Flight Procedure Tracking Form	Action: FLIGHT CHECK	Task Type: IAP	Date Open: 02/10/2012	Task #: 2011101427721502003	Request #: 20111014277215
Procedure: RNAV (RNP) Z RWY 28 L ORIG		Airport ID: KPDX	Airport: PORTLAND INTL		Reimbursable #:
City: PORTLAND	ST: OR	GPS #:		Estimated Chart Date: 09/20/2012	FICO #:
Fac ID:	Fac. Type: RNP Proc-P		Specialist: CATHERINE CHILDRESS		

Procedure Review

P1

	Rec'd	Rel'd	Full Name	Comments
Lead:	03/26/2012	07/02/2012	STEVEN SZUKALA	
QA:	07/02/2012	07/02/2012	STEVEN SZUKALA	
Liaison:	07/02/2012		K. Spurlin	P1;

Procedure Comments: ENROUTE **Remark Type:** INFORMATION PVG 4 of 5

PORTLAND, OR; PORTLAND INTL (KPDX); RNAV (RNP) Z RWY 28L, ORIG; ENROUTE-YES; FC BY 7/24/12; PUB 9/20/12

ATTACHED FORMS: 8260-3, 8260-10, 8260-9
8260-2(S): ADDUM INT-REV 4, CFBHS-ORIG, DSHUT-ORIG, HANAH INT-REV 3, HPSTR INT-REV 1, NEWBERG VOR/DME-REV 15, NOLGE-ORIG, WIDMR-ORIG

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

APP CRS	Rwy ldg	11000
283°	THRE	23
	Apt Elev	31

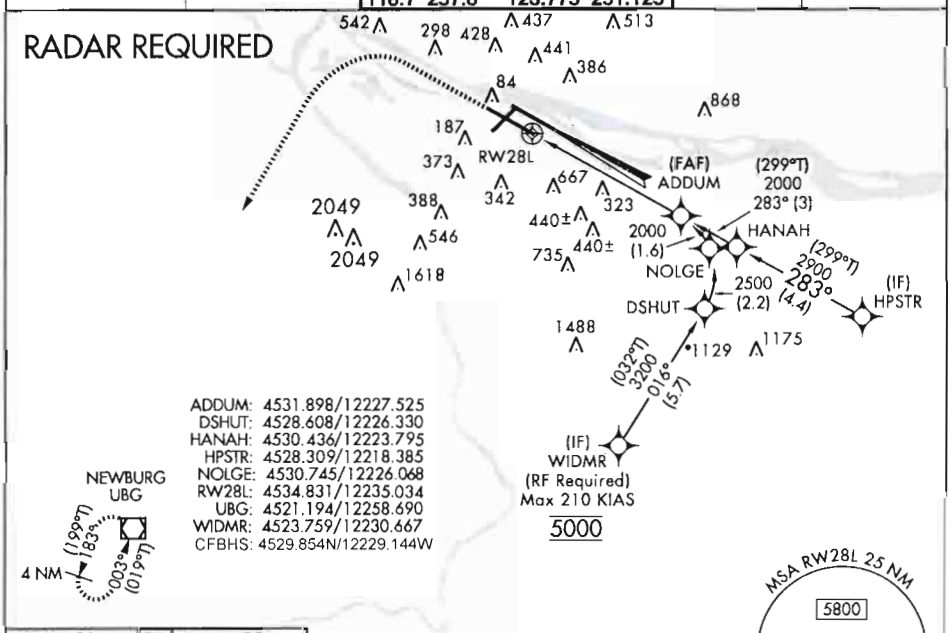
RNAV (RNP) Z RWY 28L
PORTLAND INTL (PDX)

For uncompensated Baro-VNAV systems, procedure NA below -15°C (5°F) or above 54°C (130°F). For inoperative MALSR, increase RNP 0.27 all Cats visibility to RVR 6000 and increase RNP 0.30 all Cats visibility to 1⅝ mile. Simultaneous approach authorized with Rwy 28R. GPS Required. Use of FD or AP providing RNAV track guidance required during simultaneous operations.

MALSR

MISSED APPROACH: Climb to 2100 then climbing left turn to 4000 direct UBG VOR/DME and hold.

ATIS	PORTLAND APP CON	PORTLAND TOWER Rwy 10L-28R	PORTLAND TOWER Rwys 3-21, 10R-28L	GND CON	CLNC DEL
128.35 269.9	124.35 299.2	118.7 257.8	123.775 251.125	121.9 348.6	120.125 318.1



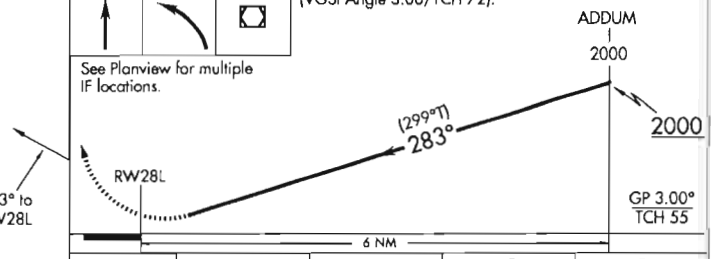
ELEV 31 | D | THRE 23

PROTOTYPE - NOT FOR NAVIGATION

2100	4000	UBG
↑	↖	⊡

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 72).

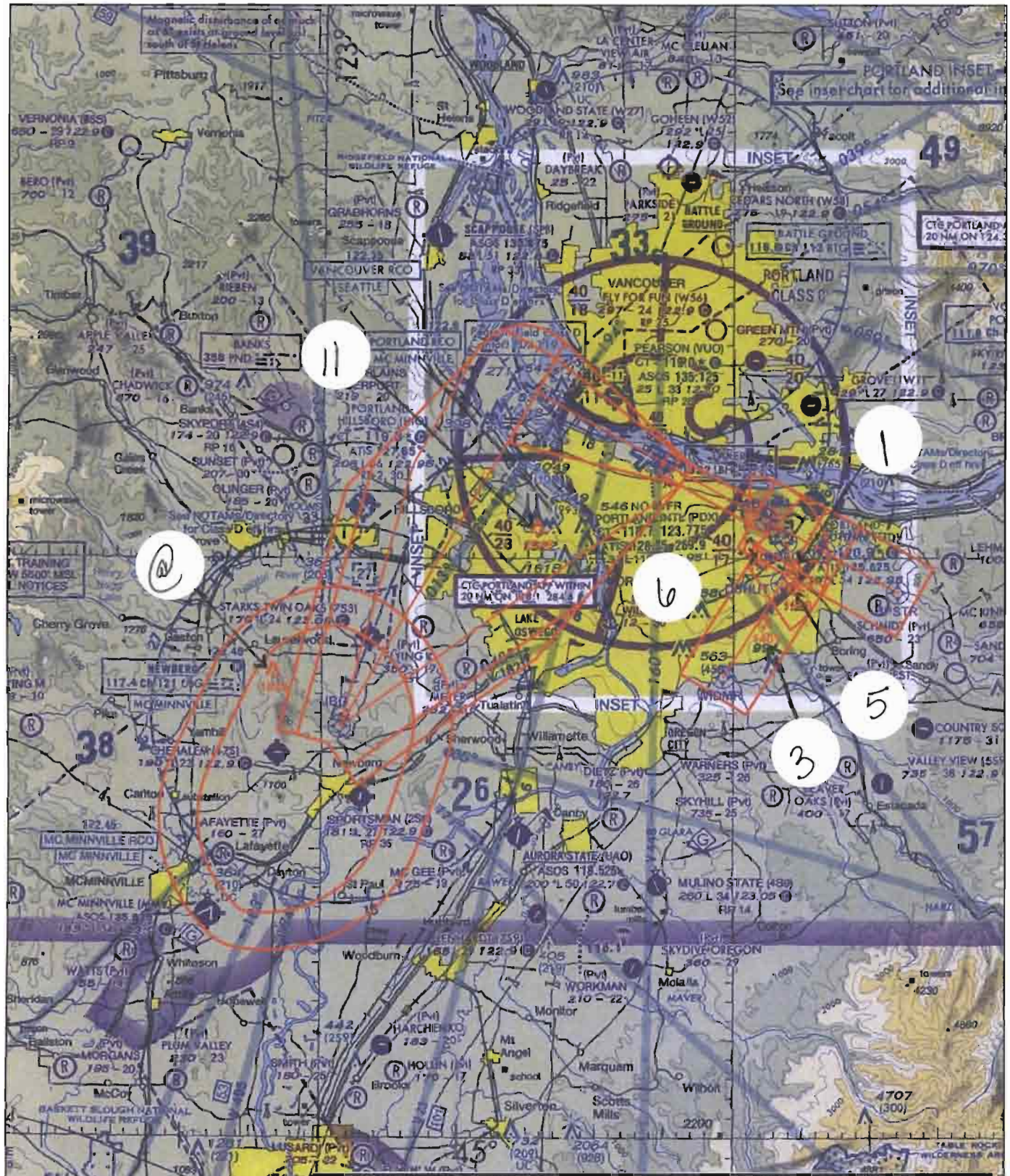
See Planview for multiple IF locations.



