Flight Procedure Tracking Form	Action: FLIGHT CHECK	Task Type: IAP	Date Open: 11/18/2009	Task #: 2009111820267301003	Request #: 20091118202673
Procedure: RNAV (GPS) RWY 29 AMDT 1		**Airport ID:** KORH	**Airport:** WORCESTER REGIONAL		**Reimbursable #:**
City: WORCESTER	**ST:** MA	**GPS #:**		**Estimated Chart Date:** 05/31/2012	**FICO #:**
Fac ID:	**Fac. Type:** LPV	**Specialist:** GEORGE TRAMMELL(Contractor)			

LPV

Procedure Review

	Rec'd	Rel'd	Full Name	Comments
Lead:	08/02/2011	01/25/2012	DONALD SMITH	
QA:	01/25/2012	01/26/2012	SCOTT BEARD	
Liaison:	01/26/2012		Terrell	

P2

Procedure Comments:

Remark Type: INFORMATION

pkg 2 of 5

WORCESTER, MA WORCESTER REGIONAL (KORH) RNAV (GPS) RWY 29, AMDT 1 (LPV) ENROUTE-NO FC: 4.17.12 PUB: 5.31.12

ATTACHED FORMS: 8260-3; 8260-10; 8260-9; 8260-2(S): DEWEE, REV 2; RILOC-INT, REV 1; SPAGS-INT, REV 3; WHYBE-INT, REV 7.

CONTACT: DON SMITH, AJV-352 LEAD, 405.954.1036:

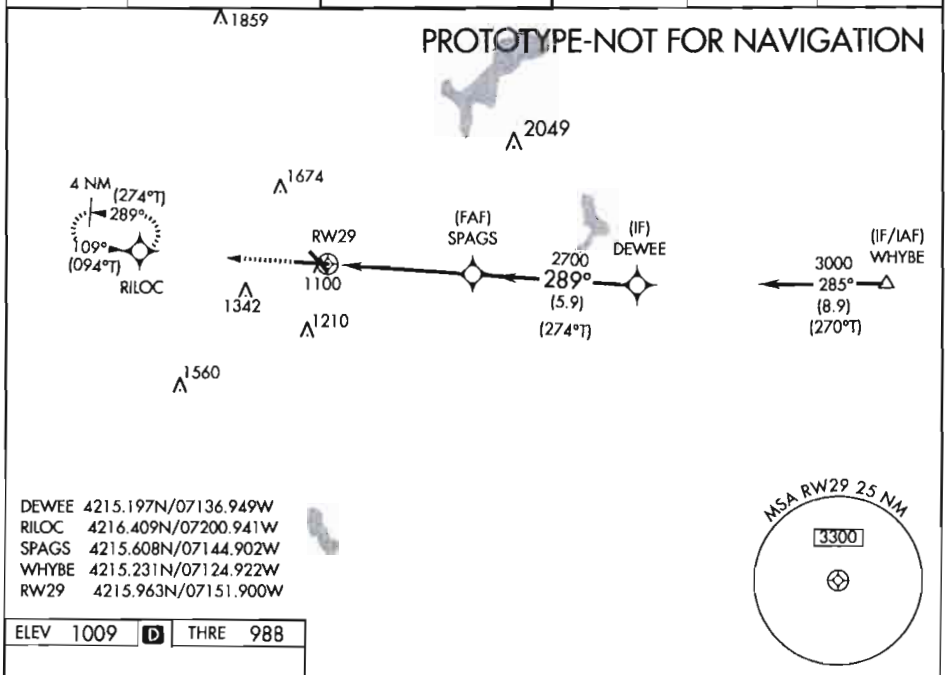
RNAV (GPS) RWY 29
WORCESTER RGNL (ORH)

WAAS	APP CRS	Rwy Idg	7000
Ch 82299	289°	THRE	988
W29A		Apt Elev	1009

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 37°C (98°F). DME/DME RNP -0.3 NA. When local altimeter setting not received, use Bedford altimeter setting and increase all DA 189 feet and all MDA 200 feet; increase LPV all Cats visibility to 1¼, LNAV/VNAV all Cats visibility to 1½, LNAV Cat C/D visibility to 1⅝, Circling Cat B visibility to 1¼ and Circling Cat C visibility to 2¾. VDP and Baro-VNAV when using Bedford altimeter setting.

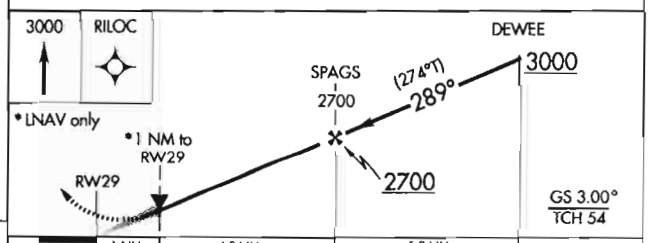
MISSED APPROACH: Climb to 3000 direct RILOC and hold.

ATIS	BRADLEY APP CON	WORCESTER TOWER *	GND CON	CLNC DEL	UNICOM
126.55	119.0 327.1	120.5 (CTAF) L 263.0	123.85	128.65	122.95



DEWEE 4215.197N/07136.949W
RILOC 4216.409N/07200.941W
SPAGS 4215.608N/07144.902W
WHYBE 4215.231N/07124.922W
RW29 4215.963N/07151.900W

