

**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> TVF	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 31	<u>ORIGINAL/AMENDMENT</u> ORIG-C	<u>CITY</u> THIEF RIVER FALLS	<u>STATE</u> MN
<u>AIRPORT ELEVATION</u> 1119	<u>TDZE</u> 1114	<u>SUPERSEDED</u> RNAV (GPS) RWY 31	<u>DATED</u> 04/23/2020	<u>EPOCH YEAR</u> 2015
<u>FACILITY</u> RNAV	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u>	<u>MAG VAR</u> 2E	<u>CANCEL/SUSPEND</u>
		<u>REQUIRED EFFECTIVE DATE</u> ROUTINE		

TAA

<u>FROM</u>	<u>FIX TYPE</u>	<u>TO</u>	<u>FIX TYPE</u>	<u>ALTITUDE</u>
1. 223/30 CW 043/30	NOPT	223/10 CW 043/10		3200
2. 223/10 CW 043/10		ZUDOL	IF/IAF	2700
3. 043/30 CW 133/30		WINUL	IAF	2700
4. 133/30 CW 223/30		ZEVOS	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>
ZEVOS	IAF	ZUDOL	NOPT	TF	FB	1.00	222.98	5.00	2700
WINUL	IAF	ZUDOL	NOPT	TF	FB	1.00	042.85	5.00	2700
ZUDOL	IF/IAF	WOBAX		TF	FB	1.00	312.92	6.25	2700
WOBAX	FAF	RW31	MAP	TF	FO	0.30	312.84	4.75	
RW31	MAP	1364 MSL		CA			312.84		
1364 MSL		WIMUS		DF	FO	1.00			2700

MISSED APPROACH

MAP:

LPV: DA
LNAV/VNAV: DA
LNAV: RW31

MISSED APPROACH INSTRUCTIONS:

CLIMB TO 2700 DIRECT WIMUS AND HOLD.

ALTERNATE MISSED APPROACH INSTRUCTIONS:



PROFILE:

1.	PT	SIDE OF COURSE	OUTBOUND	FT WITHIN	MILES OF	(IAF)									
2.	HOLD SE ZUDOL, RT, 312.92 INBOUND, 2700 FT. IN LIEU OF PT (IAF), MAX 10000.														
3.	FAC:	312.84	FAF:	WOBAX	DIST FAF TO MAP:	4.75	DIST FAF TO THLD:	4.75							
4.	MIN ALT:	ZUDOL 2700, WOBAX 2700													
5.	DIST TO THLD FROM OM:		MM:		IM:		150 HAT:		250 HAT:	0.61	GS ANT:				
6.	MIN GP INCPT:	2700	GP ALT AT PFAF:	WOBAX 2700					OM:		MM:		IM:		
7.	GP ANGLE:	3.04	34:1:	IS CLEAR	20:1:	IS CLEAR	TCH:	55.2							
8.	MSA FROM:														

PBN REQUIREMENTS NOTE:

RNP APCH - GPS.

NOTES:

CHART NOTE: BARO-VNAV AND VDP NA WHEN USING CKN ALTIMETER SETTING.
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -17°C OR ABOVE 54°C.
CHART NOTE: FOR INOPERATIVE ALS, WHEN USING CKN ALTIMETER SETTING, INCREASE LPV ALL CATS VISIBILITY TO 1 SM, LNAV CATS C/D VISIBILITY TO 1 5/8 SM.
CHART NOTE: WHEN LOCAL ALTIMETER SETTING NOT RECEIVED, USE CKN ALTIMETER SETTING: INCREASE LPV DA TO 1447 FEET; INCREASE LNAV/VNAV DA TO 1569 FEET AND ALL VISIBILITIES 1/4 SM; INCREASE ALL MDAS 100 FEET AND VISIBILITY CATS C AND D 1/4 SM.
CHART NOTE: FOR INOPERATIVE ALS, INCREASE LNAV/VNAV ALL CATS VISIBILITY TO 1 SM AND LNAV CATS C/D VISIBILITY TO 1 3/8 SM.

