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Revision Letter For Cycle 04-2012

Change Notices

Notebook

General Information

Location: Bemidji MN USA
IATA Code: BJI
Lat/Long: N47° 30.6' W094° 56.1'
Elevation: 1391 ft

Airport Use: Public
Magnetic Variation: 1.7°E
Sectional Chart: Twin Cities

Fuel Types: 100 Octane (LL), Jet A
Oxygen Types: HP Bottle, LP Bottle
Repair Types: Major Airframe, Major Engine
Customs: No
Airport Type: IFR
Landing Fee: No
Control Tower: No
Jet Start Unit: Yes
LLWS Alert: No
Beacon: Yes

Sunrise: 1304 Z
Sunset: 0001 Z,

Runway Information

Runway: 07
Length x Width: 5700 ft x 150 ft
Surface Type: asphalt
TDZ-Elev: 1389 ft
Lighting: Edge, REIL, Pilot controlled

Runway: 13
Length x Width: 7004 ft x 150 ft
Surface Type: asphalt
TDZ-Elev: 1391 ft
Lighting: Edge, ALS, Pilot controlled

Runway: 25
Length x Width: 5700 ft x 150 ft
Surface Type: asphalt
TDZ-Elev: 1389 ft
Lighting: Edge, REIL, Pilot controlled

Runway: 31
Length x Width: 7004 ft x 150 ft
Surface Type: asphalt
TDZ-Elev: 1389 ft
Lighting: Edge, ALS, REIL, Pilot controlled

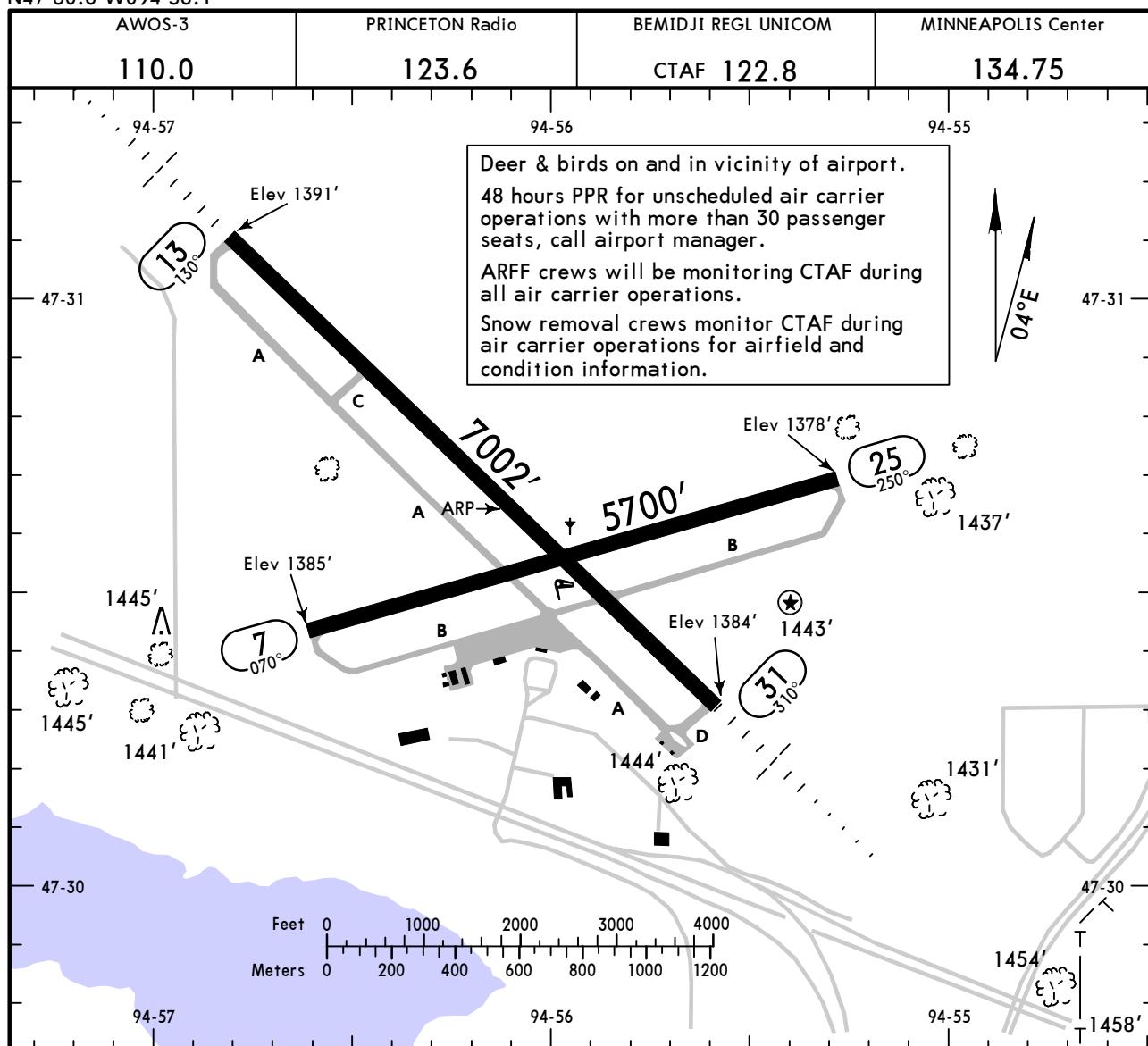
Communication Information

AWOS 110.0
Bemidji Regl Unicom 122.8 CTAF PCL
Princeton Flight Service Station 123.6 RCO
Minneapolis Center 134.75 Remote Communications Air-Ground

KBJI/BJI
 Apt Elev **1391'**
 N47 30.6 W094 56.1

JEPPESSEN
 10 DEC 10 **(10-9)**

BEMIDJI, MINN
BEMIDJI REGL



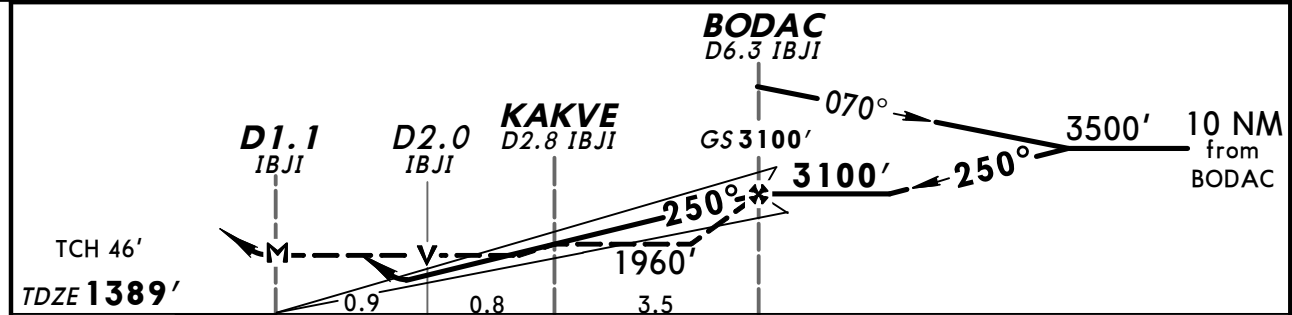
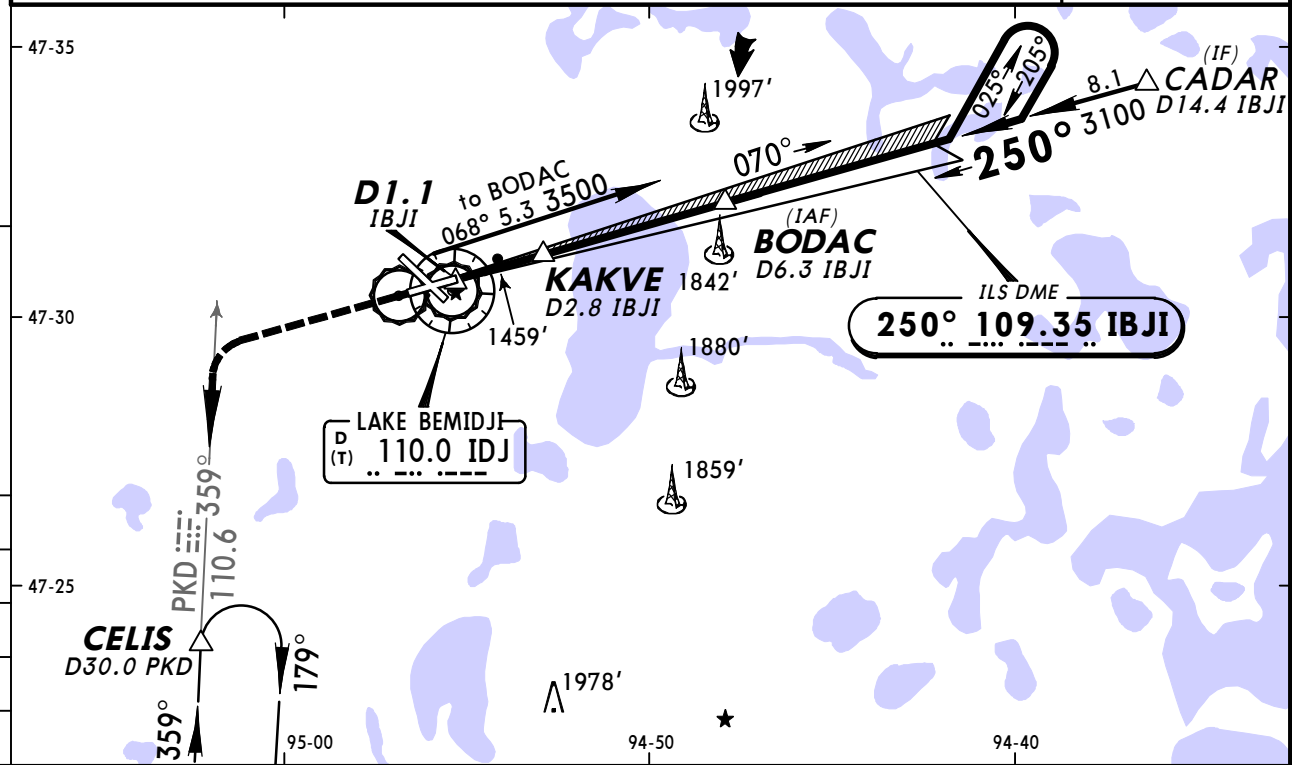
ADDITIONAL RUNWAY INFORMATION

RWY				USABLE LENGTHS		TAKE-OFF	WIDTH
				Threshold	Glide Slope		
7	25	① MIRL ① REIL ① ③ PAPI-L	grooved		4850'		150'
13	31	② HIRL ① MALSR ① ③ PAPI-L	grooved				150'
		② HIRL ① MALSR ① REIL ① ③ PAPI-L	grooved		6174'		

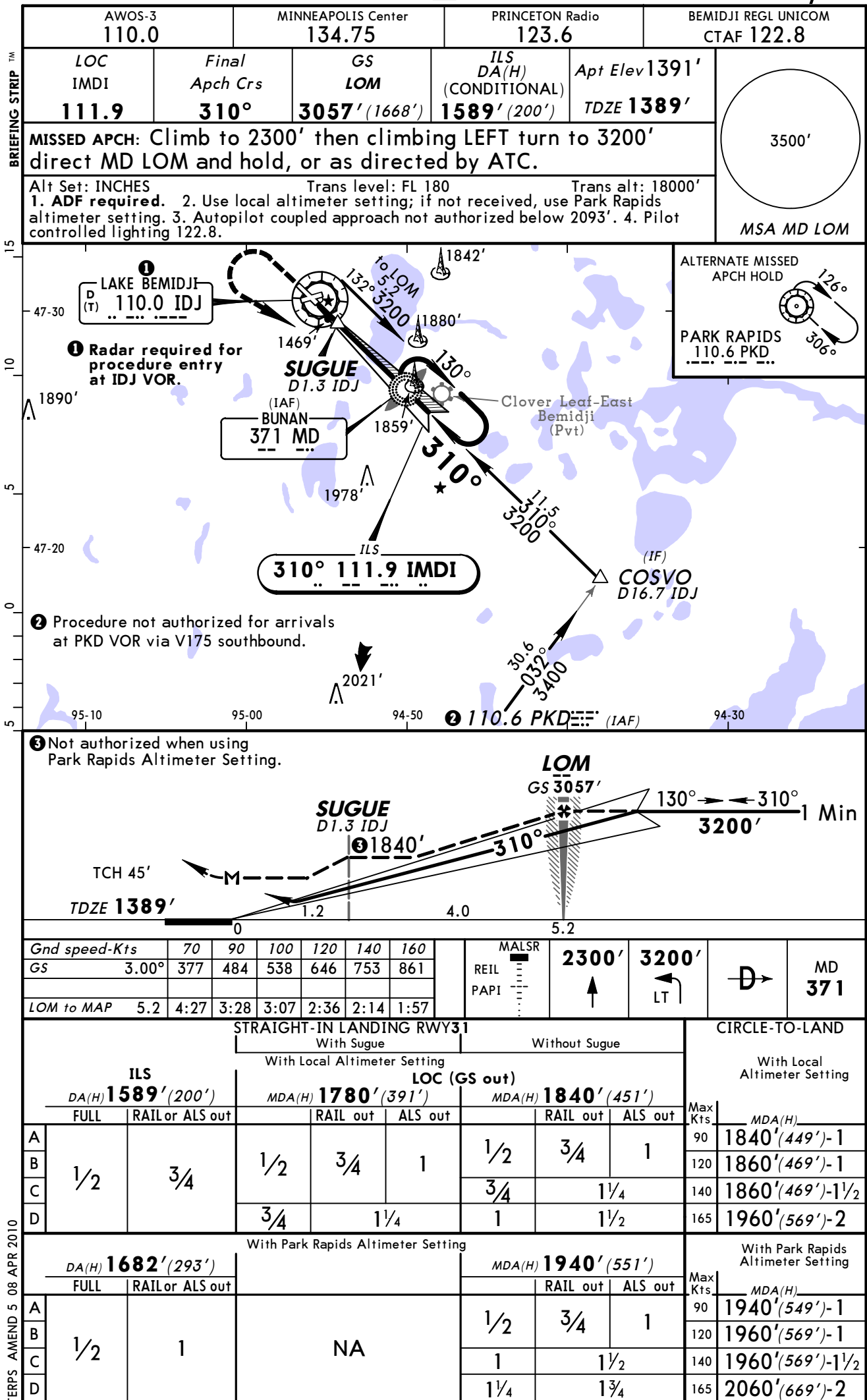
- ① Activate on 122.8.
- ② Increase intensity on 122.8.
- ③ (angle 3.0°).

TAKE-OFF			FOR FILING AS ALTERNATE	
All Rwy's			Authorized Only When Local Weather Available	
	Adequate Vis Ref	STD	RNAV (GPS) Rwy 13	Other
			RNAV (GPS) Rwy 25	
			RNAV (GPS) Rwy 31	
1 & 2 Eng	1/4	1	800-2	NA
3 & 4 Eng		1/2		

AWOS-3 110.0		MINNEAPOLIS Center 134.75		PRINCETON Radio 123.6		BEMIDJI REGL UNICOM CTAF 122.8	
LOC IBJI 109.35	Final Apch Crs 250°	GS BODAC 3100' (1711')	ILS DA(H) (CONDITIONAL) 1589' (200')	Apt Elev 1391' TDZE 1389'		3500' MSA IDJ VOR	
MISSED APCH: Climb to 2300' then climbing LEFT turn to 3400' inbound via PKD VOR R-359 to CELIS/D30.0 PKD and hold.							
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000' 1. Radar and DME required. 2. Use local altimeter setting; if not received, use Park Rapids altimeter setting. 3. Use IBJI DME when on the LOC course. 4. Visibility reduction by helicopters not authorized. 5. VDP not authorized when using Park Rapids altimeter setting. 6. Pilot controlled lighting 122.8.							



Gnd speed-Kts		70	90	100	120	140	160	REIL PAPI-L	2300' ↑	3400' ↖ LT	PKD via 110.6 R-359	CELIS		
GS		3.00°	377	484	538	646	753						861	
MAP at D1.1 IBJI														
STRAIGHT-IN LANDING RWY25 With Local Altimeter Setting										CIRCLE-TO-LAND With Local Altimeter Setting				
ILS DA(H) 1589' (200')		LOC (GS out) MDA(H) 1720' (331')						Max Kts	MDA(H)					
A	3/4						1						90	1840' (449')-1
B													120	1860' (469')-1
C													140	1860' (469')-1 1/2
D													165	1960' (569')-2
With Park Rapids Altimeter Setting										With Park Rapids Altimeter Setting				
ILS DA(H) 1682' (293')		LOC (GS out) MDA(H) 1820' (431')						Max Kts	MDA(H)					
A	1						1						90	1940' (549')-1
B													120	1960' (569')-1
C													140	1960' (569')-1 1/2
D													165	2060' (669')-2



AWOS-3

110.0

MINNEAPOLIS Center

134.75

PRINCETON Radio

123.6

BEMIDJI REGL UNICOM

CTAF 122.8

RNAV

Final

Apch Crs

130°

Minimum Alt

JOKOS

3200' (1809')

LNAV

MDA(H)

(CONDITIONAL)

1780' (389')

Apt Elev

1391'

TDZE

1391'

MISSED APCH: Climb to 3200' direct OMIGY and hold.

Alt Set: INCHES

Trans level: FL 180

Trans alt: 18000'

1. Use local altimeter setting; if not received, use Park Rapids altimeter setting.

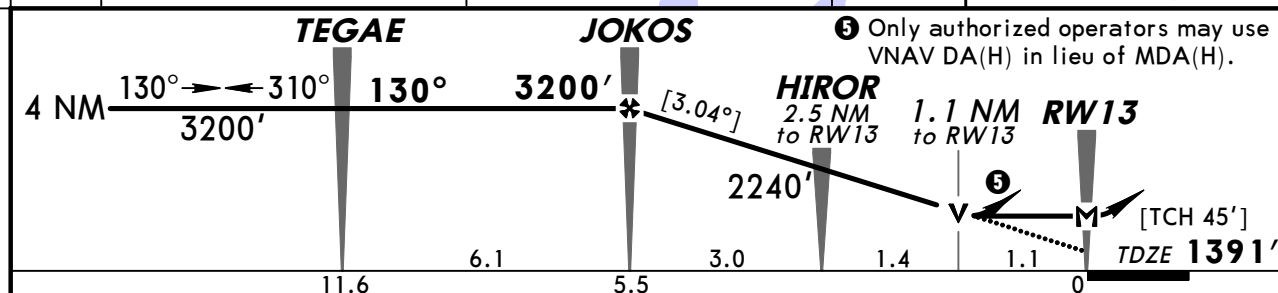
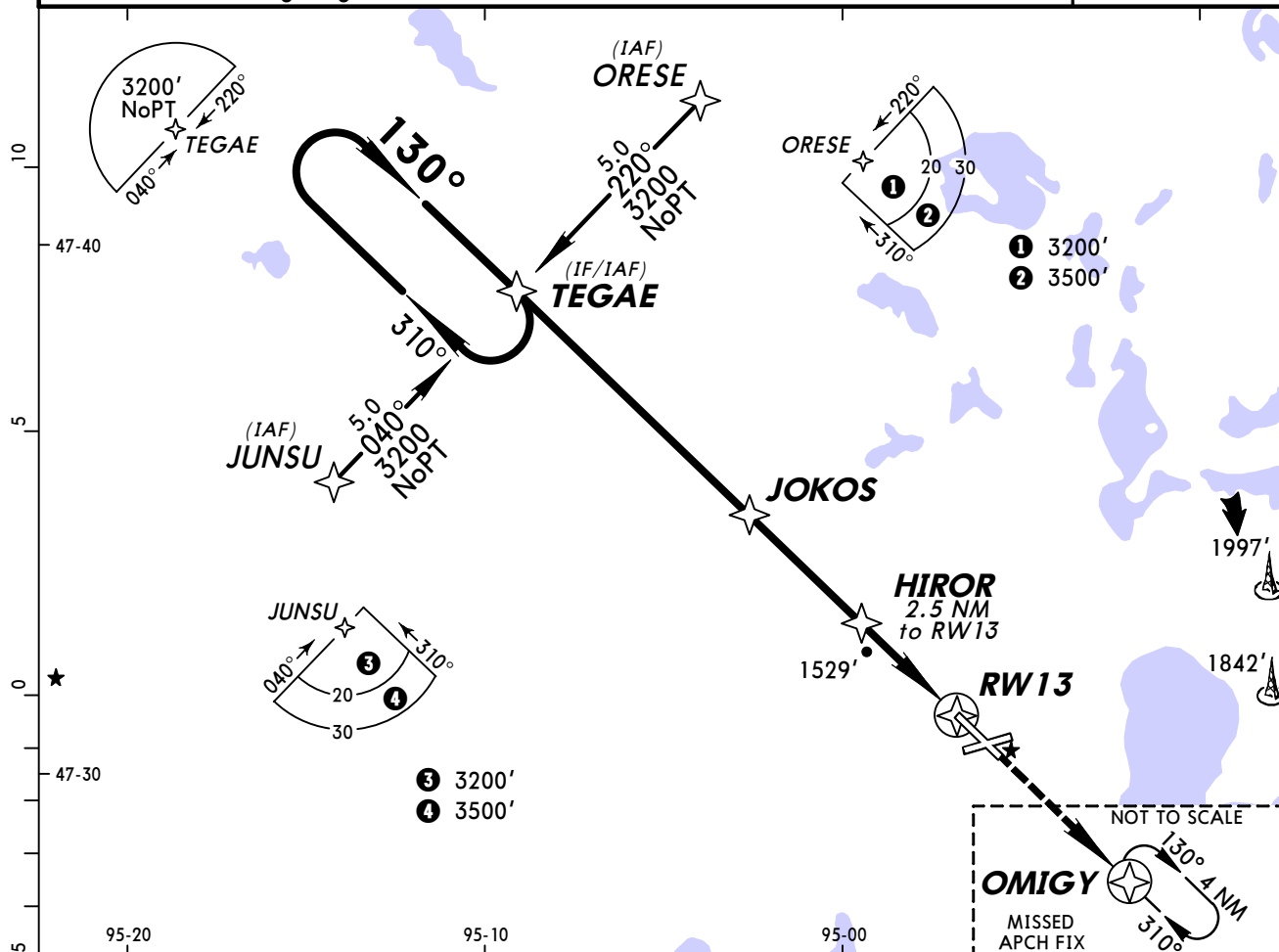
2. DME/DME RNP-0.30 not authorized. 3. VDP not authorized with Park Rapids altimeter setting. 4. Visibility reduction by helicopters not authorized.

5. Pilot controlled lighting 122.8.

TAA

30 NM

IAF



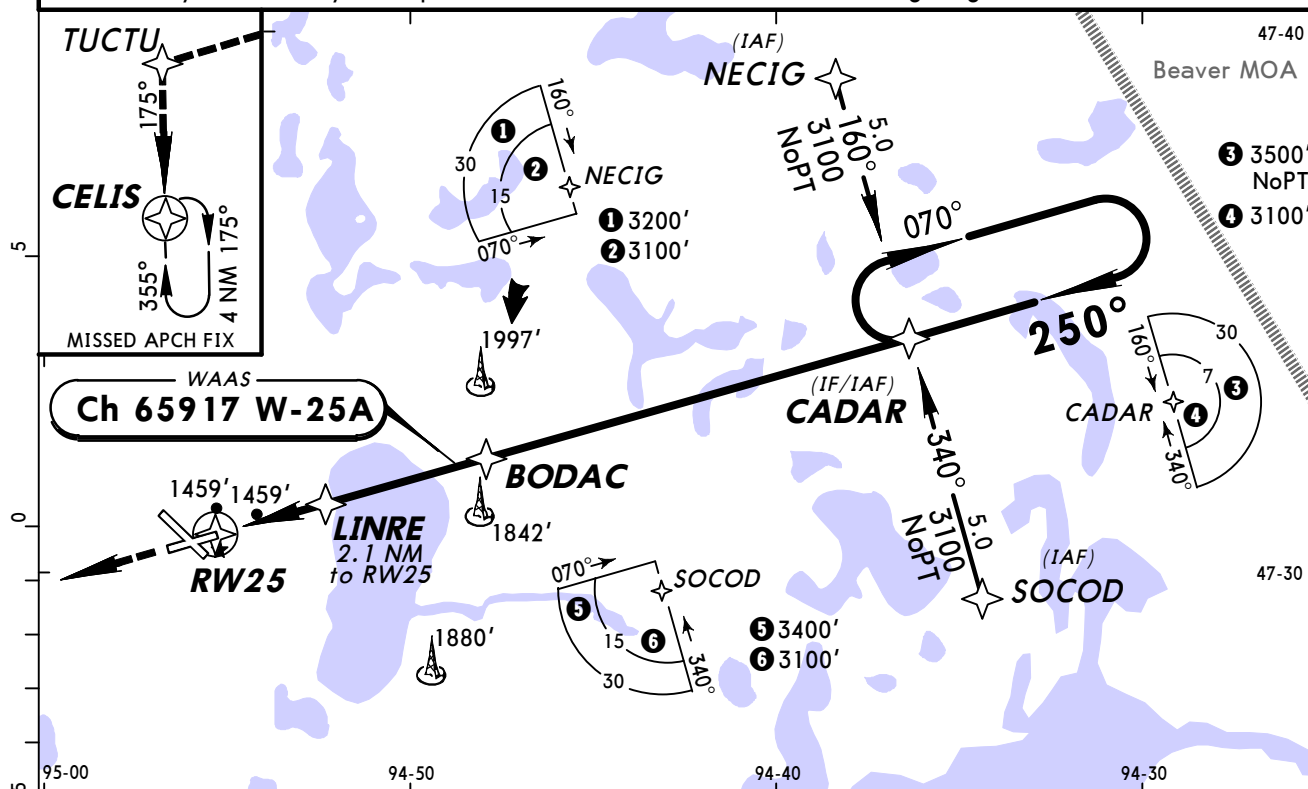
Gnd speed-Kts	70	90	100	120	140	160	MALSR PAPI	3200' ↑	→	OMIGY
Descent Angle [3.04°]	376	484	538	645	753	861				
MAP at RW13										

STRAIGHT-IN LANDING RWY 13						CIRCLE-TO-LAND			
RNAV						With Local Altimeter Setting		With Park Rapids Altimeter Setting	
MDA(H) 1780' (389')			MDA(H) 1880' (489')			Max Kts		MDA(H)	
With Local Altimeter Setting			With Park Rapids Altimeter Setting						
RAIL out			RAIL out						
ALS out			ALS out						
A			3/4			90	1840' (449') - 1	1940' (549') - 1	
B			1			120	1860' (469') - 1	1960' (569') - 1	
C			3/4			140	1860' (469') - 1 1/2	1960' (569') - 1 1/2	
D			1			165	1960' (569') - 2	2060' (669') - 2	

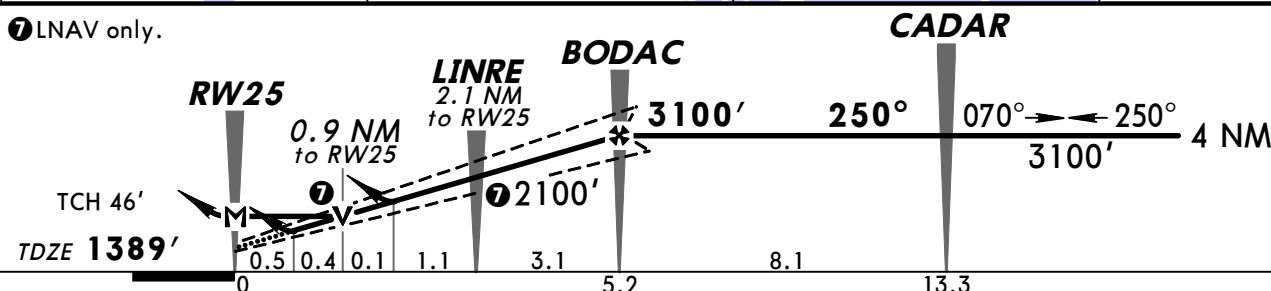
TAA
30 NM
IAF

Alt Set: INCHES Trans level: FL 180 Trans alt: 18000'

1. Use local altimeter setting; if not received, use Park Rapids altimeter setting. 2. Baro-VNAV and VDP not authorized when using Park Rapids altimeter setting. 3. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -17°C (2°F) or above 46°C (114°F). 4. DME/DME RNP-0.30 not authorized. 5. Visibility reduction by helicopters not authorized. 6. Pilot controlled lighting 122.8.



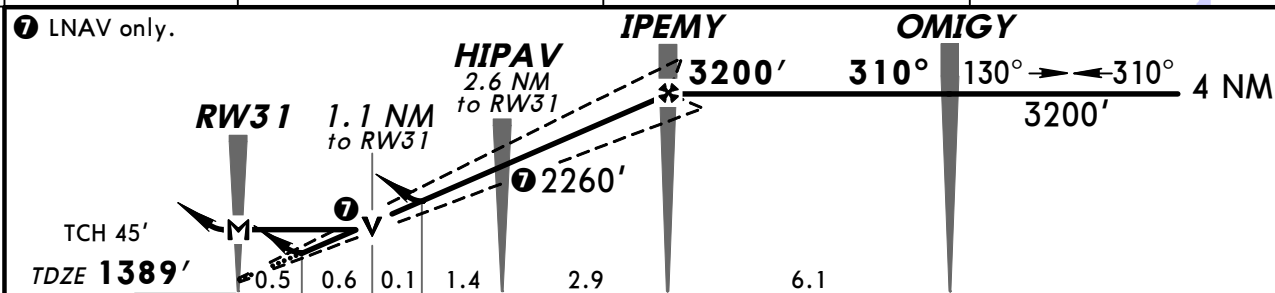
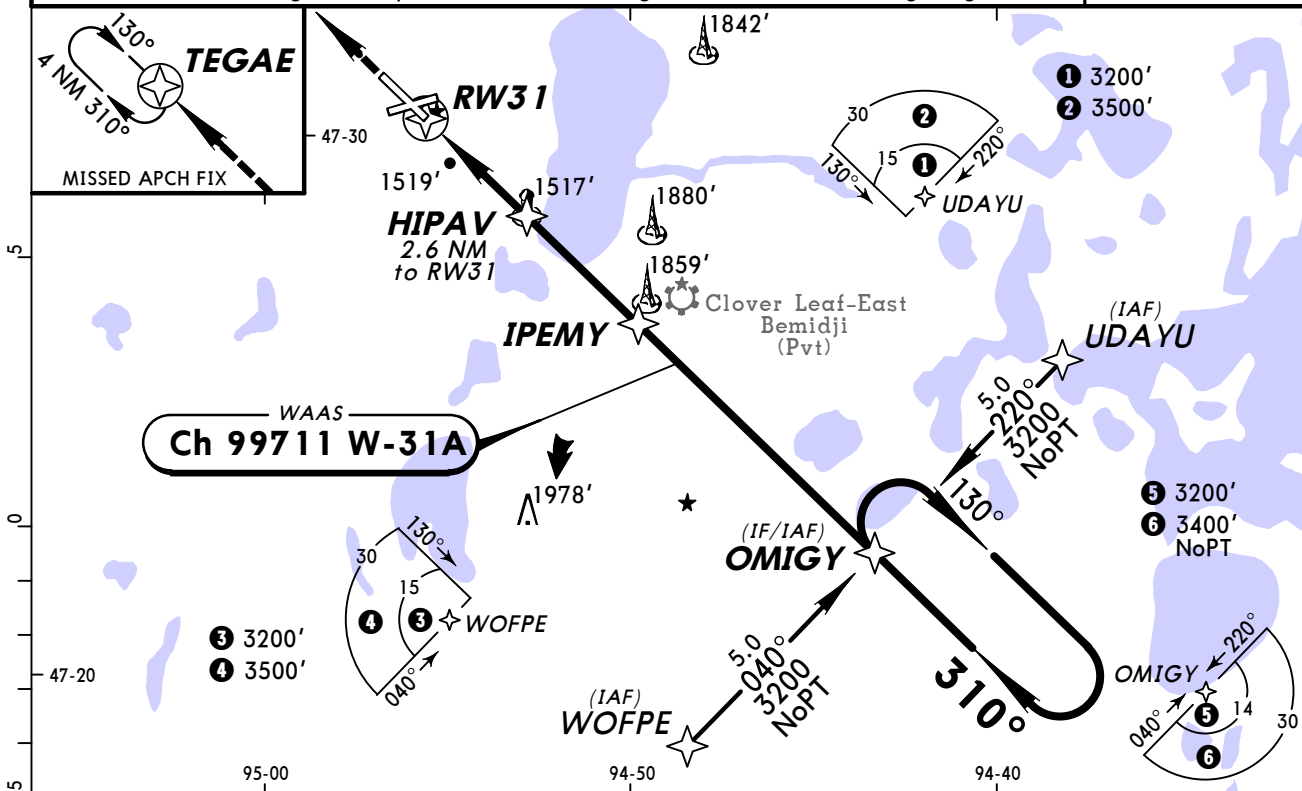
⑦ LNAV only.



<i>Gnd speed-Kts</i>	70	90	100	120	140	160	REIL PAPI-L	3400'	
<i>Glide Path Angle 3.00°</i>	372	478	531	637	743	849			
<i>MAP at RW25</i>									

STRAIGHT-IN LANDING RWY 25 With Local Altimeter Setting				CIRCLE-TO-LAND With Local Altimeter Setting	
LPV DA(H) 1589' (200')		RNAV/VNAV DA(H) 1752' (363')	RNAV MDA(H) 1720' (331')	Max Kts	MDA(H)
A	3/4	1 1/4	1	90	1840' (449') - 1
B				120	1860' (469') - 1
C				140	1860' (469') - 1 1/2
D				165	1960' (569') - 2
With Park Rapids Altimeter Setting				Max Kts	With Park Rapids Altimeter Setting MDA(H)
LPV DA(H) 1682' (293')		RNAV/VNAV DA(H) 1845' (456')	RNAV MDA(H) 1820' (431')	90	1940' (549') - 1
A	1	1 3/4	1	120	1960' (569') - 1
B				140	1960' (569') - 1 1/2
C			1 1/2	165	2060' (669') - 2
D					

AWOS-3 110.0	MINNEAPOLIS Center 134.75	PRINCETON Radio 123.6	BEMIDJI REGL UNICOM CTAF 122.8
WAAS Ch 99711 W-31A	Final Apch Crs 310°	Minimum Alt IPEMY 3200' (1811')	LPV DA(H) (CONDITIONAL) 1589' (200')
Apt Elev 1391' TDZE 1389'			TAA 30 NM IAF
MISSED APCH: Climb to 3200' direct TEGAE and hold.			
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000'			
1. Use local altimeter setting; if not received, use Park Rapids altimeter setting. 2. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -17°C (2°F) or above 46°C (114°F). 3. DME/DME RNP-0.30 not authorized. 4. VDP and Baro-VNAV not authorized when using Park Rapids altimeter setting. 5. Pilot controlled lighting 122.8.			



Grnd speed-Kts	70	90	100	120	140	160	MALSR	3200'	TEGAE
Glide Path Angle	3.00°	372	478	531	637	743	REIL		
							PAPI		
MAP at RW31									

STRAIGHT-IN LANDING RWY 31							CIRCLE-TO-LAND		
With Local Altimeter Setting							With Local Altimeter Setting		
LPV DA(H) 1589' (200')		LNAV/VNAV DA(H) 1825' (436')		LNAV MDA(H) 1780' (391')			MDA(H)		
RAIL or ALS out		RAIL or ALS out		RAIL out ALS out			Max Kts		
A							90	1840' (449') -1	
B	1/2	3/4	1	1 1/2	1/2	3/4	120	1860' (469') -1	
C							140	1860' (469') -1 1/2	
D					1	1 1/4	165	1960' (569') -2	
With Park Rapids Altimeter Setting							With Park Rapids Altimeter Setting		
LPV DA(H) 1682' (293')		LNAV/VNAV DA(H) 1918' (529')		LNAV MDA(H) 1880' (491')			MDA(H)		
RAIL or ALS out		RAIL or ALS out		RAIL out ALS out			Max Kts		
A							90	1940' (549') -1	
B	1/2	1	1 1/2	2	1/2	3/4	120	1960' (569') -1	
C					3/4	1 1/4	140	1960' (569') -1 1/2	
D					1	1 1/2	165	2060' (669') -2	

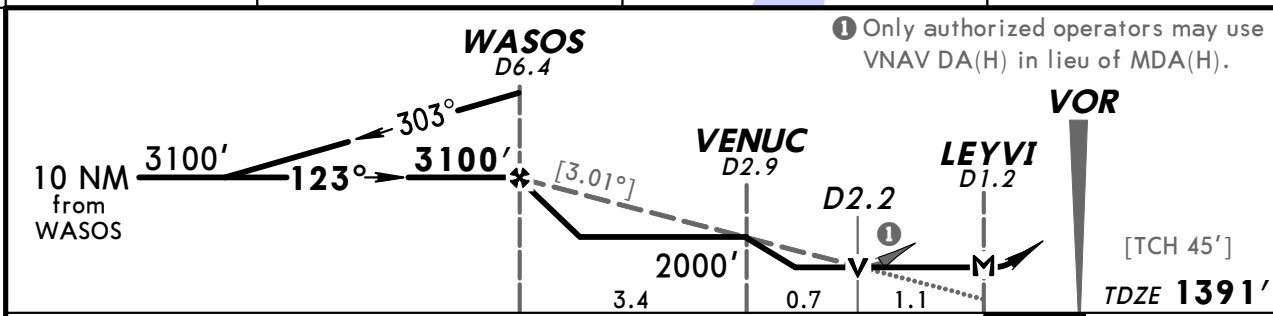
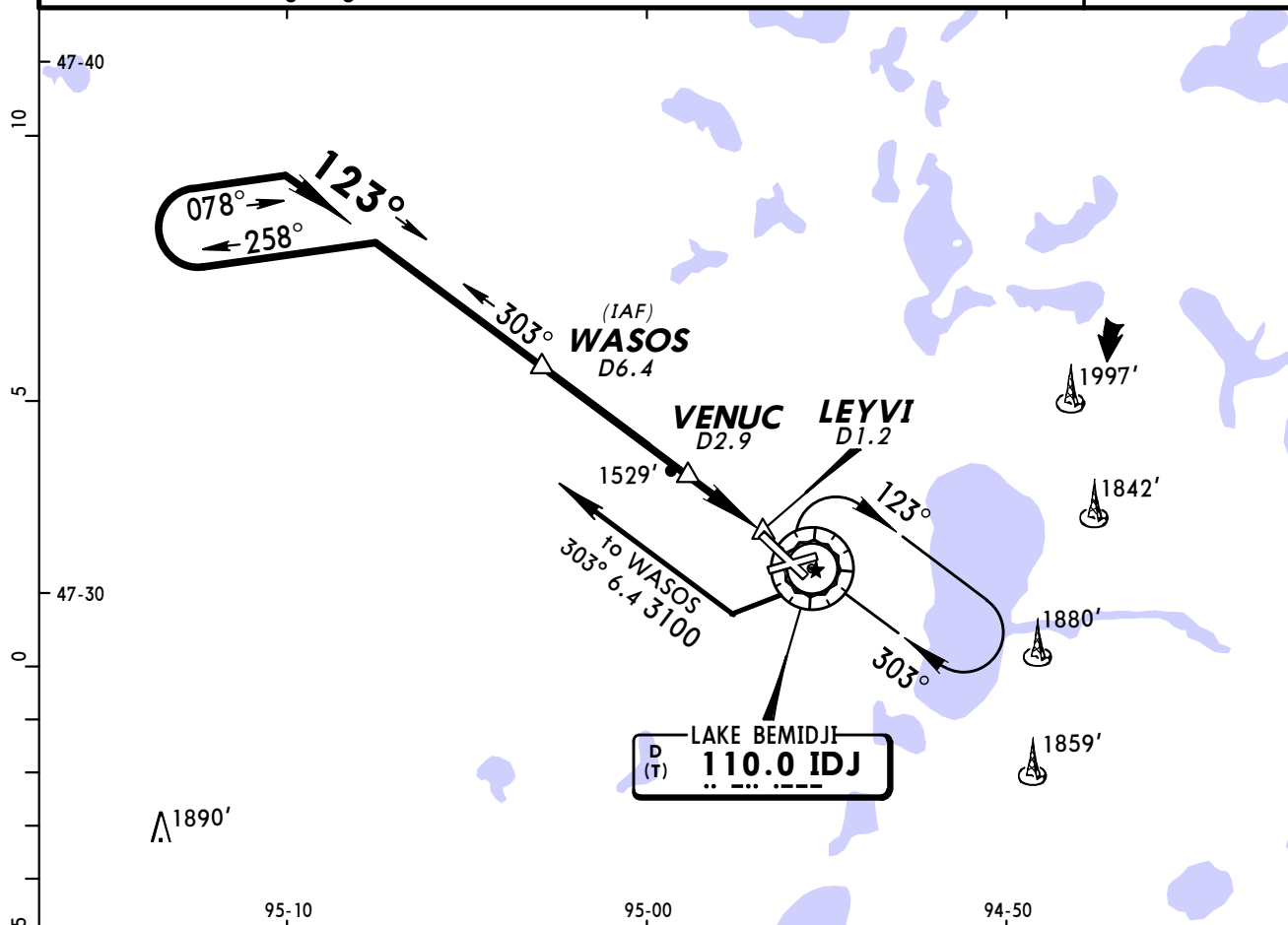
KBJI/BJI
BEMIDJI REGL

JEPPESEN
10 DEC 10 **(13-1)**

BEMIDJI, MINN
VOR DME Rwy 13

BRIEFING STRIP™

AWOS-3 110.0		MINNEAPOLIS Center 134.75		PRINCETON Radio 123.6		BEMIDJI REGL UNICOM CTAF 122.8	
VOR IDJ 110.0	Final Apch Crs 123°	Minimum Alt WASOS 3100' (1709')	MDA(H) (CONDITIONAL) 1780' (389')	Apt Elev 1391' TDZE 1391'		3500' MSA IDJ VOR	
MISSED APCH: Climb to 3100' direct IDJ VOR and hold, continue climb-in-hold to 3100'.							
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000'							
1. Radar required. 2. Use local altimeter setting; if not received, use Park Rapids altimeter setting. 3. VDP not authorized with Park Rapids altimeter setting. 4. Pilot controlled lighting 122.8.							



Gnd speed-Kts	70	90	100	120	140	160	MALSR 3100' IDJ 110.0
Descent Angle [3.01°]	373	479	532	639	745	852	
MAP at LEYVI							

STRAIGHT-IN LANDING RWY 13						CIRCLE-TO-LAND			
MDA(H) 1780' (389')			MDA(H) 1880' (489')			With Local Altimeter Setting		With Park Rapids Altimeter Setting	
With Local Altimeter Setting			With Park Rapids Altimeter Setting			With Local Altimeter Setting		With Park Rapids Altimeter Setting	
RAIL out			RAIL out			RAIL out		RAIL out	
ALS out			ALS out			ALS out		ALS out	
3/4			1			1840' (449')-1		1940' (549')-1	
3/4			1			1860' (469')-1		1960' (569')-1	
3/4			1 1/4			1860' (469')-1 1/2		1960' (569')-1 1/2	
1			1 1/2			1960' (569')-2		2060' (669')-2	

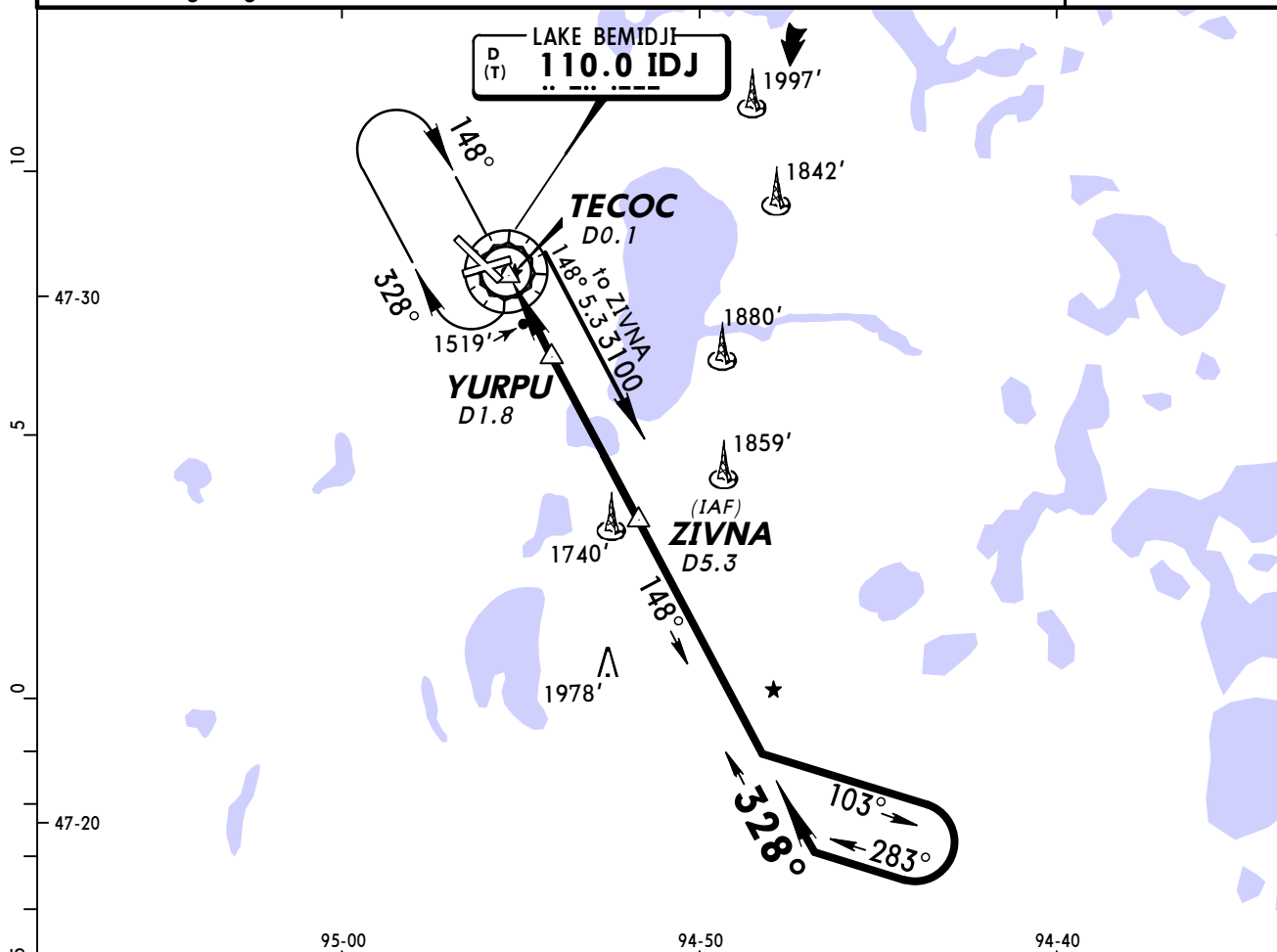
CHANGES: AWOS-3 frequency.

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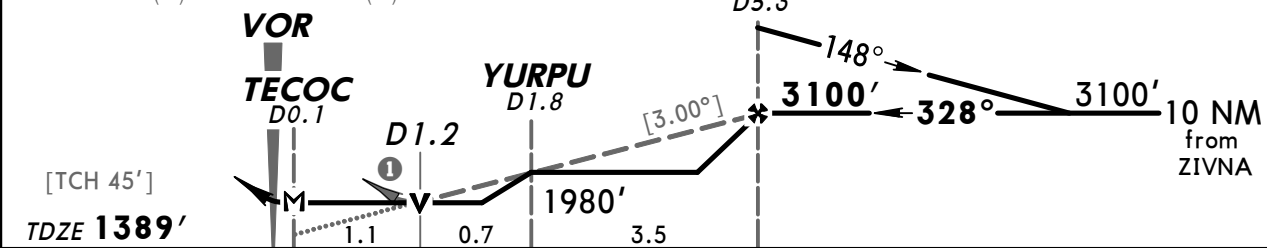
TERPS AMEND 0 08 APR 2010

BRIEFING STRIP™

AWOS-3 110.0		MINNEAPOLIS Center 134.75		PRINCETON Radio 123.6		BEMIDJI REGL UNICOM CTAF 122.8	
VOR IDJ 110.0	Final Apch Crs 328°	Minimum Alt ZIVNA 3100' (1711')	MDA(H) (CONDITIONAL) 1780' (391')	Apt Elev 1391' TDZE 1389'		3500' MSA IDJ VOR	
MISSED APCH: Climb to 3100' direct IDJ VOR and hold, continue climb-in-hold to 3100'.							
Alt Set: INCHES							



① Only authorized operators may use VNAV DA(H) in lieu of MDA(H).



Gnd Speed-Kts	70	90	100	120	140	160	MALSR	3100' ↑	D→	IDJ 110.0
Descent Angle [3.00°]	372	478	531	637	743	849				
MAP at TECOC										

STRAIGHT-IN LANDING RWY 31							CIRCLE-TO-LAND		
MDA(H) 1780' (391')				MDA(H) 1880' (491')			Max Kts	With Local Altimeter Setting	With Park Rapids Altimeter Setting
With Local Altimeter Setting				With Park Rapids Altimeter Setting				MDA(H)	MDA(H)
		RAIL out	ALS out		RAIL out	ALS out			
A	1/2	3/4	1	1/2	3/4	1	90	1840' (449')-1	1940' (549')-1
B						120	1860' (469')-1	1960' (569')-1	
C				3/4	1 1/4	140	1860' (469')-1 1/2	1960' (569')-1 1/2	
D	1	1 1/4		1	1 1/2		165	1960' (569')-2	2060' (669')-2

General Information

Location: Brainerd MN USA
IATA Code: BRD
Lat/Long: N46° 24.1' W094° 08.1'
Elevation: 1232 ft

Airport Use: Public
Magnetic Variation: 1.2°E
Sectional Chart: Twin Cities

Fuel Types: 100 Octane (LL), Jet A
Repair Types: Major Airframe, Major Engine
Customs: No
Airport Type: IFR
Landing Fee: No
Control Tower: No
Jet Start Unit: Yes
LLWS Alert: No
Beacon: Yes
Pattern Altitude: 1000 ft AGL

Sunrise: 1300 Z
Sunset: 2359 Z,

Runway Information

Runway: 05
Length x Width: 6514 ft x 150 ft
Surface Type: concrete
TDZ-Elev: 1223 ft
Lighting: Edge, REIL, Pilot controlled

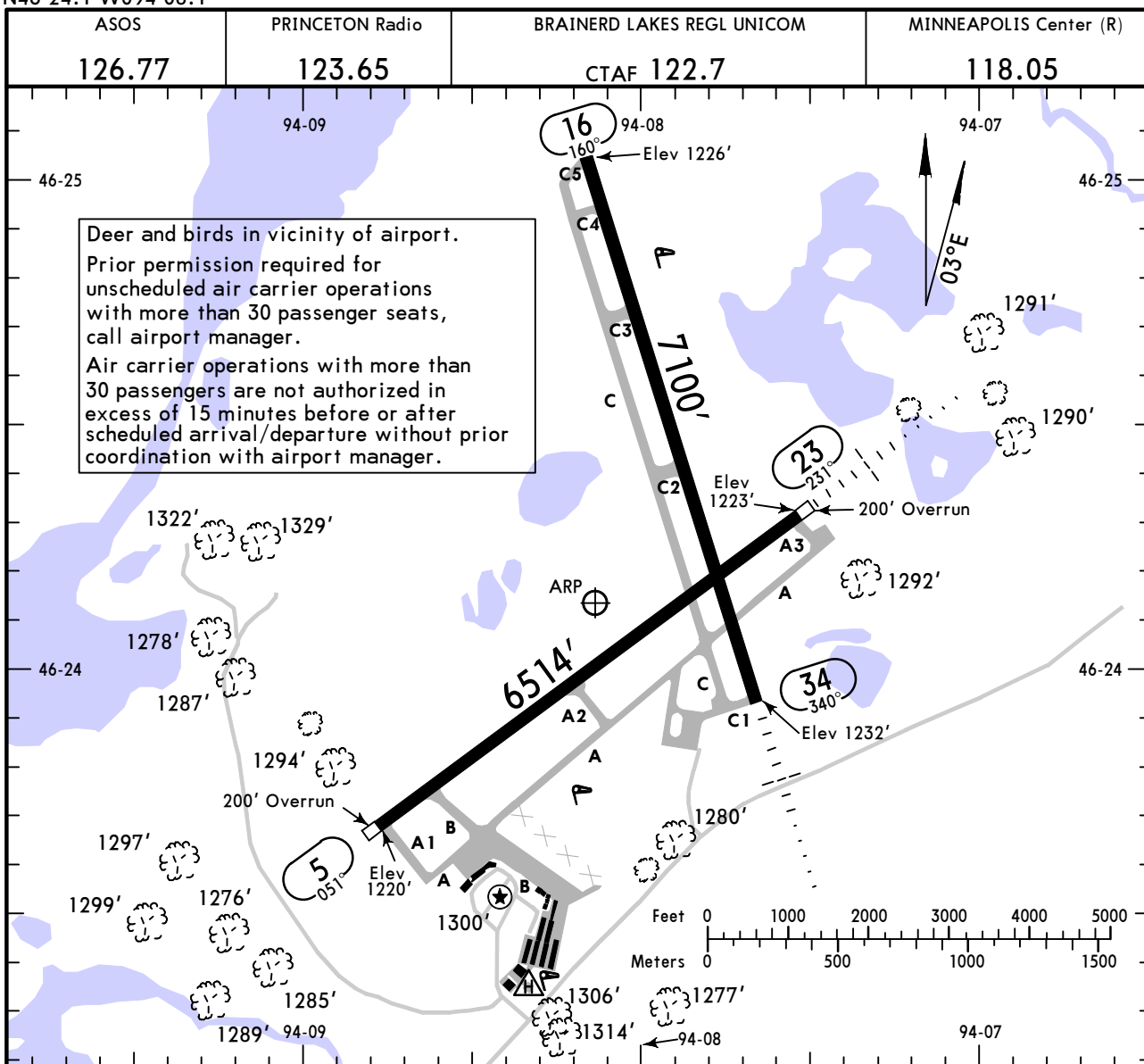
Runway: 16
Length x Width: 7100 ft x 150 ft
Surface Type: concrete
TDZ-Elev: 1226 ft
Lighting: Edge, REIL, Pilot controlled

Runway: 23
Length x Width: 6514 ft x 150 ft
Surface Type: concrete
TDZ-Elev: 1224 ft
Lighting: Edge, ALS, Pilot controlled

Runway: 34
Length x Width: 7100 ft x 150 ft
Surface Type: concrete
TDZ-Elev: 1232 ft
Lighting: Edge, ALS, Pilot controlled

Communication Information

ASOS 126.775
Brainerd Lakes Regional Unicom 122.7 CTAF PCL
Princeton Flight Service Station 123.65 RCO
Minneapolis Center 118.05 Remote Communications Air-Ground



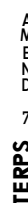
ADDITIONAL RUNWAY INFORMATION

RWY			USABLE LENGTHS		TAKE-OFF	WIDTH
			— LANDING BEYOND —			
			Threshold	Glide Slope		
5		① HIRL ② REIL ② VASI-L				150'
23		① HIRL ② MALSR ② PAPI-L (angle 3.0°)		5565'		
16		① HIRL ② REIL ② PAPI-L (angle 3.0°) grooved				150'
34		① HIRL ② MALSR ② PAPI-R (angle 3.0°) grooved		5472'		

- ① Increase intensity on 122.7.
② Activate on 122.7.

TAKE-OFF			FOR FILING AS ALTERNATE		
All Rwy's			Authorized Only When Local Weather Available		
Adequate Vis Ref		STD	ILS Rwy 23		Other
1 & 2 Eng	1/4	1	600-2	800-2	NA
3 & 4 Eng		1/2			

BRIEFING STRIP TM

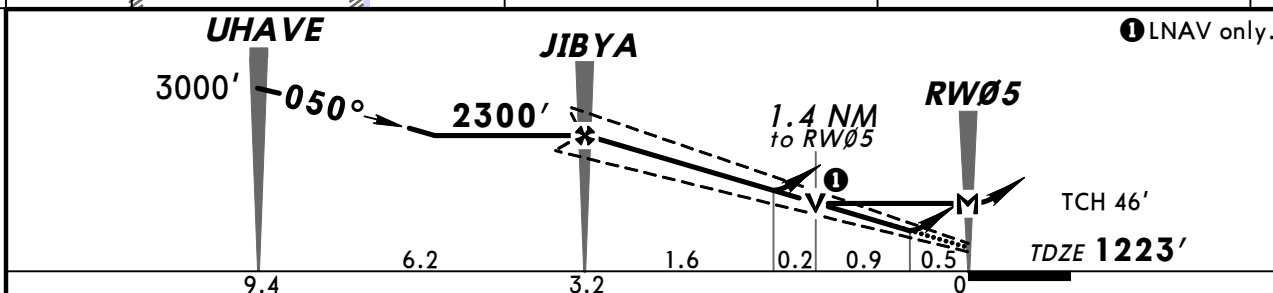
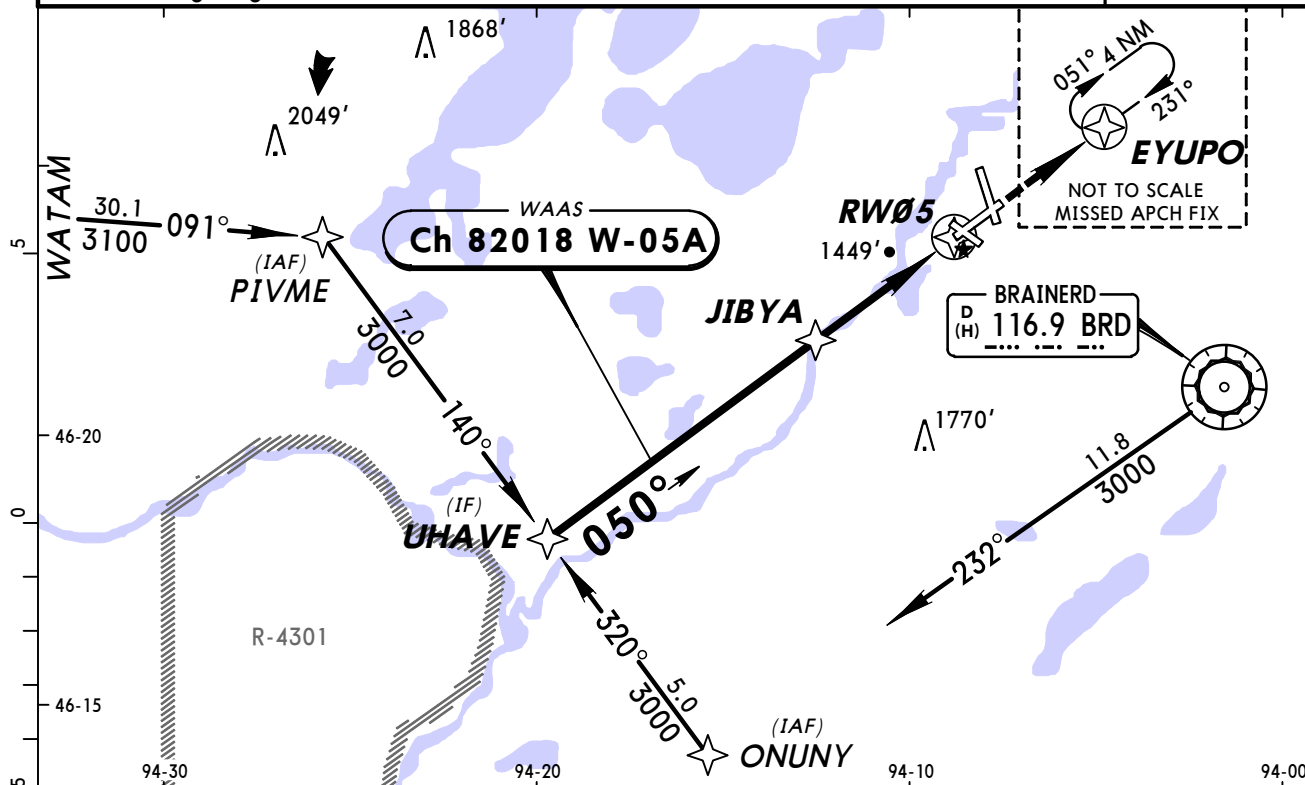
TERPS 7TERPS 7

TERPS 7



BRIEFING STRIP™

ASOS 126.77	MINNEAPOLIS Center (R) 118.05	PRINCETON Radio 123.65	BRAINERD LAKES REGL UNICOM CTAF 122.7
WAAS Ch 82018 W-05A	Final Apch Crs 050°	Minimum Alt JIBYA 2300' (1077')	LPV DA(H) (CONDITIONAL) 1423' (200')
Apt Elev 1232' TDZE 1223'			
MISSED APCH: Climb to 3000' direct EYUPO and hold.			
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000' 1. Use local altimeter setting; if not received, use Aitkin Mun-Kurtz altimeter setting. 2. VDP not authorized when using Aitkin Mun-Kurtz altimeter setting. 3. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -17°C (2°F) or above 45°C (113°F). 4. DME/DME RNP-0.30 not authorized. 5. Visibility reduction by helicopters not authorized. 6. Procedure not authorized when R-4301 is active. 7. Baro-VNAV not authorized when using Aitkin Mun-Kurtz altimeter setting. 8. Pilot controlled lighting 122.7.			
3100' MSA RW05			



Gnd speed-Kts	70	90	100	120	140	160					
Glide Path Angle 3.00°	372	478	531	637	743	849					
MAP at RW05											

STRAIGHT-IN LANDING RWY 5					CIRCLE-TO-LAND	
LPV		LNAV/VNAV		LNAV		
DA(H) 1423' (200')		DA(H) 1776' (553')		MDA(H) 1700' (477')		
A	3/4	2	1	Max Kts 90	1760' (528')-1	
B				120		
C				140		
D				165		
LPV		LNAV/VNAV		LNAV		
DA(H) 1475' (252')		DA(H) 1828' (605')		MDA(H) 1760' (537')		
A	1	2 1/4	1	Max Kts 90	1820' (588')-1	
B				120		
C				140		
D				165		

BRAINERD, MINN
RNAV (GPS) Rwy 23

BRIEFING STRIP TM



② LNAV only.

RW23

1.5 NM to RW23

CUXUR

3000'

EYUPO

231° 051° 231°

3000'

4 NM

TCH 50'

TDZE 1224'

0 0.2 0.6 3.8 5.3 6.1 11.4

STRAIGHT-IN LANDING RWY 23								CIRCLE-TO-LAND			
1 LPV			2 LNAV/VNAV		3 LNAV			With Local Altimeter Setting		With Aitkin Mun-Kurtz Altimeter Setting	
DA(H) 1501'(277')			DA(H) 1573'(349')		MDA(H) 1760'(536')			Max Kts	MDA(H)		
RAIL or ALS out			RAIL or ALS out		RAIL out ALS out				MDA(H)		
A	1/2	1	3/4	1 1/4	1/2	3/4	1	90	1760'(528')-1	1820'(588')-1	
B								120			
C							1	1 1/2	140	1760'(528')-1 1/2	1820'(588')-1 1/2
D							1 1/4	1 3/4	165	1800'(568')-2	1860'(628')-2

AMEND 0
TERPS

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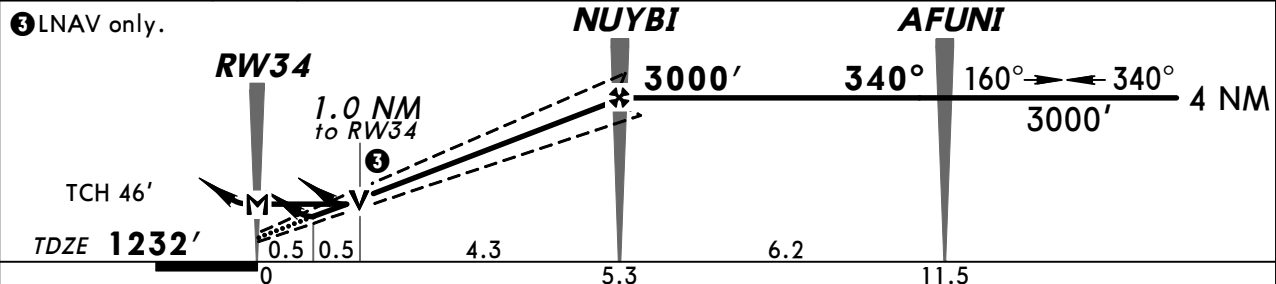
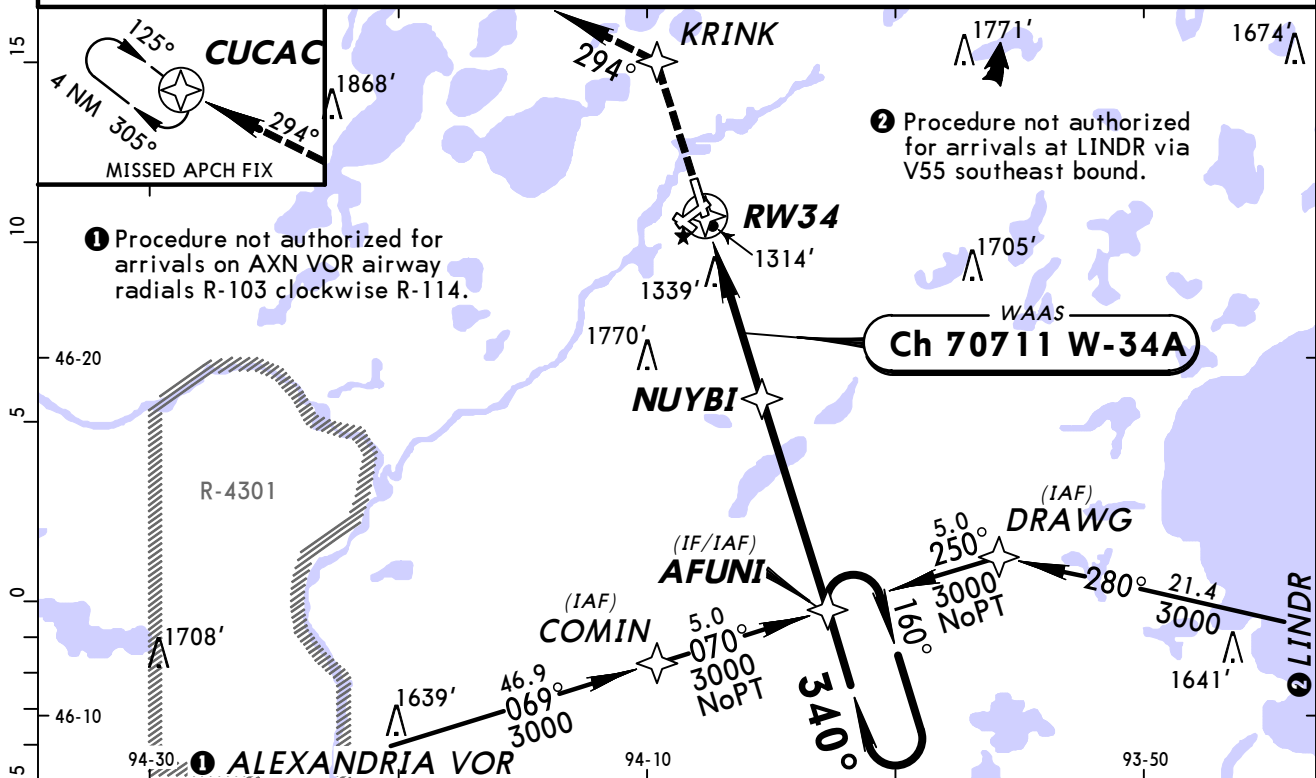
KBRD/BRD BRAINERD LAKES REGL

JEPPesen
17 FEB 12 (12-3)

BRAINERD, MINN
RNAV (GPS) Rwy 34

ASOS 126.77	MINNEAPOLIS Center (R) 118.05	PRINCETON Radio 123.65	BRAINERD LAKES REGL UNICOM CTAF 122.7
WAAS Ch 70711 W-34A	Final Apch Crs 340°	Minimum Alt NUYBI 3000' (1768')	LPV DA(H) (CONDITIONAL) 1432' (200')
Apt Elev 1232' TDZE 1232'			
MISSED APCH: Climb to 3300' direct KRINK and via 294° track to CUCAC and hold.			
MSA RW34			

Alt Set: INCHES Trans level: FL 180 Trans alt: 18000'
1. Use local altimeter setting; if not received, use Aitkin Mun-Kurtz altimeter setting. 2. Baro-VNAV and VDP not authorized when using Aitkin Mun-Kurtz altimeter setting. 3. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -17°C (2°F) or above 46°C (114°F). 4. DME/DME RNP-0.30 not authorized. 5. Pilot controlled lighting 122.7.



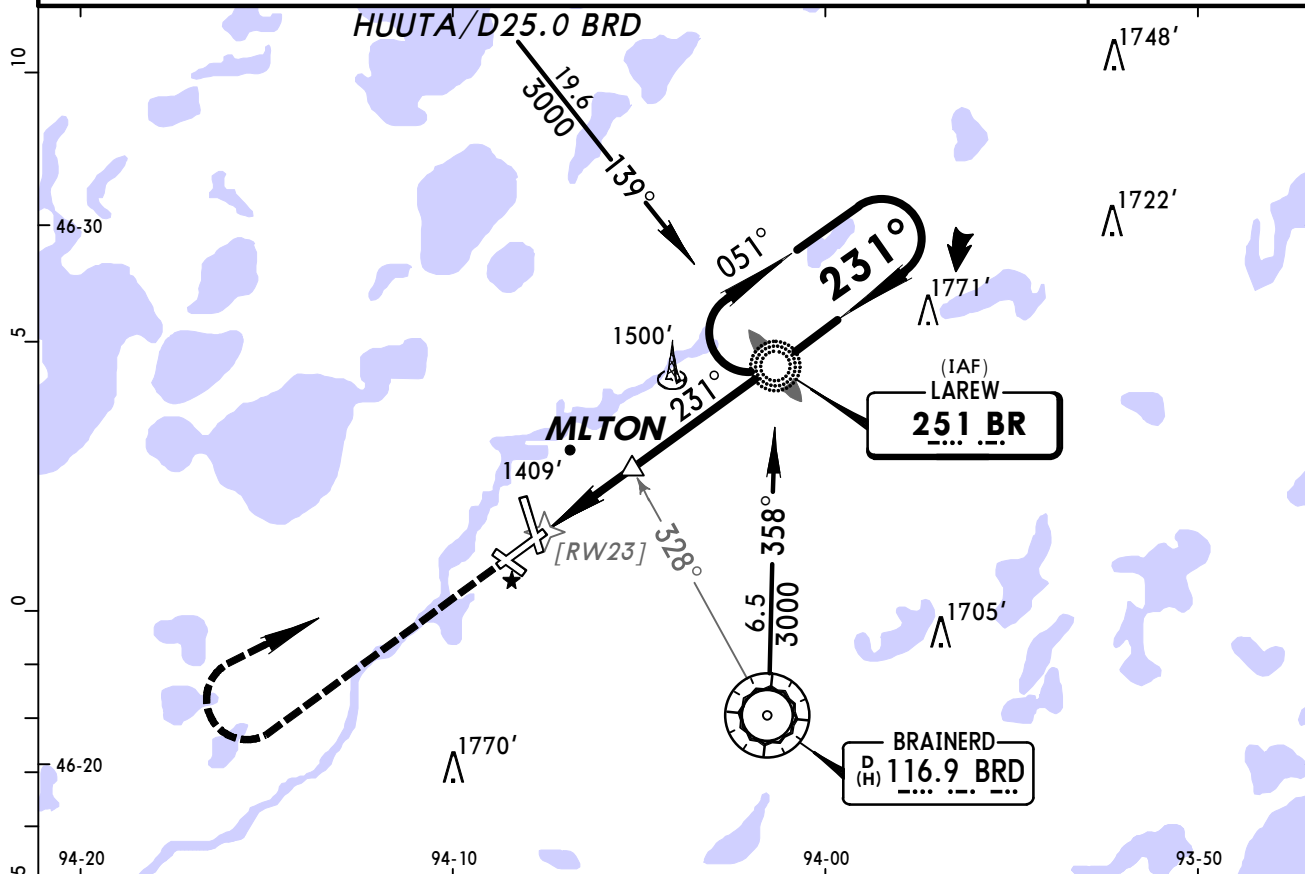
Grnd speed-Kts	70	90	100	120	140	160	MALSR	3300'	PAPI	KRINK
Glide Path Angle 3.00°	372	478	531	637	743	849				
MAP at RW34										

STRAIGHT-IN LANDING RWY 34								CIRCLE-TO-LAND			
With Local Altimeter Setting								With Local Altimeter Setting			
LPV		LNAV/VNAV		LNAV							
DA(H) 1432' (200')		DA(H) 1584' (352')		MDA(H) 1600' (368')				Max Kts	MDA(H)		
RAIL or ALS out		RAIL or ALS out		RAIL out		ALS out					
A	1/2	3/4	3/4	1 1/4	1/2	3/4	1	90	1760' (528') - 1		
B								120			
C										140	1760' (528') - 1 1/2
D					1	1 1/4				165	1800' (568') - 2
With Aitkin Mun-Kurtz Altimeter Setting								With Aitkin Mun-Kurtz Altimeter Setting			
DA(H) 1484' (252')		DA(H) 1636' (404')		MDA(H) 1660' (428')				Max Kts	MDA(H)		
RAIL or ALS out		RAIL or ALS out		RAIL out		ALS out					
A	1/2	3/4	1	1 1/2	1/2	3/4	1	90	1820' (588') - 1		
B								120			
C										140	1820' (588') - 1 1/2
D										165	1860' (628') - 2

CHANGES: Chart reindexed.

