

**FEDERAL AVIATION ADMINISTRATION  
FLIGHT STANDARDS SERVICE  
RNAV (GPS) SPECIAL INSTRUMENT APPROACH PROCEDURE  
SPECIFICATION – NOT FOR COCKPIT USE**

Bearings, headings, courses, tracks 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 feet RVR.

If an instrument approach procedure of the above type is conducted at the below named airport, it shall be conducted in accordance with a charted instrument approach procedure predicted on the specifications contained herein, unless an approach is conducted in accordance with a different procedure for such airport authorized by the Administrator. Minimum altitudes shall correspond with those established for enroute operations in the particular area or as set forth below.

<b>AIRPORT</b> LEEWARD FARM	<b>AIRPORT ID</b> WS51	<b>PROCEDURE NAME</b> RNAV (GPS) RWY 11	<b>ORIGINAL/AMENDMENT</b> 1A	<b>CITY</b> SOLDIERS GROVE	<b>STATE</b> WI
<b>AIRPORT ELEVATION</b> 1068	<b>TDZE</b> 1068	<b>SUPERSEDED</b> RNAV (GPS) RWY 11	<b>ORIGINAL/AMENDMENT</b> 1	<b>DATED</b> 09/14/2017	<b>MAG VAR</b> 0E
<b>FACILITY</b> RNAV	<b>COORDINATES OF FACILITIES</b>	<b>ACTUAL EFFECTIVE DATE</b>	<b>REQUIRED EFFECTIVE DATE</b> ROUTINE	<b>CANCEL/SUSPEND</b>	<b>EPOCH YEAR</b> 2000

**TERMINAL ROUTES**

<b>FROM</b>	<b>FIX TYPE</b>	<b>TO</b>	<b>FIX TYPE</b>	<b>LEG TYPE</b>	<b>FO/FB</b>	<b>RNP</b>	<b>COURSE</b>	<b>DISTANCE</b>	<b>ALTITUDE</b>
QUEST		OMETY		TF	FO	1.00	016.04	8.13	3000
DOURS	IAF	OMETY	NOPT	TF	FB	1.00	117.66	10.80	3000
OMETY	IF/IAF	LEYIP		TF	FB	1.00	110.21	5.67	2800
LEYIP	FAF	HUKVU/2.00 NM TO RW11		TF	FB	0.30	110.29	3.33	
HUKVU/2.00 NM TO RW11		RW11	MAP	TF	FO	0.30	110.29	2.00	
RW11	MAP	1318 MSL		CA			110.29		
1318 MSL		OFIHO		DF	FO	1.00			3000

**MISSED APPROACH**

**MAP:**

LPV: DA  
LNAV/VNAV: DA  
LNAV: RW11

**MISSED APPROACH INSTRUCTIONS:**

CLIMB TO 3000 DIRECT OFIHO AND HOLD.

**ALTERNATE MISSED APPROACH INSTRUCTIONS:**



PROFILE:

1. PT	SIDE OF COURSE	OUTBOUND	FT WITHIN	MILES OF (IAF)	
2.	HOLD W OMETY, RT, 110.21 INBOUND, 3000 FT. IN LIEU OF PT (IAF), MAX 6000.				
3. FAC:	110.29	FAF: LEYIP	DIST FAF TO MAP: 5.33	DIST FAF TO THLD: 5.33	
4. MIN ALT:	OMETY 3000, LEYIP 2800, HUKVU/2.00 NM TO RW11 1740*				
5. DIST TO THLD FROM OM:	MM:	IM:	150 HAT:	250 HAT: 0.67	GS ANT:
6. MIN GP INCPT: 2800	GP ALT AT FAF : LEYIP 2800			OM:	MM: IM:
7. GP ANGLE: 3.00	34:1: IS CLEAR	20:1: IS CLEAR	TCH: 35.0		
8. MSA FROM:	RW11 2900				

PBN REQUIREMENTS NOTE:

RNP APCH.

