Flight Procedure Tracking Form	Action: FLIGHT CHECK	Task Type: IAP	Date Open: 10/05/2010	Task #: 2010100527933201001	Request #: 20101005279332
Procedure: ILS OR LOC RWY 29 AMDT 25		Airport ID: KOAK	Airport: METROPOLITAN OAKLAND INTL		Reimbursable #:
City: OAKLAND	ST: CA	GPS #:		Estimated Chart Date: 11/15/2012	FICO #:
Fac ID: INB	Fac. Type: ILS Proc-A	Specialist: DAN POWELL(Contractor)			

P1

Procedure Review

	Rec'd	Rel'd	Full Name	Comments
Lead:	10/06/2010	07/12/2012	ADOLFO URRUTIA	
QA:	07/12/2012	07/12/2012	RICHELLE ADDINGTON	
Liaison:	07/12/2012		K. Spurlin	MAGVAR; CAT I,II, III; ; P1

MAG VAR

Procedure Comments: NON-ENROUTE **Remark Type:** INFORMATION PVG 1of1

OAKLAND, CA METROPOLITAN OAKLAND INTL (KOAK) ILS OR LOC RWY 29, AMDT 25 ENROUTE-NO FC: 10.2.10 PUB: 11.15.12

ATTACHED FORMS: 8260-3; 8260-10; 8260-9; 8260-2(S): JENFR, CA-REV 3; MAKMY, CA-ORIG; WUVON, CA-ORIG; YICPU, CA-ORIG; (INFO ONLY) MISON, CA-REV 6; OAKLAND (OAK) VTAC, CA-REV 12; SAUSALITO (SAU) VTAC, CA-REV 6; SUNOL, CA-REV 20.

CONTACT: ADOLFO URRUTIA/LONNIE EVERHART-AVN-130 LEADS, 405.954.2079/4576:

-NEW-

PROTOTYPE: NOT FOR NAVIGATION

OAKLAND, CALIFORNIA

LOC I-INB	APP CRS	Rwy ldg TDZE Apt Elev
108.7	296°	

ILS or LOC RWY 29

OAKLAND/ METROPOLITAN OAKLAND INTL (OAK)

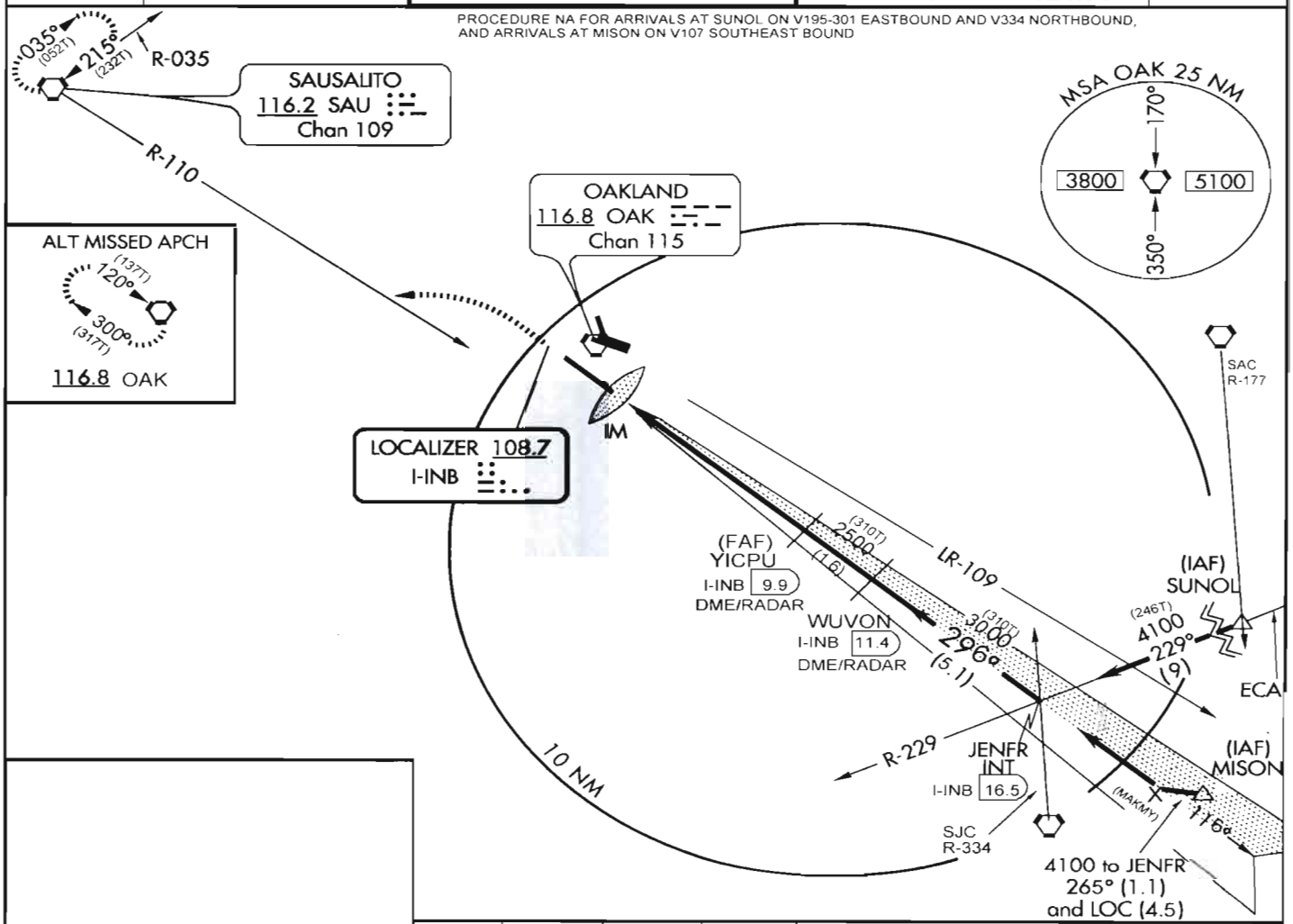
DME or RADAR required.

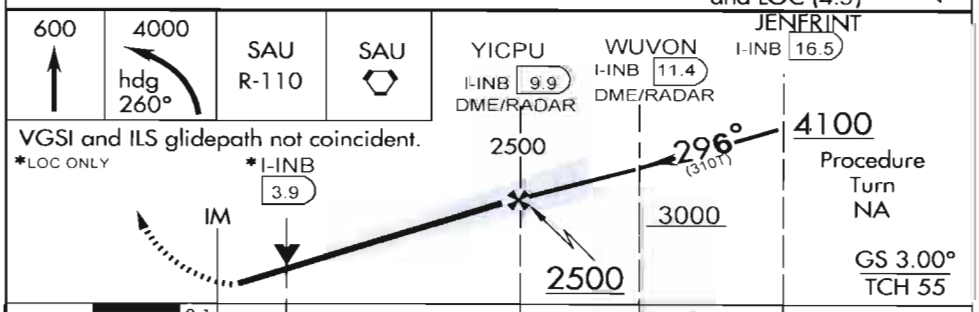
ALSF-2

CLIMB TO 600 THEN CLIMBING LEFT TURN TO 4000 ON HEADING 260 AND SAU VORTAC R-110 TO SAU VORTAC AND HOLD, CONTINUE CLIMB-IN-HOLD TO 4000, OR AS DIRECTED BY ATC.

ATIS	NORCAL APP CON	OAKLAND TOWER (Rwys 9-27, 15-33)	OAKLAND TOWER (Rwy 11-29)	GND CON (Rwys 9-27, 15-33)	GND CON (Rwy 11-29)	CLNC DEL
133.775	125.35 310.8 354.1	118.3 291.65	127.2 256.9	121.9	121.75	121.1

PROCEDURE NA FOR ARRIVALS AT SUNOL ON V195-301 EASTBOUND AND V334 NORTHBOUND, AND ARRIVALS AT MISON ON V107 SOUTHEAST BOUND





CATEGORY	A	B	C	D
S-ILS 29	209/18 200			
S-LOC 29	600 / 24 591		600 - 1 1/4 591	
CIRCLING	600 - 1 591		600 - 1 3/4 591	600 - 2 591

FIG

- NEW -

PROTOTYPE: NOT FOR NAVIGATION

OAKLAND, CALIFORNIA

ILS RWY 29 (SA CAT 1)

OAKLAND/METROPOLITAN OAKLAND INTL (OAK)

LOC I-INB	APP CRS	Rwy ldg TDZE Apt Elev
108.7	294°	

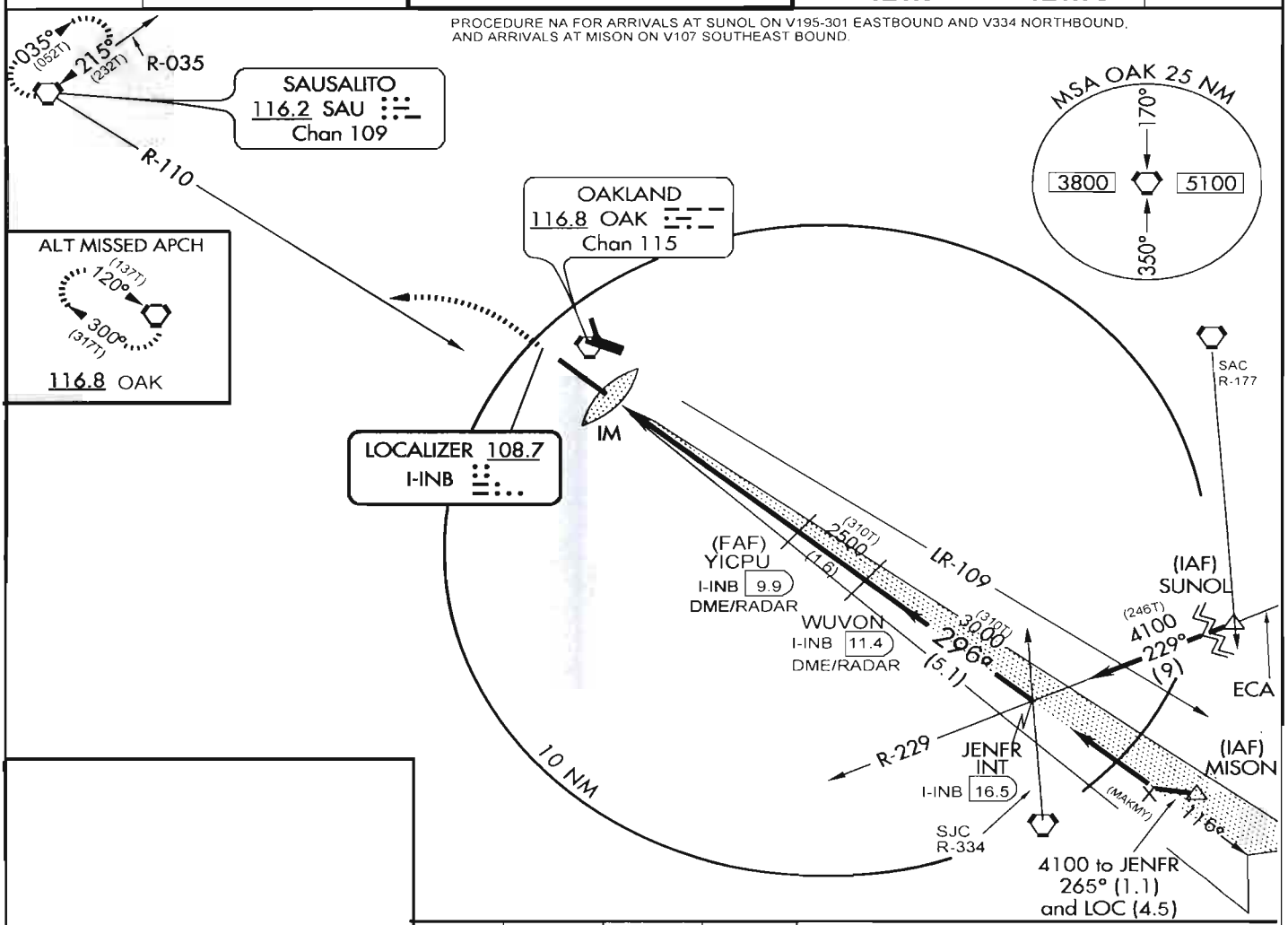
REQUIRES SPECIFIC OPSPEC, MSPEC, OR LOA APPROVAL AND USE OF HUD TO DH.
DME OR RADAR REQUIRED.

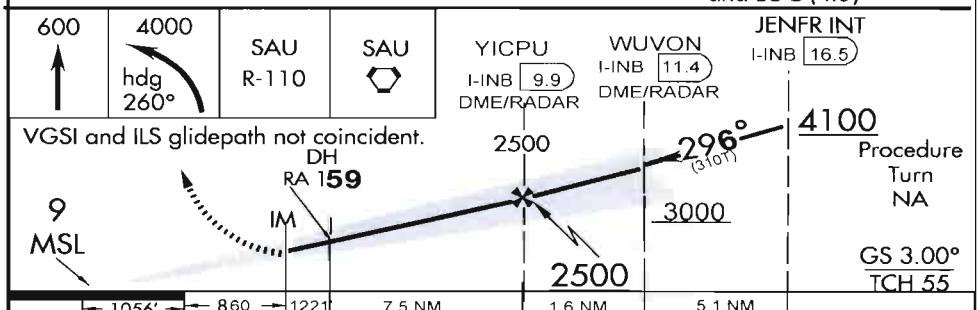
ALSF-2

CLIMB TO 600 THEN CLIMBING LEFT TURN TO 4000 ON HEADING 260 AND SAU VORTAC R-110 TO SAU VORTAC AND HOLD, CONTINUE CLIMB-IN-HOLD TO 4000, OR AS DIRECTED BY ATC.

ATIS	NORCAL APP CON	OAKLAND TOWER (Rwys 9-27, 15-33)	OAKLAND TOWER (Rwy 11-29)	GND CON (Rwys 9-27, 15-33)	GND CON (Rwy 11-29)	CLNC DEL
133.775	125.35 310.8 354.1	118.3 291.65	127.2 256.9	121.9	121.75	121.1

PROCEDURE NA FOR ARRIVALS AT SUNOL ON V195-301 EASTBOUND AND V334 NORTHBOUND, AND ARRIVALS AT MISON ON V107 SOUTHEAST BOUND.





