

**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><b>AIRPORT ID</b></u> C25	<u><b>PROCEDURE NAME</b></u> RNAV (GPS) RWY 29	<u><b>ORIGINAL/AMENDMENT</b></u> ORIG-A	<u><b>CITY</b></u> WAVERLY	<u><b>STATE</b></u> IA		
<u><b>AIRPORT ELEVATION</b></u> 992	<u><b>TDZE</b></u> 992	<u><b>SUPERSEDED</b></u> RNAV (GPS) RWY 29	<u><b>ORIGINAL/AMENDMENT</b></u> ORIG	<u><b>DATED</b></u> 12/31/2020	<u><b>MAG VAR</b></u> 0W	<u><b>EPOCH YEAR</b></u> 2020
<u><b>FACILITY</b></u> RNAV	<u><b>COORDINATES OF FACILITIES</b></u>	<u><b>ACTUAL EFFECTIVE DATE</b></u> 11 AUGUST 2022	<u><b>REQUIRED EFFECTIVE DATE</b></u> ROUTINE	<u><b>CANCEL/SUSPEND</b></u>		

**TERMINAL ROUTES**

<u><b>FROM</b></u>	<u><b>FIX TYPE</b></u>	<u><b>TO</b></u>	<u><b>FIX TYPE</b></u>	<u><b>LEG TYPE</b></u>	<u><b>FO/FB</b></u>	<u><b>RNP</b></u>	<u><b>COURSE</b></u>	<u><b>DISTANCE</b></u>	<u><b>ALTITUDE</b></u>
ALO VOR/DME		JABOD		TF	FO	1.00	037.50	9.81	3300
ZEZDU	IAF	JABOD	NOPT	TF	FB	1.00	224.00	11.54	3300
DEWAR	IAF	JABOD	NOPT	TF	FB	1.00	332.51	10.16	3300
JABOD	IF/IAF	GRANO		TF	FB	1.00	287.33	6.05	2600
GRANO	FAF	RW29	MAP	TF	FO	0.30	287.22	4.95	
RW29	MAP	1287 MSL		CA			287.22		
1287 MSL		TAGBE		DF	FO	1.00			3000

**MISSED APPROACH**

**MAP:**

LPV: DA  
LNAV/VNAV: DA  
LNAV: RW29

**MISSED APPROACH INSTRUCTIONS:**

CLIMB TO 3000 DIRECT TAGBE AND HOLD.

**ALTERNATE MISSED APPROACH INSTRUCTIONS:**

QUALITY  
10  
CHECKED

PROFILE:

1. PT

SIDE OF COURSE

OUTBOUND

FT WITHIN

MILES OF

(IAF)

2. HOLD E JABOD, RT, 287.33 INBOUND, 3300 FT. IN LIEU OF PT (IAF), MAX 6000.

3. FAF: 287.22FAF: GRANO

DIST FAF TO MAP: 4.95

DIST FAF TO THLD: 4.95

4. MIN ALT: JABOD 3300, GRANO 2600

5. DIST TO THLD FROM OM:MM:IM:150 HAT:245 HAT: 0.67GS ANT:

6. MIN GP INCPT: 2600GP ALT AT PFAF : GRANO 2600OM:MM:IM:

7. GP ANGLE: 3.0034:1: IS NOT CLEAR20:1: IS CLEARTCH: 43.2

8. MSA FROM: RW29 3400

PBN REQUIREMENTS NOTE:

RNP APCH - GPS.

NOTES:

CHART NOTE: CIRCLING RWY 11 NA AT NIGHT.  
CHART NOTE: RWY 29 HELICOPTER VISIBILITY REDUCTION BELOW 3/4 SM NOT AUTHORIZED.  
CHART NOTE: BARO-VNAV NA.  
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVAL ON ALO VOR/DME AIRWAY RADIALS 308 CW 353.  
CHART NOTE: USE WATERLOO ALTIMETER SETTING.  
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVAL AT ZEZDU ON V158 EASTBOUND.

ADDITIONAL FLIGHT DATA:

CHART WATERLOO ASOS.  
HOLD W, RT, 106.89 INBOUND.  
CHART FAS OBST: 1288 TOWER (19-052821) 424255N/0922604W.  
WAAS CHANNEL # 78343  
REFERENCE PATH ID: W29A  
CHART CIRCLING ICON.  
LTP HAE: 267.1 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	1287	1	295	1287	1	295	1287	1	295		NA				
LNAV/VNAV DA	1334	1	342	1334	1	342	1334	1	342		NA			QUALITY 10 CHECKED	
LNAV MDA	1600	1	608	1600	1	608	1600	1 3/4	608		NA				
CIRCLING	1600	1	608	1620	1	628	1620	1 3/4	628		NA				

**CHANGES - REASONS**

1. LPV DA/HAT INCREASED FROM 1237/245 TO 1287/295 - NEW CONTROLLING OBSTACLE.
2. TERINAL ROUTES: CA ALTITUDE CHANGED FROM 1237 TO 1287 - LPV DA INCREASE.
3. LINE 7: CHANGED 34:1 IS CLEAR TO 34:1 IS NOT CLEAR - 34:1 PENETRATIONS.
4. ADDED NOTE: RWY 29 HELICOPTER VISIBILITY REDUCTION BELOW 3/4 SM NOT AUTHORIZED - 34:1 PENETRATIONS.
5. FAS DATA: FPAP LAT/LONG CHANGED FROM 424452.0640N/0923201.0270W TO 424452.0675N/0923201.0290W - TARGETS EVAL.
6. FAS DATA: VERTICAL ALERT LIMIT CHANGED FROM 35 TO 50 - HAT INCREASED ABOVE 250.
7. FAS DATA: CRC REAMINDER CHANGED FROM 6842DAEA TO 0621B316 - CHANGES 5 AND 6 ABOVE.

**COORDINATED WITH:**

**A4A** ☐ **ALPA** ☒ **AOPA** ☒ **APA** ☐ **HAI** ☐ **NBAA** ☒ **OTHER:** ZAU, ZMP, ALO ATCT, AMGR

**FLIGHT CHECKED BY**

MICHAEL A GREENWOOD

*Digitally signed by***CASIMIR L TABAKA**

May 23, 2022

**OFFICE**

FPO

**DATE**

05/19/2022

**DEVELOPED BY**

RICHARD K. CLARK JR.

*Digitally signed by***CASIMIR L TABAKA**

Apr 19, 2022

**OFFICE**

AJV-A432

**DATE**

03/29/2022

**APPROVED BY**

CASIMIR TABAKA

*Digitally signed by***CASIMIR L TABAKA**

Apr 19, 2022

**OFFICE**

AJV-A430

**DATE****TITLE**  
MANAGER

QUALITY  
10  
CHECKED

FAS DATA BLOCK INFORMATION

<u>DATA FIELD</u>	<u>DATA</u>
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	C25
RUNWAY	RW29
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W29A
LTP/FTP LATITUDE	424425.8040N
LTP/FTP LONGITUDE	0923005.4780W
LTP/FTP ELLIPSOIDAL HEIGHT	+02671
FPAP LATITUDE	424452.0675N
FPAP LONGITUDE	0923201.0290W
THRESHOLD CROSSING HEIGHT (TCH)	00043.2
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	1776
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0
CRC REMAINDER	0621B316

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K3
LTP ORTHOMETRIC HEIGHT	+02987
FPAP ORTHOMETRIC HEIGHT	+02987

