

**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 ID</u> KLNL	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 32	<u>ORIGINAL/AMENDMENT</u> 1	<u>CITY</u> LAND O' LAKES	<u>STATE</u> WI		
<u>AIRPORT ELEVATION</u> 1706	<u>TDZE</u> 1705	<u>SUPERSEDED</u> RNAV (GPS) RWY 32	<u>ORIGINAL/AMENDMENT</u> ORIG-D	<u>DATED</u> 08/12/2021	<u>MAG VAR</u> 2W	<u>EPOCH YEAR</u> 2000
<u>FACILITY</u> RNAV	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u> 23 FEBRUARY 2023	<u>REQUIRED EFFECTIVE DATE</u> 12/29/2022	<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>
DINER		TOLOY		TF	FO	1.00	156.77	13.49	3500
CINOP	IAF	TOLOY	NOPT	TF	FB	1.00	235.92	9.23	3500
JAYME	IAF	TOLOY	NOPT	TF	FB	1.00	054.39	14.92	3500
TOLOY	IF/IAF	JOLNA		TF	FB	1.00	324.83	5.90	3500
JOLNA	FAF	WATOL/1.94 NM TO RW32		TF	FB	0.30	324.77	3.58	
WATOL/1.94 NM TO RW32		RW32	MAP	TF	FO	0.30	324.77	1.94	
RW32	MAP	1955 MSL		CA			324.77		
1955 MSL		TECOL		DF	FO	1.00			3500

MISSED APPROACH

MAP:

LPV: DA
LNAV/VNAV: DA
LNAV: RW32

MISSED APPROACH INSTRUCTIONS:

CLIMB TO 3500 DIRECT TECOL AND HOLD.

ALTERNATE MISSED APPROACH INSTRUCTIONS:



PROFILE:

1. PT

SIDE OF COURSE

OUTBOUND

FT WITHIN

MILES OF

(IAF)

2. HOLD SE TOLOY, RT, 324.83 INBOUND, 3500 FT. IN LIEU OF PT (IAF), MAX 6000.

3. FAC: 324.77FAF: JOLNADIST FAF TO MAP: 5.52DIST FAF TO THLD: 5.52

4. MIN ALT: TOLOY 3500, JOLNA 3500, WATOL/1.94 NM TO RW32 2360

5. DIST TO THLD FROM OM:MM:IM:150 HAT:250 HAT: 0.67GS ANT:

6. MIN GP INCPT: 3500GP ALT AT PFAF : JOLNA 3500OM:MM:IM:

7. GP ANGLE: 3.0034:1: IS NOT CLEAR20:1: IS CLEARTCH: 40.0

8. MSA FROM: RW32 3300

PBN REQUIREMENTS NOTE:

RNP APCH - GPS.

NOTES:

CHART NOTE: CIRCLING NA TO RWYS 5 AND 23.
CHART NOTE: RWY 32 HELICOPTER VISIBILITY REDUCTION BELOW 3/4 SM NOT AUTHORIZED.
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -18°C OR ABOVE 54°C.
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT JAYME ON V63 SOUTHBOUND.

ADDITIONAL FLIGHT DATA:

CHART VDP AT 1.06 NM TO RW32
HOLD NW, RT, 144.60 INBOUND.
CHART FAS OBST: 1824 TREE (55-052006) 460818N/0891152W, 1774 TREE (55-051997) 460847N/0891220W.
2089 AAO 460546N/0890650W.
WAAS CHANNEL # 97744
REFERENCE PATH ID: W32A
CHART CIRCLING ICON.
LTP HAE: 487.6 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	1955	1	250	1955	1	250	1955	1	250		NA				
LNAV/VNAV DA	1974	1	269	1974	1	269	1974	1	269		NA				
LNAV MDA	2080	1	375	2080	1	375	2080	1	375		NA				
CIRCLING	2200	1	494	2240	1	534	2240	1 1/2	534		NA				