CATEGORY	A	B	C	D
S-ILS 29	RA 159, RVR 1400, HATh 150, DA 159 MSL			

SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

- NEW -

PROTOTYPE: NOT FOR NAVIGATION

OAKLAND, CALIFORNIA

LOC I-INB	APP CRS	Rwy ldg TDZE Apt Elev
108.7	294°	

ILS RWY 29 (CAT II)

OAKLAND/ METROPOLITAN OAKLAND INTL (OAK)

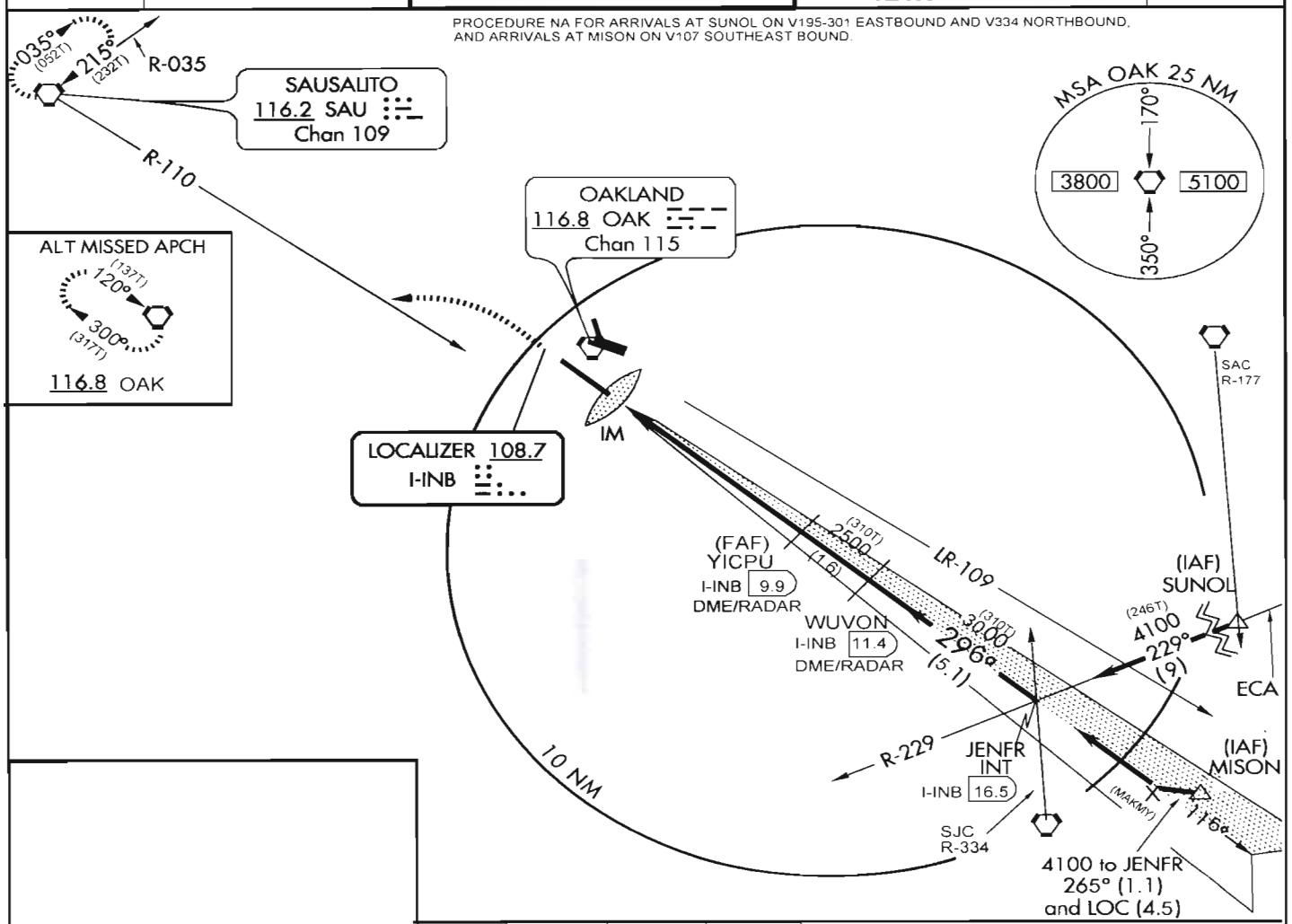
MISSED APPROACH REQUIRES MINIMUM CLIMB OF 230 FEET PER NM TO 2700.
DME OR RADAR REQUIRED.

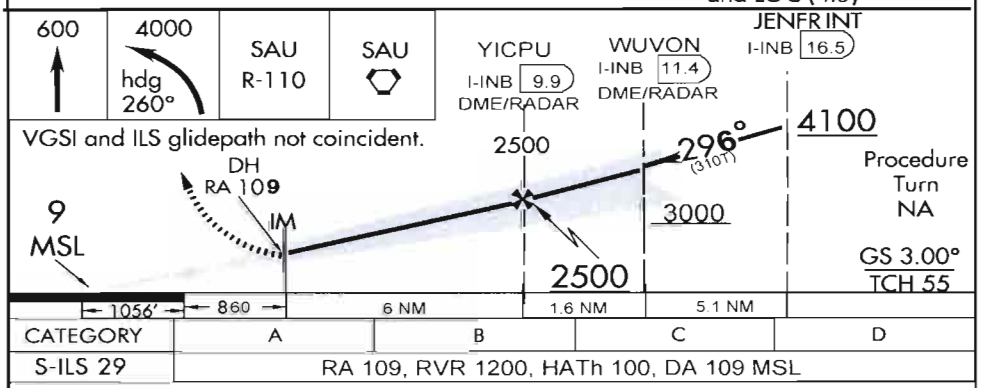
ALSF-2

CLIMB TO 600 THEN CLIMBING LEFT TURN TO 4000 ON HEADING 260 AND SAU VORTAC R-110 TO SAU VORTAC AND HOLD, CONTINUE CLIMB-IN-HOLD TO 4000, OR AS DIRECTED BY ATC.

ATIS	NORCAL APP CON	OAKLAND TOWER (Rwys 9-27, 15-33)	OAKLAND TOWER (Rwy 11-29)	GND CON (Rwys 9-27, 15-33)	GND CON (Rwy 11-29)	CLNC DEL
133.775	125.35 310.8 354.1	118.3 291.65	127.2 256.9	121.9	121.75	121.1

PROCEDURE NA FOR ARRIVALS AT SUNOL ON V195-301 EASTBOUND AND V334 NORTHBOUND, AND ARRIVALS AT MISON ON V107 SOUTHEAST BOUND.





CATEGORY	A	B	C	D
S-ILS 29	RA 109, RVR 1200, HATh 100, DA 109 MSL			

CATEGORY II ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

-NEW-

PROTOTYPE: NOT FOR NAVIGATION

OAKLAND, CALIFORNIA

ILS RWY 29 (CAT III)

OAKLAND/ METROPOLITAN OAKLAND INTL (OAK)

LOC I-INB	APP CRS	Rwy ldg TDZE Apt Elev
108.7	294°	

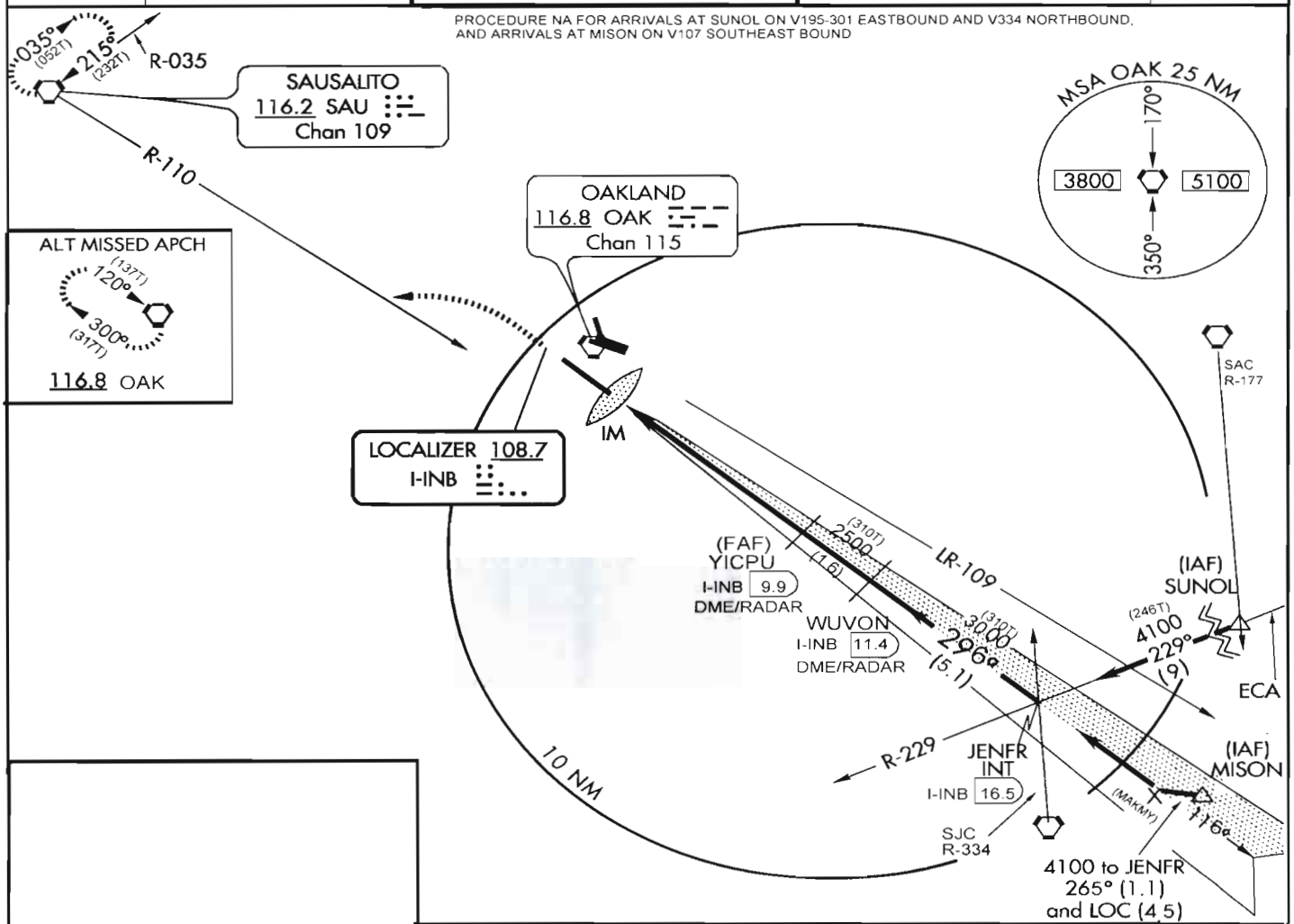
MISSED APPROACH REQUIRES MINIMUM CLIMB OF 230 FEET PER NM TO 2700.
DME OR RADAR REQUIRED.

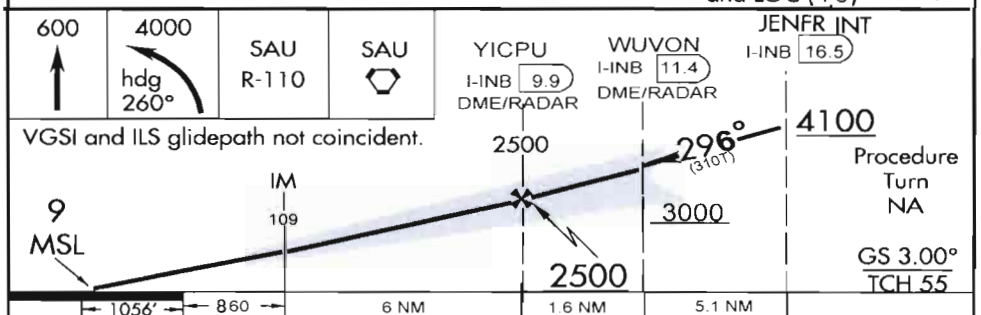
ALSF-2

CLIMB TO 600 THEN CLIMBING LEFT TURN TO 4000 ON HEADING 260 AND SAU VORTAC R-110 TO SAU VORTAC AND HOLD, CONTINUE CLIMB-IN-HOLD TO 4000, OR AS DIRECTED BY ATC.

ATIS	NORCAL APP CON	OAKLAND TOWER (Rwys 9-27, 15-33)	OAKLAND TOWER (Rwy 11-29)	GND CON (Rwys 9-27, 15-33)	GND CON (Rwy 11-29)	CLNC DEL
133.775	125.35 310.8 354.1	118.3 291.65	127.2 256.9	121.9	121.75	121.1

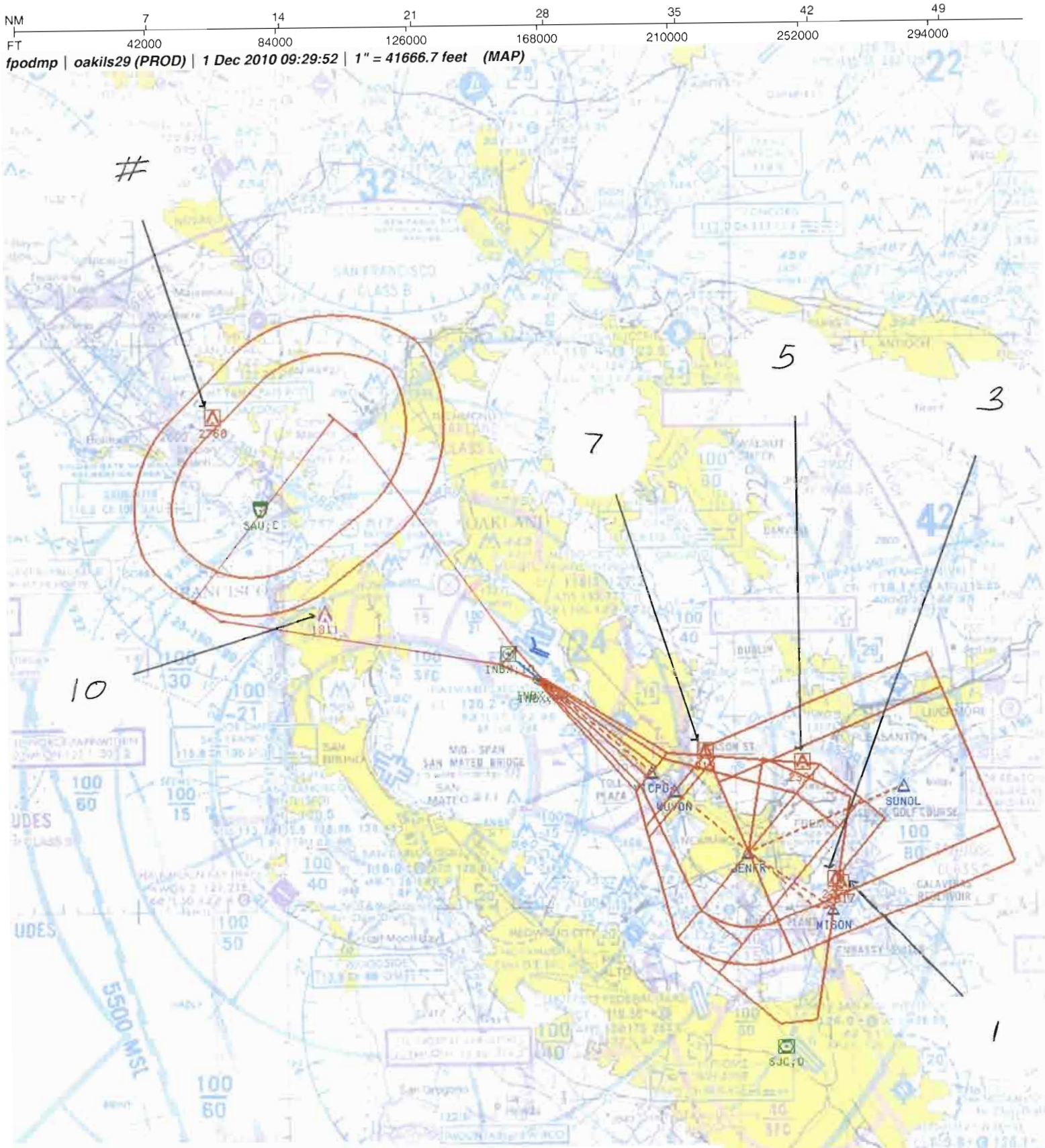
PROCEDURE NA FOR ARRIVALS AT SUNOL ON V195-301 EASTBOUND AND V334 NORTHBOUND, AND ARRIVALS AT MISON ON V107 SOUTHEAST BOUND





