Flight Procedure Tracking Form	Action: FLIGHT CHECK	Task Type: IAP	Date Open: 06/15/2011	Task #: 2011061422491740001	Request #: 20110614224917
Procedure: RNAV (GPS) RWY 34 AMDT 1		Airport ID: K2C8	**Airport:** CAVALIER MUNI		Reimbursable #:
City: CAVALIER	**ST:** ND	GPS #:		Estimated Chart Date: 09/20/2012	FICO #:
Fac ID:	**Fac. Type:** LPV		**Specialist:** JOHN ROSARIO		

LPV

Procedure Review

	Rec'd	Rel'd	Full Name	Comments
Lead:	03/27/2012	05/11/2012	DAVID PUGLISI	
QA:	05/11/2012	05/11/2012	DAVID PUGLISI	
Liaison:	05/11/2012		Alfonso	

PI

Procedure Comments: ENROUTE **Remark Type:** INFORMATION

pkg 1 of 2

CAVALIER, ND CAVALIER MUNI (K2C8) RNAV (GPS) RWY 34, AMDT 1 (LPV) ENROUTE-YES FC: 7.24.12 PUB: 9.20.12

ATTACHED FORMS: 8260-3; 8260-10; 8260-9; 8260-2(S): ATODE, REV 1; HUMBOLDT (HML) VTAC, REV 4; NALCO-INT, REV 2; RINAE, REV 1; WOLVA, REV 1.

CONTACT: JILL OLSON, AJV-353 LEAD, 405.954.9568:

NEW

CAVALIER, NORTH DAKOTA

AL-9452 (FAA)

WAAS	APP CRS	Rwy Idg	3299
CH 45630	340°	THRE	891
W34A		Apt Elev	892

RNAV (GPS) RWY 34

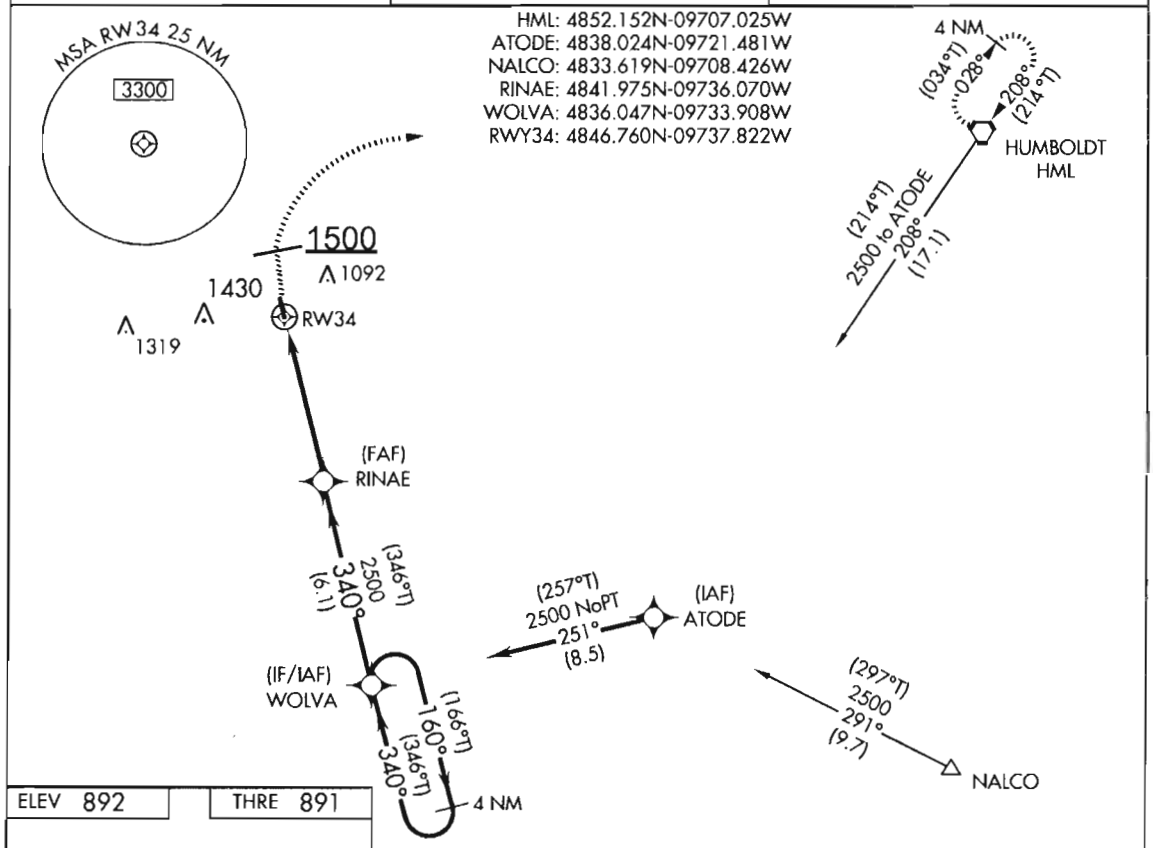
CAVALIER MUNI (2C8)

When local altimeter setting not received, Use Hallock altimeter setting and increase DA to 1230 feet and all Visibilities ⅛ mile, increase all MDAs 80 feet and visibility Cat C ⅛ mile. DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA.

MISSED APPROACH: Climb to 1500 then climbing right turn to 3500 direct HML VORTAC and hold.

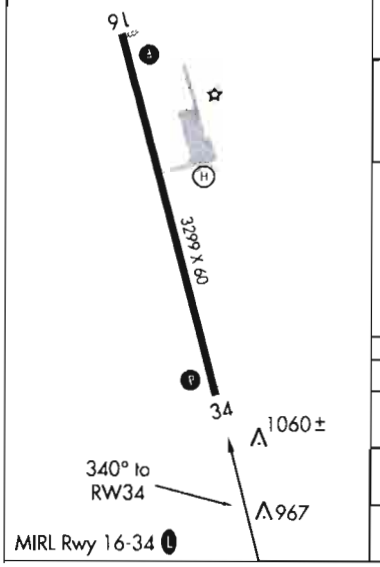
AWOS-3	GRAND FORKS RADIO	UNICOM
118.275	122.3	122.8 (CTAF) L

