JEPPESEN
JeppView for Windows

List of pages in this Trip Kit

General Information

Location: SAN FRANCISCO CA USA
ICAO/IATA: KSFO / SFO
Lat/Long: N37° 37.1', W122° 22.5'
Elevation: 13 ft

Airport Use: Public
Daylight Savings: Observed
UTC Conversion: +8:00 = UTC
Magnetic Variation: 14.0° E
Sectional Chart: San Francisco

Fuel Types: Jet A
Oxygen Types: HP Bottle, LP Bottle
Repair Types: Major Airframe, Major Engine
Customs: Upon Prior Request
Airport Type: IFR
Landing Fee: Yes
Control Tower: Yes
Jet Start Unit: Yes
LLWS Alert: Yes
Beacon: Yes

Sunrise: 1336 Z
Sunset: 0244 Z

Runway Information

Runway: 01L
Length x Width: 7650 ft x 200 ft
Surface Type: asphalt
TDZ-Elev: 11 ft
Lighting: Edge, Centerline, REIL
Displaced Threshold: 640 ft

Runway: 01R
Length x Width: 8650 ft x 200 ft
Surface Type: asphalt
TDZ-Elev: 11 ft
Lighting: Edge, Centerline, REIL
Displaced Threshold: 560 ft

Runway: 10L
Length x Width: 11870 ft x 200 ft
Surface Type: asphalt
TDZ-Elev: 7 ft
Lighting: Edge, Centerline, REIL

Runway: 10R

Length x Width: 11381 ft x 200 ft
Surface Type: asphalt
TDZ-Elev: 8 ft
Lighting: Edge, Centerline

Runway: 19L
Length x Width: 8650 ft x 200 ft
Surface Type: asphalt
TDZ-Elev: 11 ft
Lighting: Edge, ALS, Centerline, TDZ

Runway: 19R
Length x Width: 7650 ft x 200 ft
Surface Type: asphalt
TDZ-Elev: 11 ft
Lighting: Edge, Centerline

Runway: 28L
Length x Width: 11381 ft x 200 ft
Surface Type: asphalt
TDZ-Elev: 13 ft
Lighting: Edge, ALS, Centerline
Displaced Threshold: 300 ft

Runway: 28R
Length x Width: 11870 ft x 200 ft
Surface Type: asphalt
TDZ-Elev: 13 ft
Lighting: Edge, ALS, Centerline, TDZ
Displaced Threshold: 300 ft

Communication Information

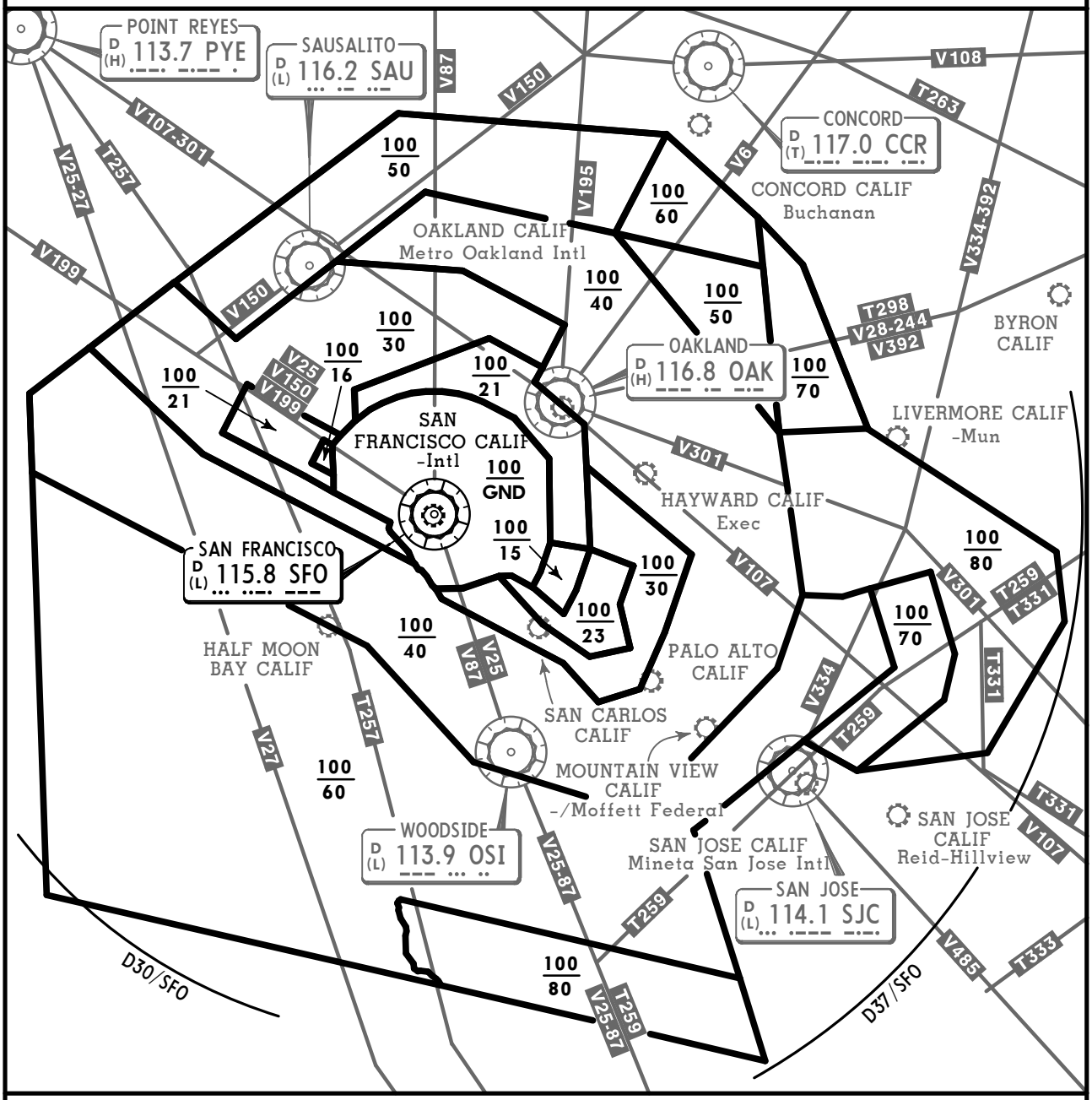
ATIS: 118.850
ATIS: 115.800
ATIS: 113.700
San Francisco Tower: 125.150
San Francisco Tower: 127.675
San Francisco Tower: 128.650 Secondary
San Francisco Tower: 120.500
San Francisco Ground: 128.650 Secondary
San Francisco Ground: 121.800
San Francisco Clearance Delivery: 118.200
San Francisco Clearance Pre-Taxi: 118.200
Norcal Approach: 133.950 Secondary
Norcal Approach: 128.575 Arrival Service
Norcal Approach: 128.325
Norcal Approach: 134.500 Initial Contact
Norcal Terminal Control Area: 135.100
Norcal Terminal Control Area: 134.500
Norcal Terminal Control Area: 127.000
Norcal Terminal Control Area: 125.350
Norcal Terminal Control Area: 120.900

Norcal Terminal Control Area: 133.950
Norcal Departure: 135.100
Norcal Departure: 120.900
San Francisco Intl UNICOM: 122.950

SAN FRANCISCO CLASS B AIRSPACE

CLASS B AIRSPACE VFR COMMUNICATIONS

NORCAL App 120.9 (NW) 127.0 (N) 125.35 (NE-E) 134.5 (SE) 135.65 (S) 135.1 (W)



FOR OPERATING RULES AND PILOT AND EQUIPMENT REQUIREMENTS
SEE FAR 91.131, 91.117 AND 91.215

FLIGHT PROCEDURES

IFR Flights - Aircraft operating within the San Francisco Class B Airspace must be operated in accordance with ATC clearances and instructions.

VFR Flights-

1. Arriving aircraft should contact the appropriate approach control on specified frequencies and in relation to geographic fixes shown on the accompanying chart. Although arriving aircraft may be operating beneath the floor of the Class B Airspace on initial contact, communications should be established with approach control in relation to the points indicated for sequencing and spacing purposes.

2. Aircraft departing the primary airports are requested to advise clearance delivery prior to taxiing of their intended altitude and direction of flight to depart the Class B Airspace. Aircraft departing from other than the primary airports whose route of flight would penetrate the Class B Airspace should give this information to ATC on the appropriate frequencies.

3. Aircraft desiring to transit Class B Airspace must obtain an ATC clearance to enter the Class B Airspace and will be handled on an ATC workload permitting basis.

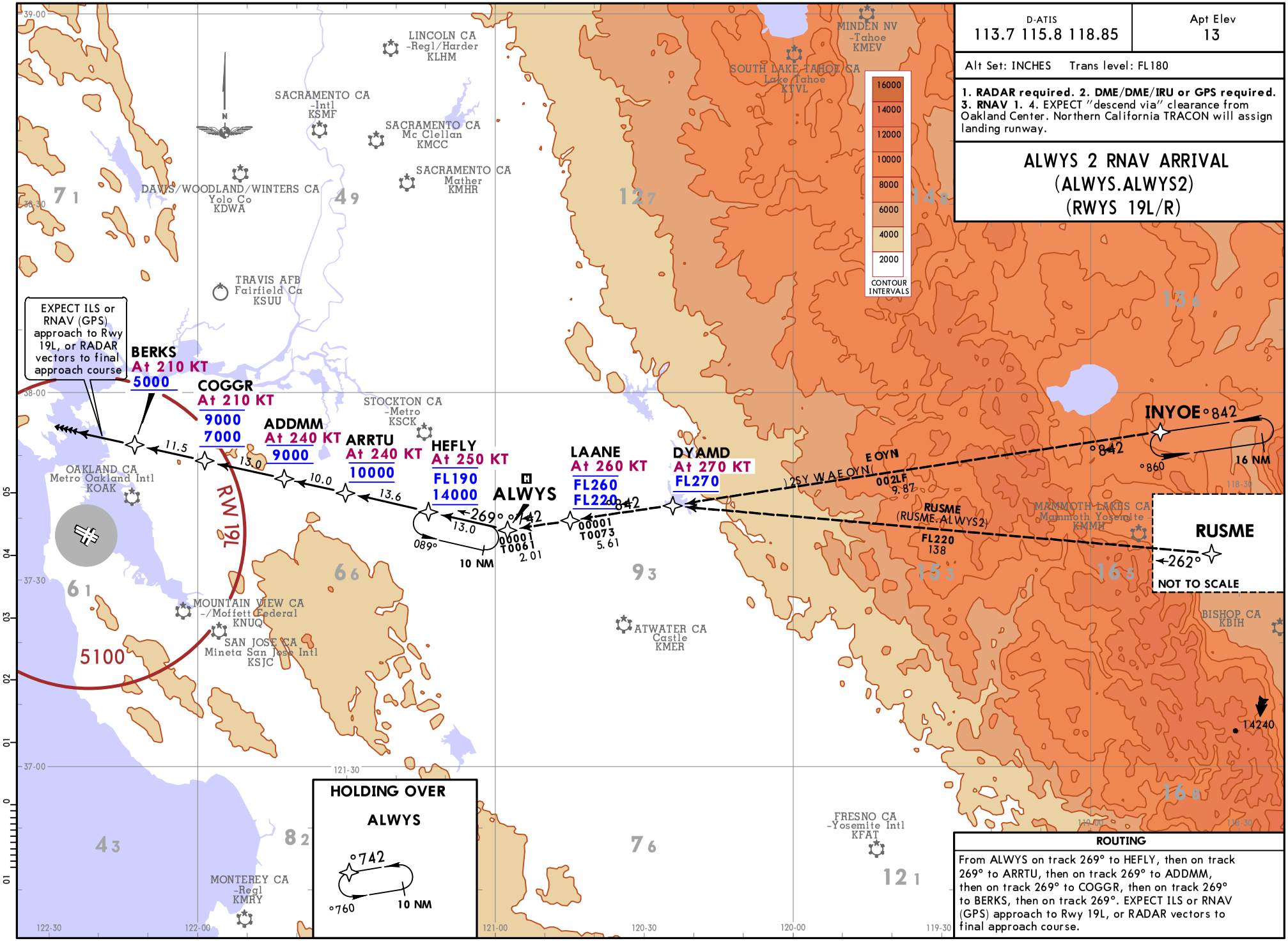
CHANGES: Class B airspace.

D-ATIS	Apt Elev
113.7 115.8 118.85	13

Alt Set: INCHES Trans level: FL180

1. RADAR required. 2. DME/DME/IRU or GPS required. 3. RNAV 1. 4. EXPECT "descend via" clearance from Oakland Center. Northern California TRACON will assign landing runway.

ALWYS 2 RNAV ARRIVAL
(ALWYS.ALWYS2)
(RWYS 19L/R)



HOLDING OVER ALWYS

ROUTING

From ALWYS on track 269° to HEFLY, then on track 269° to ARRTU, then on track 269° to ADDMM, then on track 269° to COGGR, then on track 269° to BERKS, then on track 269°. EXPECT ILS or RNAV (GPS) approach to Rwy 19L, or RADAR vectors to final approach course.

CHANGES: Procedure renumbered, revised.

D-ATIS	Apt Elev
113.7 115.8 118.85	13

Alt Set: INCHES Trans level: FL180

1. RADAR required.
2. RNAV 1.
3. DME/DME/IRU or GPS required.

BDEGA 3 RNAV ARRIVAL (LOZIT.BDEGA3)

ROUTING

From LOZIT on track 126° to BDEGA, then on track 126° to CORKK, then on track 126° to BRIXX, then on track 140°. EXPECT RADAR vectors to final approach course.

NOT TO SCALE

AMAKR
121°
10 NM
301°
121°
(AMAKR.BDEGA3)
AMAKR
13000 4600T
44.0

PEENO
FL290
118°
(PEENO.BDEGA3)
PEENO
11000 2000T
19.8

DEEAN
At 280 KT
FL280
FL240

MLBEC
FL290
153°
10 NM
333°
(MLBEC.BDEGA3)
MLBEC
11000 5700T
19.9

MRRLO
FL290

CBRNA

LEGGS

4760

JONNE
At 280 KT
FL280
FL240

QUINN
At 280 KT
FL280
FL240

MSCAT
At 280 KT
FL280
FL240

PYLLE
At 280 KT
FL280
FL240

BGGLO
At 280 KT
FL230
FL190

LOZIT
At 280 KT
16000

BDEGA
13000

CORKK
At 250 KT
11000

BRIXX
11000

RW 10L

5100

SANTA ROSA CA
Schulz-Sonoma Co
KSTS

SACRAMENTO CA
-Intl
KSMF

SACRAMENTO CA
Mc Clellan
KMCC

DAVIS/WOODLAND/WINTERS CA
Yolo Co
KDWA

SACRAMENTO CA
Mather
KMHR

FAIRFIELD CA
Travis AFB
KSUU

STOCKTON CA
-Metro
KSCK

OAKLAND CA
Metro Oakland Intl
KOAK

MOUNTAIN VIEW CA
-/Moffett Federal
KNUQ

SAN JOSE CA
Mineta San Jose Intl
KSJC

6000
4000
2000
CONTOUR INTERVALS

CHANGES: Procedure renumbered, GEEHH waypoint renamed PYLLE, crossing restriction at BRIXX.

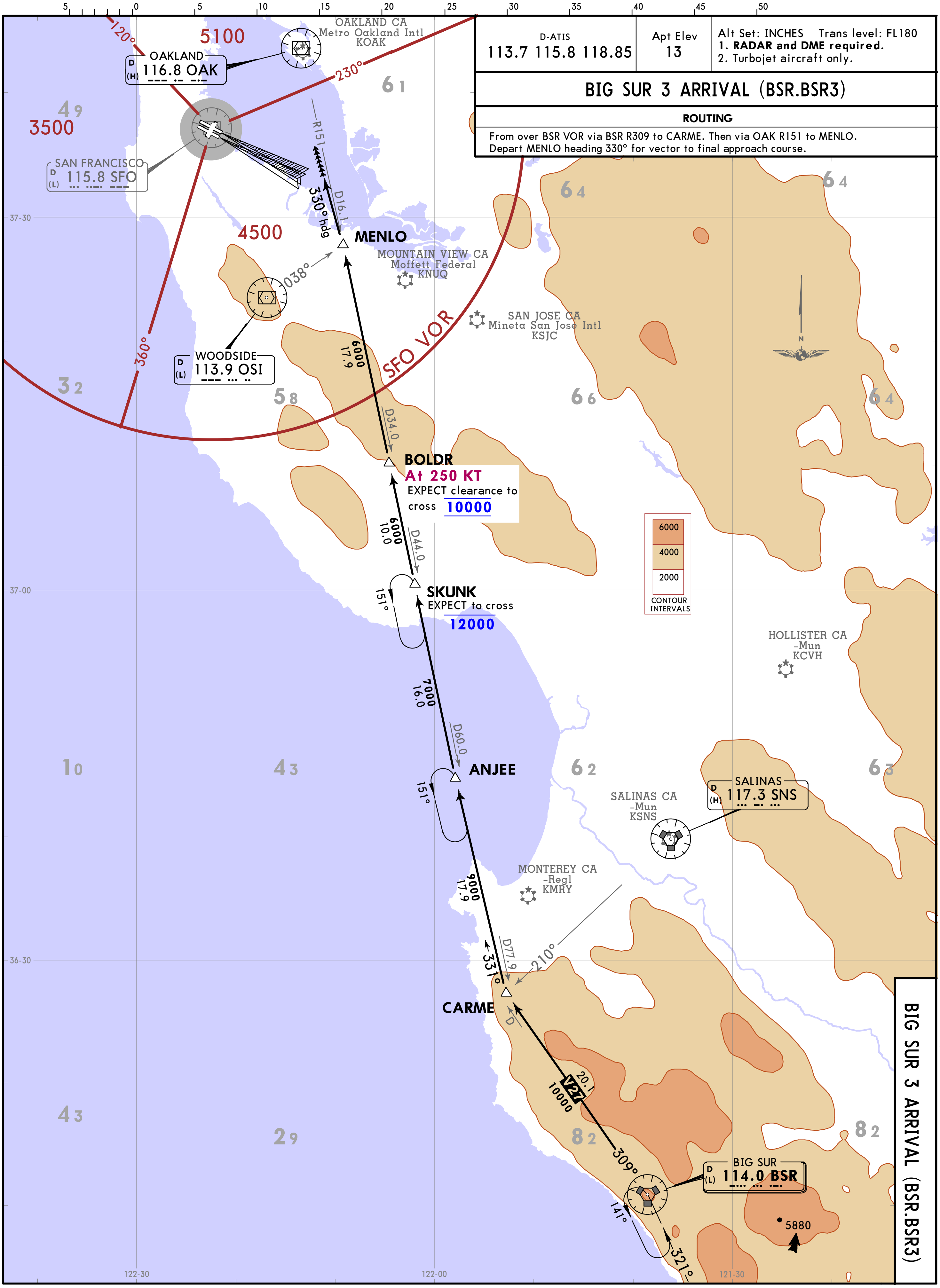
KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN
28 DEC 18 10-2B Eff 3 Jan

SAN FRANCISCO, CALIF
STAR

BIG SUR 3 ARRIVAL (BSR.BSR3)

CHANGES: None.


D-ATIS
113.7 115.8 118.85
Apt Elev
13
Alt Set: INCHES Trans level: FL180
1. RADAR and DME required.
2. Turbojet aircraft only.
BIG SUR 3 ARRIVAL (BSR.BSR3)
ROUTING
From over BSR VOR via BSR R309 to CARME. Then via OAK R151 to MENLO.
Depart MENLO heading 330° for vector to final approach course.
OAKLAND CA
Metro Oakland Intl
KOAK
OAKLAND
116.8 OAK
5100
3500
SAN FRANCISCO
115.8 SFO
120°
230°
360°
R151
D16.1
330° hdg
4500
MENLO
038°
MOUNTAIN VIEW CA
Moffett Federal
KNUQ
WOODSIDE
113.9 OSI
SAN JOSE CA
Mineta San Jose Intl
KSJC
SFO VOR
6000
17.9
D34.0
BOLDR
At 250 KT
EXPECT clearance to cross 10000
6000
10.0
D44.0
SKUNK
EXPECT to cross
12000
151°
7000
16.0
D60.0
ANJEE
151°
6000
4000
2000
CONTOUR INTERVALS
HOLLISTER CA
-Mun
KCVH
SALINAS
117.3 SNS
SALINAS CA
-Mun
KSNS
MONTEREY CA
-Regl
KMRY
9000
17.9
D77.9
331°
210°
CARME
V27
20.1
10000
309°
BIG SUR
114.0 BSR
141°
321°
5880
37-30
37-00
36-30
122-30
122-00
121-30

D-ATIS	Apt Elev
113.7 115.8 118.85	13

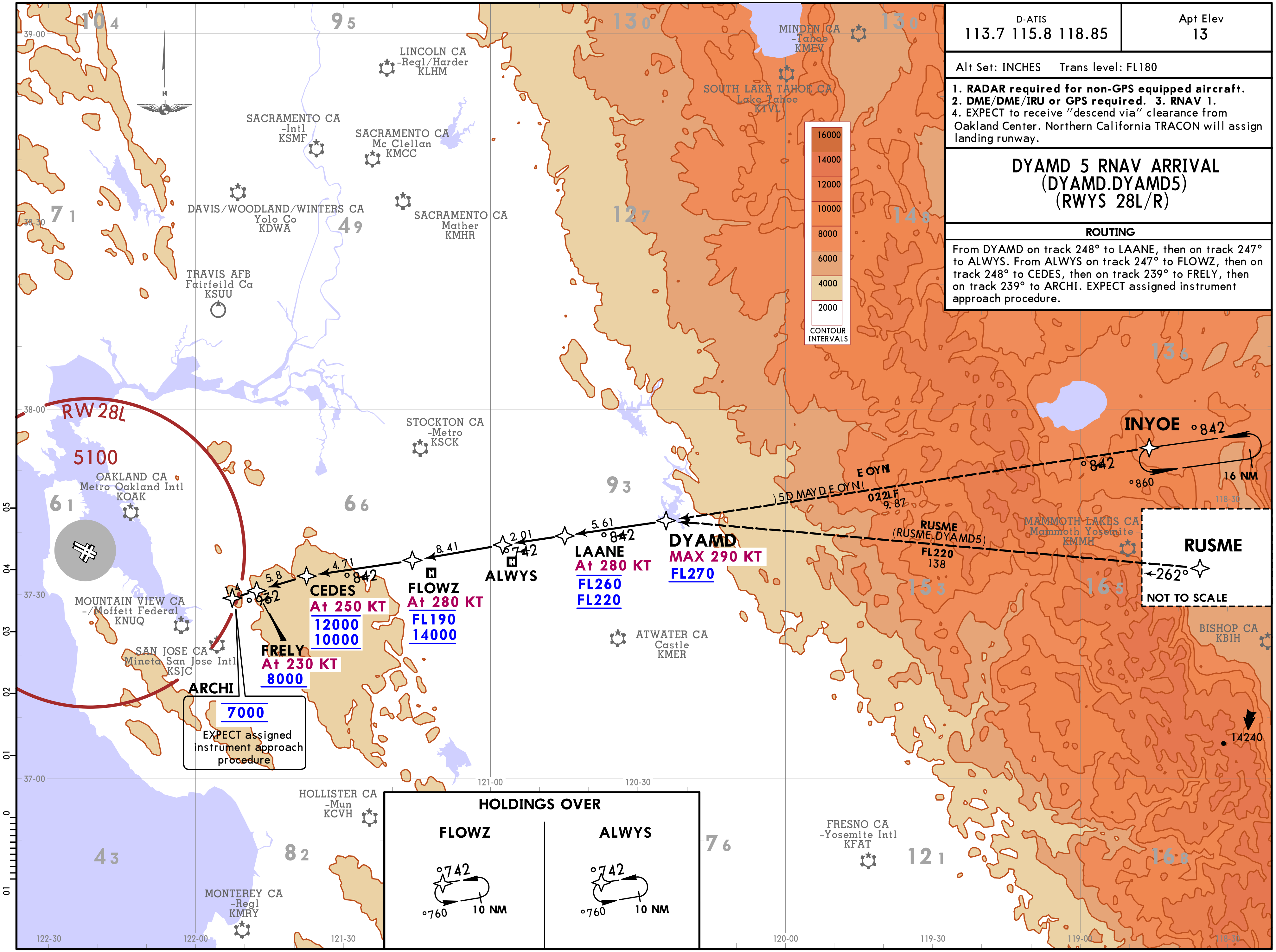
Alt Set: INCHES   Trans level: FL180

1. **RADAR required for non-GPS equipped aircraft.**
2. **DME/DME/IRU or GPS required. 3. RNAV 1.**
4. EXPECT to receive "descend via" clearance from Oakland Center. Northern California TRACON will assign landing runway.

DYAMD 5 RNAV ARRIVAL (DYAMD.DYAMD5) (RWYS 28L/R)

ROUTING

From DYAMD on track 248° to LAANE, then on track 247° to ALWYS. From ALWYS on track 247° to FLOWZ, then on track 248° to CEDES, then on track 239° to FRELY, then on track 239° to ARCHI. EXPECT assigned instrument approach procedure.

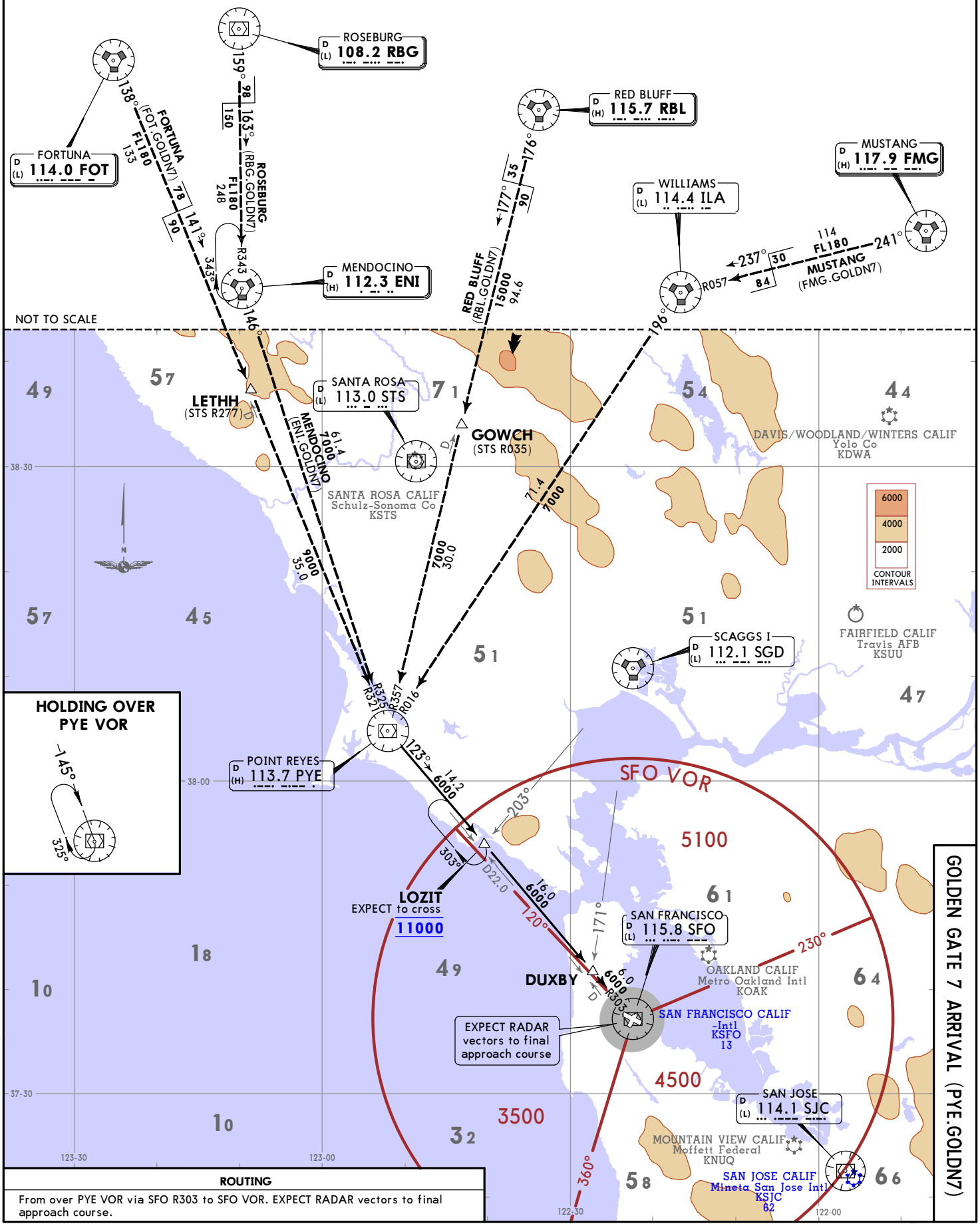

CONTOUR INTERVALS
16000
14000
12000
10000
8000
6000
4000
2000
INYOE
842
860
16 NM
RUSME
262°
NOT TO SCALE
RUSME
(RUSME.DYAMD5)
FL220
138
022LF
9.87
DYAMD
MAX 290 KT
FL270
5.61
842
LAANE
At 280 KT
FL260
FL220
2.01
742
ALWYS
8.41
FLOWZ
At 280 KT
FL190
14000
4.71
842
CEDES
At 250 KT
12000
10000
5.8
FRELY
At 230 KT
8000
ARCHI
7000
EXPECT assigned instrument approach procedure
RW28L
5100
HOLDINGS OVER
FLOWZ
ALWYS
742
760
10 NM
LINCOLN CA -Regl/Harder KLHM
SACRAMENTO CA -Intl KSMF
SACRAMENTO CA Mc Clellan KMCC
DAVIS/WOODLAND/WINTERS CA Yolo Co KDWA
SACRAMENTO CA Mather KMHR
TRAVIS AFB Fairfeild Ca KSUU
STOCKTON CA -Metro KSCK
OAKLAND CA Metro Oakland Intl KOAK
MOUNTAIN VIEW CA -/Moffett Federal KNUQ
SAN JOSE CA Mineta San Jose Intl KSJC
HOLLISTER CA -Mun KCVH
MONTEREY CA -Regl KMRY
ATWATER CA Castle KMER
FRESNO CA -Yosemite Intl KFAT
MAMMOTH LAKES CA Mammoth Yosemite KMMH
BISHOP CA KBIH
MINDEN CA -Tahoe KMEV
SOUTH LAKE TAHOE CA Lake Tahoe KTVL
14240

CHANGES: Procedure renumbered, INYOE transition MEA.

CHANGES: None.

D-ATIS	Apt Elev	Alt Set: INCHES Trans level: FL180
113.7 115.8 118.85	See graphic	1. **RADAR required.** 2. For use by turbojet aircraft only.

GOLDEN GATE 7 ARRIVAL (PYE.GOLDN7)



HOLDING OVER PYE VOR

ROUTING

From over PYE VOR via SFO R303 to SFO VOR. EXPECT RADAR vectors to final approach course.

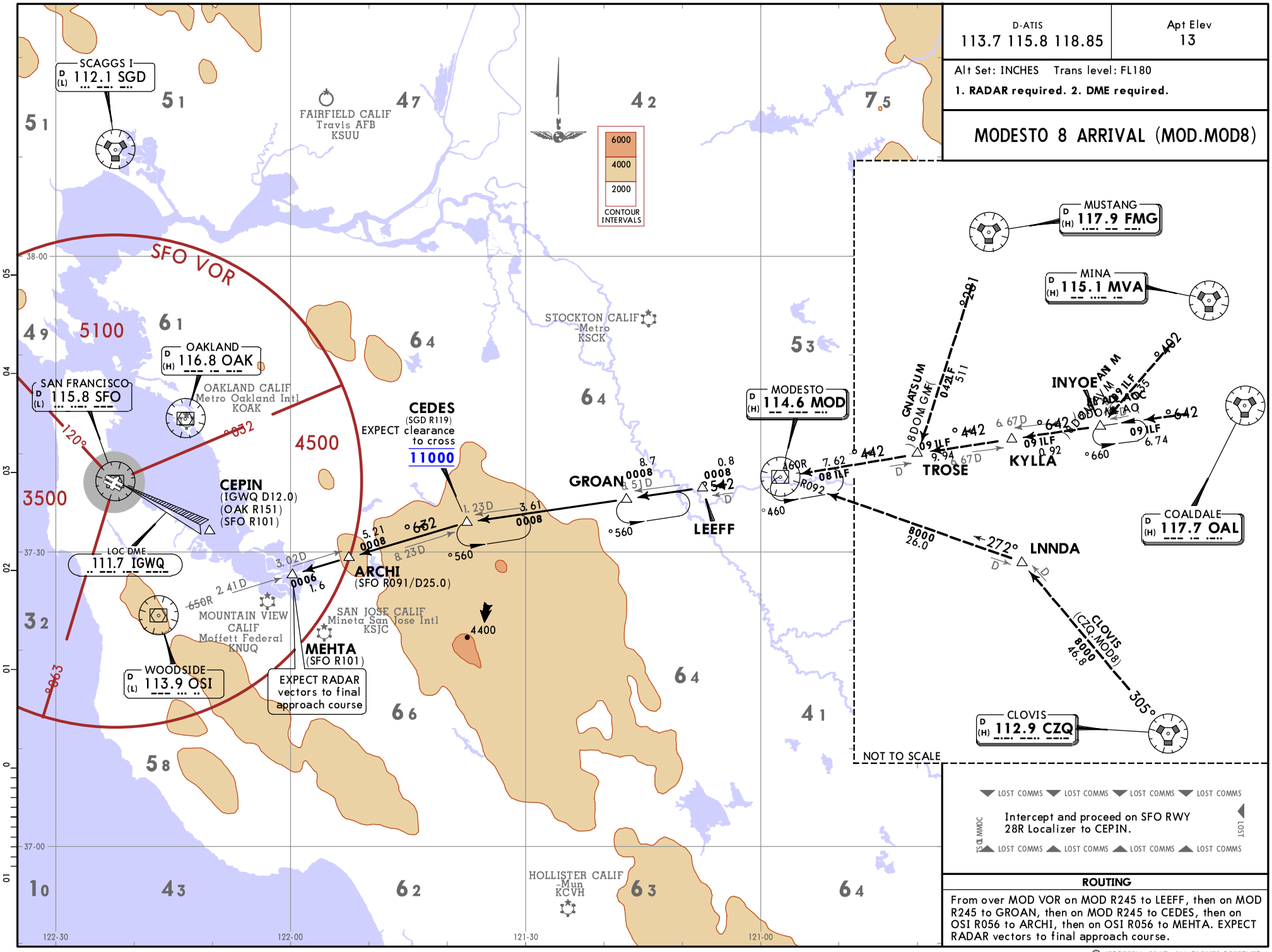
JEPPESEN
11 AUG 17 (10-2D)
Eff 17 Aug
STAR

D-ATIS	Apt Elev
113.7 115.8 118.85	13

Alt Set: INCHES Trans level: FL180

1. RADAR required. 2. DME required.

MODESTO 8 ARRIVAL (MOD.MOD8)



ROUTING

From over MOD VOR on MOD R245 to LEEFF, then on MOD R245 to GROAN, then on MOD R245 to CEDES, then on OSI R056 to ARCHI, then on OSI R056 to MEHTA. EXPECT RADAR vectors to final approach course.

CHANGES: Procedure renumbered, MEAs added.

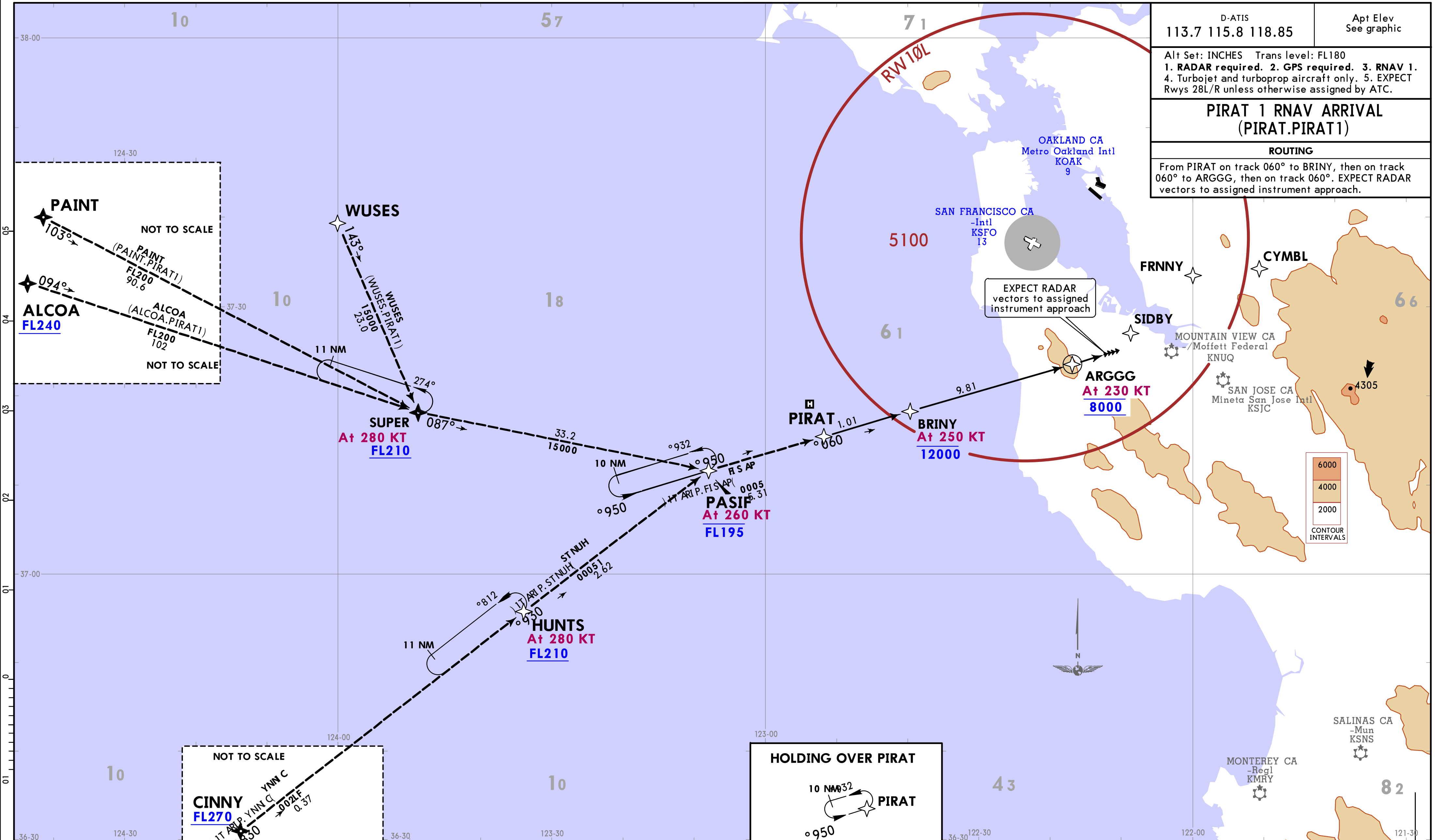
D-ATIS	Apt Elev
113.7 115.8 118.85	See graphic

Alt Set: INCHES Trans level: FL180
1. **RADAR required.** 2. **GPS required.** 3. **RNAV 1.** 4. Turbojet and turboprop aircraft only. 5. EXPECT Rwys 28L/R unless otherwise assigned by ATC.