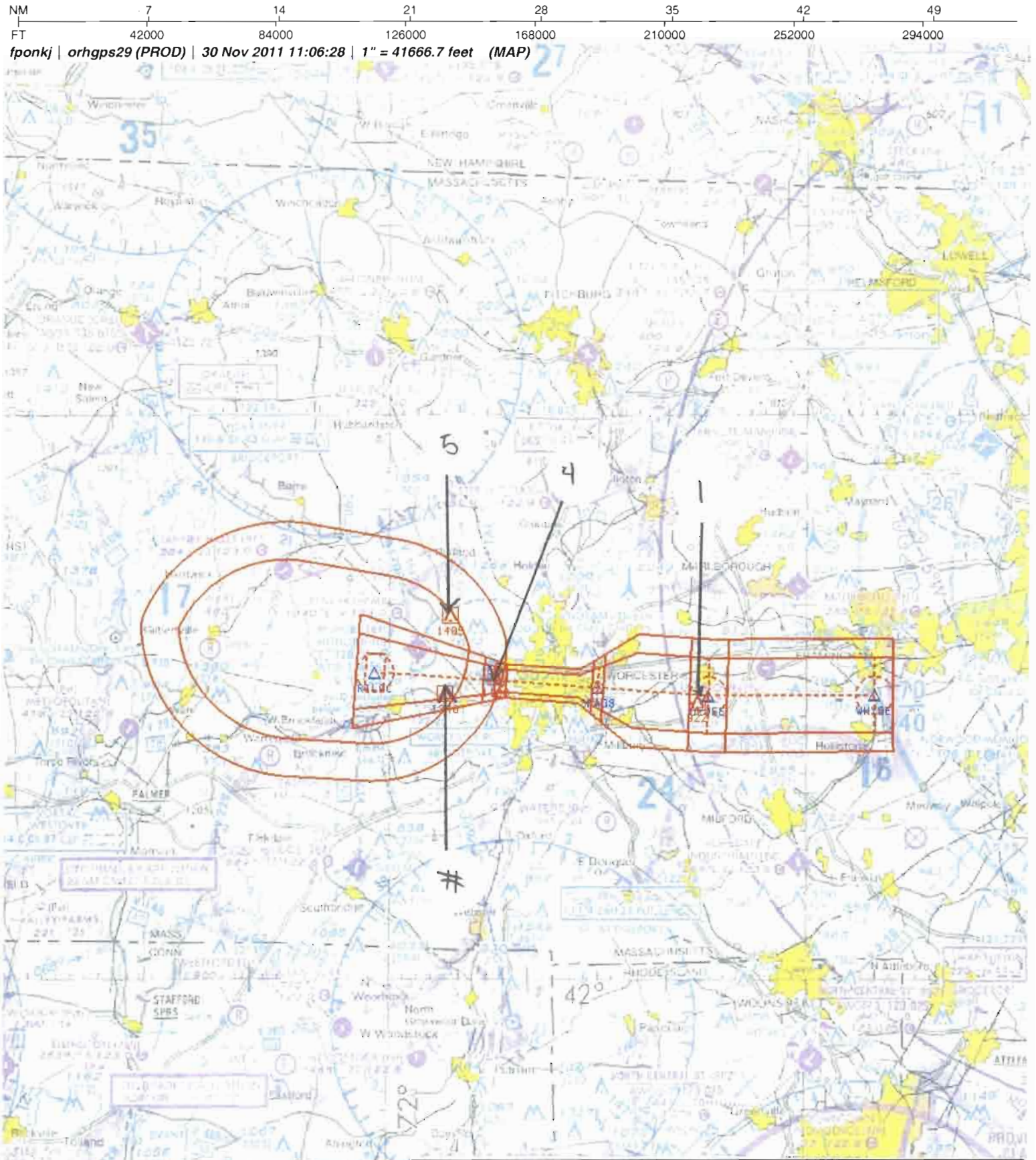
ELEV 1009 D THRE 988



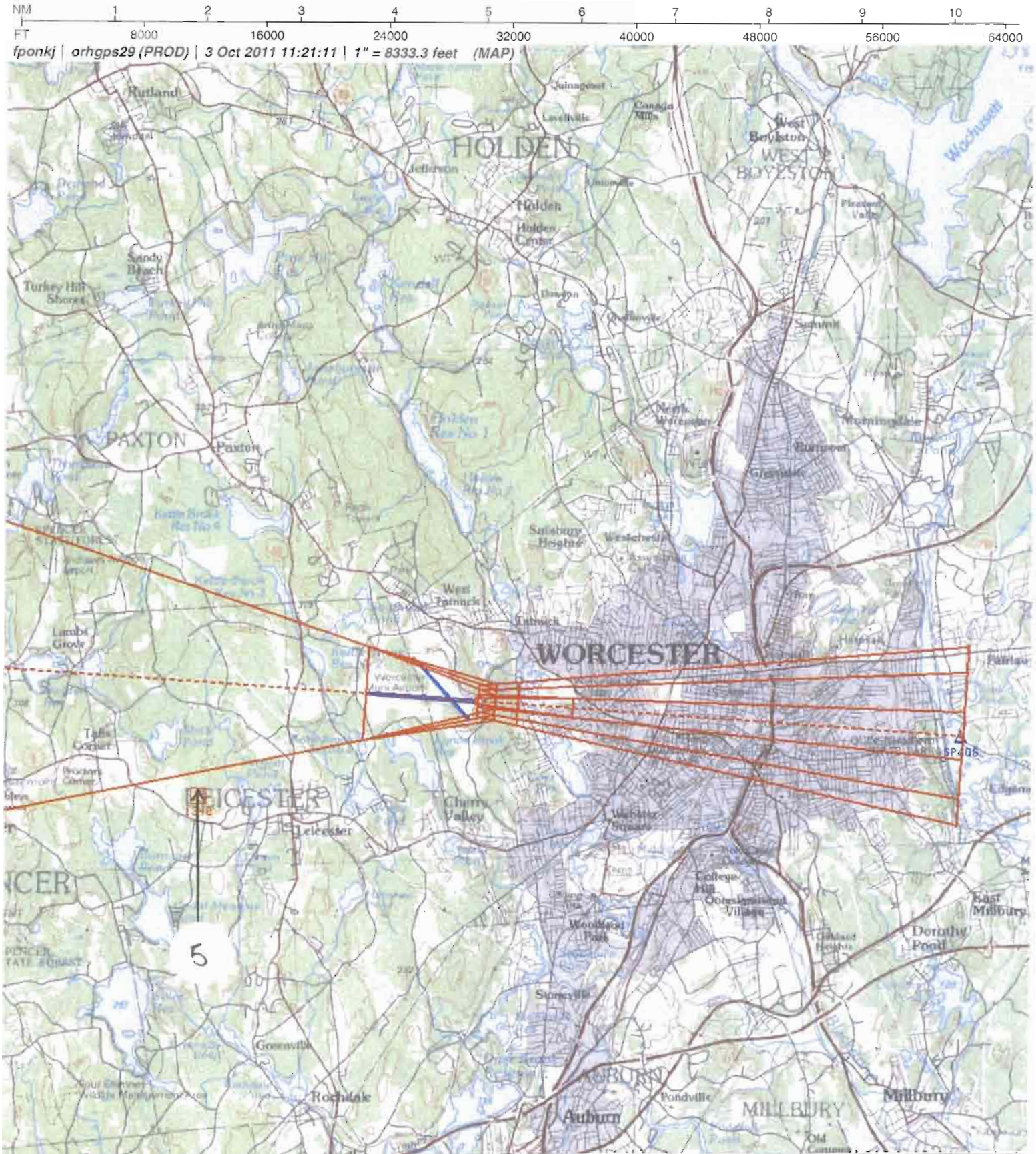
289° to RW29

CATEGORY	A	B	C	D
LPV DA	1188/40 200 (200-¾)			
LNAV/VNAV DA	1261/45 273 (400-1⅞)			