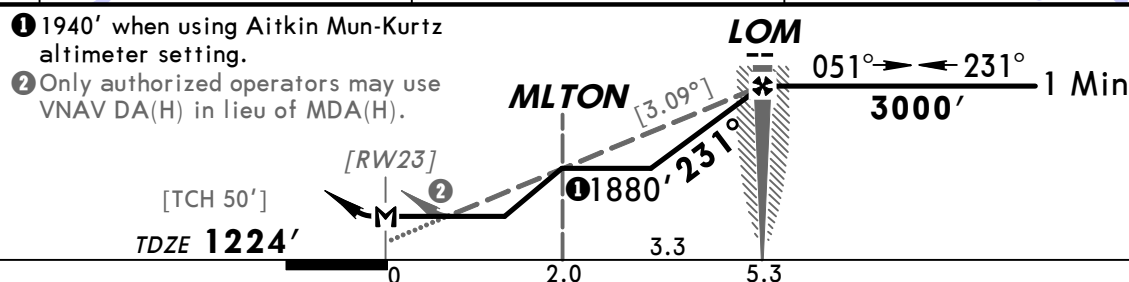
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ASOS 126.77	MINNEAPOLIS Center (R) 118.05	PRINCETON Radio 123.65	BRainerd LAKES REGL UNICOM CTAF 122.7
LOM BR 251	Final Apch Crs 231°	Minimum Alt LOM 3000' (1776')	MDA(H) (CONDITIONAL) 1720' (496')
MISSED APCH: Climb to 3000' then RIGHT turn direct BR LOM and hold.			
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000'			
1. Use local altimeter setting; if not received, use Aitkin Mun-Kurtz altimeter setting. 2. Pilot controlled lighting 122.7.			
3100'			
MSA BR LOM			



① 1940' when using Aitkin Mun-Kurtz altimeter setting.

② Only authorized operators may use VNAV DA(H) in lieu of MDA(H).



Gnd speed-Kts	70	90	100	120	140	160	MALSR PAPI	3000'	RT	D	BR 251
Descent angle [3.09°]	383	492	547	656	765	875					
LOM to MAP	5.3	4:33	3:32	3:11	2:39	2:16					

STRAIGHT-IN LANDING RWY 23						CIRCLE-TO-LAND					
With MLTON			Without MLTON			With MLTON		Without MLTON			
With Local Altimeter Setting						Max Kts	With Local Altimeter Setting				
MDA(H) 1720' (496')			MDA(H) 1880' (656')				MDA(H)		MDA(H)		
							1760'(528')-1		1880'(648')-1		
With Aitkin Mun-Kurtz Altimeter Setting						120	1760'(528')-1½		1880'(648')-1¾		
MDA(H) 1780' (556')			MDA(H) 1940' (716')			140	1800'(568')-2		1880'(648')-2		
		RAIL out	ALS out			165					
A	¾		1	¾		Max Kts	With Aitkin Mun-Kurtz Altimeter Setting				
B							MDA(H)		MDA(H)		
C	¾	1¼		1¼	1¾		1820'(588')-1		1940'(708')-1		
D	1¼	1½		1¾	2		1820'(588')-1½		1940'(708')-1¾		
						140	1860'(628')-2		1940'(708')-2		
						165					

General Information

Location: Duluth MN USA
IATA Code: DLH
Lat/Long: N46° 50.5' W092° 11.6'
Elevation: 1428 ft

Airport Use: Public
Magnetic Variation: 0.6°W
Sectional Chart: Green Bay

Fuel Types: 100 Octane (LL), Jet A+
Oxygen Types: High Pressure, Low Pressure, HP Bottle, LP Bottle
Repair Types: Major Airframe, Major Engine
Customs: ADCUS
Airport Type: IFR
Landing Fee: Yes
Control Tower: Yes
Jet Start Unit: Yes
LLWS Alert: No
Beacon: Yes

Sunrise: 1253 Z
Sunset: 2351 Z,

Runway Information

Runway: 03
Length x Width: 5718 ft x 150 ft
Surface Type: asphalt
TDZ-Elev: 1420 ft
Lighting: Edge, REIL

Runway: 09
Length x Width: 10162 ft x 150 ft
Surface Type: concrete
TDZ-Elev: 1428 ft
Lighting: Edge, ALS, Centerline, TDZ

Runway: 21
Length x Width: 5718 ft x 150 ft
Surface Type: asphalt
TDZ-Elev: 1420 ft
Lighting: Edge, REIL

Runway: 27
Length x Width: 10162 ft x 150 ft
Surface Type: concrete
TDZ-Elev: 1421 ft
Lighting: Edge, ALS, Centerline, TDZ

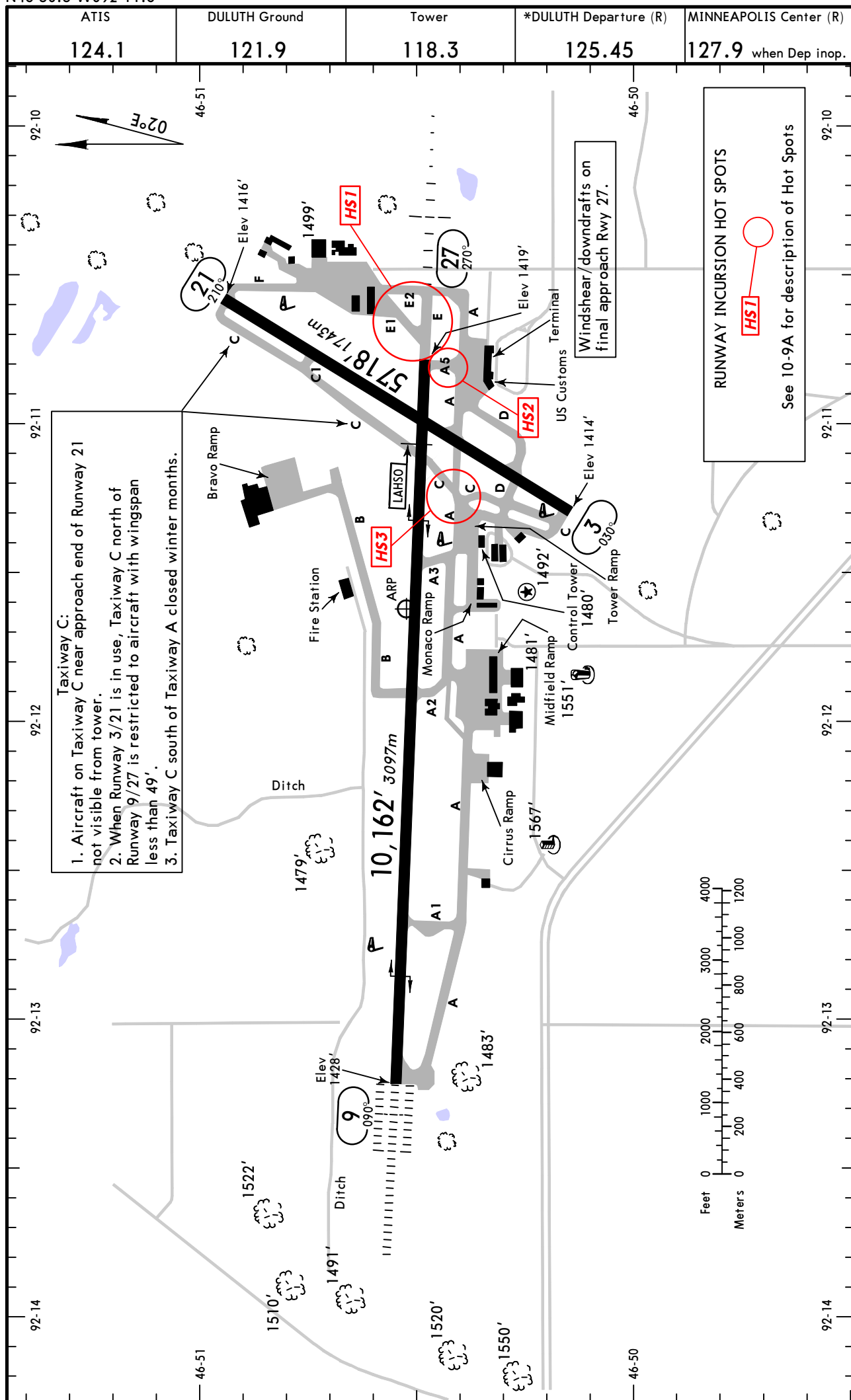
Communication Information

ATIS 124.1
Duluth Tower 118.3
Duluth Ground Control 121.9
Duluth Approach Control 125.45
Duluth Approach Control 122.15
Duluth Departure Control 125.45
Duluth Departure Control 122.15
Duluth Intl Unicom 122.95
Duluth Radar 125.45
Princeton Flight Service Station 122.35 RCO
AIR Guard Airlift Command Post 673.5 Military
Minneapolis Center 127.9 Remote Communications Air-Ground

KDLH/DLH
Apt Elev 1428'
N46 50.5 W092 11.6

JEPPESSEN
28 MAY 10 10-9 Eff 3 Jun

DULUTH, MINN
DULUTH INTL



CHANGES: None.

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GENERAL

CAUTION: Deer and birds in vicinity of airport.
High speed military jet traffic at 3000' to 3300' MSL in area.

ADDITIONAL RUNWAY INFORMATION

RWY		LANDING BEYOND		LAHSO Distance	TAKE- OFF	WIDTH
		Threshold	Glide Slope			
3	HIRL REIL PAPI-L (angle 3.0°) grooved					150'
21	HIRL REIL VASI-L grooved					46m

9	HIRL CL ALSF-II TDZ ② PAPI-L RVR	9007' 2745m	3/21 8950' 2728m	150'
① 27	HIRL CL MALSR PAPI-L (angle 3.0°) RVR	8568' 2612m		46m

① Grooved

② Angle 3.0°.

RUNWAY INCURSION HOT SPOTS **HS1**

For information only, not to be construed as ATC instructions.

HS1 Aircraft/vehicular traffic on Taxiways E-1, E-2 and E should be alert. Signage indicates RWY 27 APCH. Taxiway E is in the safety area for Runway 9-27.

HS2 Approach end of Runway 27 located at Taxiway A5.

HS3 Complex intersection. Be alert when taxiing to Runway 21 via Taxiway A and Taxiway C.

TAKE-OFF

Rwys 9, 27

Both RVRs are required and controlling		Adequate Vis Ref	STD	
CL & HIRL	CL, or RCLM & HIRL		3 & 4 Eng	1 & 2 Eng
TDZ RVR 5 Rollout RVR 5	TDZ RVR 10 Rollout RVR 10	RVR 16 or 1/4	RVR 24 or 1/2	RVR 50 or 1

Rwys 3, 21

Adequate Vis Ref	STD	
	3 & 4 Eng	1 & 2 Eng
1/4	1/2	1

FOR FILING AS ALTERNATE

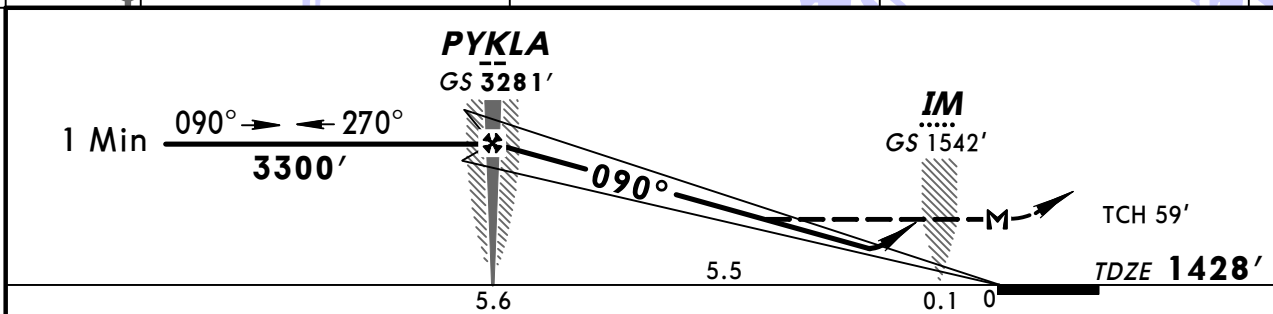
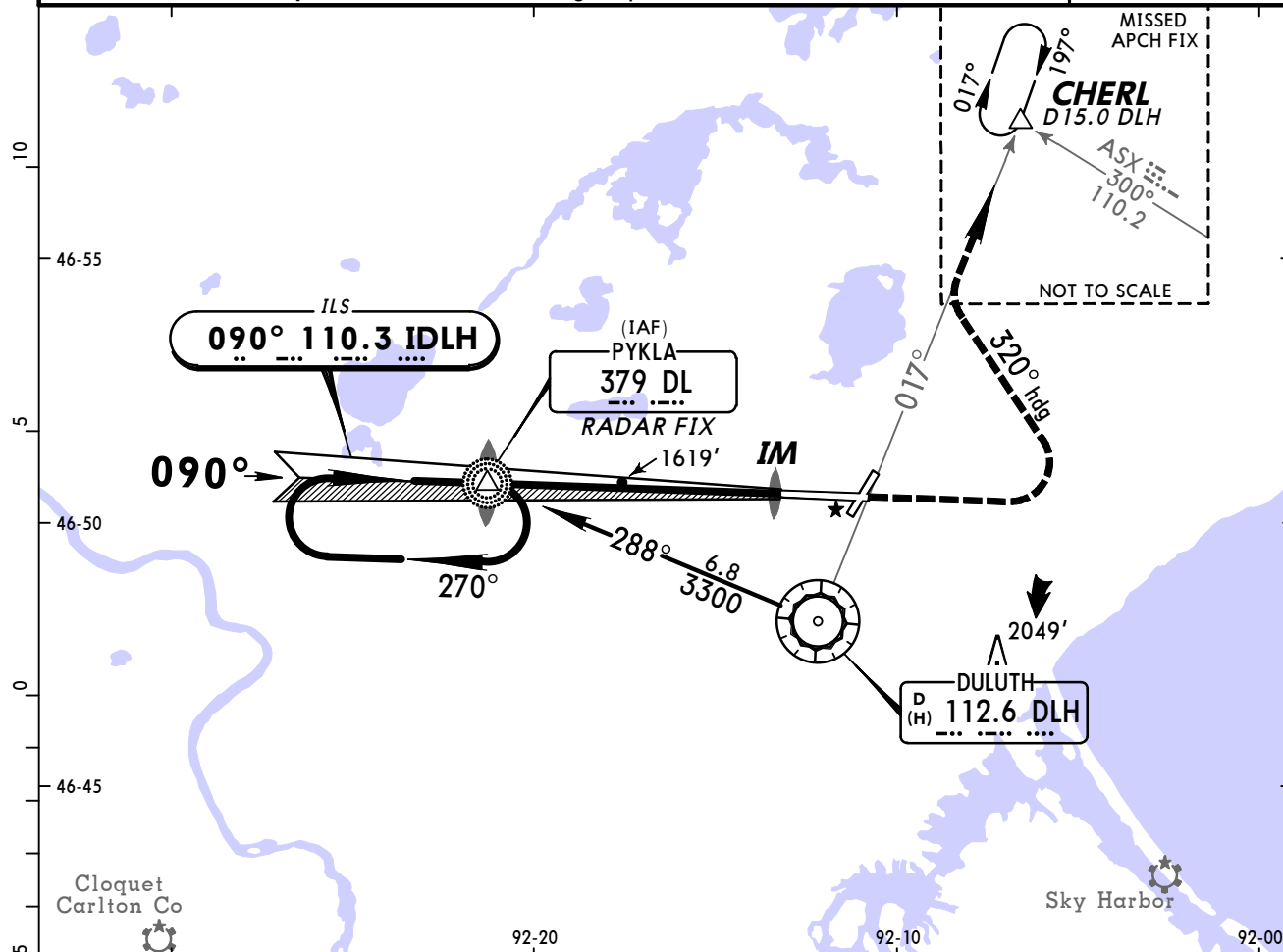
ILS Rwy 9 ILS Rwy 27		LOC Rwy 9 LOC Rwy 27 VOR Rwy 3 VOR DME Rwy 21 RADAR-1	RNAV (GPS) Rwy 3 RNAV (GPS) Rwy 9 RNAV (GPS) Rwy 21 RNAV (GPS) Rwy 27
A	600-2	800-2	
B			
C			
D			

KDLH/DLH DULUTH INTL

28 MAY 10 **11-1** **Eff 3 Jun**

DULUTH, MINN
ILS or LOC Rwy 9

ATIS 124.1	*DULUTH Approach (R) 125.45	MINNEAPOLIS Center (R) 127.9 when App inop.	DULUTH Tower 118.3	Ground 121.9
LOC IDLH 110.3	Final Apch Crs 090°	GS PYKLA 3281' (1853')	ILS DA(H) 1628' (200')	Apt Elev 1428' TDZE 1428'
MISSED APCH: Climb to 3000' then climbing LEFT turn to 4500' via 320° heading and outbound on DLH VOR R-017 to CHERL INT/D15.0 DLH and hold.				
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000' 1. ADF or RADAR required. 2. VGSI and ILS glidepath not coincident.				
				3100' MSA DL LOM



Gnd speed-Kts	70	90	100	120	140	160	ALSF-II	3000'	4500'	320°	DLH
GS	3.00°	377	484	538	646	753	PAPI	↑	↙	via	112.6
PYKLA to MAP	5.6	4:48	3:44	3:22	2:48	2:24			LT	hdg	R-017

STRAIGHT-IN LANDING RWY 9				CIRCLE-TO-LAND	
ILS			LOC (GS out)		Max Kts
DA(H) 1628' (200')			MDA(H) 1880' (452')		90
FULL	TDZ or CL out	ALS out	ALS out		120
A			RVR 24 or 1/2	RVR 50 or 1	1920' (492') - 1
B					
C	RVR 18 or 1/2	RVR 24 or 1/2	RVR 40 or 3/4	RVR 60 or 1 1/4	140 1920' (492') - 1 1/2
D			RVR 50 or 1	1 1/2	165 1980' (552') - 2

CHANGES: Notes, missed approach.

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TERPS AMEND 21 3 JUN 2010

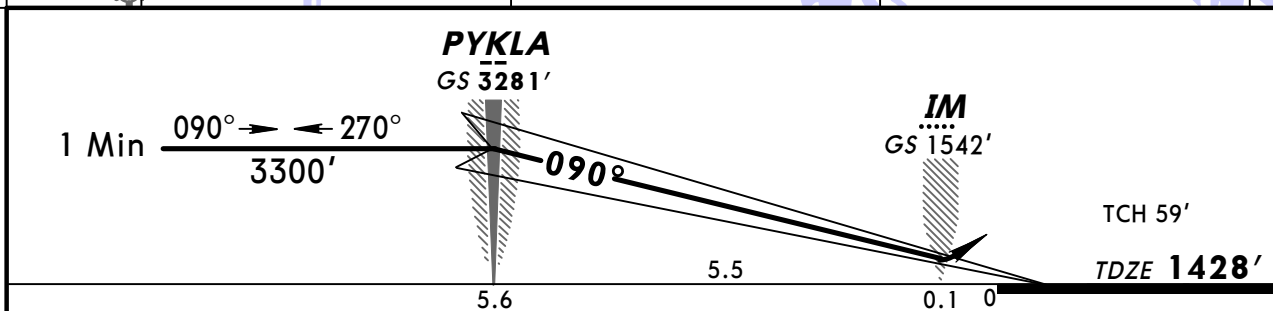
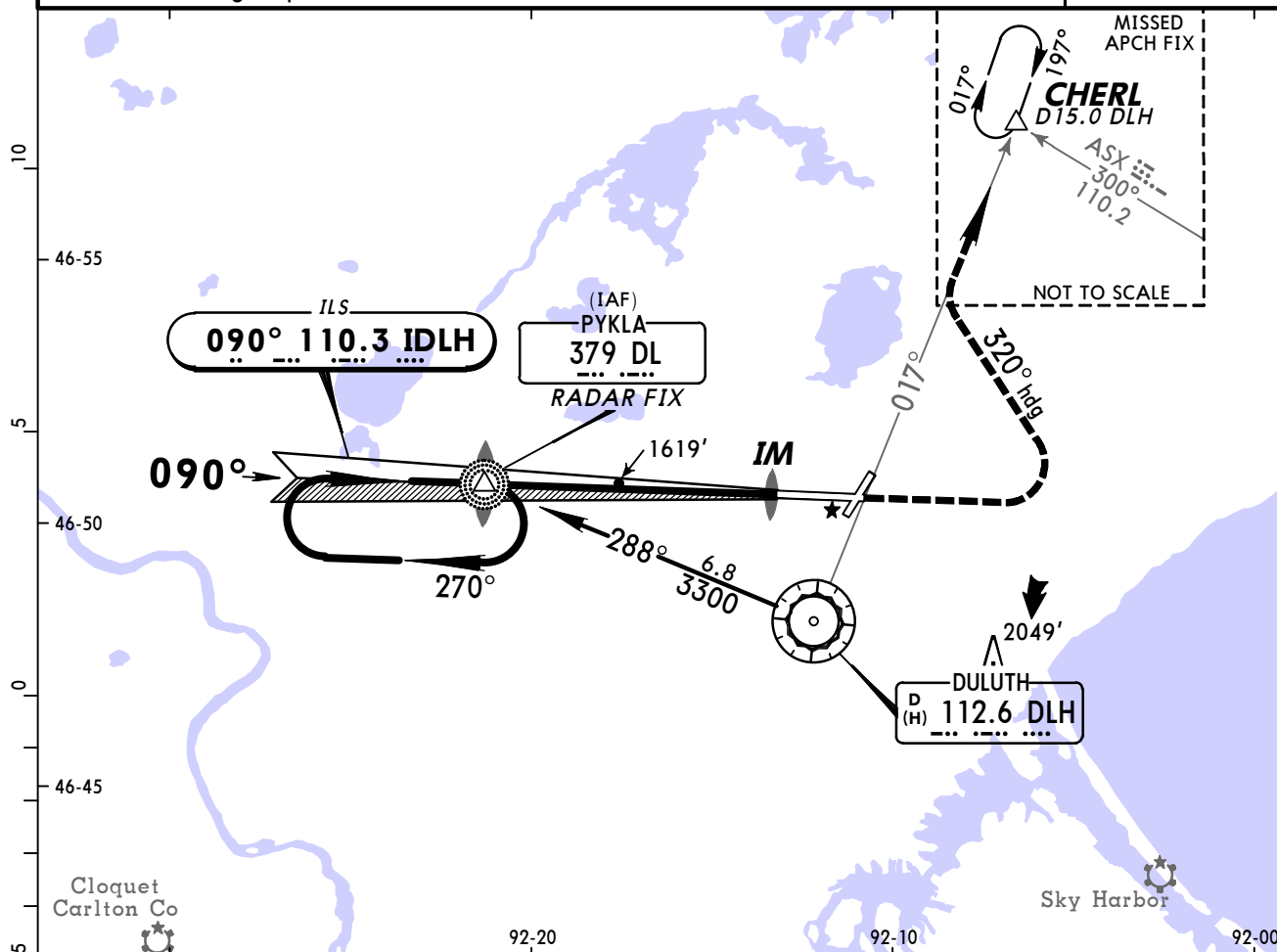
KDLH/DLH DULUTH INTL

28 MAY 10 **11-1A** Eff 3 Jun

DULUTH, MINN
ILS Rwy 9 CAT II

BRIEFING STRIP™

ATIS 124.1	*DULUTH Approach (R) 125.45	MINNEAPOLIS Center (R) 127.9 when App inop.	DULUTH Tower 118.3	Ground 121.9
LOC IDLH 110.3	Final Apch Crs 090°	GS PYKLA 3281' (1853')	CAT II ILS RA 101' DA(H) 1528' (100')	Apt Elev 1428' TDZE 1428'
MISSED APCH: Climb to 3000' then climbing LEFT turn to 4500' via 320° heading and outbound on DLH VOR R-017 to CHERL INT/D15.0 DLH and hold.				
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000' 1. Special Aircrew & Acft Certification Required. 2. ADF or RADAR required. 3. VGSI and ILS glidepath not coincident.				
				3100' MSA DL LOM



Gnd speed-Kts	70	90	100	120	140	160	ALSF-II	3000'	4500'	320°	DLH
GS	3.00°	377	484	538	646	753	PAPI	↑	←	hdg	112.6
											R-017

STRAIGHT-IN LANDING RWY 9
CAT II ILS
RA 101'
DA(H) 1528' (100')

RVR 12

TERPS AMEND 21 3 JUN 2010

CHANGES: Notes, missed approach, minimums.

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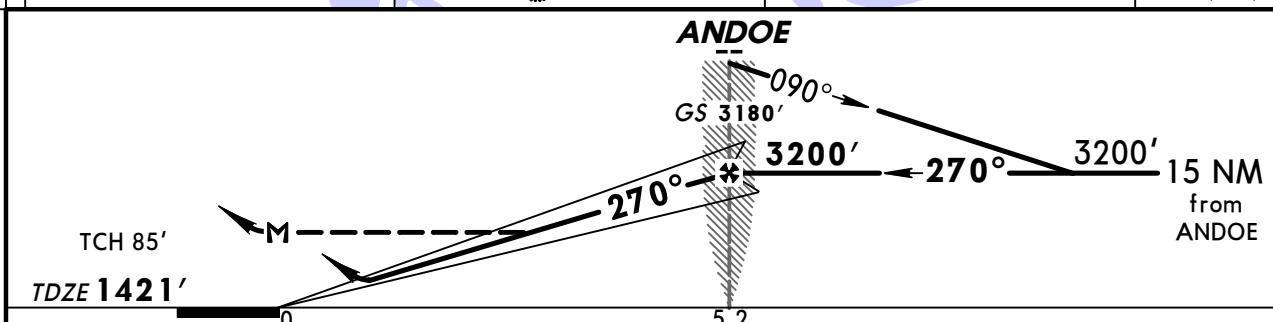
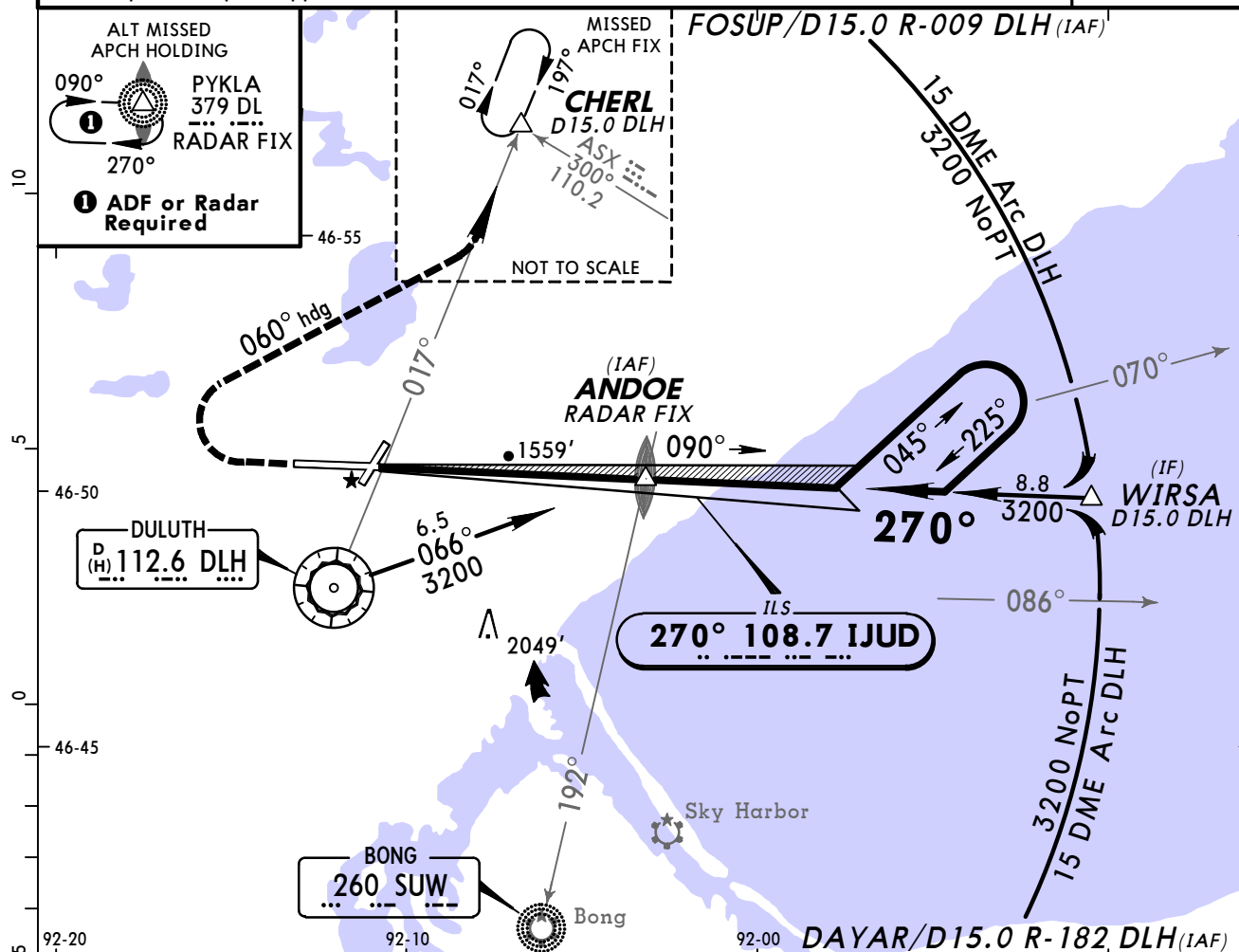
KDLH/DLH DULUTH INTL

JEPPesen
4 FEB 11 (11-2)

DULUTH, MINN
ILS or LOC Rwy 27

BRIEFING STRIP™

ATIS 124.1	*DULUTH Approach (R) 125.45	MINNEAPOLIS Center (R) 127.9 when App inop.	DULUTH Tower 118.3	Ground 121.9
LOC IJUD 108.7	Final Apch Crs 270°	GS ANDOE 3180' (1759')	ILS DA(H) Refer to Minimums	Apt Elev 1428' TDZE 1421'
MISSED APCH: Climb to 3000' then climbing RIGHT turn to 4500' via 060° heading and outbound on DLH VOR R-017 to CHERL INT/D15.0 DLH and hold.				
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000' 1. DME or Radar required. 2. VGSI and ILS glidepath not coincident. 3. Autopilot coupled approach not authorized.				
				3100' MSA DLH VOR



Gnd speed-Kts	70	90	100	120	140	160	MALSR	3000'	4500'	060°	DLH
GS	3.00°	377	484	538	646	753	PAPI	↑	RT	hdg	112.6
ANDOE to MAP	5.2	4:27	3:28	3:07	2:36	2:14	1:57				R-017

STRAIGHT-IN LANDING RWY 27				CIRCLE-TO-LAND	
ILS DA(H) A, B: 1621' (200') C, D: 1651' (230')		LOC (GS out) MDA(H) 1820' (399')		Max Kts	MDA(H)
FULL	RAIL or ALS out	RAIL out	ALS out	90	1920' (492') - 1
A				120	
B				140	1920' (492') - 1½
C	RVR 40 or ¾	RVR 24 or ½	RVR 40 or ¾	165	1980' (552') - 2
D		RVR 40 or ¾	RVR 60 or 1¼		

CHANGES: Notes, minimums.

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TERPS AMEND 9A 10 FEB 2011

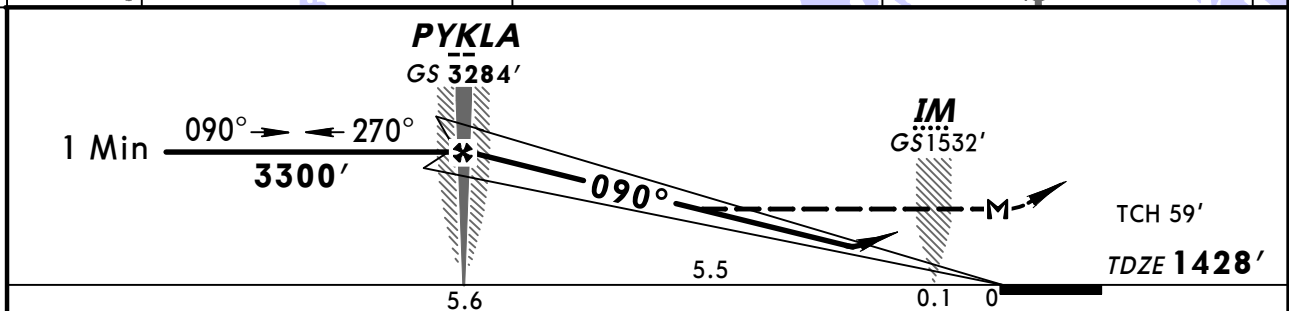
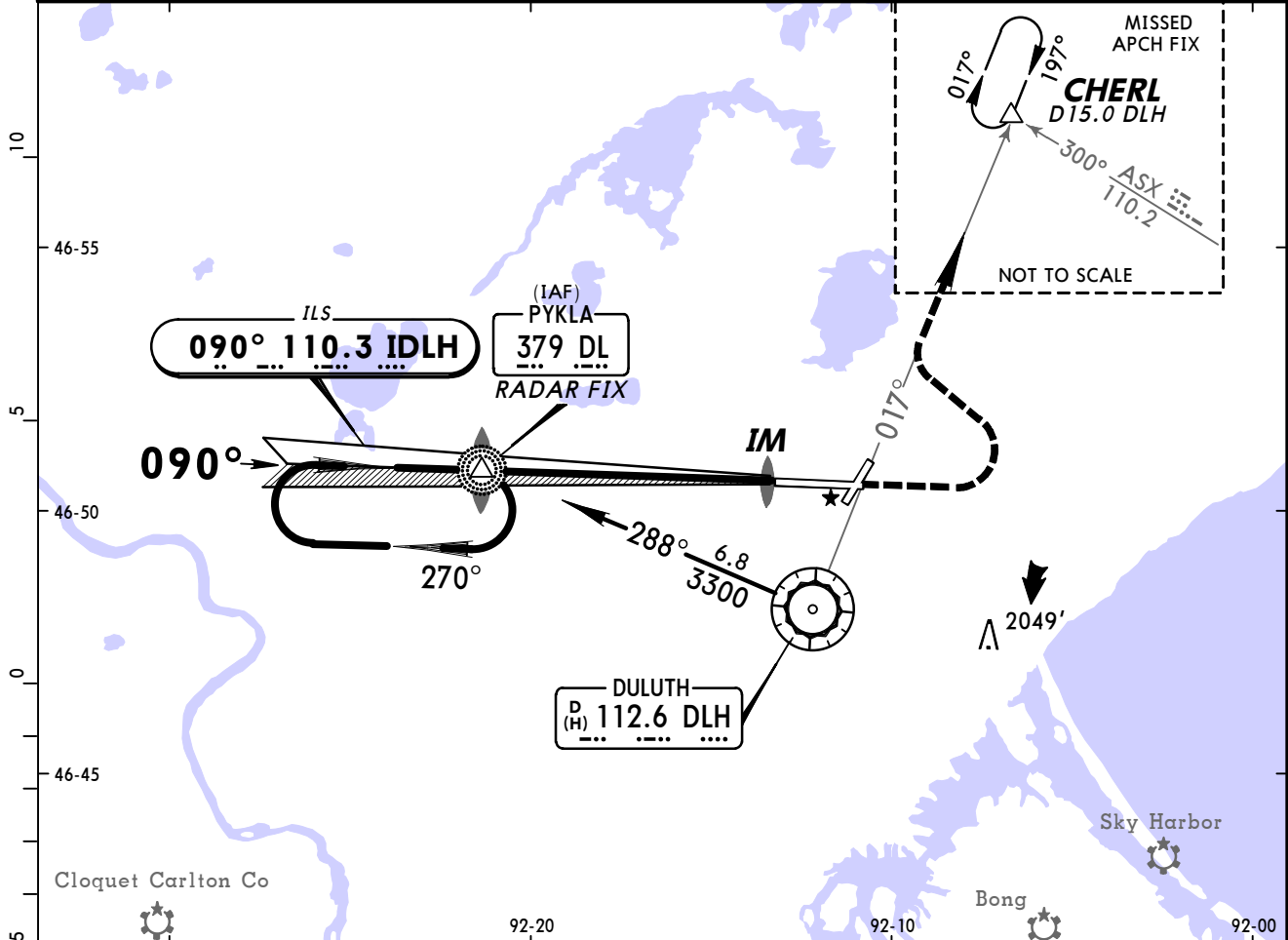
KDLH/DLH DULUTH INTL

JEPPesen
28 MAY 10 **11-3** Eff 3 Jun

DULUTH, MINN COPTER ILS Rwy 9

BRIEFING STRIP

ATIS 124.1		*DULUTH Approach (R) 125.45		MINNEAPOLIS Center (R) 127.9 when App inop.		DULUTH Tower 118.3		Ground 121.9	
LOC IDLH 110.3		Final Apch Crs 090°		GS PYKLA 3284' (1856')		ILS DA(H) 1628' (200')		Apt Elev 1428' TDZE 1428'	
MISSED APCH: Climb to 3000' then climbing LEFT turn to 4500' outbound via DLH VOR R-017 to CHERL INT/D15.0 DLH and hold.									3100' MSA DL LOM
Alt Set: INCHES			Trans level: FL 180			Trans alt: 18000'			
1. ADF or RADAR required.									



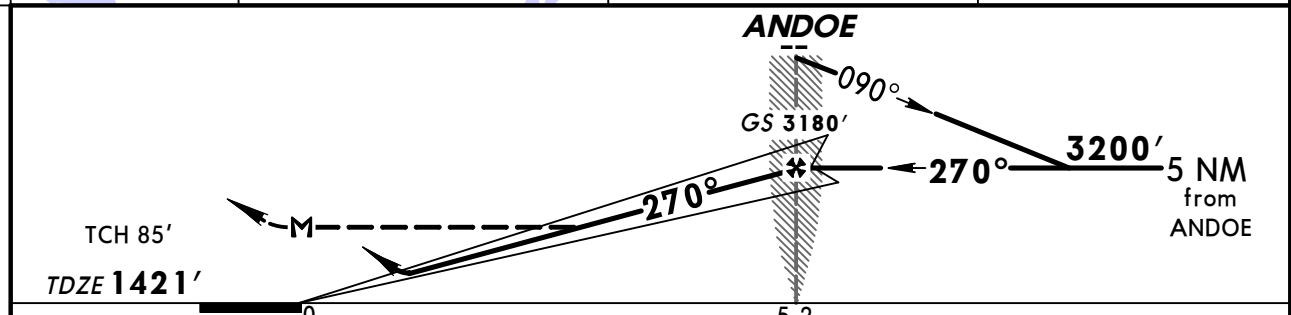
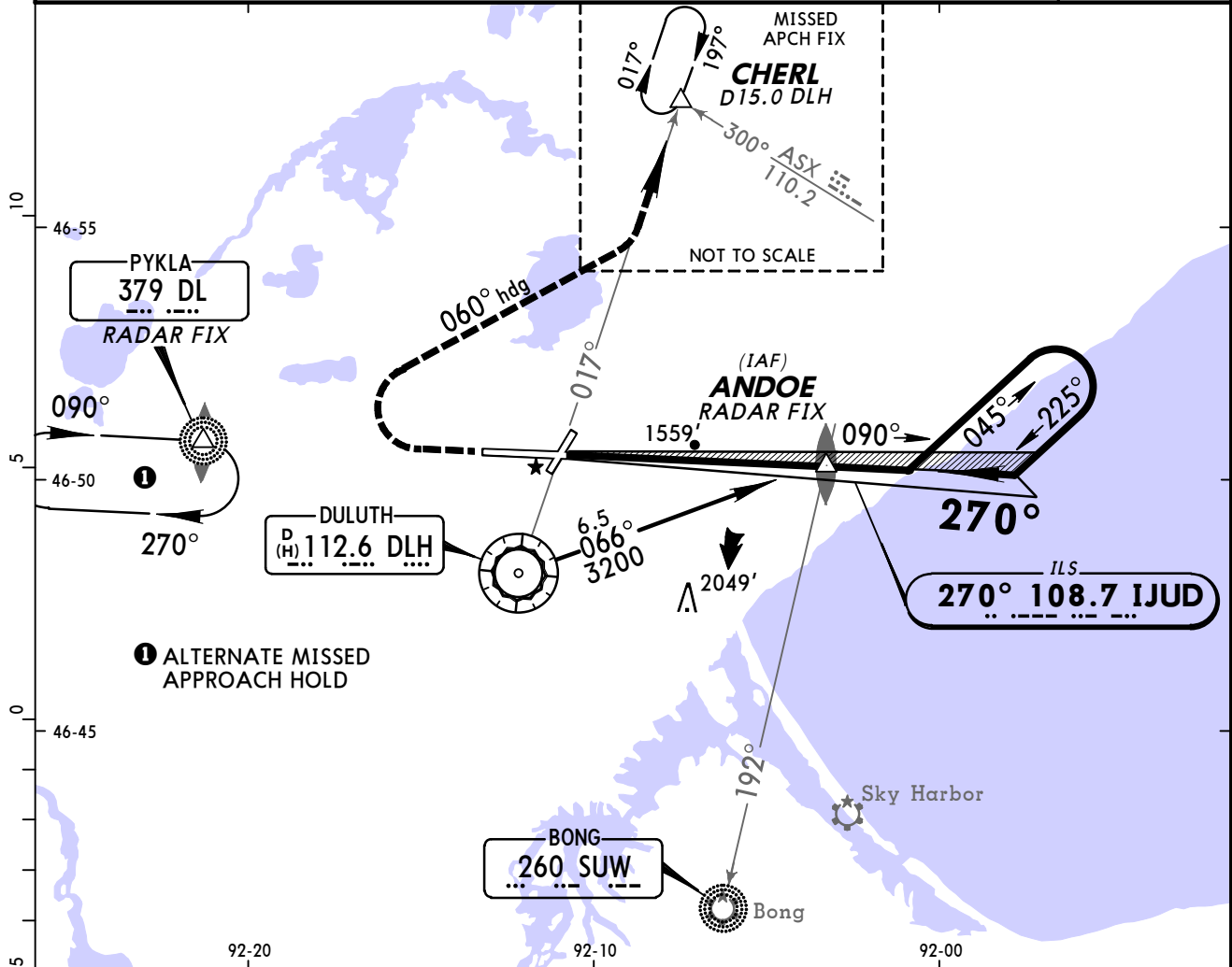
Gnd speed-Kts	70	90	100	120	140	160	ALS F-II	3000'	4500'	DLH	CHERL
GS	3.00°	377	484	538	646	753	PAPI	↑	←	112.6	
PYKLA to MAP 5.6	4:48	3:44	3:22	2:48	2:24	2:06				R-017	

STRAIGHT-IN LANDING RWY 9			
ILS DA(H) 1628' (200')		LOC (GS out) MDA(H) 1880' (452')	
FULL	ALS out	ALS out	ALS out
RVR 12 or 1/4	RVR 24 or 1/2	RVR 12 or 1/4	RVR 24 or 1/2

CHANGES: None.

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ATIS 124.1	*DULUTH Approach (R) 125.45	MINNEAPOLIS Center (R) 127.9 when App inop.	DULUTH Tower 118.3	Ground 121.9
LOC IJUD 108.7	Final Apch Crs 270°	GS ANDOE 3180' (1759')	ILS DA(H) 1621' (200')	Apt Elev 1428' TDZE 1421'
MISSED APCH: Climb to 3000' then climbing RIGHT turn to 4500' via 060° heading and outbound on DLH VOR R-017 to CHERL INT/D15.0 DLH and hold.				
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000'				
1. RADAR required. 2. VGSI and ILS glidepath not coincident.				3100' MSA DLH VOR



Gnd speed-Kts	70	90	100	120	140	160	MALSR	3000'	4500'	060°	DLH
GS	3.00°	377	484	538	646	753	PAPI	↑	via RT	hdg	R-017
ANDOE to MAP	5.2	4:27	3:28	3:07	2:36	2:14	1:57				

STRAIGHT-IN LANDING RWY 27			
ILS		LOC (GS out)	
DA(H) 1621' (200')		MDA(H) 1820' (399')	
FULL	RAIL or ALS out		RAIL or ALS out
RVR 20 or 1/2		RVR 12 or 1/4	
RVR 24 or 1/2			

TERPS AMEND 1 3 JUN 2010

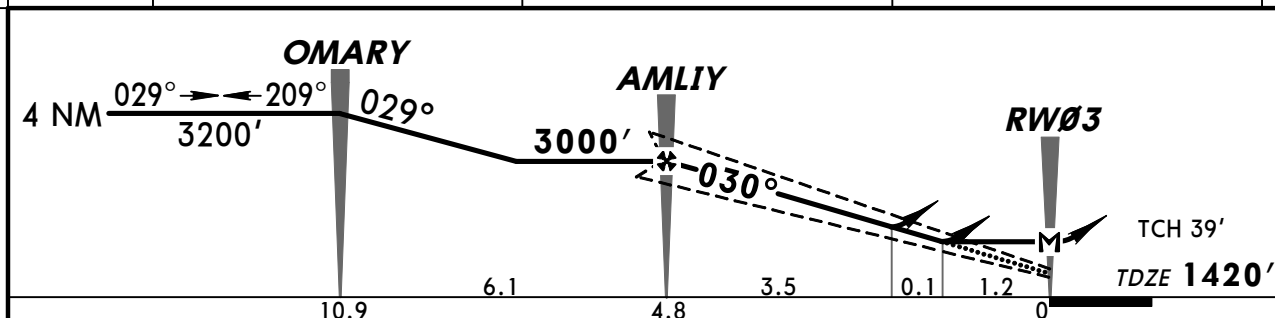
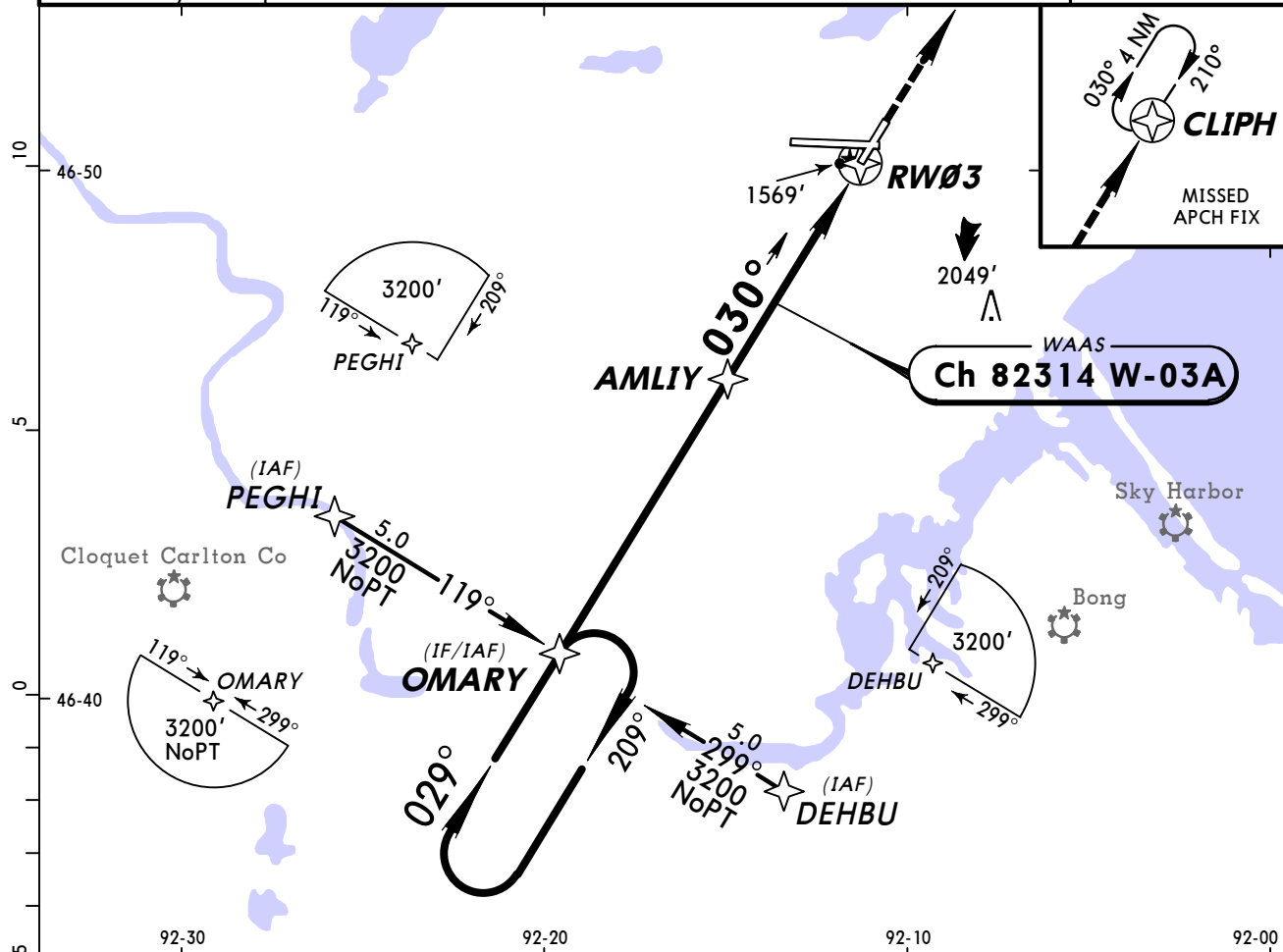
KDLH/DLH
DULUTH INTL

JEPPESSEN
4 FEB 11 **(12-1)**

DULUTH, MINN
RNAV (GPS) Rwy 3

BRIEFING STRIP™

ATIS 124.1	*DULUTH Approach (R) 125.45	MINNEAPOLIS Center (R) 127.9 when App inop.	DULUTH Tower 118.3	Ground 121.9
WAAS Ch 82314 W-03A	Final Apch Crs 030°	Minimum Alt AMLİY 3000' (1580')	LNAV MDA(H) 1820' (400')	Apt Elev 1428' TDZE 1420'
MISSED APCH: Climb to 3200' direct CLIPH and hold.				
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000'				
1. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -17°C (2°F) or above 46°C (114°F). 2. DME/DME RNP-0.30 not authorized. 3. Visibility reduction by helicopters not authorized.				
				TAA 30 NM IAF



Gnd speed-Kts	70	90	100	120	140	160	REIL	3200'	CLIPH
Glide Path Angle	3.00°	372	478	531	637	743	PAPI-L		
MAP at RW03									

STRAIGHT-IN LANDING RWY 3			CIRCLE-TO-LAND	
LPV	LNAV/VNAV	LNAV	Max Kts	MDA(H)
DA(H) 1824' (404')	DA(H) 1874' (454')	MDA(H) 1820' (400')	90	1920' (492') - 1
			120	
			140	1920' (492') - 1½
			165	1980' (552') - 2

TERPS AMEND 0 3 JUN 2010

CHANGES: None.

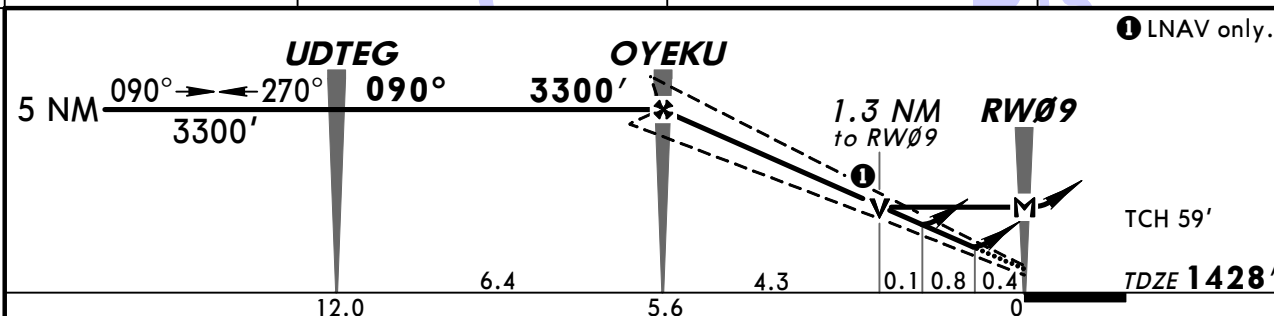
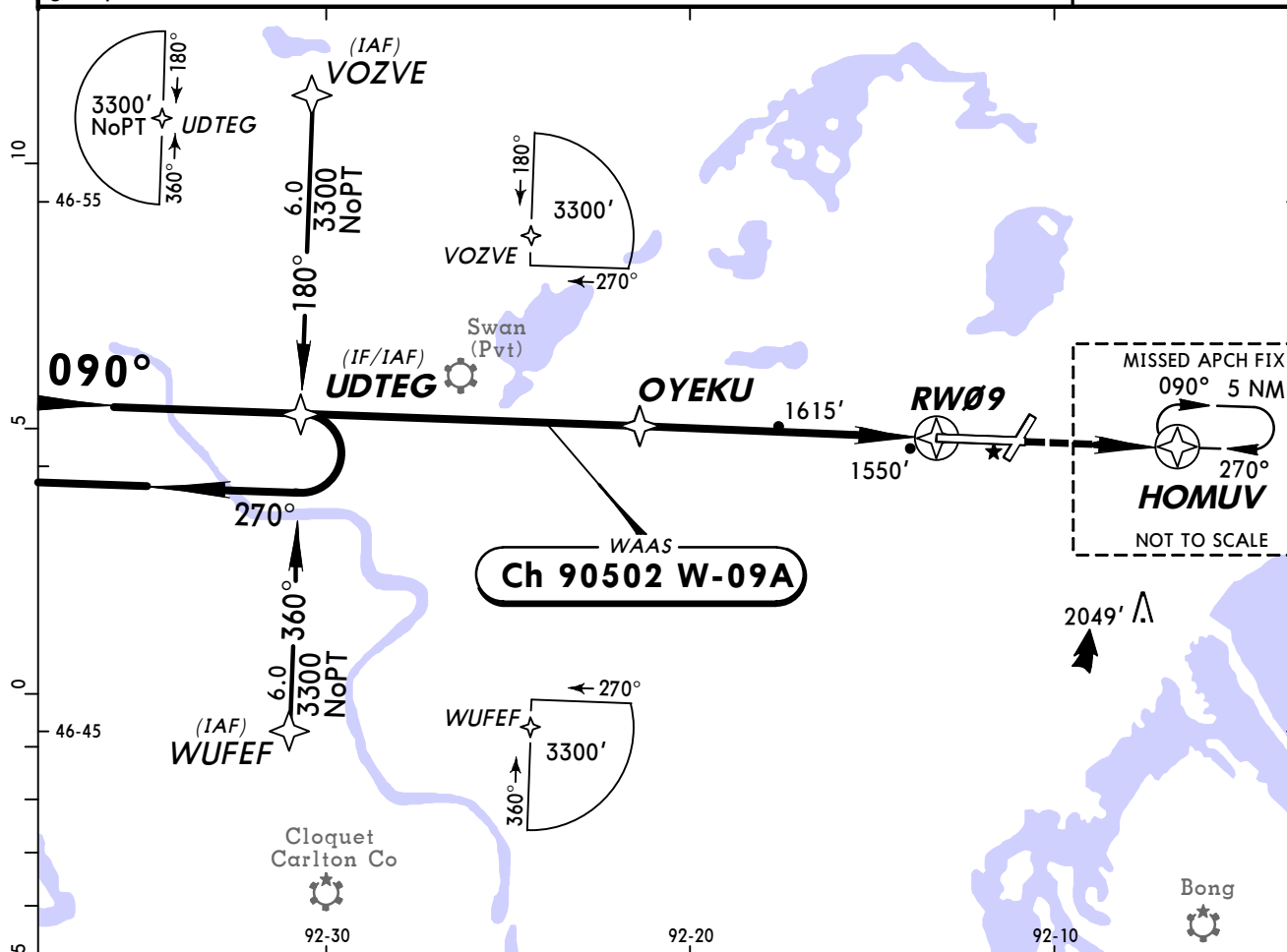
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KDLH/DLH
DULUTH INTL

JEPPESSEN
4 FEB 11 **(12-2)**

DULUTH, MINN
RNAV (GPS) Rwy 9

ATIS 124.1	*DULUTH Approach (R) 125.45	MINNEAPOLIS Center (R) 127.9 when App inop.	DULUTH Tower 118.3	Ground 121.9
WAAS Ch 90502 W-09A	Final Aptch Crs 090°	Minimum Alt OYEKU 3300' (1872')	LPV DA(H) 1628' (200')	Apt Elev 1428' TDZE 1428'
MISSED APCH: Climb to 4000' direct HOMUV and hold.				
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000' 1. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -17°C (2°F) or above 46°C (115°F). 2. DME/DME RNP-0.30 not authorized. 3. VGSI and RNAV glidepath not coincident.				
				TAA 30 NM IAF



Gnd speed-Kts	70	90	100	120	140	160	ALS-II	4000'	HOMUV
Glide Path Angle	3.00°	372	478	531	637	743	PAPI		
MAP at RW09									

STRAIGHT-IN LANDING RWY 9						CIRCLE-TO-LAND	
LPV DA(H) 1628' (200')		LNAV/VNAV DA(H) 1860' (432')		LNAV MDA(H) 1880' (452')		Max Kts	MDA(H)
ALS out		ALS out		ALS out		90	1920'(492')-1
A						120	
B						140	1920'(492')-1 1/2
C	RVR 24 or 1/2	RVR 40 or 3/4	RVR 50 or 1	1 1/2	RVR 24 or 1/2	RVR 50 or 1	
D					RVR 40 or 3/4	RVR 60 or 1 1/4	
					RVR 50 or 1	1 1/2	1980'(552')-2

CHANGES: Minimums.

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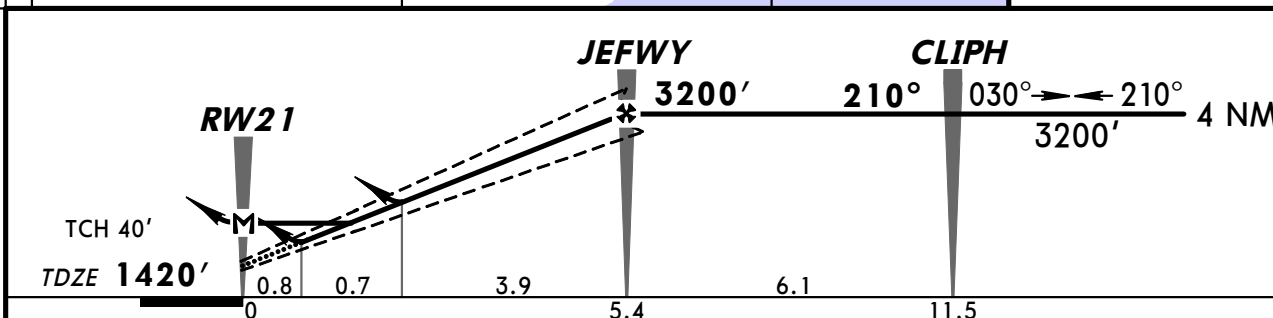
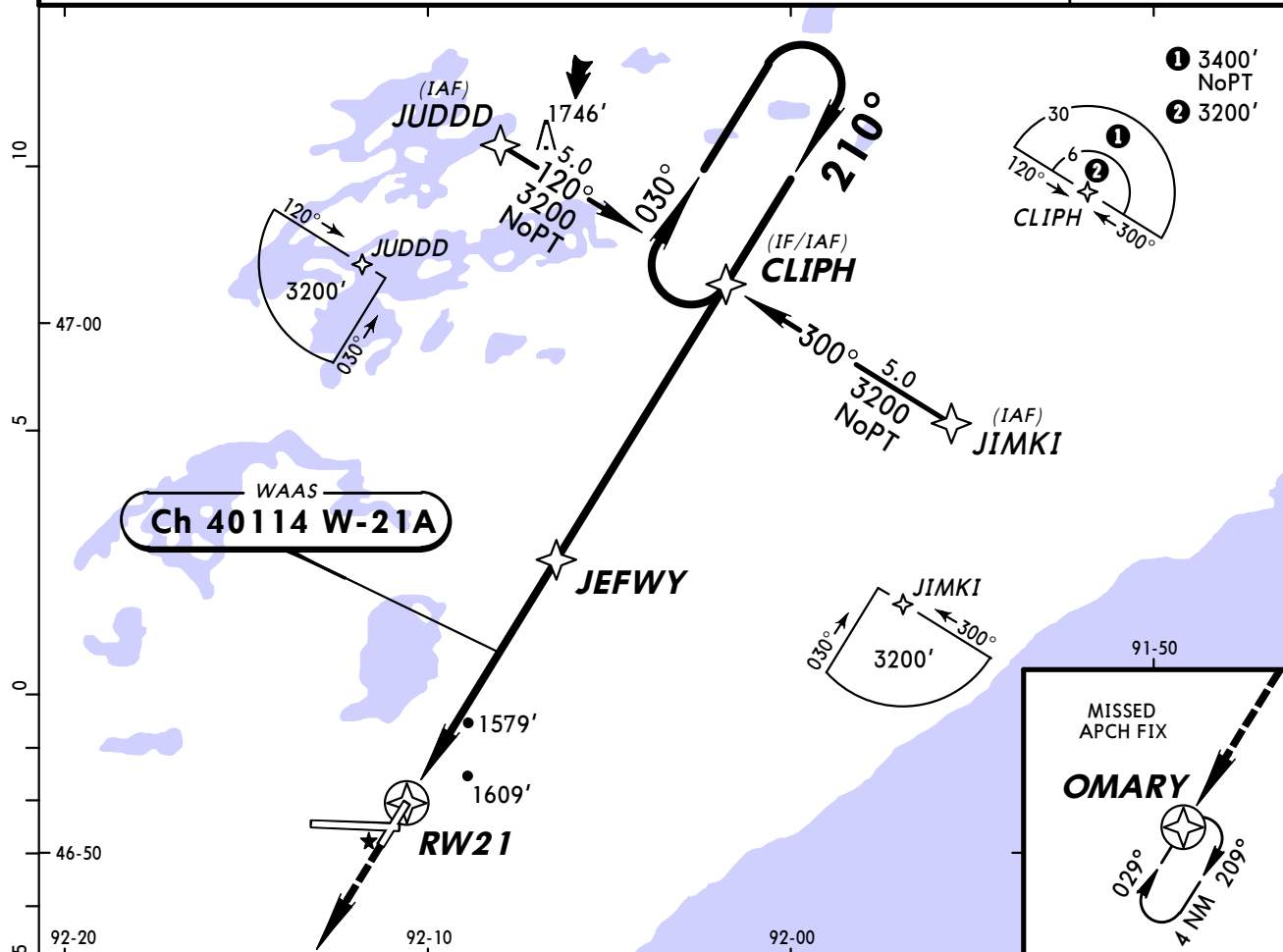
TERPS AMEND 1A, 10 FEB 2011

KDLH/DLH
DULUTH INTL

JEPPESEN
4 FEB 11 **(12-3)**

DULUTH, MINN
RNAV (GPS) Rwy 21

ATIS 124.1	*DULUTH Approach (R) 125.45	MINNEAPOLIS Center (R) 127.9 when App inop.	DULUTH Tower 118.3	Ground 121.9
WAAS Ch 40114 W-21A	Final Apch Crs 210°	Minimum Alt JEFWY 3200' (1780')	LPV DA(H) 1708' (288')	Apt Elev 1428' TDZE 1420'
MISSED APCH: Climb to 3200' direct OMARY and hold.				
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000'				
1. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -17°C (2°F) or above 46°C (114°F). 2. DME/DME RNP-0.30 not authorized. 3. Visibility reduction by helicopters not authorized.				
				TAA 30 NM IAF



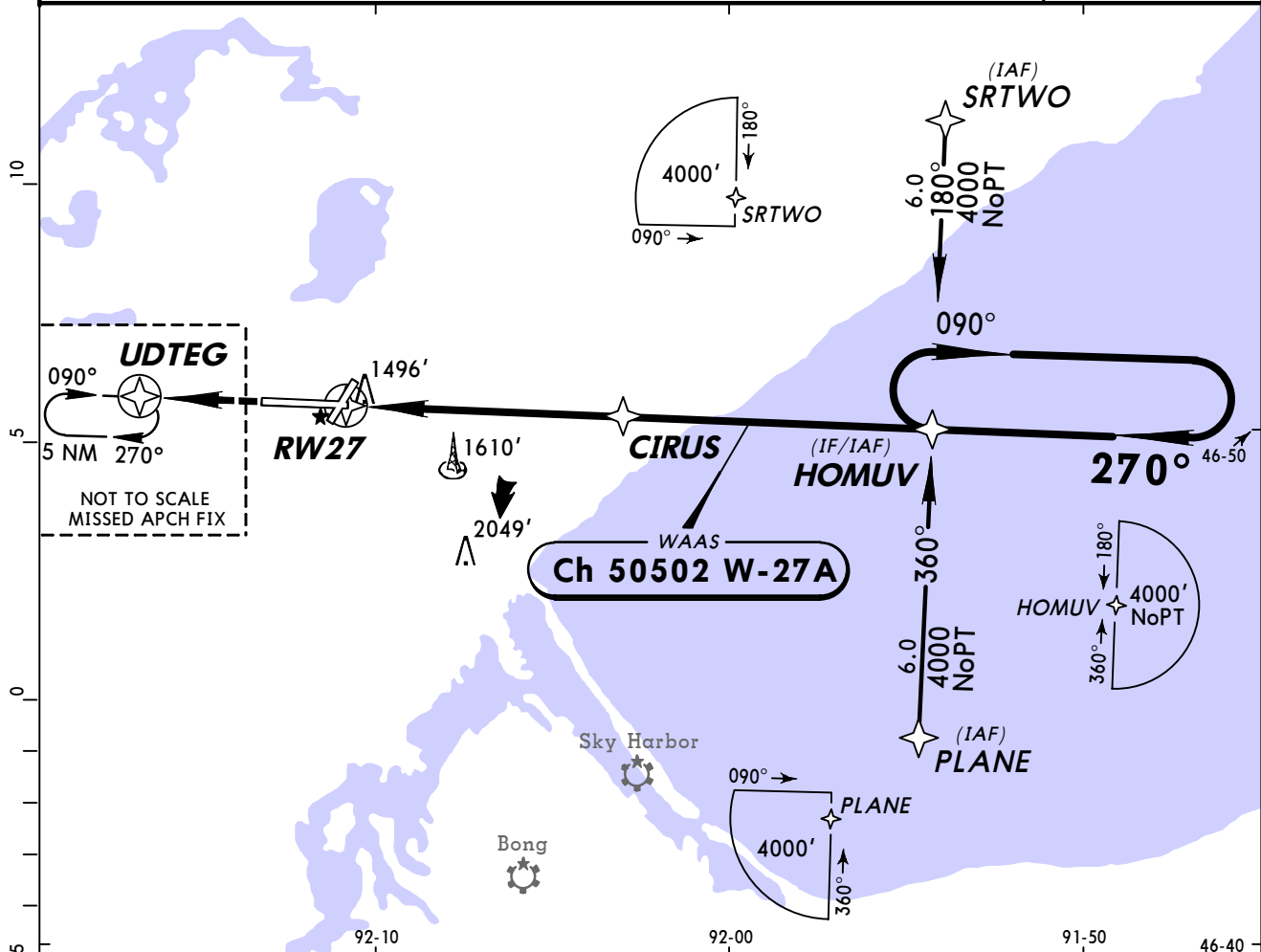
Gnd speed-Kts	70	90	100	120	140	160		REIL	3200'		OMARY
Glide Path Angle	3.00°	372	478	531	637	743	849	VASI-L			
MAP at RW21											

STRAIGHT-IN LANDING RWY 21				CIRCLE-TO-LAND	
LPV	LNAV/VNAV	LNAV		Max Kts	MDA(H)
DA(H) 1708' (288')	DA(H) 1927' (507')	MDA(H) 1840' (420')		90	1920' (492') - 1
				120	
1	1 3/4	1 1/4		140	1920' (492') - 1 1/2
				165	1980' (552') - 2

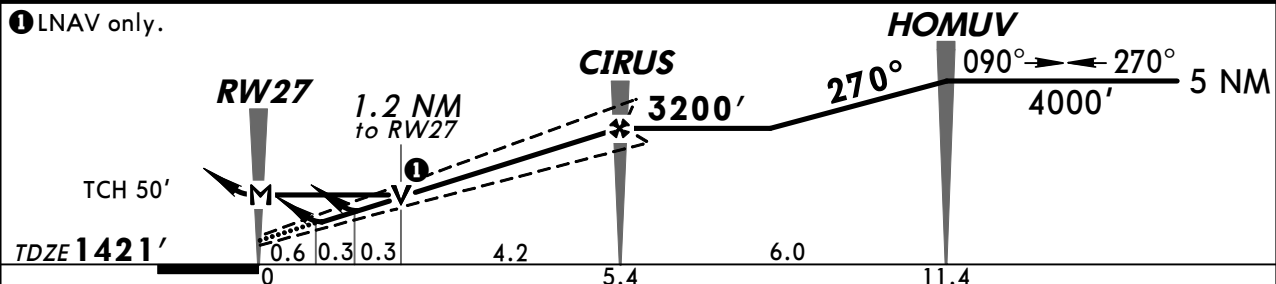
CHANGES: None.

