Flight Procedure Tracking Form	Action: FLIGHT CHECK	Task Type: STAR	Date Open: 12/29/2011	Task #: 2011122926796801001	Request #: 20111229267968
Procedure: STAR KRANN (RNAV) TWO BOSON MA KBOS		Airport ID: KBOS	Airport: GENERAL EDWARD LAWRENCE LOGAN INTL		Reimbursable #:
City: BOSTON	**ST:** MA	GPS #:		Estimated Chart Date: 09/20/2012	FICO #:
Fac ID:	Fac. Type: Proc O	Specialist: PETER GUIMOND			

Procedure Review

	Rec'd	Rel'd	Full Name	Comments
Lead:	03/15/2012	05/24/2012	STEVEN SZUKALA	DME / DME
QA:	05/24/2012	05/24/2012	STEVEN SZUKALA	
Liaison:	05/24/2012		Alfonso	RESUBMIT 5/24/12 - DME/DME

P1

ESV REQUEST INCLUDED

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

pkg 1 of 4

BOSTON, MA GENERAL EDWARD LAWRENCE LOGAN INTL (KBOS) KRANN TWO (RNAV) (STAR) ENROUTE-YES FC: 7.24.12 PUB: 9.20.12

ATTACHED FORMS: ESV REPORTS; 7100-4; 7100-3; 8260-2(S): ANSLY, ORIG; ETHYN, ORIG; FILYP, ORIG; HOKDU, REV 2; KINNG, ORIG; KLEBB, ORIG; KRANN-INT, REV 1; MERIT-INT, REV 6; OUTTT-INT, REV 1; PROVIDENCE (PVD) VTAC, REV 24; TAALE, REV 1; (INFO ONLY) BAWLL-INT, ORIG; BBOGG, ORIG; BEREI, ORIG; CRADL, ORIG; NEWES-INT, REV 2; NORWICH (ORW) VDME, REV 15; PTRIK, REV 1; STRKK, ORIG; TRUIZ-INT, ORIG.
CONTACT: DON SMITH, AJV-352 LEAD, 405.954.1036:

(PVD.KRANN2) PRE-FIG NEW

ST-58 (FAA)

KRANN TWO ARRIVAL (RNAV)

GENERAL EDWARD LAWRENCE LOGAN INTL (BOS)

BOSTON, MASSACHUSETTS

KRANN TWO ARRIVAL (RNAV)

(PVD.KRANN2) PRE-FIG

BOSTON, MASSACHUSETTS

GENERAL EDWARD LAWRENCE LOGAN INTL (BOS)

ARRIVAL ROUTE DESCRIPTION

KENNEDY TRANSITION (JFK.KRANN2):
MERIT TRANSITION (MERIT.KRANN2):

From over PVD VORTAC on track 076° to FILYP, then on track 076° to cross KRANN at 11000 and 270 KIAS, thence. . . .

LANDING RUNWAY 4L, 4R, 15R, 22R, 32: From over KRANN on track 076°, expect radar vectors to final approach course.
LANDING RUNWAY 22L: From over KRANN on track 076° NM to cross ANSLY at or above 8000, then on track 076° to CRADL, then on track 064° to cross KLEBB at 8000 and 250 KIAS, then on track 027° to cross ETHYN at 5000 and 250 KIAS, then on track 332° to cross PTRIK at 5000 and 210 KIAS, then on track 036° to cross TAALE at 5000 and 210 KIAS, then on track 036°, expect radar vectors to final approach course.
LANDING RUNWAY 27: From over KRANN on track 076° to cross ANSLY at or above 8000, then on track 076° to CRADL, then on track 064° to cross KLEBB at 8000 and 250 KIAS, then on track 025° to cross HOKDU at 5000 and 210 KIAS, then on track 025°, expect radar vectors to final approch course.
LANDING RUNWAY 33L: From over KRANN on track 076° to cross ANSLY at or above 8000, then on track 071° to cross BEREI at 8000 and 220 KIAS, then on track 061° to cross BBOGG at 6000 and 210 KIAS, then on track 060°, expect radar vectors to final approach course.

PROTOTYPE: NOT FOR NAVIGATION

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : MARTHAS VINEYARD	City : VINEYARD HAVEN	Ident : MVY	State : MA
Type/Class : DME	Frequency : M1179	Reference No.: 10061472	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 881620-002	325	30	66	30	180

Requirement: ELIMINATE CRITICAL DME ON LBSTA, REVSS, SSOXS, PATSS, BRUWN, CELTK		
Signature: BELLABONA JOSEPH	Routing Symbol:	Date: 06/10/2010

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 881620-002	325	30	66	30	180	APPROVE

Requirement/Remarks: ELIMINATE CRITICAL DME ON LBSTA, REVSS, SSOXS, PATSS, BRUWN, CELTKApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.		
Signature: Cassella Charles	Routing Symbol:	Date: 06/21/2010

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 881620-002	325	30	66	30	180	APPROVE

Requirement/Remarks: ELIMINATE CRITICAL DME ON LBSTA, REVSS, SSOXS, PATSS, BRUWN, CELTKApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.		
Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 06/28/2010

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 881620-002	325	30				

Requirement/Remarks:		
Signature:	Routing Symbol:	Date:

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : PUTNAM	City : PUTNAM	Ident : PUT	State : CT
Type/Class : DMER	Frequency : M1208	Reference No.: 10061473	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 682004-003	59	119	65	30	180

Requirement: ELIMINATE CRITICAL DMES ON: CELTK, REVSS, SSOXS, PATSS, BRUWN, SIDS

Signature: BELLABONA JOSEPH	Routing Symbol:	Date: 06/10/2010

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 682004-003	59	119	65	30	180	APPROVE

Requirement/Remarks: ELIMINATE CRITICAL DMES ON: CELTK, REVSS, SSOXS, PATSS, BRUWN, SIDSApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: Cassella Charles	Routing Symbol:	Date: 06/21/2010

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 682004-003	59	119	65	30	180	APPROVE

Requirement/Remarks: ELIMINATE CRITICAL DMES ON: CELTK, REVSS, SSOXS, PATSS, BRUWN, SIDSApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

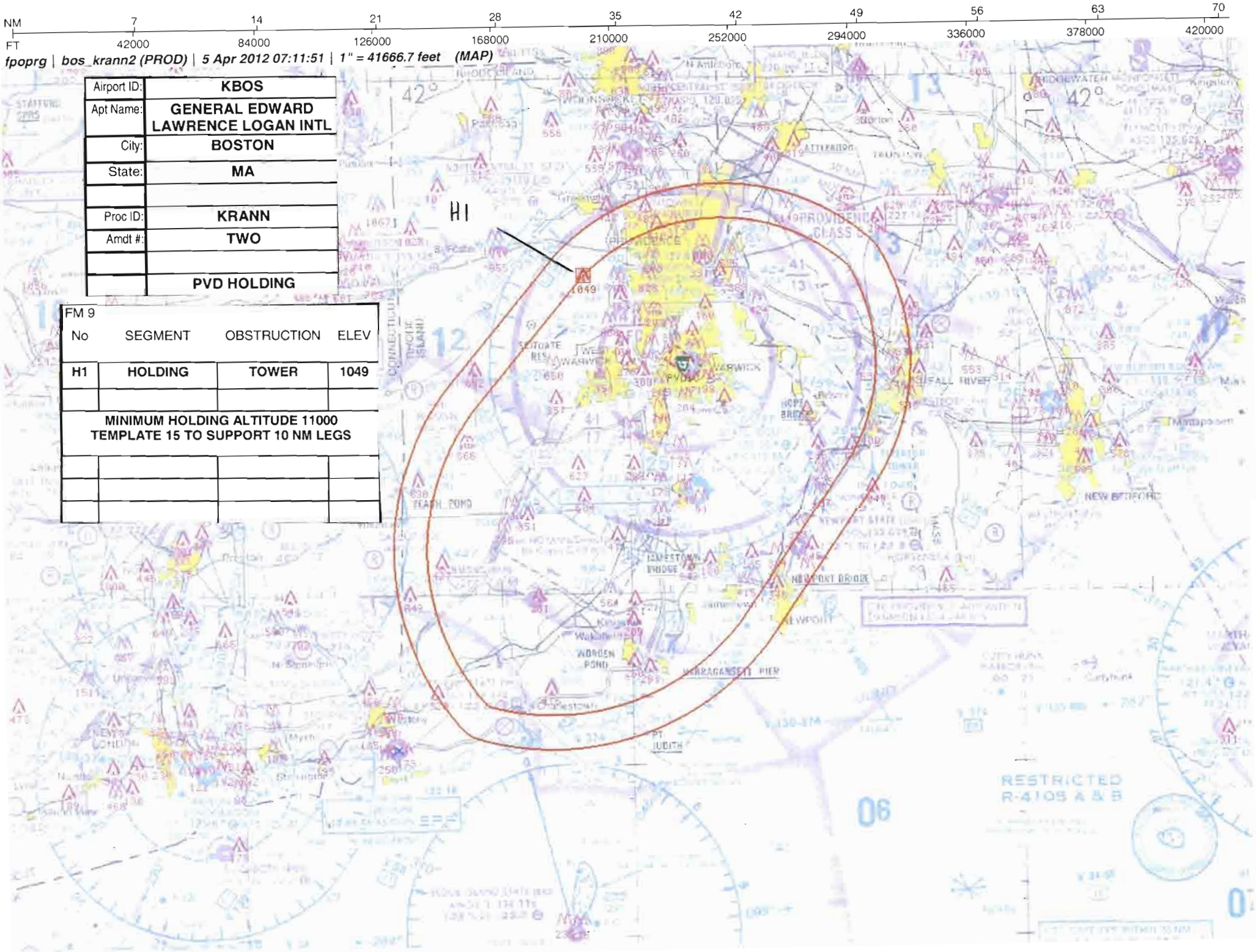
Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 06/28/2010

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 682004-003	59	119				

Requirement/Remarks:

Signature:	Routing Symbol:	Date:


NM 7 14 21 28 35 42 49 56 63 70
FT 42000 84000 126000 168000 210000 252000 294000 336000 378000 420000
fpoprg | bos_krann2 (PROD) | 5 Apr 2012 07:11:51 | 1" = 41666.7 feet (MAP)
Airport ID: KBOS
Apt Name: GENERAL EDWARD LAWRENCE LOGAN INTL
City: BOSTON
State: MA
Proc ID: KRANN
Amdt #: TWO
PVD HOLDING
FM 9
No SEGMENT OBSTRUCTION ELEV
H1 HOLDING TOWER 1049
MINIMUM HOLDING ALTITUDE 11000
TEMPLATE 15 TO SUPPORT 10 NM LEGS
H1
1049
PROVIDENCE
WARWICK
FALL RIVER
NEW BEDFORD
NEWPORT BRIDGE
NARRAGANSETT PIER
PT JUDITH
RESTRICTED
R-4105 A & B

US Department of Transportation
Federal Aviation Administration

STAR - Standard Terminal Arrival

1. Bearings, headings, courses and radials are listed to the nearest hundredth (e.g. 360.00)
2. Distances are in nautical miles to nearest hundredth (e.g. 00.00)
3. Altitudes are minimum altitudes unless otherwise indicated

(1) Transition Routes

(a) Transition Name	(b) Transition Computer Codes	(c) From RNAV WP/ FIX/NAVAID	(d) To RNAV WP/ FIX/NAVAID	(e) Mag Course/ Distance	(f) MEA	(g) MOCA	(h) MAA	(i) Crossing Altitudes / Fixes
KENNEDY	JFK.KRANN2	JFK VOR/DME	TRUIZ	064.00 / 14.98	17000			
		TRUIZ	NEWES	064.16 / 5.02	17000			
		NEWES	BAWLL	064.21 / 33.39	17000			
		BAWLL	STRKK	079.59 / 34.52	17000			
		STRKK	ORW VOR/DME	079.91 / 10.54	17000			
		ORW VOR/DME	OUTTT	084.30 / 7.38	17000			
		OUTTT	KINNG	084.49 / 13.16	11000			
		KINNG	PVD VORTAC	084.64 / 7.00	11000			
MERIT	MERIT.KRANN2	MERIT	STRKK	097.75 / 42.29	17000			
		STRKK	ORW VOR/DME	079.91 / 10.54	17000			
		ORW VOR/DME	OUTTT	084.30 / 7.38	17000			
		OUTTT	KINNG	084.49 / 13.16	11000			
		KINNG	PVD VORTAC	084.64 / 7.00	11000			

(2) Arrival Route Description: FROM OVER PVD VORTAC ON TRACK 076.17/6.00 NM TO FILYP (MEA 11000), THEN ON TRACK 076.25/9.83 NM TO CROSS KRANN AT 11000 AND 270 KIAS (MEA 11000), THENCE...

...LANDING RWY 4L, 4R, 15R, 22R, 32: FROM OVER KRANN ON TRACK 076.03, EXPECT RADAR VECTORS TO FINAL APPROACH COURSE.

...LANDING RWY 22L: FROM OVER KRANN ON TRACK 076.03/7.64 NM TO CROSS ANSLY AT OR ABOVE 8000 (MEA 8000), THEN ON TRACK 075.94/10.98 NM TO CRADL (MEA 8000), THEN ON TRACK 064.10/8.82 NM TO CROSS KLEBB AT 8000 AND 250 KIAS (MEA 6000), THEN ON TRACK 027.70/13.32 NM TO CROSS ETHYN AT 5000 AND 250 KIAS (MEA 4000), THEN ON TRACK 331.80/16.88 NM TO CROSS PTRIK AT 5000 AND 210 KIAS (MEA 4000), THEN ON TRACK 035.99/6.32 NM TO CROSS TAALE AT 5000 AND 210 KIAS (MEA 3000), THEN ON TRACK 036.00, EXPECT RADAR VECTORS TO FINAL APPROACH COURSE.

(CONTINUED IN BLOCK 16)

(3) Procedural Data Notes:
NOTE: RADAR REQUIRED. **NOTE:** DME/DME/IRU OR GPS REQUIRED. **NOTE:** RNAV 1. **NOTE:** TURBOJET AIRCRAFT ONLY. **NOTE:** LANDING RWY 4R, 4L: EXPECT VECTORS APPROACHING PVD VORTAC. LANDING RWY 22L, 27, 33L: EXPECT BOS APP TO ISSUE RWY TRANSITION NOT LATER THAN 10NM PRIOR TO KRANN. LANDING ALL OTHER RWYS: EXPECT VECTORS TO FINAL.

(4) Fixes and/or Holding Patterns:
CHART: BOS VOR/DME, CCC VOR/DME, HTO VORTAC, SEY VOR/DME, CHYAN, ERNEI, GOSHI, SOFEE, WACKY, WINNI, BENNN, KLANE.
CHART HOLDING PATTERN: PVD VORTAC (HOLD SW, RT, 055.41 INBOUND, 10 NM LEGS).

QUALITY CHECKED

(5) Communications: BOSTON APP CON 120.6 263.1; GENERAL EDWARD LAWRENCE LOGAN INTL ATIS ARRIVAL.

(6) Arrival Name	(7) Number	(8) STAR Computer Code	(9) Superseded Nr.	(10) Dated	(11) Effective Date
KRANN (RNAV)	TWO	KRANN.KRANN2	ONE	15 DEC 2011	

(12) Airports Served			
Airport Name	GENERAL EDWARD LAWRENCE LOGAN INTL	**City/State**	BOSTON, MA
Airport Name		**City/State**	
Airport Name		**City/State**	
Airport Name		**City/State**	
Airport Name		**City/State**	
Airport Name		**City/State**	

(13) Lost Communications Procedure:

(14) Remarks:

MINIMUM OPERATIONAL ALTITUDES USED FOR MEAS.