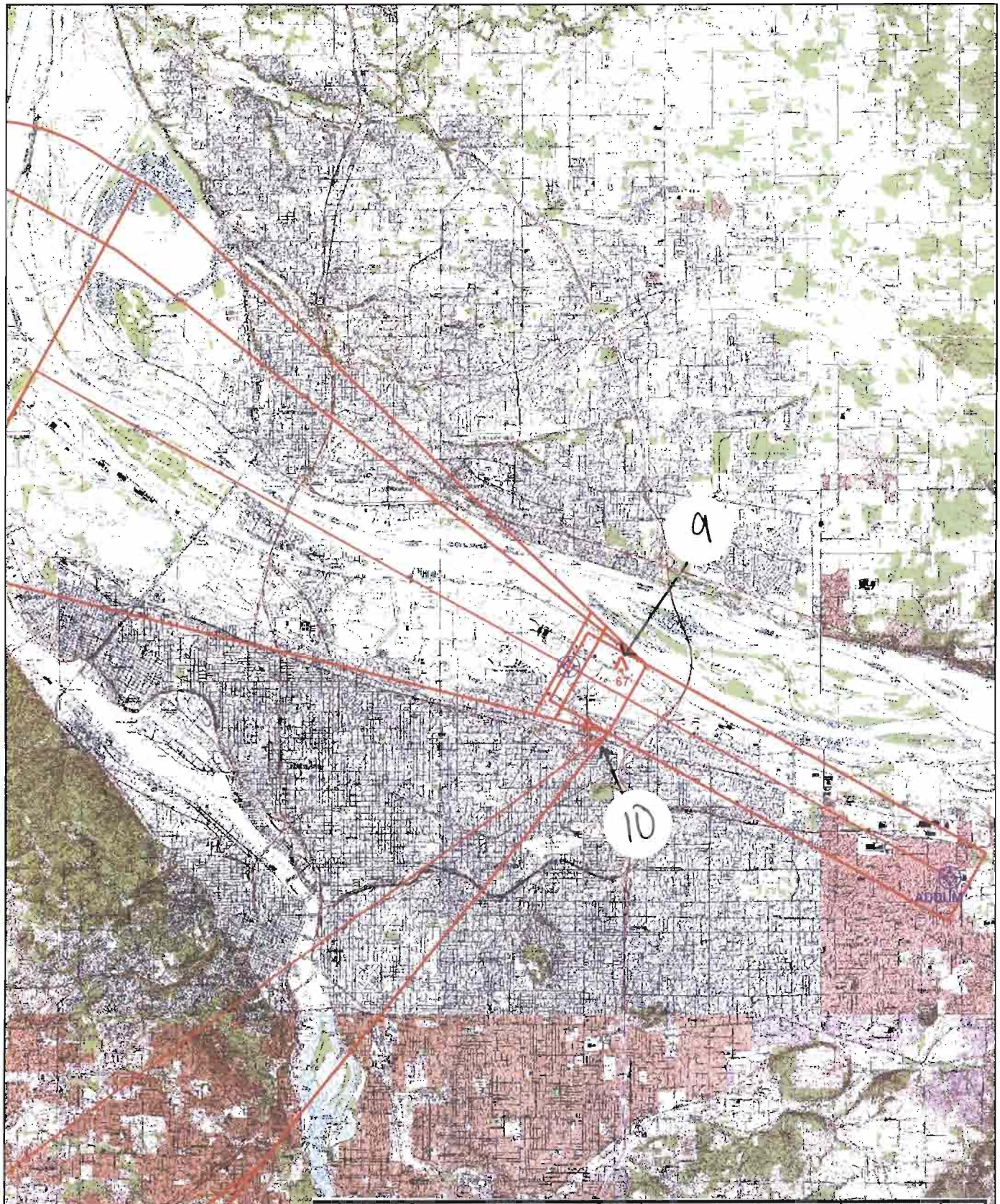
CATEGORY	A	B	C	D
RNP 0.27 DA	374/35	351 (400-⅝)		
RNP 0.30 DA	494/60	471 (500-1⅛)		

REIL Rwys 3 and 21
TDZ or CL Rwy 10L-28R and 10R-28L
MIRL Rwy 3-21
HIRL Rwys 10L-28R and 10R-28L