CATEGORY	A	B	C	D
S-ILS 29	CAT IIIa RVR 07			
S-ILS 29	CAT IIIb RVR 06			
S-ILS 29	CAT IIIc NA			

CATEGORY III ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED



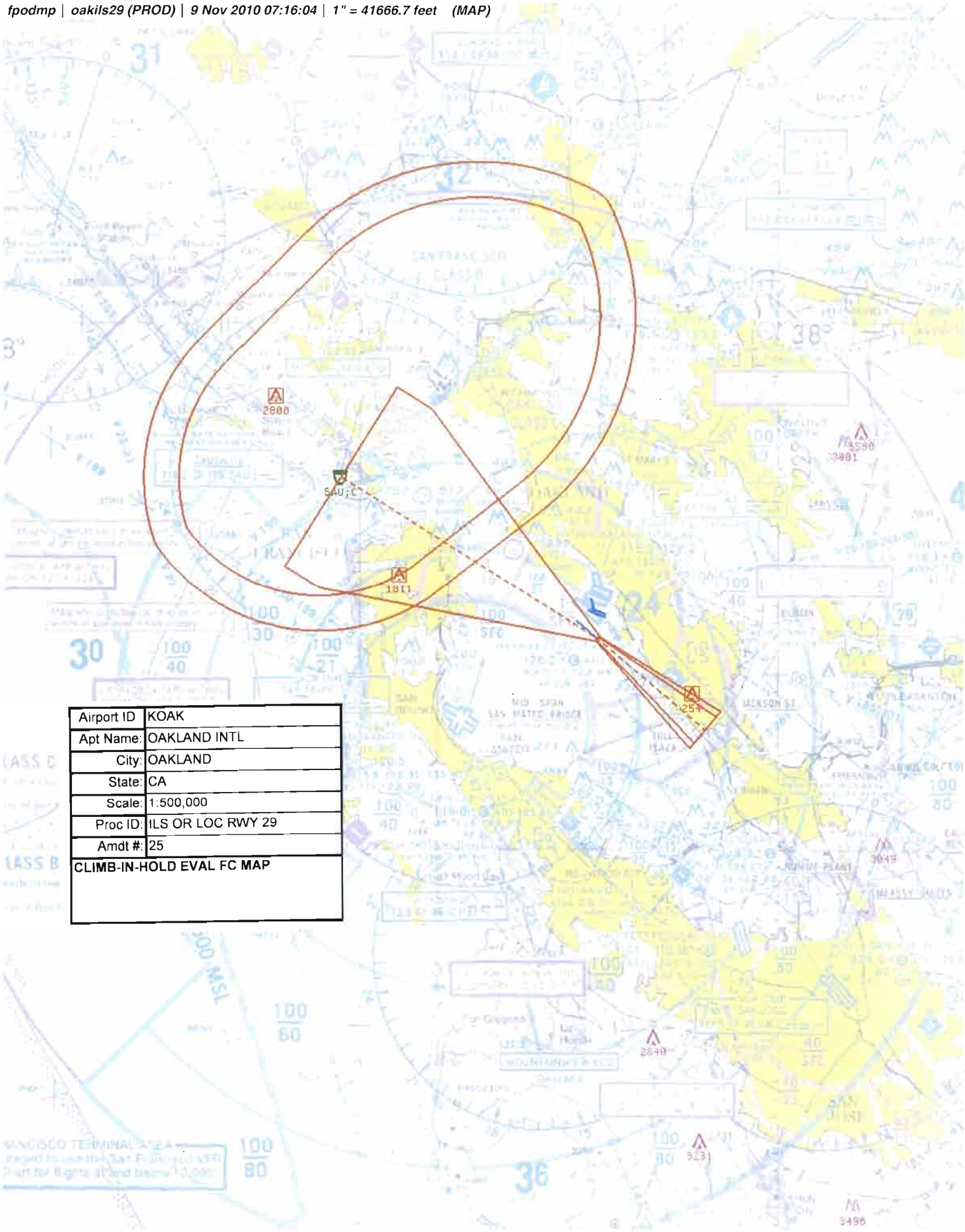
Airport ID	KOAK
Apt Name:	OAKLAND INTL
City:	OAKLAND
State:	CA
Scale:	1:500,000
Proc ID:	ILS OR LOC RWY 29
Amdt #:	25
FINAL: ILS	

FM 9

No	SEGMENT	OBSTRUCTION	ELEV
1	INITIAL (SUNOL)	AAO	2717
3	INITIAL (MISON)	AAO	2274
5	INTERMEDIATE	AAO	2391
7	INTERMEDIATE: STEP	AAO	919
	FINAL: ILS	ASC	
10	MISSED APPROACH	TWR (06-000120)	1811
#	HOLDING	AAO	2760

NM	7	14	21	28	35	42	49
FT	42000	84000	126000	168000	210000	252000	294000

fpodmp | oakils29 (PROD) | 9 Nov 2010 07:16:04 | 1" = 41666.7 feet (MAP)



Airport ID	KOAK
Apt Name:	OAKLAND INTL
City:	OAKLAND
State:	CA
Scale:	1:500,000
Proc ID:	ILS OR LOC RWY 29
Amdt #:	25

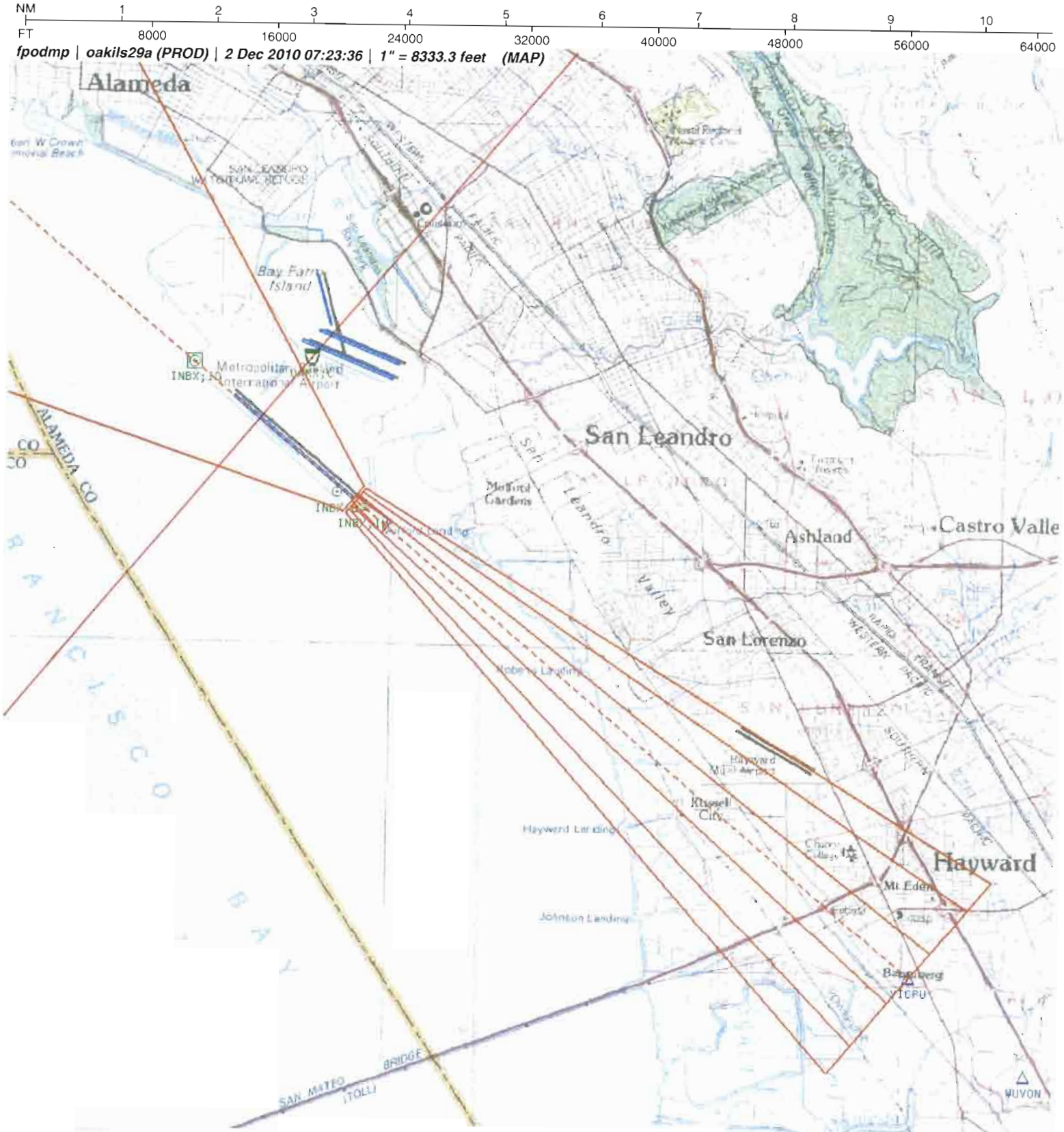
CLIMB-IN-HOLD EVAL FC MAP

NM 7 14 21 28 35 42 49

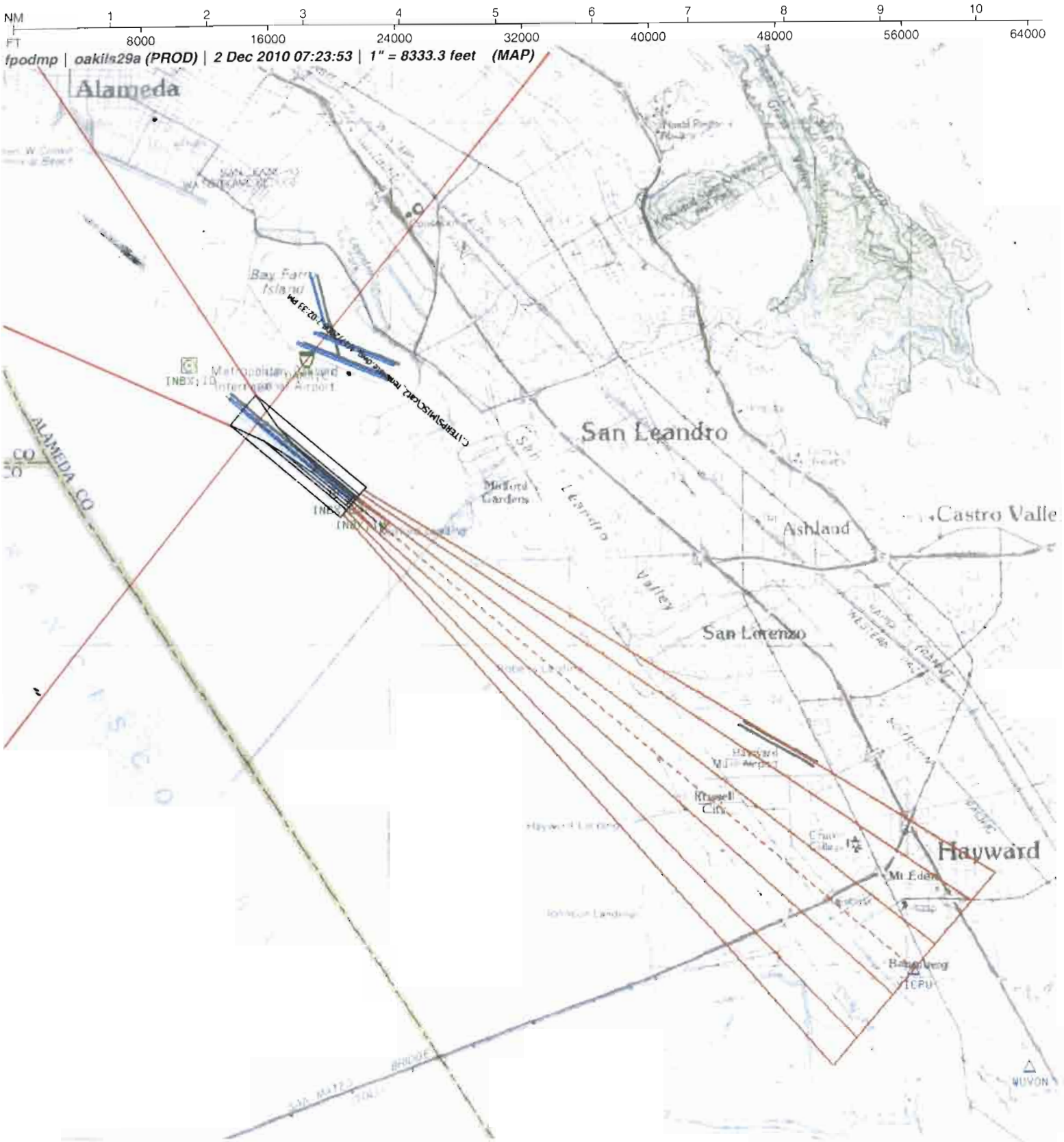
FT 42000 84000 126000 168000 210000 252000 294000

fpodmp | oakils29a (PROD) | 1 Dec 2010 13:03:53 | 1" = 41666.7 feet (MAP)