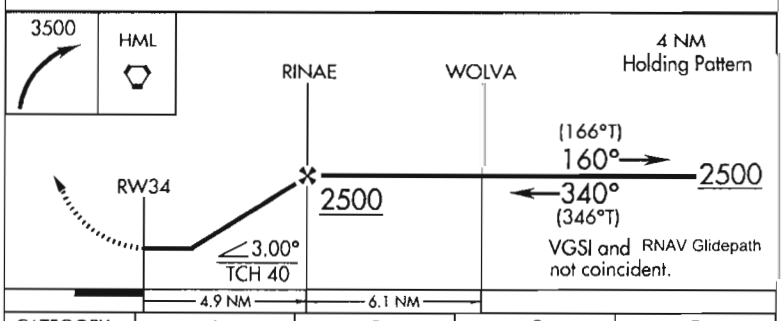
HML: 4852.152N-09707.025W
ATODE: 4838.024N-09721.481W
NALCO: 4833.619N-09708.426W
RINAE: 4841.975N-09736.070W
WOLVA: 4836.047N-09733.908W
RWY34: 4846.760N-09737.822W



PROTOTYPE-NOT FOR NAVIGATION

ELEV 892 | THRE 891





CATEGORY	A	B	C	D
LPV DA	1156-1 265 (300-1)			NA
LNAV MDA	1440-1 549 (600-1)		1440-1⅝ 549 (600-1⅝)	NA
CIRCLING	1440-1 548 (600-1)		1440-1⅝ 608 (700-1⅝)	NA

CAVALIER, NORTH DAKOTA

Amdt 1 FIG

48°47'N-97°38'W

CAVALIER MUNI (2C8)