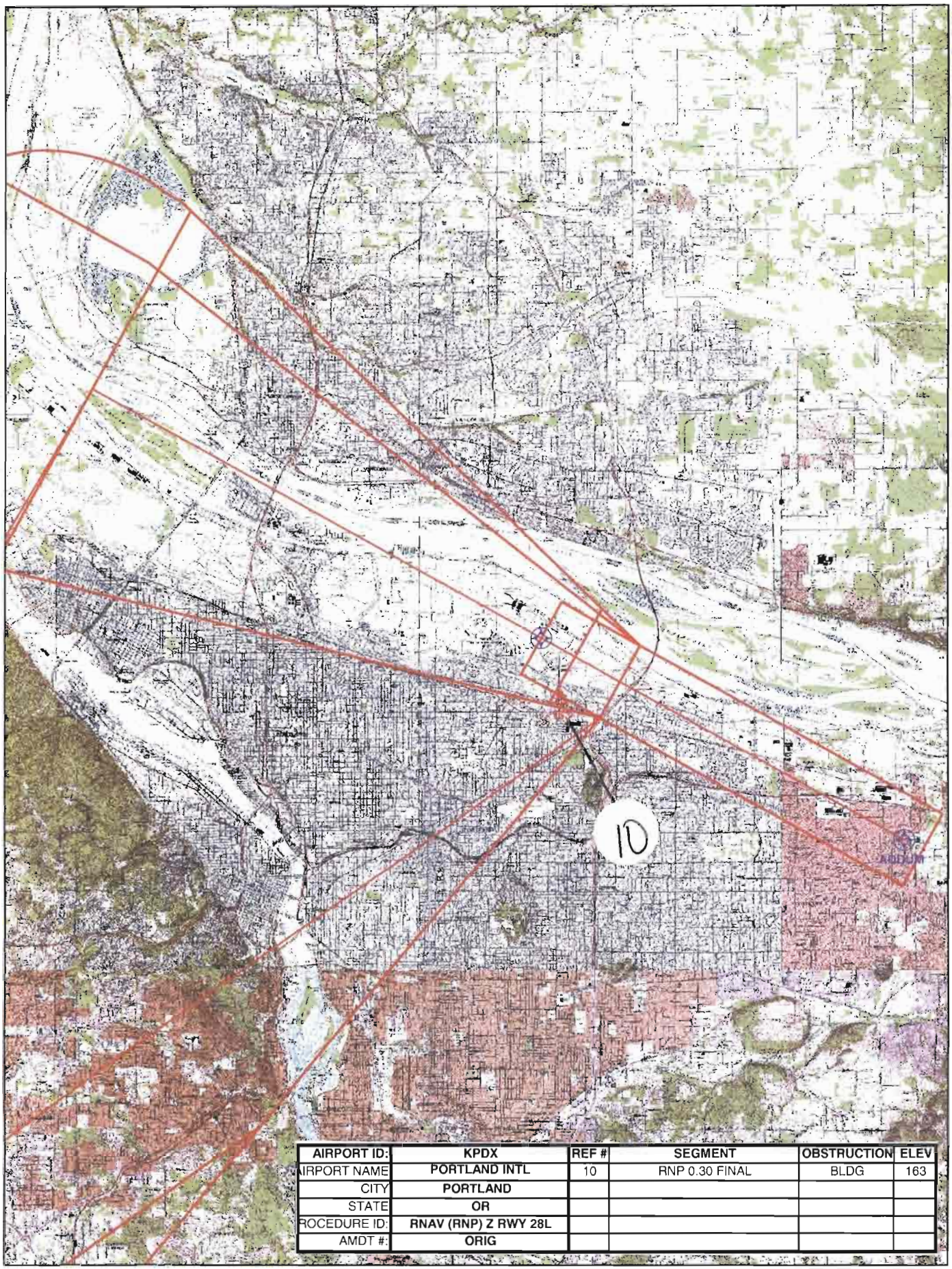
AUTHORIZATION REQUIRED



AIRPORT ID:	KPDX	REF #	SEGMENT	OBSTRUCTION	ELEV
AIRPORT NAME	PORTLAND INTL	1	HPSTR TO HANAH	AAO	1129
CITY	PORTLAND	1	HANAH TO ADDUM	AAO	1129
STATE	OR	3	WIDMR TO DSHUT	AAO	1401
PROCEDURE ID:	RNAV (RNP) Z RWY 28L	5	DSHUT TO NOLGE	AAO	1289
AMDT #:	ORIG	7	NOLGE TO ADDUM	AAO	870
		11	LVL SFC	TWR	2049
		@	HOLDING	AAO	1834



AIRPORT ID:	KPDX	REF #	SEGMENT	OBSTRUCTION	ELEV
IRPORT NAME	PORTLAND INTL	9	RNP 0.27 FINAL	POLE	63
CITY	PORTLAND	10	MISSED 40:1	BLDG	163
STATE	OR				
ROCEDURE ID:	RNAV (RNP) Z RWY 28L				
AMDT #:	ORIG				



AIRPORT ID:	KPDX	REF #	SEGMENT	OBSTRUCTION	ELEV
IRPORT NAME	PORTLAND INTL	10	RNP 0.30 FINAL	BLDG	163
CITY	PORTLAND				
STATE	OR				
ROCEDURE ID:	RNAV (RNP) Z RWY 28L				
AMDT #:	ORIG				

US DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

RNAV (RNP) - STANDARD, INSTRUMENT APPROACH PROCEDURE, TITLE 14 CFR PART 97.33

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TERMINAL ROUTES

FROM	TO	COURSE AND DISTANCE	ALTITUDE
HPSTR (IF)	HANAH (TF) (FB) (RNP 1.00)	283.23 / 4.36	2900
HANAH	ADDUM (TF) (FB) (RNP 1.00)	283.16 / 3.00	2000
WIDMR (IF)	DSHUT (TF) (FB) (RNP 1.00)	016.17 / 5.73	3200
DSHUT	NOLGE (RF) (FB) (RNP 1.00)	(2.34 NM RADIUS CCW (CFBHS))/2.23	2500
NOLGE	ADDUM (RF) (FB) (RNP 1.00)	(2.34 NM RADIUS CCW (CFBHS))/1.57	2000
(SEE FORM 8260-10)			

MISSED APPROACH

RNP: DA

CLIMB TO 2100 THEN CLIMBING LEFT TURN TO 4000 DIRECT UBG VOR/DME AND HOLD.

ADDITIONAL FLIGHT DATA:
HOLD S, LT, 003.00 INBOUND.
DISTANCE TO THLD FROM 351 HATH: 0.93 NM.
ROUTE TYPE: A, H
ROUTE TYPE QUALIFIER1: F
ROUTE TYPE QUALIFIER2: S
#TCH 77.5 MSL (DO NOT CHART)
CHART LOCALIZER RWY 28R
CHART MANDATORY 5000 AT WIDMR

1. PT ____ SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. PROFILE STARTS AT ADDUM
3. FAC: 283.12 FAF: ____ DIST FAF TO MAP: ____ THLD: ____
4. MIN. ALT: ADDUM 2000
5. DIST TO THLD FROM OM: 6.04 MM: ____ IM: ____ 150 HAT: ____ 100 HAT: ____ GS ANT: ____
6. MIN GS INCPT: 2000 GS ALT AT: ADDUM 2000 OM: ____ MM: ____ IM: ____
7. GS ANGLE: 3.00 TCH: 54.8# 34:1 IS CLEAR
8. MSA FROM: RW28L 5800

MAG VAR: 16E EPOCH YEAR: 2010

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
AUTHORIZATION REQUIRED															
RNP 0.27 DA	374	3500	351	374	3500	351	374	3500	351	374	3500	351			
RNP 0.30 DA	494	6000	471	494	6000	471	494	6000	471	494	6000	471			

NOTES:
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, PROCEDURE NA BELOW -15C (5F) OR ABOVE 54C (130F).
CHART NOTE: FOR INOPERATIVE MALSR, INCREASE RNP 0.27 ALL CATS VISIBILITY TO RVR 6000 AND INCREASE RNP 0.30 ALL CATS VISIBILITY TO 1 5/8 MILE.
CHART NOTE: SIMULTANEOUS APPROACH AUTHORIZED WITH RWY 28R.
(SEE FORM 8260-10)

CITY AND STATE	ELEVATION: 31 THRE: 23	FACILITY IDENTIFIER:	PROCEDURE NO./AMDT NO./EFFECTIVE DATE:	SUP:
PORTLAND, OR	AIRPORT NAME: PORTLAND INTL	RNAV	RNAV (RNP) Z RWY 28L, ORIG	AMDT: NONE
				DATED

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

COORDINATED WITH:

ATA	AAT	ALPA	APA	AOPA	NBAA	OTHER (specify)
[X]	[ ]	[X]	[X]	[X]	[X]	[X] **ZSE, PDX ATCT, AMGR, ST AERO**

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME: **CATHERINE L. CHILDRESS**	FIFO **AJV-354**	DATE: **05/23/2012**
APPROVED BY		
NAME: **DEZ SILAGYI** **MANAGER**	FIFO **AJV-354**	DATE:

CHANGES:

ORIGINAL PROCEDURE.

REASONS:

FPT REQUEST.

