Flight Procedure Tracking Form	Action: FLIGHT CHECK	Task Type: IAP	Date Open: 04/04/2011	Task #: 2010120922661801002	Request #: 20101209226618
Procedure: RNAV (RNP) Z RWY 24 AMDT 1		Airport ID: KBHM	Airport: BIRMINGHAM-SHUTTLESWORTH INTL		Reimbursable #:
City: BIRMINGHAM	ST: AL	GPS #:		Estimated Chart Date: 12/15/2011	FICO #:
Fac ID:	Fac. Type: RNP	Specialist: MARLON ROBINSON			

Procedure Review

	Rec'd	Rel'd	Full Name	Comments
Lead:	05/27/2011	09/01/2011	JILL OLSON	
QA:	09/01/2011	09/02/2011	STEVEN SZUKALA	
Liaison:	09/02/2011		Terrell	

P1

Procedure Comments: ENROUTE **Remark Type:** INFORMATION

pkg 1 of 5

BIRMINGHAM, AL BIRMINGHAM-SHUTTLESWORTH INTL (KBHM) RNAV (RNP) Z RWY 24, AMDT 1 (RNP) ENROUTE-YES FC: 10.18.11 PUB: 12.15.11

ATTACHED FORMS: 8260-3; 8260-10; 8260-9; 8260-2(S): ACTAN, ORIG; AYUCE, ORIG; CRMSN, ORIG; ERIGE, REV 1; EUGNE, ORIG; HATCR, ORIG; HESGA, REV 1; HIPIX, ORIG; ISOJO, REV 1; JAVJA, REV 1; LISRE, ORIG; LOWGA-INT, REV 4; MOKEE, REV 1; MREKK, REV 1; NOCIM, REV 1; SPATT-INT, REV 11; UBWOF, REV 1; UHEJU, REV 1; UQGAM, REV 1; WEDEB, ORIG; WENDO-INT, REV 2; (INFO ONLY) HUKEV-INT, REV 1; VULCAN (VUZ) VTAC, REV 11; WADEG, ORIG; YACUR, ORIG.
CONTACT: DON SMITH, JILL OLSON, AJV-352 LEADS, 405.954.1036/0414:

APP CRS	Rwy ldg	10802
239°	THRE	641
	Apt Elev	650

RNAV (RNP) Z RWY 24

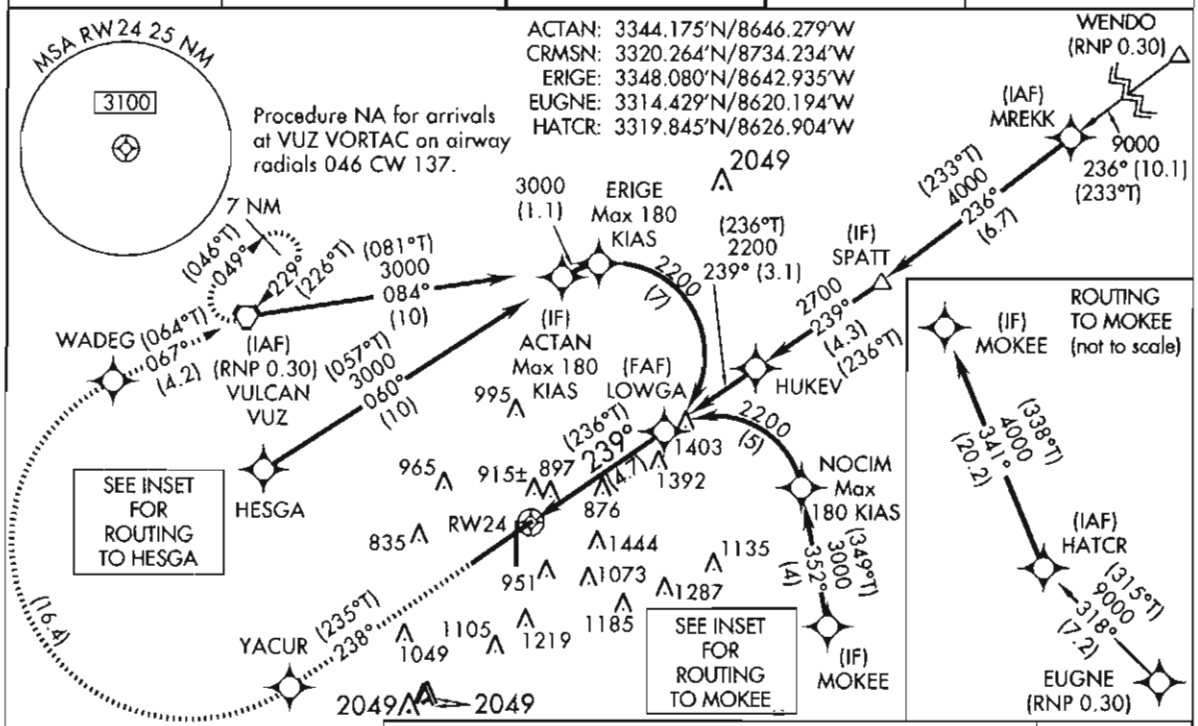
BIRMINGHAM-SHUTTLESWORTH INTL (BHM)

For uncompensated Baro-VNAV systems, procedure NA below -8°C (17°F) or above 47°C (117°F). RF required. GPS Required. For inoperative MALSR, increase RNP 0.15 all Cats visibility to 1⅝ mile. For inoperative MALSR, increase RNP 0.30 all Cats visibility to 2 mile.

MALSR

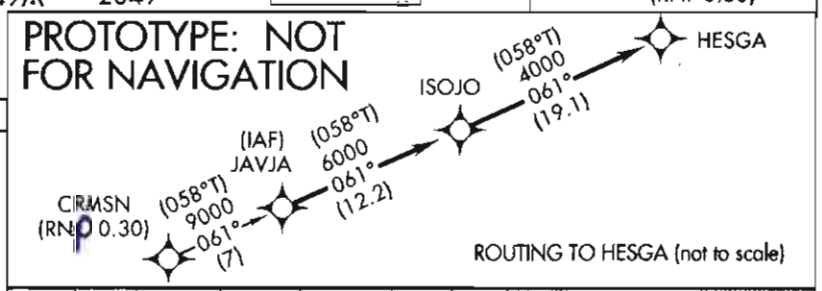
MISSED APPROACH: Climb to 3000 on track 238° to YACUR and right turn to WADEG and on track 067° to VUZ VORTAC and hold.

ATIS	BIRMINGHAM APP CON	BIRMINGHAM TOWER	GND CON	CLNC DEL
119.4 270.1	123.8 256.8	119.9 317.725	121.7 348.6	125.675 305.2



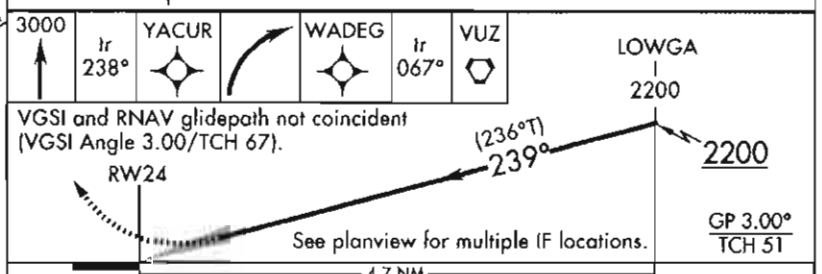
ELEV 650	THRE 641

PROTOTYPE: NOT FOR NAVIGATION



239° to RW24

HESGA: 3343.765'N/8656.499'W
ISOJO: 3331.642'N/8719.250'W
JAVJA: 3321.610'N/8726.410'W
LOWGA: 3345.850'N/8647.699'W
MOKEE: 3335.675'N/8637.365'W
MREKK: 3347.327'N/8627.772'W
NOCIM: 3338.930'N/8637.365'W
SPATT: 3342.680'N/8637.795'W
UBWOF: 3341.762'N/8663.137'W
UHEJU: 3343.205'N/8639.754'W
UQGAM: 3340.317'N/8647.335'W
WADEG: 3341.697'N/8662.592'W
WENDO: 3354.405'N/8621.212'W
YACUR: 3336.495'N/8656.230'W
VUZ: 3342.112'N/8662.880'W
HUKEV: 3345.564'N/8643.855'W
RW24: 3338.090'N/8647.474'W
REIL Rwy 18-36
TDZ/CL Rwy 6
HIRL Rwy 6-24
MIRL Rwy 18-36



CATEGORY	A	B	C	D
RNP 0.15 DA	1137/60 496 (500-1¼)			
RNP 0.30 DA	1243-1⅝ 602 (600-1⅝)			