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ATIS 124.1	*DULUTH Approach (R) 125.45	MINNEAPOLIS Center (R) 127.9 when App inop.	DULUTH Tower 118.3	Ground 121.9
WAAS Ch 50502 W-27A	Final Apch Crs 270°	Minimum Alt CIRUS 3200' (1779')	LPV DA(H) 1671' (250')	Apt Elev 1428' TDZE 1421'
MISSED APCH: Climb to 3300' direct UDTEG and hold. Alt Set: INCHES Trans level: FL 180 Trans alt: 18000' 1. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -17°C (2°F) or above 46°C (115°F). 2. DME/DME RNP-0.30 not authorized. 3. VGSI and RNAV glidepath not coincident.				
				TAA 30 NM IAF



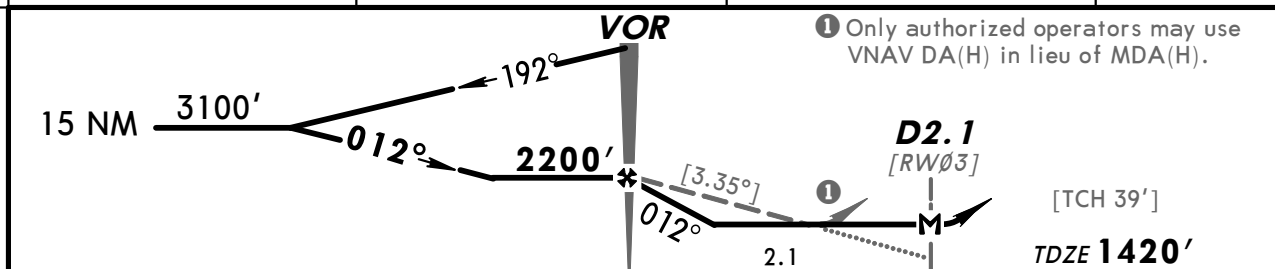
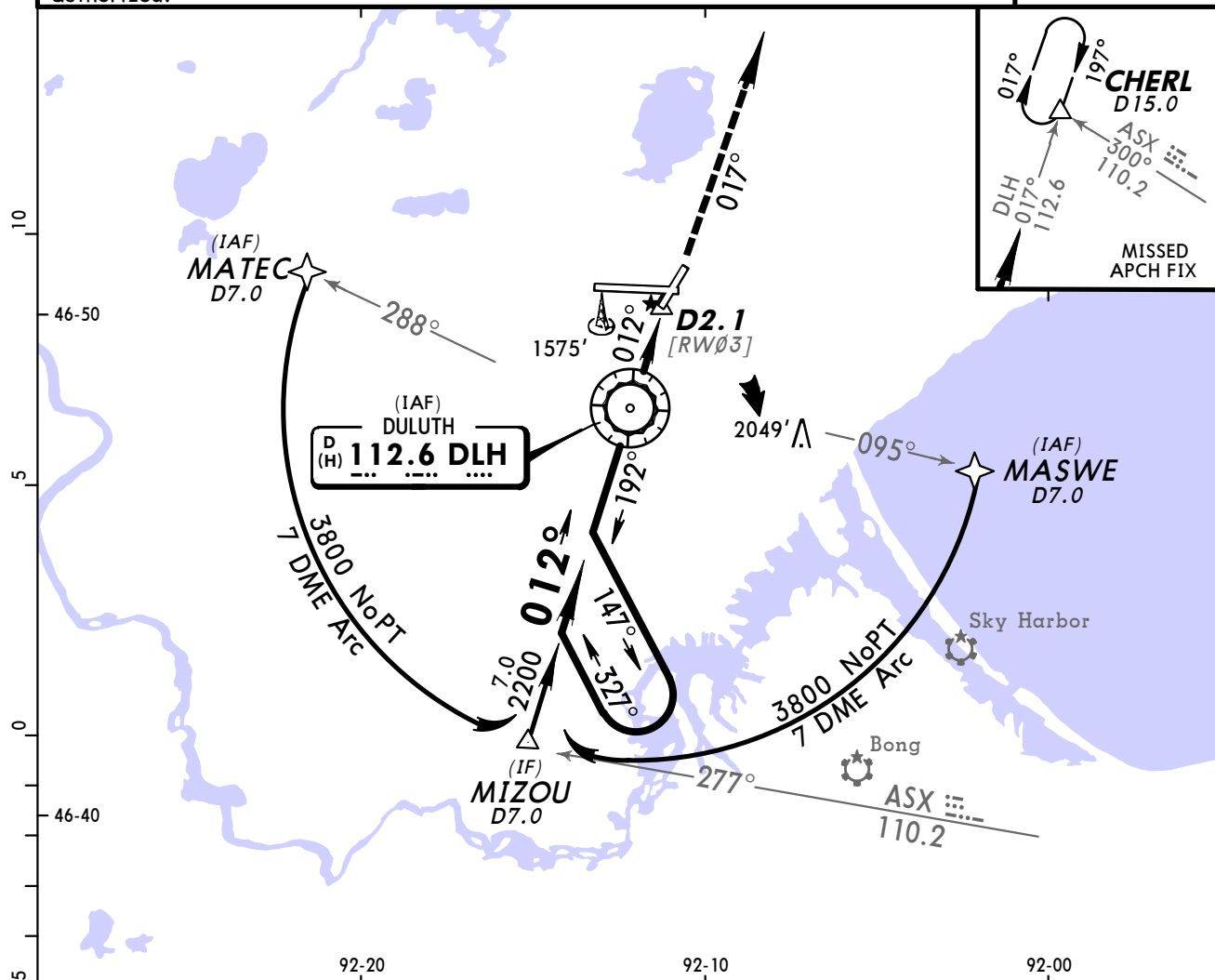
① LNAV only.



Gnd speed-Kts	70	90	100	120	140	160	MALSR	3300'	UDTEG
Glide Path Angle	3.00°	372	478	531	637	743	PAPI		
MAP at RW27									

STRAIGHT-IN LANDING RWY 27						CIRCLE-TO-LAND	
LPV DA(H) 1671' (250')		LNAV/VNAV DA(H) 1746' (325')		LNAV MDA(H) 1900' (479')			
RAIL or ALS out		RAIL or ALS out		RAIL out	ALS out	Max Kts	MDA(H)
				RVR 24	RVR 40	90	1920' (492')-1
				or 1/2	or 3/4	120	
RVR 24 or 1/2		RVR 40 or 3/4		RVR 40 or 3/4	RVR 60 or 1 1/4	140	1920' (492')-1 1/2
				RVR 50 or 1	1 1/2	165	1980' (552')-2

ATIS 124.1	*DULUTH Approach (R) 125.45	MINNEAPOLIS Center (R) 127.9 when App inop.	DULUTH Tower 118.3	Ground 121.9
VOR DLH 112.6	Final Apch Crs 012°	Minimum Alt VOR 2200' (780')	MDA(H) 1820' (400')	Apt Elev 1428' TDZE 1420'
MISSED APCH: Climb to 4500' outbound via DLH VOR R-017 to CHERL INT/D15.0 and hold.				
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000' 1. VGSI and descent angles not coincident. 2. Visibility reduction by helicopters not authorized.				
				3100' MSA DLH VOR



Gnd speed-Kts	70	90	100	120	140	160			
Descent angle [3.35°]	415	534	593	711	830	948			
MAP at D2.1 or VOR to MAP	2.1	1:48	1:24	1:16	1:03	0:54	0:47		

STRAIGHT-IN LANDING RWY 3				CIRCLE-TO-LAND			
MDA(H) 1820' (400')				MDA(H)			
A				Max Kts			
B				90			
C				120			
D				140			
				165			

KDLH/DLH DULUTH INTL

JEPPesen
28 MAY 10 **13-2** Eff 3 Jun

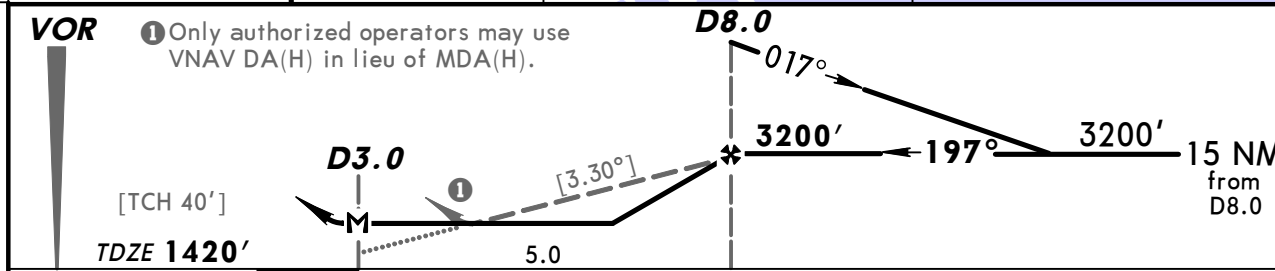
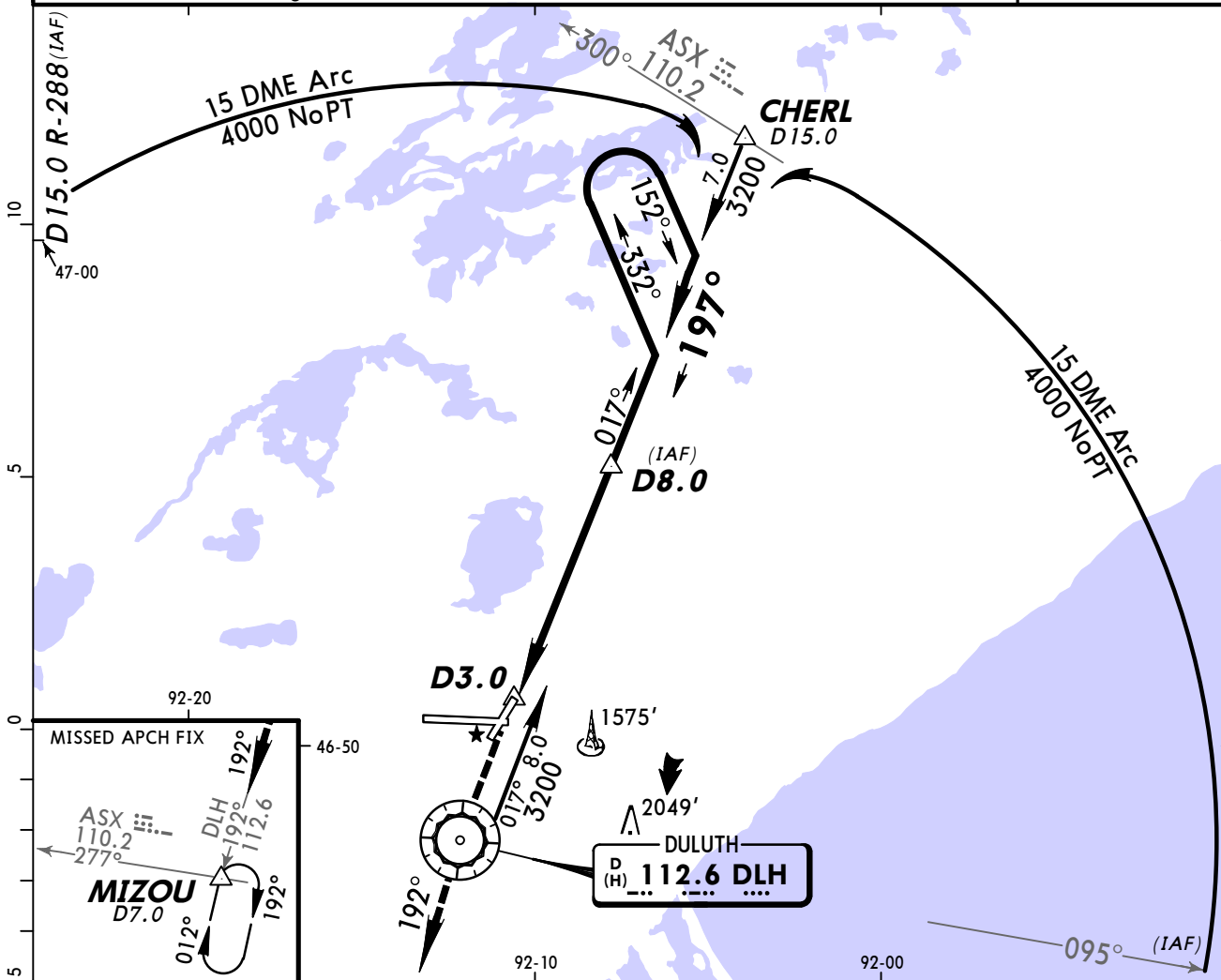
DULUTH, MINN
VOR DME Rwy 21

BRIEFING STRIP

ATIS 124.1	*DULUTH Approach (R) 125.45	MINNEAPOLIS Center (R) 127.9 when App inop.	DULUTH Tower 118.3	Ground 121.9
VOR DLH 112.6	Final Apch Crs 197°	Minimum Alt D8.0 3200' (1780')	MDA(H) 1860' (440')	Apt Elev 1428' TDZE 1420'
MISSED APCH: Climb to 3800' via direct DLH VOR, then outbound on DLH VOR R-192 to MIZOU INT/D7.0 and hold.				
Alt Set: INCHES		Trans level: FL 180		Trans alt: 18000'
1. VGSI and descent angles not coincident.				

3100'

MSA DLH VOR



Gnd speed-Kts	70	90	100	120	140	160	REIL	3800'	DLH
Descent angle [3.30°]	409	526	584	701	817	934	VASI-L	↑ via →	112.6
MAP at D3.0									

STRAIGHT-IN LANDING RWY 21				CIRCLE-TO-LAND			
MDA(H) 1860' (440')				MDA(H)			
A	1			Max Kts	90		
B	1			120	1920' (492') - 1		
C	1 1/4			140	1920' (492') - 1 1/2		
D	1 1/2			165	1980' (552') - 2		

CHANGES: None.

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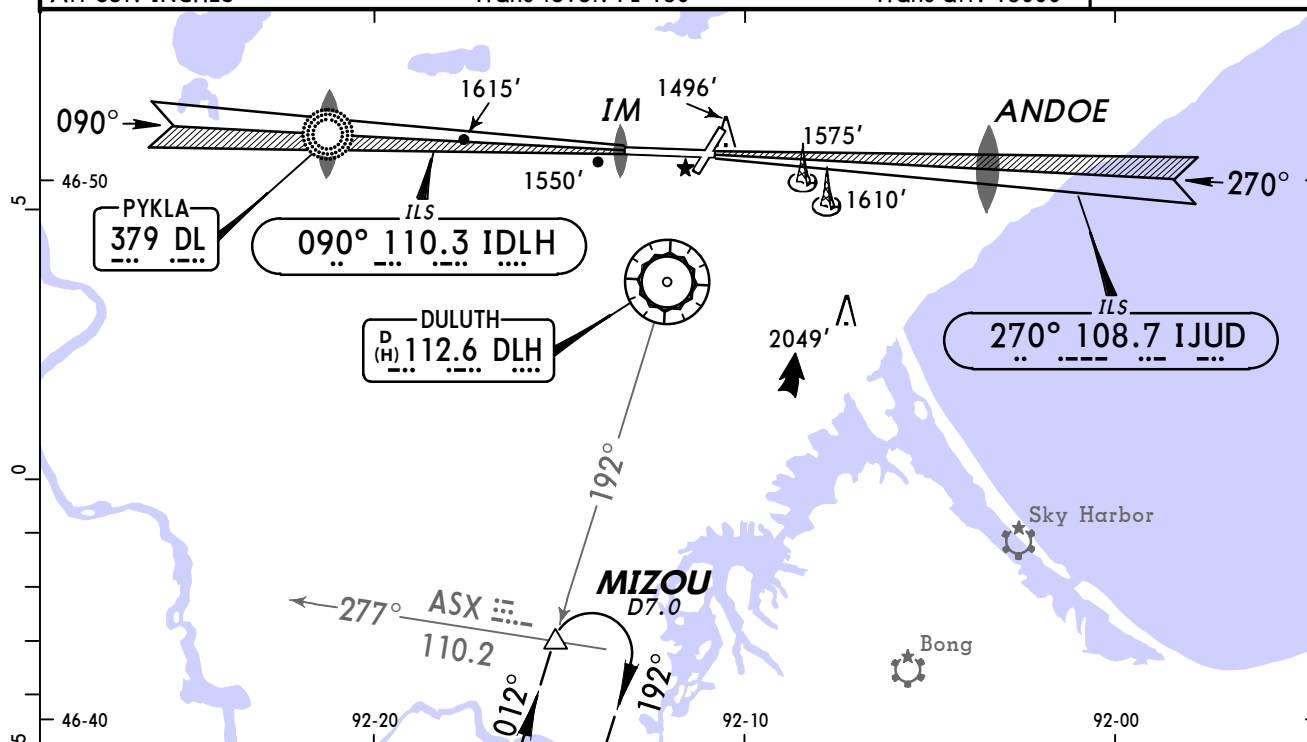
KDLH/DLH
DULUTH INTL

JEPPESSEN
28 MAY 10
Eff 3 Jun 18-1

DULUTH, MINN
RADAR-1 ASR All Rwys

ATIS 124.1	*DULUTH Approach (R) 125.45	MINNEAPOLIS Center (R) 127.9 when App inop.	DULUTH Tower 118.3	Ground 121.9
RADAR	Final Apch Crs By ATC	Minimum Alt No FAF	MDA(H) Refer to Minimums	Apt Elev 1428' TDZE-See below
MISSED APCH: See below				
Alt Set: INCHES		Trans level: FL 180		Trans alt: 18000'

No MSA
published



MISSED APPROACH:

Runways 3, 9, 27: Climb to 2500' then climbing LEFT turn to 3800' via direct DLH VOR then outbound on DLH VOR R-192 to MIZOU INT/D7.0 and hold.

Runway 21: Climb to 3800' via direct DLH VOR and outbound on DLH VOR R-192 to MIZOU INT/D7.0 and hold.

RWY 3, 21 TDZE 1420' RWY 9 TDZE 1428' RWY 27 TDZE 1421'

ASR Rwys 3, 9, 21, 27: MAP at Rwy Thr

Lighting-
Refer to
Airport
Chart

ASR 3 MDA(H) 1820' (400')		STRAIGHT-IN LANDING ASR 9 MDA(H) 1880' (452')		
				ALS out
A	1	RVR 24 or 1/2		RVR 50 or 1
B		RVR 40 or 3/4		RVR 60 or 1 1/4
C				
D	1 1/4	RVR 50 or 1		1 1/2

ASR 21 MDA(H) 1860' (440')		STRAIGHT-IN LANDING ASR 27 MDA(H) 1860' (439')			CIRCLE-TO-LAND	
		RAIL out		ALS out	Max Kts	MDA(H)
A	1	RVR 24 or 1/2	RVR 40 or 3/4	RVR 50 or 1	90	1920' (492') - 1
B					120	
C					140	
D	1 1/2	RVR 50 or 1	1 1/2		165	1980' (552') - 2

CHANGES: Reverse side GPS Rwy 21 canceled.

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General Information

Location: Hibbing MN USA
IATA Code: HIB
Lat/Long: N47° 23.2' W092° 50.3'
Elevation: 1354 ft

Airport Use: Public
Magnetic Variation: 0.1 °W
Sectional Chart: Green Bay

Fuel Types: 100 Octane (LL), Jet A
Repair Types: Major Airframe, Major Engine
Customs: No
Airport Type: IFR
Landing Fee: No
Control Tower: No
Jet Start Unit: No
LLWS Alert: No
Beacon: Yes

Sunrise: 1256 Z
Sunset: 2353 Z,

Runway Information

Runway: 04
Length x Width: 3096 ft x 75 ft
Surface Type: asphalt
TDZ-Elev: 1351 ft

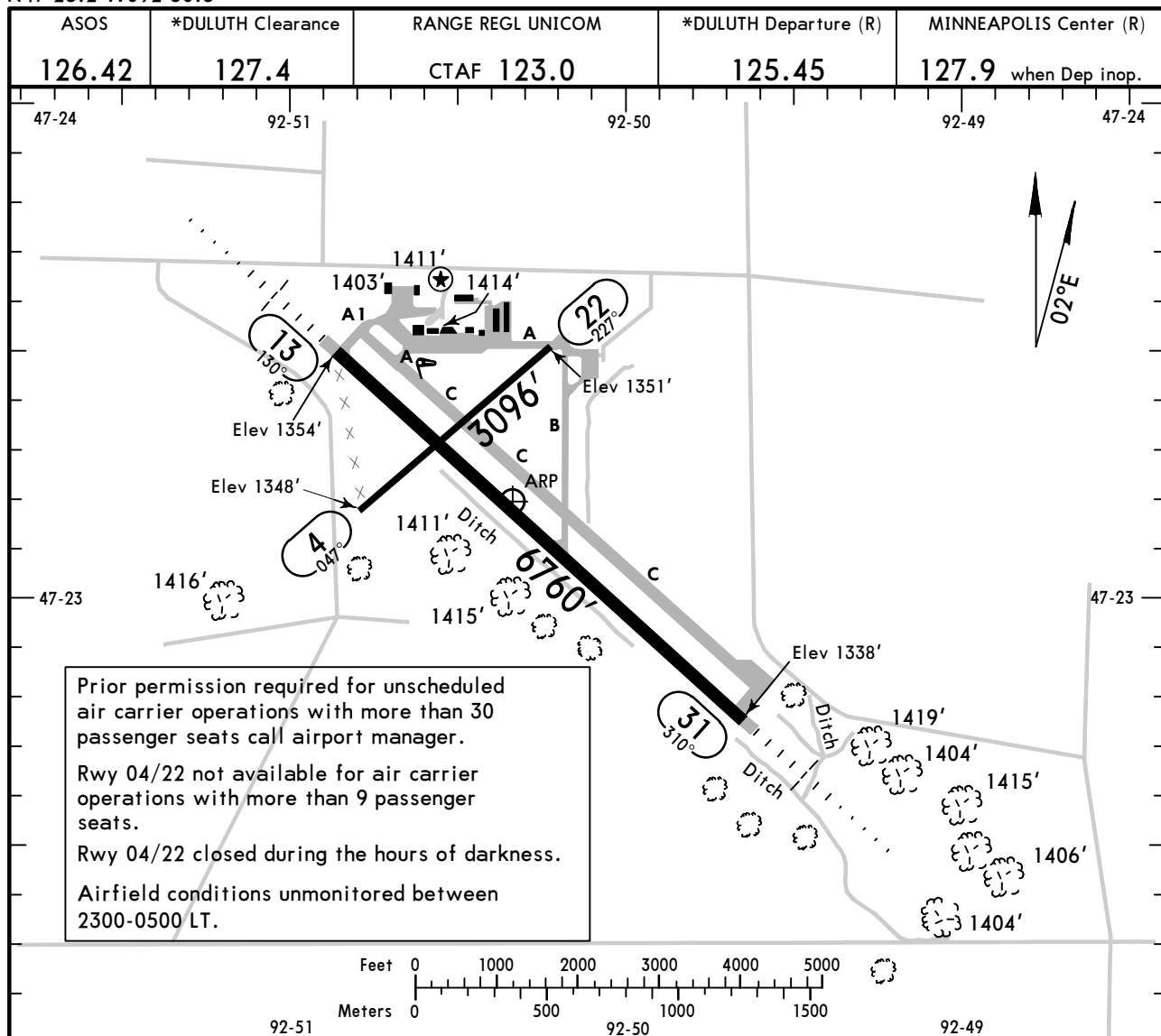
Runway: 13
Length x Width: 6760 ft x 150 ft
Surface Type: asphalt
TDZ-Elev: 1354 ft
Lighting: Edge, ALS, Pilot controlled

Runway: 22
Length x Width: 3096 ft x 75 ft
Surface Type: asphalt
TDZ-Elev: 1351 ft

Runway: 31
Length x Width: 6760 ft x 150 ft
Surface Type: asphalt
TDZ-Elev: 1345 ft
Lighting: Edge, ALS, Pilot controlled

Communication Information

ASOS 126.425
Range Regl Unicom 123.0 CTAF PCL
Duluth Clearance Delivery 127.4
Duluth Approach Control 125.45
Duluth Departure Control 125.45
Princeton Flight Service Station 122.6 RCO
Minneapolis Center 127.9 Remote Communications Air-Ground



ADDITIONAL RUNWAY INFORMATION

RWY			USABLE LENGTHS		TAKE-OFF	WIDTH
			LANDING BEYOND	Threshold		
4	22					75'
13	31	① HIRL ② MALSR ② VASI-L grooved		5808'		150'
				5626'		

- ① Increase intensity on 123.0.
 ② Activate on 123.0.

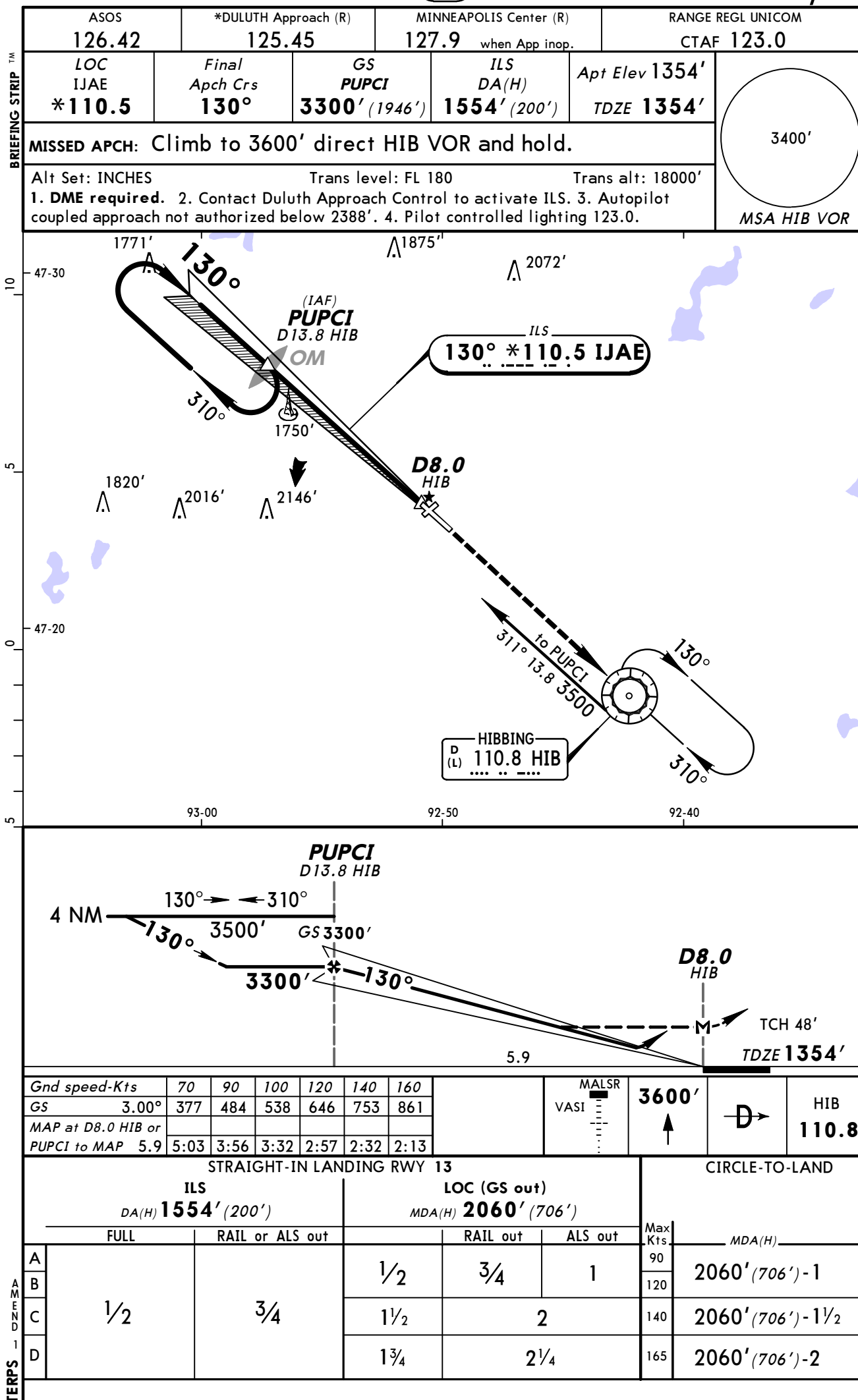
TAKE-OFF & OBSTACLE DEPARTURE PROCEDURE

	All Rwys	
	Adequate Vis Ref	STD
1 & 2 Eng	1/4	1
3 & 4 Eng		1/2

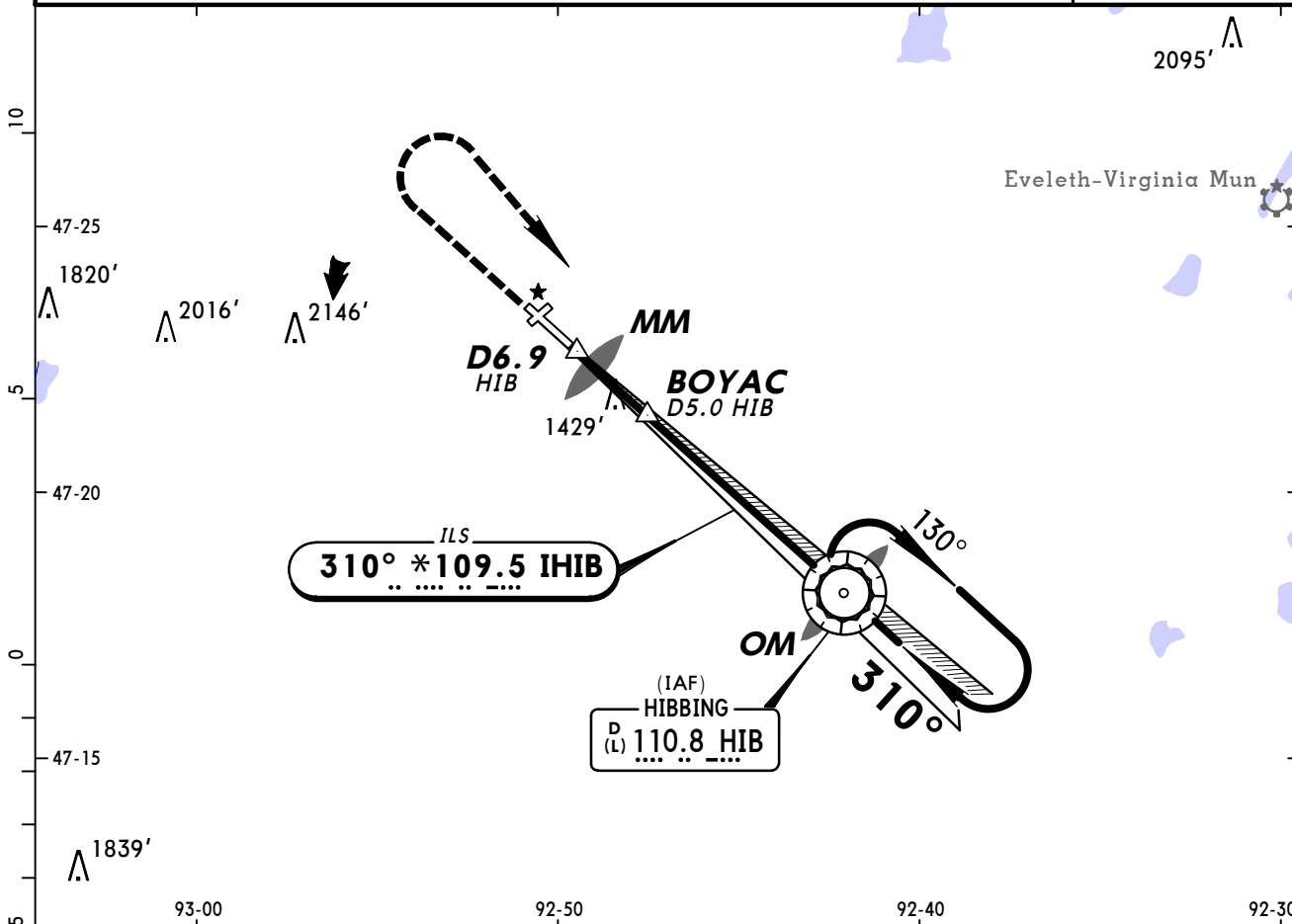
FOR FILING AS ALTERNATE

ILS DME Rwy 13 LOC DME Rwy 13 LOC Rwy 31 RNAV (GPS) Rwy 13 RNAV (GPS) Rwy 31 VOR Rwy 31		VOR Rwy 13	Other
ILS Rwy 31	600-2	800-2	900-2
			900-2 1/2
			900-2 3/4
			NA

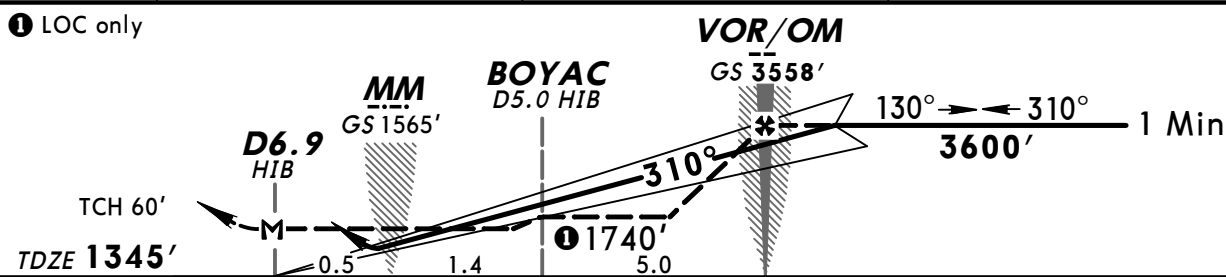
OBSTACLE DP: Rwy 22, Climb via heading 227° to 2200' before turning right. Rwy 31, Climb via heading 310° to 2200' before turning left.



BRIEFING STRIP™	ASOS 126.42		*DULUTH Approach (R) 125.45		MINNEAPOLIS Center (R) 127.9 when App inop.		RANGE REGL UNICOM CTAF 123.0	
	LOC IHIB *109.5	Final Apch Crs 310°	GS VOR 3558' (2213')	ILS DA(H) 1545' (200')	Apt Elev 1354' TDZE 1345'		3400' MSA HIB VOR	
	MISSED APCH: Climb to 2500' then climbing RIGHT turn to 3600' direct HIB VOR and hold.							
	Alt Set: INCHES		Trans level: FL 180		Trans alt: 18000'			
	1. Contact Duluth Approach Control to activate ILS. 2. Pilot controlled lighting 123.0.							



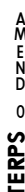
1 LOC only



Gnd speed-Kts	70	90	100	120	140	160	MALSR 2500' ↑ 3600' RT HIB 110.8
GS	2.90°	364	468	520	624	729	
MAP at D6.9 HIB or VOR to MAP	6.9	5:55	4:36	4:08	3:27	2:57	

STRAIGHT-IN LANDING RWY 31								CIRCLE-TO-LAND	
ILS		LOC (GS out)							
DA(H) 1545' (200')		MDA(H) 1680' (335') With BOYAC				MDA(H) 1740' (395') Without BOYAC			
FULL	RAIL or ALS out		RAIL out	ALS out		RAIL out	ALS out	Max Kts	MDA(H)
A								90	1820' (466')-1
B								120	1840' (486')-1
C	1/2	3/4	1/2	3/4	1	1/2	3/4	140	1840' (486')-1 1/2
D			3/4	1		3/4	1 1/4	165	1920' (566')-2

BRIEFING STRIP™

TERPS
AMEND
0TERPS
AMEND
0

BRIEFING STRIP TM

Age Group	Percentage of Respondents
18-29	45
30-49	40
50-69	35
70+	30



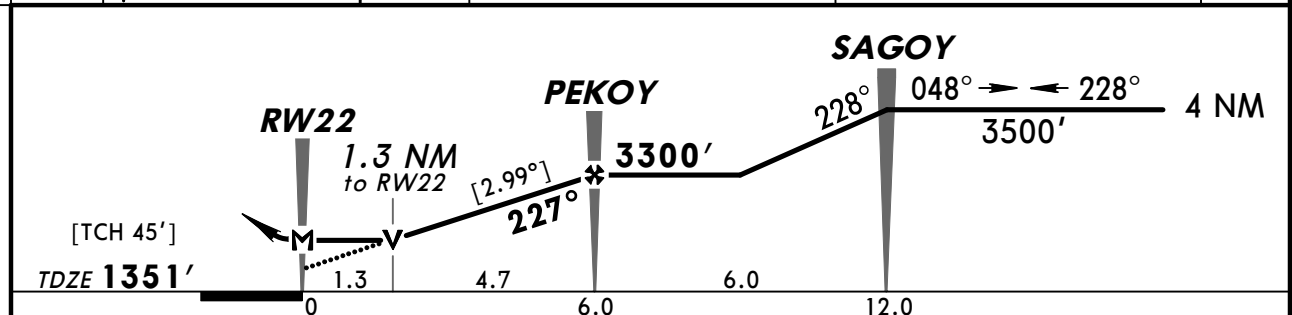
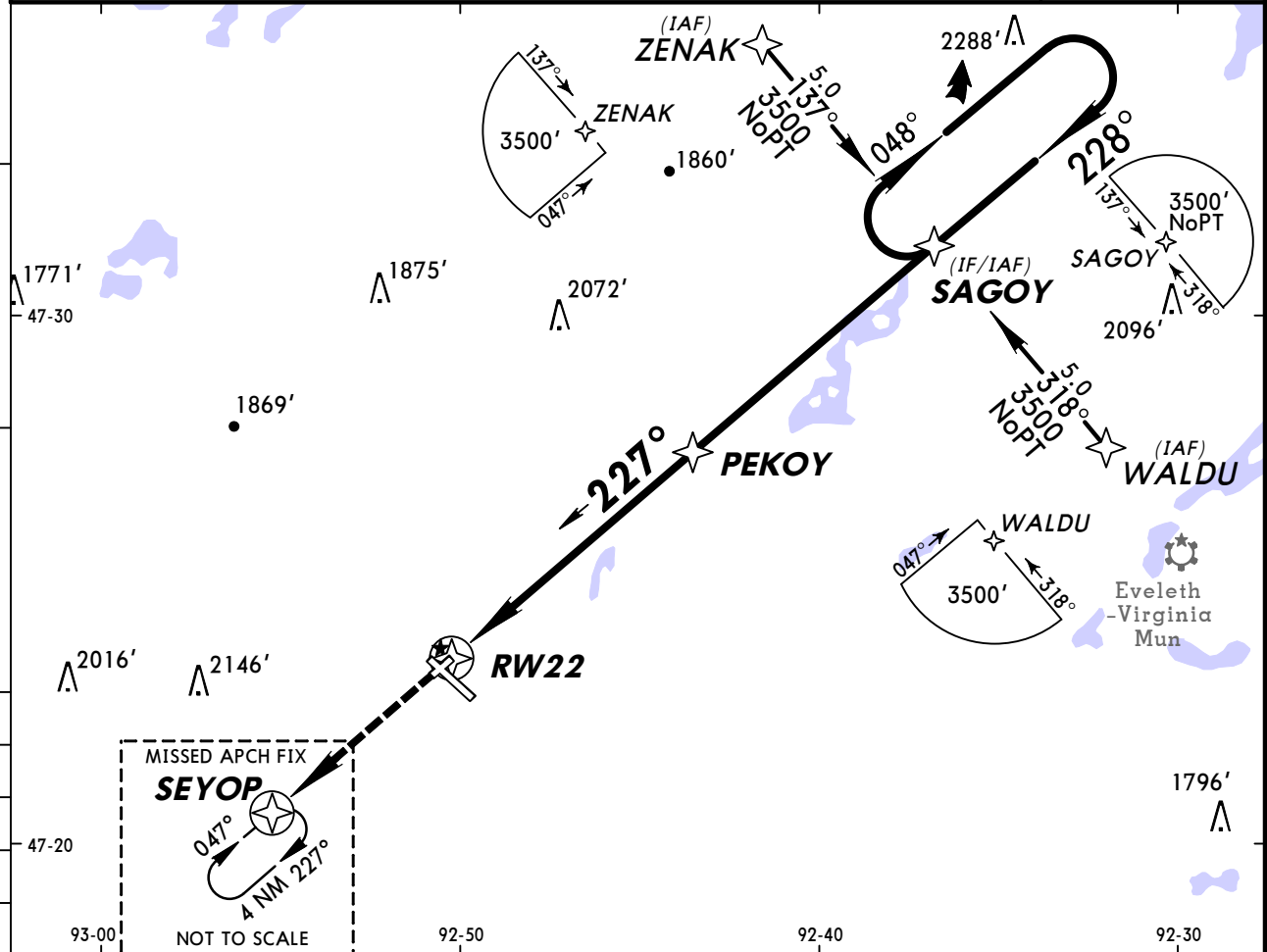
MALSI
VASI

1 CIRCLE-TO-LAND

With Eveleth-Virgini

TERPS AMEND 1 25 AUG 2011

ASOS 126.42		*DULUTH Approach (R) 125.45		MINNEAPOLIS Center (R) 127.9 when App inop.		RANGE REGL UNICOM CTAF 123.0	
RNAV	Final Apch Crs 227°	Minimum Alt PEKOY 3300' (1949')	LNAV MDA(H) (CONDITIONAL) 1800' (449')	Apt Elev 1354' TDZE 1351'		TAA 30 NM IAF	
MISSED APCH: Climb to 3500' direct SEYOP and hold.							
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000'							
1. GPS or RNP-0.30 required. 2. DME/DME RNP-0.30 not authorized. 3. Procedure not authorized at night. 4. Pilot controlled lighting 123.0.							



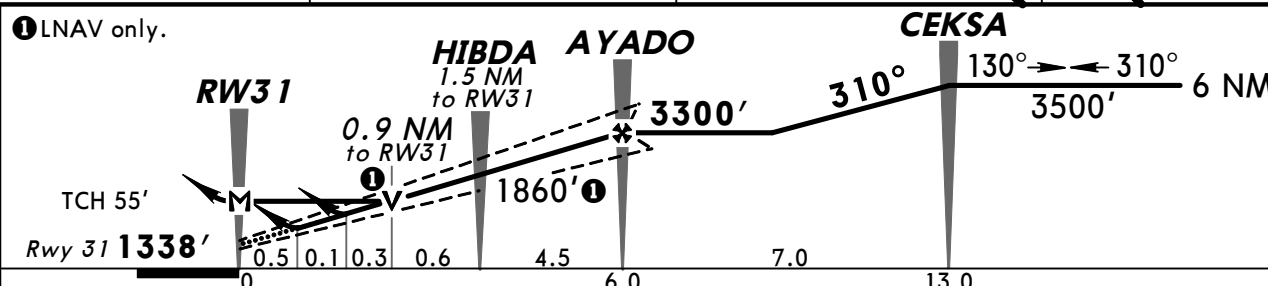
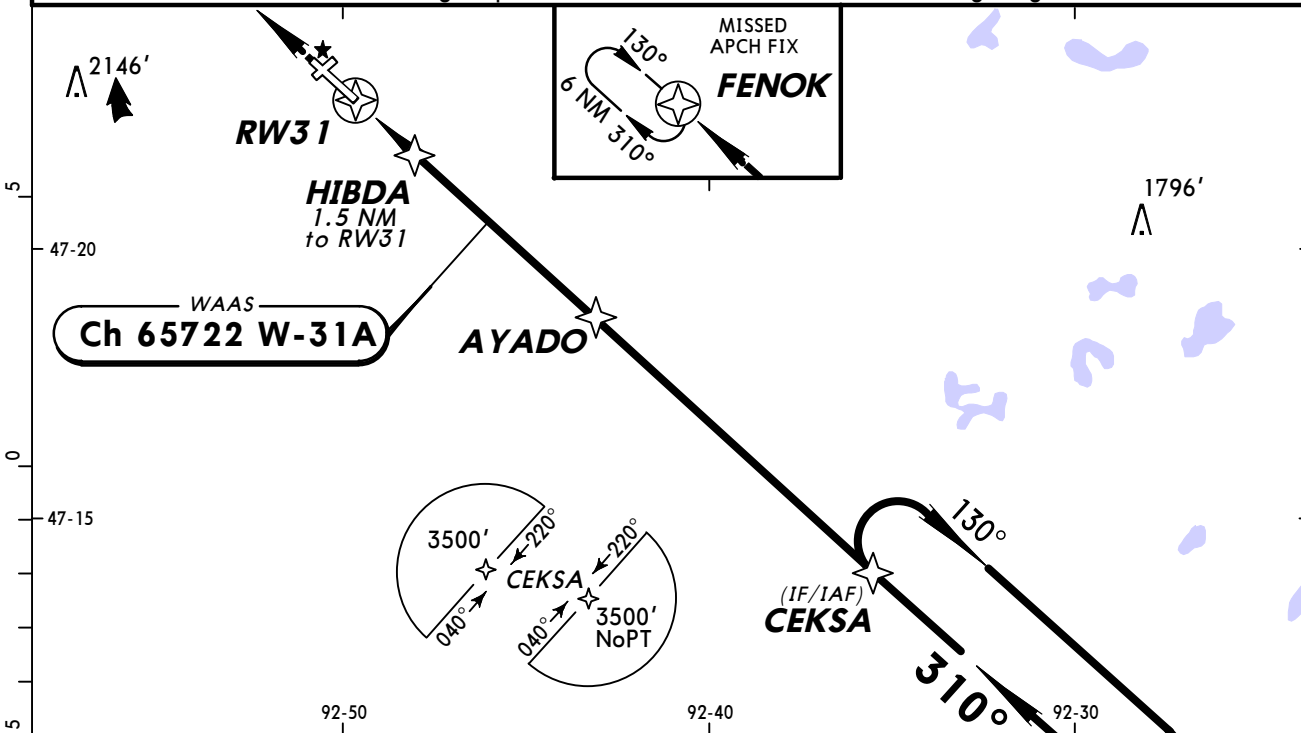
Gnd speed-Kts	70	90	100	120	140	160	3500' ↑ → D	SEYOP
Descent angle [2.99°]	370	476	529	635	741	846		
MAP at RW22								

STRAIGHT-IN LANDING RWY 22				CIRCLE-TO-LAND			
LNAV			NIGHT	DAY		NIGHT	
MDA(H) 1800' (449')				MDA(H)			
DAY							
A	1			NA	Max Kts	NA	
B					90		
C					120		
D	NA				C		
				D	NA		

ASOS 126.42	*DULUTH Approach (R) 125.45	MINNEAPOLIS Center (R) 127.9 when App inop.	RANGE REGL UNICOM CTAF 123.0
WAAS Ch 65722 W-31A	Final Apch Crs 310°	Minimum Alt AYADO 3300' (1962')	LPV DA(H) (CONDITIONAL) 1538' (200')
Apt Elev 1354' Rwy 31 1338'			TAA 30 NM IAF

MISSED APCH: Climb to 3500' direct FENOK and hold.

Alt Set: INCHES Trans level: FL 180 Trans alt: 18000'
 1. Use local altimeter setting; if not received, use Eveleth-Virginia Mun altimeter setting. 2. VDP and Baro-VNAV not authorized when using Eveleth-Virginia Mun altimeter setting. 3. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -17°C (2°F) or above 35°C (95°F). 4. DME/DME RNP-0.30 not authorized. 5. VGSI and RNAV glidepath not coincident. 6. Pilot controlled lighting 123.0.



Gnd speed-Kts	70	90	100	120	140	160				
Glide Path Angle 3.00°	372	478	531	637	743	849				
MAP at RWY 31										

STRAIGHT-IN LANDING RWY 31 With Local Altimeter Setting							CIRCLE-TO-LAND With Local Altimeter Setting		
LPV DA(H) 1538' (200')		LNAV/VNAV DA(H) 1588' (250')		LNAV MDA(H) 1680' (342')			MDA(H)		
RAIL or ALS out		RAIL or ALS out		RAIL out ALS out			RAIL out ALS out		
A				1/2	3/4	1	90	1820'	(466') - 1
B	1/2	3/4	1/2	3/4	1		120	1840'	(486') - 1
C							140	1840'	(486') - 1 1/2
D							165	1920'	(566') - 2

With Eveleth-Virginia Mun Altimeter Setting							With Eveleth-Virginia Mun Altimeter Setting		
LPV DA(H) 1574' (236')		LNAV/VNAV DA(H) 1624' (286')		LNAV MDA(H) 1720' (382')			MDA(H)		
RAIL or ALS out		RAIL or ALS out		RAIL out ALS out			RAIL out ALS out		
A				1/2	3/4	1	90	1860'	(506') - 1
B	1/2	3/4	1/2	7/8	1		120	1880'	(526') - 1
C							140	1880'	(526') - 1 1/2
D							165	1960'	(606') - 2

1 Not authorized at night to Rwy 4.

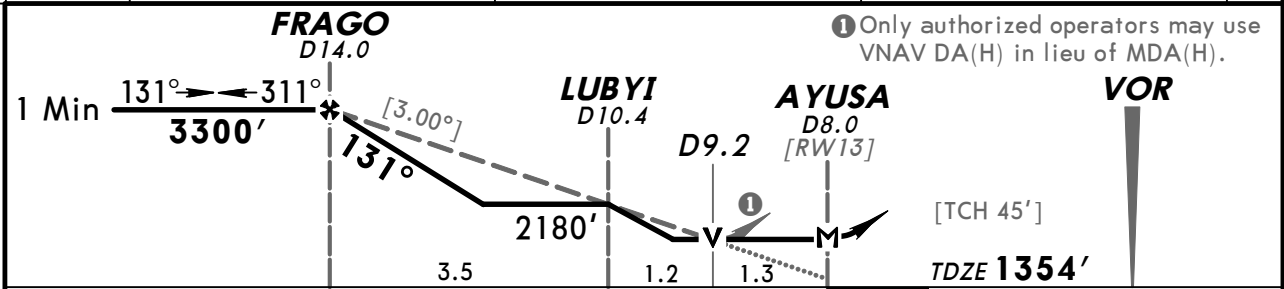
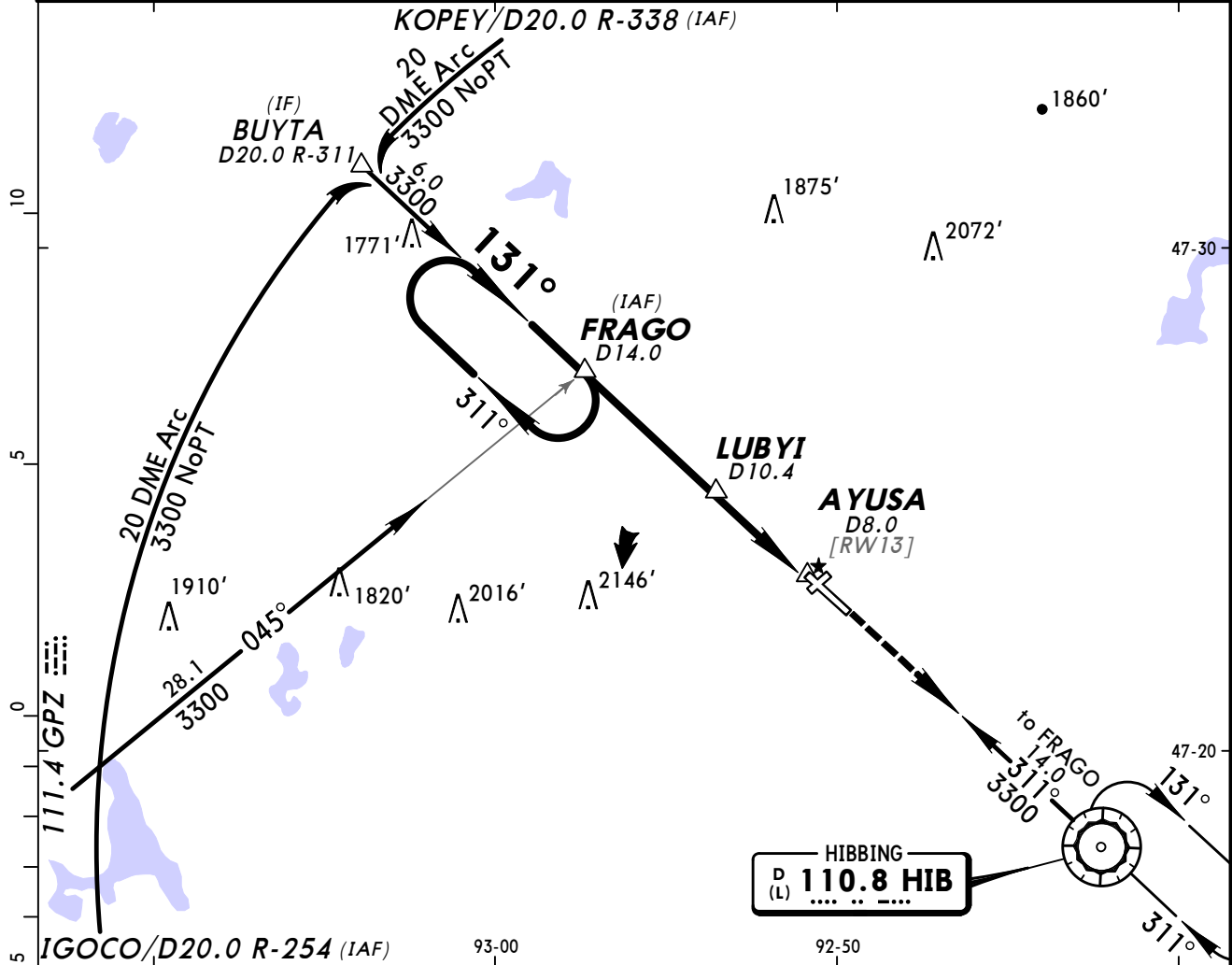
KHIB/HIB RANGE REGL

16 APR 10 **(13-1)**

HIBBING, MINN
VOR Rwy 13

BRIEFING STRIP™

ASOS		*DULUTH Approach (R)		MINNEAPOLIS Center (R)		RANGE REGL UNICOM	
126.42		125.45		127.9 when App inop.		CTAF 123.0	
VOR HIB 110.8	Final Apch Crs 131°	Minimum Alt FRAGO 3300' (1946')	MDA(H) (CONDITIONAL) 1800' (446')	Apt Elev 1354'		3400' MSA HIB VOR	
TDZE 1354'							
MISSED APCH: Climb to 3300' direct HIB VOR and hold.							
Alt Set: INCHES 1. Pilot controlled lighting 123.0.		Trans level: FL 180		Trans alt: 18000'			



Gnd speed-Kts	70	90	100	120	140	160		MALSR	3300'	HIB
Descent angle [3.00°]	372	478	531	637	743	849		VASI	↑	110.8
MAP at AYUSA or FRAGO to MAP	6.0	5:09	4:00	3:36	3:00	2:34	2:15			

STRAIGHT-IN LANDING RWY 13						CIRCLE-TO-LAND			
MDA(H) 1800' (446')			MDA(H) 2180' (826')			With LUBYI		Without LUBYI	
With LUBYI			Without LUBYI			Max Kts	MDA(H)	MDA(H)	
	RAIL out	ALS out		RAIL out	ALS out				
A	3/4	1	3/4	3/4	1	90	1820' (466') - 1	2180' (826') - 1	
B	3/4		3/4	1 1/4		120	1840' (486') - 1	2180' (826') - 1 1/4	
C		1 1/4	2	2 1/2		140	1840' (486') - 1 1/2	2180' (826') - 2 1/2	
D	1	1 1/2	2 1/4	2 3/4		165	1920' (566') - 2	2180' (826') - 2 3/4	

CHANGES: Airport name, TDZE, minimums.

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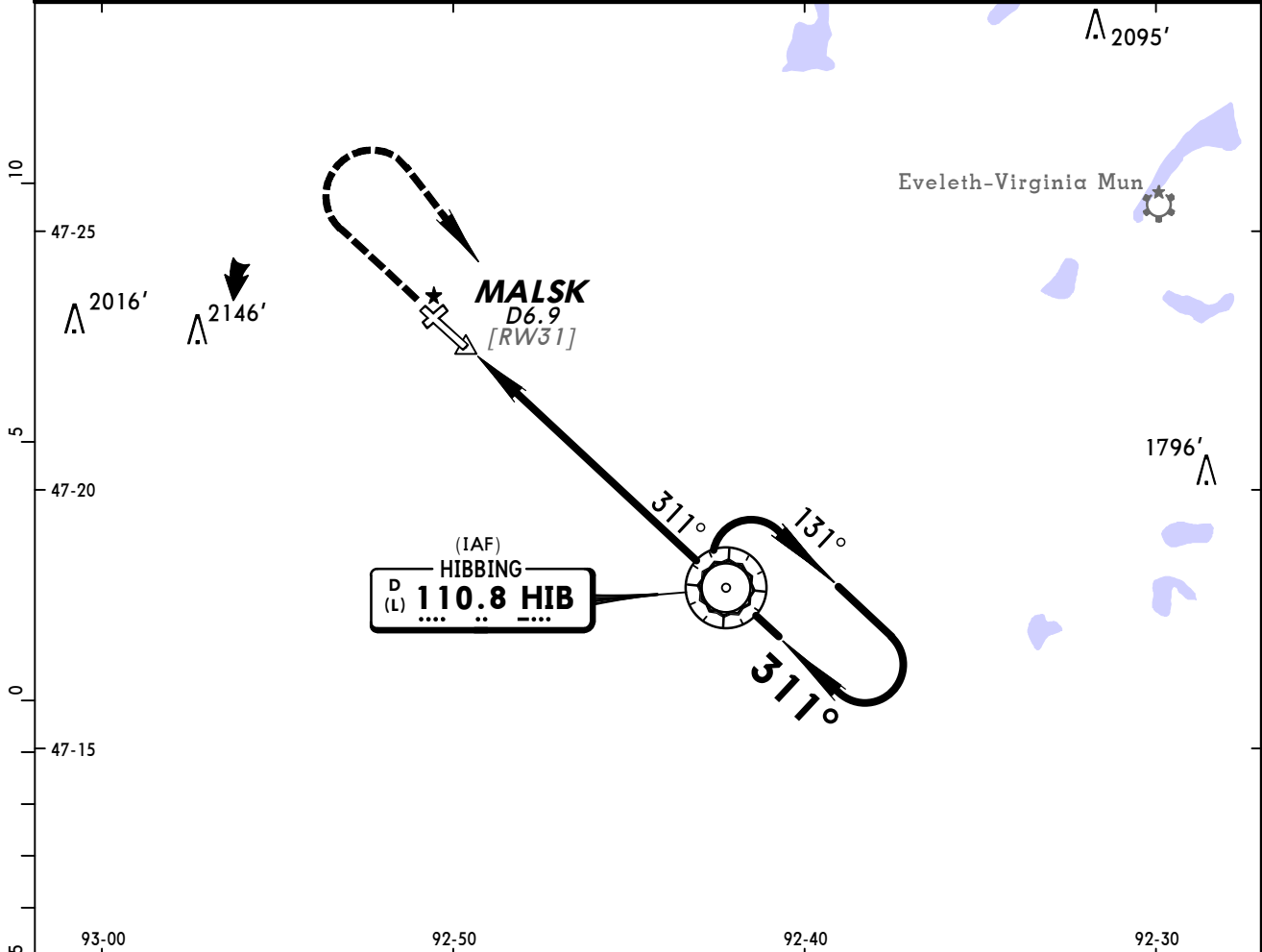
KHIB/HIB

RANGE REGL

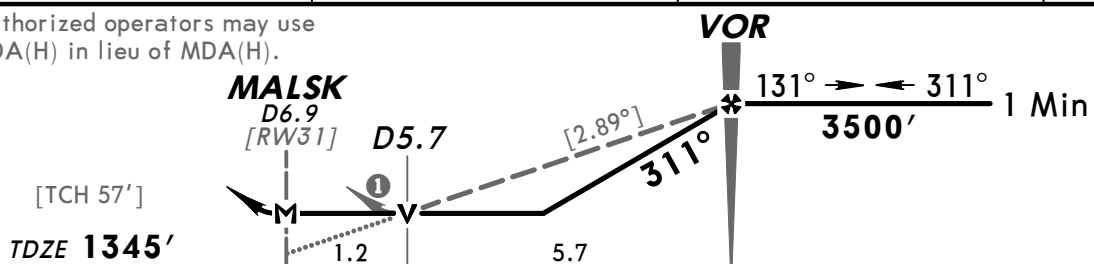
16 APR 10 **13-2**

HIBBING, MINN
VOR Rwy 31

BRIEFING STRIP™	ASOS 126.42		*DULUTH Approach (R) 125.45		MINNEAPOLIS Center (R) 127.9 when App inop.		RANGE REGL UNICOM CTAF 123.0	
	VOR HIB 110.8	Final Apch Crs 311°	Minimum Alt VOR 3500' (2155')	MDA(H) 1760' (415')	Apt Elev 1354' TDZE 1345'		3400' MSA HIB VOR	
	MISSED APCH: Climb to 2500' then climbing RIGHT turn to 3500' direct HIB VOR and hold.							
	Alt Set: INCHES 1. Pilot controlled lighting 123.0.		Trans level: FL 180		Trans alt: 18000'			



① Only authorized operators may use VNAV DA(H) in lieu of MDA(H).



Gnd speed-Kts	70	90	100	120	140	160	MALSR VASI	2500'	3500'	D→	HIB 110.8
Descent angle [2.89°]	358	460	511	613	716	818		↑	RT		
MAP at MALSK or											
VOR to MAP	6.9	5:55	4:36	4:08	3:27	2:57					

STRAIGHT-IN LANDING RWY 31

MDA(H) 1760' (415')

CIRCLE-TO-LAND

		RAIL out		ALS out		Max Kts	MDA(H)
		3/4		1		90	1820' (466') - 1
A	3/4	3/4		1		120	1840' (486') - 1
B						140	1840' (486') - 1 1/2
C	1	1 1/4				165	1920' (566') - 2
D							

CHANGES: Airport name, TDZE, minimums.

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General Information

Location: International Falls MN USA

IATA Code: INL

Lat/Long: N48° 33.9' W093° 24.1'

Elevation: 1185 ft

Airport Use: Public

Magnetic Variation: 0.2°E

Sectional Chart: Twin Cities

Fuel Types: 100 Octane (LL), Jet A

Repair Types: Major Airframe, Major Engine

Customs: ADCUS

Airport Type: IFR

Landing Fee: No

Control Tower: No

Jet Start Unit: Yes

LLWS Alert: No

Beacon: Yes

Pattern Altitude: 1000 ft AGL

Sunrise: 1300 Z

Sunset: 2353 Z,

Runway Information

Runway: 04

Length x Width: 2999 ft x 75 ft

Surface Type: asphalt

TDZ-Elev: 1170 ft

Runway: 13

Length x Width: 7400 ft x 150 ft

Surface Type: asphalt

TDZ-Elev: 1184 ft

Lighting: Edge, ALS, Pilot controlled

Runway: 22

Length x Width: 2999 ft x 75 ft

Surface Type: asphalt

TDZ-Elev: 1181 ft

Runway: 31

Length x Width: 7400 ft x 150 ft

Surface Type: asphalt

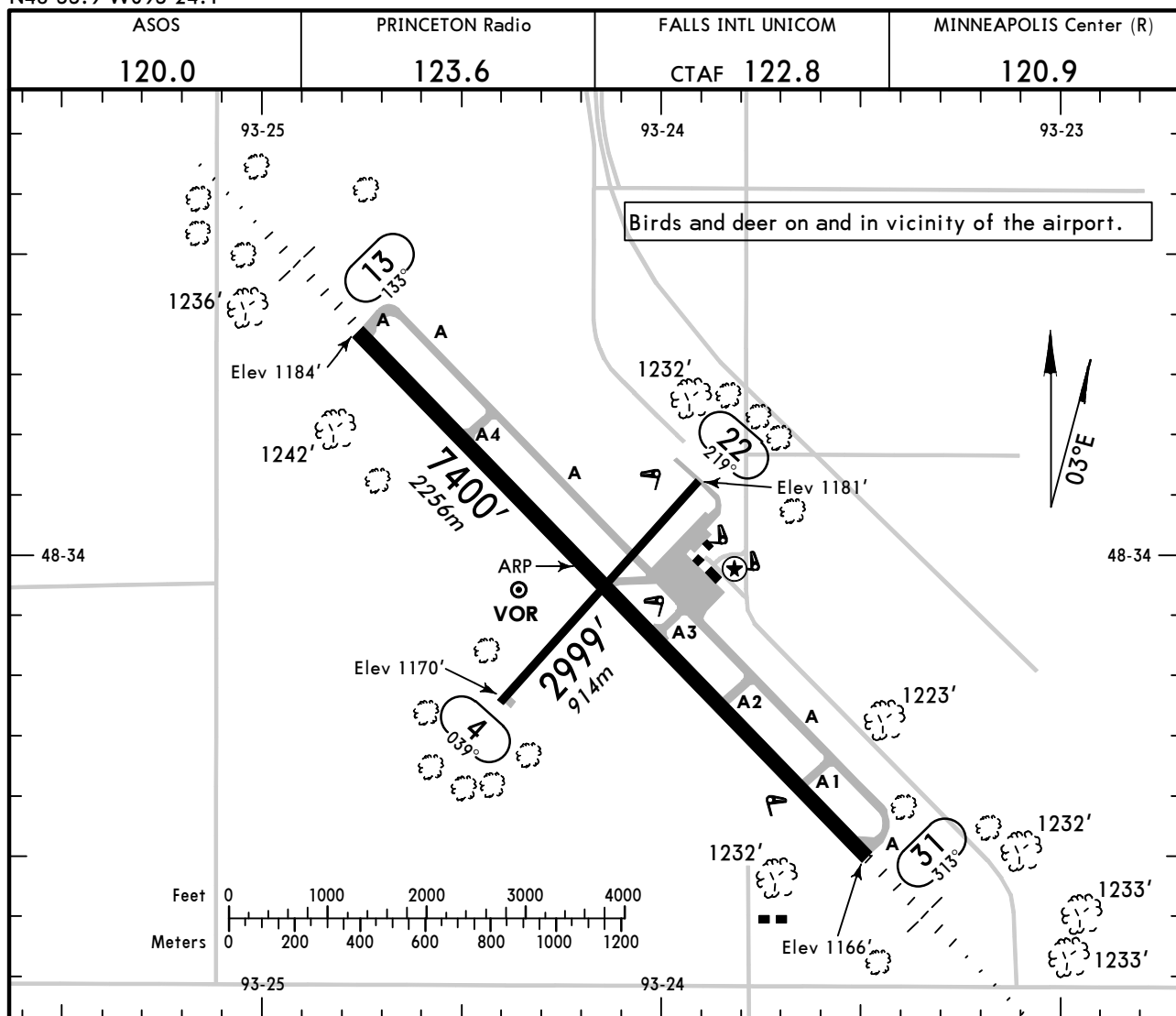
TDZ-Elev: 1166 ft

Lighting: Edge, ALS, Pilot controlled

Communication Information

ASOS 120.0
Falls Intl Unicom 122.8 CTAF PCL
Princeton Flight Service Station 123.6 RCO
Minneapolis Center 120.9 Remote Communications Air-Ground

KINL/INL
Apt Elev 1185'
N48 33.9 W093 24.1



ADDITIONAL RUNWAY INFORMATION

RWY		USABLE LENGTHS			WIDTH
		Threshold	Landing Beyond Glide Slope	TAKE-OFF	
4	22				75' 23m
13	31	② HIRL ② MALSR ② PAPI-L	6350' 1935m		150' 46m
		② HIRL MALSR ② PAPI-L (angle 3.0°)	6496' 1980m		

- ① Porous friction course overlay.
② Activate on 122.8.

TAKE-OFF

All Rwy's	
Adequate Vis Ref	STD
1 & 2 Eng	1
3 & 4 Eng	1/2

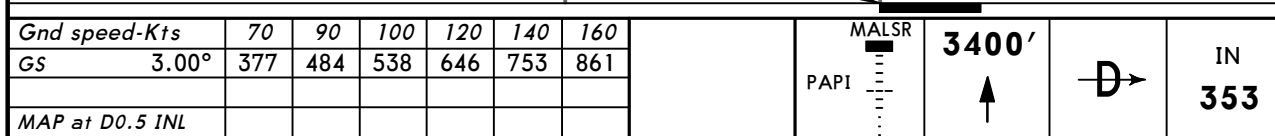
FOR FILING AS ALTERNATE

Authorized Only When Local Weather Available

ILS Rwy 31 COPTER ILS Rwy 31		ILS Rwy 13	RNAV (GPS) Rwy 13 RNAV (GPS) Rwy 31 LOC DME Rwy 13 LOC Rwy 31 VOR DME Rwy 31	VOR Rwy 13	VOR Rwy 31	NDB Rwy 31 COPTER LOC Rwy 31		
A	600-2	700-2	800-2	800-2	800-2	NA		
B				800-2 1/4				
C								
D								

CHANGES: None.

