Flight Procedure Tracking Form	Action: FLIGHT CHECK	Task Type: IAP	Date Open: 07/29/2011	Task #: 2011072929653501003	Request #: 20110729296535
Procedure: RNAV (GPS) RWY 28L AMDT 1		Airport ID: KHWD	Airport: HAYWARD EXECUTIVE		Reimbursable #:
City: HAYWARD	ST: CA	GPS #:		Estimated Chart Date: 11/15/2012	FICO #:
Fac ID:	Fac. Type: LPV	Specialist: CASIMIR TABAKA(Contractor)			

LPV

Procedure Review

	Rec'd	Rel'd	Full Name	Comments
Lead:	04/11/2012	09/07/2012	LONNIE EVERHART	
QA:	09/07/2012	09/07/2012	SCOTT BEARD	
Liaison:	09/07/2012		Spwdkin	

Procedure Comments: **Remark Type:** INFORMATION

pg 2 of 3

HAYWARD, CA HAYWARD EXECUTIVE (KHWD) RNAV (GPS) RWY 28L, AMDT 1 (LPV) ENROUTE-NO FC: 9.18.12 PUB: 11.15.12

ATTACHED FORMS: 8260-3; 8260-10; 8260-9; 8260-2(S): BOGRE, ORIG; FENRA, ORIG; HUZBY, ORIG; JOBUS, REV 1; OAKLAND (OAK) VTAC, REV 13; OKIVY, ORIG; SAN JOSE (SJC) VDME, REV 11; SUDGE, REV 2; SUNOL-INT, REV 22; VINCO-INT, REV 7; WESCH, ORIG.
FLCK NOTE: REQUEST 4D ACCURACY VERIFICATION OF 157 MSL TOWER 06-006187, 373912.00N/1220601.00W.

CONTACT: ADOLFO URRUTIA/LONNIE EVERHART-AVN-130 LEADS, 405.954.2079/ 405.954.4576.

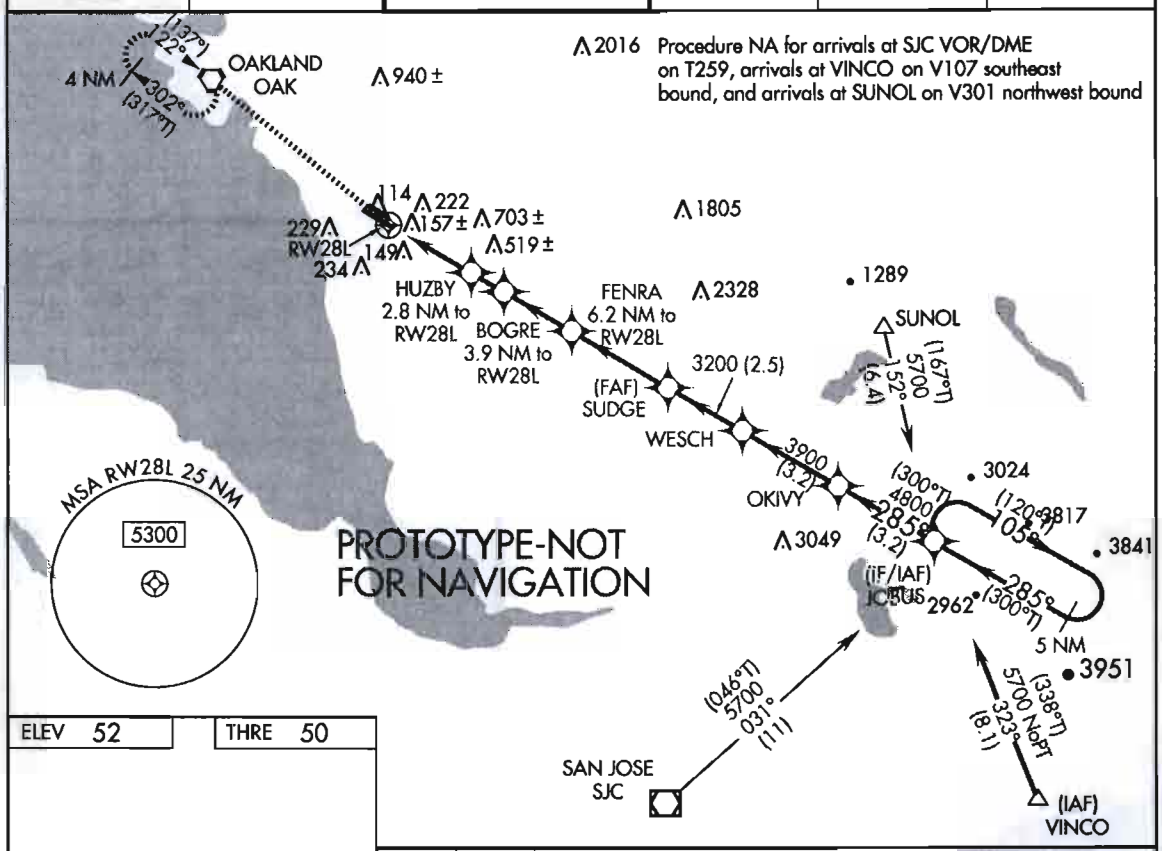
WAAS CH 40330 W28A	APP CRS 285°	Rwy ldg 5018 THRE 50 Apt Elev 52

RNAV (GPS) RWY 28L
HAYWARD EXECUTIVE (HWD)

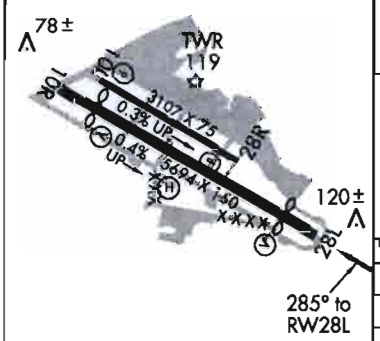
Baro-VNAV NA. DME/DME RNP - 0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Oakland altimeter setting and increase all DA and MDA 20 ft, and increase all LNAV/VNAV and LNAV Cats C and D visibility ⅛ mile. Circling NA N of Rwy 10L-28R. When VGSI inop, Straight-in and Circling Rwy 28L procedures NA at night. When VGSI inop, Circling to Rwy 10L-28R NA at night.

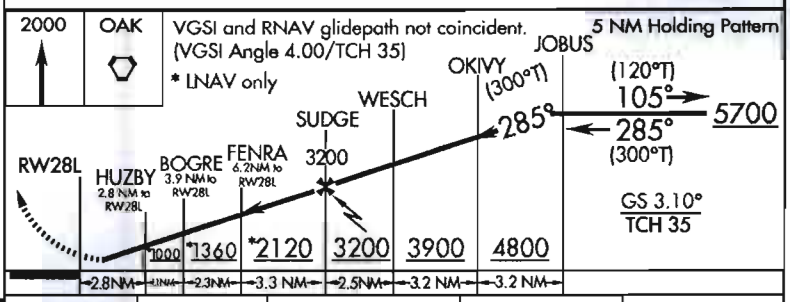
MISSED APPROACH: Climb to 600 then climbing right turn to 2000 direct OAK VORTAC and hold.