LNAV MDA	1360/55 372 (400-1)			
CIRCLING	1560-1 551 (600-1)	1640-1 631 (700-1)	1720-2 711 (800-2)	1980-3 971(1000-3)

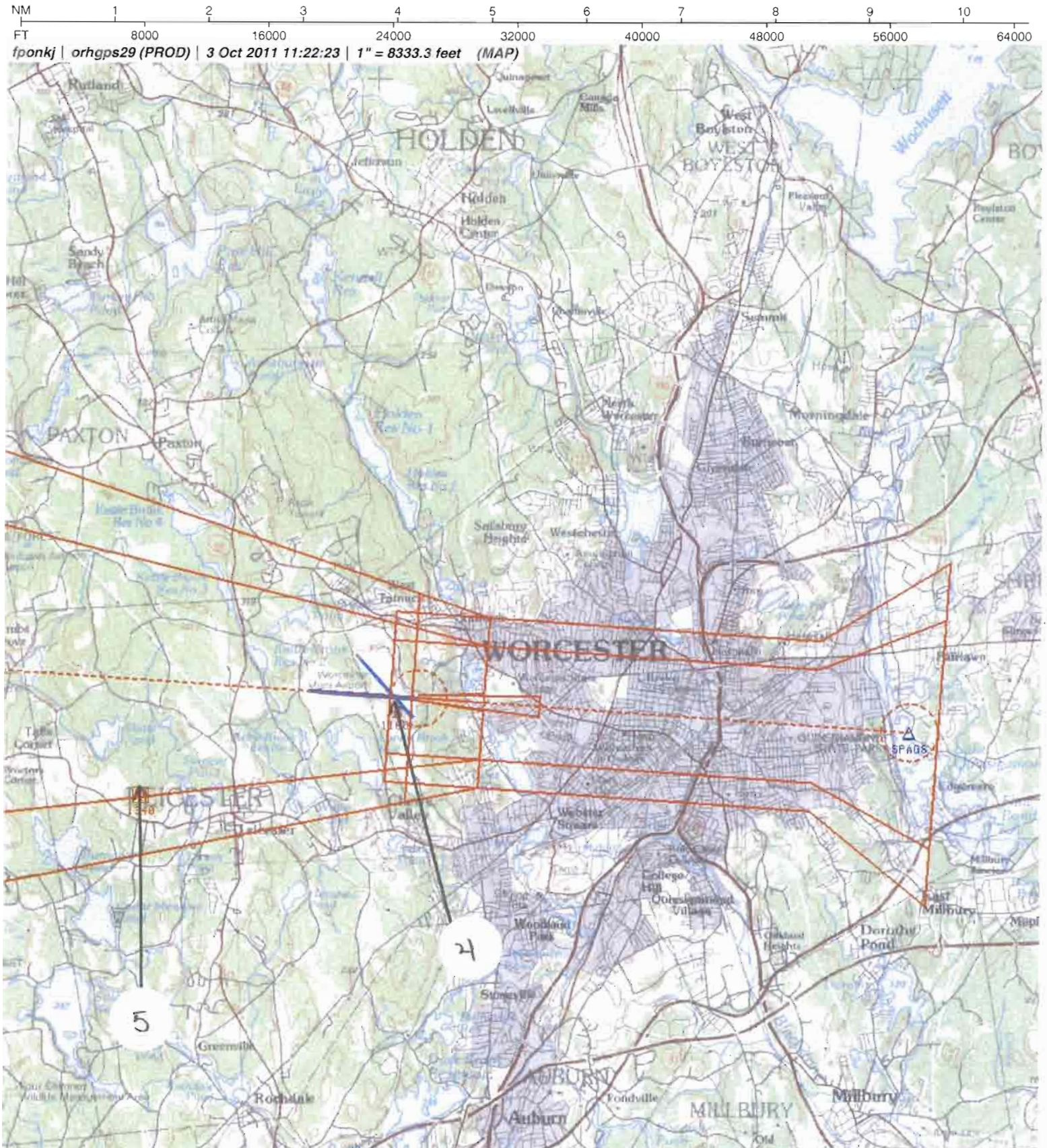
TDZ/CL Rwy 11
REIL Rwys 15, 29 and 33
HIRL Rwy 11-29 L
MIRL Rwy 15-33 L