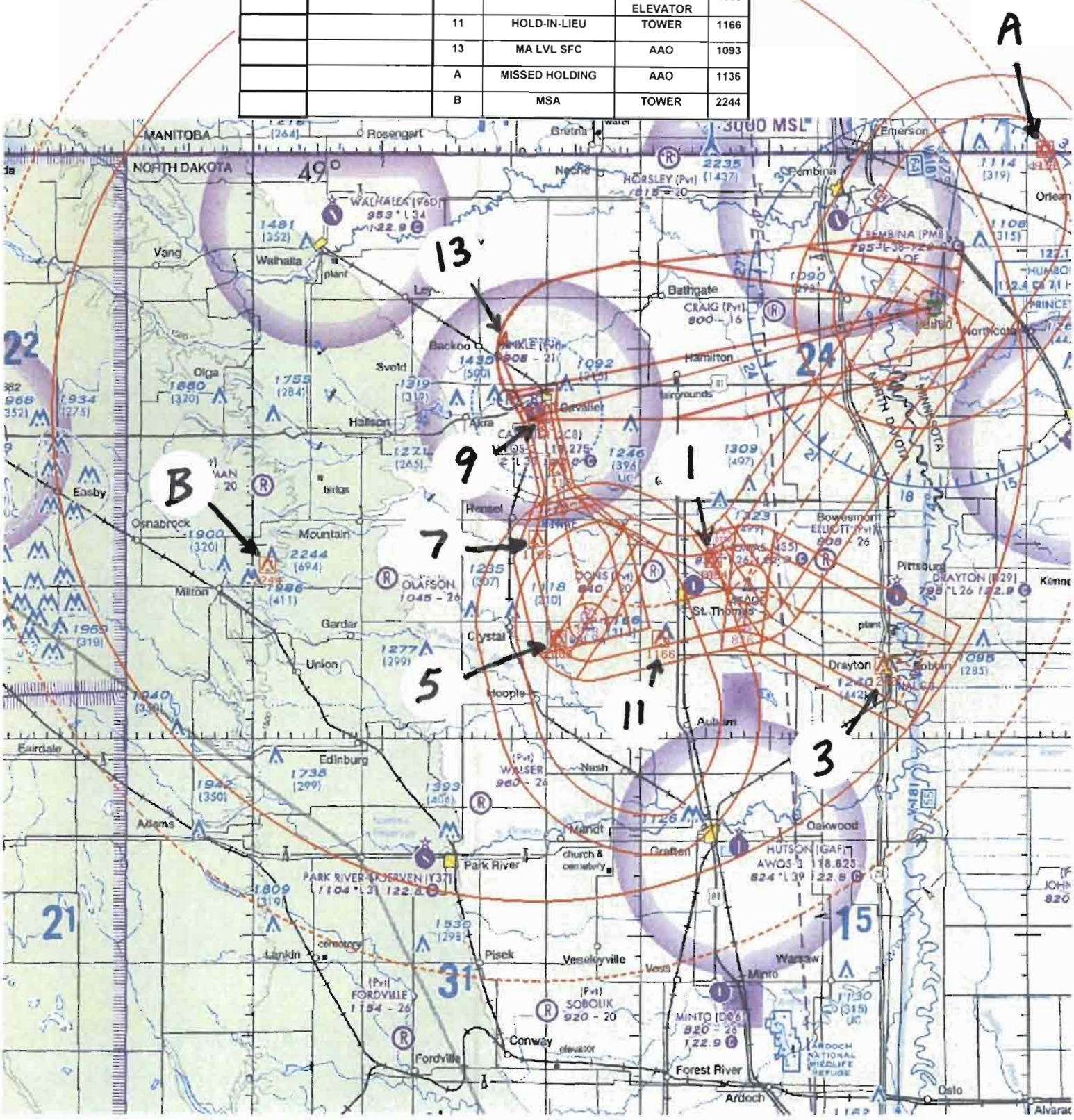
RNAV (GPS) RWY 34

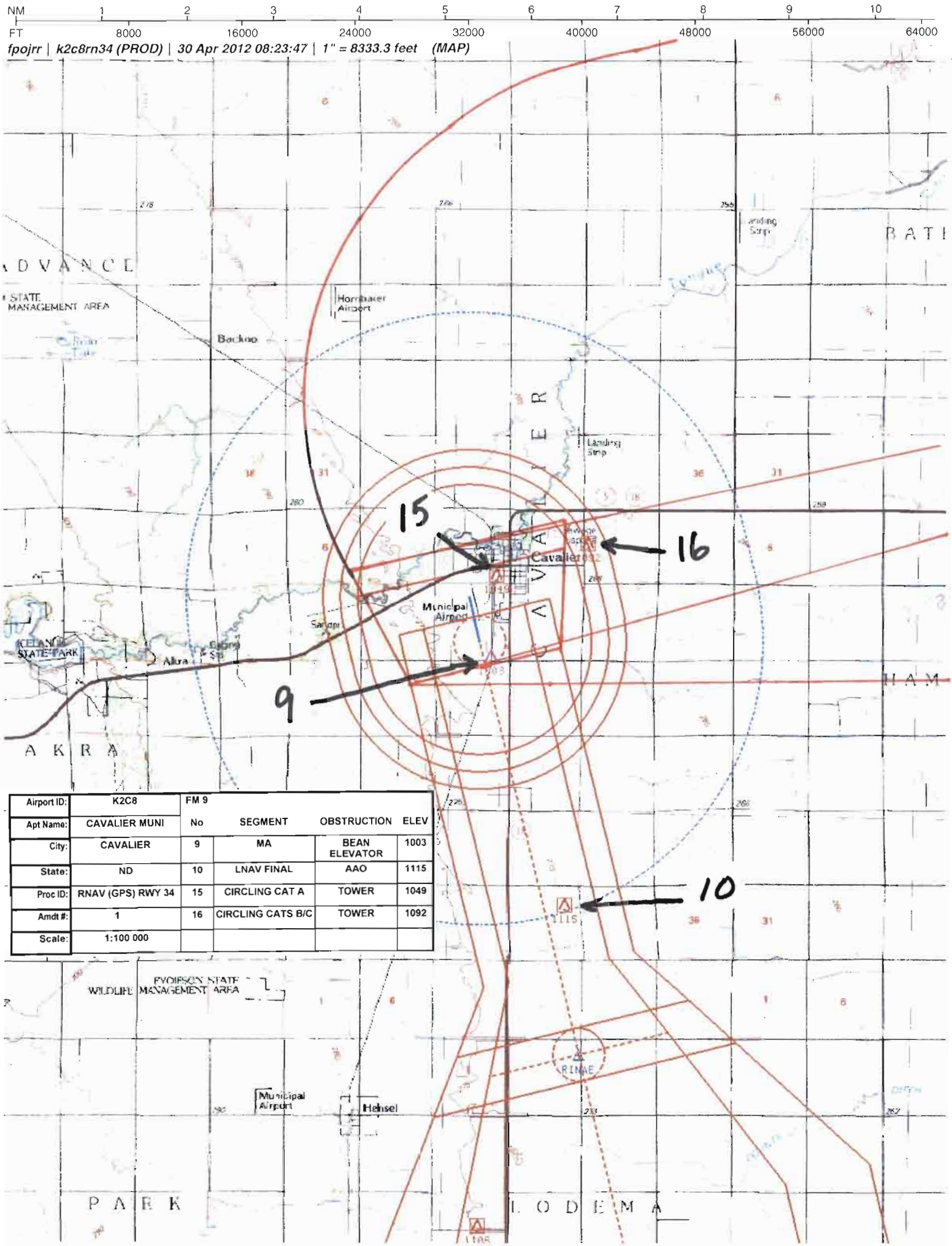
NM 7 14 21 28 35 42 49

FT 42000 84000 126000 168000 210000 252000 294000

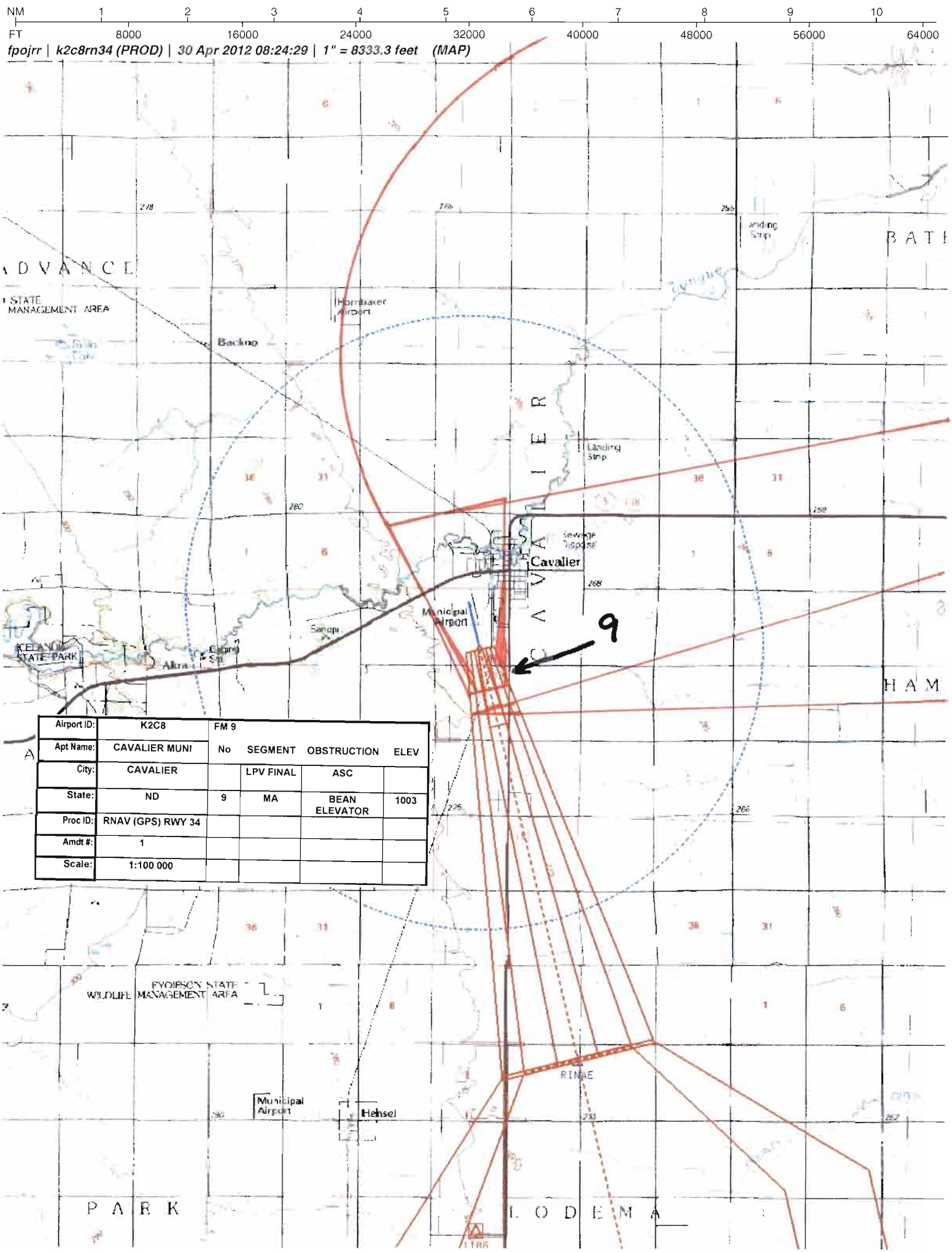
fpojrr | k2c8rn34 (PROD) | 30 Apr 2012 08:25:24 | 1" = 41666.7 feet (MAP)