ATIS	NORCAL APP CON	HAYWARD TOWER *	GND CON	CLNC DEL	UNICOM
126.7	124.4 351.8	120.2 (CTAF) L 257.8	121.4	128.05	122.95



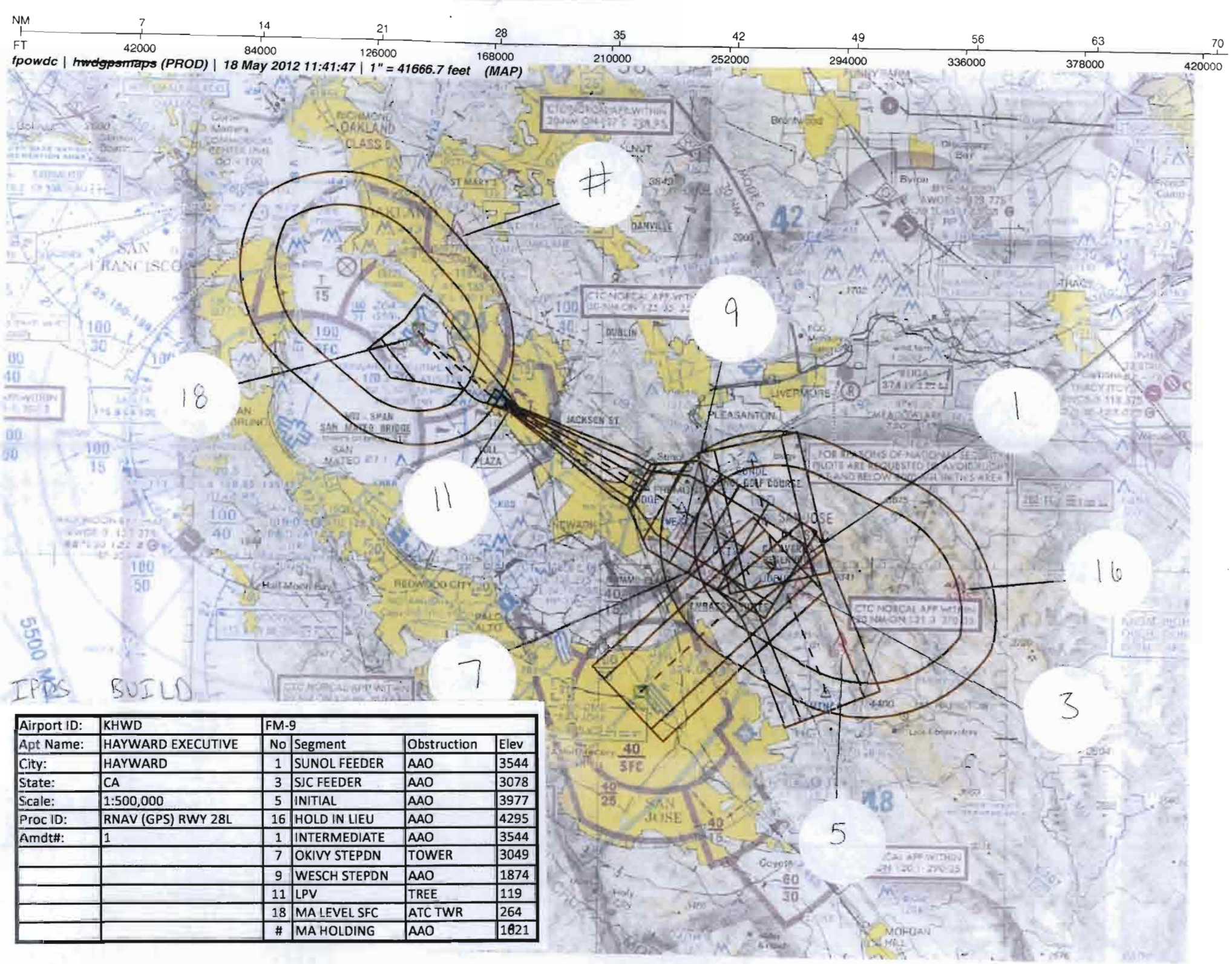
ELEV 52 THRE 50



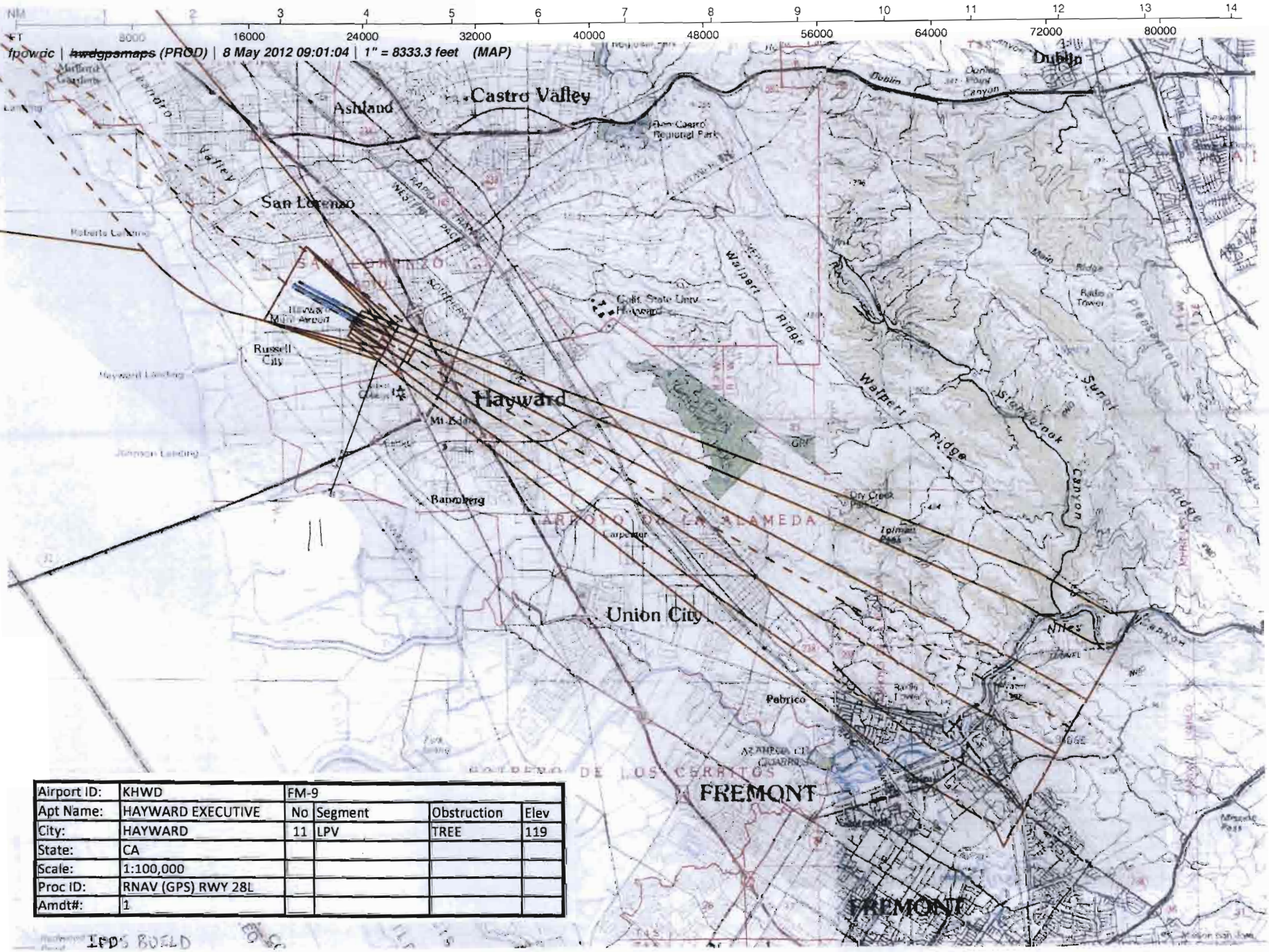


CATEGORY	A	B	C	D
LPV DA	348-1 298 (300-1)			
LNAV/VNAV DA	400-1⅛ 350 (400-1⅛)			
LNAV MDA	460-1 410 (500-1)		460-1⅛ 410 (500-1⅛)	
CIRCLING	540-1 488 (500-1)		540-1½ 488 (500-1½)	620-2 568 (600-2)