BRIEFING STRIP TM



STRAIGHT-IN LANDING RWY 13											CIRCLE-TO-LAND				
ILS					LOC (GS out)						Not Authorized at Night to Rwy 4/22				
With Local Altimeter Setting DA(H)			With Baudette Altimeter Setting DA(H)		With Local Altimeter Setting			With Baudette Altimeter Setting			With Local Altimeter Setting		With Baudette Altimeter Setting		
1384'(200')			1511'(327')		MDA(H) 1820'(636')			MDA(H) 1960'(776')							
FULL		RAIL or ALS out	FULL		RAIL out		ALS out	RAIL out		ALS out	Max Kts	MDA(H)		MDA(H)	
A	1/2	3/4	3/4	1	1/2	3/4	1	1/2	3/4	1	90	1820'-1		1960'-1	
B								3/4	1 1/4		120	(635')-1		(775')-1	
C					1 1/4	1 3/4		1 3/4	2 1/4		140	1820'-1 3/4		1960'-2 1/4	
D					1 1/2	2		2	2 1/2		165	1820'-2		1960'-2 1/2	
												(635')-2		(775')-2 1/2	

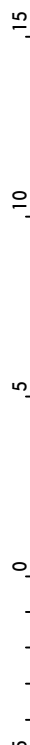
ERPS AMEND 1A 11 FEB 2010

INTERNATIONAL FALLS, MINN
ILS or LOC Rwy 31

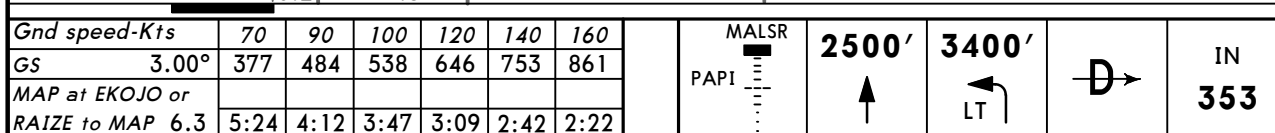
11-2

ILS or LOC Rwy 31

BRIEFING STRIP TM



RAIZE
D7.2 INL



<i>Gnd speed-Kts</i>	70	90	100	120	140	160		IN 353
<i>Gs</i> 3.00°	377	484	538	646	753	861		
<i>MAP at EKOJO or</i>								
<i>RAIZE to MAP</i> 6.3	5:24	4:12	3:47	3:09	2:42	2:22		

STRAIGHT-IN LANDING RWY 31								CIRCLE-TO-LAND	
With Local Altimeter Setting								Not Authorized at Night to Rwy 4/22	
ILS		LOC (GS out)			LOC (GS out)				
DA(H) 1366'(200')		MDA(H) 1520'(354')			MDA(H) 1620'(454')				
FULL		With ALETE			Without ALETE				
RAIL or ALS out		RAILout	ALS out	RAILout	ALS out	RAILout	ALS out	Max Kts	MDA(H)
A	1/2	1/2	3/4	1	1/2	3/4	1	90	1620'(435')-1
B								120	1680'(495')-1
C					3/4	1 1/4		140	1680'(495')-1 1/2
D		3/4	1 1/4		1	1 1/2		165	1780'(595')-2
With Baudette Altimeter Setting								With Baudette Altimeter Setting	
DA(H) 1493'(327')		MDA(H) 1660'(494')			MDA(H) 1760'(594')				
FULL		RAILout			ALS out	RAILout		ALS out	Max Kts
RAIL or ALS out		RAILout			ALS out	RAILout		ALS out	MDA(H)
A	3/4	3/4		1	1/2	3/4	1	90	1760'(575')-1
B								120	1820'(635')-1
C		3/4	1 1/4		1	1 1/2		140	1820'(635')-1 3/4
D		1	1 1/2		1 1/4	1 3/4		165	1920'(735')-2 1/2

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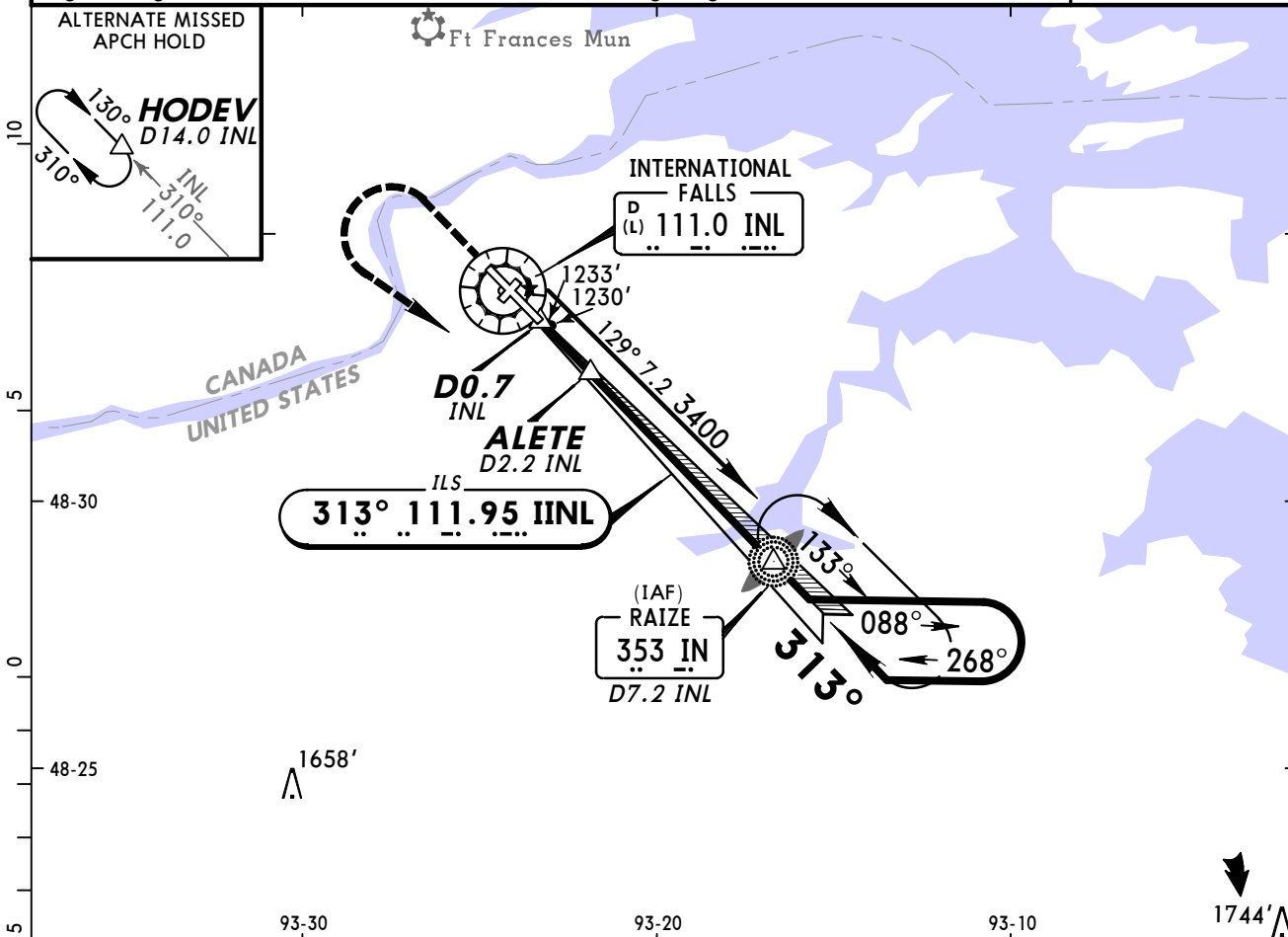
TERPS AMEND 10A 11 FEB 2010

KINL/INL FALLS INTL

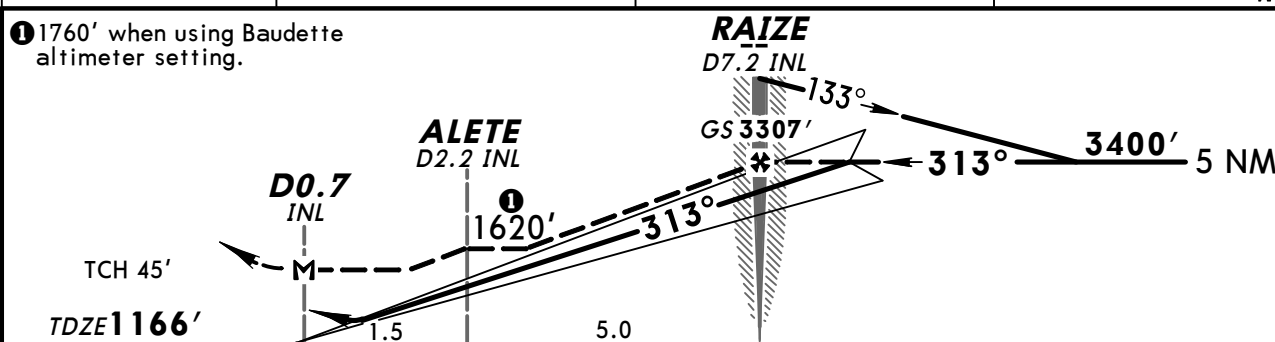
23 JAN 09 **11-3**

INTERNATIONAL FALLS, MINN COPTER ILS or LOC Rwy 31

ASOS 120.0	MINNEAPOLIS Center (R) 120.9	PRINCETON Radio 123.6	FALLS INTL UNICOM CTAF 122.8
LOC IINL 111.95	Final Apch Crs 313°	GS RAIZE 3307' (2141')	ILS DA(H) (CONDITIONAL) 1366' (200') Apt Elev 1185' TDZE 1166'
MISSED APCH: Climb to 2500' then climbing LEFT turn to 3400' direct IN LOM and hold.			
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000' 1. ADF required. 2. Use local altimeter setting; if not received, use Baudette altimeter setting. 3. LOC unusable beyond 0.2 NM inbound and beyond 26 degrees right and left of course. 4. Pilot controlled lighting 122.8.			



① 1760' when using Baudette altimeter setting.



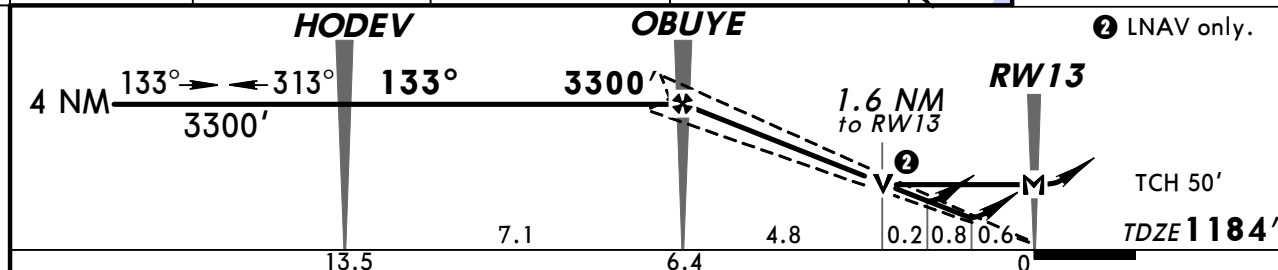
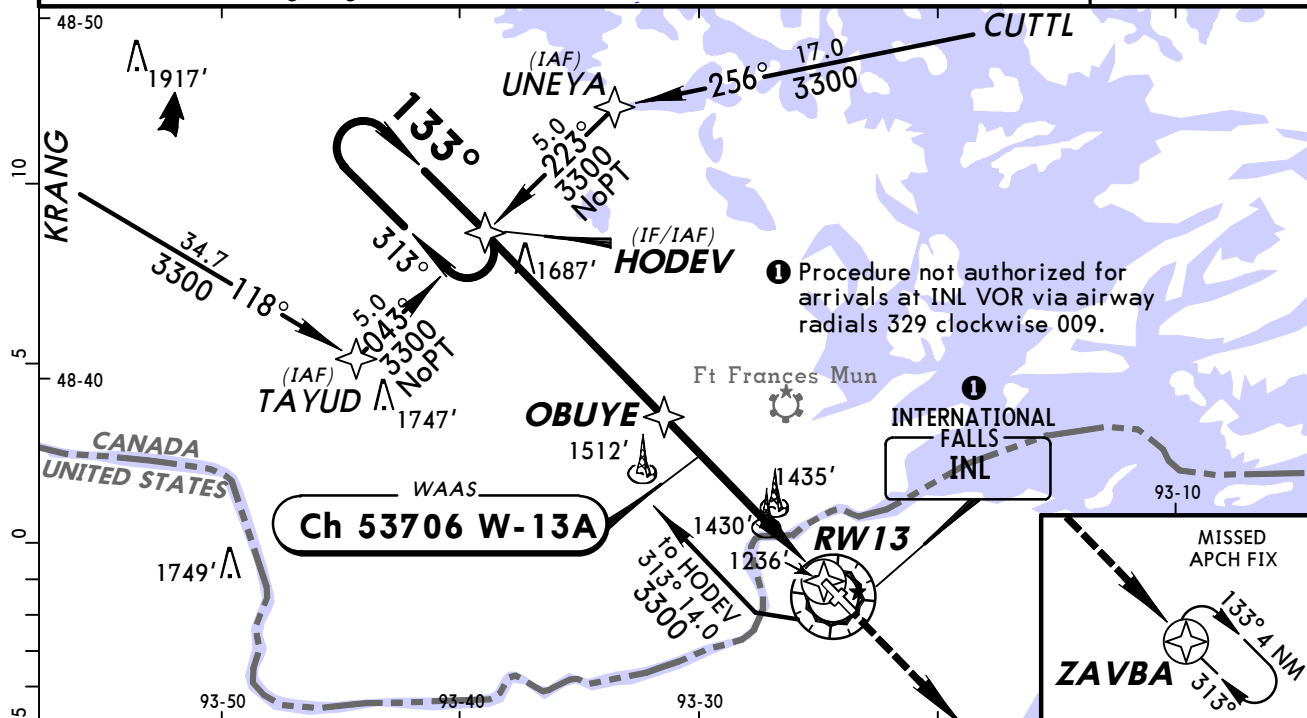
Gnd speed-Kts	70	90	100	120	140	160	MALSR	2500'	3400'	D	IN
GS	3.00°	377	484	538	646	753	861	PAPI	↑	LT	353
MAP at D0.7 INL or RAIZE to MAP 6.5	5:34	4:20	3:54	3:15	2:47	2:26					

ILS		STRAIGHT-IN LANDING RWY31		LOC (GS out)	
With Local Altimeter Setting	With Baudette Altimeter Setting	With Local Altimeter Setting	With Baudette Altimeter Setting	With Local Altimeter Setting	With Baudette Altimeter Setting
DA(H) 1366' (200')	DA(H) 1493' (327')	With ALETE MDA(H) 1520' (354')	Without ALETE MDA(H) 1620' (454')	With ALETE MDA(H) 1660' (494')	Without ALETE MDA(H) 1760' (594')
FULL RAIL or ALS out	FULL RAIL or ALS out	RAIL or ALS out	RAIL or ALS out	RAIL or ALS out	RAIL or ALS out
3/8	3/4	1/2	1/2	1/2	1/2

CHANGES: LOC frequency.

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ASOS 120.0	MINNEAPOLIS Center (R) 120.9	PRINCETON Radio 123.6	FALLS INTL UNICOM CTAF 122.8
WAAS Ch 53706 W-13A	Final Apch Crs 133°	Minimum Alt OBUYE 3300' (2116')	LPV DA(H) (CONDITIONAL) 1434' (250') Apt Elev 1185' TDZE 1184'
MISSED APCH: Climb to 3400' direct ZAVBA and hold. Alt Set: INCHES Trans level: FL 180 Trans alt: 18000' 1. Use local altimeter setting; if not received, use Baudette altimeter setting. 2. Baro-VNAV and VDP not authorized when using Baudette altimeter setting. 3. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -17°C (2°F) or above 47°C (116°F). 4. DME/DME RNP-0.3 not authorized. 5. WAAS VNAV outages may occur daily. WAAS VNAV NOTAM service not provided. 6. Pilot controlled lighting 122.8.			
			3200' MSA RW13



Gnd speed-Kts	70	90	100	120	140	160	MALSR	3400'	
Glide Path Angle 3.00°	372	478	531	637	743	849	PAPI		ZAVBA
MAP at RW13									

STRAIGHT-IN LANDING RWY 13									1		CIRCLE-TO-LAND		
With Local Altimeter Setting									With Local Altimeter Setting				
LPV			LNAV/VNAV			LNAV							
DA(H) 1434'(250')			DA(H) 1669'(485')			MDA(H) 1760'(576')							
		RAILout	ALS out			RAILout	ALS out			RAILout	ALS out	Max Kts	MDA(H)
A	1/2	3/4	1 1/4	1 3/4	1/2	3/4	1	90	1760'(575')-1				
B										140	1760'(575')-1 1/2		
C													
D													
						1 1/4	1 3/4	165	1780'(595')-2				
With Baudette Altimeter Setting									With Baudette Altimeter Setting				
LPV			LNAV/VNAV			LNAV							
DA(H) 1561'(377')			DA(H) 1796'(612')			MDA(H) 1900'(716')							
		RAILout	ALS out			RAILout	ALS out			RAILout	ALS out	Max Kts	MDA(H)
A	3/4	1 1/4	2	1/2	3/4	1	90	1900'(715')-1					
B									140	1900'(715')-2			
C													
D													
						1 3/4	2 1/4	165	1920'(735')-2 1/4				

INTERNATIONAL FALLS, MINN

Eff 10 Apr

RNAV (GPS) Rwy 31

BRIEFING STRIP TM

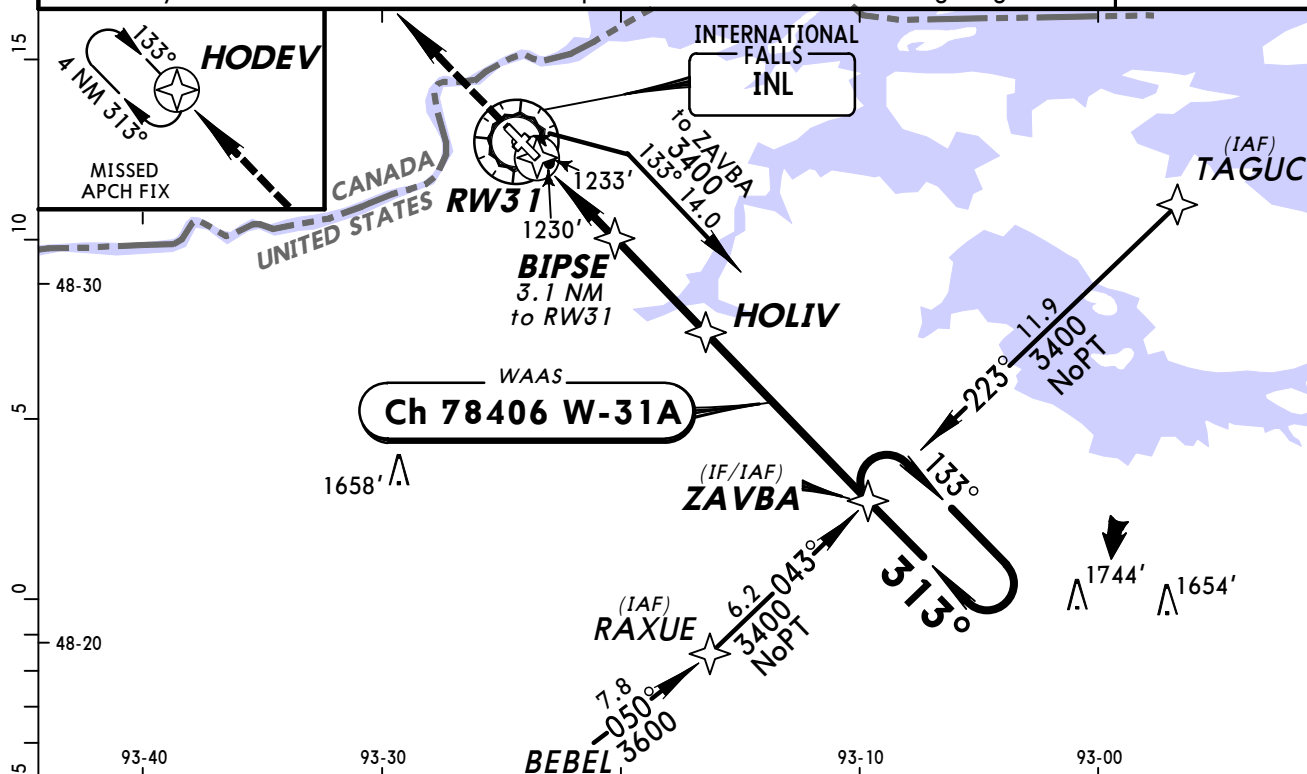
Apt Elev 1185'
TDZE 1166'

Trans alt: 18000'

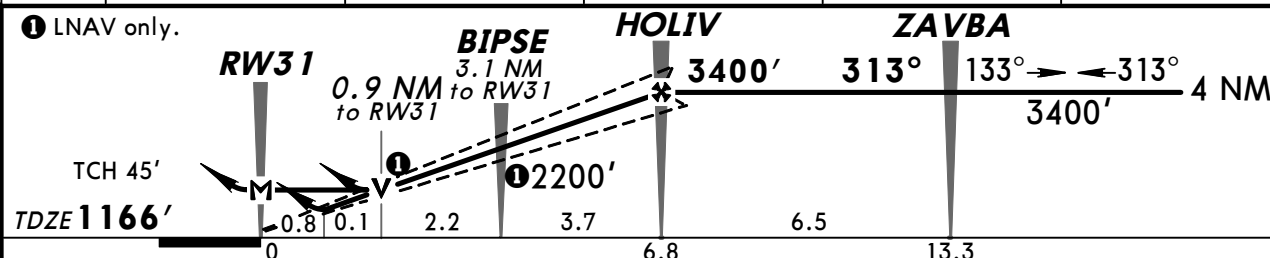
1. Use local altimeter setting; if not received, use Baudette altimeter setting. 2. Baro-VNAV and VDP not authorized when using Baudette altimeter setting. 3. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -17°C (2°F) or above 47°C (116°F). 4. DME/DME RNP-0.3 not authorized. 5. WAAS VNAV outages may occur daily. WAAS VNAV NOTAM service not provided. 6. Pilot controlled lighting 122.8.

3200'

MSA RW31



① LNAV only.



<i>Gnd speed-Kts</i>	70	90	100	120	140	160	PAPI-L	3300'		HODEV
<i>Glide Path Angle 3.00°</i>	372	478	531	637	743	849				
<i>MAP at RW31</i>										

1 CIRCLE-TO-LAND

With Local
Altimeter Setting

LPV <i>DA(H)</i> 1462' (296')		LNAV/VNAV <i>DA(H)</i> 1500' (334')	LNAV <i>MDA(H)</i> 1500' (334')	With Local Altitude Setting	
				Max Kts	<i>MDA(H)</i>
A	1	1¼	1	90	1620' (435')-1
B				120	1680' (495')-1
C				140	1680' (495')-1½
D				165	1780' (595')-2

With Baudette
Altimeter Setting

LPV			LNAV/VNAV		LNAV		With Baudette Altimeter Setting	
<i>DA(H)</i> 1589' (423')			<i>DA(H)</i> 1627' (461')		<i>MDA(H)</i> 1640' (474')		Max Kts	<i>MDA(H)</i>
A	1½		1½		1		90	1760' (575')-1
B							120	1820' (635')-1
C							140	1820' (635')-1¾
D							165	1920' (735')-2¼

1 Not Authorized at Night to Rwy 4/22.

CHANGES: New procedure.

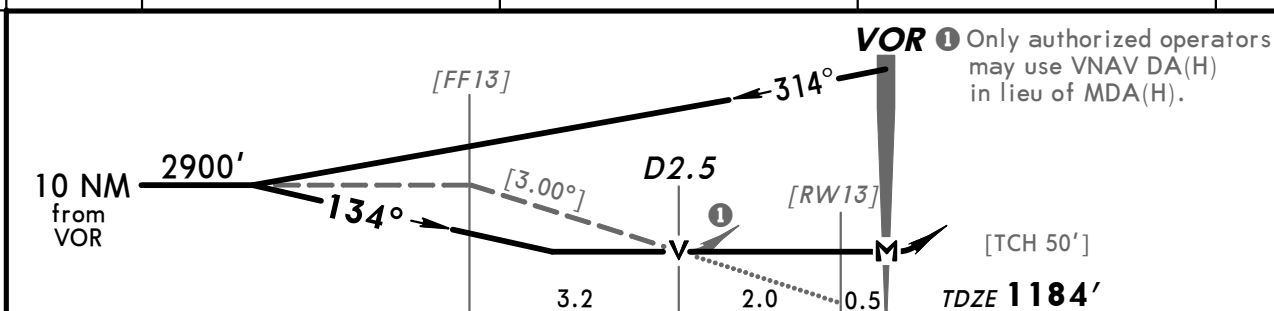
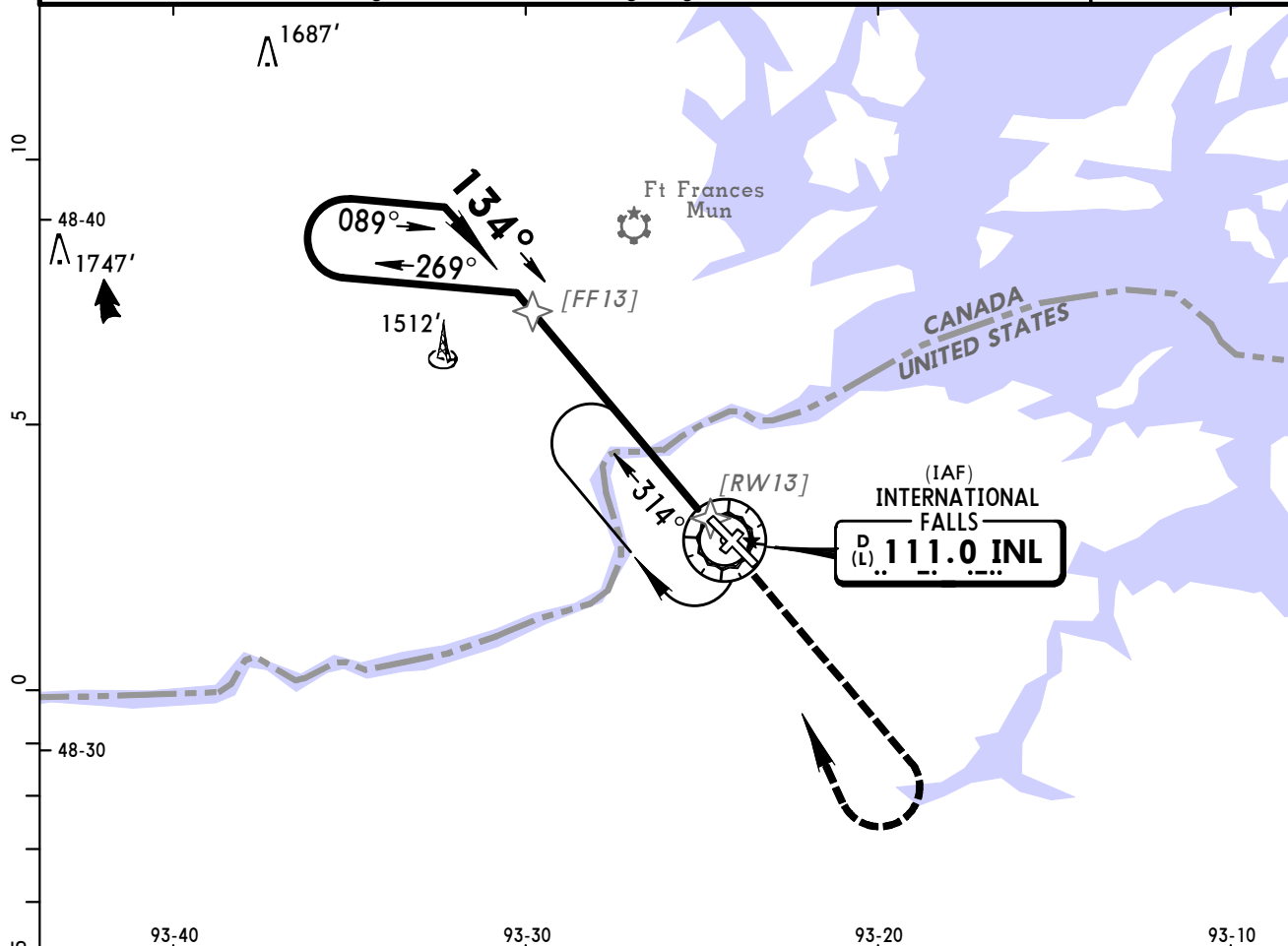
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TERPS
AMEND
0

KINL/INL FALLS INTL JEPPESEN INTERNATIONAL FALLS, MINN VOR Rwy 13

26 DEC 08 (13-1)

ASOS 120.0	MINNEAPOLIS Center (R) 120.9	PRINCETON Radio 123.6	FALLS INTL UNICOM CTAF 122.8
VOR INL 111.0	Final Apch Crs 134°	No FAF	MDA(H) (CONDITIONAL) 1880' (696')
MISSED APCH: Climb to 2900' then RIGHT turn direct INL VOR and hold.			Apt Elev 1185' TDZE 1184'
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000'			3200'
1. Use local altimeter setting; if not received, use Baudette altimeter setting. 2. VNAV not applicable when using Baudette altimeter setting. 3. VDP not authorized when using Baudette altimeter setting. 4. Pilot controlled lighting 122.8.			MSA INL VOR



Gnd speed-Kts	70	90	100	120	140	160	MALS R	2900'	RT	INL
Descent angle [3.00°]	372	478	531	637	743	849	PAPI	↑	→	111.0
MAP at VOR										

STRAIGHT-IN LANDING RWY 13						CIRCLE-TO-LAND			
MDA(H) 1880' (696')			MDA(H) 2020' (836')			Not Authorized at Night to Rwy 4-22			
With Local Altimeter Setting			With Baudette Altimeter Setting			With Local Altimeter Setting	With Baudette Altimeter Setting		
	RAIL out	ALS out		RAIL out	ALS out	MDA(H)	MDA(H)		
A	1/2	3/4	1	3/4	1	90	1880' (695') - 1	2020' (835') - 1	
B	1/2	3/4	1	3/4	1	120	1880' (695') - 1	2020' (835') - 1 1/4	
C	1 1/2	2	2	2 1/2	2 1/2	140	1880' (695') - 2	2020' (835') - 2 1/2	
D	1 3/4	2 1/4	2 1/4	2 3/4	2 3/4	165	1880' (695') - 2 1/4	2020' (835') - 2 3/4	

CHANGES: None.

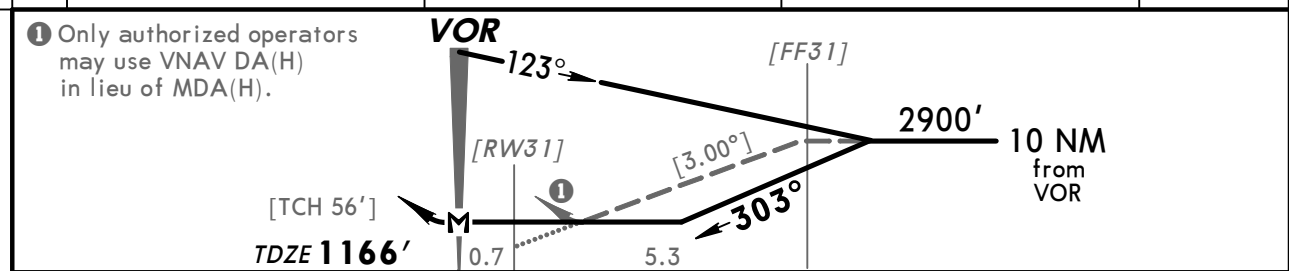
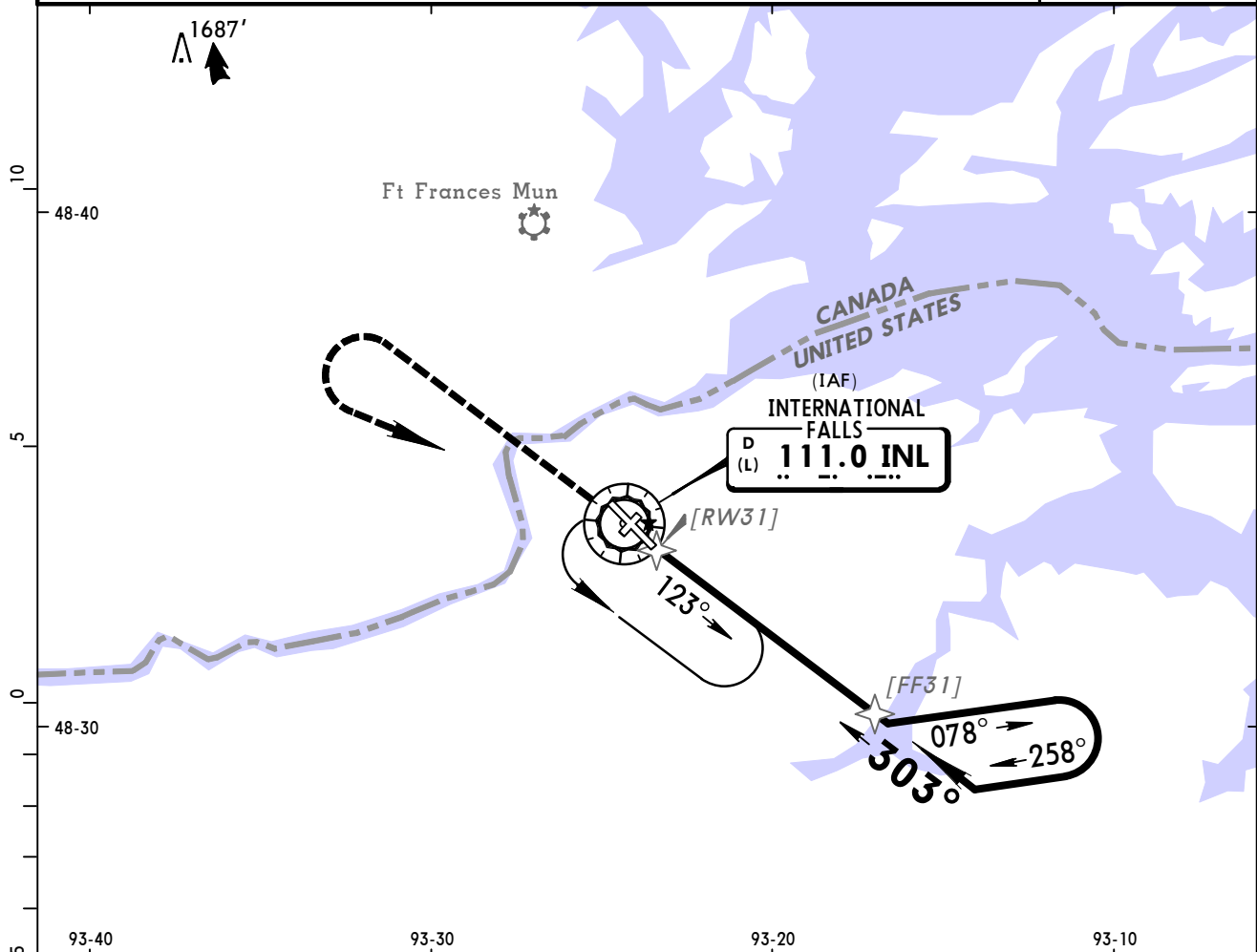
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KINL/INL FALLS INTL

26 DEC 08 (13-2)

JEPPESSEN INTERNATIONAL FALLS, MINN VOR Rwy 31

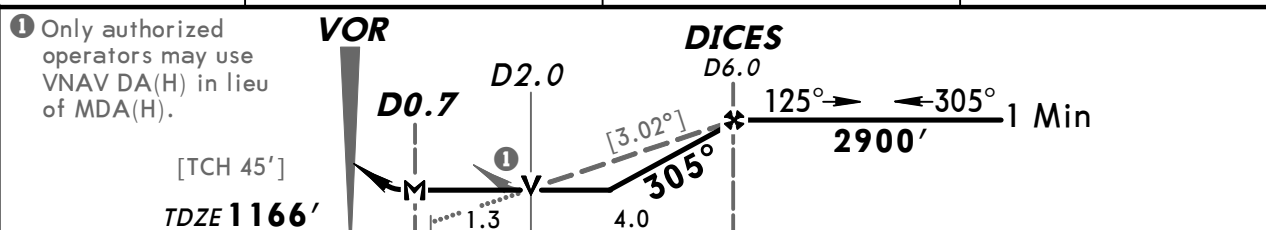
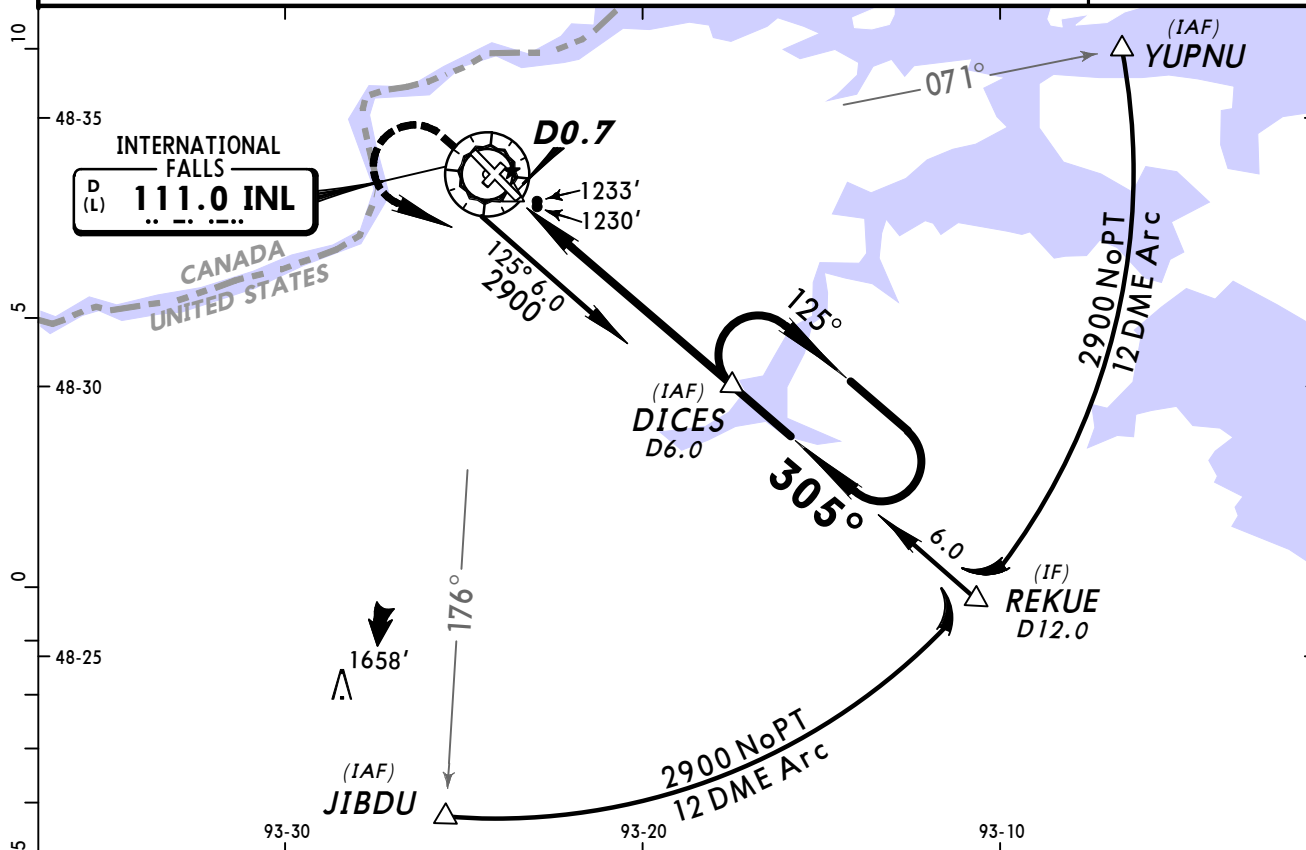
ASOS 120.0		MINNEAPOLIS Center (R) 120.9		PRINCETON Radio 123.6		FALLS INTL UNICOM CTAF 122.8	
VOR INL 111.0	Final Apch Crs 303°	No FAF		MDA(H) 1600' (434')	Apt Elev 1185' TDZE 1166'	3000' MSA INL VOR	
MISSED APCH: Climb to 2900' then LEFT turn direct INL VOR and hold.							
Alt Set: INCHES 1. Pilot controlled lighting 122.8.		Trans level: FL 180		Trans alt: 18000'			



Gnd speed-Kts	70	90	100	120	140	160	MALSR PAPI	2900' ↑	LT ↶	D →	INL 111.0
Descent angle [3.00°]	372	478	531	637	743	849					
MAP at VOR											

STRAIGHT-IN LANDING RWY31						CIRCLE-TO-LAND					
MDA(H) 1600' (434')						Not Authorized at Night to Rwy 4-22					
		RAIL out		ALS out		Max Kts	MDA(H)				
A	1/2	3/4		1		90	1620' (435') - 1				
B	3/4	1		1 1/4		120	1680' (495') - 1				
C	1	1 1/4		1 3/4		140	1680' (495') - 1 1/2				
D	1 1/2	1 3/4		2		165	1840' (655') - 2				

ASOS 120.0	MINNEAPOLIS Center (R) 120.9	PRINCETON Radio 123.6	FALLS INTL UNICOM CTAF 122.8
VOR INL 111.0	Final Apch Crs 305°	Minimum Alt DICES 2900' (1734')	MDA(H) 1620' (454') Apt Elev 1185' TDZE 1166'
MISSED APCH: Climb to 2000' then climbing LEFT turn to 2900' outbound via INL VOR R-125 to DICES D6.0 and hold.			
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000' 1. Use local altimeter setting; if not received, use Baudette altimeter setting. 2. Pilot controlled lighting 122.8.			
3200' MSA INL VOR			



Gnd speed-Kts	70	90	100	120	140	160	MALSR	2000'	2900'	INL	DICES
Descent angle [3.02°]	374	481	534	641	748	855	PAPI-L	↑	↶	via 111.0	
MAP at D0.7										R-125	

STRAIGHT-IN LANDING RWY 31						CIRCLE-TO-LAND					
With Local Altimeter Setting						Not Authorized at Night to Rwy 4/22					
MDA(H) 1620' (454')						With Local Altimeter Setting					
	FULL	RAILout	ALS out	Max Kts			MDA(H)				
A	1/2	3/4	1	90			1620' (435')-1				
B				120			1680' (495')-1				
C	3/4		1 1/4	140			1680' (495')-1 1/2				
D	1		1 1/2	165			1780' (595')-2				
With Baudette Altimeter Setting						With Baudette Altimeter Setting					
MDA(H) 1760' (594')											
	FULL	RAILout	ALS out	Max Kts			MDA(H)				
A	1/2	3/4	1	90			1760' (575')-1				
B				120			1820' (635')-1				
C	1		1 1/2	140			1820' (635')-1 3/4				
D	1 1/4		1 3/4	165			1920' (735')-2 1/4				

KINL/INL FALLS INTL

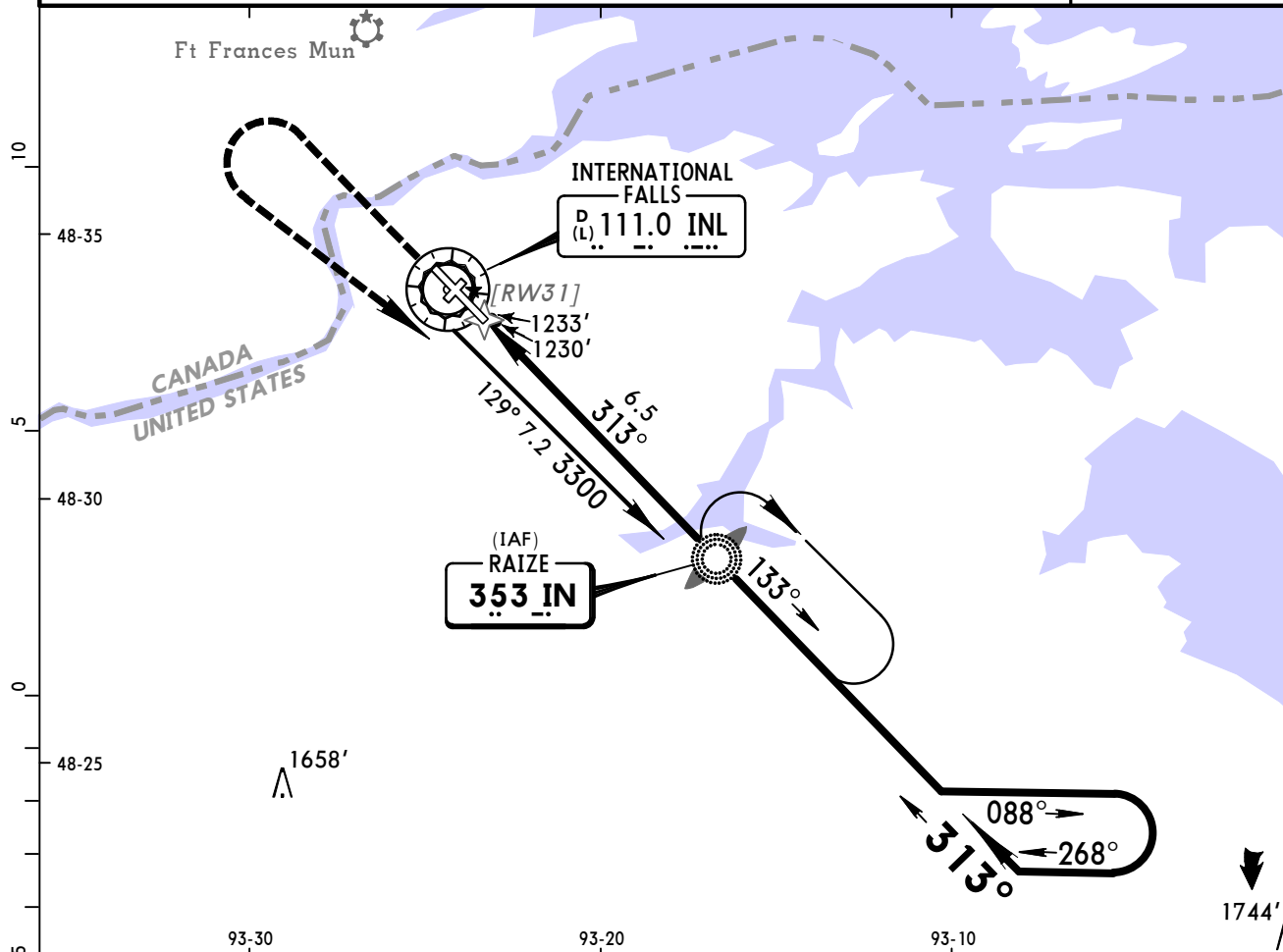
19 SEP 08

16-1

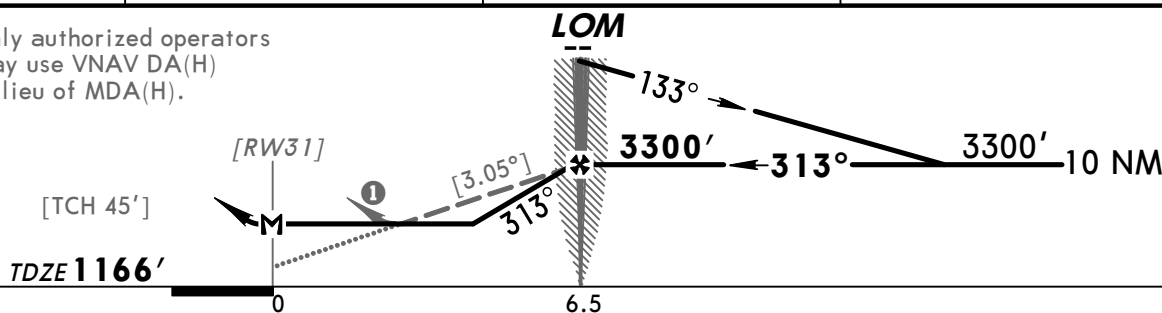
Eff 25 Sep

JEPPESSEN INTERNATIONAL FALLS, MINN NDB Rwy 31

ASOS 120.0	MINNEAPOLIS Center (R) 120.9	PRINCETON Radio 123.6	FALLS INTL UNICOM CTAF 122.8
LOM IN 353	Final Apch Crs 313°	Minimum Alt LOM 3300' (2134')	MDA(H) 1700' (534')
Apt Elev 1185' TDZE 1166'			
MISSED APCH: Climb to 2500' then climbing LEFT turn to 3300' direct IN LOM and hold. Alt Set: INCHES Trans level: FL 180 Trans alt: 18000' 1. Use local altimeter setting; if not received, use Baudette altimeter setting. 2.VNAV not applicable when using Baudette altimeter setting. 3.Pilot controlled lighting 122.8.			
2800' MSA IN LOM			



① Only authorized operators may use VNAV DA(H) in lieu of MDA(H).



Gnd speed-Kts	70	90	100	120	140	160	PAPI-L	2500'	3300'	D→	IN 353
Descent angle [3.05°]	378	486	540	648	755	863		↑	LT		
LOM to MAP	6.5	5:34	4:20	3:54	3:15	2:47					

STRAIGHT-IN LANDING RWY 31				① CIRCLE-TO-LAND			
MDA(H) 1700' (534')		MDA(H) 1840' (674')		With Local Altimeter Setting		With Baudette Altimeter Setting	
With Local Altimeter Setting		With Baudette Altimeter Setting		Max Kts	MDA(H)	MDA(H)	
A	3/4	3/4	3/4	90	1700' (515') - 1	1840' (655') - 1	
B	3/4	3/4	3/4	120	1700' (515') - 1	1840' (655') - 1	
C	1	1 1/2	1 1/2	140	1700' (515') - 1 1/2	1840' (655') - 2	
D	1 1/2	2	2	165	1780' (595') - 2	1920' (735') - 2 1/4	

① Not Authorized at Night to Rwy 4/22.

CHANGES: None.

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General Information

Location: Mankato MN USA
IATA Code: MKT
Lat/Long: N44° 13.4' W093° 55.2'
Elevation: 1021 ft

Airport Use: Public
Magnetic Variation: 1.3°E
Sectional Chart: Omaha

Fuel Types: 100 Octane (LL), Jet A
Oxygen Types: LP Bottle
Repair Types: Major Airframe, Major Engine
Customs: No
Airport Type: IFR
Landing Fee: No
Control Tower: No
Jet Start Unit: Yes
LLWS Alert: No
Beacon: Yes

Sunrise: 1257 Z
Sunset: 0000 Z,

Runway Information

Runway: 04
Length x Width: 3999 ft x 75 ft
Surface Type: asphalt
TDZ-Elev: 1018 ft
Lighting: Edge, REIL, Pilot controlled

Runway: 15
Length x Width: 6600 ft x 100 ft
Surface Type: concrete
TDZ-Elev: 1020 ft
Lighting: Edge, REIL, Pilot controlled

Runway: 22
Length x Width: 3999 ft x 75 ft
Surface Type: asphalt
TDZ-Elev: 1021 ft
Lighting: Edge, REIL, Pilot controlled

Runway: 33
Length x Width: 6600 ft x 100 ft
Surface Type: concrete
TDZ-Elev: 1021 ft
Lighting: Edge, ALS, Pilot controlled

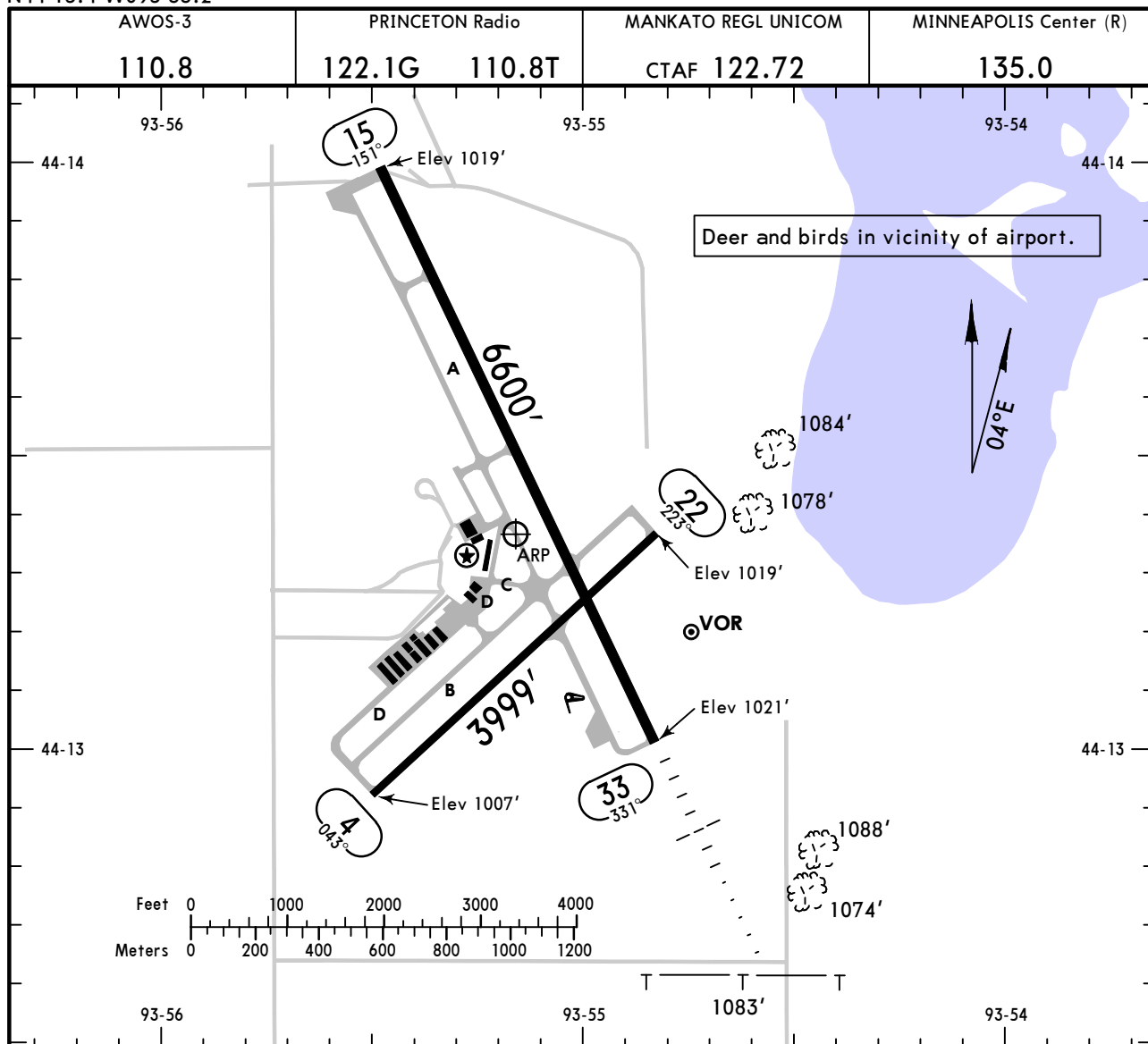
Communication Information

AWOS 110.8
Mankato Regl Unicom 122.725 CTAF PCL
Princeton Flight Service Station 122.1 RCO
Minneapolis Center 135.0 Remote Communications Air-Ground

KMKT/MKT
Apt Elev 1021'
N44 13.4 W093 55.2

JEPPESSEN
11 DEC 09 11-1 Eff 17 Dec

MANKATO, MINN
MANKATO REGL



ADDITIONAL RUNWAY INFORMATION

RWY		USABLE LENGTHS			
		Threshold	Landing Beyond Glide Slope	Take-off	Width
4	① MIRL ① REIL ① PAPI-L (angle 3.0°)				75'
15	① HIRL ① REIL ① PAPI-R (angle 3.0°)				100'
22	② ③ HIRL ① MALSR ① PAPI-R (angle 3.0°)		5663'		
33					

① Activate on 122.72.

② Grooved.

TAKE-OFF

	All Rwy's	
	Adequate Vis Ref	STD
1 & 2 Eng	1/4	1
3 & 4 Eng		1/2

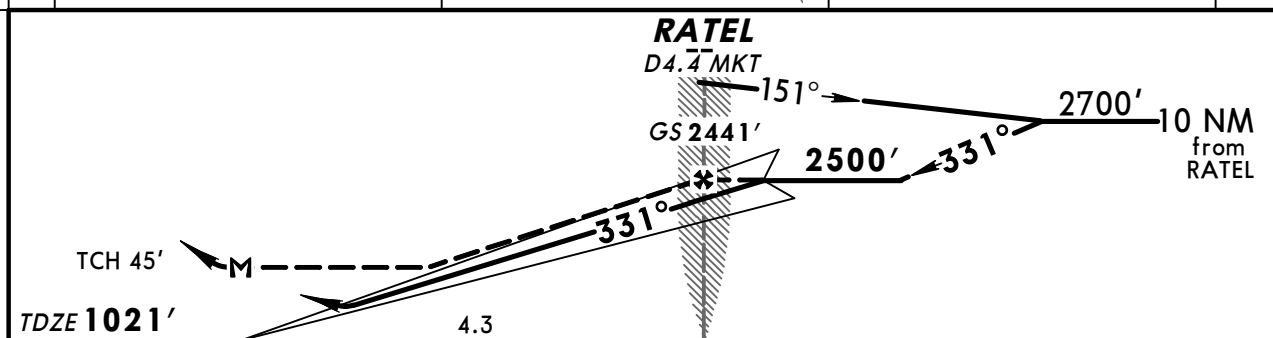
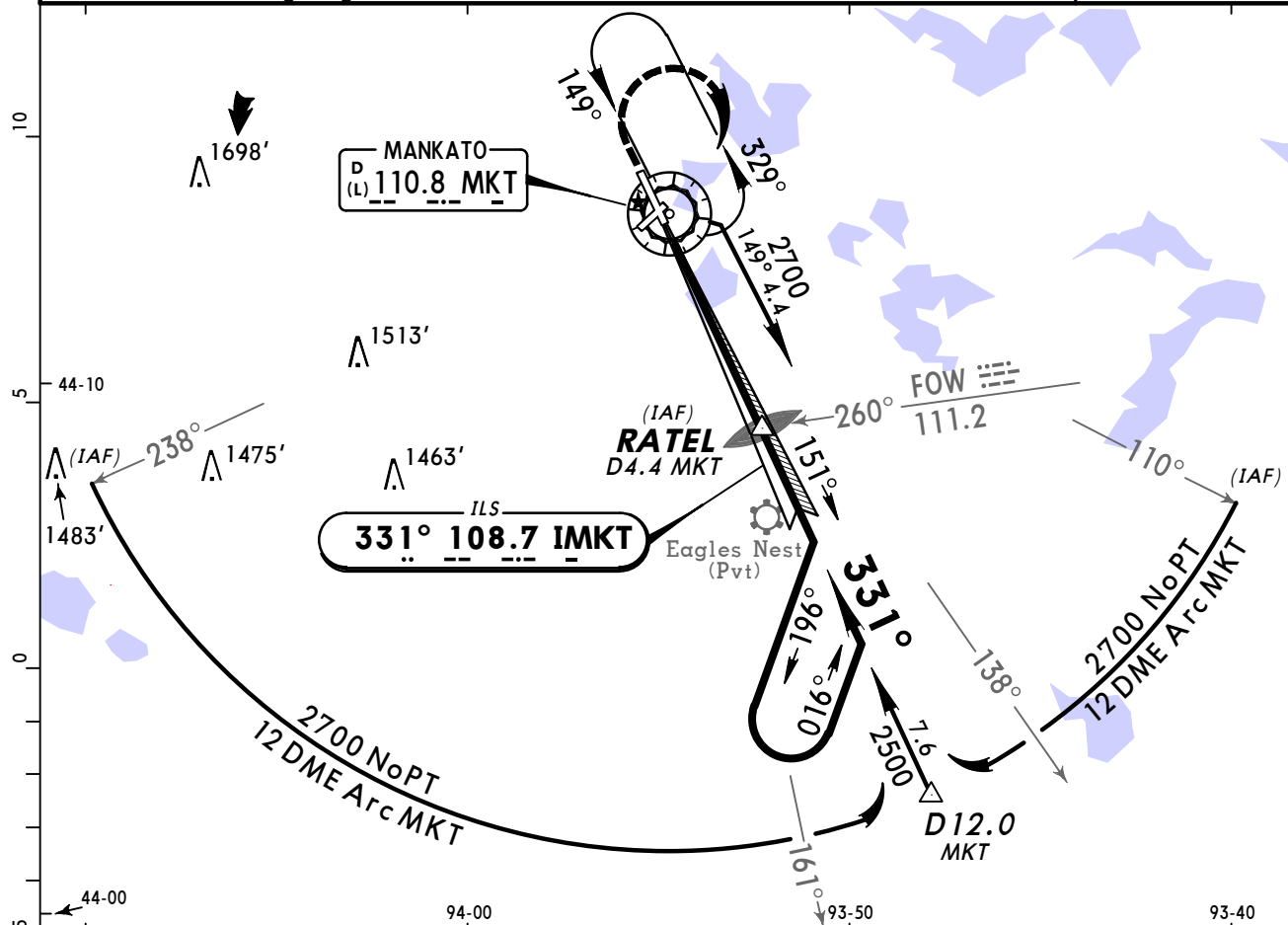
FOR FILING AS ALTERNATE

	Authorized Only When Local Weather Available	
	COPTER ILS Rwy 33 ILS Rwy 33	COPTER LOC Rwy 33 LOC Rwy 33
A		
B		
C		
D		

CHANGES: Rwy 4/22 lighting and surface treatment, alternate minimums.

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MANKATO, MINN
ILS Rwy 33

BRIEFING STRIP™

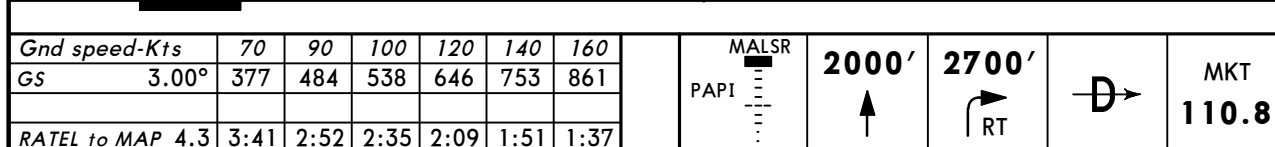
<i>Gnd speed-Kts</i>	70	90	100	120	140	160		2000' 	2700' 		MKT 110.8
<i>Gs</i> 3.00°	377	484	538	646	753	861					
<i>RATEL to MAP 4.3</i>	3:41	2:52	2:35	2:09	1:51	1:37					

STRAIGHT-IN LANDING RWY 33						CIRCLE-TO-LAND	
ILS <i>DA(H)</i> 1221' (200')			LOC (GS out) <i>MDA(H)</i> 1420' (399')				
FULL		RAIL or ALS out		RAIL out	ALS out	Max Kts	<i>MDA(H)</i>
A	1/2	3/4	1/2	3/4	1	90	1460' (439') - 1
B						120	1480' (459') - 1
C						140	1480' (459') - 1 1/2
D						165	1580' (559') - 2

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MANKATO, MINN

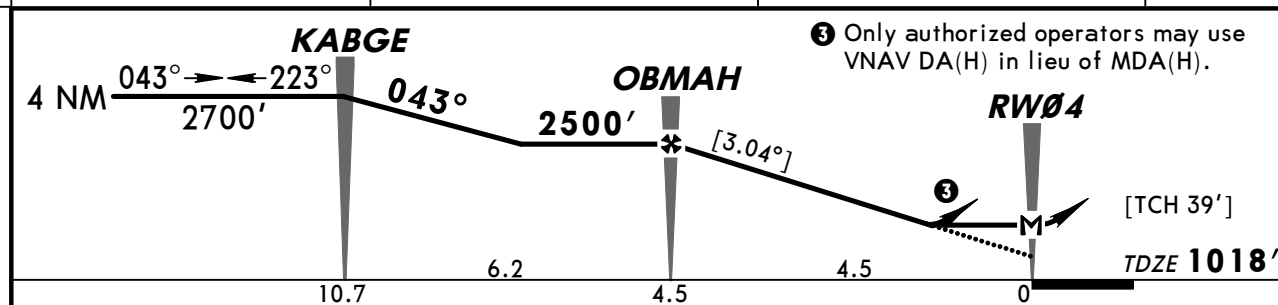
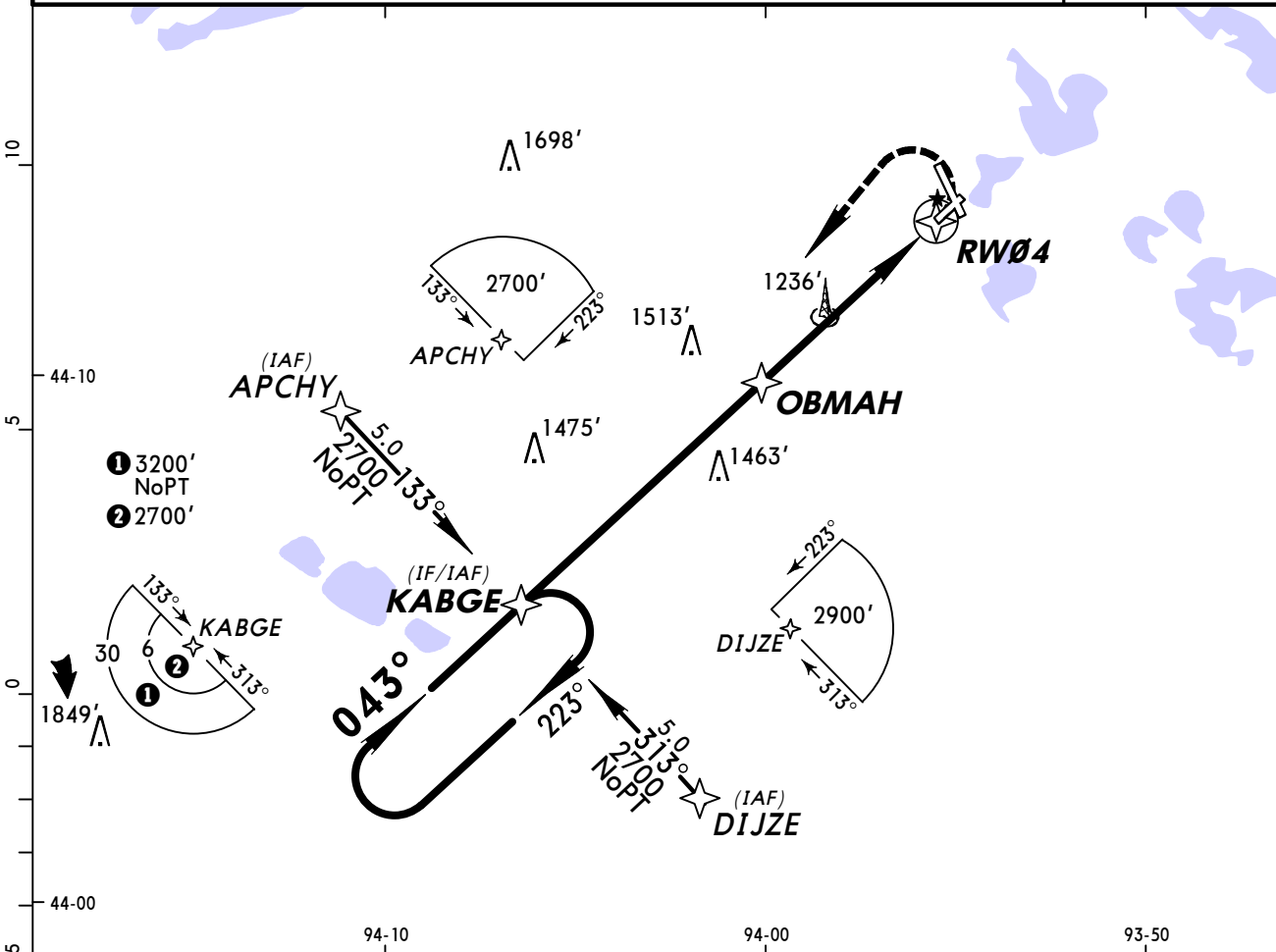
BRIEFING STRIP TM



TERPS

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AWOS-3 110.8	MINNEAPOLIS Center (R) 135.0	PRINCETON Radio 122.1G 110.8T	MANKATO REGL UNICOM CTAF 122.72
RNAV	Final Apch Crs 043°	Minimum Alt OBMAH 2500' (1482')	LNAV MDA(H) (CONDITIONAL) 1540' (522') Apt Elev 1021' TDZE 1018'
MISSED APCH: Climbing LEFT turn to 2700' direct KABGE and hold.			
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000'			
1. Use local altimeter setting; if not received, use Waseca altimeter setting. 2. DME/DME RNP-0.30 not authorized. 3. Visibility reduction by helicopters not authorized. 4. Pilot controlled lighting 122.72.			



Gnd speed-Kts	70	90	100	120	140	160				
Descent angle [3.04°]	376	484	538	645	753	861				
MAP at RW04										

STRAIGHT-IN LANDING RWY 4				CIRCLE-TO-LAND			
LNAV		LNAV		With Local Altimeter Setting		With Waseca Altimeter Setting	
MDA(H) 1540' (522')		MDA(H) 1600' (582')		MDA(H)		MDA(H)	
With Local Altimeter Setting		With Waseca Altimeter Setting					
A	1	1	90	1540' (519') - 1		1600' (579') - 1	
B	1	1	120	1540' (519') - 1		1600' (579') - 1	
C	1½	1½	140	1540' (519') - 1½		1600' (579') - 1½	
D	NA	NA	D	NA		NA	

AWOS-3

110.8

MINNEAPOLIS Center (R)

135.0

PRINCETON Radio

122.1G 110.8T

MANKATO REGL UNICOM

CTAF 122.72

WAAS

Ch 45615

W-15A

Final

Apch Crs

151°

Minimum Alt

DIKGO

2600' (1580')

LPV

DA(H)

(CONDITIONAL)

1373' (353')

Apt Elev 1021'

TDZE 1020'

TAA

30 NM

IAF

MISSED APCH: Climb to 2900' direct ANIMY and hold.

Alt Set: INCHES

Trans level: FL 180

Trans alt: 18000'

1. Use local altimeter setting; if not received, use Waseca altimeter setting.

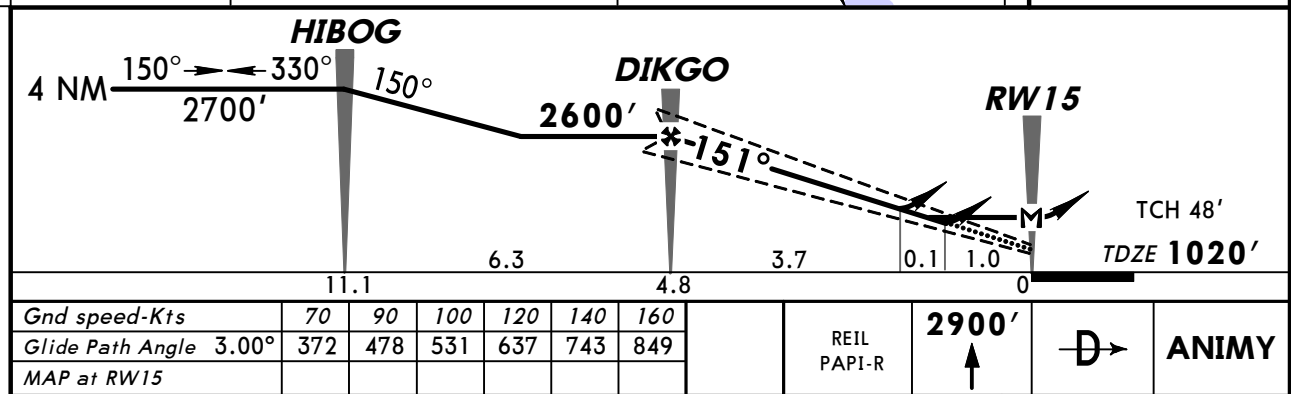
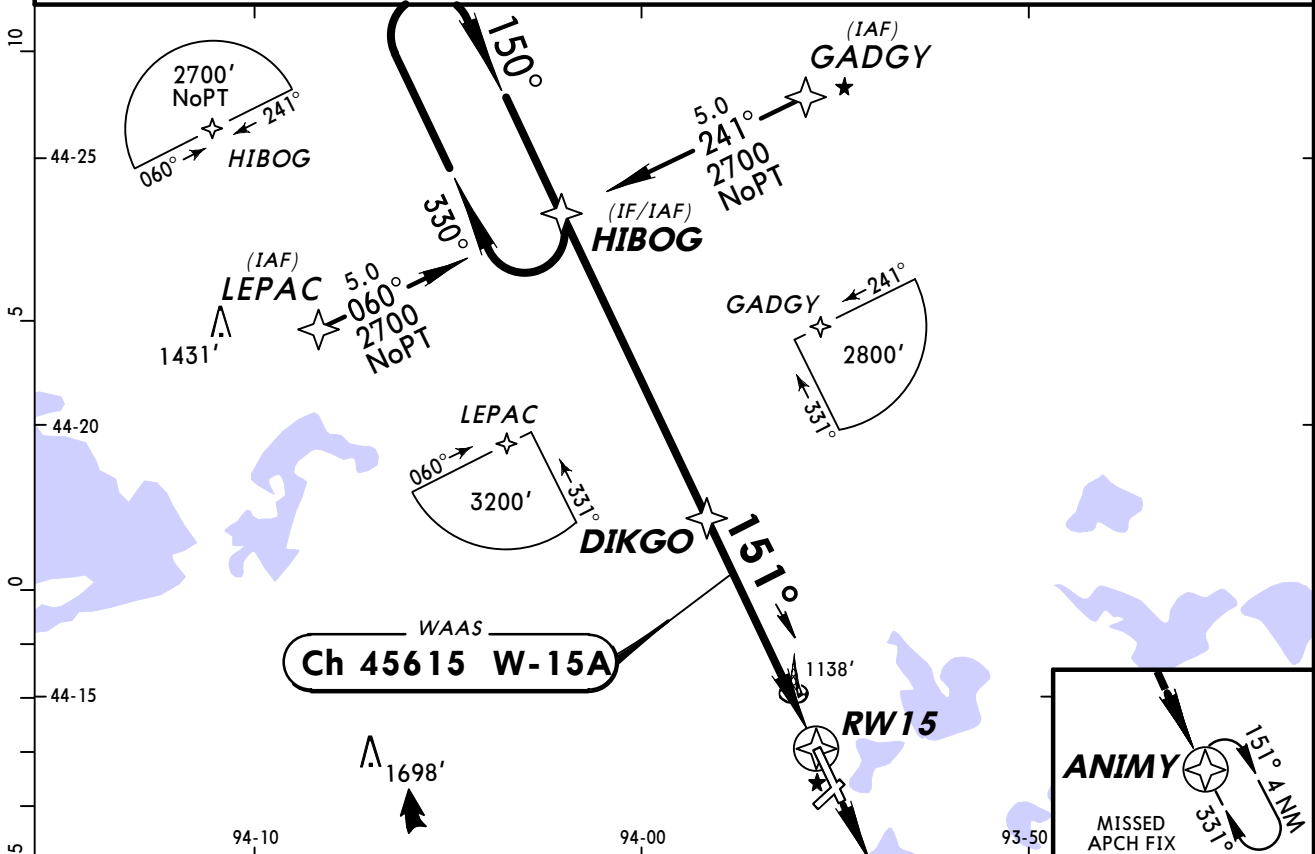
2. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -17°C (2°F) or above 46°C (114°F).

