

**FEDERAL AVIATION ADMINISTRATION  
FLIGHT STANDARDS SERVICE  
VOR STANDARD INSTRUMENT APPROACH PROCEDURE  
TITLE 14 CFR PART 97.23**

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> WATERLOO RGNL	<u>AIRPORT ID</u> KALO	<u>PROCEDURE NAME</u> VOR RWY 24	<u>ORIGINAL/AMENDMENT</u> 16C	<u>CITY</u> WATERLOO	<u>STATE</u> IA	
<u>AIRPORT ELEVATION</u> 873	<u>TDZE</u> 867	<u>SUPERSEDED</u> VOR RWY 24	<u>ORIGINAL/AMENDMENT</u> 16B	<u>DATED</u> 07/21/2016	<u>MAG VAR</u> 0E	<u>EPOCH YEAR</u> 2020
<u>FACILITY</u> ALO	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u> 13 SEPTEMBER 2018	<u>REQUIRED EFFECTIVE DATE</u> ROUTINE	<u>CANCEL/SUSPEND</u>		

**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>

**MISSED APPROACH**

**MAP:**

ALO VOR/DME

**MISSED APPROACH INSTRUCTIONS:**

CLIMB TO 1500 THEN CLIMBING LEFT TURN TO 2800 ON ALO VOR/DME R-215 TO NEVIS INT AND HOLD.

**ALTERNATE MISSED APPROACH INSTRUCTIONS:**

**PROFILE:**

1. PT L    **SIDE OF COURSE** 079.07    **OUTBOUND** 2600    **FT WITHIN** 10    **MILES OF** ALO VOR/DME (IAF)  
2.  
3. **FAC:** 259.07    **FAF:**    **DIST FAF TO MAP:**    **DIST FAF TO THLD:**  
4. **MIN ALT:** JEKEM/ALO VOR/DME 2.40 DME 1540  
8. **MSA FROM:** ALO VOR/DME 360-090 3200, 090-180 4000, 180-360 2600

**EQUIPMENT REQUIREMENTS NOTES:**

**NOTES:**

CHART NOTE: RWY 24 HELICOPTER VISIBILITY REDUCTION BELOW 3/4 SM NOT AUTHORIZED.

**ADDITIONAL FLIGHT DATA:**



CHART CIRCLING ICON.  
JEKEM/ALO VOR/DME 2.40 DME TO RW24: 3.00/41.7.  
CHART VDP AT 1.64 DME  
DISTANCE VDP TO THLD 1.23 NM  
CHART FAS OBST: 1369 TOWER 423201N/0921537W, 1049 TOWER 423228N/0922021W.  
FAC CROSSES RWY C/L EXTENDED 3002 FT FROM THLD.  
HOLD SW, RT, 034.60 INBOUND

MINIMUMS:

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

ALTERNATE: NA ☐ STANDARD - CAT D 800-2 1/4

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
S-24	1540	1	673	1540	1	673	1540	2	673	1540	2 1/4	673			
CIRCLING	1540	1	667	1540	1	667	1540	2	667	1600	2 1/4	727			
JEKEM FIX MINIMUMS															
S-24	1300	1	433	1300	1	433	1300	1 1/4	433	1300	1 1/2	433			
CIRCLING	1360	1	487	1400	1	527	1480	1 3/4	607	1600	2 1/4	727			

CHANGES - REASONS

1. UPDATED PROCEDURAL MAG VAR FROM 6E/65 TO 0E/2020 - MAG VAR TOLERANCE.
2. UPDATED PT COURSE FROM 073.10 TO 079.07 - MAG VAR.
3. UPDATED FAC FROM 253.10 TO 259.07 - MAG VAR/OPTIMUM COURSE.
4. UPDATED MSA SECTOR 180-360 FROM 2500 TO 2600 - OBSTACLE EVALUATION.
5. UPDATED S-24 CIRCLING MDA/HAA CAT D FROM 1540/667 TO 1600/727 - OBSTACLE EVALUATION.
6. UPDATED S-24 DME MINIMUMS; ADDED NAMED FIX JEKEM, UPDATED CIRCLING MDA/HAA FROM 1380/507 TO 1360/487 CAT B FROM 1380/507 TO 1400/527, CAT C FROM 1380/507 TO 1480/607, CAT D FROM 1480/607 TO 1600/727 - OBSTACLE EVALUATION.
7. UPDATED CIRCLING VISIBILITY CAT C FROM 1 1/2 TO 1 3/4, CAT D FROM 2 TO 2 1/4 - VIS CK CALCULATOR.
8. ADDED VDP NA WHEN USING INDEPENDENCE ALTIMETER SETTING NOTE TO -9- BACK UP ALT SOURCE.
9. ADDITIONAL FLIGHT DATA, UPDATED HOLD FROM 029 TO 034.60 - MAG VAR.
10. UPDATED FAS OBS FROM 977 ATCT TO 1369 TOWER & 1049 TOWER - FINAL OBSTACLES.
11. UPDATED VDP FROM 1.43 DME/1.02 THLD TO 1.64 DME/1.23 THLD - RECALCULATED VISUAL DESCENT POINT.
12. UPDATED VDA FROM ALO 2.40 DME TO RW24: 2.97/50 TO JEKEM/ALO VOR/DME 2.40 DME TO RW24: 3.00/41.7. - UPDATED VISUAL ANGLE TO MATCH VGSI.
13. ADDED CHART CIRCLING ICON - NEW CIRCLING RADII APPLIED.
14. UPDATED FAC CROSSES RWY C/L FROM 3001 TO 3002 - RECALCULATED.
15. UPDATED ALTERNATE MINS FROM NA WHEN LOCAL WX NOT AVAIL TO STANDARD @ - ON WMSCR
16. UPDATED MISSED APPROACH FROM CLIMB TO 1500 THEN CLIMBING LEFT TURN TO 2800 ON ALO VOR/DME R-209 TO NEVIS INT AND HOLD TO CLIMB TO 1500 THEN CLIMBING LEFT TURN TO 2800 ON ALO VOR/DME R-215 TO NEVIS INT AND HOLD. - MAG VAR
17. REMOVED NOTE: WHEN CONTROL TOWER CLOSED STRAIGHT IN MINIMUMS NA AT NIGHT. - RWY HAS COMMISSIONED PCL.



COORDINATED WITH:

A4A ☒ ALPA ☒ AOPA ☒ APA ☒ HAI ☐ NBAA ☒ OTHER: ZAU, WATERLOO ATCT, AMGR, ALO APP CON

FLIGHT CHECKED BY

PENDING

DEVELOPED BY

HEIDI SNIDER

APPROVED BY

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Jul 31, 2018

Digitally signed by

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Jun 28, 2018

Digitally signed by

ROBERT G HAMILTON

Jul 31, 2018

OFFICE

OFFICE

AJV-5423

OFFICE

AJV-5420

DATE

DATE

05/09/2018

DATE

TITLE

MANAGER

