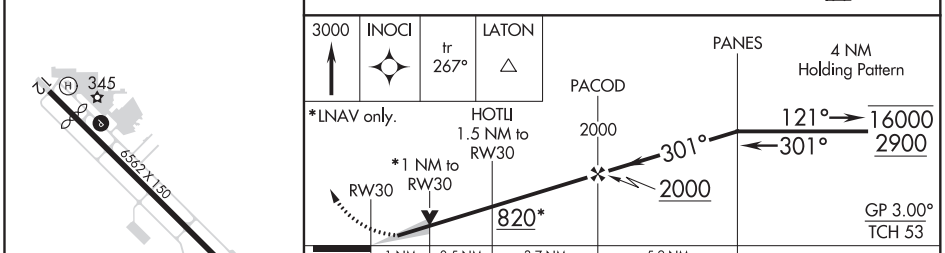
MALSR

MISSED APPROACH: Climb to 3000 direct INOCI and on track 267° to LATON and hold, continue climb-in-hold to 3000.

AWOS-3PT	FRESNO APP CON	CLNC DEL	UNICOM
119.925	118.5	118.5	123.05 (CTAF) L



ELEV 295 | D | TDZE 295



CATEGORY	A	B	C	D
LPV DA	502-½ 207 (300-½)			
LNAV/VNAV DA	554-½ 259 (300-½)			
LNAV MDA	660-½ 365 (400-½)		660-⅝ 365 (400-⅝)	
C CIRCLING	720-1 425 (500-1)	760-1 465 (500-1)	760-1½ 465 (500-1½)	940-2 645 (700-2)

REIL Rwy 12 L
HIRL Rwy 12-30 L

SW-2, 25 FEB 2021 to 22 APR 2021

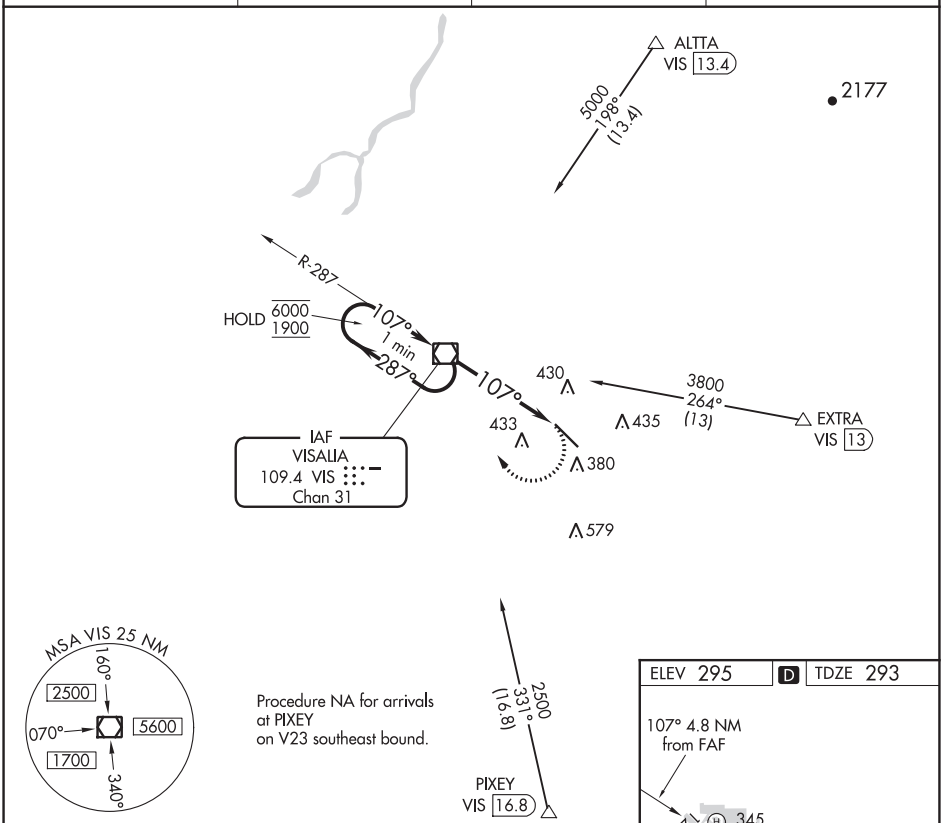
VOR RWY 12
VISALIA MUNI (VIS)

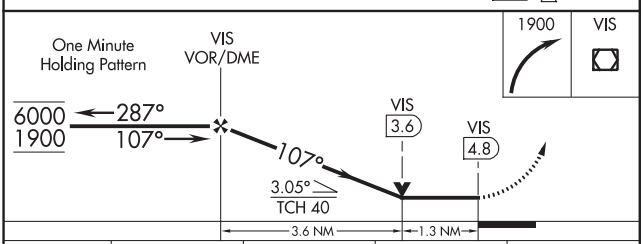
VOR/DME VIS	APP CRS	Rwy ldg	5635
109.4	107°	TDZE	293
Chan 31		Apt Elev	295

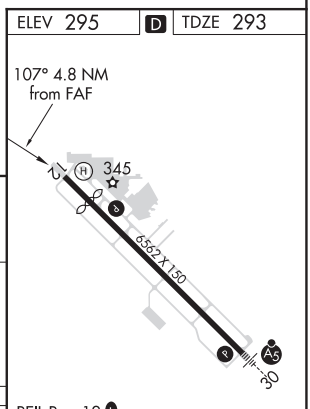
Rwy 12 helicopter visibility reduction below ¾ SM NA.

MISSED APPROACH: Climbing right turn to 1900 direct VIS VOR/DME and hold.

AWOS-3PT	FRESNO APP CON	CLNC DEL	UNICOM
119.925	118.5	118.5	123.05 (CTAF) L







REIL Rwy 12 L
HIRL Rwy 12-30 L

CATEGORY	A	B	C	D
S-12	740-1 447 (500-1)		740-1⅜ 447 (500-1⅜)	
C CIRCLING	740-1 445 (500-1)	760-1 465 (500-1)	760-1½ 465 (500-1½)	940-2 645 (700-2)

FAF to MAP 4.8 NM					
Knots	60	90	120	150	180
Min:Sec	4:48	3:12	2:24	1:55	1:36

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SW-2, 25 FEB 2021 to 22 APR 2021

WAAS CH 50144 W02A	APP CRS 018°	Rwy ldg 4501 TDZE 152 Apt Elev 163

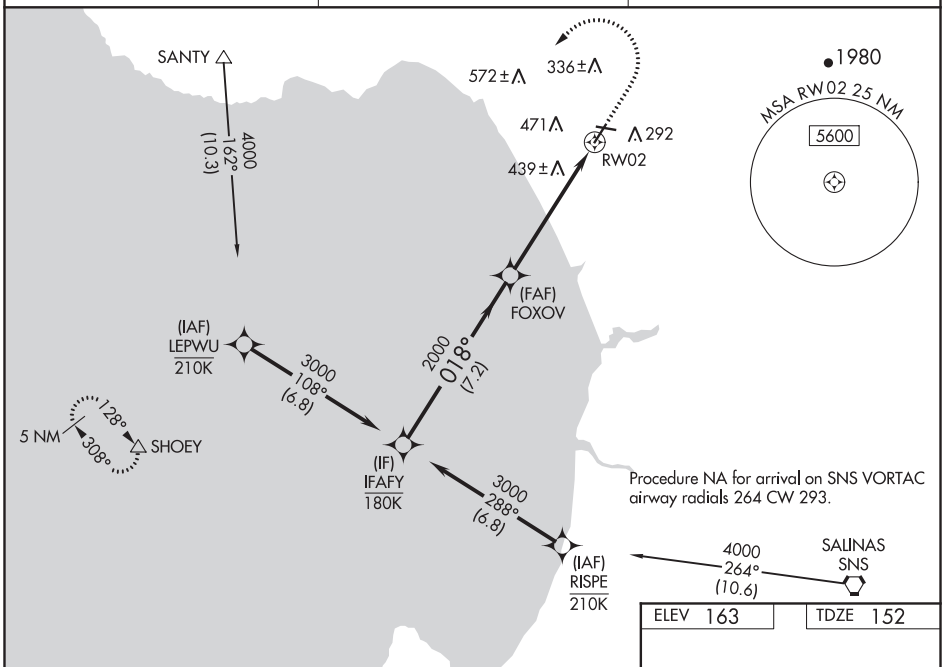
RNAV (GPS) RWY 2
WATSONVILLE MUNI (WVI)

RNP APCH.

Circling Rwy 27 NA at night. Rwy 2 helicopter visibility reduction below ¾ SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -2°C or above 54°C . Circling NA west of Rwy 2-20.

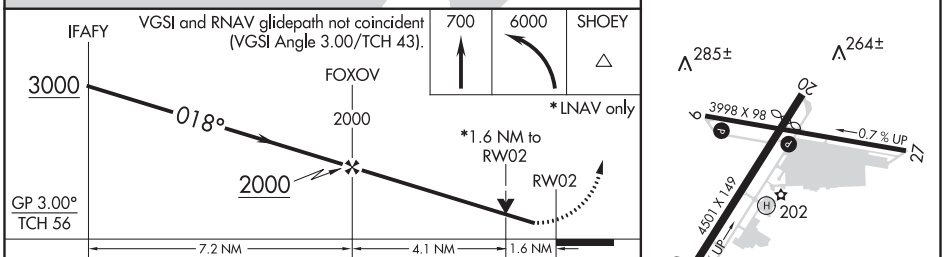
MISSED APPROACH: (Do not exceed 185K until SHOEY) Climb to 700 then climbing left turn to 6000 direct SHOEY and hold, continue climb-in-hold to 6000.