3. Baro-VNAV not authorized when using Waseca altimeter setting.

4. DME/DME RNP-0.30 not authorized.

5. Visibility reduction by helicopters not authorized.

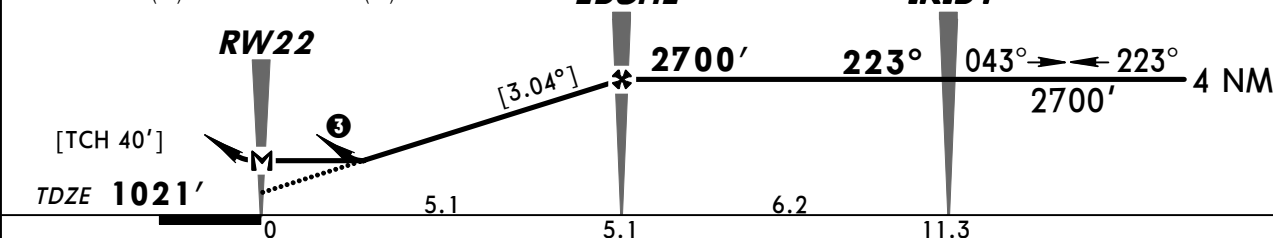
6. Pilot controlled lighting 122.72.



STRAIGHT-IN LANDING RWY 15					CIRCLE-TO-LAND			
With Local Altimeter Setting					With Local Altimeter Setting			
LPV		LNAV/VNAV		LNAV		Max Kts	MDA(H)	
DA(H) 1373' (353')		DA(H) 1416' (396')		MDA(H) 1400' (380')		90	1440' (419') - 1	
A	1¼		1½		1		120	1480' (459') - 1
140							1480' (459') - 1½	
165							1580' (559') - 2	
B					1¼		165	
C	1½							
D								
With Waseca Altimeter Setting					With Waseca Altimeter Setting			
LPV		LNAV/VNAV		LNAV		Max Kts	MDA(H)	
DA(H) 1430' (410')		DA(H) 1473' (453')		MDA(H) 1460' (440')		90	1500' (479') - 1	
A	1½		1½		1		120	1540' (519') - 1
140							1540' (519') - 1½	
165							1640' (619') - 2	
B					1¼		165	
C	1½							
D								

BRIEFING STRIPTM**EBUHE**

IKIBY

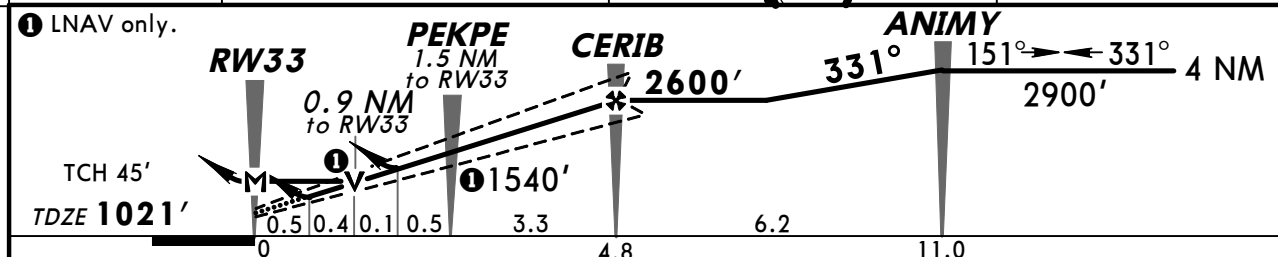
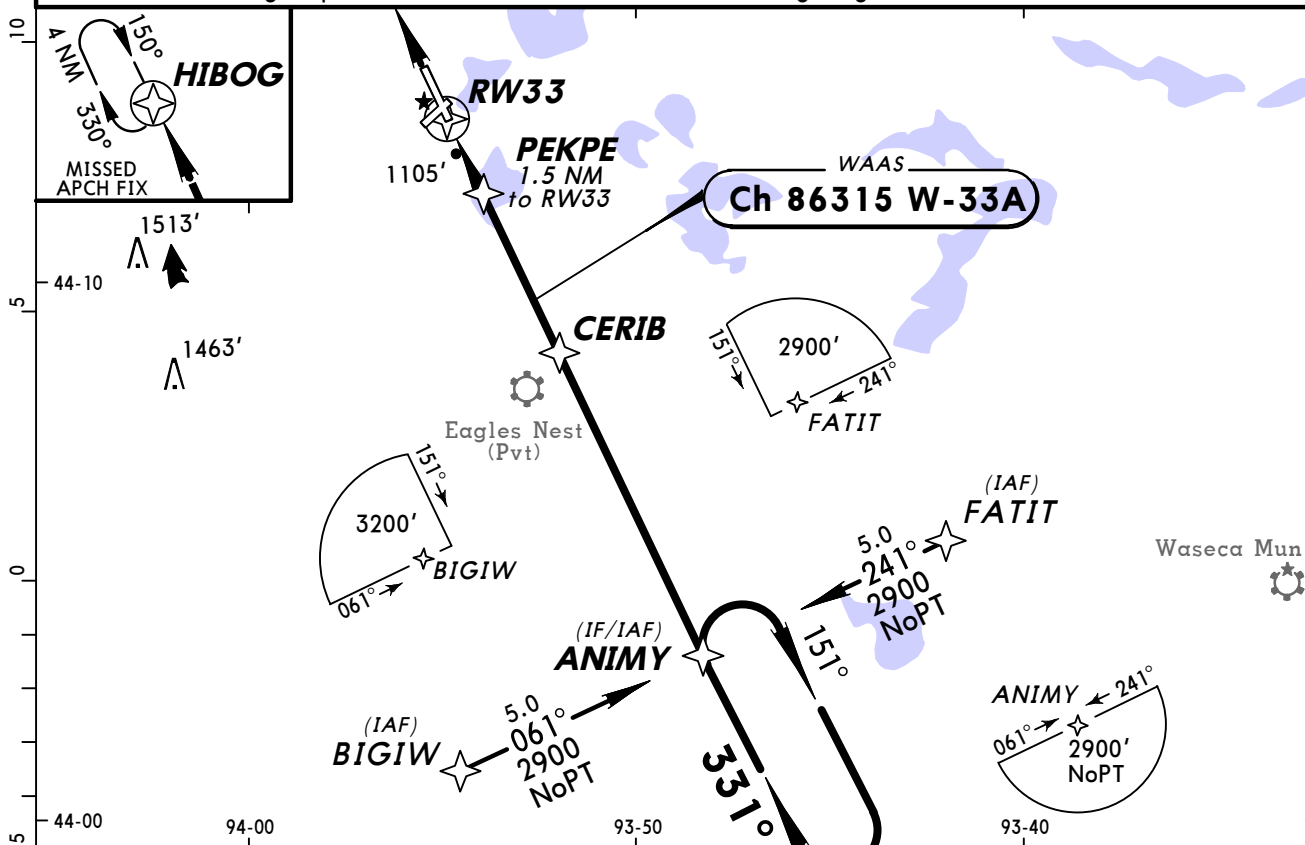


STRAIGHT-IN LANDING RWY 22			CIRCLE-TO-LAND		
LNAV					
MDA(H) 1480' (459')		MDA(H) 1540' (519')		With Local Altimeter Setting	With Waseca Altimeter Setting
With Local Altimeter Setting		With Waseca Altimeter Setting	Max Kts	MDA(H)	MDA(H)
A	1	1	90	1480' (459') - 1	1540' (519') - 1
B			120		
C	1¼	1½	140	1480' (459') - 1½	1540' (519') - 1½
D	NA	NA	D	NA	NA

TERPS AMEND 0 17 DEC 2009

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AWOS-3 110.8		MINNEAPOLIS Center (R) 135.0		PRINCETON Radio 122.1G 110.8T		MANKATO REGL UNICOM CTAF 122.72					
WAAS Ch 86315 W-33A		Final Apch Crs 331°		Minimum Alt CERIB 2600' (1579')		LPV DA(H) (CONDITIONAL) 1221' (200')		Apt Elev 1021' TDZE 1021'		TAA 30 NM IAF	
MISSED APCH: Climb to 2700' direct HIBOG and hold.											
Alt Set: INCHES				Trans level: FL 180				Trans alt: 18000'			
1. Use local altimeter setting; if not received, use Waseca altimeter setting. 2. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -17°C (2°F) or above 46°C (114°F). 3. Baro-VNAV and VDP not authorized when using Waseca altimeter setting. 4. DME/DME RNP-0.30 not authorized. 5. VGSI and RNAV glidepath not coincident. 6. Pilot controlled lighting 122.72.											



Gnd speed-Kts	70	90	100	120	140	160	MALSR	2700'	HIBOG
Glide Path Angle	3.00°	372	478	531	637	743	PAPI		
MAP at RW33									

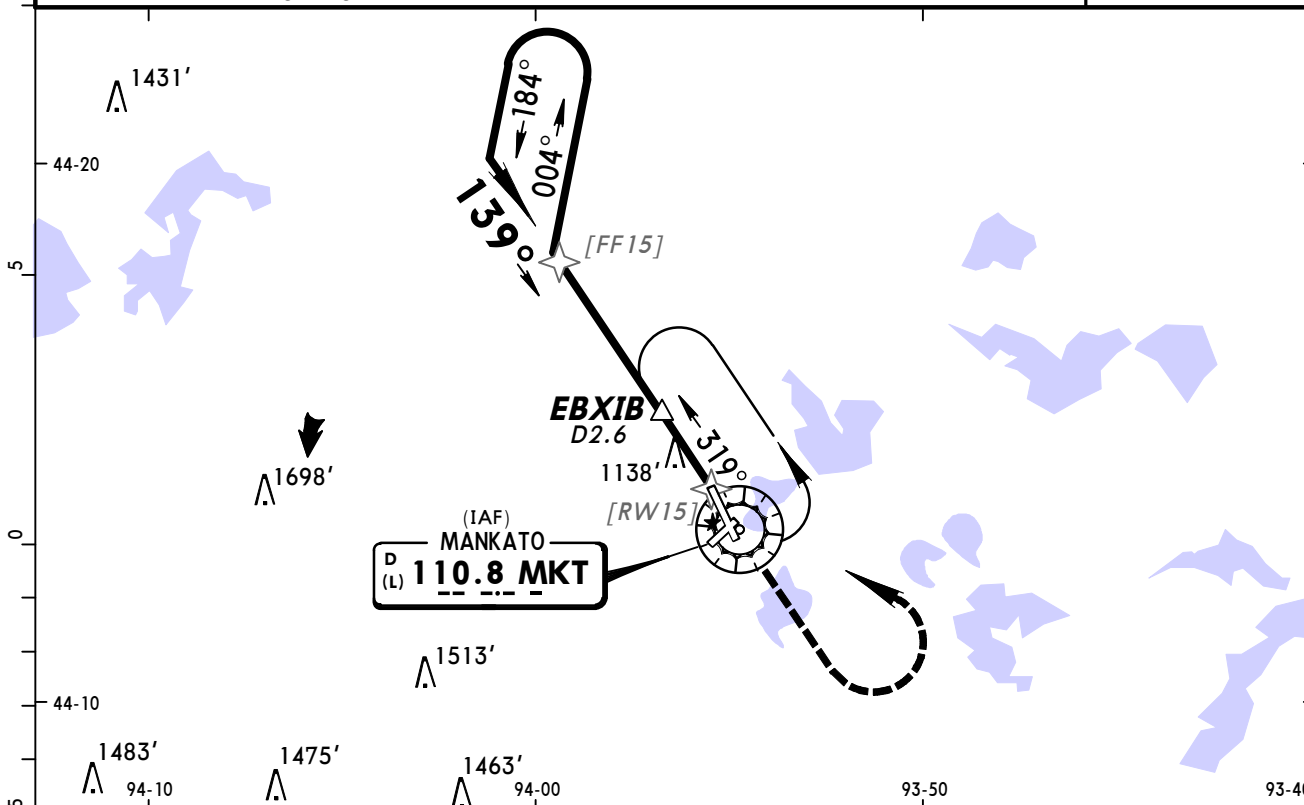
STRAIGHT-IN LANDING RWY 33 With Local Altimeter Setting							CIRCLE-TO-LAND With Local Altimeter Setting	
LPV DA(H) 1221' (200')		LNAV/VNAV DA(H) 1375' (354')		LNAV MDA(H) 1360' (339')			Max Kts	MDA(H)
RAIL or ALS out		RAIL or ALS out		RAIL out		ALS out	90	1440' (419') - 1
A							120	1480' (459') - 1
B	1/2	3/4	3/4	1 1/4	1/2	3/4	140	1480' (459') - 1 1/2
C							165	1580' (559') - 2
D								
With Waseca Altimeter Setting							Max Kts	MDA(H)
LPV DA(H) 1278' (257')		LNAV/VNAV DA(H) 1432' (411')		LNAV MDA(H) 1420' (399')			90	1500' (479') - 1
RAIL or ALS out		RAIL or ALS out		RAIL out		ALS out	120	1540' (519') - 1
A							140	1540' (519') - 1 1/2
B	1/2	1	1	1 1/2	1/2	3/4	165	1640' (619') - 2
C								
D					1	1 1/4		

10

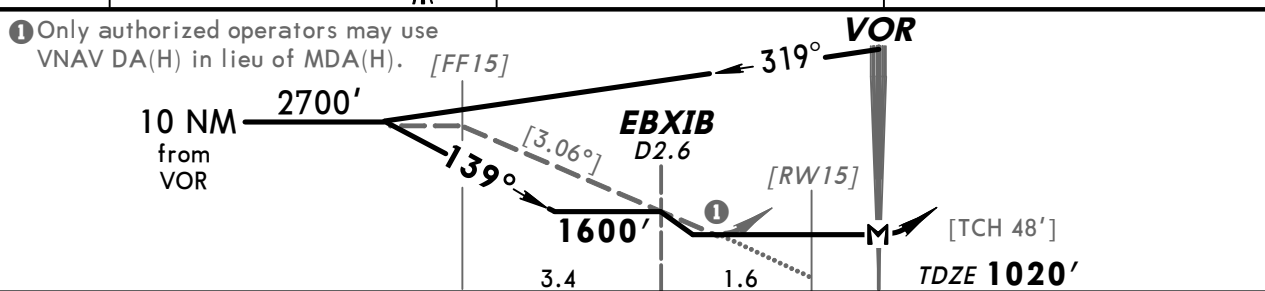
BRIEFING STRIP

TM

AWOS-3 110.8		MINNEAPOLIS Center (R) 135.0		PRINCETON Radio 122.1G 110.8T		MANKATO REGL UNICOM CTAF 122.72
VOR MKT 110.8	Final Apch Crs 139°	Minimum Alt EBXIB 1600' (580')	MDA(H) (CONDITIONAL) 1400' (380')	Apt Elev 1021' TDZE 1020'	3200' MSA MKT VOR	
MISSED APCH: Climb to 2000' then climbing LEFT turn to 2700' direct MKT VOR and hold.						
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000'						
1. Use local altimeter setting; if not received, use Waseca altimeter setting. 2. Pilot controlled lighting 122.72.						



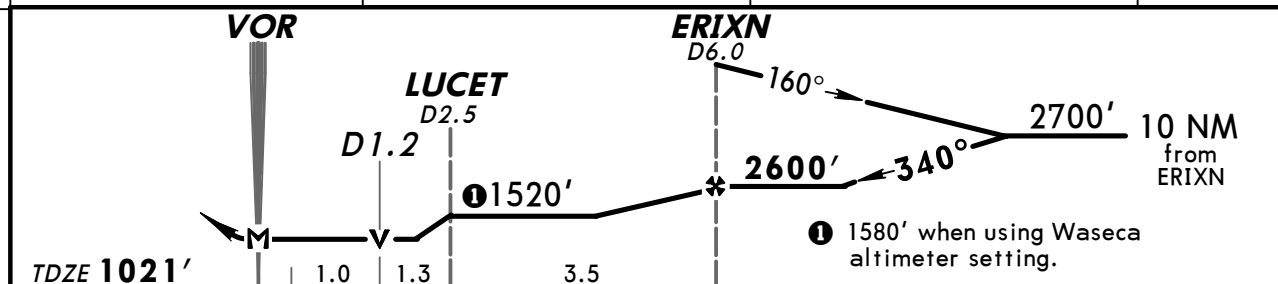
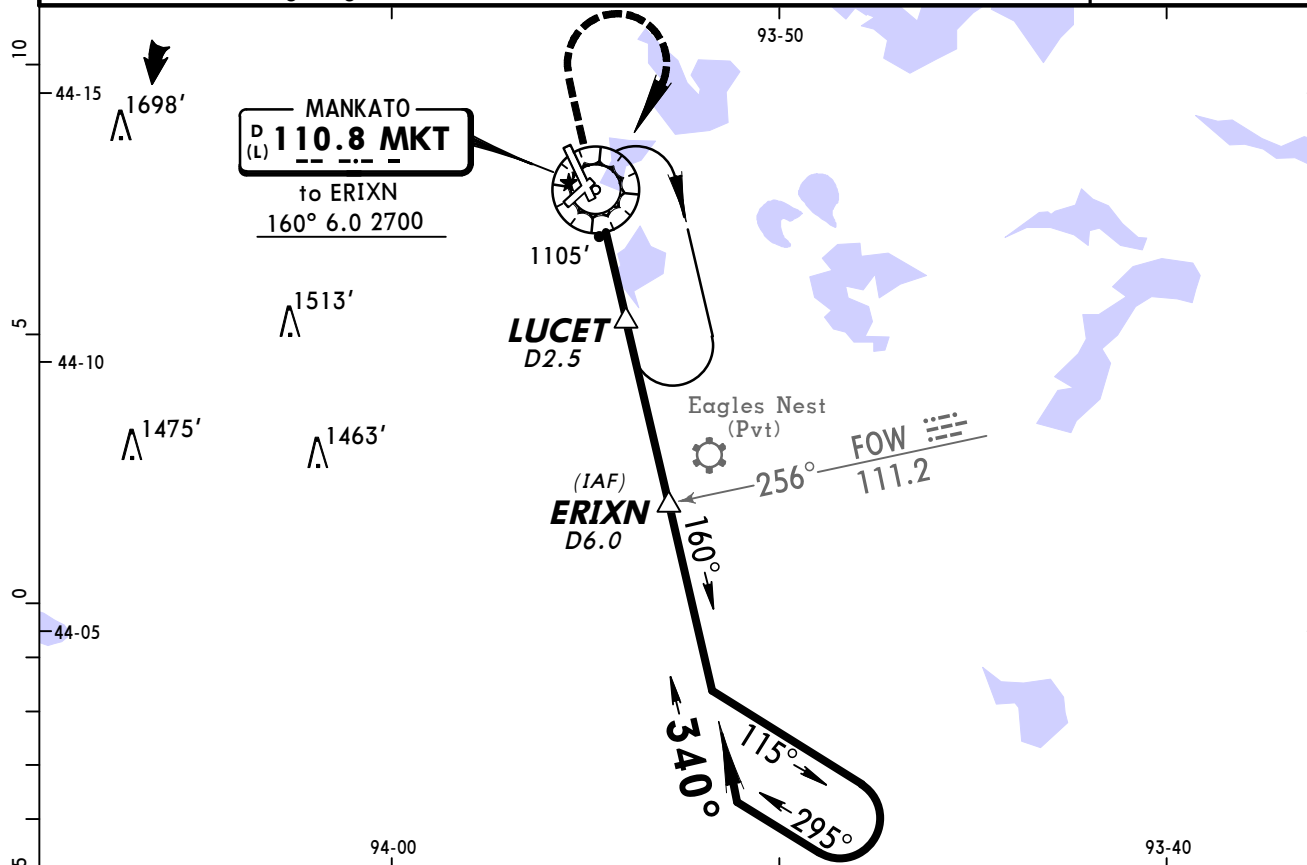
① Only authorized operators may use
VNAV DA(H) in lieu of MDA(H).



Gnd speed-Kts	70	90	100	120	140	160	REIL PAPI-R	2000'	2700'	→	MKT 110.8
Descent angle [3.06°]	379	487	541	650	758	866		↑	↙	↘	
MAP at VOR											

STRAIGHT-IN LANDING RWY 15				CIRCLE-TO-LAND			
With Local Altimeter Setting				With Local Altimeter Setting			
MDA(H) 1400' (380')		MDA(H) 1600' (580')		With EBXIB		Without EBXIB	
With EBXIB		Without EBXIB		Max Kts	MDA(H)	MDA(H)	
A				90	1440' (419') - 1	1600' (579') - 1	
B	1		1	120	1480' (459') - 1	1600' (579') - 1	
C			1½	140	1480' (459') - 1½	1600' (579') - 1½	
D	1¼		1¾	165	1580' (559') - 2	1600' (579') - 2	
With Waseca Altimeter Setting				With Waseca Altimeter Setting			
MDA(H) 1460' (440')		MDA(H) 1660' (640')		Max Kts	MDA(H)	MDA(H)	
With EBXIB		Without EBXIB		With EBXIB	Without EBXIB		
A				90	1500' (479') - 1	1660' (639') - 1	
B	1		1	120	1540' (519') - 1	1660' (639') - 1	
C	1¼		1¾	140	1540' (519') - 1¾	1660' (639') - 1¾	
D	1½		2	165	1640' (619') - 2¼	1660' (639') - 2¼	

AWOS-3 110.8		MINNEAPOLIS Center (R) 135.0		PRINCETON Radio 122.1G 110.8T		MANKATO REGL UNICOM CTAF 122.72	
VOR MKT 110.8	Final Apch Crs 340°	Minimum Alt ERIXN 2600' (1579')	MDA(H) (CONDITIONAL) 1400' (379')	Apt Elev 1021' TDZE 1021'		3200' MSA MKT VOR	
MISSED APCH: Climb to 2300' then climbing RIGHT turn to 2700' direct MKT VOR and hold.							
Alt Set: INCHES							



MAP at VOR				MALSR	2300'	2700'	→	MKT 110.8
				PAPI	↑	→	RT	

STRAIGHT-IN LANDING RWY 33							CIRCLE-TO-LAND			
With Local Altimeter Setting							With Local Altimeter Setting			
MDA(H) 1400' (379')				MDA(H) 1520' (499')			With LUCET		Without LUCET	
With LUCET				Without LUCET			Max Kts	MDA(H)	MDA(H)	
		RAIL out	ALS out				90	1440' (419') - 1	1520' (499') - 1	
A	1/2	3/4	1	1/2	3/4	1	120 <th>1480' (459') - 1</th> <td colspan="2" rowspan="2"></td>	1480' (459') - 1		
B						140 <th>1480' (459') - 1 1/2</th> <td>1520' (499') - 1 1/2</td>	1480' (459') - 1 1/2	1520' (499') - 1 1/2		
C				3/4		1 1/4		165 <th>1580' (559') - 2</th> <td>1580' (559') - 2</td>	1580' (559') - 2	1580' (559') - 2
D	1	1 1/4		1	1 1/2					
With Waseca Altimeter Setting							With Waseca Altimeter Setting			
MDA(H) 1460' (439')				MDA(H) 1580' (559')			With LUCET		Without LUCET	
With LUCET				Without LUCET			Max Kts	MDA(H)	MDA(H)	
		RAIL out	ALS out				90	1500' (479') - 1	1580' (559') - 1	
A	1/2	3/4	1	1/2	3/4	1	120 <th>1540' (519') - 1</th> <td colspan="2" rowspan="2"></td>	1540' (519') - 1		
B						140 <th>1540' (519') - 1 1/2</th> <td>1580' (559') - 1 1/2</td>	1540' (519') - 1 1/2	1580' (559') - 1 1/2		
C				3/4		1 1/4		165 <th>1640' (619') - 2</th> <td>1640' (619') - 2</td>	1640' (619') - 2	1640' (619') - 2
D	1	1 1/2		1 1/4	1 3/4					

General Information

Location: Marshall MN USA
IATA Code: MML
Lat/Long: N44° 27.1' W095° 49.5'
Elevation: 1183 ft

Airport Use: Public
Magnetic Variation: 2.8°E
Sectional Chart: Omaha

Fuel Types: 100 Octane (LL), Jet A
Repair Types: Major Airframe, Major Engine
Customs: No
Airport Type: IFR
Landing Fee: No
Control Tower: No
Jet Start Unit: Yes
LLWS Alert: No
Beacon: Yes

Sunrise: 1304 Z
Sunset: 0008 Z,

Runway Information

Runway: 02
Length x Width: 4000 ft x 75 ft
Surface Type: asphalt
TDZ-Elev: 1180 ft
Lighting: Edge, REIL, Pilot controlled

Runway: 12
Length x Width: 7220 ft x 100 ft
Surface Type: asphalt
TDZ-Elev: 1183 ft
Lighting: Edge, ALS, Pilot controlled

Runway: 20
Length x Width: 4000 ft x 75 ft
Surface Type: asphalt
TDZ-Elev: 1178 ft
Lighting: Edge, REIL, Pilot controlled

Runway: 30
Length x Width: 7220 ft x 100 ft
Surface Type: asphalt
TDZ-Elev: 1180 ft
Lighting: Edge, REIL, Pilot controlled

Communication Information

AWOS 111.0
Southwest Minnesota Regl Unicom 122.8 CTAF PCL
Minneapolis Center & Flig GCO 121.725
Princeton Flight Service Station 122.35 RCO
Minneapolis Center 127.1 Remote Communications Air-Ground

KMML/MML

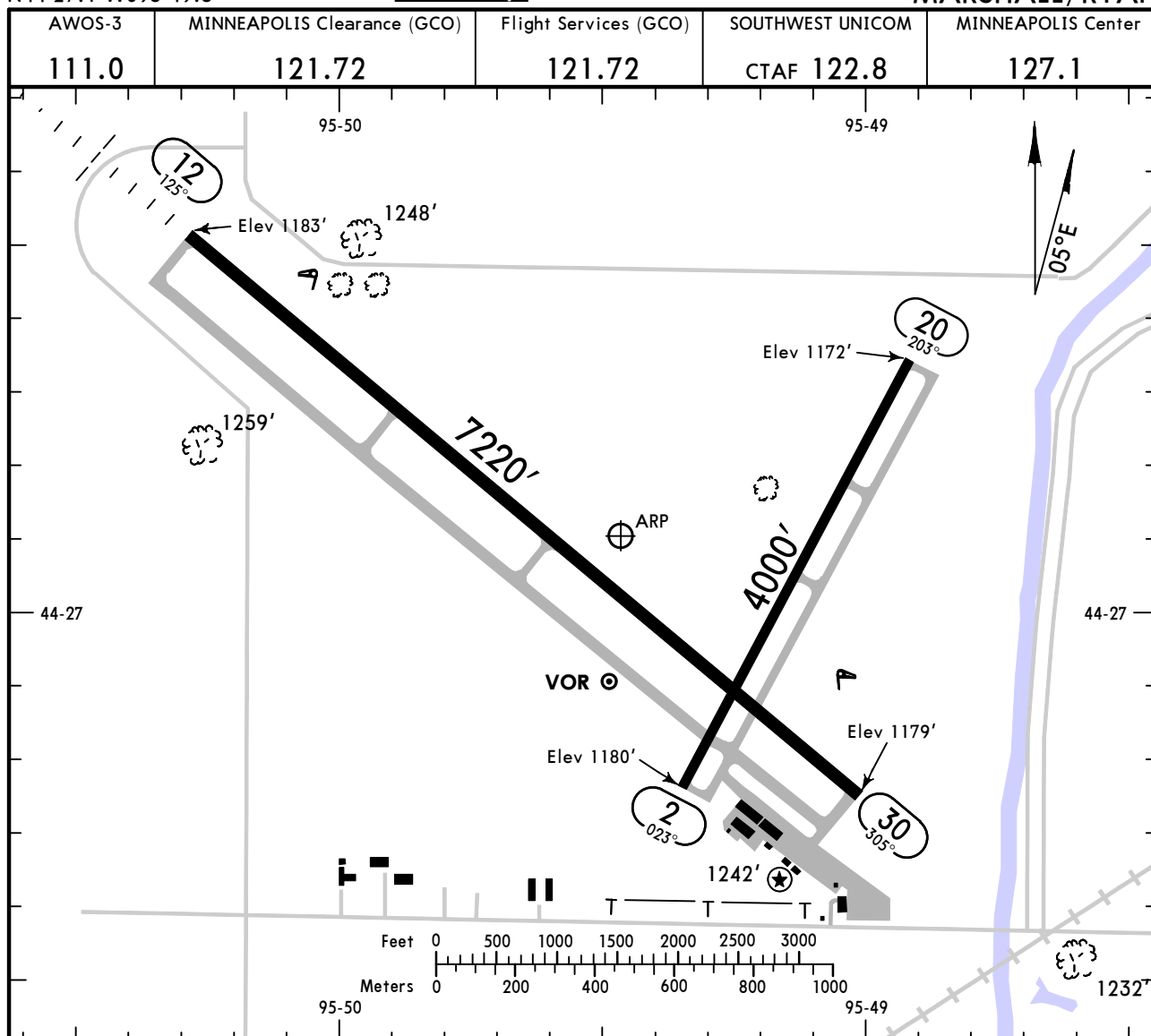
Apt Elev **1183'**
N44 27.1 W095 49.5

29 APR 11

Eff 5 May

(11-1)

JEPPESEN

MARSHALL, MINN
SOUTHWEST MINNESOTA REG
MARSHALL/RYAN

ADDITIONAL RUNWAY INFORMATION

RWY		USABLE LENGTHS			
		Threshold	Landing Beyond Glide Slope	TAKE-OFF	WIDTH
2	20	① MIRL ① REIL ① PAPI-L (angle 3.0°)			75'
12	30	① HIRL ① MALSR ① PAPI-L (angle 3.0°)	6270'		100'
		① HIRL ① REIL ① PAPI-L (angle 3.0°)			

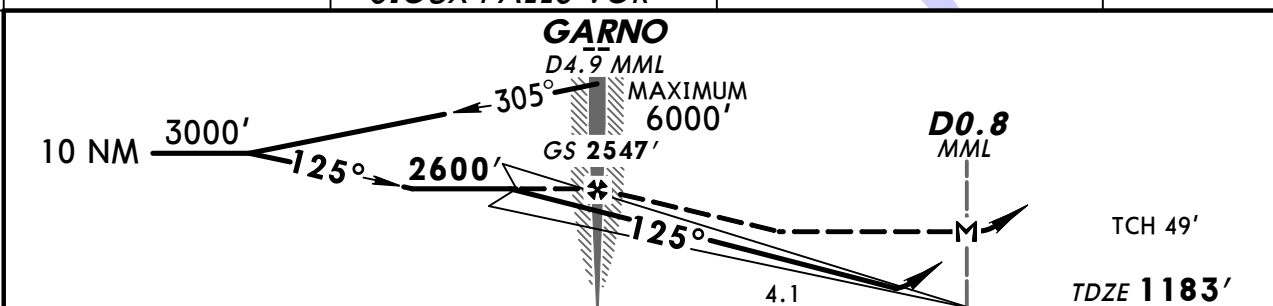
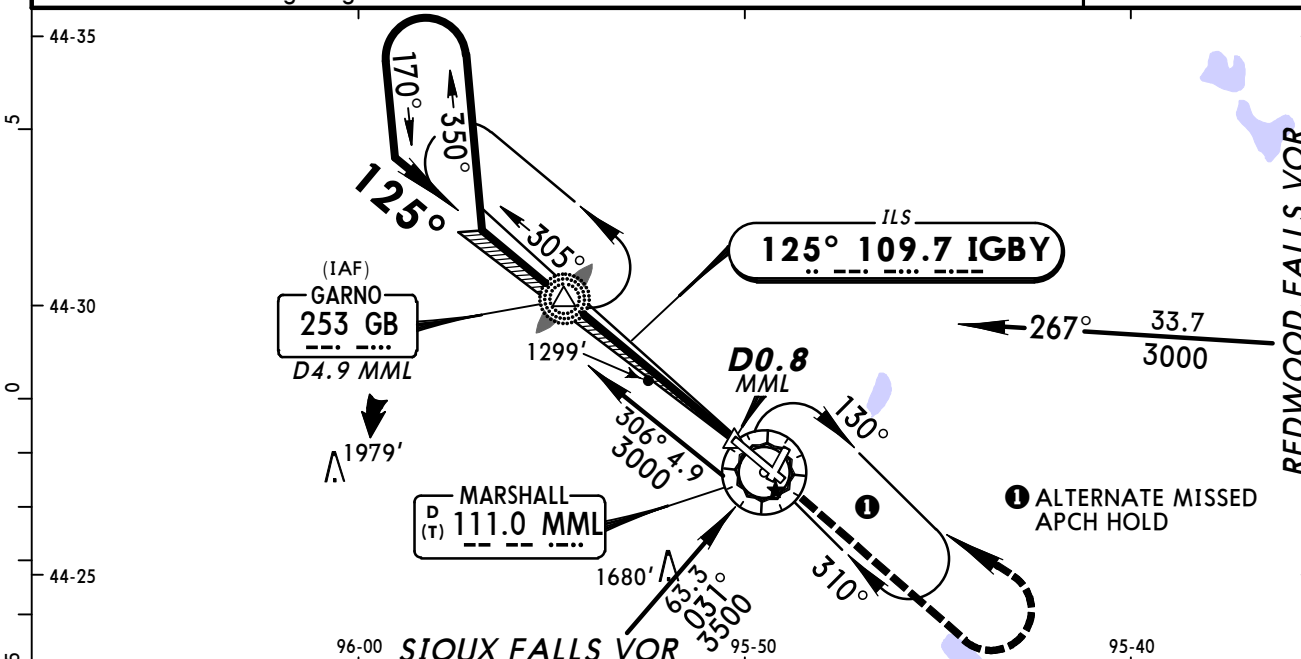
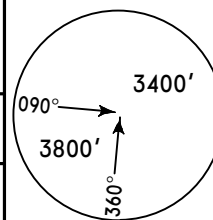
① Activate on 122.8.

TAKE-OFF & OBSTACLE DEPARTURE PROCEDURE						FOR FILING AS ALTERNATE		
		Rwys 2, 12, 30		Rwy 20		Authorized Only When Local Weather Available		
		Adequate Vis Ref	STD	With Min climb of 270' /NM to 2000'		For Climb In Visual Conditions	VOR Rwy 12 RNAV (GPS) Rwy 12 RNAV (GPS) Rwy 30	
				Adequate Vis Ref	STD		Other	
1 & 2 Eng	1/4	1	1/4	1	1000-3	A	800-2	NA
3 & 4 Eng		1/2		1/2		B		
						C		
						D		

OBSTACLE DP: Rwy 20, For climb in visual conditions, cross Marshall Airport at or above 2000' MSL before proceeding on course.

A
M
E
N
D
2

AWOS-3 111.0	MINNEAPOLIS Center 127.1	PRINCETON Radio 122.35	SOUTHWEST UNICOM CTAF 122.8
LOC IGBY 109.7	Final Apch Crs 125°	GS GARNO 2547' (1364')	ILS DA(H) (CONDITIONAL) 1383' (200') Apt Elev 1183' TDZE 1183'
MISSED APCH: Climb to 2000', then climbing LEFT turn to 3000' direct GB LOM/D4.9 MML and hold.			
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000' 1. ADF required. 2. Use local altimeter setting; if not received, use Tracy Mun altimeter setting. 3. VGSI and ILS glidepath not coincident. 4. Pilot controlled lighting 122.8.			



Gnd speed-Kts	70	90	100	120	140	160	MALSR	2000'	3000'	GB
GS	3.00°	372	478	531	637	743	849	PAPI	↑	LT
MAP at D0.8 MML or GARNO to MAP	4.1	3:31	2:44	2:28	2:03	1:45	1:32			253

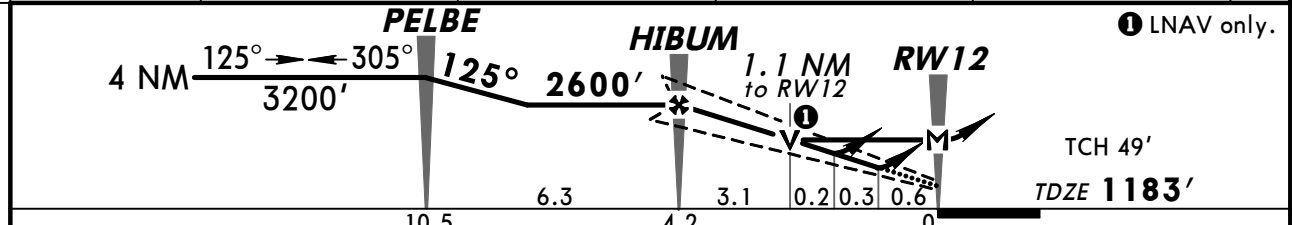
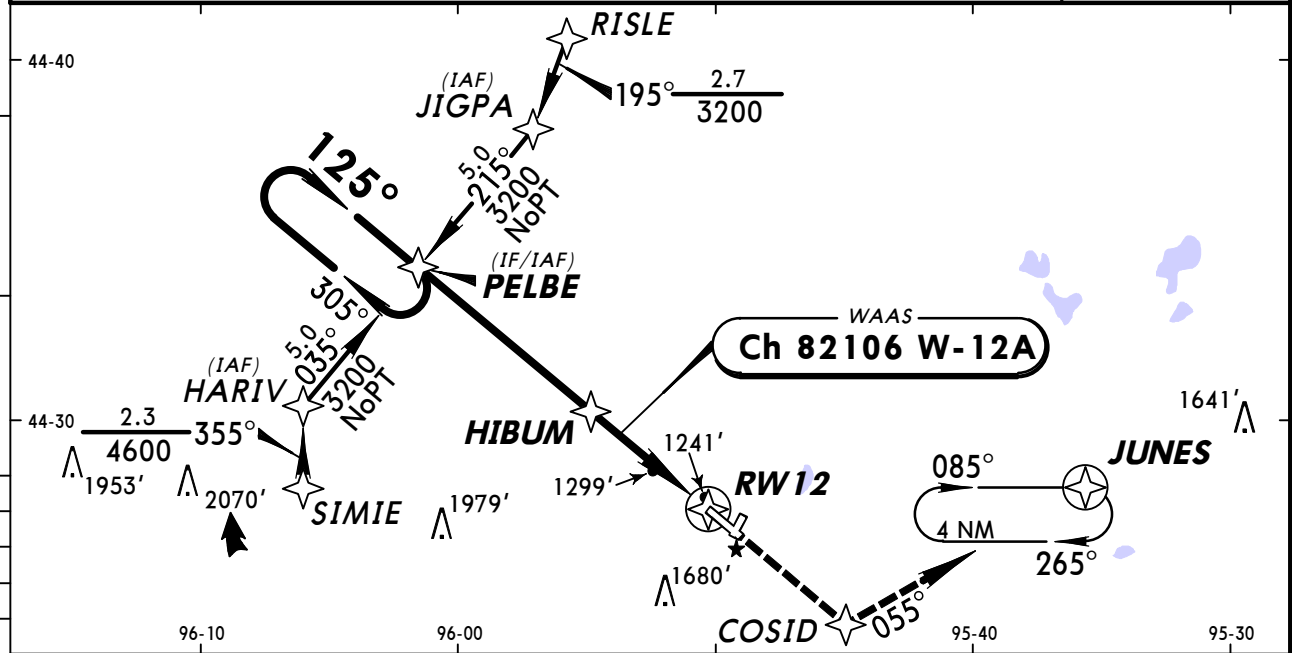
STRAIGHT-IN LANDING RWY 12 With Local Altimeter Setting						CIRCLE-TO-LAND With Local Altimeter Setting	
ILS DA(H) 1383' (200')			LOC (GS out) MDA(H) 1560' (377')			Max Kts	MDA(H)
FULL	RAIL or ALS out		RAIL out	ALS out		90	1640' (457') - 1
A						120	1640' (457') - 1 1/2
B	1/2	3/4	1/2	3/4	1	140	1740' (557') - 2
C			3/4	1 1/4		165	
D							
With Tracy Mun Altimeter Setting						With Tracy Mun Altimeter Setting	
ILS DA(H) 1443' (260')			LOC (GS out) MDA(H) 1620' (437')			Max Kts	MDA(H)
FULL	RAIL or ALS out		RAIL out	ALS out		90	1700' (517') - 1
A						120	1700' (517') - 1 1/2
B	1/2	1	1/2	3/4	1	140	1800' (617') - 2
C			3/4	1 1/4		165	
D			1	1 1/2			

1 ADF or DME required.

CHANGES: None.

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AWOS-3 111.0		MINNEAPOLIS Center 127.1		PRINCETON Radio 122.35		SOUTHWEST UNICOM CTAF 122.8	
WAAS Ch 82106 W-12A	Final Apch Crs 125°	Minimum Alt HIBUM 2600' (1417')	LPV DA(H) (CONDITIONAL) 1433' (250')	Apt Elev 1183' TDZE 1183'		3800' MSA RW12	
MISSED APCH: Climb to 4600' direct COSID and via 055° track to JUNES and hold, continue climb-in-hold to 4600'.							
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000'							
1. Use local altimeter setting; if not received, use Tracy Mun altimeter setting. 2. DME/DME RNP-0.30 not authorized. 3. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -17°C (2°F) or above 46°C (114°F). 4. VDP and Baro-VNAV not authorized when using Tracy Mun altimeter setting. 5. VGSI and RNAV glidepath not coincident. 6. WAAS VNAV outages may occur daily. WAAS VNAV NOTAM service is not provided. 7. Pilot controlled lighting 122.8.							

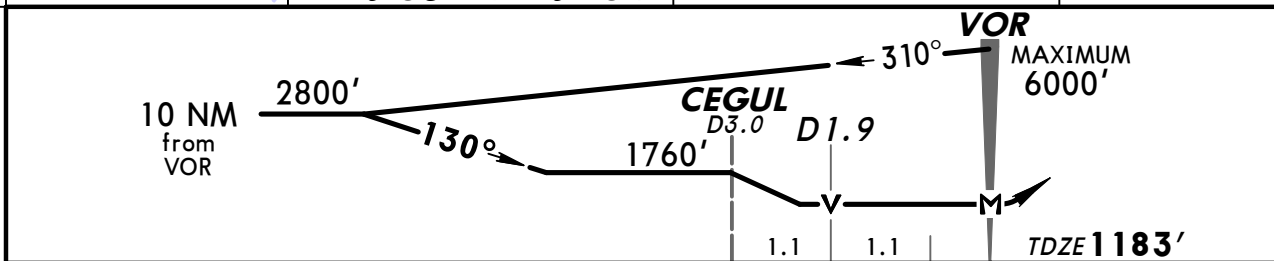
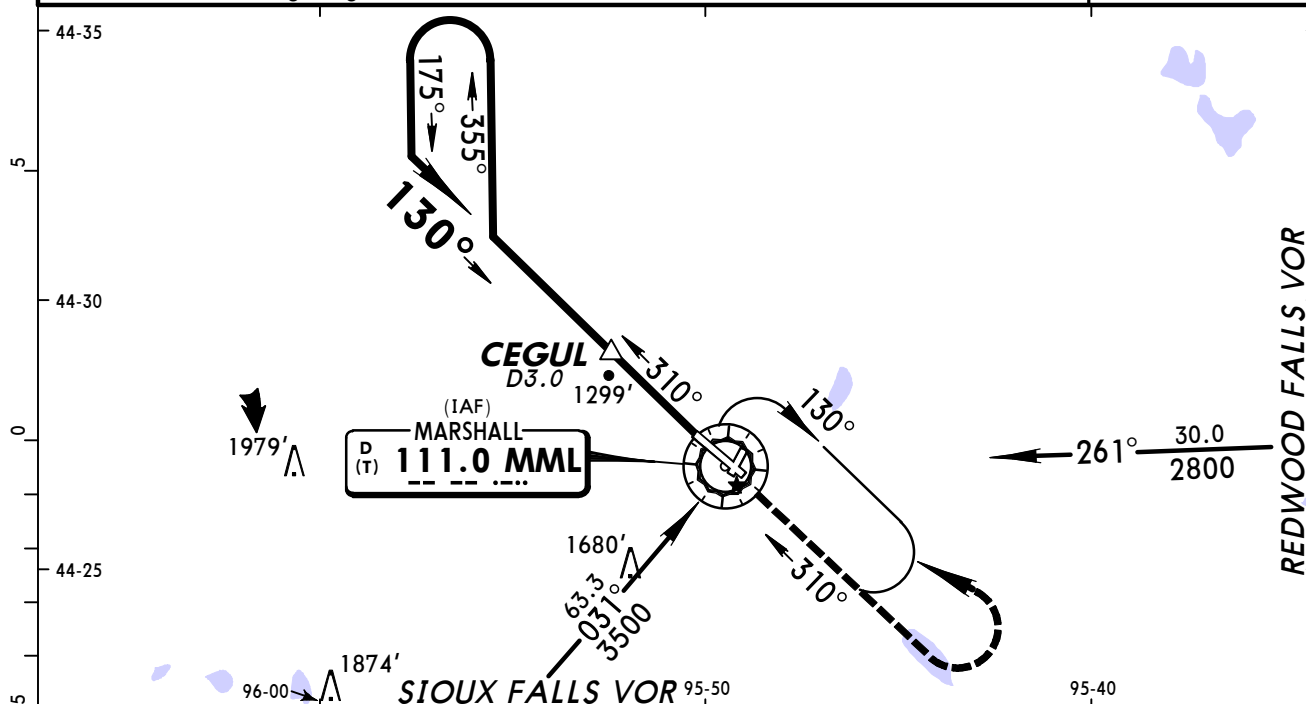


Gnd speed-Kts		70	90	100	120	140	160	MALSR PAPI 4600' ↑ D→ COSID	
Glide Path Angle		3.00°	372	478	531	637	743		
MAP at RW12									

STRAIGHT-IN LANDING RWY 12							CIRCLE-TO-LAND	
With Local Altimeter Setting							With Local Altimeter Setting	
LPV DA(H) 1433' (250')		LNAV/VNAV DA(H) 1511' (328')		LNAV MDA(H) 1560' (377')			Max Kts	
RAIL or ALS out		RAIL or ALS out		RAIL out	ALS out		MDA(H)	
A							90	1640' (457') - 1
B							120	
C	1/2	3/4	3/4	1 1/4	1/2	3/4	1	1640' (457') - 1 1/2
D					1	1 1/4	165	1740' (557') - 2
With Tracy Mun Altimeter Setting							With Tracy Mun Altimeter Setting	
LPV DA(H) 1493' (310')		LNAV/VNAV DA(H) 1571' (388')		LNAV MDA(H) 1620' (437')			Max Kts	
RAIL or ALS out		RAIL or ALS out		RAIL out	ALS out		MDA(H)	
A							90	1700' (517') - 1
B							120	
C	1/2	1	3/4	1 1/4	3/4	1 1/4	140	1700' (517') - 1 1/2
D					1	1 1/2	165	1800' (617') - 2

BRIEFING STRIP™

AWOS-3 111.0		MINNEAPOLIS Center 127.1		PRINCETON Radio 122.35		SOUTHWEST UNICOM CTAF 122.8	
VOR MML 111.0	Final Apch Crs 130°	No FAF		MDA(H) (CONDITIONAL) 1560' (377')	Apt Elev 1183' TDZE 1183'		
MISSED APCH: Climb to 2000' then climbing LEFT turn to 2800' direct MML VOR and hold.							090° 3400' 3800' 360° MSA MML VOR
Alt Set: INCHES		Trans level: FL 180		Trans alt: 18000'			
1. Use local altimeter setting; if not received, use Tracy Mun altimeter setting. 2. VDP not authorized when using Tracy Mun altimeter setting. 3. Pilot controlled lighting 122.8.							

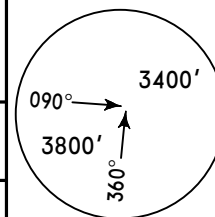


						MALSR	2000'	2800'	→	MML 111.0
						PAPI	↑	LT	→	
MAP at VOR										

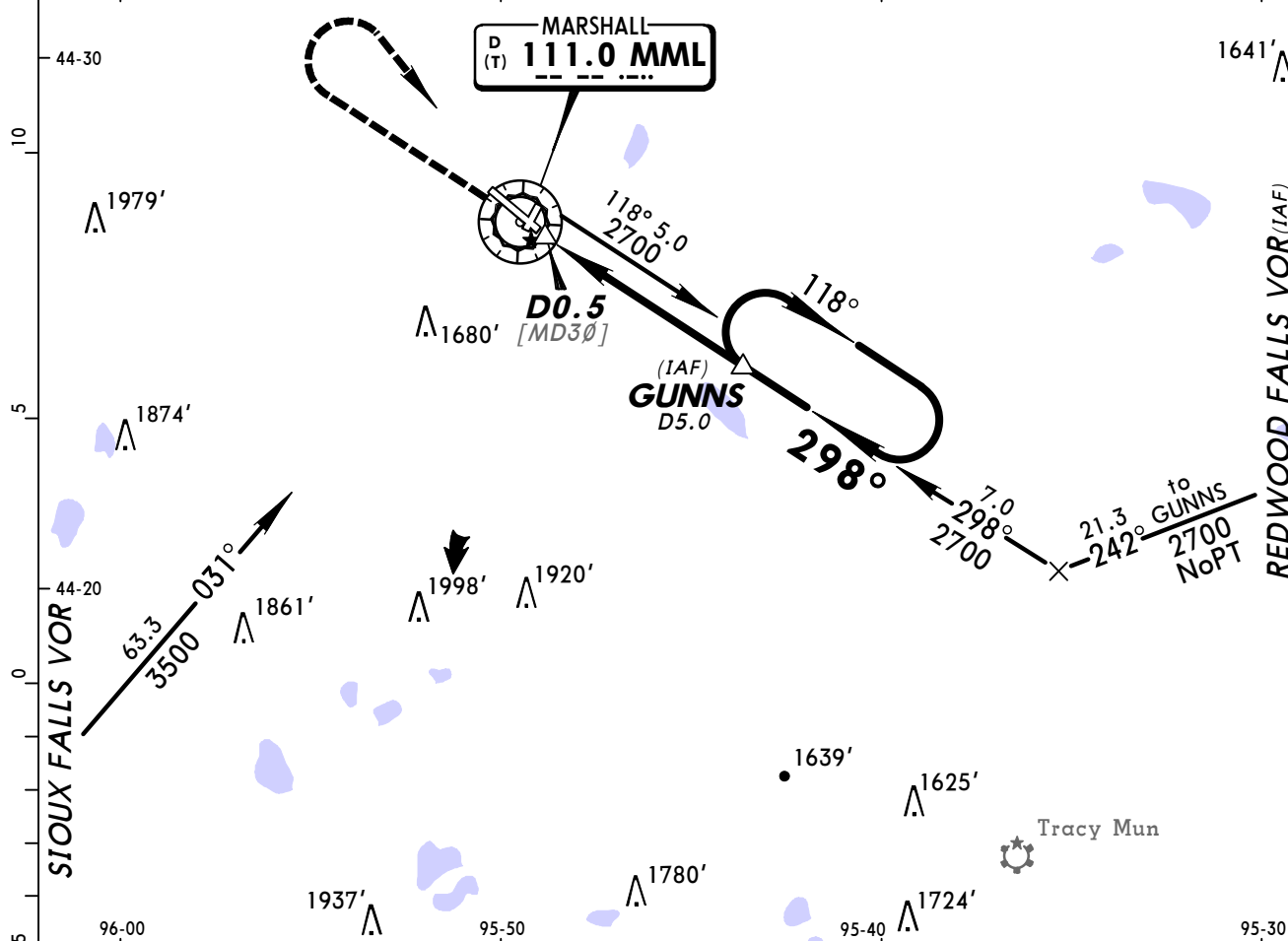
STRAIGHT-IN LANDING RWY 12 With Local Altimeter Setting							CIRCLE-TO-LAND With Local Altimeter Setting			
MDA(H) 1560' (377') With CEGUL			MDA(H) 1760' (577') Without CEGUL				With CEGUL		Without CEGUL	
	RAIL out	ALS out		RAIL out	ALS out	Max Kts	MDA(H)		MDA(H)	
A						90				
B	1/2	3/4	1	1/2	3/4	120	1640' (457') - 1		1760' (577') - 1	
C				1	1 1/2	140	1640' (457') - 1 1/2		1760' (577') - 1 1/2	
D	1	1 1/4		1 1/4	1 3/4	165	1740' (557') - 2		1760' (577') - 2	

With Tracy Mun Altimeter Setting							With Tracy Mun Altimeter Setting			
MDA(H) 1620' (437') With CEGUL			MDA(H) 1820' (637') Without CEGUL				With CEGUL		Without CEGUL	
	RAIL out	ALS out		RAIL out	ALS out	Max Kts	MDA(H)		MDA(H)	
A						90				
B	1/2	3/4	1	1/2	3/4	120	1700' (517') - 1		1820' (637') - 1	
C	3/4	1 1/4		1 1/4	1 3/4	140	1700' (517') - 1 3/4		1820' (637') - 1 3/4	
D	1 1/4	1 1/2		1 1/2	2	165	1800' (617') - 2		1820' (637') - 2	

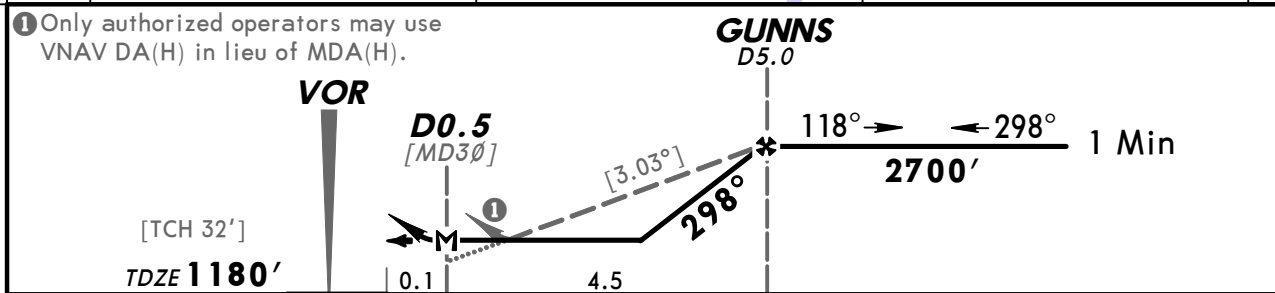
28 MAY 10 (13-2)

BRIEFING STRIP™

MSA MML VOR



① Only authorized operators may use VNAV DA(H) in lieu of MDA(H).



<i>Gnd speed-Kts</i>	70	90	100	120	140	160	REIL PAPI-L	2700' ↑	RT	MML via 111.0 R-118	GUNNS
<i>Descent angle [3.03°]</i>	375	482	536	643	750	858					
<i>MAP at D0.5</i>											

STRAIGHT-IN LANDING RWY 30				CIRCLE-TO-LAND		
MDA(H) 1600' (420') With Local Altimeter Setting		MDA(H) 1660' (480') With Tracy Mun Altimeter Setting		Max Kts	With Local Altimeter Setting	With Tracy Mun Altimeter Setting
A	1	1	90	MDA(H) _____	MDA(H) _____	
B			120	1640' (457') - 1	1700' (517') - 1	
C			140	1640' (457') - 1½	1700' (517') - 1½	
D						165

CHANGES: MSA, notes, minimums.

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TERPS AMEND 2B 3 JUN 2010

General Information

Location: Minneapolis MN USA
IATA Code: MSP
Lat/Long: N44° 52.9' W093° 13.3'
Elevation: 841 ft

Airport Use: Public
Magnetic Variation: 0.6°E
Sectional Chart: Twin Cities

Fuel Types: 100 Octane (LL), Jet A, Jet A+
Oxygen Types: High Pressure, Low Pressure, HP Bottle, LP Bottle
Repair Types: Major Airframe, Major Engine
Customs: Upon Prior Request
Airport Type: IFR
Landing Fee: Yes
Control Tower: Yes
Jet Start Unit: Yes
LLWS Alert: Yes
Beacon: Yes

Sunrise: 1255 Z
Sunset: 2357 Z,

Runway Information

Runway: 04
Length x Width: 11006 ft x 150 ft
Surface Type: concrete
TDZ-Elev: 832 ft
Lighting: Edge, ALS
Displaced Threshold: 1550 ft
Stopway: 1000 ft

Runway: 12L
Length x Width: 8200 ft x 150 ft
Surface Type: concrete
TDZ-Elev: 839 ft
Lighting: Edge, ALS, Centerline, TDZ

Runway: 12R
Length x Width: 10000 ft x 200 ft
Surface Type: concrete
TDZ-Elev: 841 ft
Lighting: Edge, ALS, Centerline, TDZ
Stopway: 630 ft

Runway: 17
Length x Width: 8000 ft x 150 ft
Surface Type: concrete
TDZ-Elev: 840 ft

Lighting: Edge, Centerline, REIL

Runway: 22
Length x Width: 11006 ft x 150 ft
Surface Type: concrete
TDZ-Elev: 828 ft
Lighting: Edge, ALS
Displaced Threshold: 988 ft

Runway: 30L
Length x Width: 10000 ft x 200 ft
Surface Type: concrete
TDZ-Elev: 823 ft
Lighting: Edge, ALS, Centerline, TDZ

Runway: 30R
Length x Width: 8200 ft x 150 ft
Surface Type: concrete
TDZ-Elev: 823 ft
Lighting: Edge, Centerline, REIL
Displaced Threshold: 200 ft

Runway: 35
Length x Width: 8000 ft x 150 ft
Surface Type: concrete
TDZ-Elev: 834 ft
Lighting: Edge, ALS, Centerline, TDZ

Communication Information

ATIS 120.8
ATIS 135.35
Minneapolis Tower Tower 126.7
Minneapolis Tower Tower 123.95
Minneapolis Tower Tower 123.675
Minneapolis Tower Tower 132.525
Minneapolis Ground Meteri Ground Control 133.575
Minneapolis Ground Ground Control 127.925 (181 °-360 °)
Minneapolis Ground Ground Control 121.9 (91 °-270 °)
Minneapolis Ground Ground Control 121.8 (271 °-90 °)
Minneapolis Clearance Del Clearance Delivery 133.2
Minneapolis Clearance Del Pre-Taxi Clearance 133.2 Pre-Departure Clearance
Minneapolis Approach Approach Control 126.95 Arrival Service
Minneapolis Approach Approach Control 118.725 Arrival Service
Minneapolis Approach Approach Control 119.3 Arrival Service
Minneapolis App TCA 134.7 (91 °-270 °)
Minneapolis App TCA 126.5 (271 °-360 °)
Minneapolis App TCA 121.2 (1 °-90 °)
Minneapolis Departure Departure Control 124.7 Departure Service
Minneapolis Departure Departure Control 125.75 Departure Service
Minneapolis Departure Departure Control 132.975 Departure Service
Signature Flight Support Unicom 128.95
Minneapolis-St Paul Intl/ Unicom 122.95
Princeton Flight Service Station 122.3 RCO

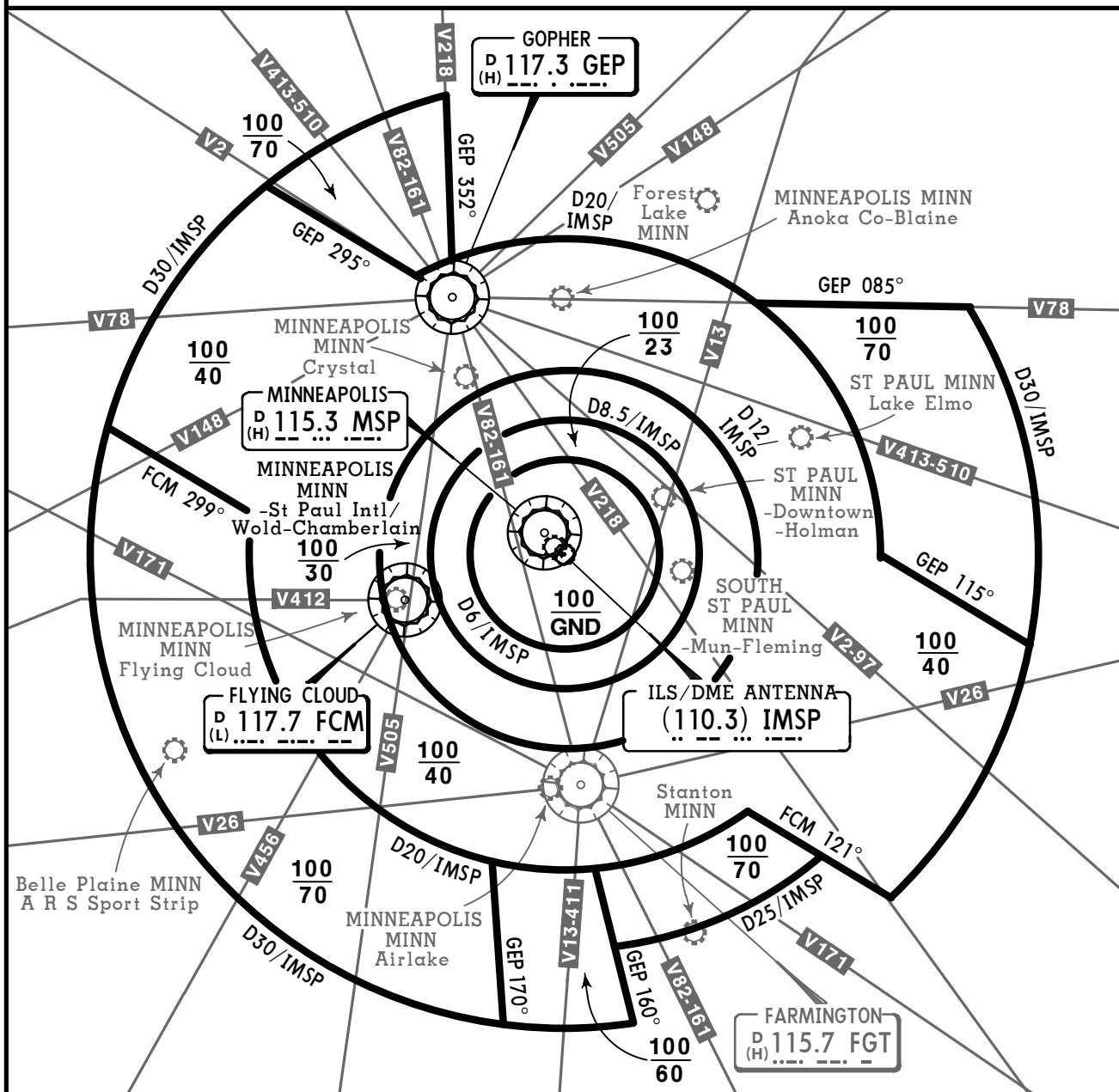
MINNEAPOLIS CLASS B AIRSPACE

CLASS B AIRSPACE COMMUNICATIONS

NE Minneapolis App 121.2

S Minneapolis App 134.7

NW Minneapolis App 126.5



FOR OPERATING RULES AND PILOT AND EQUIPMENT REQUIREMENTS
SEE FAR 91.131, 91.117 AND 91.215

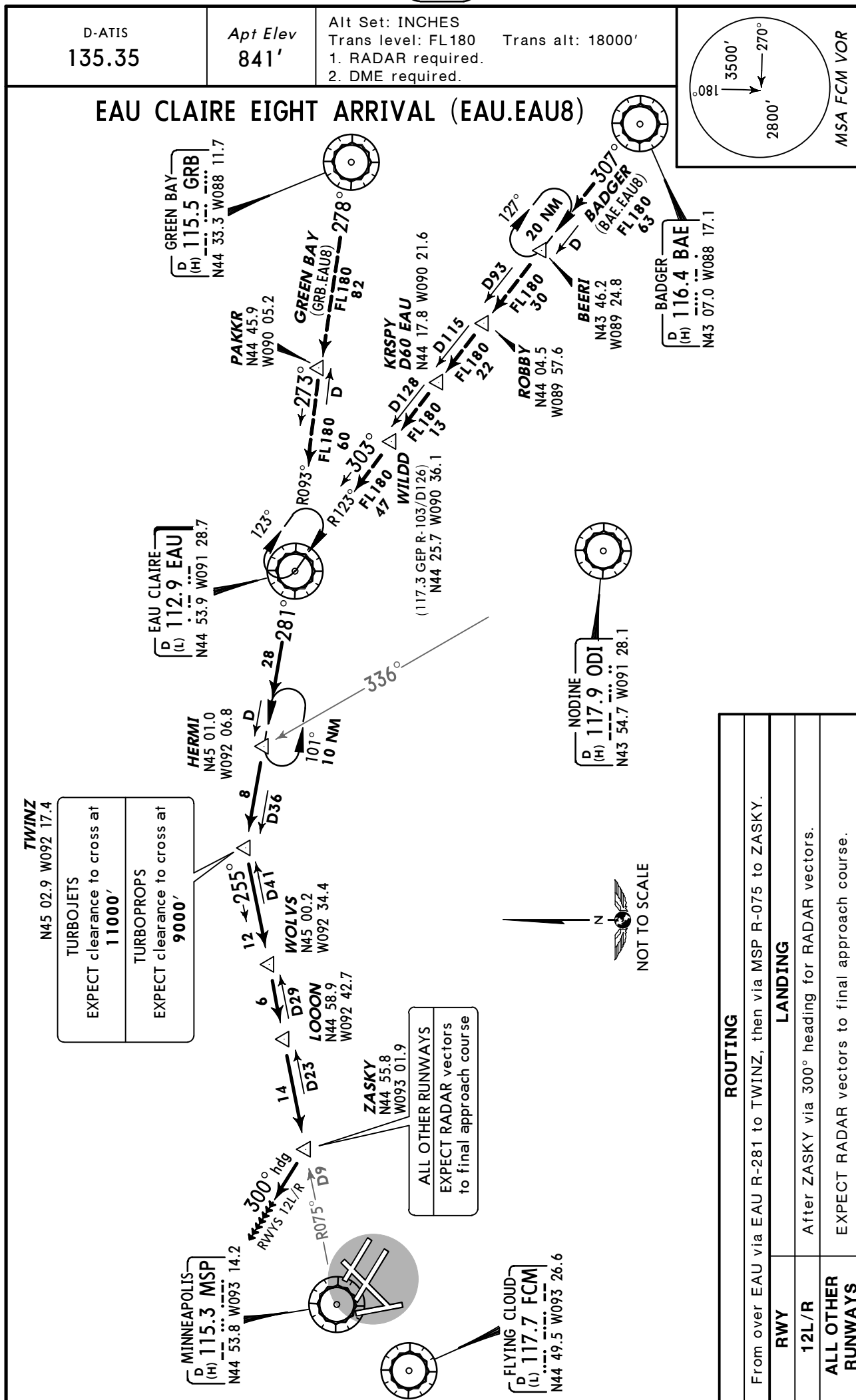
FLIGHT PROCEDURES

IFR Flights-

Aircraft operating within the Class B airspace must be operated in accordance with ATC clearances and instructions.

VFR Flights-

1. Arriving aircraft should contact Minneapolis Approach Control on the specified frequencies. Although arriving aircraft may be operating beneath the floor of the Class B airspace on initial contact, communications should be established with Approach Control for sequencing and spacing purposes.
2. Aircraft departing the primary airport are requested to advise clearance delivery prior to taxiing of their intended altitude and direction of flight to depart the Class B airspace. Aircraft departing from other than Minneapolis-St Paul International/Wold-Chamberlain Airport whose route of flight would penetrate the Class B airspace should give this information to ATC on appropriate frequencies.
3. Aircraft desiring to transit the Class B airspace must obtain an ATC clearance to enter the Class B airspace and will be handled on an ATC workload permitting basis.



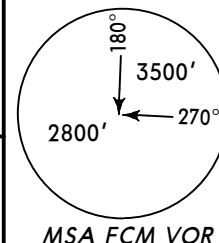
ALL OTHER RUNWAYS	Via RADAR vectors to final approach course.
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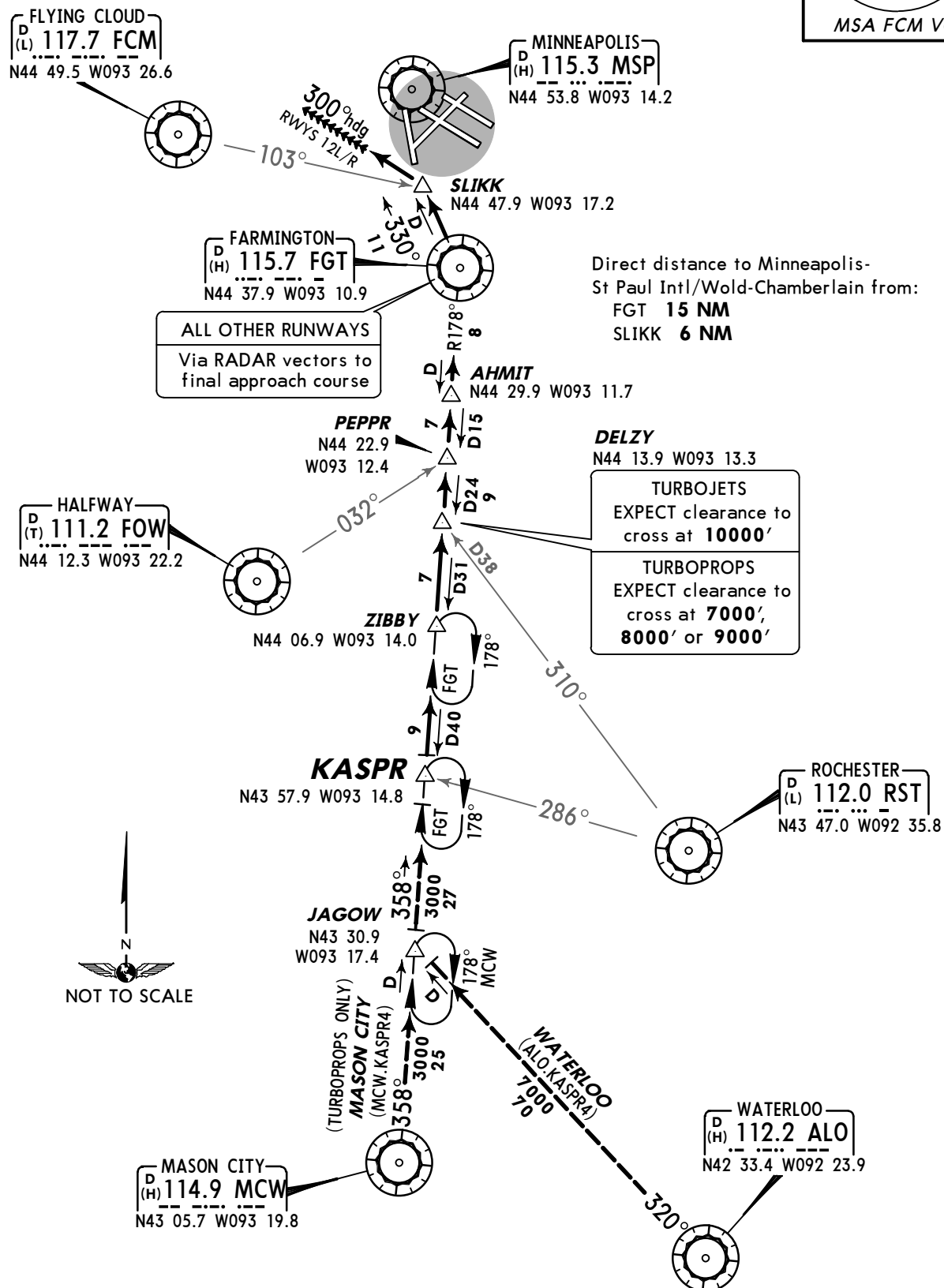
D-ATIS
135.35

Apt Elev
841'

Alt Set: INCHES
Trans level: FL180 Trans alt: 18000'
1. RADAR required.
2. DME required.
3. MASON CITY transition: Turboprops only.