PIRAT 1 RNAV ARRIVAL
(PIRAT.PIRAT1)

ROUTING

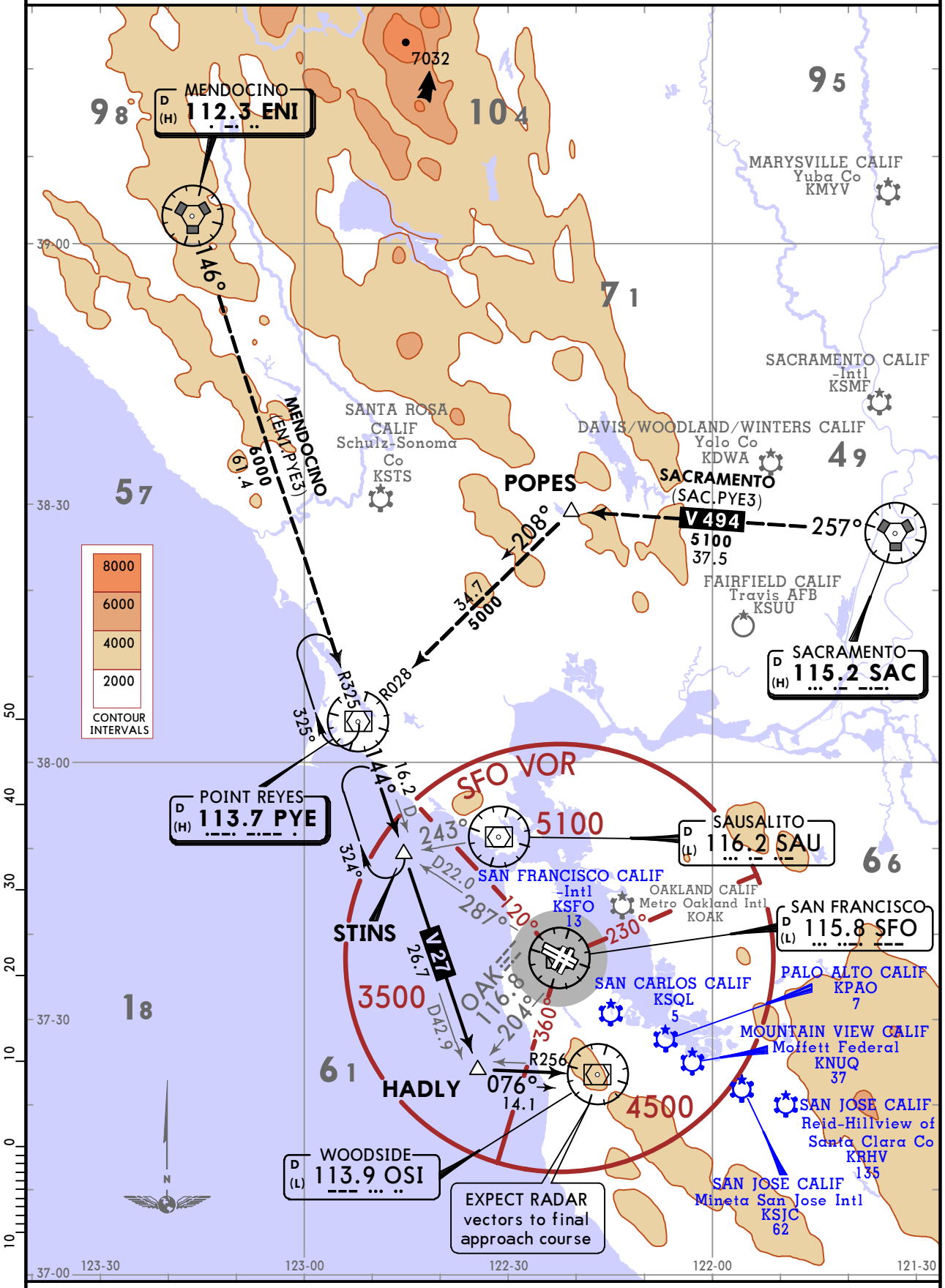
From PIRAT on track 060° to BRINY, then on track 060° to ARGGG, then on track 060°. EXPECT RADAR vectors to assigned instrument approach.


PAINT
103°
PAINT (PAINT.PIRAT1) FL200 90.6
ALCOA
FL240
094°
ALCOA (ALCOA.PIRAT1) FL200 102
NOT TO SCALE
NOT TO SCALE
WUSES
143°
WUSES (WUSES.PIRAT1) 15000 23.0
11 NM
274°
SUPER
At 280 KT
FL210
087°
33.2
15000
°932
°950
10 NM
PASIF
At 260 KT
FL195
PIRAT
1.01
060
BRINY
At 250 KT
12000
9.81
ARGGG
At 230 KT
8000
HUNTS
At 280 KT
FL210
°812
11 NM
CINNY
FL270
NOT TO SCALE
0.37
HOLDING OVER PIRAT
10 NM
°932
PIRAT
°950
RW10L
5100
OAKLAND CA
Metro Oakland Intl
KOAK
9
SAN FRANCISCO CA
-Intl
KSFO
13
EXPECT RADAR vectors to assigned instrument approach
FRNNY
CYMBL
SIDBY
MOUNTAIN VIEW CA
-/Moffett Federal
KNUQ
SAN JOSE CA
Mineta San Jose Intl
KSJC
4305
6000
4000
2000
CONTOUR INTERVALS
SALINAS CA
-Mun
KSNS
MONTEREY CA
-Regl
KMRY
10
57
71
10
18
61
66
10
10
43
82
38-00
37-30
37-00
36-30
124-30
124-00
123-30
123-00
122-30
122-00
121-30

CHANGES: New procedure at this airport.

D-ATIS	Apt Elev	Alt Set: INCHES Trans level: FL180
113.7 115.8 118.85	See graphic	**1. RADAR required.** 2. SACRAMENTO Transition to be used only when assigned by ATC.

POINT REYES 3 ARRIVAL (PYE.PYE3)



ROUTING

From over PYE VOR on PYE R144 to HADLY, then on OSI R256 to OSI VOR. EXPECT RADAR vectors to final approach course.

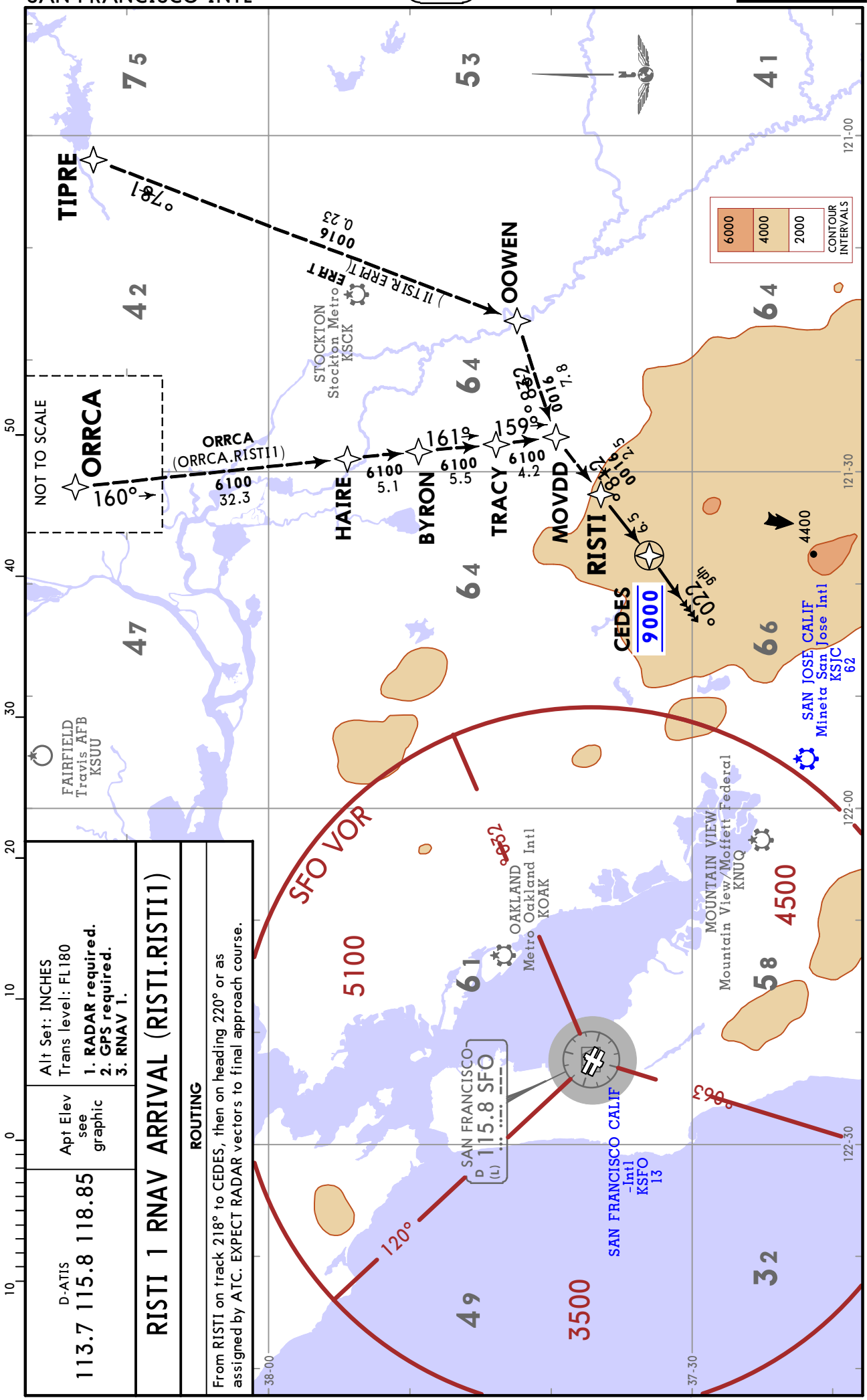
CHANGES: Procedure renumbered, revised.

KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN

16 JUN 17 (10-2G) Eff 22 Jun

SAN FRANCISCO, CALIF
RNAV STAR



D-ATIS
113.7 115.8 118.85

Apt Elev
see graphic

Alt Set: INCHES
Trans level: FL180
1. RADAR required.
2. GPS required.
3. RNAV 1.

RISTI 1 RNAV ARRIVAL (RISTI.RISTI1)

ROUTING

From RISTI on track 218° to CEDES, then on heading 220° or as assigned by ATC. EXPECT RADAR vectors to final approach course.

CHANGES: New procedure at this airport, RISTI 4 Arrival cancelled.

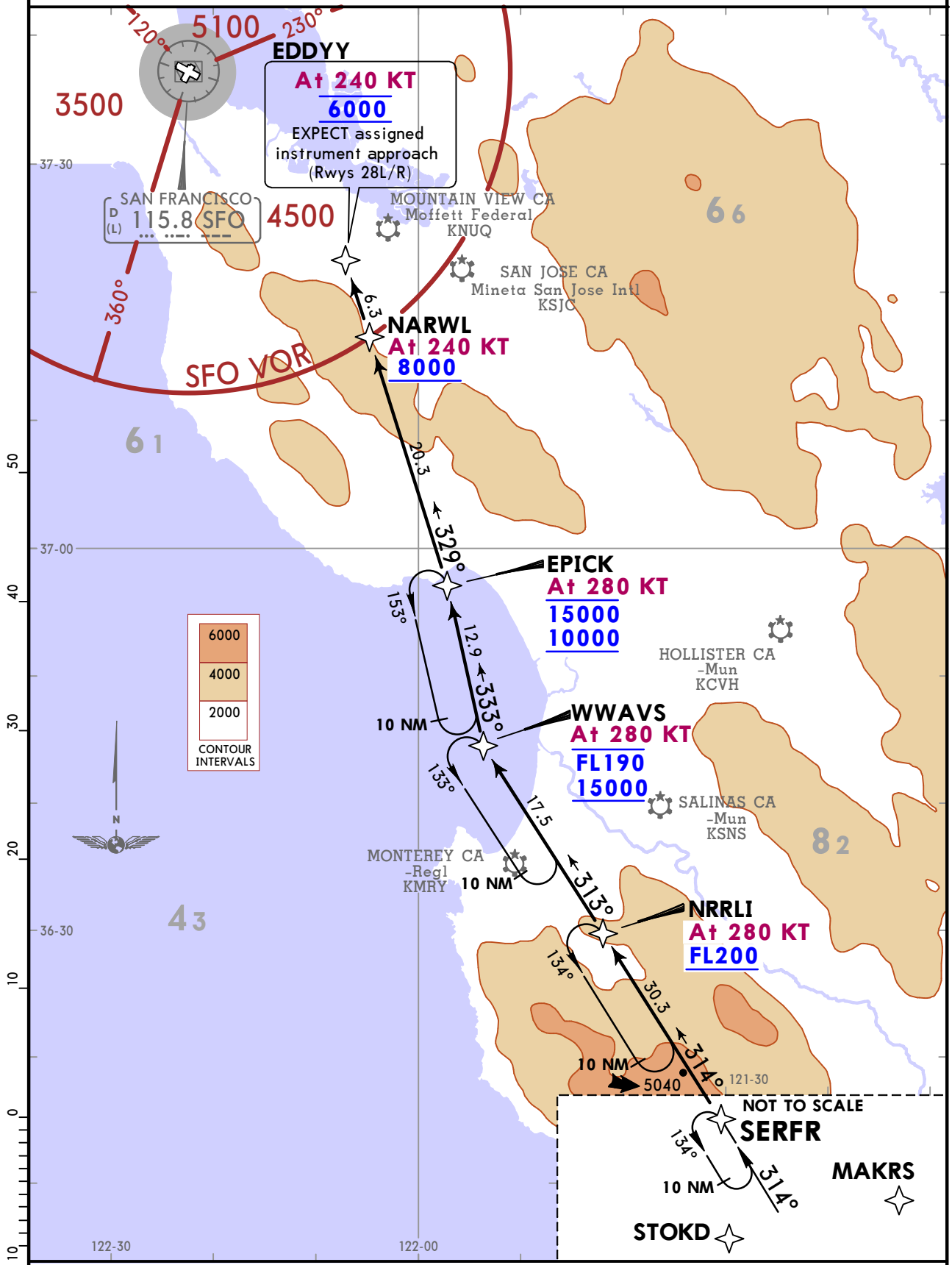
KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN
23 MAR 18 (10-2H) Eff 29 Mar

SAN FRANCISCO, CALIF
RNAV STAR

D-ATIS	Apt Elev	
113.7 115.8 118.85	13	Alt Set: INCHES Trans level: FL180 **1. RADAR required.** **2. DME/DME/IRU or GPS required.** **3. RNAV 1.** 4. EXPECT to receive "Descend via" clearance from Oakland Center. Northern California TRACON will assign landing runway.

SERFR 3 RNAV ARRIVAL (SERFR.SERFR3)



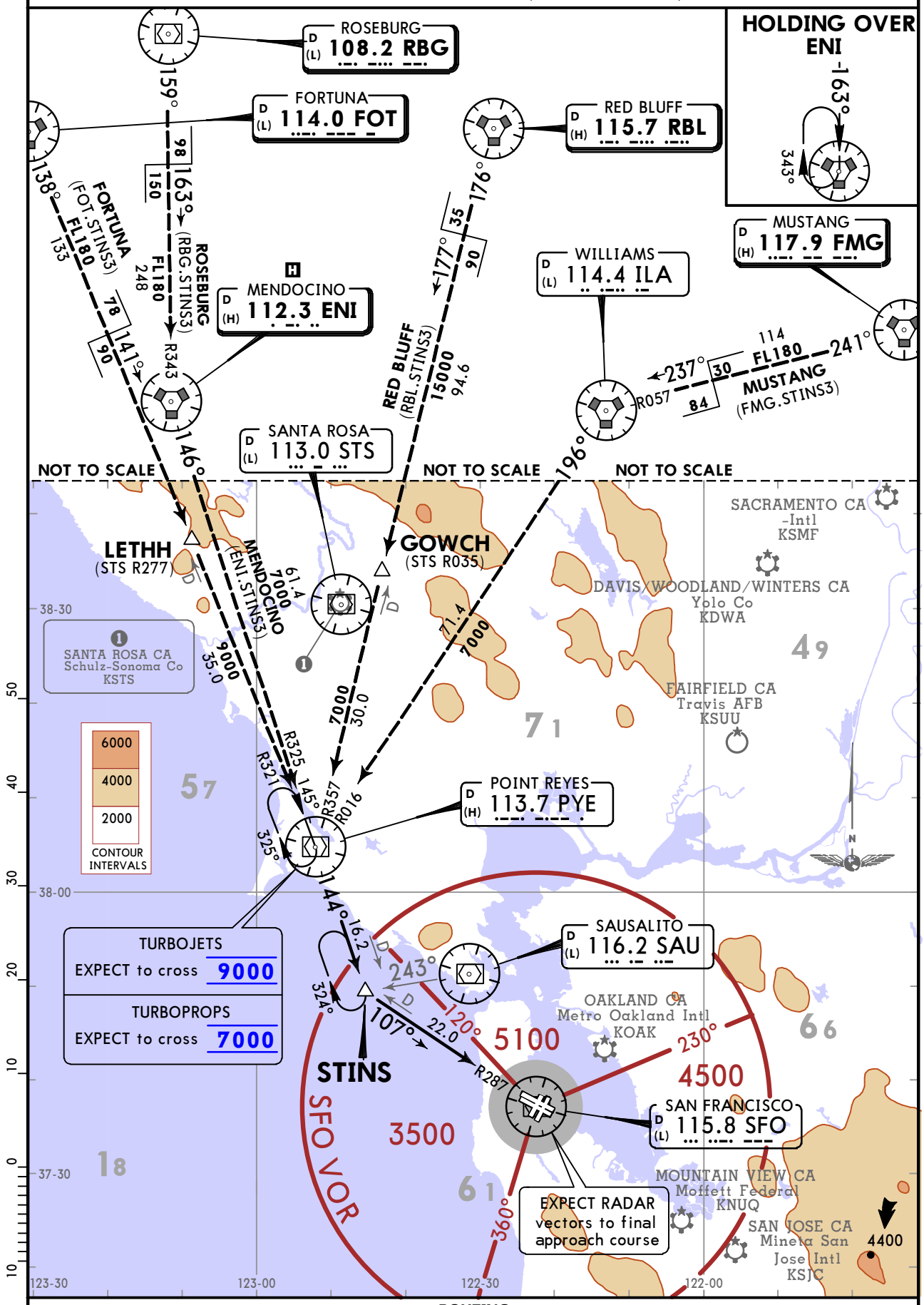
ROUTING

From SERFR on track 314° to NRRLI, then on track 313° to WWAVS, then on track 333° to EPICK, then on track 329° to NARWL, then on track 329° to EDDYY. EXPECT assigned instrument approach (Rwys 28L/R).

CHANGES: Procedure renumbered, revised.

D-ATIS	Apt Elev	
113.7 115.8 118.85	13	Alt Set: INCHES Trans level: FL180 **RADAR required.**

STINS 3 ARRIVAL (PYE.STINS3)



ROUTING

From over PYE VOR via PYE R144 to STINS, then via SFO R287 to SFO VOR. EXPECT RADAR vectors to final approach course.

CHANGES: None.

CHANGES: Procedure renumbered, GEEHH waypoint renamed PYLLE.

D-ATIS	Apt Elev	Alt Set: INCHES	Trans level: FL180
113.7 115.8 118.85	13		

1. RADAR required. 2. DME/DME/IRU or GPS required. 3. RNAV 1.
4. PEENO transition: ATC assigned only.

STLER 3 RNAV ARRIVAL
(LOZIT.STLER3)
(RWYS 19L/R)

KSFO/SFO
SAN FRANCISCO INTL

NOT TO SCALE

CBRNA

AMAKR

MLBEC
FL280

MRRLO
FL280

LEGGS

PEENO
FL280

JONNE
At 280 KT
FL270
FL240

QUINN
At 280 KT
FL270
FL240

MSCAT
At 280 KT
FL270
FL240

PYLLE
At 280 KT
FL270
FL240

DEEAN
At 280 KT
FL270
FL240

BGGLO
At 280 KT
FL190
15000

LOZIT
At 250 KT
11000

MVRKK
At 210 KT
7000

STLER
8000

WESLA

SANTA ROSA CA
Schulz-Sonoma Co
KSTS

OAKLAND CA
Metro Oakland Intl
KOAK

RW 19L

4760

5100

CONTOUR INTERVALS
6000
4000
2000

ROUTING

From LOZIT on track 175° to STLER, then on track 087° to WESLA, then on track 002° to MVRKK, then on track 360°. EXPECT RADAR vectors to final approach course.

JEPPESEN
7 SEP 18 (10-2K) Eff 13 Sep RNAV STAR

SAN FRANCISCO, CALIF
STLER 3 RNAV ARRIVAL
(LOZIT.STLER3)
(RWYS 19L/R)

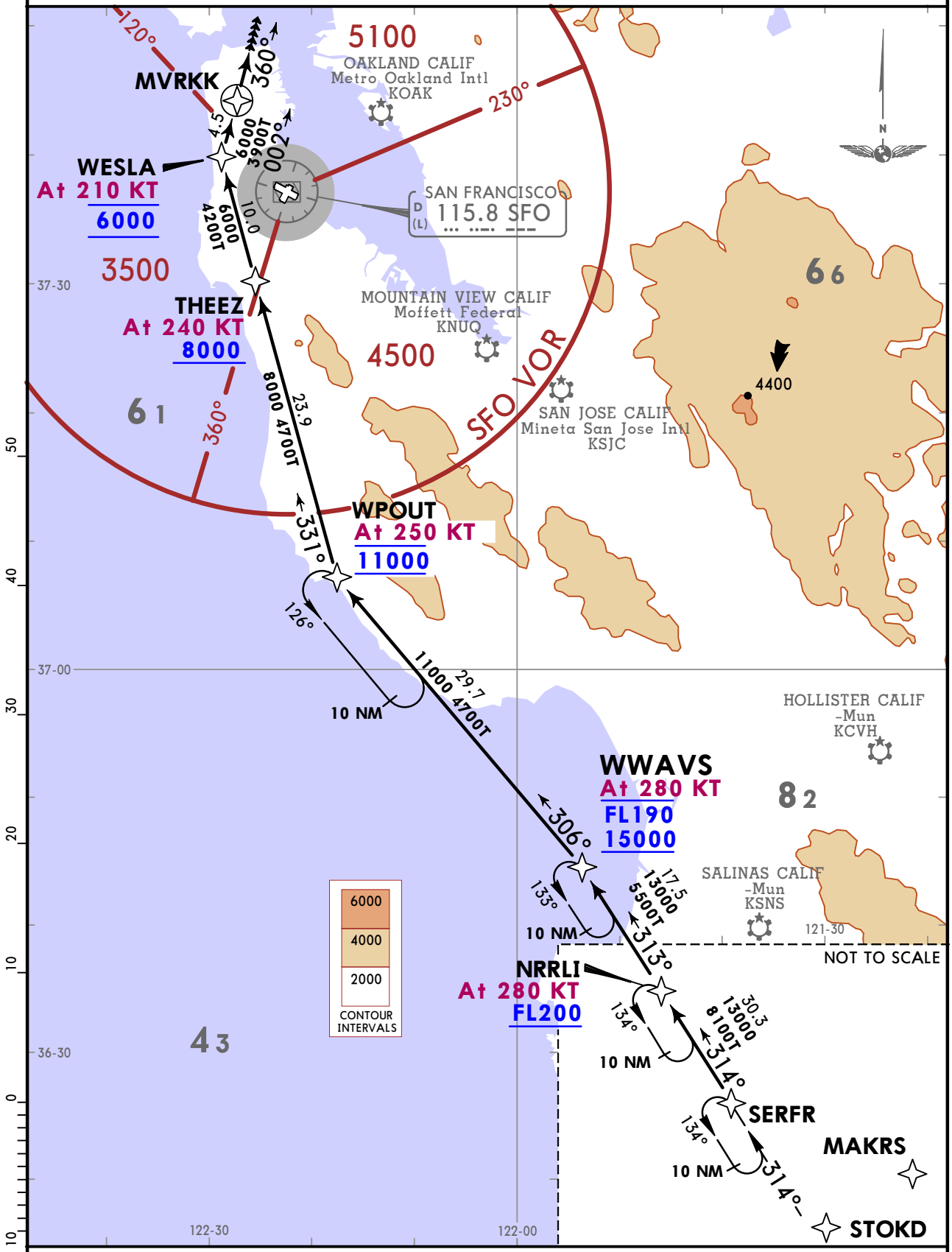
KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN
7 SEP 18 (10-2L) Eff 13 Sep

SAN FRANCISCO, CALIF
RNAV STAR

D-ATIS	Apt Elev	Alt Set: INCHES Trans level: FL180
113.7 115.8 118.85	13	1. RADAR required. 2. DME/DME/IRU or GPS required. 3. RNAV 1.

WWAVS 1 RNAV ARRIVAL
(SERFR.WWAVS1)
(RWYS 19L/R)



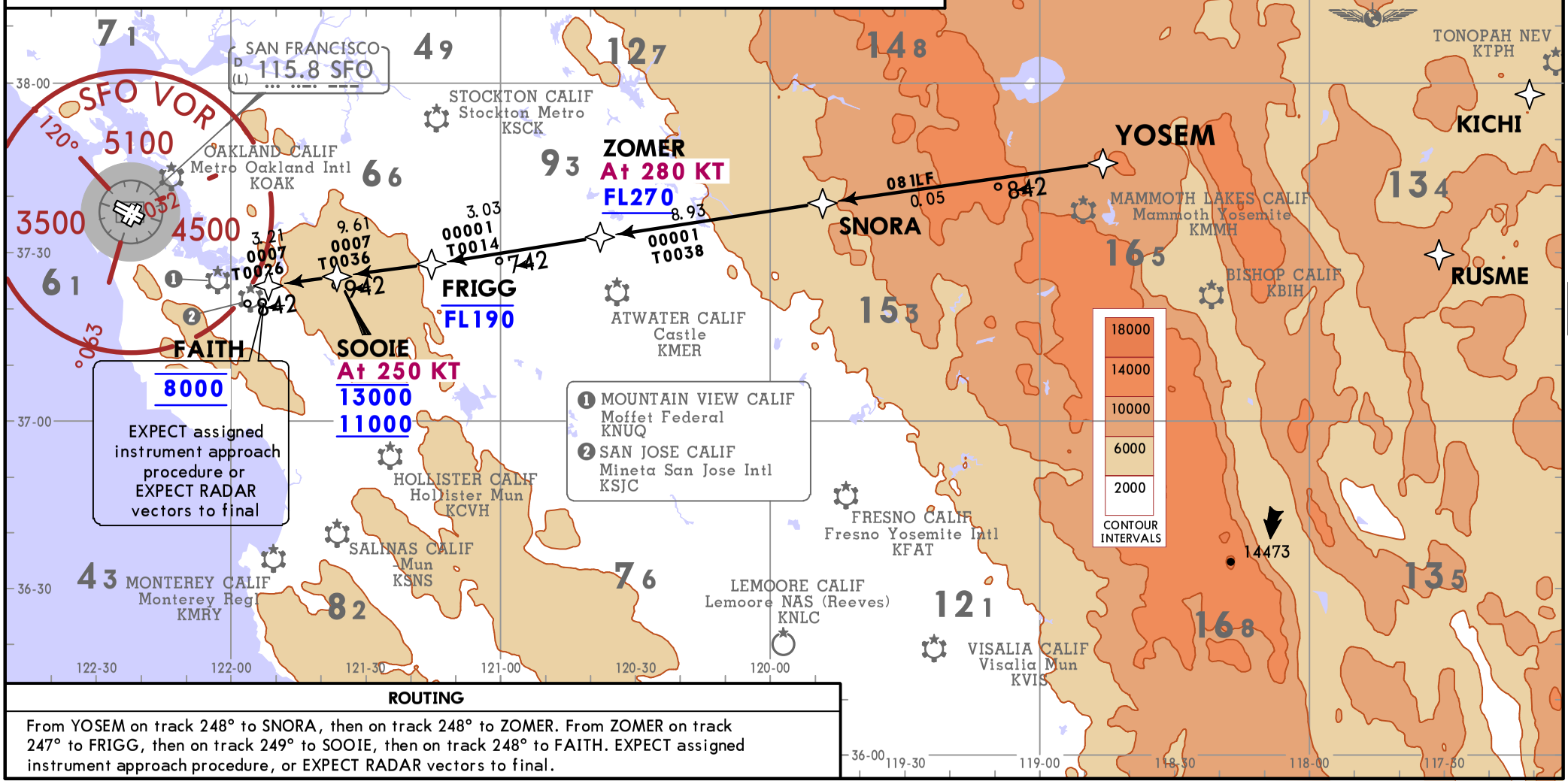
ROUTING

From SERFR on track 314° to NRRLI, then on track 313° to WWAVS, then on track 306° to WPOUT, then on track 331° to THEEZ, then on track 331° to WESLA, then on track 002° to MVRKK, then on track 360°. EXPECT RADAR vectors to final approach course.

CHANGES: None.

D-ATIS	Apt Elev	Alt Set: INCHES Trans level: FL180
113.7 115.8 118.85	13	**1. RADAR required. 2. DME/DME/IRU or GPS required.** **3. RNAV 1.** 4. YOSEM THREE ARRIVAL ATC assigned only.

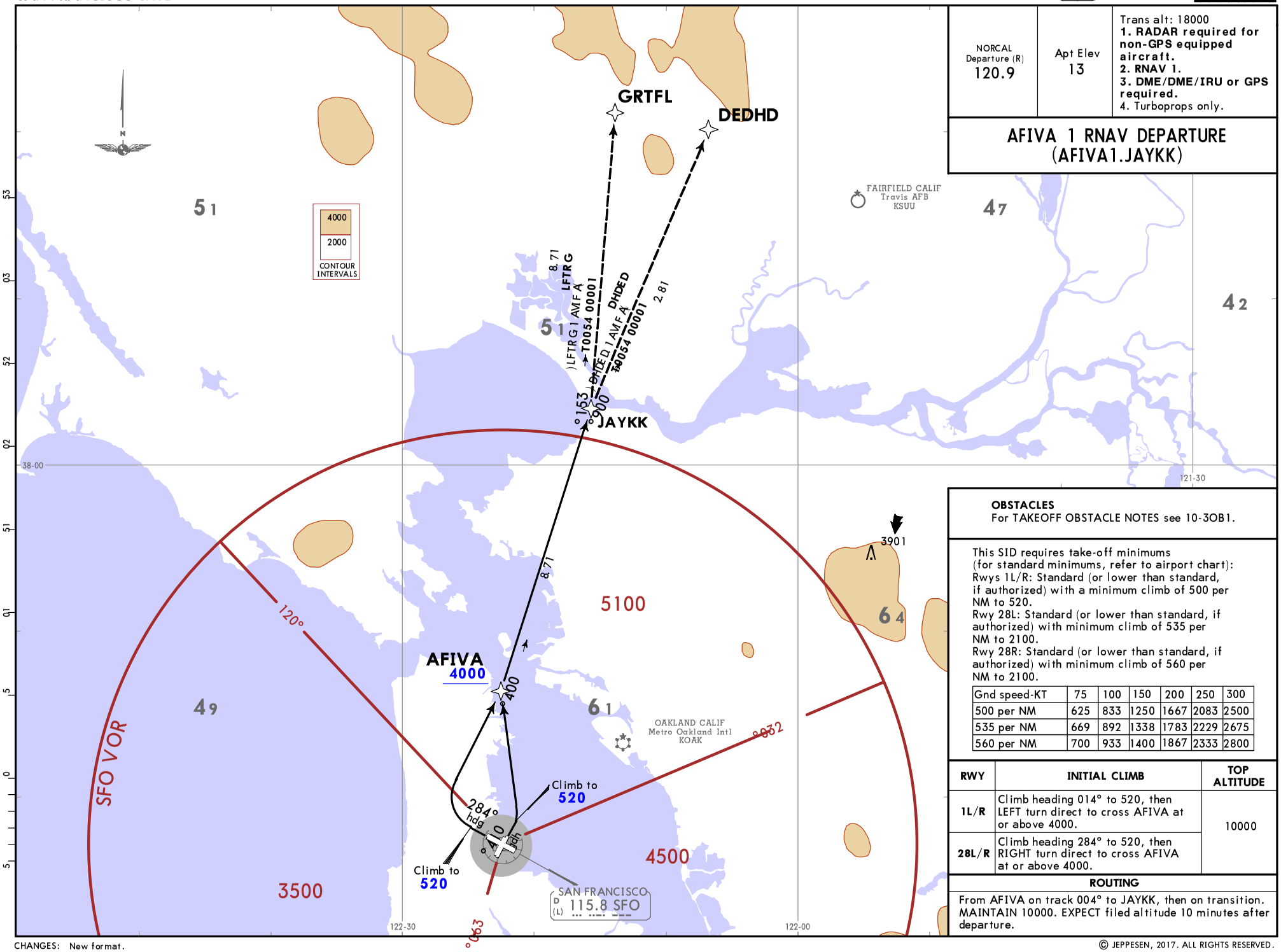
YOSEM 3 RNAV ARRIVAL (YOSEM.YOSEM3)
(RWYS 28L/R)



ROUTING

From YOSEM on track 248° to SNORA, then on track 248° to ZOMER. From ZOMER on track 247° to FRIGG, then on track 249° to SOOIE, then on track 248° to FAITH. EXPECT assigned instrument approach procedure, or EXPECT RADAR vectors to final.

CHANGES: Reissue.



NORCAL Departure (R)	Apt Elev
120.9	13

Trans alt: 18000
1. RADAR required for non-GPS equipped aircraft.
2. RNAV 1.
3. DME/DME/IRU or GPS required.
4. Turboprops only.

AFIVA 1 RNAV DEPARTURE (AFIVA1.JAYKK)

OBSTACLES
For TAKEOFF OBSTACLE NOTES see 10-3OB1.

This SID requires take-off minimums (for standard minimums, refer to airport chart):
Rwys 1L/R: Standard (or lower than standard, if authorized) with a minimum climb of 500 per NM to 520.
Rwy 28L: Standard (or lower than standard, if authorized) with minimum climb of 535 per NM to 2100.
Rwy 28R: Standard (or lower than standard, if authorized) with minimum climb of 560 per NM to 2100.

Gnd speed-KT	75	100	150	200	250	300
500 per NM	625	833	1250	1667	2083	2500
535 per NM	669	892	1338	1783	2229	2675
560 per NM	700	933	1400	1867	2333	2800

RWY	INITIAL CLIMB	TOP ALTITUDE
1L/R	Climb heading 014° to 520, then LEFT turn direct to cross AFIVA at or above 4000.	10000
28L/R	Climb heading 284° to 520, then RIGHT turn direct to cross AFIVA at or above 4000.	

ROUTING

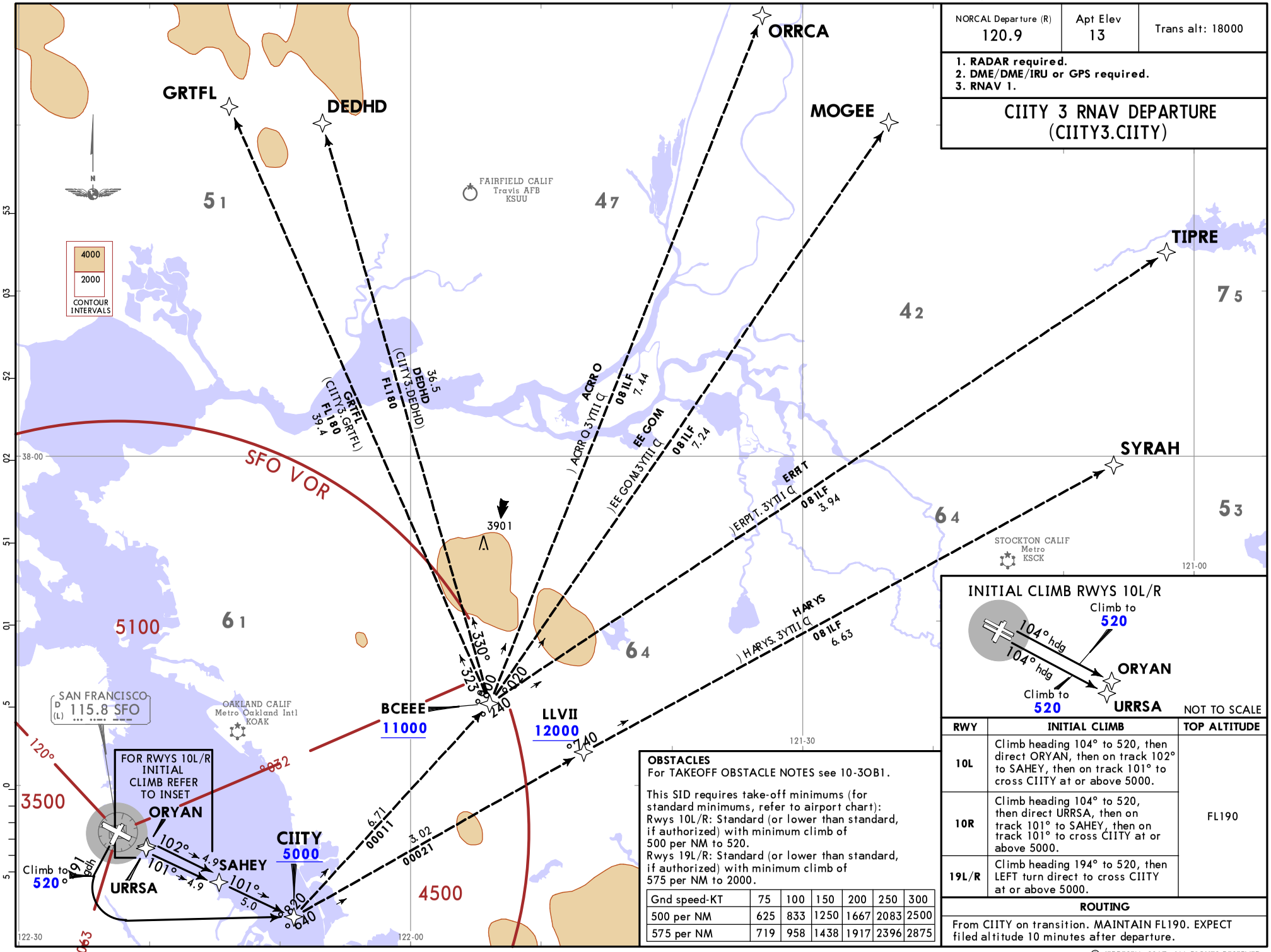
From AFIVA on track 004° to JAYKK, then on transition. MAINTAIN 10000. EXPECT filed altitude 10 minutes after departure.

