

FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE
TITLE 14 CFR PART 97.33

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.

<u>AIRPORT</u> MARSHALLTOWN MUNI	<u>AIRPORT ID</u> KMIW	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 31	<u>ORIGINAL/AMENDMENT</u> 1B	<u>CITY</u> MARSHALLTOWN	<u>STATE</u> IA
<u>AIRPORT ELEVATION</u> 975	<u>TDZE</u> 973	<u>SUPERSEDED</u> RNAV (GPS) RWY 31	<u>ORIGINAL/AMENDMENT</u> 1A	<u>DATED</u> 03/31/2016	<u>MAG VAR</u> 1E
<u>FACILITY</u> RNAV	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u>	<u>REQUIRED EFFECTIVE DATE</u> ROUTINE	<u>CANCEL/SUSPEND</u>	<u>EPOCH YEAR</u> 2010

TAA

<u>FROM</u>	<u>FIX TYPE</u>	<u>TO</u>	<u>FIX TYPE</u>	<u>ALTITUDE</u>
1. 216/30 CW 036/30	NOPT	216/15 CW 036/15		3500
1. 216/15 CW 036/15		VUNDY	IF/IAF	2600
2. 036/30 CW 216/30		VUNDY	IF/IAF	2700

TERMINAL ROUTES

<u>FROM</u>	<u>FIX TYPE</u>	<u>TO</u>	<u>FIX TYPE</u>	<u>LEG TYPE</u>	<u>FO/FB</u>	<u>RNP</u>	<u>COURSE</u>	<u>DISTANCE</u>	<u>ALTITUDE</u>
VUNDY	IF/IAF	BEKFY		TF	FB	1.00	306.20	5.93	2600
BEKFY	FAF	JIPTI/2.30 NM TO RW31		TF	FB	0.30	306.13	2.70	
JIPTI/2.30 NM TO RW31		RW31	MAP	TF	FO	0.30	306.13	2.30	
RW31	MAP	1223 MSL		CA			306.13		
1223 MSL		BRIDY		DF	FO	1.00			2700

MISSED APPROACH

MAP:

LPV: DA
 LNAV/VNAV: DA
 LNAV: RW31

MISSED APPROACH INSTRUCTIONS:

CLIMB TO 2700 DIRECT BRIDY AND HOLD.

ALTERNATE MISSED APPROACH INSTRUCTIONS:



PROFILE:

1. PT

SIDE OF COURSE

OUTBOUND

FT WITHIN

MILES OF (IAF)
2. HOLD SE VUNDY, RT, 306.20 INBOUND, 2600 FT. IN LIEU OF PT (IAF), MAX 6000.
3. FAC: 306.13FAF: BEKFYDIST FAF TO MAP: 5.00DIST FAF TO THLD: 5.00
4. MIN ALT: VUNDY 2600, BEKFY 2600, JIPTI/2.30 NM TO RW31 1740*
5. DIST TO THLD FROM OM:MM:IM:150 HAT:250 HAT: 0.67GS ANT:
6. MIN GP INCPT: 2600GP ALT AT FAF : BEKFY 2600OM:MM:IM:
7. GP ANGLE: 3.0034:1: IS NOT CLEAR20:1: IS CLEARTCH: 37.2
8. MSA FROM:

PBN REQUIREMENTS NOTE:

RNP APCH.

NOTES:

CHART NOTE: BARO-VNAV AND VDP NA WHEN USING GRINNELL ALTIMETER SETTING.
CHART NOTE: RWY 31 HELICOPTER VISIBILITY REDUCTION BELOW 3/4 SM NOT AUTHORIZED.
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -22C OR ABOVE 54C.
CHART NOTE: WHEN LOCAL ALTIMETER SETTING NOT RECEIVED, USE GRINNELL ALTIMETER SETTING AND INCREASE ALL DA 64 FEET AND ALL MDA 80 FEET; INCREASE LPV AND LNAV/VNAV ALL CATS VISIBILITY 1/8 SM AND LNAV CATS C/D AND CIRCLING CAT D VISIBILITY 1/4 SM.
CHART NOTE: CIRCLING RWY 18, 36 NA AT NIGHT.