Airport ID:	K2C8	FM 9			
Apt Name:	CAVALIER MUNI	No	SEGMENT	OBSTRUCTION	ELEV
City:	CAVALIER	1	FEEDER	AAO	1034
State:	ND	3	FEEDER	TOWER	1240
Proc ID:	RNAV (GPS) RWY 34	5	INITIAL	AAO	1086
Amdt #:	1	7	INTERMEDIATE	AAO	1106
Scale:	1:500 000	9	MISSED APPROACH	BEAN ELEVATOR	1003
		11	HOLD-IN-LIEU	TOWER	1166
		13	MA LVL SFC	AAO	1093
		A	MISSED HOLDING	AAO	1136
		B	MSA	TOWER	2244





Airport ID:	K2C8	FM 9			
Apt Name:	CAVALIER MUNI	No	SEGMENT	OBSTRUCTION	ELEV
City:	CAVALIER	9	MA	BEAN ELEVATOR	1003
State:	ND	10	LNAV FINAL	AAO	1115
Proc ID:	RNAV (GPS) RWY 34	15	CIRCLING CAT A	TOWER	1049
Amdt #:	1	16	CIRCLING CATS B/C	TOWER	1092
Scale:	1:100 000				



Airport ID:	K2C8	FM 9			
Apt Name:	CAVALIER MUNI	No	SEGMENT	OBSTRUCTION	ELEV
City:	CAVALIER		LPV FINAL	ASC	
State:	ND	9	MA	BEAN ELEVATOR	1003
Proc ID:	RNAV (GPS) RWY 34				
Amdt #:	1				
Scale:	1:100 000				

US DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

RNAV - STANDARD INSTRUMENT APPROACH PROCEDURE TITLE 14 CFR PART 97.33

Bearings, headings, courses, 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 in feet RVR.

TERMINAL ROUTES

FROM	TO	COURSE AND DISTANCE	ALTITUDE
HML VORTAC	ATODE (FB)	208.17 / 17.07	2500
NALCO	ATODE (FB)	291.03 / 9.72	2500
ATODE (IAF)	WOLVA (NOPT) (FB)	250.59 / 8.48	2500
WOLVA (IF/IAF)	RINAE (FB)	340.43 / 6.10	2500
RINAE (FAF)	RW34 (MAP) (FO)	340.40 / 4.93	
RW34 (MAP)	1500 MSL	340.40	1500
1500 MSL	HML VORTAC (FO)		3500

MISSED APPROACH

LPV: DA
LNAV: RW34

CLIMB TO 1500 THEN CLIMBING RIGHT TURN TO 3500 DIRECT HML VORTAC AND HOLD.

ADDITIONAL FLIGHT DATA:

HOLD NE, RT, 208.17 INBOUND.
FAS OBST: 1115 AAO 484337N/0973619W
CHART 1003 BEAN ELEVATOR 484631N/0973736W.
DISTANCE TO THLD FROM 265 HATH: 0.70 NM.
WAAS CHANNEL # 45630
REFERENCE PATH ID: W34A
LTP HAE: 245.6 M

1. PT ____ SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. HOLD S WOLVA, RT, 340.43 INBOUND, 2500 FT. IN LIEU OF PT (IAF)
3. FAC: 340.40 FAF: RINAE DIST FAF TO MAP: 4.93 THLD: 4.93
4. MIN. ALT: WOLVA 2500, RINAE 2500
5. DIST TO THLD FROM OM: ____ MM: ____ IM: ____ 150 HAT: ____ 100 HAT: ____ GS ANT: ____
6. MIN GS INCPT: 2500 GS ALT AT: RINAE 2500 OM: ____ MM: ____ IM: ____
7. GS ANGLE: 3.00 TCH: 40.0 34:1 IS NOT CLEAR
8. MSA FROM: RW34 3300

MAG VAR: 6E EPOCH YEAR: 2000

MINIMUMS

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT | ALTERNATE: N A | STANDARD @

CATEGORY =====>	A			B			C			D			E		
	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA
LPV DA	1156	1	265	1156	1	265	1156	1	265		NA				
LNAV MDA	1440	1	549	1440	1	549	1440	1 5/8	549		NA				
CIRCLING	1440	1	548	1440	1	548	1440	1 5/8	548		NA				

NOTES:
CHART NOTE: WHEN LOCAL ALTIMETER SETTING NOT RECEIVED, USE HALLOCK ALTIMETER SETTING AND INCREASE ALL DA TO 1230 FT; INCREASE LPV ALL CATS VISIBILITY 1/8 MILE; INCREASE ALL MDA 80 FT AND INCREASE CAT C VISIBILTY 1/8 MILE.
CHART NOTE: DME/DME RNP-0.3 NA.
(SEE FORM 8260-10)

@ NA WHEN LOCAL WEATHER NOT AVAILABLE.

QUALITY CHECKED

CITY AND STATE	ELEVATION: 892 THRE: 891 AIRPORT NAME:	FACILITY IDENTIFIER:	PROCEDURE NO./AMDT NO./EFFECTIVE DATE:	SUP:
CAVALIER, ND	CAVALIER MUNI	RNAV	RNAV (GPS) RWY 34, AMDT 1	AMDT: ORIG
				DATED 07/10/2003

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
[ ] YES [X] NO		ROUTINE

COORDINATED WITH:

ATA	AAT	ALPA	APA	AOPA	NBAA	OTHER (specify)
[ ]	[ ]	[ ]	[ ]	[X]	[X]	[X] ZMP ARTCC, AMGR

FLIGHT CHECKED BY

NAME:	FIFO	DATE:
MARTIN TOWEY	FIOG	06/10/2012

DEVELOPED BY

NAME:	FIFO	DATE:
JOHN R. ROSARIO	AJV-353	04/06/2012

APPROVED BY

NAME:	FIFO	DATE:
LARRY H STROUT MANAGER	AJV-353	07/12/2012

CHANGES:

1. ADDED LPV LINE OF MINIMA
2. MOVED FAF, INTERMEDIATE, AND INITIAL WAYPOINTS; FIX NAMES UNCHANGED PER FPT
3. UPDATED HLM VORTAC FEEDER FROM 217/19.1 TO 208/17.1
4. UPDATED NALCO FEEDER FROM 276/17.4 TO 291/9.7
5. REVISED ALTIMETER NOTE
6. DELETED GPS OR RNP NOTE
7. REVISED ALTERNATE FROM NA TO STANDARD
8. LNAV MDA VISIBILITY, CAT C RAISED FROM 1 1/2 TO 1 5/8
9. LNAV HAT REVISED FROM 548 TO HATH 549
10. REMOVED VDA
11. REVISED MISSED APPROACH INSTRUCTION, ADDED CLIMB TO ALTITUDE; HOLDING PATTERN UPDATED FROM 218 INBOUND TO 210 INBOUND
12. REDUCED CIRCLING CAT C VISIBILITY FROM 1 3/4 TO 1 5/8

REASONS:

1. FPT REQUEST
2. MINIMUM LEG LENGTH APPLICATION AND CALCULATED PFAF
3, 4. ATODE WP MOVED
5. WEATHER SOURCE ON AIRPORT; KHCO DESIGNATED AS BACK UP
6-8, 12. CRITERIA
9. UPDATE FROM HAT TO HATH VALUE
10. VERTICALLY GUIDED PROCEDURE
11. CRITERIA & HML FEEDER HEADING - HOLDING ALIGNED WITH FEEDER AS ON ORIGINAL PROCEDURE

07/17/2012: THIS IS A CORRECTED COPY OF THE FORM APPROVED ON 07/12/2012

1. CORRECTED SPELLING ON ALTIMETER SETTING NOTE - CHANGED CTAS TO CATS

THIS FORM WAS PDF EDITED
TERMINAL ROUTES: ADDED (FAF)

US DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

RNAV - STANDARD
INSTRUMENT APPROACH PROCEDURE - TITLE 14 CFR PART 97.33

Bearings, headings, courses, 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 aiport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or in feet RVR.

NOTES, (CONT.):
CHART NOTE: VISIBILITY REDUCTION BY HELICOPTERS NA.
CHART PROFILE NOTE: VGSI AND RNAV GLIDEPATH NOT COINCIDENT.

CITY AND STATE	ELEVATION: 892 THRE: 891 AIRPORT NAME:	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
CAVALIER, ND	CAVALIER MUNI	RNAV	RNAV (GPS) RWY 34, AMDT 1	AMDT: ORIG
				DATED: 07/10/2003

ALL AFFECTED PROCEDURES REVIEWED? ☐ YES ☐ NO	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	FIFO	DATE:
APPROVED BY		
NAME:	FIFO	DATE:

CHANGES:

REASONS:

Bearings, headings, courses, 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 aiport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or in feet RVR.

FAS DATA BLOCK INFORMATION

DATA FIELD	DATA
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	2C8
RUNWAY	RW34
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W34A
LTP/FTP LATITUDE	484645.5755N
LTP/FTP LONGITUDE	0973749.2915W
LTP/FTP ELLIPSOIDAL HEIGHT	+02456
FPAP LATITUDE	484812.1100N
FPAP LONGITUDE	0973821.0300W
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	1744
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0
CRC REMAINDER	B835B87B

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K3
LTP ORTHOMETRIC HEIGHT	+02716
FPAP ORTHOMETRIC HEIGHT	+02716

CITY AND STATE	ELEVATION: 892 THRE: 891	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
CAVALIER, ND	AIRPORT NAME: CAVALIER MUNI	RNAV	RNAV (GPS) RWY 34, AMDT 1	AMDT: ORIG
				DATED: 07/10/2003

ALL AFFECTED PROCEDURES REVIEWED? ☐ YES ☐ NO	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	FIFO	DATE:
APPROVED BY		
NAME:	FIFO	DATE:

CHANGES:

REASONS:

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.33**

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ARINC PACKET - 424-18 - RNAV (GPS)

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
NAVAID  12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAD        HML   K3011240VTH  N48520909W097070151    N48520909W097070151E0090007982     NARHUMBOLDT

                 1         2         3         4         5         6         7         8         9         0         1         2         3
WP      12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   ATODE K30    W     N48380143W097212885                    E0037     NAR           ATODE
        SUSAEAENRT   NALCO K30    C   L N48333712W097082555                    E0035     NAR           NALCO
        SUSAEAENRT   RINAE K30    W     N48415851W097360422                    E0039     NAR           RINAE
        SUSAEAENRT   WOLVA K30    W     N48360281W097335450                    E0039     NAR           WOLVA

                 1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT 12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAP 2C8 K3A2C8     0     032YHN48470140W097375510E006000892         1800018000C    MNAR    CAVALIER MUNI

                 1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAP 2C8 K3FR34   AHML   010HML  K3D 0V       IF                                          18000                A JS
        SUSAP 2C8 K3FR34   AHML   020ATODEK3EA0E  A 020TF                  20820171    + 02500                         A JS
        SUSAP 2C8 K3FR34   AHML   030WOLVAK3EA0EE B 010TF                  25060085    + 02500                         A JS
        SUSAP 2C8 K3FR34   ANALCO 010NALCOK3EA0E       IF                                          18000                A JS
        SUSAP 2C8 K3FR34   ANALCO 020ATODEK3EA0E  A 020TF                  29100097    + 02500                         A JS
        SUSAP 2C8 K3FR34   ANALCO 030WOLVAK3EA0EE B 010TF                  25060085    + 02500                         A JS
        SUSAP 2C8 K3FR34   AWOLVA 010WOLVAK3EA0EE AR   HF                  34040040    + 02500     18000               A JS
        SUSAP 2C8 K3FR34   R      010WOLVAK3EA0E  I    IF                              + 02500     18000               A JS
        SUSAP 2C8 K3FR34   R      020RINAEK3EA1E  F 051TF                  34040061    + 02500                 RW34  K3PGA JS
        SUSAP 2C8 K3FR34   R      020RINAEK3EA2WALPV       N         ALNAV                                              JS
        SUSAP 2C8 K3FR34   R      030RW34 K3PG0GY M 031TF                  34040049      00931           -300           A JS
        SUSAP 2C8 K3FR34   R      040         0  M     CA                  3404        + 01500                         A JS
        SUSAP 2C8 K3FR34   R      050HML  K3D 0VY  R   DF                              + 03500                         A JS
        SUSAP 2C8 K3FR34   R      060HML  K3D 0VE  R   HM                  20820040    + 03500                         A JS