ASOS	NORCAL APP CON	UNICOM
132.275	127.15 307.125	122.8 (CTAF) L



Procedure NA for arrival on SNS VORTAC airway radials 264 CW 293.

ELEV 163	TDZE 152



CATEGORY	A	B	C	D
LPV DA	448-⅞ 296 (300-⅞)			
LNAV/VNAV DA	772-1¾ 620 (700-1¾)			
LNAV MDA	700-1 548 (600-1)		700-1⅝ 548 (600-1⅝)	
C CIRCLING	700-1 537 (600-1)		700-1⅝ 537 (600-1⅝)	1100-3 937 (1000-3)

REIL Rwy 2 L
MIRL Rwy 2-20 L

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

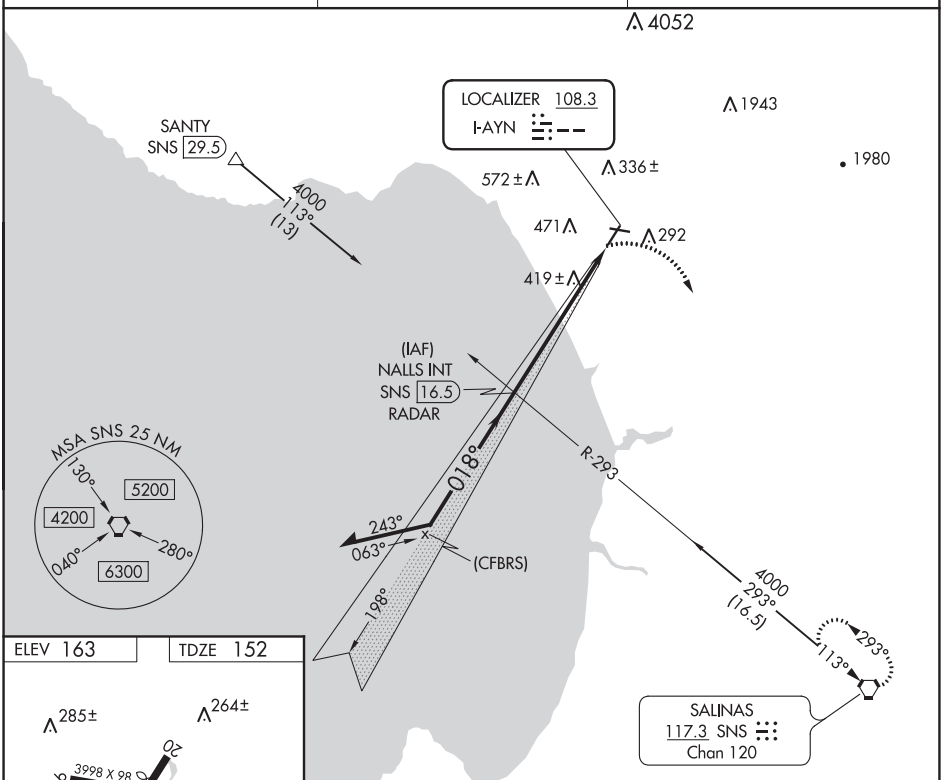
LOC I-AYN	APP CRS	Rwy ldg	4501
108.3	018°	TDZE	152
		Apt Elev	163

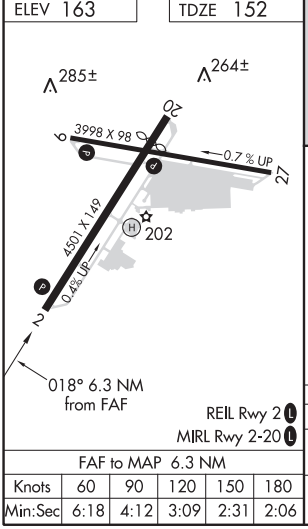
LOC RWY 2
WATSONVILLE MUNI (WVI)

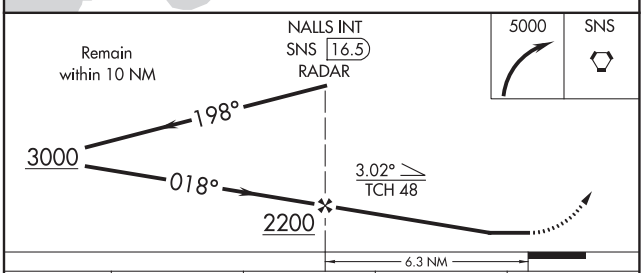
Circling Rwy 27 NA at night. When local altimeter setting not received, use Monterey altimeter setting and increase all MDAs 80 feet and visibility Cat C ⅛ SM and S-2 Cat D ⅛ SM. Circling NA west of Rwy 2-20. Rwy 2 helicopter visibility below ¾ SM NA.

MISSED APPROACH: Climbing right turn to 5000 direct SNS VORTAC and hold, continue climb-in-hold to 5000.

ASOS	NORCAL APP CON	UNICOM
132.275	127.15 307.125	122.8 (CTAF) L







FAF to MAP 6.3 NM					
Knots	60	90	120	150	180
Min:Sec	6:18	4:12	3:09	2:31	2:06

CATEGORY	A	B	C	D
S-2	700-1 548 (600-1)		700-1⅝ 548 (600-1⅝)	
CIRCLING	700-1 537 (600-1)		700-1⅝ 537 (600-1⅝)	720-2 557 (600-2)

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SW-2, 25 FEB 2021 to 22 APR 2021

WATSONVILLE, CALIFORNIA AL-805 (FAA) 20310

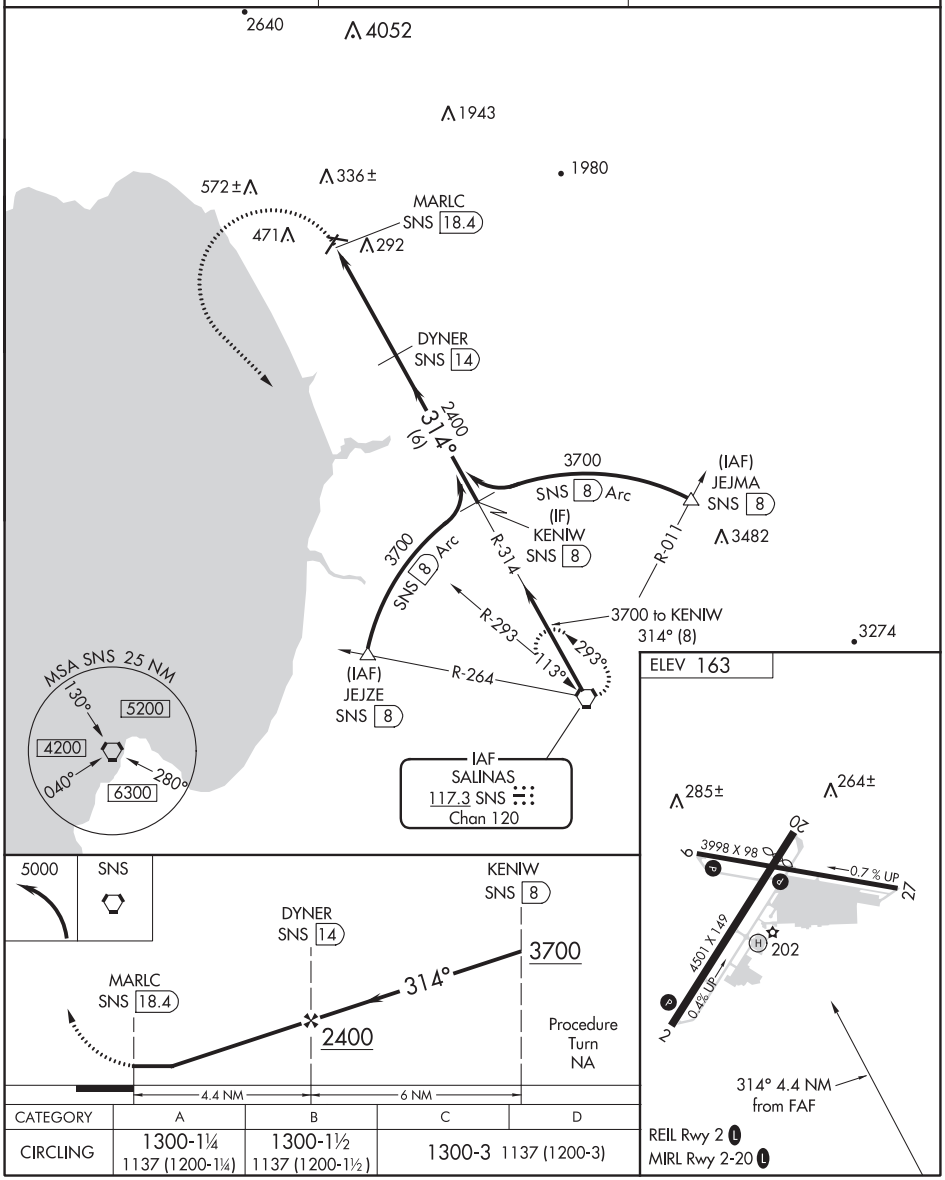
VORTAC SNS	APP CRS	Rwy ldg	N/A
117.3	314°	TDZE	N/A
Chan 120		Apt Elev	163

VOR-A
WATSONVILLE MUNI (WVI)

Circling NA west of Rwy 2-20. When local altimeter setting not received, use Monterey altimeter setting and increase all MDAs 80 feet. DME required. Circling Rwy 27 NA at night.