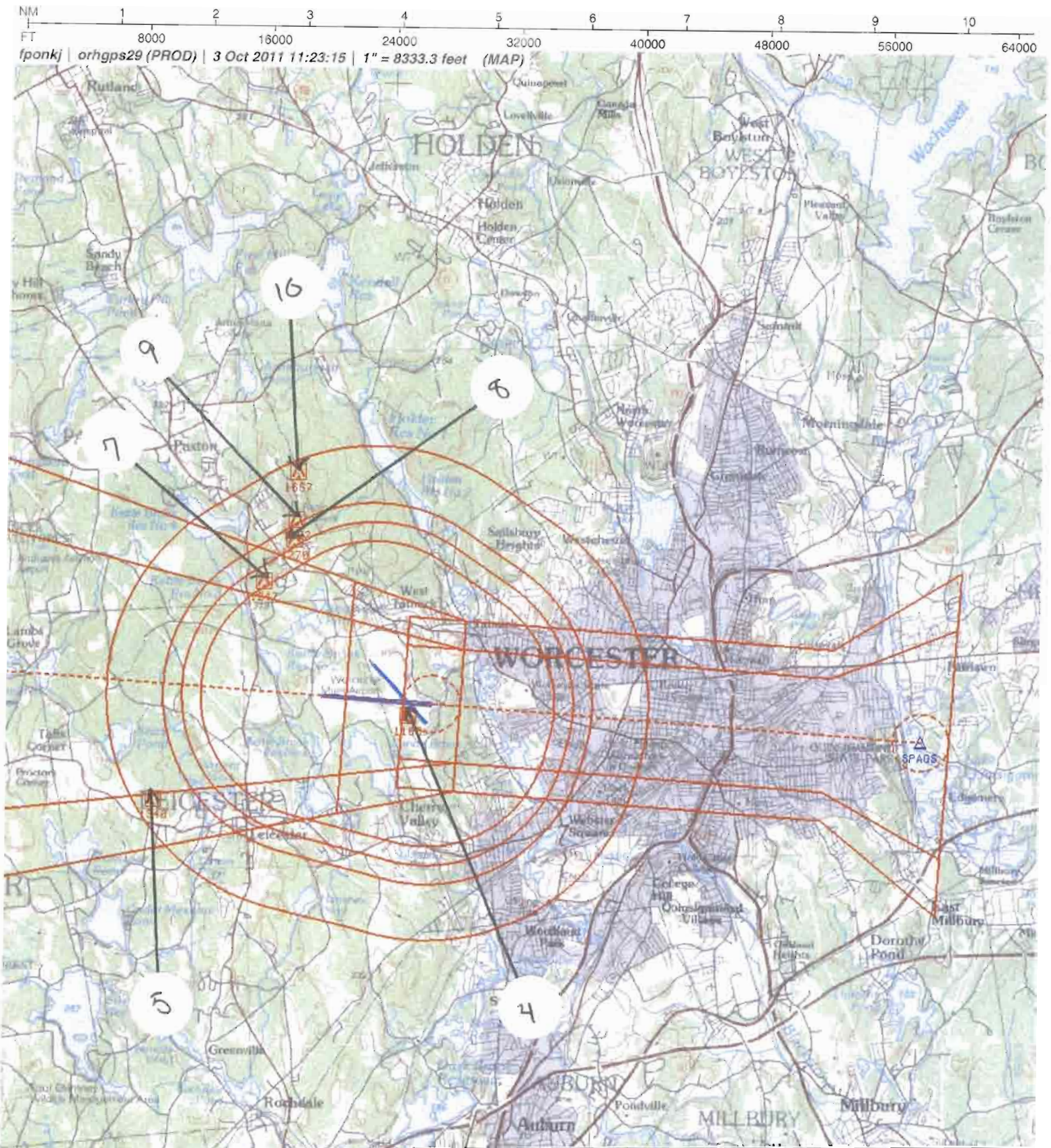
Airport ID:	KORH	FM 9			
Apt Name:	WORCESTER RGNL	No	SEGMENT	OBSTRUCTION	ELEV
City:	WORCESTER	1	INITIAL	AAO	922
State:	MA	1	INTERMEDIATE	AAO	922
Scale:	1:500,000	4	LNAV FINAL	TOWER	1100
ProcID:	RNAV (GPS) RWY 29	5	MISSED	TOWER	1340
Amdt.	1	#	HOLDING	AAO	1405



Airport ID:	KORH	FM 9			
Apt Name:	WORCESTER RGNL	No	SEGMENT	OBSTRUCTION	ELEV
City:	WORCESTER		LPV FINAL	ASC	
State:	MA	5	MISSED	TOWER	1340
Scale:	1:100,000				
ProcID:	RNAV (GPS) RWY 29				
Amdt.	1				



Airport ID:	KORH	FM 9			
Apt Name:	WORCESTER RGNL	No	SEGMENT	OBSTRUCTION	ELEV
City:	WORCESTER	4	LNAV/VNAV FINAL	TOWER	1100
State:	MA	5	MISSED	TOWER	1340
Scale:	1:100,000				
ProcID:	RNAV (GPS) RWY 29				
Amdt.	1				



Airport ID:	KORH	FM 9			
Apt Name:	WORCESTER RGNL	No	SEGMENT	OBSTRUCTION	ELEV
City:	WORCESTER	4	LNAV FINAL	TOWER	1100
State:	MA	5	MISSED	TOWER	1340
Scale:	1:100,000	7	CIRCLE A	TREE	1247
ProcID:	RNAV (GPS) RWY 29	8	CIRCLE B	TREE	1270
Amdt.	1	9	CIRCLE C	POLE	1402
		10	CIRCLE D	TOWER	1667

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
WHYBE (IF/IAF)	DEWEE (FB)	284.85 / 8.88	3000
DEWEE (IF)	SPAGS (FB)	289.03 / 5.92	2700
SPAGS (FAF)	RW29 (MAP) (FO)	288.94 / 5.21	
RW29 (MAP)	1188 MSL	288.94	
1188 MSL	RILOC (FO)		3000

MISSED APPROACH

LPV: DA
LNAV/VNAV: DA
LNAV: RW29

CLIMB TO 3000 DIRECT RILOC AND HOLD.

ADDITIONAL FLIGHT DATA:
HOLD W, LT, 108.76 INBOUND.
CHART FAS OBST: 1100 CTRL TWR 421545N/0715214W
DISTANCE TO THLD FROM 200 HATH: 0.46 NM.
CHART VDP AT 1.00 MILES TO RW29*
*LNAV ONLY.
WAAS CHANNEL # 82299
REFERENCE PATH ID: W29A
LTP HAE: 272.5 M

1. PT ____ SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. PROFILE STARTS AT DEWEE
3. FAC: 288.94 FAF: SPAGS DIST FAF TO MAP: 5.21 THLD: 5.21
4. MIN. ALT: DEWEE 3000, SPAGS 2700
5. DIST TO THLD FROM OM: ____ MM: ____ IM: ____ 150 HAT: ____ 100 HAT: ____ GS ANT: ____
6. MIN GS INCPT: 2700 GS ALT AT: SPAGS 2700 OM: ____ MM: ____ IM: ____
7. GS ANGLE: 3.00 TCH: 53.5 34:1 IS CLEAR
8. MSA FROM: RW29 3300