CHANGES: New format.

NORCAL Departure (R)	Apt Elev	Trans alt: 18000
120.9	13	

1. RADAR required.
2. DME/DME/IRU or GPS required.
3. RNAV 1.

CIITY 3 RNAV DEPARTURE
(CIITY3.CIITY)



INITIAL CLIMB RWYS 10L/R

NOT TO SCALE

RWY	INITIAL CLIMB	TOP ALTITUDE
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.	FL190
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.	
19L/R	Climb heading 194° to 520, then LEFT turn direct to cross CIITY at or above 5000.	

OBSTACLES
For TAKEOFF OBSTACLE NOTES see 10-3OB1.

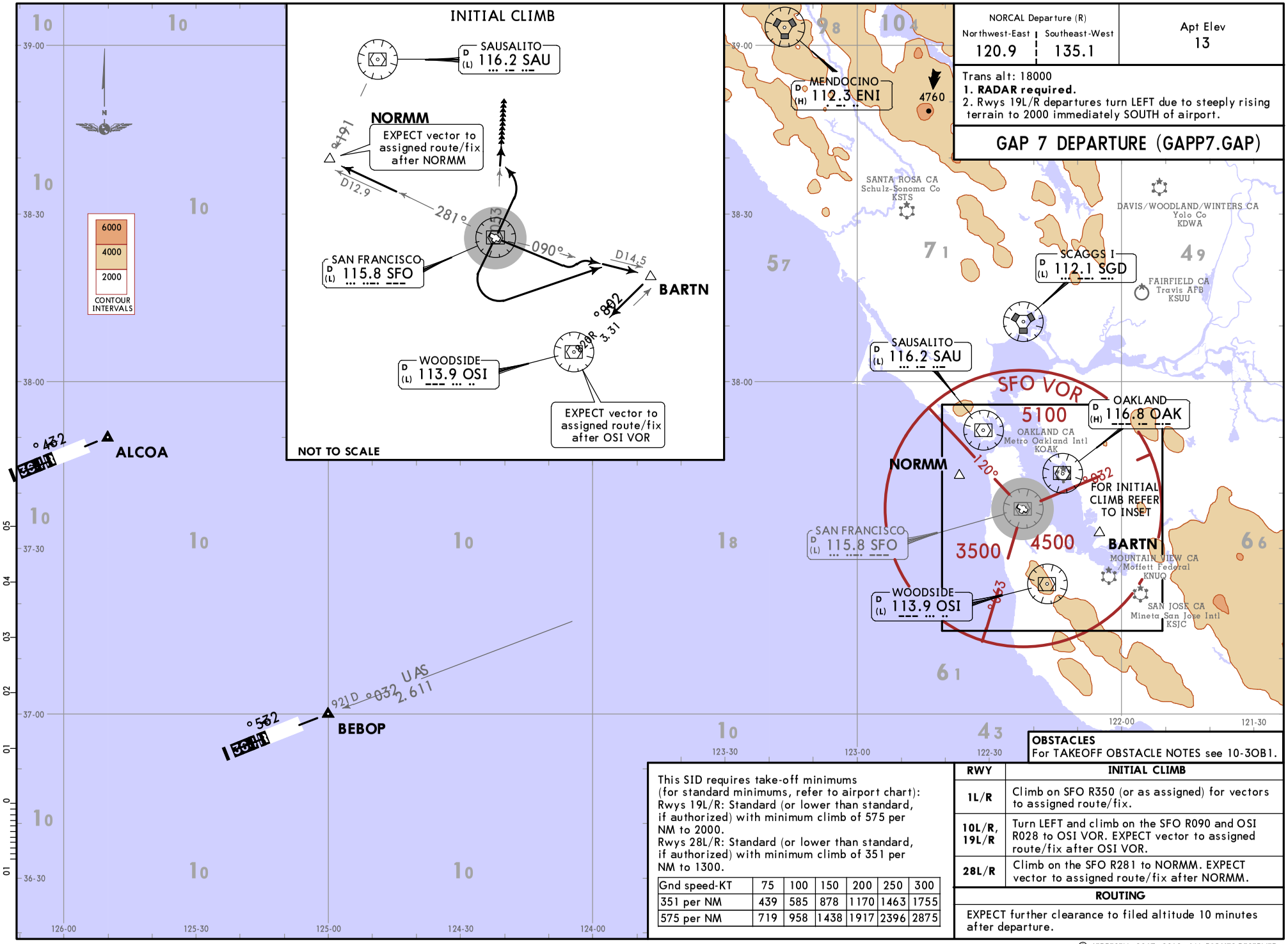
This SID requires take-off minimums (for standard minimums, refer to airport chart):
Rwys 10L/R: Standard (or lower than standard, if authorized) with minimum climb of 500 per NM to 520.
Rwys 19L/R: Standard (or lower than standard, if authorized) with minimum climb of 575 per NM to 2000.

Gnd speed-KT	75	100	150	200	250	300
500 per NM	625	833	1250	1667	2083	2500
575 per NM	719	958	1438	1917	2396	2875

ROUTING

From CIITY on transition. MAINTAIN FL190. EXPECT filed altitude 10 minutes after departure.

CHANGES: New format.



NORCAL Departure (R)

Northwest-East	Southeast-West
120.9	135.1

Apt Elev 13

Trans alt: 18000
1. **RADAR required.**
2. Rwys 19L/R departures turn LEFT due to steeply rising terrain to 2000 immediately SOUTH of airport.

GAP 7 DEPARTURE (GAPP7.GAP)

OBSTACLES
For TAKEOFF OBSTACLE NOTES see 10-3OB1.

This SID requires take-off minimums (for standard minimums, refer to airport chart):
Rwys 19L/R: Standard (or lower than standard, if authorized) with minimum climb of 575 per NM to 2000.
Rwys 28L/R: Standard (or lower than standard, if authorized) with minimum climb of 351 per NM to 1300.

Gnd speed-KT	75	100	150	200	250	300
351 per NM	439	585	878	1170	1463	1755
575 per NM	719	958	1438	1917	2396	2875

RWY	INITIAL CLIMB
1L/R	Climb on SFO R350 (or as assigned) for vectors to assigned route/fix.
10L/R, 19L/R	Turn LEFT and climb on the SFO R090 and OSI R028 to OSI VOR. EXPECT vector to assigned route/fix after OSI VOR.
28L/R	Climb on the SFO R281 to NORMM. EXPECT vector to assigned route/fix after NORMM.

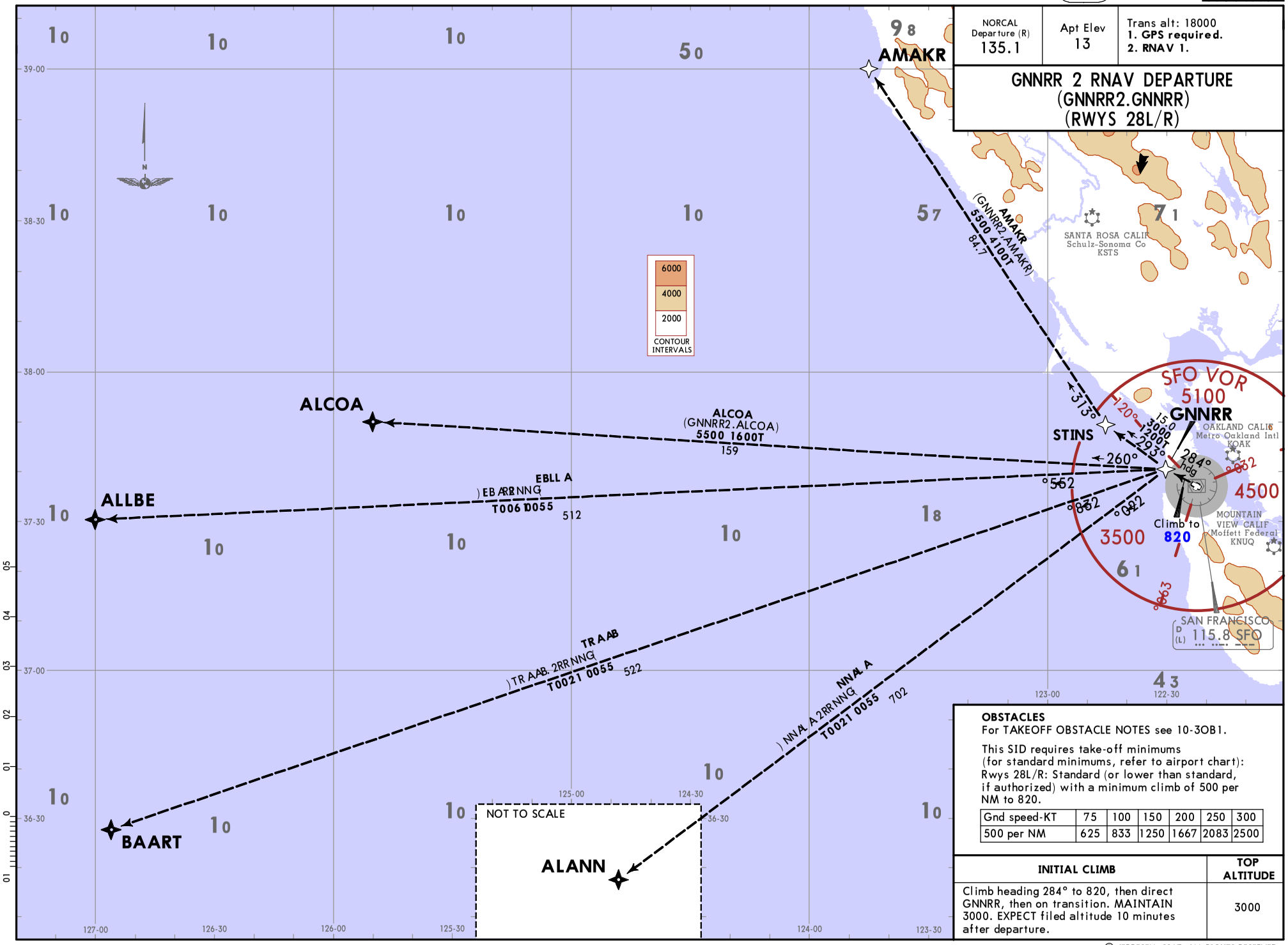
ROUTING

EXPECT further clearance to filed altitude 10 minutes after departure.

CHANGES: Chart reindexed (FOGGG departure canceled).

NORCAL Departure (R)	Apt Elev	Trans alt: 18000
135.1	13	1. GPS required. 2. RNAV 1.

GNNRR 2 RNAV DEPARTURE (GNNRR2.GNNRR) (RWYS 28L/R)



OBSTACLES
For TAKEOFF OBSTACLE NOTES see 10-3OB1.

This SID requires take-off minimums (for standard minimums, refer to airport chart): Rwys 28L/R: Standard (or lower than standard, if authorized) with a minimum climb of 500 per NM to 820.

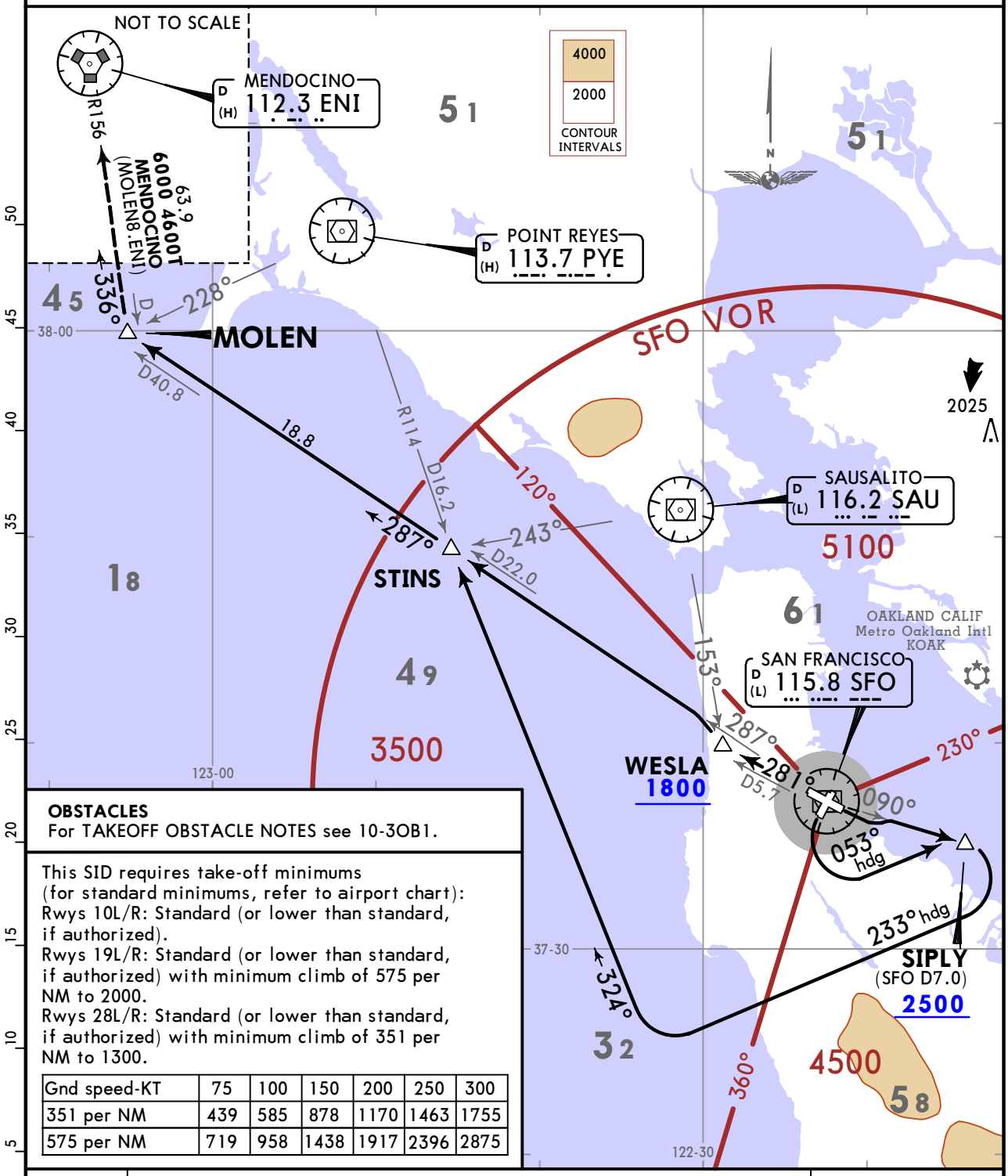
Gnd speed-KT	75	100	150	200	250	300
500 per NM	625	833	1250	1667	2083	2500

INITIAL CLIMB	TOP ALTITUDE
Climb heading 284° to 820, then direct GNNRR, then on transition. MAINTAIN 3000. EXPECT filed altitude 10 minutes after departure.	3000

CHANGES: New format.

NORCAL Departure (R) 135.1	Apt Elev 13	Trans alt: 18000 **1. RADAR required.** **2. DME required.** 3. Rapidly rising terrain to 2000 immediately SOUTH of airport.

MOLEN 8 DEPARTURE (MOLEN8.MOLEN)



OBSTACLES
For TAKEOFF OBSTACLE NOTES see 10-3OB1.

This SID requires take-off minimums (for standard minimums, refer to airport chart):
Rwys 10L/R: Standard (or lower than standard, if authorized).
Rwys 19L/R: Standard (or lower than standard, if authorized) with minimum climb of 575 per NM to 2000.
Rwys 28L/R: Standard (or lower than standard, if authorized) with minimum climb of 351 per NM to 1300.

Gnd speed-KT	75	100	150	200	250	300
351 per NM	439	585	878	1170	1463	1755
575 per NM	719	958	1438	1917	2396	2875

RWY	INITIAL CLIMB	TOP ALTITUDE
10L/R	Climbing LEFT turn to intercept SFO R090 to cross SIPLY at or above 2500, then climbing RIGHT turn to 5000 on heading 233° to intercept and proceed on PYE R144 to STINS, then on SFO R287 to MOLEN.	Assigned by ATC
19L/R	Climbing LEFT turn heading 053° to intercept SFO R090 to cross SIPLY at or above 2500, then climbing RIGHT turn to 5000 heading 233° to intercept and proceed on PYE R144 to STINS, then on SFO R287 to MOLEN.	
28L/R	Climb on SFO R281 to cross WESLA at or above 1800, then turn RIGHT to intercept SFO R287 to MOLEN.	

ROUTING

From MOLEN on transition. EXPECT clearance to filed altitude 10 minutes after departure.

CHANGES: New format.

JEPPESEN
30 JUN 17 (10-3F)

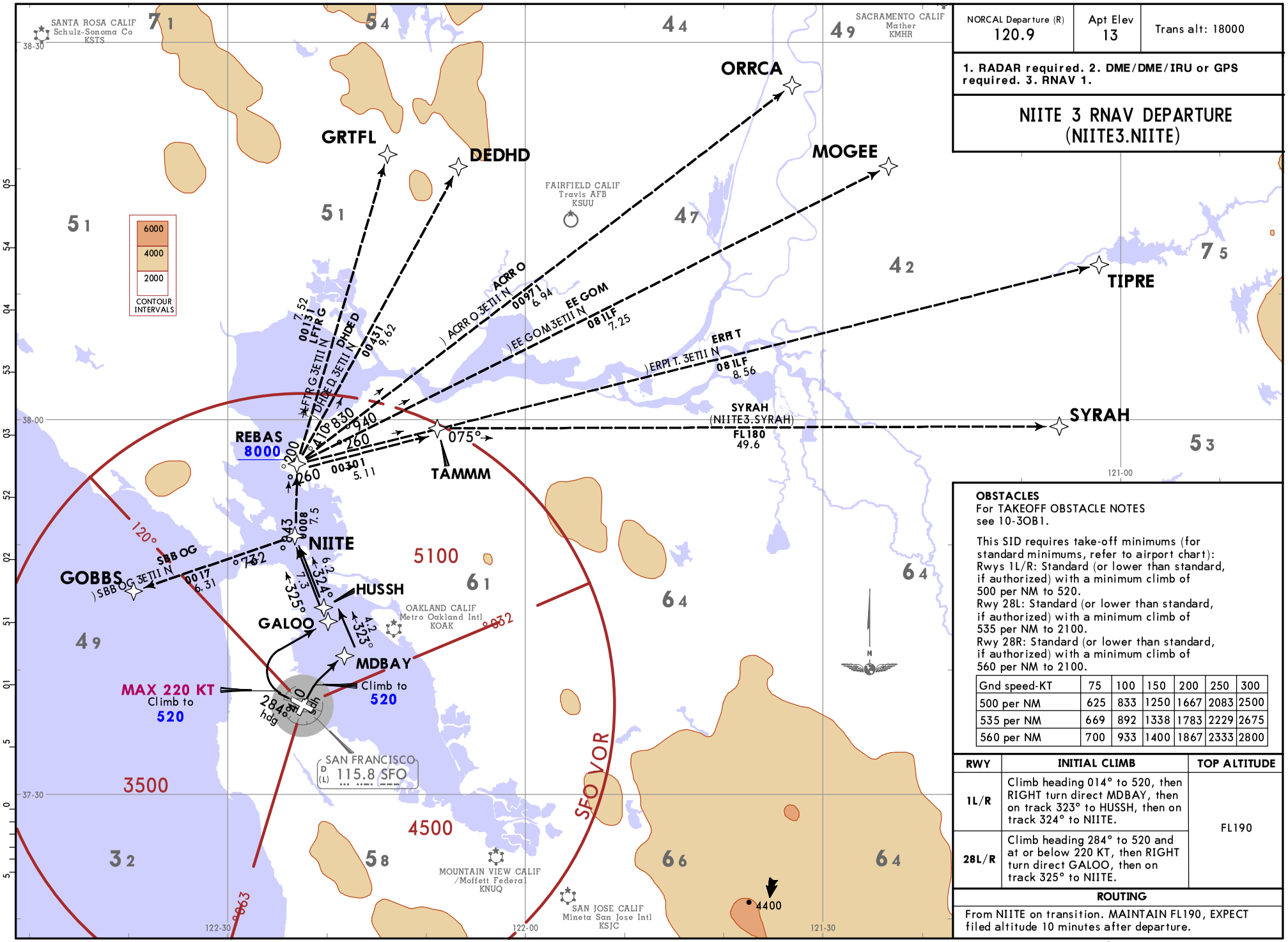
SAN FRANCISCO, CALIF

RNAV SID

NORCAL Departure (R)	Apt Elev	Trans alt: 18000
120.9	13	

1. RADAR required. 2. DME/DME/IRU or GPS required. 3. RNAV 1.

NIITE 3 RNAV DEPARTURE (NIITE3.NIITE)



OBSTACLES
For TAKEOFF OBSTACLE NOTES see 10-3OB1.

This SID requires take-off minimums (for standard minimums, refer to airport chart):
Rwys 1L/R: Standard (or lower than standard, if authorized) with a minimum climb of 500 per NM to 520.
Rwy 28L: Standard (or lower than standard, if authorized) with a minimum climb of 535 per NM to 2100.
Rwy 28R: Standard (or lower than standard, if authorized) with a minimum climb of 560 per NM to 2100.

Gnd speed-KT	75	100	150	200	250	300
500 per NM	625	833	1250	1667	2083	2500
535 per NM	669	892	1338	1783	2229	2675
560 per NM	700	933	1400	1867	2333	2800

RWY	INITIAL CLIMB	TOP ALTITUDE
1L/R	Climb heading 014° to 520, then RIGHT turn direct MDBAY, then on track 323° to HUSSH, then on track 324° to NIITE.	FL190
28L/R	Climb heading 284° to 520 and at or below 220 KT, then RIGHT turn direct GALOO, then on track 325° to NIITE.	

ROUTING

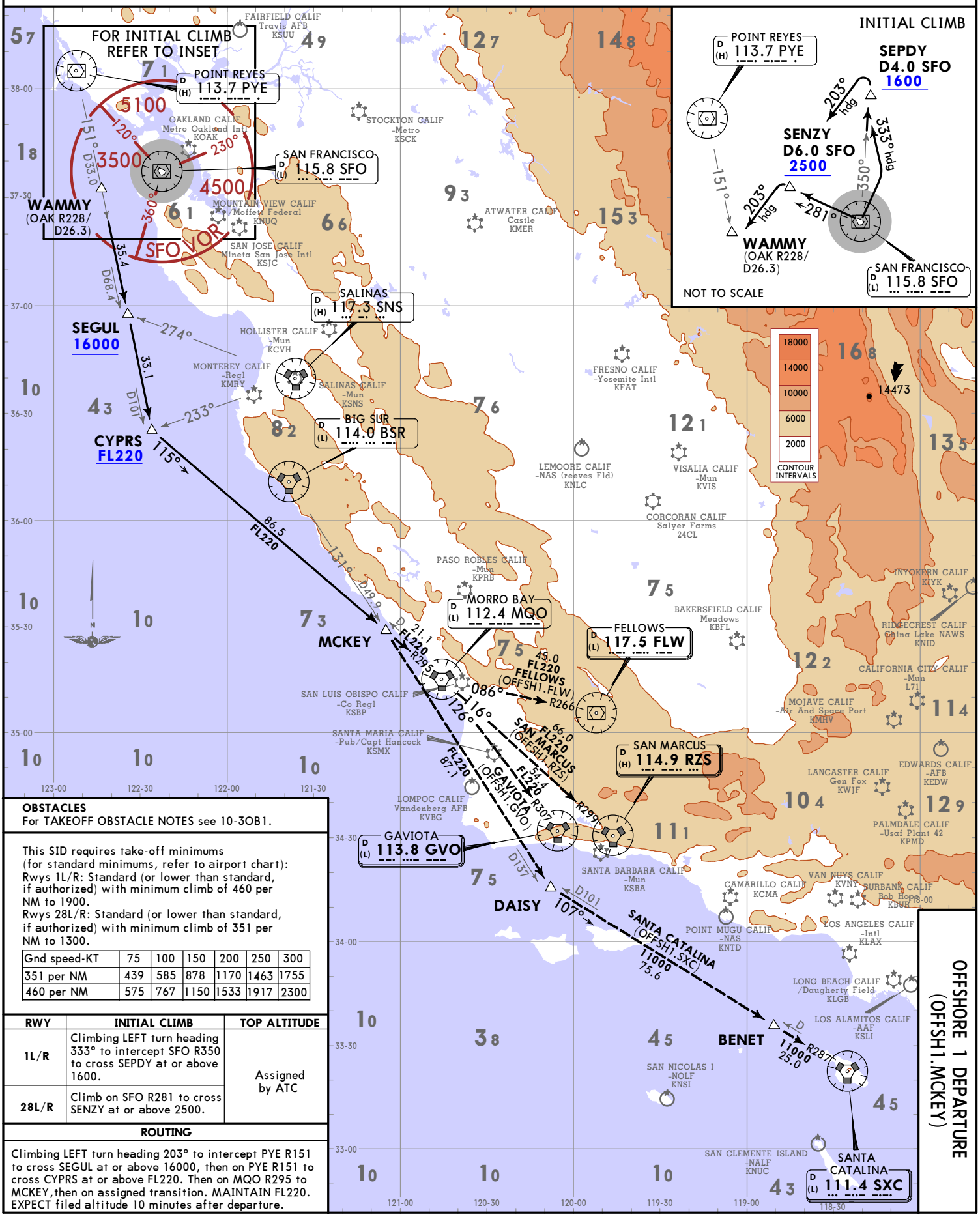
From NIITE on transition. MAINTAIN FL190, EXPECT filed altitude 10 minutes after departure.

CHANGES: None.

CHANGES: Reissue.

NORCAL Departure (R) 135.1	Apt Elev 13	Trans alt: 18000 1. RADAR required. 2. DME required.

OFFSHORE 1 DEPARTURE (OFFSH1.MCKEY)



OBSTACLES
For TAKEOFF OBSTACLE NOTES see 10-3OB1.

This SID requires take-off minimums (for standard minimums, refer to airport chart):
Rwys 1L/R: Standard (or lower than standard, if authorized) with minimum climb of 460 per NM to 1900.
Rwys 28L/R: Standard (or lower than standard, if authorized) with minimum climb of 351 per NM to 1300.

Gnd speed-KT	75	100	150	200	250	300
351 per NM	439	585	878	1170	1463	1755
460 per NM	575	767	1150	1533	1917	2300

RWY	INITIAL CLIMB	TOP ALTITUDE
1L/R	Climbing LEFT turn heading 333° to intercept SFO R350 to cross SEPDY at or above 1600.	Assigned by ATC
28L/R	Climb on SFO R281 to cross SENZY at or above 2500.	

ROUTING

Climbing LEFT turn heading 203° to intercept PYE R151 to cross SEGUL at or above 16000, then on PYE R151 to cross CYPRS at or above FL220. Then on MQO R295 to MCKEY, then on assigned transition. MAINTAIN FL220. EXPECT filed altitude 10 minutes after departure.

KSFO/SFO SAN FRANCISCO INTL
30 JUN 17 (10-3G)
JEPPESEN SAN FRANCISCO, CALIF SID
OFFSHORE 1 DEPARTURE (OFFSH1.MCKEY)

JEPPESEN
30 JUN 17 (10-3H)

SAN FRANCISCO, CALIF

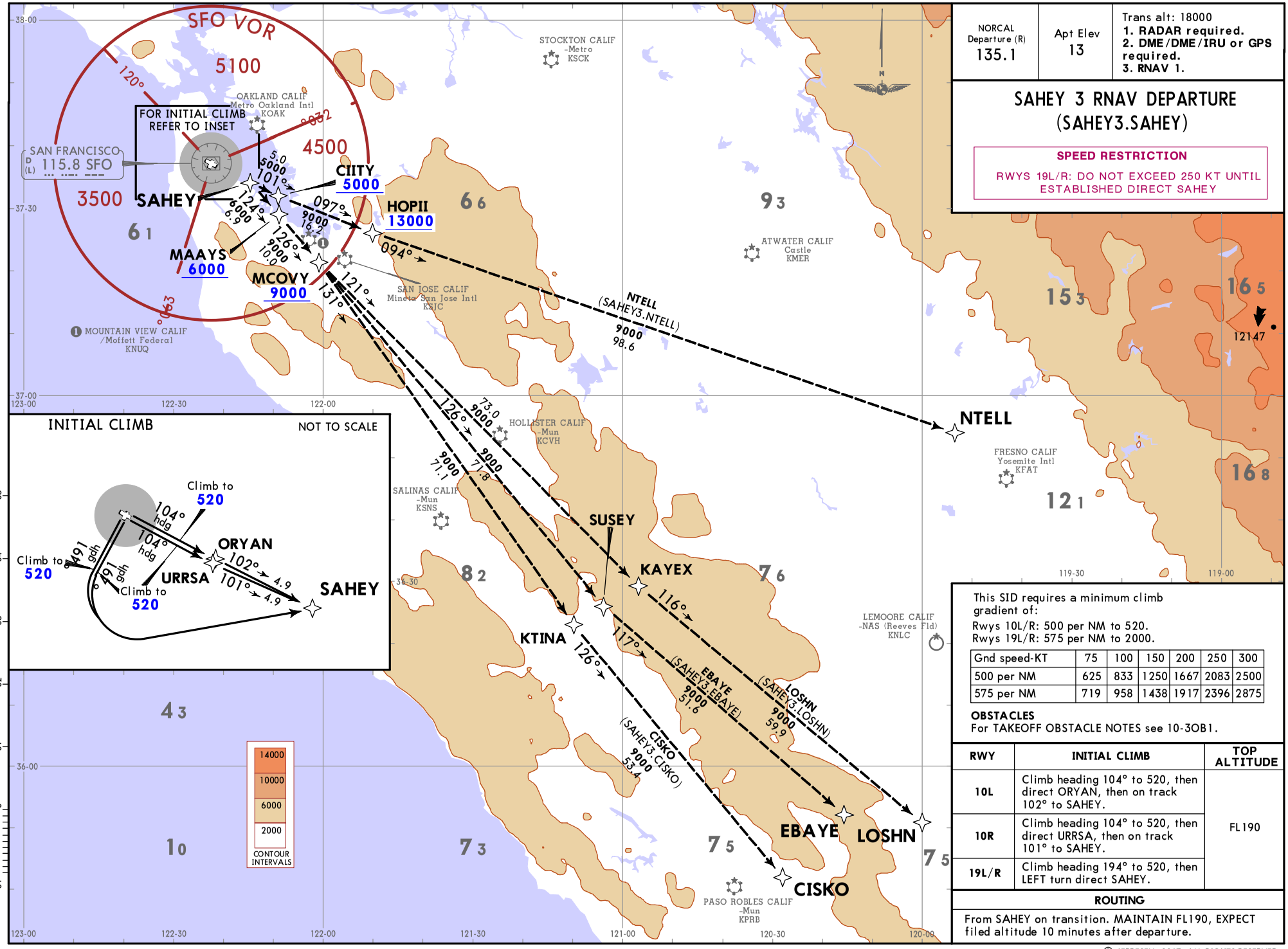
RNAV SID

NORCAL Departure (R)	Apt Elev	
135.1	13	Trans alt: 18000 1. RADAR required. 2. DME/DME/IRU or GPS required. 3. RNAV 1.

SAHEY 3 RNAV DEPARTURE (SAHEY3.SAHEY)

SPEED RESTRICTION

RWYS 19L/R: DO NOT EXCEED 250 KT UNTIL ESTABLISHED DIRECT SAHEY



INITIAL CLIMB

NOT TO SCALE

This SID requires a minimum climb gradient of:
Rwys 10L/R: 500 per NM to 520.
Rwys 19L/R: 575 per NM to 2000.

Gnd speed-KT	75	100	150	200	250	300
500 per NM	625	833	1250	1667	2083	2500
575 per NM	719	958	1438	1917	2396	2875

OBSTACLES
For TAKEOFF OBSTACLE NOTES see 10-3OB1.

RWY	INITIAL CLIMB	TOP ALTITUDE
10L	Climb heading 104° to 520, then direct ORYAN, then on track 102° to SAHEY.	FL190
10R	Climb heading 104° to 520, then direct URRSA, then on track 101° to SAHEY.	
19L/R	Climb heading 194° to 520, then LEFT turn direct SAHEY.	

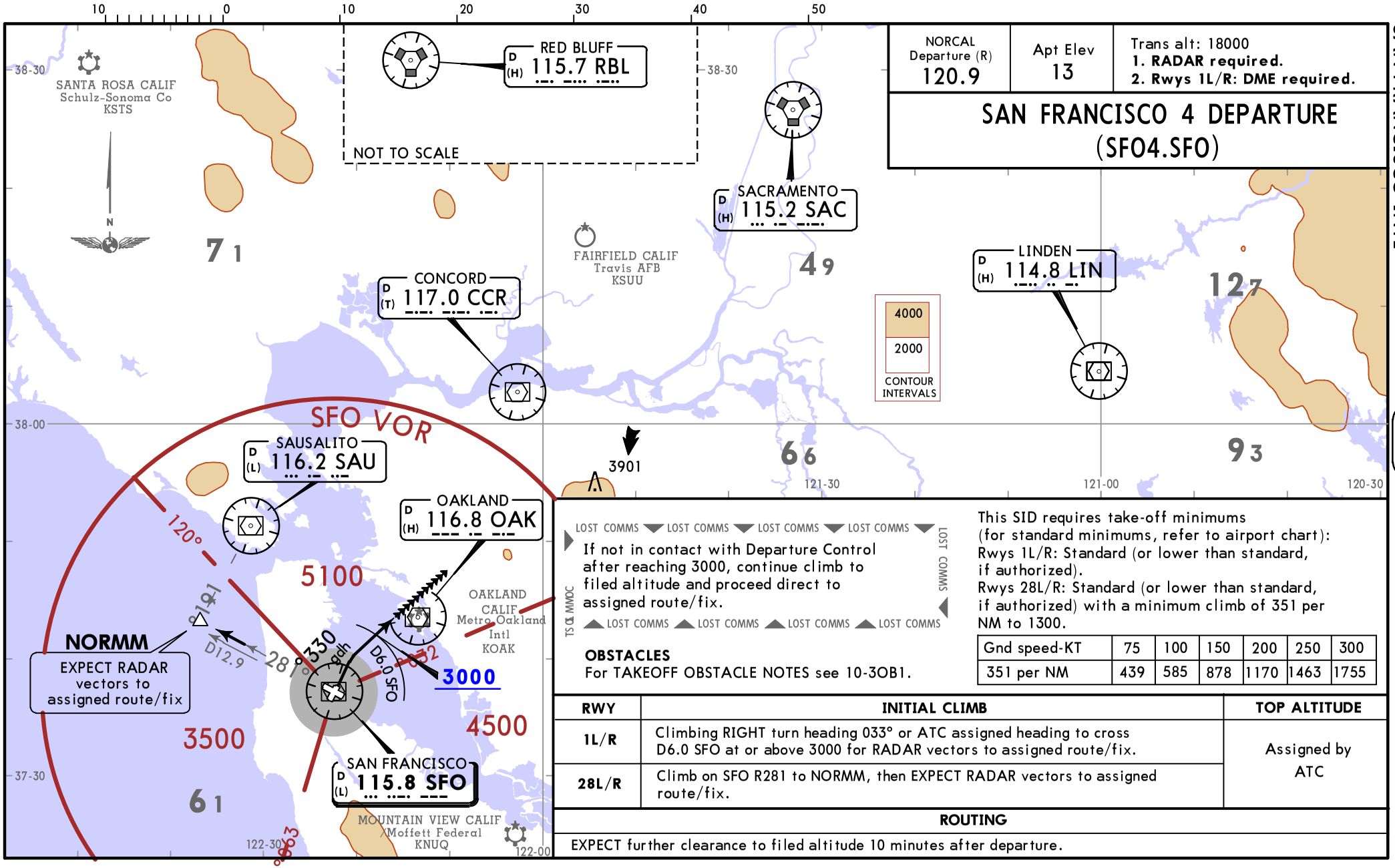
ROUTING

From SAHEY on transition. MAINTAIN FL190, EXPECT filed altitude 10 minutes after departure.

CHANGES: Reissue.

SAN FRANCISCO 4 DEPARTURE (SFO4.SFO)

NORCAL Departure (R)	Apt Elev	Trans alt: 18000
120.9	13	**1. RADAR required.** **2. Rwys 1L/R: DME required.**



LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS

If not in contact with Departure Control after reaching 3000, continue climb to filed altitude and proceed direct to assigned route/fix.

LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS

TS @ MMOC

OBSTACLES
For TAKEOFF OBSTACLE NOTES see 10-3OB1.

This SID requires take-off minimums (for standard minimums, refer to airport chart):
Rwys 1L/R: Standard (or lower than standard, if authorized).
Rwys 28L/R: Standard (or lower than standard, if authorized) with a minimum climb of 351 per NM to 1300.

Gnd speed-KT	75	100	150	200	250	300
351 per NM	439	585	878	1170	1463	1755

RWY	INITIAL CLIMB	TOP ALTITUDE
1L/R	Climbing RIGHT turn heading 033° or ATC assigned heading to cross D6.0 SFO at or above 3000 for RADAR vectors to assigned route/fix.	Assigned by ATC
28L/R	Climb on SFO R281 to NORMM, then EXPECT RADAR vectors to assigned route/fix.	

ROUTING

EXPECT further clearance to filed altitude 10 minutes after departure.

CHANGES: None.