KASPR FOUR ARRIVAL (KASPR.KASPR4)



ROUTING

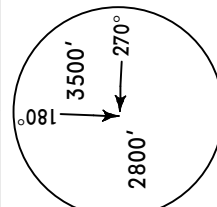
From over KASPR via FGT R-178 to FGT.

RWY	LANDING
12L/R	After FGT, via FGT R-330 to SLIKK, then via 300° heading for RADAR vectors to final approach course.
ALL OTHER RUNWAYS	Via RADAR vectors to final approach course.

D-ATIS
135.35

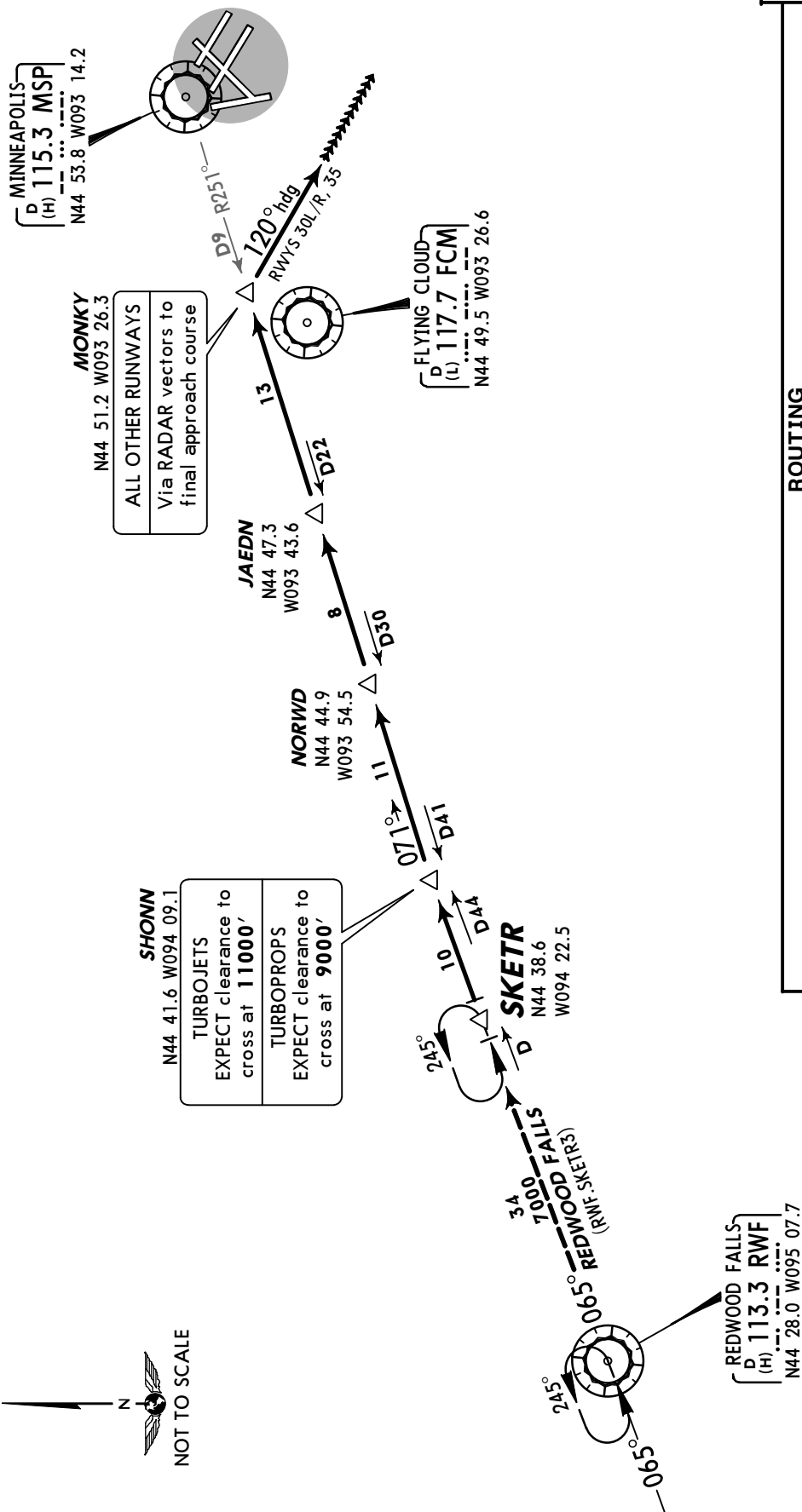
Apt Elev
841'

Alt Set: INCHES
Trans level: FL180 Trans alt: 18000'
1. RADAR required.
2. DME required.



MSA FCM VOR

SKETR THREE ARRIVAL (SKETR.SKETR3)



ROUTING

From over SKETR via RWF R-065 to SHONN, then via MSP R-251 to NORWD, then to JAEDN, then to MONKY.

LANDING

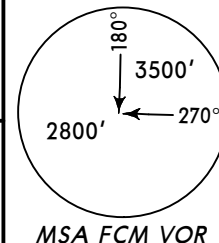
30L/R, 35 Via 120° heading for RADAR vectors to final approach course.

ALL OTHER RUNWAYS Via RADAR vectors to final approach course.

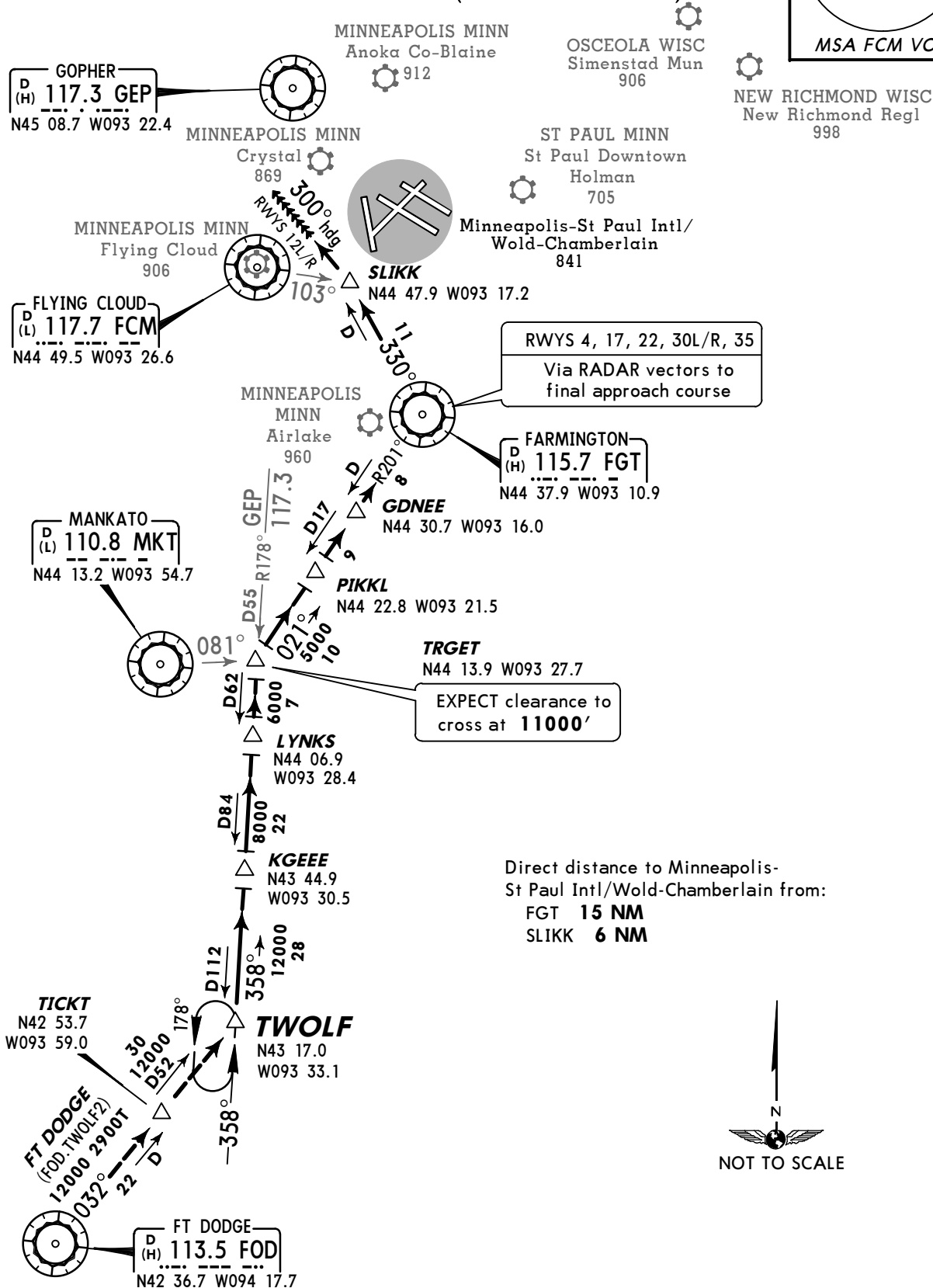
D-ATIS
135.35

Apt Elev
See graphic

Alt Set: INCHES
Trans level: FL180 Trans alt: 18000'
1. RADAR required.
2. DME required.



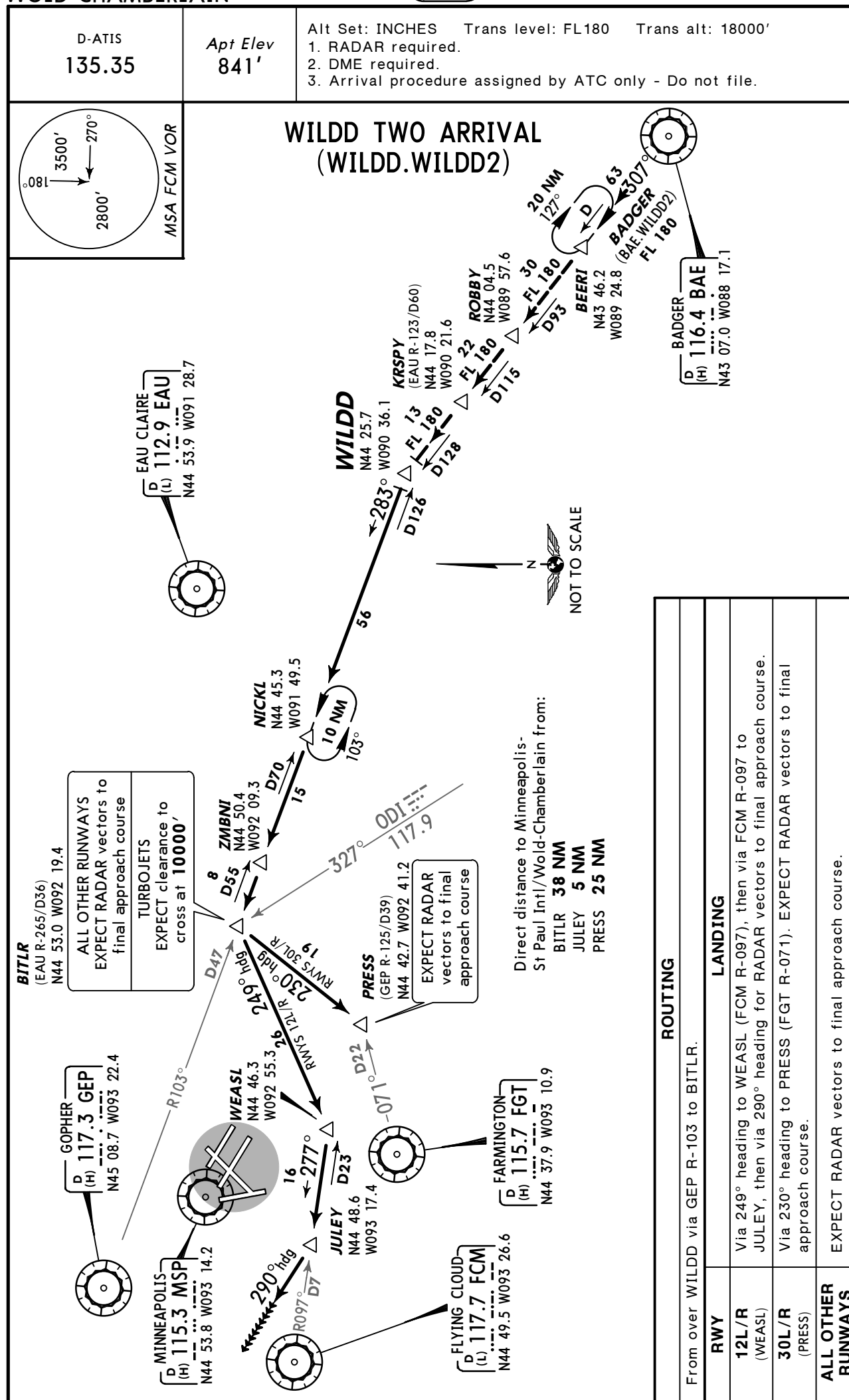
TWOLF TWO ARRIVAL (TWOLF.TWOLF2)



ROUTING

From over TWOLF via GEP R-178 to KGEEE, then as depicted to TRGET.

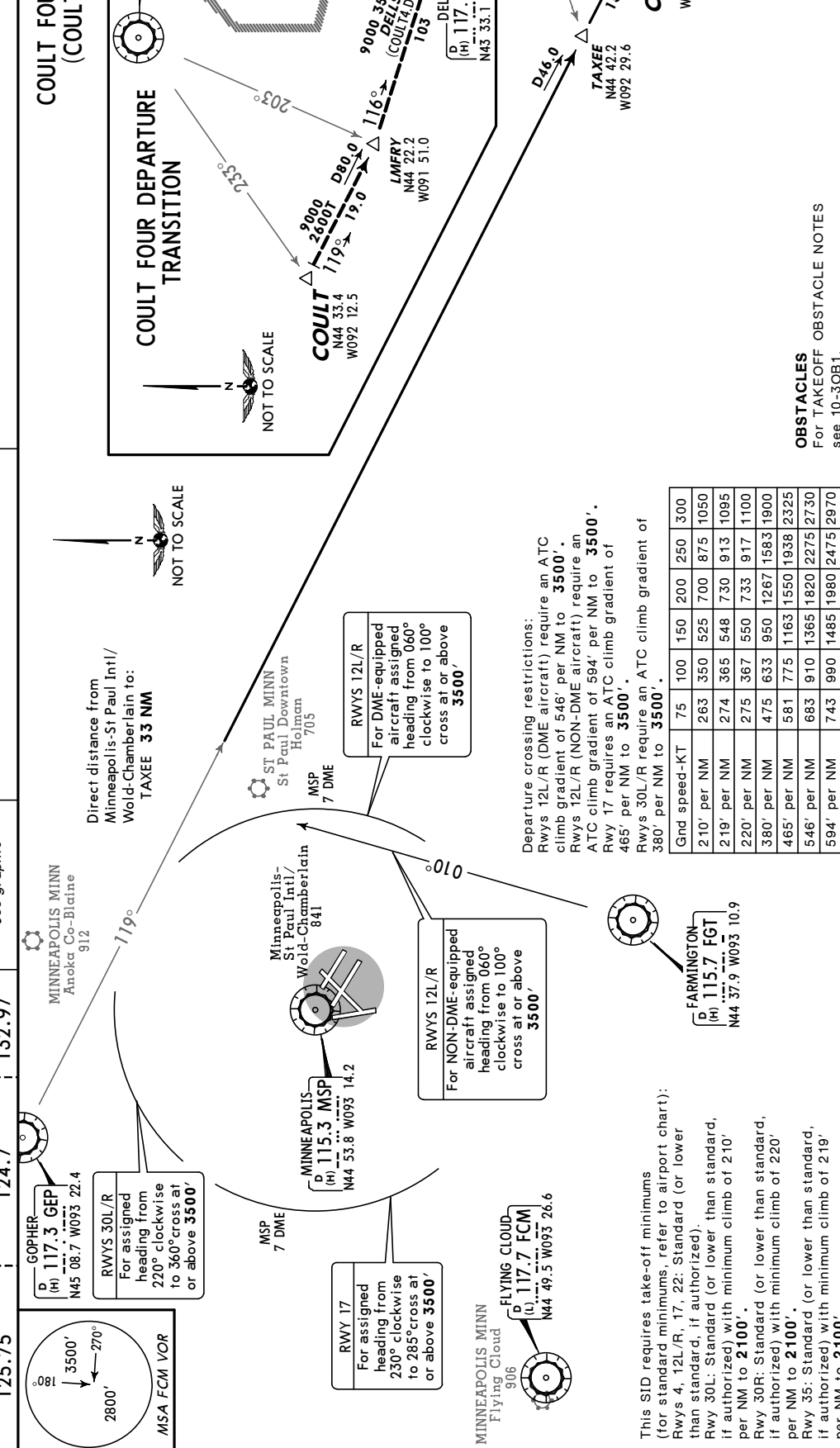
RWY	LANDING
12L/R	From over TRGET via FGT R-201 to FGT, then via FGT R-330 to SLIKK, then via 300° heading for RADAR vectors to final approach course.
4, 17, 22, 30L/R, 35	From over TRGET via FGT R-201 to FGT, then via RADAR vectors to final approach course.



Direct distance to Minneapolis-
St Paul Intl/Wold-Chamberlain from:

BITLR	38 NM
JULIE	5 NM
PRESS	25 NM

NOT TO SCALE



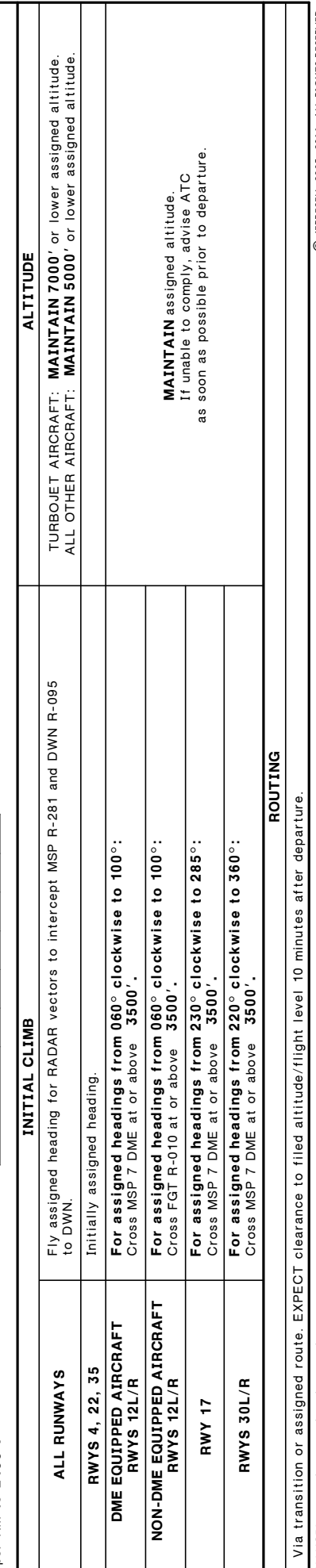
INITIAL CLIMB		ALTITUDE
ALL RUNWAYS	Fly assigned heading for RADAR vectors to intercept GEP R-119 to COULT/D61.0 GEP.	TURBOJET AIRCRAFT: MAINTAIN 7000' or lower assigned altitude. ALL OTHER AIRCRAFT: MAINTAIN 5000' or lower assigned altitude.
RWYS 4, 22, 35	Initially assigned heading.	
DME EQUIPPED AIRCRAFT RWYS 12L/R	For assigned headings from 060° clockwise to 100°: Gross MSP 7 DME at or above 3500' .	
NON-DME EQUIPPED AIRCRAFT RWYS 12L/R	For assigned headings from 060° clockwise to 100°: Gross FGT R-010 at or above 3500' .	
RWY 17	For assigned headings from 230° clockwise to 285°: Gross MSP 7 DME at or above 3500' .	MAINTAIN assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure.
RWYS 30L/R	For assigned headings from 220° clockwise to 360°: Gross MSP 7 DME at or above 3500' .	

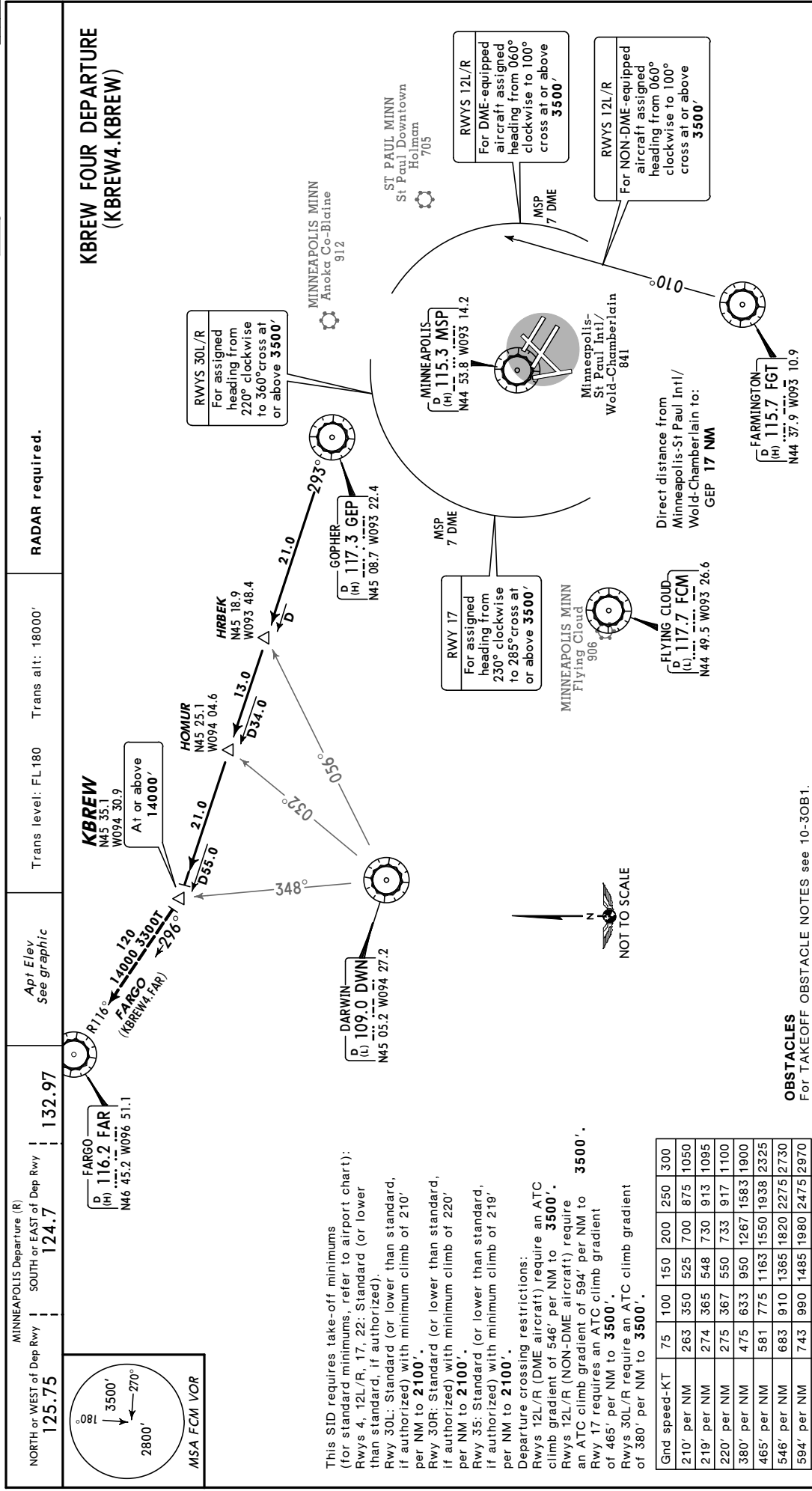
ROUTING

Via transition or assigned route. EXPECT clearance to filed altitude/flight level 10 minutes after departure.

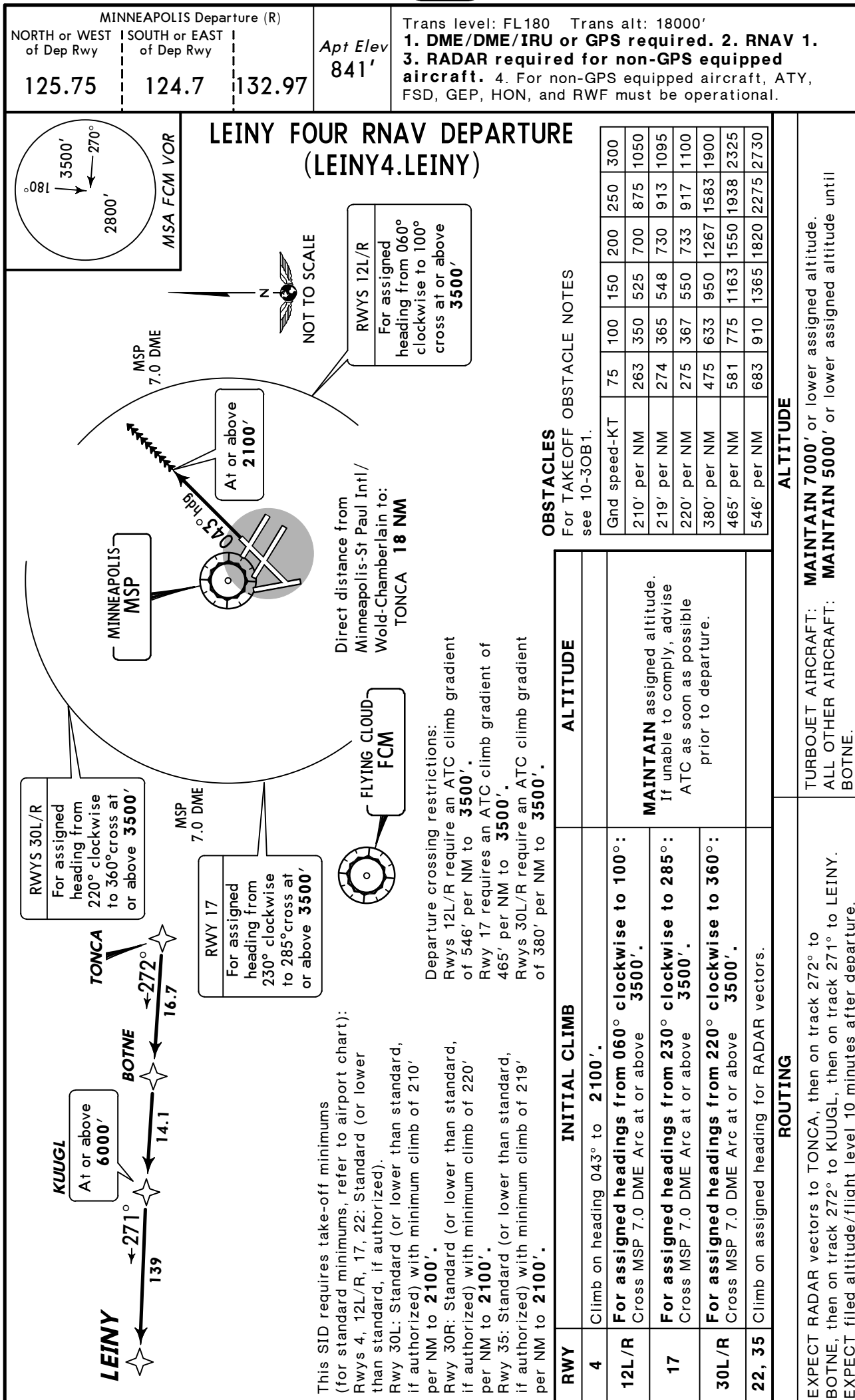
CHANGES: Procedure renumbered, revised

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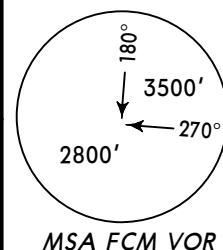
INITIAL CLIMB		ALTITUDE
ALL RUNWAYS	Fly assigned heading for RADAR vectors to GEP, then on GEP R-293 to KBREW/D55.0 GEP.	TURBOJET AIRCRAFT: MAINTAIN 7000' or lower assigned altitude. ALL OTHER AIRCRAFT: MAINTAIN 5000' or lower assigned altitude.
RWYS 4, 22, 35	Initially assigned heading.	
DME EQUIPPED AIRCRAFT RWYS 12L/R	For assigned headings from 060° clockwise to 100°: Cross MSP 7 DME at or above 3500'.	
NON-DME EQUIPPED AIRCRAFT RWYS 12L/R	For assigned headings from 060° clockwise to 100°: Cross FGT R-010 at or above 3500'.	
RWY 17	For assigned headings from 230° clockwise to 285°: Cross MSP 7 DME at or above 3500'.	MAINTAIN assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure.
RWYS 30L/R	For assigned headings from 220° clockwise to 360°: Cross MSP 7 DME at or above 3500'.	
ROUTING		
Via transition or assigned route. EXPECT clearance to filed altitude/flight level 10 minutes after departure.		



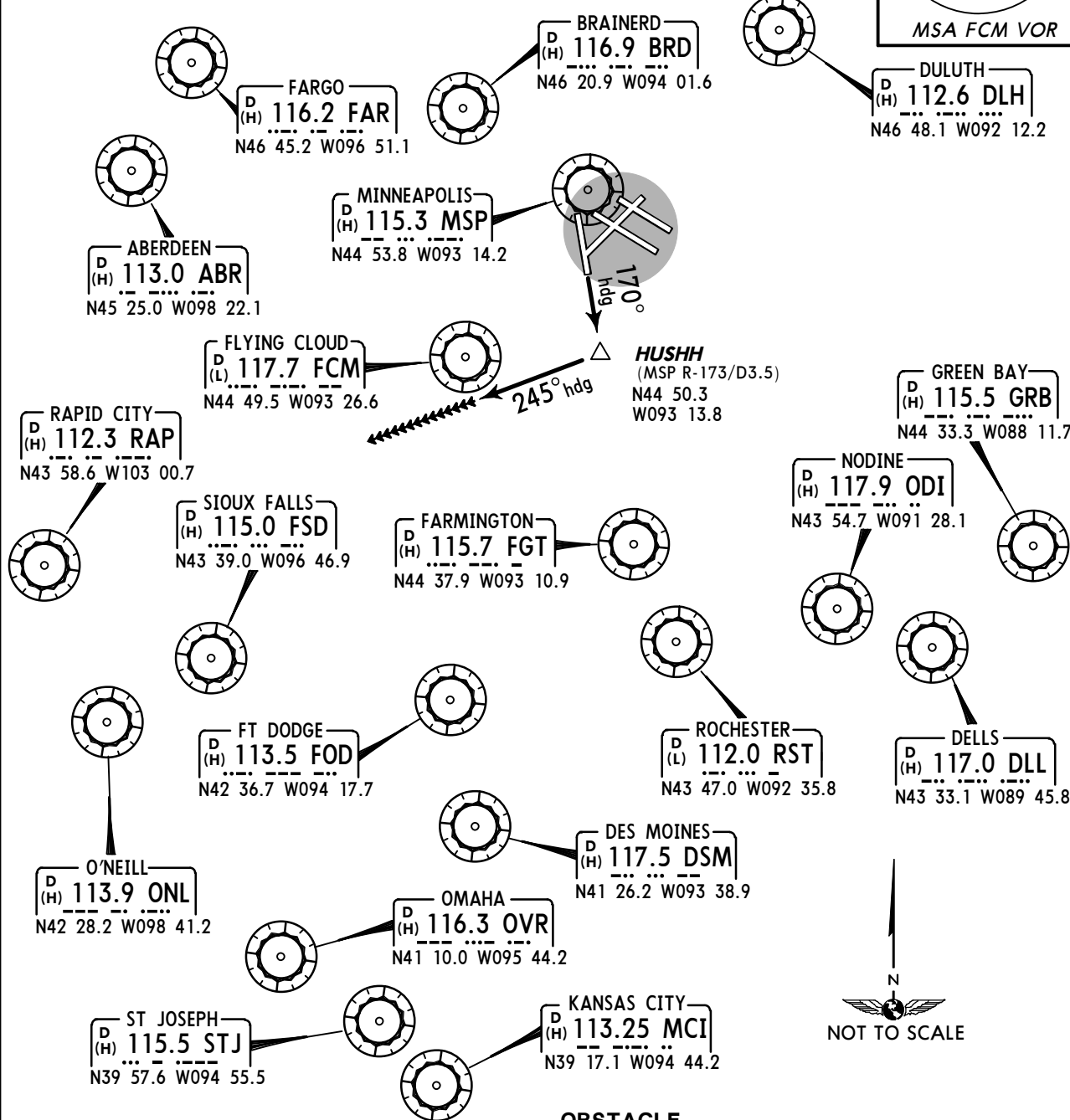
MINNEAPOLIS Departure (R)
NORTH or WEST of Dep Rwy SOUTH or EAST of Dep Rwy
125.75 124.7 132.97

Apt Elev
841'

Trans level: FL180
Trans alt: 18000'
RADAR required.



MEADOW LAKE ONE DEPARTURE (MEDOW1.MSP) (RWY 17)



This SID requires take-off minimums (for standard minimums, refer to airport chart):
Rwy 17: Standard (or lower than standard, if authorized) with a minimum ATC climb of 240' per NM to **5000'**.
All other runways: Not authorized - ATC request.

Gnd speed-KT	75	100	150	200	250	300
240' per NM	300	400	600	800	1000	1200

OBSTACLE

Rwy 17: Building 199' from DER, 496' LEFT of centerline 67' AGL/898' MSL. Multiple poles beginning 188' from DER, 240' RIGHT of centerline, up to 160' AGL/866' MSL. Wind direction indicator on building 2619' from DER, 881' LEFT of centerline, 97' AGL/918' MSL. Building 2619' from DER, 859' LEFT of centerline, 84' AGL/905' MSL. Building 2336' from DER, 385' RIGHT of centerline 154' AGL/ 983' MSL.

INITIAL CLIMB

Climb via heading 170° to HUSHH/D3.5 MSP, then RIGHT turn heading 245° and continue climb.

ALTITUDE

TURBOJET AIRCRAFT: **MAINTAIN 7000'** or lower as assigned.
ALL OTHER AIRCRAFT: **MAINTAIN 5000'** or lower as assigned.

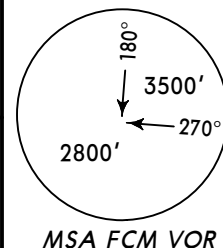
ROUTING

Then via vectors to assigned route/fix, EXPECT clearance to assigned altitude/flight level 10 minutes after departure.

MINNEAPOLIS Departure (R)
NORTH or WEST
of Dep Rwy
125.75
SOUTH or EAST
of Dep Rwy
124.7
132.97

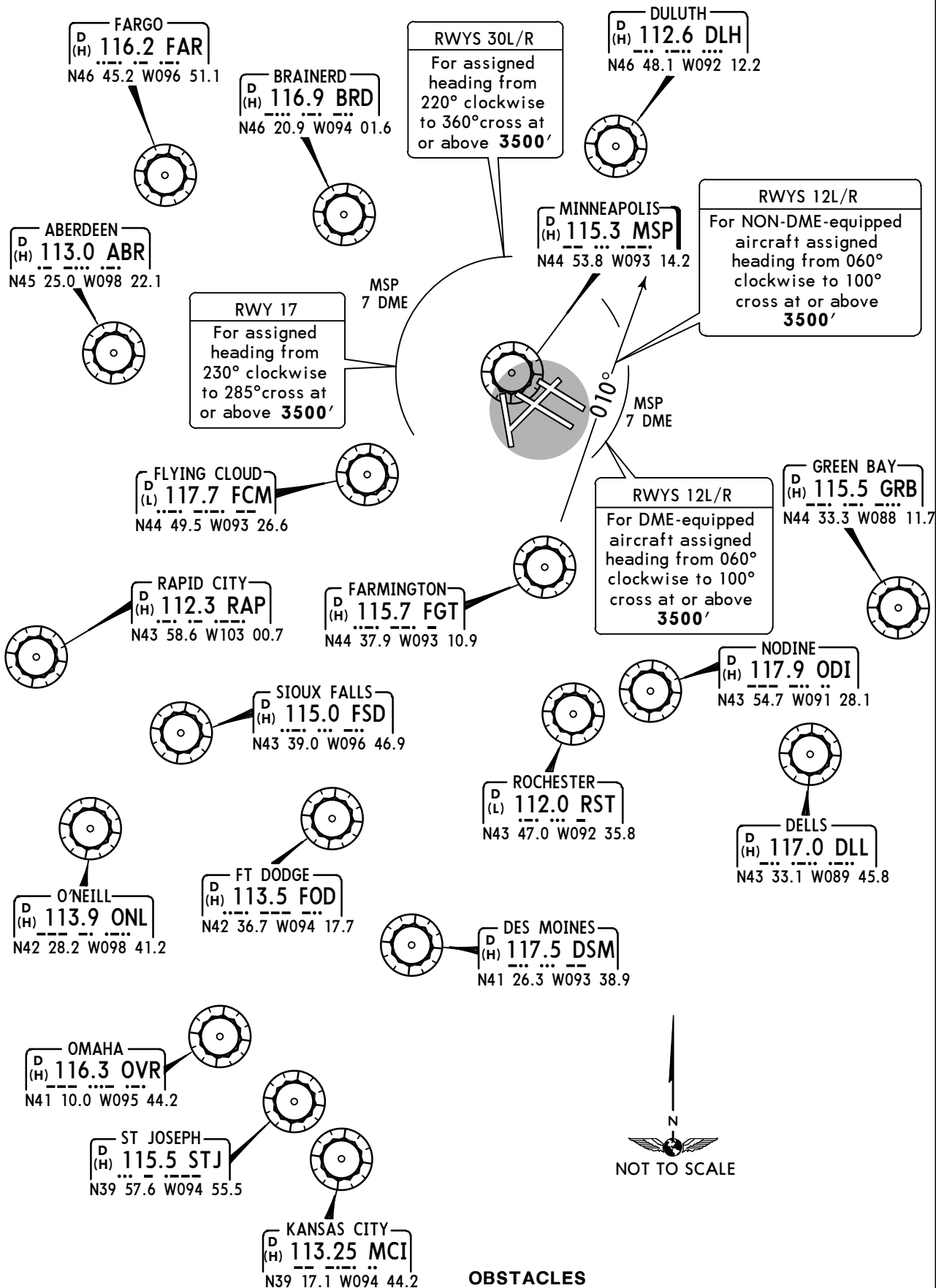
Apt Elev
841'

Trans level: FL180
Trans alt: 18000'
RADAR required.



MINNEAPOLIS FIVE DEPARTURE (MSP5.MSP)

For Procedure Text and Takeoff Minimums see 10-3E-1



OBSTACLES

For TAKEOFF OBSTACLE NOTES see 10-3OB1.

MINNEAPOLIS FIVE DEPARTURE (MSP5.MSP)For Procedure Graphic see 10-3E
PROCEDURE TEXT

This SID requires take-off minimums
(for standard minimums, refer to
airport chart):

Rwys 4, 12L/R, 17, 22: Standard (or lower
than standard, if authorized).

Rwy 30L: Standard (or lower than standard,
if authorized) with minimum climb of 210'
per NM to **2100'**.

Rwy 30R: Standard (or lower than standard,
if authorized) with minimum climb of 220'
per NM to **2100'**.

Rwy 35: Standard (or lower than standard,
if authorized) with minimum climb of 219'
per NM to **2100'**.

Departure crossing restrictions:

Rwys 12L/R (DME aircraft) require an ATC
climb gradient of 546' per NM to **3500'**.

Rwys 12L/R (NON-DME aircraft) require
an ATC climb gradient of 594' per NM
to **3500'**.

Rwy 17 requires an ATC climb gradient
of 465' per NM to **3500'**.

Rwys 30L/R require an ATC climb gradient
of 380' per NM to **3500'**.

Gnd speed-KT	75	100	150	200	250	300
210' per NM	263	350	525	700	875	1050
219' per NM	274	365	548	730	913	1095
220' per NM	275	367	550	733	917	1100
380' per NM	475	633	950	1267	1583	1900
465' per NM	581	775	1163	1550	1938	2325
546' per NM	683	910	1365	1820	2275	2730
594' per NM	743	990	1485	1980	2475	2970

INITIAL CLIMB**ALL RUNWAYS**

Fly assigned heading for
RADAR vectors to join
filed/assigned route.

**DME EQUIPPED
AIRCRAFT
RWYS 12L/R**

**For assigned headings from
060° clockwise to 100°:**
Cross MSP 7 DME at or
above **3500'**.

**NON-DME
EQUIPPED
AIRCRAFT
RWYS 12L/R**

**For assigned headings from
060° clockwise to 100°:**
Cross FGT R-010 at or above
3500'.

RWY 17

**For assigned headings from
230° clockwise to 285°:**
Cross MSP 7 DME at or above
above **3500'**.

RWYS 30L/R

**For assigned headings from
220° clockwise to 360°:**
Cross MSP 7 DME at or above
above **3500'**.

ALTITUDE

TURBOJET AIRCRAFT: **MAINTAIN 7000'** or
lower assigned altitude.
ALL OTHER AIRCRAFT: **MAINTAIN 5000'** or
lower assigned altitude.

MAINTAIN assigned altitude. If unable to
comply, advise ATC as soon as possible
prior to departure.

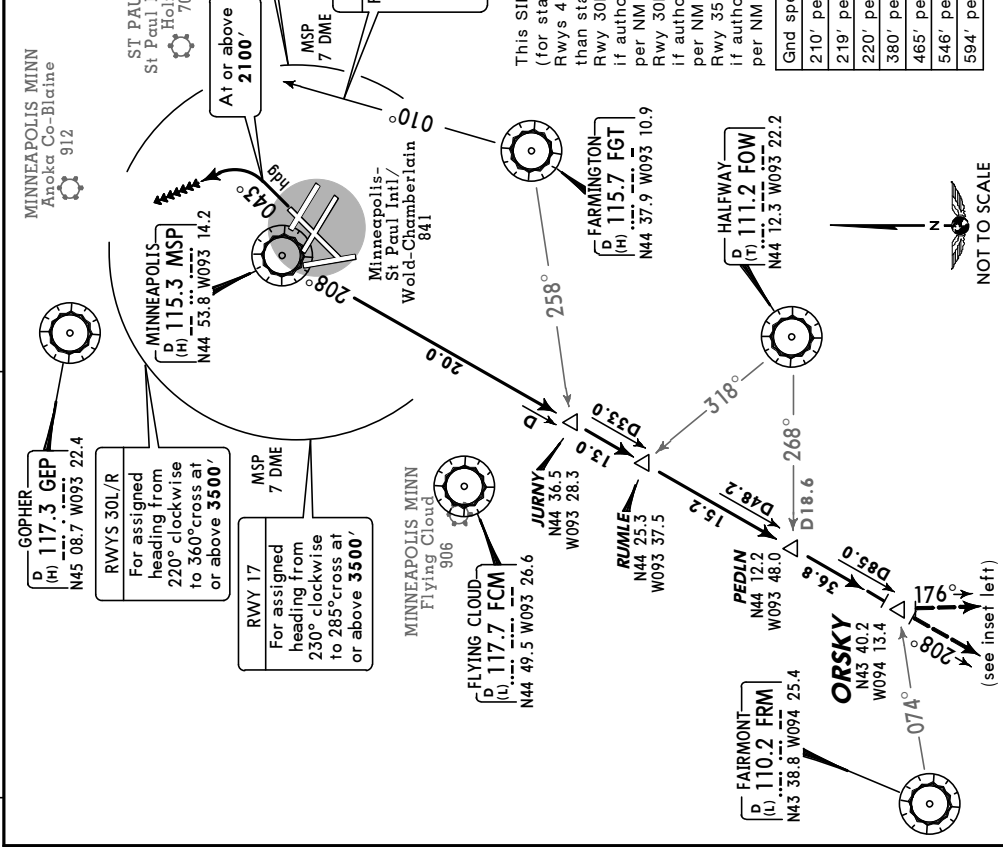
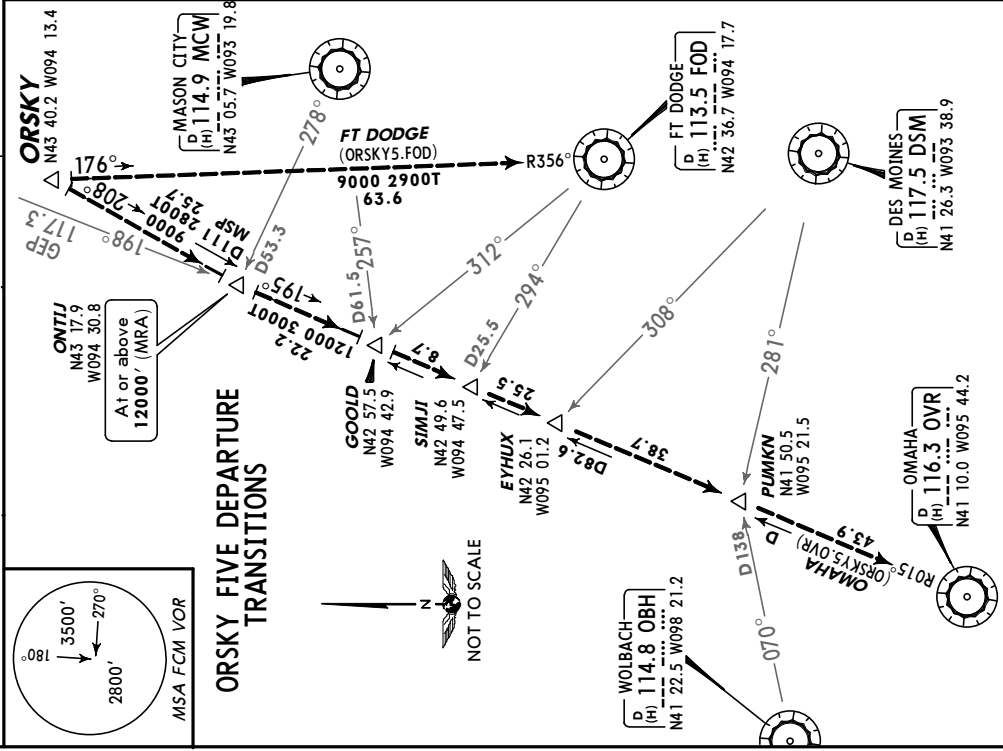
ROUTING

EXPECT clearance to assigned altitude/flight level 10 minutes after departure.

MINNEAPOLIS Departure (R)		
NORTH or WEST of Dep Rwy	SOUTH or EAST of Dep Rwy	Apt Elev See graphic
125.75	124.7	132.97

Trans level: FL180	Trans alt: 18000'
--------------------	-------------------

RADAR required.



INITIAL CLIMB		ALTITUDE
Fly assigned heading for RADAR vectors to MSP R-208 to ORSKY/D85.0 MSP.		TURBOJET AIRCRAFT: MAINTAIN 7000' or lower assigned altitude. ALL OTHER AIRCRAFT: MAINTAIN 5000' or lower assigned altitude.
ALL RUNWAYS	RWY 4	Climb heading 043° to 2100' before turning LEFT.
	DME EQUIPPED AIRCRAFT RWYS 12L/R	For assigned headings from 060° clockwise to 100°: Cross MSP 7 DME at or above 3500' .
NON-DME EQUIPPED AIRCRAFT RWYS 12L/R	RWY 17	For assigned headings from 060° clockwise to 100°: Cross FGT R-010 at or above 3500' . Cross MSP 7 DME at or above 3500' .
	RWYS 30L/R	For assigned headings from 230° clockwise to 285°: Cross MSP 7 DME at or above 3500' .
RWYS 22, 35	RWYS 12L/R	For assigned headings from 220° clockwise to 360°: Cross MSP 7 DME at or above 3500' .
	RWYS 30L/R	Initially assigned heading.

Via transition or assigned route. EXPECT clearance to filed altitude/flight level 10 minutes after departure.

CHANGES: Procedure renumbered, revised.

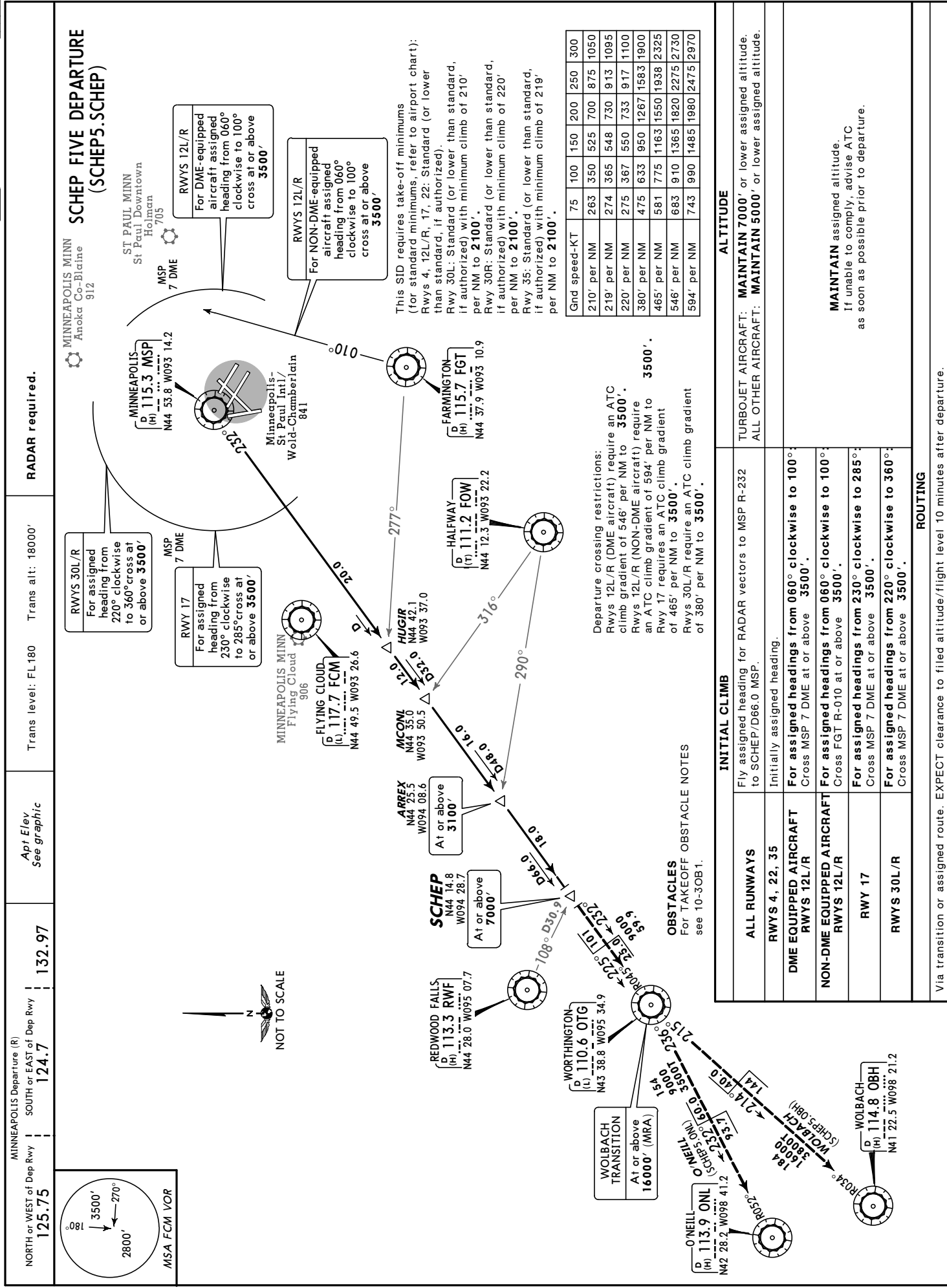
ROUTING

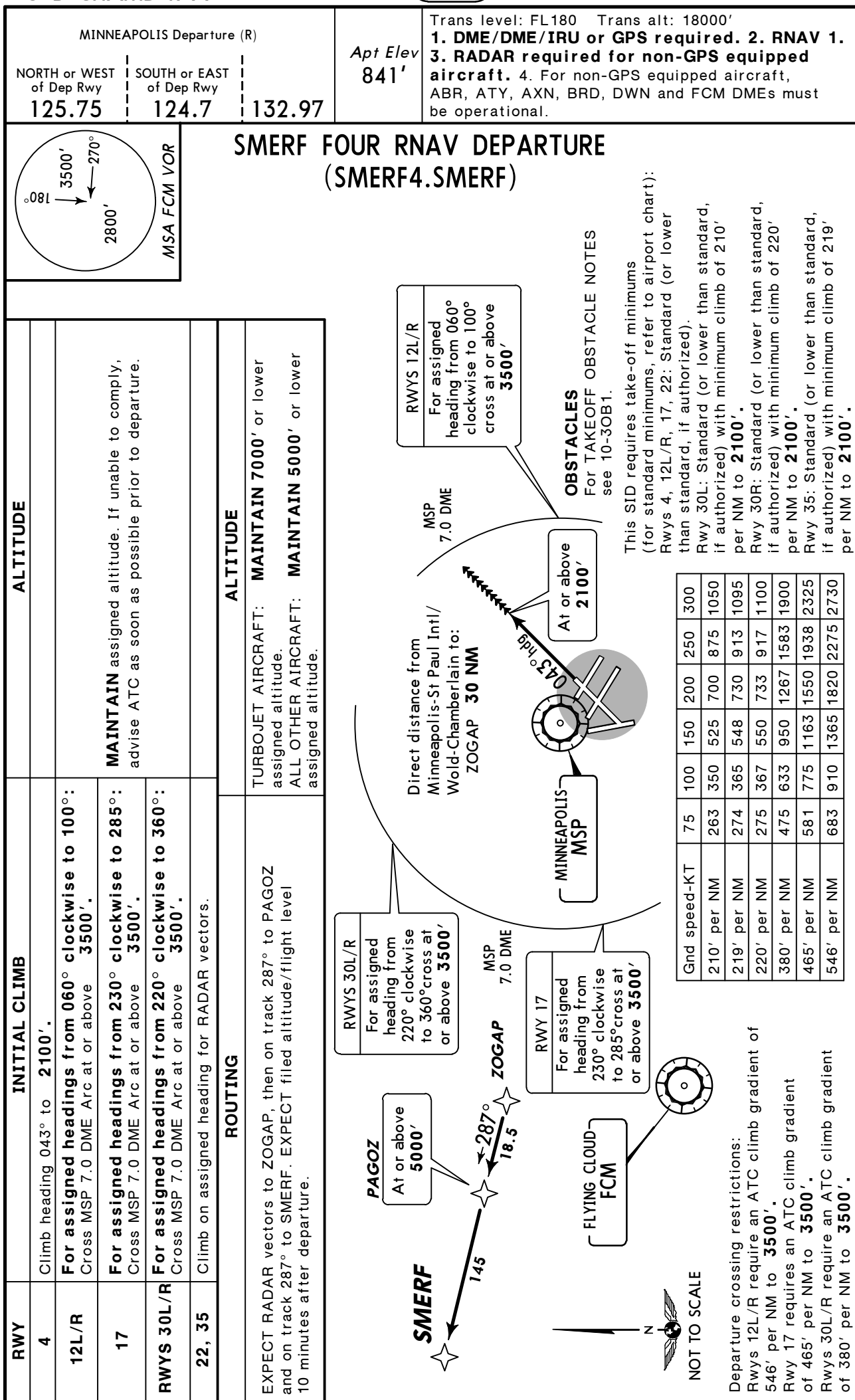
This SID requires take-off minimums (for standard minimums, refer to airport chart):
Rwys 4, 12L/R, 17, 22: Standard (or lower than standard, if authorized).
Rwy 30L: Standard (or lower than standard, if authorized) with minimum climb of 210' per NM to **2100'**.
Rwy 30R: Standard (or lower than standard, if authorized) with minimum climb of 220' per NM to **2100'**.
Rwy 35: Standard (or lower than standard, if authorized) with minimum climb of 219' per NM to **2100'**.

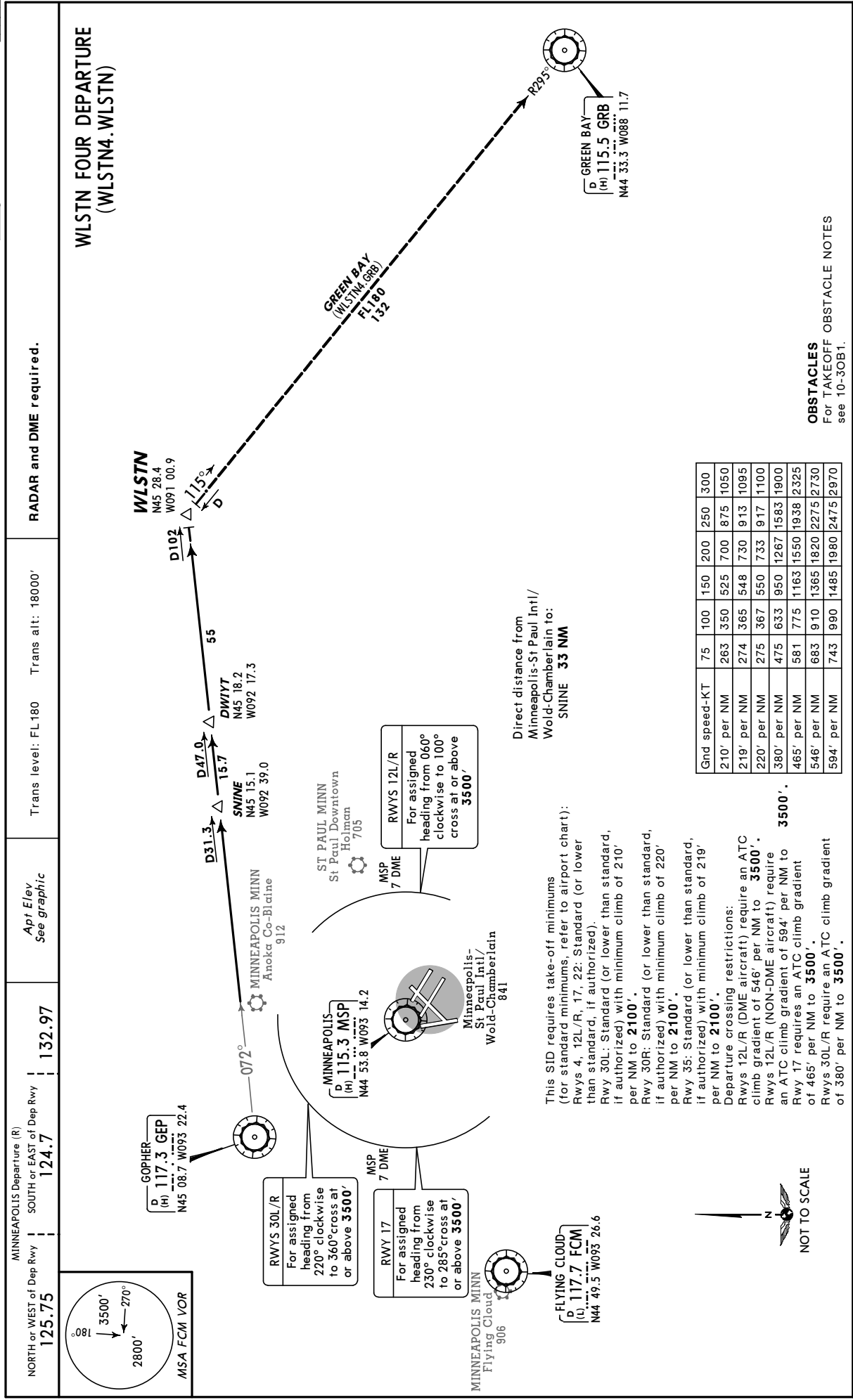
Gnd speed-KT	75	100	150	200	250	300
210' per NM	263	350	525	700	875	1050
219' per NM	274	365	548	730	913	1095
220' per NM	275	367	550	733	917	1100
380' per NM	475	633	950	1267	1583	1900
465' per NM	581	775	1163	1550	1938	2325
546' per NM	683	910	1365	1820	2275	2730
594' per NM	743	990	1485	1980	2475	2970

Departure crossing restrictions:
Rwys 12L/R (DME aircraft) require an ATC climb gradient of 546' per NM to **3500'**.
Rwys 12L/R (NON-DME aircraft) require an ATC climb gradient of 594' per NM to **3500'**.
Rwy 17 requires an ATC climb gradient of 465' per NM to **3500'**.
Rwys 30L/R require an ATC climb gradient of 380' per NM to **3500'**.

OBSTACLES
For TAKEOFF OBSTACLE NOTES see 10-30B1.





[illegible]

OBSTACLES
For TAKEOFF OBSTACLE NOTES
see 10-30B1.

INITIAL CLIMB		ALTITUDE
ALL RUNWAYS	Fly assigned heading for RADAR vectors to GEP R-072 to WLSTN/D102 GEP.	TURBOJET AIRCRAFT: MAINTAIN 7000' or lower assigned altitude. ALL OTHER AIRCRAFT: MAINTAIN 5000' or lower assigned altitude.
RWYS 4, 22, 35	Initially assigned heading.	
RWYS 12L/R	For assigned headings from 060° clockwise to 100° Cross MSP 7 DME at or above 3500' .	
RWY 17	For assigned headings from 230° clockwise to 285° Cross MSP 7 DME at or above 3500' .	
RWYS 30L/R	For assigned headings from 220° clockwise to 360° Cross MSP 7 DME at or above 3500' .	MAINTAIN assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure.

Via transition or assigned route.	EXPECT clearance to filed altitude/flight level	10 minutes after departure.	ROUTING

[illegible]

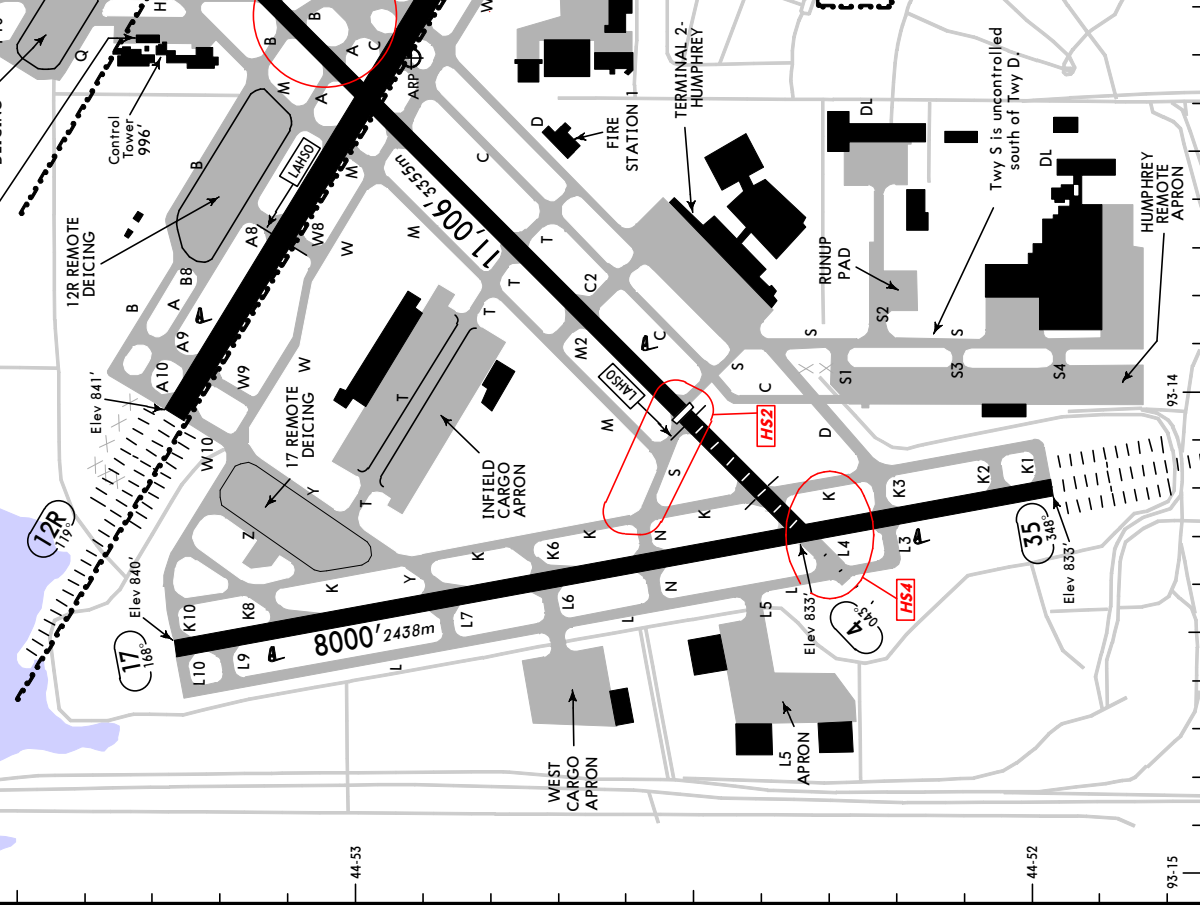
TAKEOFF OBSTACLE NOTES

- RWY 4:
MULTIPLE TREES BEGINNING 800' FROM DER, 264' LEFT OF CENTERLINE, UP TO 75' AGL/921' MSL. ROD ON BUILDING 2528' FROM DER, 1175' LEFT OF CENTERLINE, 78' AGL/922' MSL. FENCE 803' FROM DER, 585' LEFT OF CENTERLINE, 15' AGL/860' MSL. ANTENNA ON OBSTACLE LIGHT BUILDING 456' FROM DER, 319' LEFT OF CENTERLINE, 13' AGL/850' MSL. LIGHT POLES 1932' FROM DER, 718' LEFT OF CENTERLINE, 45' AGL/885' MSL. STACK 4535' FROM DER, 481' LEFT OF CENTERLINE, 139' AGL/949' MSL.
- RWY 12R:
MULTIPLE TREES BEGINNING 1477' FROM DER, 407' LEFT OF CENTERLINE, UP TO 86' AGL/851' MSL. MULTIPLE TREES BEGINNING 1426' FROM DER, 124' RIGHT OF CENTERLINE, UP TO 111' AGL/847' MSL. LIGHT POLE 1408' FROM DER, 746' RIGHT OF CENTERLINE, 85' AGL/843' MSL. RADAR REFLECTOR 983' FROM DER, 32' LEFT OF CENTERLINE, 15' AGL/829' MSL. PIPE ON BUILDING, 826' FROM DER, 576' LEFT OF CENTERLINE, 10' AGL/825' MSL. OBSTACLE LIGHT ON LOCALIZER 766' FROM DER, ON CENTERLINE, 7' AGL/821' MSL.
- RWY 17:
ANTENNA 1272' FROM DER, 562' RIGHT OF CENTERLINE, 57' AGL/891' MSL. POLE 409' FROM DER, 530' RIGHT OF CENTERLINE, 29' AGL/866' MSL. WIND DIRECTION INDICATOR ON BUILDING 2619' FROM DER, 881' LEFT OF CENTERLINE, 97' AGL/918' MSL. BUILDING 2619' FROM DER, 859' LEFT OF CENTERLINE, 84' AGL/905' MSL. LIGHT 1176' FROM DER, 291' RIGHT OF CENTERLINE, 11' AGL/875' MSL. TREE 2619' FROM DER, ON CENTERLINE, 79' AGL/900' MSL.
- RWY 22:
| TREE 2906' FROM DER, 833' RIGHT OF CENTERLINE, 94' AGL/934' MSL. HOPPER 1717' FROM DER, 456' LEFT OF CENTERLINE, 48' AGL/888' MSL.
- RWY 30L:
MULTIPLE TREES BEGINNING 1113' FROM DER, 701' LEFT OF CENTERLINE, UP TO 80' AGL/919' MSL. TREE 1230' FROM DER, 633' RIGHT OF CENTERLINE, 30' AGL/877' MSL. GROUND 28' FROM DER, 490' RIGHT OF CENTERLINE, 0' AGL/844' MSL.
- RWY 30R:
BUILDING 1056' FROM DER, 198' LEFT OF CENTERLINE, 13' AGL/853' MSL. MULTIPLE TREES BEGINNING 3010' FROM DER, 334' LEFT OF CENTERLINE, UP TO 94' AGL/940' MSL. LIGHT POLE 1849' FROM DER, 698' RIGHT OF CENTERLINE, 17' AGL/871' MSL. FENCE 1327' FROM DER, 667' RIGHT OF CENTERLINE, 8' AGL/857' MSL. TREE 3703' FROM DER, 350' RIGHT OF CENTERLINE, 67' AGL/914' MSL. ROD ON POLE 3143' FROM DER, 47' RIGHT OF CENTERLINE, 38' AGL/898' MSL.
- RWY 35:
TREE 175' FROM DER, 398' RIGHT OF CENTERLINE, 73' AGL/883' MSL. MULTIPLE TREES BEGINNING 1989' FROM DER, 351' LEFT OF CENTERLINE, UP TO 65' AGL/902' MSL. MULTIPLE BUILDINGS BEGINNING 5.45 NM FROM DER, 1787' LEFT OF CENTERLINE, UP TO 811' AGL/1743' MSL.