(15) Additional Flight Data:

REFERENCE MAGNETIC VARIATION: KBOS 16W/1995.
DME/DME ASSESMENT: SAT (RNP 2.0).

QUALITY CHECKED

(6) Arrival Name	(7) Number	(8) STAR Computer Code	(9) Superseded Nr.	(10) Dated	(11) Effective Date
KRANN (RNAV)	TWO	KRANN.KRANN2	ONE	15 DEC 2011	

(16) Continuation:
(2) ARRIVAL ROUTE DESCRIPTION (CONTINUED):

...LANDING RWY 27: FROM OVER KRANN ON TRACK 076.03/7.64 NM TO CROSS ANSLY AT OR ABOVE 8000 (MEA 8000), THEN ON TRACK 075.94/10.98 NM TO CRADL (MEA 8000), THEN ON TRACK 064.10/8.82 NM TO CROSS KLEBB AT 8000 AND 250 KIAS (MEA 6000), THEN ON TRACK 024.73/13.01 NM TO CROSS HOKDU AT 5000 AND 210 KIAS (MEA 4000), THEN ON TRACK 025.00, EXPECT RADAR VECTORS TO FINAL APPROACH COURSE.

...LANDING RWY 33L: FROM OVER KRANN ON TRACK 076.03/7.64 NM TO CROSS ANSLY AT OR ABOVE 8000 (MEA 8000), THEN ON TRACK 070.53/9.33 NM TO CROSS BEREI AT 8000 AND 220 KIAS (MEA 6000), THEN ON TRACK 060.68/7.62 NM TO CROSS BBOGG AT 6000 AND 210 KIAS (MEA 4000), THEN ON TRACK 060.00, EXPECT RADAR VECTORS TO FINAL APPROACH COURSE.

(17) Changes: **1.** ADDED MERIT TRANSITION. **2.** DELETED CROSSING RESTRICTIONS AT TRUIZ, BAWLL, STRKK, OUTTT, AND PVD VORTAC ON KENNEDY TRANSITION. **3.** ADDED KINNG BETWEEN OUTTT AND PVD VORTAC ON KENNEDY TRANSITION. **4.** MOVED KRANN 0.58 NM SOUTHEAST, AMENDED TRACK ON PVD TO KRANN SEGMENT FROM 075.00 TO 076.00. **5.** AMENDED TRACK AFTER KRANN FOR LANDING RWY 4R, 15R, 32, FROM 075.00 TO 076.00. **6.** ADDED FILYP BETWEEN PVD AND KRANN IN ARRIVAL ROUTE. **7.** REMOVED DRUNK, CRRAB, HUBTN, AND CLMPP FROM RWY 22L ROUTING AND ADDED ANSLY, KLEBB, AND EHTYN. **8.** REMOVED DRUNK FROM RWY 27 ROUTING AND ADDED KLEBB AND COLYN. **9.** ADDED ANSLY TO RWY 33L ROUTING BETWEEN KRANN AND BEREI. **10.** MOVED HOKDU 1.32 NM NORTH. **11.** MOVED TAALE 0.09 NM WEST. **12.** DELETED NOTE: LANDING RUNWAYS 33L, 27, 22L: EXPECT BOS APP TO ISSUE RWY TRANSITION NOT LESS THAN 10 NM PRIOR TO KRANN, ALL OTHER RWYS EXPECT VECTORS TO FINAL. **13.** ADDED NOTE: LANDING RWY 4R, 4L: EXPECT VECTORS APPROACHING PVD VORTAC. LANDING RWY 22L, 27, 33L: EXPECT BOS APP TO ISSUE RWY TRANSITION NOT LATER THAN 10NM PRIOR TO KRANN. LANDING ALL OTHER RWYS: EXPECT VECTORS TO FINAL. **14.** ADDED BOS VOR/DME AND CHYAN TO DEPICTION. **15.** MEA AT PVD INCREASED FROM 9000 TO 11000.

(18) Reasons for Changes:
1-14. ATC REQUEST.
15. NEW DME/DME/IRU ASSESSMENT.

05/18/2012: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 01/07/2012. ALL UPDATES PER ATC REQUEST.
1. AMENDED RWY 33L RWY TRANSITION FROM BBOGG-BENNN-EXPECT ILS OR RNAV APPROACH TO BBOGG-060 DEGREE FM LEG-RADAR VECTORS.
2. AMENDED RWY 27 RWY TRANSITION FROM HOKDU-COLYN-KLANE-EXPECT ILS OR RNAV APPROACH TO HOKDU-025 DEGREE FM LEG-RADAR VECTORS.
3. MOVED HOKDU AN ADDITIONAL 0.64 NM NORTH.
4. AMENDED SPEED RESTRICTION AT HOKDU FROM AT 230 KIAS TO AT 210 KIAS.
5. ADDED BENNN AND KLANN TO BLOCK (4) FIXES AND/OR HOLDING PATTERNS.

	Name *(Typed and Signed)*, Title and Organization		DATE
Developed By	JOSEPH A. BELLABONA, PBN INTEGRATION GROUP, AJV-14		01/07/2012
Approved	**NFPO**	DARRYEL ADAMS, MANAGER, AJV-352	
	Reg. ATD		

QUALITY CHECKED

(6) Arrival Name	(7) Number	(8) STAR Computer Code	(9) Superseded Nr.	(10) Dated	(11) Effective Date
KRANN (RNAV)	TWO	KRANN.KRANN2	ONE	15 DEC 2011	

US Department of Transportation
Federal Aviation Administration

RNAV STAR (Data Record)

(1) FIX/NAVAID	(2) LAT/LONG	(3) C	(4) FO/FB	(5) LEG	(6) TC	(7) DIST	(8) ALTITUDE	(9) SPEED	(10) REMARKS
En Route Transition									
JFK VOR/DME	403758.40N / 0734617.00W			IF					JFK.KRANN2
TRUIZ	404759.36N / 0733137.37W	Y	FB	TF	048.00	14.98			
NEWES	405120.21N / 0732641.77W	Y	FB	TF	048.16	5.02			
BAWLL	411331.18N / 0725342.27W	Y	FB	TF	048.21	33.39			
STRKK	412845.63N / 0721233.94W	Y	FB	TF	063.59	34.52			
ORW VOR/DME	413323.05N / 0715957.67W	Y	FB	TF	063.91	10.54			
OUTTT	413606.41N / 0715049.56W	Y	FB	TF	068.30	7.38			
KINNG	414054.91N / 0713429.04W	Y	FB	TF	068.49	13.16			
PVD VORTAC	414327.64N / 0712546.70W	Y	FB	TF	068.64	7.00			
En Route Transition									
MERIT	412255.02N / 0730814.75W	Y		IF					MERIT.KRANN2
STRKK	412845.63N / 0721233.94W	Y	FB	TF	081.75	42.29			
ORW VOR/DME	413323.05N / 0715957.67W	Y	FB	TF	063.91	10.54			
OUTTT	413606.41N / 0715049.56W	Y	FB	TF	068.30	07.38			

(11) Arrival Name	(12) Number	(13) STAR Computer Code	(14) Superseded Nr.	(15) Dated	(16) Effective Date
KRANN (RNAV)	TWO	KRANN.KRANN2	ONE	15 DEC 2011	

CHECKED

US Department of Transportation
Federal Aviation Administration

RNAV STAR (Data Record)

(1) FIX/NAVAID	(2) LAT/LONG	(3) C	(4) FO/FB	(5) LEG	(6) TC	(7) DIST	(8) ALTITUDE	(9) SPEED	(10) REMARKS
KINNG	414054.91N / 0713429.04W	Y	FB	TF	068.49	13.16			
PVD VORTAC	414327.64N / 0712546.70W	Y	FB	TF	068.64	7.00			
Common Route									
PVD VORTAC	414327.64N / 0712546.70W	Y		IF					KRANN.KRANN2
FILYP	414626.57N / 0711849.35W	Y	FB	TF	060.17	6.00			
KRANN	415118.69N / 0710724.46W	Y	FB	TF	060.25	9.83	AT 11000	AT 270K	
Runway Transition									
KRANN	415118.69N / 0710724.46W	Y		IF					
ANSLY	415507.53N / 0705832.32W	Y	FB	TF	060.03	7.64	AT/ABOVE 8000		
BEREI	420032.09N / 0704820.74W	Y	FB	TF	054.53	9.33	AT 8000	AT 220K	
BBOGG	420556.98N / 0704109.06W	Y	FO	TF	044.68	7.62	AT 6000	AT 210K	
RW33L				FM	044.00				

CHECKED

(11) Arrival Name	(12) Number	(13) STAR Computer Code	(14) Superseded Nr.	(15) Dated	(16) Effective Date
KRANN (RNAV)	TWO	KRANN.KRANN2	ONE	15 DEC 2011	

US Department of Transportation
Federal Aviation Administration

RNAV STAR (Data Record)

(1) FIX/NAVAID	(2) LAT/LONG	(3) C	(4) FO/FB	(5) LEG	(6) TC	(7) DIST	(8) ALTITUDE	(9) SPEED	(10) REMARKS
Runway Transition									
KRANN	415118.69N / 0710724.46W	Y		IF					
ANSLY	415507.53N / 0705832.32W	Y	FB	TF	060.03	7.64	AT/ABOVE 8000		
CRADL	420036.88N / 0704547.55W	Y	FB	TF	059.94	10.98			
KLEBB	420630.28N / 0703658.08W	Y	FB	TF	048.10	8.82	AT 8000	AT 250K	
ETHYN	421933.13N / 0703319.59W	Y	FB	TF	011.70	13.32	AT 5000	AT 250K	
PTRIK	423138.24N / 0704914.28W	Y	FB	TF	315.80	16.88	AT 5000	AT 210K	
TAALE	423734.55N / 0704618.74W	Y	FO	TF	019.99	6.32	AT 5000	AT 210K	
RW22L				FM	020.00				
Runway Transition									
KRANN	415118.69N / 0710724.46W	Y		IF					
RWY 4L, 4R, 15R, 22R, 32.				FM	060.03				

(11) Arrival Name	(12) Number	(13) STAR Computer Code	(14) Superseded Nr.	(15) Dated	(16) Effective Date
KRANN (RNAV)	TWO	KRANN.KRANN2	ONE	15 DEC 2011	

FAA Form 7100-3 (9/02)

US Department of Transportation
Federal Aviation Administration

RNAV STAR (Data Record)

(1) FIX/NAVAID	(2) LAT/LONG	(3) C	(4) FO/FB	(5) LEG	(6) TC	(7) DIST	(8) ALTITUDE	(9) SPEED	(10) REMARKS
Runway Transition									
KRANN	415118.69N / 0710724.46W	Y		IF					
ANSLY	415507.53N / 0705832.32W	Y	FB	TF	060.03	7.64	AT/ABOVE 8000		
CRADL	420036.88N / 0704547.55W	Y	FB	TF	059.94	10.98			
KLEBB	420630.28N / 0703658.08W	Y	FB	TF	048.10	8.82	AT 8000	AT 250K	
HOKDU	421922.29N / 0703418.28W	Y	FO	TF	008.73	13.01	AT 5000	AT 210K	
RW27				FM	009.00				

CHECKED

(11) Arrival Name	(12) Number	(13) STAR Computer Code	(14) Superseded Nr.	(15) Dated	(16) Effective Date
KRANN (RNAV)	TWO	KRANN.KRANN2	ONE	15 DEC 2011	

FAA Form 7100-3 (9/02)

US Department of Transportation
Federal Aviation Administration

STAR (Data Record)

ARINC PACKET - 424-18 - STAR

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
NAVAID  12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAD        BOS   K6011270VDH  N42212682W070592237    N42212682W070592237W0160000202     NARBOSTON
        SUSAD        JFK   K6011590VDH  N40375840W073461700    N40375840W073461700W0120000112     NARKENNEDY
        SUSAD        ORW   K6011000VDL  N41332305W071595767    N41332305W071595767W0140003101     NARNORWICH
        SUSAD        PVD   K6011560VTHA N41432764W071254667    N41432764W071254667W0140000492     NARPROVIDENCE

                 1         2         3         4         5         6         7         8         9         0         1         2         3
WP      12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   ANSLY K60    W     N41550753W070583232                    W0149     NAR          ANSLY
        SUSAEAENRT   BAWLL K60    C   H N41133118W072534227                    W0138     NAR          BAWLL
        SUSAEAENRT   BBOGG K60    W     N42055698W070410906                    W0151     NAR          BBOGG
        SUSAEAENRT   BEREI K60    W     N42003209W070482074                    W0150     NAR          BEREI
        SUSAEAENRT   CRADL K60    W     N42003688W070454755                    W0150     NAR          CRADL
        SUSAEAENRT   ETHYN K60    W     N42193313W070331959                    W0152     NAR          ETHYN
        SUSAEAENRT   FILYP K60    W     N41462657W071184935                    W0147     NAR          FILYP
        SUSAEAENRT   HOKDU K60    W     N42192229W070341828                    W0152     NAR          HOKDU
        SUSAEAENRT   KINNG K60    W     N41405491W071342904                    W0146     NAR          KINNG
        SUSAEAENRT   KLEBB K60    W     N42063028W070365808                    W0151     NAR          KLEBB
        SUSAEAENRT   KRANN K60    C     N41511869W071072446                    W0148     NAR          KRANN
        SUSAEAENRT   MERIT K60    C   L N41225502W073081475                    W0137     NAR          MERIT
        SUSAEAENRT   NEWES K60    C   H N40512021W073264177                    W0134     NAR          NEWES
        SUSAEAENRT   OUTTT K60    C     N41360641W071504956                    W0144     NAR          OUTTT
        SUSAEAENRT   PTRIK K60    W     N42313824W070491428                    W0152     NAR          PTRIK
        SUSAEAENRT   STRKK K60    W     N41284563W072123394                    W0142     NAR          STRKK
        SUSAEAENRT   TAALE K60    W     N42373455W070461874                    W0152     NAR          TAALE
        SUSAEAENRT   TRUIZ K60    C     N40475936W073313737                    W0134     NAR          TRUIZ

                 1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT 12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAP KBOSK6ABOS     0     100YHN42214670W071002310W016000020        18000018000C    MNAR    GENERAL EDWARD LAWRENCE LOGAN

                 1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAP KBOSK6EKRANN24JFK   010JFK  K6D 0V      IF                                          18000
        SUSAP KBOSK6EKRANN24JFK   020TRUIZK6EA0E    010TF                    06400150
```

QUALITY 1 CHECKED

(11) Arrival Name	(12) Number	(13) STAR Computer Code	(14) Superseded Nr.	(15) Dated	(16) Effective Date
KRANN RNAV	TWO	KRANN.KRANN2	ONE	15 DEC 2011	

FAA Form 7100-3 (9/02)