EFFECTIVE CONCURRENT WITH: KPDX ILS OR LOC RWY 28L, AMDT 3

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TERMINAL ROUTES, (CONT.):

FROM	TO	COURSE AND DISTANCE	ALTITUDE
ADDUM (FAF)	RW28L (MAP) (TF) (FO)	283.12 / 6.04	
RW28L (MAP)	2100 MSL (CA)	283.12	2100
2100 MSL	UBG VOR/DME (DF) (FO)		4000

NOTES, (CONT.):
CHART NOTE: GPS REQUIRED.
CHART PLANVIEW NOTE AT WIDMR : MAX 210 KIAS.
CHART PLANVIEW NOTE: RADAR REQUIRED.
CHART PLANVIEW NOTE ADJACENT TO WIDMR: RF REQUIRED.
CHART PROFILE NOTE: VGSI AND RNAV GLIDEPATH NOT COINCIDENT.
CHART NOTE: USE OF FD OR AP PROVIDING RNAV TRACK GUIDANCE REQUIRED DURING SIMULTANEOUS OPERATIONS.

CHART PROFILE NOTE: SEE PLANVIEW FOR MULTIPLE IF LOCATIONS.

QUALITY CHECKED

CITY AND STATE	ELEVATION: 31 THRE: 23	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
PORTLAND, OR	AIRPORT NAME: PORTLAND INTL	RNAV	RNAV (RNP) Z RWY 28L, ORIG	AMDT: NONE
				DATED:

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:

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

RNAV (RNP) STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.33**

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ARINC PACKET - 424-18 - RNAV (RNP)

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
NAVAID  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAD        UBG   K1011740VDHA N45211162W122584137    N45211162W122584137E0210014402     NARNEWBERG

                 1         2         3         4         5         6         7         8         9         0         1         2         3
WP      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   ADDUM K10    C     N45315386W122273151                      E0160     NAR           ADDUM
        SUSAEAENRT   CFBHS K10    W     N45295126W122290862                      E0160     NAR           CNF(CFBHS)
        SUSAEAENRT   DSHUT K10    W     N45283647W122261981                      E0160     NAR           DSHUT
        SUSAEAENRT   HANAH K10    C     N45302614W122234770                      E0160     NAR           HANAH
        SUSAEAENRT   HPSTR K10    C     N45281856W122182308                      E0160     NAR           HPSTR
        SUSAEAENRT   NOLGE K10    W     N45304469W122260408                      E0160     NAR           NOLGE
        SUSAEAENRT   WIDMR K10    W     N45234554W122304001                      E0160     NAR           WIDMR

                 1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KPDXK1APDX     0     110YHN45351935W122354873E016000031         1800018000C    MNAR    PORTLAND INTL

                 1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KPDXK1FH28LZ AHPSTR 010HPSTRK1EA0E  B    IF                                          18000                A FS
        SUSAP KPDXK1FH28LZ AHPSTR 020HANAHK1EA0E    010TF                                   + 02900                         A FS
        SUSAP KPDXK1FH28LZ AHPSTR 030ADDUMK1EA0EE   010TF                                   + 02000                         A FS
        SUSAP KPDXK1FH28LZ AWIDMR 010WIDMRK1EA0E  B    IF                                     05000     18000210            A-FS
        SUSAP KPDXK1FH28LZ AWIDMR 020DSHUTK1EA0E    010TF                                   + 03200                         A FS
        SUSAP KPDXK1FH28LZ AWIDMR 030NOLGEK1EA0E   L010RF       0023400162    32160022    + 02500                CFBHS K1EAA FS
        SUSAP KPDXK1FH28LZ AWIDMR 040ADDUMK1EA0EE  L010RF       0023403216    28310016    + 02000                CFBHS K1EAA FS
        SUSAP KPDXK1FH28LZ H      020ADDUMK1EA1E  F    IF                                   + 02000     18000      RW28L K1PGA FS
        SUSAP KPDXK1FH28LZ H      020ADDUMK1EA2W                                                A031A272                      FS
        SUSAP KPDXK1FH28LZ H      030RW28LK1PG0GY M 031TF                                     00078            -300         A FS
        SUSAP KPDXK1FH28LZ H      040         0  M     CA                      2831        + 02100                         A FS
        SUSAP KPDXK1FH28LZ H      050UBG  K1D 0VY      DF                                   + 04000                         A FS
        SUSAP KPDXK1FH28LZ H      060UBG  K1D 0VE  L   HM                      00300040    + 04000                         A FS

                 1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KPDXK1GRW28L   0110002830 N45344985W122350205+0000    -0015800023000055150IIJMJ1

                 1         2         3         4         5         6         7         8         9         0         1         2         3
```

QUALITY CHECKED

CITY AND STATE	ELEVATION: 31 THRE: 23	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
PORTLAND, OR	AIRPORT NAME: **PORTLAND INTL**	**RNAV**	**RNAV (RNP) Z RWY 28L, ORIG**	AMDT: **NONE**
				DATED:

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:

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```
MSA     123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAP KPDXK1SRW28LK1PG                0   18018005825                                                                      M
```

QUALITY CHECKED

CITY AND STATE	ELEVATION: 31 THRE: 23	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
PORTLAND, OR	AIRPORT NAME: PORTLAND INTL	RNAV	RNAV (RNP) Z RWY 28L, ORIG	AMDT: NONE
				DATED:

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 (RNP) STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.33**

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ARINC SUMMARY - 424-18 - RNAV (RNP)

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	HPSTR	HPSTR	010		IF		FB					
	HPSTR	HANAH	020		TF		FB	1.0			AA 02900	
	HPSTR	ADDUM	030		TF		FB	1.0			AA 02000	
	WIDMR	WIDMR	010		IF		FB				AT 05000	AB 210
	WIDMR	DSHUT	020		TF		FB	1.0			AA 03200	
	WIDMR	NOLGE	030		RF	L	FB	1.0		002.2	AA 02500	
	WIDMR	ADDUM	040		RF	L	FB	1.0		001.6	AA 02000	
		ADDUM	020	FAF	IF		FB				AA 02000	
		RW28L	030	MAP	TF		FO	0.3			AT 00078	

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
		040		CA		FB		283.1(299.1T)		AA 02100	
	UBG	050		DF		FO				AA 04000	
	UBG	060		HM	L	FO		003.0(019.0T)	004.0	AA 04000	

POINT DATA	WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
	UBG	N452111.62	W1225841.37	N4521.194	W12258.690
	ADDUM	N453153.86	W1222731.51	N4531.898	W12227.525
	CFBHS	N452951.26	W1222908.62	N4529.854	W12229.144
	DSHUT	N452836.47	W1222619.81	N4528.608	W12226.330
	HANAH	N453026.14	W1222347.70	N4530.436	W12223.795
	HPSTR	N452818.56	W1221823.08	N4528.309	W12218.385
	NOLGE	N453044.69	W1222604.08	N4530.745	W12226.068
	WIDMR	N452345.54	W1223040.01	N4523.759	W12230.667
	RW28L	N453449.85	W1223502.05	N4534.831	W12235.034

RUNWAY DATA	RWY	THRESHOLD ELEVATION	TCH
	RW28L	00023	55

QUALITY CHECKED

CITY AND STATE	ELEVATION: 31 THRE: 23	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
PORTLAND, OR	AIRPORT NAME: **PORTLAND INTL**	**RNAV**	**RNAV (RNP) Z RWY 28L, ORIG**	AMDT: **NONE**
				DATED:

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.
INTERMEDIATE	HPSTR	HANAH	1. AAO	452912.00N/1222621.00W	1129 (3F)	500	AC128 AT1143	2900
(RNP 1.00)			2. TERRAIN	452912.00N/1222621.00W	929 (900)		AS1500	2400
INTERMEDIATE STEPDOWN	HANAH	ADDUM	1. AAO	452912.00N/1222621.00W	1129 (3F)	500	AC128 AT194 VEB49	2000
(RNP 1.00)			2. TERRAIN	452912.00N/1222621.00W	929 (900)		AS1000	1900
INTERMEDIATE	WIDMR	DSHUT	3. AAO	452718.00N/1222712.00W	1401 (3F)	500	AC128 AT1171	3200
(RNP 1.00)			4. TERRAIN	452718.00N/1222712.00W	1201 (1200)		AS1500	2700
INTERMEDIATE STEPDOWN	DSHUT	NOLGE	5. AAO	452737.21N/1222527.67W	1289 (2C)	500	AC20 DG691	2500
(RNP 1.00)			6. TERRAIN	452737.21N/1222527.67W	1089 (1100)		AS1000	2100
INTERMEDIATE STEPDOWN	NOLGE	ADDUM	7. AAO	452957.00N/1222800.00W	870 (3F)	500	AC128 AT446 VEB56	2000
(RNP 1.00)			8. TERRAIN	452957.00N/1222800.00W	670 (700)		AS1000	1700
FINAL (RNP 0.27)	ADDUM	RW28L	9. POLE (KPDXT0098)	453448.68N/1223400.97W	67 (1B)	21.70:1	AC10 MA48	374/351
FINAL (RNP 0.30)	ADDUM	RW28L	10. BLDG (41-000966)	453354.80N/1223432.20W	163 (5D)	21.70:1	AC50	494/471
2. PROCEDURE TURN	NA							
3. MISSED APPROACH — MAP:	DA / DA	UBG VOR/DME	10. BLDG (41-000966)	453354.80N/1223432.20W	163 (5D)	ASC	AC50	4000
			11. TOWER (41-000041)	453057.00N/1224403.00W	2049 (4E)	1000	AC125	3200
ELEV:	213/333		12. TERRAIN	453057.00N/1224403.00W	1056 (1100)		AS1500	3100

4. CIRCLING AREA	DISTANCE	HT. ABV. ARPT. REQUIRED	HT. ABV. ARPT. ACTUAL
CATEGORY A	1.3 NM	350	
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: RW28L

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A
360-360	AAO	035/ 28.8	4760 (6C)	5800					

CITY AND STATE	ELEVATION: 31 / AIRPORT NAME:	FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
PORTLAND, OR	PORTLAND INTL	RNAV	RNAV (RNP) Z RWY 28L, ORIG	ANM

QUALITY CHECKED

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE			3. ALTIMETER SETTING
ZSE ARTCC PDX APP CON PDX TOWER		N W S	OTHER: ASOS	SOURCE: KPDX
		F A A		DISTANCE:
		A / C		HOURS REMOTE OPERATION:
SATISFACTORY ON:				
X V H F X U H F H F	LOCATION:			ADJUSTMENT: 0

4. MONITOR STATUS	PRIMARY NAVAID:	
	MONITOR POINT:	
	HRS OPTN:	CAT 1
		CAT 3
5. APPROACH & RUNWAY LIGHTING	X	ALSF-2 10R
		(S) SALS
	X	MALSR 10L, 28R, 28L
	X	HIRL 10L, 10R, 28R, 28L
	X	MIRL 21, 03
	X	REIL 21, 03
	X	TDZ 10R
	X	C/L 10L, 10R, 28R, 28L
	X	OTHER (SPECIFY) PAPI-4R 21, 10R, 28R PAPI-4L 10L, 03, 28L
6. RUNWAY MARKINGS	BASIC	
	ALL WEATHER	PIR-G 10L, 10R, 28R, 28L
	INSTRUMENT	NPI-G 21, 03
7. RUNWAY VISUAL RANGE	APPROACH	10L, 10R, 28R, 28L
	MIDFIELD	10L, 10R, 28R, 28L
	ROLL OUT	10L, 10R, 28R, 28L
8. GLIDE PATH	GP ANGLE: 3.00	ELEV RWY THRESHOLD: 22.7
	DISTANCE FROM RWY:	ELEV GP ANTENNA:
		THRESHOLD CROSSING HEIGHT: 54.8
9. FINAL APPROACH COURSE AIMING	X	RUNWAY THRESHOLD — FT. FROM THRESHOLD
	X	ON CENTERLINE — FT. FROM CENTERLINE

10. WAIVERS: NONE

PART D - PREPARED BY: CATHERINE L. CHILDRESS	DATE: 05/23/2012
TITLE: AERONAUTICAL INFORMATION SPECIALIST	OFFICE: AJV-354

PART C - REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

VGSI DATA: 3.00/72.3

SEE ATTACHED AIRSPACE LETTER.

MISSED APPROACH IAW 8260.54A, IPDS BUILD 25 DEGREES BANK ANGLE USED IN MISSED APPROACH TO ALLOW FOR MINIMUM SEGMENT LENGTH.

ACT: -15
"AVERAGE COLD TEMERATURE BASED ON STANDARD -30 ISA DEVIATION"

VEB DATA: SEE ATTACHED SPREADSHEETS.

BACK-UP ALTIMETER NOT PLUBLISHED, REDUNDANT REPORTING ON AIRPORT.

VEGETATION: 75 FT USED PER FPT.

VKTW: OBTAINED FROM HISTORICAL WIND DATA (MITRE)

BARO-VNAV NA BELOW -15C (5F) OR ABOVE 54C (130F).

HIGH TERMPERATURE LIMIT VALUE DERIVED FROM AFS-400 CALCULATOR.

RF SEGMENT ALT KIAS KTAS HAA VKTW TR BA
DSHUT-NOLGE 3200 210 226 3169 47.4 2.34 24.96
NOLGE-ADDUM 2500 210 223.6 2469 45.6 2.34 24.29

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: ADDUM **STATE:** OR **COUNTRY:** US

LATITUDE/LONGITUDE: 453153.86N/1222731.51W **TYPE:** WP, RADAR, 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	PORTLAND	I-JMJ	LOC/DME		103.03	119.03	5.84	8.12	49350	2000	4500

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

REMARKS:
ASSOCIATED DME FACILITY 453446.74N/1223445.23W

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 28L	1		KPDX	PORTLAND	OR (US)
IAP	RNAV (GPS) X RWY 28L			KPDX	PORTLAND	OR (US)
IAP	RNAV (RNP) Z RWY 28L			KPDX	PORTLAND	OR (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 4 **DATE OF REVISION:** 09/20/2012

REASON FOR REVISION:
FIX MOVED 597 FT EAST.
FAC 1 CHANGED MAG BRG FROM 99.03 TO 103.03.
FAC 1 CHANGED DME DISTANCE FROM 5.74 TO 5.84 AND DIST FROM FAC FROM 8.02 TO 8.12.
UPDATED FIX USE.