NOTES:

CHART NOTE: BARO-VNAV AND VDP NA WHEN USING BOSCOBEL ALTIMETER SETTING.  
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -17°C OR ABOVE 54°C.  
CHART NOTE: USE OF LEEWARD FARM REQUIRES PERMISSION OF THE OWNER; USE OF THIS PROCEDURE REQUIRES SPECIFIC AUTHORIZATION BY FAA FLIGHT STANDARDS.  
CHART NOTE: WHEN LOCAL ALTIMETER SETTING NOT RECEIVED, USE BOSCOBEL ALTIMETER SETTING AND INCREASE LPV DA TO 1400 FEET, INCREASE LNAV/VNAV DA TO 1733 FEET, AND INCREASE ALL MDA 100 FEET. INCREASE LNAV VISIBILITY CATS C/D 3/8 SM, CIRCLING VISIBILITY CAT C 1/2 SM, AND CAT D VISIBILITY 1/4 SM.  
CHART NOTE: ACTIVATE HIRLS ON 131.52

ADDITIONAL FLIGHT DATA:

CHART CIRCLING ICON  
CHART VDP AT 1.49 NM TO RW11\*  
\*LNAV ONLY  
WAAS CHANNEL #60944  
REFERENCE PATH ID: W11A  
CHART FAS OBST: 1319 TREE 432204N/0904313W.  
HOLD E, RT, 290.54 INBOUND  
LTP HAE: 292.3 M

MINIMUMS:

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT

ALTERNATE: NA ☒

CATEGORY:	A			B			C			D			E		
FINAL TYPE	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA
LPV DA	1318	1	250	1318	1	250	1318	1	250	1318	1	250			
LNAV/VNAV DA	1651	2	583	1651	2	583	1651	2	583	1651	2	583			
LNAV MDA	1580	1	512	1580	1	512	1580	1 3/8	512	1580	1 3/8	512			
CIRCLING	1600	1	532	1660	1	592	1920	2 1/2	852	1920	2 3/4	852			



**CHANGES - REASONS**

1. DELETED CHART NOTE: DME/DME RNP-0.3 NA, AND ADDED PBN REQUIREMENTS NOTE: RNP APCH - 8260.19H, 8-6-8.
2. ADDED 20:1 IS CLEAR TO LINE 7 - 8260.19H, 8-6-7G.
3. REMOVED FAHRENHEIT VALUES FROM UNCOMPENSATED BARO-VNAV NOTE - NO LONGER REQUIRED.
4. DELETED PLANVIEW PROCEDURAL ARRIVAL NOTE: PROCEDURE NA FOR ARRIVAL AT DOURS ON V24 WESTBOUND - LNR VOR DECOMMISSIONING.
5. DELETED PLANVIEW PROCEDURAL ARRIVAL NOTE: PROCEDURE NA FOR ARRIVAL AT QUEST ON V398-411 WESTBOUND - LNR VOR DECOMMISSIONING.
7. ADDED MAXIMUM HOLDING ALTITUDE "6000" TO LINE 2 - NEW REPORT FORMAT NOW INCLUDES MAXIMUM HOLDING ALTITUDES FOR ALL H-I-L.
8. ADDED CHART NOTE: ACTIVATE HIRLS ON 131.52 - PILOT CONTROLLED LIGHTING PUBLISHED ON SPECIAL PROCEDURES.
9. CHANGED CHART NOTE FROM "WHEN LOCAL ALTIMETER SETTING NOT RECEIVED, USE BOSCOBEL ALTIMETER SETTING AND INCREASE ALL DA 82 FEET AND INCREASE LPV VISIBILITY ALL CATS 1/8 MILE, LNAV/VNAV VISIBILITY ALL CATS 1/2 MILE, AND INCREASE ALL MDA 100 FEET AND INCREASE LNAV VISIBILITY CAT C/D 3/8 MILE, CIRCLING VISIBILITY CAT C 1/2 MILE, CAT D VISIBILITY 1/4 MILE" TO "WHEN LOCAL ALTIMETER SETTING NOT RECEIVED, USE BOSCOBEL ALTIMETER SETTING AND INCREASE LPV DA TO 1400 FEET, INCREASE LNAV/VNAV DA TO 1733 FEET, AND INCREASE ALL MDA 100 FEET. INCREASE LNAV VISIBILITY CATS C/D 3/8 SM, CIRCLING VISIBILITY CAT C 1/2 SM, AND CAT D VISIBILITY 1/4 SM" - UPDATED FORMAT. VISIBILITY REQUIREMENTS UPDATED USING 8260.3D, TABLE 3-3-1.