ADDITIONAL FLIGHT DATA:

HOLD NW, RT, 132.63 INBOUND.
FAS OBST: 1326 AAO 480048N/0960356W.
CHART VDP AT 1.29 NM TO RW31.
WAAS CHANNEL # 69311
REFERENCE PATH ID: W31A
CHART CIRCLING ICON.
LTP HAE: 312.1 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	1364	1/2	250	1364	1/2	250	1364	1/2	250	1364	1/2	250			
LNAV/VNAV DA	1486	5/8	372	1486	5/8	372	1486	5/8	372	1486	5/8	372			
LNAV MDA	1580	1/2	466	1580	1/2	466	1580	1	466	1580	1	466			
CIRCLING	1580	1	461	1580	1	461	1820	2	701	1980	2 3/4	861			



CHANGES - REASONS

1. CHANGES FROM P-NOTAM FOR ORIG-B INCORPORATED INTO FORM - IAW 8260.19J PARA 8-3-4C(3).
2. CHANGED GPA FROM 3.00 TO 3.04 - FIXES DID NOT MOVE, RECOMPUTED GPA IAW 8260.3F, FORMULA 10-1-5.
3. RAISED LNAV/VNAV DA/HAT/VIS FROM 1428/314/ 1/2 TO 1486/372/ 5/8 - NEW CONTROLLING OBSTACLE, CLEARS T-NOTAM 4/4890.
4. REMOVED NOTE, "DME/DME RNP-0.3 NA" - REPLACED WITH PBN REQUIREMENTS NOTE.
5. ADDED PBN REQUIREMENTS NOTE, "RNP APCH - GPS" - IAW 8260.19J PARA 8-6-8.
6. ADDED 20:1 IS CLEAR - IAW 8260.19J PARA 8-6-7G(3)(A).
7. UPDATED BARO-VNAV AND VDP NA NOTE FROM "CROOKSTON" TO "CKN" - IAW 8260.19J PARA 8-6-10E(8).
8. UPDATED LNAV/VNAV NA NOTE TO REMOVE FAHRENHEIT TEMPS - IAW 8260.19J PARA 8-6-10R.
9. CHANGED NOTE FROM "FOR INOPERATIVE MALSR, INCREASE LNAV CATS C/D VISIBILITY TO 1 3/8 MILE" TO "FOR INOPERATIVE ALS, INCREASE LNAV/VNAV ALL CATS VISIBILITY TO 1 SM AND LNAV CATS C/D VISIBILITY TO 1 3/8 SM" - NEW EVALUATION AND IAW 8260.19J PARA 8-6-12O(3)(D).
10. CHANGED BACKUP ALTIMETER NOTE FROM "WHEN LOCAL ALTIMETER SETTING NOT RECEIVED, USE CROOKSTON ALTIMETER SETTING: INCREASE LPV DA TO 1446 FEET AND ALL VISIBILITIES 1/8 SM; INCREASE LNAV/VNAV DA TO 1510 FEET AND ALL VISIBILITIES 3/8 SM; INCREASE ALL MDAS 100 FEET AND VISIBILITY CATS C AND D 1/4 SM" TO "WHEN LOCAL ALTIMETER SETTING NOT RECEIVED, USE CKN ALTIMETER SETTING: INCREASE LPV DA TO 1447 FEET; INCREASE LNAV/VNAV DA TO 1569 FEET AND ALL VISIBILITIES 1/4 SM; INCREASE ALL MDAS 100 FEET AND VISIBILITY CATS C AND D 1/4 SM" - NEW EVALUATION AND 8260.19J PARA 8-6-12N(1)(A).
11. CHANGED NOTE FROM "FOR INOPERATIVE MALSR, WHEN USING CROOKSON ALTIMETER SETTING, INCREASE LPV ALL CATS VISIBILITY TO 1 1/8 MILE, LNAV/VNAV ALL CATS VISIBILITY TO 1 1/4 MILE, LNAV CATS C/D VISIBILITY TO 1 5/8 MILE" TO "FOR INOPERATIVE ALS, WHEN USING CKN ALTIMETER SETTING, INCREASE LPV ALL CATS VISIBILITY TO 1 SM, LNAV CATS C/D VISIBILITY TO 1 5/8 SM" - NEW EVALUATION AND IAW 8260.19J PARA 8-6-12O(3)(D).
12. CHANGED CRC REMAINDER FROM 5DDFECDE TO 4F17A0AF - UPDATED LTP FROM 480330.2250N/0961028.1580W TO 480330.2250N/0961028.1555W, FPAP FROM 480432.9400N/0961202.4700W TO 480432.9385N/0961202.4615W, GPA FROM 3.00 TO 3.04.
13. ADDED MAX HOLDING 10000 AT ZUDOL IN PROFILE VIEW - NO PROCEDURAL CHANGE, DOCUMENTED IAW 8260.19J PARA 8-6-7B(2).
14. REMOVED PROFILE NOTE *LNAV ONLY AND * SYMBOL AT VDP - NOTE REQUIREMENTS REMOVED FROM CRITERIA.