MISSED APPROACH: Climbing left turn to 5000 direct SNS VORTAC and hold, continue climb-in-hold to 5000.

ASOS	NORCAL APP CON	UNICOM
132.275	127.15 307.125	122.8 (CTAF) L

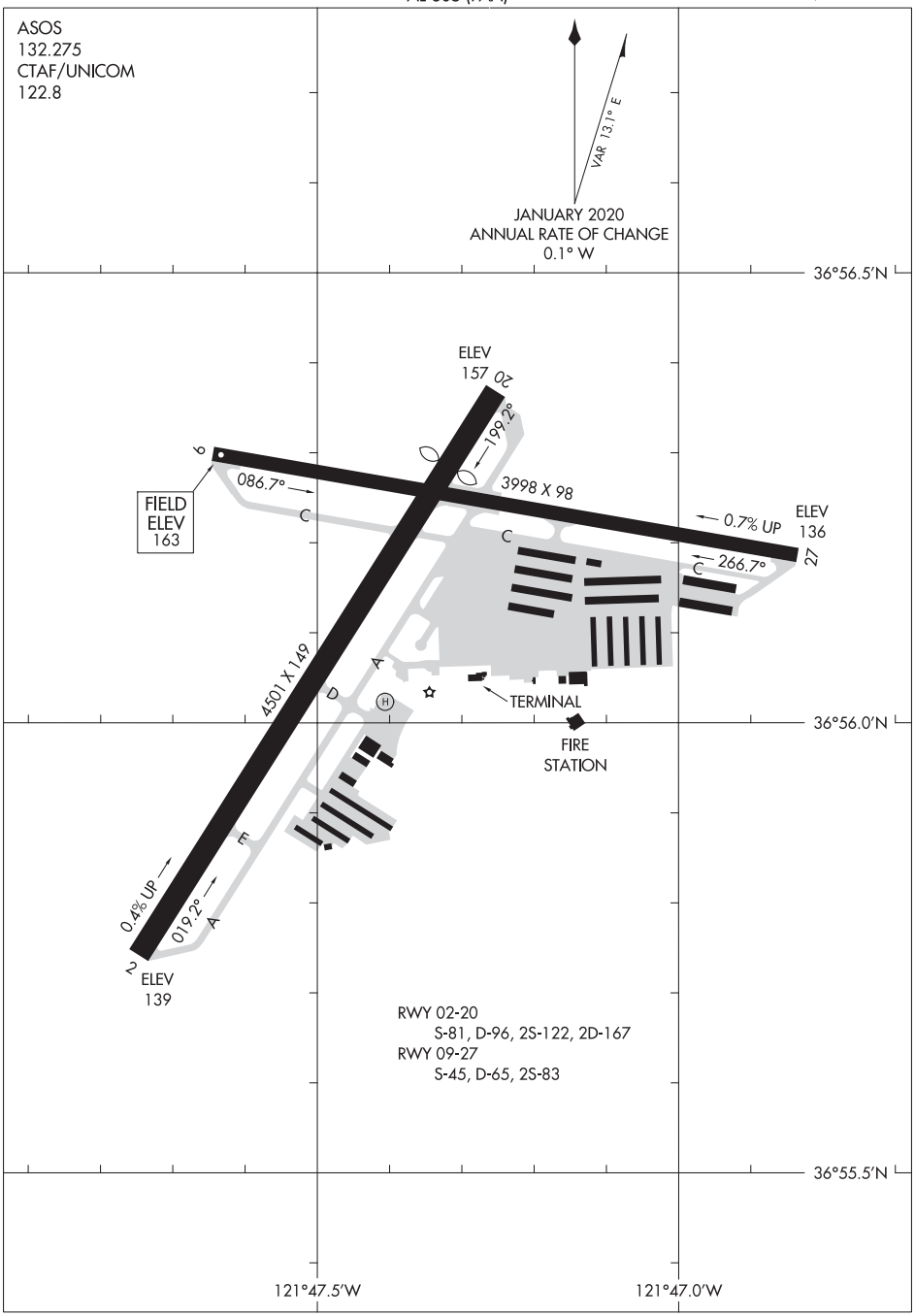


CATEGORY	A	B	C	D
CIRCLING	1300-1¼ 1137 (1200-1¼)	1300-1½ 1137 (1200-1½)	1300-3 1137 (1200-3)	

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

AL-805 (FAA)



SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

(WVI4.WVI) 18256

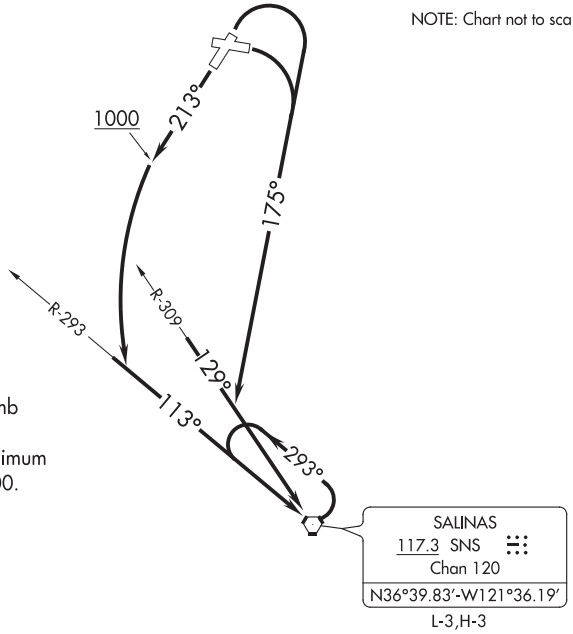
AL-805 (FAA)

WATSONVILLE FOUR DEPARTURE (OBSTACLE)

WATSONVILLE MUNI (WVI)
WATSONVILLE, CALIFORNIA

ASOS
132.275
NORCAL DEP CON
127.15 307.125
CTAF
122.8

NOTE: Chart not to scale.



TAKEOFF MINIMUMS

Rwy 27: NA - Airport Obstacles.
Rwy 20: Standard.
Rwy 2: Standard with minimum climb of 500′ per NM to 2600.
Rwy 9: 300-1 or standard with minimum climb of 270′ per NM to 400.

TAKEOFF OBSTACLE NOTES

Rwy 2: Lighting 8′ from DER, 84′ left of centerline, 1′ AGL/159′ MSL. Lighting 9′ from DER, 84′ right of centerline, 158′ MSL. Pole 14′ from DER, 349′ left of centerline, 205′ MSL. Pole, building, vehicles on road, tree and fence beginning 15′ from DER, 322′ left of centerline, up to 50′ AGL/213′ MSL. Trees beginning 278′ from DER, 414′ right of centerline, up to 188′ MSL. Pole, vehicles on road, stack, tree and building beginning 429′ from DER, 157′ left of centerline, up to 58′ AGL/220′ MSL. Pole, building and tree beginning 808′ from DER, 22′ right of centerline, up to 40′ AGL/198′ MSL. Tree and transmission line beginning 1021′ from DER, 137′ right of centerline, up to 222′ MSL. Pole 1174′ from DER, 328′ right of centerline, 57′ AGL/224′ MSL. Trees beginning 1275′ from DER, 298′ right of centerline, up to 242′ MSL. Tree 1345′ from DER, 320′ left of centerline, 236′ MSL. Tree 2249′ from DER, 371′ left of centerline, 264′ MSL.

Rwy 9: Tree and pole beginning 1′ from DER, 152′ left of centerline, up to 157′ MSL. Pole 65′ from DER, 301′ right of centerline, 31′ AGL/148′ MSL. Tree, fence, building, vehicles on road and pole beginning 74′ from DER, 251′ left of centerline, up to 160′ MSL. Pole, tree, building, tank and stack beginning 210′ from DER, 139′ left of centerline, up to 177′ MSL. Pole 231′ from DER, 250′ right of centerline, 32′ AGL/153′ MSL. Trees beginning 312′ from DER, 560′ right of centerline, up to 173′ MSL. Tower, pole and tree beginning 828′ from DER, 136′ left of centerline, up to 52′ AGL/181′ MSL. Trees beginning 915′ from DER, 146′ right of centerline, up to 197′ MSL. Tree 1815′ from DER, 365′ left of centerline, 215′ MSL. Tower 4697′ from DER, 1365′ right of centerline, 189′ AGL/292′ MSL.