**SUBMITTED BY**

**OFFICE**

**DATE**

**FLIGHT CHECKED BY**

PROCESSED IAW AIRCRAFT OPERATIONS GROUP (AJW-33) MEMO, OCTOBER 3, 2018, SUBJECT: FLIGHT INSPECTION REVIEW NOT REQUIRED

**OFFICE**

*Digitally signed by*

**DATE**

**DAVID TEFFETELLER**

Sep 13, 2019

**DEVELOPED BY**

*Digitally signed by*

JAMES LAFFERTY

**JAMES LAFFERTY**

Sep 06, 2019

**OFFICE**

AJV-A433

**DATE**

07/31/2019

**RECOMMENDED BY**

GEORGE E. DAVIS

*Digitally signed by*

**DAVID TEFFETELLER**

Sep 13, 2019

**OFFICE**

AJV-A430

**DATE**

**TITLE**  
MANAGER

**APPROVED BY**

**OFFICE**

**DATE**

**TITLE**



FAS DATA BLOCK INFORMATION

<u>DATA FIELD</u>	<u>DATA</u>
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	WS51
RUNWAY	RW11
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W11A
LTP/FTP LATITUDE	432116.0500N
LTP/FTP LONGITUDE	0904115.7350W
LTP/FTP ELLIPSOIDAL HEIGHT	+02923
FPAP LATITUDE	432045.0150N
FPAP LONGITUDE	0903921.2630W
THRESHOLD CROSSING HEIGHT (TCH)	00035.0
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	1600
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0
CRC REMAINDER	D35B26B1

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K5
LTP ORTHOMETRIC HEIGHT	+03256
FPAP ORTHOMETRIC HEIGHT	+03256



FEDERAL AVIATION ADMINISTRATION  
FLIGHT STANDARDS SERVICE  
STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

AIRPORT	AIRPORT ID	PROCEDURE NAME	AMDT NO.	CITY	STATE	AIRPORT ELEVATION	FACILITY
LEEWARD FARM	WS51	RNAV (GPS) RWY 11	1A	SOLDIERS GROVE	WI	1068	RNAV

PART A: OBSTRUCTION DATA SEGMENTS

FEEDER

FROM QUEST TO OMETY

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>	<u>HAT</u>			<u>HMAS</u>					
	8.13											
<u>OBSTRUCTION</u>	<u>COORDINATES</u>		<u>ELEV MSL</u>	<u>HORZ</u>	<u>VERT</u>	<u>AC</u>	<u>ROC</u>	<u>OCS</u>	<u>CG</u>	<u>CGTA</u>	<u>ADJUSTMENTS</u>	<u>MIN ALT</u>
1.TOWER (55-020293)	432502.36N/0905739.69W		1600	250	50	4D	1000				AT400	3000
2.TERRAIN	432506.00N/0905742.00W		1339 (1300)								AS1500	2800

COMPUTATIONS

ALT KIAS KTAS HAA VKTW TR BA DTA COURSE CHANGE DVEB VEB OCS RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

INITIAL

FROM DOURS TO OMETY

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>	<u>HAT</u>			<u>HMAS</u>					
	10.80											
<u>OBSTRUCTION</u>	<u>COORDINATES</u>		<u>ELEV MSL</u>	<u>HORZ</u>	<u>VERT</u>	<u>AC</u>	<u>ROC</u>	<u>OCS</u>	<u>CG</u>	<u>CGTA</u>	<u>ADJUSTMENTS</u>	<u>MIN ALT</u>
1.TOWER (55-020293)	432502.36N/0905739.69W		1600	250	50	4D	1000				AT400	3000
2.TERRAIN	432506.00N/0905742.00W		1339 (1300)								AS1500	2800

COMPUTATIONS

ALT KIAS KTAS HAA VKTW TR BA DTA COURSE CHANGE DVEB VEB OCS RF CENTER FIX/DISTANCE

SEGMENT REMARKS:



INTERMEDIATE

FROM

OMETY (IF/IAF)

TO

LEYIP

RNP	DISTANCE	PAT	MAP	HAT	HMAS							
	5.67											
OBSTRUCTION	COORDINATES		ELEV MSL	HORZ	VERT	AC	ROC	OCS	CG	CGTA	ADJUSTMENTS	MIN ALT
3.AAO	432424.00N/0905700.00W		1503				500				AC60	2100
4.TERRAIN	432424.00N/0905700.00W		1303 (1300)								AS1500	2800

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

FINAL: LPV

FROM

LEYIP

TO

RW11

RNP	DISTANCE	PAT	MAP	HAT	HMAS							
	5.33		DA	250								
OBSTRUCTION	COORDINATES		ELEV MSL	HORZ	VERT	AC	ROC	OCS	CG	CGTA	ADJUSTMENTS	MIN ALT
								ASC			XP50	1318

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

XP - LPV 250 FT HAT DUE TO REQUIREMENTS OF AC 150/5300-13A, TABLE 3-4.