```
SUSAP KBOSK6EKRANN24JFK   030NEWESK6EA0E    010TF                    06420050
SUSAP KBOSK6EKRANN24JFK   040BAWLLK6EA0E    010TF                    06420334
SUSAP KBOSK6EKRANN24JFK   050STRKKK6EA0E    010TF                    07960345
SUSAP KBOSK6EKRANN24JFK   060ORW  K6D 0V    010TF                    07990105
SUSAP KBOSK6EKRANN24JFK   070OUTTTK6EA0E    010TF                    08430074
SUSAP KBOSK6EKRANN24JFK   080KINNGK6EA0E    010TF                    08450132
SUSAP KBOSK6EKRANN24JFK   090PVD  K6D 0VE H 010TF                    08460070
SUSAP KBOSK6EKRANN24MERIT 010MERITK6EA0E      IF                                                  18000
SUSAP KBOSK6EKRANN24MERIT 020STRKKK6EA0E    010TF                    09780423
SUSAP KBOSK6EKRANN24MERIT 030ORW  K6D 0V    010TF                    07990105
SUSAP KBOSK6EKRANN24MERIT 040OUTTTK6EA0E    010TF                    08430074
SUSAP KBOSK6EKRANN24MERIT 050KINNGK6EA0E    010TF                    08450132
SUSAP KBOSK6EKRANN24MERIT 060PVD  K6D 0VE H 010TF                    08460070
SUSAP KBOSK6EKRANN25      010PVD  K6D 0V  H    IF                                                  18000
SUSAP KBOSK6EKRANN25      020FILYPK6EA0E    010TF                    07620060
SUSAP KBOSK6EKRANN25      030KRANNK6EA0EE   010TF                    07630098      11000         270
SUSAP KBOSK6EKRANN26RW04B 010KRANNK6EA0E      IF                                                  18000
SUSAP KBOSK6EKRANN26RW04B 020KRANNK6EA0EE     FM BOS K6      207303070760    D
SUSAP KBOSK6EKRANN26RW15R 010KRANNK6EA0E      IF                                                  18000
SUSAP KBOSK6EKRANN26RW15R 020KRANNK6EA0EE     FM BOS K6      207303070760    D
SUSAP KBOSK6EKRANN26RW22L 010KRANNK6EA0E      IF                                                  18000
SUSAP KBOSK6EKRANN26RW22L 020ANSLYK6EA0E    010TF                    07600076    + 08000
SUSAP KBOSK6EKRANN26RW22L 030CRADLK6EA0E    010TF                    07590110
SUSAP KBOSK6EKRANN26RW22L 040KLEBBK6EA0E    010TF                    06410088      08000         250
SUSAP KBOSK6EKRANN26RW22L 050ETHYNK6EA0E    010TF                    02770133      05000         250
SUSAP KBOSK6EKRANN26RW22L 060PTRIKK6EA0E    010TF                    33180169      05000         210
SUSAP KBOSK6EKRANN26RW22L 070TAALEK6EA0EY   010TF                    03600063      05000         210
SUSAP KBOSK6EKRANN26RW22L 080TAALEK6EA0EE     FM BOS K6      046901880360    D     05000         210
SUSAP KBOSK6EKRANN26RW22R 010KRANNK6EA0E      IF                                                  18000
SUSAP KBOSK6EKRANN26RW22R 020KRANNK6EA0EE     FM BOS K6      207303070760    D
SUSAP KBOSK6EKRANN26RW27  010KRANNK6EA0E      IF                                                  18000
SUSAP KBOSK6EKRANN26RW27  020ANSLYK6EA0E    010TF                    07600076    + 08000
SUSAP KBOSK6EKRANN26RW27  030CRADLK6EA0E    010TF                    07590110
SUSAP KBOSK6EKRANN26RW27  040KLEBBK6EA0E    010TF                    06410088      08000         250
SUSAP KBOSK6EKRANN26RW27  050HOKDUK6EA0EY   010TF                    02470130      05000         210
SUSAP KBOSK6EKRANN26RW27  060HOKDUK6EA0EE      FM BOS K6      112201870250    D     05000         210
SUSAP KBOSK6EKRANN26RW32  010KRANNK6EA0E      IF                                                  18000
SUSAP KBOSK6EKRANN26RW32  020KRANNK6EA0EE     FM BOS K6      207303070760    D
SUSAP KBOSK6EKRANN26RW33L 010KRANNK6EA0E      IF                                                  18000
SUSAP KBOSK6EKRANN26RW33L 020ANSLYK6EA0E    010TF                    07600076    + 08000
SUSAP KBOSK6EKRANN26RW33L 030BEREIK6EA0E    010TF                    07050093      08000         220
SUSAP KBOSK6EKRANN26RW33L 040BBOGGK6EA0EY   010TF                    06070076      06000         210
SUSAP KBOSK6EKRANN26RW33L 050BBOGGK6EA0EE     FM BOS K6      154702060600    D     06000         210
```

QUALITY 1 CHECKED

(11) Arrival Name	(12) Number	(13) STAR Computer Code	(14) Superseded Nr.	(15) Dated	(16) Effective Date
KRANN RNAV	TWO	KRANN.KRANN2	ONE	15 DEC 2011	

US Department of Transportation
Federal Aviation Administration

STAR (Data Record)