Rwy 20: Tree 57′ from DER, 500′ left of centerline, 153′ MSL. Fence 57′ from DER, 268′ right of centerline, 7′ AGL/143′ MSL. Pole 95′ from DER, 467′ left of centerline, 175′ MSL. Pole, vehicles on road and tree beginning 96′ from DER, 377′ left of centerline, up to 50′ AGL/183′ MSL. Transmission line 848′ from DER, 505′ left of centerline, 44′ AGL/184′ MSL. Tree and transmission line beginning 919′ from DER, 520′ left of centerline, up to 190′ MSL. Tree 1153′ from DER, 286′ right of centerline, 169′ MSL. Tree 1207′ from DER, 615′ left of centerline, 197′ MSL. Tree, building and transmission line beginning 1267′ from DER, 318′ left of centerline, up to 203′ MSL. Tree 1336′ from DER, 7′ right of centerline, 177′ MSL. Tree 1337′ from DER, 46′ right of centerline, 192′ MSL. Tree 2201′ from DER, 776′ right of centerline, 240′ MSL.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 2 and 9: Climbing right turn on heading 175° to intercept SNS VORTAC R-309 to SNS VORTAC, thence . . . .

TAKEOFF RUNWAY 20: Climb heading 213° to 1000, then climbing left turn to intercept SNS VORTAC R-293 to SNS VORTAC, thence . . . .

. . . . continue climb in SNS holding pattern to cross SNS VORTAC at or above MEA/MCA for route of flight.

SW-2, 25 FEB 2021 to 22 APR 2021
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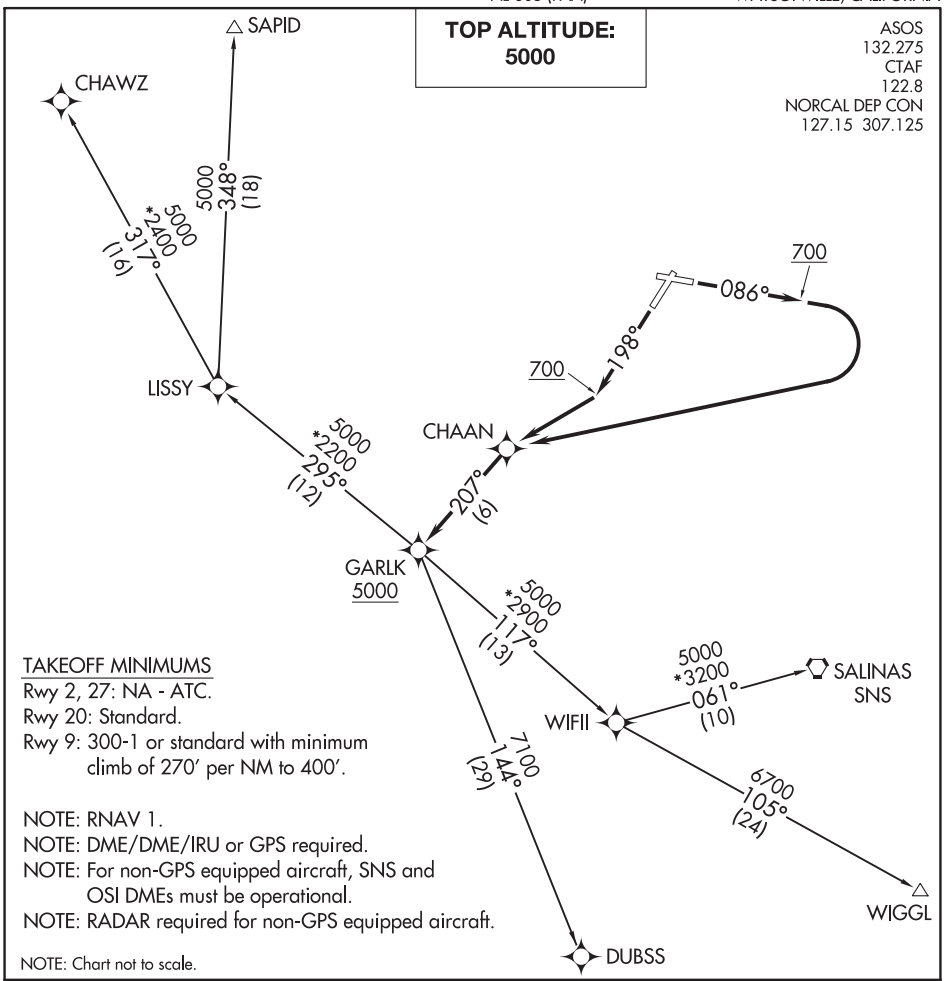
GARLK ONE DEPARTURE (RNAV)

AL-805 (FAA)

WATSONVILLE MUNI (WVI)
WATSONVILLE, CALIFORNIA



TAKEOFF MINIMUMS
Rwy 2, 27: NA - ATC.
Rwy 20: Standard.
Rwy 9: 300-1 or standard with minimum climb of 270′ per NM to 400′.

NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: For non-GPS equipped aircraft, SNS and OSI DMEs must be operational.
NOTE: RADAR required for non-GPS equipped aircraft.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 9: Climb heading 086° to 700, then right turn direct CHAAN, thence. . . .

TAKEOFF RUNWAY 20: Climb heading 198° to 700, then direct CHAAN, thence. . . .

. . . . on track 207° to cross GARLK at or above 5000, then on (transition).

CHAWZ TRANSITION (GARLK1.CHAWZ)
DUBSS TRANSITION (GARLK1.DUBSS)
SALINAS TRANSITION (GARLK1.SNS)
SAPID TRANSITION (GARLK1.SAPID)
WIGGL TRANSITION (GARLK1.WIGGL)

WEED, CALIFORNIA | AL-10021 (FAA) | 19283

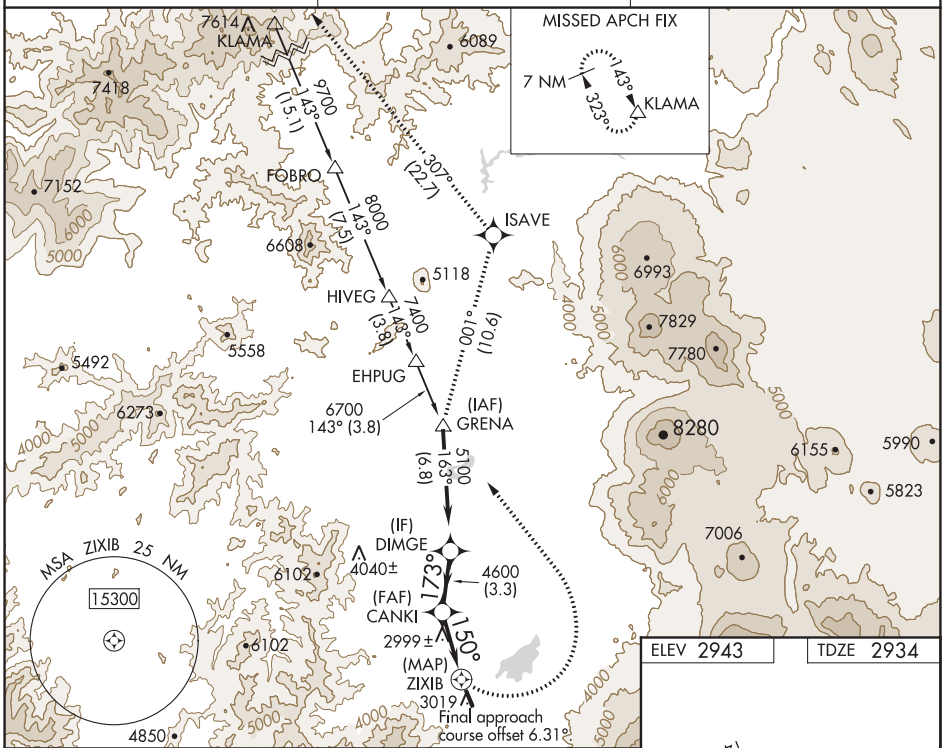
RNAV (GPS) RWY 14
WEED (O46)

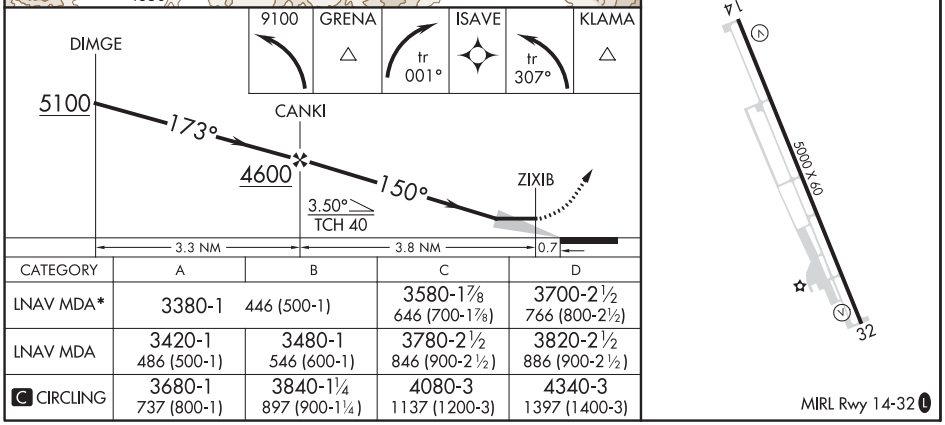
APP CRS	Rwy ldg	5000
150°	TDZE	2934
	Apt Elev	2943

T
NA Circling NA southwest of Rwy 14-32. DME/DME RNP-0.3 NA. Use Siskiyou County altimeter setting.