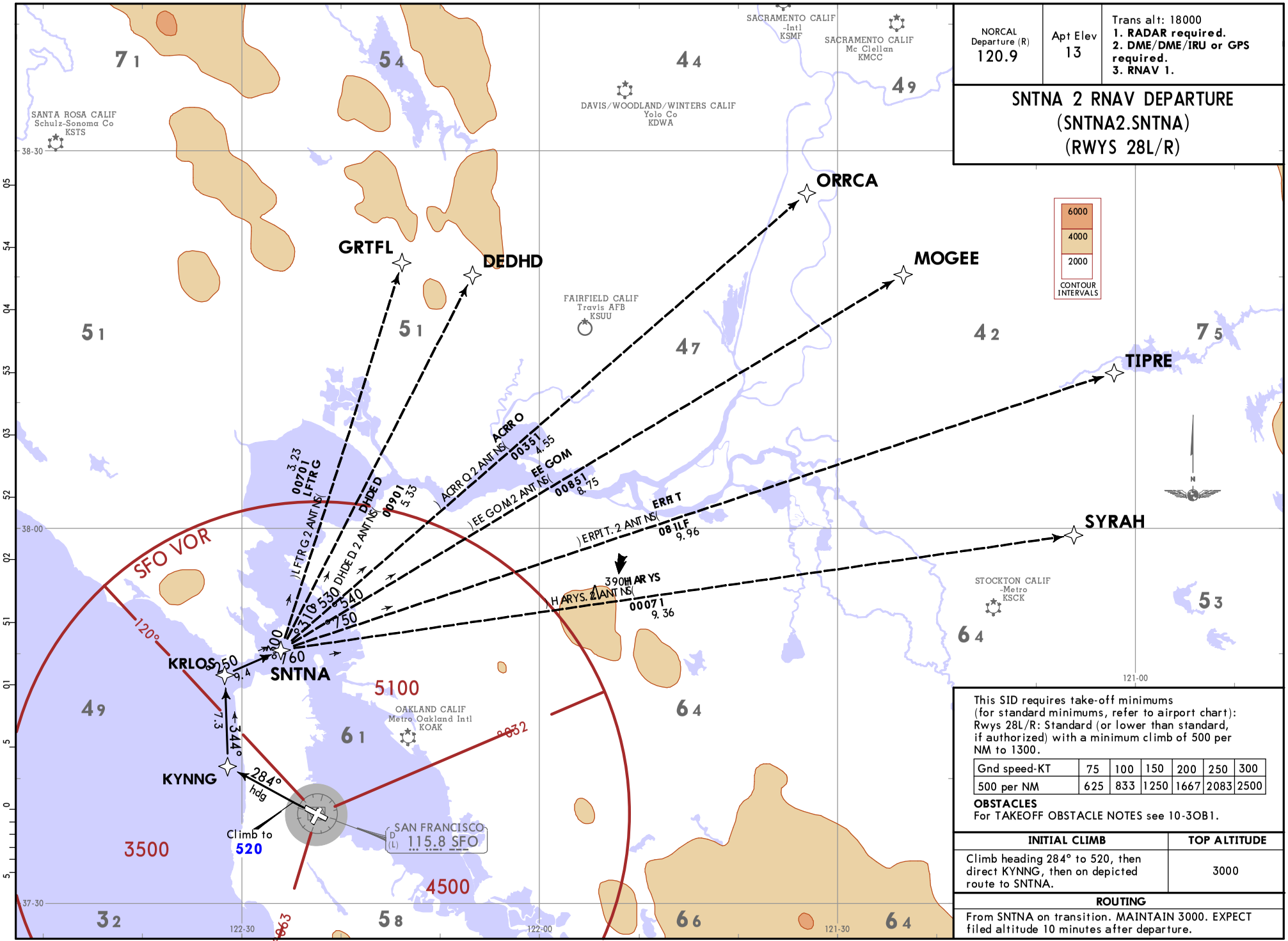
JEPPESEN
7 SEP 18 (10-3K) Eff 13 Sep

SAN FRANCISCO, CALIF

RNAV SID

NORCAL Departure (R) 120.9	Apt Elev 13	Trans alt: 18000 1. RADAR required. 2. DME/DME/IRU or GPS required. 3. RNAV 1.

SNTNA 2 RNAV DEPARTURE
(SNTNA2.SNTNA)
(RWYS 28L/R)



This SID requires take-off minimums (for standard minimums, refer to airport chart): Rwys 28L/R: Standard (or lower than standard, if authorized) with a minimum climb of 500 per NM to 1300.

Gnd speed-KT	75	100	150	200	250	300
500 per NM	625	833	1250	1667	2083	2500

OBSTACLES
For TAKEOFF OBSTACLE NOTES see 10-3OB1.

INITIAL CLIMB	TOP ALTITUDE
Climb heading 284° to 520, then direct KYNNG, then on depicted route to SNTNA.	3000

ROUTING

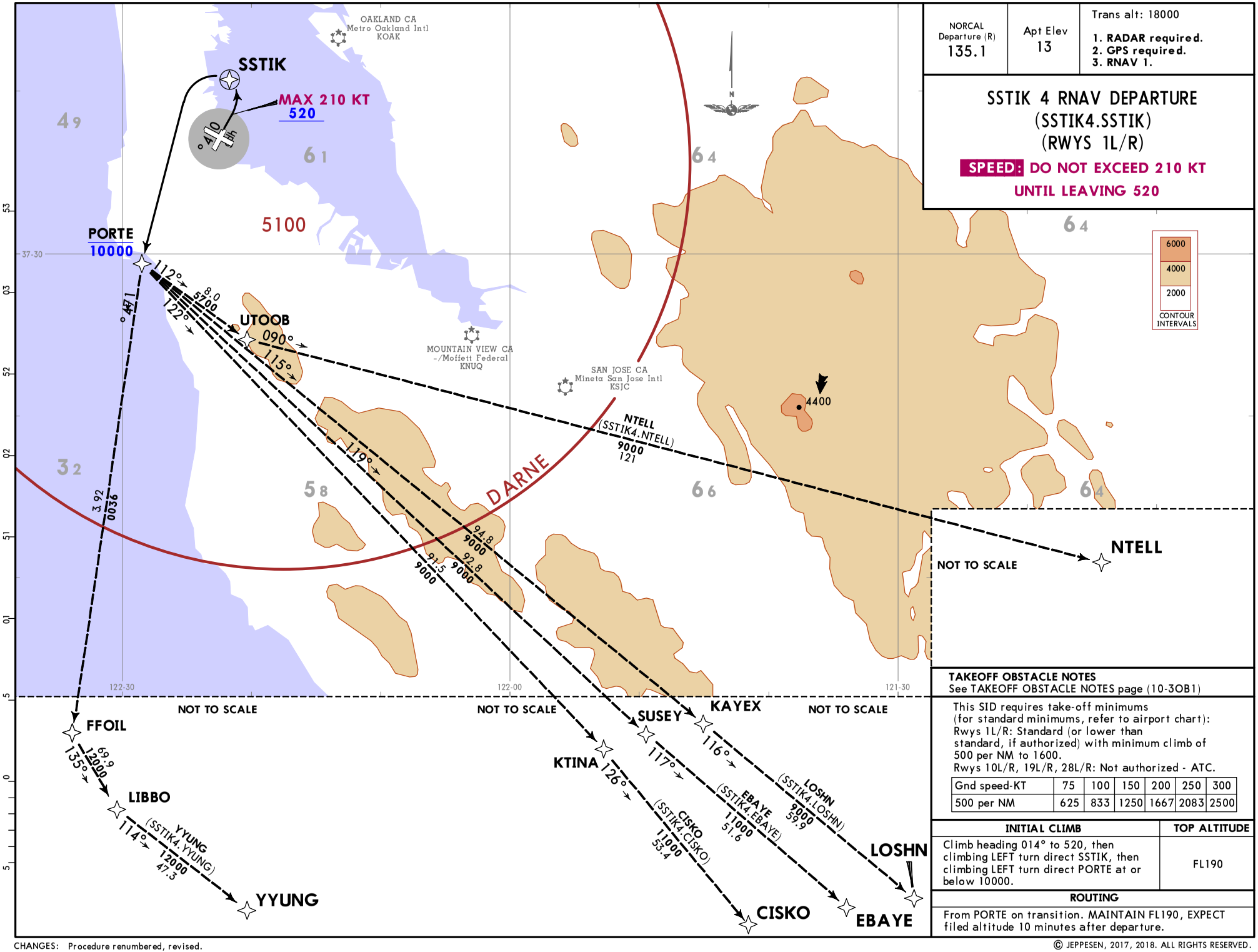
From SNTNA on transition. MAINTAIN 3000. EXPECT filed altitude 10 minutes after departure.

CHANGES: None.

NORCAL Departure (R) 135.1	Apt Elev 13	Trans alt: 18000 1. RADAR required. 2. GPS required. 3. RNAV 1.

SSTIK 4 RNAV DEPARTURE
(SSTIK4.SSTIK)
(RWYS 1L/R)

SPEED: DO NOT EXCEED 210 KT UNTIL LEAVING 520



TAKEOFF OBSTACLE NOTES
See TAKEOFF OBSTACLE NOTES page (10-3OB1)

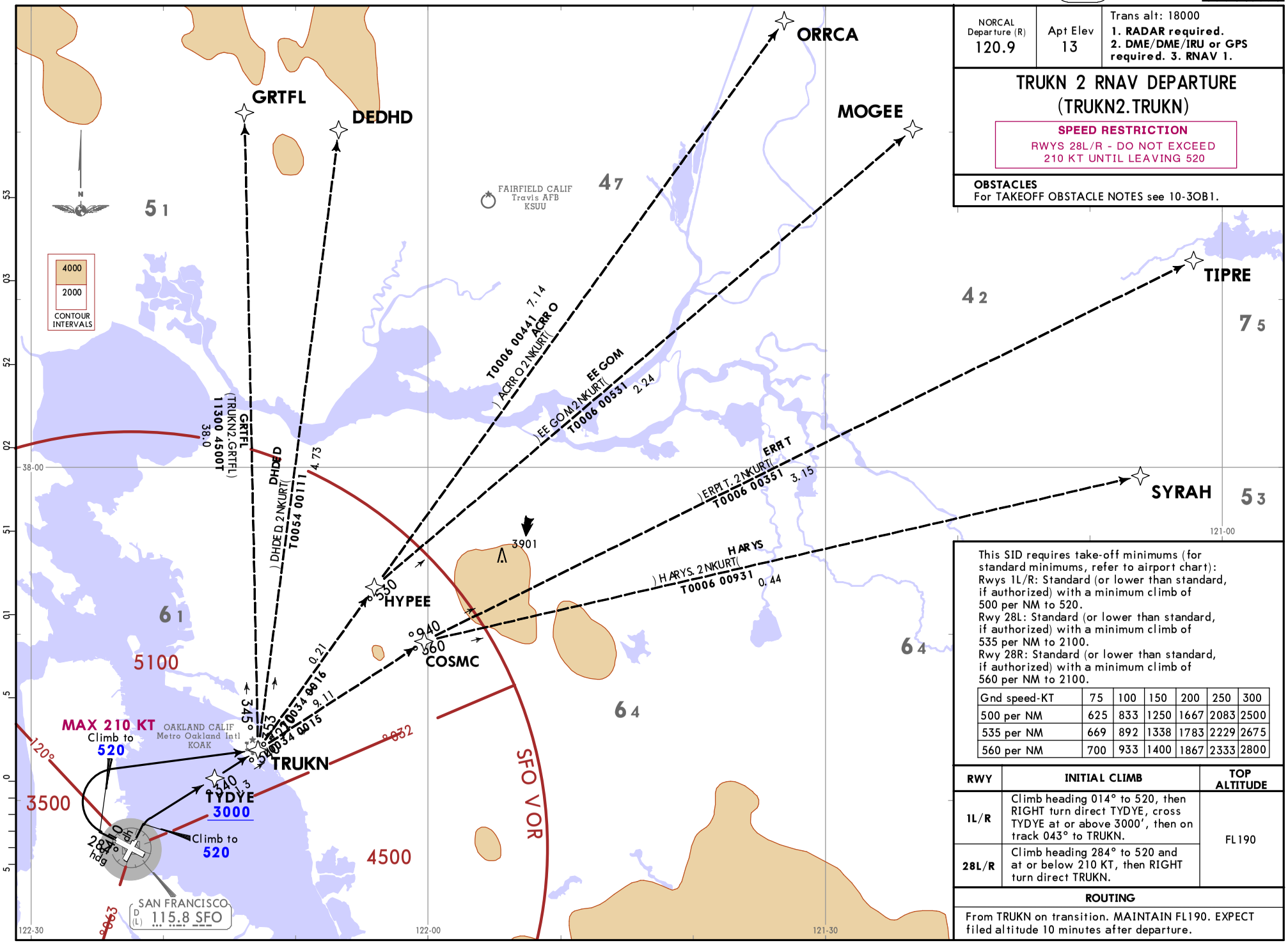
This SID requires take-off minimums (for standard minimums, refer to airport chart):
Rwys 1L/R: Standard (or lower than standard, if authorized) with minimum climb of 500 per NM to 1600.
Rwys 10L/R, 19L/R, 28L/R: Not authorized - ATC.

Gnd speed-KT	75	100	150	200	250	300
500 per NM	625	833	1250	1667	2083	2500

INITIAL CLIMB	TOP ALTITUDE
Climb heading 014° to 520, then climbing LEFT turn direct SSTIK, then climbing LEFT turn direct PORTE at or below 10000.	FL190

ROUTING
From PORTE on transition. MAINTAIN FL190, EXPECT filed altitude 10 minutes after departure.

CHANGES: Procedure renumbered, revised.



NORCAL Departure (R)	Apt Elev	Trans alt: 18000
120.9	13	1. RADAR required. 2. DME/DME/IRU or GPS required. 3. RNAV 1.

TRUKN 2 RNAV DEPARTURE (TRUKN2.TRUKN)

SPEED RESTRICTION
RWYS 28L/R - DO NOT EXCEED 210 KT UNTIL LEAVING 520

OBSTACLES
For TAKEOFF OBSTACLE NOTES see 10-3OB1.

This SID requires take-off minimums (for standard minimums, refer to airport chart):
Rwys 1L/R: Standard (or lower than standard, if authorized) with a minimum climb of 500 per NM to 520.
Rwy 28L: Standard (or lower than standard, if authorized) with a minimum climb of 535 per NM to 2100.
Rwy 28R: Standard (or lower than standard, if authorized) with a minimum climb of 560 per NM to 2100.

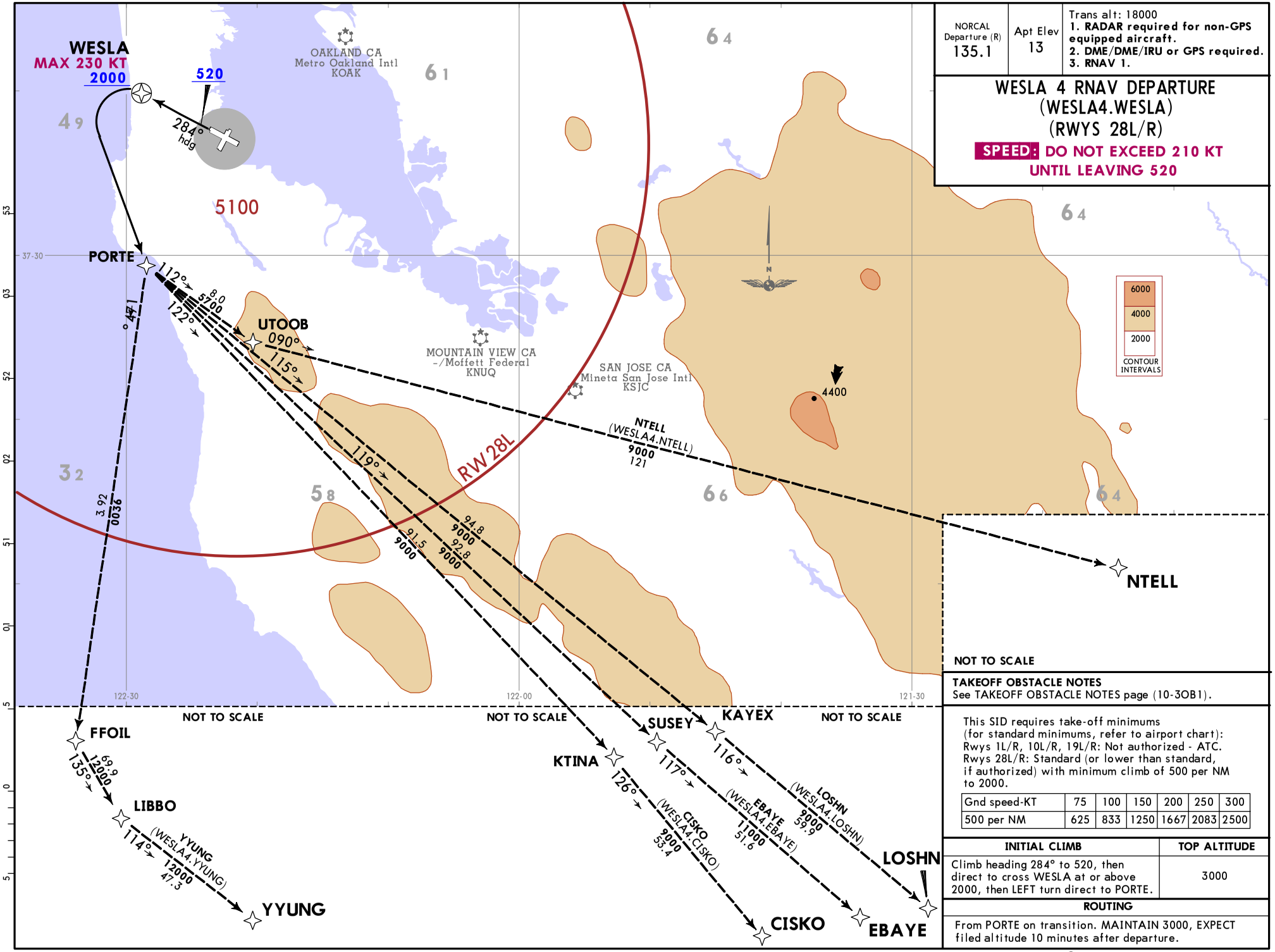
Gnd speed-KT	75	100	150	200	250	300
500 per NM	625	833	1250	1667	2083	2500
535 per NM	669	892	1338	1783	2229	2675
560 per NM	700	933	1400	1867	2333	2800

RWY	INITIAL CLIMB	TOP ALTITUDE
1L/R	Climb heading 014° to 520, then RIGHT turn direct TYDYE, cross TYDYE at or above 3000', then on track 043° to TRUKN.	FL190
28L/R	Climb heading 284° to 520 and at or below 210 KT, then RIGHT turn direct TRUKN.	

ROUTING

From TRUKN on transition. MAINTAIN FL190. EXPECT filed altitude 10 minutes after departure.

CHANGES: None.



NORCAL Departure (R)	Apt Elev
135.1	13

Trans alt: 18000
1. **RADAR required for non-GPS equipped aircraft.**
2. **DME/DME/IRU or GPS required.**
3. **RNAV 1.**

WESLA 4 RNAV DEPARTURE
(WESLA4.WESLA)
(RWYS 28L/R)

SPEED: DO NOT EXCEED 210 KT UNTIL LEAVING 520

NOT TO SCALE

TAKEOFF OBSTACLE NOTES
See TAKEOFF OBSTACLE NOTES page (10-3OB1).

This SID requires take-off minimums (for standard minimums, refer to airport chart):
Rwys 1L/R, 10L/R, 19L/R: Not authorized - ATC.
Rwys 28L/R: Standard (or lower than standard, if authorized) with minimum climb of 500 per NM to 2000.

Gnd speed-KT	75	100	150	200	250	300
500 per NM	625	833	1250	1667	2083	2500

INITIAL CLIMB	TOP ALTITUDE
Climb heading 284° to 520, then direct to cross WESLA at or above 2000, then LEFT turn direct to PORTE.	3000

ROUTING

From PORTE on transition. MAINTAIN 3000, EXPECT filed altitude 10 minutes after departure.

CHANGES: Procedure renumbered, revised.

TAKEOFF OBSTACLE NOTES

◦ RWY 1L:

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/ 48' 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.

CHANGES: Rwys 1L/R, 19L/R obstacles.

D-ATIS			Data Comm ACARS: D-ATIS PDC / CPDLC: DCL	SAN FRANCISCO Clearance (Cpt)	Ground	Tower	NORCAL Departure (R)	
113.7	115.8	118.85		118.2	121.8	120.5	NW-E 120.9	SE-W 135.1
VOT 111.0								

RUNWAY INCURSION HOT SPOTS
HS1

LEGEND
1 - Blue Numeric Pavement Reporting Points Located in the Non-Movement Area.
① Geographic Position Marking

HS3 Aircraft exiting Rwy 28R on Twy T: manage your taxi speed. Expect to hold short of Rwy 28L.

HS2 Pilots taxiing east on Twy C and instructed to turn right onto Twy E sometimes miss the turn onto Twy E and continue across Rwy 1L/19R by mistake.

Twy S2 between Twy Z and Twy S3 closed to aircraft larger than B747-800.

All outbound Twy Y heavy aircraft with a wingspan of 171′ (52 m) or greater under power prohibited from entering westbound Twy Z.

Taxilane Y restricted to aircraft with a wingspan of less than 118′ (36m).

HS1 Complex intersections in close proximity of Rwys. Pilots taxiing east bound on Twy B sometimes turn on Twy F instead of continuing the turn on Twy B.

Rwy 1L closed to departing TRIJET aircraft with wingspans greater than 155′ (47m).

From Twy A1, when cleared into position, proceed at minimum feasible power.

NCA
KAL
FDX
UAL BASE
PLOT 50
USCG
AIRFIELD OPERATIONS
GENERAL AVIATION
PLOT 42
PLOT 41
SUPERBAY
PLOT 40
PLOT 12
PLOT 10
PLOT 9
WEST FIELD CARGO BUILDING
TERMINAL 3
TERM 2
Control Tower 221′
INTERNATIONAL TERMINAL
TERMINAL 1
Ramp Tower G
Ramp Tower A
VOR
ARP
E at L RUN-UP PAD
V at L RUN-UP PAD
W at C RUN-UP PAD
EMAS
Elev 6′
Elev 7′
Elev 9′
Elev 11′
Elev 13′
ILS HOLD
10L 104°
10R 104°
19R 194°
19L 194°
28R 284°
28L 284°
1L 014°
1R 014°
11,870′ 3618m
11,381′ 3469m
10,567′ m2332
10,568′ m7362
RWY 10R/28L
122-21
122-22
122-23
122-24
37-38
37-37

Feet 0 500 1000 1500 2000 2500 3000
Meters 0 200 400 600 800 1000

CHANGES: H designator lanes removed.

GENERAL

CAUTION: Be alert to runway crossing clearances. Readback all runway assignments.
Readback of all runway hold short instructions is required.
Airport Surface Surveillance Capability (ASSC) in use. Operate transponders with altitude reporting mode and ADS-B (if equipped) enabled on all airport surfaces.
Runway status lights in operation.
Birds in vicinity of airport.
Simultaneous operations in effect all runways.
Low-Level Wind Shear Alert System.
No grooving exists at airport runway intersections.

ADDITIONAL RUNWAY INFORMATION

RWY			USABLE LENGTHS — LANDING BEYOND: Threshold	LANDING BEYOND: Glide Slope	TAKE-OFF	WIDTH
1R	HIRL CL REIL	grooved RVR	8090′ 2466m			200′ 61m
19L	HIRL CL ❶ MALSF TDZ ❷ PAPI-L	grooved RVR		7607′ 2319m		
❶ Non-standard length of 1115′.						
❷ Angle 3.0°.						
1L	HIRL CL REIL	grooved RVR	7010′ 2137m			200′ 61m
19R	HIRL CL PAPI-L (angle 3.00°)	grooved RVR				
10R	HIRL CL PAPI-L (angle 3.00°)	grooved RVR	10,704′ 3263m			200′ 61m
28L	HIRL CL MALSR ❸ PAPI-L	grooved RVR	10,275′ 3132m	10,015′ 3053m		
❸ Angle 2.85°.						
10L	HIRL CL REIL ❹ PAPI-L	grooved RVR	11,193′ 3412m			200′ 61m
28R	HIRL CL ALSF-II TDZ ❹ PAPI-L	grooved RVR	11,236′ 3425m	10,505′ 3202m		
❹ Angle 3.0°.						

TAKE-OFF & OBSTACLE DEPARTURE PROCEDURE (AMEND 9)

Rwys 1L/R

2 operating RVRs are required, All operating RVRs are controlling: CL & HIRL	2 operating RVRs are required, All operating RVRs are controlling: CL, or RCLM & HIRL	Adequate Vis Ref	STD: 3 & 4 Eng	STD: 1 & 2 Eng
TDZ RVR 5, Mid RVR 5, Rollout RVR 5	TDZ RVR 10, Mid RVR 10, Rollout RVR 10	RVR 16 or 1/4	RVR 24 or 1/2	RVR 50 or 1

Rwys 10L/R

2 operating RVRs are required, All operating RVRs are controlling: CL & HIRL	2 operating RVRs are required, All operating RVRs are controlling: CL, or RCLM & HIRL	Adequate Vis Ref	STD: 3 & 4 Eng	STD: 1 & 2 Eng
TDZ RVR 5, Mid RVR 5, Rollout RVR 5	TDZ RVR 10, Mid RVR 10, Rollout RVR 10	RVR 16 or 1/4	RVR 24 or 1/2	RVR 50 or 1

Rwys 19L/R

With Mim climb of 575′/NM to 2000′

2 operating RVRs are required, All operating RVRs are controlling: CL & HIRL	2 operating RVRs are required, All operating RVRs are controlling: CL, or RCLM & HIRL	Adequate Vis Ref	STD: 3 & 4 Eng	STD: 1 & 2 Eng
TDZ RVR 5, Mid RVR 5, Rollout RVR 5	TDZ RVR 10, Mid RVR 10, Rollout RVR 10	RVR 16 or 1/4	RVR 24 or 1/2	RVR 50 or 1

Rwys 28L/R

With Mim climb of 351′/NM to 1300′

2 operating RVRs are required, All operating RVRs are controlling: CL & HIRL	2 operating RVRs are required, All operating RVRs are controlling: CL, or RCLM & HIRL	Adequate Vis Ref	STD: 3 & 4 Eng	STD: 1 & 2 Eng
TDZ RVR 5, Mid RVR 5, Rollout RVR 5	TDZ RVR 10, Mid RVR 10, Rollout RVR 10	RVR 16 or 1/4	RVR 24 or 1/2	RVR 50 or 1

OBSTACLE DP

Rwys 1L/R: Climb heading 014° to 2000′, thence...
Rwys 28L/R: Climb heading 284° to 2000′, thence...
Rwys 10L/R: Climbing left turn heading 053° to intercept SFO VOR R-090 to 2300′, thence...
Rwys 19L/R: Climbing left turn heading 053° to intercept SFO VOR R-090 to 2600′, thence...
...continue climb on course.
(For TAKEOFF OBSTACLE NOTES see 10-9A1)

DIVERSE VECTOR AREA (Radar Vectors) (AMEND 1)

Rwy 1L: Headings as assigned by ATC; requires minimum climb of 420′/NM to 2600.
Rwy 1R: Headings as assigned by ATC; requires minimum climb of 410′/NM to 2600.
Rwy 10L/10R: Headings as assigned by ATC.

FOR FILING AS ALTERNATE

	ILS Rwy 19L, ILS Rwy 28R	ILS Rwy 28L, LOC Rwy 28R, RNAV (GPS) Rwy 19L, RNAV (GPS) Rwy 19R, RNAV (RNP) Y Rwy 28R, RNAV (GPS) PRM Rwy 28L	RNAV (GPS) Z Rwy 28R	LOC Rwy 28L
A	600-2	800-2	800-2	900-2
B			1000-2	1000-2
C			1600-3	1600-3
D			800-2	800-2

	RNAV (GPS) Rwy 28L	RNAV (RNP) Z Rwy 10R	RNAV (GPS) Rwy 10L, RNAV (GPS) Y Rwy 10R	LOC Rwy 19L	Other
A	1100-2	1100-4	1200-2	1800-2	NA
B					
C	1600-3		1200-3	1800-3	
D	1100-2½				

CHANGES: None.

ODP TAKEOFF OBSTACLE NOTES

◦ RWY 1L:

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/ 48' 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.

CHANGES: New obstacle page.

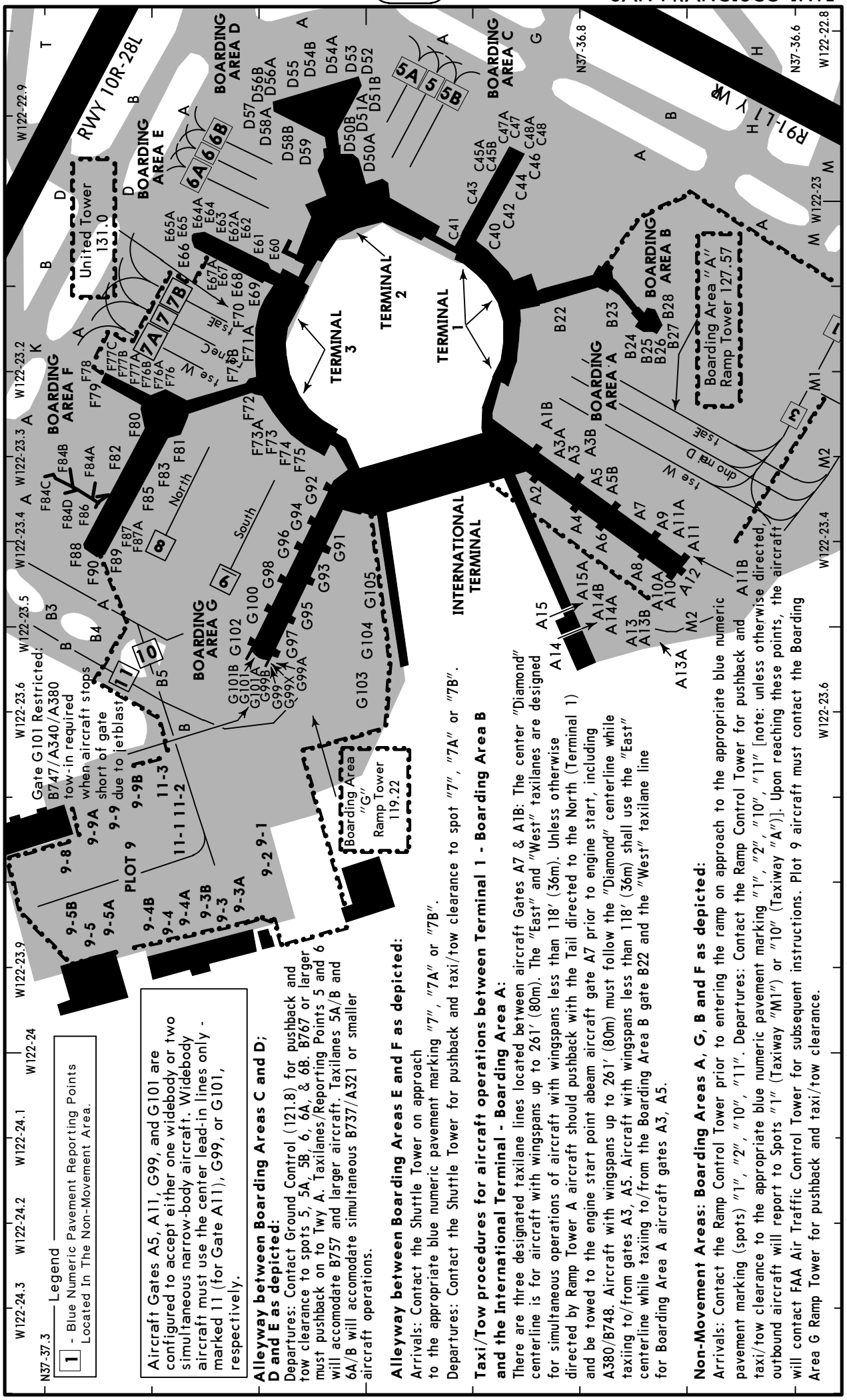
KSFO/SFO

JEPPESEN

5 APR 19 (10-9B)

SAN FRANCISCO, CALIF

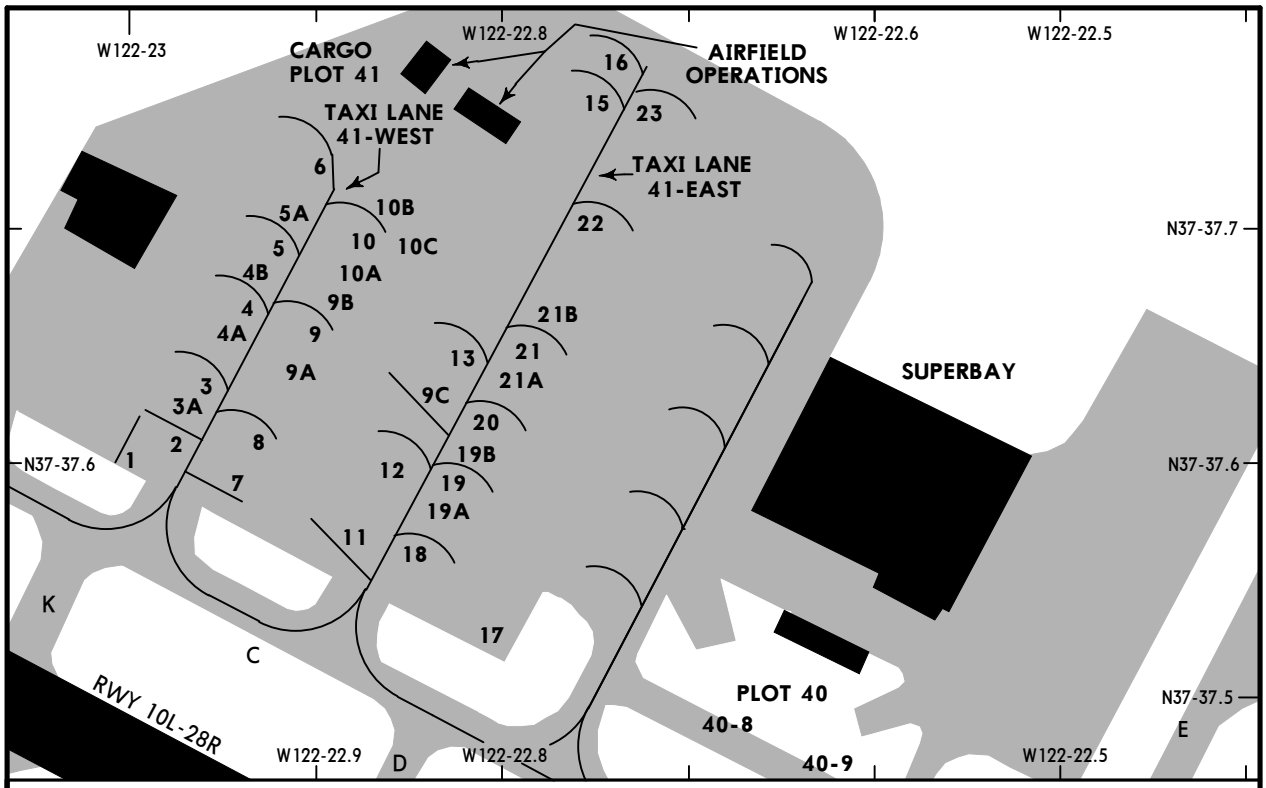
SAN FRANCISCO INTL



CHANGES: Gates A1 and A1A removed, notes.

SAN FRANCISCO, CALIF

SAN FRANCISCO INTL



PARKING GATE COORDINATES

GATE No.	COORDINATES	
BOARDING AREA A		
A1B, A2, A3, A3A	N37 36.8	W122 23.3
A3B, A4, A5, A5B	N37 36.8	W122 23.4
A6, A7	N37 36.8	W122 23.4
A8 thru A12	N37 36.7	W122 23.4
A13, A13A, A13B	N37 36.7	W122 23.5
A14 thru A15A	N37 36.8	W122 23.5
BOARDING AREA B		
B22, B23	N37 36.8	W122 23.1
B24, B25, B26, B27	N37 36.7	W122 23.2
B28	N37 36.7	W122 23.1
BOARDING AREA C		
C40 thru C44	N37 36.9	W122 23.0
C45A, C45B	N37 36.9	W122 22.9
C46	N37 36.9	W122 23.0
C47, C48	N37 36.9	W122 22.9
BOARDING AREA D		
D50 thru D52	N37 37.0	W122 22.9
D53, D54A	N37 37.0	W122 22.8
D54B	N37 37.1	W122 22.8
D55 thru D58B	N37 37.1	W122 22.9
D59	N37 37.1	W122 23.0
BOARDING AREA E		
E60 thru E62	N37 37.1	W122 23.1
E63	N37 37.1	W122 23.0
E64, E65	N37 37.2	W122 23.0
E66	N37 37.2	W122 23.1
E67 thru E69	N37 37.1	W122 23.1
BOARDING AREA F		
F70	N37 37.1	W122 23.1
F71A/B, F72	N37 37.1	W122 23.2
F73 thru F75	N37 37.1	W122 23.3
F76 thru F79	N37 37.2	W122 23.2
F80 thru F85	N37 37.2	W122 23.3
F86	N37 37.3	W122 23.4
F87	N37 37.2	W122 23.4
F88	N37 37.3	W122 23.4
F89	N37 37.2	W122 23.4
F90	N37 37.3	W122 23.4
BOARDING AREA G		
G91	N37 37.0	W122 23.4

GATE No.	COORDINATES	
BOARDING AREA G		
G92	N37 37.1	W122 23.3
G93	N37 37.0	W122 23.4
G94	N37 37.1	W122 23.4
G95	N37 37.1	W122 23.5
G96	N37 37.1	W122 23.4
G97	N37 37.1	W122 23.5
G98 thru G101A	N37 37.1	W122 23.5
G101B	N37 37.1	W122 23.6
G102	N37 37.1	W122 23.5
G103	N37 37.0	W122 23.6
G104, G105	N37 37.0	W122 23.5
PLOT 9		
9-1, 9-2	N37 37.1	W122 23.8
9-3, 9-3A, 9-3B	N37 37.1	W122 23.8
9-4, 9-4A, 9-4B	N37 37.2	W122 23.8
9-5, 9-5A, 9-5B	N37 37.3	W122 23.9
9-8	N37 37.3	W122 23.8
9-9, 9-9A, 9-9B	N37 37.2	W122 23.7
11-1	N37 37.2	W122 23.8
11-2, 11-3	N37 37.2	W122 23.7
PLOT 10		
Westfield Cargo	N37 37.5	W122 23.6
PLOT 40		
40-8	N37 37.5	W122 22.7
40-9	N37 37.5	W122 22.6
41-WEST		
1, 2, 3, 3A	N37 37.6	W122 23.0
4, 4A, 4B, 5, 5A, 6	N37 37.7	W122 22.9
7, 8, 9A	N37 37.6	W122 22.9
9, 9B	N37 37.7	W122 22.9
10, 10A, 10B,10C	N37 37.7	W122 22.9
41-EAST		
9C	N37 37.6	W122 22.8
11, 12	N37 37.6	W122 22.9
13	N37 37.6	W122 22.8
15, 16	N37 37.8	W122 22.7
17	N37 37.5	W122 22.8
18, 19, 19A, 19B	N37 37.6	W122 22.8
20, 21, 21A	N37 37.6	W122 22.8
21B, 22	N37 37.7	W122 22.8
23	N37 37.8	W122 22.7

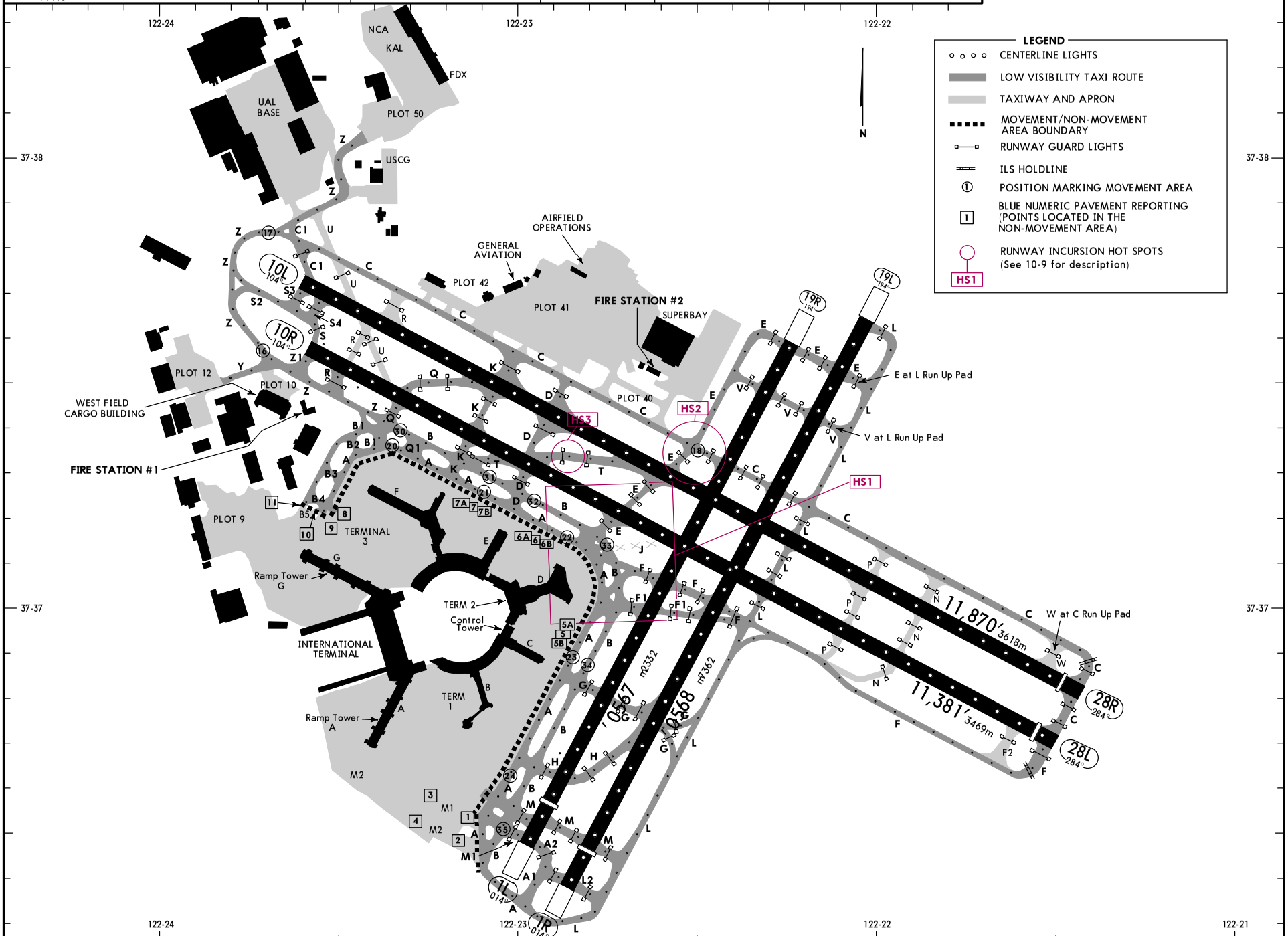
CHANGES: Gates A1 and A1A removed.