AUTHORIZATION REQUIRED

AUTOMATED AL-50 RNAV (RNP) Z RWY 24

SE-4
10 AUG 2011
COMPILER: CW
REVIEWER:
DBL CHKR:
EFF: FIG
UID: 26374

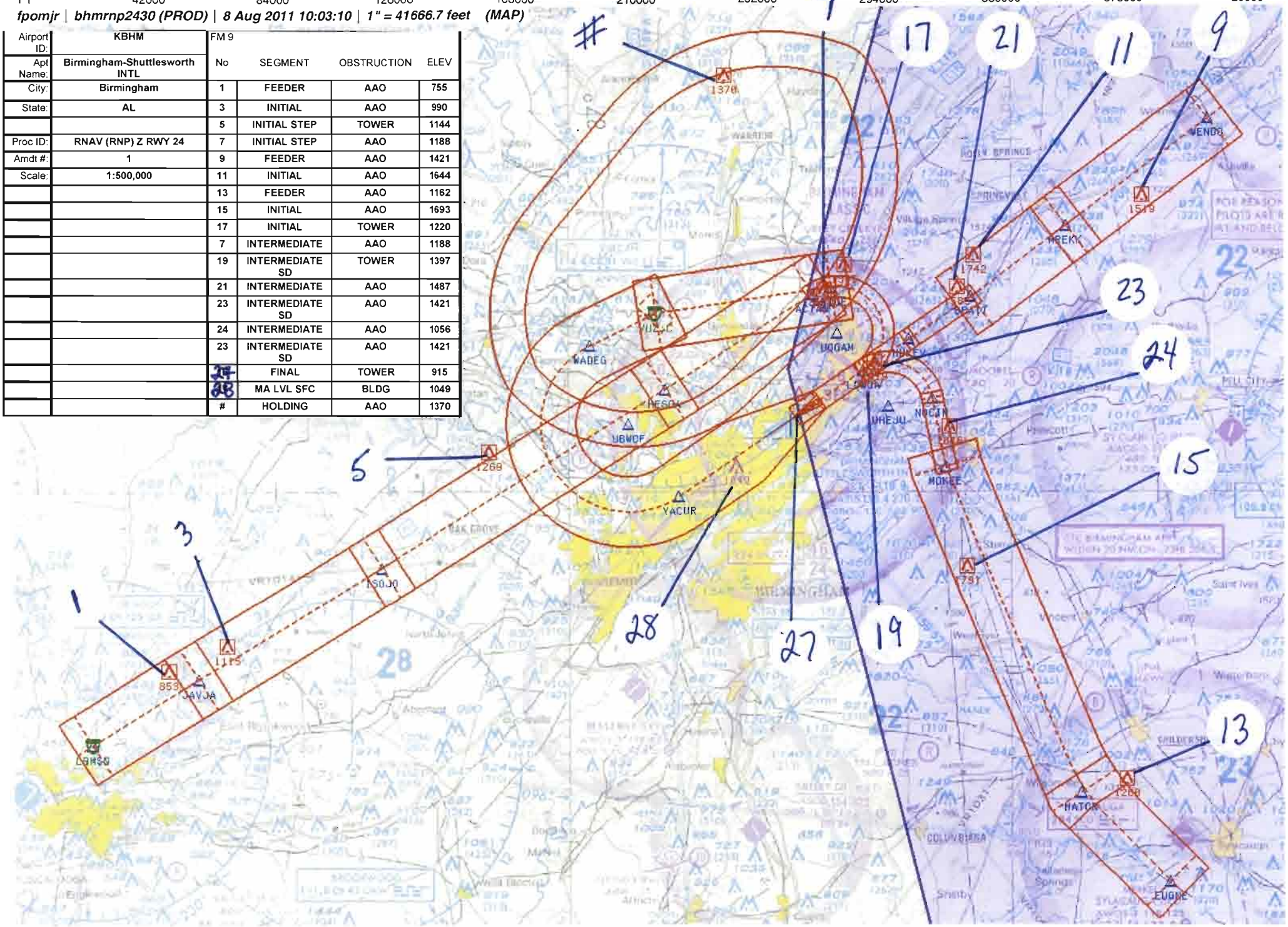
RNP 0.30

NM 7 14 21 28 35 42 49 56 63 70

FT 42000 84000 126000 168000 210000 252000 294000 336000 378000 420000

fpomjr | bhmrnp2430 (PROD) | 8 Aug 2011 10:03:10 | 1" = 41666.7 feet (MAP)

Airport ID:	KBHM	FM 9			
Apt Name:	Birmingham-Shuttlesworth INTL	No	SEGMENT	OBSTRUCTION	ELEV
City:	Birmingham	1	FEEDER	AAO	755
State:	AL	3	INITIAL	AAO	990
		5	INITIAL STEP	TOWER	1144
Proc ID:	RNAV (RNP) Z RWY 24	7	INITIAL STEP	AAO	1188
Amdt #:	1	9	FEEDER	AAO	1421
Scale:	1:500,000	11	INITIAL	AAO	1644
		13	FEEDER	AAO	1162
		15	INITIAL	AAO	1693
		17	INITIAL	TOWER	1220
		7	INTERMEDIATE	AAO	1188
		19	INTERMEDIATE SD	TOWER	1397
		21	INTERMEDIATE	AAO	1487
		23	INTERMEDIATE SD	AAO	1421
		24	INTERMEDIATE	AAO	1056
		23	INTERMEDIATE SD	AAO	1421
		27	FINAL	TOWER	915
		28	MA LVL SFC	BLDG	1049
		#	HOLDING	AAO	1370



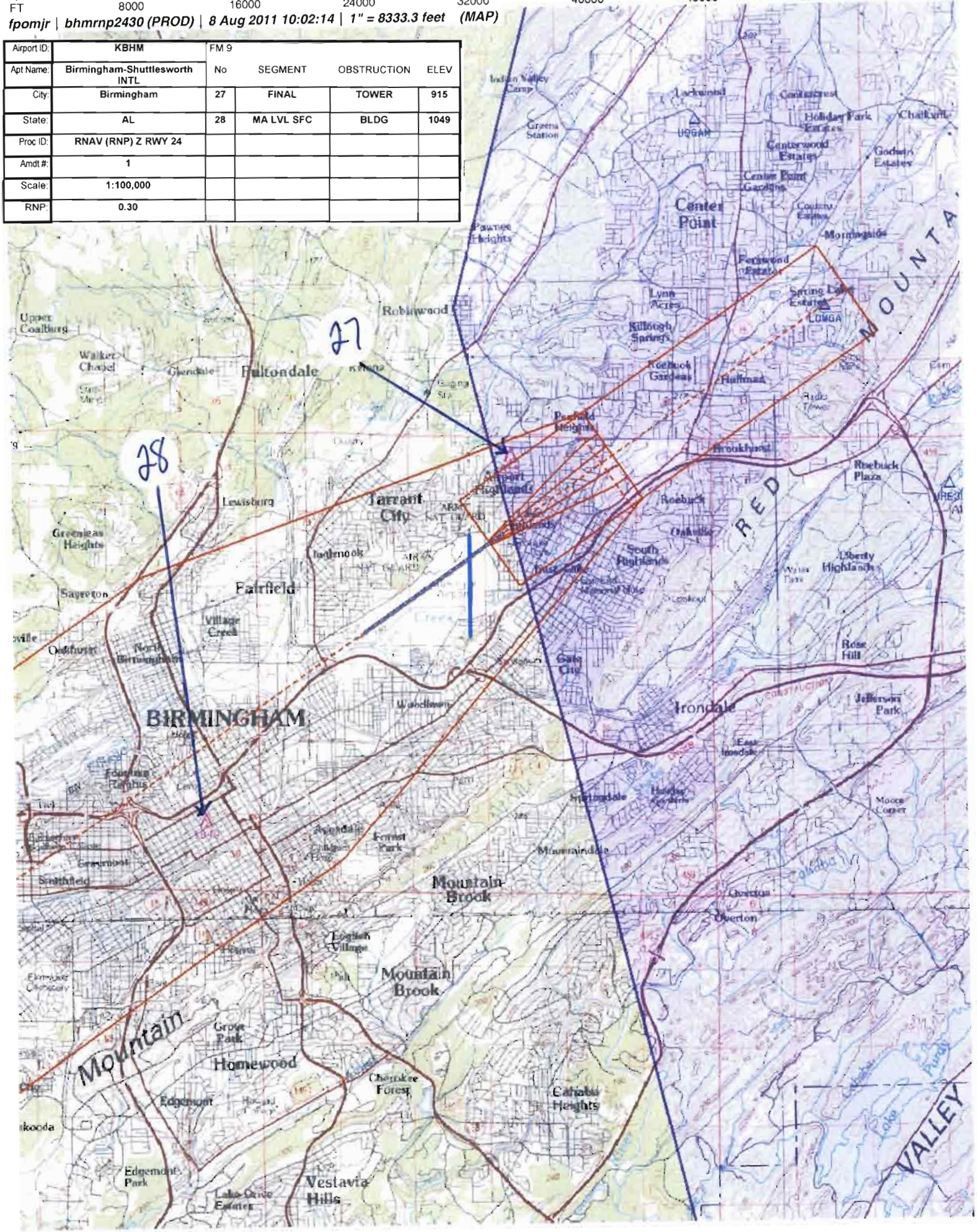
RNP 0.30

NM 1 2 3 4 5 6 7 8 9 10

FT 8000 16000 24000 32000 40000 48000 56000 64000

fpomjr | bhmrnp2430 (PROD) | 8 Aug 2011 10:02:14 | 1" = 8333.3 feet (MAP)

Airport ID:	KBHM	FM 9			
Apt Name:	Birmingham-Shuttlesworth INTL	No	SEGMENT	OBSTRUCTION	ELEV
City:	Birmingham	27	FINAL	TOWER	915
State:	AL	28	MA LVL SFC	BLDG	1049
Proc ID:	RNAV (RNP) Z RWY 24				
Amdt #:	1				
Scale:	1:100,000				
RNP:	0.30				



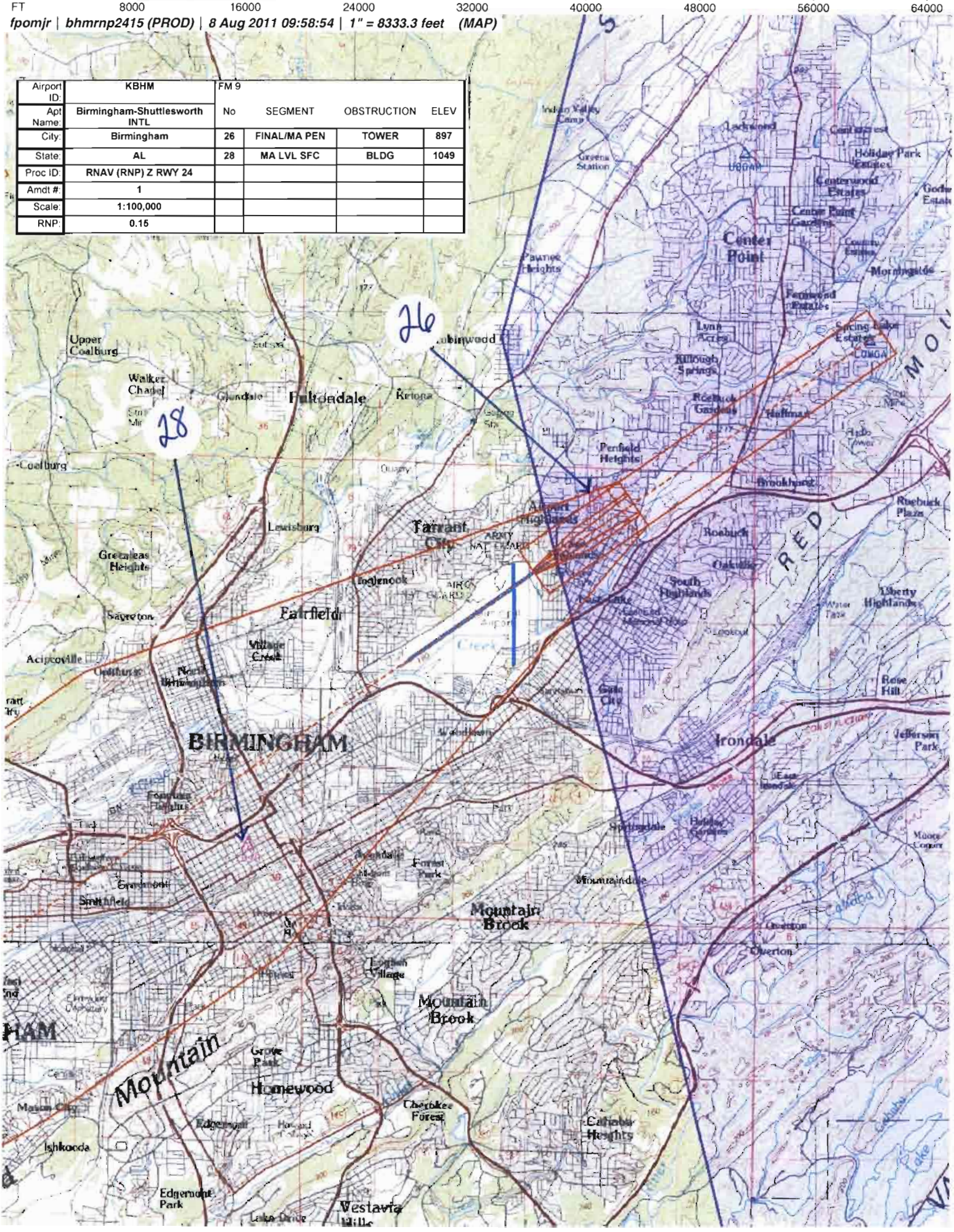
RNP 0.15

NM 1 2 3 4 5 6 7 8 9 10

FT 8000 16000 24000 32000 40000 48000 56000 64000

fpomjr | bhmrnp2415 (PROD) | 8 Aug 2011 09:58:54 | 1" = 8333.3 feet (MAP)

Airport ID:	KBHM	FM 9			
Apt Name:	Birmingham-Shuttlesworth INTL	No	SEGMENT	OBSTRUCTION	ELEV
City:	Birmingham	26	FINAL/MA PEN	TOWER	897
State:	AL	28	MA LVL SFC	BLDG	1049
Proc ID:	RNAV (RNP) Z RWY 24				
Amdt #:	1				
Scale:	1:100,000				
RNP:	0.15				



US DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

RNAV (RNP) - 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
CRMSN	JAVJA (TF) (FB) (RNP 1.00)	060.84 / 7.01	9000
JAVJA (IAF)	ISOJO (TF) (FB) (RNP 1.00)	061.37 / 12.20	6000
ISOJO	HESGA (TF) (FB) (RNP 1.00)	060.73 / 19.14	4000
HESGA	ACTAN (TF) (FB) (RNP 1.00)	059.97 / 9.98	3000
WENDO	MREKK (TF) (FB) (RNP 1.00)	235.89 / 10.10	9000
(SEE FORM 8260-10)			

MISSED APPROACH

RNP: DA

CLIMB TO 3000 ON TRACK 238.47 TO YACUR AND RIGHT TURN TO WADEG AND ON TRACK 066.76 TO VUZ VORTAC AND HOLD.