MISSED APPROACH: (Do not exceed 185K until GRENA) Climbing left turn 9100 direct GRENA then right turn on track 001° to ISAVE then left turn on track 307° direct KLAMA and hold. * Missed approach requires a minimum climb of 325 feet per NM to 4000.

SYI ASOS	SEATTLE CENTER	UNICOM
121.125	124.85 306.3	122.7 (CTAF) L



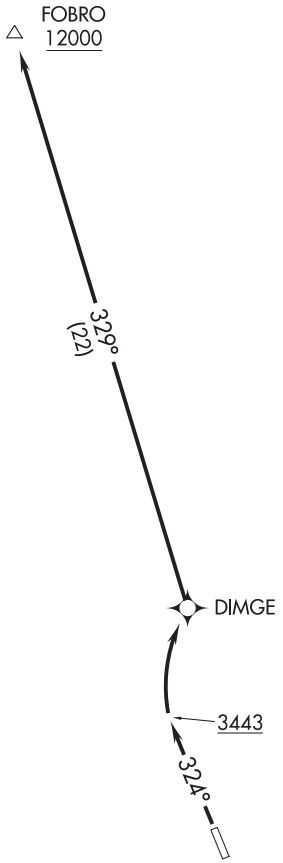


CATEGORY	A	B	C	D
LNAV MDA*	3380-1 446 (500-1)		3580-1⅞ 646 (700-1⅞)	3700-2½ 766 (800-2½)
LNAV MDA	3420-1 486 (500-1)	3480-1 546 (600-1)	3780-2½ 846 (900-2½)	3820-2½ 886 (900-2½)
C CIRCLING	3680-1 737 (800-1)	3840-1¼ 897 (900-1¼)	4080-3 1137 (1200-3)	4340-3 1397 (1400-3)

SW-2, 25 FEB 2021 to 22 APR 2021

SW-2, 25 FEB 2021 to 22 APR 2021

SEATTLE CENTER
124.85 306.3
UNICOM
122.7



NOTE: RNAV 1.
NOTE: GPS required.

TAKEOFF MINIMUMS
Rwy 14: NA-obstacles.
Rwy 32: Standard with minimum climb of 325′ per NM to 12000.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 32: Climb heading 324° to 3443, then right turn direct DIMGE, then on track 329° to cross FOBRO at or above 12000 or as assigned by ATC.

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WILLITS, CALIFORNIA | AL-9480 (FAA) | 20310

APP CRS	Rwy ldg	2995
145°	TDZE	2063
	Apt Elev	2063

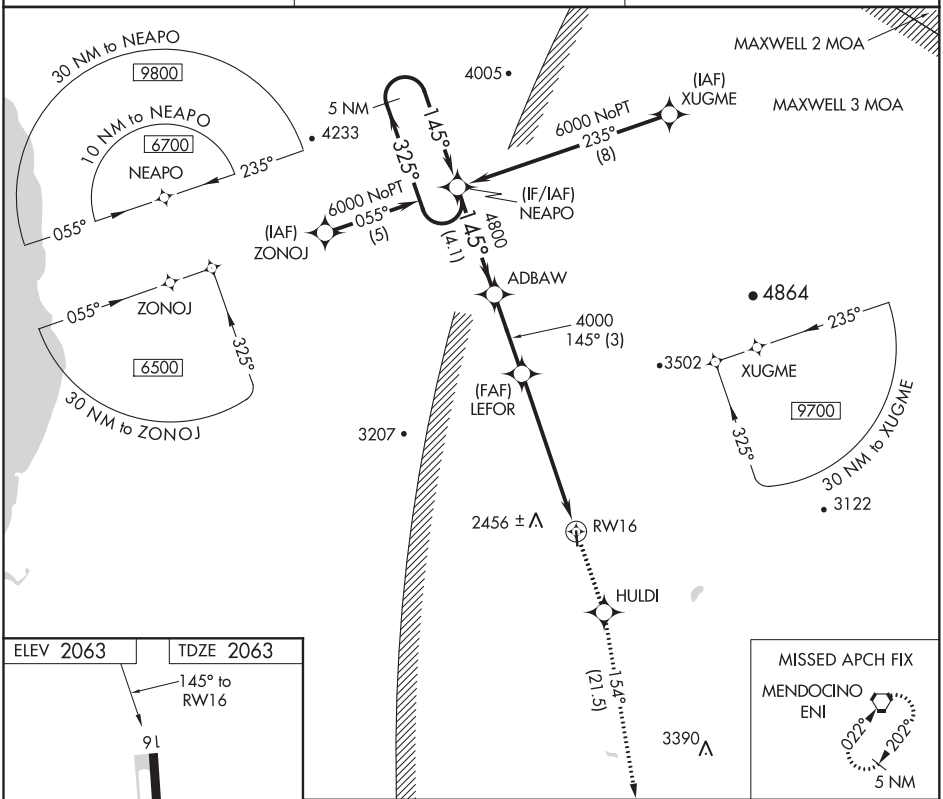
RNAV (GPS) RWY 16
ELLS FIELD-WILLITS MUNI (O28)

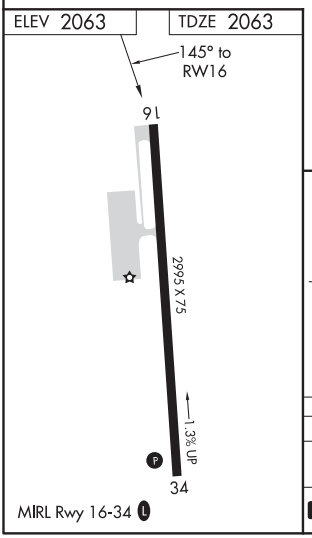
T A NA

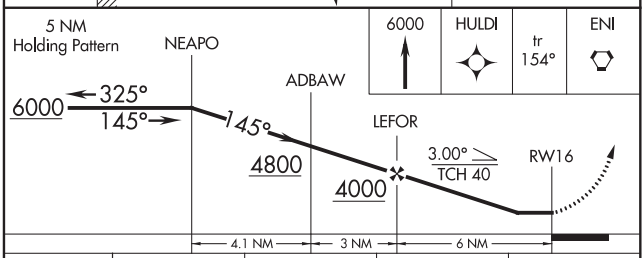
DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1 SM NA. Circling NA west of Rwy 16/34. Procedure NA at night. Use Ukiah altimeter setting.

MISSED APPROACH: Climb to 6000 direct HULDI and on track 154° to ENI VORTAC and hold.

UKI ASOS	OAKLAND CENTER	UNICOM
119.275	132.2 350.3	122.8 (CTAF) L







CATEGORY	A	B	C	D
LNAV MDA	3680-1¼ 1617 (1700-1¼)	3680-1½ 1617 (1700-1½)	3680-3 1617 (1700-3)	NA
C CIRCLING	3680-1¼ 1617 (1700-1¼)	3680-1½ 1617 (1700-1½)	3680-3 1617 (1700-3)	NA

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APP CRS	Rwy ldg	2995
339°	TDZE	2066
	Apt Elev	2066

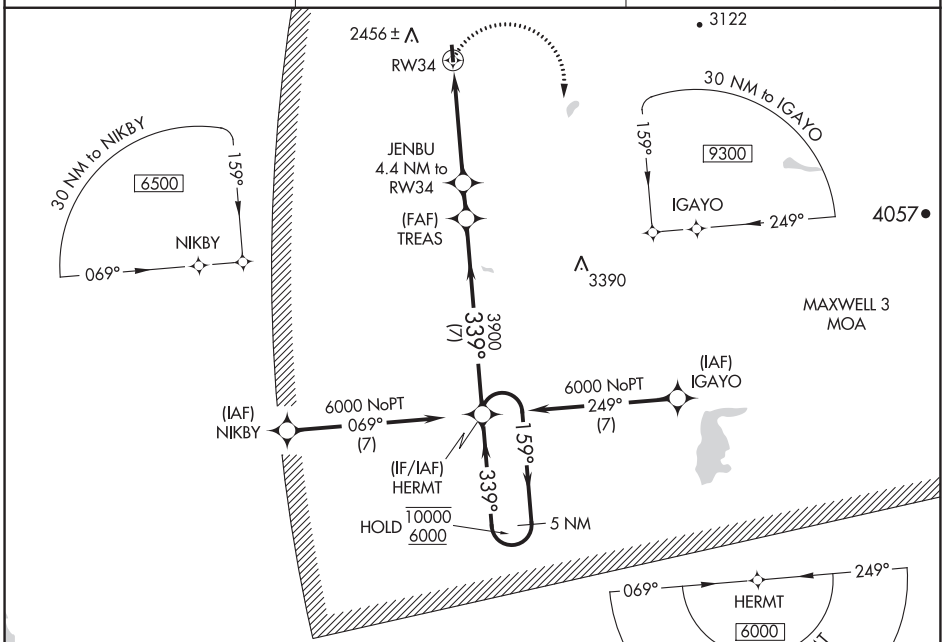
RNAV (GPS) RWY 34
ELLS FIELD-WILLITS MUNI (O28)

RNP APCH.