COORDINATED WITH:

A4A

☒

ALPA

☒

AOPA

☒

APA

☒

HAI

☐

NBAA

☒

OTHER: ZMP, AMGR

FLIGHT CHECKED BY

OFFICE

FIOG

DATE

DEVELOPED BY

DAVID SAUER

Digitally signed by

ERIC N SUSKI

Mar 11, 2025

OFFICE

AJV-33

DATE

01/15/2025

APPROVED BY

JOHN BORDY

Digitally signed by

ERIC N SUSKI

Mar 11, 2025

OFFICE

AJV-33

DATE

TITLE

MANAGER



FAS DATA BLOCK INFORMATION

DATA FIELD	DATA
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KTVF
RUNWAY	RW31
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W31A
LTP/FTP LATITUDE	480330.2250N
LTP/FTP LONGITUDE	0961028.1555W
LTP/FTP ELLIPSOIDAL HEIGHT	+03121
FPAP LATITUDE	480432.9385N
FPAP LONGITUDE	0961202.4615W
THRESHOLD CROSSING HEIGHT (TCH)	00055.2
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.04
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	0768
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0
CRC REMAINDER	4F17A0AF

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K3
LTP ORTHOMETRIC HEIGHT	+03393
FPAP ORTHOMETRIC HEIGHT	+03393



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

<u>AIRPORT ID</u>	<u>PROCEDURE NAME</u>	<u>AMDT NO.</u>	<u>CITY</u>	<u>STATE</u>	<u>AIRPORT ELEVATION</u>	<u>FACILITY</u>
TVF	RNAV (GPS) RWY 31	ORIG-C	THIEF RIVER FALLS	MN	1119	RNAV

PART A: OBSTRUCTION DATA SEGMENTS

STRAIGHT-IN AREA

FROM 223/30 CW 043/30 **TO** 223/10 CW 043/10

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>		<u>HAT</u>				<u>HMAS</u>		
<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>
TOWER (27-001297)	473533.00N/0952541.00W	1980	250	50	4D	1000					3000
TERRAIN	473315.00N/0953115.00W	1654 (1700)								AS1500	3200

COMPUTATIONS

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

SEGMENT REMARKS:

STRAIGHT-IN AREA

FROM 223/10 CW 043/10 **TO** ZUDOL

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>			<u>HAT</u>			<u>HMAS</u>		
<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>
TOWER (27-002791)	480109.80N/0954720.10W	1510	250	50	4D	1000					2600
TERRAIN	475957.00N/0955442.00W	1208 (1200)								AS1500	2700

COMPUTATIONS

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

SEGMENT REMARKS:



LEFT BASE AREA

FROM

043/30 CW 133/30

TO

WINUL

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>		<u>HAT</u>		<u>HMAS</u>				
<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>
TOWER (27-002161)	475833.70N/0963615.85W	1655	250	50	4D	1000					2700
TERRAIN	480512.00N/0961612.00W	1205 (1200)								AS1500	2700

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

RIGHT BASE AREA

FROM

133/30 CW 223/30

TO

ZEVOS

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>		<u>HAT</u>		<u>HMAS</u>				
<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>
TOWER (27-001598)	481748.35N/0954536.89W	1661	250	50	4D	1000					2700
TERRAIN	481230.00N/0961309.00W	1234 (1200)								AS1500	2700

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:



INITIAL

FROM

ZEVOS

TO

ZUDOL

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>		<u>HAT</u>		<u>HMAS</u>				
1.00	5.00										
<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>
AAO	475957.00N/0955442.00W	1408	164	98	4E	1000					2500
TERRAIN	475957.00N/0955442.00W	1208 (1200)								AS1500	2700