ADDITIONAL FLIGHT DATA:

CHART CIRCLING ICON
CHART VDP AT 0.97 NM TO RW31*
*LNAV ONLY
WAAS CHANNEL #48936
REFERENCE PATH ID: W31A
CHART FAS OBST: 1059 TREE 420611N/0925421W.
HOLD NW, RT, 125.93 INBOUND
LTP HAE: 264.4 M

MINIMUMS:

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

ALTERNATE: NA ☐ STANDARD - CAT D 900-2 3/4, NA WHEN LOCAL WEATHER NOT AVAILABLE.



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	1223	1	250	1223	1	250	1223	1	250	1223	1	250			
LNAV/VNAV DA	1223	1	250	1223	1	250	1223	1	250	1223	1	250			
LNAV MDA	1320	1	347	1320	1	347	1320	1	347	1320	1	347			
CIRCLING	1400	1	425	1440	1	465	1460	1 1/2	485	1840	2 3/4	865			

CHANGES - REASONS

1. REMOVED EQUIPMENT NOTE: DME/DME RNP-0.3 NA - 8260.19H DOCUMENTATION REQUIREMENT.
2. ADDED PBN NAVSPEC EQUIPMENT NOTE: RNP APCH - 8260.19H DOCUMENTATION REQUIREMENT.
3. LINE 7: POPULATED 20:1 BLOCK - 8260.19H DOCUMENTATION REQUIREMENT..
4. ADDED CHART NOTE: CIRCLING RWY 18, 36 NA AT NIGHT - NO OIS SURVEY.
5. INTERMEDIATE SEGMENT VUNDY TO BEKFY CHANGED RNP VALUE FROM 0.50 TO 1.00 - UPDATED ARINC REQUIREMENT.
6. ALTIMETER SETTING NOTE: CHANGED VISIBILITY FROM "MILES" TO "SM" AND "FT" TO "FEET" - .19H PROCEDURE NOTES STANDARDIZATION.

COORDINATED WITH:

A4A ☐

ALPA ☒

AOPA ☒

APA ☐

HAI ☐

NBAA ☒

OTHER: ZAU, ALO APP CON, AMGR

FLIGHT CHECKED BY

FLIGHT INSPECTION REVIEW NOT REQUIRED - PROCESSED IAW AIRCRAFT OPERATIONS GROUP (AJW-33) MEMO, DEC 22, 2017.

OFFICE

DATE

Digitally signed by

ROBERT G HAMILTON

Oct 15, 2018

DEVELOPED BY

DAVID A. DOWLING

Digitally signed by

DAVID A DOWLING

Oct 03, 2018

OFFICE

AJV-5422

DATE

09/17/2018

APPROVED BY

JULIE MORGAN

OFFICE

AJV-5420

DATE

Digitally signed by

ROBERT G HAMILTON

Oct 15, 2018

TITLE

MANAGER



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

AIRPORT	AIRPORT ID	PROCEDURE NAME	AMDT NO.	CITY	STATE	AIRPORT ELEVATION	FACILITY
MARSHALLTOWN MUNI	KMIW	RNAV (GPS) RWY 31	1B	MARSHALLTOWN	IA	975	RNAV

PART A: OBSTRUCTION DATA SEGMENTS

STRAIGHT-IN AREA

FROM
216/30 CW 036/30

TO
216/15 CW 036/15

RNP

DISTANCE

PAT

MAP

HAT

HMAS

OBSTRUCTION	COORDINATES	ELEV MSL	HORZ	VERT	AC	ROC	OCS	CG	CGTA	ADJUSTMENTS	MIN ALT
1.TOWER (19-001314)	420525.00N/0920514.00W	2421	50	20	2C	1000					3500
2.TERRAIN	421354.00N/0923518.00W	1070 (1100)								AS1500	2600

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT
REMARKS:

STRAIGHT-IN AREA

FROM
216/15 CW 036/15

TO
VUNDY

RNP

DISTANCE

PAT

MAP

HAT

HMAS

OBSTRUCTION	COORDINATES	ELEV MSL	HORZ	VERT	AC	ROC	OCS	CG	CGTA	ADJUSTMENTS	MIN ALT
3.TOWER (19-001109)	414813.00N/0924012.00W	1494	500	50	5D	1000					2500
4.TERRAIN	420606.00N/0924254.00W	1086 (1100)								AS1500	2600

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT
REMARKS:



HOLD-IN-LIEU OF PT

FROM

VUNDY

TO

P-5

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>	<u>HAT</u>			<u>HMAS</u>				
		P-5									
<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>
7.TOWER (19-001768)	420022.67N/0924131.70W	1306	500	50	5D	1000					2400
12.TERRAIN	420427.00N/0924242.00W	1077 (1100)								AS1500	2600

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

MISSED APPROACH : LPV

FROM

DA

TO

BRIDY

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>	<u>HAT</u>			<u>HMAS</u>				
1035											
<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>
							ASC				2700
13.TOWER (19-021033)	421402.55N/0930456.72W	1332	250	50	4D	1000					2400
14.TERRAIN	421136.00N/0930706.00W	1080 (1100)								AS1500	2600

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



MISSED APPROACH : LNAV/VNAV

FROM

DA

TO

BRIDY

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>	<u>HAT</u>			<u>HMAS</u>				
							1061				
<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>
							ASC				2700
13.TOWER (19-021033)	421402.55N/0930456.72W	1332	250	50	4D	1000					2400
14.TERRAIN	421136.00N/0930706.00W	1080 (1100)								AS1500	2600

COMPUTATIONS

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

MISSED APPROACH : LNAV

FROM

RW31

TO

BRIDY

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>	<u>HAT</u>			<u>HMAS</u>				
							1220				
<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>
							ASC				2700
13.TOWER (19-021033)	421402.55N/0930456.72W	1332	250	50	4D	1000					2400
14.TERRAIN	421136.00N/0930706.00W	1080 (1100)								AS1500	2600

COMPUTATIONS

ALT	KIAS	KTAS	HAA	VKTW	TR	BA	DTA	COURSE CHANGE	DVEB	VEB OCS	RF CENTER FIX/DISTANCE
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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											
15.TREE (KMIWT0232)	420807.12N/0925525.74W	1.30	425	1085	50	20	2C	300			1400
CATEGORY B											
16.TREE (OBS-912)	420730.64N/0925243.95W	1.84	465	1094	50	20	2C	300		HA40	1440
CATEGORY C											
17.BLDG (KMIWT0241)	420841.48N/0925412.41W	2.89	485	1156	50	20	2C	300			1460
CATEGORY D											
18.WINDMILL (19-025043)	420933.80N/0925137.86W	3.78	865	1471	500	50	5D	300		AC50	1840

CIRCLING REMARKS:

CENTER

RADIUS

MSA REMARKS:

NOTES/EXPLANATIONS FROM PROCEDURE SEGMENTS:



QUALITY
25
CHECKED

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	2.93
WIDTH OF	FINAL	SEGMENT AT 1000FT POINT	1.65
TRUE COURSE OF	FINAL	SEGMENT CONTAINING 1000FT POINT	307.14
HIGH TERRAIN IN	FINAL	SEGMENT CONTAINING 1000FT POINT	1029
DISTANCE FROM	THLD	TO 1500FT POINT	4.73
WIDTH OF	FINAL	SEGMENT AT 1500FT POINT	2.00
TRUE COURSE OF	FINAL	SEGMENT CONTAINING 1500FT POINT	307.14
HIGH TERRAIN IN	FINAL	SEGMENT CONTAINING 1500FT POINT	1029

THRESHOLD
COORDINATES
(IF STR-IN) 420631.43N/0925433.48W

ARP COORDINATES 420645.90N/0925504.00W

RUNWAY APCH END
AND DIST FURTHEST
FROM ARP RUNWAY 31 DISTANCE 0.45 NM

FAF
COORDINATES 420330.52N/0924912.37W

FIX NAME
COORDINATES

REMARKS

NO ADDITIONAL AIRSPACE REQUIRED.



