

**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> GRAND FORKS INTL	<u>AIRPORT ID</u> KGFK	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 27R	<u>ORIGINAL/AMENDMENT</u> 2A	<u>CITY</u> GRAND FORKS	<u>STATE</u> ND	
<u>AIRPORT ELEVATION</u> 845	<u>TDZE</u> 843	<u>SUPERSEDED</u> RNAV (GPS) RWY 27R	<u>ORIGINAL/AMENDMENT</u> 2	<u>DATED</u> 03/12/2009	<u>MAG VAR</u> 6E	<u>EPOCH YEAR</u> 1985
<u>FACILITY</u> RNAV	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u>	<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>
GFK VOR/DME		URBAH		TF	FO	1.00	084.71	11.71	2800
EYWUS	IAF	URBAH	NOPT	TF	FB	1.00	174.01	10.94	2800
JIXIR	IAF	URBAH	NOPT	TF	FB	1.00	354.21	8.24	2800
URBAH	IF/IAF	JMKNK		TF	FB	1.00	264.21	6.31	2400
JMKNK	FAF	RW27R	MAP	TF	FO	0.30	264.10	4.69	
RW27R	MAP	1093 MSL		CA			264.10		
1093 MSL		DUCEV		DF	FO	1.00			4000

MISSED APPROACH

MAP:

LPV: DA
LNAV: RW27R

MISSED APPROACH INSTRUCTIONS:

CLIMB TO 4000 DIRECT DUCEV AND HOLD, CONTINUE CLIMB-IN-HOLD TO 4000.

ALTERNATE MISSED APPROACH INSTRUCTIONS:

QUALITY
16
CHECKED

PROFILE:

1. PT SIDE OF COURSE OUTBOUND FT WITHIN MILES OF (IAF)
2. HOLD E URBAH, RT, 264.21 INBOUND, 2800 FT. IN LIEU OF PT (IAF), MAX 6000.
3. FAC: 264.10 FAF: JMKNG DIST FAF TO MAP: 4.69 DIST FAF TO THLD: 4.69
4. MIN ALT: URBAH 2800, JMKNG 2400
5. DIST TO THLD FROM OM: MM: IM: 150 HAT: 250 HAT: 0.63 GS ANT:
6. MIN GP INCPT: 2400 GP ALT AT FAF : JMKNG 2400 OM: MM: IM:
7. GP ANGLE: 3.00 34:1: IS CLEAR 20:1: IS CLEAR TCH: 48.0
8. MSA FROM: RW27R 3300

PBN REQUIREMENTS NOTE:

RNP APCH.

NOTES:

CHART NOTE: VDP NA WHEN USING CROOKSTON ALTIMETER SETTING.
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVAL ON GFK VOR/DME AIRWAY RADIALS 071 CW 160.
CHART NOTE: WHEN LOCAL ALTIMETER SETTING NOT RECEIVED, USE CROOKSTON ALTIMETER SETTING AND INCREASE ALL DA 62 FEET AND ALL MDA 80 FEET. INCREASE LNAV AND CIRCLING CAT C AND D VISIBLTY 1/4 SM.

ADDITIONAL FLIGHT DATA:

CHART CIRCLING ICON.
CHART VDP AT 1.78 NM TO RW27R*
*LNAV ONLY
WAAS CHANNEL #78104
REFERENCE PATH ID: W27A
FAS OBST: 1044 AAO 475739N/0970454W.
CHART: 1084 TOWER 475621N/0970312W.
HOLD W, RT, 083.78 INBOUND
LTP HAE: 230.1 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	1093	1	250	1093	1	250	1093	1	250	1093	1	250			
LNAV MDA	1460	1	617	1460	1	617	1460	1 3/4	617	1460	2	617			
CIRCLING	1460	1	615	1460	1	615	1460	1 3/4	615	1460	2	615			