MIRL Rwy 10R-28L L
MIRL Rwy 10L-28R
REIL Rwys 10R and 28L

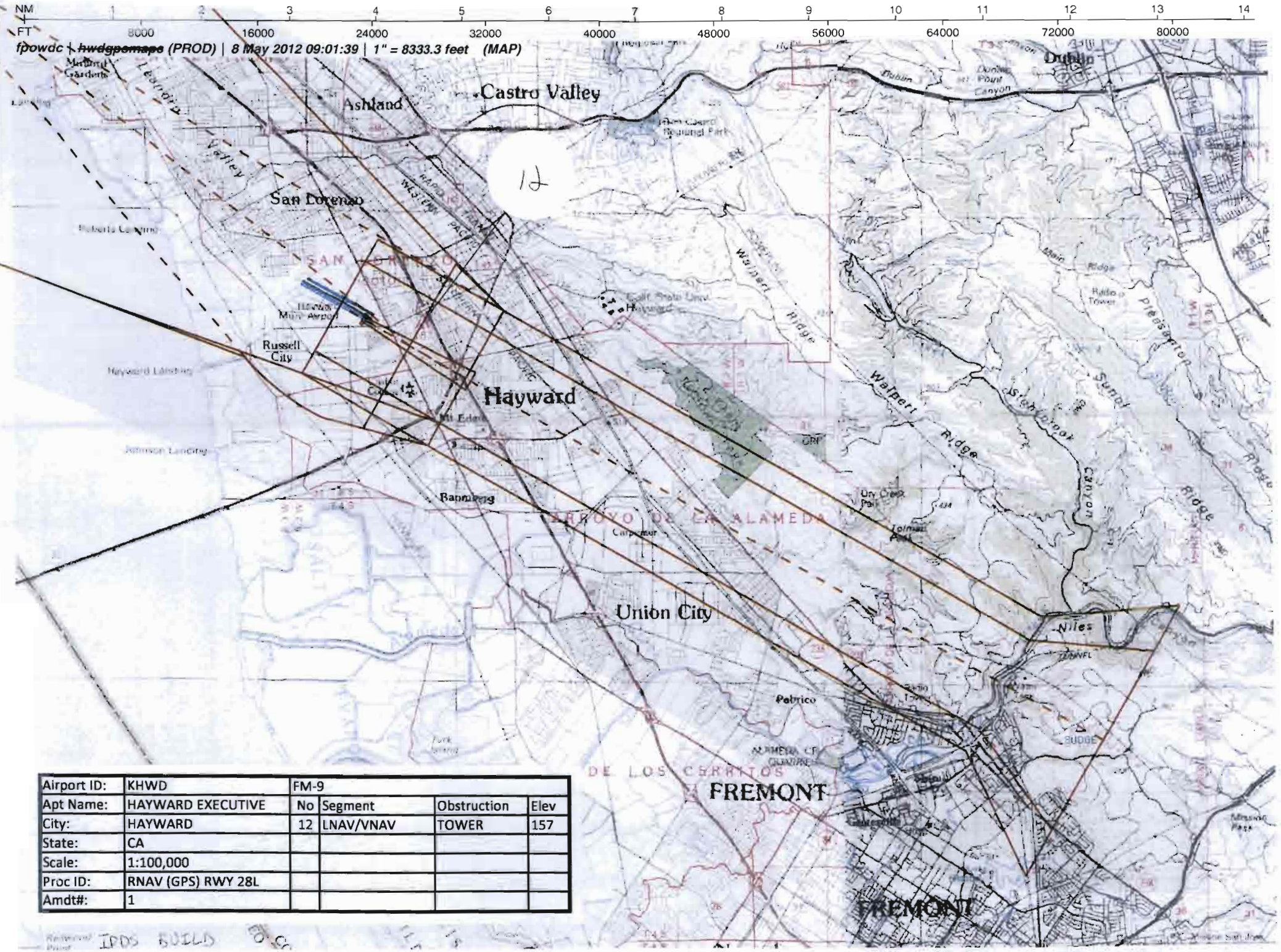


Airport ID:	KHWD	FM-9			
Apt Name:	HAYWARD EXECUTIVE	No	Segment	Obstruction	Elev
City:	HAYWARD	1	SUNOL FEEDER	AAO	3544
State:	CA	3	SJC FEEDER	AAO	3078
Scale:	1:500,000	5	INITIAL	AAO	3977
Proc ID:	RNAV (GPS) RWY 28L	16	HOLD IN LIEU	AAO	4295
Amdt#:	1	1	INTERMEDIATE	AAO	3544
		7	OKIVY STEPDN	TOWER	3049
		9	WESCH STEPDN	AAO	1874
		11	LPV	TREE	119
		18	MA LEVEL SFC	ATC TWR	264
		#	MA HOLDING	AAO	1821



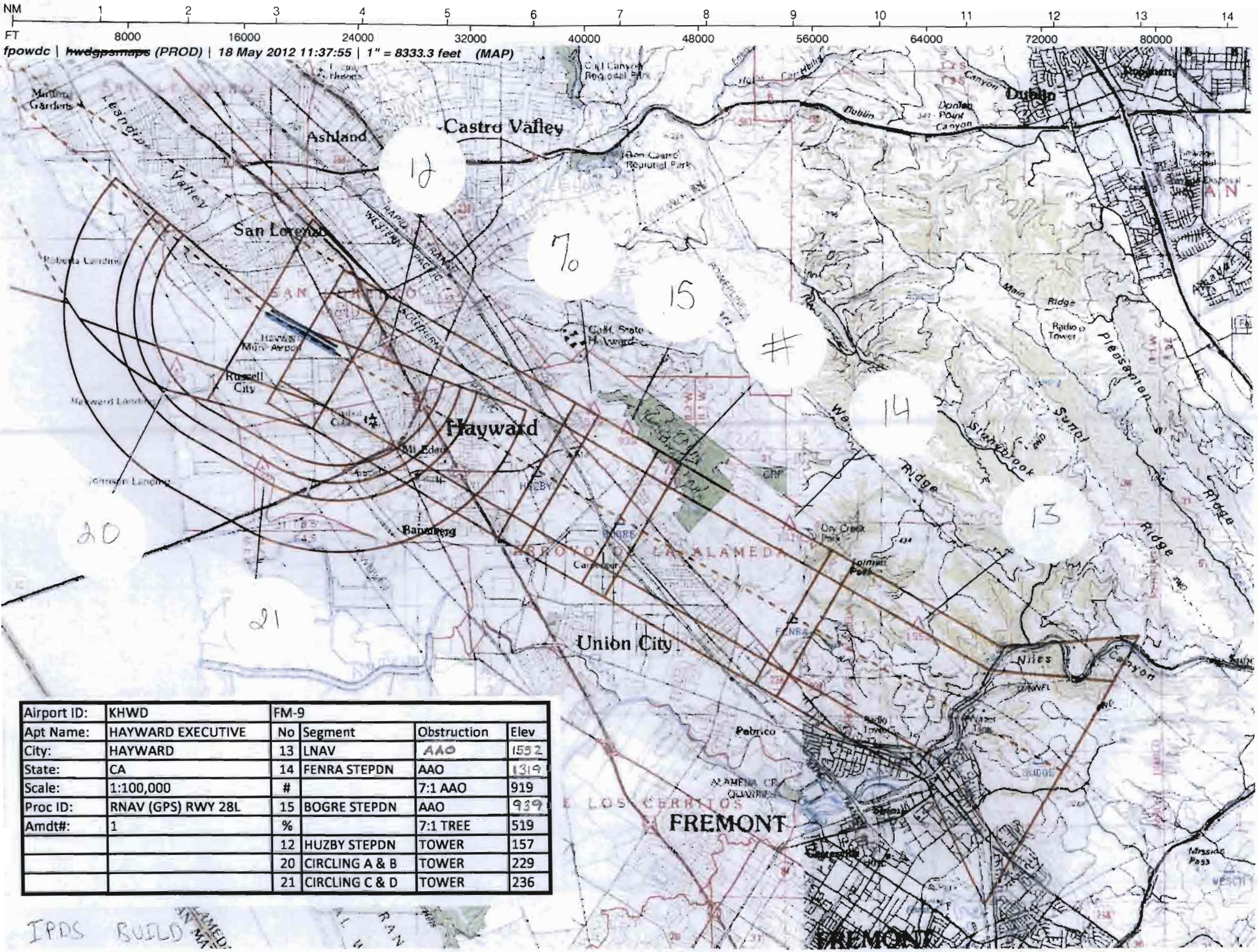
Airport ID:	KHWD	FM-9			
Apt Name:	HAYWARD EXECUTIVE	No	Segment	Obstruction	Elev
City:	HAYWARD	11	LPV	TREE	119
State:	CA				
Scale:	1:100,000				
Proc ID:	RNAV (GPS) RWY 28L				
Amdt#:	1				

IPD'S BUILD



Airport ID:	KHWD	FM-9			
Apt Name:	HAYWARD EXECUTIVE	No	Segment	Obstruction	Elev
City:	HAYWARD	12	LNAV/VNAV	TOWER	157
State:	CA				
Scale:	1:100,000				
Proc ID:	RNAV (GPS) RWY 28L				
Amdt#:	1				

IPDS BUILD



Airport ID:	KHWD	FM-9			
Apt Name:	HAYWARD EXECUTIVE	No	Segment	Obstruction	Elev
City:	HAYWARD	13	LNAV	AAO	1552
State:	CA	14	FENRA STEPDN	AAO	1319
Scale:	1:100,000	#		7:1 AAO	919
Proc ID:	RNAV (GPS) RWY 28L	15	BOGRE STEPDN	AAO	939
Amdt#:	1	%		7:1 TREE	519
		12	HUZBY STEPDN	TOWER	157
		20	CIRCLING A & B	TOWER	229
		21	CIRCLING C & D	TOWER	236

IPDS BUILD

US DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

RNAV - STANDARD INSTRUMENT APPROACH PROCEDURE TITLE 14 CFR PART 97.33

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	JOBUS (FO)	151.70 / 6.42	5700
SJC VOR/DME	JOBUS (FO)	031.11 / 10.95	5700
VINCO (IAF)	JOBUS (NOPT) (FB)	323.17 / 8.06	5700
JOBUS (IF/IAF)	OKIVY (FB)	285.06 / 3.24	4800
OKIVY	WESCH (FB)	285.03 / 3.24	3900
WESCH	SUDGE (FB)	284.99 / 2.52	3200
SUDGE (FAF)	FENRA/6.20 NM TO RW28L (FB)	284.97 / 3.27	
(SEE FORM 8260-10)			

MISSED APPROACH

LPV: DA
LNAV/VNAV: DA
LNAV: RW28L

CLIMB TO 600 THEN CLIMBING RIGHT TURN TO 2000 DIRECT OAK VORTAC AND HOLD.

1. PT ____ SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. HOLD E JOBUS, RT, 285.06 INBOUND, 5700 FT. IN LIEU OF PT (IAF)
3. FAC: 284.97 FAF: SUDGE DIST FAF TO MAP: 9.47 THLD: 9.47
4. MIN. ALT: JOBUS 5700, OKIVY 4800, WESCH 3900, SUDGE 3200, FENRA/6.20 NM TO RW28L 2120*, (SEE FORM 8260-10)
5. DIST TO THLD FROM OM: ____ MM: ____ IM: ____ 150 HAT: ____ 100 HAT: ____ GS ANT: ____
6. MIN GS INCPT: 3200 GS ALT AT: SUDGE 3200 OM: ____ MM: ____ IM: ____
7. GS ANGLE: 3.10 TCH: 35.0 34:1 IS NOT CLEAR
8. MSA FROM: RW28L 5300

ADDITIONAL FLIGHT DATA:
HOLD NW, RT, 122.00 INBOUND.
CHART FAS OBST: 157 TOWER 373912N/1220601W
CHART: 519 TREE 373834N/1220259W
919 AAO 373753N/1220152W
DISTANCE TO THLD FROM 298 HATH: 0.80 NM.
WAAS CHANNEL # 40330
REFERENCE PATH ID: W28A
LTP HAE: -17.2 M

MAG VAR: 15E EPOCH YEAR: 2005

MINIMUMS

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT ALTERNATE: N A 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
LPV DA	348	1	298	348	1	298	348	1	298	348	1	298			
LNAV/VNAV DA	400	1 1/8	350	400	1 1/8	350	400	1 1/8	350	400	1 1/8	350			
LNAV MDA	460	1	410	460	1	410	460	1 1/8	410	460	1 1/8	410			
CIRCLING	540	1	488	540	1	488	540	1 1/2	488	620	2	568			

NOTES:
CHART NOTE: BARO-VNAV NA.
CHART NOTE: DME/DME RNP-0.3 NA.
CHART NOTE: VISIBILITY REDUCTION BY HELICOPTERS NA.
CHART PROFILE NOTE: VGSI AND RNAV GLIDEPATH NOT COINCIDENT.
(SEE FORM 8260-10)

@ NA WHEN LOCAL WEATHER NOT AVAILABLE.