```
                1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY  12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAP KBOSK6GRW04L   0078610357 N42212876W071005162+0000     -00235000140000501 50V
        SUSAP KBOSK6GRW04R   0100050357 N42211455W071003727+0000     -00223000181154511 50IIBOS3
        SUSAP KBOSK6GRW15R   0100831512 N42222120W071005613+0000     -00224000170881601 50IIMDC1
        SUSAP KBOSK6GRW22L   0100052157 N42222569W071000284+0000     -00229000161199551 50IILQN1
        SUSAP KBOSK6GRW22R   0078612157 N42223426W071001993+0000     -00230000150815501 50V
        SUSAP KBOSK6GRW27    0070002726 N42213678W070591573+0000     -00232000150000571 50IIDGU1
        SUSAP KBOSK6GRW32    0050003217 N42205496W071002969-0100     -00216000200000451 00R
        SUSAP KBOSK6GRW33L   0100833312 N42211674W070592971+0000     -00231000150000571 50IILIP1
```

QUALITY CHECKED

(11) Arrival Name	(12) Number	(13) STAR Computer Code	(14) Superseded Nr.	(15) Dated	(16) Effective Date
KRANN RNAV	TWO	KRANN.KRANN2	ONE	15 DEC 2011	

FAA Form 7100-3 (9/02)

US Department of Transportation
Federal Aviation Administration

STAR (Data Record)

ARINC SUMMARY - 424-18 - STAR

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	JFK	JFK	010		IF		FB					
	JFK	TRUIZ	020		TF		FB	1.0	064.0()	015.0		
	JFK	NEWES	030		TF		FB	1.0	064.2()	005.0		
	JFK	BAWLL	040		TF		FB	1.0	064.2()	033.4		
	JFK	STRKK	050		TF		FB	1.0	079.6()	034.5		
	JFK	ORW	060		TF		FB	1.0	079.9()	010.5		
	JFK	OUTTT	070		TF		FB	1.0	084.3()	007.4		
	JFK	KINNG	080		TF		FB	1.0	084.5()	013.2		
	JFK	PVD	090		TF		FB	1.0	084.6()	007.0		
	MERIT	MERIT	010		IF		FB					
	MERIT	STRKK	020		TF		FB	1.0	097.8()	042.3		
	MERIT	ORW	030		TF		FB	1.0	079.9()	010.5		
	MERIT	OUTTT	040		TF		FB	1.0	084.3()	007.4		
	MERIT	KINNG	050		TF		FB	1.0	084.5()	013.2		
	MERIT	PVD	060		TF		FB	1.0	084.6()	007.0		
		PVD	010		IF		FB					
		FILYP	020		TF		FB	1.0	076.2()	006.0		
		KRANN	030		TF		FB	1.0	076.3()	009.8	AT 11000	AT 270
	RW04B	KRANN	010		IF		FB					
	RW04B	KRANN	020		FM		FB		076.0()			
	RW15R	KRANN	010		IF		FB					
	RW15R	KRANN	020		FM		FB		076.0()			
	RW22L	KRANN	010		IF		FB					
	RW22L	ANSLY	020		TF		FB	1.0	076.0()	007.6	AA 08000	
	RW22L	CRADL	030		TF		FB	1.0	075.9()	011.0		
	RW22L	KLEBB	040		TF		FB	1.0	064.1()	008.8	AT 08000	AT 250
	RW22L	ETHYN	050		TF		FB	1.0	027.7()	013.3	AT 05000	AT 250
	RW22L	PTRIK	060		TF		FB	1.0	331.8()	016.9	AT 05000	AT 210
	RW22L	TAALE	070		TF		FO	1.0	036.0()	006.3	AT 05000	AT 210
	RW22L	TAALE	080		FM		FB		036.0()		AT 05000	AT 210
	RW22R	KRANN	010		IF		FB					
	RW22R	KRANN	020		FM		FB		076.0()			
	RW27	KRANN	010		IF		FB					
	RW27	ANSLY	020		TF		FB	1.0	076.0()	007.6	AA 08000	
	RW27	CRADL	030		TF		FB	1.0	075.9()	011.0		
	RW27	KLEBB	040		TF		FB	1.0	064.1()	008.8	AT 08000	AT 250
	RW27	HOKDU	050		TF		FO	1.0	024.7()	013.0	AT 05000	AT 210
	RW27	HOKDU	060		FM		FB		025.0()		AT 05000	AT 210

QUALITY CHECKED

(11) Arrival Name	(12) Number	(13) STAR Computer Code	(14) Superseded Nr.	(15) Dated	(16) Effective Date
KRANN RNAV	TWO	KRANN.KRANN2	ONE	15 DEC 2011	

FAA Form 7100-3 (9/02)

US Department of Transportation
Federal Aviation Administration

STAR (Data Record)

RW32	KRANN	010	IF	FB					
RW32	KRANN	020	FM	FB		076.0()			
RW33L	KRANN	010	IF	FB					
RW33L	ANSLY	020	TF	FB	1.0	076.0()	007.6	AA 08000	
RW33L	BEREI	030	TF	FB	1.0	070.5()	009.3	AT 08000	AT 220
RW33L	BBOGG	040	TF	FO	1.0	060.7()	007.6	AT 06000	AT 210
RW33L	BBOGG	050	FM	FB		060.0()		AT 06000	AT 210

POINT DATA	WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
	BOS	N422126.82	W0705922.37	N4221.447	W07059.373
	JFK	N403758.40	W0734617.00	N4037.973	W07346.283
	ORW	N413323.05	W0715957.67	N4133.384	W07159.961
	PVD	N414327.64	W0712546.67	N4143.461	W07125.778
	ANSLY	N415507.53	W0705832.32	N4155.126	W07058.539
	BAWLL	N411331.18	W0725342.27	N4113.520	W07253.705
	BBOGG	N420556.98	W0704109.06	N4205.950	W07041.151
	BEREI	N420032.09	W0704820.74	N4200.535	W07048.346
	CRADL	N420036.88	W0704547.55	N4200.615	W07045.793
	ETHYN	N421933.13	W0703319.59	N4219.552	W07033.327
	FILYP	N414626.57	W0711849.35	N4146.443	W07118.823
	HOKDU	N421922.29	W0703418.28	N4219.372	W07034.305
	KINNG	N414054.91	W0713429.04	N4140.915	W07134.484
	KLEBB	N420630.28	W0703658.08	N4206.505	W07036.968
	KRANN	N415118.69	W0710724.46	N4151.312	W07107.408
	MERIT	N412255.02	W0730814.75	N4122.917	W07308.246
	NEWES	N405120.21	W0732641.77	N4051.337	W07326.696
	OUTTT	N413606.41	W0715049.56	N4136.107	W07150.826
	PTRIK	N423138.24	W0704914.28	N4231.637	W07049.238
	STRKK	N412845.63	W0721233.94	N4128.761	W07212.566
	TAALE	N423734.55	W0704618.74	N4237.576	W07046.312
	TRUIZ	N404759.36	W0733137.37	N4047.989	W07331.623
	RW04L	N422128.76	W0710051.62	N4221.479	W07100.860
	RW04R	N422114.55	W0710037.27	N4221.243	W07100.621
	RW15R	N422221.20	W0710056.13	N4222.353	W07100.936
	RW22L	N422225.69	W0710002.84	N4222.428	W07100.047
	RW22R	N422234.26	W0710019.93	N4222.571	W07100.332
	RW27	N422136.78	W0705915.73	N4221.613	W07059.262
	RW32	N422054.96	W0710029.69	N4220.916	W07100.495
	RW33L	N422116.74	W0705929.71	N4221.279	W07059.495

RUNWAY DATA	RWY	THRESHOLD ELEVATION	TCH

QUALITY CHECKED

(11) Arrival Name	(12) Number	(13) STAR Computer Code	(14) Superseded Nr.	(15) Dated	(16) Effective Date
KRANN RNAV	TWO	KRANN.KRANN2	ONE	15 DEC 2011	

FAA Form 7100-3 (9/02)

RW04L	00014	50
RW04R	00018	51
RW15R	00017	60
RW22L	00016	55
RW22R	00015	50
RW27	00015	57
RW32	00020	45
RW33L	00015	57

QUALITY CHECKED

(11) Arrival Name	(12) Number	(13) STAR Computer Code	(14) Superseded Nr.	(15) Dated	(16) Effective Date
KRANN RNAV	TWO	KRANN.KRANN2	ONE	15 DEC 2011	

RADIO FIX AND HOLDING DATA RECORD

NAME: ANSLY **STATE:** MA **COUNTRY:** US

LATITUDE/LONGITUDE: 415507.53N/0705832.32W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	KRANN (RNAV)			KBOS	BOSTON	MA (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 03/28/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

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

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: ETHYN **STATE:** MA **COUNTRY:** US

LATITUDE/LONGITUDE: 421933.13N/0703319.59W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	KRANN (RNAV)			KBOS	BOSTON	MA (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 03/28/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

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

QUALITY CHECK

RADIO FIX AND HOLDING DATA RECORD

NAME: FILYP **STATE:** MA **COUNTRY:** US

LATITUDE/LONGITUDE: 414626.57N/0711849.35W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	KRANN (RNAV)			KBOS	BOSTON	MA (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 03/28/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

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

QUALITY CHECK

RADIO FIX AND HOLDING DATA RECORD

NAME: HOKDU **STATE:** MA **COUNTRY:** US

LATITUDE/LONGITUDE: 421922.29N/0703418.28W **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
STAR	KRANN (RNAV)			KBOS	BOSTON	MA (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2 **DATE OF REVISION:** 09/20/2012

REASON FOR REVISION:
1. FIX MOVED 1.96 NM NORTH. ATC REQUESTS FIX NAME REMAIN THE SAME FOR OPERATIONAL REASONS.
2. REMOVED IAP FROM REQUIRED CHARTING
3. UPDATED FIX USE.

05/18/2012: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 03/28/2012.
FIX MOVED AN ADDITIONAL 0.64 NM NORTH PER ATC REQUEST.

DEVELOPED BY: **DATE:** 03/28/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

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

RADIO FIX AND HOLDING DATA RECORD

NAME: KINNG **STATE:** RI **COUNTRY:** US

LATITUDE/LONGITUDE: 414054.91N/0713429.04W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	KRANN (RNAV)			KBOS	BOSTON	MA (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 03/28/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

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

QUALITY CHECK

RADIO FIX AND HOLDING DATA RECORD

NAME: KLEBB **STATE:** MA **COUNTRY:** US

LATITUDE/LONGITUDE: 420630.28N/0703658.08W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	KRANN (RNAV)			KBOS	BOSTON	MA (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 03/28/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

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

RADIO FIX AND HOLDING DATA RECORD

NAME: KRANN **STATE:** MA **COUNTRY:** US

LATITUDE/LONGITUDE: 415118.69N/0710724.46W **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	PROVIDENCE	PVD	VORTAC	H	074.17	060.17	15.82	15.80		5000	17500
2	BOSTON	BOS	VOR/DME	H	207.27	191.27		30.71		5000	17500

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

REMARKS:
PROVIDENCE (FAC 1) AND BOSTON (FAC 2) USED TO ESTABLISH FIX COORDINATES

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	KRANN (RNAV)			KBOS	BOSTON	MA (US)
STAR	NORWICH	1, 2		KBOS	BOSTON	MA (US)

REQUIRED CHARTING: STAR, CONTROLLER

COMPULSORY REPORTING POINT: NO

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

REASON FOR REVISION:
1. MOVED FIX 0.58 NM SOUTHEAST.
2. UPDATED FAC 1 MAG BRG FROM 072.09 TO 074.17.
3. UPDATED FAC 1 DME AND DIST FROM FAC FROM 15.86 TO 15.82.