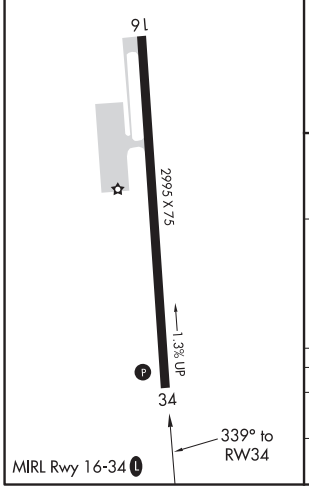
Circling NA west of Rwy 16-34. Rwy 34 helicopter visibility reduction below 1 SM NA. Procedure NA at night. Use Ukiah altimeter setting; when not received, procedure NA.

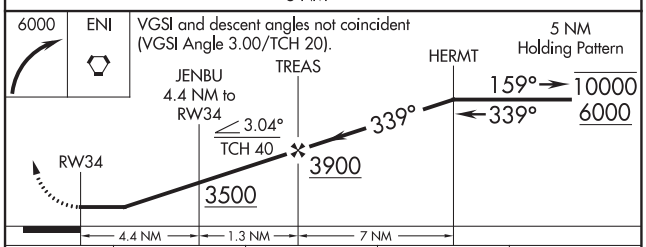
MISSED APPROACH: Climbing right turn to 6000 direct ENI VORTAC and hold.

UKI ASOS	OAKLAND CENTER	UNICOM
119.275	132.2 350.3	122.8 (CTAF)



ELEV 2066 TDZE 2066





CATEGORY	A	B	C	D
LNAV MDA	3300-1¼ 1234 (1300-1¼)	3300-1½ 1234 (1300-1½)	3300-3 1234 (1300-3)	NA
CIRCLING	3300-1¼ 1234 (1300-1¼)	3300-1½ 1234 (1300-1½)	3300-3 1234 (1300-3)	NA

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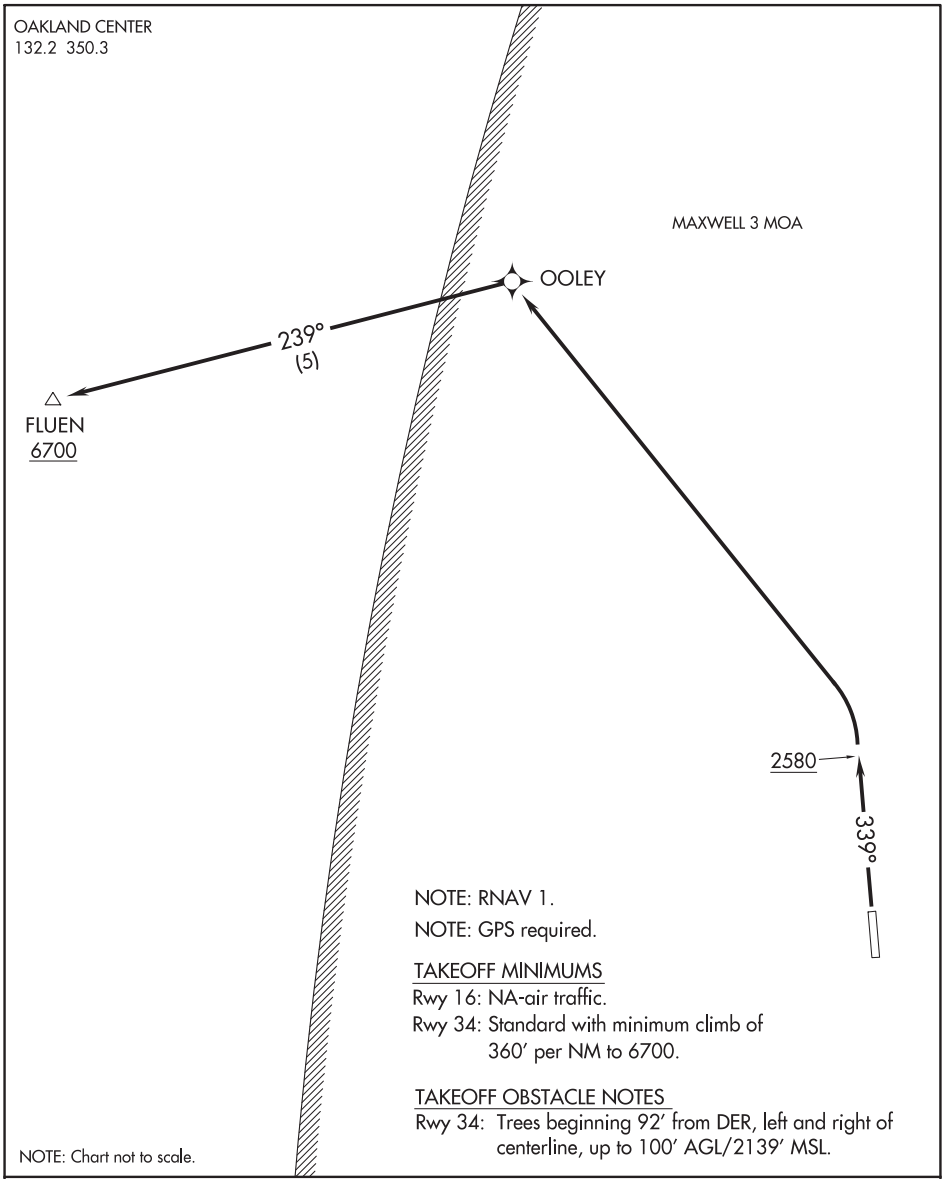
(FLUEN2.FLUEN) 16091

FLUEN TWO DEPARTURE (OBSTACLE) (RNAV)

ELLS FIELD-WILLITS MUNI (O28)
SL-9480 (FAA) WILLITS, CALIFORNIA



NOTE: RNAV 1.

NOTE: GPS required.

TAKEOFF MINIMUMS

Rwy 16: NA-air traffic.

Rwy 34: Standard with minimum climb of 360′ per NM to 6700.

TAKEOFF OBSTACLE NOTES

Rwy 34: Trees beginning 92′ from DER, left and right of centerline, up to 100′ AGL/2139′ MSL.

NOTE: Chart not to scale.

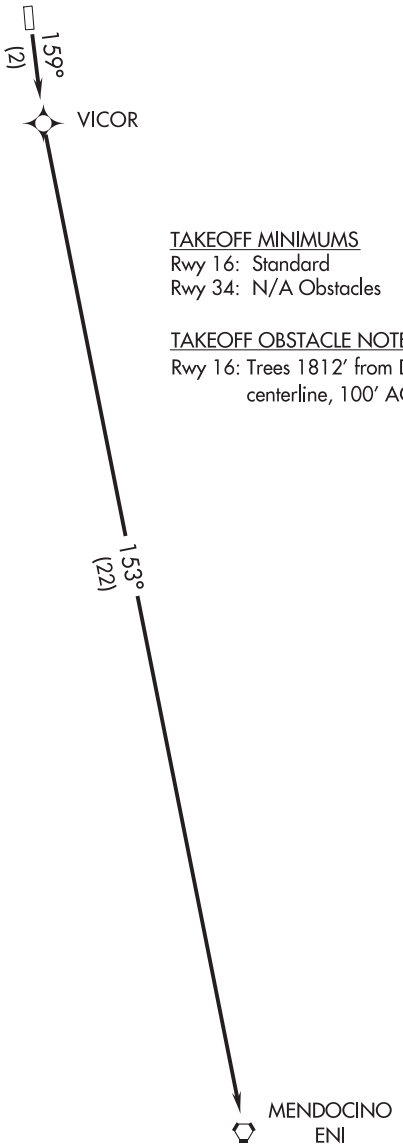
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 34: Climb heading 339° to 2580, then left turn direct OOLEY, and on track 239° to cross FLUEN at or above 6700.

MENDOCINO ONE DEPARTURE (OBSTACLE) (RNAV)

WILLITS, CALIFORNIA

OAKLAND CENTER
132.2 350.3
UNICOM 122.8 (CTAF)



TAKEOFF MINIMUMS
Rwy 16: Standard
Rwy 34: N/A Obstacles

TAKEOFF OBSTACLE NOTES
Rwy 16: Trees 1812′ from DER, 844′ left of centerline, 100′ AGL/2139′ MSL.

NOTE: GPS Required.
NOTE: RNAV 1

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 16: Climb to 6000 direct VICOR WP, then via 153° track to ENI VORTAC, thence proceed on course.