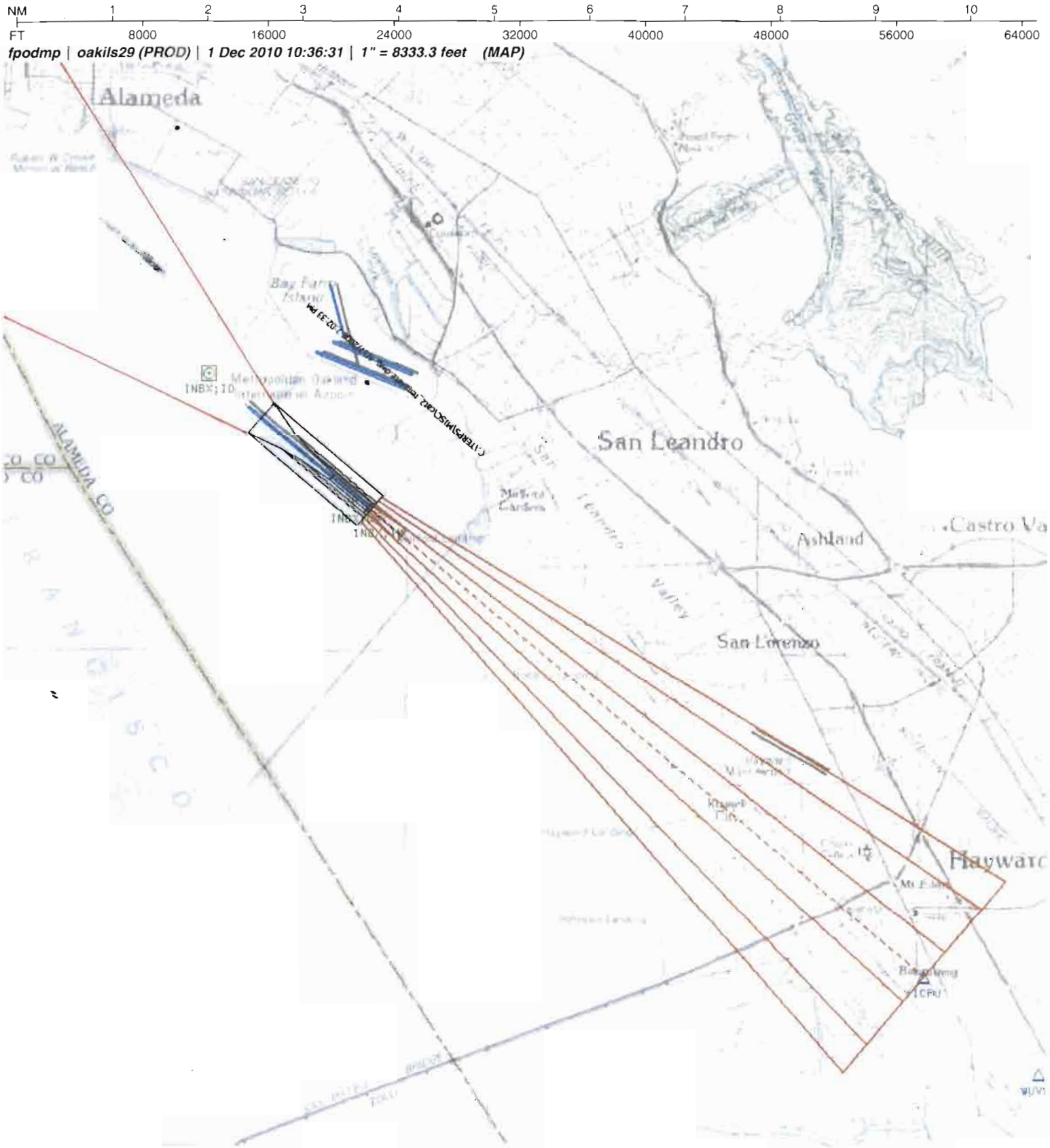
Airport ID	KOAK	FM 9			
Apt Name:	OAKLAND INTL	No	SEGMENT	OBSTRUCTION	ELEV
City:	OAKLAND		**FINAL: ILS**	**ASC**	
State:	CA	**14**	**MISSED / HOLDING**	**AAO**	**1821**
Scale:	1:500,000				
Proc ID:	ILS OR LOC RWY 29				
Amdt #:	25				
FINAL: ILS / ALTERNATE MISSED					



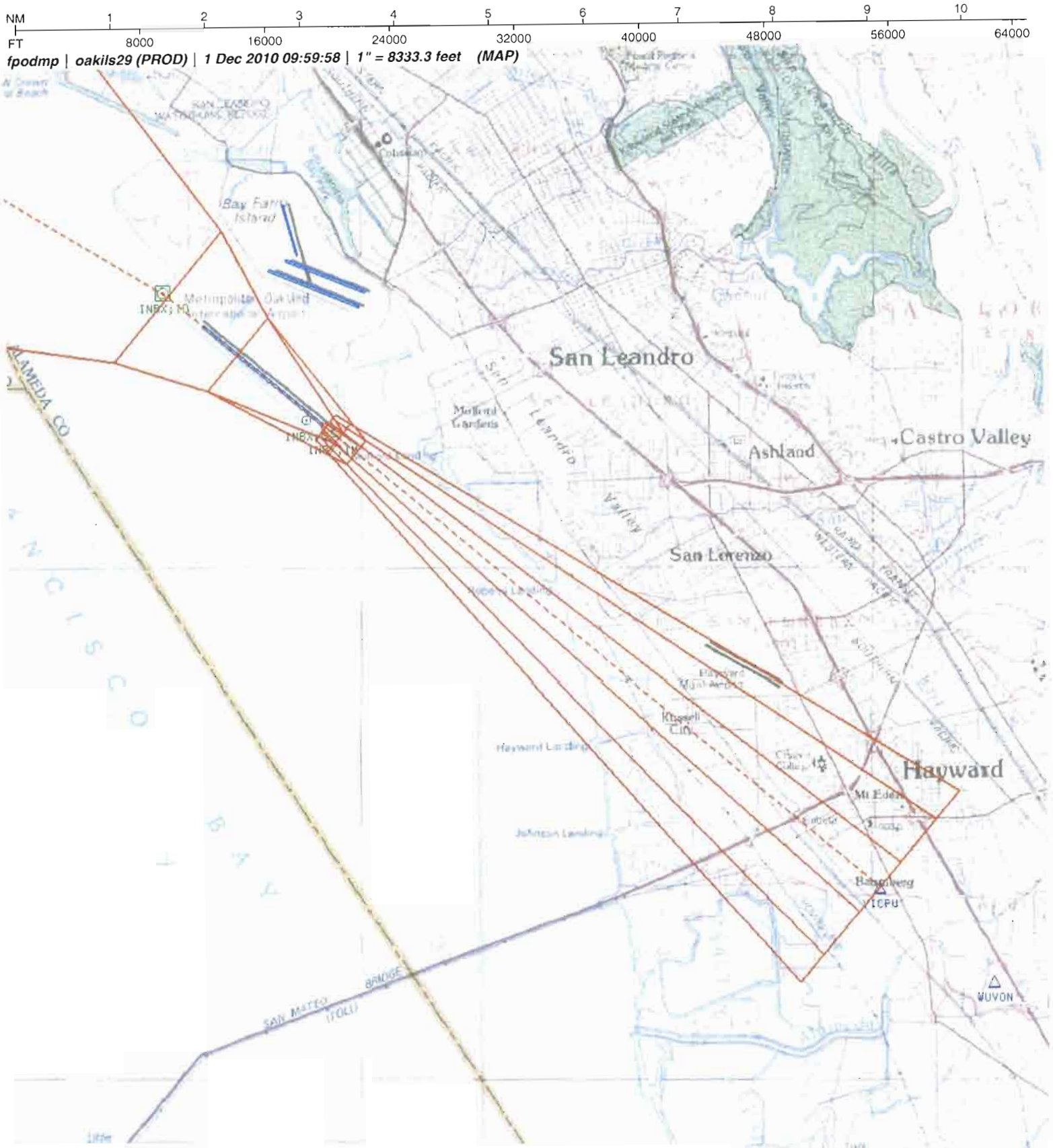
Airport ID	KOAK	FM 9			
Apt Name:	OAKLAND INTL	No	SEGMENT	OBSTRUCTION	ELEV
City:	OAKLAND		**FINAL: ILS**	**ASC**	
State:	CA				
Scale:	1:100,000				
Proc ID:	ILS OR LOC RWY 29				
Amdt #:	25				
FINAL: ILS / ALTERNATE MISSED					



Airport ID	KOAK	FM 9			
Apt Name:	OAKLAND INTL	No	SEGMENT	OBSTRUCTION	ELEV
City:	OAKLAND		**FINAL: ILS**	**ASC**	
State:	CA				
Scale:	1:100,000				
Proc ID:	ILS [redacted] RWY 29				
Amdt #:	25				
FINAL: ILS / ALTERNATE MISSED / CAT II					



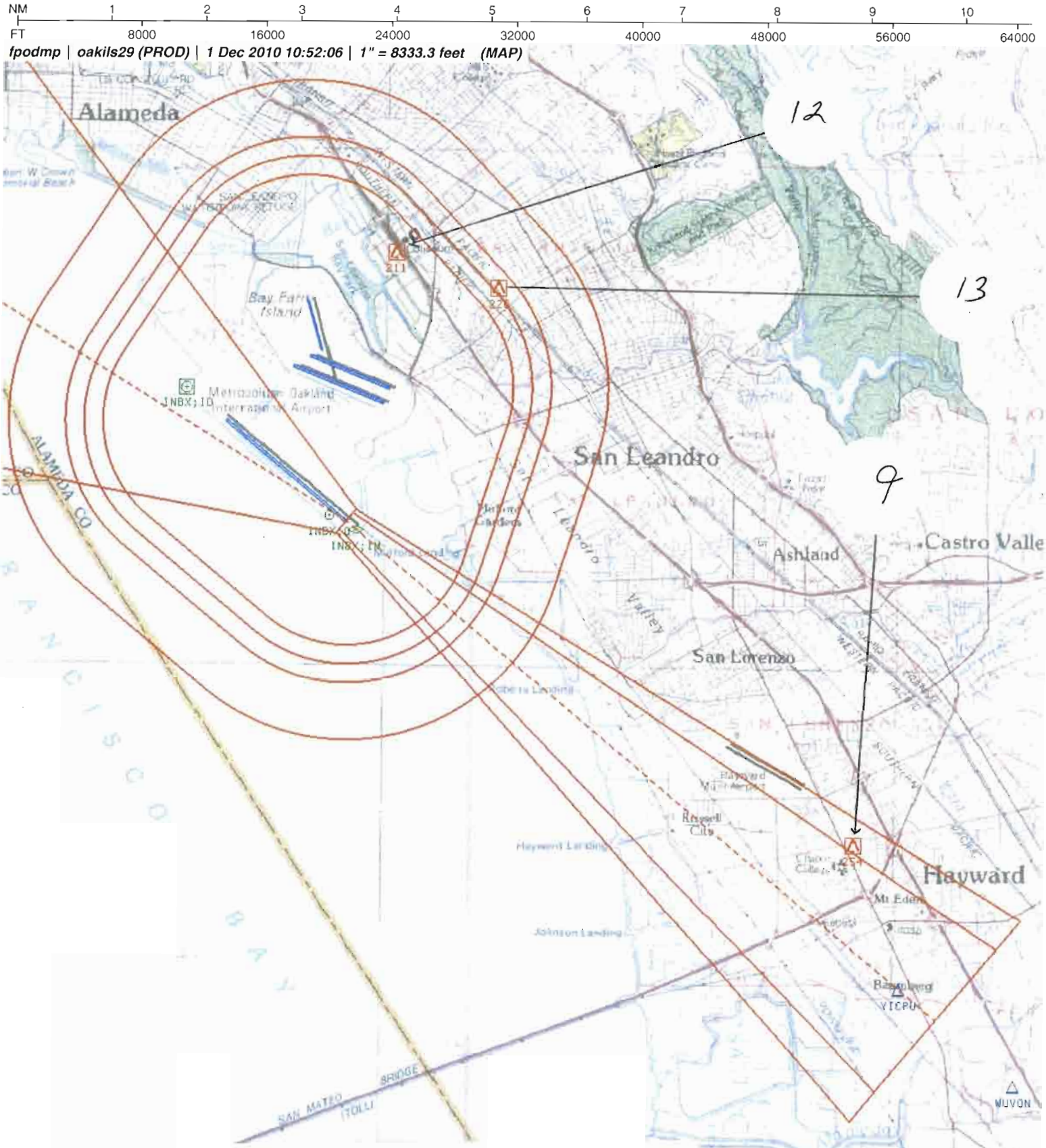
Airport ID	KOAK	FM 9			
Apt Name:	OAKLAND INTL	No	SEGMENT	OBSTRUCTION	ELEV
City:	OAKLAND		FINAL: ILS	ASC	
State:	CA				
Scale:	1:100,000				
Proc ID:	ILS [redacted] RWY 29				
Amdt #:	25				
FINAL: ILS (CAT II)					



Airport ID	KOAK
Apt Name:	OAKLAND INTL
City:	OAKLAND
State:	CA
Scale:	1:100,000
Proc ID:	ILS OR LOC RWY 29
Amdt #:	25
FINAL: ILS	