CHANGES - REASONS

1. ADDED LPV AND LNAV/VNAV LINES OF MINIMA AND ALL ASSOCIATED NOTES AND REMARKS - FPT REQUESTED, VGS SURFACE HAS BEEN CLEARED.
2. FINAL APPROACH COURSE CHANGED FROM 324.76 TO 324.77 - FAF RELOCATED TO OPTIMUM PFAF LOCATION.
3. ADDED CHART VDP AT 1.06 NM TO RW32 - 20:1 SURFACE IS NOW CLEAR.
4. CHANGED CHART NOTE: RWY 32 HELICOPTER VISIBILITY REDUCTION BELOW 1 SM NOT AUTHORIZED TO READ "RWY 32 HELICOPTER VISIBILITY REDUCTION BELOW 3/4 SM NOT AUTHORIZED" - 20:1 IS CLEAR, BUT 34:1 REMAINS NOT CLEAR.
5. DELETED CHART NOTE: PROCEDURE NA AT NIGHT - 20:1 IS CLEAR.
6. DELETED CHART PROFILE NOTE: VGSI AND DESCENT ANGLES NOT COINCIDENT (VGSI ANGLE {ANGLE}/TCH {FEET}) - VGSI DATA UPDATED TO 40 FT TCH, NOW COINCIDENT.
7. DINER FEEDER COURSE/DISTANCE CHANGED FROM 156.62/13.64 TO 156.77/13.49 - DUE TO FIX TOLOY RELOCATION.
8. CINOP INITIAL COURSE CHANGED FROM 234.95 TO 235.92 - DUE TO FIX TOLOY RELOCATION.
9. JAYME INITIAL COURSE/DISTANCE CHANGED FROM 054.99/14.93 TO 054.39/14.92 - DUE TO FIX TOLOY RELOCATION.
10. TOLOY INTERMEDIATE COURSE/DISTANCE CHANGED FROM 324.82/6.00 TO 324.83/5.90 - DUE TO FIX TOLOY AND FIX JOLNA RELOCATION.
11. WATOL CHANGED FROM 1.62 NM TO RW32 TO 1.94 NM TO RW32 - RELOCATED DUE TO NEW OBSTACLES.
12. COURSE/DISTANCE/ALTITUDE JOLNA TO WATOL CHANGED FROM 324.76/3.89/2260 TO 324.77/3.58/2360 - FAF RELOCATION AND NEW OBSTACLES.
13. HOLD IN LIEU INBOUND COURSE CHANGED FROM 324.82 TO 324.83 - TO MATCH NEW INTERMEDIATE COURSE.
14. MISSED APPROACH CLEARANCE LIMIT HOLDING INBOUND HEADING CHANGED FROM 144.58 TO 144.60 - TO MATCH THE RNAV 14 INTERMEDIATE COURSE.
15. DISTANCE FAF TO MAP CHANGED FROM 5.51 TO 5.52 - RELOCATION OF FAF.
16. DISTANCE WATOL TO MAP CHANGED FROM 1.62 TO 1.94 IN PROFILE VIEW - RELOCATION OF WATOL.
17. CHANGED CA LEG FROM 2105 TO 1955 MSL - ADDED LPV MINIMUMS.
18. FAS OBSTACLE CHANGED FROM 1889 TREES 460804N/0891201W TO 1824 TREE (55-052006) 460818N/0891152W - NEW EVALUATION, IAW 8260.19I, PARA 8-6-10.C.
19. ADDED "2089 AAO 460546N/0890650W" TO ADDITIONAL FLIGHT DATA - NEW EVALUATION 7:1 OBSTACLE.
20. REMOVED "JOLNA TO RW32: 3.00/40" FROM ADDITIONAL FLIGHT DATA - ADDED LPV AND LNAV/VNAV PROCEDURES.
21. ADDED "CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -18°C OR ABOVE 54°C" - IAW 8260.19I, PARA 8-6-9.R.
22. LNAV MDA/HAT CHANGED FROM 2140/436 TO 2080/375 - NEW EVALUATION AND TDZE CHANGED FROM 1704 TO 1705.
23. LNAV CAT C VISIBILITY CHANGED FROM 1 1/4 TO 1 - LOWERED LNAV MDA FROM 2140 TO 2080.
24. CIRCLING CAT A HAA CHANGED FROM 495 TO 494 AND CIRCLING CAT B/C HAA CHANGED FROM 535 TO 534 - AIRPORT ELEVATION CHANGED FROM 1705 TO 1706.
25. CHANGED MSA CONTROLLING OBSTACLE FROM 3326 TWR (50-0226) 454003.00N/0891230.00W (4D) TO 2284 TOWER (55-000952) 460954.00N/0892147.00W (5D) AND LOWERED ALTITUDE FROM 4400 TO 3300 - NEW CONTROLLING OBSTACLE.

COORDINATED WITH:A4A ☐ ALPA ☒ AOPA ☒ APA ☐ HAI ☐ NBAA ☒ OTHER: ZMP, AMGR**FLIGHT CHECKED BY**

MICHAEL A GREENWOOD

Digitally signed by

RAKE MCGRAW

Dec 07, 2022

OFFICE

FPO

DATE

12/06/2022

DEVELOPED BY

JOHN LINDSEY

Digitally signed by

JOHN LINDSEY

Sep 20, 2022

OFFICE

AJV-A423

DATE

08/15/2022

APPROVED BY

MARLON ROBINSON

Digitally signed by

RAKE MCGRAW

Dec 07, 2022

OFFICE

AJV-A420

DATE**TITLE**
MANAGERQUALITY
26
CHECKED

FAS DATA BLOCK INFORMATION

<u>DATA FIELD</u>	<u>DATA</u>
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KLNL
RUNWAY	RW32
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W32A
LTP/FTP LATITUDE	460902.5450N
LTP/FTP LONGITUDE	0891228.9050W
LTP/FTP ELLIPSOIDAL HEIGHT	+04876
FPAP LATITUDE	461013.4035N
FPAP LONGITUDE	0891346.5750W
THRESHOLD CROSSING HEIGHT (TCH)	00040.0
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	1656
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0
CRC REMAINDER	95B38092

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K5
LTP ORTHOMETRIC HEIGHT	+05190
FPAP ORTHOMETRIC HEIGHT	+05190