MAG VAR: 15W EPOCH YEAR: 1995

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	1188	4000	200	1188	4000	200	1188	4000	200	1188	4000	200			
LNAV/VNAV DA	1261	4500	273	1261	4500	273	1261	4500	273	1261	4500	273			
LNAV MDA	1360	5500	372	1360	5500	372	1360	5500	372	1360	5500	372			
CIRCLING	1560	1	551	1640	1	631	1720	2	711	1980	3	971			

NOTES:
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -17C (2F) OR ABOVE 37C (98F).
CHART NOTE: DME/DME RNP-0.3 NA.
CHART NOTE: WHEN LOCAL ALTIMETER SETTING NOT RECEIVED, USE BEDFORD ALTIMETER SETTING AND INCREASE ALL DA 189 FEET AND ALL MDA 200 FEET; INCREASE LPV ALL CATS VISIBILITY TO 1 1/4, LNAV/VNAV ALL (SEE FORM 8260-10)

@ CAT D 1000-3
@ NA WHEN LOCAL WEATHER NOT AVAILABLE.

QUALITY 4 CHECKED

CITY AND STATE	ELEVATION: 1009 THRE: 988 AIRPORT NAME:	FACILITY IDENTIFIER:	PROCEDURE NO./AMDT NO./EFFECTIVE DATE:	SUP:
WORCESTER, MA	WORCESTER RGNL	RNAV	RNAV (GPS) RWY 29, AMDT 1	AMDT: ORIG-A
				DATED 05/04/2006

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

COORDINATED WITH:

ATA	AAT	ALPA	APA	AOPA	NBAA	OTHER (specify)
[X]	[ ]	[X]	[X]	[X]	[X]	[X] **ZBW, BDL APP CON, ORH ATCT, AIRPORT MANAGER**

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:

DEVELOPED BY		
NAME:	FIFO	DATE:
DONALD E. SMITH (NICHOLAS K. JACKSON)	**AJV-352**	**10/03/2011**

APPROVED BY		
NAME:	FIFO	DATE:
DARRYEL ADAMS MANAGER	**AJV-352**	

CHANGES:

1. FEEDER SEGMENT FROM GRAYM TO ZAMBE REMOVED.
2. INITIAL SEGMENT FROM ZAMBE TO DEWEE REMOVED.
3. PFAF NAME CHANGED FROM PUMPP TO SPAGS.
4. DIST FAF TO MAP AND THLD CHANGED FROM 5.13 TO 5.21.
5. TCH VALUE CHANGED FROM 53.6 TO 53.5.
6. LPV DA/HAT LOWERED FROM 1241/250 TO 1188/200.
7. LNAV/VNAV DA/HAT LOWERED FROM 1361/370 TO 1261/273.
8. LNAV/VNAV VISIBILITY LOWERED FROM 6000 TO 4500.
9. LNAV VISIBILITY CAT A/C RAISED FROM 5000 TO 5500. CAT D VISIBILITY LOWERED FROM 6000 TO 5500.
10. LNAV HAT RAISED FROM 369 TO 372.
11. CIRCLING CAT A MDA/HAA RIASED FROM 1540/530 TO 1560/551. CAT B/C HAA RIASED FROM 630/710 TO 631/711.
12. CAT D MDA/HAA LOWERED FROM 2000/990 TO 1980/971.
13. CONTINUE CLIMB-IN-HOLD REMOVED FROM MISSED APPROACH INSTRUCTIONS.
14. REDUCED HOLDING LEG LENGTH FROM 5 TO 4 NM.

REASONS:

1,2. REMOVED PER FPT REQUEST DUE TO 8260.54A MINIMUM LEG LENGTH REQUIREMENTS.
3. CHANGED PER ATC REQUEST.
4. 8260.54A L-V RNP PFAF FORMULA APPLIED.
5. UTILIZED ILS TCH VALUE.
6. MATCHED LPV MINIMUMS WITH ILS MINIMUMS.
7. MISSED APPROACH ADJUSTMENT NO LONGER REQUIRED.
8, 9. IAW 8260.3B CHNG 20 TABLE 3-5A.
10. CALCULATION ESTABLISHED UTILIZING THRE IN LIEU OF TDZE.
11. NEW CONTROLLING OBSTACLE AND THRE UTILIZED IN LIEU OF TDZE.
12. ACCURACY CODE ADJUSTMENT NO LONGER REQUIRED.
13. NO LONGER REQUIRED.
14. IAW 7130.3A TABLE 7.

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 aiport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or in feet RVR.

NOTES, (CONT.):
CATS VISIBILITY TO 1 1/2, LNAV CAT C/D VISIBILITY TO 1 5/8, CIRCLING CAT B VISIBILITY TO 1 1/4 AND CIRCLING CAT C VISIBILITY TO 2 3/4.
CHART NOTE: VDP AND BARO-VNAV NA WHEN USING BEDFORD ALTIMETER SETTING.
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT WHYBE ON V1-149 NORTHEAST BOUND.

CITY AND STATE		FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
WORCESTER, MA	**ELEVATION: 1009 THRE: 988** AIRPORT NAME: **WORCESTER RGNL**	**RNAV**	**RNAV (GPS) RWY 29, AMDT 1**	AMDT: **ORIG-A** DATED: **05/04/2006**

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

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:

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

FAS DATA BLOCK INFORMATION

DATA FIELD	DATA
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KORH
RUNWAY	RW29
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W29A
LTP/FTP LATITUDE	421557.7510N
LTP/FTP LONGITUDE	0715153.9650W
LTP/FTP ELLIPSOIDAL HEIGHT	+02725
FPAP LATITUDE	421603.7300N
FPAP LONGITUDE	0715353.7000W
THRESHOLD CROSSING HEIGHT (TCH)	00053.5
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	0616
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	35.0
CRC REMAINDER	70AF94B9

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K6
LTP ORTHOMETRIC HEIGHT	+03011
FPAP ORTHOMETRIC HEIGHT	+03011

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

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:

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

ARINC PACKET - 424-18 - RNAV (GPS)

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
WP      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   DEWEE K60    W     N42151181W071365693                      W0148     NAR           DEWEE
        SUSAEAENRT   RILOC K60    C     N42162456W072005646                      W0146     NAR           RILOC
        SUSAEAENRT   SPAGS K60    C     N42153649W071445410                      W0147     NAR           SPAGS
        SUSAEAENRT   WHYBE K60    C   L N42151383W071245953                      W0149     NAR           WHYBE