MENDOCINO ONE DEPARTURE (OBSTACLE) (RNAV)
WILLITS, CALIFORNIA

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WILLOWS, CALIFORNIA | AL-5296 (FAA) | 19283

WAAS CH 78422 W34A	APP CRS 344°	Rwy ldg 4125 TDZE 138 Apt Elev 141

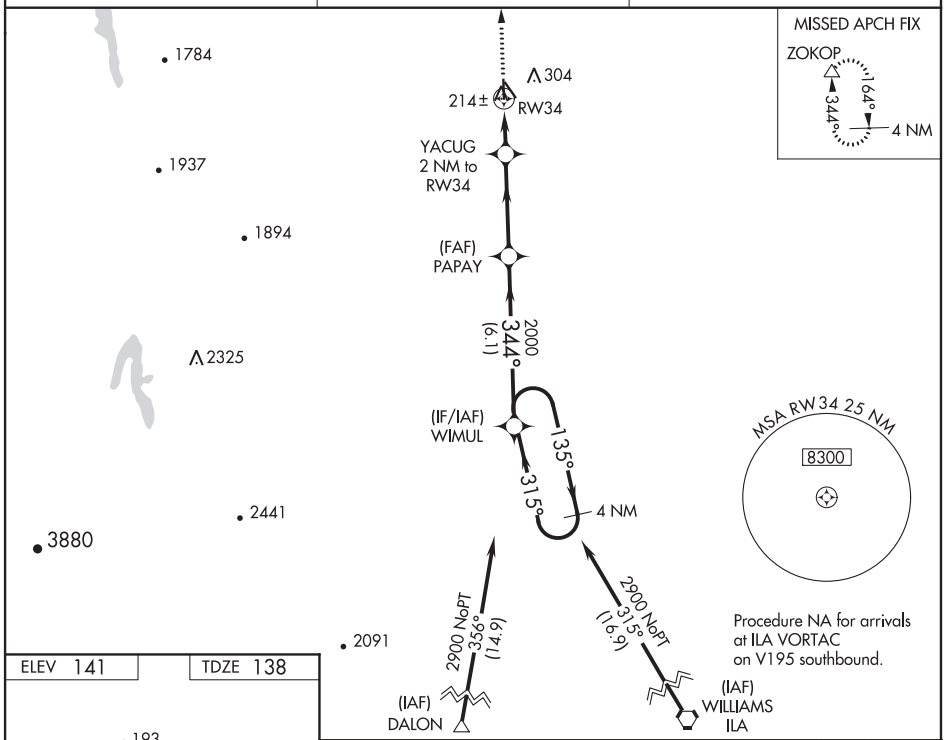
RNAV (GPS) RWY 34
WILLOWS-GLENN COUNTY (WLW)

T NA

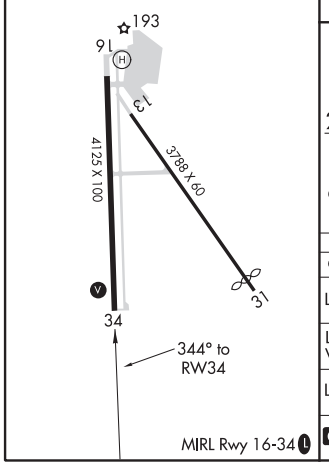
When Oroville Muni altimeter setting not received, procedure NA.
Baro-VNAV NA. DME/DME RNP-0.3 NA. Use Oroville altimeter setting.

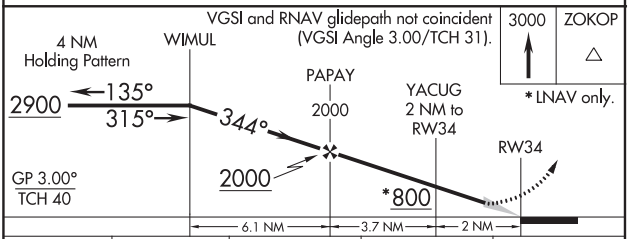
MISSED APPROACH: Climb to 3000 direct ZOKOP and hold.

OVE ASOS	OAKLAND CENTER	UNICOM
121.425	132.2 350.3	122.8 (CTAF) L



ELEV 141 | TDZE 138





CATEGORY	A	B	C	D
LPV DA	460-1⅛ 322 (400-1⅛)			NA
LNAV/VNAV DA	460-1⅛ 322 (400-1⅛)			NA
LNAV MDA	540-1 402 (400-1)		540-1⅛ 402 (400-1⅛)	NA
C CIRCLING	680-1 539 (600-1)		680-1½ 539 (600-1½)	NA

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VOR RWY 34
WILLOWS-GLENN COUNTY (WLW)

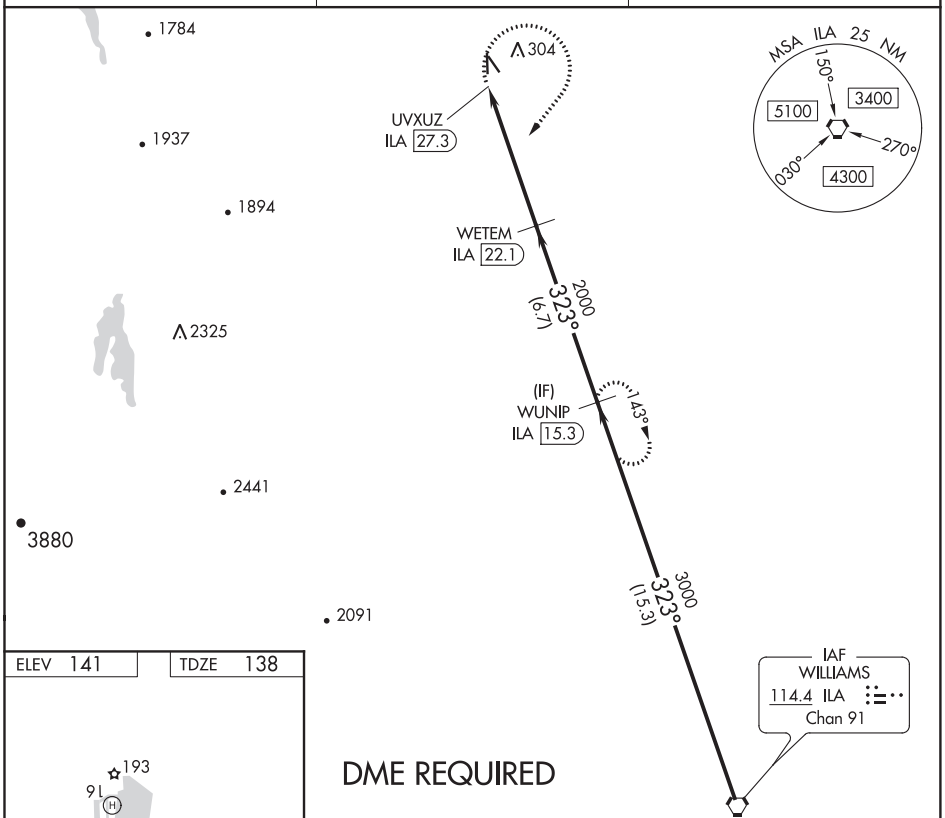
VORTAC ILA	APP CRS	Rwy ldg	4125
114.4	323°	TDZE	138
Chan 91		Apt Elev	141

T NA

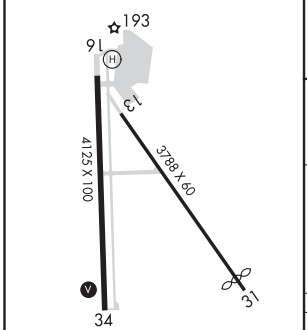
When Oroville Muni altimeter setting not received, procedure NA.
DME required.
Use Oroville Muni altimeter setting.

MISSED APPROACH: Climbing right turn to 3000 on heading 200° and on ILA VORTAC R-323 to WUNIP/ILA 15.3 DME and hold.

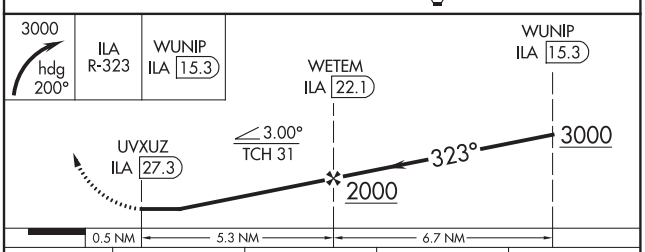
OVE ASOS	OAKLAND CENTER	UNICOM
121.425	132.2 350.3	122.8 (CTAF) L



ELEV 141 TDZE 138



MIRL Rwy 16-34 L



CATEGORY	A	B	C	D
S-34	1000-1 862 (900-1)	1000-1¼ 862 (900-1¼)	1000-2½ 862 (900-2½)	NA
C CIRCLING	1000-1¼ 859 (900-1¼)		1000-2½ 859 (900-2½)	NA

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WOODLAND, CALIFORNIA | AL-6353 (FAA) | 20310