                 1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY  12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAP 2C8 K3GRW34    0032993404 N48464558W097374929+0000    +02456008910000400 60R

                 1         2         3         4         5         6         7         8         9         0         1         2         3
PP      12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
```

CITY AND STATE	ELEVATION: **892** **THRE: 891**	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
CAVALIER, ND	AIRPORT NAME: **CAVALIER MUNI**	**RNAV**	**RNAV (GPS) RWY 34, AMDT 1**	AMDT: **ORIG**
				DATED: **07/10/2003**

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
☐ YES ☐ NO		

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER ☐ (specify) _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	NFPG	DATE:
APPROVED BY		
NAME:	NFPG	DATE:

CHANGES:

REASONS:

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```
SUSAP 2C8 K3PR34   RW34 001 0000W34A0N4846455755W09737492915+024560300N4848121100W097382103001067517440004 00F400500B835B87B
SUSAP 2C8 K3PR34   RW34 002E      +02716+02716LPV       45630

                1         2         3         4         5         6         7         8         9         0         1         2         3
MSA     12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAP 2C8 K3SRW34 K3PG              0   18018003325                                                                  M
```

CITY AND STATE	ELEVATION: 892 THRE: 891	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
CAVALIER, ND	AIRPORT NAME: CAVALIER MUNI	RNAV	RNAV (GPS) RWY 34, AMDT 1	AMDT: ORIG
				DATED: 07/10/2003

ALL AFFECTED PROCEDURES REVIEWED? ☐ YES ☐ NO	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	NFPG	DATE:
APPROVED BY		
NAME:	NFPG	DATE:

CHANGES:

REASONS:

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.33**

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ARINC SUMMARY - 424-18 - RNAV (GPS)

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	HML	HML	010		IF		FB					
	HML	ATODE	020	IAF	TF		FB	2.0	208.2(214.2T)	017.1	AA 02500	
	HML	WOLVA	030		TF		FB	1.0	250.6(256.6T)	008.5	AA 02500	
	NALCO	NALCO	010		IF		FB					
	NALCO	ATODE	020	IAF	TF		FB	2.0	291.0(297.0T)	009.7	AA 02500	
	NALCO	WOLVA	030		TF		FB	1.0	250.6(256.6T)	008.5	AA 02500	
	WOLVA	WOLVA	010	IAF	HF	R	FO		340.4(346.4T)	004.0	AA 02500	
		WOLVA	010	FACF	IF		FB				AA 02500	
		RINAE	020	FAF	TF		FB	0.5	340.4(346.4T)	006.1	AA 02500	
		RW34	030	MAP	TF		FO	0.3	340.4(346.4T)	004.9	AT 00931	

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
		040		CA		FB		340.4(346.4T)		AA 01500	
	HML	050		DF	R	FO				AA 03500	
	HML	060		HM	R	FO		208.2(214.2T)	004.0	AA 03500	

POINT DATA	WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
	HML	N485209.09	W0970701.51	N4852.152	W09707.025
	ATODE	N483801.43	W0972128.85	N4838.024	W09721.481
	NALCO	N483337.12	W0970825.55	N4833.619	W09708.426
	RINAE	N484158.51	W0973604.22	N4841.975	W09736.070
	WOLVA	N483602.81	W0973354.50	N4836.047	W09733.908
	RW34	N484645.58	W0973749.29	N4846.760	W09737.822

RUNWAY DATA	RWY	THRESHOLD ELEVATION	TCH
	RW34	00891	40

CITY AND STATE	ELEVATION: **892** THRE: **891**	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
CAVALIER, ND	AIRPORT NAME: **CAVALIER MUNI**	**RNAV**	**RNAV (GPS) RWY 34, AMDT 1**	AMDT: **ORIG**
				DATED: **07/10/2003**

ALL AFFECTED PROCEDURES REVIEWED? ☐ YES ☐ NO	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	NFPG	DATE:
APPROVED BY		
NAME:	NFPG	DATE:

CHANGES:

REASONS:

STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

PART - A OBSTRUCTION DATA

1. APP SEGMENT	FROM	TO	OBSTRUCTION	COORDINATES	ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.
FEEDER	HML VORTAC	ATODE	1. AAO	483854.00N/0972412.00W	1034 (4E)	1000	AT466	2500
			2. TERRAIN	484009.00N/0972327.00W	824 (800)		AS1500	2300
FEEDER	NALCO	ATODE	3. TOWER (38-000324)	483323.00N/0971058.00W	1240 (5E)	1000	AT260	2500
			4. TERRAIN	483536.00N/0972154.00W	827 (800)		AS1500	2300
INITIAL	ATODE	WOLVA	5. AAO	483448.00N/0973615.00W	1086 (4E)	1000	AT414	2500
			6. TERRAIN	483603.00N/0973354.00W	880 (900)		AS1500	2400
INTERMEDIATE	WOLVA	RINAE	7. AAO	483957.00N/0973751.00W	1106 (4E)	500	AC98 AT796	2500
			8. TERRAIN	483957.00N/0973751.00W	906 (900)		AS1500	2400
FINAL: LPV	RINAE	RW34	9. BEAN ELEVATOR	484630.92N/0973736.26W	1003 (2C)	34:1	AC20 MA15	1156/265
			(K2C8T0001)					
FINAL: LNAV	RINAE	RW34	10. AAO	484337.00N/0973619.00W	1115 (2C)	250	XP75	1440
2. HOLD-IN-LIEU-OF-PT	WOLVA	P-5	11. TOWER (38-000618)	483450.00N/0972813.00W	1166 (5D)	1000	AT334	2500
			12. TERRAIN	483827.00N/0973845.00W	909 (900)		AS1500	2400
3. MISSED APPROACH MAP:	DA / RW34	HML VORTAC	8. BEAN ELEVATOR	484630.92N/0973736.26W	1003 (2C)	ASC		3500
			13. AAO	485009.00N/0974030.00W	1093 (4E)	1000		2100
ELEV:	963/1340		14. TERRAIN	485009.00N/0974030.00W	893 (900)		AS1500	2400

4. CIRCLING AREA	DISTANCE	REQUIRED	ACTUAL	
CATEGORY A	1.3 NM	350	548	
CATEGORY B	1.5 NM	450	548	
CATEGORY C	1.7 NM	450	548	
CATEGORY D	2.3 NM	550		
CATEGORY E	4.5 NM	550		

HT. ABV. ARPT.