FM 9

No	SEGMENT	OBSTRUCTION	ELEV
	FINAL: ILS	**ASC**	

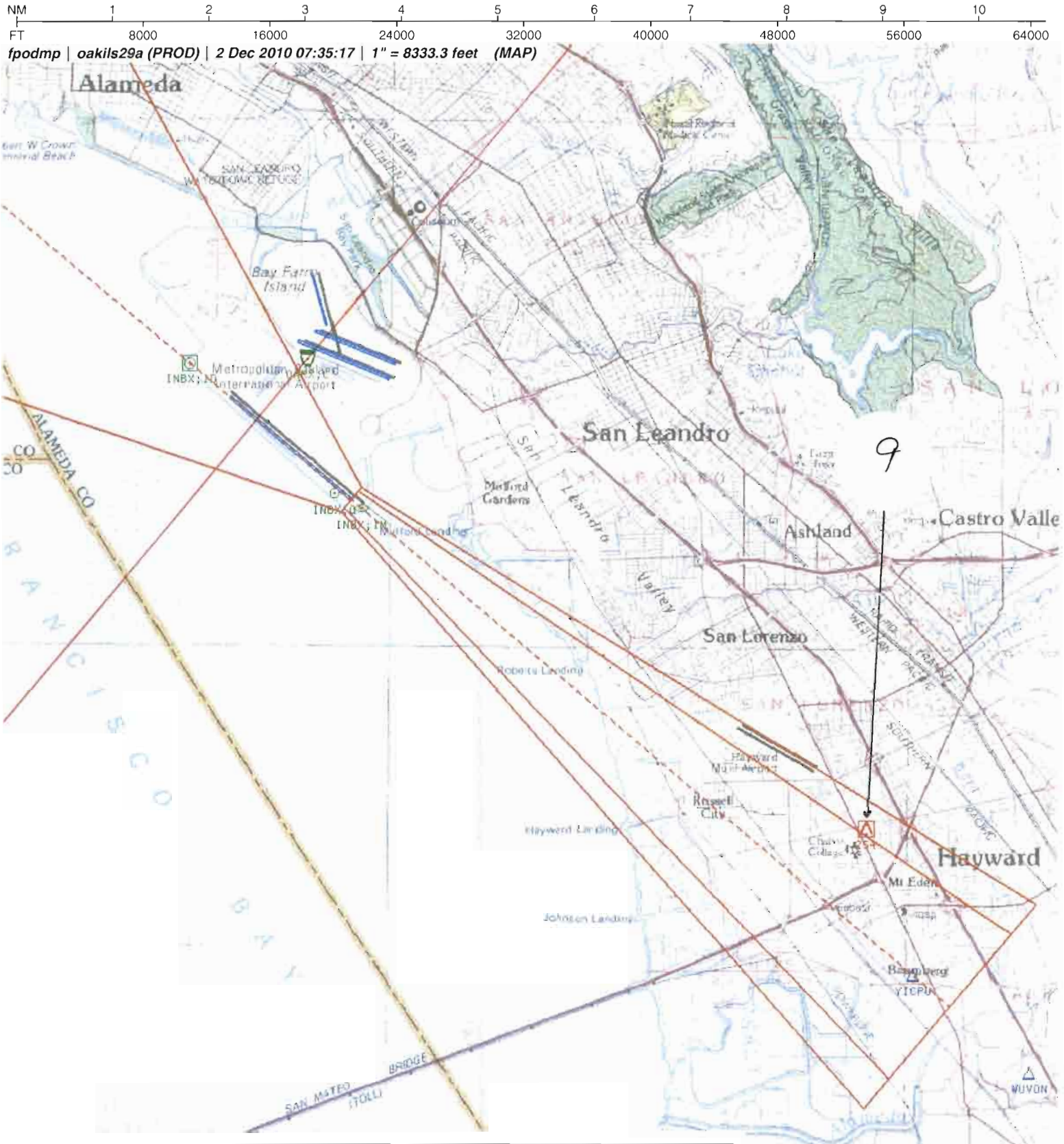


Airport ID	KOAK
Apt Name:	OAKLAND INTL
City:	OAKLAND
State:	CA
Scale:	1:100,000
Proc ID:	ILS OR LOC RWY 29
Amdt #:	25

FINAL: LOC

FM 9

No	SEGMENT	OBSTRUCTION	ELEV
9	FINAL: LOC	AAO	254
12	CIRCLING: CAT A	ANT (KOAK0076)	211
13	CIRCLING: CAT B/C/D	STACK (06-000701)	226



Airport ID	KOAK	FM 9			
Apt Name:	OAKLAND INTL	No	SEGMENT	OBSTRUCTION	ELEV
City:	OAKLAND	**9**	**FINAL: LOC**	**AAO**	**254**
State:	CA				
Scale:	1:100,000				
Proc ID:	ILS OR LOC RWY 29				
Amdt #:	25				
FINAL: LOC / ALTERNATE MISSED					

US DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

ILS - STANDARD
INSTRUMENT APPROACH PROCEDURE
TITLE 14 CFR PART 97.29

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

TERMINAL ROUTES

FROM	TO	COURSE AND DISTANCE	ALTITUDE
SUNOL INT (IAF)	JENFR INT/I-INB 16.53 DME	229.00 / 9.01 (ECA R-229) (OAK LR-109)	4100
MISON INT (IAF)	JENFR INT/I-INB 16.53 DME	265.00 / 1.10 (HDG) & 296.00 / 4.47 (I-INB)	4100
JENFR INT/I-INB 16.53 DME (IF)	WUVON/I-INB 11.46 DME/RADAR	296.00 / 5.07 (I-INB)	3000
WUVON/I-INB 11.46 DME/RADAR	YICPU/I-INB 9.88 DME/RADAR	296.00 / 1.58 (I-INB)	2500

MISSED APPROACH

ILS: DA
LOC: 7.65 MILES AFTER YICPU/I-INB 9.88 DME/RADAR OR AT I-INB 2.23 DME FIX

CLIMB TO 600 THEN CLIMBING LEFT TURN TO 4000 ON HEADING 260 AND SAU VORTAC R-110 TO SAU VORTAC AND HOLD, CONTINUE CLIMB-IN-HOLD TO 4000, OR AS DIRECTED BY ATC.

ALTERNATE MA: CLIMB TO 4000 THEN RIGHT TURN DIRECT OAK VORTAC AND HOLD.

ADDITIONAL FLIGHT DATA:
HOLD NE, RT, 215.21 INBOUND.
CHART IN PLANVIEW: ALTERNATE MA HOLDING, HOLD NW OAK VORTAC, RT, 120.00 INBOUND.
FAS OBST: 254 AAO 373836N/1220606W
CHART VDP AT 3.87 DME*;
DISTANCE VDP TO THLD 1.63 MILES.
*LOC ONLY.
CHART (MAKMY) AT INTERSECTION OF DR LEG AND INTERMEDIATE COURSE.
CHART IN PLANVIEW: OAK VORTAC.

1. PT NA SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. PROFILE STARTS AT JENFR
3. FAC: 296.00 FAF: YICPU/I-INB 9.88 DME/RADAR DIST FAF TO MAP: 7.65 THLD: 7.65
4. MIN. ALT: JENFR 4100, WUVON 3000, YICPU 2500
5. DIST TO THLD FROM OM: - MM: - IM: 860 150 HAT: 1813 100 HAT: 860 GS ANT: 1055
6. MIN GS INCPT: 2500 GS ALT AT: YICPU 2500 OM: - MM: - IM: 109
7. GS ANGLE: 3.00 TCH: 55.3
8. MSA FROM: OAK VORTAC 170-350 3800, 350-170 5100

MAG VAR: 14E EPOCH YEAR: 2010

MINIMUMS

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT ALTERNATE: N A ILS: STANDARD LOC: STANDARD

CATEGORY =====>	A			B			C			D			E		
	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA
S-ILS 29	209	1800	200	209	1800	200	209	1800	200	209	1800	200			
S-LOC 29	600	2400	591	600	2400	591	600	1 1/4	591	600	1 1/4	591			
CIRCLING	600	1	591	600	1	591	600	1 3/4	591	600	2	591			

NOTES:
CATEGORY II ILS SPECIAL AIRCREW AND AIRCRAFT CERTIFICATION REQUIRED S-ILS-29: CAT A, B, C, D, RA 109, RVR 1200, HATh 100, DA 109 MSL.
CATEGORY III ILS SPECIAL AIRCREW AND AIRCRAFT CERTIFICATION REQUIRED. S-ILS-29: CAT IIIa CAT A,B,C,D, RVR 700. CAT IIIb CAT A,B,C,D, RVR 600. CAT IIIc NA.
(SEE FORM 8260-10)

CITY AND STATE	ELEVATION: 9 THRE: 9	FACILITY IDENTIFIER:	PROCEDURE NO./AMDT NO./EFFECTIVE DATE:	SUP:
OAKLAND, CA	AIRPORT NAME: METROPOLITAN OAKLAND INTL	I-INB	ILS OR LOC RWY 29, AMDT 25 ILS RWY 29 (SA CAT I), ILS RWY 29 (CAT II), ILS RWY 29 (CAT III)	AMDT: 24A DATED 06/04/2009

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
[ ] YES [X] NO		**ROUTINE**

COORDINATED WITH:

ATA	AAT	ALPA	APA	AOPA	NBAA	OTHER (specify)
[X]	[ ]	[X]	[X]	[X]	[X]	[X] **NORCAL APP CON, OAK ATCT, AMGR**

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME: **ADOLFO URRUTIA (DAN POWELL)**	FIFO **AVN-130**	DATE: **01/29/2011**
APPROVED BY		
NAME: **DEZ SILAGYI** **MANAGER**	FIFO **AVN-130**	DATE:

CHANGES:

1. SUNOL TERMINAL ROUTE DISTANCE CHANGED FROM 8.87 TO 9.01.
2. MISON TERMINAL ROUTE HEADING AND DISTANCE CHANGED FROM 262.82/1.20 & 294.01/7.13 TO 265.00/1.10 & 296.00/4.47.
3. ESTABLISHED NEW PFAF LOCATION NAMED YICPU.
4. DME DISTANCES CHANGED FROM OAKLAND VORTAC TO I-INB.
5. ADDED INTERMEDIATE STEPDOWN FIX NAMED WUVON.
6. FINAL APPROACH COURSE CHANGED FROM 294 TO 296.
7. TCH VALUE CHANGED FROM 55.1 TO 55.3.
8. S-LOC 29 MDA/HAT CHANGED FROM 560/554 TO 600/591.
9. S-LOC 29 VISIBILITY CAT C CHANGED FROM RVR 5000 TO 1 1/4 MILE; CAT D FROM RVR 6000 TO 1 1/4 MILE.
10. CIRCLING MDA/HAA ALL CATS CHANGED FROM 560/554 TO 600/591.
11. CIRCLING VISIBILITY CAT C CHANGED FROM 1 1/2 MILE TO 1 3/4 MILE.
12. S-ILS 29 (CAT II) RA CHANGED FROM 105 TO 109.
13. S-ILS 29 (CAT II) RA TO MAP DISTANCE CHANGED FROM 857 TO 860.
14. ADDED CONTINUE CLIMB-IN-HOLD TO 4000 TO MISSED APPROACH INSTRUCTIONS.
SEE 8260-10

REASONS:

1, 2. RELOCATION OF JENFR.
3. IAW 8260.54A.
4. DME ADDED TO LOCALIZER FACILITY.
5. MAINTAIN PREVIOUSLY PUBLISHED INTERMEDIATE SEGMENT ALTITUDE.
6. MAGVAR ROTATION OF I-INB.
7. USING AVNIS RDH VALUE.
8. NEW CONTROLLING OBSTACLE.
9, 10, 11. IAW 8260.3B CHG 20, CH 3.
12, 13, 15. NEW CALCULATION.
14. IAW 8260.19D, CH 8, PARA 856(C)9.
16. MINIMUM REQUIRED EQUIPMENT.
17. BRANCH REQUEST.
18. TURNS GREATER THAN 120 DEGREES.
19. IAW 8260.19D, PARA 856(G)1.
20. IAW 8260.19D, PARA 430.

THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 11/29/2010.
CHANGED LINE 5 DISTANCE TO THLD FROM 100 FT HAT TO 860' VICE 1813' AND ADDED 1813' TO 150 FT HAT.

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

NOTES, (CONT.):

SA CATEGORY I ILS SPECIAL AIRCREW AND AIRCRAFT CERTIFICATION REQUIRED S-ILS 29: CAT A, B, C, D, RA 159, RVR 1400, HATh 150, DA 159 MSL.

CAT II RVR 1000 CHART NOTE: RVR 1000 AUTHORIZED WITH SPECIFIC OPSPEC, MSPEC, OR LOA APPROVAL AND USE OF AUTOLAND OR HUD TO TOUCHDOWN.

S-ILS 29 CATEGORY II/III CHART NOTE: MISSED APPROACH REQUIRES MINIMUM CLIMB OF 230 FEET PER NM TO 2700.

SA CAT I CHART NOTE: REQUIRES SPECIFIC OPSPEC, MSPEC, OR LOA APPROVAL AND USE OF HUD TO DH.

CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT SUNOL ON V195-301 EASTBOUND AND V334 NORTHBOUND, AND ARRIVALS AT MISON ON V107 SOUTHEAST BOUND.

CHART NOTE: DME OR RADAR REQUIRED.

CHART PROFILE NOTE: VGSI AND ILS GLIDEPATH NOT COINCIDENT.

QUALITY CHECKED

CITY AND STATE	ELEVATION: 9 THRE: 9	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
OAKLAND, CA	AIRPORT NAME: METROPOLITAN OAKLAND INTL	I-INB	ILS OR LOC RWY 29, AMDT 25 ILS RWY 29 (SA CAT I) , ILS RWY 29 (CAT II) ILS RWY 29 (CAT III)	AMDT: 24A DATED: 06/04/2009

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
☐ YES ☐ NO		

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	FIFO	DATE:
APPROVED BY		
NAME:	FIFO	DATE:

CHANGES:

CHANGES CONT.
15. ADJUSTED REQUIRED CLIMB GRADIENT FOR MISSED APPROACH SEGMENTS OF S-ILS 29 (CAT II/III) PROCEDURES AND ADDED NOTE. 16. ADDED DME OR RADAR REQUIRED NOTE TO INCLUDE ALL MINIMA. 17. ADDED S-ILS 29 (SA CAT I) MINS. 18. ADDED PROCEDURE NA FOR ARRIVAL NOTES AT SUNOL AND MISON. 19. DEPICTED ALTERNATE MISSED APPROACH HOLDING AT OAKLAND VORTAC. 20. ADDED VDP AT 3.87 DME.

