

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> ESTHERVILLE MUNI | <u>AIRPORT ID</u> KEST | <u>PROCEDURE NAME</u> RNAV (GPS) RWY 16 | <u>ORIGINAL/AMENDMENT</u> 1A | <u>CITY</u> ESTHERVILLE | <u>STATE</u> IA |
| <u>AIRPORT ELEVATION</u> 1319 | <u>TDZE</u> 1319 | <u>SUPERSEDED</u> RNAV (GPS) RWY 16 | <u>ORIGINAL/AMENDMENT</u> 1 | <u>DATED</u> 07/05/2007 | <u>MAG VAR</u> 1E |
| <u>FACILITY</u> RNAV | <u>COORDINATES OF FACILITIES</u> | <u>ACTUAL EFFECTIVE DATE</u> 8 NOVEMBER 2018 | <u>REQUIRED EFFECTIVE DATE</u> ROUTINE | <u>CANCEL/SUSPEND</u> | <u>EPOCH YEAR</u> 2020 |

TAA

| <u>FROM</u> | <u>FIX TYPE</u> | <u>TO</u> | <u>FIX TYPE</u> | <u>ALTITUDE</u> |
|---------------------|------------------------|------------------|------------------------|------------------------|
| 1. 078/30 CW 259/30 | NOPT | UYJOR | IF/IAF | 3400 |
| 2. 259/30 CW 349/30 | | QUKJI | IAF | 3400 |
| 3. 349/30 CW 078/30 | | OXESY | IAF | 3400 |

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> |
|--------------------|------------------------|------------------|------------------------|------------------------|---------------------|-------------------|----------------------|------------------------|------------------------|
| OXESY | IAF | UYJOR | NOPT | TF | FB | 1.00 | 078.48 | 5.00 | 3400 |
| QUKJI | IAF | UYJOR | NOPT | TF | FB | 1.00 | 258.64 | 5.00 | 3400 |
| UYJOR | IF/IAF | XUMYI | | TF | FB | 1.00 | 168.56 | 6.10 | 2900 |
| XUMYI | FAF | RW16 | MAP | TF | FO | 0.30 | 168.58 | 4.81 | |
| RW16 | MAP | 1569 MSL | | CA | | | 168.58 | | |
| 1569 MSL | | OHYEQ | | DF | FO | 1.00 | | | 3400 |

MISSED APPROACH

MAP:

LPV: DA
 LNAV/VNAV: DA
 LNAV: RW16

MISSED APPROACH INSTRUCTIONS:

CLIMB TO 3400 DIRECT OHYEQ AND HOLD.

ALTERNATE MISSED APPROACH INSTRUCTIONS:



PROFILE:

1. PT

SIDE OF COURSE

OUTBOUND

FT WITHIN

MILES OF (IAF)
2. HOLD N UYJOR, RT, 168.56 INBOUND, 3400 FT. IN LIEU OF PT (IAF), MAX 6000.
3. FAC: 168.58FAF: XUMYIDIST FAF TO MAP: 4.81DIST FAF TO THLD: 4.81
4. MIN ALT: UYJOR 3400, XUMYI 2900
5. DIST TO THLD FROM OM:MM:IM:150 HAT:250 HAT: 0.69GS ANT:
6. MIN GP INCPT: 2900GP ALT AT FAF : XUMYI 2900OM:MM:IM:
7. GP ANGLE: 3.0034:1: IS CLEAR20:1: IS CLEARTCH: 30.0
8. MSA FROM:

PBN REQUIREMENTS NOTE:

RNP APCH.

NOTES:

CHART NOTE: CIRCLING NA TO RWYS 6 AND 24.
CHART NOTE: BARO-VNAV AND VDP NA WHEN USING JACKSON ALTIMETER SETTING.
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -17C OR ABOVE 54C.
CHART PROFILE NOTE: VGSI AND RNAV GLIDEPATH NOT COINCIDENT (VGSI ANGLE {ANGLE}/TCH {FEET}).
CHART NOTE: WHEN LOCAL ALTIMETER SETTING NOT RECEIVED, USE JACKSON ALTIMETER SETTING AND INCREASE ALL DA/MDA 60 FEET.