4. UPDATED FAC 2 MAG BRG FROM 207.95 TO 207.27.
5. UPDATED FAC 2 DIST FROM FAC FROM 30.26 TO 30.71.

DEVELOPED BY: **DATE:** 03/27/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

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

RADIO FIX AND HOLDING DATA RECORD

NAME: MERIT **STATE:** CT **COUNTRY:** US

LATITUDE/LONGITUDE: 412255.02N/0730814.75W **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	LA GUARDIA	LGA	VOR/DME	L	054.52	042.52	48.86	48.86		4000	17500
2	HAMPTON	HTO	VORTAC	H	320.00	307.00		46.42		4000	17500
3	CARMEL	CMK	VOR/DME	L	084.92	072.92		20.97		4000	17500
4	MADISON	MAD	VOR/DME	L	294.62	281.62		20.53		4000	17500

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
HTO	VORTAC	R-320	47	4000	17500
LGA	VOR/DME	R-055	49	4000	17500

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

REMARKS:
HAMPTON (FAC 2) AND LA GUARDIA (FAC 1) USED TO ESTABLISH FIX COORDINATES

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	MORRISTOWN	1		KMMU	MORRISTOWN	NJ (US)
DP	LIBERTY	1		KEWR	NEWARK	NJ (US)
DP	NEWARK	1		KEWR	NEWARK	NJ (US)
DP	PORTT (RNAV)			KEWR	NEWARK	NJ (US)
DP	RUUDY (RNAV)			KTEB	TETERBORO	NJ (US)
DP	TETERBORO	1		KTEB	TETERBORO	NJ (US)
DP	FARMINGDALE			KFRG	FARMINGDALE	NY (US)
DP	LONG ISLAND			KISP	ISLIP	NY (US)
DP	BETTE			KJFK	NEW YORK	NY (US)
DP	GREKI			KJFK	NEW YORK	NY (US)
DP	HAPIE			KJFK	NEW YORK	NY (US)
DP	KENNEDY			KJFK	NEW YORK	NY (US)
DP	MERIT			KJFK	NEW YORK	NY (US)
DP	SKORR (RNAV)			KJFK	NEW YORK	NY (US)
DP	JUTES (RNAV)			KLGA	NEW YORK	NY (US)
DP	LA GUARDIA			KLGA	NEW YORK	NY (US)
DP	TNNIS (RNAV)			KLGA	NEW YORK	NY (US)
DP	WESTCHESTER			KHPN	WHITE PLAINS	NY (US)
EN ROUTE	V99	1, 2, 3, 4				(US)
STAR	KRANN (RNAV)			KBOS	BOSTON	MA (US)
STAR	OOSHN (RNAV)			KBOS	BOSTON	MA (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 6 **DATE OF REVISION:** 09/20/2012

REASON FOR REVISION:
1. UPDATED FAC 3 DIST FROM FAC FROM 20.98 NM TO 20.97 NM.
2. UPDATED FAC 1, 2, 3, 4 MRA FROM 10000 TO 4000 TO SUPPORT MEA ON V99.
3. UPDATED LGA AND HTO ESV MIN ALT FROM 10000 TO 4000 (ON FILE IN ESVMS).
4. ADDED STAR TO REQUIRED CHARTING.
5. UPDATED FIX USE.

DEVELOPED BY: **DATE:** 03/28/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZBW
ATC FACILITY: N90
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: OUTTT **STATE:** CT **COUNTRY:** US

LATITUDE/LONGITUDE: 413606.41N/0715049.56W **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	NORWICH	ORW	VOR/DME	L	082.30	068.30	7.38	7.38		11000	17500
2	PROVIDENCE	PVD	VORTAC	H	262.67	248.67	20.16	20.16		11000	17500

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	KRANN (RNAV)			KBOS	BOSTON	MA (US)
STAR	NORWICH	1, 2		KBOS	BOSTON	MA (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

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

REASON FOR REVISION:
1. ADDED FAC 2 TO SUPPORT NORWICH STAR.
2. AMENDED FAC 1 MAA FROM 18000 TO 17500.
3. UPDATED FIX USE.

DEVELOPED BY: **DATE:** 04/26/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

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

RADIO FIX AND HOLDING DATA RECORD

NAME: PROVIDENCE VORTAC **STATE:** RI **COUNTRY:** US

LATITUDE/LONGITUDE: 414327.64N/0712546.67W **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	PROVIDENCE	PVD	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	S	PVD	VORTAC	181.00	001.00	R	1		1900	5000	4	5
2	N	PVD	VORTAC	344.00	164.00	R	1		3000	5000	4	5
3	NE	PVD	VORTAC	057.00	237.00	R	1 1/2		18000	39000	16	27
4	N	PVD	VORTAC	008.00	188.00	R	1		2100	6000	4	6
5	SW	PVD	VORTAC	234.00	054.00	R	1-1 1/2		2000	45000	4	29
6	N		WP	344.96	164.96	R		4	3000	5000	5	6
7	NE		WP	057.00	237.00	R	1 1/2		17000	24000	17	20
8	SW	PVD	VORTAC	234.00	054.00	R		7	11000	14000	9	10
9	SW		WP	235.41	055.41	R		10	11000	18000	15	17

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	414039.00N/0712942.00W	542	4E
2	200	TOWER (44-000125)	414812.00N/0713325.00W	1049	5D
4	200	TOWER (44-000125)	414812.00N/0713325.00W	1049	5D
5	200	AAO	413724.00N/0713348.00W	732	4E
6	200	TOWER (44-000125)	414812.00N/0713325.00W	1049	5D
7	265	TOWER (25-000325)	415213.00N/0711743.00W	1149	4D
8	230	TOWER (44-000113)	413423.00N/0713756.00W	851	2C
9	230	TOWER (44-000125)	414812.00N/0713325.00W	1049	5D

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	BRADLEY			KBDL	WINDSOR LOCKS	CT (US)
DP	HANSCOM			KBED	BEDFORD	MA (US)
DP	BEVERLY			KBVY	BEVERLY	MA (US)
DP	LOGAN			KBOS	BOSTON	MA (US)
DP	LAWRENCE			KLWM	LAWRENCE	MA (US)
DP	STEWY (RNAV)			KACK	NANTUCKET	MA (US)
DP	NORWOOD			KOWD	NORWOOD	MA (US)
EN ROUTE	J225					(US)
EN ROUTE	J55		5			(US)
EN ROUTE	J68					(US)
EN ROUTE	T255					(US)
EN ROUTE	V139		5			(US)
EN ROUTE	V146					(US)
EN ROUTE	V151					(US)
EN ROUTE	V167					(US)
EN ROUTE	V405					(US)
EN ROUTE	V475					(US)
IAP	RNAV (GPS) RWY 23			KGON	GROTON/NEW LONDON	CT (US)
IAP	VOR RWY 23			KGON	GROTON/NEW LONDON	CT (US)
IAP	ILS RWY 15R			KBOS	BOSTON	MA (US)
IAP	VOR/DME RWY 15R			KBOS	BOSTON	MA (US)
IAP	VOR/DME RWY 27			KBOS	BOSTON	MA (US)
IAP	VOR/DME RWY 33L			KBOS	BOSTON	MA (US)
IAP	ILS OR LOC RWY 32			KFMH	FALMOUTH	MA (US)
IAP	TACAN RWY 14			KFMH	FALMOUTH	MA (US)
IAP	NDB RWY 32			K1B9	MANSFIELD	MA (US)
IAP	ILS OR LOC RWY 5			KEWB	NEW BEDFORD	MA (US)
IAP	LOC BC RWY 23			KEWB	NEW BEDFORD	MA (US)
IAP	NDB RWY 5			KEWB	NEW BEDFORD	MA (US)
IAP	RNAV (GPS) RWY 5			KEWB	NEW BEDFORD	MA (US)
IAP	LOC RWY 35			KOWD	NORWOOD	MA (US)
IAP	ILS OR LOC/DME RWY 6			KPYM	PLYMOUTH	MA (US)
IAP	RNAV (GPS) RWY 6			KPYM	PLYMOUTH	MA (US)
IAP	RNAV (GPS) RWY 2			K3B0	SOUTHBRIDGE	MA (US)
IAP	NDB OR GPS RWY 30			KTAN	TAUNTON	MA (US)
IAP	ILS OR LOC RWY 24			KMVY	VINEYARD HAVEN	MA (US)
IAP	VOR RWY 6			KMVY	VINEYARD HAVEN	MA (US)

QUALITY CHECKED

IAP	LOC RWY 22		KUUU	NEWPORT	RI (US)
IAP	RNAV (GPS) RWY 16	6	KUUU	NEWPORT	RI (US)
IAP	VOR/DME RWY 16	2	KUUU	NEWPORT	RI (US)
IAP	ILS OR LOC RWY 16		KOQU	NORTH KINGSTOWN	RI (US)
IAP	VOR RWY 34		KOQU	NORTH KINGSTOWN	RI (US)
IAP	VOR-A	4	KOQU	NORTH KINGSTOWN	RI (US)
IAP	LOC RWY 05		KSFZ	PAWTUCKET	RI (US)
IAP	VOR OR GPS-A	1	KSFZ	PAWTUCKET	RI (US)
IAP	VOR OR GPS-B		KSFZ	PAWTUCKET	RI (US)
IAP	ILS OR LOC RWY 23		KPVD	PROVIDENCE	RI (US)
IAP	ILS OR LOC RWY 5		KPVD	PROVIDENCE	RI (US)
IAP	ILS OR LOC/DME RWY 34		KPVD	PROVIDENCE	RI (US)
IAP	ILS RWY 5 (CAT II)		KPVD	PROVIDENCE	RI (US)
IAP	ILS RWY 5 (CAT III)		KPVD	PROVIDENCE	RI (US)
IAP	RNAV (GPS) RWY 16		KPVD	PROVIDENCE	RI (US)
IAP	RNAV (GPS) RWY 5		KPVD	PROVIDENCE	RI (US)
IAP	VOR RWY 34		KPVD	PROVIDENCE	RI (US)
IAP	VOR RWY 5		KPVD	PROVIDENCE	RI (US)
IAP	VOR/DME RWY 16		KPVD	PROVIDENCE	RI (US)
IAP	VOR/DME RWY 23		KPVD	PROVIDENCE	RI (US)
IAP	VOR/DME RWY 34		KPVD	PROVIDENCE	RI (US)
STAR	GRAYM		KBED	BEDFORD	MA (US)
STAR	KRANN (RNAV)	9	KBOS	BOSTON	MA (US)
STAR	NORWICH	8	KBOS	BOSTON	MA (US)
STAR	OOSHN (RNAV)		KBOS	BOSTON	MA (US)
STAR	SCUPP		KBOS	BOSTON	MA (US)
STAR	WOONS		KBOS	BOSTON	MA (US)
STAR	NEWBE		KACK	NANTUCKET	MA (US)
STAR	PARCH (RNAV)	7	KFRG	FARMINGDALE	NY (US)
STAR	ROBER	3	KFRG	FARMINGDALE	NY (US)
STAR	PARCH (RNAV)	7	KJFK	NEW YORK	NY (US)
STAR	ROBER	3	KJFK	NEW YORK	NY (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 24 **DATE OF REVISION:** 09/20/2012

REASON FOR REVISION:
1. AMENDED PAT 3 MIN HOLDING ALTITUDE FROM 24000 TO 18000 TO SUPPORT ROBER STAR.
2. DELETED PAT 3 CONTROLLING OBSTACLE (NOT REQUIRED, MIN HOLDING ALTITUDE 18000).
3. AMENDED PAT 4 MAX HOLDING ALTITUDE FROM 10000 TO 6000.
4. AMENDED PAT 5 MIN HOLDING ALTITUDE FROM 11000 TO 2000 TO SUPPORT HOLDING CHARTED ON V139.
5. AMENDED PAT 5 CONTROLLING OBSTACLE FROM 851 MSL TOWER TO 732 MSL AAO.
6. AMENDED PAT 5 MAX HOLDING ALTITUDE FROM 23000 TO 45000 TO SUPPORT HOLDING CHARTED ON J55.
7. AMENDED PAT 7 FROM 10 NM LEGS TO LEG TIME 1 1/2 TO SUPPORT DEPICTION ON PARCH STAR.
8. AMENDED PAT 8 CRS INBOUND FROM 053 TO 054.
9. AMENDED PAT 8 TIMED HOLDING TO 7 NM LEGS.
10. UPDATED FIX USE.

DEVELOPED BY: **DATE:** 03/27/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

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

RADIO FIX AND HOLDING DATA RECORD

NAME: TAALE **STATE:** MA **COUNTRY:** US

LATITUDE/LONGITUDE: 423734.55N/0704618.74W **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
STAR	KRANN (RNAV)			KBOS	BOSTON	MA (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

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

REASON FOR REVISION:
FIX MOVED 538 FEET WEST.

DEVELOPED BY: **DATE:** 03/28/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

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

RADIO FIX AND HOLDING DATA RECORD

NAME: BAWLL **STATE:** CT **COUNTRY:** INFO ONLY

LATITUDE/LONGITUDE: 411331.18N/0725342.27W **TYPE:** WP, INT, DME

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

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	KENNEDY	JFK	VOR/DME	H	060.00	048.00	53.39	53.39		18000	45000
2	HAMPTON	HTO	VORTAC	H	318.18	305.18		32.04		18000	45000

REMARKS:
HAMPTON (FAC 2) AND KENNEDY (FAC 1) USED TO ESTABLISH FIX COORDINATES

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	J225	1, 2				(US)
STAR	KRANN (RNAV)			KBOS	BOSTON	MA (US)
STAR	NORWICH	1, 2		KBOS	BOSTON	MA (US)
STAR	OSHNN (RNAV)			KBOS	BOSTON	MA (US)