REASONS:

QUALITY CHECKED

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

ILS STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.29**

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

ARINC PACKET - 424-18 - ILS

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
NAVAID  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAD        ECA   K2011600VTHW N37500097W121101695    N37500097W121101695E0170000482     NARMANTECA
        SUSAD        OAK   K2011680VTHA N37433331W122132492    N37433331W122132492E0170000102     NAROAKLAND
        SUSAD        SAU   K2011620VTLW N37511924W122312191    N37511924W122312191E0170010401     NARSAUSALITO
        SUSAD KOAKK2 IINB  K2010870 IT                     IINBN37433314W122145902     000100     NARMETROPOLITAN OAKLAND INTL

                 1         2         3         4         5         6         7         8         9         0         1         2         3
WP      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   JENFR K20    C     N37325242W121590486                      E0141     NAR           JENFR
        SUSAEAENRT   MAKMY K20    W     N37295883W121544659                      E0141     NAR           CNF(MAKMY)
        SUSAEAENRT   MISON K20    C   L N37294854W121532506                      E0141     NAR           MISON
        SUSAEAENRT   SUNOL K20    C   L N37361991W121483701                      E0141     NAR           SUNOL
        SUSAEAENRT   WUVON K20    R     N37360869W122035743                      E0141     NAR           WUVON
        SUSAEAENRT   YICPU K20    R     N37370978W122052879                      E0141     NAR           YICPU

                 1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KOAKK2AOAK     0     100YHN37431660W122131460E016000009         1800018000C    MNAR    METROPOLITAN OAKLAND INTL

                 1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KOAKK2FI29   AMISON 010MISONK2EA0E  A    IF                                          18000                 0 NS
        SUSAP KOAKK2FI29   AMISON 020MAKMYK2EA0E       TF                                    + 04100                     0 NS
        SUSAP KOAKK2FI29   AMISON 030JENFRK2EA0EE B    CF IINBK2      1160016529600045PI  + 04100                     0 NS
        SUSAP KOAKK2FI29   ASUNOL 010SUNOLK2EA0E  A    FC ECA K2      2290033322900070D   + 04100     18000           0 NS
        SUSAP KOAKK2FI29   ASUNOL 020JENFRK2EA0EE B    CF IINBK2      1160016522900020PI  + 04100                     0 NS
        SUSAP KOAKK2FI29   I      010JENFRK2EA0E  I    IF IINBK2      11600165        PI  J 041000250018000           0 NS
        SUSAP KOAKK2FI29   I      011WUVONK2EA0E S     CF IINBK2      1160011429600051PI  + 03000                     0 NS
        SUSAP KOAKK2FI29   I      020YICPUK2EA0E  F    CF IINBK2      1160009829600016PI  H 0250002500        -300OAK   K2D 0 NS
        SUSAP KOAKK2FI29   I      030RW29 K2PG0GY M    CF IINBK2      1160002229600077PI    00064             -300        0 NS
        SUSAP KOAKK2FI29   I      040         0  M     CA                     2960        + 00600                     0 NS
        SUSAP KOAKK2FI29   I      050         0        VI                     2600                                    0 NS
        SUSAP KOAKK2FI29   I      060SAU  K2D 0VY       CF SAU K2      0000000029000140D   + 04000                     0 NS
        SUSAP KOAKK2FI29   I      070SAU  K2D 0VE  R    HM                     2152T010    + 04000                     0 NS

                 1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KOAKK2GRW29    0100002940 N37420537W122125132+0000    -0029900009000055150IIINB3
```

QUALITY CHECKED 6

CITY AND STATE	ELEVATION: 9 THRE: 9	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
OAKLAND, CA	AIRPORT NAME: **METROPOLITAN OAKLAND INTL**	**I-INB**	**ILS OR LOC RWY 29, AMDT 25** **ILS RWY 29 (SA CAT I), ILS RWY 29 (CAT II)** **ILS RWY 29 (CAT III)**	AMDT: **24A** DATED: **06/04/2009**

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
☐ YES ☐ NO		

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	NFPG	DATE:
APPROVED BY		
NAME:	NFPG	DATE:

CHANGES:

REASONS:

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

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
ILS     123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KOAKK2IIINB3   010870RW29 N37432986W1221458102960N37420904W1221304573299 10550303300E01405500005

                 1         2         3         4         5         6         7         8         9         0         1         2         3
MSA     123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KOAKK2SOAK  K2D                0   1703500512535017003825                                                                M
```

QUALITY CHECKED

CITY AND STATE	ELEVATION: 9 THRE: 9	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
OAKLAND, CA	AIRPORT NAME: METROPOLITAN OAKLAND INTL	I-INB	ILS OR LOC RWY 29, AMDT 25 ILS RWY 29 (SA CAT I), ILS RWY 29 (CAT II) ILS RWY 29 (CAT III)	AMDT: 24A DATED: 06/04/2009

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
☐ YES ☐ NO		

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	NFPG	DATE:
APPROVED BY		
NAME:	NFPG	DATE:

CHANGES:

REASONS:

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

ILS STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.29**

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

ARINC SUMMARY - 424-18 - ILS

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	MISON	MISON	010	IAF	IF		FB					
	MISON	MAKMY	020		TF		FB				AA 04100	
	MISON	JENFR	030		CF		FB		296.0()	004.5	AA 04100	
	SUNOL	SUNOL	010	IAF	FC		FB		229.0()	007.0	AA 04100	
	SUNOL	JENFR	020		CF		FB		229.0()	002.0	AA 04100	
		JENFR	010	FACF	IF		FB				AA 04100 GI 02500	
		WUVON	011	SDF	CF		FB		296.0()	005.1	AA 03000	
		YICPU	020	FAF	CF		FB		296.0()	001.6	GI 02500 GS 02500	
		RW29	030	MAP	CF		FO		296.0()	007.7	AT 00064	

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
		040		CA		FB		296.0()		AA 00600	
		050		VI		FB		260.0()			
	SAU	060		CF		FO		290.0()	014.0	AA 04000	
	SAU	070		HM	R	FO		215.2()	T01.0	AA 04000	

POINT DATA	WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
	ECA	N375000.97	W1211016.95	N3750.016	W12110.283
	OAK	N374333.31	W1221324.92	N3743.555	W12213.415
	SAU	N375119.24	W1223121.91	N3751.321	W12231.365
	IINB (DME)	N374333.14	W1221459.02	N3743.552	W12214.984
	JENFR	N373252.42	W1215904.86	N3732.874	W12159.081
	MAKMY	N372958.83	W1215446.59	N3729.981	W12154.777
	MISON	N372948.54	W1215325.06	N3729.809	W12153.418
	SUNOL	N373619.91	W1214837.01	N3736.332	W12148.617
	WUVON	N373608.69	W1220357.43	N3736.145	W12203.957
	YICPU	N373709.78	W1220528.79	N3737.163	W12205.480
	RW29	N374205.37	W1221251.32	N3742.090	W12212.855
	IINB (LOC)	N374329.86	W1221458.10	N3743.498	W12214.968

RUNWAY DATA	RWY	THRESHOLD ELEVATION	TCH
	RW29	00009	55

QUALITY CONTROL

CITY AND STATE	ELEVATION: 9 THRE: 9	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
OAKLAND, CA	AIRPORT NAME: **METROPOLITAN OAKLAND INTL**	**I-INB**	**ILS OR LOC RWY 29, AMDT 25** **ILS RWY 29 (SA CAT I), ILS RWY 29 (CAT II)** **ILS RWY 29 (CAT III)**	AMDT: **24A** DATED: **06/04/2009**

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
☐ YES ☐ NO		

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	NFPG	DATE:
APPROVED BY		
NAME:	NFPG	DATE:

CHANGES:

REASONS:

STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

PART - A OBSTRUCTION DATA

1. APP SEGMENT	FROM	TO	OBSTRUCTION	COORDINATES	ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.
INITIAL	SUNOL INT (IAF)	JENFR INT/I-INB	1. AAO	373045.34N/1215251.19W	2717 (2A)	1000	AT383	4100
		16.53 DME	2. TERRAIN	373045.34N/1215251.19W	2517 (2500)		AS1500	4000
INITIAL	MISON INT (IAF)	JENFR INT/I-INB	3. AAO	373100.00N/1215312.00W	2274 (4E)	1000	AT826	4100
		16.53 DME	4. TERRAIN	373100.00N/1215312.00W	2074 (2100)		AS1500	3600
INTERMEDIATE	JENFR INT/I-INB	WUVON/I-INB	5. AAO	373712.11N/1215520.61W	2391 (2A)	500	SA-389 AT498	3000
	16.53 DME	11.46 DME/RADAR	6. TERRAIN	373612.00N/1215815.00W	1312 (1300)		AS1500	2800
INTERMEDIATE:	WUVON/I-INB	YICPU/I-INB 9.88	7. AAO	373753.47N/1220152.43W	919 (4E)	500	SA-419 AC98 AT1402	2500
STEPDOWN	11.46 DME/RADAR	DME/RADAR	8. TERRAIN	373718.00N/1220206.00W	132 (100)		AS1500	1600
FINAL: ILS	YICPU/I-INB 9.88	RW29				ASC		209/200
	DME/RADAR							
FINAL: ILS CAT II	YICPU/I-INB 9.88	RW29				ASC		109/100
	DME/RADAR							
FINAL: ILS SA CAT I	YICPU/I-INB 9.88	RW29				ASC		159/150
	DME/RADAR							
2. PROCEDURE TURN	NA							
3. MISSED APPROACH — MAP:	RW29/7.65 MILES	SAU VORTAC				ASC		4000
	AFTER YICPU/I-INB		10. TOWER (06-000120)	374520.00N/1222710.00W	1811 (2C)	1000		2900
ELEV:	41/267		11. TERRAIN	375106.00N/1222954.00W	1109 (1100)		AS1500	2600

4. CIRCLING AREA	DISTANCE	HT. ABV. ARPT. REQUIRED	HT. ABV. ARPT. ACTUAL								
CATEGORY A	1.3 NM	350	591	12. ANT (KOAK0076)	374449.50N/1221211.60W	211 (1A)	300	SI	600
CATEGORY B	1.5 NM	450	591	13. STACK (06-000701)	374427.00N/1221050.00W	226 (1A)	300	SI	600
CATEGORY C	1.7 NM	450	591	13. STACK (06-000701)	374427.00N/1221050.00W	226 (1A)	300	SI	600
CATEGORY D	2.3 NM	550	591	13. STACK (06-000701)	374427.00N/1221050.00W	226 (1A)	300	SI	600
CATEGORY E	4.5 NM	550							

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: OAK VORTAC

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A
170-350	AAO	287/ 21.5	2800 (6C)	3800					
350-170	AAO	041/ 17.6	4049 (6C)	5100					

CITY AND STATE	ELEVATION: 9 / AIRPORT NAME:	FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
OAKLAND, CA	METROPOLITAN OAKLAND INTL	I-INB	ILS OR LOC RWY 29, AMDT 25 ILS RWY 29 (SA CAT I), ILS RWY 29 (CAT II), ILS RWY 29 (CAT III)	AWP

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE			3. ALTIMETER SETTING
BAY TRACON OAK TOWER NORCAL APP CON		N W S	OTHER: ATIS	SOURCE: KOAK
		F A A		DISTANCE:
		A / C		HOURS REMOTE OPERATION: 24
SATISFACTORY ON: X V H F X U H F H F	LOCATION: KOAK			ADJUSTMENT: 0

4. MONITOR STATUS	PRIMARY NAVAID:	I-INB
	MONITOR POINT:	OAK ATCT
	HRS OPTN: CAT 1	24
	HRS OPTN: CAT 3	

5. APPROACH & RUNWAY LIGHTING	X	ALSF-2 29
		(S) SALS
	X	MALSR 11, 27R
	X	HIRL 09L, 11, 27L, 29, 09R, 27R
	X	MIRL 33, 15
	X	REIL 27L, 09R
	X	TDZ 29
	X	C/L 11, 29
	X	OTHER (SPECIFY) PAPI-4R 09L, 09R PAPI-4L 11, 27L, 29, 27R

6. RUNWAY MARKINGS	BASIC	BSC-G 33, 15
	ALL WEATHER	PIR-G 09L, 11, 27L, 29, 09R, 27R
	INSTRUMENT	
7. RUNWAY VISUAL RANGE	APPROACH	11, 27L, 29, 27R
	MIDFIELD	11, 29
	ROLL OUT	11, 29

8. GLIDE PATH	GP ANGLE: 3.00	ELEV RWY THRESHOLD: 8.7
	DISTANCE FROM RWY: 1055	ELEV GP ANTENNA: 8.7
		THRESHOLD CROSSING HEIGHT: 55.3

9. FINAL APPROACH COURSE AIMING	X	RUNWAY THRESHOLD	FT. FROM THRESHOLD
	X	ON CENTERLINE	FT. FROM CENTERLINE

10. WAIVERS: NONE

PART D - PREPARED BY: ADOLFO URRUTIA (DAN POWELL)	DATE: 11/29/2010
TITLE: AERONAUTICAL INFORMATION SPECIALIST	OFFICE: AVN-130

PART C - REMARKS:

FLIGHT CHECK RDH 55.3, (ORDER 8260.3B CHG 19).

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

BLOCK 2. HRS OPTN:24

BLOCK 3. SOURCE: KOAK
DISTANCE: ON ARPT
HOURS REMOTE OPERATION: 24
ADJUSTMENT: 0 FT

KOAK ATIS ON SERVICE A.

VGSI: 3.00/71

SEE ATTACHED AIRSPACE LETTER.

CAT II OBSTACLE SEARCH COMPLETED PER AFS-400 MEMORANDUM, INTERIM CRITERIA FOR PRECISION APPROACH OBSTACLE ASSESSMENT AND CATEGORY II INSTRUMENT LANDING SYSTEM (ILS) REQUIREMENTS, DATED DEC 21, 2007, PARA 6.9.

MAGVAR UPDATED FROM 16E TO 14E TO CONTINUE SUPPORT OF CAT II/III MINIMUMS PER FPO.

USED 8260.54A FORMULA 2-16B TO ESTABLISH FIX AT NEW PFAF LOCATION PER AJV-354 BRANCH; PUBLISHED RNAV PROCEDURES TO RWY 29 WILL BE BUILT TO MATCH NEW PFAF LOCATION AT A LATER DATE.

BACK UP ALTIMETER NOT PUBLISHED, REDUNDANT WEATHER SOURCES AVAILABLE.

AVERAGE VEGETATION ASSUMED TO BE 100 FEET PER FPO.

CONTROLLING OBSTRUCTIONS AND TERRAIN SAME FOR ALL INTERMEDIATE SEGMENTS.

OBSTACLE 06-000120, 1811 MSL TOWER, NECESSITATES THE REQUIRED MISSED APPROACH 230 CG FOR THE CAT II/III PROCEDURES.

OBSTACLE #5 IS 8,832 FEET INTO THE SECONDARY AREA.
OBSTACLE #7 IS 4,066 FEET INTO THE SECONDARY AREA.