QUALITY 2 CHECKED

CITY AND STATE	ELEVATION: 52 THRE: 50	FACILITY IDENTIFIER:	PROCEDURE NO./AMDT NO./EFFECTIVE DATE:	SUP: RNAV (GPS) Y RWY 28L
HAYWARD, CA	AIRPORT NAME: HAYWARD EXECUTIVE	RNAV	RNAV (GPS) RWY 28L, AMDT 1	AMDT: ORIG
				DATED 07/05/2007

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 ZOA, HWD ATCT, OAK ATCT, NORCAL, AMGR

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:

DEVELOPED BY		
NAME: ADOLFO URRUTIA (WES COMBS)	FIFO AJV-354	DATE: 05/18/2012

APPROVED BY		
NAME: DEZ SILAGYI MANAGER	FIFO AJV-354	DATE:

CHANGES:

1. REMOVED "Y" FROM THE PROCEDURE NAME.
2. ADDED LPV AND LNAV/VNAV TO PROCEDURE.
3. MOVED APPROACH COURSE FROM 299.07 TO 284.97.
4. ALEYA, BIGSE, CASGO, DUKCA, AND EROTE REMOVED FROM PROCEDURE.
5. CHANGED SUNOL FEEDER ALTITUDE FROM 5400 TO 5700.
6. CHANGED SAN JOSE FROM AN INITIAL TO A FEEDER, CHANGED ALTITUDE FROM 5400 TO 5700.
7. CHANGED VINCO INITIAL ALTITUDE FROM 5400 TO 5700.
8. HIL ALTITUDE CHANGED FROM 5400 TO 5700.
9. CONSTRUCTED ONE ADDITIONAL STEPDOWN IN INTERMEDIATE.
10. CONSTRUCTED TWO ADDITIONAL STEPDOWNS IN FINAL.
11. FAF ALTITUDE CHANGED FROM 2900 TO 3200.
12. LNAV CATS C AND D VISIBILITY CHANGED FROM 1 1/4 TO 1 1/8.
13. ADDED BARO-VNAV NA NOTE.
14. CHANGED "VGSI AND DESCENT ANGLES NOT COINCIDENT" NOTE TO "VGSI AND RNAV GLIDEPATH NOT COINCIDENT".

SEE 8260-10

REASONS:

1-4. COMBINED THE Y AND Z PROCEDURES PER ATC REQUEST.
5-8. NEW CONTROLLING OBSTACLE. HIL MOVED 5.38 NORTHEAST (043.56T), MISALIGNING THE INITIAL FROM SJC.
9-10. OBSTACLE AVOIDANCE.
11. AIRSPACE.
12. IAW 8260.3 PARA 3.3.2.
13. PRECIPITOUS TERRAIN IN FINAL.
14-15. DUE TO THE ADDITION OF APV AND IAW 8260.3 PARA 3.3.2.
16. HEADING CHANGE IN EXCESS OF 90 DEGREES.
17. IAW 8260.19E PARA 8-54 5(A).
18. VISUAL PORTION OF FINAL PENETRATORS.

QUALITY 2 CHECKED

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LINE 4, (CONT.):
BOGRE/3.90 NM TO RW28L 1360*, HUZBY/2.80 NM TO RW28L 1000*

TERMINAL ROUTES, (CONT.):

FROM	TO	COURSE AND DISTANCE	ALTITUDE
FENRA/6.20 NM TO RW28L	BOGRE/3.90 NM TO RW28L (FB)	284.93 / 2.30	
BOGRE/3.90 NM TO RW28L	HUZBY/2.80 NM TO RW28L (FB)	284.90 / 1.10	
HUZBY/2.80 NM TO RW28L	RW28L (MAP) (FO)	284.89 / 2.80	
RW28L (MAP)	600 MSL	284.89	600
600 MSL	OAK VORTAC (FO)		2000

NOTES, (CONT.):
*LNAV ONLY
CHART NOTE: WHEN LOCAL ALTIMETER SETTING NOT RECEIVED, USE OAKLAND ALTIMETER SETTING AND INCREASE ALL DA AND MDA 20 FT, AND INCREASE ALL LNAV/VNAV AND LNAV CATS C AND D VISIBILITY 1/8 MILE.
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT SJC VOR/DME ON T259, ARRIVALS AT VINCO ON V107 SOUTHEAST BOUND, AND ARRIVALS AT SUNOL ON V301 NORTHWEST BOUND .
CHART NOTE: CIRCLING NA N OF RWY 10L-28R.
CHART NOTE: WHEN VGSI INOP, STRAIGHT-IN/CIRCLING RWY 28L PROCEDURES NA AT NIGHT.
CHART NOTE: WHEN VGSI INOP, CIRCLING TO RWY 10L-28R NA AT NIGHT.

QUALITY 2 CHECKED

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. CHANGED OAKLAND BACKUP NOTE FROM "INCREASE ALL MDAS 20 FEET" TO "INCREASE ALL DAS AND MDAS 20 FT, AND INCREASE ALL LNAV/VNAV AND LNAV CATS C AND D VISIBILITY 1/8 MILE." 16. ADDED "FOR
16. ADDED "FOR ARRIVALS AT SJC VOR/DME ON T259" TO PROCEDURE NA NOTE.
17. CHANGED CIRCLING NA NOTE FROM "CIRCLING NA N OF RWY 10L/28R." TO "CIRCLING NA N OF RWY 10L-28R."
18. ADDED NOTES FOR CIRCLING RESTRICTIONS AT NIGHT.

REASONS:

QUALITY 2 CHECKED

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FAS DATA BLOCK INFORMATION

DATA FIELD	DATA
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KHWD
RUNWAY	RW28L
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W28A
LTP/FTP LATITUDE	373918.6640N
LTP/FTP LONGITUDE	1220653.1315W
LTP/FTP ELLIPSOIDAL HEIGHT	-00172
FPAP LATITUDE	374003.0660N
FPAP LONGITUDE	1220830.4530W
THRESHOLD CROSSING HEIGHT (TCH)	00035.0
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.10
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	1224
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0
CRC REMAINDER	40227B2E

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K2
LTP ORTHOMETRIC HEIGHT	+00152
FPAP ORTHOMETRIC HEIGHT	+00152

QUALITY 2 CHECKED

CITY AND STATE	ELEVATION: 52 THRE: 50	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP: RNAV (GPS) Y RWY 28L
HAYWARD, CA	AIRPORT NAME: HAYWARD EXECUTIVE	RNAV	RNAV (GPS) RWY 28L, AMDT 1	AMDT: ORIG
				DATED: 07/05/2007

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:

REASONS:

QUALITY CHECKED 2

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.33**

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 - RNAV (GPS)

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
NAVAID  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAD        OAK   K2011680VTHA N37433332W122132491    N37433332W122132491E0170000132     NAROAKLAND
        SUSAD        SJC   K2011410VDLW N37222896W121564080    N37222896W121564080E0160000351     NARSAN JOSE

                 1         2         3         4         5         6         7         8         9         0         1         2         3
WP      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   BOGRE K20    W     N37372195W122023769                      E0139     WGE           BOGRE
        SUSAEAENRT   FENRA K20    W     N37361304W122000715                      E0139     WGE           FENRA
        SUSAEAENRT   HUZBY K20    W     N37375488W122034972                      E0140     WGE           HUZBY
        SUSAEAENRT   JOBUS K20    W     N37300471W121464565                      E0139     NAR           JOBUS
        SUSAEAENRT   OKIVY K20    W     N37314215W121501717                      E0139     NAR           OKIVY
        SUSAEAENRT   SUDGE K20    W     N37343512W121563357                      E0139     NAR           SUDGE
        SUSAEAENRT   SUNOL K20    C   L N37361991W121483701                      E0139     NAR           SUNOL
        SUSAEAENRT   VINCO K20    C   L N37223511W121425952                      E0138     NAR           VINCO
        SUSAEAENRT   WESCH K20    W     N37331949W121534883                      E0139     WGE           WESCH

                 1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KHWDK2AHWD     0     056YHN37393210W122071830E015000052         1800018000C    MNAR    HAYWARD EXECUTIVE