ADDITIONAL FLIGHT DATA:

HOLD NE, RT, 229.00 INBOUND.
CHART FAS OBST: 915 TOWER 333513N/0864414W
CHART FAS OBST: 897 TOWER 333508N/0864341W
DISTANCE TO THLD FROM 496 HATH: 1.40 NM.
ROUTE TYPE: A, R
ROUTE TYPE QUALIFIER 1: P
ROUTE TYPE QUALIFIER 2: S
#TCH 691.7 MSL (DO NOT CHART)

1. PT ____ SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. PROFILE STARTS AT LOWGA
3. FAC: 238.51 FAF: ____ DIST FAF TO MAP: ____ THLD: ____
4. MIN. ALT: ____
5. DIST TO THLD FROM OM: 4.74 MM: ____ IM: ____ 150 HAT: ____ 100 HAT: ____ GS ANT: ____
6. MIN GS INCPT: 2200 GS ALT AT: LOWGA 2200 OM: ____ MM: ____ IM: ____
7. GS ANGLE: 3.00 TCH: #51.2 34:1 IS CLEAR
8. MSA FROM: RW24 3200

MAG VAR: 3W 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 0.15 DA	1137	6000	496	1137	6000	496	1137	6000	496	1137	6000	496			
RNP 0.30 DA	1243	1 5/8	602	1243	1 5/8	602	1243	1 5/8	602	1243	1 5/8	602			

NOTES:
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, PROCEDURE NA BELOW -8C (17F) OR ABOVE 47C (117F).
CHART NOTE: RF REQUIRED.
CHART NOTE: GPS REQUIRED.
CHART PROFILE NOTE: VGSI AND RNAV GLIDEPATH NOT COINCIDENT.
(SEE FORM 8260-10)

@ NA WHEN LOCAL WEATHER NOT AVAILABLE.

QUALITY CHECKED 1

CITY AND STATE	ELEVATION: 650 THRE: 641 AIRPORT NAME:	FACILITY IDENTIFIER:	PROCEDURE NO./AMDT NO./EFFECTIVE DATE:	SUP:
BIRMINGHAM, AL	BIRMINGHAM-SHUTTLESWORTH INTL	RNAV	RNAV (RNP) Z RWY 24, AMDT 1	AMDT: ORIG-A
				DATED 07/28/2011

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 **ZTL, BHM APP CON, BHM ATCT, ARPT MGR**

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:

DEVELOPED BY		
NAME: **MARLON J. ROBINSON**	FIFO **AJV-352**	DATE: **08/04/2011**

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

CHANGES:

1. CHANGED TERMINAL ROUTE FROM CRIMSON VORTAC TO CRMSN WP TO JAVJA 060.84/7.00 TO 060.84/7.01.
2. DELETED TERMINAL ROUTES KYLEE TO WEDEB AND WEDEB TO MOKEE AND ADDED EUGNE TO HATCR AND HATCR TO MOKEE.
3. DELETED TERMINAL ROUTES HESGA TO LISRE AND LISRE TO ERIGE AND ADDED HESGA TO ACTAN AND ACTAN TO ERIGE.
4. DELETED TERMINAL ROUTES VUZ VORTAC TO LISRE AND ADDED VUZ VORTAC TO ERIGE.
5. CHANGED TERMINAL ROUTE HUKEV TO LOWGA DISTANCE FROM 3.18 TO 3.12.
6. CHANGED TERMINAL ROUTE ERIGE TO LOWGA DISTANCE FROM 6.98 TO 6.99.
7. CHANGED TERMINAL ROUTE MOKEE TO NOCIM DISTANCE FROM 4.00 TO 3.99 AND MINIMUMALTITUDE FROM 2400 TO 3000.
8. CHANGED TERMINAL ROUTE NOCIM TO LOWGA DISTANCE FROM 4.92 TO 4.96.
9. CHANGED TERMINAL ROUTE LOWGA TO RW24 DISTANCE FROM 4.68 TO 4.74.
10. CHANGED DIST TO THLD FROM OM FROM 4.68 TO 4.74.
11. CHANGED RNP 0.15 DA FROM MDA 1139/HAT 489 RVR 6000 TO MDA 1137/HATH 496.
12. CHANGED RNP 0.30 DA FROM MDA 1245/HAT 595 1 3/4 TO MDA 1243/HATH 602.
13. CHANGED DIST TO THLD FROM 489 TO 496 HATH AND 1.41 TO 1.40 NM.
14. CHANGED LINE 7 34:1 IS NOT CLEAR TO 34:1 IS CLEAR.

REASONS:

1, 2, 3, 4. MATCH CRMSN STAR.
5, 6, 7, 8, 9, 10. NEW 8260.54 L-V PFAF CALCULATIONS.
11, 12, 13. HAT TO HATH.
14. NO VISUAL SURFACE PENETRATIONS.

QUALITY

US DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

RNAV (RNP) - 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.

TERMINAL ROUTES, (CONT.):

FROM	TO	COURSE AND DISTANCE	ALTITUDE
MREKK (IAF)	SPATT (TF) (FB) (RNP 1.00)	235.80 / 6.71	4000
EUGNE	HATCR (TF) (FB) (RNP 1.00)	317.67 / 7.16	9000
HATCR (IAF)	MOKEE (TF) (FB) (RNP 1.00)	340.71 / 20.16	4000
VUZ VORTAC (IAF)	ERIGE (TF) (FB) (RNP 1.00)	084.38 / 10.04	3000
ACTAN (IF)	ERIGE (RF) (RNP 0.30)	(2.60 NM RADIUS CW (UQGAM))/1.11	3000
ERIGE (IF)	LOWGA (RF) (FB) (RNP 0.30)	(2.60 NM RADIUS CW (UQGAM))/6.99	2200
SPATT (IF)	HUKEV (TF) (FB) (RNP 0.30)	238.58 / 4.26	2700
HUKEV	LOWGA (TF) (FB) (RNP 0.30)	238.54 / 3.12	2200
MOKEE (IF)	NOCIM (TF) (FB) (RNP 0.30)	352.14 / 3.99	3000
NOCIM	LOWGA (RF) (FB) (RNP 0.30)	(2.50 NM RADIUS CCW (UHEJU))/4.96	2200
LOWGA (FAF)	RW24 (MAP) (TF) (FO)	238.51 / 4.74	
RW24 (MAP)	YACUR (TF) (FB) (RNP 1.00)	238.47 / 8.00	
YACUR	WADEG (RF) (FB)(RNP 1.00)	(5.00 NM RADIUS CW (UBWOF))/16.43	
WADEG	VUZ VORTAC (TF) (FO)(RNP 1.00)	066.76 / 4.16	3000

NOTES, (CONT.):
CHART PLANVIEW NOTE AT VUZ VORTAC, CRMSN, WENDO, EUGNE: (RNP 0.30).
CHART PROFILE NOTE: SEE PLANVIEW FOR MULTIPLE IF LOCATIONS.
CHART NOTE: FOR INOPERATIVE MALSR, INCREASE RNP 0.15 ALL CATS VISIBILITY TO 1 5/8 MILE.
CHART NOTE: FOR INOPERATIVE MALSR, INCREASE RNP 0.30 ALL CATS VISIBILITY TO 2 MILE.
CHART PLANVIEW NOTE AT ACTAN, ERIGE, NOCIM: MAX 180 KIAS.
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT VUZ VORTAC ON AIRWAY RADIALS 046 CW 137.

QUALITY 4 CHECKED

CITY AND STATE	ELEVATION: 650 THRE: 641	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
BIRMINGHAM, AL	AIRPORT NAME: BIRMINGHAM-SHUTTLESWORTH INTL	RNAV	RNAV (RNP) Z RWY 24, AMDT 1	AMDT: ORIG-A
				DATED: 07/28/2011

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**

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 (RNP)

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
NAVAID  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAD        VUZ   K7011440VTHA N33401267W086535928    N33401267W086535928E0020007502     NARVULCAN

                 1         2         3         4         5         6         7         8         9         0         1         2         3
WP      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   ACTAN K70    W     N33411905W086431967                      W0030     NAR           ACTAN
        SUSAEAENRT   CRMSN K70    W     N33153158W087321340                      W0023     NAR           CRMSN
        SUSAEAENRT   ERIGE K70    W     N33414248W086420561                      W0030     NAR           ERIGE
        SUSAEAENRT   EUGNE K70    W     N33074457W086190716                      W0032     NAR           EUGNE
        SUSAEAENRT   HATCR K70    W     N33124707W086251142                      W0031     NAR           HATCR
        SUSAEAENRT   HESGA K70    W     N33355259W086532099                      W0028     NAR           HESGA
        SUSAEAENRT   HUKEV K70    C     N33384538W086364713                      W0030     NAR           HUKEV
        SUSAEAENRT   ISOJO K70    W     N33253985W087124350                      W0026     NAR           ISOJO
        SUSAEAENRT   JAVJA K70    W     N33191566W087250846                      W0024     NAR           JAVJA
        SUSAEAENRT   LOWGA K70    C     N33365910W086395219                      W0030     NAR           LOWGA
        SUSAEAENRT   MOKEE K70    W     N33312805W086342019                      W0030     NAR           MOKEE
        SUSAEAENRT   MREKK K70    W     N33451396W086261063                      W0032     NAR           MREKK
        SUSAEAENRT   NOCIM K70    W     N33352358W086351419                      W0030     NAR           NOCIM
        SUSAEAENRT   SPATT K70    C   L N33411008W086323477                      W0031     NAR           SPATT
        SUSAEAENRT   UBWOF K70    W     N33335257W086554882                      W0028     NAR           CNF(UBWOF)
        SUSAEAENRT   UHEJU K70    W     N33345523W086381052                      W0030     NAR           CNF(UHEJU)
        SUSAEAENRT   UQGAM K70    W     N33390790W086413801                      W0030     NAR           CNF(UQGAM)
        SUSAEAENRT   WADEG K70    W     N33382218W086582755                      W0028     NAR           WADEG
        SUSAEAENRT   WENDO K70    C   L N33512043W086163127                      W0033     NAR           WENDO
        SUSAEAENRT   YACUR K70    W     N33294497W086522538                      W0028     NAR           YACUR