DEPARTURE D-ATIS	ACARS: D-ATIS TWIP PDC	MINNEAPOLIS Clearance (Cpt)	Metering	Ground	North	South	West
120.8		133.2	133.57	121.8	121.9	127.92	
VOT 111.0 (Limited)							
MINNEAPOLIS Departure (R)							
Tower				South or East of Dep Rwy			
Rwys 4/22, 12R/30L	Rwy 17/35	123.95	123.67	125.75	124.7	132.97	

See 10-9A for description of Hot Spots

Runway Incursion Hot Spots



GENERAL									
ASDE-X Surveillance System in use. Pilots should operate transponders with Mode C on all taxiways and runways.									
Low-level wind shear alert system.									
Terminal Doppler Weather Radar.									
No Stage 1 noise category civil aircraft.									
Training flights prohibited.									
All unscheduled aircraft at Terminal 2-Humphrey are required to contact Terminal 2 Gate Control at 122.95 or (612) 726-5742 prior to arrival.									
General aviation flights must terminate at the FBO or US Customs unless approved by the airport manager.									
All aircraft are required to contact Ground Metering prior to pushback.									
Birds on and in the vicinity of airport.									
Vehicles parked along South end of Taxiway S.									
ADDITIONAL RUNWAY INFORMATION									
RWY		USABLE LENGTHS			LAHSO Distance	TAKE-OFF WIDTH			
		Threshold	Landing Beyond	Glide Slope					
4	1	HIRL MALSR	PAPI-L (angle 3.0°)	RVR	9456' 2882m 10,006' 3050m	Twy K 8550' 2606m	150' 46m		
1 Rwy grooved.									
12R	2	HIRL CL ALSF-II	TDZ 3 PAPI-L	RVR	8970' 2734m 8897' 2712m	Twys 8150' A9/W9 2484m	200' 61m		
2 Rwy grooved. 3 Angle 3.0°.									
12L	1	HIRL CL ALSF-II	TDZ 3 PAPI-L	RVR	7620' 2323m 6	6270' 1911m	150' 46m		
30R		HIRL REIL CL	PAPI-L (angle 3.0°)	RVR	8000' 2438m	6975' 2126m			
1 Rwy grooved. 6 Last 580' 177m is unavailable for landing distance computations.									
5 Angle 3.0°.									
17	7	HIRL REIL CL	PAPI-R (angle 3.0°)	RVR			150' 46m		
35		HIRL CL ALSF-II	TDZ 3 PAPI-L	RVR	7062' 2152m				
7 Rwy grooved. 8 Angle 3.0°.									

RUNWAY INCURSION HOT SPOTS

HS1

For information only, not to be construed as ATC instructions

HS1

Expansive pavement at the intersection of Twys A, B, C, D and H in near proximity to Rwys 12R/30L and 4/22. Use caution for runway crossings in this area.

HS2

Complex taxiway/runway geometry.

HS3

Expansive pavement at the intersection of Twys C, D, P and Q in near proximity to Rwys 12L/30R and 4/22. Use caution for runway crossings in this area.

HS4

Complex geometry at Rwy 4 approach end. Rwy 4 departures check compass to verify correct runway heading.

TAKE-OFF & OBSTACLE DEPARTURE PROCEDURE						
Rwys 12L/R, 17, 30L/R						
2 operating RVRs are required All operating RVRs are controlling		Adequate Vis Ref		STD		
CL & HIRL	CL, or RCLM & HIRL			3 & 4 Eng		1 & 2 Eng
TDZ RVR 5	TDZ RVR 10	RVR 16 or 1/4		RVR 24 or 1/2		RVR 50 or 1
Mid RVR 5	Mid RVR 10					
Rollout RVR 5	Rollout RVR 10					
Rwy 35						
With Min climb of 219' /NM to 2100'						
2 operating RVRs are required All operating RVRs are controlling		Adequate Vis Ref		STD		
CL & HIRL	CL, or RCLM & HIRL			3 & 4 Eng		1 & 2 Eng
TDZ RVR 5	TDZ RVR 10	RVR 16 or 1/4		RVR 24 or 1/2		RVR 50 or 1
Mid RVR 5	Mid RVR 10					
Rollout RVR 5	Rollout RVR 10					
Rwys 4, 22						
Both RVRs are required and controlling		Adequate Vis Ref		STD		
RCLM & HIRL				3 & 4 Eng		1 & 2 Eng
TDZ RVR 10	RVR 16 or 1/4	RVR 24 or 1/2		RVR 50 or 1		
Rollout RVR 10						

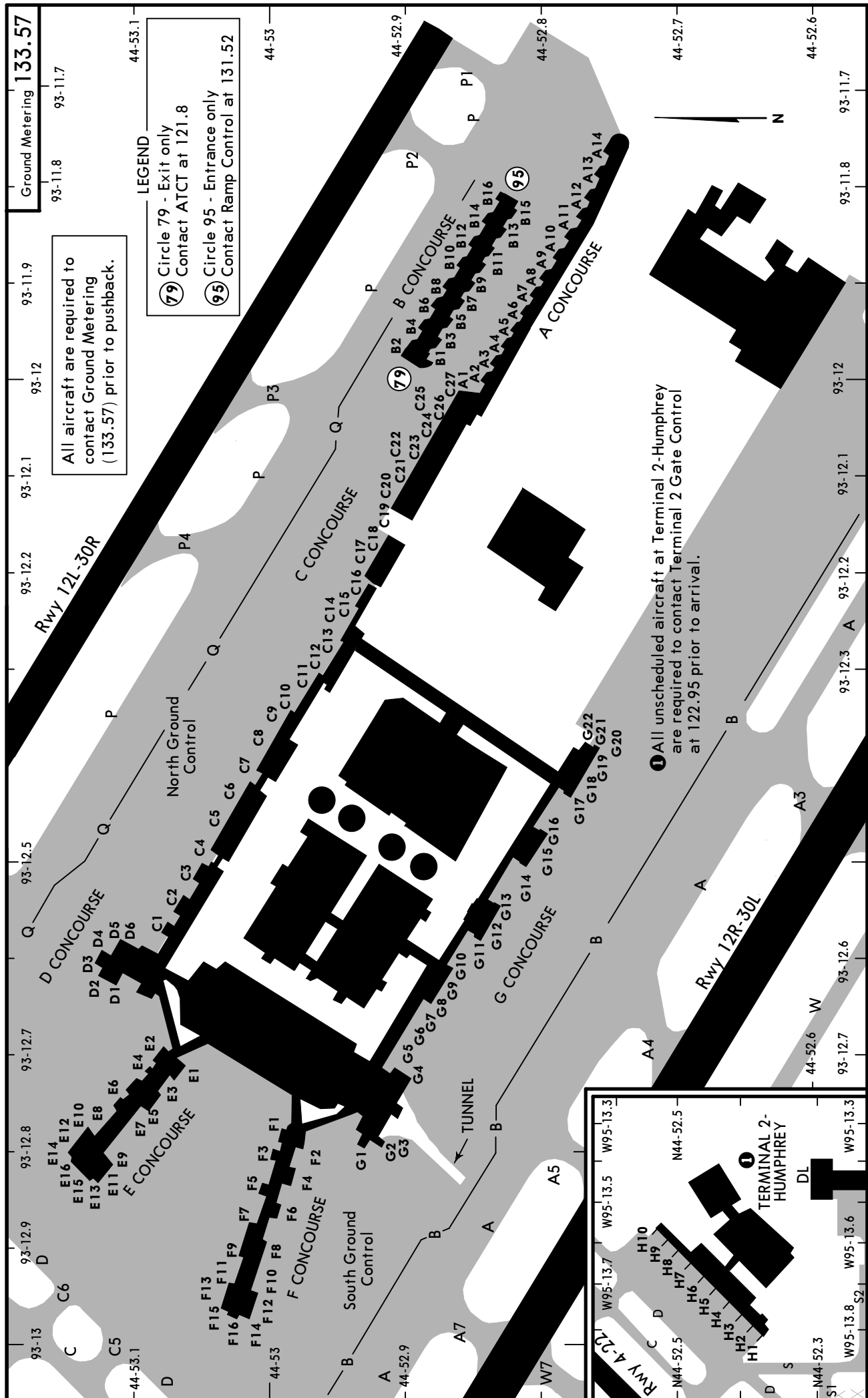
OBSTACLE DP

Rwy 4: Climb via 043° heading to 2100' before turning left.

Rwys 30L & 30R: Climb via 299° heading to 2100' before turning right.

Rwy 35: Climb via 348° heading to 2100' before turning left.

FOR FILING AS ALTERNATE									
ILS Rwy 12R ILS Rwy 30L		ILS Rwy 12L ILS Rwy 30R		LOC Rwy 4 LOC Rwy 12R LOC Rwy 17 LOC Rwy 22		LOC Rwy 30L RNAV (GP5) Rwy 4 RNAV (GP5) Rwy 22 RNAV (GP5) Rwy 30L/R		LOC Rwy 12L LOC Rwy 30R RNAV (GP5) Rwy 12L RNAV (GP5) Z Rwy 35	
A	600-2		700-2		800-2		800-2		Other
B							800-2		NA
C							800-2 1/4		
D	700-2		700-2 1/4				800-2 1/4		



PARKING GATE COORDINATES

GATE No.	COORDINATES	GATE No.	COORDINATES
Concourse A		Concourse E	
A1 thru A6	N44 52.8 W093 12.0	E1 thru E6	N44 53.1 W093 12.7
A7 thru A11	N44 52.8 W093 11.9	E7 thru E11	N44 53.1 W093 12.8
A12	N44 52.7 W093 11.9	E12	N44 53.2 W093 12.8
A13, A14	N44 52.7 W093 11.8	E13	N44 53.1 W093 12.8
		E14	N44 53.2 W093 12.8
Concourse B		E15	N44 53.1 W093 12.8
B1, B2	N44 52.9 W093 12.0	E16	N44 53.2 W093 12.8
B3	N44 52.8 W093 12.0	Concourse F	
B4	N44 52.9 W093 12.0	F1 thru F5	N44 53.0 W093 12.8
B5	N44 52.8 W093 12.0	F6 thru F11	N44 53.0 W093 12.9
B6	N44 52.9 W093 12.0	F12 thru F16	N44 53.0 W093 13.0
B7 thru B16	N44 52.8 W093 11.9	Concourse G	
Concourse C		G1 thru G3	N44 52.9 W093 12.8
C1	N44 53.1 W093 12.6	G4 thru G8	N44 52.9 W093 12.7
C2 thru C4	N44 53.1 W093 12.5	G9, G10	N44 52.9 W093 12.6
C5	N44 53.0 W093 12.5	G11	N44 52.8 W093 12.6
C6 thru C9	N44 53.0 W093 12.4	G12 thru G16	N44 52.8 W093 12.5
C10 thru C14	N44 53.0 W093 12.3	G17 thru G21	N44 52.8 W093 12.4
C15 thru C20	N44 52.9 W093 12.2	G22	N44 52.8 W093 12.3
C21 thru C27	N44 52.9 W093 12.1	Terminal 2 - Humphrey	
Concourse D		H1 thru H4	N44 52.4 W093 13.8
D1 thru D6	N44 53.1 W093 12.6	H5	N44 52.4 W093 13.7
		H6 thru H7	N44 52.5 W093 13.7
		H8 thru H10	N44 52.5 W093 13.6

OVERFLOW AIRCRAFT PARKING AREAS

Minneapolis-Saint Paul International/Wold-Chamberlain Airport
Overflow Aircraft Parking Plan

Background

MAC, MSP ATCT and MSP users have entered into an agreement to identify parking areas and implement procedures which will allow accommodation of any arrival unable to proceed immediately to its assigned parking location or any departure aircraft unable to proceed immediately to a departure runway. The overflow aircraft parking plan allocates parking positions in specific areas as indicated on the airport diagram below. Parking positions are assigned so as to not impact flight operations, and to maintain taxiway access to/from runways and aircraft parking positions.

Procedures

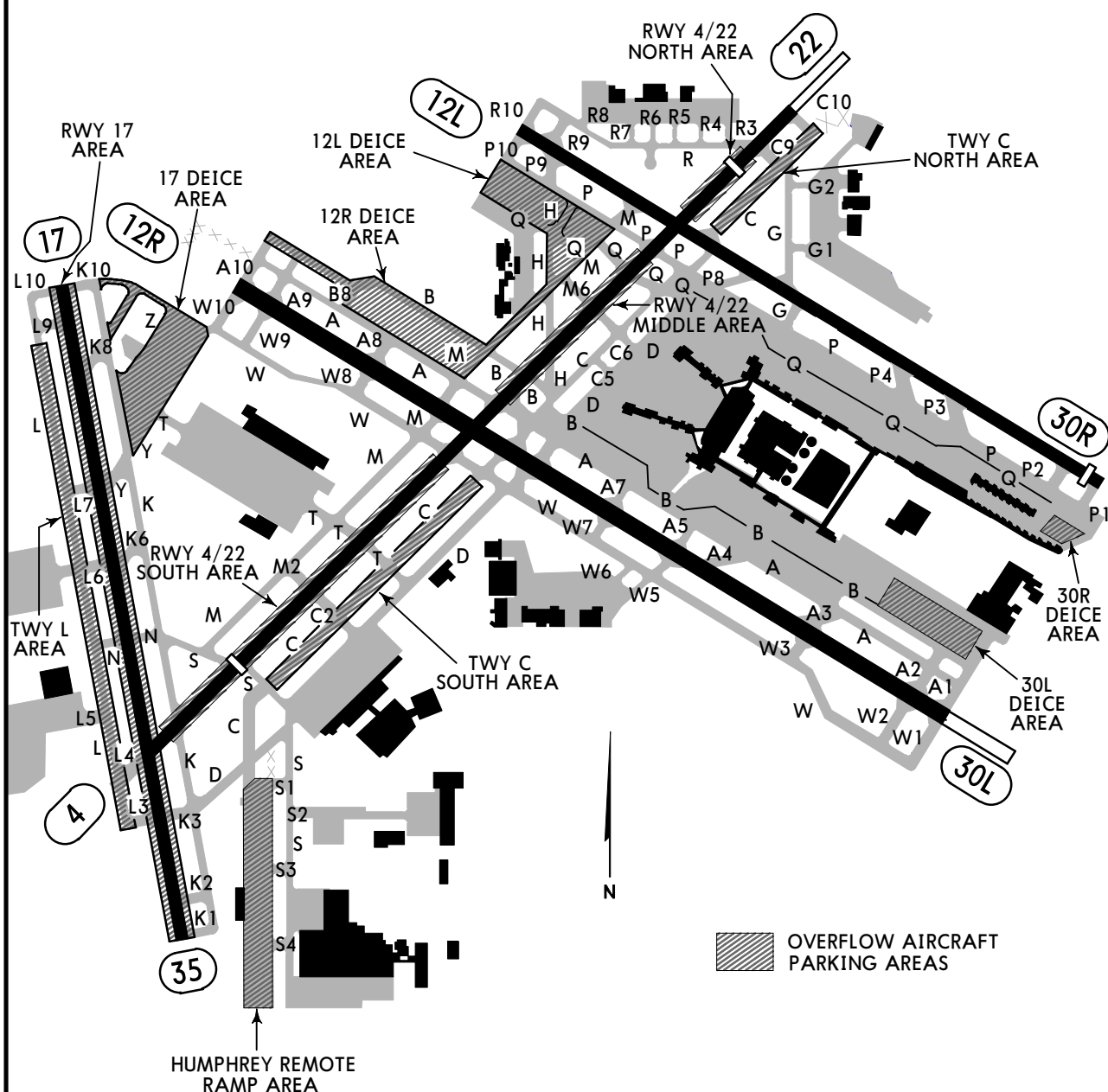
ASDE-X Surveillance System in use. Operate transponders with Mode C on all taxiways and runways.

When ATIS announcement "overflow parking procedures in effect" is made, flight crews are to anticipate assignment to an overflow parking position if necessary.

Arrival aircraft report gate assignment on initial contact with Minneapolis ATCT.

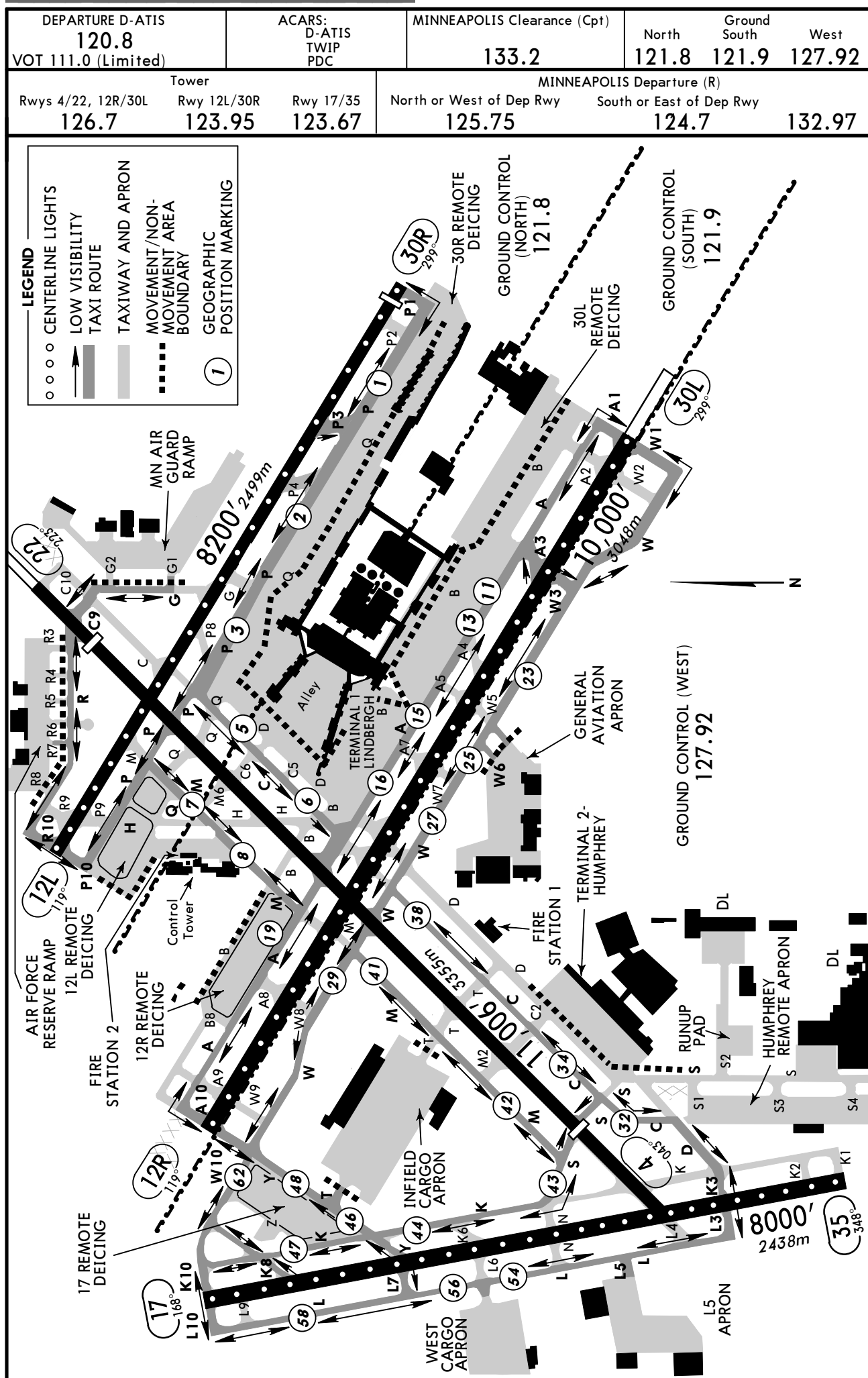
Upon landing, follow ATC directions to assigned overflow parking position.

Monitor MSP ATCT on assigned frequency while parked in overflow aircraft parking positions.

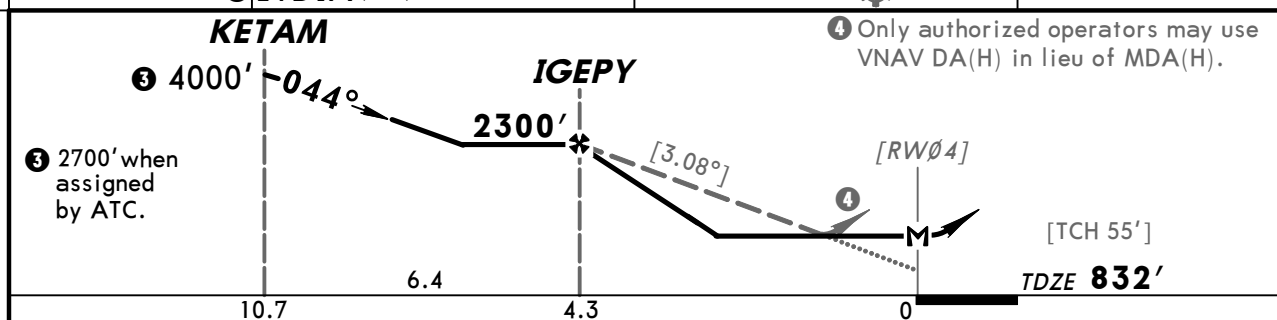
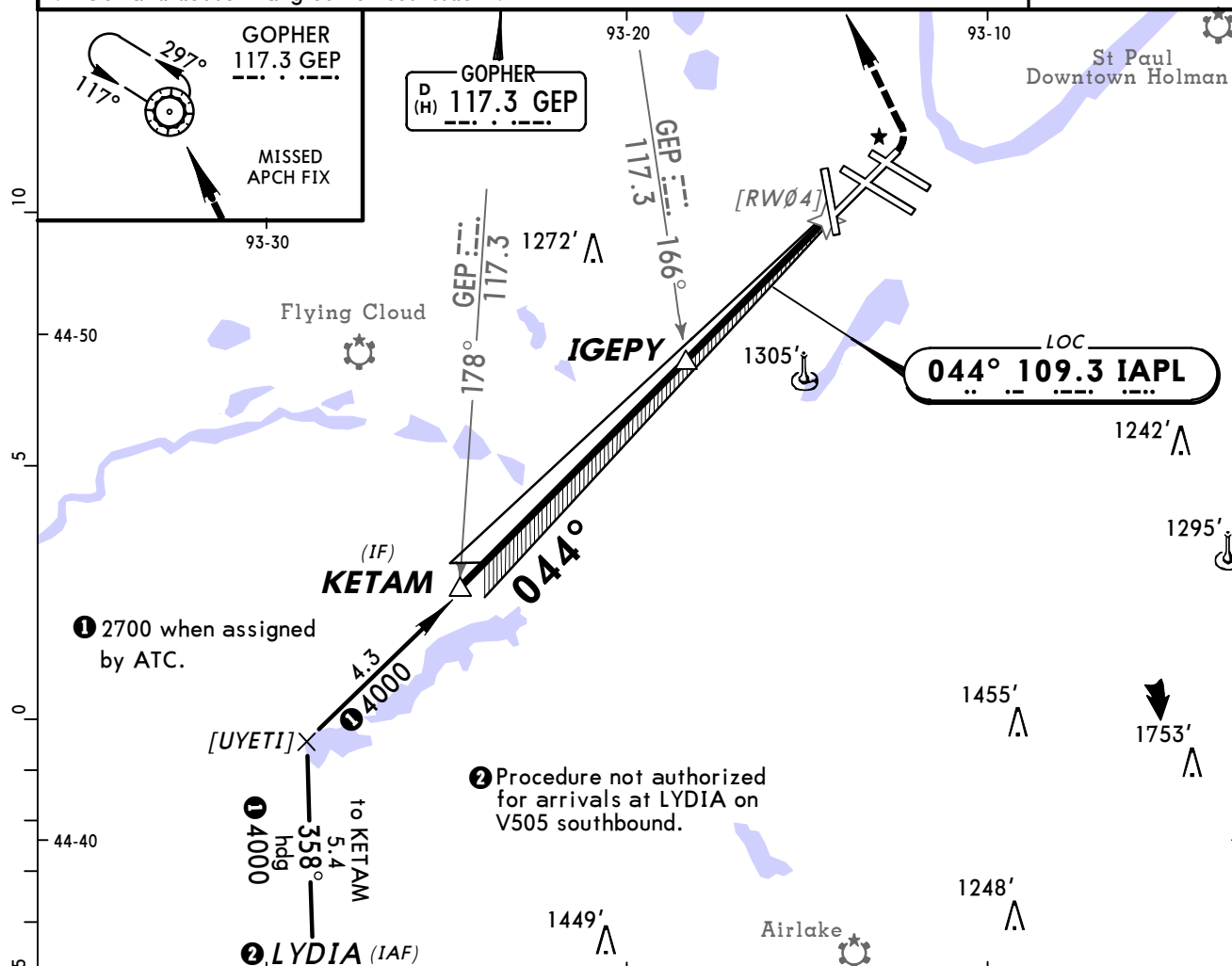


LESS THAN RVR 1200 to 600

LOW VISIBILITY TAXI ROUTES



WOLF CHAMBERLAIN								
D-ATIS	MINNEAPOLIS Approach (R)		MINNEAPOLIS Tower			Ground		
			Rwys 4/22, 12R/30L	Rwy 12L/30R	Rwy 17/35	North	South	West
135.35	126.95	119.3	126.7	123.95	123.67	121.8	121.9	127.92
LOC IAPL 109.3	Final Apch Crs 044°	Minimum Alt IGEPY 2300' (1468')	MDA(H) 1340' (508')		Apt Elev 841' TDZE 832'			
MISSED APCH: Climb to 1500', then climbing LEFT turn to 4000' direct GEP VOR and hold.								
Alt Set: INCHES			Trans level: FL 180			Trans alt: 18000'		
1. VGS1 and descent angles not coincident.								
MSA GEP VOR								

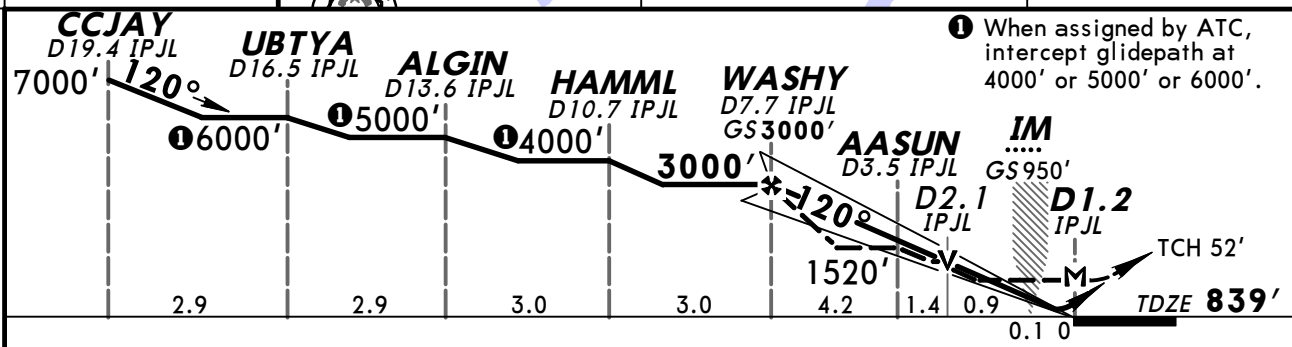
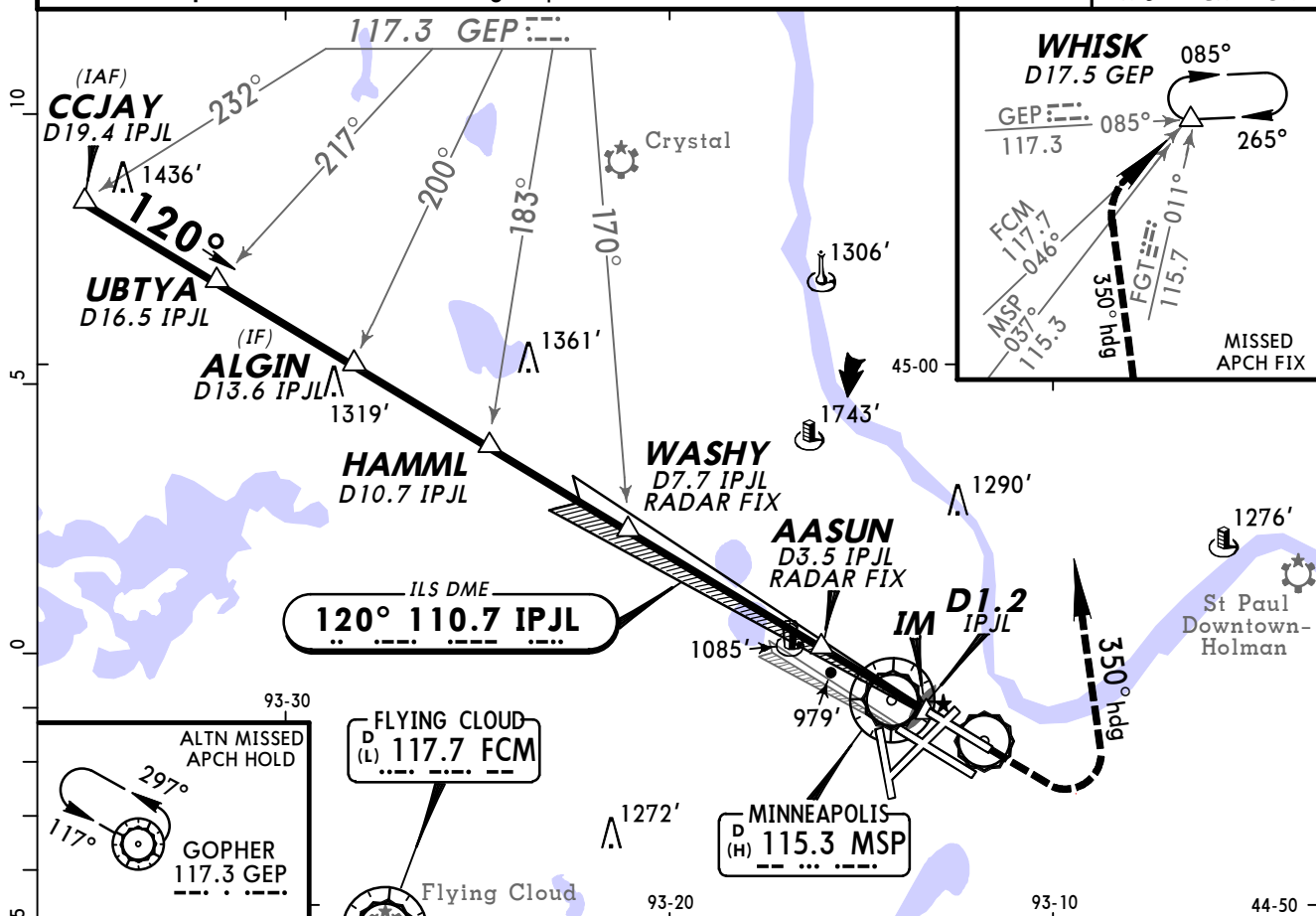


<i>Gnd speed-Kts</i>	70	90	100	120	140	160	MALSR PAPI 1500' 4000' ↻ LT → ← GEP 117.3
<i>Descent angle</i> [3.08°]	381	490	545	654	763	872	
<i>IGEPY to MAP</i>	4.3	3:41	2:52	2:35	2:09	1:51	

STRAIGHT-IN LANDING RWY4				CIRCLE-TO-LAND	
MDA(H) 1340' (508')					
		RAIL out	ALS out	Max Kts	MDA(H)
A	RVR 24 or 1/2	RVR 40 or 3/4	RVR 50 or 1	90	1360' (519') - 1
B				120	
C	RVR 50 or 1	1 1/2		140	1360' (519') - 1 1/2
D				165	1460' (619') - 2

BRIEFING STRIP™

D-ATIS	MINNEAPOLIS Approach (R)	MINNEAPOLIS Tower			North	Ground	South	West
135.35	119.3	Rwy 12L/30R 123.95	Rwy 17/35 123.67	Rwys 4/22, 12R/30L 126.7	121.8	121.9	127.92	
LOC IPJL 110.7	Final Apch Crs 120°	GS WASHY 3000' (2161')	ILS DA(H) 1039' (200')	Apt Elev 841' TDZE 839'	180° 3500' 2800' 270°			
MISSED APCH: Climb to 1500', then climbing LEFT turn to 4000' via heading 350° and outbound on FCM VOR R-046 to WHISK INT/D17.5 GEP and hold.								
Alt Set: INCHES		Trans level: FL 180		Trans alt: 18000'				
1. Radar required.		2. VGSI and ILS glidepath not coincident.						
MSA FCM VOR								



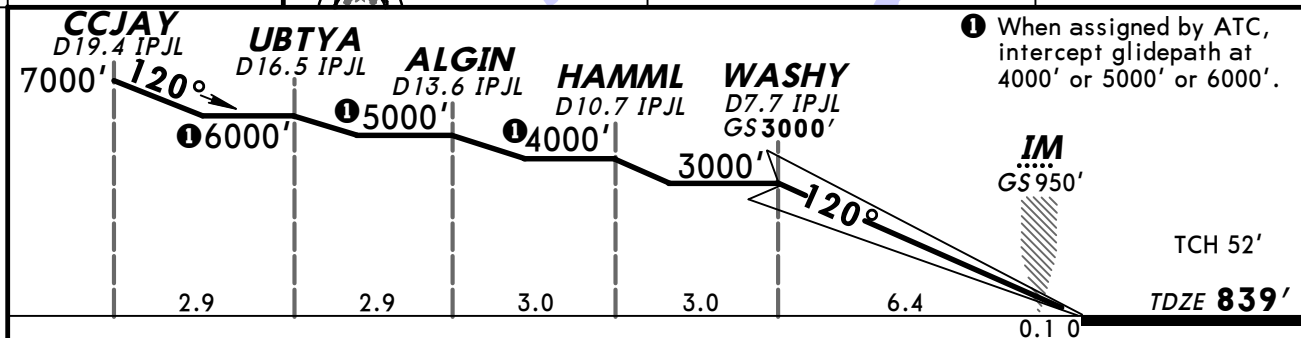
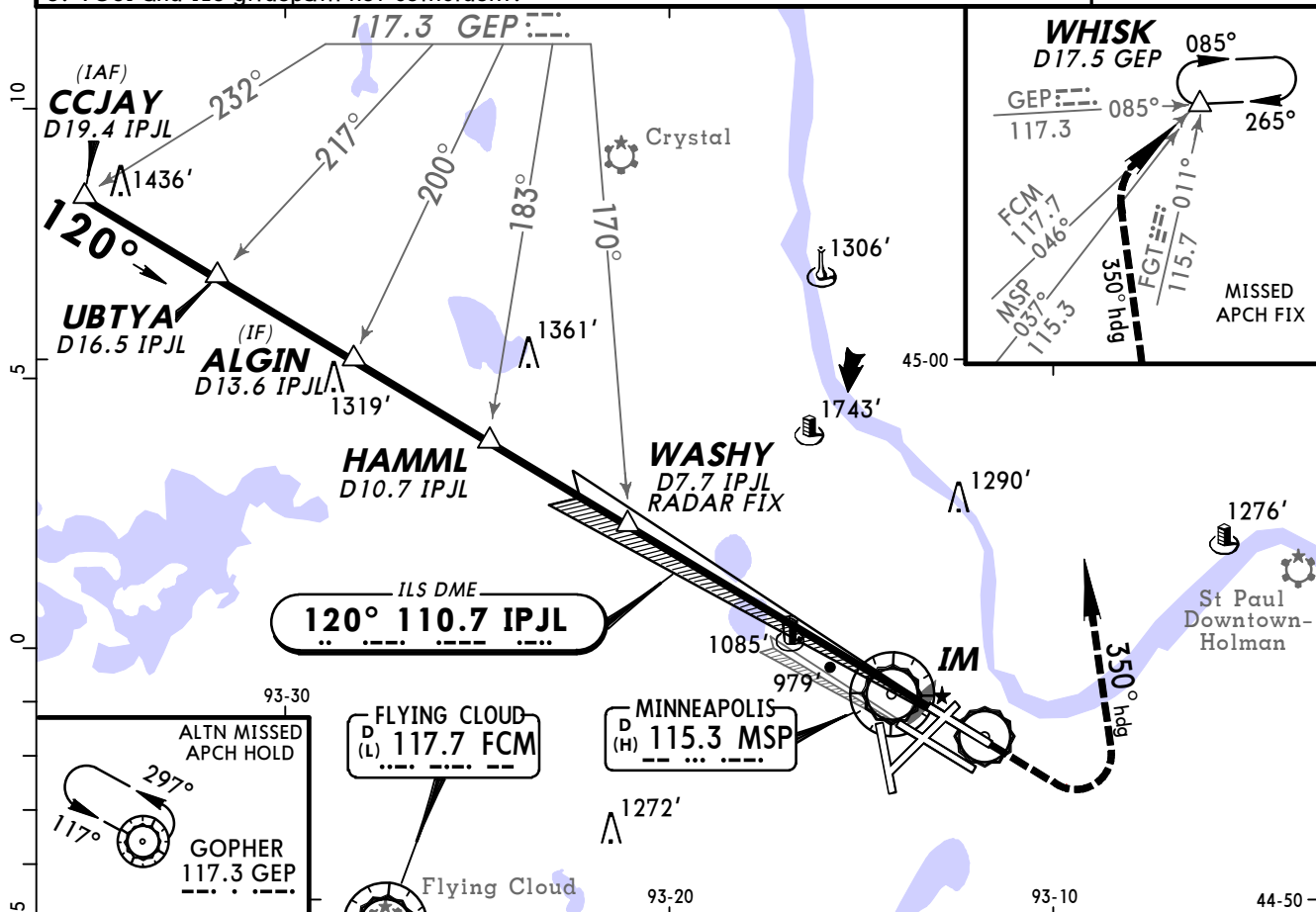
Gnd speed-Kts	70	90	100	120	140	160	ALSIF-II		1500'	4000'	350°	FCM
GS	3.00°	377	484	538	646	753	PAPI		↑	LT	via	and 117.7
MAP at D1.2 IPJL or WASHY to MAP	6.5	5:34	4:20	3:54	3:15	2:47					hdg	R-046

STRAIGHT-IN LANDING RWY12L						CIRCLE-TO-LAND			
ILS			LOC (GS out)			With AASUN		Without AASUN	
DA(H) 1039' (200')			MDA(H) 1240' (401') With AASUN			MDA(H)		MDA(H)	
FULL			ALS out			Max Kts		Max Kts	
						90		120	
A	RVR 18	RVR 24	RVR 40	RVR 24	RVR 50	1360' (519')-1		1520' (679')-1	
B	or 1/2	or 1/2	or 3/4	or 1/2	or 1				
C				RVR 40	RVR 60	1360' (519')-1 1/2		1520' (679')-2	
D				or 3/4	or 1 1/4	1 1/2		2	
						1 3/4		2 1/4	
						140		140	
						165		165	
						1460' (619')-2		1520' (679')-2 1/4	

KMSP/MSP MINNEAPOLIS-ST PAUL INTL/ WOLD-CHAMBERLAIN

5 MAR 10 11-2A ILS Rwy 12L CAT II & III

D-ATIS	MINNEAPOLIS Approach (R)	MINNEAPOLIS Tower	Ground	North	South	West
135.35	119.3	Rwy 12L/30R 123.95 Rwy 17/35 123.67 Rwy 4/22, 12R/30L 126.7		121.8	121.9	127.92
LOC IPJL 110.7	Final Apch Crs 120°	GS WASHY 3000' (2161')	CAT IIIC NA	CAT IIIB Refer to Minimums	CAT IIIA Refer to Minimums	CAT II ILS RA 115' DA(H) 939' (100')
Apt Elev 841' TDZE 839'						
MISSED APCH: Climb to 1500', then climbing LEFT turn to 4000' via heading 350° and outbound on FCM VOR R-046 to WHISK INT/D17.5 GEP and hold.						
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000'						
1. Special Aircrew & Acft Certification Required. 2. Radar required. 3. VGSI and ILS glidepath not coincident.						MSA FCM VOR



Gnd speed-Kts	70	90	100	120	140	160	ALSF-II	1500'	4000'	350°	FCM
GS	3.00°	377	484	538	646	753	861	PAPI	1500'	4000'	117.7
									LT	via	R-046
										hdg	

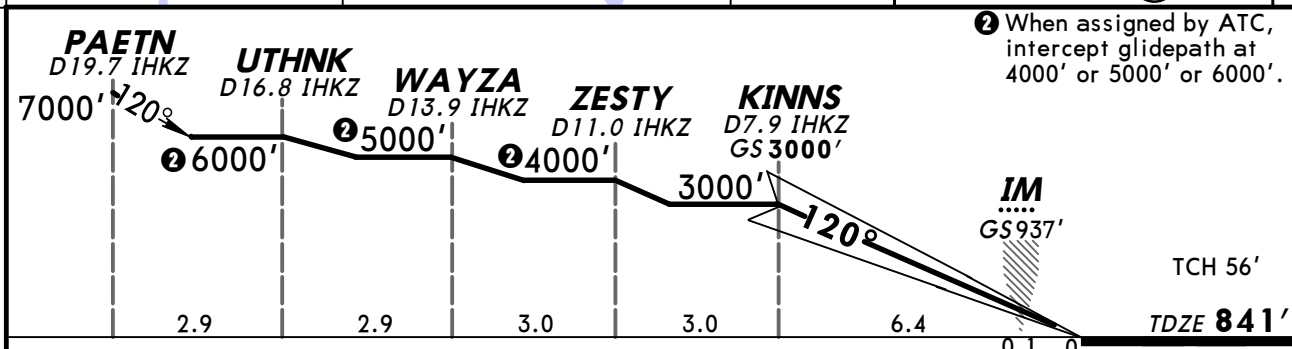
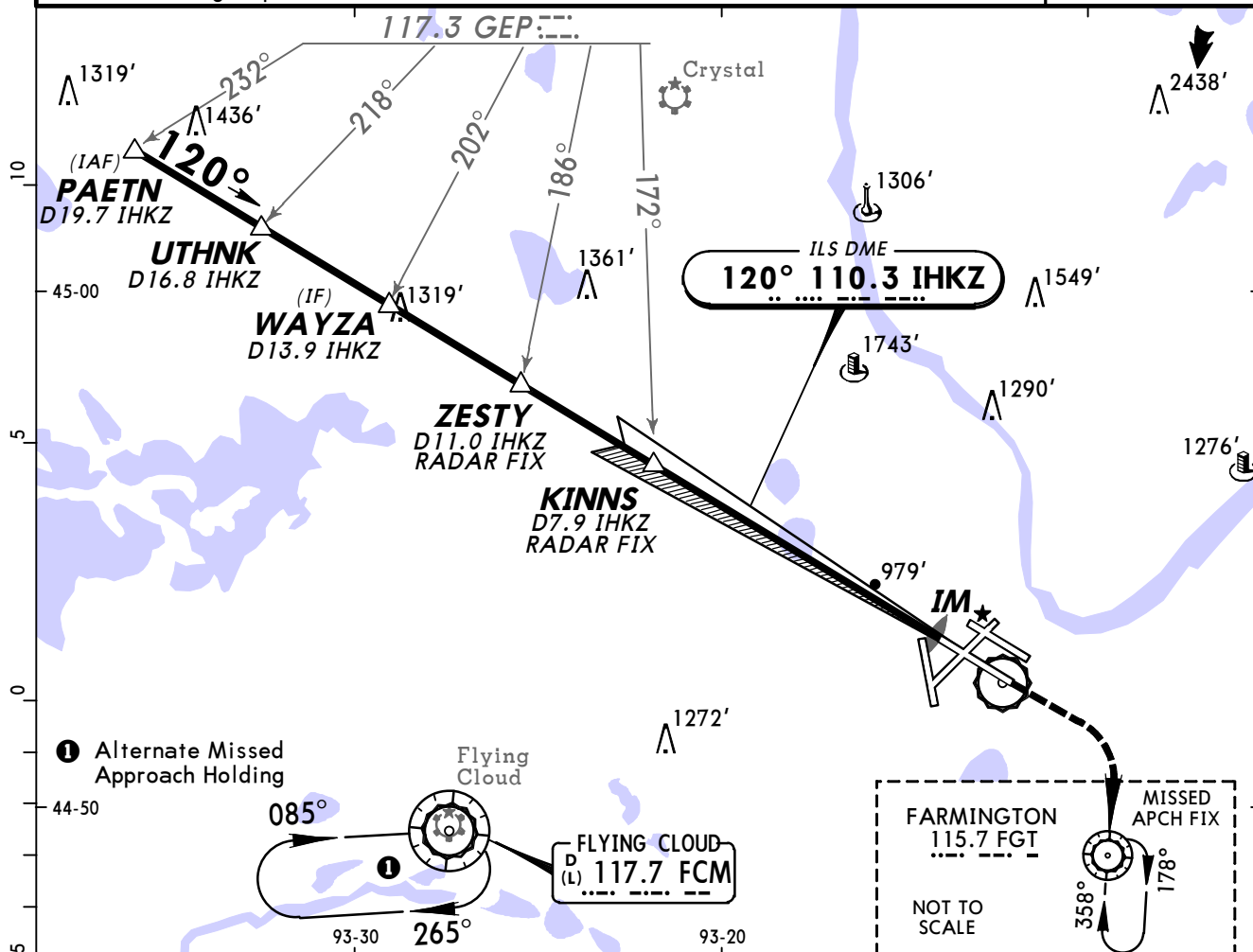
STRAIGHT-IN LANDING RWY12L			
CAT IIIC ILS	CAT IIIB ILS	CAT IIIA ILS	CAT II ILS
NA	RVR 6	RVR 7	RA 115' DA(H) 939' (100')
			RVR 12

TERPS AMEND 8 11 FEB 2010

KMSP/MSP MINNEAPOLIS-ST PAUL INTL/ WOLD-CHAMBERLAIN 5 MAR 10 11-3A ILS Rwy 12R CAT II & III MINNEAPOLIS, MINN

BRIEFING STRIP™

D-ATIS		MINNEAPOLIS Approach (R)		MINNEAPOLIS Tower			North		Ground South		West	
135.35		126.95		Rwys 4/22, 12R/30L		Rwy 17/35	Rwy 12L/30R	121.8	121.9	127.92		
LOC IHKZ 110.3	Final Apch Crs 120°	GS KINNS 3000' (2159')	CAT IIIC NA	CAT IIIB NA	CAT IIIA Refer to Minimums	CAT II RA 106' DA(H) 941' (100')	Apt Elev 841' TDZE 841'					
MISSED APCH: Climb to 1500', then climbing RIGHT turn to 5000' direct FGT VOR and hold, continue climb-in-hold to 5000'.												
Alt Set: INCHES		Trans level: FL 180				Trans alt: 18000'						
1. Special Aircrew and Aircraft Certification Required. 2. Radar required. 3. VGSI and ILS glidepath not coincident.												
MSA FCM VOR												



Gnd speed-Kts	70	90	100	120	140	160	ALSF-II	1500'	5000'	FGT 115.7
GS	3.00°	377	484	538	646	753	861	PAPI	RT	

STRAIGHT-IN LANDING RWY 12R			
CAT IIIC ILS	CAT IIIB ILS	CAT IIIA ILS	CAT II ILS RA 106' DA(H) 941' (100')
NA	NA	RVR 7	RVR 12

TERPS AMEND 9 11 FEB 2010

KMSP/MSP MINNEAPOLIS-ST PAUL INTL/ WOLD-CHAMBERLAIN

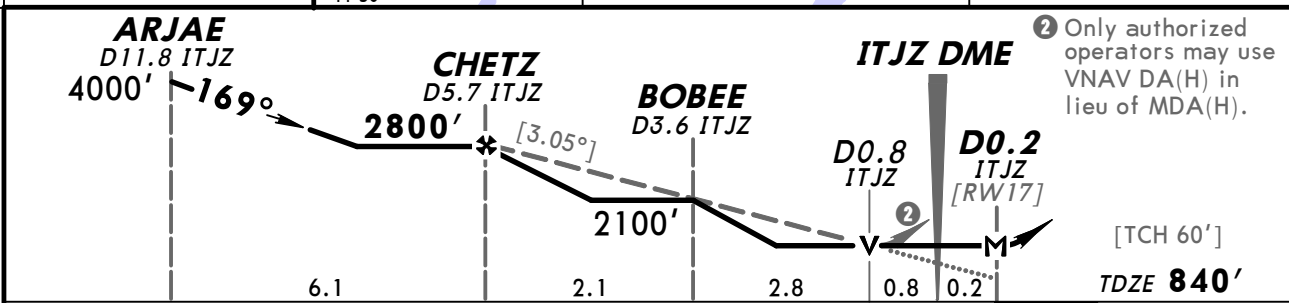
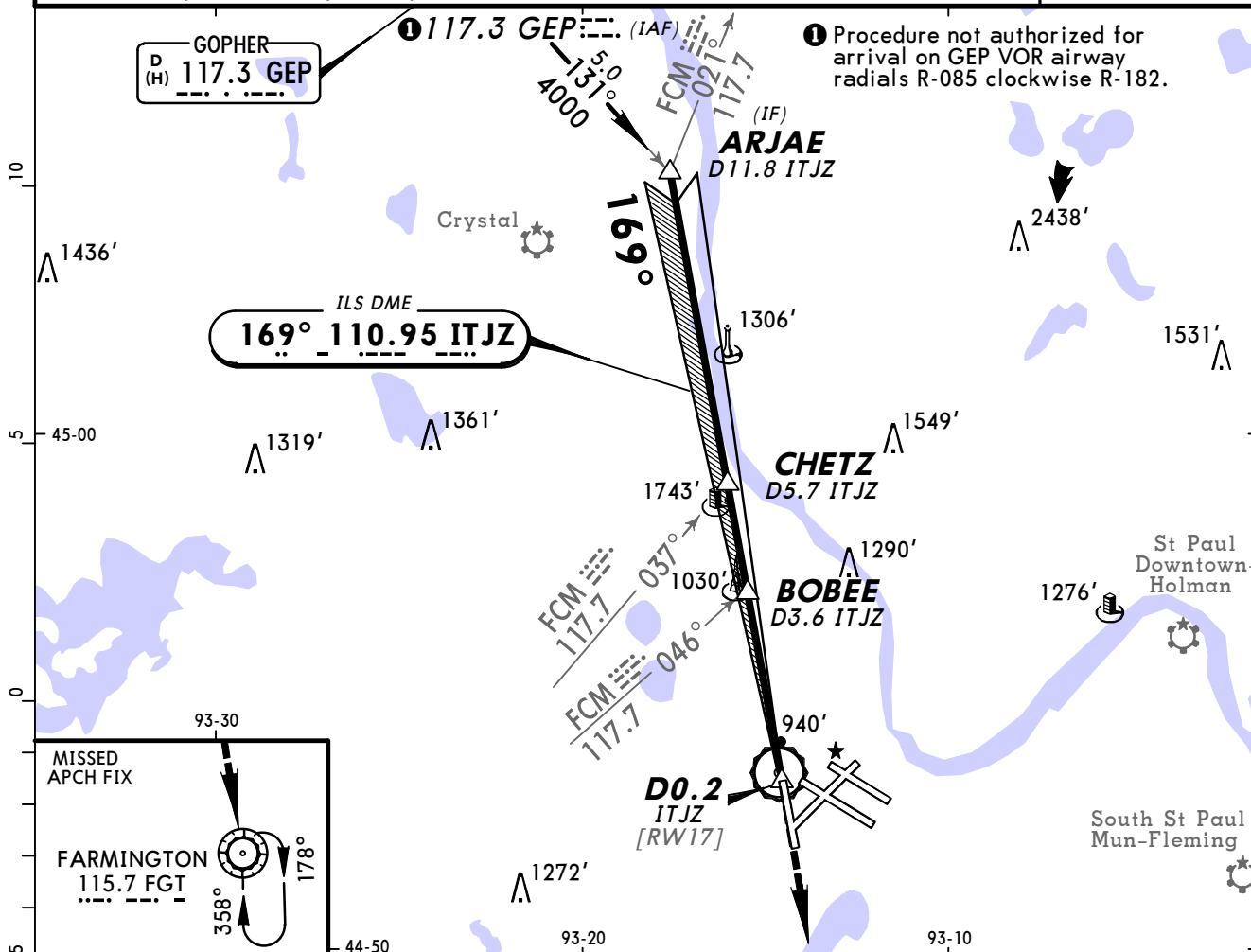
5 MAR 10 **(11-4)**

MINNEAPOLIS, MINN
LOC Rwy 17

TM

BRIEFING STRIP

D-ATIS	MINNEAPOLIS Approach (R)	MINNEAPOLIS Tower			North	Ground South	West
135.35	119.3	Rwy 17/35 123.67	Rwys 4/22, 12R/30L 126.7	Rwy 12L/30R 123.95	121.8	121.9	127.92
LOC ITJZ 110.95	Final Apch Crs 169°	Minimum Alt CHETZ 2800' (1960')	MDA(H) 1200' (360')	Apt Elev 841' TDZE 840'	090° 2700' 360° 3500' MSA GEP VOR		
MISSED APCH: Climb to 1300', then climbing RIGHT turn to 5000' direct FGT VOR and hold, continue climb-in-hold to 5000'							
Alt Set: INCHES		Trans level: FL 180		Trans alt: 18000'			
1. Visibility reduction by helicopters not authorized.							



Gnd speed-Kts	70	90	100	120	140	160	REIL PAPI-R	1300'	5000'	→	FGT 115.7
Descent angle [3.05°]	378	486	540	648	755	863		↑	RT		
MAP at D0.2 ITJZ or CHETZ to MAP	5.9	5:03	3:56	3:32	2:57	2:32	2:13				

STRAIGHT-IN LANDING RWY 17				CIRCLE-TO-LAND			
MDA(H) 1200' (360')				Max Kts	MDA(H)		
A	RVR 50 or 1			90	1360' (519') - 1		
B				120			
C				140	1360' (519') - 1 1/2		
D	RVR 60 or 1 1/4			165	1460' (619') - 2		

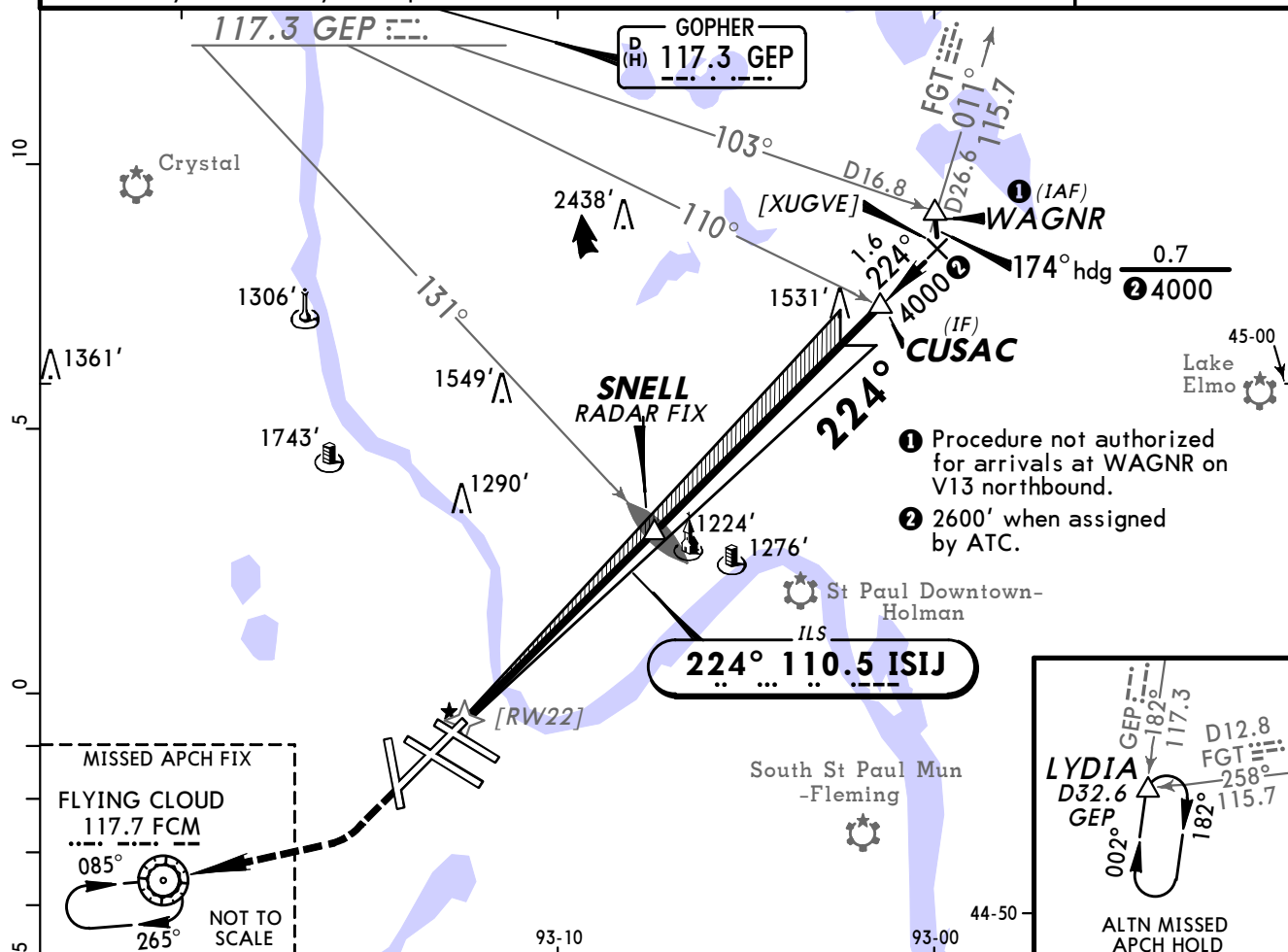
TERPS AMEND 1 11 FEB 2010

CHANGES: FCM VOR frequency.

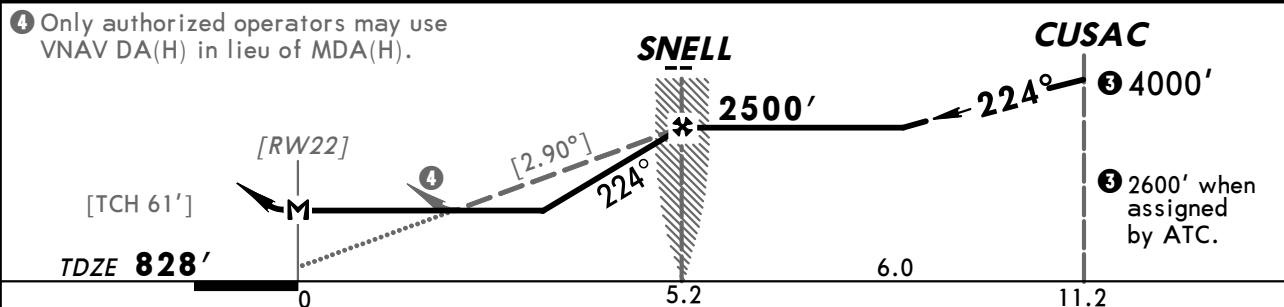
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BRIEFING STRIP™

D-ATIS	MINNEAPOLIS Approach (R)		MINNEAPOLIS Tower				Ground	
			Rwys 4/22, 12R/30L	Rwy 12L/30R	Rwy 17/35	North	South	West
135.35	119.3		126.7	123.95	123.67	121.8	121.9	127.92
LOC ISIJ 110.5	Final Apch Crs 224°	Minimum Alt SNELL 2500' (1672')	MDA(H) 1420' (592')	Apt Elev 841' TDZE 828'	090° 2700' 360° 3500' MSA GEP VOR			
MISSED APCH: Climb to 2000', then climbing RIGHT turn to 4000' direct FCM VOR and hold, continue climb-in-hold to 4000'.								
Alt Set: INCHES		Trans level: FL 180		Trans alt: 18000'				
1. Visibility reduction by helicopters not authorized.								



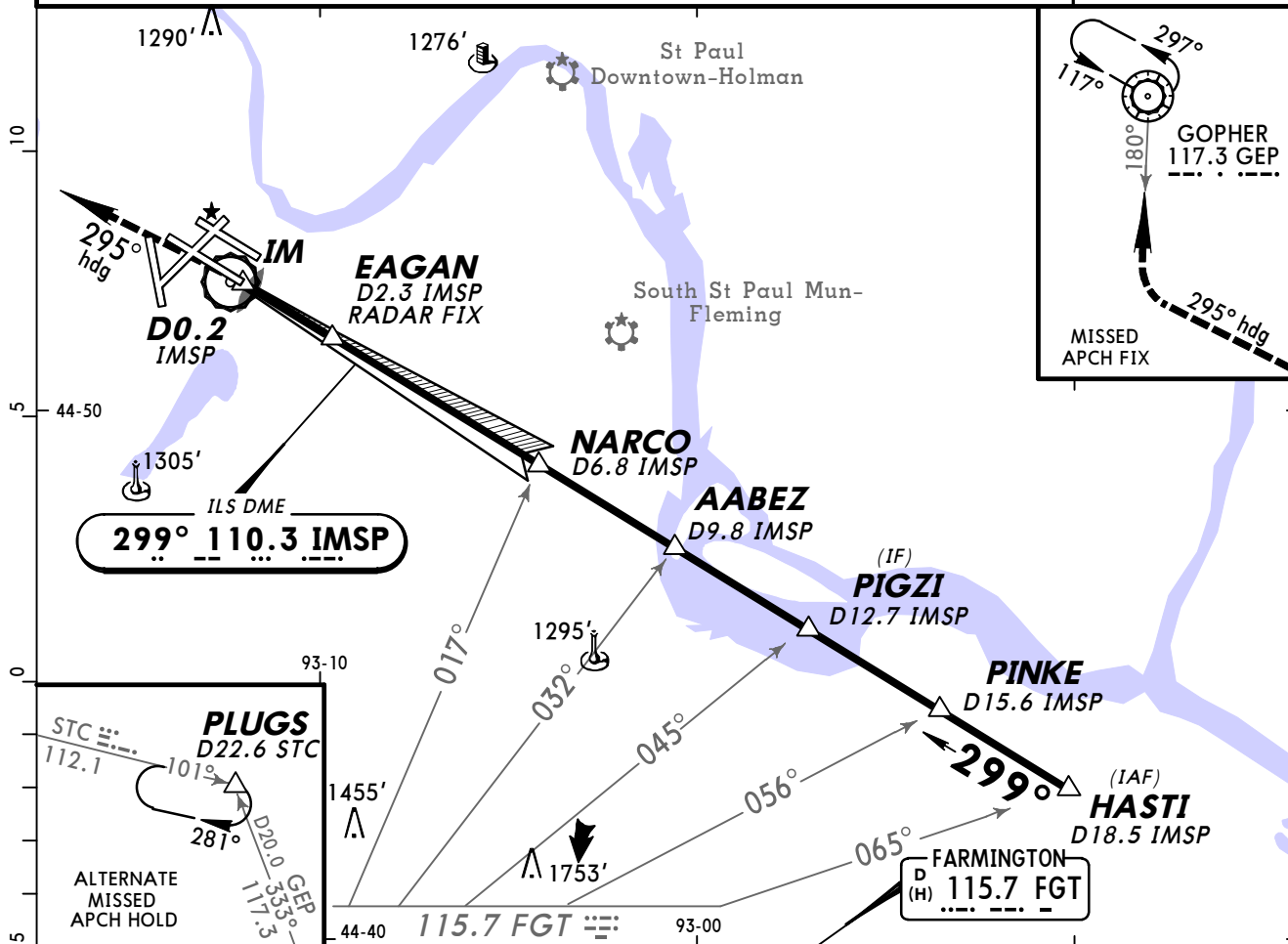
④ Only authorized operators may use VNAV DA(H) in lieu of MDA(H).



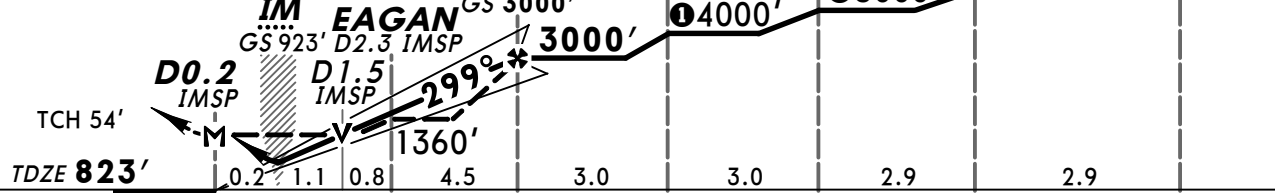
Gnd speed-Kts	70	90	100	120	140	160	MALSR PAPI	2000'	4000'	FCM 117.7
Descent angle [2.90°]	359	462	513	616	718	821		↑	RT	
SNELL to MAP	5.2	4:27	3:28	3:07	2:36	2:14				

STRAIGHT-IN LANDING RWY22				CIRCLE-TO-LAND			
MDA(H) 1420' (592')				MDA(H)			
RAIL out		ALS out		Max Kts			
A	RVR 40 or 3/4		RVR 50 or 1	90	1420' (579')-1		
B				120			
C	RVR 50 or 1		1 1/2	140	1420' (579')-1 1/2		
D	RVR 60 or 1 1/4		1 3/4	165	1460' (619')-2		

BRIEFING STRIP™	D-ATIS	MINNEAPOLIS Approach (R)	MINNEAPOLIS Tower			Ground		
			Rwys 4/22, 12R/30L	Rwy 12L/30R	Rwy 17/35	North	South	West
	135.35	126.95	126.7	123.95	123.67	121.8	121.9	127.92
	LOC IMSP 110.3	Final Apch Crs 299°	GS NARCO 3000' (2177')	ILS DA(H) 1023' (200')	Apt Elev 841' TDZE 823'			
	MISSED APCH: Climb to 1300', then climb to 4000' via 295° heading and inbound on GEP VOR R-180 to GEP VOR and hold.							
	Alt Set: INCHES		Trans level: FL 180		Trans alt: 18000'		MSA FGT VOR	
	1. RADAR required. 2. VGSI and ILS glidepath not coincident.							



① When authorized by ATC, intercept glidepath at AABEZ 4000'; or PIGZI 5000'; or PINKE 6000'.

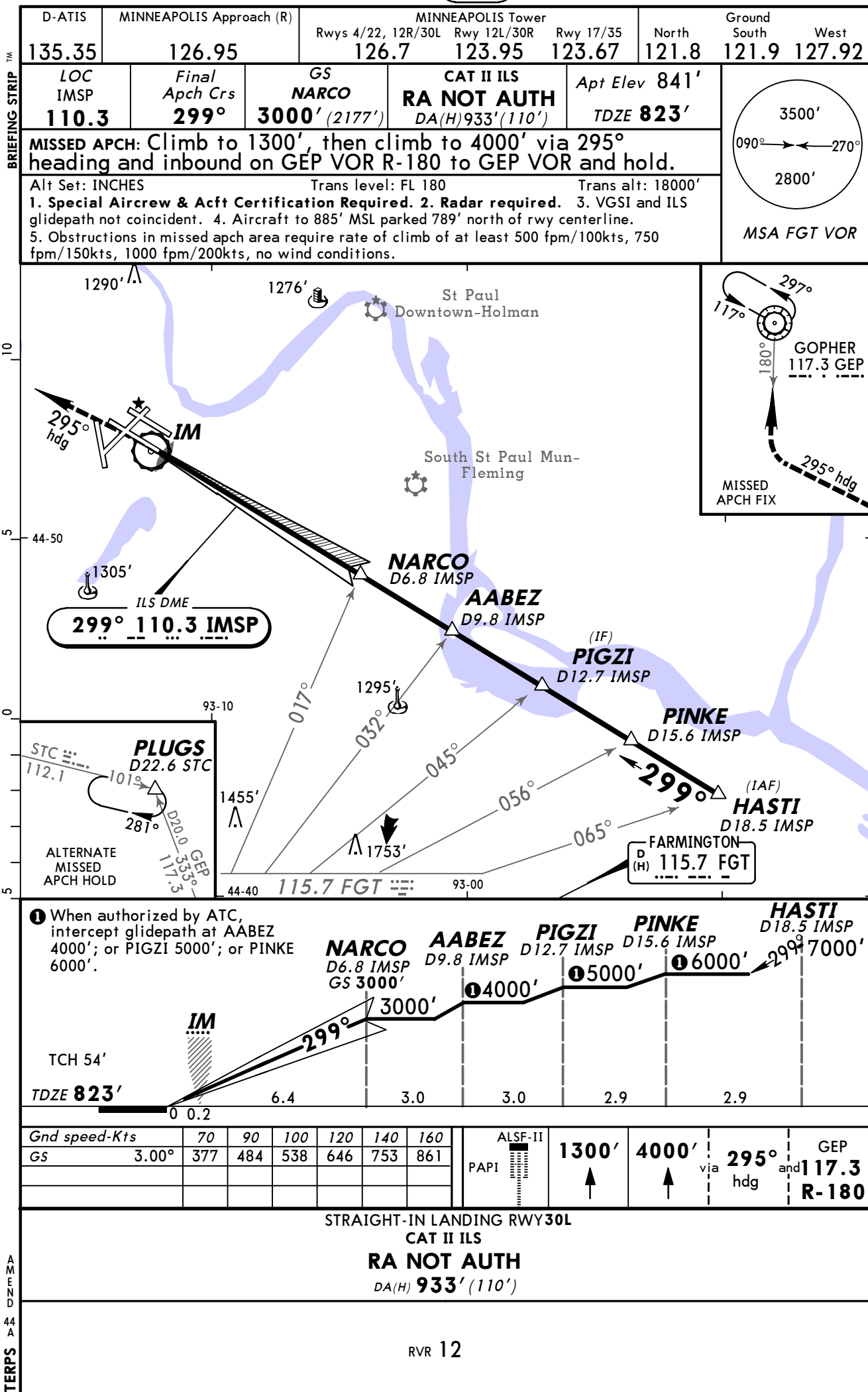


Gnd speed-Kts	70	90	100	120	140	160				
GS 3.00°	377	484	538	646	753	861				
MAP at D0.2 IMSP or NARCO to MAP 6.6	5:39	4:24	3:58	3:18	2:50	2:28				

ALSF-II

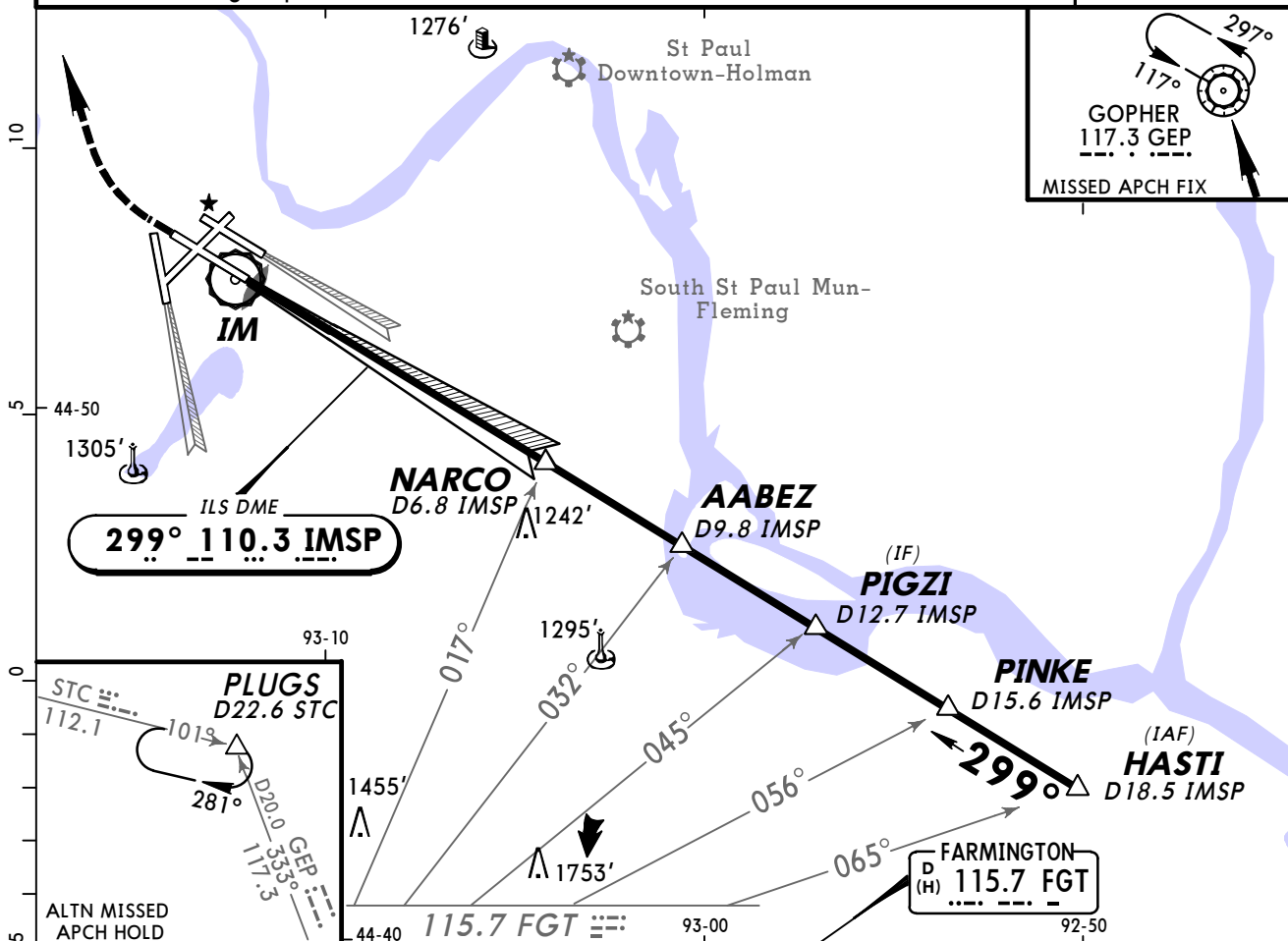
PAPI

STRAIGHT-IN LANDING RWY30L							CIRCLE-TO-LAND			
ILS				LOC (GS out)						
DA(H) 1023' (200')				MDA(H) 1280' (457') With Eagan		MDA(H) 1360' (537') Without Eagan				
FULL		TDZ or CL out	ALS out		ALS out		ALS out	Max Kts	MDA(H)	
A	RVR 18 or 1/2	RVR 24 or 1/2	RVR 40 or 3/4	RVR 24 or 1/2	RVR 50 or 1	RVR 24 or 1/2	RVR 50 or 1	90	1360' (519')-1	
B				RVR 40 or 3/4	RVR 60 or 1 1/4	RVR 50 or 1	1 1/2	120		1360' (519')-1 1/2
C				RVR 50 or 1	1 1/2			140		
D								165		

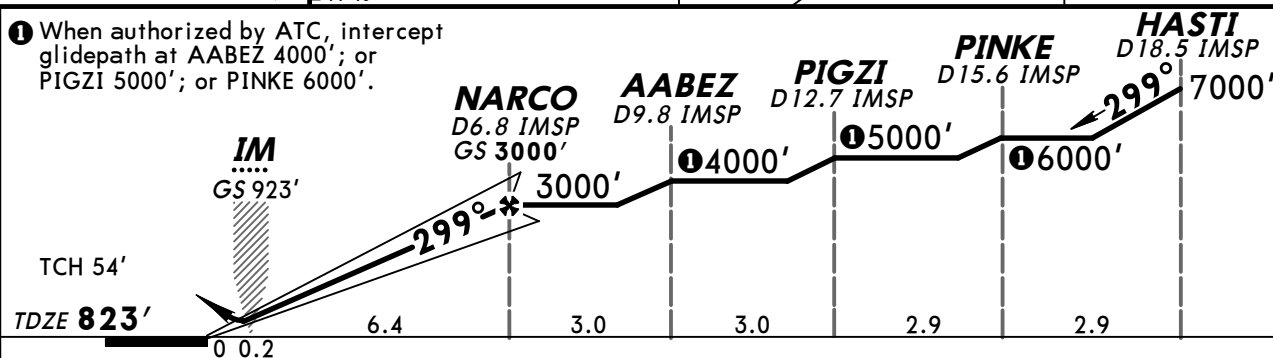


KMSP/MSP MINNEAPOLIS-ST PAUL INTL/ WOLD-CHAMBERLAIN 5 MAR 10 11-7 CONVERGING ILS Rwy 30L

D-ATIS	MINNEAPOLIS Approach (R)	MINNEAPOLIS Tower			North	Ground South	West
135.35	126.95	Rwys 4/22, 12R/30L	Rwy 12L/30R	Rwy 17/35	121.8	121.9	127.92
LOC IMSP 110.3	Final Apch Crs 299°	GS NARCO 3000' (2177')	ILS DA(H) 1173' (350')	Apt Elev 841'	TDZE 823'		
MISSED APCH: Climb to 1300' then climbing RIGHT turn to 4000' direct GEP VOR and hold.							
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000' 1. Radar required. 2. Simultaneous approach authorized with Converging ILS Rwy 35. 3. VGSI and ILS glidepath not coincident.							MSA FGT VOR



① When authorized by ATC, intercept glidepath at AABEZ 4000'; or PIGZI 5000'; or PINKE 6000'.