                 1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KHWDK2FR28L  ASJC   010SJC  K2D 0V       IF                                          18000                A JS
        SUSAP KHWDK2FR28L  ASJC   020JOBUSK2EA0EY   020TF                    03110110    + 05700                          A JS
        SUSAP KHWDK2FR28L  ASJC   030JOBUSK2EA0EE AR   HF                    28510050    + 05700                          A JS
        SUSAP KHWDK2FR28L  ASUNOL 010SUNOLK2EA0E       IF                                          18000                A JS
        SUSAP KHWDK2FR28L  ASUNOL 020JOBUSK2EA0EY   020TF                    15170064    + 05700                          A JS
        SUSAP KHWDK2FR28L  ASUNOL 030JOBUSK2EA0EE AR   HF                    28510050    + 05700                          A JS
        SUSAP KHWDK2FR28L  AVINCO 010VINCOK2EA0E  A    IF                                          18000                A JS
        SUSAP KHWDK2FR28L  AVINCO 020JOBUSK2EA0EE B 010TF                    32320081    + 05700                          A JS
        SUSAP KHWDK2FR28L  R      010JOBUSK2EA0E  I    IF                                + 05700   18000                A JS
        SUSAP KHWDK2FR28L  R      011OKIVYK2EA0E S  051TF                    28510032    + 04800                          A JS
        SUSAP KHWDK2FR28L  R      012WESCHK2EA0E S  051TF                    28500032    + 03900                          A JS
        SUSAP KHWDK2FR28L  R      020SUDGEK2EA1E  F 051TF                    28500025    + 03200                RW28L K2PGA JS
        SUSAP KHWDK2FR28L  R      020SUDGEK2EA2WALPV       ALNAV/VNAV ALNAV                                                JS
        SUSAP KHWDK2FR28L  R      021FENRAK2EA0E S  031TF                    28500033    V 0212002126       -310          A JS
        SUSAP KHWDK2FR28L  R      022BOGREK2EA0E S  031TF                    28490023    V 0136001369       -310          A JS
        SUSAP KHWDK2FR28L  R      023HUZBYK2EA0E S  031TF                    28490011    V 0100001007       -310          A JS
        SUSAP KHWDK2FR28L  R      030RW28LK2PG0GY M 031TF                    28490028      00085            -310          A JS
```

QUALITY CHECKED

CITY AND STATE	ELEVATION: 52 THRE: 50	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP: RNAG (GPS) Y RWY 28L
HAYWARD, CA	AIRPORT NAME: HAYWARD EXECUTIVE	RNAV	RNAV (GPS) RWY 28L, AMDT 1	AMDT: ORIG
				DATED: 07/05/2007

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.

```
         SUSAP KHWDK2FR28L  R      040         0  M     CA                    2849        + 00600                          A JS
         SUSAP KHWDK2FR28L  R      050OAK  K2D 0VY  R   DF                                + 02000                          A JS
         SUSAP KHWDK2FR28L  R      060OAK  K2D 0VE  R   HM                    12200040    + 02000                          A JS

                   1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY   123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
         --------------------------------------------------------------------------------------------------------------------------------
         SUSAP KHWDK2GRW28L   0056942849 N37391866W122065313-0400    -0017200050067635150R

                   1         2         3         4         5         6         7         8         9         0         1         2         3
PP       123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
         --------------------------------------------------------------------------------------------------------------------------------
         SUSAP KHWDK2PR28L  RW28L001 0000W28A0N3739186640W12206531315-001720310N3740030660W1220830453010675122400035 0F40050040227B2E
         SUSAP KHWDK2PR28L  RW28L002E      +00152+00152LPV       40330