KSFO/SFO
SAN FRANCISCO INTL
16 NOV 18
10-9D
LESS THAN RVR 1200 to 500

JEPPESEN

SMGCS
SAN FRANCISCO, CALIF
LOW VISIBILITY TAXI ROUTES

D-ATIS			Data Comm ACARS: D-ATIS PDC	Data Comm CPDLC: DCL	SAN FRANCISCO Clearance (Cpt)	Ground	Tower	NORCAL Departure (R) NW-E	NORCAL Departure (R) SE-W
113.7 VOT 111.0	115.8	118.85			118.2	121.8	120.5	120.9	135.1



CHANGES: Reissue.

KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN

28 DEC 18 (11-1)

SAN FRANCISCO, CALIF
ILS or LOC Rwy 19L

D-ATIS	NORCAL Approach (R)	SAN FRANCISCO Tower	Ground
113.7 115.8 118.85	134.5	120.5	121.8

BRIEFING STRIP™

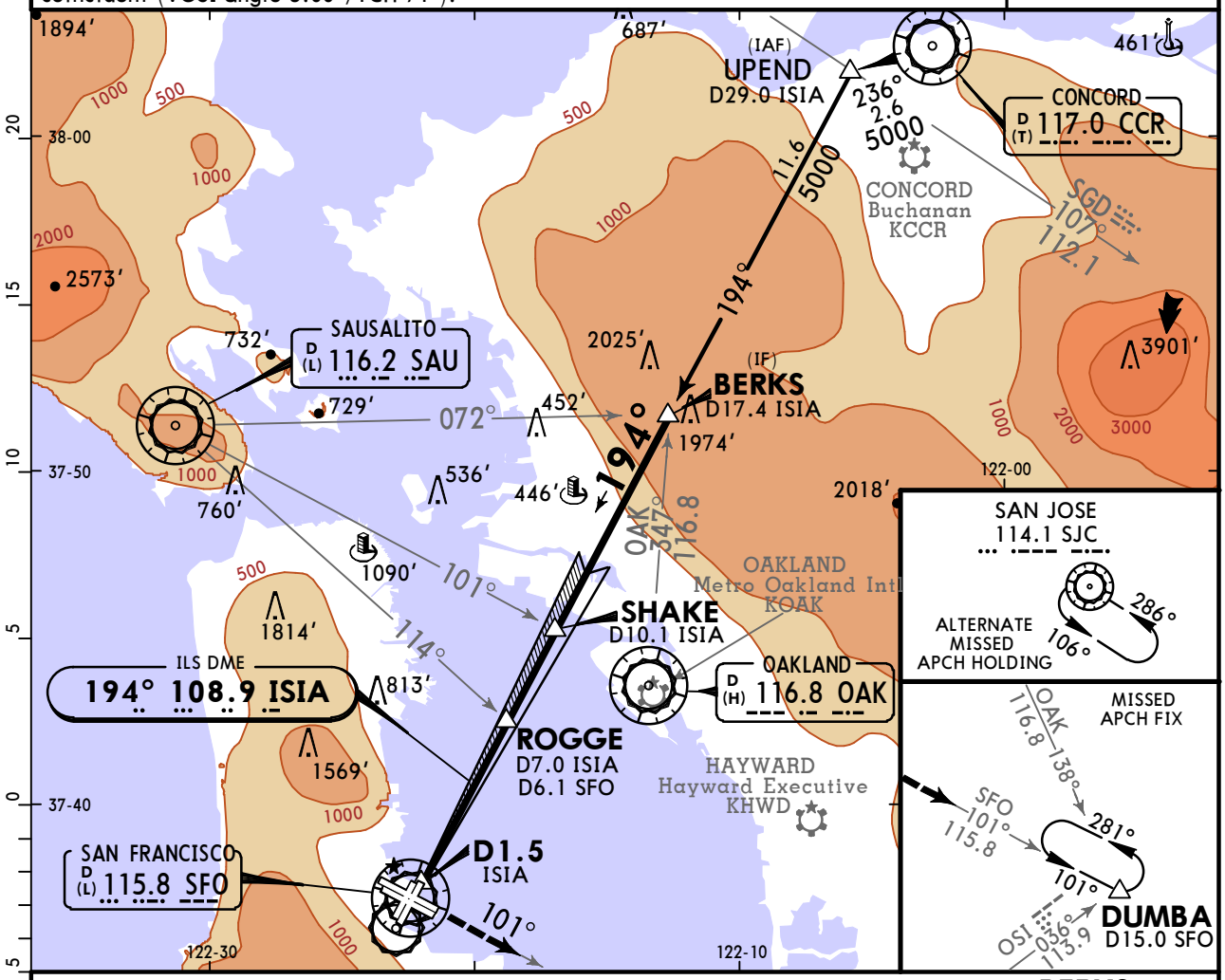
LOC ISIA	Final Apch Crs	GS	ILS DA(H)	Apt Elev 13′
108.9	194°	SHAKE 2800′ (2789′)	300′ (289′)	TDZE 11′

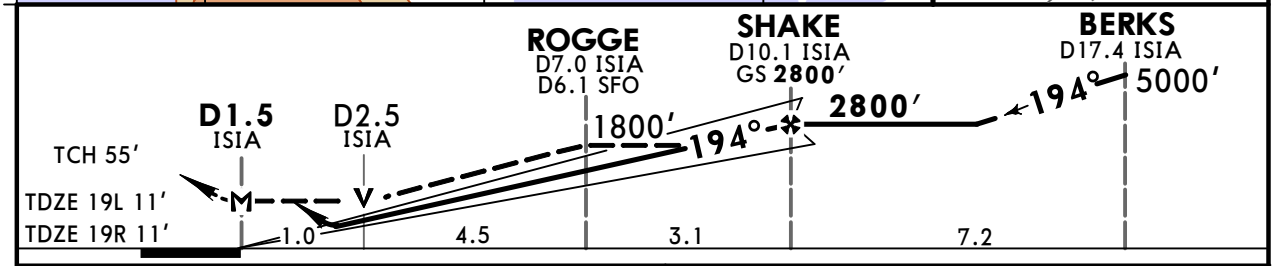
MISSED APCH: Climb to 520′, then climbing LEFT turn to 4000′ outbound on SFO VOR R-101 to DUMBA INT/D15.0 SFO and hold.

Alt Set: INCHES Trans level: FL 180 Trans alt: 18000′

1. Sidestep not authorized until passing ROGGE intersection. 2. Simultaneous approach authorized. Simultaneous operations require use of vertical guidance; maintain last assigned altitude until established on the glideslope. 3. VGSI and ILS glidepath not coincident (VGSI angle 3.00°/TCH 71′).

MSA SFO VOR: 120° 5100 230° 3500 4500 360°





Gnd speed-Kts		70	90	100	120	140	160
GS	3.00°	372	478	531	637	743	849
MAP at D1.5 ISIA or SHAKE to MAP	8.6	7:22	5:44	5:10	4:18	3:41	3:14

MALSF PAPI | 520′ | 4000′ LT | SFO on 115.8 R-101 | DUMBA

TERPS

STRAIGHT-IN LANDING RWY 19L

	ILS DA(H) 300′ (289′) FULL	ILS DA(H) 300′ (289′) ALS out	LOC (GS out) 1 With ROGGE MDA(H) 400′ (389′)	LOC (GS out) 1 With ROGGE MDA(H) 400′ (389′) ALS out	Without ROGGE MDA(H) 1800′ (1789′)	Without ROGGE MDA(H) 1800′ (1789′) ALS out	SIDESTEP LANDING RWY 19R 1 With ROGGE MDA(H) 400′ (389′)
A	RVR 40 or ¾	RVR 45 or ⅞	RVR 40 or ¾	RVR 50 or 1	RVR 55 or 1¼ / 1¼	1½	RVR 55 or 1¼
B							
C			RVR 45 or ⅞	RVR 60 or 1¼	3		1½
D							2

1 Dual VOR receivers or DME required.

TERPS AMEND 22 13 SEP 2018

CHANGES: None.

KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN 28 DEC 18 (11-2)

SAN FRANCISCO, CALIF
ILS or LOC Rwy 28L

D-ATIS	NORCAL Approach (R)	SAN FRANCISCO Tower	Ground
113.7 115.8 118.85	134.5	120.5	121.8

BRIEFING STRIP ™

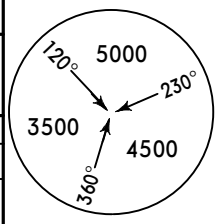
LOC ISFO	Final Apch Crs	GS DUYET	ILS DA(H) (CONDITIONAL)	Apt Elev 13′
109.55	284°	1800′ (1787′)	213′ (200′)	TDZE 13′

MISSED APCH: Climb to 4000′ outbound on SFO VOR R-275 to OLYMM INT/D15.4 SFO and hold, continue climb-in-hold to 4000′.

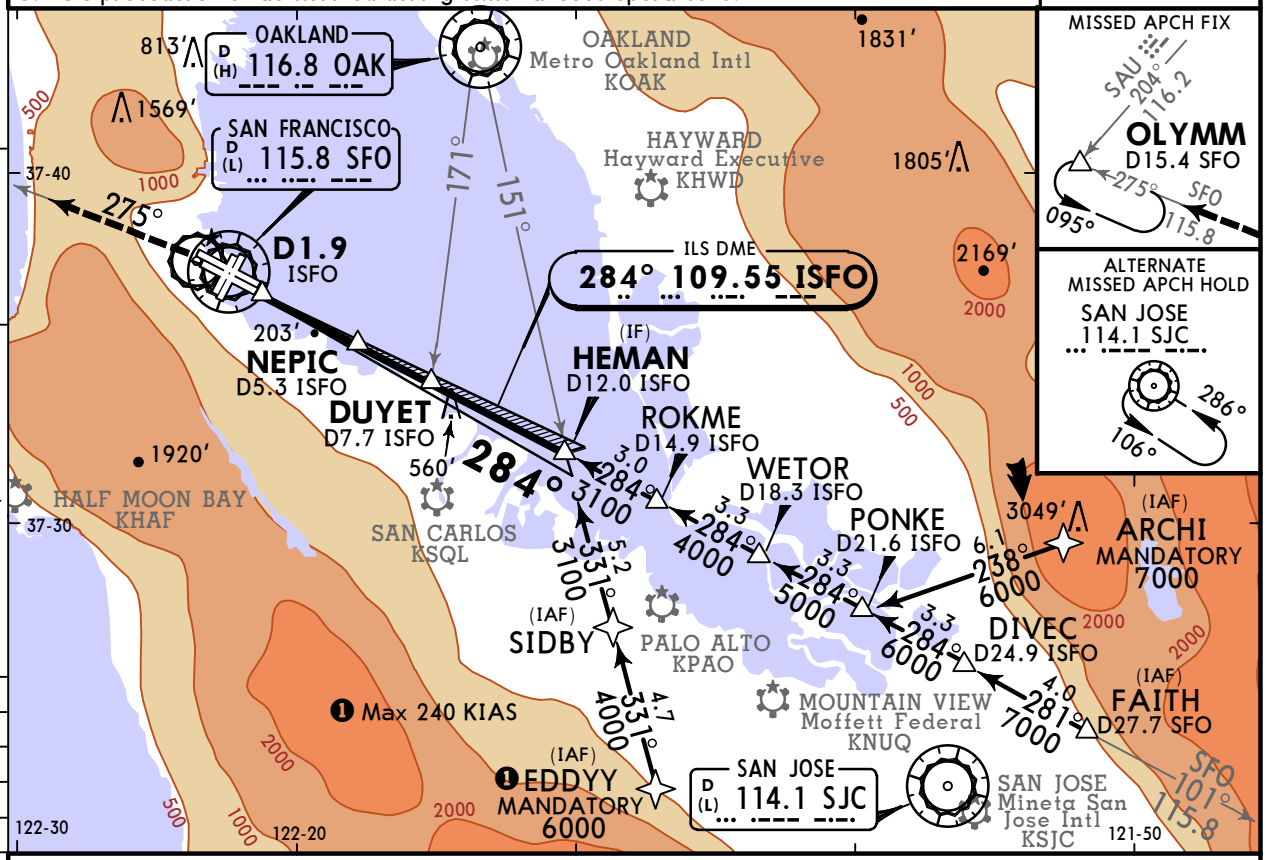
Alt Set: INCHES | Trans level: FL 180 | Trans alt: 18000′

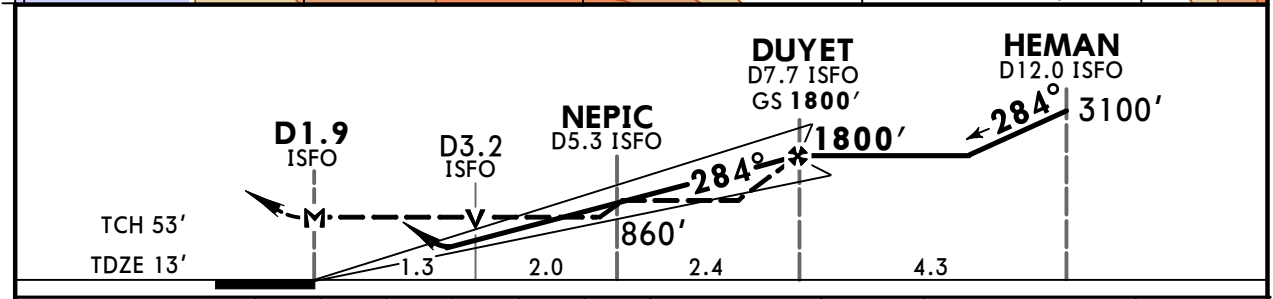
RNAV 1-GPS or RADAR required for procedure entry. DME required.

1. Circling Rwy 1L/R not authorized at night. 2. Use ISFO DME when on LOC course. 3. VGSI and ILS glidepath not coincident (VGSI angle 2.85°/TCH 67′). 4. CAT I ILS: Simultaneous approach authorized. Simultaneous operations require use of vertical guidance; maintain last assigned altitude until established on glideslope. 5. LOC procedure not authorized during simultaneous operations.



MSA SFO VOR





Gnd speed-Kts		70	90	100	120	140	160
GS	2.85°	353	454	504	605	706	807
MAP at D1.9 ISFO or DUYET to MAP	5.7	4:53	3:48	3:25	2:51	2:27	2:08

MALSR PAPI

4000′ SFO on 115.8 R-275 OLYMM

TERPS STRAIGHT-IN LANDING RWY 28L

	ILS DA(H) 213′ (200′) FULL	ILS DA(H) 213′ (200′) RAIL/ALS out	ILS DA(H) 789′ (776′) FULL	ILS DA(H) 789′ (776′) RAIL/ALS out	LOC (GS out) MDA(H) 460′ (447′)	LOC (GS out) MDA(H) 460′ (447′) RAIL/ALS out	LOC (GS out) MDA(H) 860′ (847′)	LOC (GS out) MDA(H) 860′ (847′) RAIL/ALS out
A	[2] RVR 24 or 1/2	RVR 40 or 3/4	1 3/4	2 1/2	RVR 24 or 1/2	RVR 50 or 1	RVR 24 or 1/2	RVR 50 or 1
B							RVR 40 or 3/4	RVR 55 or 1 1/4
C					RVR 45 or 7/8	1 3/8	1 7/8	2 1/2
D								

CIRCLE-TO-LAND

Not Authorized to Rwys 10L/R and 19L/R.

Max Kts	MDA(H)
90	860′ (847′) -1 1/4
120	960′ (947′) -1 1/4
140	1560′ (1547′) -3
D	NA

[1] Missed approach requires a minimum climb of 330′/NM to 1600′.

[2] RVR 18 authorized with use of Flight Director or Autopilot or HUD to DA(H).

TERPS AMEND 27A 8 NOV 2018

CHANGES: Notes.

KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN 22 FEB 19 11-2A

SAN FRANCISCO, CALIF
ILS Rwy 28L SA CAT II

D-ATIS	NORCAL Approach (R)	SAN FRANCISCO Tower	Ground
113.7 115.8 118.85	134.5	120.5	121.8

LOC ISFO	Final Apch Crs	GS	SA CAT II ILS	Apt Elev 13′
109.55	284°	DUYET 1800′ (1787′)	RA 106′ DA(H) 113′ (100′)	TDZE 13′

MISSED APCH: Climb to 4000′ outbound on SFO VOR R-275 to OLYMM INT/D15.4 SFO and hold, continue climb-in-hold to 4000′.

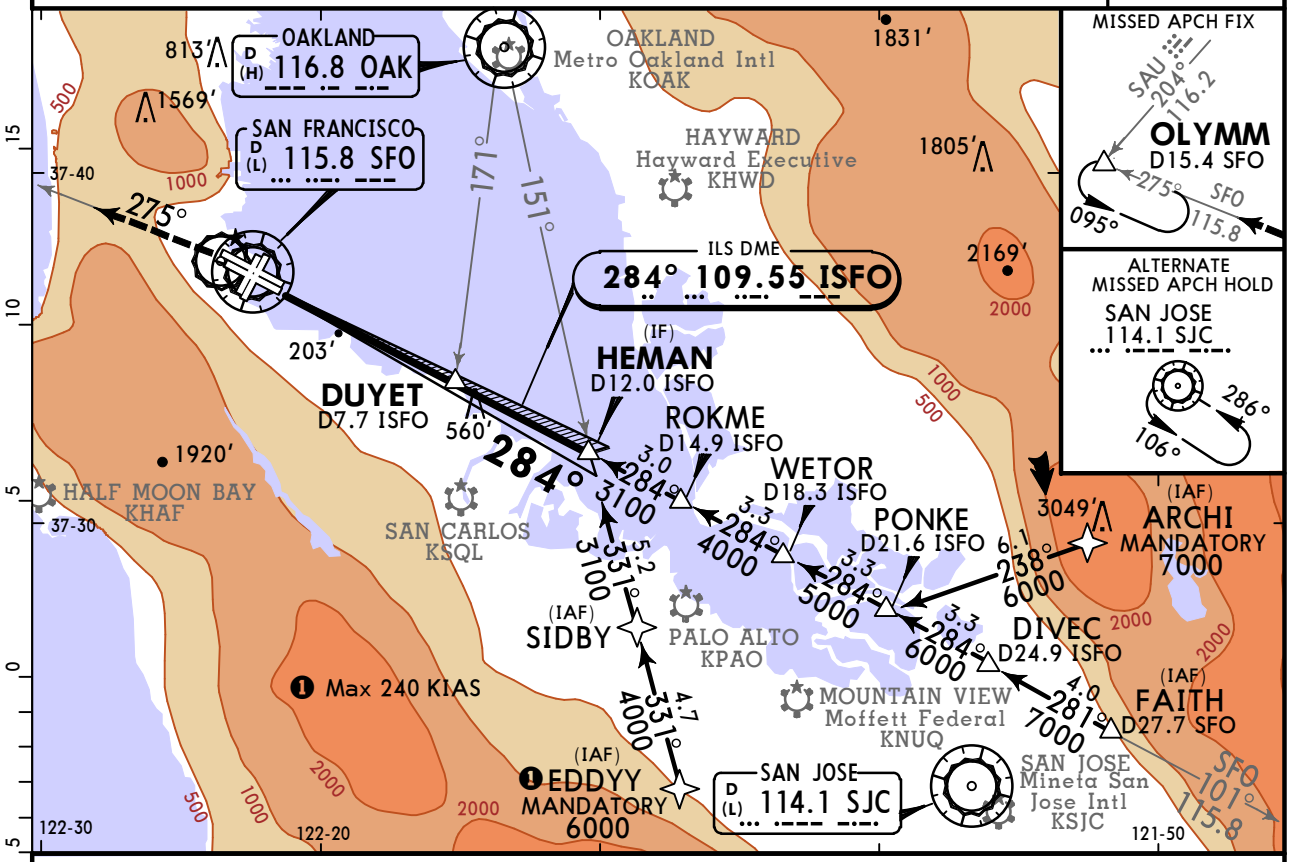
Alt Set: INCHES | Trans level: FL 180 | Trans alt: 18000′

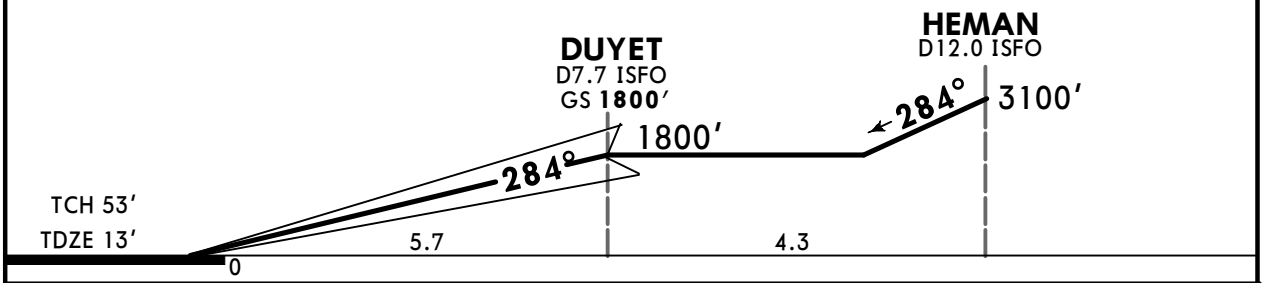
RNAV 1-GPS or RADAR required for procedure entry. DME required.

1. Special Aircrew & Acft Certification Required. 2. Use ISFO DME when on LOC course.
3. VGSI and ILS glidepath not coincident (VGSI angle 2.85°/TCH 67′).

MSA SFO VOR
120° 5000
230°
3500
4500
360°

BRIEFING STRIP ™





Gnd speed-Kts	70	90	100	120	140	160
GS 2.85°	353	454	504	605	706	807

MALSR PAPI 4000′ SFO on 115.8 R-275 OLYMM

TERPS

STRAIGHT-IN LANDING RWY **28L**
1 SA CAT II ILS
RA 106′
2 DA(H) **113′** (100′)

A	RVR 12
B	
C	
D	

1 Reduced lighting: Requires specific OPSPEC, MSPEC, or LOA approval and use of AUTOLAND or HUD to touchdown.

2 Missed approach requires minimum climb of 330′/NM to 1600′.

TERPS AMEND 27B 8 NOV 2018

CHANGES: Minimums.

ATTENTION ALL USERS OF ILS PRECISION RUNWAY MONITOR (PRM)

ILS PRM RWY 28L: Straight-in-Approach
(SIMULTANEOUS CLOSE PARALLEL)

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).

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.

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 glideslope 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.

KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN
1 DEC 17 (11-3A) Eff 7 Dec
(SIMULTANEOUS CLOSE PARALLEL)

SAN FRANCISCO, CALIF
ILS PRM Rwy 28L

BRIEFING STRIP™

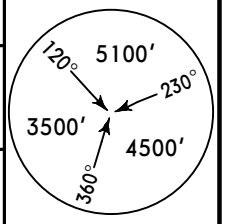
D-ATIS	NORCAL Approach (R)	SAN FRANCISCO Tower	Ground
113.7 115.8 118.85	134.5	120.5 Monitor Frequency 125.15	121.8

LOC ISFO	Final Apch Crs	GS	ILS DA(H) (CONDITIONAL)	Apt Elev 13'
109.55	284°	DUYET 1800' (1787')	213' (200')	TDZE 13'

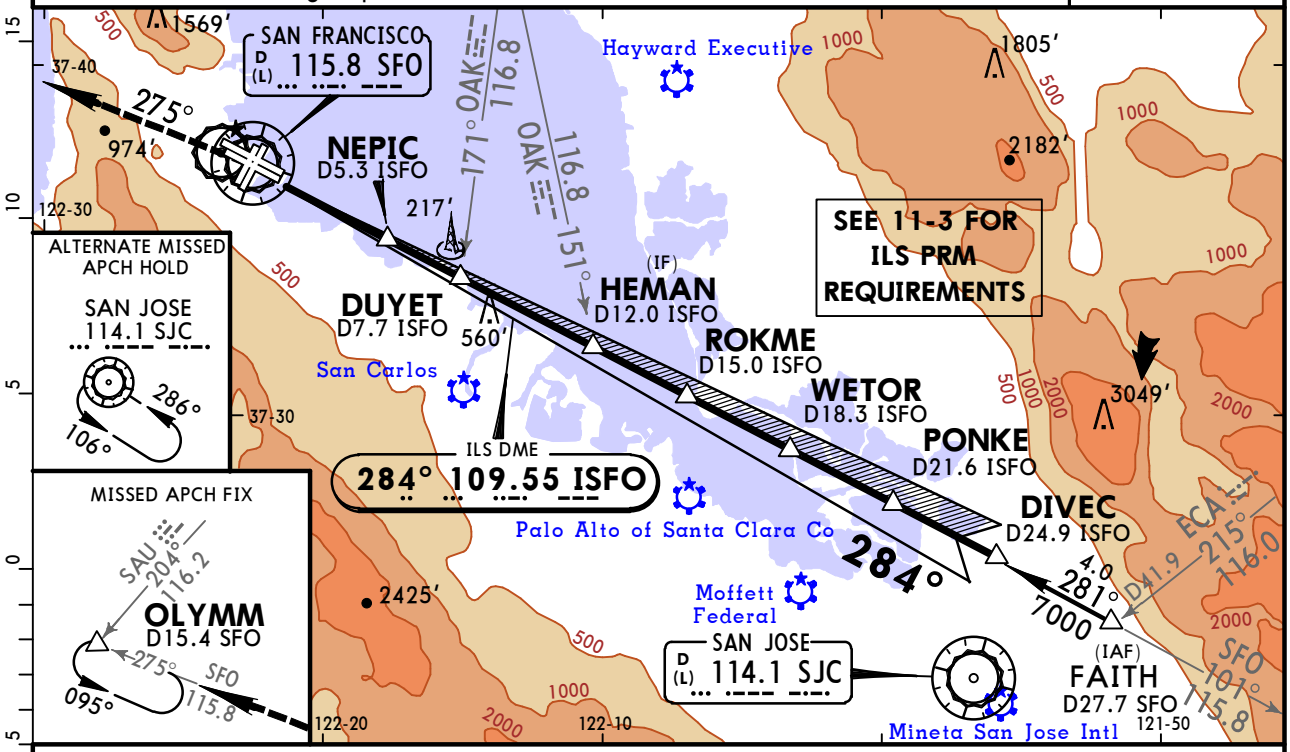
MISSED APCH: Climb to 4000' on SFO VOR R-275 to OLYMM INT/ D15.4 SFO and hold, or as directed by ATC.

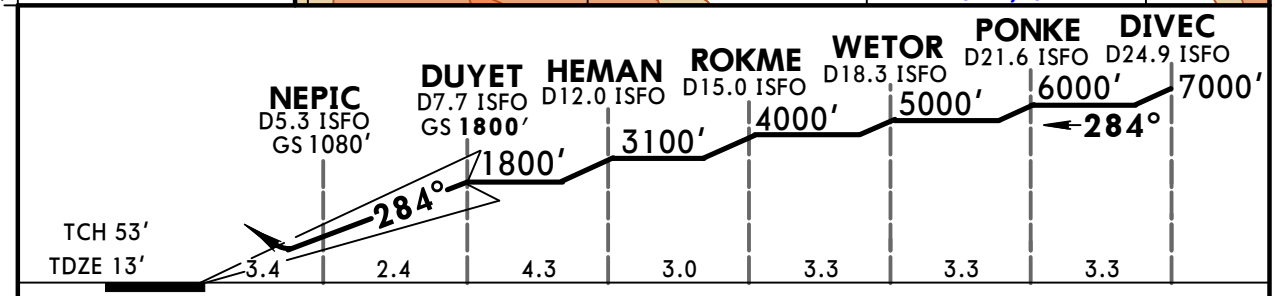
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000'

1. Radar and DME required. **2. Dual VHF communication required.** 3. Runway 28L and 28R separated by 750' centerline to centerline. 4. Simultaneous close parallel approach authorized with LDA PRM Runway 28R and RNAV (GPS) PRM X Runway 28R. 5. Procedure not authorized when glide slope not available. 6. See 11-3 for "Attention All Users of ILS Precision Runway Monitor (PRM)". 7. Use ISFO DME when on the LOC course. 8. VGSI and ILS glidepath not coincident.



MSA SFO VOR





Gnd speed-Kts		70	90	100	120	140	160
GS	2.85°	353	454	504	605	706	807

MALSR
PAPI
4000' on SFO 115.8 R-275
OLYMM

TERPS

STRAIGHT-IN LANDING RWY **28L**
ILS
1
DA(H) **213'** (200')

	FULL	RAIL/ALS out
A B C D	**2** RVR 24 or 1/2	RVR 40 or 3/4

1 Missed approach requires a minimum climb of 325'/NM to 2100', if unable to meet climb gradient, see ILS or LOC Rwy 28L (11-2).

2 RVR 18 authorized with the use of Flight Director or Autopilot or HUD to DA(H).

TERPS AMEND 3A 26 JUN 2014

CHANGES: None.

KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN 28 DEC 18 (11-4)

SAN FRANCISCO, CALIF
ILS or LOC Rwy 28R

BRIEFING STRIP ™

D-ATIS	NORCAL Approach (R)	SAN FRANCISCO Tower	Ground
113.7 115.8 118.85	134.5	120.5	121.8

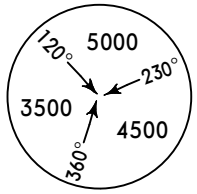
LOC IGWQ	Final Apch Crs	GS	ILS DA(H)	Apt Elev 13′
111.7	284°	AXMUL 1800′ (1787′)	213′ (200′)	TDZE 28R 13′

MISSED APCH: Climb to 3000′ on SFO VOR R-281 to VIKYU INT/ D12.0 SFO and hold. Missed approach requires minimum climb of 350′/NM to 1900′; if unable to meet climb gradient, see ILS or LOC Rwy 28L (11-2).

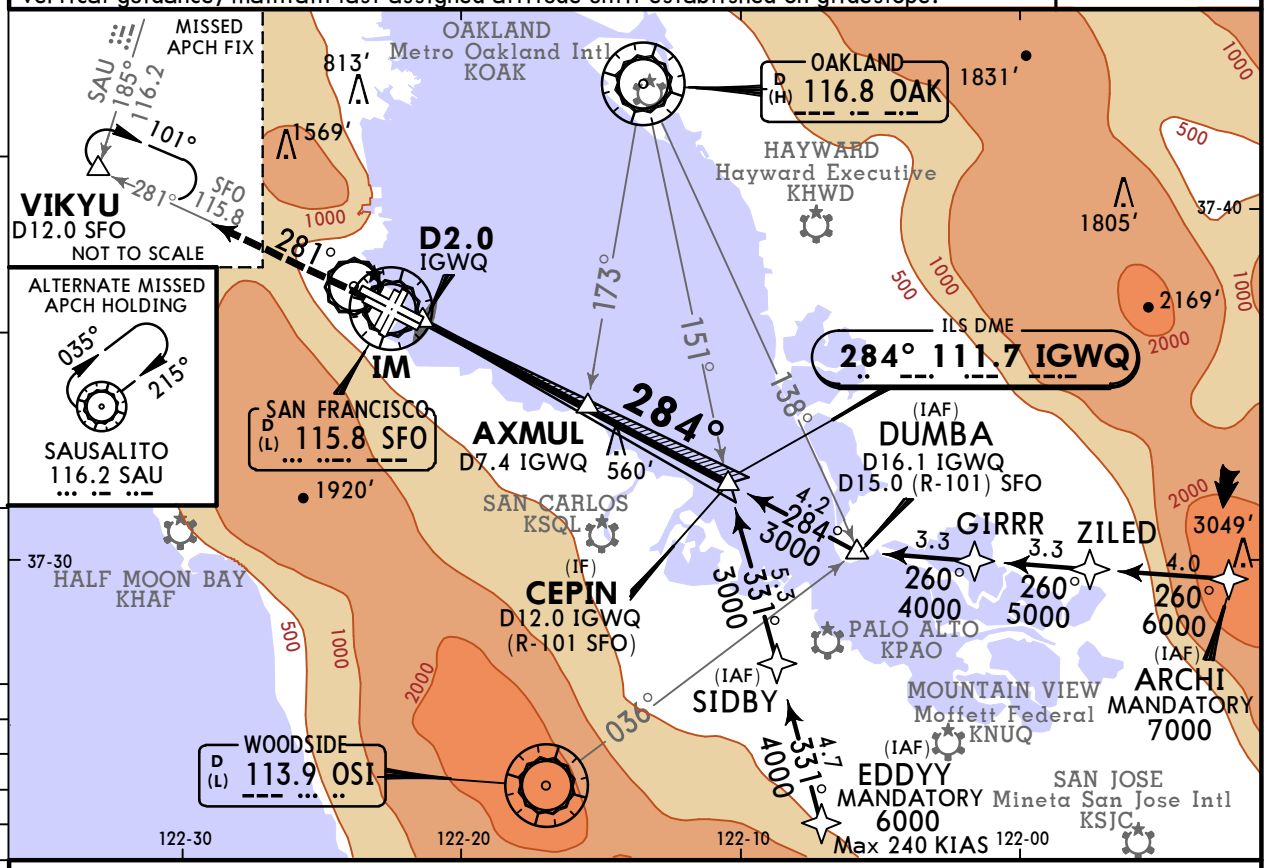
Alt Set: INCHES | Trans level: FL 180 | Trans alt: 18000′

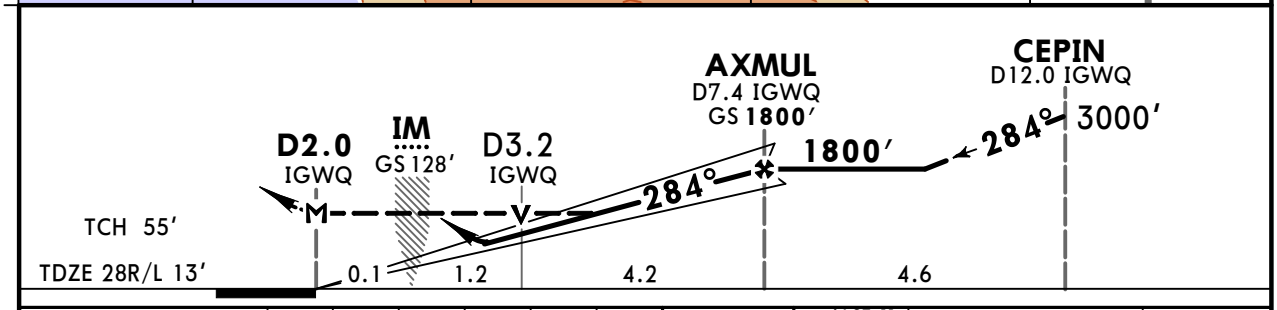
RNAV 1-GPS or RADAR required for procedure entry.

1. Circling Rwy 1L, 1R not authorized at night. 2. Use IGWQ DME when on the localizer course. 3. VGSI and ILS glidepath not coincident (VGSI angle 3.00°/TCH 68′). 4. MALSR, PAPI-L on Rwy 28L. 5. LOC procedure not authorized during simultaneous operations. 6. CAT I ILS: Simultaneous approach authorized. Simultaneous operations require use of vertical guidance; maintain last assigned altitude until established on glideslope.