DEVELOPED BY: **DATE:** 05/21/2012 **OFFICE:** AJV-354 **NAME:** CATHERINE CHILDRESS

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

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: WST
ARTCC: ZSE
ATC FACILITY: PDX TRACON
OTHER:

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: CFBHS **STATE:** OR **COUNTRY:** US

LATITUDE/LONGITUDE: 452951.26N/1222908.62W **TYPE:** CNF

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (RNP) Z RWY 28L			KPDX	PORTLAND	OR (US)

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 05/23/2012 **OFFICE:** AJV-354 **NAME:** CATHERINE CHILDRESS

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: WST
ARTCC: ZSE
ATC FACILITY: PDX APP CON
OTHER:

QUALITY CHECKED 1

RADIO FIX AND HOLDING DATA RECORD

NAME: DSHUT **STATE:** OR **COUNTRY:** US

LATITUDE/LONGITUDE: 452836.47N/1222619.81W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (RNP) Z RWY 28L			KPDX	PORTLAND	OR (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 05/23/2012 **OFFICE:** AJV-354 **NAME:** CATHERINE CHILDRESS

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: WST
ARTCC: ZSE
ATC FACILITY: PDX APP CON
OTHER:

QUALITY CHECK

RADIO FIX AND HOLDING DATA RECORD

NAME: HANAH **STATE:** OR **COUNTRY:** US

LATITUDE/LONGITUDE: 453026.14N/1222347.70W **TYPE:** WP, RADAR, 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	PORTLAND	I-JMJ	LOC/DME		103.03	119.03	8.84	11.12		2900	4500

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

REMARKS:
ASSOCIATED DME FACILITY 453446.74N/1223445.23W

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 28L	1		KPDX	PORTLAND	OR (US)
IAP	RNAV (GPS) X RWY 28L			KPDX	PORTLAND	OR (US)
IAP	RNAV (RNP) Z RWY 28L			KPDX	PORTLAND	OR (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 3 **DATE OF REVISION:** 09/20/2012

REASON FOR REVISION:
FIX MOVED 4496 FT EAST.
FAC 1 MAG BRG CHANGED FROM 99.03 TO 103.03.
FAC 1 CHANGED DME DISTANCE FROM 8.10 TO 8.84 AND DIST FROM FACILITY FROM 10.38 TO 11.12 NM.
FAC 1 RAISED MRA FROM 2500 TO 2900.
UPDATED FIX USE.

DEVELOPED BY: **DATE:** 05/21/2012 **OFFICE:** AJV-354 **NAME:** CATHERINE CHILDRESS

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: WST
ARTCC: ZSE
ATC FACILITY: PDX TRACON
OTHER:

QUALITY

RADIO FIX AND HOLDING DATA RECORD

NAME: HPSTR **STATE:** OR **COUNTRY:** US

LATITUDE/LONGITUDE: 452818.56N/1221823.08W **TYPE:** WP, RADAR, 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	PORTLAND	I-JMJ	LOC/DME		103.03	119.03	13.20	15.48		3500	4500

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

REMARKS:
NAME CHANGED FROM JEPIP TO HPSTR.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 28L	1		KPDX	PORTLAND	OR (US)
IAP	RNAV (GPS) X RWY 28L			KPDX	PORTLAND	OR (US)
IAP	RNAV (RNP) Z RWY 28L			KPDX	PORTLAND	OR (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 09/20/2012

REASON FOR REVISION:
FIX NAME CHANGED FROM JEPIP TO HPSTR, ATC REQUEST.
PAT 1 REMOVED.
REMOVED HOLDING RESTRICTION: HOLDING LIMITED TO ESTABLISHED PATTERN.
UPDATED FIX USE.

DEVELOPED BY: **DATE:** 05/21/2012 **OFFICE:** AJV-354 **NAME:** CATHERINE CHILDRESS

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: WST
ARTCC: ZSE
ATC FACILITY: PDX ATCT, PDX APP CON
OTHER:

QUALITY CHECKED 1

RADIO FIX AND HOLDING DATA RECORD

NAME: NEWBERG VOR/DME **STATE:** OR **COUNTRY:** US

LATITUDE/LONGITUDE: 452111.62N/1225841.37W **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	NEWBERG	UBG	VOR/DME	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	S	UBG	VOR/DME	183.00	003.00	R	1-1 1/2		3000	17500	4	16
2	W	UBG	VOR/DME	288.00	108.00	R	1-1 1/2		3000	17500	4	16
3	S	UBG	VOR/DME	183.00	003.00	L	1-1 1/2		3800	17500	4	16
4	S		WP	183.00	003.00	L		4	3000	17500	5	17
5	W	UBG	VOR/DME	288.00	108.00	R	1-1 1/2		3900	17500	4	16
6	W		WP	288.00	108.00	R		4	3000	17500	5	17
7	S		WP	183.00	003.00	L		4	4400	17500	6	17

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
UPN	200	AAO	452348.00N/1230324.00W	1834	4E
1	200	AAO	452112.00N/1225839.00W	1805	4E
1	265	AAO	452348.00N/1230324.00W	1834	4E
2	200	AAO	452348.00N/1230324.00W	1834	4E
3	200	AAO	452348.00N/1230324.00W	1834	4E
3	310	AAO	451651.50N/1232637.90W	1834	4E
4	200	AAO	452348.00N/1230324.00W	1834	4E
5	200	AAO	452348.00N/1230324.00W	1834	4E
5	310	AAO	453103.00N/1232254.00W	2868	4E
6	200	AAO	452348.00N/1230324.00W	1834	4E
7	310	AAO	451651.50N/1232637.90W	3320	4E

REASON FOR NONSTANDARD HOLDING:
PAT 3 ATC OPERATIONS
PAT 4 TERRAIN AVOIDANCE
PAT 7 ATC OPERATIONS

HOLDING RESTRICTIONS:
UNPLANNED HOLDING AUTHORIZED AT OR ABOVE 3000.

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
3	T/O MINS AND DP	KMMV	MC MINNVILLE	OR (US)
3	T/O MINS AND DP	KUAO	AURORA	OR (US)
5	T/O MINS AND DP	KHIO	PORTLAND	OR (US)
7	NEWBERG RNAV	KUAO	AURORA	OR (US)

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.
PATTERN 7 FOR NEWBERG DP CIH PATTERN (P21).
PATTERN 3 CIH PATTERN (P20).

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	NEWBERG RNAV		7	KUAO	AURORA	OR (US)
DP	T/O MINS AND DP		3	KUAO	AURORA	OR (US)
DP	EUGENE			KEUG	EUGENE	OR (US)
DP	T/O MINS AND DP		3	KMMV	MC MINNVILLE	OR (US)
DP	CANBY			KHIO	PORTLAND	OR (US)
DP	FARMINGTON			KHIO	PORTLAND	OR (US)
DP	SCAPO			KHIO	PORTLAND	OR (US)
DP	T/O MINS AND DP		5	KHIO	PORTLAND	OR (US)
DP	HRMNS (RNAV)			KPDX	PORTLAND	OR (US)
DP	LAVAA (RNAV)			KPDX	PORTLAND	OR (US)
DP	MINNE (RNAV)			KPDX	PORTLAND	OR (US)
DP	PORTLAND			KPDX	PORTLAND	OR (US)
DP	RIVER			KPDX	PORTLAND	OR (US)
DP	WHAMY (RNAV)			KPDX	PORTLAND	OR (US)
DP	BLUE LAKE			KTTD	PORTLAND	OR (US)
DP	REDMOND			KRDM	REDMOND	OR (US)
DP	SALEM			KSLE	SALEM	OR (US)
DP	YELM			KOLM	OLYMPIA	WA (US)
DP	SEATTLE			KSEA	SEATTLE	WA (US)
EN ROUTE	J126					(US)