FINAL: LNAV/VNAV

FROM

LEYIP

TO

RW11

RNP	DISTANCE	PAT	MAP	HAT			HMAS					
	5.33		DA		583							
OBSTRUCTION	COORDINATES		ELEV MSL	HORZ	VERT	AC	ROC	OCS	CG	CGTA	ADJUSTMENTS	MIN ALT
5.TREE	432203.84N/0904312.67W		1319	50	20	2C		23.43:1			AC20	1651

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

FINAL: LNAV

FROM

LEYIP

TO

HUKVU/2.00 NM TO RW11

RNP	DISTANCE	PAT	MAP	HAT			HMAS					
	3.33											
OBSTRUCTION	COORDINATES		ELEV MSL	HORZ	VERT	AC	ROC	OCS	CG	CGTA	ADJUSTMENTS	MIN ALT
6.AAO	432209.86N/0904603.16W		1380	50	20	2C	250				RA82 DG28	1740

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:



**FACILITY**  
RNAV





QUALITY  
19  
CHECKED

MISSED APPROACH : LNAV

FROM  
RW11

TO  
OFIHO

RNP	DISTANCE	PAT	MAP	HAT			HMAS 1480					
OBSTRUCTION	COORDINATES		ELEV MSL	HORZ	VERT	AC	ROC	OCS	CG	CGTA	ADJUSTMENTS	MIN ALT
								ASC				3000
7.TOWER (55-020016)	431855.41N/0902535.01W		1466	20	3	1A	1000					2500
8.TERRAIN	432102.00N/0903549.00W		1200 (1200)								AS1500	2700

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

CIRCLING

☐ ALL CATS

☒ CAT A

☒ CAT B

☒ CAT C

☒ CAT D

☐ CAT E

☐ NOT AUTHORIZED

OBSTRUCTION	COORDINATES	RADIUS	HAA	ELEV MSL	HORZ	VERT	AC	ROC	OCS	ADJUSTMENTS	MIN ALT
CATEGORY A											
9.TREE	432222.10N/0904209.10W	1.30	532	1299	50	20	2C	300			1600
CATEGORY B											
10.TREE	432006.63N/0904229.68W	1.84	592	1359	50	20	2C	300			1660
CATEGORY C											
11.TOWER (55-000192)	431924.00N/0904219.00W	2.90	852	1480	250	125	4E	300		AC125	1920
CATEGORY D											
11.TOWER (55-000192)	431924.00N/0904219.00W	3.79	852	1480	250	125	4E	300		AC125	1920

CIRCLING REMARKS:



MSA

CENTER

RW11

RADIUS

25

SECTOR	OBSTRUCTION	COORDINATES	BEARING	DISTANCE	ELEV MSL	HORZ	VERT	AC	ROC	OCS	ADJUSTMENTS	MIN ALT
360-360	WDMIL (55-020924) (55-020924)	434420.63N/0904815.87W	348	23.6	1824	500	125	5E	1000			2900

MSA REMARKS:

NOTES/EXPLANATIONS FROM PROCEDURE SEGMENTS:



PART B: SUPPLEMENTAL DATA

COMMUNICATIONS WITH  
ZAU ARTCC, GREEN BAY FSS

<u>WX SERVICE</u> AWOS	<u>LOCATION</u> KWS51	<u>HRS OPERATION</u> 24	<u>ALTIMETER SOURCE</u> KWS51	<u>DISTANCE</u> 0	<u>SERVICE-A</u> N	<u>ADJUSTMENTS</u> 0
<u>BACK-UP WX SERVICE</u> ASOS	<u>LOCATION</u> KOV5	<u>HRS OPERATION</u> 24	<u>ALTIMETER SOURCE</u> KOV5	<u>DISTANCE</u> 11.52	<u>SERVICE-A</u> Y	<u>ADJUSTMENTS</u> 82