CHANGES - REASONS

1. ADDED PBN REQUIREMENT NOTE: RNP APPROACH - PER 8260.19H, PARA. 8-6-8B(1).
2. REMOVED NOTE "DME/DME RNP-0.3 NA" - PER 8260.19H, PARA. 1-1-5F(14).
3. REMOVED NOTE 'VISIBILITY REDUCTION BY HELICOPTERS NA' - PREVIOUS 34:1/20:1 PENETRATIONS NO LONGER APPLY.
4. REPLACED 'MILE' WITH 'SM' IN BACK-UP ALTIMETER NOTE - 8260.19H EXAMPLES.
5. CHANGED PROCEDURE TCH FROM 45 TO 48 - WILL MATCH NEWLY INSTALLED PAPI SYSTEM TCH.
6. ADDED VDP AT 1.78 NM TO RWY27R - PREVIOUS 34:1/20:1 PENETRATIONS NO LONGER APPLY.
7. ADDED NOTE 'VDP NA WHEN USING CROOKSTON ALTIMETER SETTING' - PER 8260.19H 8-6-9E(9).
8. ADDED CIRCLING ICON - NEW CIRCLING ADDED THAT MATCHES UPDATED AND FLIGHT CHECKED RNAV (GPS) 17R CIRCLING.
9. LINE 7: CHANGED 34:1 IS NOT CLEAR TO 34:1 IS CLEAR AND ADDED 20:1 IS CLEAR - PREVIOUS 34:1/20:1 PENETRATIONS NO LONGER APPLY.
10. ADDITIONAL FLIGHT DATA: CHANGED FAS OBSTACLE FROM 1149 AAO 475749N/0970516W TO 1044 AAO 475739N/0970454W - NEW OBSTACLE DETERMINED BY TARGETS BUILD RESULT.
11. ADDITIONAL FLIGHT DATA: CHANGED 7:1 OBSTACLE FROM 1326 TOWER 475745N/0970313W TO 1084 TOWER 475621N/0970312W - NEW OBSTACLE DETERMINED BY TARGETS BUILD RESULT.
12. ADDED 'STANDARD' TO ALTERNATE MINIMUMS STATEMENT - MISSING ON AMDT 2 FORM.
13. FAS DATA: CHANGED LTP/FTP LAT/LONG FROM 475708.6055N/0971003.9405W TO 475708.6060N/0971003.9370W - PER AIRNAV DATA PULL.
14. FAS DATA: CHANGED FPAP LAT/LONG FROM 475708.6000N/0971216.4900W TO 475708.5990N/0971216.4880W - TARGETS RESULT FROM CHANGE IN LTP LAT/LONG.
15. FAS DATA: CHANGED TCH FROM 44.6 TO 48 - WILL MATCH NEWLY INSTALLED PAPI SYSTEM TCH.
16. FAS DATA: CRC REMAINDER CHANGED FROM E2F54D30 TO 687264E8 - RESULT OF COORDINATES AND TCH CHANGES LISTED ABOVE.
17. CHANGED PLANVIEW NOTE 'PROCEDURE NA FOR ARRIVAL ON GFK VOR/DME AIRWAY RADIALS 071 CW 095' TO 'PROCEDURE NA FOR ARRIVAL ON GFK VOR/DME AIRWAY RADIALS 071 CW 160' - TURN FROM V 181 NORTHWEST BOUND EXCEEDS 90 DEGREE LIMITATION FOR ENROUTE TRANSITIONS TO RNAV APPROACHES.

COORDINATED WITH:

A4A☒ALPA☒AOPA☒APA☒HAI☐NBAA☒OTHER: ZMP, GFK APP CON, GFK ATCT, ARPT MGR

<div>FLIGHT CHECKED BY</div> <div>BRANDON VANDERSCHAAF</div>	<div>Digitally signed by</div> <div>DAVID DANNER</div> <div>Feb 10, 2020</div>	<div>OFFICE</div> <div>FICO</div>	<div>DATE</div> <div>2/5/20</div>	
<div>DEVELOPED BY</div> <div>RALPH DUMAR</div>	<div>Digitally signed by</div> <div>RALPH DUMAR</div> <div>Dec 10, 2019</div>	<div>OFFICE</div> <div>AJV-A422</div>	<div>DATE</div> <div>11/13/2019</div>	
<div>APPROVED BY</div> <div>MARLON ROBINSON</div>	<div>Digitally signed by</div> <div>DAVID DANNER</div> <div>Feb 10, 2020</div>	<div>OFFICE</div> <div>AJV-A420</div>	<div>DATE</div>	<div>TITLE</div> <div>MANAGER</div>



FAS DATA BLOCK INFORMATION

<u>DATA FIELD</u>	<u>DATA</u>
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KGFK
RUNWAY	RW27R
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W27A
LTP/FTP LATITUDE	475708.6060N
LTP/FTP LONGITUDE	0971003.9370W
LTP/FTP ELLIPSOIDAL HEIGHT	+02301
FPAP LATITUDE	475708.5990N
FPAP LONGITUDE	0971216.4880W
THRESHOLD CROSSING HEIGHT (TCH)	00048.0
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	1472
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0
CRC REMAINDER	687264E8