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

INITIAL

FROM

WINUL

TO

ZUDOL

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>		<u>HAT</u>		<u>HMAS</u>				
1.00	5.00										
<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>
AAO	475233.00N/0960054.00W	1382	164	98	4E	1000					2400
TERRAIN	475233.00N/0960054.00W	1182 (1200)								AS1500	2700

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:



INTERMEDIATE

FROM

ZUDOL (IF/IAF)

TO

WOBAX

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>		<u>HAT</u>		<u>HMAS</u>				
1.00	6.25										
<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>
AAO	475829.91N/0955544.78W	1349	50	20	2C	1000					2400
TERRAIN	480015.00N/0960109.00W	1162 (1200)								AS1500	2700

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

FINAL: LPV

FROM

WOBAX

TO

RW31

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>		<u>HAT</u>		<u>HMAS</u>				
0.30	4.75		DA		250						
<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				1364

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:



FINAL: LNAV/VNAV

FROM

WOBAX

TO

RW31

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>	<u>HAT</u>	<u>HMAS</u>
0.30	4.75		DA	372	

<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>
TREE (27-087473)	480309.60N/0960858.34W	1212	20	3	1A		23.11:1				1486

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

FINAL: LNAV

FROM

WOBAX

TO

RW31

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>	<u>HAT</u>	<u>HMAS</u>
0.30	4.75		RW31	466	

<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>
AAO	480048.16N/0960356.36W	1326	50	20	2C	250					1580

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

ZUDOL

TO

P-5

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u> P-5	<u>MAP</u>				<u>HAT</u>	<u>HMAS</u>			
<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>
TOWER (27-020141)	475026.19N/0955135.53W	1459	50	20	2C	1000					2500
TERRAIN	475957.00N/0955442.00W	1208 (1200)								AS1500	2700

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

MISSED APPROACH: LPV

FROM

DA

TO

WIMUS

<u>RNP</u> 0.30	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>				<u>HAT</u>	<u>HMAS</u> 1173			
<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
TOWER (27-001185)	480806.00N/0961411.00W	1505	250	50	4D	1000					2600
TERRAIN	480800.00N/0961515.00W	1205 (1200)								AS1500	2700

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:



MISSED APPROACH: LNAV/VNAV

FROM

DA

TO

WIMUS

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>		<u>HAT</u>		<u>HMAS</u>				
0.30								1325			
<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
TOWER (27-001185)	480806.00N/0961411.00W	1505	250	50	4D	1000					2600
TERRAIN	480800.00N/0961515.00W	1205 (1200)								AS1500	2700

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

MISSED APPROACH: LNAV

FROM

RW31

TO

WIMUS

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>		<u>HAT</u>		<u>HMAS</u>				
0.30-1.00								1480			
<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
TOWER (27-001185)	480806.00N/0961411.00W	1505	250	50	4D	1000					2600
TERRAIN	480800.00N/0961515.00W	1205 (1200)								AS1500	2700

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:



AIRPORT ID
TVF

PROCEDURE NAME
RNAV (GPS) RWY 31

AMDT NO.
ORIG-C

CITY
THIEF RIVER FALLS

STATE
MN

AIRPORT ELEVATION
1119

FACILITY
RNAV

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											
TREE (27-052345)	480421.56N/0960943.57W	1.30	461	1234	50	20	2C	300		SI	1580
CATEGORY B											
TREE (27-052345)	480421.56N/0960943.57W	1.84	461	1234	50	20	2C	300		SI	1580
CATEGORY C											
TOWER (27-000026)	480654.00N/0961119.00W	2.98	701	1455	20	50	1D	300		AC50	1820
CATEGORY D											
TOWER (27-000031)	480751.00N/0961145.00W	3.79	861	1616	20	50	1D	300		AC50	1980

CIRCLING REMARKS:

MSA/ESA

CENTERRADIUS

REMARKS:

NOTES/EXPLANATIONS FROM PROCEDURE SEGMENTS:

100' VEGETATION APPLIED PER FPT.