WX REMARKS:

<u>PRIMARY NAVAID</u>	<u>MONITOR POINT</u>	<u>HRS OPERATION</u>	<u>CAT</u>
<u>APPROACH AND RUNWAY LIGHTING SYSTEM</u>		<u>RUNWAY MARKINGS</u>	<u>RUNWAY VISUAL RANGE</u>
RW11 - HIRL (PCL), VASI-2L (PCL)			
RW29 - HIRL (PCL), PAPI-4L (PCL)			

<u>GLIDESLOPE ANGLE</u> 3.00	<u>ELEV RWY THRESHOLD</u> 1068.2	<u>TCH</u> 35.0	<u>ELEV GS ANTENNA</u>	<u>DISTANCE FROM RWY</u>	<u>VGSI ANGLE</u> 3.00	<u>TCH</u> 35.0
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FINAL APPROACH COURSE AIMING

RUNWAY THRESHOLD	<input checked="" type="checkbox"/>	FT FROM THRESHOLD	DISPLACED THRESHOLD DISTANCE
ON CENTERLINE	<input checked="" type="checkbox"/>	FT FROM CENTERLINE	

CRITICAL TEMPERATURES

<u>CRITICAL LOW</u> -17C	<u>CRITICAL HIGH</u> +54C	<u>ACT</u> -17C	<u>APT ISA</u> +12.89C
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CRITICAL TEMPERATURE REMARKS:

AVERAGE COLD TEMPERATURE DERIVED FROM STANDARD -30C ISA DEVIATION. CRITICAL LOW TEMPERATURE BASED ON ACT. DESCENT RATE (FPM): STANDARD TEMP 968 HIGH TEMP 1130.

"VISUAL PORTION OF FINAL" PENETRATIONS

HELICOPTER 'VISUAL PORTION OF FINAL' PENETRATIONS

and/or  
5280-FT "PROCEED VFR" SEGMENT LEVEL SURFACE AREA PENETRATIONS





<u>AIRPORT</u> LEEWARD FARM	<u>AIRPORT ID</u> WS51	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 11	<u>AMDT NO.</u> 1A	<u>CITY</u> SOLDIERS GROVE	<u>STATE</u> WI	<u>AIRPORT ELEVATION</u> 1068	<u>FACILITY</u> RNAV
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PART D: AIRSPACE

DOCKET #

ALL DISTANCES TO 1/100NM; ELEVATION TO NEAREST 100 FEET; COORDINATES TO 1/100 SECOND; DEG TO 1/100 DEGREE

DISTANCE FROM	THLD	TO 1000FT POINT	3.44
WIDTH OF	FINAL	SEGMENT AT 1000FT POINT	1.20
TRUE COURSE OF	FINAL	SEGMENT CONTAINING 1000FT POINT	110.29
HIGH TERRAIN IN	FINAL	SEGMENT CONTAINING 1000FT POINT	1220
DISTANCE FROM	THLD	TO 1500FT POINT	5.13
WIDTH OF	FINAL	SEGMENT AT 1500FT POINT	1.95
TRUE COURSE OF	FINAL	SEGMENT CONTAINING 1500FT POINT	110.29
HIGH TERRAIN IN	FINAL	SEGMENT CONTAINING 1500FT POINT	1220

THRESHOLD  
COORDINATES  
(IF STR-IN)

432116.05N/0904115.74W

ARP COORDINATES

432109.53N/0904051.68W

RUNWAY APCH END  
AND DIST FURTHEST  
FROM ARP

RUNWAY 29 DISTANCE 0.31 NM

FAF  
COORDINATES

432307.14N/0904806.72W

FIX NAME  
COORDINATES

REMARKS

QUALITY  
19  
CHECKED

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<u>AIRPORT</u> LEEWARD FARM	<u>AIRPORT ID</u> WS51	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 11	<u>AMDT NO.</u> 1A	<u>CITY</u> SOLDIERS GROVE	<u>STATE</u> WI	<u>AIRPORT ELEVATION</u> 1068	<u>FACILITY</u> RNAV
PART E: PREPARED BY							
<u>NAME</u> JAMES LAFFERTY			<u>OFFICE</u> AJV-A433	<u>DATE</u> 07/31/2019	<u>TITLE</u> AERONAUTICAL INFORMATION SPECIALIST		

QUALITY  
19  
CHECKED

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