MSA SFO VOR





Gnd speed-Kts		70	90	100	120	140	160
GS	3.00°	372	478	531	637	743	849
MAP at D2.0 IGWQ or AXMUL to MAP	5.4	4:38	3:36	3:14	2:42	2:19	2:02

ALSF-II PAPI

3000′ SFO on 115.8 R-281 VIKYU

TERPS — STRAIGHT-IN LANDING RWY 28R

	ILS DA(H) 213′ (200′)			LOC (GS out) MDA(H) 480′ (467′)	
	FULL	TDZ/CL out	ALS out		ALS out
A	RVR 18 or ½	[1] RVR 24 or ½	RVR 40 or ¾	RVR 24 or ½	RVR 50 or 1
B					
C				RVR 50 or 1	1⅜
D					

SIDESTEP LANDING RWY 28L

	MDA(H) 480′ (467′)	
		RAIL/ ALS out
A	RVR 55 or 1¼	
B		
C		
D	1½	

CIRCLE-TO-LAND

Ⓒ Not Authorized to Rwys 10L/R and 19L/R.

Max Kts	MDA(H)
90	740′ (727′) -1
120	960′ (947′) -1¼
140	1560′ (1547′) -3
D	NA

[1] RVR 18 with Flight Director or Autopilot or HUD to DA(H).

TERPS AMEND 15A 13 SEP 2018

CHANGES: Equipment requirement note.

KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN

28 DEC 18 (11-4A)

SAN FRANCISCO, CALIF
ILS Rwy 28R CAT II & III

D-ATIS	NORCAL Approach (R)	SAN FRANCISCO Tower	Ground
113.7 115.8 118.85	134.5	120.5	121.8

BRIEFING STRIP ™

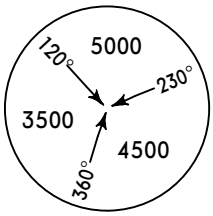
LOC IGWQ 111.7	Final Apch Crs 284°	GS AXMUL 1800′ (1787′)	CAT III Refer to Minimums	CAT II ILS RA 113′ DA(H) 113′ (100′)	Apt Elev 13′ TDZE 13′

MISSED APCH: Climb to 3000′ on SFO VOR R-281 to VIKYU INT/ D12.0 SFO and hold. Missed approach requires minimum climb of 350′/NM to 1900′; if unable to meet climb gradient, see ILS or LOC Rwy 28L (11-2).

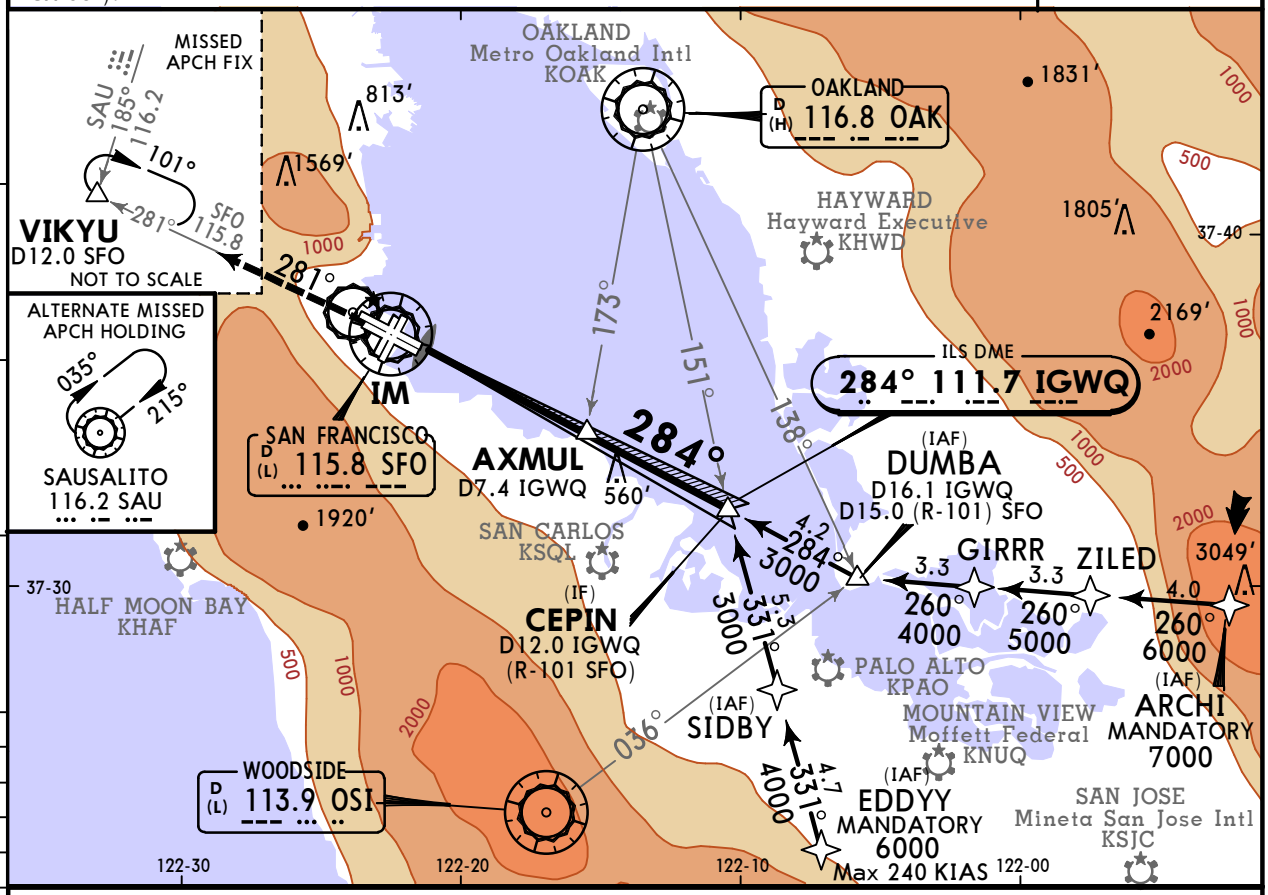
Alt Set: INCHES | Trans level: FL 180 | Trans alt: 18000′

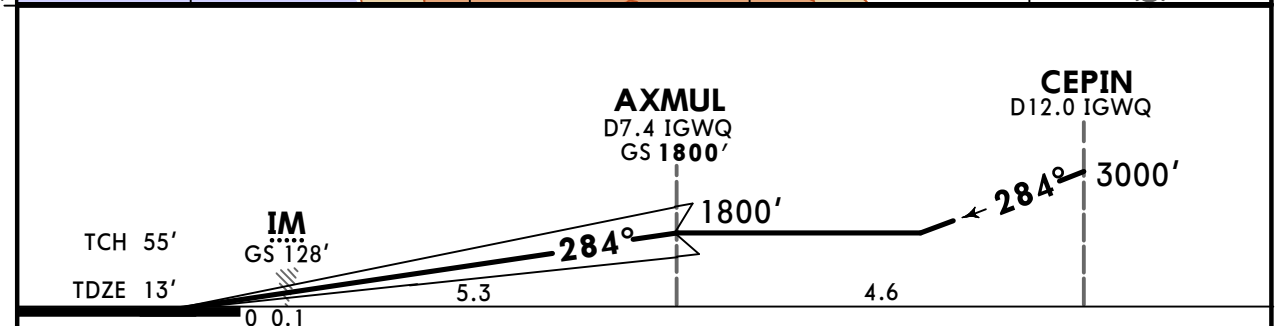
RNAV 1-GPS or RADAR required for procedure entry.

1. Special Aircrew & Acft Certification Required. 2. Use IGWQ DME when on the localizer course. 3. VGSI and ILS glidepath not coincident (VGSI angle 3.00°/ TCH 68′).



MSA SFO VOR





Gnd speed-Kts		70	90	100	120	140	160
GS	3.00°	372	478	531	637	743	849

ALSF-II PAPI

3000′ on SFO 115.8 R-281

VIKYU

TERPS

STRAIGHT-IN LANDING RWY 28R

CAT III ILS	CAT II ILS RA 113′ DA(H) 113′ (100′)
RVR 6	RVR 12

TERPS AMEND 15A 13 SEP 2018

CHANGES: Notes, equipment requirement note.

KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN

28 DEC 18

11-4B

SAN FRANCISCO, CALIF
ILS Rwy 28R SA CAT I

BRIEFING STRIP

D-ATIS	NORCAL Approach (R)	SAN FRANCISCO Tower	Ground
113.7 115.8 118.85	134.5	120.5	121.8

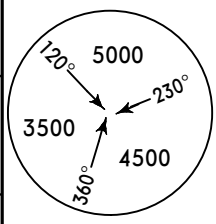
LOC IGWQ	Final Apch Crs	GS	SA CAT I ILS	Apt Elev 13′
111.7	284°	AXMUL 1800′ (1787′)	RA 163′ DA(H) 163′ (150′)	TDZE 13′

MISSED APCH: Climb to 3000′ on SFO VOR R-281 to VIKYU INT/ D12.0 SFO and hold. Missed approach requires minimum climb of 350′/NM to 1900′; if unable to meet climb gradient, see ILS or LOC Rwy 28L (11-2).

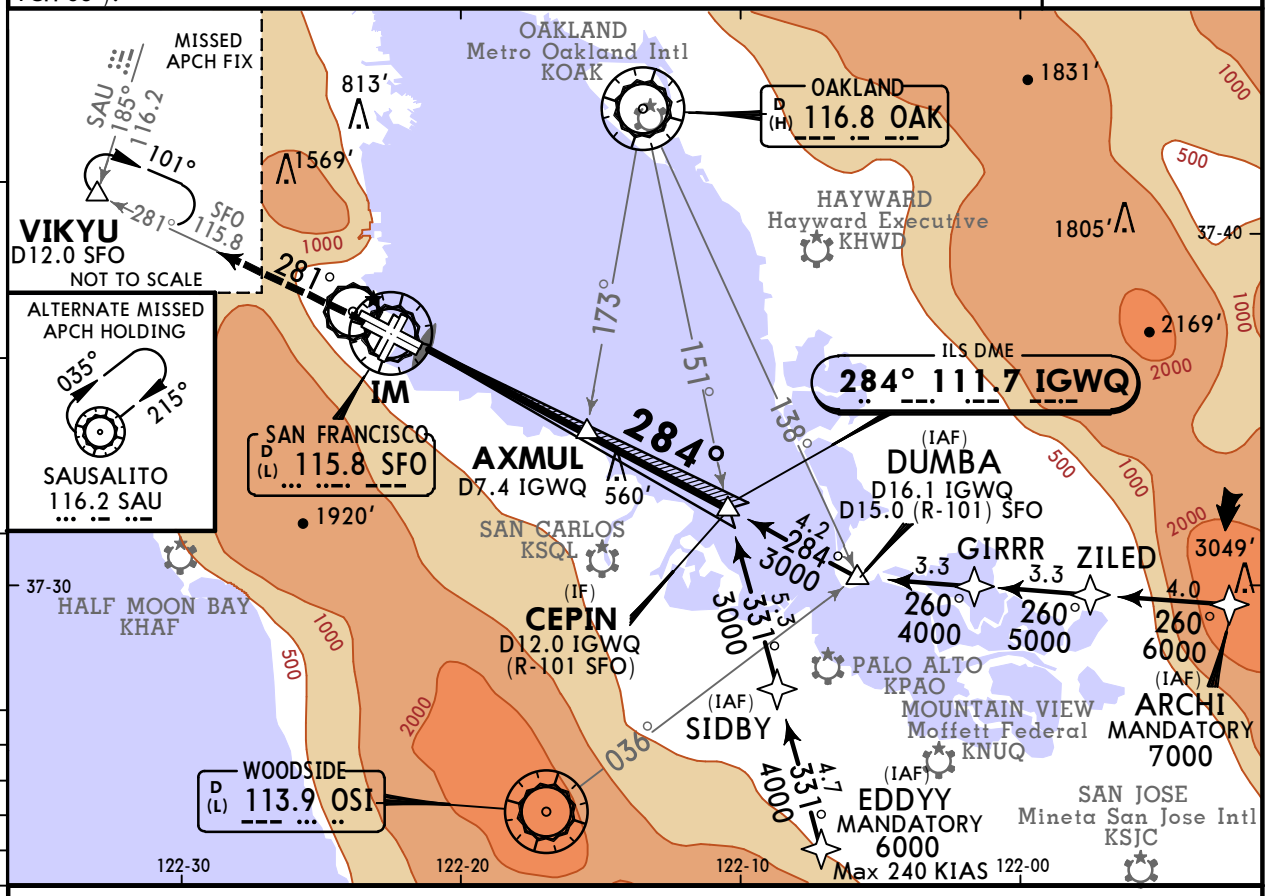
Alt Set: INCHES | Trans level: FL 180 | Trans alt: 18000′

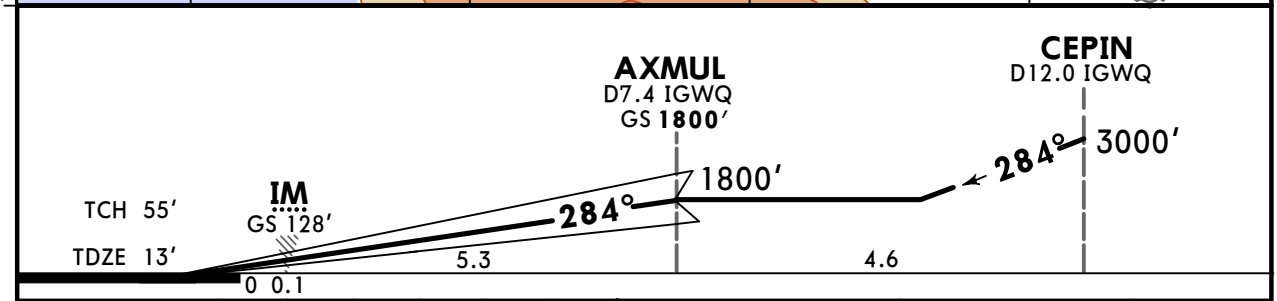
RNAV 1-GPS or RADAR required for procedure entry.

1. Special Aircrew & Acft Certification Required. 2. Use IGWQ DME when on the localizer course. 3. VGSI and ILS glidepath not coincident (VGSI angle 3.00°/ TCH 68′).



MSA SFO VOR





Gnd speed-Kts	70	90	100	120	140	160
GS 3.00°	372	478	531	637	743	849

ALSF-II | PAPI | 3000′ | SFO on 115.8 R-281 | VIKYU

TERPS

STRAIGHT-IN LANDING RWY 28R

1 SA CAT I ILS

RA 163′

DA(H) 163′ (150′)

A	RVR 14
B	
C	
D	

1 Requires specific OPSPEC, MSPEC, or LOA approval and use of HUD to DH.

TERPS AMEND 15A 13 SEP 2018

CHANGES: Notes, equipment requirement note.

KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN
4 NOV 16 (11-5) Eff 10 Nov

SAN FRANCISCO, CALIF
LDA DME Rwy 28R

D-ATIS	NORCAL Approach (R)	SAN FRANCISCO Tower	Ground
113.7 115.8 118.85	134.5	120.5	121.8

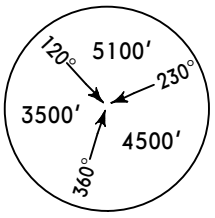
BRIEFING STRIP ™

LDA IFNP	Final Apch Crs	GS	DA(H) (CONDITIONAL)	Apt Elev 13′
110.75	281°	GOBEC 1800′ (1787′)	1140′ (1127′)	TDZE 13′

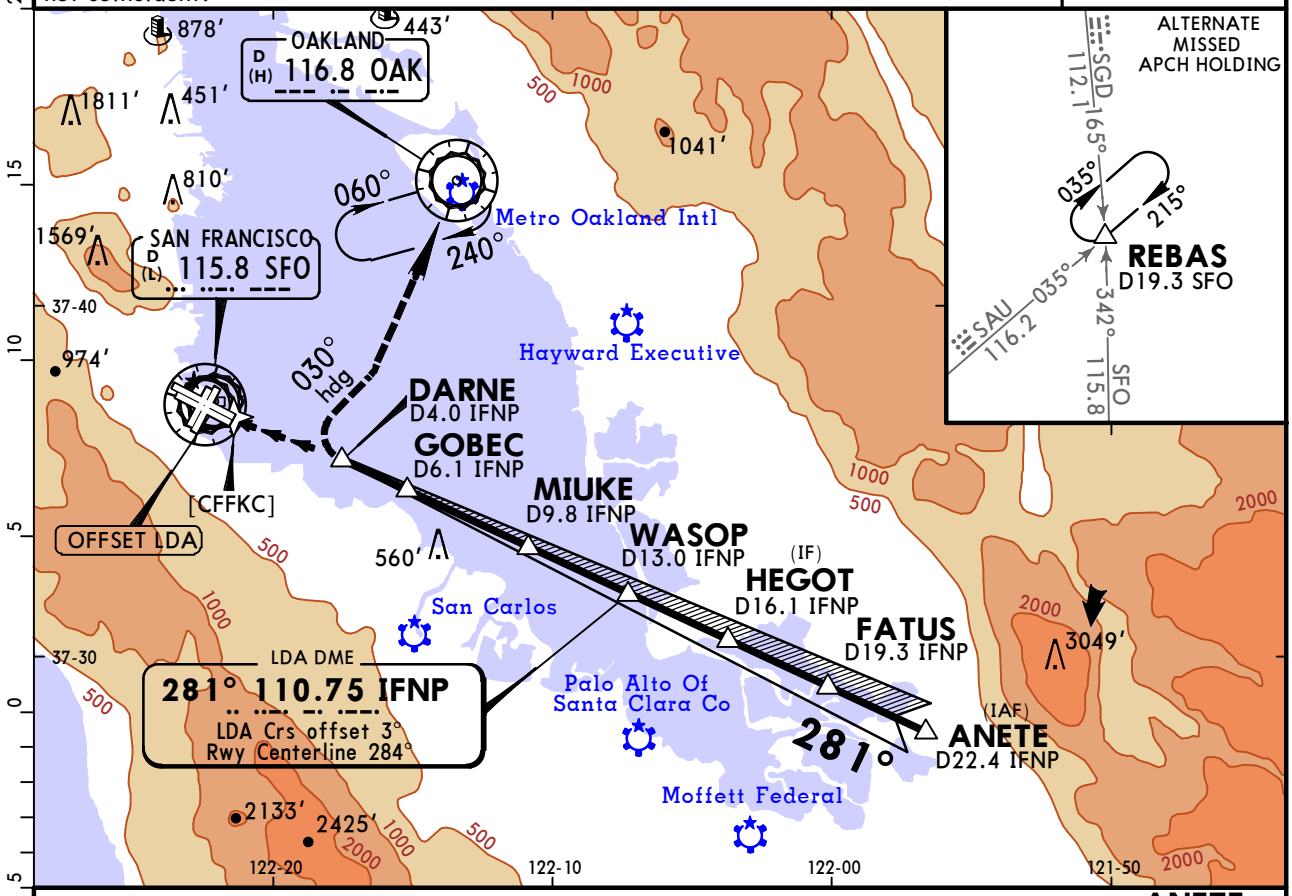
MISSED APCH: Climbing RIGHT turn to 3000′ on heading 030° then direct OAK VOR and hold, or as directed by ATC.

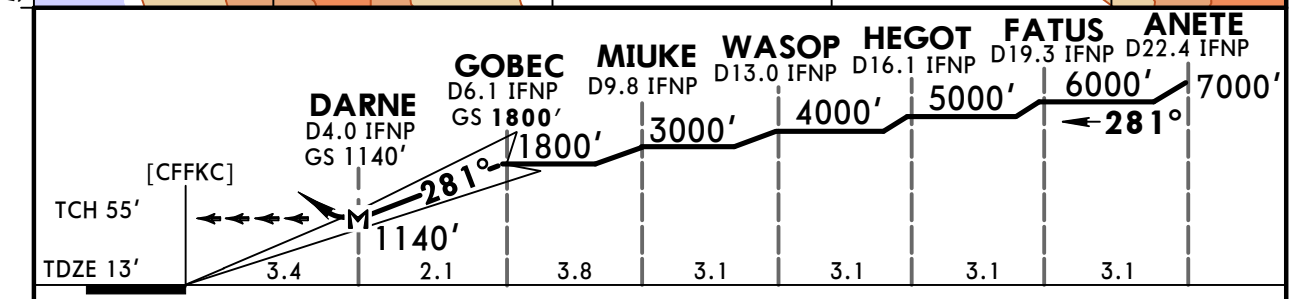
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000′

1.RADAR and DME required. 2. LDA/GLIDESLOPE. 3. Runway 28L and 28R separated by 750′ centerline to centerline. 4. Procedure not authorized when glideslope is not available. 5. Localizer course 1183′ right of rwy 28R THR. 6. VGSI and LDA glidepath not coincident.



MSA SFO VOR





Gnd speed-Kts		70	90	100	120	140	160
GS	3.00°	372	478	531	637	743	849
MAP at DARNE							

ALSF-II
PAPI

3000′ RT on 030° hdg

D

OAK 116.8

TERPS

STRAIGHT-IN LANDING RWY **28R**

1 LDA/GS

DA(H) **1140′** (1127′)

FULL	ALS out

A
B
C
D

TERPS AMEND 2B 13 OCT 2016

1 If go around exectued after passing DARNE, go around requires minimum climb of 380′/NM to 1800′

CHANGES: ATIS frequency, AMEND number.

ATTENTION ALL USERS OF LDA PRECISION RUNWAY MONITOR (PRM)

LDA PRM RWY 28R: Offset Approach with glideslope
(SIMULTANEOUS CLOSE PARALLEL)

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).

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.

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, if depicted on a map display, is for reference only. Follow IAP published missed approach procedure unless otherwise instructed by ATC.

KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN
1 DEC 17 11-6A Eff 7 Dec
(SIMULTANEOUS CLOSE PARALLEL)

SAN FRANCISCO, CALIF
LDA PRM Rwy 28R

D-ATIS	NORCAL Approach (R)	SAN FRANCISCO Tower	Ground
113.7 115.8 118.85	134.5	120.5 Monitor Frequency 127.675	121.8

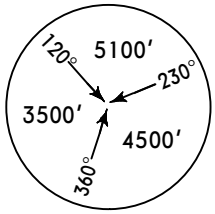
BRIEFING STRIP ™

LDA IFNP	Final Apch Crs	GS GOBEC	DA(H)	Apt Elev 13′
110.75	281°	1800′ (1787′)	1140′ (1127′)	TDZE 13′

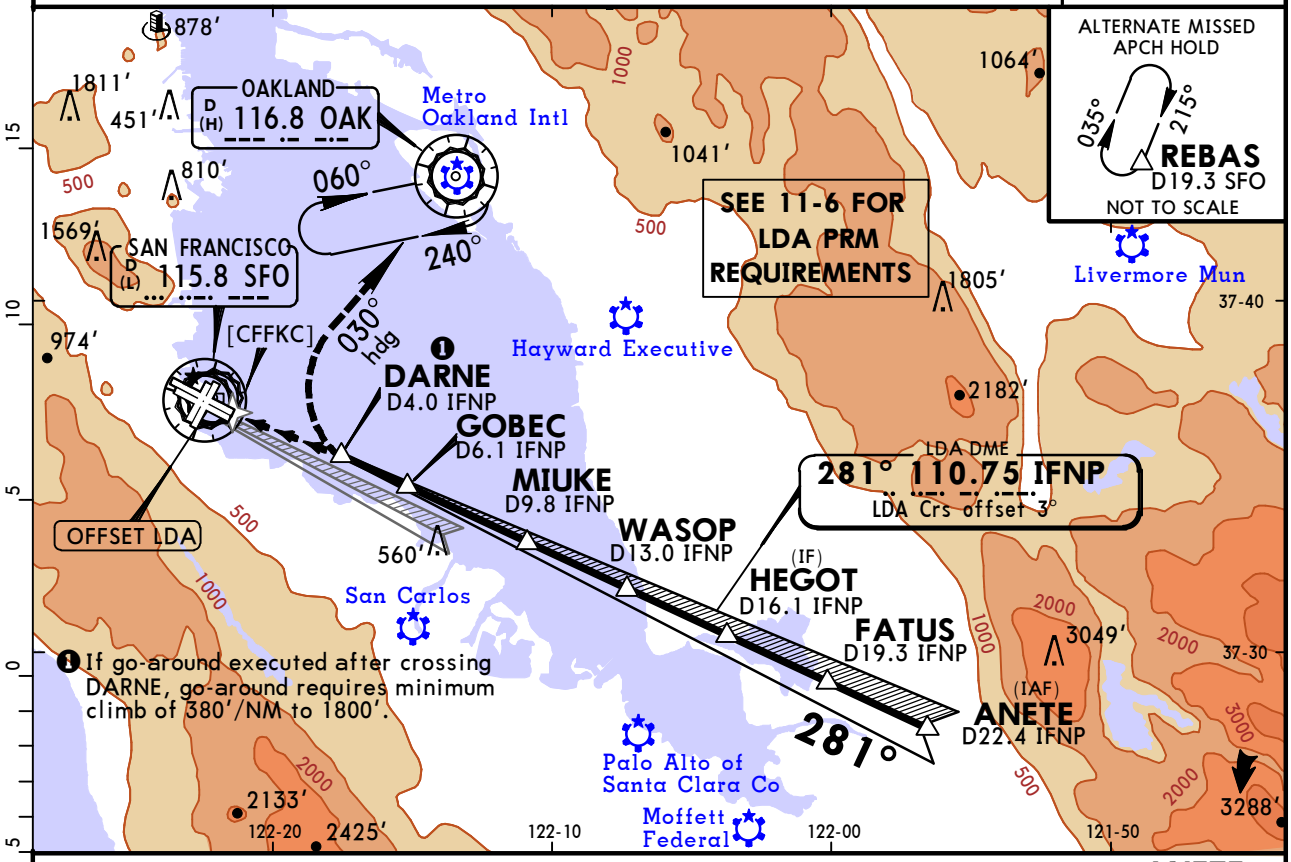
MISSED APCH: Climbing RIGHT turn to 3000′ on heading 030° then direct OAK VOR and hold, or as directed by ATC.

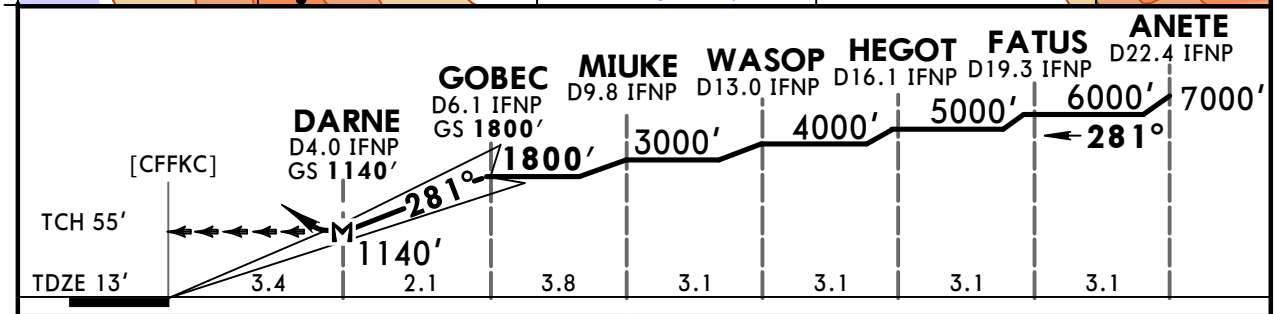
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000′

1. RADAR and DME required. 2. Dual VHF communication required. 3. LDA/GLIDESLOPE.
4. Simultaneous approach authorized with ILS PRM Rwy 28L and RNAV (GPS) PRM Rwy 28L.
5. See 11-6 for "Attention All Users of LDA Precision PRM Runway Monitor (PRM)".
6. LOC offset 3.00°. 7. Runways 28L and 28R separated by 750′ centerline to centerline.
8. Localizer course 1183′ right of Rwy 28R THR. 9. Procedure not authorized when glideslope not available. 10. VGSI and LDA glidepath not coincident.



MSA SFO VOR





Gnd speed-Kts	70	90	100	120	140	160
GS 3.00°	372	478	531	637	743	849
MAP at DARNE						

ALSF-II
PAPI
3000′ RT on 030° hdg
D
OAK 116.8

TERPS

STRAIGHT-IN LANDING RWY **28R**
LDA/GS
DA(H) **1140′** (1127′)

FULL	ALS out
A	
B	
C	
D	

TERPS AMEND 2B 13 OCT 2016

CHANGES: None.

KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN
4 NOV 16
Eff 10 NOV
12-1

SAN FRANCISCO, CALIF
RNAV (GPS) Rwy 10L

BRIEFING STRIP TM

D-ATIS	NORCAL Approach (R)	SAN FRANCISCO Tower	Ground
113.7 115.8 118.85	134.5	120.5	121.8

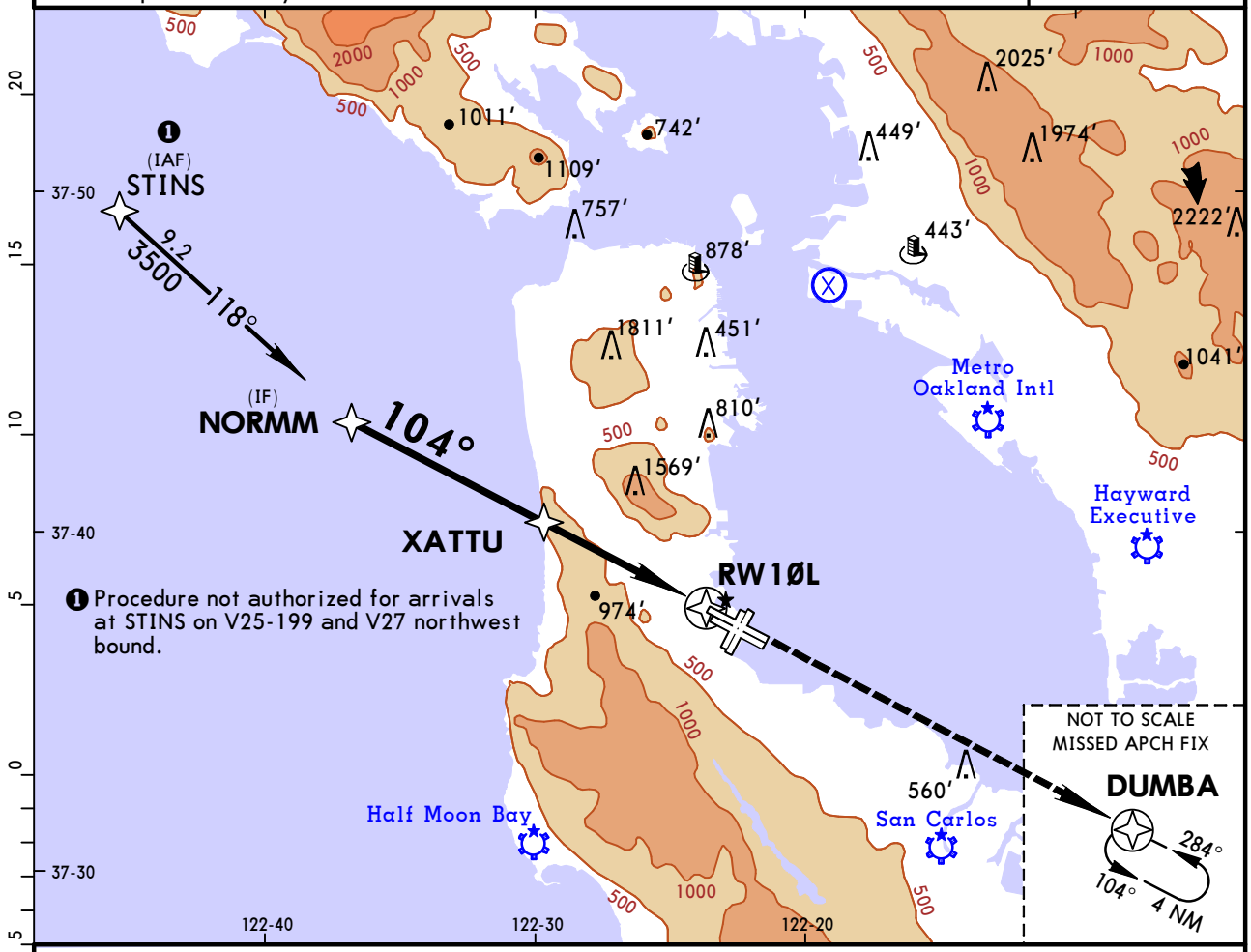
RNAV	Final Apch Crs	Minimum Alt	LNAV MDA(H)	Apt Elev 13′
	104°	XATTU 1800′ (1793′)	1200′ (1193′)	TDZE 7′

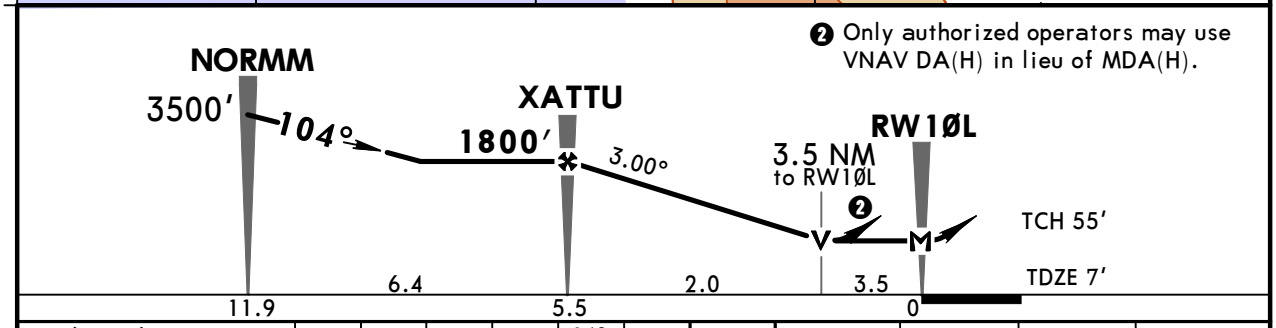
MISSED APCH: Climb to 4000′ direct DUMBA and hold.

Alt Set: INCHES Trans level: FL 180 Trans alt: 18000′

1. DME/DME RNP-0.30 not authorized. 2. VGSI and descent angles not coincident.
3. Helicopter visibility reduction below RVR 40 not authorized.

5100′
MSA RW10L





2 Only authorized operators may use VNAV DA(H) in lieu of MDA(H).

Gnd speed-Kts	70	90	100	120	140	160
Descent angle 3.00°	372	478	531	637	743	849
MAP at RW10L						

REIL
PAPI-L
4000′
D
DUMBA

TERPS

STRAIGHT-IN LANDING RWY **10L**

LNAV
MDA(H) **1200′** (1193′)

A	RVR 60 or 1¼
B	1½
C	3
D	

TERPS AMEND 2A 26 JUN 2014

CHANGES: ATIS frequency.

KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN
4 NOV 16
Eff 10 Nov
12-2

SAN FRANCISCO, CALIF
RNAV (GPS) Y Rwy 10R

BRIEFING STRIP

D-ATIS	NORCAL Approach (R)	SAN FRANCISCO Tower	Ground
113.7 115.8 118.85	134.5	120.5	121.8

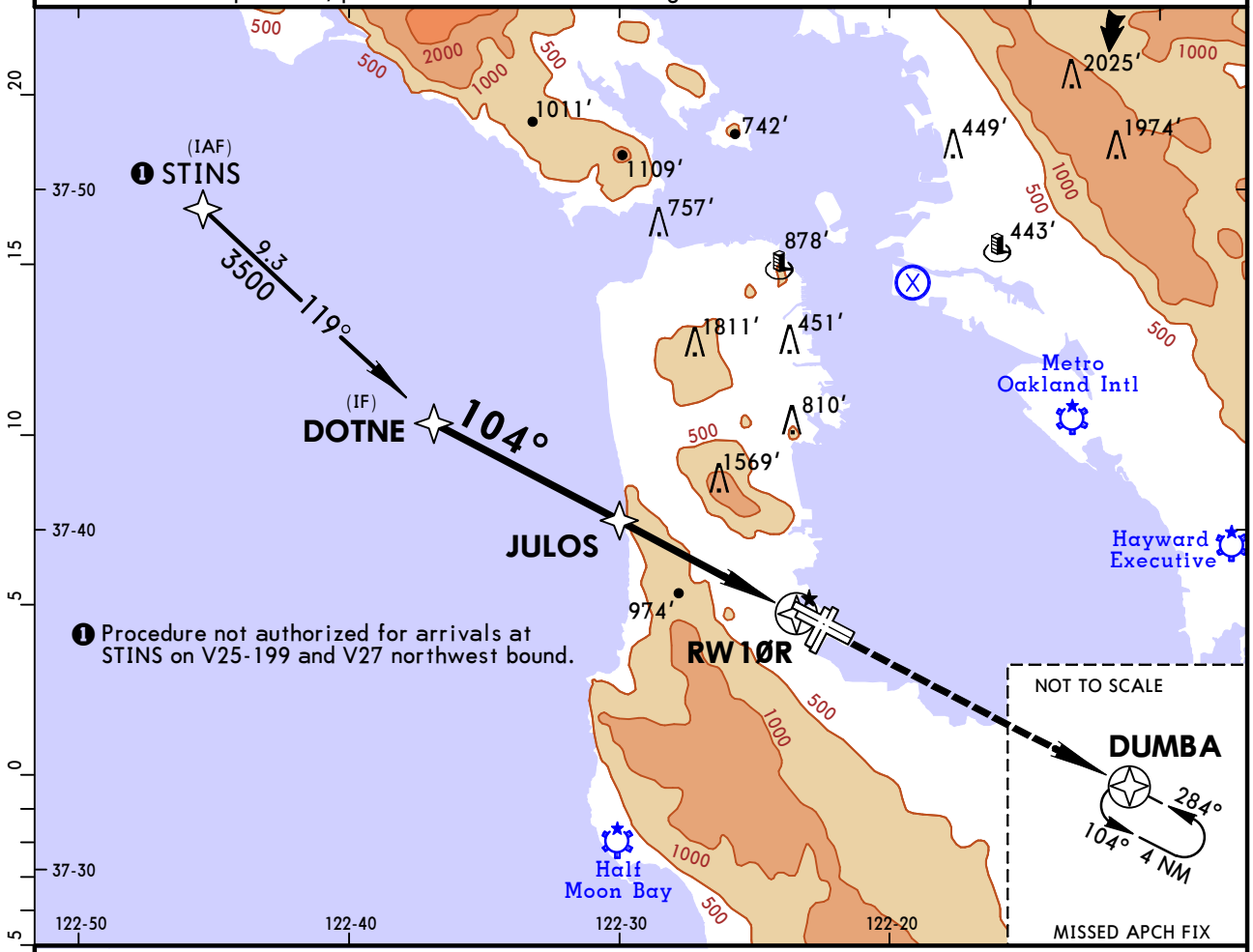
RNAV	Final Apch Crs	Minimum Alt	LNAV MDA(H)	Apt Elev 13′
	104°	JULOS 1900′ (1890′)	1200′ (1190′)	TDZE 10′

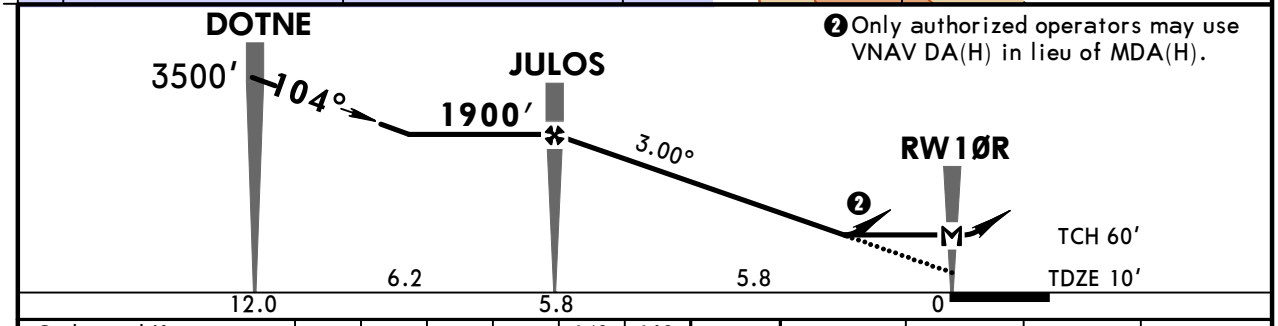
MISSED APCH: Climb to 4000′ direct DUMBA and hold.