EN ROUTE	V165				(US)
EN ROUTE	V182				(US)
EN ROUTE	V287	3			(US)
EN ROUTE	V495				(US)
EN ROUTE	V500				(US)
EN ROUTE	V165				OR (US)
IAP	LOC RWY 17		KUAO	AURORA	OR (US)
IAP	RNAV (GPS) RWY 17		KUAO	AURORA	OR (US)
IAP	RNAV (GPS) RWY 35		KUAO	AURORA	OR (US)
IAP	RNAV (GPS)-B	6	KUAO	AURORA	OR (US)
IAP	VOR/DME-A	2	KUAO	AURORA	OR (US)
IAP	ILS OR LOC RWY 22		KMMV	MC MINNVILLE	OR (US)
IAP	RNAV (GPS) RWY 22		KMMV	MC MINNVILLE	OR (US)
IAP	RNAV (GPS) RWY 4		KMMV	MC MINNVILLE	OR (US)
IAP	VOR/DME-B		KMMV	MC MINNVILLE	OR (US)
IAP	ILS OR LOC RWY 13	1	KHIO	PORTLAND	OR (US)
IAP	NDB-B	1	KHIO	PORTLAND	OR (US)
IAP	RNAV (GPS) RWY 13	4	KHIO	PORTLAND	OR (US)
IAP	VOR/DME-C	1	KHIO	PORTLAND	OR (US)
IAP	HI ILS OR LOC/DME RWY 28R		KPDX	PORTLAND	OR (US)
IAP	ILS OR LOC RWY 10R (ALT MISS)	1	KPDX	PORTLAND	OR (US)
IAP	ILS OR LOC RWY 28L	3	KPDX	PORTLAND	OR (US)
IAP	ILS RWY 10R (CAT II/III)		KPDX	PORTLAND	OR (US)
IAP	ILS RWY 10R (SA CAT I)		KPDX	PORTLAND	OR (US)
IAP	RNAV (GPS) X RWY 28L	4	KPDX	PORTLAND	OR (US)
IAP	RNAV (RNP) Y RWY 28L	4	KPDX	PORTLAND	OR (US)
IAP	RNAV (RNP) Z RWY 28L	4	KPDX	PORTLAND	OR (US)
IAP	VOR RWY 28R	3	KPDX	PORTLAND	OR (US)
IAP	ILS OR LOC RWY 31		KSLE	SALEM	OR (US)
IAP	LOC BC RWY 13		KSLE	SALEM	OR (US)
IAP	LOC/DME RWY 31		KSLE	SALEM	OR (US)
IAP	RNAV (GPS) RWY 31		KSLE	SALEM	OR (US)
STAR	MOXEE		KPDX	PORTLAND	OR (US)
STAR	OLYMPIA		KSEA	SEATTLE	WA (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 15 **DATE OF REVISION:** 09/20/2012

REASON FOR REVISION:
ADDED 265K OBSTACLE TO PAT 1
UPDATED FIX USE

DEVELOPED BY: **DATE:** 04/29/2012 **OFFICE:** AJV-354 **NAME:** CHARLES SCHNEIDER

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

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: WST
ARTCC: ZSE
ATC FACILITY: PDX APP CON
OTHER:

QUALITY 1 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: NOLGE **STATE:** OR **COUNTRY:** US

LATITUDE/LONGITUDE: 453044.69N/1222604.08W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (RNP) Z RWY 28L			KPDX	PORTLAND	OR (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 05/23/2012 **OFFICE:** AJV-354 **NAME:** CATHERINE CHILDRESS

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: WST
ARTCC: ZSE
ATC FACILITY: PDX APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: WIDMR **STATE:** OR **COUNTRY:** US

LATITUDE/LONGITUDE: 452345.54N/1223040.01W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (RNP) Z RWY 28L			KPDX	PORTLAND	OR (US)
IAP	RNAV (RNP) Z RWY 28R			KPDX	PORTLAND	OR (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 05/14/2012 **OFFICE:** AJV-354 **NAME:** CATHERINE CHILDRESS

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

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: WST
ARTCC: ZSE
ATC FACILITY: PDX APP CON
OTHER:

QUALITY CHECKED

TERMINAL AIRSPACE DATA REQUIREMENTS

CITY: **PORTLAND** STATE: **OR**

AIRPORT NAME: **PORTLAND INTL** ID: **KPDX**

PROCEDURE: **RNAV (RNP) Z RWY 28L** AMDT: **ORIG**

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 **2.76**
   (Enter THLD, FAF, ARP, FACILITY, as appropriate)
2. Width of **FINAL** segment at 1000' point **1.20**
   (Enter appropriate segment , final, intermediate, etc.)
3. True Course of **FINAL** segment containing 1000' point **299.12**
4. High Terrain in **FINAL** segment containing 1000' point **204**
5. Distance from **FAF** to 1500' point **2.6**
   (If 1500' point in PT maneuvering area or holding pattern note in remarks)
6. Width of **INTERMEDIATE** segment at 1500' point **4.00**
7. True Course of **INTERMEDIATE** segment containing 1500' point *****
8. High Terrain in **INTERMEDIATE** segment containing 1500' point **1089**
9. Threshold Coordinates (if straight-in) ... **453449.85N** / **1223502.05W**
10. ARP Coordinates ..... **453519.35N** / **1223548.73W**
11. Runway Approach End and distance furthest from ARP.....RWY **28R**
    Distance **1.32** NM
12. FAF Coordinates ..... **453153.86N** / **1222731.51W**
    (Click to Select)

REMARKS: Approach/Drawing attached. INTERMEDIATE SEGMENT IS RF SEGMENT FROM FAF, ARC RADIUS 2.34 NM, CCW.

TERMINAL AIRSPACE DATA REQUIREMENTS

CITY: **PORTLAND** STATE: **OR**

AIRPORT NAME: **PORTLAND INTL** ID: **KPDX**

PROCEDURE: **RNAV (RNP) Z RWY 28L** AMDT: **ORIG**

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 **2.76**
   (Enter THLD, FAF, ARP, FACILITY, as appropriate)
2. Width of **FINAL** segment at 1000' point **1.20**
   (Enter appropriate segment , final, intermediate, etc.)
3. True Course of **FINAL** segment containing 1000' point **299.12**
4. High Terrain in **FINAL** segment containing 1000' point **204**
5. Distance from **FAF** to 1500' point **1.00**
   (If 1500' point in PT maneuvering area or holding pattern note in remarks)
6. Width of **INTERMEDIATE** segment at 1500' point **4.00**
7. True Course of **INTERMEDIATE** segment containing 1500' point **299.16**
8. High Terrain in **INTERMEDIATE** segment containing 1500' point **929**
9. Threshold Coordinates (if straight-in) ... **453449.85N** / **1223502.05W**
10. ARP Coordinates ..... **453519.35N** / **1223548.73W**
11. Runway Approach End and distance furthest from ARP.....RWY **28R**
    Distance **1.32** NM
12. FAF Coordinates ..... **453153.86N** / **1222731.51W**
    (Click to Select)

REMARKS: Approach/Drawing attached.