REQUIRED CHARTING: STAR, CONTROLLER, EN ROUTE HIGH

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 06/24/2011 **OFFICE:** AJV-352 **NAME:** DONALD SMITH (DAVID SAUER)

APPROVED BY: **DATE:** 10/26/2011 **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

SIGNATURE:

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

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: BBOGG **STATE:** MA **COUNTRY:** US

LATITUDE/LONGITUDE: 420556.98N/0704109.06W **TYPE:** WP

INFO ONLY

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	KRANN (RNAV)			KBOS	BOSTON	MA (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 06/23/2011 **OFFICE:** AJV-352 **NAME:** DONALD SMITH (DAVID SAUER)

APPROVED BY: **DATE:** 10/26/2011 **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

SIGNATURE:

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

QUALITY CHECK

RADIO FIX AND HOLDING DATA RECORD

NAME: BEREI **STATE:** MA **COUNTRY:** US

LATITUDE/LONGITUDE: 420032.09N/0704820.74W **TYPE:** WP

INFO ONLY

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	KRANN (RNAV)			KBOS	BOSTON	MA (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 06/23/2011 **OFFICE:** AJV-352 **NAME:** DONALD SMITH (DAVID SAUER)

APPROVED BY: **DATE:** 10/26/2011 **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

SIGNATURE:

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

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: CRADL **STATE:** MA **COUNTRY:** US

INFO ONLY

LATITUDE/LONGITUDE: 420036.88N/0704547.55W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	KRANN (RNAV)			KBOS	BOSTON	MA (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 06/23/2011 **OFFICE:** AJV-352 **NAME:** DONALD SMITH (DAVID SAUER)

APPROVED BY: **DATE:** 10/26/2011 **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

SIGNATURE:

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

RADIO FIX AND HOLDING DATA RECORD

NAME: NEWES **STATE:** NY **COUNTRY:** US

INFO ONLY

LATITUDE/LONGITUDE: 405120.21N/0732641.77W **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	DIST FROM FAC FEET	MRA	MAA
1	KENNEDY	JFK	VOR/DME	H	060.00	048.00	20.00	20.00		18000	45000

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	J225	1				(US)
STAR	KRANN (RNAV)			KBOS	BOSTON	MA (US)
STAR	NORWICH	1		KBOS	BOSTON	MA (US)

REQUIRED CHARTING: STAR, CONTROLLER, EN ROUTE HIGH

COMPULSORY REPORTING POINT: NO

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

REASON FOR REVISION:
1. ADDED FAC 1 DIST FROM FAC IN NM.
2. UPDATED FIX USE.

DEVELOPED BY: **DATE:** 06/24/2011 **OFFICE:** AJV-352 **NAME:** DONALD SMITH (DAVID SAUER)

APPROVED BY: **DATE:** 10/26/2011 **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

SIGNATURE:

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

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

CHART: 5/31/12

INFO ONLY

NAME: NORWICH VOR/DME **STATE:** CT **COUNTRY:** US

LATITUDE/LONGITUDE: 413323.05N/0715957.67W **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	NORWICH	ORW	VOR/DME	L							17500

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

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	LEG LENGTH DME	HOLDING ALTITUDES MIN	HOLDING ALTITUDES MAX	TEMPLATES MIN	TEMPLATES MAX
1	S	ORW	VOR/DME	158.00	338.00	R	1		2600	6000	4	5
2	SW	ORW	VOR/DME	238.00	058.00	L	1-1 1/2		2500	17500	4	16
3	S		WP	158.00	338.00	R		4	2600	6000	5	6

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (09-000114)	412739.00N/0715544.00W	793	1D
2	200	TOWER (09-000073)	413113.00N/0721001.00W	1000	2D
3	200	TOWER (09-000114)	412739.00N/0715544.00W	793	1D

REASON FOR NONSTANDARD HOLDING:
PAT 2 ATC REQUEST

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS
PAT 2 USED FOR KGON ILS OR LOC RWY 5 ALTERNATE MISSED APPROACH

REMARKS:
ORW VOR/DME CHARTED ON HIGH ENROUTE FOR REFERENCE ONLY.
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	BRADLEY			KBDL	WINDSOR LOCKS	CT (US)
DP	NUBLE (RNAV)			KPWM	PORTLAND	ME (US)
DP	PPORT (RNAV)			KMHT	MANCHESTER	NH (US)
EN ROUTE	T300					(US)
EN ROUTE	V130					(US)
EN ROUTE	V14					(US)
EN ROUTE	V16		2			(US)
EN ROUTE	V308					(US)
EN ROUTE	V475					(US)
IAP	ILS OR LOC RWY 5		2	KGON	GROTON/NEW LONDON	CT (US)
IAP	RNAV (GPS) RWY 23			KGON	GROTON/NEW LONDON	CT (US)
IAP	VOR RWY 23			KGON	GROTON/NEW LONDON	CT (US)
IAP	VOR RWY 5			KGON	GROTON/NEW LONDON	CT (US)
IAP	LDA RWY 2			KHFD	HARTFORD	CT (US)
IAP	VOR OR GPS-A			KHFD	HARTFORD	CT (US)
IAP	RNAV (GPS) RWY 27		3	KIJD	WILLIMANTIC	CT (US)
IAP	RNAV (GPS) RWY 9			KIJD	WILLIMANTIC	CT (US)
IAP	VOR-A		1	KIJD	WILLIMANTIC	CT (US)
IAP	ILS OR LOC RWY 33			KBDL	WINDSOR LOCKS	CT (US)
IAP	RNAV (GPS) RWY 33			KBDL	WINDSOR LOCKS	CT (US)
IAP	ILS OR LOC RWY 16			KOQU	NORTH KINGSTOWN	RI (US)
IAP	VOR RWY 34			KOQU	NORTH KINGSTOWN	RI (US)
IAP	LOC RWY 5			KSFZ	PAWTUCKET	RI (US)
IAP	RNAV (GPS) RWY 5			KSFZ	PAWTUCKET	RI (US)
IAP	VOR-A			KSFZ	PAWTUCKET	RI (US)
IAP	VOR-B			KSFZ	PAWTUCKET	RI (US)
IAP	ILS OR LOC RWY 23			KPVD	PROVIDENCE	RI (US)
IAP	ILS OR LOC RWY 5			KPVD	PROVIDENCE	RI (US)
IAP	ILS OR LOC/DME RWY 34			KPVD	PROVIDENCE	RI (US)
IAP	ILS RWY 5 (CAT II)			KPVD	PROVIDENCE	RI (US)
IAP	ILS RWY 5 (CAT III)			KPVD	PROVIDENCE	RI (US)
IAP	RNAV (GPS) RWY 5			KPVD	PROVIDENCE	RI (US)
IAP	VOR RWY 34			KPVD	PROVIDENCE	RI (US)
IAP	VOR RWY 5			KPVD	PROVIDENCE	RI (US)
IAP	VOR/DME RWY 16			KPVD	PROVIDENCE	RI (US)
IAP	VOR/DME RWY 23			KPVD	PROVIDENCE	RI (US)
IAP	VOR/DME RWY 34			KPVD	PROVIDENCE	RI (US)
IAP	LOC RWY 07			KWST	WESTERLY	RI (US)
STAR	DREEM (RNAV)			KBED	BEDFORD	MA (US)
STAR	GRAYM			KBED	BEDFORD	MA (US)
STAR	DREEM (RNAV)			KBVY	BEVERLY	MA (US)
STAR	GRAYM			KBVY	BEVERLY	MA (US)

QUALITY CHECK

STAR	KRANN (RNAV)		KBOS	BOSTON	MA (US)
STAR	NORWICH		KBOS	BOSTON	MA (US)
STAR	OOSHN (RNAV)		KBOS	BOSTON	MA (US)
STAR	SCUPP		KBOS	BOSTON	MA (US)
STAR	WOONS	2	KBOS	BOSTON	MA (US)
STAR	GRAYM		KFIT	FITCHBURG	MA (US)
STAR	DREEM (RNAV)		KLWM	LAWRENCE	MA (US)
STAR	GRAYM		KLWM	LAWRENCE	MA (US)
STAR	WOONS		K1B9	MANSFIELD	MA (US)
STAR	WOONS		KGHG	MARSHFIELD	MA (US)
STAR	DEEPO (RNAV)		KACK	NANTUCKET	MA (US)
STAR	NEWBE		KACK	NANTUCKET	MA (US)
STAR	WIPOR (RNAV)		KEWB	NEW BEDFORD	MA (US)
STAR	WOONS		KOWD	NORWOOD	MA (US)
STAR	NELIE (RNAV)		KISP	ISLIP	NY (US)
STAR	NELIE (RNAV)		KFOK	WESTHAMPTON BEACH	NY (US)
STAR	WIPOR (RNAV)		KUUU	NEWPORT	RI (US)
STAR	WIPOR (RNAV)		KOQU	NORTH KINGSTOWN	RI (US)
STAR	WIPOR (RNAV)		KSFZ	PAWTUCKET	RI (US)
STAR	WIPOR (RNAV)		KPVD	PROVIDENCE	RI (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 15 **DATE OF REVISION:** 05/31/2012

REASON FOR REVISION:
1. DELETED PAT 4.
2. CHANGED FAC 1 MAA FROM 45000 TO 17500.
3. UPDATED FIX USE.

DEVELOPED BY: **DATE:** 11/29/2011 **OFFICE:** AJV-352 **NAME:** DAVID SAUER

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZBW, ZNY
ATC FACILITY: PVD & NYC APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: PTRIK **STATE:** MA **COUNTRY:** US

LATITUDE/LONGITUDE: 423138.24N/0704914.28W **TYPE:** WP

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

INFO ONLY

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	HYLND (RNAV)			KBOS	BOSTON	MA (US)
STAR	KRANN (RNAV)			KBOS	BOSTON	MA (US)

REQUIRED CHARTING: DP, STAR

COMPULSORY REPORTING POINT: NO

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

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

DEVELOPED BY: **DATE:** 06/23/2011 **OFFICE:** AJV-352 **NAME:** DONALD SMITH (DAVID SAUER)

APPROVED BY: **DATE:** 10/26/2011 **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

SIGNATURE:

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

RADIO FIX AND HOLDING DATA RECORD

NAME: STRKK **STATE:** CT **COUNTRY:** US

LATITUDE/LONGITUDE: 412845.63N/0721233.94W **TYPE:** WP

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

INFO ONLY

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	KRANN (RNAV)			KBOS	BOSTON	MA (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 06/24/2011 **OFFICE:** AJV-352 **NAME:** DONALD SMITH (DAVID SAUER)

APPROVED BY: **DATE:** 10/26/2011 **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

SIGNATURE:

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

RADIO FIX AND HOLDING DATA RECORD

NAME: TRUIZ **STATE:** NY **COUNTRY:** US

INFO ONLY

LATITUDE/LONGITUDE: 404759.36N/0733137.37W **TYPE:** WP, DME

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

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	KENNEDY	JFK	VOR/DME	H	060.00	048.00	14.98	14.98		18000	27000

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	KRANN (RNAV)			KBOS	BOSTON	MA (US)
STAR	NORWICH	1		KBOS	BOSTON	MA (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 06/24/2011 **OFFICE:** AJV-352 **NAME:** DONALD SMITH (DAVID SAUER)

APPROVED BY: **DATE:** 10/26/2011 **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

SIGNATURE:

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

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: CRRAB **STATE:** MA **COUNTRY:** US

LATITUDE/LONGITUDE: 422547.18N/0703527.66W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	KRANN (RNAV)			KBOS	BOSTON	MA (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 06/23/2011 **OFFICE:** AJV-352 **NAME:** DONALD SMITH (DAVID SAUER)