                 1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KBHMK7ABHM     0     120YHN33335000W086450830W003000650         1800018000C    MNAR    BIRMINGHAM-SHUTTLESWORTH INTL

                 1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KBHMK7FR24-Z ACRMSN 010CRMSNK7EA0E       IF                                          18000                A PS
        SUSAP KBHMK7FR24-Z ACRMSN 020JAVJAK7EA0E  A 010TF                    06080070    + 09000                         A PS
        SUSAP KBHMK7FR24-Z ACRMSN 030ISOJOK7EA0E    010TF                    06140122    + 06000                         A PS
        SUSAP KBHMK7FR24-Z ACRMSN 040HESGAK7EA0E    010TF                    06070191    + 04000                         A PS
        SUSAP KBHMK7FR24-Z ACRMSN 050ACTANK7EA0E  B 010TF                    06000100    + 03000          180            A-PS
        SUSAP KBHMK7FR24-Z ACRMSN 060ERIGEK7EA0E   R031RF       0026000600   08440011    + 03000          180    UQGAM K7EAA-PS
        SUSAP KBHMK7FR24-Z ACRMSN 070LOWGAK7EA0EE  R031RF       0026000844   23850070    + 02200                 UQGAM K7EAA PS
```

CITY AND STATE	ELEVATION: 650 THRE: 641	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
BIRMINGHAM, AL	AIRPORT NAME: **BIRMINGHAM-SHUTTLESWORTH INTL**	**RNAV**	**RNAV (RNP) Z RWY 24, AMDT 1**	AMDT: **ORIG-A**
				DATED: **07/28/2011**

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 KBHMK7FR24-Z AEUGNE 010EUGNEK7EA0E       IF                                          18000                A PS
SUSAP KBHMK7FR24-Z AEUGNE 020HATCRK7EA0E  A 010TF                    31770072    + 09000                         A PS
SUSAP KBHMK7FR24-Z AEUGNE 030MOKEEK7EA0E  B 010TF                    34070202    + 04000                         A PS
SUSAP KBHMK7FR24-Z AEUGNE 040NOCIMK7EA0E    031TF                    35210040    + 03000          180            A-PS
SUSAP KBHMK7FR24-Z AEUGNE 050LOWGAK7EA0EE  L031RF       0025003521   23850050    + 02200                UHEJU K7EAA PS
SUSAP KBHMK7FR24-Z AVUZ   010VUZ  K7D 0V  A    IF                                          18000                A PS
SUSAP KBHMK7FR24-Z AVUZ   020ERIGEK7EA0E  B 010TF                    08440100    + 03000          180            A-PS
SUSAP KBHMK7FR24-Z AVUZ   030LOWGAK7EA0EE  R031RF       0026000844   23850070    + 02200                UQGAM K7EAA PS
SUSAP KBHMK7FR24-Z AWENDO 010WENDOK7EA0E       IF                                          18000                A PS
SUSAP KBHMK7FR24-Z AWENDO 020MREKKK7EA0E  A 010TF                    23590101    + 09000                         A PS
SUSAP KBHMK7FR24-Z AWENDO 030SPATTK7EA0E  B 010TF                    23580067    + 04000                         A PS
SUSAP KBHMK7FR24-Z AWENDO 040HUKEVK7EA0E    031TF                    23860043    + 02700                         A PS
SUSAP KBHMK7FR24-Z AWENDO 050LOWGAK7EA0EE   031TF                    23850031    + 02200                         A PS
SUSAP KBHMK7FR24-Z R      020LOWGAK7EA1E  F    IF                                + 02200     18000       RW24 BK7PGA PS
SUSAP KBHMK7FR24-Z R      020LOWGAK7EA2W                                              A031A152                     PS
SUSAP KBHMK7FR24-Z R      030RW24 K7PG0GY M 031TF                    23850047      00692            -300           A PS
SUSAP KBHMK7FR24-Z R      040YACURK7EA0E M  010TF                    23850080                                     A PS
SUSAP KBHMK7FR24-Z R      050WADEGK7EA0E   R010RF       0050002385   06680164                           UBWOF K7EAA PS
SUSAP KBHMK7FR24-Z R      060VUZ  K7D 0VY   010TF                    06680042    + 03000                         A PS
SUSAP KBHMK7FR24-Z R      070VUZ  K7D 0VE  R   HM                    22900070    + 03000                         A PS
```

```
                1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KBHMK7GRW24    0120022385 N33341781W086443252-0400    +016630064112005115 0IIROE1
```

```
                1         2         3         4         5         6         7         8         9         0         1         2         3
MSA     123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KBHMK7SRW24 K7PGB              0   18018003225                                                                          M
```

QUALITY 1 CHECKED

CITY AND STATE	ELEVATION: 650 THRE: 641	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
BIRMINGHAM, AL	AIRPORT NAME: BIRMINGHAM-SHUTTLESWORTH INTL	RNAV	RNAV (RNP) Z RWY 24, AMDT 1	AMDT: ORIG-A
				DATED: 07/28/2011

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**

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 (RNP)

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	CRMSN	CRMSN	010		IF		FB					
	CRMSN	JAVJA	020	IAF	TF		FB	1.0	060.8(057.8T)	007.0	AA 09000	
	CRMSN	ISOJO	030		TF		FB	1.0	061.4(058.4T)	012.2	AA 06000	
	CRMSN	HESGA	040		TF		FB	1.0	060.7(057.7T)	019.1	AA 04000	
	CRMSN	ACTAN	050		TF		FB	1.0	060.0(057.0T)	010.0	AA 03000	AB 180
	CRMSN	ERIGE	060		RF	R	FB	0.3		001.1	AA 03000	AB 180
	CRMSN	LOWGA	070		RF	R	FB	0.3		007.0	AA 02200	
	EUGNE	EUGNE	010		IF		FB					
	EUGNE	HATCR	020	IAF	TF		FB	1.0	317.7(314.7T)	007.2	AA 09000	
	EUGNE	MOKEE	030		TF		FB	1.0	340.7(337.7T)	020.2	AA 04000	
	EUGNE	NOCIM	040		TF		FB	0.3	352.1(349.1T)	004.0	AA 03000	AB 180
	EUGNE	LOWGA	050		RF	L	FB	0.3		005.0	AA 02200	
	VUZ	VUZ	010	IAF	IF		FB					
	VUZ	ERIGE	020		TF		FB	1.0	084.4(081.4T)	010.0	AA 03000	AB 180
	VUZ	LOWGA	030		RF	R	FB	0.3		007.0	AA 02200	
	WENDO	WENDO	010		IF		FB					
	WENDO	MREKK	020	IAF	TF		FB	1.0	235.9(232.9T)	010.1	AA 09000	
	WENDO	SPATT	030		TF		FB	1.0	235.8(232.8T)	006.7	AA 04000	
	WENDO	HUKEV	040		TF		FB	0.3	238.6(235.6T)	004.3	AA 02700	
	WENDO	LOWGA	050		TF		FB	0.3	238.5(235.5T)	003.1	AA 02200	
		LOWGA	020	FAF	IF		FB				AA 02200	
		RW24	030	MAP	TF		FO	0.3	238.5(235.5T)	004.7	AT 00692	

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	YACUR	040		TF		FB	1.0	238.5(235.5T)	008.0		
	WADEG	050		RF	R	FB	1.0		016.4		
	VUZ	060		TF		FO	1.0	066.8(063.8T)	004.2	AA 03000	
	VUZ	070		HM	R	FO		229.0(226.0T)	007.0	AA 03000	

POINT DATA	WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
	VUZ	N334012.67	W0865359.28	N3340.211	W08653.988
	ACTAN	N334119.05	W0864319.67	N3341.318	W08643.328
	CRMSN	N331531.58	W0873213.40	N3315.526	W08732.223
	ERIGE	N334142.48	W0864205.61	N3341.708	W08642.094
	EUGNE	N330744.57	W0861907.16	N3307.743	W08619.119
	HATCR	N331247.07	W0862511.42	N3312.785	W08625.190
	HESGA	N333552.59	W0865320.99	N3335.877	W08653.350
	HUKEV	N333845.38	W0863647.13	N3338.756	W08636.786
	ISOJO	N332539.85	W0871243.50	N3325.664	W08712.725
	JAVJA	N331915.66	W0872508.46	N3319.261	W08725.141

QUALITY 1 CHECKED

CITY AND STATE	ELEVATION: 650 THRE: 641	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
BIRMINGHAM, AL	AIRPORT NAME: **BIRMINGHAM-SHUTTLESWORTH INTL**	**RNAV**	**RNAV (RNP) Z RWY 24, AMDT 1**	AMDT: **ORIG-A**
				DATED: **07/28/2011**

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.

LOWGA	N333659.10	W0863952.19	N3336.985	W08639.870
MOKEE	N333128.05	W0863420.19	N3331.468	W08634.337
MREKK	N334513.96	W0862610.63	N3345.233	W08626.177
NOCIM	N333523.58	W0863514.19	N3335.393	W08635.237
SPATT	N334110.08	W0863234.77	N3341.168	W08632.580
UBWOF	N333352.57	W0865548.82	N3333.876	W08655.814
UHEJU	N333455.23	W0863810.52	N3334.921	W08638.175
UQGAM	N333907.90	W0864138.01	N3339.132	W08641.634
WADEG	N333822.18	W0865827.55	N3338.370	W08658.459
WENDO	N335120.43	W0861631.27	N3351.341	W08616.521
YACUR	N332944.97	W0865225.38	N3329.750	W08652.423
RW24	N333417.81	W0864432.52	N3334.297	W08644.542

RUNWAY DATA

RWY	THRESHOLD ELEVATION	TCH
RW24	00641	51

QUALITY 1 CHECKED

CITY AND STATE	ELEVATION: 650 THRE: 641	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
BIRMINGHAM, AL	AIRPORT NAME: BIRMINGHAM-SHUTTLESWORTH INTL	RNAV	RNAV (RNP) Z RWY 24, AMDT 1	AMDT: ORIG-A
				DATED: 07/28/2011