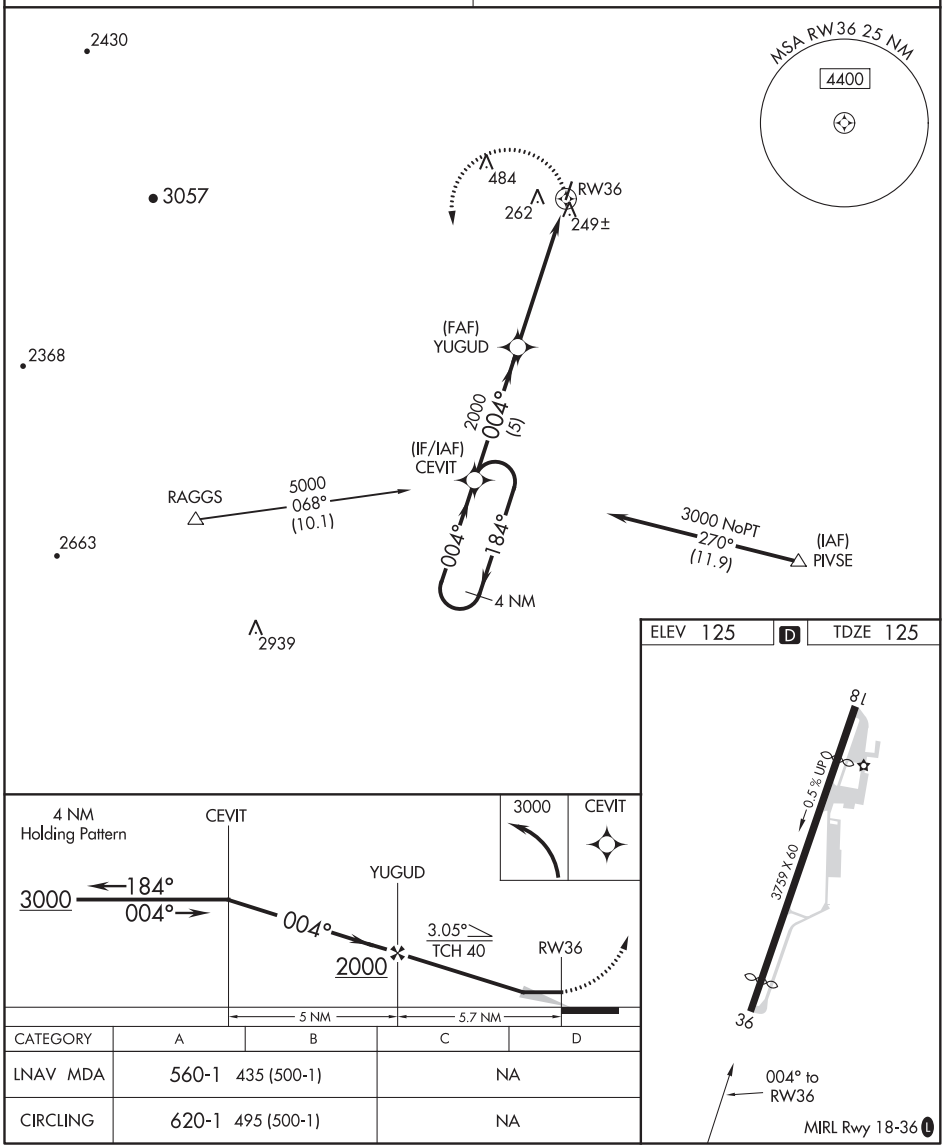
APP CRS	Rwy ldg	3244
004°	TDZE	125
	Apt Elev	125

RNAV (GPS) RWY 36
WATTS-WOODLAND (O41)

DME/DME RNP- 0.3 NA.
NA Procedure NA at night.
Use Sacramento Intl altimeter setting; when not received, use Sacramento Executive altimeter setting and increase all MDA 20 feet.

MISSED APPROACH: Climbing left turn to 3000 direct CEVIT and hold.

TRAVIS APP CON	UNICOM
126.6 281.45	122.8 (CTAF) L



CATEGORY	A	B	C	D
LNAV MDA	560-1 435 (500-1)		NA	
CIRCLING	620-1 495 (500-1)		NA	

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CLIMB/DESCENT TABLE 10042

INSTRUMENT TAKEOFF OR APPROACH PROCEDURE CHARTS
RATE OF CLIMB/DESCENT TABLE

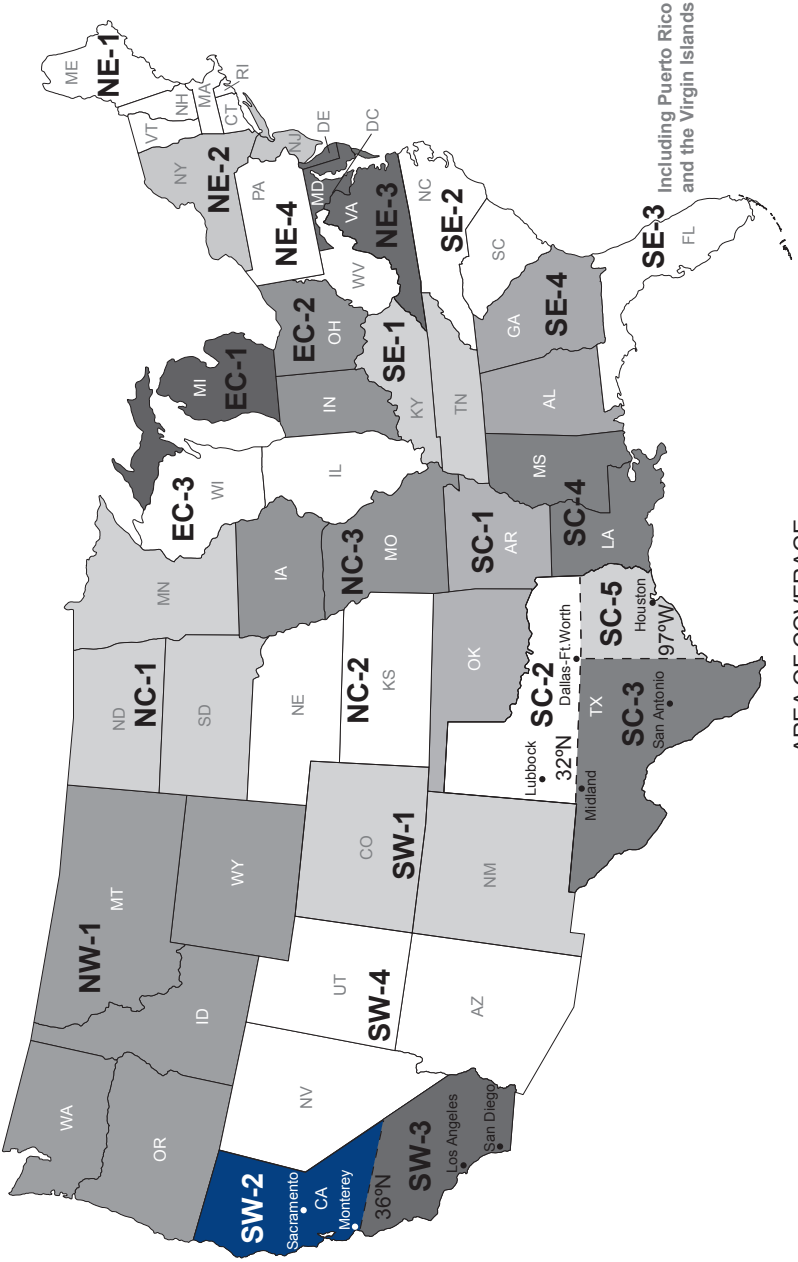
(ft. per min)

A rate of climb/descent table is provided for use in planning and executing climbs or descents under known or approximate ground speed conditions. It will be especially useful for approaches when the localizer only is used for course guidance. A best speed, power, altitude combination can be programmed which will result in a stable glide rate and altitude favorable for executing a landing if minimums exist upon breakout. Care should always be exercised so that minimum descent altitude and missed approach point are not exceeded.

CLIMB/ DESCENT ANGLE (degrees and tenths)	ft/NM	GROUND SPEED (knots)										
		60	90	120	150	180	210	240	270	300	330	360
2.0	210	210	320	425	530	635	743	850	955	1060	1165	1275
2.5	265	265	400	530	665	795	930	1060	1195	1325	1460	1590
VERTICAL PATH ANGLE 2.7	287	287	430	574	717	860	1003	1147	1290	1433	1576	1720
2.8	297	297	446	595	743	892	1041	1189	1338	1486	1635	1783
2.9	308	308	462	616	770	924	1078	1232	1386	1539	1693	1847
3.0	318	318	478	637	797	956	1115	1274	1433	1593	1752	1911
3.1	329	329	494	659	823	988	1152	1317	1481	1646	1810	1975
3.2	340	340	510	680	850	1020	1189	1359	1529	1699	1869	2039
3.3	350	350	526	701	876	1052	1227	1402	1577	1752	1927	2103
3.4	361	361	542	722	903	1083	1264	1444	1625	1805	1986	2166
3.5	370	370	555	745	930	1115	1300	1485	1670	1860	2045	2230
4.0	425	425	640	850	1065	1275	1490	1700	1915	2125	2340	2550
4.5	480	480	715	955	1195	1435	1675	1915	2150	2390	2630	2870
5.0	530	530	795	1065	1330	1595	1860	2125	2390	2660	2925	3190
5.5	585	585	880	1170	1465	1755	2050	2340	2635	2925	3220	3510
6.0	640	640	960	1275	1595	1915	2235	2555	2875	3195	3510	3830
6.5	690	690	1040	1385	1730	2075	2425	2770	3115	3460	3805	4155
7.0	745	745	1120	1490	1865	2240	2610	2985	3355	3730	4105	4475
7.5	800	800	1200	1600	2000	2400	2800	3200	3600	4000	4400	4800
8.0	855	855	1280	1710	2135	2560	2990	3415	3845	4270	4695	5125
8.5	910	910	1360	1815	2270	2725	3180	3630	4085	4540	4995	5450
9.0	960	960	1445	1925	2405	2885	3370	3850	4330	4810	5295	5775
9.5	1015	1015	1525	2035	2540	3050	3560	4065	4575	5085	5590	6100
10.0	1070	1070	1605	2145	2680	3215	3750	4285	4820	5355	5890	6430

CLIMB/DESCENT TABLE 10042

U.S. TERMINAL PUBLICATION VOLUMES



FAA Product ID: BTPPSW2

NSN 7641015059598

NGA REF. NO. OK-10-2859 TERMXFAABTPPSW2

EFF. DATE 21056