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

SIGNATURE:

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

RADIO FIX AND HOLDING DATA RECORD

NAME: HUBTN **STATE:** MA **COUNTRY:** US

LATITUDE/LONGITUDE: 421643.26N/0703238.02W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	KRANN (RNAV)			KBOS	BOSTON	MA (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

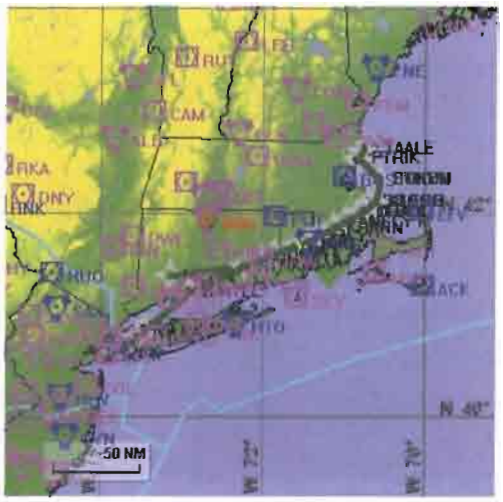
RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 12/15/2011

DEVELOPED BY: **DATE:** 06/23/2011 **OFFICE:** AJV-352 **NAME:** DONALD SMITH (DAVID SAUER)

APPROVED BY: **DATE:** 10/26/2011 **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

SIGNATURE:

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



Name:	Joe Bellabona
Project Name:	KRANN_Rwy 33 & 27_Update
Output File:	STAR JFK _TAALE 20120515_2355
Software:	RNAV-Pro™
Version:	2.36
Date/Time:	5/15/2012 11:55:03 PM
Input File:	KBOS KRANN2 STAR JFK TAALE 20120515.txt
Databases:	AVNIS Date: 02/07/2012
	Obstacle Date: 08/26/2011
	NFD Date: 09/30/2010
	DTED® (MAX) Date: 2002

Results Summary:

Flyability	✓
DME/DME	✓
Radars	✓
Comms	
TERPS	

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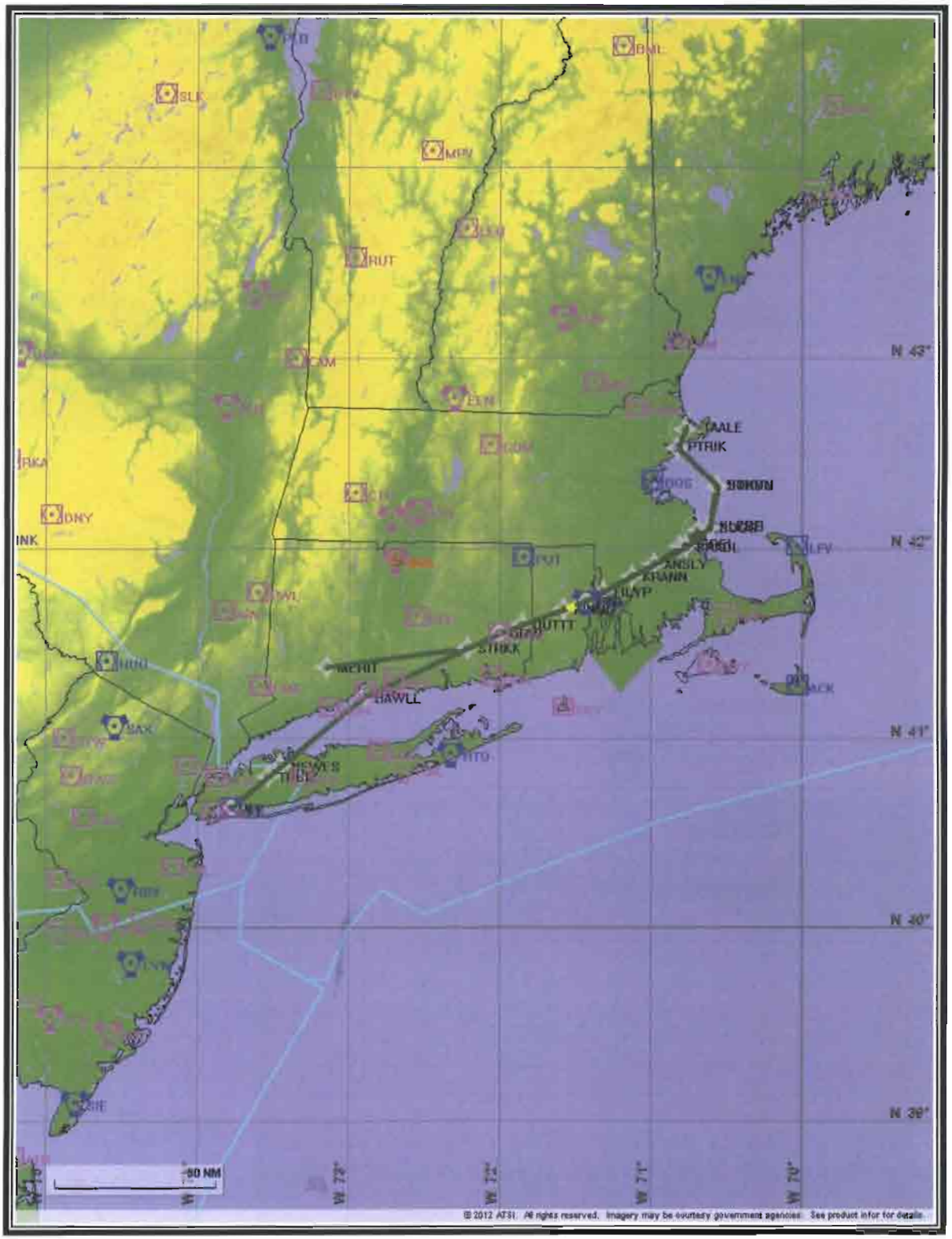
TAALE
PTRIK
ANSLY
KRANN
HAWLL
N 43°
N 42°
N 41°
N 40°
N 39°
W 73°
W 72°
W 71°
W 70°
50 NM
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Flight Plan

Return To Summary

Name	Type	Lat/Lon	Alt [Ft]	VNAV Mode	IAS [Kts]	Turn Type	Leg Type
JFK	WP	N 40° 37' 58.40" W 73° 46' 17.00"	17000.0	Step	280.0	Fly By	TF
TRUIZ	WP	N 40° 47' 59.36" W 73° 31' 37.37"	17000.0	Step	280.0	Fly By	TF
NEWES	WP	N 40° 51' 20.21" W 73° 26' 41.77"	17000.0	Step	280.0	Fly By	TF
BAWLL	WP	N 41° 13' 31.18" W 72° 53' 42.27"	17000.0	Step	280.0	Fly By	TF
STRKK	WP	N 41° 28' 45.63" W 72° 12' 33.94"	17000.0	Step	280.0	Fly By	TF
ORW	WP	N 41° 33' 23.05" W 71° 59' 57.67"	17000.0	Step	280.0	Fly By	TF
OUTTT	WP	N 41° 36' 6.41" W 71° 50' 49.56"	17000.0	Step	280.0	Fly By	TF
KINNG	WP	N 41° 40' 54.91" W 71° 34' 29.04"	11000.0	Step	250.0	Fly By	TF
PVD	WP	N 41° 43' 27.64" W 71° 25' 46.70"	11000.0	Step	250.0	Fly By	TF
FILYP	WP	N 41° 46' 26.57" W 71° 18' 49.35"	11000.0	Step	250.0	Fly By	TF
KRANN	WP	N 41° 51' 18.69" W 71° 7' 24.46"	11000.0	Step	250.0	Fly By	TF
ANSLY	WP	N 41° 55' 7.53" W 70° 58' 32.32"	8000.0	Step	250.0	Fly By	TF
CRADL	WP	N 42° 0' 36.88" W 70° 45' 47.55"	8000.0	Step	250.0	Fly By	TF
KLEBB	WP	N 42° 6' 30.28" W 70° 36' 58.08"	6000.0	Step	250.0	Fly By	TF
ETHYN	WP	N 42° 19' 33.13" W 70° 33' 19.59"	4000.0	Step	250.0	Fly By	TF
PTRIK	WP	N 42° 31' 38.24" W 70° 49' 14.28"	4000.0	Step	210.0	Fly By	TF
_TAALE	WP	N 42° 37' 34.55" W 70° 46' 18.74"	3000.0	Step	210.0	Fly Over	TF

Flyability

Return To Summary

Settings:

Flight Type: Arrival
Aircraft Category: Cat D
Climb Gradient: *None assigned*
Ground Speeds:

Table:

200.0 Kts up to **11000.0 Ft.**
240.0 Kts up to **18000.0 Ft.**
260.0 Kts up to **24000.0 Ft.**
340.0 Kts up to **99900.0 Ft.**

Wind Settings: *None assigned*
Descent During a Turn: Allowed
VNAV Mode: Flight Plan

Entire track is fly-able

DME/DME

Return To Summary

Settings:

RNP: 2.0
Flight Mode: Manual
Line of Sight (DTED Level 0 Max): Evaluated
DME Restrictions: Evaluated
Inertial Drift: Enabled
Initial Drift: 0.558 NM
INS Drift Rate: 8.000 NM/Hour
Range Mode: OSV
Co-Frequencies: Evaluated
RNP Edges: Evaluated
Min DME Range: 3.0 NM
Allowed Gap Length: 4.0 NM
DME Types: VOR/DME , VORTAC , TACAN , and User
DME Include Angles: 30 to 150
Critical DMEs: Allowed
DoD Facilities: Not included
Foreign Facilities: Not included
Low & Terminal DMEs: Included
Flight Check DMEs: Selected
Higher Altitudes: Evaluated
Near Maximum Altitude: Evaluated

Total Number of DMEs Used: 24

Maximum DME Error: 0.355 NM.

No Critical DMEs were found.

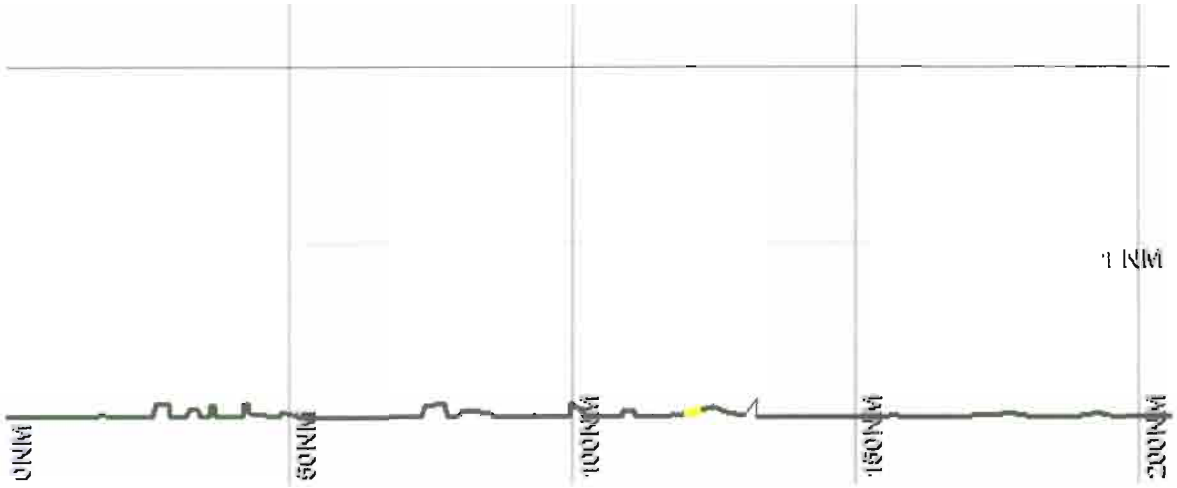
Available DMEs: COL, CYN, DPK, HTO, HUO, LGA, RBV, SAX, CMK, BDR, JFK, CCC, PUT, MAD, PVD, HFD, ORW, BOS, SEY, ACK, LFV, MVY, LWM, MHT, PSM

Disabled DMEs: BDL

Foreign DMEs within range: YJN, YSC, VLV, YQI, YUL

DME/DME (Continued.)

Return To Summary



DME/DME (Continued.)

Return To Summary

DMEs Used

#	Name	Lat/Lon/MAGVAR	Range	Source	Critical	Err. [NM]	Status	Time	Distance
1	HUO	N 41° 24' 34.87" W 74° 35' 29.74" W 11	H	Database	NO	0.423	Enabled	6.2 %	6.6 %
2	RBV	N 40° 12' 8.65" W 74° 29' 42.09" W 10	H	Database	NO	0.355	Enabled	1.4 %	1.4 %
3	LGA	N 40° 47' 1.38" W 73° 52' 6.96" W 12	L	Database	NO	0.355	Enabled	5.5 %	5.8 %
4	COL	N 40° 18' 41.88" W 74° 9' 35.02" W 11	L	Database	NO	0.355	Enabled	2.6 %	2.8 %
5	BDR	N 41° 9' 38.50" W 73° 7' 28.19" W 12	L	Database	NO	0.355	Enabled	3.6 %	3.8 %
6	CMK	N 41° 16' 48.24" W 73° 34' 52.86" W 12	L	Database	NO	0.414	Enabled	7.5 %	8.0 %
7	HTO	N 40° 55' 8.38" W 72° 19' 0.14" W 13	H	Database	NO	1.108	Enabled	11.9 %	12.7 %
8	CYN	N 39° 49' 2.42" W 74° 25' 53.85" W 10	H	Database	NO	0.355	Enabled	1.3 %	1.4 %
9	DPK	N 40° 47' 30.36" W 73° 18' 13.24" W 12	L	Database	NO	0.355	Enabled	7.6 %	8.1 %
10	PVD	N 41° 43' 27.64" W 71° 25' 46.67" W 14	H	Database	NO	0.384	Enabled	13.4 %	12.9 %
11	CCC	N 40° 55' 46.64" W 72° 47' 55.89" W 13	L	Database	NO	0.620	Enabled	8.8 %	9.3 %
12	PUT	N 41° 57' 19.65" W 71° 50' 38.76" W 14	H + ESV	User	NO	0.429	Enabled	34.6 %	34.9 %
13	MAD	N 41° 18' 49.81" W 72° 41' 31.89" W 13	L	Database	NO	0.355	Enabled	2.7 %	2.9 %
14	HFD	N 41° 38' 27.98" W 72° 32' 50.70" W 13	L	Database	NO	0.671	Enabled	10.3 %	11.0 %
15	JFK	N 40° 37' 58.40" W 73° 46' 17.00" W 12	H	Database	NO	0.355	Enabled	3.6 %	3.8 %

DME/DME (Continued.)

Return To Summary

DMEs Used (Continued.)

#	Name	Lat/Lon/MAGVAR	Range	Source	Critical	Err. [NM]	Status	Time	Distance
16	ORW	N 41° 33' 23.05" W 71° 59' 57.67" W 14	L	Database	NO	0.355	Enabled	7.2 %	7.7 %
17	SAX	N 41° 4' 3.16" W 74° 32' 17.93" W 11	H	Database	NO	0.355	Enabled	1.8 %	1.9 %
18	BOS	N 42° 21' 26.82" W 70° 59' 22.37" W 16	H	Database	NO	0.616	Enabled	30.0 %	27.9 %
19	SEY	N 41° 10' 2.77" W 71° 34' 33.91" W 15	L	Database	NO	0.471	Enabled	6.8 %	7.2 %
20	ACK	N 41° 16' 54.79" W 70° 1' 36.16" W 15	H	Database	NO	0.355	Enabled	0.9 %	0.9 %
21	LFV	N 42° 1' 1.88" W 70° 2' 14.04" W 16	H	Database	NO	0.355	Enabled	2.7 %	2.6 %
22	MVY	N 41° 23' 46.36" W 70° 36' 45.80" W 15	L + ESV	User	NO	0.493	Enabled	20.6 %	18.2 %
23	LWM	N 42° 44' 25.50" W 71° 5' 41.43" W 15	L	Database	NO	0.355	Enabled	2.9 %	2.6 %
24	MHT	N 42° 52' 6.70" W 71° 22' 10.31" W 15	L	Database	NO	0.355	Enabled	4.1 %	3.6 %

Flight Check DME Selection

Distance [NM]	Selected DMEs					Alternate
0.0	BDR	HUO	RBV	COL	LGA	CMK
14.9	CMK	HUO	HTO	CYN	LGA	BDR
20.0	CMK	PVD	DPK	CCC	LGA	BDR
31.3	CMK	CYN	DPK	CCC	PUT	SAX
42.6	BDR	MAD	PVD	CCC	PUT	HTO
52.8	HTO	JFK	DPK	HFD	PUT	SAX
63.9	HTO	JFK	ORW	SAX	MAD	CCC
77.7	HFD	JFK	ORW	PUT	BOS	HTO
87.9	HFD	SEY	HTO	PUT	BOS	MAD
98.1	HFD	SEY	JFK	PUT	ACK	BOS
105.8	ORW	SEY	PVD	PUT	LFV	ACK
118.9	ORW	SEY	PVD	PUT		
125.5	ORW	SEY	PVD	PUT		
131.9	ORW	BOS	PVD	PUT	MVY	
141.7	MVY	BOS	PVD	PUT		
149.4	MVY	BOS	PVD	PUT	LFV	

DME/DME (Continued.)

Return To Summary

Flight Check DME Selection (Continued.)

Distance [NM]	Selected DMEs					Alternate
160.0	MVY	BOS	PVD	PUT	LFV	
168.6	MVY	BOS	LWM	PUT	LFV	
181.6	MVY	BOS	LWM	MHT	LFV	PSM
198.3	PSM	BOS	LWM	MHT		

Inertial Drift Segments

#	Start Location	End Location	Length [NM]
1	N 41° 45' 41.56" W 71° 20' 34.25"	N 41° 46' 43.27" W 71° 18' 10.49"	2.1
	VOR: BOS	Available from N 41° 45' 41.56" W 71° 20' 34.25" to N 41° 46' 43.27" W 71° 18' 10.49"	
	VOR: MVY	Available from N 41° 45' 41.56" W 71° 20' 34.25" to N 41° 46' 43.27" W 71° 18' 10.49"	
	VOR: ORW	Available from N 41° 45' 41.56" W 71° 20' 34.25" to N 41° 46' 43.27" W 71° 18' 10.49"	
	VOR: PUT	Available from N 41° 45' 41.56" W 71° 20' 34.25" to N 41° 46' 43.27" W 71° 18' 10.49"	
	VOR: PVD	Available from N 41° 45' 41.56" W 71° 20' 34.25" to N 41° 46' 43.27" W 71° 18' 10.49"	
	VOR: SEY	Available from N 41° 45' 41.56" W 71° 20' 34.25" to N 41° 46' 43.27" W 71° 18' 10.49"	

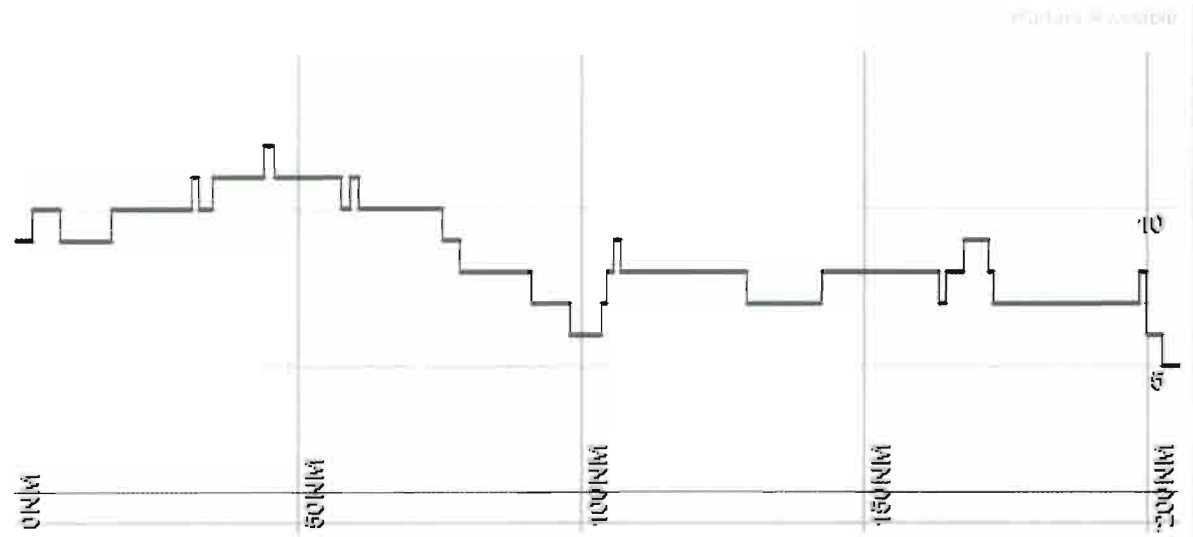
User DMEs

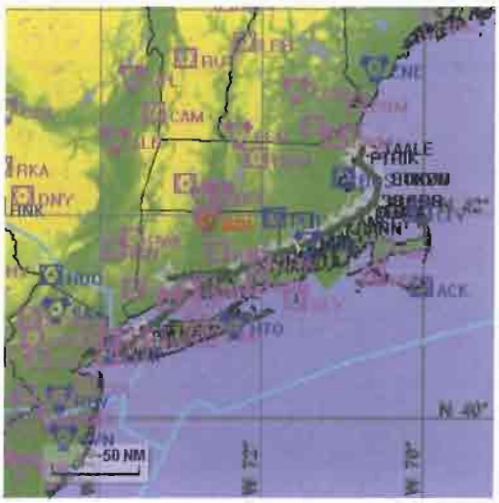
#	Name	Lat/Lon/MAGVAR	Range	Elevation [Ft]	Frequency	Replaces:	Status
1	MVY	N 41° 23' 46.36" W 70° 36' 45.80" W 15	L	59.1	114.50	MVY	Used
		ESV: Bearing [True]: 310.0° to 15.0° Bearing [Mag]: 325.0° to 30.0°			Arc Distance: Out to 66.0 NM Altitude: 3000.0 to 18000.0 Ft.		
2	PUT	N 41° 57' 19.65" W 71° 50' 38.76" W 14	H	650.0	117.40	PUT	Used
		ESV: Bearing [True]: 45.0° to 105.0° Bearing [Mag]: 59.0° to 119.0°			Arc Distance: Out to 65.0 NM Altitude: 3000.0 to 18000.0 Ft.		

Radar Analysis

Return To Summary

Settings: **Radar Types:** ARSR and ASR





Name:	Joe Bellabona
Project Name:	KRANN_Rwy 33 & 27_Update
Output File:	STAR KLEBB HOKDU 20120515_2354
Software:	RNAV-Pro™
Version:	2.36
Date/Time:	5/15/2012 11:54:02 PM
Input File:	KBOS KRANN2 STAR KLEBB HOKDU 20120515.txt
Databases:	AVNIS Date: 02/07/2012
	Obstacle Date: 08/26/2011
	NFD Date: 09/30/2010
	DTED® (MAX) Date: 2002

Results Summary:

Flyability	✓
DME/DME	✓
Radars	✓
Comms	?
TERPS	?

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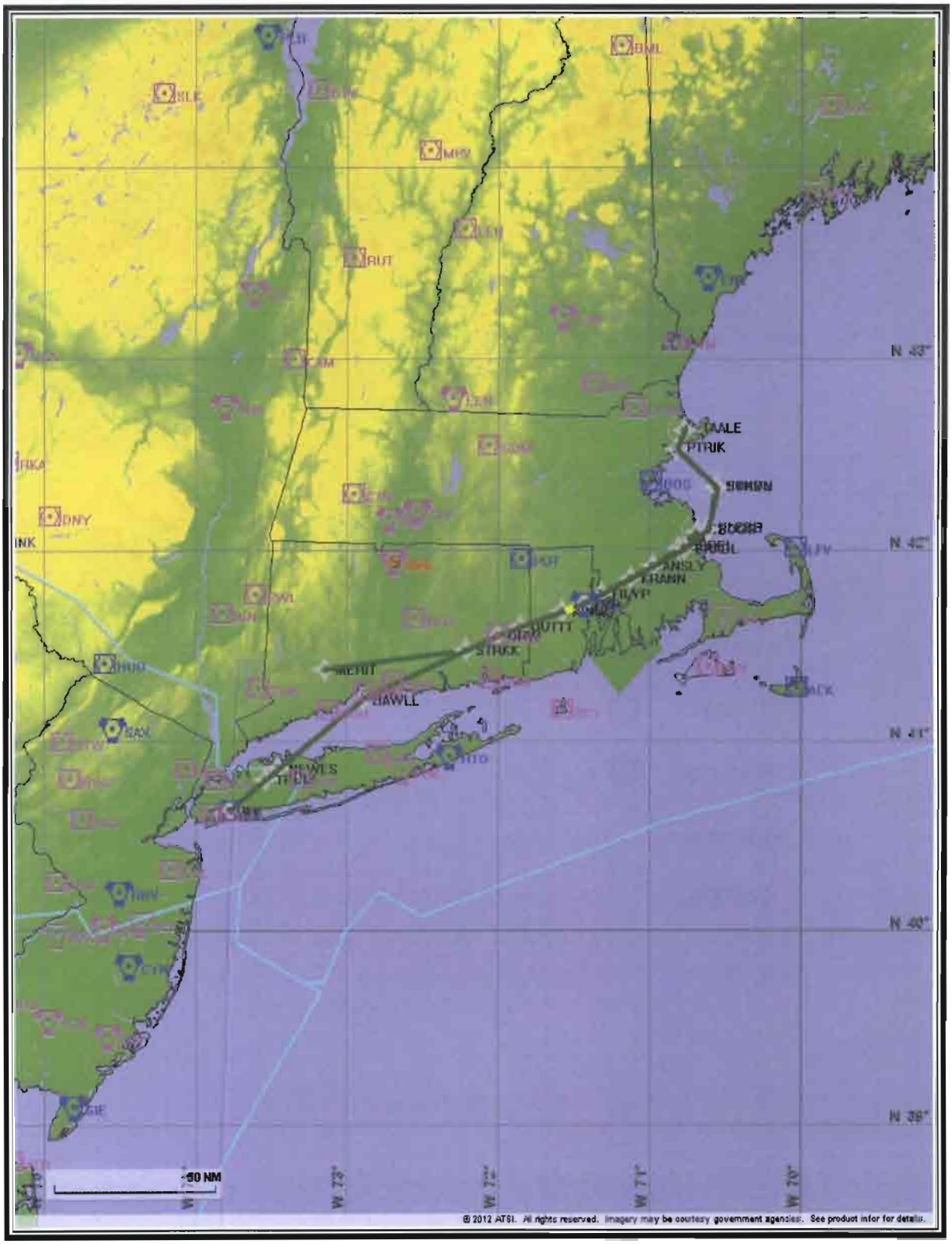