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K3
LTP ORTHOMETRIC HEIGHT	+02569
FPAP ORTHOMETRIC HEIGHT	+02569



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

AIRPORT	AIRPORT ID	PROCEDURE NAME	AMDT NO.	CITY	STATE	AIRPORT ELEVATION	FACILITY
GRAND FORKS INTL	KGFK	RNAV (GPS) RWY 27R	2A	GRAND FORKS	ND	845	RNAV

PART A: OBSTRUCTION DATA SEGMENTS

FEEDER

FROM GFK VOR/DME TO URBAH

<u>RNP</u>	<u>DISTANCE</u> 11.71	<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>
1.TOWER (27-000360)	475745.00N/0970313.00W		1326	250	50	4D	1000				AT474	2800
2.TERRAIN	475536.00N/0970201.00W		984 (1000)								AS1500	2500

COMPUTATIONS

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

SEGMENT REMARKS:

INITIAL

FROM EYWUS TO URBAH

<u>RNP</u>	<u>DISTANCE</u> 10.94	<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>
3.AAO	480854.00N/0965118.00W		1119	164	98	4E	1000				AT681	2800
4.TERRAIN	480548.00N/0965245.00W		909 (900)								AS1500	2400

COMPUTATIONS

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

SEGMENT REMARKS:



HMAS

RF CENTER FIX/DISTANCE

HMAS

RF CENTER FIX/DISTANCE

TO
P-5

HMAS

COMPUTATIONS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

MISSED APPROACH : LPV

TO
DUCEV

HMAS
906

COMPUTATIONS

RF CENTER FIX/DISTANCE**SEGMENT REMARKS:**

MISSED APPROACH : LNAV

FROM

RW27R

TO

DUCEV

RNP	DISTANCE	PAT	MAP	HAT			HMAS 1360					
OBSTRUCTION	COORDINATES		ELEV MSL	HORZ	VERT	AC	ROC	OCS	CG	CGTA	ADJUSTMENTS	MIN ALT
								ASC				4000
13.AAO	475509.00N/0972912.00W		1214	164	98	4E	1000					2300
14.TERRAIN	475509.00N/0972754.00W		961 (1000)								AS1500	2500

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

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											
15.CONTROL_TOWER (38-022326)	475655.94N/0971025.81W	1.30	615	956	20	3	1A	300		SI	1460
CATEGORY B											
16.TOWER (38-022999)	475509.52N/0970747.56W	1.83	615	995	20	3	1A	300		SI	1460
CATEGORY C											
17.TOWER (38-006051)	475544.00N/0970517.00W	2.89	615	1034	250	50	4D	300		SI	1460
CATEGORY D											
17.TOWER (38-006051)	475544.00N/0970517.00W	3.77	615	1034	250	50	4D	300		SI	1460

CIRCLING REMARKS:



<div>AIRPORT GRAND FORKS INTL</div>	<div>AIRPORT ID KGFK</div>	<div>PROCEDURE NAME RNAV (GPS) RWY 27R</div>	<div>AMDT NO. 2A</div>	<div>CITY GRAND FORKS</div>	<div>STATE ND</div>	<div>AIRPORT ELEVATION 845</div>	<div>FACILITY RNAV</div>
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MSA

CENTER
RW27R

RADIUS
25

SECTOR	OBSTRUCTION	COORDINATES	BEARING	DISTANCE	ELEV MSL	HORZ	VERT	AC	ROC	OCS	ADJUSTMENTS	MIN ALT
360-360	TOWER (38-000626)	475739.63N/0975206.93W	265	28.3	2226	20	3	1A	1000			3300

MSA REMARKS:

NOTES/EXPLANATIONS FROM PROCEDURE SEGMENTS:

STRAIGHT MISSED APPROACH CROSSING OVER GRAND FORKS AFB COORDINATED WITH SMSGT PHILLIP DAVIS.

VNAV MINIMUMS NOT PUBLISHED AS PER FLIGHT CHECK.