ADDITIONAL FLIGHT DATA:

CHART CIRCLING ICON.
CHART VDP AT 1.14 NM TO RW16*
*LNAV ONLY
WAAS CHANNEL #40104
REFERENCE PATH ID: W16A
CHART FAS OBST: 1421 TREE 432732N/09444451W.
HOLD S, RT, 348.62 INBOUND
LTP HAE: 373 M

MINIMUMS:

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

ALTERNATE: NA ☐ STANDARD - 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 | 1569 | 1 | 250 | 1569 | 1 | 250 | | NA | | | NA | | | | |
| LNAV/VNAV DA | 1608 | 1 | 289 | 1608 | 1 | 289 | | NA | | | NA | | | | |
| LNAV MDA | 1720 | 1 | 401 | 1720 | 1 | 401 | | NA | | | NA | | | | |
| CIRCLING | 1720 | 1 | 401 | 1840 | 1 | 521 | | NA | | | NA | | | | |



| <u>AIRPORT</u> | <u>AIRPORT ID</u> | <u>PROCEDURE NAME</u> | <u>ORIGINAL/AMENDMENT</u> | <u>CITY</u> | <u>STATE</u> |
|------------------|-------------------|-----------------------|---------------------------|-------------|--------------|
| ESTHERVILLE MUNI | KEST | RNAV (GPS) RWY 16 | 1A | ESTHERVILLE | IA |

CHANGES - REASONS

1. MAGVAR UPDATED FROM 6E/1980 TO 1E/2020 - MAGVAR WAS OUT OF TOLERANCE.
2. ADDED 20:1 IS CLEAR - IAW CURRENT DOCUMENTATION POLICY.
3. FAC CHANGED FROM 163.58/4.81 TO 168.58/4.81 - AIRPORT MAGVAR CHANGED FROM 6E TO 1E/NO CHANGE TO GROUND TRACK.
4. INTERMEDIATE SEGMENT CHANGED FROM 163.56/6.10 TO 168.56/6.10 - AIRPORT MAGVAR CHANGED FROM 6E TO 1E/NO CHANGE TO GROUND TRACK.
5. TAA 1 CHANGED FROM 073/30 CW 254/30 TO 078/30 CW 259/30 - AIRPORT MAGVAR CHANGED FROM 6E TO 1E/NO CHANGE TO GROUND TRACK.
6. TAA 2 CHANGED FROM 254/30 CW 344/30 TO 259/30 CW 349/30 - AIRPORT MAGVAR CHANGED FROM 6E TO 1E/NO CHANGE TO GROUND TRACK.
7. TAA 3 CHANGED FROM 344/30 CW 073/30 TO 349/30 CW 078/30 - AIRPORT MAGVAR CHANGED FROM 6E TO 1E/NO CHANGE TO GROUND TRACK.
8. TERMINAL ROUTE (OXESY-UYJOR) CHANGED FROM 073.48/5.00 TO 078.48/5.00 - AIRPORT MAGVAR CHANGED FROM 6E TO 1E/NO CHANGE TO GROUND TRACK.
9. TERMINAL ROUTE (QUKJI-UYJOR) CHANGED FROM 253.64/5.00 TO 258.64/5.00 - AIRPORT MAGVAR CHANGED FROM 6E TO 1E/NO CHANGE TO GROUND TRACK.
10. ADDED PBN REQUIREMENTS NOTE: "RNP APCH" AND DELETED NOTE "DME/DME RNP-0.3 NA" - IAW FAAO 8260.19H 8-6-8.
11. ADDED "CHART CIRCLING ICON" TO ADDITIONAL FLIGHT DATA - ADDED NEW CIRCLING CRITERIA.
12. CAT B CIRCLING MDA INCREASED FROM 1780/461 TO 1840/521 - NEW CONTROLLING OBSTACLE (19-052374).
13. CHANGED LINE 2 FROM "HOLD N UYJOR, RT, 163.56 INBOUND, 3400 FT. IN LIEU OF PT (IAF)" TO "HOLD N UYJOR, RT, 168.56 INBOUND, 3400 FT. IN LIEU OF PT (IAF)" - AIRPORT MAGVAR CHANGED FROM 6E TO 1E/NO CHANGE TO GROUND TRACK.
14. ADDITIONAL FLIGHT DATA: CHANGED "HOLD S, RT, 343.62 INBOUND" TO "HOLD S, RT, 348.62 INBOUND." - AIRPORT MAGVAR CHANGED FROM 6E TO 1E/NO CHANGE TO GROUND TRACK.
15. CHANGED NOTE FROM" FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -17C (2F) OR ABOVE 54C (130F)." TO "FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -17C OR ABOVE 54C." - IAW 8260.19H 8-6-9 S. FAHRENHEIT IS NO LONGER REQUIRED ON THIS NOTE.
16. ADDED CA LEG TO MISSED APCH - AS REQUIRED.
17. LTP LAT/LONG CHANGED FROM "432453.0180N/0944453.7035W" TO "432453.0176N/0944453.7024W" - NEW SURVEY DATA.
18. FPAP LAT/LONG CHANGED FROM "432325.3700N/0944431.6200W" TO "432325.3685N/0944431.6230W" - NEW SURVEY DATA.
19. CRC REMAINDER CHANGED FROM 938DF5A2 TO 5DCB52D0 - LTP AND FPAP LAT/LONGS CHANGED.
20. TERMINAL ROUTE (UYJOR-XUMYI) CHANGED FROM (RNP 0.50) TO (RNP 1.00) - IAW FAAO 8269.19H.
21. CHANGED LNAV FINAL CONTROLLING OBSTACLE FROM 1459' TREE TO 1421' TREE (19-052255) - PROCEDURE EVALUATION.
22. REMOVED LNAV/VNAV CONTROLLING OBSTACLE - NOT REQUIRED, ALL SURFACES CLEAR, NO IMPACT TO DA.
23. ADDED "PRECIPITOUS TERRAIN EVALUATION COMPLETED." - IAW CURRENT DOCUMENTATION POLICY.
24. ADDED "BARO-VNAV AND VDP NA WHEN USING JACKSON ALTIMETER SETTING." - IAW CURRENT DOCUMENTATION POLICY.
25. REMOVED "BARO-VNAV NA WHEN USING JACKSON ALTIMETER SETTING." NOTE - REPLACED BY "BARO-VNAV AND VDP NA WHEN USING JACKSON ALTIMETER SETTING."
26. REMOVED "VDP NA WHEN USING JACKSON ALTIMETER SETTING." NOTE - REPLACED BY "BARO-VNAV AND VDP NA WHEN USING JACKSON ALTIMETER SETTING."