Alt Set: INCHES Trans level: FL 180 Trans alt: 18000′

1. DME/DME RNP-0.30 not authorized. 2. Helicopter visibility reduction below RVR 50 not authorized. 3. VGSI and descent angles not coincident.
4. When VGSI inoperative, procedure not authorized at night.

5100′
MSA RW10R





Gnd speed-Kts	70	90	100	120	140	160
Descent Angle 3.00°	372	478	531	637	743	849
MAP at RW10R						

PAPI-L | 4000′ | DUMBA

TERPS

STRAIGHT-IN LANDING RWY **10R**
LNAV
MDA(H) **1200′** (1190′)

A	RVR 60 or 1¼
B	1½
C	3
D	

TERPS AMEND 2A 26 JUN 2014

CHANGES: ATIS frequency.

KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN 2 NOV 18 (12-3) Eff 8 Nov

SAN FRANCISCO, CALIF
RNAV (GPS) Rwy 19L

BRIEFING STRIP ™

D-ATIS	NORCAL Approach (R)	SAN FRANCISCO Tower	Ground
113.7 115.8 118.85	134.5	120.5	121.8

WAAS	Final Apch Crs	Minimum Alt	LPV DA(H)	Apt Elev 13′
Ch 58015 W-19A	**194°**	**SHAKE 2800′** (2789′)	**293′** (282′)	TDZE 11′

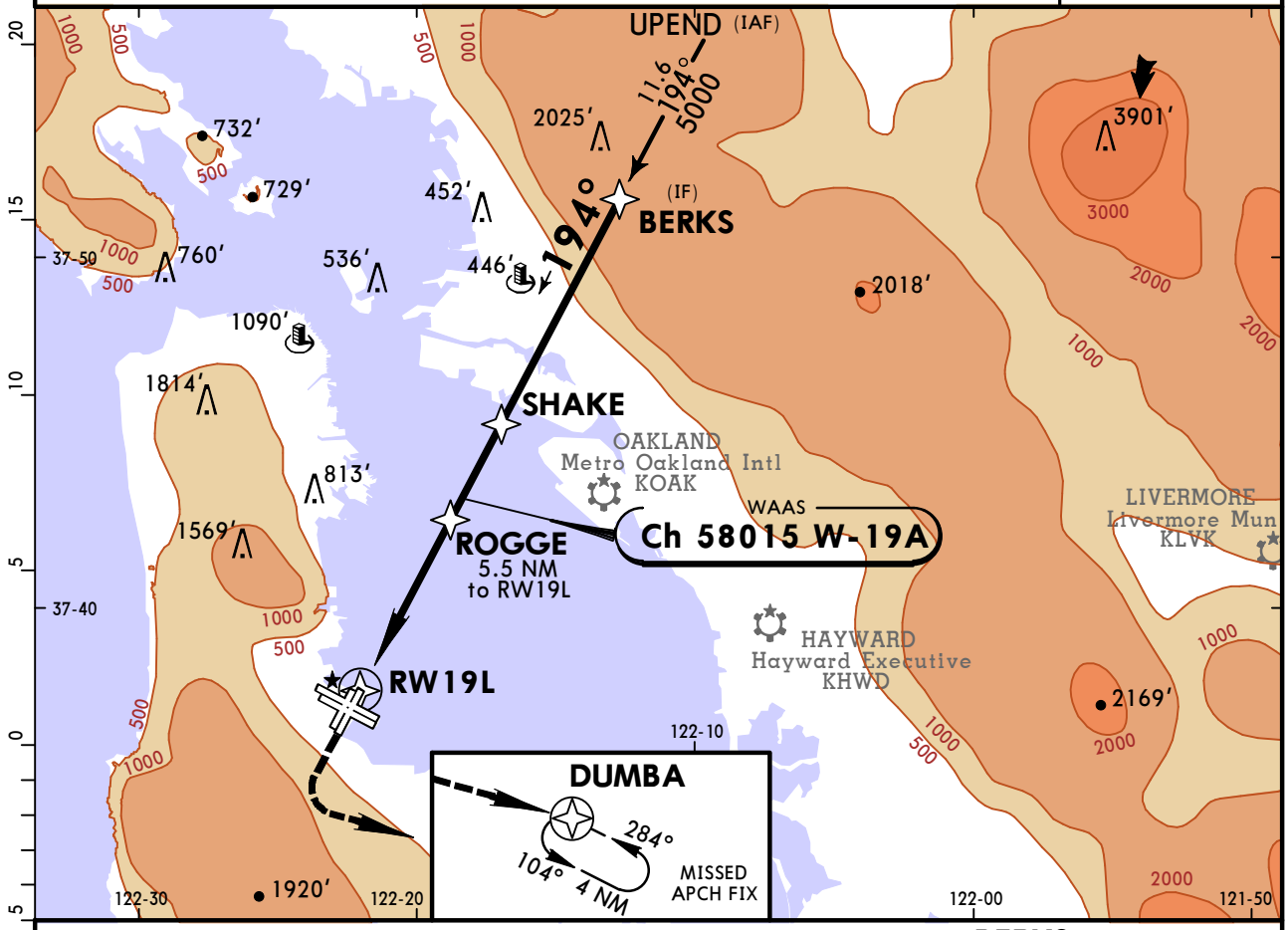
MISSED APCH: Climb to 500′ then climbing LEFT turn to 3000′ direct DUMBA and hold.

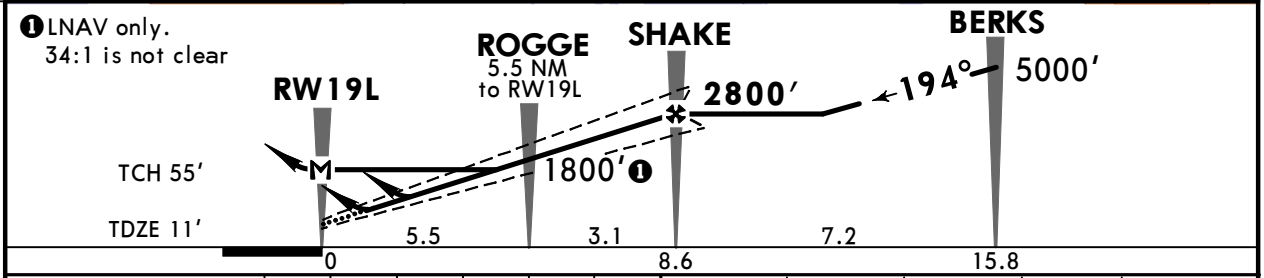
RNP Apch	Alt Set: INCHES	Trans level: FL 180	Trans alt: 18000′

1. VGSI and RNAV glidepath not coincident: (VGSI angle 3.00°/TCH 71′).
2. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below 3°C or above 54°C. 3. Helicopter visibility reduction below 1 SM not authorized.

5100

MSA RW19L





Gnd speed-Kts		70	90	100	120	140	160
Glide Path Angle	3.00°	372	478	531	637	743	849
LPV, LNAV/VNAV: MAP at DA							
LNAV: MAP at RW19L							

MALSF / PAPI | 500′ | 3000′ LT | D | DUMBA

TERPS STRAIGHT-IN LANDING RWY **19L**

	LPV DA(H) 293′ (282′)		LNAV/VNAV DA(H) 350′ (339′)		LNAV MDA(H) 560′ (549′)	
		ALS out		ALS out		ALS out
A B	RVR 40 or ¾	RVR 45 or ⅞	RVR 40 or ¾	RVR 60 or 1¼	RVR 40 or ¾	RVR 55 or 1¼
C D	RVR 50 or 1		RVR 50 or 1		1⅜	1⅞

TERPS AMEND 3A 8 NOV 2018

CHANGES: Missed approach, notes, profile note, minimums.

KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN 2 NOV 18 (12-4) Eff 8 Nov

SAN FRANCISCO, CALIF
RNAV (GPS) Rwy 19R

D-ATIS	NORCAL Approach (R)	SAN FRANCISCO Tower	Ground
113.7 115.8 118.85	134.5	120.5	121.8

BRIEFING STRIP ™

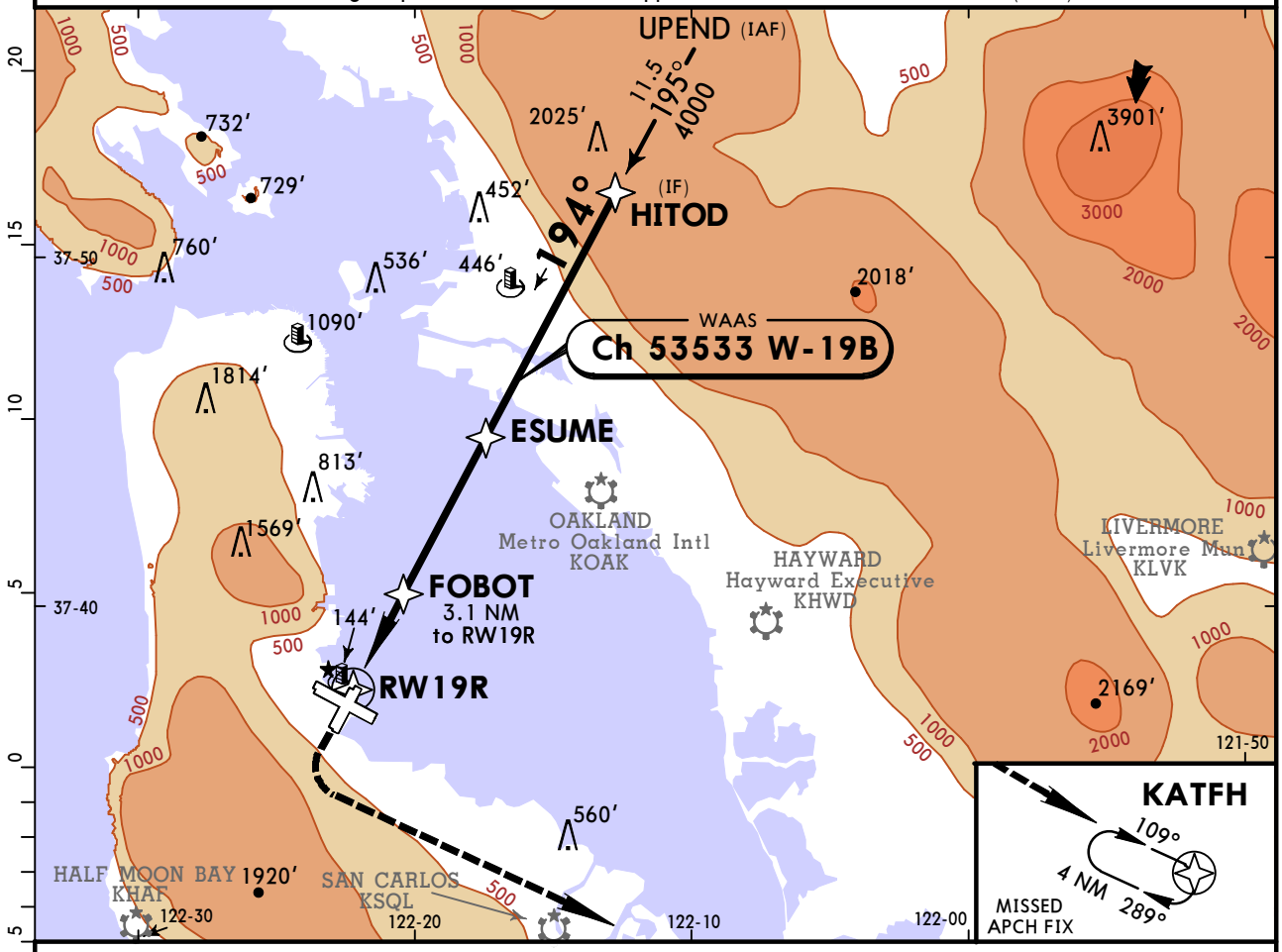
WAAS	Final Apch Crs	Minimum Alt	LPV DA(H)	Apt Elev 13′
Ch 53533 W-19B	**194°**	**ESUME** **2800′** (2789′)	**382′** (371′)	TDZE 11′

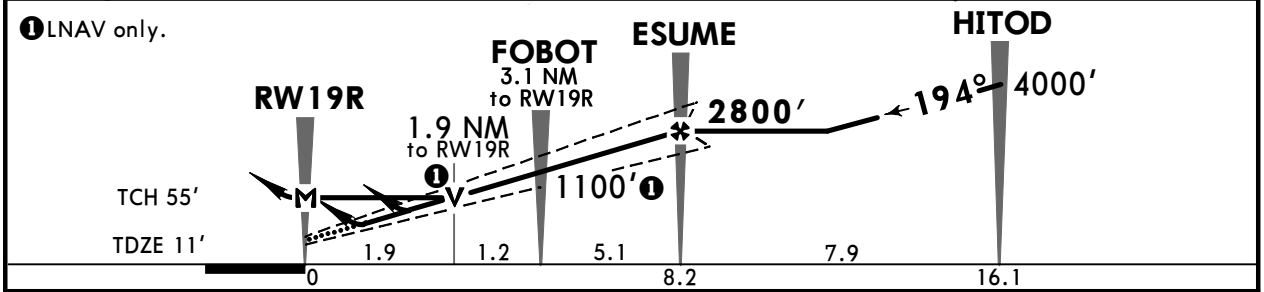
MISSED APCH: Climb to 600′ then climbing LEFT turn to 3000′ direct KATFH and hold.

RNP Apch	Alt Set: INCHES	Trans level: FL 180	Trans alt: 18000′

5100 MSA RW19R

1. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below 3°C (38°F) or above 42°C (108°F). 2. LNAV procedure not authorized during simultaneous operations. 3. Simultaneous approach authorized. Simultaneous operations require use of vertical guidance; maintain last assigned altitude until established on glidepath. 4. Simultaneous approach not authorized below 28°C (52°F).





Gnd speed-Kts	70	90	100	120	140	160
Glide Path Angle 3.15°	390	502	557	669	780	892
LPV, LNAV/VNAV: MAP at DA						
LNAV: MAP at RW19R						

PAPI-L | 600′ ↑ | 3000′ ← LT | D | KATFH

TERPS STRAIGHT-IN LANDING RWY **19R**

TERPS AMEND 3 13 SEP 2018

	LPV	LNAV/VNAV	LNAV
	DA(H) **382′** (371′)	DA(H) **449′** (438′)	MDA(H) **660′** (649′)
A	RVR 55 or 1¼	1¼	RVR 55 or 1¼
B			
C			1⅞
D			

CHANGES: None.

KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN

5 OCT 18 (12-5)

SAN FRANCISCO, CALIF
RNAV (GPS) Rwy 28L

BRIEFING STRIP ™

D-ATIS	NORCAL Approach (R)	SAN FRANCISCO Tower	Ground
113.7 115.8 118.85	134.5	120.5	121.8

WAAS	Final Apch Crs	Minimum Alt	LPV DA(H) (CONDITIONAL)	Apt Elev 13′
Ch 53415 W-28B	284°	DUYET 1800′ (1787′)	213′ (200′)	TDZE 13′

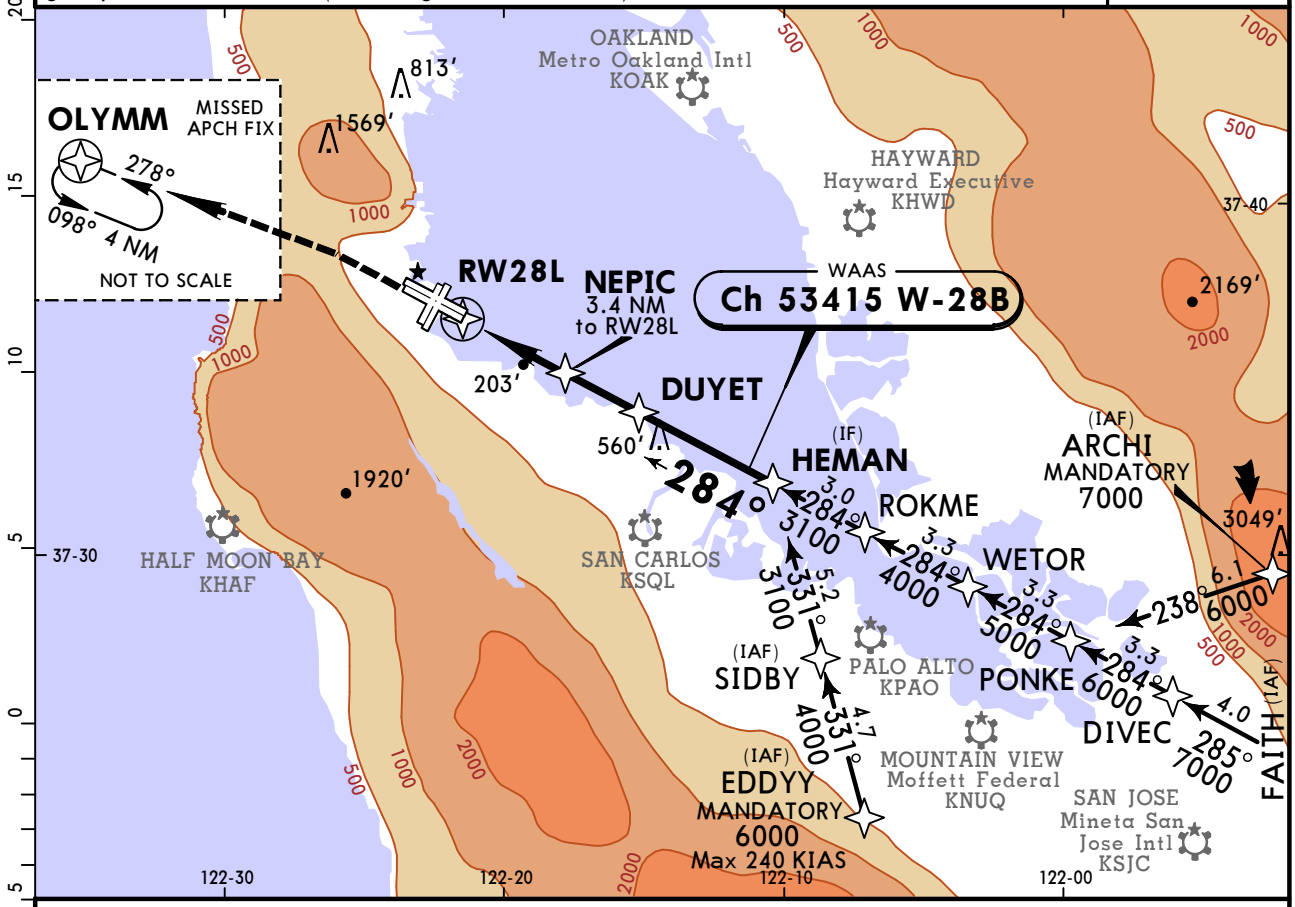
MISSED APCH: Climb to 1020′ then climbing LEFT turn to 4000′ direct OLYMM and hold, continue climb-in-hold to 4000′.

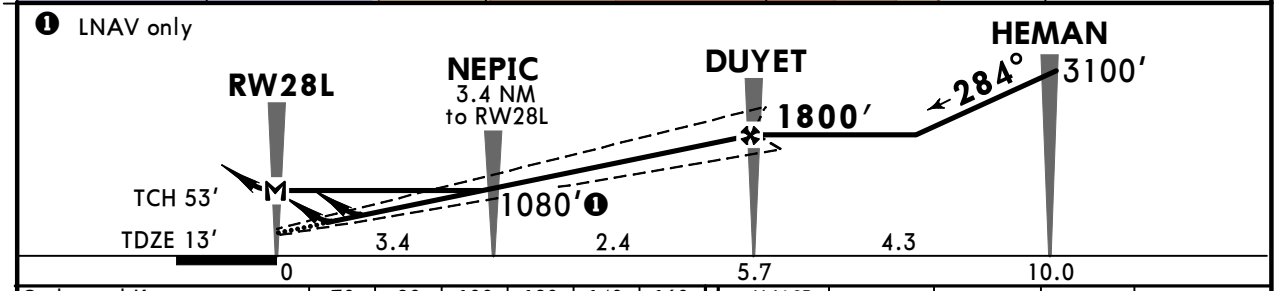
RNP Apch | Alt Set: INCHES | Trans level: FL 180 | Trans alt: 18000′

1. Circling Rwy 1L/R not authorized at night. 2. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below 3°C (38°F) or above 54°C (130°F). 3. VGSI and RNAV glidepath not coincident (VGSI angle 2.85°/TCH 67′).

5100

MSA RW28L





Gnd speed-Kts		70	90	100	120	140	160
Glide Path Angle	2.85°	353	454	504	605	706	807
LPV, LNAV/VNAV: MAP at DA							
LNAV: MAP at RW28L							

MALSR
PAPI
1020′
4000′
LT
OLYMM

TERPS STRAIGHT-IN LANDING RWY **28L**

	1 LPV DA(H) 213′ (200′)		LPV DA(H) 798′ (785′)		LNAV/VNAV DA(H) 770′ (757′)		LNAV MDA(H) 1020′ (1007′)	
		RAIL/ ALS out		RAIL/ ALS out		RAIL/ ALS out		RAIL/ ALS out
A	2 RVR 24 or ½	RVR 40 or ¾	1¾	2½	1¾	2	RVR 40 or ¾	RVR 60 or 1¼
B							RVR 55 or 1¼	1¾
C							2½	3
D								

3 CIRCLE-TO-LAND

Max Kts	MDA(H)
C	
90	1020′ (1007′) -1¼
120	1020′ (1007′) -1½
140	1560′ (1547′) -3
D	NA

1 Missed apch requires mim climb of 330′/NM to 1600′. 2 RVR 18 authorized with use of Flight Director or Autopilot or HUD to DA. 3 Not authorized to Rwys 10L, 10R, 19L, and 19R.

TERPS AMEND 7 13 SEP 2018

CHANGES: Procedure.

KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN

5 OCT 18 (12-6)

SAN FRANCISCO, CALIF
RNAV (GPS) Z Rwy 28R

D-ATIS	NORCAL Approach (R)	SAN FRANCISCO Tower	Ground
113.7 115.8 118.85	134.5	120.5	121.8

BRIEFING STRIP ™

WAAS	Final Apch Crs	Minimum Alt	LPV DA(H)	Apt Elev 13′
CH 48803 W-28A	**284°**	**AXMUL 1800′** (1787′)	**213′** (200′)	TDZE 13′

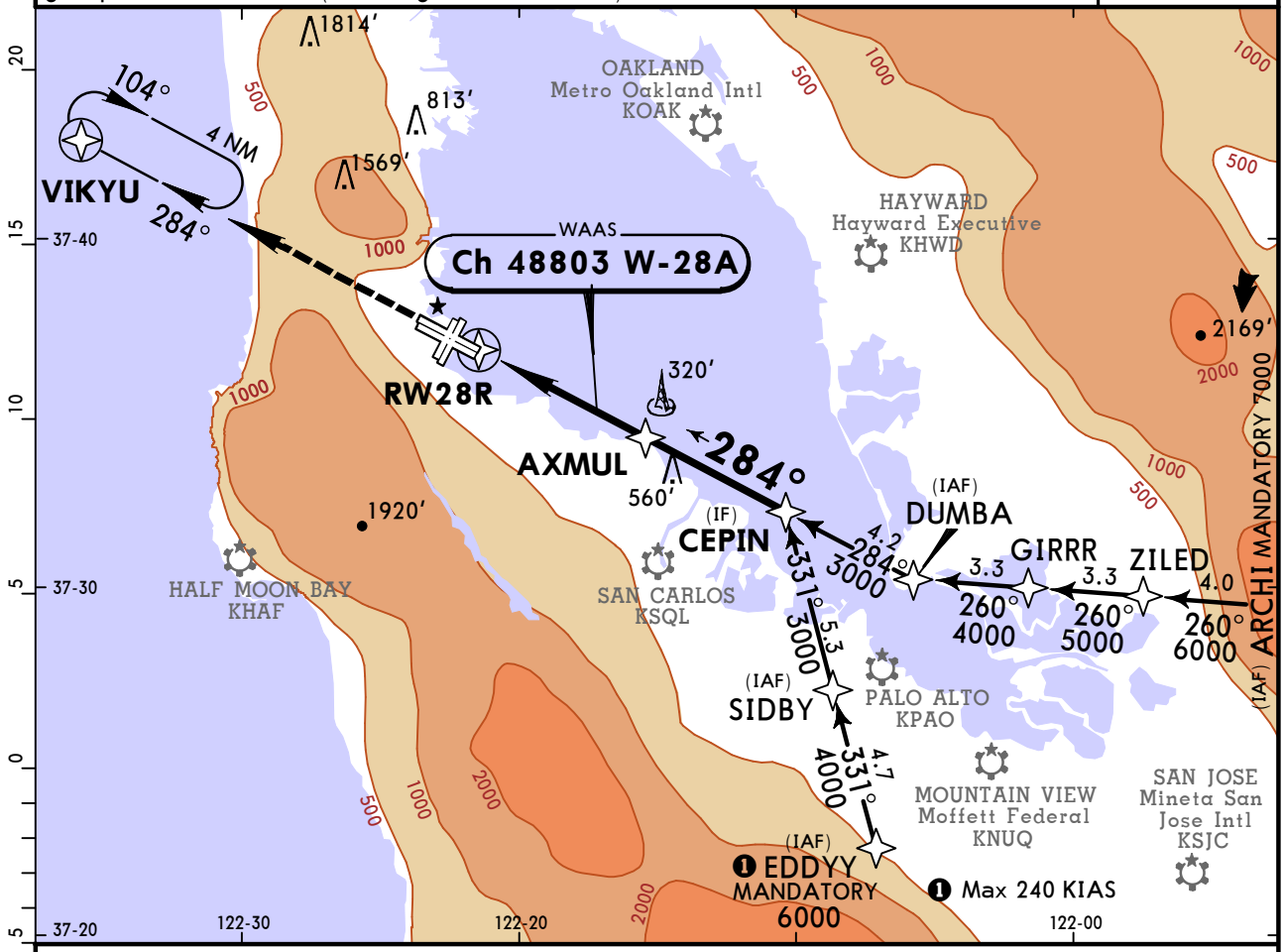
MISSED APCH: Climb to 3200′ direct VIKYU and hold, continue climb-in-hold to 3200′.

RNP Apch	Alt Set: INCHES	Trans level: FL 180	Trans alt: 18000′

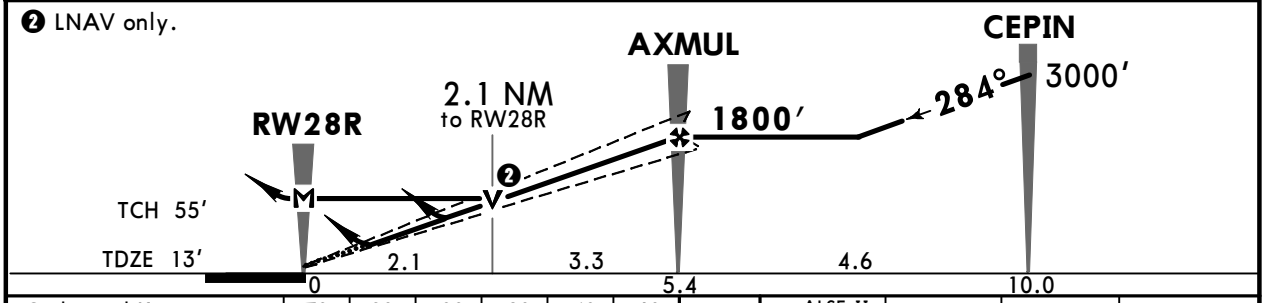
1. Circling Rwy 1L, 1R not authorized at night. 2. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below 3°C (38°F) or above 54°C (130°F). 3. VGSI and RNAV glidepath not coincident (VGSI angle 3.00°/TCH 68′).

5000

MSA RW28R



❷ LNAV only.



Gnd speed-Kts	70	90	100	120	140	160
Glide Path Angle 3.00°	372	478	531	637	743	849
LPV, LNAV/VNAV: MAP at DA						
LNAV: MAP at RW28R						

ALSF-II
PAPI

3200′

VIKYU

TERPS STRAIGHT-IN LANDING RWY **28R**

	LPV DA(H) 213′(200′)			LNAV/VNAV DA(H) 642′(629′)		LNAV MDA(H) 760′(747′)	
		TDZ/CL out	ALS out		ALS out		ALS out
A	RVR 18 or ½	RVR 24 or ½	RVR 40 or ¾	1⅜	1¾	RVR 24 or ½	RVR 50 or 1
B						RVR 40 or ¾	RVR 60 or 1¼
C						1¾	2
D							

❶ CIRCLE-TO-LAND

Ⓒ Max Kts	MDA(H)
90	760′(747′) -1
120	960′(947′) -1¼
140	1560′(1547′) -3
D	NA

❶ Not Authorized to Rwys 10L, 10R, 19L, and 19R.

TERPS AMEND 7 13 SEP 2018

CHANGES: Missed apch, ARCHI altitude & speed restriction, SIDBY IAF, notes.

KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN 4 NOV 16 (12-7) Eff 10 Nov

SAN FRANCISCO, CALIF
RNAV (GPS) X Rwy 28R

BRIEFING STRIP TM

D-ATIS	NORCAL Approach (R)	SAN FRANCISCO Tower	Ground
113.7 115.8 118.85	134.5	120.5	121.8

RNAV	Final Apch Crs	Minimum Alt	LNAV/VNAV DA(H)	Apt Elev 13′
	281°	GOBEC 1800′ (1787′)	1140′ (1127′)	TDZE 13′

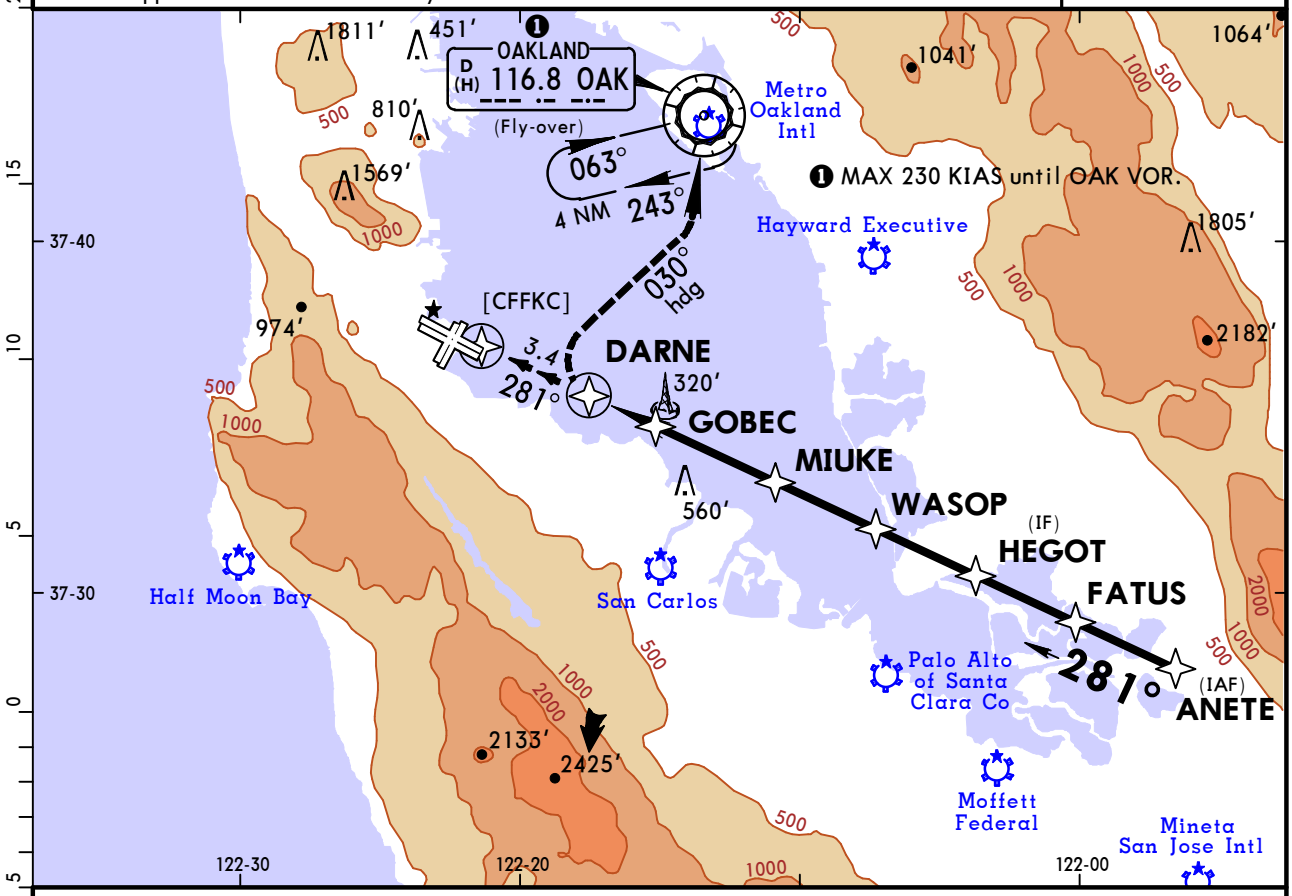
MISSED APCH: Climbing RIGHT turn to 3000′ on heading 030° then direct OAK VOR and hold.
When executing a missed approach or go around, unless otherwise instructed by ATC, initially turn right to 030° utilizing HEADING mode.

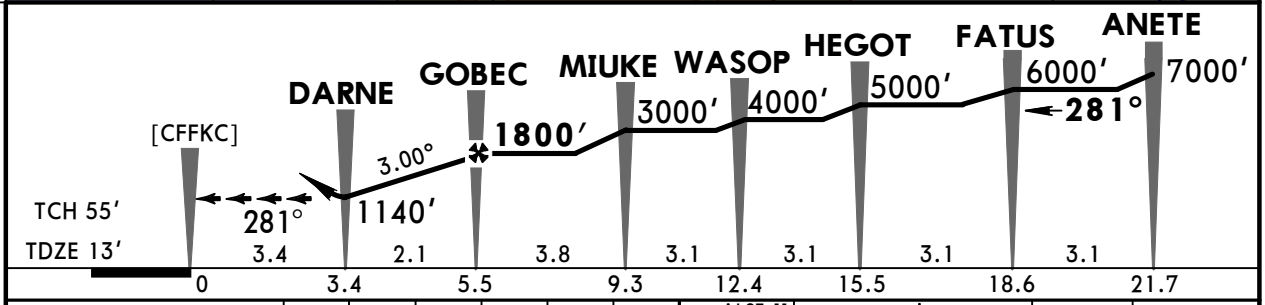
5100′

MSA DARNE

Alt Set: INCHES Trans level: FL 180 Trans alt: 18000′

1. Radar required. 2. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below 2°C (36°F) or above 54°C (130°F). 3. DME/DME RNP-0.30 not authorized. 4. Final approach course offset 2.95°. 5. VGSI and RNAV glidepath not coincident. 6. Rwy 28L and 28R separated by 750′ centerline to centerline. 7. Final approach course 1343′ of rwy centerline extended 3000′ from threshold.





Gnd speed-Kts		70	90	100	120	140	160
Descent angle	3.00°	372	478	531	637	743	849
MAP at DA							

ALSF-II PAPI

3000′ RT on 030° hdg

D

OAK 116.8

TERPS

1 STRAIGHT-IN LANDING RWY 28R
LNAV/VNAV
DA(H) 1140′ (1127′)

ALS out

TERPS AMEND 1B 13 OCT 2016

A B C D

4

1 If a go around is executed after passing DARNE, go around requires a minimum climb gradient of 380′/NM to 1800′.

CHANGES: ATIS frequency, AMEND number.

ATTENTION ALL USERS OF RNAV PRECISION RUNWAY MONITOR (PRM)

RNAV (GPS) PRM RWY 28L: Straight-in Approach
(SIMULTANEOUS CLOSE PARALLEL)

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).

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.

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.