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 (RNP 1.00)	CRMSN	JAVJA	1. AAO	331918.00N/0872706.00W	755 (4E)	1000	AC98 AT7147	9000
			2. TERRAIN	331924.00N/0872915.00W	555 (600)		AS1500	2100
INITIAL (RNP 1.00)	JAVJA	ISOJO	3. AAO	332046.00N/0872615.00W	990 (5E)	1000	AC98 AT3912	6000
			4. TERRAIN	332157.00N/0871600.00W	785 (800)		AS1500	2300
INITIAL STEPDOWN (RNP 1.00)	ISOJO	HESGA	5. TOWER (01-001621)	333150.00N/0870523.00W	1144 (5E)	1000	AC125 AT1731	4000
			6. TERRAIN	333430.00N/0865536.00W	801 (800)		AS1500	2300
INITIAL STEPDOWN (RNP 1.00)	HESGA	ACTAN	7. AAO	334109.00N/0864230.00W	1188 (4E)	1000	AC98 AT714	3000
			8. TERRAIN	334109.00N/0864318.00W	968 (1000)		AS1500	2500
FEEDER (RNP 1.00)	WENDO	MREKK	9. AAO	334633.00N/0862100.00W	1421 (4E)	2000	AC98 AT5481	9000
			10. TERRAIN	334633.00N/0862100.00W	1221 (1200)		AS1500	2700
INITIAL (RNP 1.00)	MREKK	SPATT	11. AAO	334306.00N/0863224.00W	1644 (4E)	1000	AC98 AT1258	4000
			12. TERRAIN	334306.00N/0863224.00W	1444 (1400)		AS1500	2900
FEEDER (RNP 1.00)	EUGNE	HATCR	13. AAO	331309.00N/0862206.00W	1162 (4E)	2000	AC98 AT5740	9000
			14. TERRAIN	331309.00N/0862206.00W	962 (1000)		AS1500	2500

3. MISSED APPROACH	
MAP:	
ELEV:	

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

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: RW24

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A
360-360	TWR (01-000992)	048/ 20.7	2065 (5E)	3200					

CITY AND STATE		FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
BIRMINGHAM, AL	ELEVATION: 650 AIRPORT NAME: BIRMINGHAM-SHUTTLESWORTH INTL	RNAV	RNAV (RNP) Z RWY 24, AMDT 1	ASO

QUALITY CHECKED

PART B - SUPPLEMENTAL DATA

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

4. MONITOR STATUS	PRIMARY NAVAID:	
	MONITOR POINT:	
	HRS OPTN:	CAT 1
		CAT 3
5. APPROACH & RUNWAY LIGHTING	X	ALSF-2 06
		(S) SALS
	X	MALSR 24
	X	HIRL 24, 06
	X	MIRL 18, 36
	X	REIL 18, 36
	X	TDZ 06
	X	C/L 24, 06
	X	OTHER (SPECIFY) PAPI-4R 18 PAPI-4L 24, 06
6. RUNWAY MARKINGS	BASIC	
	ALL WEATHER	PIR-G 24, 06
	INSTRUMENT	NPI-G 18, 36
7. RUNWAY VISUAL RANGE	APPROACH	24, 06
	MIDFIELD	24, 06
	ROLL OUT	24, 06
8. GLIDE PATH	GP ANGLE: 3.00	ELEV RWY THRESHOLD: 640.5
	DISTANCE FROM RWY:	ELEV GP ANTENNA:
		THRESHOLD CROSSING HEIGHT: 51.2
9. FINAL APPROACH COURSE AIMING	X	RUNWAY THRESHOLD FT. FROM THRESHOLD
	X	ON CENTERLINE FT. FROM CENTERLINE

10. WAIVERS: NONE

PART D - PREPARED BY: MARLON J. ROBINSON	DATE: 08/04/2011
TITLE: AERONAUTICAL INFORMATION SPECIALIST	OFFICE: AJV-352

PART C - REMARKS:

THRESHOLD DISPLACED 1200 FT.

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

VGSI DATA: 3.00/67.3
ASOS IS ON SERVICE A.
34:1 IS CLEAR.

11. PER AFS 460 ADDED: CHART PROFILE NOTE: SEE PLANVIEW FOR MULTIPLE IF LOCATIONS.

SEE ATTACHED AIRSPACE LETTER.

SEE ATTACHED VEB SPREADSHEETS.

RNP 0.15
ACT = -8C
TF DISTANCE VEB = 2641.96FT
OCS SLOPE = 20.89
AIRPORT ISA = 13.7
ISA DEVIATION = -22

RNP 0.30
ACT = -8C
TF DISTANCE VEB = 3729.12FT
OCS SLOPE = 20.87
AIRPORT ISA = 13.7
ISA DEVIATION = -22

SEGMENT	ALT	KIAS	KTAS	HAA	VKTW	TR	BA
ACTAN - ERIGE	3000	180	194	2350	54	2.60	19.07
ERIGE - LOWGA	2200	180	193	1550	51	2.60	18.54
NOCIM - LOWGA	2200	180	192	1550	50	2.50	18.92
YACUR - WADEG	3000	265	280	2350	50	5.00	17.72

ACTAN TO ERIGE - 180 KIAS
ERIGE TO LOWGA - 180 KIAS.
NOCIM TO LOWGA - 180 KIAS.

INTERMEDIATE REDUCED RNP FOR OBSTACLES AND DTA.

QUALITY 1 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.
INITIAL (RNP 1.00)	HATCR	MOKEE	15. AAO	332521.00N/0863251.00W	1693 (4E)	1000	AC98 AT1209	4000
			16. TERRAIN	332521.00N/0863251.00W	1493 (1500)		AS1500	3000
INITIAL (RNP 1.00)	VUZ VORTAC	ERIGE	17. TOWER (01-001466)	334234.00N/0864109.00W	1220 (5E)	1000	AC125 AT655	3000
			18. TERRAIN	334109.00N/0864318.00W	988 (1000)		AS1500	2500
INTERMEDIATE (RNP 0.30)	ACTAN	ERIGE	7. AAO	334109.00N/0864230.00W	1188 (4E)	500	AC98 AT1214	3000
			18. TERRAIN	334109.00N/0864318.00W	988 (1000)		AS1500	2500
INTERMEDIATE STEPDOWN	ERIGE	LOWGA	19. TOWER (01-000137)	333638.00N/0863920.00W	1397 (4D)	500	AC50	2000
(RNP 0.30)			20. TERRAIN	333700.00N/0863906.00W	1221 (1200)		AS1000	2200
INTERMEDIATE (RNP 0.30)	SPATT	HUKEV	21. AAO	334118.00N/0863333.00W	1487 (4E)	500	AC98 AT615	2700
			22. TERRAIN	334118.00N/0863333.00W	1287 (1300)		AS1000	2300
INTERMEDIATE STEPDOWN	HUKEV	LOWGA	23. AAO	333700.00N/0863906.00W	1421 (4E)	500	AC98	2100
(RNP 0.30)			20. TERRAIN	333700.00N/0863906.00W	1221 (1200)		AS1000	2200
INTERMEDIATE (RNP 0.30)	MOKEE	NOCIM	24. TOWER (01-001770)	333320.00N/0863403.00W	1056 (2C)	500	AT1424 AC20	3000
			25. TERRAIN	333215.00N/0863500.00W	926 (900)		AS1500	2400
INTERMEDIATE STEPDOWN	NOCIM	LOWGA	23. AAO	333700.00N/0863906.00W	1421 (4E)	500	AC98	2100
(RNP 0.30)			20. TERRAIN	333700.00N/0863906.00W	1221 (1200)		AS1000	2200
3. MISSED APPROACH MAP:								
ELEV:								

4. CIRCLING AREA	DISTANCE	REQUIRED HT. ABV. ARPT.	ACTUAL HT. ABV. ARPT.
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:

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

CITY AND STATE		FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
BIRMINGHAM, AL	ELEVATION: 650 AIRPORT NAME: BIRMINGHAM-SHUTTLESWORTH INTL	RNAV	RNAV (RNP) Z RWY 24, AMDT 1	ASO

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:

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 (RNP 0.15)	LOWGA	RW24	26. TOWER (01-001134)	333508.00N/0864341.00W	897 (1A)	20.89:1	AC3 MA22	1137/496
FINAL (RNP 0.30)	LOWGA	RW24	27. TOWER (01-006197)	333513.00N/0864414.00W	915 (4D)	20.87:1	AC50	1243/602
MISSED APPROACH	DA	RW24 (40:1)	26. TOWER (01-001134)	333508.00N/0864341.00W	897 (1A)	ASC	AC3	
(RNP 0.15-1.00)								
MISSED APPROACH	DA	RW24 (40:1)				ASC		
(RNP 0.30-1.00)								
MISSED APPROACH	RW24	YACUR (40:1)				ASC		
(RNP 0.15-1.00)								
MISSED APPROACH	RW24	YACUR (40:1)				ASC		
(RNP 0.30-1.00)								
MISSED APPROACH (RNP 1.00)(RF)	YACUR	WADEG (40:1)				ASC		
MISSED APPROACH (RNP 1.00)	WADEG	VUZ VORTAC (40:1)				ASC		
MISSED APPROACH	DA	VUZ VORTAC						
(RNP 0.30-1.00)		LEVEL SURFACE	28. BLDG (01-000936)	333104.00N/0864830.00W	1049 (5E)	1000	AC125, MEA826	3000
		AIRSPACE	29. TERRAIN	333500.00N/0864424.00W	860 (900)		AS1500	2400

2. PROCEDURE TURN		NA
3. MISSED APPROACH	MAP:	DA (SEE ABOVE)
	ELEV:	875/920

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:

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

CITY AND STATE		FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
BIRMINGHAM, AL	ELEVATION: 650 AIRPORT NAME: BIRMINGHAM-SHUTTLESWORTH INTL	RNAV	RNAV (RNP) Z RWY 24, AMDT 1	ASO

RADIO FIX AND HOLDING DATA RECORD

NAME: ACTAN **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 334119.05N/0864319.67W **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 24			KBHM	BIRMINGHAM	AL (US)
STAR	CHOOK (RNAV)			KBHM	BIRMINGHAM	AL (US)
STAR	CRMSN (RNAV)			KBHM	BIRMINGHAM	AL (US)

REQUIRED CHARTING: STAR, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 12/15/2011

DEVELOPED BY: **DATE:** 06/14/2011 **OFFICE:** AJV-352 **NAME:** MARLON ROBINSON

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

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON
OTHER:

4

RADIO FIX AND HOLDING DATA RECORD

NAME: AYUCE **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 333529.62N/0865517.75W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (RNP) Z RWY 6			KBHM	BIRMINGHAM	AL (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 09/23/2010

DEVELOPED BY: **DATE:** 03/12/2010 **OFFICE:** AVN-110 **NAME:** MARLON ROBINSON

APPROVED BY: **DATE:** **OFFICE:** AVN-110 **NAME:** GEORGE DAVIS

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON, BHM ATCT
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: CRMSN **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 331531.58N/0873213.40W **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 24			KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (RNP) Z RWY 6			KBHM	BIRMINGHAM	AL (US)
STAR	CRMSN (RNAV)			KBHM	BIRMINGHAM	AL (US)

REQUIRED CHARTING: STAR, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 12/15/2011

DEVELOPED BY: **DATE:** 07/22/2011 **OFFICE:** AJV-352 **NAME:** MARLON ROBINSON

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON
OTHER: ZME

RADIO FIX AND HOLDING DATA RECORD

NAME: ERIGE **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 334142.48N/0864205.61W **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 (RNP) Z RWY 24			KBHM	BIRMINGHAM	AL (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 12/15/2011

REASON FOR REVISION:
MOVED FIX 330 FT NE.