HANAH TO ABDUL

NOLGE TO ADDUM

PFAF Calculations

Min Intermediate Segment Alt (a):	
LTP MSL Elevation (b):	
TCH:	
Glidepath Angle (Θ):	
Distance from LTP to PFAF (D):	**0.00**
	0.00 NM
LTP/FTP Latitude:	
LTP/FTP Longitude:	
True RWY Bearing/True Course:	
PFAF Latitude:	**000° 00' 00.00"**
PFAF Longitude:	**000° 00' 00.00"**

Latitude/Longitude valid for straight segment only

VEB OCS Origin & Slope

Intermediate Segment Altitude:	2000
LTP Elevation:	22.7
Glidepath Angle:	3
TCH:	54.8
RNP Value:	0.27
Δ ISA:	-30

Straight In Segment

(*Wingspan =<262*) LTP to Origin:	**3,545.72'**
(*Wingspan =<136*) LTP to Origin:	**3,328.69'**
OCS Slope Ratio:	**21.70 : 1**
RF Turn Segment | Bank angle:	**22.86°**
(*Wingspan =<262*) LTP to Origin:	**4,107.60'**
(*Wingspan =<136*) LTP to Origin:	**3,576.46'**
OCS Slope Ratio:	**21.70 : 1**

Version 2.0

VEB Temperature Limits

Glidepath Angle:		
Max Glidepath Angle:		
PFAF Elevation:		
LTP Elevation:		
ACT:		
Min Glidepath Angle	**#DIV/0!**	
NA Below	**#DIV/0!**	**#DIV/0!**
NA Above	**#DIV/0!**	**#DIV/0!**

Intermediate Segment VEB ROC

Glidepath Angle	3.00°
LTP MSL Elevation	22.70
TCH (ft)	54.80
OCS Slope	21.70
OCS Origin Distance (ft) *(measured along-track from LTP)*	3,545.72
Obstacle Distance (ft) *(measured along-track from LTP)*	50,122.61
VEB ROC *(at obstacle)*	**543**
Glidepath MSL altitude at Obstacle	2,764.51
OCS MSL altitude at Obstacle	2,221.08

HANAH to ADDUM

PFAF Calculations

Min Intermediate Segment Alt (a):	
LTP MSL Elevation (b):	
TCH:	
Glidepath Angle (Θ):	
Distance from LTP to PFAF (D):	**0.00**
	0.00 NM
LTP/FTP Latitude:	
LTP/FTP Longitude:	
True RWY Bearing/True Course:	
PFAF Latitude:	**000° 00' 00.00"**
PFAF Longitude:	**000° 00' 00.00"**

Latitude/Longitude valid for straight segment only

VEB OCS Origin & Slope

Intermediate Segment Altitude:	2000
LTP Elevation:	22.7
Glidepath Angle:	3
TCH:	54.8
RNP Value:	0.30
Δ ISA:	-30

Straight In Segment

***(Wingspan =<262)* LTP to Origin:**	**3,804.93'**
***(Wingspan =<136)* LTP to Origin:**	**3,587.96'**
OCS Slope Ratio:	**21.70 : 1**

RF Turn Segment | Bank angle:	**22.86°**
***(Wingspan =<262)* LTP to Origin:**	**4,366.69'**
***(Wingspan =<136)* LTP to Origin:**	**3,835.67'**
OCS Slope Ratio:	**21.70 : 1**

Version 20

VEB Temperature Limits

Glidepath Angle:		
Max Glidepath Angle:		
PFAF Elevation:		
LTP Elevation:		
ACT:		
Min Glidepath Angle	**#DIV/0!**	
NA Below	**#DIV/0!**	**#DIV/0!**
NA Above	**#DIV/0!**	**#DIV/0!**

Intermediate Segment VEB ROC

Glidepath Angle	3.00°
LTP MSL Elevation	22.70
TCH (ft)	54.80
OCS Slope	21.70
OCS Origin Distance (ft) *(measured along-track from LTP)*	3,804.93
Obstacle Distance (ft) *(measured along-track from LTP)*	49,095.01
VEB ROC *(at obstacle)*	**549**
Glidepath MSL altitude at Obstacle	2,708.22
OCS MSL altitude at Obstacle	2,158.95

HANAH to ABBUM

PFAF Calculations

Min Intermediate Segment Alt (a):	
LTP MSL Elevation (b):	
TCH:	
Glidepath Angle (Θ):	
Distance from LTP to PFAF (D):	**0.00**
	0.00 NM
LTP/FTP Latitude:	
LTP/FTP Longitude:	
True RWY Bearing/True Course:	
PFAF Latitude:	**000° 00' 00.00"**
PFAF Longitude:	**000° 00' 00.00"**

Latitude/Longitude valid for straight segment only

VEB OCS Origin & Slope

Intermediate Segment Altitude:	2000
LTP Elevation:	22.7
Glidepath Angle:	3
TCH:	54.8
RNP Value:	0.27
Δ ISA:	-30
Straight In Segment	
(*Wingspan =<262*) LTP to Origin:	**3,545.72'**
(*Wingspan =<136*) LTP to Origin:	**3,328.69'**
OCS Slope Ratio:	**21.70 : 1**
RF Turn Segment | Bank angle:	**22.86°**
(*Wingspan =<262*) LTP to Origin:	**4,107.60'**
(*Wingspan =<136*) LTP to Origin:	**3,576.46'**
OCS Slope Ratio:	**21.70 : 1**

Version 2.0

VEB Temperature Limits

Glidepath Angle:		
Max Glidepath Angle:		
PFAF Elevation:		
LTP Elevation:		
ACT:		
Min Glidepath Angle	**#DIV/0!**	
NA Below	**#DIV/0!**	**#DIV/0!**
NA Above	**#DIV/0!**	**#DIV/0!**

Intermediate Segment VEB ROC

Glidepath Angle	3.00°
LTP MSL Elevation	22.70
TCH (ft)	54.80
OCS Slope	21.70
OCS Origin Distance (ft) *(measured along-track from LTP)*	3,545.72
Obstacle Distance (ft) *(measured along-track from LTP)*	49,095.01
VEB ROC *(at obstacle)*	**537**
Glidepath MSL altitude at Obstacle	2,708.22
OCS MSL altitude at Obstacle	2,171.46

NOLGE to ASBUM

PFAF Calculations

Min Intermediate Segment Alt (a):	
LTP MSL Elevation (b):	
TCH:	
Glidepath Angle (Θ):	
Distance from LTP to PFAF (D):	**0.00**
	0.00 NM
LTP/FTP Latitude:	
LTP/FTP Longitude:	
True RWY Bearing/True Course:	
PFAF Latitude:	**000° 00' 00.00"**
PFAF Longitude:	**000° 00' 00.00"**

Latitude/Longitude valid for straight segment only

VEB OCS Origin & Slope

Intermediate Segment Altitude:	2000
LTP Elevation:	22.7
Glidepath Angle:	3
TCH:	54.8
RNP Value:	0.30
Δ ISA:	-30

Straight In Segment

***(Wingspan =<262)* LTP to Origin:**	**3,804.93'**
***(Wingspan =<136)* LTP to Origin:**	**3,587.96'**
OCS Slope Ratio:	**21.70 : 1**

RF Turn Segment | Bank angle:	**22.86°**
***(Wingspan =<262)* LTP to Origin:**	**4,366.69'**
***(Wingspan =<136)* LTP to Origin:**	**3,835.67'**
OCS Slope Ratio:	**21.70 : 1**

Version 2.0

VEB Temperature Limits

Glidepath Angle:		
Max Glidepath Angle:		
PFAF Elevation:		
LTP Elevation:		
ACT:		
Min Glidepath Angle	**#DIV/0!**	
NA Below	**#DIV/0!**	**#DIV/0!**
NA Above	**#DIV/0!**	**#DIV/0!**

Intermediate Segment VEB ROC

Glidepath Angle	3.00°
LTP MSL Elevation	22.70
TCH (ft)	54.80
OCS Slope	21.70
OCS Origin Distance (ft) *(measured along-track from LTP)*	3,804.93
Obstacle Distance (ft) *(measured along-track from LTP)*	50,122.61
VEB ROC *(at obstacle)*	**556**
Glidepath MSL altitude at Obstacle	2,764.51
OCS MSL altitude at Obstacle	2,208.56