15. TWR (K2C8T0015)	484727.22N/0973731.68W	1049 (2C)	300	SI	1440
16. TOWER (38-000928)	484749.20N/0973555.30W	1092 (2C)	300	SI	1440
16. TOWER (38-000928)	484749.20N/0973555.30W	1092 (2C)	300	SI	1440

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: **RW34**

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A
360-360	TWR (38-000688)	233/ 16.1	2244 (4D)	3300					

CITY AND STATE		FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
CAVALIER, ND	ELEVATION: 892 AIRPORT NAME: CAVALIER MUNI	RNAV	RNAV (GPS) RWY 34, AMDT 1	AGL

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE	3. ALTIMETER SETTING
ZMP ARTCC GFK FSS	[ ] NWS [ ] FAA [ ] A/C OTHER:	SOURCE: K2C8 / KHCO DISTANCE: 0 / 27.41 HOURS REMOTE OPERATION: 0 / BACKUP
SATISFACTORY ON: [X] VHF [X] UHF [ ] HF	LOCATION:	ADJUSTMENT: 0 / 74

4. MONITOR STATUS	
PRIMARY NAVAID:	
MONITOR POINT:	
HRS OPTN:	CAT 1
	CAT 3

5. APPROACH & RUNWAY LIGHTING	
[ ]	ALS
[ ]	(S) SALS
[ ]	MALS
[ ]	HIRL
[X]	MIRL 16 (PCL), 34 (PCL)
[ ]	REIL
[ ]	TDZ
[ ]	C/LINE
[X]	OTHER (SPECIFY) PAPI-2L 16 (PCL), 34 (PCL)

6. RUNWAY MARKINGS	
BASIC	
ALL WEATHER	
INSTRUMENT	NPI-G 16, 34

7. RUNWAY VISUAL RANGE	
APPROACH	
MIDFIELD	
ROLL OUT	

8. GLIDE PATH		
GP ANGLE: 3.00	ELEV RWY THRESHOLD: 891.1	
DISTANCE FROM RWY:	ELEV GP ANTENNA:	
	THRESHOLD CROSSING HEIGHT: 40.0	

9. FINAL APPROACH COURSE AIMING			
	[X]	RUNWAY THRESHOLD	FT. FROM THRESHOLD
	[X]	ON CENTERLINE	FT. FROM CENTERLINE

10. WAIVERS: NONE

PART D - PREPARED BY:	DATE:
JOHN R. ROSARIO	04/06/2012
TITLE: AERONAUTICAL INFORMATION SPECIALIST	OFFICE: AJV-353

PART C - REMARKS:

VDP NOT ESTABLISHED - 34:1 PENETRATIONS.

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

K2C8 AND KHCO AWOS-3 ON SERVICE - A

TERPS, VOLUME 1, "VISUAL PORTION OF FINAL" PENETRATIONS:

20:1 1003 BEAN ELEVATOR (K2C8T0001) 484630.92N/0973736.26W (39.45)
963 TREE (K2C8T0012) 484636.92N/0973738.77W (30.97)
967 ELEVATOR (38-000883) 484631.38N/0973736.35W (5.78)
969 TNK (K2C8T0003) 484629.94N/0973736.89W (1.12)

34:1 989 ELEVATOR (38-000884) 484630.85N/0973736.57W (25.22)
959 ELEVATOR (38-000885) 484630.32N/0973736.79W (23.79)

931 POLE (K2C8T0007) 484632.49N/0973739.42W (3.29)
930 POLE (K2C8T0008) 484632.48N/0973737.65W (1.44)

RASS PRESSURE PATTERNS SAME
K2C8 892.10, KHCO 820.2
RA = 73.11.
SEE ATTACHED AIRSPACE LETTER.

TAA NOT USED PER ATC REQUEST
LNAV/VNAV NOT DEVELOPED - NOT REQUESTED

XP = TO KEEP CURRENT MDA

THIS FORM WAS PDF EDITED
BACK SIDE: BLOCK 3: CHANGED 0/0 TO 0/74

RADIO FIX AND HOLDING DATA RECORD

NAME: ATODE **STATE:** ND **COUNTRY:** US

LATITUDE/LONGITUDE: 483801.43N/0972128.85W **TYPE:** WP

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 34			K2C8	CAVALIER	ND (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 09/20/2012

REASON FOR REVISION:
UPDATED FIX COORDINATES - FIX MOVED 21516.40 FT DUE TO MINIMUM SEGMENT LENGTH; NO NAME CHANGE, OPERATIONALLY REQUIRED BY ATC
DELETED FAC 1 - NOT REQUIRED
UPADATED FIX USE FORMAT - CRITERIA

DEVELOPED BY: **DATE:** 04/02/2012 **OFFICE:** AJV-353 **NAME:** JOHN ROSARIO

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY:
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: HUMBOLDT VORTAC **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 485209.09N/0970701.51W **TYPE:**

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	HUMBOLDT	HML	VORTAC	H							45000

HOLDING: **HOLDING TYPE OF ACTION:** MODIFY

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	LEG LENGTH DME	HOLDING ALTITUDES MIN	HOLDING ALTITUDES MAX	TEMPLATES MIN	TEMPLATES MAX
1	SE	HML	VORTAC	121.00	301.00	R	1-1 1/2		2600	17500	4	13
2	NW		WP	306.34	126.34	R		4	2600	6000	5	6
3	NE		WP	028.17	208.17	R		4	3500	6000	5	6

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (27-000517)	484820.00N/0965604.00W	1266	5E
2	200	TOWER (27-000030)	485504.89N/0970342.51W	1108	4D
3	200	AAO	485951.00N/0965827.00W	1136	4E