DEVELOPED BY: **DATE:** 07/20/2011 **OFFICE:** AJV-352 **NAME:** MARLON ROBINSON

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON, BHM ATCT
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: EUGNE **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 330744.57N/0861907.16W **TYPE:** WP

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

HOLDING: **HOLDING TYPE OF ACTION:** ESTABLISH

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	137.67	317.67	L		10	11000	17500	16	17

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	230	TOWER (01-001615)	330446.30N/0861014.50W	1666	2C

REASON FOR NONSTANDARD HOLDING:
PAT 1 ATC REQUEST

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERN.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.
PAT 1 - 10NM LEGS REQUESTED BY ATC.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (RNP) Z RWY 24			KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (RNP) Z RWY 6			KBHM	BIRMINGHAM	AL (US)
STAR	EUGNE (RNAV)		1	KBHM	BIRMINGHAM	AL (US)

REQUIRED CHARTING: STAR, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 12/15/2011

DEVELOPED BY: **DATE:** 07/19/2011 **OFFICE:** AJV-352 **NAME:** MARLON ROBINSON

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

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: HATCR **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 331247.07N/0862511.42W **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 24			KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (RNP) Z RWY 6			KBHM	BIRMINGHAM	AL (US)
STAR	EUGNE (RNAV)			KBHM	BIRMINGHAM	AL (US)

REQUIRED CHARTING: STAR, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 12/15/2011

DEVELOPED BY: **DATE:** 06/14/2011 **OFFICE:** AJV-352 **NAME:** MARLON ROBINSON

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: HESGA **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 333552.59N/0865320.99W **TYPE:** WP

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

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (RNP) Z RWY 24			KBHM	BIRMINGHAM	AL (US)
STAR	CRMSN (RNAV)			KBHM	BIRMINGHAM	AL (US)

REQUIRED CHARTING: STAR, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 12/15/2011

REASON FOR REVISION:
UPDATED FIX USE.
ADDED STAR TO REQUIRED CHARTING.

DEVELOPED BY: **DATE:** 07/20/2011 **OFFICE:** AJV-352 **NAME:** MARLON ROBINSON

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

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON, BHM ATCT
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: HIPIX **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 331650.39N/0863416.98W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (RNP) Z RWY 6			KBHM	BIRMINGHAM	AL (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 09/23/2010

DEVELOPED BY: **DATE:** 09/10/2009 **OFFICE:** AVN-110 **NAME:** MARLON ROBINSON

APPROVED BY: **DATE:** **OFFICE:** AVN-110 **NAME:** GEORGE DAVIS

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: ISOJO **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 332539.85N/0871243.50W **TYPE:** WP

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

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (RNP) Z RWY 24			KBHM	BIRMINGHAM	AL (US)
STAR	CRMSN (RNAV)			KBHM	BIRMINGHAM	AL (US)

REQUIRED CHARTING: STAR, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 12/15/2011

REASON FOR REVISION:
UPDATED FIX USE.
ADDED STAR TO REQUIRED CHARTING.

DEVELOPED BY: **DATE:** 07/20/2011 **OFFICE:** AJV-352 **NAME:** MARLON ROBINSON

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: JAVJA **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 331915.66N/0872508.46W **TYPE:** WP

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

HOLDING: **HOLDING TYPE OF ACTION:** ESTABLISH

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	SW		WP	240.84	060.84	R		10	6000	20000	16	18

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	230	TOWER (01-000975)	332851.00N/0872403.00W	2675	5E

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERN.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.
PAT 1 - 10 NM LEGS REQUESTED BY ATC FOR RNAV STAR.
PAT 1 CONTROLLING OBSTACLE LOCATED 1.24 NM INTO SECONDARY AREA.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (RNP) Z RWY 24			KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (RNP) Z RWY 6			KBHM	BIRMINGHAM	AL (US)
STAR	CRMSN (RNAV)		1	KBHM	BIRMINGHAM	AL (US)

REQUIRED CHARTING: STAR, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 12/15/2011

REASON FOR REVISION:
ADDED PAT 1 HOLDING DATA.
ADDED REMARKS: PRECIPITOUS TERRAIN EVALUATION COMPLETED, PAT 1 - 10 NM LEGS REQUESTED BY ATC FOR RNAV STAR AND PAT 1 CONTROLLING OBSTACLE LOCATED 1.24 NM INTO SECONDARY AREA.
ADDED HOLDING RESTRICTION NOTE: HOLDING LIMITED TO ESTABLISHED PATTERN.
UPDATED FIX USE.
ADDED STAR TO REQUIRED CHARTING.

DEVELOPED BY: **DATE:** 07/19/2011 **OFFICE:** AJV-352 **NAME:** MARLON ROBINSON

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: LISRE **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 334123.04N/0864430.98W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (RNP) Z RWY 24			KBHM	BIRMINGHAM	AL (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 09/23/2010

DEVELOPED BY: **DATE:** 03/15/2010 **OFFICE:** AVN-110 **NAME:** MARLON ROBINSON

APPROVED BY: **DATE:** **OFFICE:** AVN-110 **NAME:** GEORGE DAVIS

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON, BHM ATCT
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: LOWGA **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 333659.10N/0863952.19W **TYPE:** WP, 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	BIRMINGHAM	I-ROE	LOC/DME		058.47	055.47	6.68	6.69	40655	2200	5100

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

REMARKS:
I-ROE DME COORDINATES: 333313.89N-0864629.29W.
KBHM R24 DISPLACED THRESHOLD COORDINATES: 333417.81N-0864432.52W

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC/DME RWY 24	1		KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (GPS) Y RWY 24			KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (RNP) Z RWY 24			KBHM	BIRMINGHAM	AL (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 4 **DATE OF REVISION:** 12/15/2011

REASON FOR REVISION:
CHANGED FAC 1 TYPE FROM LOC TO LOC/DME, DME FROM 6.62 TO 6.68, DIST FROM FAC NM FROM 6.63 TO 6.69, FEET FROM 40286 TO 40655.
FIX MOVED 368.16 FT NE TO NEW L-V PFAF LOCATION.

DEVELOPED BY: **DATE:** 07/02/2011 **OFFICE:** AJV-352 **NAME:** MARLON ROBINSON

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: MOKEE **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 333128.05N/0863420.19W **TYPE:** WP

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

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (RNP) Z RWY 24			KBHM	BIRMINGHAM	AL (US)
STAR	EUGNE (RNAV)			KBHM	BIRMINGHAM	AL (US)

REQUIRED CHARTING: STAR, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 12/15/2011

REASON FOR REVISION:
UPDATED FIX USE.
ADDED STAR TO REQUIRED CHARTING.

DEVELOPED BY: **DATE:** 07/20/2011 **OFFICE:** AJV-352 **NAME:** MARLON ROBINSON

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON, BHM ATCT
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: MREKK **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 334513.96N/0862610.63W **TYPE:** WP

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

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (RNP) Z RWY 24			KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (RNP) Z RWY 6			KBHM	BIRMINGHAM	AL (US)
STAR	WENDO (RNAV)			KBHM	BIRMINGHAM	AL (US)

REQUIRED CHARTING: STAR, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 12/15/2011

REASON FOR REVISION:
UPDATED FIX USE.
ADDED STAR TO REQUIRED CHARTING.

DEVELOPED BY: **DATE:** 07/19/2011 **OFFICE:** AJV-352 **NAME:** MARLON ROBINSON

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: NOCIM **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 333523.58N/0863514.19W **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 (RNP) Z RWY 24			KBHM	BIRMINGHAM	AL (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 12/15/2011

REASON FOR REVISION:
MOVED FIX 344 FT E.

DEVELOPED BY: **DATE:** 07/20/2011 **OFFICE:** AJV-352 **NAME:** MARLON ROBINSON

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON, BHM ATCT
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: SPATT **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 334110.08N/0863234.77W **TYPE:** WP, INT, DME

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

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	BIRMINGHAM	I-ROE	LOC		058.47	055.47	14.06	14.07		3300	5100
2	TALLADEGA	TDG	VOR/DME	L	282.99	284.99	25.93	25.93		3300	17500
3	GADSDEN	GAD	VOR/DME	L	231.00	233.00	28.80	28.80		3300	17500

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
I-ROE	LOC	BRG-058	20	3300	5100

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	NE	GAD	VOR/DME	231.00	231.00	R	1		3300	10000	7	10
2	NE		WP	058.58	238.58	R		6	3300	10000	7	10
3	NE	I-ROE	LOC	058.47	238.47	R	1		3300	5100	7	8

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	230	TOWER (01-000992)	334853.00N/0862650.00W	2065	5E
2	230	TOWER (01-000992)	334853.00N/0862650.00W	2065	5E
3	230	TOWER (01-000992)	334853.00N/0862650.00W	2065	5E

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS.

REMARKS:
I-ROE DME COORDINATES: 333313.89N-0864629.29W
PRECIPITOUS TERRAIN EVALUATION COMPLETED.
PATTERN 1 USED FOR BHM ATC HOLDING, ATC REQUEST.
KBHM R24 DISPLACED THRESHOLD COORDINATES: 333417.81N-0864432.52W

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	V209	2, 3				(US)
IAP	ILS OR LOC RWY 6	1, 2, 3	3	KBHM	BIRMINGHAM	AL (US)
IAP	ILS OR LOC/DME RWY 24	1, 2, 3	3	KBHM	BIRMINGHAM	AL (US)
IAP	ILS RWY 6 (CAT II)	1, 2, 3	3	KBHM	BIRMINGHAM	AL (US)
IAP	LOC RWY 18	2, 3	1	KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (GPS) Y RWY 24		2	KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (RNP) Z RWY 24			KBHM	BIRMINGHAM	AL (US)
STAR	WENDO (RNAV)			KBHM	BIRMINGHAM	AL (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 11 **DATE OF REVISION:** 12/15/2011

REASON FOR REVISION:
UPDATED FIX USE.
ADDED STAR TO REQUIRED CHARTING.

DEVELOPED BY: **DATE:** 07/20/2011 **OFFICE:** AJV-352 **NAME:** MARLON ROBINSON

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

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: UBWOF **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 333352.57N/0865548.82W **TYPE:** CNF

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 (RNP) Z RWY 24			KBHM	BIRMINGHAM	AL (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 12/15/2011

REASON FOR REVISION:
MOVED FIX 1 FT W.

DEVELOPED BY: **DATE:** 07/20/2011 **OFFICE:** AJV-352 **NAME:** MARLON ROBINSON

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON, BHM ATCT
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: UHEJU **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 333455.23N/0863810.52W **TYPE:** CNF

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

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (RNP) Z RWY 24			KBHM	BIRMINGHAM	AL (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 12/15/2011

REASON FOR REVISION:
MOVED FIX 369 FT NE.

DEVELOPED BY: **DATE:** 07/20/2011 **OFFICE:** AJV-352 **NAME:** MARLON ROBINSON

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON, BHM ATCT
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: UQGAM **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 333907.90N/0864138.01W **TYPE:** CNF

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 (RNP) Z RWY 24			KBHM	BIRMINGHAM	AL (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 12/15/2011

REASON FOR REVISION:
MOVED FIX 368 FT NE.