                   1         2         3         4         5         6         7         8         9         0         1         2         3
MSA      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
         --------------------------------------------------------------------------------------------------------------------------------
         SUSAP KHWDK2SRW28LK2PG                0   18018005325                                                                        M
```

QUALITY CHECKED 4

CITY AND STATE	ELEVATION: 52 THRE: 50	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP: RNAG (GPS) Y RWY 28L
HAYWARD, CA	AIRPORT NAME: HAYWARD EXECUTIVE	RNAV	RNAV (GPS) RWY 28L, AMDT 1	AMDT: ORIG
				DATED: 07/05/2007

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

RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.33**

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 - RNAV (GPS)

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	SJC	SJC	010		IF		FB					
	SJC	JOBUS	020		TF		FO	2.0	031.1(046.1T)	011.0	AA 05700	
	SJC	JOBUS	030	IAF	HF	R	FO		285.1(300.1T)	005.0	AA 05700	
	SUNOL	SUNOL	010		IF		FB					
	SUNOL	JOBUS	020		TF		FO	2.0	151.7(166.7T)	006.4	AA 05700	
	SUNOL	JOBUS	030	IAF	HF	R	FO		285.1(300.1T)	005.0	AA 05700	
	VINCO	VINCO	010	IAF	IF		FB					
	VINCO	JOBUS	020		TF		FB	1.0	323.2(338.2T)	008.1	AA 05700	
		JOBUS	010	FACF	IF		FB				AA 05700	
		OKIVY	011	SDF	TF		FB	0.5	285.1(300.1T)	003.2	AA 04800	
		WESCH	012	SDF	TF		FB	0.5	285.0(300.0T)	003.2	AA 03900	
		SUDGE	020	FAF	TF		FB	0.5	285.0(300.0T)	002.5	AA 03200	
		FENRA	021	SDF	TF		FB	0.3	285.0(300.0T)	003.3	AA 02120 GS 02126	
		BOGRE	022	SDF	TF		FB	0.3	284.9(299.9T)	002.3	AA 01360 GS 01369	
		HUZBY	023	SDF	TF		FB	0.3	284.9(299.9T)	001.1	AA 01000 GS 01007	
		RW28L	030	MAP	TF		FO	0.3	284.9(299.9T)	002.8	AT 00085	

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
		040		CA		FB		284.9(299.9T)		AA 00600	
	OAK	050		DF	R	FO				AA 02000	
	OAK	060		HM	R	FO		122.0(137.0T)	004.0	AA 02000	

POINT DATA	WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
	OAK	N374333.32	W1221324.91	N3743.555	W12213.415
	SJC	N372228.96	W1215640.80	N3722.483	W12156.680
	BOGRE	N373721.95	W1220237.69	N3737.366	W12202.628
	FENRA	N373613.04	W1220007.15	N3736.217	W12200.119
	HUZBY	N373754.88	W1220349.72	N3737.915	W12203.829
	JOBUS	N373004.71	W1214645.65	N3730.079	W12146.761
	OKIVY	N373142.15	W1215017.17	N3731.703	W12150.286
	SUDGE	N373435.12	W1215633.57	N3734.585	W12156.560
	SUNOL	N373619.91	W1214837.01	N3736.332	W12148.617
	VINCO	N372235.11	W1214259.52	N3722.585	W12142.992
	WESCH	N373319.49	W1215348.83	N3733.325	W12153.814
	RW28L	N373918.66	W1220653.13	N3739.311	W12206.886

RUNWAY DATA	RWY	THRESHOLD ELEVATION	TCH
	RW28L	00050	35

QUALITY CHECKED 4

CITY AND STATE	ELEVATION: 52 THRE: 50	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP: RNAG (GPS) Y RWY 28L
HAYWARD, CA	AIRPORT NAME: HAYWARD EXECUTIVE	RNAV	RNAV (GPS) RWY 28L, AMDT 1	AMDT: ORIG
				DATED: 07/05/2007

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.
FEEDER	SUNOL	JOBUS	1. AAO	373039.00N/1214421.00W	3544 (3E)	2000	AT156	5700
			2. TERRAIN	373039.00N/1214421.00W	3344 (3300)		AS1500	4800
FEEDER	SJC VOR/DME	JOBUS	3. AAO	372836.00N/1214506.00W	3078 (3A)	2000	AT622	5700
			4. TERRAIN	372836.00N/1214506.00W	2878 (2900)		AS1500	4400
INITIAL	VINCO	JOBUS	5. AAO	372518.00N/1214157.00W	3977 (3A)	1000	PR340 AT383	5700
			6. TERRAIN	372518.00N/1214157.00W	3777 (3800)		AS1500	5300
INTERMEDIATE	JOBUS (IF/IAF)	OKIVY	1. AAO	373039.00N/1214421.00W	3544 (3E)	500	AC102 PR300	4500
			2. TERRAIN	373039.00N/1214421.00W	3344 (3300)		AS1500	4800
INTERMEDIATE:	OKIVY	WESCH	7. TOWER (06-002266)	372956.77N/1215219.84W	3049 (4D)	500	SA-233 PR200	3600
STEPDOWN			8. TERRAIN	373015.00N/1215209.00W	2415 (2400)		AS1500	3900
INTERMEDIATE:	WESCH	SUDGE	9. AAO	373124.00N/1215348.00W	1874 (3E)	500	AC102 PR170	2700
STEPDOWN			10. TERRAIN	373124.00N/1215348.00W	1674 (1700)		AS1500	3200
FINAL: LPV	SUDGE	RW28L	11. TREE (KHWDL049)	373903.64N/1220626.40W	119 (1B)	32.9:1	AC10 PR25 XP23	348/298
FINAL: LNAV/VNAV	SUDGE	RW28L	12. TOWER (06-006187)	373912.00N/1220601.00W	157 (4D)	PDA	AC50 PR32	400/350
2. HOLD-IN-LIEU-OF-PT	JOBUS	P-6	16. AAO	372845.00N/1213321.00W	4295 (3A)	1000	PR350	5700
			17. TERRAIN	372845.00N/1213321.00W	4095 (4100)		AS1500	5600
3. MISSED APPROACH — MAP:	DA / DA / RW28L	OAK VORTAC				ASC		2000
			18. ATCT (06-021928)	374310.09N/1221318.81W	259 (2C)	1000		1300
ELEV:	138/269/360		19. TERRAIN	373957.00N/1220530.00W	89 (100)		AS1500	1600

4. CIRCLING AREA	DISTANCE	HT. ABV. ARPT. REQUIRED	HT. ABV. ARPT. ACTUAL		OBSTRUCTION	COORDINATES	ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.
CATEGORY A	1.3 NM	350		488	20. TWR (06-002024)	373903.79N/1220903.34W	229 (1A)	300		540
CATEGORY B	1.5 NM	450		488	20. TWR (06-002024)	373903.79N/1220903.34W	229 (1A)	300		540
CATEGORY C	1.7 NM	450		488	21. TWR (KHWD0051)	373755.57N/1220750.15W	236 (1A)	300		540
CATEGORY D	2.3 NM	550		568	21. TWR (KHWD0051)	373755.57N/1220750.15W	236 (1A)	300	HA84	620
CATEGORY E	4.5 NM	550								

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: RW28L

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	MSA
360-360	AAO	096/ 28.7	4295 (3A)	5300					

2

CHECKED

CITY AND STATE	ELEVATION: 52 / AIRPORT NAME:	FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
HAYWARD, CA	HAYWARD EXECUTIVE	RNAV	RNAV (GPS) RWY 28L, AMDT 1	AWP

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE		3. ALTIMETER SETTING
HWD TOWER NORCAL APP CON	N W S	OTHER: ASOS	SOURCE: KHWD / KOAK
	F A A		DISTANCE: 0 / 6.02
SATISFACTORY ON:	A / C		HOURS REMOTE OPERATION: 24 / BACKUP
X V H F X U H F H F	LOCATION: KHWD/KHWD		ADJUSTMENT: 0 / 20

4. MONITOR STATUS	PRIMARY NAVAID:	
	MONITOR POINT:	
	HRS OPTN:	CAT 1
		CAT 3
5. APPROACH & RUNWAY LIGHTING		ALS
		(S) SALS
		MALS
		HIRL
	X	MIRL 10L, 10R (PCL), 28R (PCL), 28L (PCL)
	X	REIL 10R, 28L
		TDZ
		C/LINE
	X	OTHER (SPECIFY) VASI-4R 10R PAPI-4L 10L, 28R VASI-4L 28L
6. RUNWAY MARKINGS	BASIC	
	ALL WEATHER	PIR-G 10R, 28L
	INSTRUMENT	
7. RUNWAY VISUAL RANGE	APPROACH	
	MIDFIELD	
	ROLL OUT	
8. GLIDE PATH	GP ANGLE: 3.10	ELEV RWY THRESHOLD: 50.0
	DISTANCE FROM RWY:	ELEV GP ANTENNA:
		THRESHOLD CROSSING HEIGHT: 35.0
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 (WES COMBS)	DATE: 05/18/2012
TITLE: AERONAUTICAL INFORMATION SPECIALIST	OFFICE: AJV-354

PART C - REMARKS:

THRESHOLD DISPLACED 676 FT.

VDP NOT ESTABLISHED - OBSTACLES PENETRATE 20:1 SURFACE.

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

TERPS PARAGRAPH 289 APPLIED TO 919 AAO 373753N/1220152W
TERPS PARAGRAPH 289 APPLIED TO 519 TREE
373834N/1220259W

289 OBST #1 IS 930.12 FEET INTO THE SECONDARY AREA.

289 OBST #2 IS 1653.11 FEET INTO THE SECONDARY AREA.

OBST #7 IS 2021.52 FEET INTO THE SECONDARY AREA.

OBST #14 IS 1704.25 FEET INTO THE SECONDARY AREA.

OBST #15 IS 1790.50 FEET INTO THE SECONDARY AREA.

KHWD AND KOAK ARE ON SERVICE A.

VGSI DATA: 4.00/35.

CIRCLING NA N OF RWY 10L-28R NOTE RETAINED PER PREVIOUS PROCEDURE; FPT CONCURRENCE.

AVERAGE VEGETATION HEIGHT 60 FEET PER FPT.

BANK ANGLE 25 DEGREES, 265 KIAS USED FOR MISSED APPROACH.

LPV SLOPE: 32.903:1

LNAV/VNAV SLOPE: 22.684:1

OBST #12 4D ACCURACY CODE REQUESTED FROM FLIGHT CHECK.

BARO-VNAV NA; FINAL SEGMENT OVERLIES PRECIPITOUS TERRAIN.

3.1 DEGREE SLOPE USED FOR TERRAIN AVOIDANCE.

RASS PRESSURE PATTERNS SAME
KHWD 52.1, KOAK 9.0
RA = 19.87.
SEE ATTACHED AIRSPACE LETTER.

TAA NOT DEVELOPED PER AIR TRAFFIC.

AVERAGE COLD TEMPERATURE BASED ON STANDARD -30 ISA DEVIATION; HISTORICAL DATA NOT AVAILABLE.

ORDER 8260.3, VOLUME 1, "VISUAL PORTION OF FINAL" PENETRATIONS:
20:1
R10L
75 TREE (KHWDL011) 373950.97N/1220746.12W (14.03)
71 TREE (KHWD0003) 373948.47N/1220747.48W (11.58)
90 TREE (KHWDL015) 373950.81N/1220751.78W (9.69)
100 TREE (KHWDL017) 373951.72N/1220754.34W (8.48)
73 TREE (KHWDL012) 373950.63N/1220747.74W (7.23)
102 TREE (KHWDL021) 373951.08N/1220756.09W (5.98)
97 TREE (KHWDL018) 373951.75N/1220754.72W (4.08)
94 TREE (KHWDL016) 373952.19N/1220753.65W (3.70)
77 TREE (KHWDL013) 373949.23N/1220751.59W (1.33)
R28L
CONT.

QUALITY CHECKED

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: LNAV	SUDGE	FENRA/6.20 NM TO	13. AAO	373604.02N/1215816.84W	1552 (2C)	250	PR90 XL174 RA20 DG34	2120
		RW28L						
FINAL: LNAV STEPDOWN	FENRA/6.20 NM TO	BOGRE/3.90 NM TO	14. AAO	373714.83N/1220008.00W	1319 (2C)	250	SA-327 PR70 XL10 RA20	1360
	RW28L	RW28L						
FINAL: LNAV STEPDOWN	BOGRE/3.90 NM TO	HUZBY/2.80 NM TO	15. AAO	373820.64N/1220230.45W	939 (2C)	250	SA-265 RA20 DG56	1000
	RW28L	RW28L						
FINAL: LNAV STEPDOWN	HUZBY/2.80 NM TO	RW28L	12. TOWER (06-006187)	373912.00N/1220601.00W	157 (4D)	250	AC50	460
	RW28L							

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	ELEVATION: 52 / AIRPORT NAME:	FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
HAYWARD, CA	HAYWARD EXECUTIVE	RNAV	RNAV (GPS) RWY 28L, AMDT 1	AWP

QUALITY CHECKED 2

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:

CONTINUED.
99 TREE (KHWDL034) 373911.47N/1220647.42W (20.97)
103 TREE (KHWDL037) 373910.35N/1220644.68W (12.59)
98 TREE (KHWDL038) 373916.77N/1220639.64W (6.18)
R28R
59 HGR (KHWD0011) 373927.53N/1220657.17W (0.62)

34:1
109 TREE (KHWDL043) 373907.58N/1220638.82W (19.11)