                 1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KORHK6AORH     0     070YHN42160170W071523220W015001009         1800018000C    MNAR    WORCESTER RGNL

                 1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KORHK6FR29   AWHYBE 010WHYBEK6EA0E  A    IF                                                18000                A JS
        SUSAP KORHK6FR29   AWHYBE 020DEWEEK6EA0EE B 010TF                    28490089    + 03000                            A JS
        SUSAP KORHK6FR29   R      010DEWEEK6EA0E  I    IF                                + 03000     18000                A JS
        SUSAP KORHK6FR29   R      020SPAGSK6EA1E  F 051TF                    28900059    + 02700                  RW29  K6PGA JS
        SUSAP KORHK6FR29   R      020SPAGSK6EA2WALPV       ALNAV/VNAV ALNAV                                                    JS
        SUSAP KORHK6FR29   R      030RW29 K6PG0GY M 031TF                    28890052      01041             -300          A JS
        SUSAP KORHK6FR29   R      040         0  M     CA                    2889        + 01188                            A JS
        SUSAP KORHK6FR29   R      050RILOCK6EA0EY      DF                                + 03000                            A JS
        SUSAP KORHK6FR29   R      060RILOCK6EA0EE  L   HM                    10880040    + 03000                            A JS

                 1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KORHK6GRW29    0070012889 N42155775W071515397-0100    +0272500988000054150I

                 1         2         3         4         5         6         7         8         9         0         1         2         3
PP      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KORHK6PR29   RW29 001 0000W29A0N4215577510W07151539650+027250300N4216037300W07153537000106750616000535F40035070AF94B9
        SUSAP KORHK6PR29   RW29 002E      +03011+03011LPV       82299
```

QUALITY 4 CHECKED

CITY AND STATE	ELEVATION: 1009 THRE: 988	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
WORCESTER, MA	AIRPORT NAME: WORCESTER RGNL	RNAV	RNAV (GPS) RWY 29, AMDT 1	AMDT: ORIG-A
				DATED: 05/04/2006

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

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:

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