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N 42°
N 41°
N 40°
N 39°
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W 72°
W 71°
W 70°
50 NM
TAALE
PTRIK
ANSLY
KRANN
BAWLL
NEWES
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Flight Plan

Return To Summary

Name	Type	Lat/Lon	Alt [Ft]	VNAV Mode	IAS [Kts]	Turn Type	Leg Type
KLEBB	WP	N 42° 6' 30.28" W 70° 36' 58.08"	6000.0	Step	250.0	Fly By	TF
HOKDU	WP	N 42° 19' 22.29" W 70° 34' 18.28"	4000.0	Step	210.0	Fly Over	TF

Flyability

Return To Summary

Settings:

Flight Type: Arrival
Aircraft Category: Cat D
Climb Gradient: *None assigned*
Ground Speeds:

Table:

200.0 Kts up to **11000.0 Ft.**
240.0 Kts up to **18000.0 Ft.**
260.0 Kts up to **24000.0 Ft.**
340.0 Kts up to **99900.0 Ft.**

Wind Settings: *None assigned*
Descent During a Turn: Allowed
VNAV Mode: Flight Plan

Entire track is fly-able

DME/DME

Return To Summary

Settings:

RNP: 2.0
Flight Mode: Manual
Line of Sight (DTED Level 0 Max): Evaluated
DME Restrictions: Evaluated
Inertial Drift: Enabled
Initial Drift: 0.558 NM
INS Drift Rate: 8.000 NM/Hour
Range Mode: OSV
Co-Frequencies: Evaluated
RNP Edges: Evaluated
Min DME Range: 3.0 NM
Allowed Gap Length: 4.0 NM
DME Types: VOR/DME , VORTAC , TACAN , and User
DME Include Angles: 30 to 150
Critical DMEs: Allowed
DoD Facilities: Not included
Foreign Facilities: Not included
Low & Terminal DMEs: Included
Flight Check DMEs: Selected
Higher Altitudes: Evaluated
Near Maximum Altitude: Evaluated

Total Number of DMEs Used: 3

Maximum DME Error: 0.294 NM.

No Critical DMEs were found.

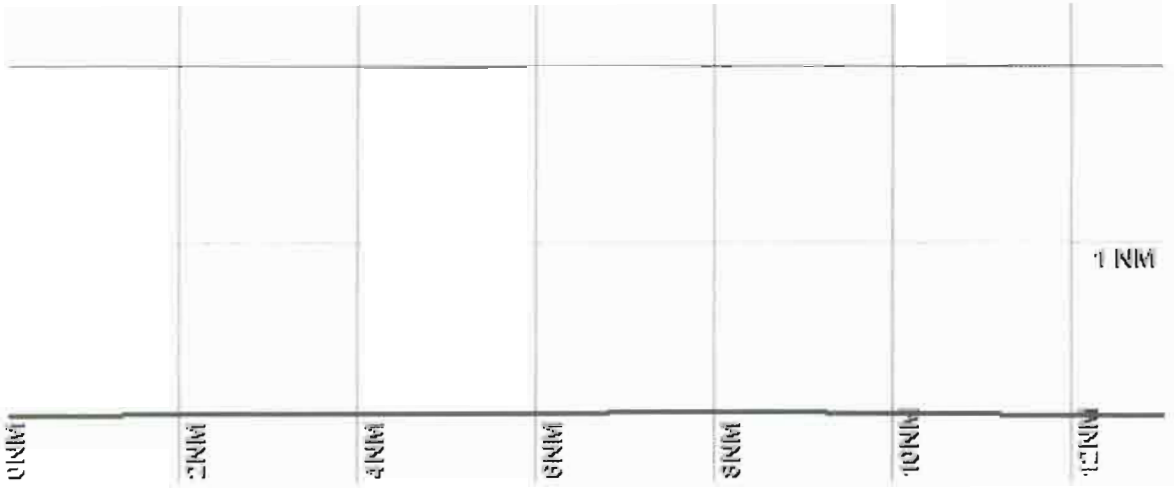
Available DMEs: MVY, PUT, BOS, LFV, LWM

Disabled DMEs: BDL

Foreign DMEs within range: VLV, YJN, YQI, YSC

DME/DME (Continued.)

Return To Summary



DME/DME (Continued.)

Return To Summary

DMEs Used

#	Name	Lat/Lon/MAGVAR	Range	Source	Critical	Err. [NM]	Status	Time	Distance
1	MVY	N 41° 23' 46.36" W 70° 36' 45.80" W 15	L + ESV	User	NO	0.471	Enabled	100.0 %	100.0 %
2	PUT	N 41° 57' 19.65" W 71° 50' 38.76" W 14	H + ESV	User	NO	0.307	Enabled	66.4 %	66.2 %
3	BOS	N 42° 21' 26.82" W 70° 59' 22.37" W 16	H	Database	NO	0.342	Enabled	33.6 %	33.8 %

Flight Check DME Selection

Distance [NM]	Selected DMEs					Alternate
0.0	PUT	MVY	LFV	BOS	LWM	

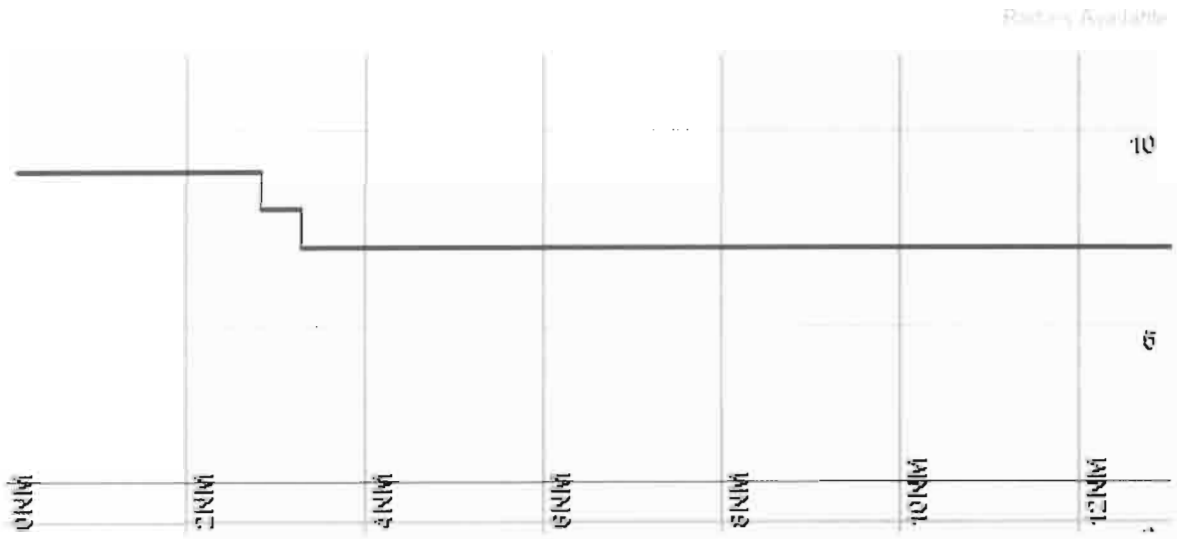
User DMEs

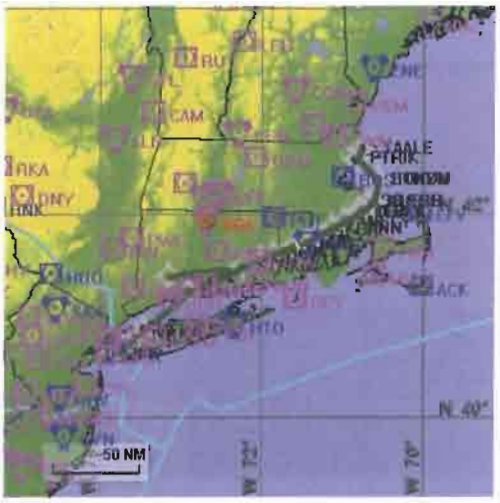
#	Name	Lat/Lon/MAGVAR	Range	Elevation [Ft]	Frequency	Replaces:	Status
1	MVY	N 41° 23' 46.36" W 70° 36' 45.80" W 15	L	59.1	114.50	MVY	Used
		ESV: Bearing [True]: 310.0° to 15.0° Bearing [Mag]: 325.0° to 30.0°			Arc Distance: Out to 66.0 NM Altitude: 3000.0 to 18000.0 Ft.		
2	PUT	N 41° 57' 19.65" W 71° 50' 38.76" W 14	H	650.0	117.40	PUT	Used
		ESV: Bearing [True]: 45.0° to 105.0° Bearing [Mag]: 59.0° to 119.0°			Arc Distance: Out to 65.0 NM Altitude: 3000.0 to 18000.0 Ft.		

Radar Analysis

Return To Summary

Settings: **Radar Types:** ARSR and ASR





Name:	Joe Bellabona
Project Name:	KRANN_Rwy 33 & 27_Update
Output File:	STAR MERIT BBOGG 20120515_2354
Software:	RNAV-Pro™
Version:	2.36
Date/Time:	5/15/2012 11:54:31 PM
Input File:	KBOS KRANN2 STAR MERIT BBOGG 20120515.txt
Databases:	AVNIS Date: 02/07/2012
	Obstacle Date: 08/26/2011
	NFD Date: 09/30/2010
	DTED® (MAX) Date: 2002

Results Summary:

Flyability	✔
DME/DME	✔
Radars	✔
Comms	
TERPS	

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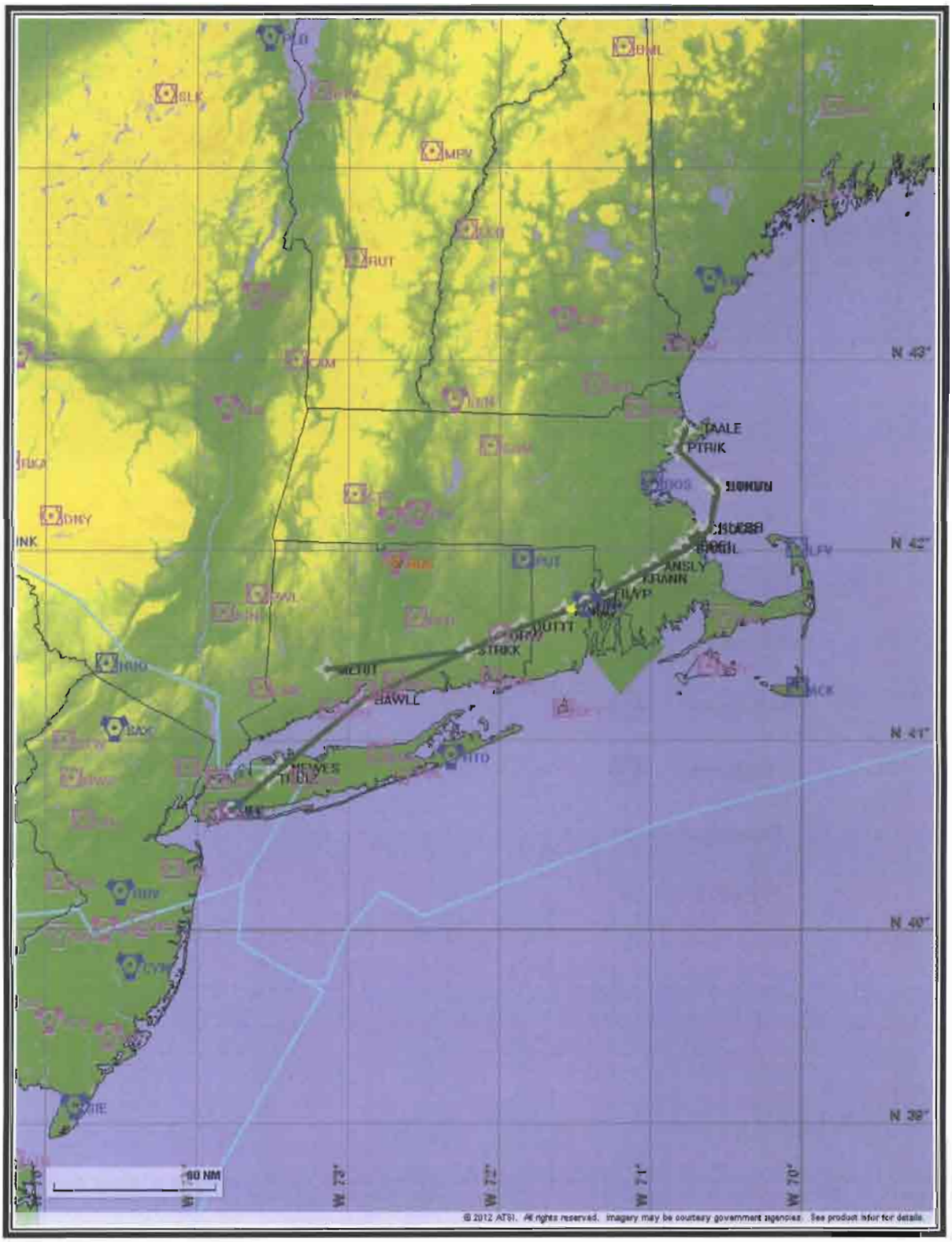
TAALE
PTRIK
ANSLY
KRANN
STRKK
MERIT
BAWLL
N 43°
N 42°
N 41°
N 40°
N 39°
W 73°
W 72°
W 71°
W 70°
60 NM
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Flight Plan

Return To Summary

Name	Type	Lat/Lon	Alt [Ft]	VNAV Mode	IAS [Kts]	Turn Type	Leg Type
MERIT	WP	N 41° 22' 55.02" W 73° 8' 14.75"	17000.0	Step	280.0	Fly By	TF
STRKK	WP	N 41° 28' 45.63" W 72° 12' 33.94"	17000.0	Step	280.0	Fly By	TF
ORW	WP	N 41° 33' 23.05" W 71° 59' 57.67"	17000.0	Step	280.0	Fly By	TF
OUTTT	WP	N 41° 36' 6.41" W 71° 50' 49.56"	17000.0	Step	280.0	Fly By	TF
KINNG	WP	N 41° 40' 54.91" W 71° 34' 29.04"	11000.0	Step	250.0	Fly By	TF
PVD	WP	N 41° 43' 27.64" W 71° 25' 46.70"	11000.0	Step	250.0	Fly By	TF
FILYP	WP	N 41° 46' 26.57" W 71° 18' 49.35"	11000.0	Step	250.0	Fly By	TF
KRANN	WP	N 41° 51' 18.69" W 71° 7' 24.46"	11000.0	Step	250.0	Fly By	TF
ANSLY	WP	N 41° 55' 7.53" W 70° 58' 32.32"	8000.0	Step	210.0	Fly By	TF
BEREI	WP	N 42° 0' 32.09" W 70° 48' 20.74"	6000.0	Step	210.0	Fly By	TF
BBOGG	WP	N 42° 5' 56.98" W 70° 41' 9.06"	4000.0	Step	210.0	Fly Over	TF

Flyability

Return To Summary

Settings:

Flight Type: Arrival
Aircraft Category: Cat D
Climb Gradient: *None assigned*
Ground Speeds:

Table:

200.0 Kts up to **11000.0 Ft.**
240.0 Kts up to **18000.0 Ft.**
260.0 Kts up to **24000.0 Ft.**
340.0 Kts up to **99900.0 Ft.**

Wind Settings: *None assigned*
Descent During a Turn: Allowed
VNAV Mode: Flight Plan

Entire track is fly-able

DME/DME

Return To Summary

Settings:

RNP: 2.0
Flight Mode: Manual
Line of Sight (DTED Level 0 Max): Evaluated
DME Restrictions: Evaluated
Inertial Drift: Enabled
Initial Drift: 0.558 NM
INS Drift Rate: 8.000 NM/Hour
Range Mode: OSV
Co-Frequencies: Evaluated
RNP Edges: Evaluated
Min DME Range: 3.0 NM
Allowed Gap Length: 4.0 NM
DME Types: VOR/DME , VORTAC , TACAN , and User
DME Include Angles: 30 to 150
Critical DMEs: Allowed
DoD Facilities: Not included
Foreign Facilities: Not included
Low & Terminal DMEs: Included
Flight Check DMEs: Selected
Higher Altitudes: Evaluated
Near Maximum Altitude: Evaluated

Total Number of DMEs Used: 15

Maximum DME Error: 0.355 NM.

No Critical DMEs were found.

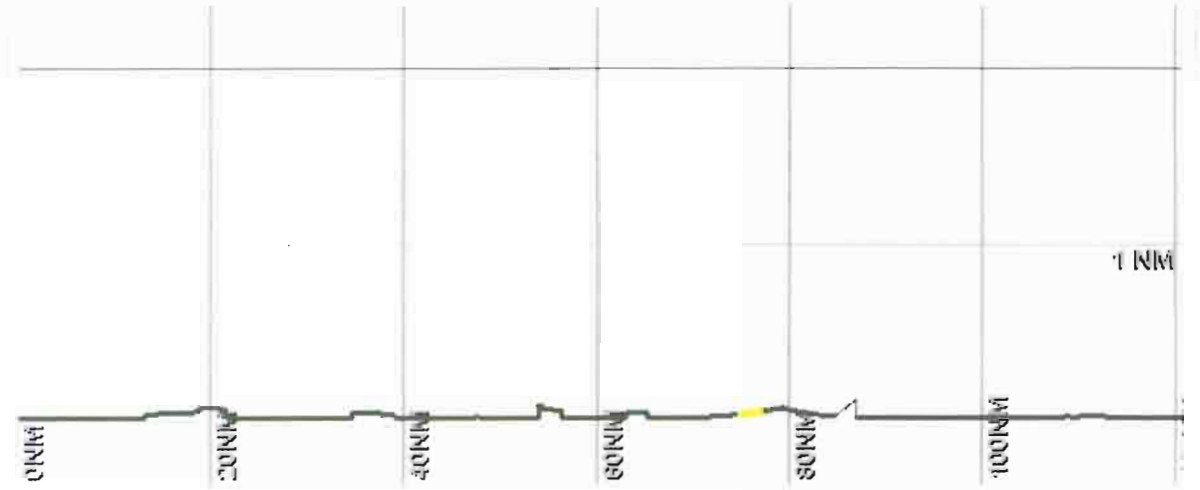
Available DMEs: PUT, BDR, CCC, CMK, DPK, HFD, HTO, HUO, IGN, JFK, MAD, PVD, PWL, RBV, SAX, ORW, BOS, SEY, ACK, LFV, MVY

Disabled DMEs: BDL

Foreign DMEs within range: YJN, YSC, VLV, YQI

DME/DME (Continued.)

Return To Summary



DME/DME (Continued.)

Return To Summary

DMEs Used

#	Name	Lat/Lon/MAGVAR	Range	Source	Critical	Err. [NM]	Status	Time	Distance
1	CCC	N 40° 55' 46.64" W 72° 47' 55.89" W 13	L	Database	NO	0.355	Enabled	5.5 %	5.6 %
2	HFD	N 41° 38' 27.98" W 72° 32' 50.70" W 13	L	Database	NO	0.708	Enabled	24.3 %	25.2 %
3	HTO	N 40° 55' 8.38" W 72° 19' 0.14" W 13	H	Database	NO	0.590	Enabled	17.5 %	18.2 %
4	JFK	N 40° 37' 58.40" W 73° 46' 17.00" W 12	H	Database	NO	0.355	Enabled	6.4 %	6.6 %
5	HUO	N 41° 24' 34.87" W 74° 35' 29.74" W 11	H	Database	NO	0.355	Enabled	4.9 %	5.1 %
6	BOS	N 42° 21' 26.82" W 70° 59' 22.37" W 16	H	Database	NO	0.382	Enabled	24.7 %	24.2 %
7	MAD	N 41° 18' 49.81" W 72° 41' 31.89" W 13	L	Database	NO	0.355	Enabled	0.4 %	0.4 %
8	PVD	N 41° 43' 27.64" W 71° 25' 46.67" W 14	H	Database	NO	0.384	Enabled	20.8 %	20.1 %
9	ORW	N 41° 33' 23.05" W 71° 59' 57.67" W 14	L	Database	NO	0.355	Enabled	9.6 %	10.0 %
10	BDR	N 41° 9' 38.50" W 73° 7' 28.19" W 12	L	Database	NO	0.355	Enabled	2.1 %	2.2 %
11	PUT	N 41° 57' 19.65" W 71° 50' 38.76" W 14	H + ESV	User	NO	0.429	Enabled	48.4 %	48.3 %
12	SEY	N 41° 10' 2.77" W 71° 34' 33.91" W 15	L	Database	NO	0.471	Enabled	12.4 %	12.9 %
13	ACK	N 41° 16' 54.79" W 70° 1' 36.16" W 15	H	Database	NO	0.355	Enabled	1.5 %	1.6 %
14	LFV	N 42° 1' 1.88" W 70° 2' 14.04" W 16	H	Database	NO	0.355	Enabled	4.1 %	3.8 %
15	MVY	N 41° 23' 46.36" W 70° 36' 45.80" W 15	L + ESV	User	NO	0.355	Enabled	14.0 %	12.2 %

Flight Check DME Selection

Distance [NM]	Selected DMEs					Alternate
0.0	CCC	HUO	HTO	JFK	HFD	BDR
18.7	BOS	HUO	HTO	PVD	MAD	CCC
28.7	BOS	ORW	PUT	HFD	BDR	HTO
41.6	BOS	SEY	PUT	HFD	HTO	MAD
52.5	JFK	SEY	PUT	HFD	ACK	BOS
60.1	PVD	SEY	PUT	ORW	LFV	ACK

DME/DME (Continued.)

Return To Summary

Flight Check DME Selection (Continued.)

Distance [NM]	Selected DMEs					Alternate
79.9	PVD	SEY	PUT	ORW		
86.3	PVD	BOS	PUT	ORW	MVY	
96.1	PVD	BOS	PUT	MVY		
103.6	PVD	BOS	PUT	MVY	LFV	
112.8	PVD	BOS	PUT	MVY	LFV	

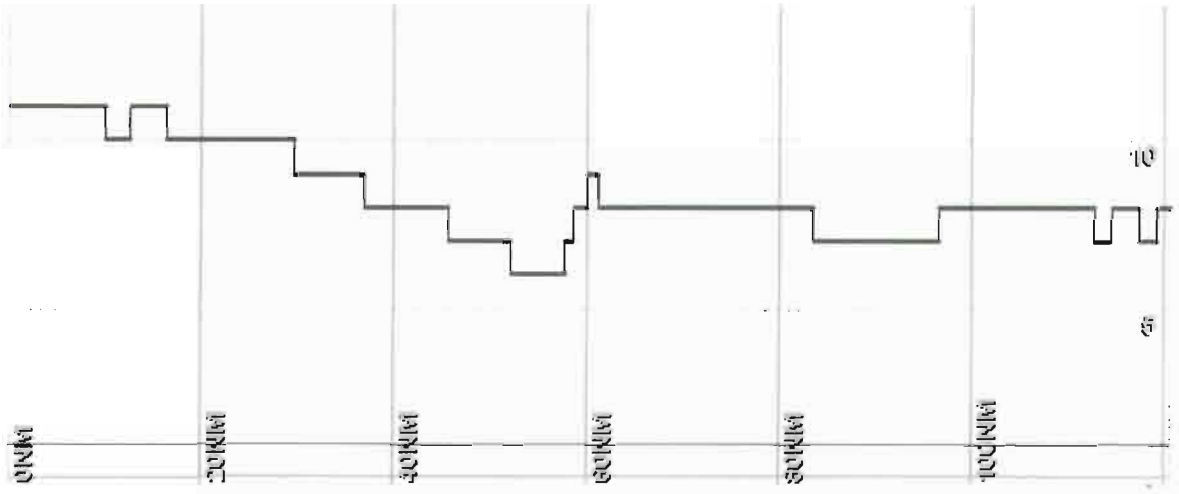
Inertial Drift Segments

#	Start Location	End Location	Length [NM]
1	N 41° 45' 42.39" W 71° 20' 32.31"	N 41° 46' 44.10" W 71° 18' 8.55"	2.1
	VOR: BOS	Available from N 41° 45' 42.39" W 71° 20' 32.31" to N 41° 46' 44.10" W 71° 18' 8.55"	
	VOR: MVY	Available from N 41° 45' 42.39" W 71° 20' 32.31" to N 41° 46' 44.10" W 71° 18' 8.55"	
	VOR: ORW	Available from N 41° 45' 42.39" W 71° 20' 32.31" to N 41° 46' 44.10" W 71° 18' 8.55"	
	VOR: PUT	Available from N 41° 45' 42.39" W 71° 20' 32.31" to N 41° 46' 44.10" W 71° 18' 8.55"	
	VOR: PVD	Available from N 41° 45' 42.39" W 71° 20' 32.31" to N 41° 46' 44.10" W 71° 18' 8.55"	
	VOR: SEY	Available from N 41° 45' 42.39" W 71° 20' 32.31" to N 41° 46' 44.10" W 71° 18' 8.55"	

User DMEs

#	Name	Lat/Lon/MAGVAR	Range	Elevation [Ft]	Frequency	Replaces:	Status
1	MVY	N 41° 23' 46.36" W 70° 36' 45.80" W 15	L	59.1	114.50	MVY	Used
		ESV: Bearing [True]: 310.0° to 15.0° Bearing [Mag]: 325.0° to 30.0°			Arc Distance: Out to 66.0 NM Altitude: 3000.0 to 18000.0 Ft.		
2	PUT	N 41° 57' 19.65" W 71° 50' 38.76" W 14	H	650.0	117.40	PUT	Used
		ESV: Bearing [True]: 45.0° to 105.0° Bearing [Mag]: 59.0° to 119.0°			Arc Distance: Out to 65.0 NM Altitude: 3000.0 to 18000.0 Ft.		

Radar Analysis

Return To Summary

Settings: **Radar Types:** ARSR and ASR