TAA NOT DEVELOPED PER ATC REQUEST

QUALITY
16
CHECKED

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PART B: SUPPLEMENTAL DATA

COMMUNICATIONS WITH
GFK TOWER, ZMP ARTCC, GFK APP CON

<u>WX SERVICE</u> ASOS	<u>LOCATION</u> KGFK	<u>HRS OPERATION</u> 24	<u>ALTIMETER SOURCE</u> KGFK	<u>DISTANCE</u> 0	<u>SERVICE-A</u> Y	<u>ADJUSTMENTS</u> 0
<u>BACK-UP WX SERVICE</u> AWOS	<u>LOCATION</u> KCKN	<u>HRS OPERATION</u> 24	<u>ALTIMETER SOURCE</u> KCKN	<u>DISTANCE</u> 23.185	<u>SERVICE-A</u> Y	<u>ADJUSTMENTS</u> 61.2

WX REMARKS:

<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>			
RW09R - MIRL, PAPI-2L						
RW27L - MIRL, PAPI-2L						
RW09L - MIRL (PCL), PAPI-4L (PCL)		BSC-G				
RW17L - MIRL, PAPI-4L		BSC-G				
RW27R - MIRL (PCL), REIL (PCL), PAPI-4L (PCL)		BSC-G				
RW35R - MIRL, PAPI-4L		BSC-G				
RW17R - HIRL (PCL), REIL (PCL), PAPI-4L		PIR-G	ROLL OUT			
RW35L - MALSR (PCL), HIRL (PCL), PAPI-4L		PIR-G	APPROACH			
<u>GLIDESLOPE ANGLE</u> 3.00	<u>ELEV RWY THRESHOLD</u> 842.7	<u>TCH</u> 48.0	<u>ELEV GS ANTENNA</u>	<u>DISTANCE FROM RWY</u>	<u>VGSI ANGLE</u> 3.00	<u>TCH</u> 48.0

FINAL APPROACH COURSE AIMING

RUNWAY THRESHOLD	<input checked="" type="checkbox"/>	FT FROM THRESHOLD	DISPLACED THRESHOLD DISTANCE
ON CENTERLINE	<input checked="" type="checkbox"/>	FT FROM CENTERLINE	



AIRPORT	AIRPORT ID	PROCEDURE NAME	AMDT NO.	CITY	STATE	AIRPORT ELEVATION	FACILITY
GRAND FORKS INTL	KGFK	RNAV (GPS) RWY 27R	2A	GRAND FORKS	ND	845	RNAV

CRITICAL TEMPERATURES

CRITICAL LOW

CRITICAL HIGH

ACT

APT ISA

CRITICAL TEMPERATURE REMARKS:

"VISUAL PORTION OF FINAL" PENETRATIONS

HELICOPTER 'VISUAL PORTION OF FINAL' PENETRATIONS

and/or

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

PART C: GENERAL REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

60 FT VEGETATION PER FPT.

ORDER 8260.3 CHAPTER 2 APPLIED TO 1084 TOWER (38-000044) 475621.00N/0970312.00W.

ORDER 8260.3, VOLUME 1, CHAPTER 2, NEW CIRCLING CRITERIA APPLIED.

QUALITY

16

CHECKED

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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	2.86
WIDTH OF	FINAL	SEGMENT AT 1000FT POINT	1.67
TRUE COURSE OF	FINAL	SEGMENT CONTAINING 1000FT POINT	270.1
HIGH TERRAIN IN	FINAL	SEGMENT CONTAINING 1000FT POINT	800
DISTANCE FROM	THLD	TO 1500FT POINT	4.49
WIDTH OF	FINAL	SEGMENT AT 1500FT POINT	2.00
TRUE COURSE OF	FINAL	SEGMENT CONTAINING 1500FT POINT	270.1
HIGH TERRAIN IN	FINAL	SEGMENT CONTAINING 1500FT POINT	800

THRESHOLD
COORDINATES
(IF STR-IN)

475708.61N/0971003.94W

ARP COORDINATES

475650.20N/0971025.60W

RUNWAY APCH END
AND DIST FURTHEST
FROM ARP

RUNWAY 27R DISTANCE 0.90 NM

FAF
COORDINATES

475708.35N/0970305.39W

FIX NAME
COORDINATES

REMARKS

NO ADDITIONAL AIRSPACE REQUIRED

QUALITY
16
CHECKED

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PART E: PREPARED BY

<u>NAME</u> RALPH DUMAR	<u>OFFICE</u> AJV-A422	<u>DATE</u> 11/13/2019	<u>TITLE</u> AERONAUTICAL INFORMATION SPECIALIST
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