MISSED APPROACH OBSTACLES CONT.
ALTERNATE:
ASC 4000
14. AAO 374906.00N/1221036.00W 1821 (4E) 1000 2900
15. TERRAIN 374906.00N/1221036.00W 1621 (1600) AS1500
3100

STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

PART - A OBSTRUCTION DATA

1. APP SEGMENT	FROM	TO	OBSTRUCTION	COORDINATES	ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.
FINAL: LOC	YICPU/I-INB 9.88	7.65 MILES AFTER	9. AAO	373836.44N/1220605.79W	254 (2C)	250	XL83	600
	DME/RADAR	YICPU/I-INB 9.88						
		DME/RADAR OR AT						
		I-INB 2.23 DME						
		FIX						

3. MISSED APPROACH										
	MAP:									
	ELEV:									

4. CIRCLING AREA	DISTANCE	HT. ABV. ARPT.								
CATEGORY A	1.3 NM	REQUIRED	350	ACTUAL						
CATEGORY B	1.5 NM		450							
CATEGORY C	1.7 NM		450							
CATEGORY D	2.3 NM		550							
CATEGORY E	4.5 NM		550							

5. MINIMUM SAFE ALTITUDES

PRIMARY NAVAID:

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A

CITY AND STATE		FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
OAKLAND, CA	ELEVATION: 9 AIRPORT NAME: METROPOLITAN OAKLAND INTL	I-INB	ILS OR LOC RWY 29, AMDT 25 ILS RWY 29 (SA CAT I), ILS RWY 29 (CAT II), ILS RWY 29 (CAT III)	AWP

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE			3. ALTIMETER SETTING
SATISFACTORY ON:		N W S	OTHER:	SOURCE:
		F A A		DISTANCE:
		A / C		HOURS REMOTE OPERATION:
V H F / U H F / H F	LOCATION:			ADJUSTMENT:

4. MONITOR STATUS	PRIMARY NAVAID:	
	MONITOR POINT:	
	HRS OPTN:	CAT 1
		CAT 3

5. APPROACH & RUNWAY LIGHTING		**ALS**
		(S) SALS
		MALS
		HIRL
		MIRL
		REIL
		TDZ
		C/LINE
		OTHER (SPECIFY)

6. RUNWAY MARKINGS	BASIC	
	ALL WEATHER	
	INSTRUMENT	
7. RUNWAY VISUAL RANGE	APPROACH	
	MIDFIELD	
	ROLL OUT	
8. GLIDE PATH	GP ANGLE:	ELEV RWY THRESHOLD:
	DISTANCE FROM RWY:	ELEV GP ANTENNA:
		THRESHOLD CROSSING HEIGHT:

9. FINAL APPROACH COURSE AIMING		RUNWAY THRESHOLD	FT. FROM THRESHOLD
		ON CENTERLINE	FT. FROM CENTERLINE

10. WAIVERS:

PART D - PREPARED BY:	DATE:
TITLE:	OFFICE:

PART C - REMARKS:

RADIO FIX AND HOLDING DATA RECORD

NAME: JENFR **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 373252.42N/1215904.86W **TYPE:** WP, INT, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	OAKLAND	I-INB	LOC/DME		116.00	130.00	16.53	16.49		4100	4500
2	MANTECA	ECA	VORTAC	H	229.40	246.40		42.35		4100	17500
3	SAN JOSE	SJC	VOR/DME	L	333.58	349.58		10.55		4100	17500

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
ECA	VORTAC	R-229	43	3500	17500

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 29	1, 2, 3		KOAK	OAKLAND	CA (US)
IAP	ILS RWY 29 (CAT II)	1, 2, 3		KOAK	OAKLAND	CA (US)
IAP	ILS RWY 29 (CAT III)	1, 2, 3		KOAK	OAKLAND	CA (US)
IAP	RNAV (GPS) Y RWY 29			KOAK	OAKLAND	CA (US)
IAP	RNAV (RNP) Z RWY 29			KOAK	OAKLAND	CA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 3 **DATE OF REVISION:** 11/17/2010

REASON FOR REVISION:
FAC 1 MAG BRG CHANGED FROM 114 TO 116.
ADDED SJC VORTAC AS FACILITY 3.
ADDED ESV DATA FOR ECA VORTAC.
UPDATED FIX USE.
ADDED DME TO FIX TYPE.

DEVELOPED BY: **DATE:** 11/17/2010 **OFFICE:** AVN-130 **NAME:** ADOLFO URRUTIA (DAN POWELL)

NFPO APPROVAL: **DATE:** **OFFICE:** AVN-130 **NAME:** DEZ SILAGYI

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: WST
ARTCC: ZOA
ATC FACILITY: NORCAL APP CON, OAK APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: MAKMY **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 372958.83N/1215446.59W **TYPE:** CNF

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** ESTABLISH

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 29			KOAK	OAKLAND	CA (US)
IAP	ILS RWY 29 (CAT II)			KOAK	OAKLAND	CA (US)
IAP	ILS RWY 29 (CAT III)			KOAK	OAKLAND	CA (US)

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 11/17/2010

DEVELOPED BY: **DATE:** 11/17/2010 **OFFICE:** AVN-130 **NAME:** ADOLFO URRUTIA (DAN POWELL)

NFPO APPROVAL: **DATE:** **OFFICE:** AVN-130 **NAME:** DEZ SILAGYI

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: WST
ARTCC: ZOA
ATC FACILITY: NORCAL APP CON, OAK ATCT
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: WUVON **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 373608.69N/1220357.43W **TYPE:** RADAR, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** ESTABLISH

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	FEET	MRA	MAA
1	OAKLAND	I-INB	LOC/DME		116.00	130.00	11.46	11.42		3000	4500

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 29	1		KOAK	OAKLAND	CA (US)
IAP	ILS RWY 29 (CAT II)	1		KOAK	OAKLAND	CA (US)
IAP	ILS RWY 29 (CAT III)	1		KOAK	OAKLAND	CA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 11/17/2010

DEVELOPED BY: **DATE:** 11/17/2010 **OFFICE:** AVN-130 **NAME:** ADOLFO URRUTIA (DAN POWELL)

NFPO APPROVAL: **DATE:** **OFFICE:** AVN-130 **NAME:** DEZ SILAGYI

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: WST
ARTCC: ZOA
ATC FACILITY: NORCAL APP CON, OAK ATCT
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: YICPU **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 373709.78N/1220528.79W **TYPE:** RADAR, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** ESTABLISH

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	OAKLAND	I-INB	LOC/DME		116.00	130.00	9.88	9.84	59776	2500	4500

REMARKS:
USED 8260.54A FORMULA 2-16B FOR RNP (PFAF) LOCATION.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 29	1		KOAK	OAKLAND	CA (US)
IAP	ILS RWY 29 (CAT II)	1		KOAK	OAKLAND	CA (US)
IAP	ILS RWY 29 (CAT III)	1		KOAK	OAKLAND	CA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 11/29/2010

DEVELOPED BY: **DATE:** 11/29/2010 **OFFICE:** AVN-130 **NAME:** ADOLFO URRUTIA (DAN POWELL)

NFPO APPROVAL: **DATE:** **OFFICE:** AVN-130 **NAME:** DEZ SILAGYI

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: WST
ARTCC: ZOA
ATC FACILITY: NORCAL APP CON, OAK ATCT
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: MISON **STATE:** CA **COUNTRY:** US

INFO ONLY

LATITUDE/LONGITUDE: 372948.54N/1215325.06W **TYPE:** WP, INT, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	OAKLAND	OAK	VORTAC	H	113.73	130.73	21.00	21.00		5000	17500
2	SAN JOSE	SJC	VOR/DME	L	003.53	019.53		7.77		5000	17500

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	V107					(US)
IAP	ILS OR LOC RWY 29	1		KOAK	OAKLAND	CA (US)
IAP	ILS RWY 29 (CAT II)	1		KOAK	OAKLAND	CA (US)
IAP	ILS RWY 29 (CAT III)	1		KOAK	OAKLAND	CA (US)
IAP	RNAV (GPS) Y RWY 29			KOAK	OAKLAND	CA (US)

REQUIRED CHARTING: IAP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 6 **DATE OF REVISION:** 01/11/2010

REASON FOR REVISION:
1. REMOVED FAC 2, NO LONGER REQUIRED.
2. UPDATED FIX USE.

DEVELOPED BY: **DATE:** 01/11/2010 **OFFICE:** AVN-130 **NAME:** JIMMY HUGHES

NFPO APPROVAL: **DATE:** 07/30/2010 **OFFICE:** AVN-130 **NAME:** DEZ SILAGYI

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: WST
ARTCC: ZOA
ATC FACILITY: NORCAL APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

EFF 3/10/11

INFO ONLY

NAME: OAKLAND VORTAC **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 374333.31N/1221324.92W **TYPE:**

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	OAKLAND	OAK	VORTAC	H							45000

HOLDING: **HOLDING TYPE OF ACTION:** MODIFY

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	LEG LENGTH DME	HOLDING ALTITUDES MIN	HOLDING ALTITUDES MAX	TEMPLATES MIN	TEMPLATES MAX
1	NW	OAK	VORTAC	300.00	120.00	R	1	-	2000	4000	4	4
2	NW		WP	300.00	120.00	R		4	2000	4000	4	5

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
UPN	200	AAO	374857.00N/1220348.00W	2225	4E
1	200	AAO	374906.00N/1221036.00W	1821	4E
2	200	AAO	374906.00N/1221036.00W	1821	4E

HOLDING RESTRICTIONS:
UNPLANNED HOLDING AUTHORIZED AT OR ABOVE 5000
PRIOR COORDINATION REQUIRED WITH ZOA WHEN HOLDING ABOVE FL370 DUE TO W513 AND W285 A & B
HOLDING LIMITED TO ESTABLISHED PATTERNS BELOW 5000 FEET

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED: PATTERNS 1 AND 2 NO ADJUSTMENT.
(PAT 1) CONTROLLING OBSTACLE LOCATED 11133 FT. INTO SECONDARY.
(PAT 2) CONTROLLING OBSTACLE LOCATED 10425 FT. INTO SECONDARY.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	BUCHANAN			KCCR	CONCORD	CA (US)
DP	KANAN			KCCR	CONCORD	CA (US)
DP	TAKEOFF MINIMUMS			KHWD	HAYWARD	CA (US)
DP	BYRON			KLVK	LIVERMORE	CA (US)
DP	LIVERMORE			KLVK	LIVERMORE	CA (US)
DP	TAKEOFF MINIMUMS			KLVK	LIVERMORE	CA (US)
DP	SOUTHLAND			KNUQ	MOUNTAIN VIEW	CA (US)
DP	LIZRD			KAPC	NAPA	CA (US)
DP	COAST			KOAK	OAKLAND	CA (US)
DP	MARINA			KOAK	OAKLAND	CA (US)
DP	NIMITZ			KOAK	OAKLAND	CA (US)
DP	NUEVO			KOAK	OAKLAND	CA (US)
DP	OAKLAND			KOAK	OAKLAND	CA (US)
DP	SALAD			KOAK	OAKLAND	CA (US)
DP	SCAGGS ISLAND			KOAK	OAKLAND	CA (US)
DP	SILENT			KOAK	OAKLAND	CA (US)
DP	SKYLINE			KOAK	OAKLAND	CA (US)
DP	DUMBARTON			KSFO	SAN FRANCISCO	CA (US)
DP	GAP			KSFO	SAN FRANCISCO	CA (US)
DP	OFFSHORE			KSFO	SAN FRANCISCO	CA (US)
DP	PORTE			KSFO	SAN FRANCISCO	CA (US)
DP	SAN FRANCISCO			KSFO	SAN FRANCISCO	CA (US)
DP	SHORELINE			KSFO	SAN FRANCISCO	CA (US)
DP	ALTAM			KSJC	SAN JOSE	CA (US)
DP	MOONY			KSJC	SAN JOSE	CA (US)
DP	SAN JOSE			KSJC	SAN JOSE	CA (US)
DP	SUNOL			KSJC	SAN JOSE	CA (US)
DP	TAKE OFF MINIMUMS			KSJC	SAN JOSE	CA (US)
EN ROUTE	J1					(US)
EN ROUTE	J110					(US)
EN ROUTE	J3					(US)
EN ROUTE	J32					(US)
EN ROUTE	J58					(US)
EN ROUTE	J80					(US)
EN ROUTE	J84					(US)
EN ROUTE	J94					(US)
EN ROUTE	V107					(US)
EN ROUTE	V109					(US)
EN ROUTE	V195					(US)
EN ROUTE	V244					(US)
EN ROUTE	V28					(US)
EN ROUTE	V301					(US)
EN ROUTE	V392					(US)
EN ROUTE	V6					(US)
IAP	VOR RWY 19R			KCCR	CONCORD	CA (US)

IAP	LOC/DME RWY 28L	1	KHWD	HAYWARD	CA (US)
IAP	RNAV (GPS) Y RWY 28L	2	KHWD	HAYWARD	CA (US)
IAP	RNAV (GPS) Z RWY 28L	2	KHWD	HAYWARD	CA (US)
IAP	VOR OR GPS-A	1	KHWD	HAYWARD	CA (US)
IAP	VOR/DME OR GPS-B	1	KHWD	HAYWARD	CA (US)
IAP	ILS OR LOC RWY 11		KOAK	OAKLAND	CA (US)
IAP	ILS OR LOC RWY 29		KOAK	OAKLAND	CA (US)
IAP	ILS OR LOC/DME RWY 27R		KOAK	OAKLAND	CA (US)
IAP	ILS RWY 29 (CAT II)		KOAK	OAKLAND	CA (US)
IAP	ILS RWY 29 (CAT III)		KOAK	OAKLAND	CA (US)
IAP	VOR RWY 9R		KOAK	OAKLAND	CA (US)
IAP	VOR/DME RWY 27L		KOAK	OAKLAND	CA (US)
IAP	ILS OR LOC RWY 19L		KSFO	SAN FRANCISCO	CA (US)
IAP	ILS OR LOC RWY 28L		KSFO	SAN FRANCISCO	CA (US)
IAP	ILS OR LOC RWY 28R		KSFO	SAN FRANCISCO	CA (US)
IAP	ILS PRM RWY 28L		KSFO	SAN FRANCISCO	CA (US)
IAP	ILS RWY 28R (CAT II)		KSFO	SAN FRANCISCO	CA (US)
IAP	ILS RWY 28R (CAT III)		KSFO	SAN FRANCISCO	CA (US)
IAP	LDA PRM RWY 28R		KSFO	SAN FRANCISCO	CA (US)
IAP	LDA/DME RWY 28R		KSFO	SAN FRANCISCO	CA (US)
IAP	QUIET BRIDGE VISUAL RWYS 28L/R		KSFO	SAN FRANCISCO	CA (US)
IAP	RNAV (GPS) Z RWY 28R		KSFO	SAN FRANCISCO	CA (US)
IAP	TIPP TOE VISUAL RWY 28L		KSFO	SAN FRANCISCO	CA (US)
IAP	VOR RWY 19L		KSFO	SAN FRANCISCO	CA (US)
IAP	VOR-B		KSFO	SAN FRANCISCO	CA (US)
IAP	ILS OR LOC/DME RWY 30L		KSJC	SAN JOSE	CA (US)
IAP	RANV (RNP) Z RWY 12L		KSJC	SAN JOSE	CA (US)
IAP	RNAV (GPS) RWY 12L		KSJC	SAN JOSE	CA (US)
IAP	RNAV (GPS) Y RWY 12R		KSJC	SAN JOSE	CA (US)
IAP	RNAV (RNP) Z RWY 12R		KSJC	SAN JOSE	CA (US)
STAR	MADWIN		KHWD	HAYWARD	CA (US)
STAR	PANOCHE		KHWD	HAYWARD	CA (US)
STAR	COMMO		KOAK	OAKLAND	CA (US)
STAR	HADLEY		KOAK	OAKLAND	CA (US)
STAR	MADWIN		KOAK	OAKLAND	CA (US)
STAR	MANTECA		KOAK	OAKLAND	CA (US)
STAR	MARVN		KOAK	OAKLAND	CA (US)
STAR	PANOCHE		KOAK	OAKLAND	CA (US)
STAR	BIG SUR		KSFO	SAN FRANCISCO	CA (US)
STAR	HADLEY		KSFO	SAN FRANCISCO	CA (US)
STAR	LOCKE		KSFO	SAN FRANCISCO	CA (US)
STAR	MODESTO		KSFO	SAN FRANCISCO	CA (US)
STAR	POINT REYES		KSFO	SAN FRANCISCO	CA (US)
STAR	RISTI		KSFO	SAN FRANCISCO	CA (US)
STAR	JAWWS		KSJC	SAN JOSE	CA (US)

REQUIRED CHARTING: DP, STAR, MILITARY IAP, IAP, AREA, CONTROLLER, EN ROUTE LOW, EN ROUTE HIGH

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 12 **DATE OF REVISION:** 08/09/2010

REASON FOR REVISION:
ADMIN UPDATE, FAC 1 UPDATED TO PENDING DATA.
UPDATED FIX USE.
UPDATED PAT 2 MIN TEMPLATE FROM 5 TO 4.