PART B: SUPPLEMENTAL DATA

COMMUNICATIONS WITH

ZMP ARTCC, PNM FSS

<u>WX SERVICE</u>	<u>LOCATION</u>	<u>HRS OPERATION</u>	<u>ALTIMETER SOURCE</u>	<u>DISTANCE</u>	<u>WMSCR</u>	<u>ADJUSTMENTS</u>
AWOS-3PT	TVF	24	TVF	0	Y	0
<u>BACK-UP WX SERVICE</u>	<u>LOCATION</u>	<u>HRS OPERATION</u>	<u>ALTIMETER SOURCE</u>	<u>DISTANCE</u>	<u>WMSCR</u>	<u>ADJUSTMENTS</u>
AWOS-3	CKN	24	CKN	22.15	Y	83

WX REMARKS:

RASS PRESSURE PATTERNS THE SAME.
TVF 1119, CKN 892
RA = 82.8

<u>PRIMARY NAVAID</u>	<u>MONITOR POINT</u>	<u>HRS OPERATION</u>	<u>CAT</u>
<u>APPROACH AND RUNWAY LIGHTING SYSTEM</u>		<u>RUNWAY MARKINGS</u>	<u>RUNWAY VISUAL RANGE</u>
RW04 - REIL (PCL), MIRL (PCL), PAPI-4L		NPI-G	
RW22 - MIRL (PCL), REIL (PCL), PAPI-4L		NPI-G	
RW13 - HIRL (PCL), REIL (PCL), PAPI-4L		PIR-G	
RW31 - MALSR (PCL), HIRL (PCL), PAPI-4L		PIR-G	

<u>GLIDESLOPE ANGLE</u>	<u>ELEV RWY THRESHOLD</u>	<u>TCH</u>	<u>ELEV GS ANTENNA</u>	<u>DISTANCE FROM RWY</u>	<u>VGSI ANGLE</u>	<u>TCH</u>
3.04	1113.2	55.2			3.00	55.0

FINAL APPROACH COURSE AIMING

RUNWAY THRESHOLD	☒	FT FROM THRESHOLD	DISPLACED THRESHOLD DISTANCE
ON CENTERLINE	☒	FT FROM CENTERLINE	

CRITICAL TEMPERATURES

<u>CRITICAL LOW</u>	<u>CRITICAL HIGH</u>	<u>ACT</u>	<u>APT ISA</u>
-17C	+54C	-17C	+12.78C

CRITICAL TEMPERATURE REMARKS:

AVERAGE COLD TEMPERATURE DERIVED FROM STANDARD -30C ISA DEVIATION.
CRITICAL LOW TEMPERATURE BASED ON ACT.
DESCENT RATE (FPM): STANDARD TEMP 983 HIGH TEMP 1279.

"VISUAL PORTION OF FINAL" PENETRATIONS



HELICOPTER 'VISUAL PORTION OF FINAL' PENETRATIONS

and/or

5280-FT "PROCEED VFR" SEGMENT LEVEL SURFACE AREA PENETRATIONS

PENETRATIONS REMARKS:

PART C: GENERAL REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.
ORDER 8260.3, CHAPTER 2, NEW CIRCLING CRITERIA APPLIED.

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	2.89
WIDTH OF	FINAL	SEGMENT AT 1000FT POINT	1.20
TRUE COURSE OF	FINAL	SEGMENT CONTAINING 1000FT POINT	314.84
HIGH TERRAIN IN	FINAL	SEGMENT CONTAINING 1000FT POINT	1100
DISTANCE FROM	THLD	TO 1500FT POINT	4.55
WIDTH OF	FINAL	SEGMENT AT 1500FT POINT	1.95
TRUE COURSE OF	FINAL	SEGMENT CONTAINING 1500FT POINT	314.84
HIGH TERRAIN IN	FINAL	SEGMENT CONTAINING 1500FT POINT	1100

THRESHOLD COORDINATES (IF STR-IN)	480330.23N/0961028.16W
ARP COORDINATES	480356.44N/0961105.98W
RUNWAY APCH END AND DIST FURTHEST FROM ARP	RUNWAY 31 DISTANCE 0.61 NM
FAF COORDINATES	480009.64N/0960527.13W
FIX NAME COORDINATES	

REMARKS

TAA IF/IAF ZUDOL 475545.04N/0955851.53W 30 NM RADIUS, ZEVOS 475917.22N/0955336.17W 30 NM RADIUS, WINUL 475212.62N/0960406.17W 30 NM RADIUS.

PART E: PREPARED BY

NAME	OFFICE	DATE	TITLE
DAVID SAUER	AJV-33	01/15/2025	AERONAUTICAL INFORMATION SPECIALIST