```
                1         2         3         4         5         6         7         8         9         0         1         2         3
MSA     123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KORHK6SRW29 K6PG                0   18018003325                                                                    M
```

QUALITY CHECKED

CITY AND STATE	ELEVATION: 1009 THRE: 988	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
WORCESTER, MA	AIRPORT NAME: WORCESTER RGNL	RNAV	RNAV (GPS) RWY 29, AMDT 1	AMDT: ORIG-A
				DATED: 05/04/2006

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

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 STANDARD INSTRUMENT APPROACH PROCEDURE
FLIGHT STANDARDS SERVICE - 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 aiport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or in feet RVR.

ARINC FLIGHT INSPECTION SUMMARY - VERSION 424-18 - RNAV (GPS)

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE
	WHYBE	WHYBE	010	IAF	IF						
	WHYBE	DEWEE	020	IF	TF		FB	1.0	284.9(269.9T)	008.9	03000
		DEWEE	010	FACF	IF						03000
		SPAGS	020	FAF	TF		FB	0.5	289.0(274.0T)	005.9	02700
		RW29	030	MAP	TF		FO	0.3	288.9(273.9T)	005.2	01041

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE
		040		CA				288.9(273.9T)		01188
	RILOC	050		DF		FO				03000
	RILOC	060		HM	L	FO		108.8(093.8T)	004.0	03000

POINT DATA	WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
	DEWEE	N421511.81	W0713656.93	N4215.197	W07136.949
	RILOC	N421624.56	W0720056.46	N4216.409	W07200.941
	SPAGS	N421536.49	W0714454.10	N4215.608	W07144.902
	WHYBE	N421513.83	W0712459.53	N4215.231	W07124.992
	RW29	N421557.75	W0715153.97	N4215.963	W07151.900

RUNWAY DATA	RWY	THRESHOLD ELEVATION	TCH
	RW29	00988	54

CITY AND STATE	ELEVATION: 1009 THRE: 988 AIRPORT NAME:	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
WORCESTER, MA	WORCESTER RGNL	RNAV	RNAV (GPS) RWY 29, AMDT 1	AMDT: ORIG-A
				DATED: 05/04/2006

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

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:

STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

PART - A OBSTRUCTION DATA

1. APP SEGMENT	FROM	TO	OBSTRUCTION	COORDINATES	ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.
INITIAL	WHYBE	DEWEE	1. AAO	421424.00N/0713742.00W	922 (4E)	1000	AT1078	3000
			2. TERRAIN	421321.00N/0713639.00W	663 (700)		AS1500	2200
INTERMEDIATE	DEWEE	SPAGS	1. AAO	421424.00N/0713742.00W	922 (4E)	500	AC98 AT1180	2700
			3. TERRAIN	421424.00N/0713742.00W	722 (700)		AS1500	2200
FINAL: LPV	SPAGS	RW29				ASC		1188/200
FINAL: LNAV/VNAV	SPAGS	RW29	4. CTRL TWR	421545.26N/0715214.24W	1100 (1A)	23.44:1		1261/273
			(25-021918)					
FINAL: LNAV	SPAGS	RW29	4. CTRL TWR	421545.26N/0715214.24W	1100 (1A)	250		1360
			(25-021918)					
2. PROCEDURE TURN	NA							
3. MISSED APPROACH MAP:	DA / DA / RW29	RILOC				ASC		3000
			5. TWR (KORHT1864)	421451.50N/0715551.44W	1340 (1A)	1000		2400
ELEV:	1021/1100/1260		6. TERRAIN	421736.00N/0715445.00W	1224 (1200)		AS1500	2700

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		551	7. TREE (KORHT1042)	421709.35N/0715418.21W	1247 (1A)	300		1560
CATEGORY B	1.5 NM	450		631	8. TREE (KORHT1173)	421735.87N/0715351.96W	1270 (1A)	300	XP70	1640
CATEGORY C	1.7 NM	450		711	9. POLE (25-021974)	421748.58N/0715350.74W	1402 (1B)	300		1720
CATEGORY D	2.3 NM	550		971	10. TWR (KORHT1751)	421818.77N/0715349.32W	1667 (1A)	300		1980
CATEGORY E	4.5 NM	550								

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: RW29

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A
360-360	AAO	011/ 13.4	2215 (4E)	3300					

CITY AND STATE		FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
WORCESTER, MA	ELEVATION: 1009 AIRPORT NAME: WORCESTER RGNL	RNAV	RNAV (GPS) RWY 29, AMDT 1	ANE

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE	3. ALTIMETER SETTING
BDL APP CON ORH TOWER SATISFACTORY ON:	NWS / FAA / A/C — OTHER: ASOS	SOURCE: KORH / KBED DISTANCE: 0 / 28.79 HOURS REMOTE OPERATION:
X VHF X UHF HF	LOCATION: KORH	ADJUSTMENT: 0 / 189

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

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

6. RUNWAY MARKINGS	BASIC BSC-F 15	
	ALL WEATHER PIR-F 11, 29	
	INSTRUMENT NPI-F 33	
7. RUNWAY VISUAL RANGE	APPROACH 11, 29	
	MIDFIELD	
	ROLL OUT 11, 29	
8. GLIDE PATH	GP ANGLE: 3.00	ELEV RWY THRESHOLD: 987.9
	DISTANCE FROM RWY:	ELEV GP ANTENNA:
		THRESHOLD CROSSING HEIGHT: 53.5

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

10. WAIVERS: NONE

PART D - PREPARED BY: DONALD E. SMITH (NICHOLAS K. JACKSON)	DATE: 10/03/2011
TITLE: AERONAUTICAL INFORMATION SPECIALIST	OFFICE: AJV-352

PART C - REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

VGSI DATA: 3.00/53.6

RASS PRESSURE PATTERNS SAME
KORH 1009.0, KBED 132.6
RA = 188.9.
SEE ATTACHED AIRSPACE LETTER.

KORH AND KBED ARE ON SERVICE A

TAA NOT DEVELOPED PER ATC

80' VEGETATION UTILIZED PER PREVIOUS PROCEDURE

LPV SURFACE: 34:1

LNAV/VNAV SLOPE: 23.44:1

LPV, LNAV/VNAV AND LNAV HAVE THE SAME MISSED APPROACH AND INTERMEDIATE CONTROLLING OBSTRUCTIONS.

AVERAGE COLD TEMPERATURE BASED ON 5-YEAR HISTORY (2006-2010) ACT -17

LPV, LNAV/VNAV, AND LNAV PFAF/FAF COLOCATED WITH ILS OR LOC RWY 29 PFAF.

XP: TO RETAIN CURRENT MINIMA

RADIO FIX AND HOLDING DATA RECORD

NAME: DEWEE **STATE:** MA **COUNTRY:** US

LATITUDE/LONGITUDE: 421511.81N/0713656.93W **TYPE:** WP

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

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 29			KORH	WORCESTER	MA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2 **DATE OF REVISION:** 04/05/2012

REASON FOR REVISION:
UPDATED FIX USE
REMOVED KORH R29 AS FAC 1

DEVELOPED BY: **DATE:** 09/27/2011 **OFFICE:** AJV-352 **NAME:** DONALD SMITH (NICHOLAS JACKSON)

APPROVED BY: **DATE:** **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZBW
ATC FACILITY: BDL APP CON
OTHER: ORH ATCT

QUALITY 5 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: RILOC **STATE:** MA **COUNTRY:** US

LATITUDE/LONGITUDE: 421624.56N/0720056.46W **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	WORCESTER	I-RSR	LOC/DME		288.84	273.84	5.48	6.78	41175	2800	5400
2	GARDNER	GDM	VOR/DME	L	187.39	173.39		16.45		2800	5400

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	W		WP	288.76	108.76	L		4	3000	6000	5	6
2	W	I-RSR	LOC/DME	288.84	108.84	L	1		2800	6000	5	6