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|--|---------------------------|--|---------------------------------|----------------------------|---------------------------|
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| <u>COORDINATED WITH:</u> | | | | | |
| A4A <input type="checkbox"/> ALPA <input checked="" type="checkbox"/> AOPA <input checked="" type="checkbox"/> APA <input type="checkbox"/> HAI <input type="checkbox"/> NBAA <input checked="" type="checkbox"/> OTHER: ZMP, AMGR | | | | | |
| <u>FLIGHT CHECKED BY</u> SCOTT WIEBE | | Digitally signed by DEZ SILAGYI Aug 27, 2018 | | <u>OFFICE</u> FICO | <u>DATE</u> 8/22/18 |
| <u>DEVELOPED BY</u> CHRIS O'BRIEN | | Digitally signed by CHRISTOPHER P O'BRIEN Jul 23, 2018 | | <u>OFFICE</u> AJV-5421 | <u>DATE</u> 07/20/2018 |
| <u>APPROVED BY</u> JULIE MORGAN | | Digitally signed by DEZ SILAGYI Aug 27, 2018 | | <u>OFFICE</u> AJV-5420 | <u>TITLE</u> MANAGER |



FAS DATA BLOCK INFORMATION

| DATA FIELD | DATA |
|--|---------------|
| OPERATION TYPE | 0 |
| SBAS SERVICE PROVIDER IDENTIFIER | 0 |
| AIRPORT IDENTIFIER | KEST |
| RUNWAY | RW16 |
| APPROACH PERFORMANCE DESIGNATOR | 0 |
| ROUTE INDICATOR | |
| REFERENCE PATH DATA SELECTOR | 0 |
| REFERENCE PATH IDENTIFIER (APPROACH ID) | W16A |
| LTP/FTP LATITUDE | 432453.0175N |
| LTP/FTP LONGITUDE | 0944453.7020W |
| LTP/FTP ELLIPSOIDAL HEIGHT | +00373 |
| FPAP LATITUDE | 432325.3685N |
| FPAP LONGITUDE | 0944431.6230W |
| THRESHOLD CROSSING HEIGHT (TCH) | 00030.0 |
| TCH UNITS SELECTOR (METERS OR FEET USED) | F |
| GLIDEPATH ANGLE (GPA) | 03.00 |
| COURSE WIDTH AT THRESHOLD | 106.75 |
| LENGTH OFFSET | 1288 |
| HORIZONTAL ALERT LIMIT (HAL) | 40.0 |
| VERTICAL ALERT LIMIT (VAL) | 50.0 |
| CRC REMAINDER | 5DCB52D0 |
| | |
| ADDITIONAL PATH POINT RECORD INFORMATION | |
| ICAO CODE | K3 |
| LTP ORTHOMETRIC HEIGHT | +04013 |
| FPAP ORTHOMETRIC HEIGHT | +04013 |