HOLDING RESTRICTIONS:
UNPLANNED HOLDING AUTHORIZED AT OR ABOVE 3000.'
HOLDING LIMITED TO ESTABLISHED PATTERNS.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	J107	1				(US)
EN ROUTE	J515	1				(US)
EN ROUTE	V181	1				(US)
IAP	RNAV (GPS) RWY 31		2	KHCO	HALLOCK	MN (US)
IAP	RNAV (GPS) RWY 34		3	K2C8	CAVALIER	ND (US)
IAP	HI-ILS OR LOC RWY 17			KRDR	GRAND FORKS	ND (US)
IAP	VOR RWY 33		1	KPMB	PEMBINA	ND (US)

REQUIRED CHARTING: MILITARY IAP, IAP, CONTROLLER, EN ROUTE LOW, EN ROUTE HIGH

COMPULSORY REPORTING POINT: BOTH

RECORD REVISION NUMBER: 4 **DATE OF REVISION:** 09/20/2012

REASON FOR REVISION:
FACILITY COORDINATES UPDATED - FACILITY MOVED 4.27 FT
ADDED HOLDING PATTERN 3 AND RELATED DATA - USED ON K2C8 RNAV (GPS) RWY 34 MISSED APPROACH
FIX USE - ADDED K2C8 RNAV (GPS) RWY 34 APPROACH
PAT 1 OBSTACLE ID, ACCURACY CODE UPDATED
PAT 2 OBSTACLE ACCURACY CODE UPDATED
REMOVED J532 FROM FIX USE - NO EVIDENCE OF USE

DEVELOPED BY: **DATE:** 04/02/2012 **OFFICE:** AJV-353 **NAME:** JOHN ROSARIO

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY:
OTHER: PNM AFSS

RADIO FIX AND HOLDING DATA RECORD

NAME: NALCO **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 483337.12N/0970825.55W **TYPE:** WP, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	HUMBOLDT	HML	VORTAC	H	173.87	182.87	18.57	18.57		2600	17500

HOLDING: **HOLDING TYPE OF ACTION:** CANCEL

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	V181	1				(US)
IAP	RNAV (GPS) RWY 34			K2C8	CAVALIER	ND (US)

REQUIRED CHARTING: IAP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2 **DATE OF REVISION:** 09/20/2012

REASON FOR REVISION:
DELETED HOLDING - NOT USED
FIX USE - ADDED CAVALIER RNAV APPROACH, DELETED GRAFTON GPS APPROACHES
DELETED FAC 2 DATA - NOT REQUIRED
UPDATED FORMAT FOR FIX USE ON V-181
REVISED FIX COORDINATES - FIX MOVED 13.88 FEET BASED ON CALCULATED VALUES

DEVELOPED BY: **DATE:** 04/12/2012 **OFFICE:** AJV-353 **NAME:** JOHN ROSARIO

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY:
OTHER: GFK APP

RADIO FIX AND HOLDING DATA RECORD

NAME: RINAE **STATE:** ND **COUNTRY:** US

LATITUDE/LONGITUDE: 484158.51N/0973604.22W **TYPE:** WP

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 34			K2C8	CAVALIER	ND (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 09/20/2012

REASON FOR REVISION:
UPDATED FIX COORDINATES - FIX MOVED 558.56 FT TO PFAF LOCATION
DELETED FAC 1 - NOT REQUIRED
REVISED FIX USE - FORMAT CHANGE

DEVELOPED BY: **DATE:** 03/28/2012 **OFFICE:** AJV-353 **NAME:** JOHN ROSARIO

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY:
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: WOLVA **STATE:** ND **COUNTRY:** US

LATITUDE/LONGITUDE: 483602.81N/0973354.50W **TYPE:** WP

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

HOLDING: **HOLDING TYPE OF ACTION:** MODIFY

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	LEG LENGTH DME	HOLDING ALTITUDES MIN	HOLDING ALTITUDES MAX	TEMPLATES MIN	TEMPLATES MAX
1	S		WP	160.43	340.43	R		4	2500	8000	5	9

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (38-000618)	483450.00N/0972813.00W	1166	5D

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERN

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 34		1	K2C8	CAVALIER	ND (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 09/20/2012

REASON FOR REVISION:
UPDATED FIX COORDINATES - FIX MOVED 6336.17 FT DUE TO MINIMUM INTERMEDIATE SEGMENT LENGTH; NO NAME CHANGE, OPERATIONALLY REQUIRED BY ATC
DELETED FAC 1 - NOT REQUIRED
REPORT FORMAT CHANGES: HOLDING RESTRICTION, FIX USE
ADDED PRECIPITOUS TERRAIN REMARK
REVISED HOLDING CONTROLLING OBSTACLE - CHANGED ID
REVISED HOLDING PATTERN TEMPLATE FROM 7 TO 9 - CRITERIA
REVISED HOLDING COURSE FROM 339.80 TO 340.43 - CALCULATED VALUE

DEVELOPED BY: **DATE:** 04/02/2012 **OFFICE:** AJV-353 **NAME:** JOHN ROSARIO

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY:
OTHER:

TERMINAL AIRSPACE DATA REQUIREMENTS

CITY: **CAVALIER** STATE: **ND**

AIRPORT NAME: **CAVALIER MUNI** ID: **K2C8**

PROCEDURE: **RNAV (GPS) RWY 34** AMDT: **1**

DOCKET # :
(96-AXX-X/Required/Not Required)

ALL DIST TO 1/100 NM; ELEV TO NEAREST FT; COORD TO 1/100 SEC; DEG TO 1/100 DG.

1. Distance from **THLD** to 1000' point **2.93**
   (Enter THLD, FAF, ARP, FACILITY, as appropriate)
2. Width of **FINAL** segment at 1000' point **1.20**
   (Enter appropriate segment , final, intermediate, etc.)
3. True Course of **FINAL** segment containing 1000' point **346.40**
4. High Terrain in **FINAL** segment containing 1000' point **915**
5. Distance from **THLD** to 1500' point **4.73**
   (If 1500' point in PT maneuvering area or holding pattern note in remarks)
6. Width of **FINAL** segment at 1500' point **1.95**
7. True Course of **FINAL** segment containing 1500' point **346.40**
8. High Terrain in **FINAL** segment containing 1500' point **915**
9. Threshold Coordinates (if straight-in) ... **484645.58N / 0973749.29W**
10. ARP Coordinates ..... **484701.40N / 0973755.10W**
11. Runway Approach End and distance furthest from ARP.....RWY **34**
    Distance **0.27** NM
12. FAF Coordinates ..... **484158.51N / 0973604.22W**
    (Click to Select)

REMARKS: Approach/Drawing attached.