DEVELOPED BY: **DATE:** 07/20/2011 **OFFICE:** AJV-352 **NAME:** MARLON ROBINSON

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON, BHM ATCT
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: WEDEB **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 332036.49N/0862811.00W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (RNP) Z RWY 24			KBHM	BIRMINGHAM	AL (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 09/23/2010

DEVELOPED BY: **DATE:** 09/10/2009 **OFFICE:** AVN-110 **NAME:** MARLON ROBINSON

APPROVED BY: **DATE:** **OFFICE:** AVN-110 **NAME:** GEORGE DAVIS

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: WENDO **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 335120.43N/0861631.27W **TYPE:** WP, DME

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

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	FAC FEET	MRA	MAA
1	GADSDEN	GAD	VOR/DME	L	231.00	233.00	12.00	12.00		3600	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		WP	088.13	268.13	R		4	3600	6000	5	6

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	335555.90N/0861916.30W	1750	6A

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERN.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	V209	1				(US)
IAP	RNAV (RNP) Z RWY 24			KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (RNP) Z RWY 6			KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (GPS) RWY 18		1	KGAD	GADSDEN	AL (US)
STAR	WENDO (RNAV)			KBHM	BIRMINGHAM	AL (US)

REQUIRED CHARTING: STAR, IAP, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2 **DATE OF REVISION:** 12/15/2011

REASON FOR REVISION:
UPDATED FIX USE.
ADDED STAR TO REQUIRED CHARTING.

DEVELOPED BY: **DATE:** 07/19/2011 **OFFICE:** AJV-352 **NAME:** MARLON ROBINSON

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

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

INFO ONLY

NAME: HUKEV **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 333845.38N/0863647.13W **TYPE:** WP, DME

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

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	FEET	MRA	MAA
1	BIRMINGHAM	I-ROE	LOC		058.47	055.47	9.80	9.81		2700	5100

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

REMARKS:
I-ROE DME COORDINATES: 333313.89N-0864629.29W.
KBHM R24 DISPLACED THRESHOLD COORDINATES: 333417.81N-0864432.52W

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC/DME RWY 24	1		KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (GPS) Y RWY 24			KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (RNP) Z RWY 24			KBHM	BIRMINGHAM	AL (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 10/22/2009

REASON FOR REVISION:
1. REVISED LOC COORDINATES.
2. FAC MAG COURSE. KBHM AND I-ROE MAG VAR UPDATED TO 3W 2010.
3. DELETE FAC 2, NOT REQUIRED.

DEVELOPED BY: **DATE:** 02/25/2009 **OFFICE:** AVN-110 **NAME:** ROBERT COOK

APPROVED BY: **DATE:** 08/27/2009 **OFFICE:** AVN-110 **NAME:** PETER GETZ

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

INFO ONLY

NAME: VULCAN VORTAC **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 334012.67N/0865359.28W **TYPE:**

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

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	VULCAN	VUZ	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	SW	VUZ	VORTAC	231.00	051.00	R	1-1 1/2		3000	24000	4	19
2	NE		WP	049.00	229.00	R		7	3000	10000	9	12
3	SW	VUZ	VORTAC	230.00	050.00	R	1		3000	10000	4	9
4	NE	VUZ	VORTAC	046.00	226.00	R	1		3000	10000	4	9
5	E	VUZ	VORTAC	095.00	275.00	R	1-1 1/2		3000	24000	4	19

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (01-001564)	334114.00N/0864922.00W	1082	2C
2	265	AAO	335323.60N/0864915.10W	1370	6A
3	200	TOWER (01-001564)	334114.00N/0864922.00W	1082	2C
4	200	TOWER (01-001564)	334114.00N/0864922.00W	1082	2C
5	200	TOWER (01-001564)	334114.00N/0864922.00W	1082	2C

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	BIRMINGHAM			KBHM	BIRMINGHAM	AL (US)
DP	HUNTSVILLE			KHSV	HUNTSVILLE	AL (US)
DP	GEETK (RNAV)			KATL	ATLANTA	GA (US)
DP	JCKTS			KATL	ATLANTA	GA (US)
DP	JOGOR			KATL	ATLANTA	GA (US)
DP	RMBLN			KATL	ATLANTA	GA (US)
DP	JACKSON			KJAN	JACKSON	MS (US)
DP	CHATTANOOGA			KCHA	CHATTANOOGA	TN (US)
DP	KNOXVILLE			KTYS	KNOXVILLE	TN (US)
DP	MEMPHIS			KMEM	MEMPHIS	TN (US)
DP	TITAN			KBNA	NASHVILLE	TN (US)
EN ROUTE	J14					(US)
EN ROUTE	J151					(US)
EN ROUTE	J22					(US)
EN ROUTE	J31					(US)
EN ROUTE	J39					(US)
EN ROUTE	J52					(US)
EN ROUTE	J69					(US)
EN ROUTE	Q30					(US)
EN ROUTE	V115					(US)
EN ROUTE	V159					(US)
EN ROUTE	V168					(US)
EN ROUTE	V18		1			(US)
EN ROUTE	V209					(US)
EN ROUTE	V278					(US)
EN ROUTE	V417		1			(US)
EN ROUTE	V521					(US)
EN ROUTE	V7					(US)
IAP	VOR-A			KEET	ALABASTER	AL (US)
IAP	ILS OR LOC RWY 5			KANB	ANNISTON	AL (US)
IAP	NDB RWY 5			KANB	ANNISTON	AL (US)
IAP	ILS OR LOC RWY 5		3	KEKY	BESSEMER	AL (US)
IAP	RNAV (GPS) RWY 23			KEKY	BESSEMER	AL (US)
IAP	VOR RWY 5			KEKY	BESSEMER	AL (US)
IAP	ILS OR LOC RWY 6		4	KBHM	BIRMINGHAM	AL (US)
IAP	ILS OR LOC/DME RWY 24		4	KBHM	BIRMINGHAM	AL (US)
IAP	ILS RWY 6 (CAT II)		4	KBHM	BIRMINGHAM	AL (US)
IAP	LOC RWY 18			KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (GPS) RWY 18			KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (GPS) RWY 36		2	KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (GPS) Y RWY 24		2	KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (RNP) Z RWY 24		2	KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (RNP) Z RWY 6		2	KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (GPS) RWY 6			KGAD	GADSDEN	AL (US)

IAP	ILS OR LOC RWY 18L	KHSV	HUNTSVILLE	AL (US)
IAP	ILS OR LOC/DME RWY 27	KJFX	JASPER	AL (US)
IAP	VOR/DME-A	KJFX	JASPER	AL (US)
IAP	ILS OR LOC/DME RWY 3	KASN	TALLADEGA	AL (US)
STAR	CHOOK (RNAV)	KBHM	BIRMINGHAM	AL (US)
STAR	LA GRANGE	KATL	ATLANTA	GA (US)
STAR	ROME	KATL	ATLANTA	GA (US)
STAR	HOLLY	KMEM	MEMPHIS	TN (US)
STAR	LARUE (RNAV)	KMEM	MEMPHIS	TN (US)
STAR	GRAHAM	KBNA	NASHVILLE	TN (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 11 **DATE OF REVISION:** 09/23/2010

REASON FOR REVISION:
UPDATED PAT 2 CONTROLLING OBSTRUCTION.
UPDATED FIX USE.

DEVELOPED BY: **DATE:** 09/26/2009 **OFFICE:** AVN-110 **NAME:** MARLON ROBINSON

APPROVED BY: **DATE:** 08/11/2010 **OFFICE:** AVN-110 **NAME:** GEORGE DAVIS

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

INFO ONLY

NAME: WADEG **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 333822.18N/0865827.55W **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 24			KBHM	BIRMINGHAM	AL (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 09/23/2010

DEVELOPED BY: **DATE:** 09/28/2009 **OFFICE:** AVN-110 **NAME:** MARLON ROBINSON

APPROVED BY: **DATE:** 08/10/2010 **OFFICE:** AVN-110 **NAME:** GEORGE DAVIS

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON, BHM ATCT
OTHER:

RADIO FIX AND HOLDING DATA RECORD

INFO ONLY

NAME: YACUR **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 332944.97N/0865225.38W **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 24			KBHM	BIRMINGHAM	AL (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 09/23/2010

DEVELOPED BY: **DATE:** 09/28/2009 **OFFICE:** AVN-110 **NAME:** MARLON ROBINSON

APPROVED BY: **DATE:** 08/10/2010 **OFFICE:** AVN-110 **NAME:** GEORGE DAVIS

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON, BHM ATCT
OTHER:

TERMINAL AIRSPACE DATA REQUIREMENTS

CITY: **BIRMINGHAM** STATE: **AL**

AIRPORT NAME: **BIRMINGHAM-SHUTTLESWORTH INTL** ID: **KBHM**

PROCEDURE: **RNAV (RNP) Z RWY 24** 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 **4.42**
   (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 **235.51**
4. High Terrain in **FINAL** segment containing 1000' point **1100**
5. Distance from ***** to 1500' point ***RF**
   (If 1500' point in PT maneuvering area or holding pattern note in remarks)
6. Width of _____ segment at 1500' point _____
7. True Course of _____ segment containing 1500' point _____
8. High Terrain in _____ segment containing 1500' point _____
9. Threshold Coordinates (if straight-in) ... **333417.81N / 0864432.52W**
10. ARP Coordinates ..... **333350.00N / 0864508.30W**
11. Runway Approach End and distance furthest from ARP.....RWY **06**
    Distance **1.11** NM
12. FAF Coordinates ..... **333659.10N / 0863952.19W**
    (Click to Select)

REMARKS: Approach/Drawing attached. *1500' POINT IN RF TURN FOR NOCIM INTERMEDIATE SDF.

ACTAN

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:	2200
LTP Elevation:	640.5
Glidepath Angle:	3
TCH:	51.2
RNP Value:	0.15
Δ ISA:	-22

Straight In Segment

(*Wingspan =<262*) **LTP to Origin:**	2,646.81'
(*Wingspan =<136*) **LTP to Origin:**	2,437.60'
OCS Slope Ratio:	20.92 : 1

RF Turn Segment | Bank angle:	21.58°
(*Wingspan =<262*) **LTP to Origin:**	3,131.79'
(*Wingspan =<136*) **LTP to Origin:**	2,647.03'
OCS Slope Ratio:	20.92 : 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	640.50
TCH (ft)	51.20
OCS Slope	20.89
OCS Origin Distance (ft) *(measured along-track from LTP)*	2,641.96
Obstacle Distance (ft) *(measured along-track from LTP)*	74,435.19
VEB ROC *(at obstacle)*	**525**
Glidepath MSL altitude at Obstacle	4,725.45
OCS MSL altitude at Obstacle	4,200.73

(DO NOT REMOVE FROM PACKAGE)

ACTAN

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:	2200
LTP Elevation:	640.5
Glidepath Angle:	3
TCH:	51.2
RNP Value:	0.30
Δ ISA:	-22

Straight In Segment

(*Wingspan =<262*) **LTP to Origin:**	3,735.43'
(*Wingspan =<136*) **LTP to Origin:**	3,526.48'
OCS Slope Ratio:	20.89 : 1

RF Turn Segment | Bank angle:	21.58°
(*Wingspan =<262*) **LTP to Origin:**	4,219.81'
(*Wingspan =<136*) **LTP to Origin:**	3,735.66'
OCS Slope Ratio:	20.89 : 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	640.50
TCH (ft)	51.20
OCS Slope	20.87
OCS Origin Distance (ft) *(measured along-track from LTP)*	3,729.12
Obstacle Distance (ft) *(measured along-track from LTP)*	74,435.19
VEB ROC *(at obstacle)*	**577**
Glidepath MSL altitude at Obstacle	4,725.45
OCS MSL altitude at Obstacle	4,148.22