DEVELOPED BY: **DATE:** 08/09/2010 **OFFICE:** AVN-130 **NAME:** ADOLFO URRUTIA (AMANDA ROBBINS)

NFPO APPROVAL: **DATE:** **OFFICE:** AVN-130 **NAME:** DEZ SILAGYI

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: WST
ARTCC: ZOA
ATC FACILITY: NORCAL APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: SAUSALITO VORTAC **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 375119.24N/1223121.91W **TYPE:**

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** NO CHANGE

INFO ONLY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	SAUSALITO	SAU	VORTAC	L							17500

HOLDING: **HOLDING TYPE OF ACTION:** MODIFY

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	LEG LENGTH DME	HOLDING ALTITUDES MIN	HOLDING ALTITUDES MAX	TEMPLATES MIN	TEMPLATES MAX
1	NE	SAU	VORTAC	035.21	215.21	R	1-1 1/2		3300	17500	4	16
2	NE		WP	035.21	215.21	R		4	4000	17500	5	17

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	375545.00N/1223436.00W	2760	4E
2	200	AAO	375545.00N/1223445.00W	2760	4E
2	310	AAO	375530.60N/1223602.10W	2800	6A

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS.

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
1	ILS OR LOC RWY 29	KOAK	OAKLAND	CA (US)
1	ILS RWY 29 (CAT II)	KOAK	OAKLAND	CA (US)
1	ILS RWY 29 (CAT III)	KOAK	OAKLAND	CA (US)
2	RNAV (GPS) RWY 27L	KOAK	OAKLAND	CA (US)

REMARKS:
PAT 1 CONTROLLING OBSTACLE LOCATED 1,250 INTO SECONDARY AREA.
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	BUCHANAN	1		KCCR	CONCORD	CA (US)
DP	KANAN	1		KCCR	CONCORD	CA (US)
DP	LIZRD	1		KAPC	NAPA	CA (US)
DP	NIMITZ	1	1	KOAK	OAKLAND	CA (US)
DP	NUEVO	1		KOAK	OAKLAND	CA (US)
DP	OAKLAND	1		KOAK	OAKLAND	CA (US)
DP	SCAGGS ISLAND	1		KOAK	OAKLAND	CA (US)
DP	SILENT	1		KOAK	OAKLAND	CA (US)
DP	EUGEN	1		KSFO	SAN FRANCISCO	CA (US)
DP	GAP	1		KSFO	SAN FRANCISCO	CA (US)
DP	MOLEN	1		KSFO	SAN FRANCISCO	CA (US)
DP	QUIET	1		KSFO	SAN FRANCISCO	CA (US)
DP	REBAS (PROP)	1		KSFO	SAN FRANCISCO	CA (US)
DP	SAN FRANCISCO	1		KSFO	SAN FRANCISCO	CA (US)
EN ROUTE	V150	1				(US)
IAP	LOC RWY 36L	1		KAPC	NAPA	CA (US)
IAP	RNAV (GPS) RWY 6			KAPC	NAPA	CA (US)
IAP	RNAV (GPS) Y RWY 36L			KAPC	NAPA	CA (US)
IAP	RNAV (GPS) Z RWY 36L			KAPC	NAPA	CA (US)
IAP	VOR RWY 6	1		KAPC	NAPA	CA (US)
IAP	ILS OR LOC RWY 11	1		KOAK	OAKLAND	CA (US)
IAP	ILS OR LOC RWY 29	1	1	KOAK	OAKLAND	CA (US)
IAP	ILS OR LOC/DME RWY 27R	1	1	KOAK	OAKLAND	CA (US)
IAP	ILS RWY 29 (CAT II)	1	1	KOAK	OAKLAND	CA (US)
IAP	ILS RWY 29 (CAT III)	1	1	KOAK	OAKLAND	CA (US)
IAP	RNAV (GPS) RWY 27L		2	KOAK	OAKLAND	CA (US)
IAP	RNAV (GPS) RWY 29		2	KOAK	OAKLAND	CA (US)
IAP	RNAV (RNP) Z RWY 29		2	KOAK	OAKLAND	CA (US)
IAP	VOR RWY 9R	1		KOAK	OAKLAND	CA (US)
IAP	VOR/DME RWY 27L	1		KOAK	OAKLAND	CA (US)
IAP	ILS OR LOC RWY 19L	1		KSFO	SAN FRANCISCO	CA (US)
IAP	ILS OR LOC RWY 28L	1		KSFO	SAN FRANCISCO	CA (US)
IAP	ILS OR LOC RWY 28R	1		KSFO	SAN FRANCISCO	CA (US)
IAP	ILS PRM RWY 28L	1		KSFO	SAN FRANCISCO	CA (US)
IAP	ILS RWY 28R (CAT II)	1		KSFO	SAN FRANCISCO	CA (US)
IAP	ILS RWY 28R (CAT III)	1		KSFO	SAN FRANCISCO	CA (US)
IAP	VOR RWY 19L	1		KSFO	SAN FRANCISCO	CA (US)
IAP	VOR-B	1		KSFO	SAN FRANCISCO	CA (US)
IAP	ILS OR LOC RWY 32	1		KSTS	SANTA ROSA	CA (US)
IAP	VOR RWY 32	1		KSTS	SANTA ROSA	CA (US)

STAR	COMMO	1	KOAK	OAKLAND	CA (US)
STAR	MANTECA	1	KOAK	OAKLAND	CA (US)
STAR	RAIDR (RNAV)	1	KOAK	OAKLAND	CA (US)
STAR	HADLY	1	KSFO	SAN FRANCISCO	CA (US)
STAR	LOCKE	1	KSFO	SAN FRANCISCO	CA (US)
STAR	POINT REYES	1	KSFO	SAN FRANCISCO	CA (US)
STAR	STINS	1	KSFO	SAN FRANCISCO	CA (US)
STAR	BRINY		KSJC	SAN JOSE	CA (US)

REQUIRED CHARTING: DP, STAR, IAP, CONTROLLER, EN ROUTE LOW, EN ROUTE HIGH

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 6 **DATE OF REVISION:** 05/12/2009

REASON FOR REVISION:
CORRECTED PAT 2 LEG LENGTH FROM 5 TO 4.
UPDATED ACCURACY CODE ON PAT 3 CONTROLLING OBSTACLE.
UPDATED FORM TO NEW FORMAT.
UPDATED FIX USE.

DEVELOPED BY: **DATE:** 05/12/2009 **OFFICE:** AVN-130 **NAME:** DEZ SILAGYI (RUSS ROSLEWSKI)

NFPO APPROVAL: **DATE:** 08/11/2009 **OFFICE:** AVN-130 **NAME:** RICK WEBB

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: WST
ARTCC: ZOA
ATC FACILITY: NORCAL TRACON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

EFF 3/10/11

INFO ONLY

NAME: SUNOL **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 373619.91N/1214837.01W **TYPE:** WP, INT, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	OAKLAND	OAK	VORTAC	H	093.00	110.00	20.97	20.97		4000	17500
2	MANTECA	ECA	VORTAC	H	229.00	246.00	33.35	33.35		5000	17500
3	SAN JOSE	SJC	VOR/DME	L	008.85	024.85	15.25	15.25		5000	17500
4	PANOCHE	PXN	VORTAC	L	301.46	317.46	72.75	72.75		6500	17500
5	SACRAMENTO	SAC	VORTAC	H	176.80	193.80	51.71	51.71		5000	17500
6	SAUSALITO	SAU	VORTAC	L	096.60	113.60	37.07	37.07		5000	17500
7	SCAGGS ISLAND	SGD	VORTAC	L	124.97	141.97	43.56	43.56		6000	10000

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
PXN	VORTAC	R-301	73	6500	17500
SAC	VORTAC	R-177	52	5000	17500
SGD	VORTAC	R-125	44	6000	10000

FIX RESTRICTIONS:
MCA V301 6500 SOUTHEAST BOUND

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	LEG LENGTH DME	HOLDING ALTITUDES MIN	HOLDING ALTITUDES MAX	TEMPLATES MIN	TEMPLATES MAX
1	NW	SGD	VORTAC	124.97	124.97	R	1		6000	10000	7	11

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	373200.00N/1214433.00W	3380	4E

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERN.

REMARKS:
PRECIPITOUS TERRAIN EVALUATED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	BYRON	2		KLVK	LIVERMORE	CA (US)
DP	SUNOL	3		KSJC	SAN JOSE	CA (US)
EN ROUTE	T263					(US)
EN ROUTE	V195	2				(US)
EN ROUTE	V301	1				(US)
EN ROUTE	V334	3				(US)
IAP	LOC/DME RWY 28L	3		KHWD	HAYWARD	CA (US)
IAP	RNAV (GPS) Y RWY 28L			KHWD	HAYWARD	CA (US)
IAP	RNAV (GPS) Z RWY 28L			KHWD	HAYWARD	CA (US)
IAP	VOR OR GPS-A	2		KHWD	HAYWARD	CA (US)
IAP	VOR/DME OR GPS-B	2		KHWD	HAYWARD	CA (US)
IAP	ILS OR LOC RWY 29	2, 5		KOAK	OAKLAND	CA (US)
IAP	ILS OR LOC/DME RWY 27R	1		KOAK	OAKLAND	CA (US)
IAP	ILS RWY 29 (CAT II)	2, 5		KOAK	OAKLAND	CA (US)
IAP	ILS RWY 29 (CAT III)	2, 5		KOAK	OAKLAND	CA (US)
IAP	RNAV (GPS) Y RWY 27L			KOAK	OAKLAND	CA (US)
IAP	RNAV (RNP) Z RWY 27L			KOAK	OAKLAND	CA (US)
IAP	RNAV (RNP) Z RWY 27R			KOAK	OAKLAND	CA (US)
IAP	RNAV (RNP) Z RWY 29			KOAK	OAKLAND	CA (US)
IAP	VOR/DME RWY 27L	1		KOAK	OAKLAND	CA (US)
IAP	LDA PRM RWY 28R (SIMULTANEOUS CLOSE PARALLEL) - ALT MISSED APPROACH		1	KSFO	SAN FRANCISCO	CA (US)
IAP	RNAV (GPS) Z RWY 28R			KSFO	SAN FRANCISCO	CA (US)
STAR	MADWIN	1, 2, 3, 4		KOAK	OAKLAND	CA (US)
STAR	MARVN	2		KOAK	OAKLAND	CA (US)
STAR	PANOCHE	1, 2, 3, 4		KOAK	OAKLAND	CA (US)

REQUIRED CHARTING: DP, STAR, IAP, AREA, CONTROLLER, EN ROUTE LOW

QUALITY CHECKED

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 20 **DATE OF REVISION:** 08/11/2010

REASON FOR REVISION:
ADMIN UPDATE, FAC1,2,3,4,5 IN HISTORY STATUS.
UPDATED FIX USE.

DEVELOPED BY:	**DATE:** 08/11/2010	**OFFICE:** AVN-130	**NAME:** ADOLFO URRUTIA (AMANDA ROBBINS)
NFPO APPROVAL:	**DATE:**	**OFFICE:** AVN-130	**NAME:** DEZ SILAGYI
	SIGNATURE:		

DISTRIBUTION:
NFDC
FPO: WST
ARTCC: ZOA
ATC FACILITY: NORCAL APP CON, SFO
OTHER:

Federal Aviation Administration

CONCURRENCES
ROUTING SYMBOL AJW-3741 SBaker
INITIALS/SIG
DATE
ROUTING SYMBOL AJW-3741 Branch Lead
INITIALS/SIG
DATE
ROUTING SYMBOL Branch Manager
INITIALS/SIG
DATE
ROUTING SYMBOL AJW-3741 WTerrell
INITIALS/SIG
DATE
ROUTING SYMBOL
INITIALS/SIG
DATE
ROUTING SYMBOL
INITIALS/SIG
DATE

Memorandum

Date:

To: Dick Powell Manager, National Flight Data Center, AJR-32

From: Wade EK Terrell, Lead, Production Integration Coordination Team, AJW-3741

Reply To Attn Of: Meghan Kieffer
301-427-5169
FAX: 301-427-5412

Subject: **ACTION:** Magnetic Variation Change

The Magnetic Variation (MV) data for the airport(s) and/or facility(s) listed under the 'Airport/Facility" column will be revised effective concurrent with the publication of the procedure(s) listed below.

ILS or LOC RWY 29, AMDT 25
ILS RWY 29 (CAT II), AMDT 25
ILS RWY 29 (CAT III), AMDT 25

Estimated Chart Date: 5/5/2011

Please publish these changes in the National Flight Data Digest.

CALIFORNIA

Location	Name	Airport /Facility	Identifier	Assigned Magnetic Variation Value	Epoch Year
Oakland		ILS (CAT III)	I-INB	Old 16 ° East New 14 ° East	2010

cc: Requested by Dan Powell, AJW-3254
AJW-3741 (Guest), AJW-3762 (Paul Clark), SEA-FPO, AVN-250/AJW-3254/AVN-100rf

TERMINAL AIRSPACE DATA REQUIREMENTS

CITY: **OAKLAND** STATE: **CA**

AIRPORT NAME: **METROPOLITAN OAKLAND INTL** ID: **KOAK**

PROCEDURE: **ILS OR LOC RWY 29** AMDT: **25**

DOCKET # :
(96-AXX-X/Required/Not Required)

ALL DIST TO 1/100 NM; ELEV TO NEAREST FT; COORD TO 1/100 SEC; DEG TO 1/100 DG.

1. Distance from **THLD** to 1000' point **3.25**
   (Enter THLD, FAF, ARP, FACILITY, as appropriate)
2. Width of **FINAL** segment at 1000' point **0.92**
   (Enter appropriate segment , final, intermediate, etc.)
3. True Course of **FINAL** segment containing 1000' point **310.00**
4. High Terrain in **FINAL** segment containing 1000' point **54**
5. Distance from **THLD** to 1500' point **5.85**
   (If 1500' point in PT maneuvering area or holding pattern note in remarks)
6. Width of **FINAL** segment at 1500' point **1.48**
7. True Course of **FINAL** segment containing 1500' point **310.00**
8. High Terrain in **FINAL** segment containing 1500' point **54**
9. Threshold Coordinates (if straight-in) ... **374205.37N** / **1221251.32W**
10. ARP Coordinates ..... **374316.60N** / **1221314.60W**
11. Runway Approach End and distance furthest from ARP.....RWY **29**
    Distance **1.23** NM
12. FAF Coordinates ..... **373709.78N** / **1220528.79W**
    (Click to Select)

REMARKS: Approach/Drawing attached.