108 TREE (KHWDL042) 373913.96N/1220634.24W (18.16)
99 TREE (KHWDL040) 373908.53N/1220639.31W (11.52)
96 TREE (KHWDL045) 373906.19N/1220638.45W (3.29)
91 POLE (KHWDL041) 373911.88N/1220636.73W (3.19)
104 TREE (KHWD0020) 373910.93N/1220631.05W (3.13)

FPT NOTIFIED ABOUT 20:1 PENETRATIONS.

XP 23 TO MATCH PUBLISHED PROCEDURE.

QUALITY 2 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: BOGRE **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 373721.95N/1220237.69W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 28L			KHWD	HAYWARD	CA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 11/15/2012

DEVELOPED BY: **DATE:** 06/22/2012 **OFFICE:** AJV-354 **NAME:** ADOLFO URRUTIA (WES COMBS)

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

SIGNATURE:

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

QUALITY 2 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: FENRA **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 373613.04N/1220007.15W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 28L			KHWD	HAYWARD	CA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 11/15/2012

DEVELOPED BY: **DATE:** 04/27/2012 **OFFICE:** AJV-354 **NAME:** ADOLFO URRUTIA (WES COMBS)

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

SIGNATURE:

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

QUALITY 2 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: HUZBY **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 373754.88N/1220349.72W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 28L			KHWD	HAYWARD	CA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 11/15/2012

DEVELOPED BY: **DATE:** 04/27/2012 **OFFICE:** AJV-354 **NAME:** ADOLFO URRUTIA (WES COMBS)

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

SIGNATURE:

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

QUALITY 2 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: JOBUS **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 373004.71N/1214645.65W **TYPE:** WP

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

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	E		WP	105.06	285.06	R		5	5700	10000	6	10

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	372845.00N/1213321.00W	4295	3A

PRECIPITOUS TERRAIN ADDITIONS:

PAT	SPEED	ADDITION
1	200	350

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERN.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETE.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 28L			KHWD	HAYWARD	CA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 11/15/2012

REASON FOR REVISION:
MOVED FIX 3019.89 FT NORTHWEST.
REMOVED FAC 1 FROM FIX MAKEUP.
CHANGED PAT 1 CRS INBOUND FROM 285.07 TO 285.06.
CHANGED PAT 1 MIN FROM 5600 TO 5700.
UPDATED CONTROLLING OBSTRUCTION.
ADDED PRECIPITOUS TERRAIN ADJUSTMENT AND REMARK.
UPDATED FIX USE.

DEVELOPED BY: **DATE:** 05/07/2012 **OFFICE:** AJV-354 **NAME:** ADOLFO URRUTIA (WES COMBS)

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

SIGNATURE:

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

QUALITY 2 CHECKED

RADIO FIX AND HOLDING DATA RECORD

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

LATITUDE/LONGITUDE: 374333.32N/1221324.91W **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	302.00	122.00	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.
(PAT 1 AND 2) CONTROLLING OBSTACLE LOCATED 11586.67 FT. INTO SECONDARY.
PAT 2 MAG COURSE BASED ON KHWD 15E MAGVAR.

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	MERLOT			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)
DP	CHARLIE			KSTS	SANTA ROSA	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)

QUALITY CHECKED

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) RWY 28L	2	KHWD	HAYWARD	CA (US)
IAP	VOR/DME-A	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) Y 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: 13 **DATE OF REVISION:** 11/15/2012

REASON FOR REVISION:
UPDATED FAC TO CURRENT AVNIS DATA - NEW FIX COORDINATES.
TOOK "-" OUT OF LEG LENGTH FOR PAT 1.
CHANGED PAT 2 CRS INBOUND FROM 120 TO 122.
COMBINED PAT 1 AND 2 REMARK AND CHANGED FT INTO SECONDARY FROM 11133 TO 11586.67.
ADDED KHWD MAGVAR REMARK.
UPDATED FIX USE.
UPDATED DISTRIBUTION.

DEVELOPED BY: **DATE:** 04/26/2012 **OFFICE:** AJV-354 **NAME:** ADOLFO URRUTIA (WES COMBS)

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

SIGNATURE:

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

RADIO FIX AND HOLDING DATA RECORD

NAME: OKIVY **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 373142.15N/1215017.17W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 28L			KHWD	HAYWARD	CA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 11/15/2012

DEVELOPED BY: **DATE:** 05/07/2012 **OFFICE:** AJV-354 **NAME:** ADOLFO URRUTIA (WES COMBS)

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

SIGNATURE:

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

QUALITY 2 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: SAN JOSE VOR/DME **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 372228.96N/1215640.80W **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	SAN JOSE	SJC	VOR/DME	L							18000

HOLDING: **HOLDING TYPE OF ACTION:**

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	E	SJC	VOR/DME	106.00	286.00	L	1		3000	14000	4	10
2	E		WP	106.00	286.00	L		4	3000	14000	5	11

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	372033.00N/1214430.00W	2494	4E
2	200	AAO	372021.00N/1214418.00W	2536	4E

REASON FOR NONSTANDARD HOLDING:
PAT 1 AIR TRAFFIC

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.
PATTERN 1 CONTROLLING OBSTACLE LOCATED 11722.29 FT INTO SECONDARY.
PATTERN 2 CONTROLLING OBSTACLE LOCATED 8942.83 FT INTO SECONDARY.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	TAKE OFF MINIMUMS			KCVH	HOLLISTER	CA (US)
DP	BYRON			KLVK	LIVERMORE	CA (US)
DP	MONTEREY			KMRY	MONTEREY	CA (US)
DP	MUNSO			KMRY	MONTEREY	CA (US)
DP	SECA			KMRY	MONTEREY	CA (US)
DP	TORO			KMRY	MONTEREY	CA (US)
DP	NUEVO			KOAK	OAKLAND	CA (US)
DP	TAKE OFF MINIMUMS			KPAO	PALO ALTO	CA (US)
DP	CHALONE			KSNS	SALINAS	CA (US)
DP	SALINAS			KSNS	SALINAS	CA (US)
DP	TAKE OFF MINIMUMS			KSQL	SAN CARLOS	CA (US)
DP	EUGEN			KSFO	SAN FRANCISCO	CA (US)
DP	ALTAM			KSJC	SAN JOSE	CA (US)
DP	DANVILLE			KSJC	SAN JOSE	CA (US)
DP	LOUPE			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			KE16	SAN MARTIN	CA (US)
EN ROUTE	T259					(US)
EN ROUTE	V334					(US)
EN ROUTE	V485					(US)
IAP	LOC/DME RWY 28L			KHWD	HAYWARD	CA (US)
IAP	RNAV (GPS) RWY 28L			KHWD	HAYWARD	CA (US)
IAP	VOR/DME-A			KHWD	HAYWARD	CA (US)
IAP	ILS OR LOC/DME RWY 27R			KOAK	OAKLAND	CA (US)
IAP	VOR RWY 9R			KOAK	OAKLAND	CA (US)
IAP	GPS RWY 31		2	KPAO	PALO ALTO	CA (US)
IAP	VOR/DME RWY 31		1	KPAO	PALO ALTO	CA (US)
IAP	ILS OR LOC RWY 28L		1	KSFO	SAN FRANCISCO	CA (US)
IAP	ILS PRM RWY 28L (SIM CLOSE PARALLEL)		1	KSFO	SAN FRANCISCO	CA (US)
IAP	FAIRGROUNDS VISUAL RWY 30L			KSJC	SAN JOSE	CA (US)
IAP	FAIRGROUNDS VISUAL RWY 30R			KSJC	SAN JOSE	CA (US)
IAP	ILS OR LOC RWY 12R			KSJC	SAN JOSE	CA (US)
IAP	ILS OR LOC/DME RWY 30L			KSJC	SAN JOSE	CA (US)
IAP	RNAV (GPS) RWY 11			KSJC	SAN JOSE	CA (US)
IAP	RNAV (GPS) Y RWY 12L			KSJC	SAN JOSE	CA (US)
IAP	RNAV (GPS) Y RWY 12R			KSJC	SAN JOSE	CA (US)
IAP	VOR RWY 12R			KSJC	SAN JOSE	CA (US)
IAP	VOR/DME RWY 30L			KSJC	SAN JOSE	CA (US)

QUALITY CHECKED 2

IAP	VOR/DME RWY 30R	KSJC	SAN JOSE	CA (US)
STAR	MADWIN	KHWD	HAYWARD	CA (US)
STAR	PANOCHE	KHWD	HAYWARD	CA (US)
STAR	MADWIN	KOAK	OAKLAND	CA (US)
STAR	MARVN	KOAK	OAKLAND	CA (US)
STAR	PANOCHE	KOAK	OAKLAND	CA (US)
STAR	GOLDEN GATE	KSFO	SAN FRANCISCO	CA (US)
STAR	HADLY	KSFO	SAN FRANCISCO	CA (US)
STAR	CAPITOL	KSJC	SAN JOSE	CA (US)
STAR	EL NIDO	KSJC	SAN JOSE	CA (US)
STAR	JAWWS	KSJC	SAN JOSE	CA (US)
STAR	ROBIE	KSJC	SAN JOSE	CA (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 11 **DATE OF REVISION:** 09/20/2012

REASON FOR REVISION:
UPDATED FAC TO CURRENT AVNIS DATA.
REMOVED "200'" FROM PAT 1 AND 2 CONTROLLING OBSTRUCTION DESCRIPTION.
REMOVED PR ADJUSTMENTS FROM PAT1 AND PAT2.
MOVED PAT1 AND PAT2 CONTROLLING OBST FT INTO SECONDARY REMARKS FROM HOLDING RESTRICTIONS TO REMARKS.
CHANGED PAT1 FT INTO SECONDARY FROM 11791 TO 11722.29.
CHANGED PAT2 FT INTO SECONDARY FROM 9555 TO 8942.83.
UPDATED FIX USE.
UPDATED DISTRIBUTION.

DEVELOPED BY: **DATE:** 04/27/2012 **OFFICE:** AJV-354 **NAME:** ADOLFO URRUTIA (AMANDA ROBBINS)

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

SIGNATURE:

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

QUALITY 2 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: SUDGE **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 373435.12N/1215633.57W **TYPE:** WP

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

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

REMARKS:
8260.54 L/V PFAF FORMULA USED TO ESTABLISHED COORDINATES.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 28L			KHWD	HAYWARD	CA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2 **DATE OF REVISION:** 11/15/2012

REASON FOR REVISION:
MOVED FIX 5808.61 FT NORTHWEST.
REMOVED FAC 1 FROM FIX MAKEUP.
UPDATED FIX USE.
UPDATED DISTRIBUTION.

DEVELOPED BY: **DATE:** 05/07/2012 **OFFICE:** AJV-354 **NAME:** ADOLFO URRUTIA (WES COMBS)