KSFO/SFO

SAN FRANCISCO INTL

JEPPESEN

23 MAR 18
Eff 29 Mar

12-8A

SAN FRANCISCO, CALIF
RNAV (GPS) PRM Rwy 28L

(SIMULTANEOUS CLOSE PARALLEL)

D-ATIS	NORCAL Approach (R)	SAN FRANCISCO Tower	Ground
113.7 115.8 118.85	134.5	120.5 Monitor Frequency 125.15	121.8

BRIEFING STRIP™

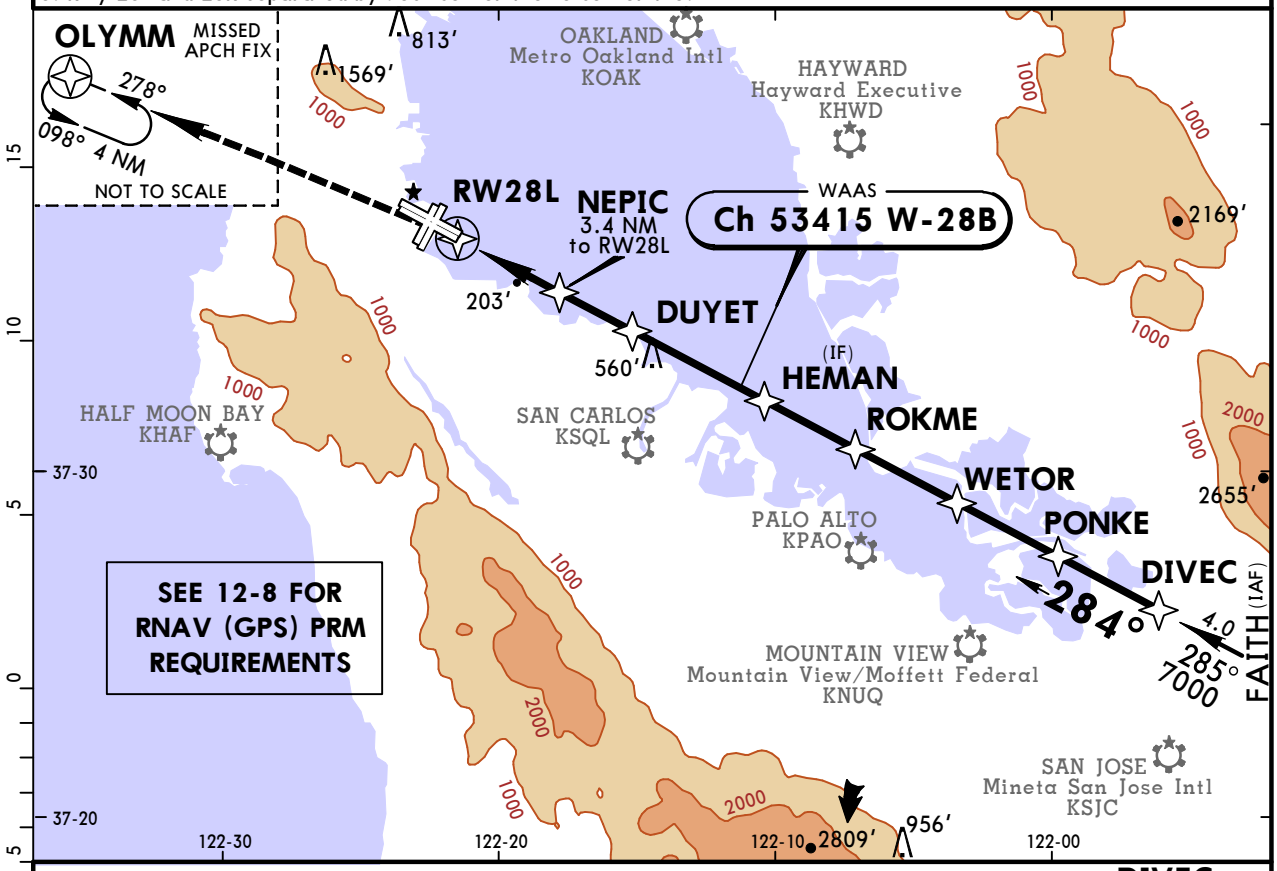
WAAS	Final Apch Crs	Minimum Alt	LPV DA(H) (CONDITIONAL)	Apt Elev 13′
Ch 53415 W-28B	284°	DUYET 1800′ (1787′)	213′ (200′)	TDZE 13′

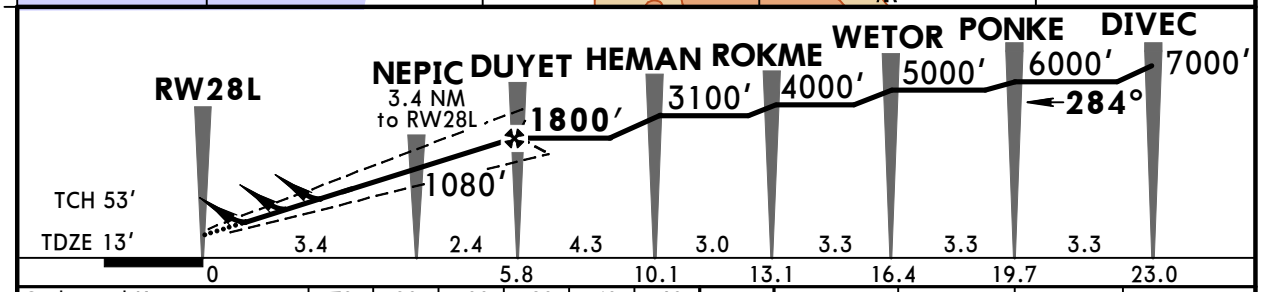
MISSED APCH: Climb to 4000′ direct OLYMM and hold, continue climb-in-hold to 4000′.

5100
MSA RW28L

Alt Set: INCHES Trans level: FL 180 Trans alt: 18000′

1. Dual VHF communication required. 2. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below 3°C (38°F) or above 54°C (130°F). 3. DME/DME RNP-0.30 not authorized. 4. VGSI and RNAV glidepath not coincident (VGSI angle 2.85°/TCH 67′). 5. Simultaneous approach authorized with LDA PRM Rwy 28R and RNAV (GPS) PRM X Rwy 28R. 6. See 12-8 for "Attention All Users of RNAV Precision Runway Monitor (PRM)". 7. Use of Flight Director or Autopilot during simultaneous operations. 8. Rwy 28L and 28R separated by 750′ centerline to centerline.





Gnd speed-Kts		70	90	100	120	140	160
Glide Path Angle	2.85°	353	454	504	605	706	807
MAP at DA							

MALSR
PAPI
4000′
OLYMM

TERPS STRAIGHT-IN LANDING RWY 28L

	LPV		LNAV/VNAV	
	1 DA(H) 213′ (200′)	DA(H) 769′ (756′)		DA(H) 754′ (741′)
	RAIL/ALS out	RAIL/ALS out		RAIL/ALS out
A B C D	2 RVR 24 or ½	RVR 40 or ¾	1¾	2	1¾	2

TERPS AMEND 2 29 MAR 2018

1 Missed approach requires minimum climb of 300′/NM to 1500′.
2 RVR 18 authorized with use of Flight Director or Autopilot or HUD to DA.

CHANGES: WAAS, notes, missed approach note, minimums.

ATTENTION ALL USERS OF RNAV PRECISION RUNWAY MONITOR (PRM)

RNAV (GPS) PRM X RWY 28R: Offset Approach
(SIMULTANEOUS CLOSE PARALLEL)

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).

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.

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. Inside 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, if depicted on a map display, is for reference only.
  Follow IAP published missed approach procedure unless otherwise instructed by ATC.

CHANGES: Notes revised.

KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN
1 DEC 17
Eff 7 Dec
12-9A

SAN FRANCISCO, CALIF
RNAV (GPS) PRM X Rwy 28R
(SIMULTANEOUS CLOSE PARALLEL)

BRIEFING STRIP™

D-ATIS	NORCAL Approach (R)	SAN FRANCISCO Tower	Ground
113.7 115.8 118.85	134.5	120.5 Monitor Frequency 127.675	121.8

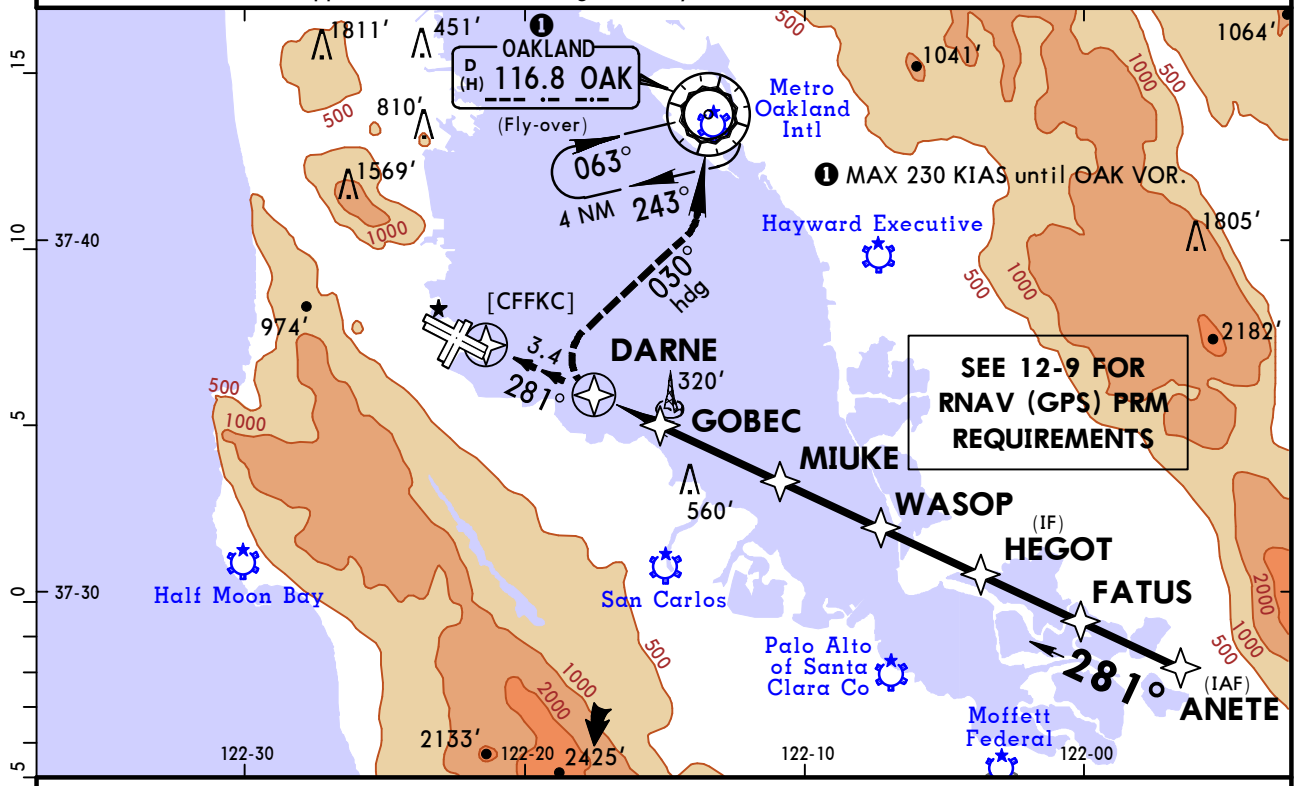
RNAV	Final Apch Crs	Minimum Alt	LNAV/VNAV DA(H)	Apt Elev 13′
	281°	GOBEC 1800′ (1787′)	1140′ (1127′)	TDZE 13′

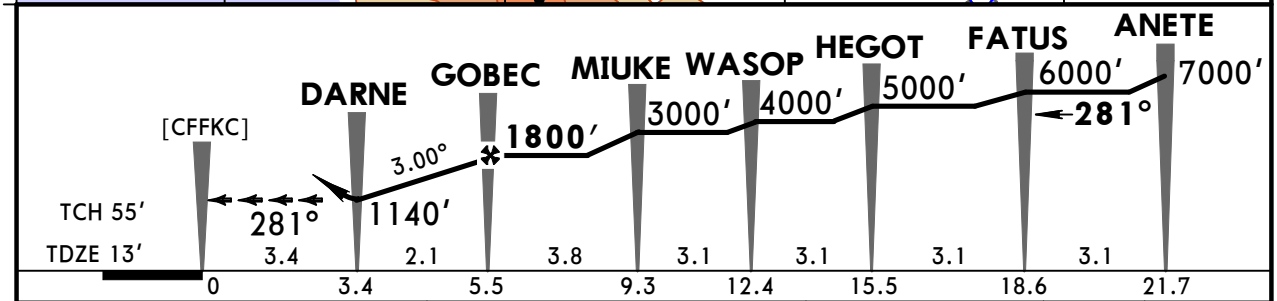
5100′
MSA DARNE

MISSED APCH: Climbing RIGHT turn to 3000′ on heading 030° then direct OAK VOR and hold.
When executing a missed approach or go around, unless otherwise instructed by ATC, initially turn right to 030° utilizing HEADING mode.

Alt Set: INCHES | Trans level: FL 180 | Trans alt: 18000′

1. Radar required. 2. Dual VHF communication required. 3. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below 2°C (36°F) or above 54°C (130°F). 4. DME/DME RNP-0.30 not authorized. 5. VGSI and RNAV glidepath not coincident. 6. Simultaneous approach authorized with ILS PRM Rwy 28L and RNAV (GPS) PRM Rwy 28L. 7. See 12-9 for "Attention All Users of RNAV Precision Runway Monitor (PRM)". 8. Use of Flight Director or Autopilot providing RNAV track guidance required during simultaneous operations. 9. Rwy 28L and 28R separated by 750′ centerline to centerline. 10. Final approach course offset 2.95°. 11. Final approach course 1343′ right of rwy centerline extended 3000′ from threshold.





Gnd speed-Kts	70	90	100	120	140	160
Descent angle 3.00°	372	478	531	637	743	849
MAP at DA						

ALSF-II
PAPI
3000′ RT on 030° hdg
D
OAK 116.8

TERPS

1 STRAIGHT-IN LANDING RWY 28R
LNAV/VNAV
DA(H) 1140′ (1127′)
ALS out

TERPS AMEND 1B 13 OCT 2016

A
B
C
D

1 If a go around is executed after passing DARNE, go around requires a minimum climb gradient of 380′/NM to 1800′.

CHANGES: None.

KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN

5 OCT 18 (12-20)

SAN FRANCISCO, CALIF
RNAV (RNP) Z Rwy 10R

BRIEFING STRIP TM

D-ATIS	NORCAL Approach (R)	SAN FRANCISCO Tower	Ground
113.7 115.8 118.85	134.5	120.5	121.8

RNAV	Final Apch Crs	Minimum Alt	RNP 0.20 DA(H)	Apt Elev 13′
	104°	JULOS 1900′ (1890′)	396′ (386′)	TDZE 10′

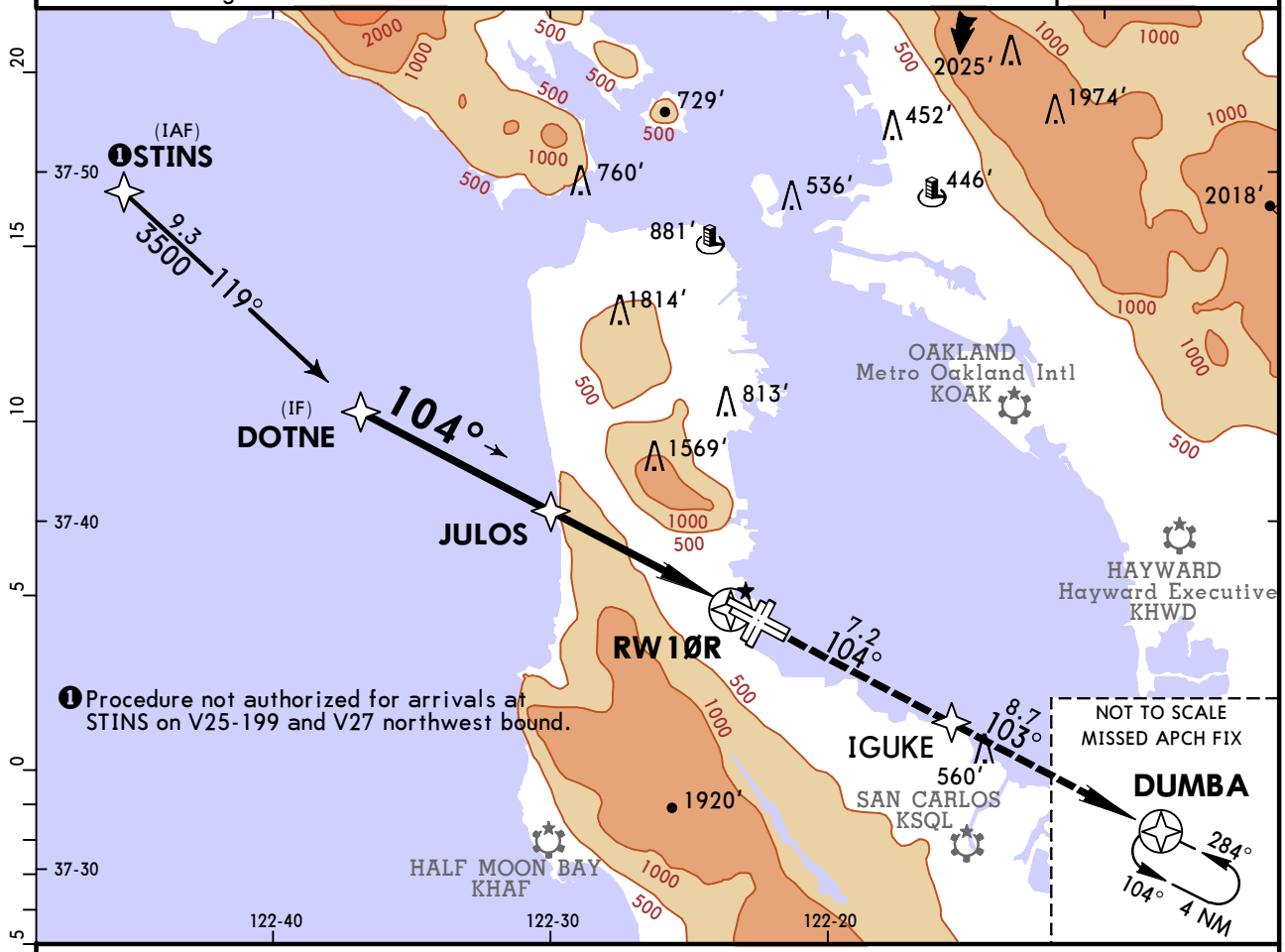
MISSED APCH: Climb to 3600′ on track 104° to IGUKE and on track 103° to DUMBA and hold.

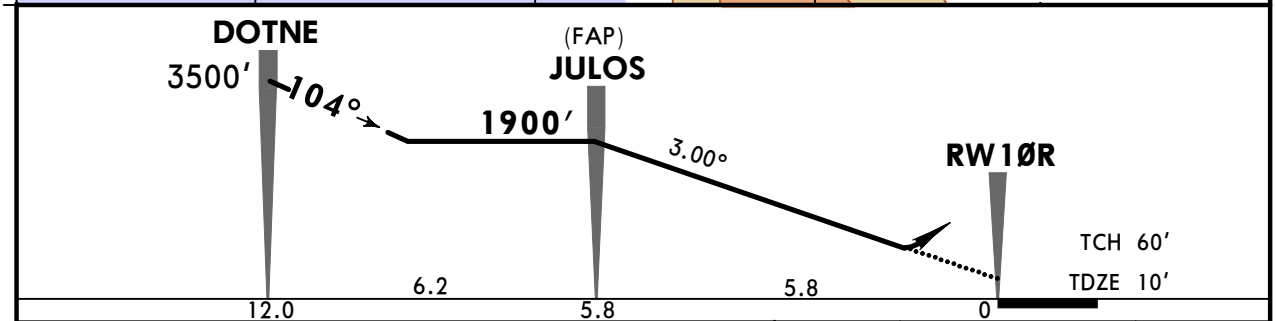
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000′

1. AUTHORIZATION REQUIRED. 2. GPS required. 3. For uncompensated Baro-VNAV systems, procedure not authorized below 2°C (36°F) or above 54°C (130°F). 4. VGSI and RNAV glidepath not coincident. 5. When VGSI inop, procedure not authorized at night.

5100

MSA RW1ØR





Gnd speed-Kts		70	90	100	120	140	160
Descent Angle	3.00°	372	478	531	637	743	849
MAP at DA							

PAPI-L | 3600′ on 104° | IGUKE

TERPS STRAIGHT-IN LANDING RWY **10R**

	RNP 0.20 DA(H) 396′ (386′)	RNP 0.30 DA(H) 1108′ (1098′)
A	1¼	4
B		
C		
D		

TERPS AMEND 2A 26 JUN 2014

CHANGES: None.

KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN

5 OCT 18 (12-21)

SAN FRANCISCO, CALIF
RNAV (RNP) Y Rwy 28R

BRIEFING STRIP™

D-ATIS	NORCAL Approach (R)	SAN FRANCISCO Tower	Ground
113.7 115.8 118.85	134.5	120.5	121.8

RNAV	Final Apch Crs	Minimum Alt	RNP 0.11 DA(H)	Apt Elev 13′
	284°	DONNG 1800′ (1787′)	(CONDITIONAL) 263′ (250′)	TDZE 13′

MISSED APCH: Climb to 3000′ on track 284° to VIKYU and hold.

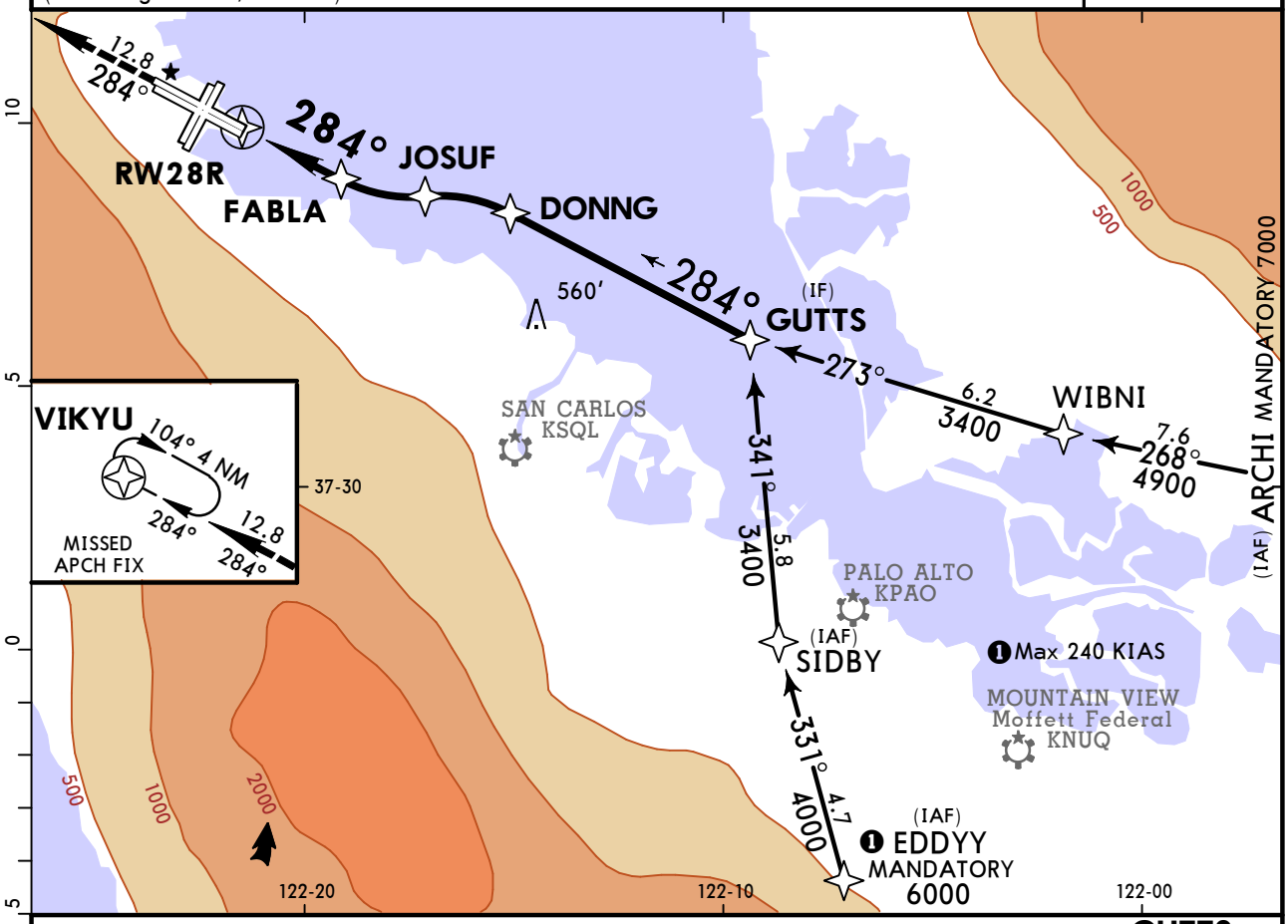
Alt Set: INCHES | Trans level: FL 180 | Trans alt: 18000′

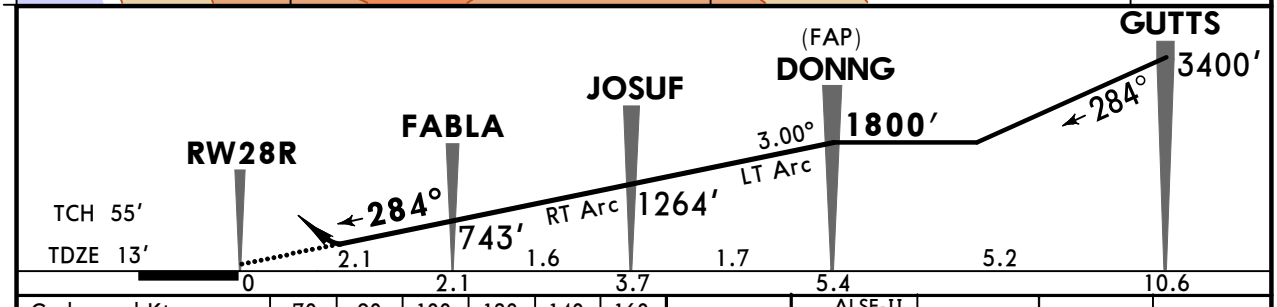
RNP AR Apch. RF Required.

1. AUTHORIZATION REQUIRED. 2. For uncompensated Baro-VNAV systems, procedure not authorized below 3°C or above 54°C. 3. VGSI and RNAV glidepath not coincident (VGSI angle 3.00°/TCH 68′).

5000

MSA RW28R





Gnd speed-Kts	70	90	100	120	140	160
Glide Path Angle 3.00°	372	478	531	637	743	849
MAP at DA						

ALSF-II
PAPI

3000′ on 284° VIKYU

TERPS STRAIGHT-IN LANDING RWY **28R**

	1 RNP 0.11 DA(H) 263′ (250′)		**2** RNP 0.30 DA(H) 326′ (313′)	
		ALS out		ALS out
A	RVR 24 or 1/2	RVR 40 or 3/4	RVR 24 or 1/2	RVR 45 or 7/8
B				
C				
D				

TERPS AMEND 5 13 SEP 2018

1 Missed approach requires minimum climb of 250′/NM to 1600′.
2 Missed approach requires minimum climb of 350′/NM to 2100′.

CHANGES: MSA, ARCHIE speed and altitude restrictions, SIDBY IAF added, mims.

KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN
2 NOV 18
Eff 8 Nov
19-1

SAN FRANCISCO, CALIF
TIPP TOE VISUAL Rwy 28L/R

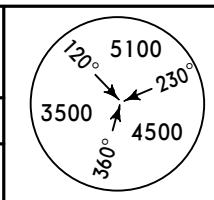
D-ATIS	NORCAL Approach (R)	SAN FRANCISCO Tower	Ground
113.7 115.8 118.85	134.5	120.5	121.8

NAVAIDS- Refer to Planview	Final Apch Crs Rwy 28L/R	No FAF	Refer to Minimums	Apt Elev 13′
	284°			

MISSED APCH: See below.

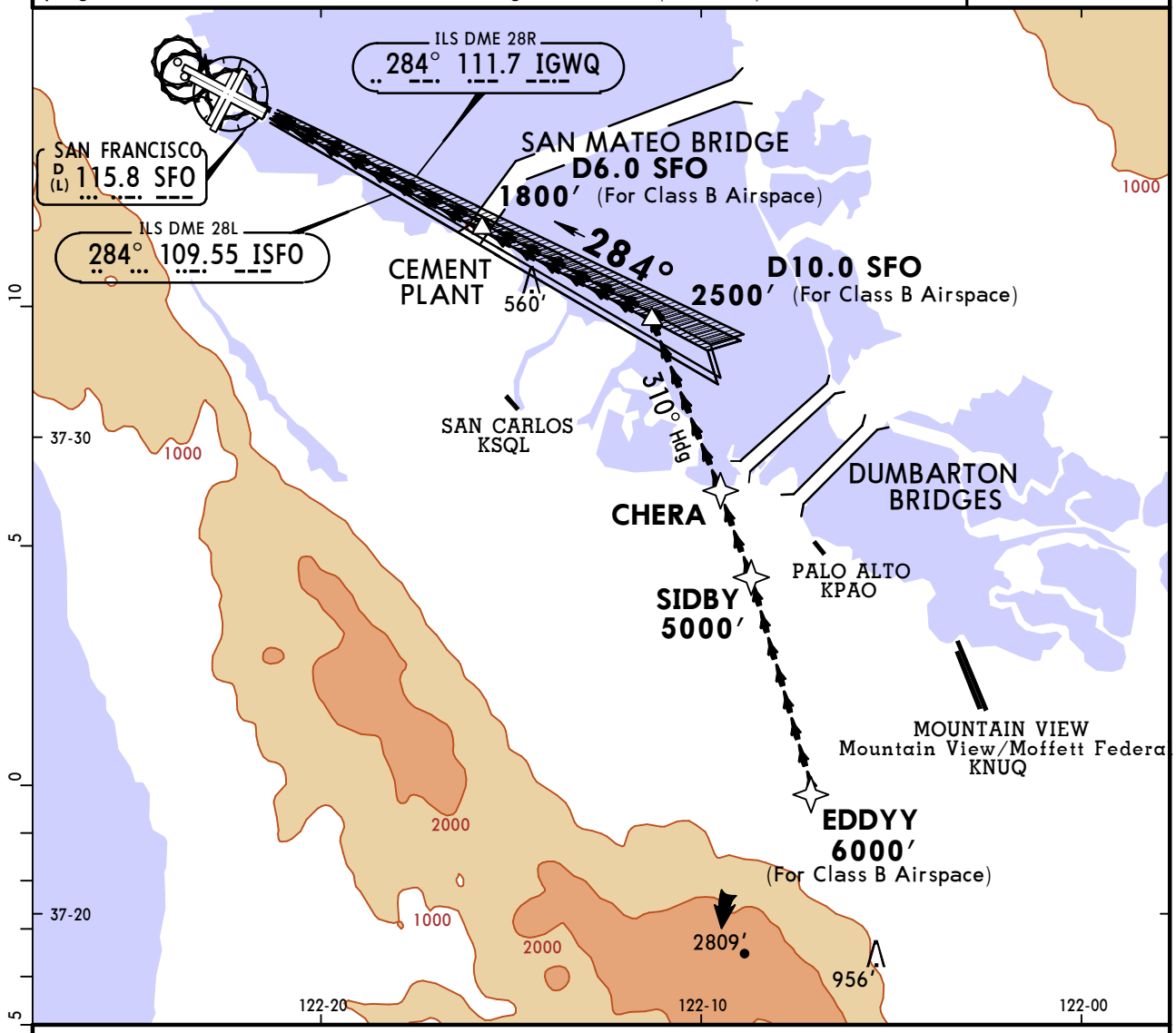
Alt Set: INCHES | Trans level: FL 180 | Trans alt: 18000′

1. Radar required. 2. Closely spaced parallel visual approaches may be in progress. 3. Vertical Guidance Navaid and Angle: LOC ISFO (GS 2.85°).



MSA SFO VOR

BRIEFING STRIP ™



TIPP TOE VISUAL APPROACH RWY 28L/R

From CHERA, fly heading 310° to intercept ISFO localizer.

In the event of a go-around:

Runway 28L, turn LEFT heading 265°, climb and maintain 3000′ or as directed by Air Traffic Control.

Runway 28R, fly heading 280°, climb and maintain 3000′ or as directed by Air Traffic Control.

WEATHER MINIMUMS

SFO Ceiling **2500′-** VIS **5**

-OR-

SFO Ceiling 1000′ - VIS 3 With VIS 5 in Eastern Quadrant (030° Clockwise 120°) and San Mateo AWOS Ceiling 2400′ - VIS 5

[If San Mateo AWOS inop, use San Carlos (KSQL) Ceiling of 2400′-VIS 5; San Carlos ATIS on 125.9]

TERPS AMEND 2 29 MAR 2018

CHANGES: None.

KSFO/SFO
SAN FRANCISCO INTL

JEPPESEN
2 NOV 18
Eff 8 Nov
19-2

SAN FRANCISCO, CALIF
QUIET BRIDGE VISUAL Rwys 28L/R

BRIEFING STRIP ™

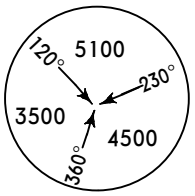
D-ATIS	NORCAL Approach (R)	SAN FRANCISCO Tower	Ground
113.7 115.8 118.85	134.5	120.5	121.8

NAVAIDS- Refer to Planview	Final Apch Crs Rwy 28L/R	No FAF	Refer to Minimums	Apt Elev 13′
	284°			

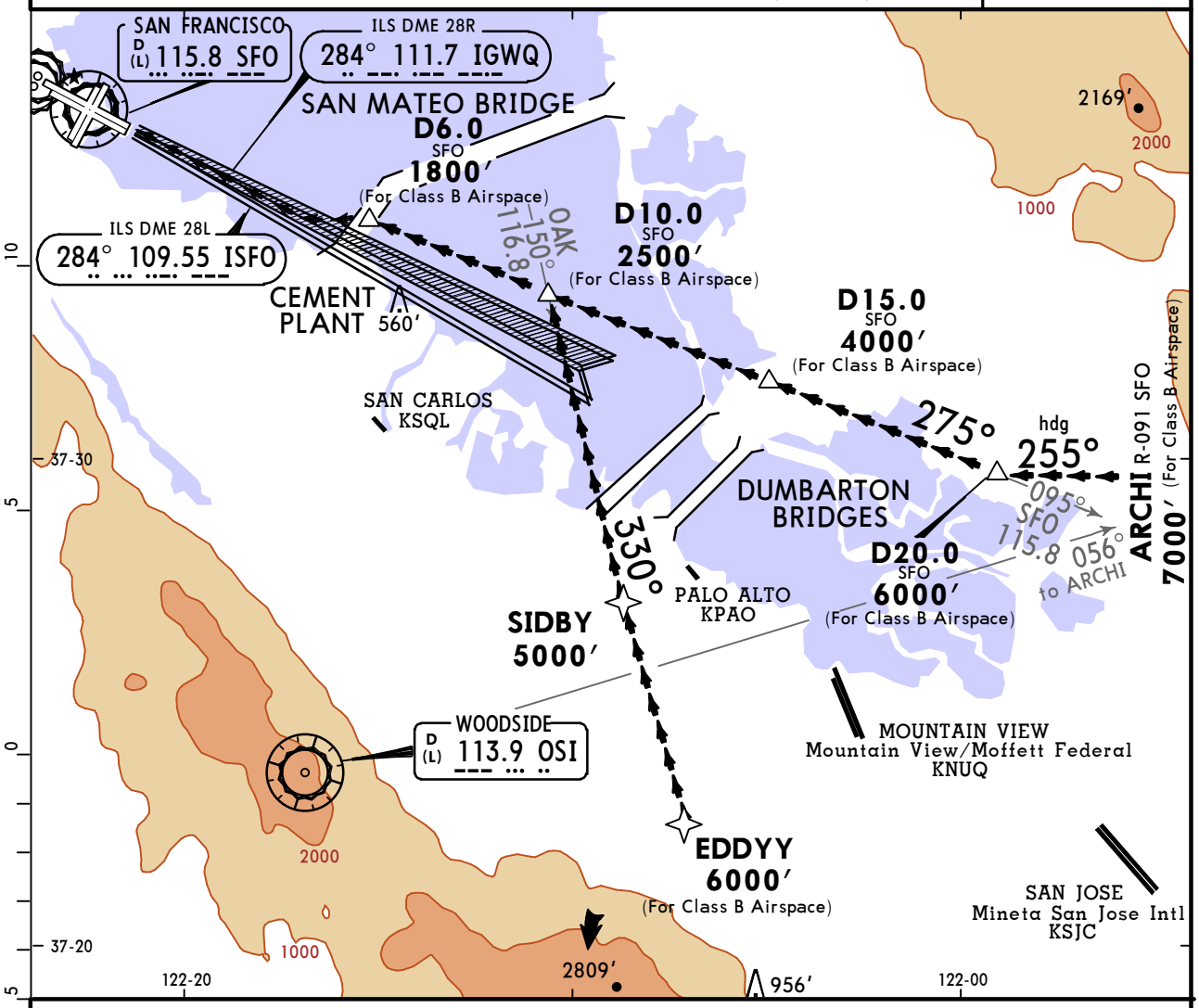
MISSED APCH: See below.

Alt Set: INCHES | Trans level: FL 180 | Trans alt: 18000′

1. Radar required. 2. Closely spaced parallel visual approaches may be in progress to Rwy 28L utilizing ISFO. 3. Visual guidance and naviad angle: LOC IGWQ (GS 3.00°).



MSA SFO VOR



QUIET BRIDGE VISUAL APPROACH RWYS 28L/R

From the South: After SIDBY, fly 330° hdg to intercept SFO R-095 inbound.
From the East: After ARCHI, fly 255° hdg to intercept SFO R-095 inbound.

In the event of a go-around:

Runway 28L, turn LEFT heading 265°, climb and maintain 3000′ or as directed by Air Traffic Control.

Runway 28R, fly heading 280°, climb and maintain 3000′ or as directed by Air Traffic Control.

WEATHER MINIMUMS

SFO Ceiling **2500′-** VIS **5**

-OR-

SFO Ceiling 1000′ - VIS 3 With VIS 5 in Eastern Quadrant (030° clockwise 120°) and San Mateo AWOS Ceiling 2400′ - VIS 5

[If San Mateo AWOS inop, use San Carlos (KSQL) Ceiling of 2400′-VIS 5; San Carlos ATIS on 125.9]

TERPS AMEND 12 8 NOV 2018

CHANGES: Minimums at ARCHI, weather minimums format.

Chart changes since cycle 06-2019

ADD = added chart, REV = revised chart, DEL = deleted chart.

ACT	PROCEDURE IDENT	INDEX	REV DATE	EFF DATE
SAN FRANCISCO, CA (SAN FRANCISCO INTL - KSFO)				
REV	PARKING GATES	10-9B	05 Apr 2019	
REV	PARKING GATES (CONTD) & C...	10-9C	05 Apr 2019	

TERMINAL CHART CHANGE NOTICES

Chart Change Notices for Airport KSFO

Type: Terminal
Effectivity: Temporary
Begin Date: Immediately
End Date: Until Further Notice

(10-9D) Low Visibility Taxi Routes - Surface Movement Guidance and Control System operations suspended until further notice. Contact the San Francisco Airport Commission for details.

Chart Change Notices for Country USA

Type: Gen Tmnl
Effectivity: Temporary
Begin Date: Immediately
End Date: Until Further Notice

ILS Procedures RVR 1800 Statute Mile Equivalent-U.S. FAA Airports On a number of ILS approach procedures at U.S. FAA airports, the published landing visibility value of RVR 1800 depicts a Statute Mile equivalent value of 3/8 Statute Mile. According to FAA FAR and AIM publications, the Statute Mile equivalent for RVR 1800 should be 1/2 Statute Mile Beginning with the revision dated 20 May 2016 affected U.S. ILS approach charts will be updated to depict the appropriate Statute Mile equivalent visibility of 1/2 Statute Mile.

Type: Gen Tmnl
Effectivity: Temporary
Begin Date: Immediately
End Date: Until Further Notice

MALSR & SSALR RAIL out Lighting Condition - U.S. FAA Locations The FAA has confirmed that for MALSR and SSALR approach light systems, the RAIL out, or partial system condition, is not applicable when determining landing visibilities When any component of a MALSR or SSALR approach light system is inoperative, such as RAIL out, the landing visibilities should be determined as if the entire lighting system were inoperative (ALS out). Therefore, the RAIL out visibility column should be disregarded.