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	421903.00N/0715527.00W	1405	4E
2	200	AAO	421718.00N/0721100.00W	1388	4E

REASON FOR NONSTANDARD HOLDING:
PAT 1 ATC REQUEST

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED
8260.54A L-V RNP PFAF FORMULA APPLIED
I-RSR DME COORDINATES: 421605.50N/0715334.53W

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 11	1, 2	2	KORH	WORCESTER	MA (US)
IAP	RNAV (GPS) RWY 11			KORH	WORCESTER	MA (US)
IAP	RNAV(GPS) RWY 29		1	KORH	WORCESTER	MA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 04/05/2012

REASON FOR REVISION:
UPDATED FIX USE
ADDED PRECIPITOUS TERRAIN REMARK
MOVED HOLDING LIMITED REMARK TO RESTRICTIONS
REMOVED KORH R11 AS FAC 3
PAT 1 RAD/CRS/BRG AND CRS INBOUND CHANGED FROM 288.84/108.84 TO 288.76/108.76
FAC 2 MAG/TRUE BRG CHANGED FROM 187.08/173.08 TO 187.39/173.39
FAC 1 DME CHANGED FROM 5.39 TO 5.48
ADDED DIST FROM FACS
FIX MOVED 545.47 FEET WEST, COORDINATES UPDATED

DEVELOPED BY: **DATE:** 09/26/2011 **OFFICE:** AJV-352 **NAME:** DONALD SMITH (NICHOLAS JACKSON)

APPROVED BY: **DATE:** **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZBW
ATC FACILITY: BDL
OTHER: ORH TOWER

QUALITY CHECKED 5

RADIO FIX AND HOLDING DATA RECORD

NAME: SPAGS **STATE:** MA **COUNTRY:** US

LATITUDE/LONGITUDE: 421536.49N/0714454.10W **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	WORCESTER	I-EKW	LOC/DME		108.86	093.86	6.46	6.46	39248	2700	5400
2	PUTNAM	PUT	VOR/DME	H	027.14	013.14		18.77		2700	5400

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	I-EKW	LOC/DME	108.86	288.86	L	1		2700	5400	5	6
2	E		WP	108.94	288.94	L		4	2700	6000	5	6

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (25-000157)	422009.00N/0714255.00W	2049	5D
2	200	TOWER (25-000157)	422009.00N/0714255.00W	2049	5D

REASON FOR NONSTANDARD HOLDING:
PAT 1 ATC REQUEST

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS

REMARKS:
FIX NAME CHANGED FROM PUMPP TO SPAGS PER ATC REQUEST
PRECIPITOUS TERRAIN EVALUATION COMPLETED
8260.54 L-V RNP PFAF FORMULA APPLIED
I-EKW DME COORDINATES: 421605.50N/0715334.53W
PAT 1/2 OBSTACLE 4278FT IN SECONDARY

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 29	1, 2	1	KORH	WORCESTER	MA (US)
IAP	RNAV (GPS) RWY 11		2	KORH	WORCESTER	MA (US)
IAP	RNAV (GPS) RWY 29		2	KORH	WORCESTER	MA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 3 **DATE OF REVISION:** 04/05/2012

REASON FOR REVISION:
UPDATED FIX USE
ADDED PRECIPITOUS TERRAIN REMARK
MOVED HOLDING LIMITED REMARK TO RESTRICTIONS
REMOVED KORH R29 AS FAC 3
ADDED DIST FROM FAC
FAC 2 MAG/TRUE BRG CHANGED FROM 026.90/012.90 TO 027.14/013.14
PAT 2 RAD/CRS/BRG AND CRS INBOUND CHANGED FROM 108.86/288.86 TO 108.94/288.94
FAC 1 DME CHANGED FROM 6.38 TO 6.46
FIX MOVED 486.17 FEET EAST, COORDINATES UPDATED
REMOVED PAT 1 DME LEG LENGTH
LOWERED PAT 2 DME LEG LENGTH FROM 5 TO 4
LOWERED PAT 1 MAX ALTITUDE FROM 6000 TO 5400

DEVELOPED BY: **DATE:** 09/26/2011 **OFFICE:** AJV-352 **NAME:** DONALD SMITH (NICHOLAS JACKSON)

APPROVED BY: **DATE:** **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZBW
ATC FACILITY: BDL APP CON
OTHER: ORH ATCT

RADIO FIX AND HOLDING DATA RECORD

NAME: WHYBE **STATE:** MA **COUNTRY:** US

LATITUDE/LONGITUDE: 421513.83N/0712459.53W **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	BOSTON	BOS	VOR/DME	H	268.04	252.04	20.00	20.00		3000	17500
2	GARDNER	GDM	VOR/DME	L	135.34	121.34	33.48	33.48		3000	17500
3	PUTNAM	PUT	VOR/DME	H	060.72	046.72	26.17	26.17		3000	17500
4	STOGE	OW	LOM-NDB		317.14	302.14		15.10		3000	17500

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

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	LEG LENGTH DME	HOLDING ALTITUDES MIN	HOLDING ALTITUDES MAX	TEMPLATES MIN	TEMPLATES MAX
1	E	BOS	VORTAC	268.04	268.04	R	1-1 1/2		3000	17500	6	18
2	E		WP	088.04	268.04	R		4	3000	6000	5	6
3	SE	GDM	VORTAC	135.34	315.34	R	1-1 1/2		3000	17500	6	18
4	SE	OW	NDB	317.14	317.14	R	1-1 1/2		3000	17500	6	18

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (25-000031)	421837.00N/0711412.00W	1449	4D
2	200	TOWER (25-000031)	421837.00N/0711412.00W	1449	4D
3	200	TOWER (25-000196)	422048.00N/0712656.00W	826	5D
4	200	TOWER (25-000196)	422048.00N/0712656.00W	826	5D

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED
CHART FACILITY 3/4 AND PATTERN 1 LOW ENROUTE.
PATTERNS 3/4 ARE UNCHARTED ATC USE ONLY.
PATTERN 3 FROM FACILITY 2/3, PATTERN 4 FROM FACILITY 3/4.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE (US)
EN ROUTE	V1-419	1, 2, 3, 4				
IAP	RNAV (GPS) RWY 23		2	KBED	BEDFORD	MA (US)
IAP	RNAV (GPS) RWY 32		2	K1B9	MANSFIELD	MA (US)
IAP	ALT MISSED LOC RWY 35	2	3	KOWD	NORWOOD	MA (US)
IAP	RNAV (GPS) RWY 35			KOWD	NORWOOD	MA (US)
IAP	RNAV (GPS) RWY 29			KORH	WORCESTER	MA (US)
IAP	RNAV (GPS) RWY 3			KORH	WORCESTER	MA (US)
IAP	RNAV (GPS) RWY 23			KSFZ	PAWTUCKET	RI (US)

REQUIRED CHARTING: IAP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 7 **DATE OF REVISION:** 04/05/2012

REASON FOR REVISION:
UPDATED FIX USE
ADDED PRECIPITOUS TERRAIN REMARK
MOVED HOLDING LIMITED REMARK TO RESTRICTIONS
REMOVED FAC 3
ADDED DIST FROM FACS

DEVELOPED BY: **DATE:** 09/27/2011 **OFFICE:** AJV-352 **NAME:** DONALD SMITH (NICHOLAS JACKSON)

APPROVED BY: **DATE:** **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZBW
ATC FACILITY: BOS APP CON
OTHER: PVD APP CON

TERMINAL AIRSPACE DATA REQUIREMENTS

CITY: **WORCESTER** STATE: **MA**

AIRPORT NAME: **WORCESTER RGNL** ID: **KORH**

PROCEDURE: **RNAV (GPS) RWY 29** 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 **THLD** to 1000' point **3.01**
   (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 **273.94**
4. High Terrain in **FINAL** segment containing 1000' point **988**
5. Distance from **THLD** to 1500' point **4.81**
   (If 1500' point in PT maneuvering area or holding pattern note in remarks)
6. Width of **FINAL** segment at 1500' point **1.76**
7. True Course of **FINAL** segment containing 1500' point **273.94**
8. High Terrain in **FINAL** segment containing 1500' point **988**
9. Threshold Coordinates (if straight-in) ... **421557.75N** / **0715153.97W**
10. ARP Coordinates ..... **421601.70N** / **0715232.20W**
11. Runway Approach End and distance furthest from ARP.....RWY **11**
    Distance **.67** NM
12. FAF Coordinates ..... **421536.49N** / **0714454.10W**
    (Click to Select)

REMARKS: Approach/Drawing attached.