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

SIGNATURE:

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

QUALITY 2 CHECKED

RADIO FIX AND HOLDING DATA RECORD

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	VOR/DME	H	229.00	246.00	33.35	33.35		5200	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	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:** 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	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

PRECIPITOUS TERRAIN ADDITIONS:

PAT	SPEED	ADDITION
1	200	198

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERN.

REMARKS:
OAKLAND (FAC 1) AND SAN JOSE (FAC 3) USED TO ESTABLISH FIX COORDINATES
PRECIPITOUS TERRAIN EVALUATED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	BYRON	1, 2		KLVK	LIVERMORE	CA (US)
DP	SUNOL	1, 2, 3, 5		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	RNAV (GPS) RWY 28L			KHWD	HAYWARD	CA (US)
IAP	ILS OR LOC RWY 29	5		KOAK	OAKLAND	CA (US)
IAP	ILS OR LOC/DME RWY 27R	1		KOAK	OAKLAND	CA (US)
IAP	ILS RWY 29 (CAT II)	2		KOAK	OAKLAND	CA (US)
IAP	ILS RWY 29 (CAT III)	2		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 (SIMU CLOSE PAR) - ALT MISSED APPROACH	6	1	KSFO	SAN FRANCISCO	CA (US)
IAP	RNAV (GPS) Z RWY 28R			KSFO	SAN FRANCISCO	CA (US)
IAP	RNAV (GPS) RWY 12			KTCY	TRACY	CA (US)
STAR	MADWIN	1, 2, 3, 4		KOAK	OAKLAND	CA (US)
STAR	MARVN	1, 2, 3		KOAK	OAKLAND	CA (US)
STAR	PANOCHE	1, 2, 3, 4		KOAK	OAKLAND	CA (US)

QUALITY 2 CHECKED

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 22 **DATE OF REVISION:** 11/15/2012

REASON FOR REVISION:
UPDATED FACS FROM HISTORY TO ACTIVE STATUS.
LISTED OAK AND SJC AS COORDINATION FACS.
REMOVED SAU VORTAC FROM FIX MAKEUP.
ADDED PR ADJUSTMENT TO PAT 1.
UPDATED FIX USE.

DEVELOPED BY:	**DATE:** 04/27/2012	**OFFICE:** AJV-354	**NAME:** ADOLFO URRUTIA (WES COMBS)
APPROVED BY:	**DATE:**	**OFFICE:** AJV-354	**NAME:** DEZ SILAGYI
	SIGNATURE:		

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

QUALITY 2 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: VINCO **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 372235.11N/1214259.52W **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	32.00	32.00		6000	17500
2	SAN JOSE	SJC	VOR/DME	L	073.39	089.39		10.91		6000	17500

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

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
UPN	200	AAO	372110.30N/1213721.20W	4600	6C

PRECIPITOUS TERRAIN ADDITIONS:

PAT	SPEED	ADDITION
UPN	200	294

HOLDING RESTRICTIONS:
UNPLANNED HOLDING AUTHORIZED AT OR ABOVE 6000.

REMARKS:
SAN JOSE (FAC 2) AND OAKLAND (FAC 1) USED TO ESTABLISH FIX COORDINATES
PRECIPITOUS TERRAIN EVALUATION COMPLETE.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	V107	1, 2				(US)
IAP	RNAV (GPS) RWY 28L			KHWD	HAYWARD	CA (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 7 **DATE OF REVISION:** 11/15/2012

REASON FOR REVISION:
UPDATED FACS FROM HISTORY TO ACTIVE STATUS.
LISTED FAC 1 AND 2 AS COORDINATION FACS.
REMOVED FAC 3 FROM FIX MAKEUP.
UPDATED UPN CONTROLLING OBSTRUCTION.
ADDED PRECIPITOUS TERRAIN ADJUSTMENT/REMARK.
UPDATED FIX USE.

THIS IS A CORRECTED COPY OF THE FORM APPROVED ON 10/02/2012:
1. CHANGED MAG/TRUE CRS OF FAC 2 FROM 067.39/083.39 TO 073.39/089.39.

DEVELOPED BY: **DATE:** 05/07/2012 **OFFICE:** AJV-354 **NAME:** ADOLFO URRUTIA (WES COMBS)

APPROVED BY: **DATE:** 10/02/2012 **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

SIGNATURE:

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

QUALITY 4 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: WESCH **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 373319.49N/1215348.83W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 28L			KHWD	HAYWARD	CA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 11/15/2012

DEVELOPED BY: **DATE:** 05/07/2012 **OFFICE:** AJV-354 **NAME:** ADOLFO URRUTIA (WES COMBS)

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

SIGNATURE:

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

QUALITY 2 CHECKED

TERMINAL AIRSPACE DATA REQUIREMENTS

CITY: **HAYWARD** STATE: **CA**

AIRPORT NAME: **HAYWARD EXECUTIVE** ID: **KHWD**

PROCEDURE: **RNAV (GPS) RWY 28L** AMDT: **1**

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 **THRESHOLD** to 1000' point **8.45**
   (Enter THLD, FAF, ARP, FACILITY, as appropriate)
2. Width of **FINAL** segment at 1000' point **1.2**
   (Enter appropriate segment , final, intermediate, etc.)
3. True Course of **FINAL** segment containing 1000' point **299.97**
4. High Terrain in **FINAL** segment containing 1000' point **1352**
5. Distance from **THRESHOLD** to 1500' point **8.87**
   (If 1500' point in PT maneuvering area or holding pattern note in remarks)
6. Width of **FINAL** segment at 1500' point **1.57**
7. True Course of **FINAL** segment containing 1500' point **299.97**
8. High Terrain in **FINAL** segment containing 1500' point **1352**
9. Threshold Coordinates (if straight-in) ... **373918.66N** / **1220653.13W**
10. ARP Coordinates ..... **373932.10N** / **1220718.30W**
11. Runway Approach End and distance furthest from ARP.....RWY **28L***
    Distance **0.51** NM
12. FAF Coordinates ..... **373435.12N** / **1215633.57W**
    (Click to Select)

REMARKS: Approach/Drawing attached.
***Runway displaced 676 FT, actual runway end used.**

RADIO FIX AND HOLDING DATA RECORD

NAME: ALEYA **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 372610.47N/1215125.32W **TYPE:** WP

CANCELLED

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

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	CASGO					139.07	10.00				17500

HOLDING: **HOLDING TYPE OF ACTION:** CANCEL

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	SE		WP	124.15	304.15	R		5	5400	10000	6	10

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	200' AAO	372618.00N/1214203.00W	4144	4E

REMARKS:
HOLDING LIMITED TO ESTABLISHED PATTERN.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	HAYWARD EXECUTIVE - RNAV (GPS) Y RWY 28L (PAT 1).			KHWD	HAYWARD	CA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:**

DEVELOPED BY: **DATE:** **OFFICE:** **NAME:**

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: LAX
ARTCC: ZOA
ATC FACILITY: NORCAL APP CON
OTHER: HWD TOWER, OAK TOWER

QUALITY 2 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: BIGSE **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 373119.34N/1215700.75W **TYPE:** WP

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

CANCELLED

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	FEET	MRA	MAA
1	CASGO					139.07	3.20				17500

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	HAYWARD EXECUTIVE - RNAV (GPS) Y RWY 28L.			KHWD	HAYWARD	CA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:**

DEVELOPED BY: **DATE:** **OFFICE:** **NAME:**

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: LAX
ARTCC: ZOA
ATC FACILITY: NORCAL APP CON
OTHER: HWD TOWER, OAK TOWER

QUALITY 2 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: CASGO **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 373344.61N/1215938.87W **TYPE:** WP

CANCELLED

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

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	KHWD R28L					134.00	8.00				17500

REMARKS:
KHWD R28L DISPLACED THRESHOLD COORDINATES: 373918.66N/1220653.13W.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	HAYWARD EXECUTIVE - RNAV (GPS) Y RWY 28L.			KHWD	HAYWARD	CA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:**

DEVELOPED BY: **DATE:** **OFFICE:** **NAME:**

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: LAX
ARTCC: ZOA
ATC FACILITY: NORCAL APP CON
OTHER: HWD TOWER, OAK TOWER

QUALITY 2 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: DUKCA **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 373648.39N/1220337.58W **TYPE:** WP

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

CANCELLED

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	FEET	MRA	MAA
1	KHWD R28L					134.00	3.60			1260	17500

REMARKS:
KHWD R28L DISPLACED THRESHOLD COORDINATES: 373918.66N/1220653.13W.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	HAYWARD EXECUTIVE - RNAV (GPS) Y RWY 28L.			KHWD	HAYWARD	CA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:**

DEVELOPED BY: **DATE:** **OFFICE:** **NAME:**

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: LAX
ARTCC: ZOA
ATC FACILITY: NORCAL APP CON
OTHER: HWD TOWER, OAK TOWER

QUALITY 2 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: EROTE **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 374042.13N/1220841.83W **TYPE:** WP

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

CANCELLED

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	KHWD R28L					314.02	2.00				17500

REMARKS:
KHWD R28L DISPLACED THRESHOLD COORDINATES: 373918.66N/1220653.13W.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	HAYWARD EXECUTIVE - RNAV (GPS) Y RWY 28L.			KHWD	HAYWARD	CA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:**

DEVELOPED BY: **DATE:** **OFFICE:** **NAME:**

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: LAX
ARTCC: ZOA
ATC FACILITY: NORCAL APP CON
OTHER: HWD TOWER, OAK TOWER

QUALITY 2 CHECKED