(DO NOT REMOVE FROM PACKAGE)

ERIGE

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:	2200
LTP Elevation:	640.5
Glidepath Angle:	3
TCH:	51.2
RNP Value:	0.15
Δ ISA:	-22

Straight In Segment

(Wingspan =<262) **LTP to Origin:**	2,646.81'
(Wingspan =<136) **LTP to Origin:**	2,437.60'
OCS Slope Ratio:	20.92 : 1

RF Turn Segment | Bank angle:	21.58°
(Wingspan =<262) **LTP to Origin:**	3,131.79'
(Wingspan =<136) **LTP to Origin:**	2,647.03'
OCS Slope Ratio:	20.92 : 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	640.50
TCH (ft)	51.20
OCS Slope	20.89
OCS Origin Distance (ft) *(measured along-track from LTP)*	2,641.96
Obstacle Distance (ft) *(measured along-track from LTP)*	31,726.97
VEB ROC *(at obstacle)*	**325**
Glidepath MSL altitude at Obstacle	2,378.56
OCS MSL altitude at Obstacle	2,053.06

(DO NOT REMOVE FROM PACKAGE)

ERIGE

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:	2200
LTP Elevation:	640.5
Glidepath Angle:	3
TCH:	51.2
RNP Value:	0.30
Δ ISA:	-22

Straight In Segment

(*Wingspan =<262*) **LTP to Origin:**	3,735.43'
(*Wingspan =<136*) **LTP to Origin:**	3,526.48'
OCS Slope Ratio:	20.89 : 1

RF Turn Segment | Bank angle:	21.58°
(*Wingspan =<262*) **LTP to Origin:**	4,219.81'
(*Wingspan =<136*) **LTP to Origin:**	3,735.65'
OCS Slope Ratio:	20.89 : 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	640.50
TCH (ft)	51.20
OCS Slope	20.87
OCS Origin Distance (ft) *(measured along-track from LTP)*	3,729.96
Obstacle Distance (ft) *(measured along-track from LTP)*	31,726.97
VEB ROC *(at obstacle)*	**378**
Glidepath MSL altitude at Obstacle	2,378.56
OCS MSL altitude at Obstacle	2,000.78

(DO NOT REMOVE FROM PACKAGE)

HUKEV

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:	2200
LTP Elevation:	640.5
Glidepath Angle:	3
TCH:	51.2
RNP Value:	0.15
Δ ISA:	-22

Straight In Segment

(*Wingspan =<262*) **LTP to Origin:**	2,646.81'
(*Wingspan =<136*) **LTP to Origin:**	2,437.60'
OCS Slope Ratio:	20.92 : 1

RF Turn Segment | Bank angle:	21.58°
(*Wingspan =<262*) **LTP to Origin:**	3,131.79'
(*Wingspan =<136*) **LTP to Origin:**	2,647.03'
OCS Slope Ratio:	20.92 : 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	640.50
TCH (ft)	51.20
OCS Slope	20.89
OCS Origin Distance (ft) *(measured along-track from LTP)*	2,654.94
Obstacle Distance (ft) *(measured along-track from LTP)*	32,148.03
VEB ROC *(at obstacle)*	**328**
Glidepath MSL altitude at Obstacle	2,401.27
OCS MSL altitude at Obstacle	2,073.17

(DO NOT REMOVE FROM PACKAGE)

HUKEV

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:	2200
LTP Elevation:	640.5
Glidepath Angle:	3
TCH:	51.2
RNP Value:	0.30
Δ ISA:	-22

Straight In Segment

(*Wingspan =<262*) **LTP to Origin:**	3,735.43'
(*Wingspan =<136*) **LTP to Origin:**	3,526.48'
OCS Slope Ratio:	20.89 : 1

RF Turn Segment | Bank angle:	21.58°
(*Wingspan =<262*) **LTP to Origin:**	4,219.81'
(*Wingspan =<136*) **LTP to Origin:**	3,735.65'
OCS Slope Ratio:	20.89 : 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	640.50
TCH (ft)	51.20
OCS Slope	20.87
OCS Origin Distance (ft) *(measured along-track from LTP)*	3,729.12
Obstacle Distance (ft) *(measured along-track from LTP)*	32,148.03
VEB ROC *(at obstacle)*	**380**
Glidepath MSL altitude at Obstacle	2,401.27
OCS MSL altitude at Obstacle	2,021.56

(DO NOT REMOVE FROM PACKAGE)

MAKEE

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:	2200
LTP Elevation:	640.5
Glidepath Angle:	3
TCH:	51.2
RNP Value:	0.15
Δ ISA:	-22

Straight In Segment

(*Wingspan =<262*) **LTP to Origin:**	2,646.81'
(*Wingspan =<136*) **LTP to Origin:**	2,437.60'
OCS Slope Ratio:	20.92 : 1

RF Turn Segment | Bank angle: 21.58°

(*Wingspan =<262*) **LTP to Origin:**	3,131.79'
(*Wingspan =<136*) **LTP to Origin:**	2,647.03'
OCS Slope Ratio:	20.92 : 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	640.50
TCH (ft)	51.20
OCS Slope	20.89
OCS Origin Distance (ft) *(measured along-track from LTP)*	2,641.96
Obstacle Distance (ft) *(measured along-track from LTP)*	72,314.84
VEB ROC *(at obstacle)*	**515**
Glidepath MSL altitude at Obstacle	4,606.87
OCS MSL altitude at Obstacle	4,092.05

(DO NOT REMOVE FROM PACKAGE)

MOKEE

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:	2200
LTP Elevation:	640.5
Glidepath Angle:	3
TCH:	51.2
RNP Value:	0.30
Δ ISA:	-22

Straight In Segment

(*Wingspan =<262*) **LTP to Origin:**	3,735.43'
(*Wingspan =<136*) **LTP to Origin:**	3,526.48'
OCS Slope Ratio:	20.89 : 1

RF Turn Segment | Bank angle:	**21.58°**
(*Wingspan =<262*) **LTP to Origin:**	4,219.81'
(*Wingspan =<136*) **LTP to Origin:**	3,735.65'
OCS Slope Ratio:	20.89 : 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	640.50
TCH (ft)	51.20
OCS Slope	20.87
OCS Origin Distance (ft) *(measured along-track from LTP)*	3,729.12
Obstacle Distance (ft) *(measured along-track from LTP)*	72,314.84
VEB ROC *(at obstacle)*	**567**
Glidepath MSL altitude at Obstacle	4,606.87
OCS MSL altitude at Obstacle	4,039.55

(DO NOT REMOVE FROM PACKAGE)

NOKIM

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:	2200
LTP Elevation:	640.5
Glidepath Angle:	3
TCH:	51.2
RNP Value:	0.15
Δ ISA:	-22

Straight In Segment

(*Wingspan =<262*) **LTP to Origin:**	2,646.81'
(*Wingspan =<136*) **LTP to Origin:**	2,437.60'
OCS Slope Ratio:	20.92 : 1

RF Turn Segment | Bank angle:	21.58°
(*Wingspan =<262*) **LTP to Origin:**	3,131.79'
(*Wingspan =<136*) **LTP to Origin:**	2,647.03'
OCS Slope Ratio:	20.92 : 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	640.50
TCH (ft)	51.20
OCS Slope	20.89
OCS Origin Distance (ft) *(measured along-track from LTP)*	2,641.96
Obstacle Distance (ft) *(measured along-track from LTP)*	32,632.81
VEB ROC *(at obstacle)*	**330**
Glidepath MSL altitude at Obstacle	2,427.43
OCS MSL altitude at Obstacle	2,097.71

(DO NOT REMOVE FROM PACKAGE)

NOKIM

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:	2200
LTP Elevation:	640.5
Glidepath Angle:	3
TCH:	51.2
RNP Value:	0.30
Δ ISA:	-22

Straight In Segment

(*Wingspan =<262*) **LTP to Origin:**	3,735.43'
(*Wingspan =<136*) **LTP to Origin:**	3,626.48'
OCS Slope Ratio:	20.89 : 1

RF Turn Segment | Bank angle:	21.58°
(*Wingspan =<262*) **LTP to Origin:**	4,219.81'
(*Wingspan =<136*) **LTP to Origin:**	3,735.65'
OCS Slope Ratio:	20.89 : 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	640.50
TCH (ft)	51.20
OCS Slope	20.87
OCS Origin Distance (ft) *(measured along-track from LTP)*	3,729.12
Obstacle Distance (ft) *(measured along-track from LTP)*	32,632.81
VEB ROC *(at obstacle)*	**382**
Glidepath MSL altitude at Obstacle	2,427.43
OCS MSL altitude at Obstacle	2,045.46

(DO NOT REMOVE FROM PACKAGE)

SPATT

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:	2200
LTP Elevation:	640.5
Glidepath Angle:	3
TCH:	51.2
RNP Value:	0.15
Δ ISA:	-22

Straight In Segment

(*Wingspan =<262*) **LTP to Origin:**	2,646.81'
(*Wingspan =<136*) **LTP to Origin:**	2,437.60'
OCS Slope Ratio:	20.92 : 1

RF Turn Segment | Bank angle:	21.58°
(*Wingspan =<262*) **LTP to Origin:**	3,131.79'
(*Wingspan =<136*) **LTP to Origin:**	2,647.03'
OCS Slope Ratio:	20.92 : 1

Version 2.0

VEB Temperature Limits

Glidepath Angle:		
Max Glidepath Angle:		
PFAF Elevation:		
LTP Elevation:		
ACT:	2641.96°C	
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	640.50
TCH (ft)	51.20
OCS Slope	20.89
OCS Origin Distance (ft) *(measured along-track from LTP)*	2,654.94
Obstacle Distance (ft) *(measured along-track from LTP)*	70,113.71
VEB ROC *(at obstacle)*	**505**
Glidepath MSL altitude at Obstacle	4,484.00
OCS MSL altitude at Obstacle	3,978.78

(DO NOT REMOVE FROM PACKAGE

SPATT

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:	2200
LTP Elevation:	640.5
Glidepath Angle:	3
TCH:	51.2
RNP Value:	0.30
Δ ISA:	-22

Straight In Segment

(*Wingspan =<262*) **LTP to Origin:**	3,735.43'
(*Wingspan =<136*) **LTP to Origin:**	3,526.48'
OCS Slope Ratio:	20.89 : 1

RF Turn Segment | Bank angle:	21.58°
(*Wingspan =<262*) **LTP to Origin:**	4,219.81'
(*Wingspan =<136*) **LTP to Origin:**	3,735.65'
OCS Slope Ratio:	20.89 : 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	640.50
TCH (ft)	51.20
OCS Slope	20.87
OCS Origin Distance (ft) *(measured along-track from LTP)*	3,729.12
Obstacle Distance (ft) *(measured along-track from LTP)*	70,113.71
VEB ROC *(at obstacle)*	**557**
Glidepath MSL altitude at Obstacle	4,484.00
OCS MSL altitude at Obstacle	3,926.96

(DO NOT REMOVE FROM PACKAGE)