Gnd speed-Kts	70	90	100	120	140	160											
GS	3.00°	377	484	538	646	753	861										

ALSF-II

PAPI

1300'

↑

4000'

↗
RT

→

GEP
117.3

STRAIGHT-IN LANDING RWY30L ILS

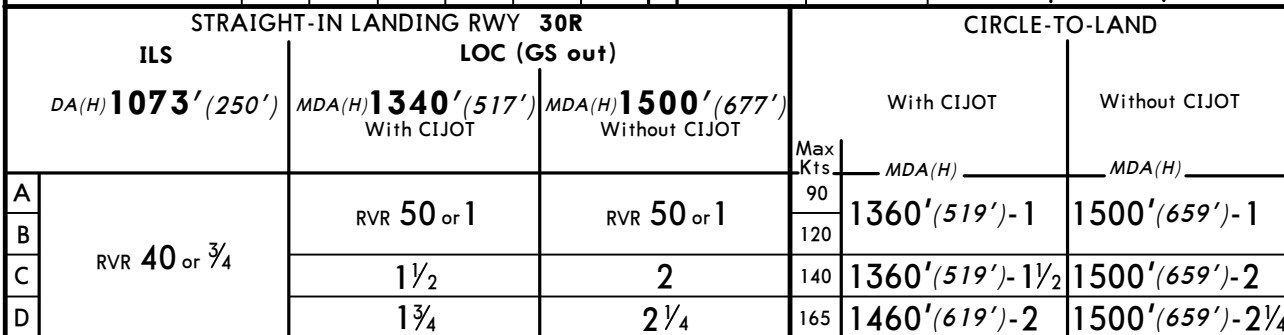
DA(H) **1173'** (350')

	FULL	TDZ or CL out	ALS out
A			
B			
C			
D			

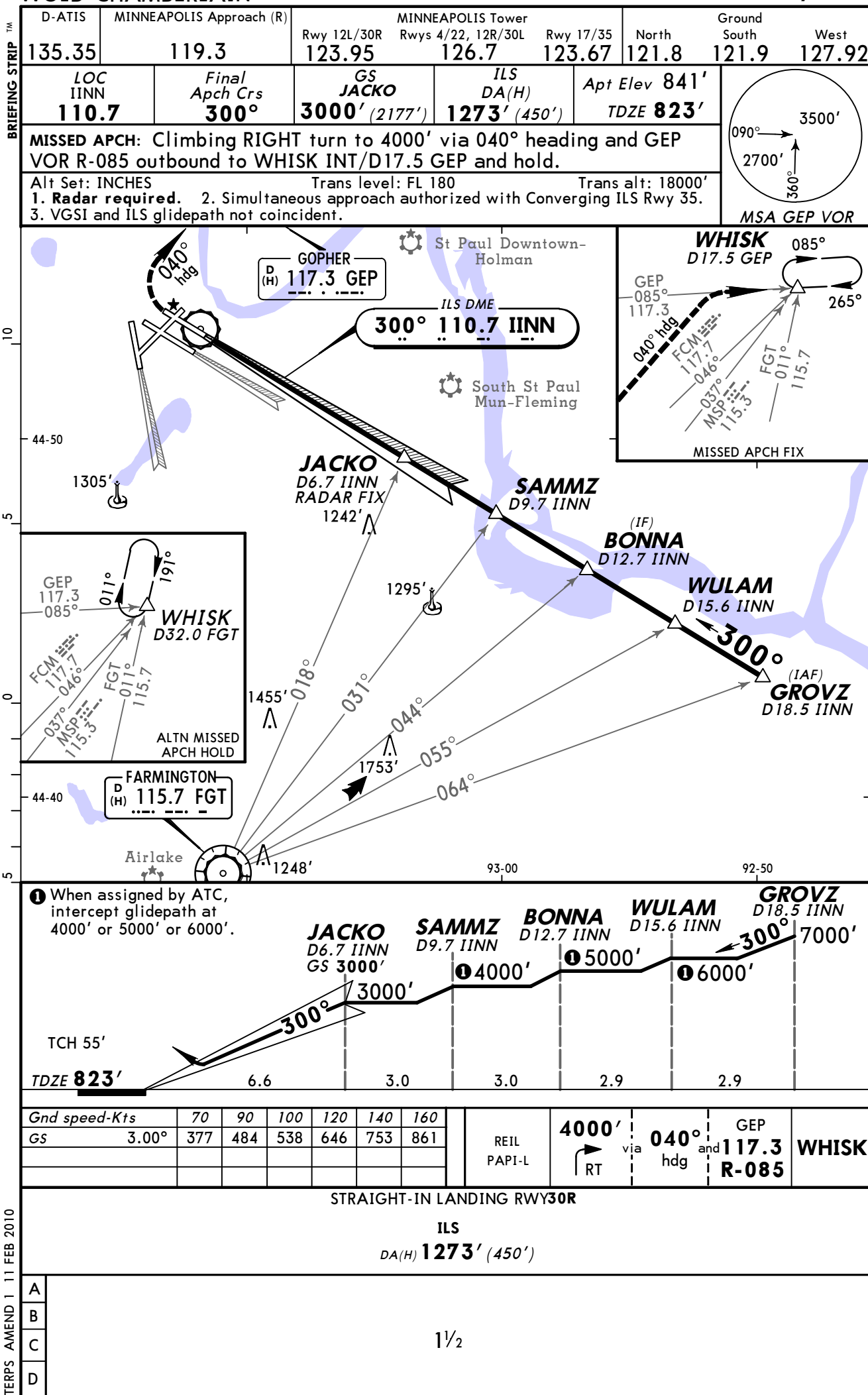
CHANGES: None.

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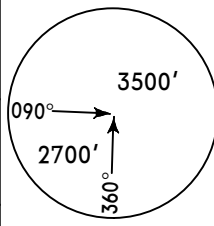
MSA GEP VOR



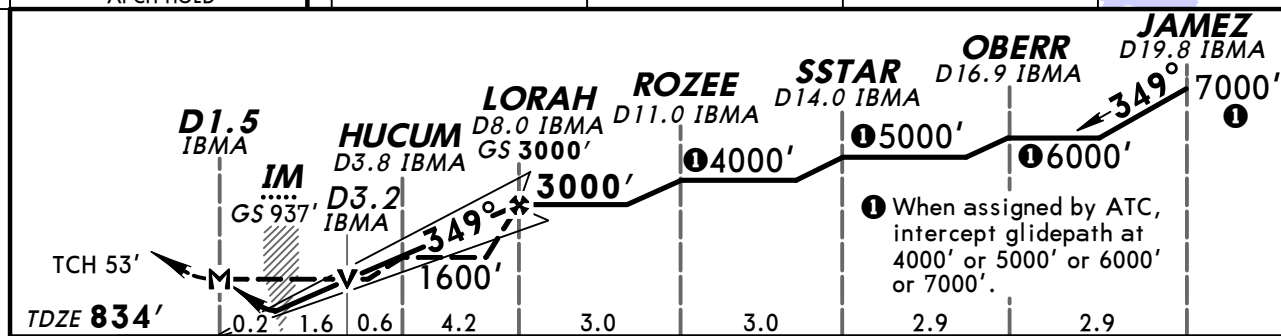
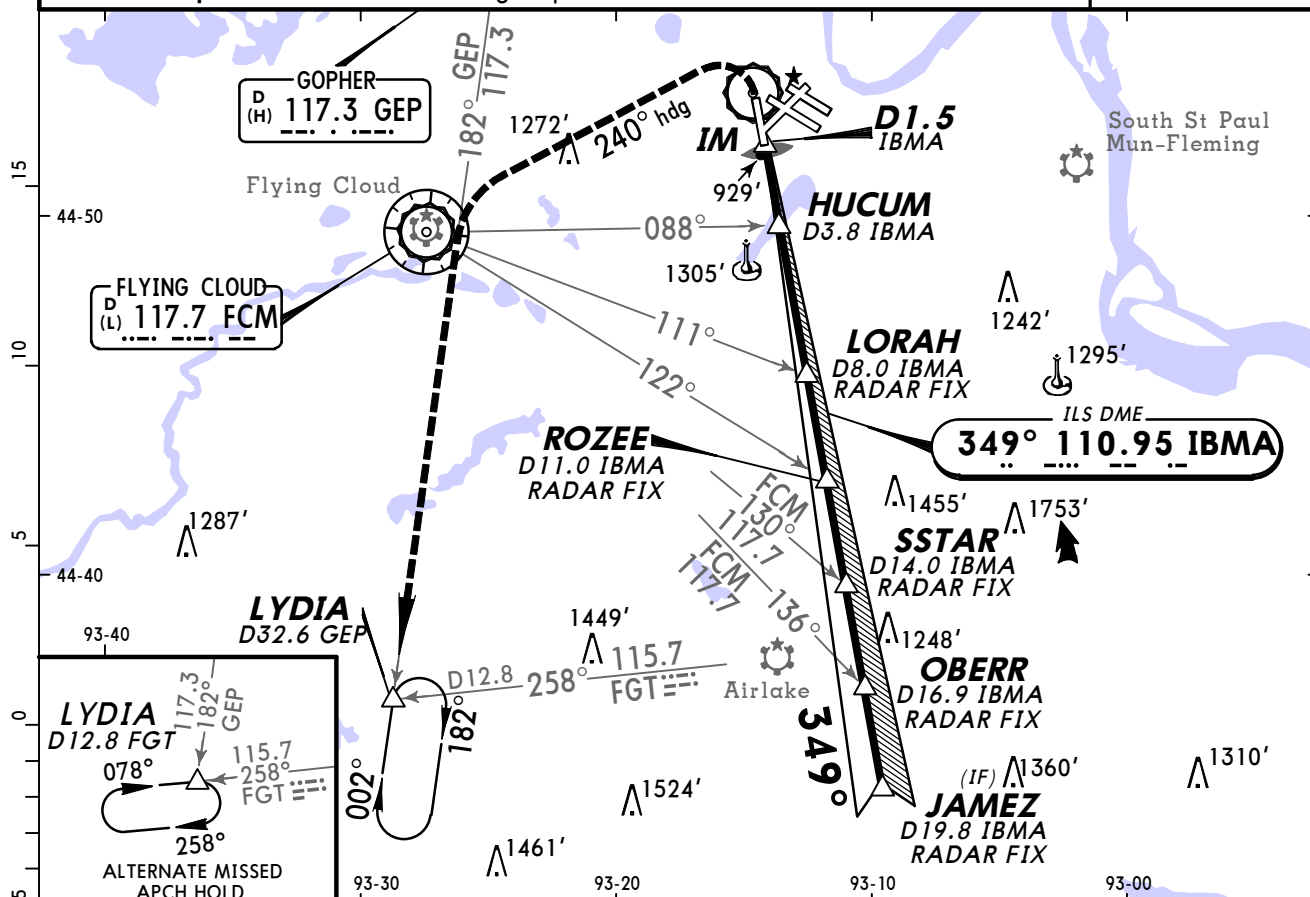
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BRIEFING STRIP™

D-ATIS	MINNEAPOLIS Approach (R)	Rwy 17/35	MINNEAPOLIS Tower Rwys 4/22, 12R/30L	Rwy 12L/30R	North	Ground South	West
135.35	118.72	123.67	126.7	123.95	121.8	121.9	127.92
LOC IBMA 110.95	Final Apch Crs 349°	GS LORAH 3000' (2166')	ILS DA(H) 1034' (200')	Apt Elev 841' TDZE 834'			
MISSED APCH: Climb to 1600' then climbing LEFT turn to 5000' via 240° heading and GEP VOR R-182 outbound to LYDIA INT/D32.6 GEP and hold.							
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000'							
1. Radar required. 2. VGSI and ILS glidepath not coincident.							

MSA GEP VOR



Gnd speed-Kts	70	90	100	120	140	160	ALSF-II PAPI	1600'	5000'	240°	GEP
GS 3.00°	377	484	538	646	753	861		↑	LT	via	and 117.3
MAP at D1.5 IBMA or LORAH to MAP 6.5	5:34	4:20	3:54	3:15	2:47	2:26				hdg	R-182

STRAIGHT-IN LANDING RWY35						CIRCLE-TO-LAND			
ILS			LOC (GS out)			With HUCUM		Without HUCUM	
DA(H) 1034' (200')			MDA(H) 1460' (626')			MDA(H)		MDA(H)	
FULL			With HUCUM			1460' (619') - 1		1600' (759') - 1	
TDZ or CL out			ALS out			1460' (619') - 1 3/4		1600' (759') - 1 1/4	
ALS out			ALS out			1460' (619') - 2		1600' (759') - 2 1/2	
RVR 18 or 1/2			RVR 24 or 1/2			1460' (619') - 2		1600' (759') - 2 1/2	
RVR 24 or 1/2			RVR 24 or 1/2			1460' (619') - 2		1600' (759') - 2 1/2	
RVR 40 or 3/4			RVR 40 or 3/4			1460' (619') - 2		1600' (759') - 2 1/2	
RVR 60 or 1 1/4			RVR 60 or 1 1/4			1460' (619') - 2		1600' (759') - 2 1/2	
1 1/2			1 1/2			1460' (619') - 2		1600' (759') - 2 1/2	
2			2			1460' (619') - 2		1600' (759') - 2 1/2	
2 1/2			2 1/2			1460' (619') - 2		1600' (759') - 2 1/2	
2 1/2			2 1/2			1460' (619') - 2		1600' (759') - 2 1/2	

BRIEFING STRIP™

D-ATIS		MINNEAPOLIS Approach (R)		MINNEAPOLIS Tower			North		Ground South		West	
135.35		118.72		Rwy 17/35 123.67	Rwys 4/22, 12R/30L 126.7	Rwy 12L/30R 123.95	121.8	121.9	127.92			
LOC IBMA 110.95	Final Apch Crs 349°	GS LORAH 3000' (2166')	CAT IIIC NA	CAT IIIB Refer to Minimums		CAT IIIA RA 107' DA(H) 944'(110')	Apt Elev 841' TDZE 834'					
MISSED APCH: Climb to 1600' then climbing LEFT turn to 5000' via 240° heading and GEP VOR R-182 outbound to LYDIA INT/D32.6 GEP and hold.												
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000' 1. Special Aircrew & Acft Certification Required. 2. Radar required. 3. VGSI and ILS glidepath not coincident.												

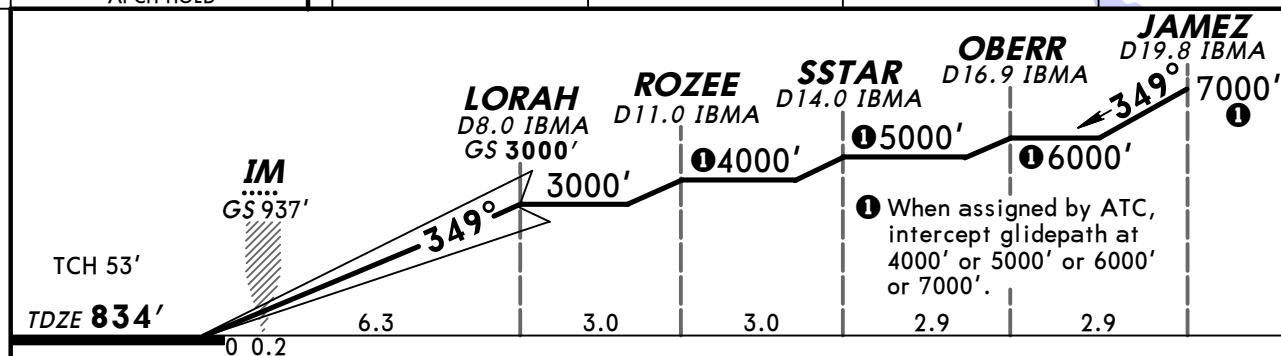
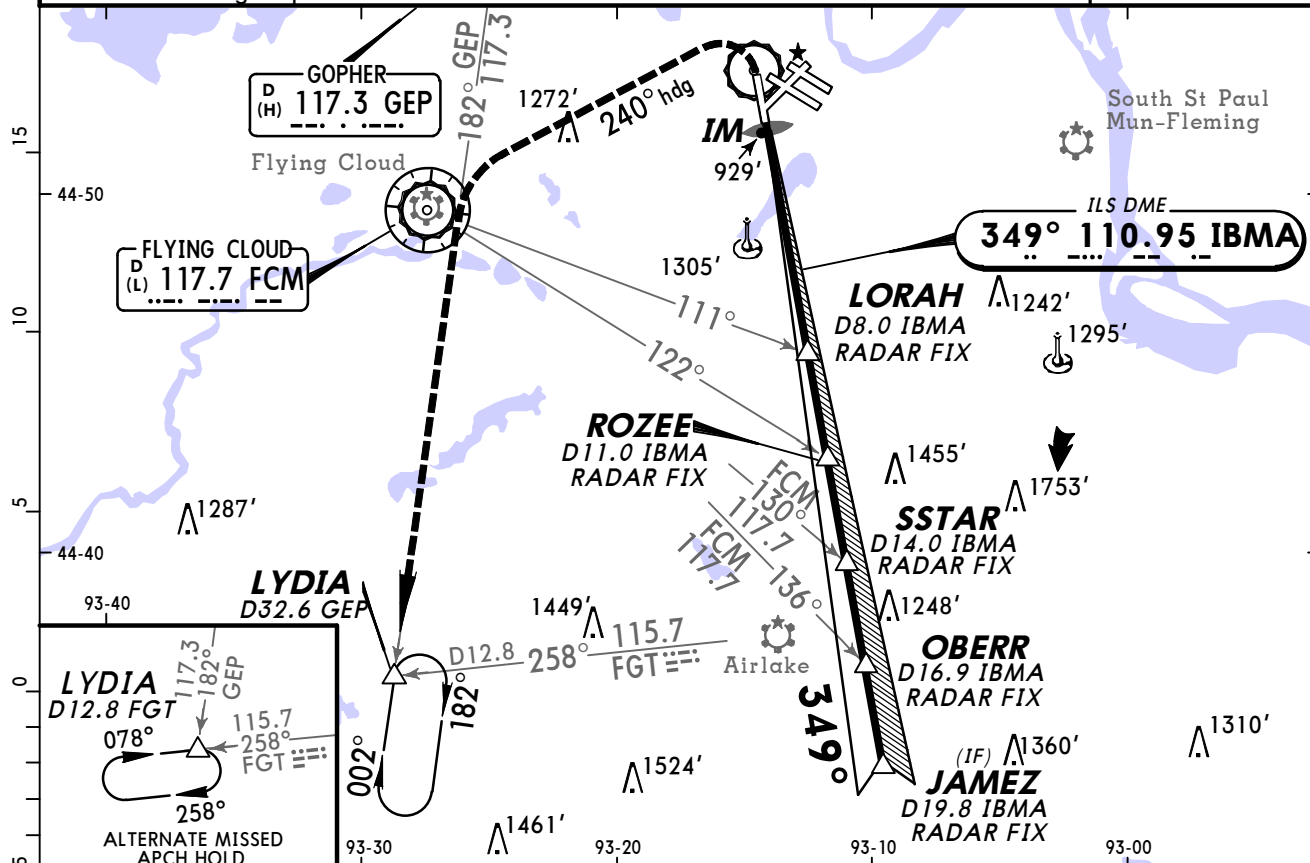
090°

2700'

360°

3500'

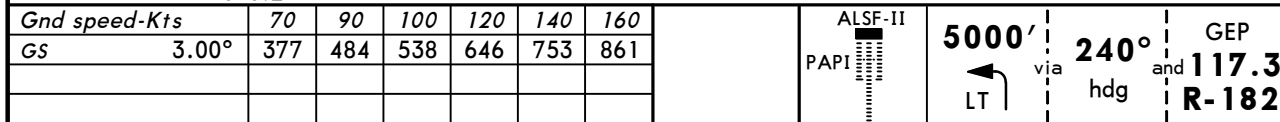
MSA GEP VOR



Gnd speed-Kts	70	90	100	120	140	160	ALSIF-II PAPI	1600'	5000'	240°	GEP
GS	3.00°	377	484	538	646	753		↑	LT	hdg	and 117.3 R-182

STRAIGHT-IN LANDING RWY35			
CAT IIIC ILS	CAT IIIB ILS	CAT IIIA ILS	CAT II ILS RA 107' DA(H) 944'(110')
NA	RVR 6	RVR 7	RVR 12

A diagram of a circular sector. The radius is labeled as 3500'. The central angle is labeled as 90°. The arc length is labeled as 2700'.

 $DA(H) \mathbf{1684'} (850')$

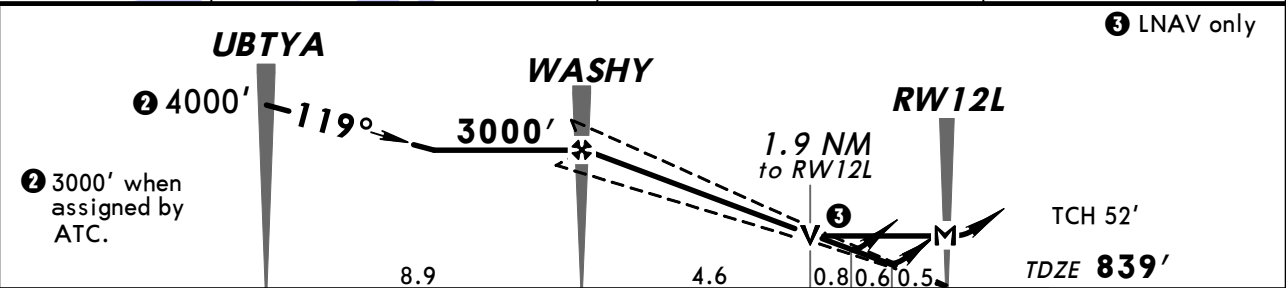
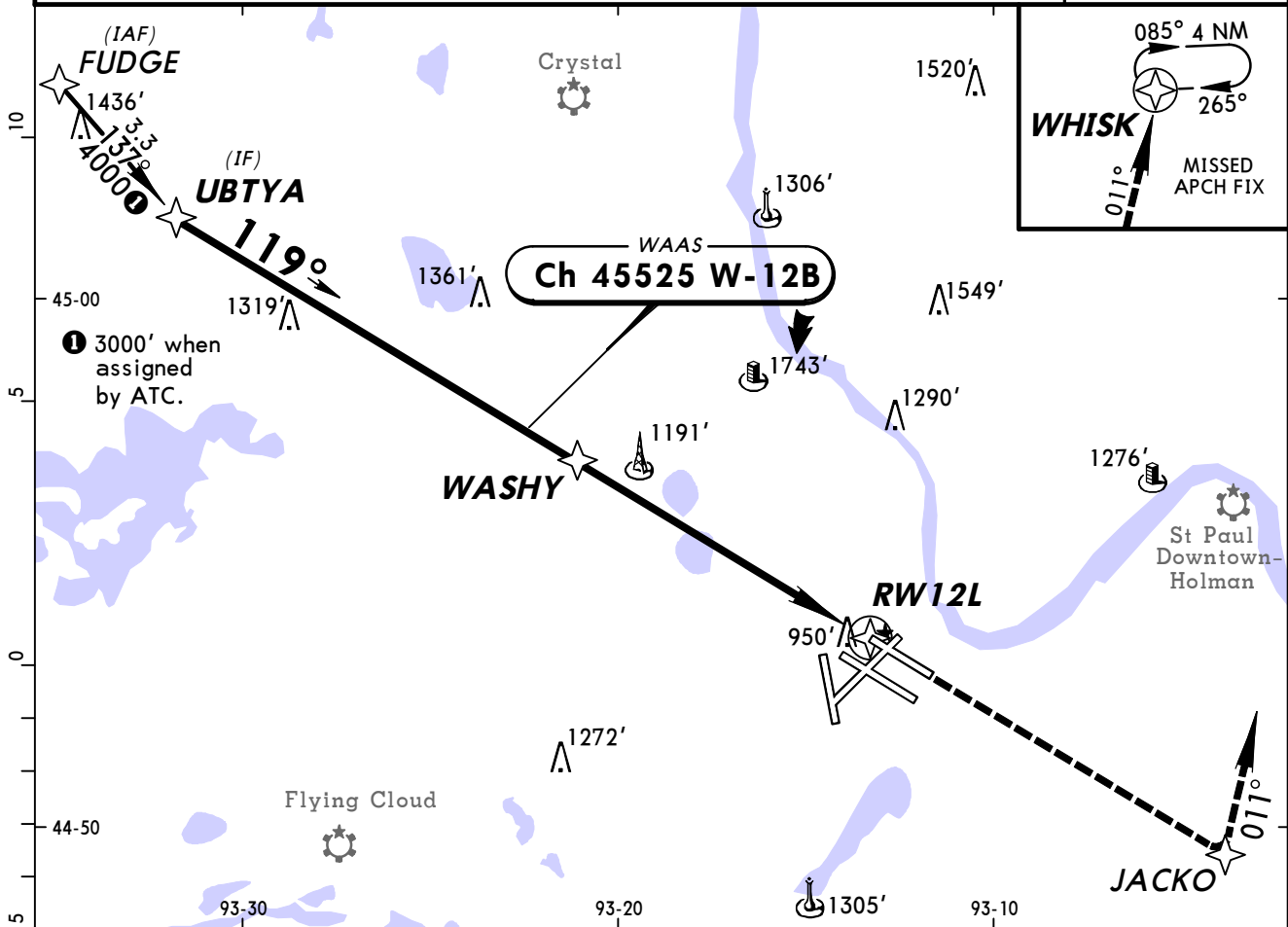
ALS out

3

BRIEFING STRIP™	D-ATIS	MINNEAPOLIS Approach (R)		MINNEAPOLIS Tower		Ground		
	135.35	119.3		Rwy 12L/30R 123.95	Rwys 4/22, 12R/30L 126.7	North 121.8	South 121.9	West 127.92
	WAAS Ch 45525 W-12B	Final Apch Crs 119°	Minimum Alt WASHY 3000' (2161')	LPV DA(H) 1039' (200')	Apt Elev 841' TDZE 839'	3500' MSA RW12L		
	MISSED APCH: Climb to 4000' direct JACKO and left turn via 011° track to WHISK and hold.							
	Alt Set: INCHES Trans level: FL 180 Trans alt: 18000' 1. DME/DME RNP-0.30 not authorized. 2. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -16°C (4°F) or above 47°C (116°F). 3. VGSI and RNAV glidepath not coincident.							

Alt Set: INCHES Trans level: FL 180 Trans alt: 18000'

1. DME/DME RNP-0.30 not authorized. 2. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -16°C (4°F) or above 47°C (116°F). 3. VGSI and RNAV glidepath not coincident.

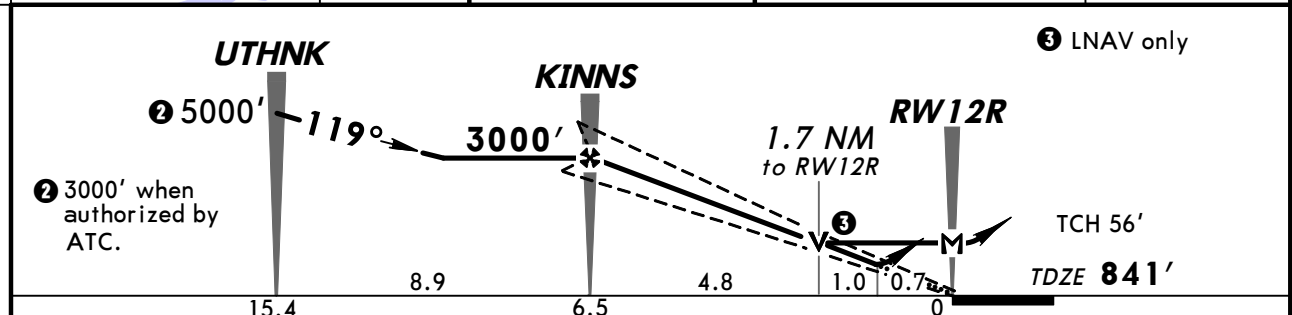
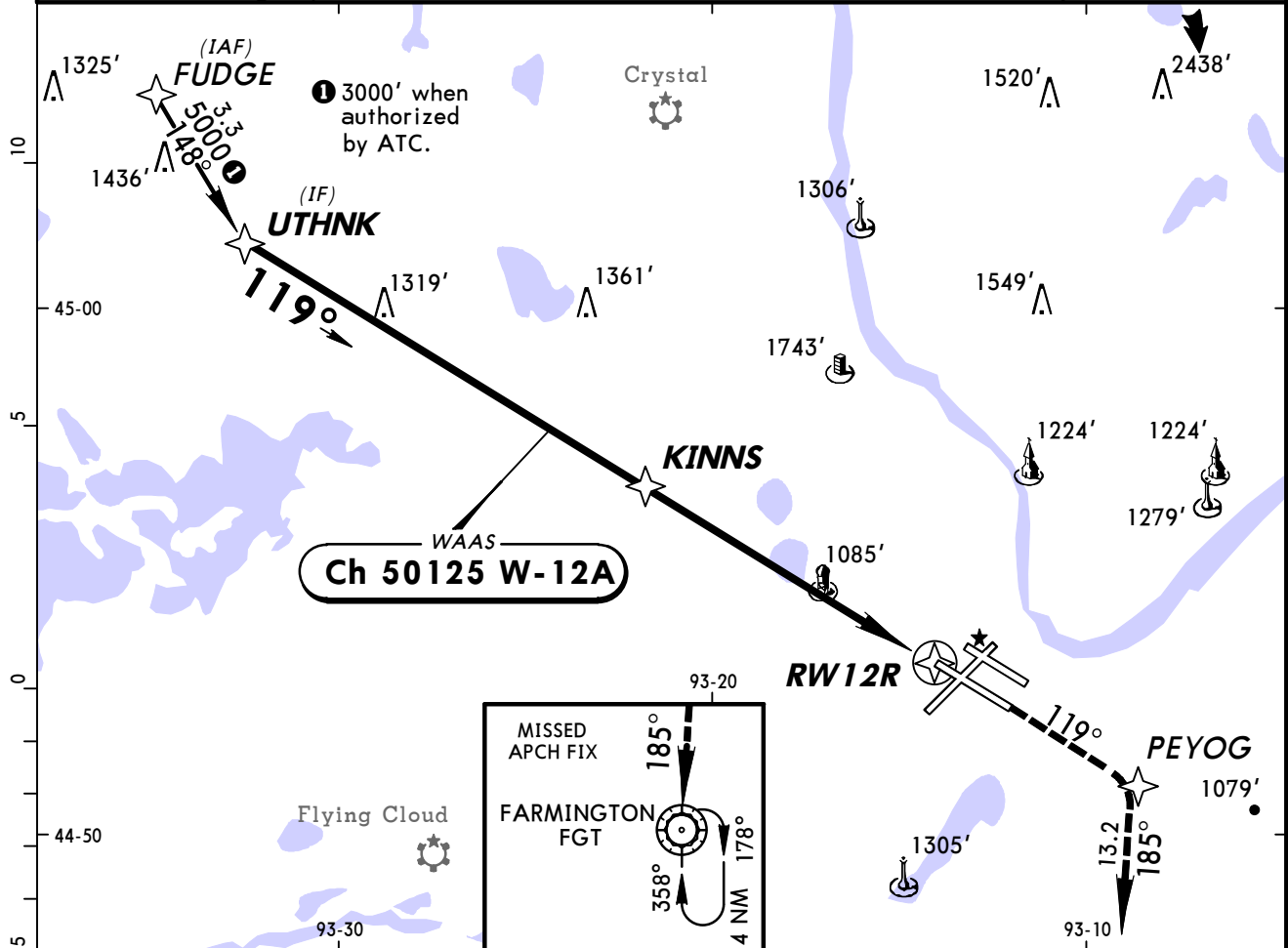


Gnd speed-Kts	70	90	100	120	140	160	ALSIF-II PAPI 4000' ↑	D	JACKO
Glide Path Angle 3.00°	372	478	531	637	743	849			
MAP at RW12L									

STRAIGHT-IN LANDING RWY 12L						CIRCLE-TO-LAND	
LPV		LNAV/VNAV		LNAV		Max Kts	MDA(H)
DA(H) 1039' (200')		DA(H) 1248' (409')		MDA(H) 1520' (681')			
ALS out		ALS out		ALS out		90	1520' (679') - 1
RVR 24 or 1/2		RVR 40 or 3/4		RVR 50 or 1		120	1520' (679') - 2
RVR 24 or 1/2		RVR 40 or 3/4		RVR 50 or 1		140	1520' (679') - 2
RVR 24 or 1/2		RVR 40 or 3/4		RVR 50 or 1		165	1520' (679') - 2 1/4

KMSP/MSP MINNEAPOLIS-ST PAUL INTL 23 SEP 05 Eff 29 Sep 12-3 JEPPesen MINNEAPOLIS, MINN RNAV (GPS) Rwy 12R

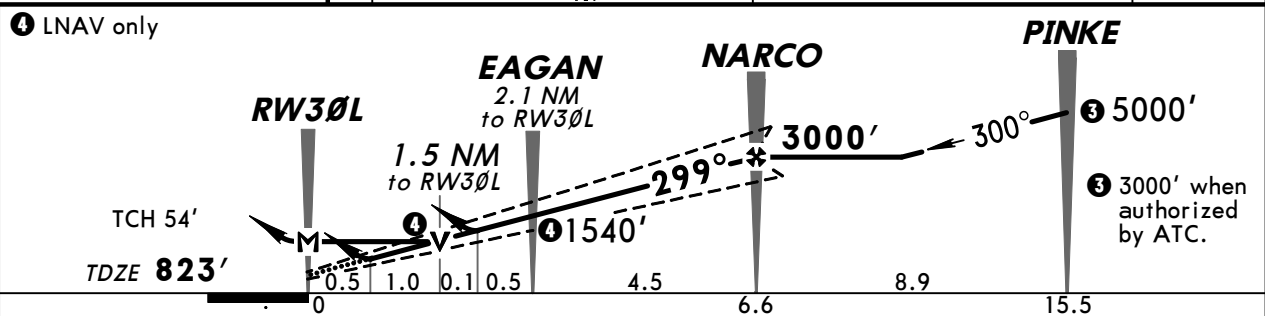
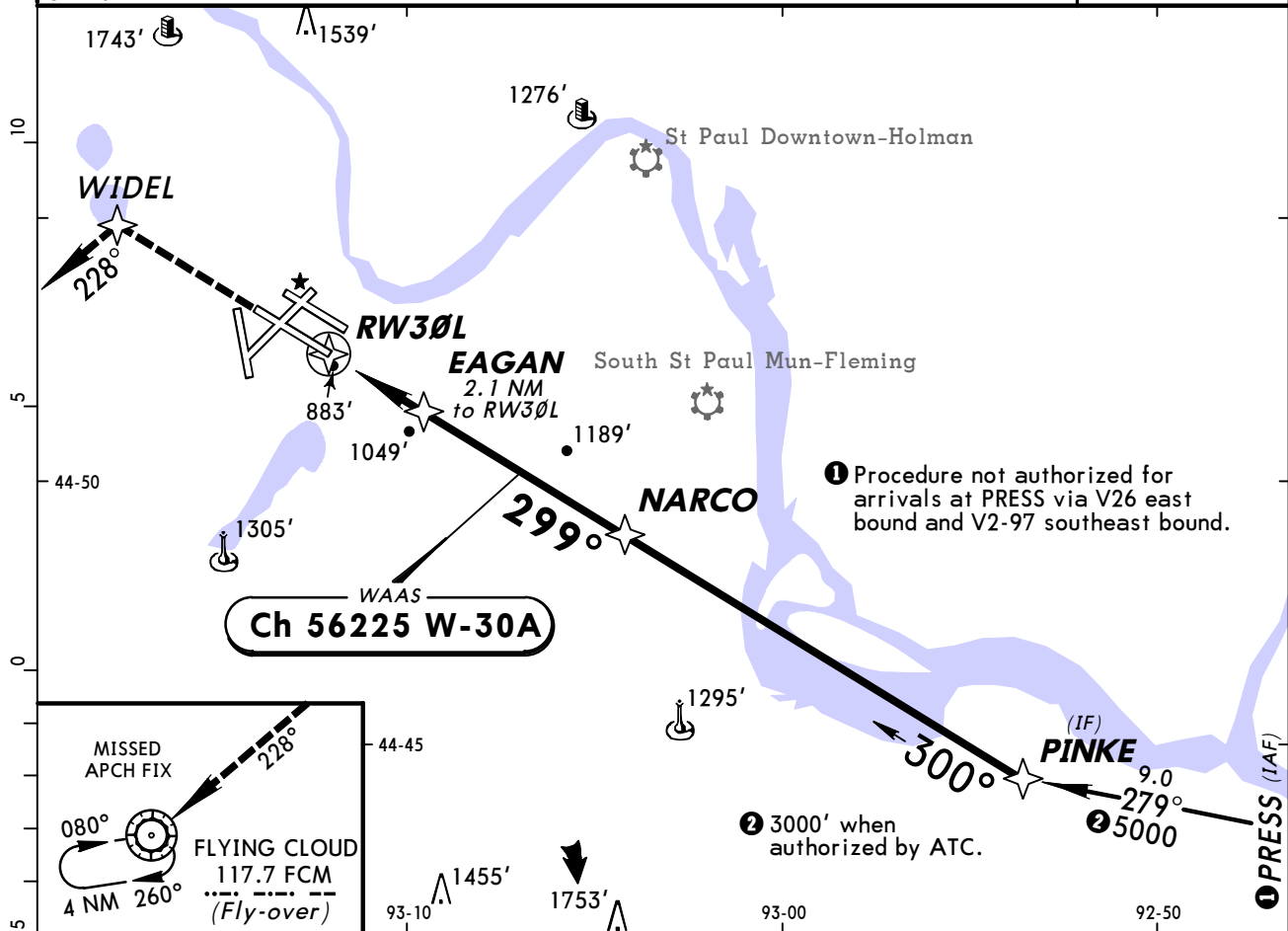
D-ATIS		MINNEAPOLIS Approach (R)		MINNEAPOLIS Tower		Ground			
135.35		126.95		Rwys 4/22, 12R/30L Rwy 12L/30R		North		South	West
				126.7		123.95		121.8	121.9 127.92
WAAS Ch 50125 W-12A		Final Aptch Crs 119°	Minimum Alt KINNS 3000' (2159')	LPV (CONDITIONAL) DA(H) 1119' (278')	Apt Elev 841' TDZE 841'		3500' MSA RW12R		
MISSED APCH: Climb to 5000' direct PEYOG and via 185° track to FGT VOR and hold.									
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000' 1. DME/DME RNP-0.3 not authorized. 2. Baro-VNAV not authorized below -16°C (4°F). 3. VGSI and RNAV glidepath not coincident.									



Gnd speed-Kts	70	90	100	120	140	160	ALSF-II PAPI 5000' PEYOG	TDZE 841' PEYOG
Glide Path Angle 3.00°	372	478	531	637	743	849		
MAP at RW12R								

STRAIGHT-IN LANDING RWY 12R							CIRCLE-TO-LAND			
LPV <i>DA(H)</i> 1119' (278')			LNAV/VNAV <i>DA(H)</i> 1294' (453')		LNAV <i>MDA(H)</i> 1460' (619')		Max Kts	<i>MDA(H)</i>		
		ALS out			ALS out					
A	RVR 24 or 1½	RVR 50 or 1	RVR 50 or 1	1½	RVR 24 or 1½	RVR 50 or 1	90	1460' (619') - 1½		
B							120			
C							RVR 60 or 1¼	1¾	140	1460' (619') - 1¾
D							1½	2	165	1460' (619') - 2

BRIEFING STRIP™	D-ATIS	MINNEAPOLIS Approach (R)				MINNEAPOLIS Tower			Ground		
						Rwys 4/22, 12R/30L	Rwy 12L/30R	Rwy 17/35	North	South	West
	135.35	119.3	118.72	126.95	126.7		123.95	123.67	121.8	121.9	127.92
	WAAS Ch 56225 W-30A		Final Apch Crs 299°		Minimum Alt NARCO 3000' (2177')		LPV DA(H) 1023' (200')		Apt Elev 841' TDZE 823'		3500' MSA RW30L
	MISSED APCH: Climb to 4000' direct WIDEL and via 228° track to FCM VOR/DME and hold.										
	Alt Set: INCHES										



Gnd speed-Kts	70	90	100	120	140	160	ALSIF-II		4000'		WIDEL	
Glide Path Angle 3.00°	372	478	531	637	743	849	PAPI		↑		→	
MAP at RW30L												

STRAIGHT-IN LANDING RWY 30L						CIRCLE-TO-LAND		
LPV DA(H) 1023' (200')			LNAV/VNAV DA(H) 1368' (545')			LNAV MDA(H) 1360' (537')		
TDZ or CL out			ALS out			ALS out		
A	RVR 18 or 1/2	RVR 24 or 1/2	RVR 40 or 3/4	1 1/2	2	RVR 24 or 1/2	RVR 50 or 1	1360' (519')-1
B								
C								
D								

MINNEAPOLIS, MINN
RNAV (GPS) Rwy 30R

STRAIGHT-IN LANDING RWY 30R				CIRCLE-TO-LAND	
LPV		LNAV/VNAV	LNAV	Max Kts	MDA(H)
DA(H) 1073' (250')		DA(H) 1294' (471')	MDA(H) 1400' (577')		
A	RVR 40 or 3/4	1 3/4	RVR 50 or 1	90	1400' (559')-1
B				120	
C			1 1/2	140	1400' (559')-1 1/2
D			1 3/4	165	1460' (619')-2

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BRIEFING STRIP™



Gnd speed-Kts

AMEND 1 TERPS

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BRIEFING STRIP™



		RNP 0.19 <i>DA(H)</i> 1286' (452')		1 STRAIGHT-IN LANDING RWY 35		RNP 0.30 <i>DA(H)</i> 1329' (495')	
		ALS out				ALS out	
A	RVR 50 or 1	$1\frac{1}{2}$	RVR 60 or $1\frac{1}{4}$	$1\frac{3}{4}$			
B							
C							
D							

CHANGES: Procedure authorization note.

General Information

Location: Rochester MN USA
IATA Code: RST
Lat/Long: N43° 54.5' W092° 30.0'
Elevation: 1317 ft

Airport Use: Public
Magnetic Variation: 0.1 °E
Sectional Chart: Chicago

Fuel Types: 100 Octane (LL), Jet A
Oxygen Types: HP Bottle, LP Bottle
Repair Types: Major Airframe, Major Engine
Customs: Upon Prior Request
Airport Type: IFR
Landing Fee: No
Control Tower: Yes
Jet Start Unit: Yes
LLWS Alert: Yes
Beacon: Yes

Sunrise: 1251 Z
Sunset: 2355 Z,

Runway Information

Runway: 02
Length x Width: 7300 ft x 150 ft
Surface Type: concrete
TDZ-Elev: 1317 ft
Lighting: Edge, REIL, Pilot controlled

Runway: 13
Length x Width: 9033 ft x 150 ft
Surface Type: concrete
TDZ-Elev: 1280 ft
Lighting: Edge, ALS, Centerline, TDZ, Pilot controlled

Runway: 20
Length x Width: 7300 ft x 150 ft
Surface Type: concrete
TDZ-Elev: 1303 ft
Lighting: Edge, REIL, Pilot controlled

Runway: 31
Length x Width: 9033 ft x 150 ft
Surface Type: concrete
TDZ-Elev: 1304 ft
Lighting: Edge, ALS, Centerline, TDZ, Pilot controlled

Communication Information

ATIS 120.5

ASOS 120.5

Rochester Tower 118.3 CTAF PCL

Rochester Ground Control 121.9

Rochester Approach Control 119.8 (130°-309°) Arrival Service

Rochester Approach Control 119.2 (310°-129°) Arrival Service

Rochester Departure Control 119.8 (130°-309°) Departure Service

Rochester Departure Control 119.2 (310°-129°) Departure Service

Rochester Intl Unicom 122.95

Rochester Intl Radar 119.8

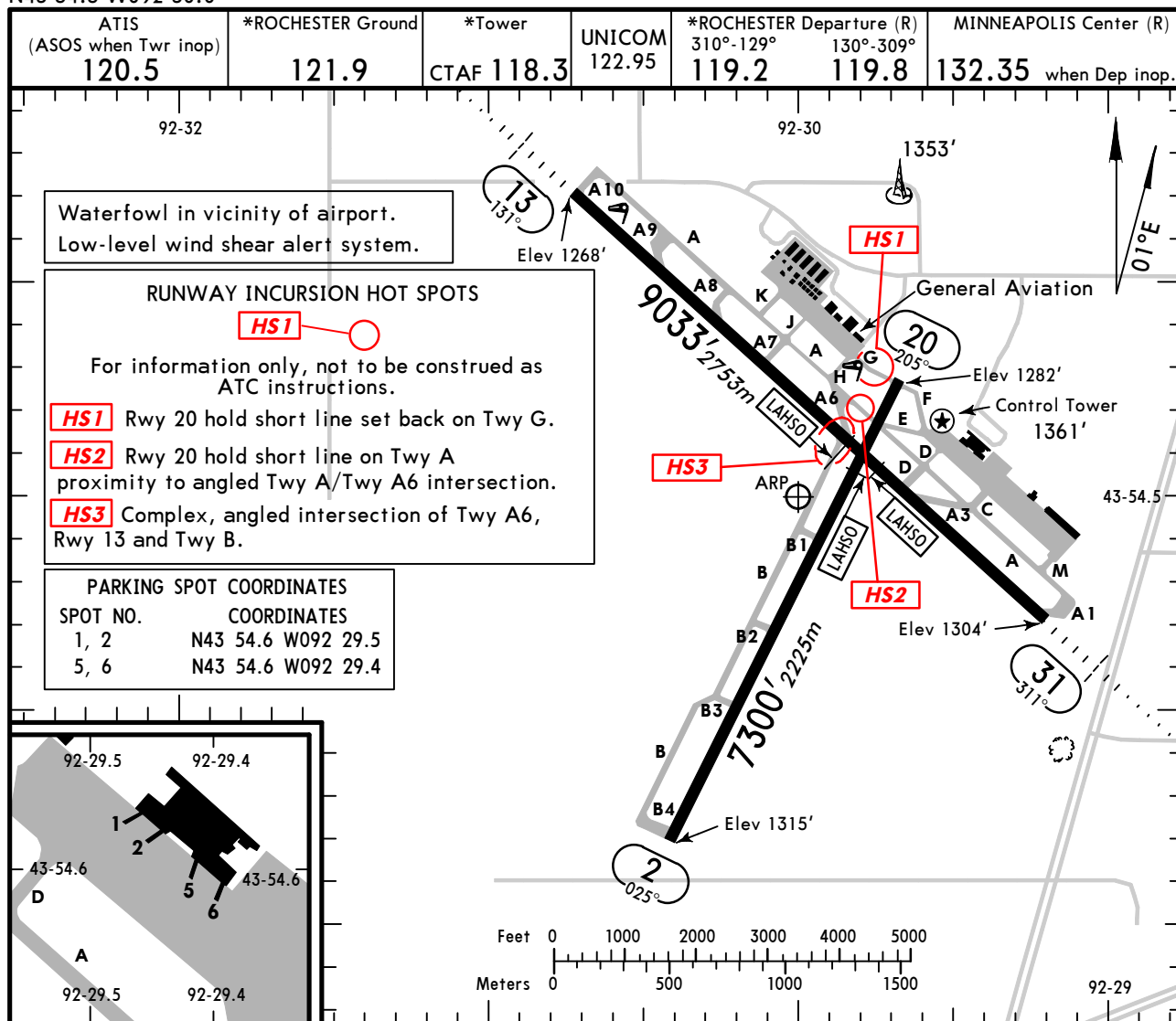
Princeton Flight Service Station 122.45 RCO

Minneapolis Center 132.35 Remote Communications Air-Ground

KRST/RST
Apt Elev **1317'**
N43 54.5 W092 30.0

JEPPesen
24 JUN 11 **(11-1)** **Eff 30 Jun**

ROCHESTER, MINN
ROCHESTER INTL



ADDITIONAL RUNWAY INFORMATION								
RWY					USABLE LENGTHS		WIDTH	
					— LANDING BEYOND —	LAHSO		
				Threshold	Glide Slope	Distance		
2	①	MIRL	REIL	VASI-L			13/31 5850'1783m	150'
20	①	MIRL	REIL	② PAPI-L				46m
13		HIRL	CL	③ MALSR TDZ	④ PAPI-L	grooved RVR		150'
31		HIRL	CL	③ MALSR TDZ	PAPI-L	grooved RVR		46m

- ① Activate and increase intensity on 118.3 when Twr inop.
- ② Angle 3.05°.
- ③ Activate on 118.3 when Twr inop.
- ④ Angle 3.00°.

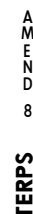
TAKE-OFF							
Rwys 13, 31				Rwy 2, 20			
2 operating RVRs are required All operating RVRs are controlling		Adequate Vis Ref	STD		Adequate Vis Ref	STD	
CL & HIRL	CL, or RCLM & HIRL		3 & 4 Eng	1 & 2 Eng		3 & 4 Eng	1 & 2 Eng
TDZ RVR 5	TDZ RVR 10	RVR 16 or 1/4	RVR 24 or 1/2	RVR 50 or 1	1/4	1/2	1
Rollout RVR 5	Rollout RVR 10						

FOR FILING AS ALTERNATE			
Authorized Only When Tower Operating		RNAV (GPS) Rwy 2 RNAV (GPS) Rwy 13 RNAV (GPS) Rwy 20 VOR Rwy 2 VOR DME Rwy 20 Radar-1	Other
ILS Rwy 13 ILS Rwy 31 COPTER ILS Rwy 31	LOC Rwy 13 LOC Rwy 31 COPTER LOC Rwy 31		
A			
B			
C	600-2	800-2	800-2
D			NA

CHANGES: Alternate minimums.

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BRIEFING STRIP TM

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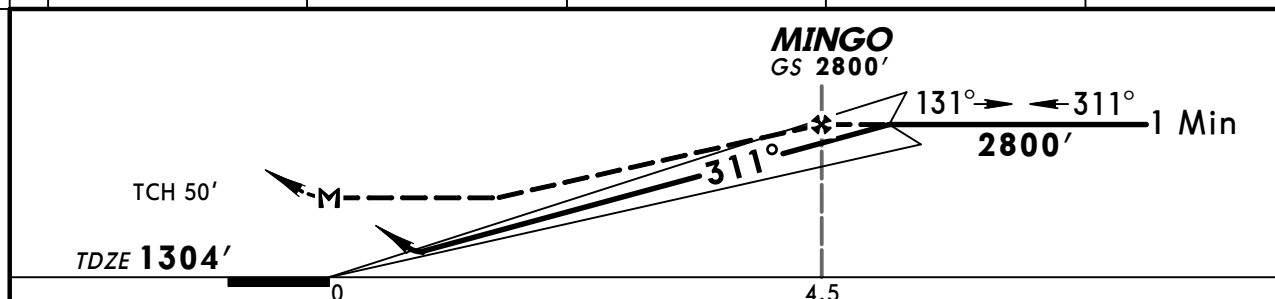
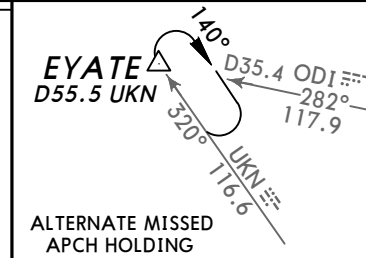
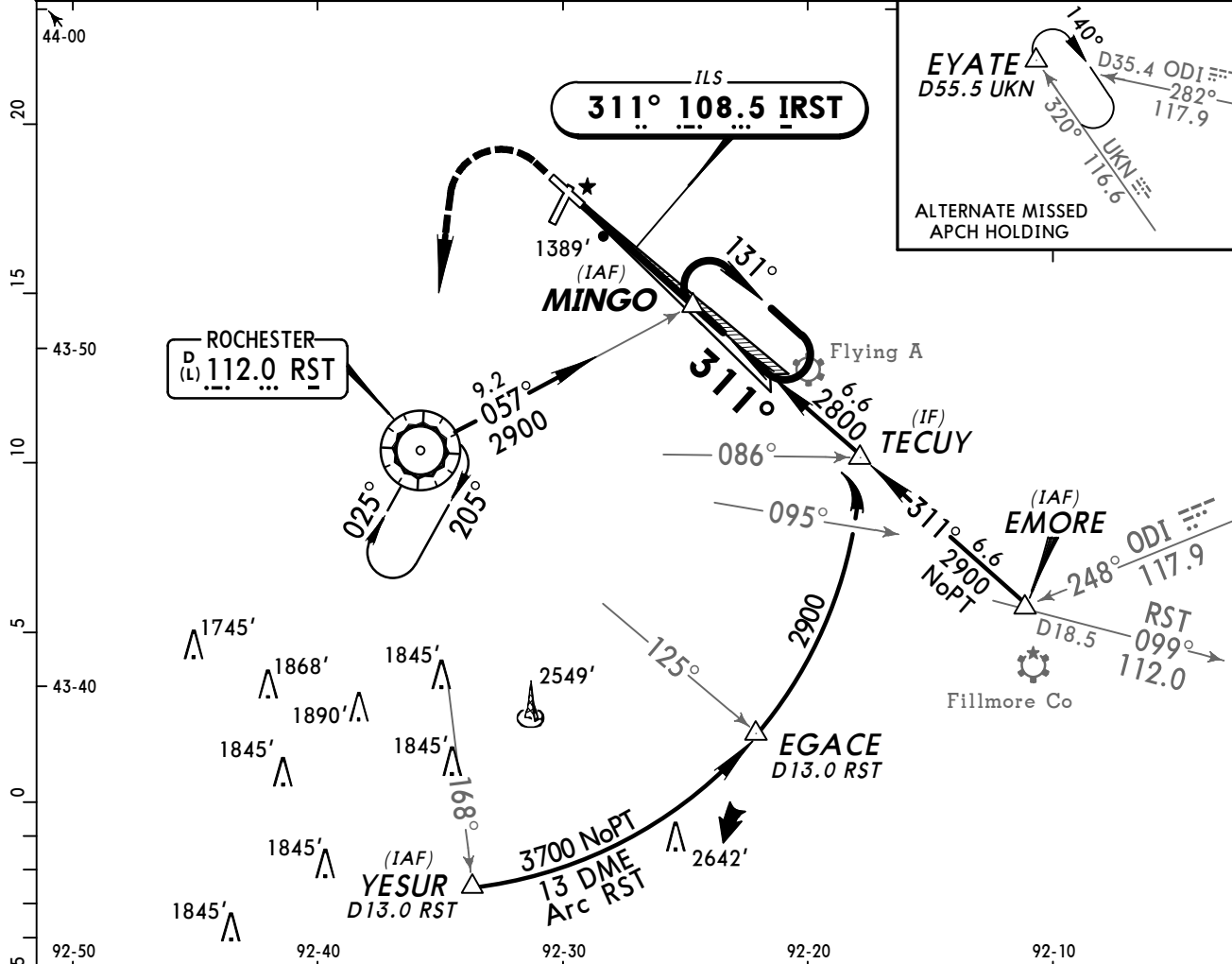
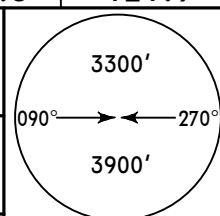
KRST/RST **ROCHESTER INTL**

JEPPESSEN
 4 MAR 11 **(11-2)**

ROCHESTER, MINN
ILS or LOC Rwy 31

BRIEFING STRIP™

ATIS (ASOS when Twr inop) 120.5		*ROCHESTER Approach (R) 119.8		MINNEAPOLIS Center (R) 132.35 when App inop.		*ROCHESTER Tower CTAF 118.3		*Ground 121.9	
LOC IRST 108.5		Final Apch Crs 311°		GS MINGO 2800' (1496')		ILS DA(H) 1504' (200')		Apt Elev 1317' TDZE 1304'	
MISSED APCH: Climb to 2000' then climbing LEFT turn to 3000' direct RST VOR and hold.								3300' 090°→←270° 3900' MSA RST VOR	
Alt Set: INCHES 1. Pilot controlled lighting 118.3.		Trans level: FL 180			Trans alt: 18000'				



Gnd speed-Kts	70	90	100	120	140	160	MALSR		2000'	3000'	D	RST 112.0
GS	3.00°	377	484	538	646	753	PAPI		↑	LT		
MINGO to MAP	4.5	3:51	3:00	2:42	2:15	1:56						

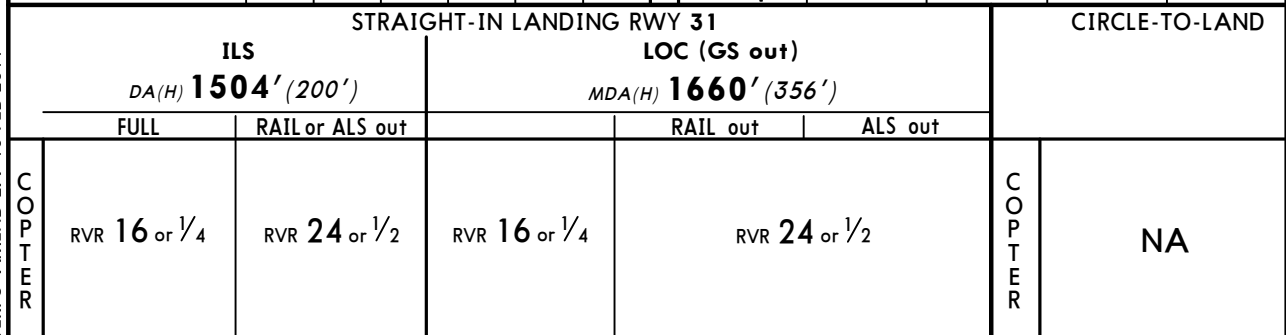
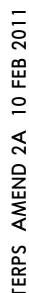
STRAIGHT-IN LANDING RWY 31							CIRCLE-TO-LAND	
ILS <i>DA(H)</i> 1504' (200')				LOC (GS out) <i>MDA(H)</i> 1660' (356')			Max Kts	<i>MDA(H)</i>
FULL		TDZ or CL out	RAIL or ALS out		RAIL out	ALS out		
A	RVR 18 or 1/2	RVR 24 or 1/2	RVR 40 or 3/4	RVR 24 or 1/2	RVR 40 or 3/4	RVR 50 or 1	90	1720' (403') - 1
B							120	1780' (463') - 1
C							140	1780' (463') - 1 1/2
D								
				RVR 40 or 3/4	RVR 60 or 1 1/4		165	1880' (563') - 2

CHANGES: Note deleted.

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TERPS AMEND 22A 10 MAR 2011

BRIEFING STRIP™

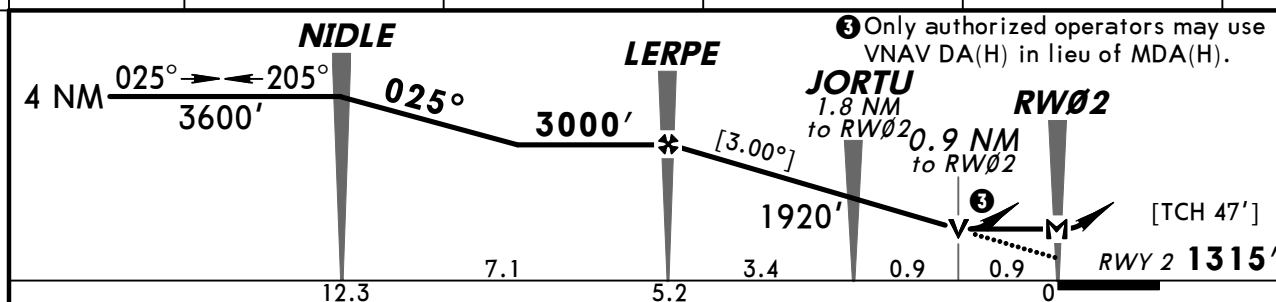
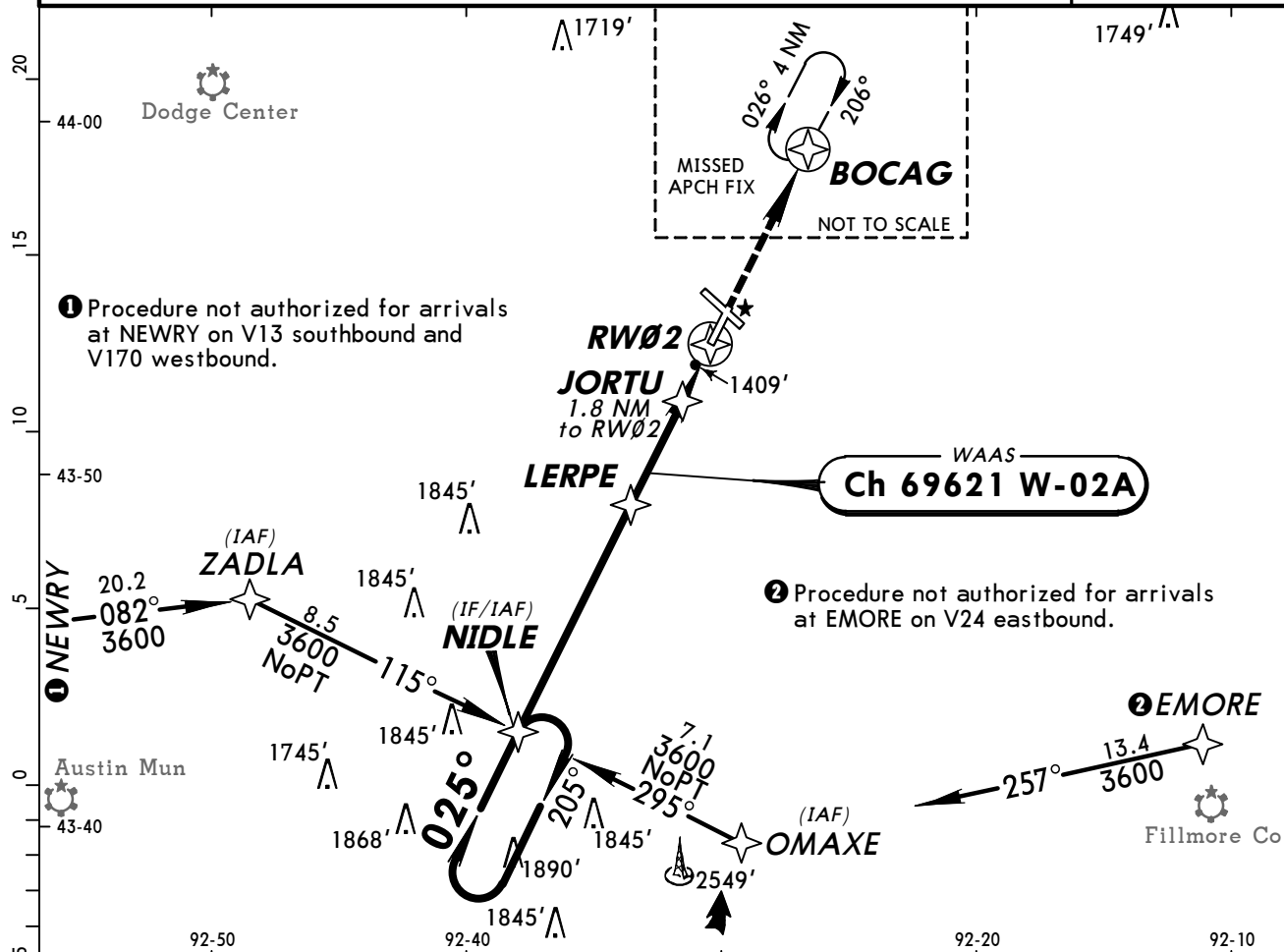


KRST/RST ROCHESTER INTL

JEPPESSEN
24 JUN 11 **12-1** Eff 30 Jun

ROCHESTER, MINN
RNAV (GPS) Rwy 2

ATIS (ASOS when Twr inop)	*ROCHESTER Approach (R)	MINNEAPOLIS Center (R)	*ROCHESTER Tower	*Ground
120.5	119.8	132.35 when App inop.	CTAF 118.3	121.9
WAAS Ch 69621 W-02A	Final Apch Crs 025°	Minimum Alt LERPE 3000' (1685')	LP MDA(H) 1660' (345')	Apt Elev 1317' Rwy 2 1315'
MISSED APCH: Climb to 3300' direct BOCAG and hold.				
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000' 1. DME/DME RNP-0.30 not authorized. 2. Pilot controlled lighting 118.3.				
				3900' MSA RW02



Gnd speed-Kts	70	90	100	120	140	160				
Descent angle [3.00°]	372	478	531	637	743	849				
MAP at RW02										

STRAIGHT-IN LANDING RWY 2						CIRCLE-TO-LAND			
LP			LNAV						
MDA(H) 1660' (345')			MDA(H) 1660' (345')			Max Kts	MDA(H)		
						90	1720' (403') -1		
						120	1780' (463') -1		
						140	1780' (463') -1½		
						165	1880' (563') -2		

CHANGES: Missed approach, notes, approach transitions, profile, minimums.

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ROCHESTER, MINN
RNAV (GPS) Rwy 13

BRIEFING STRIP™



Gnd speed-Kts
Glide Path Angle 3.00°
MAP at RW13

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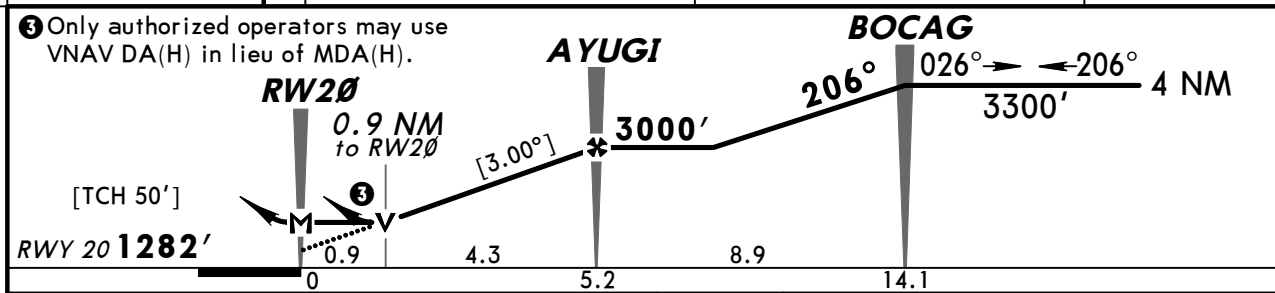
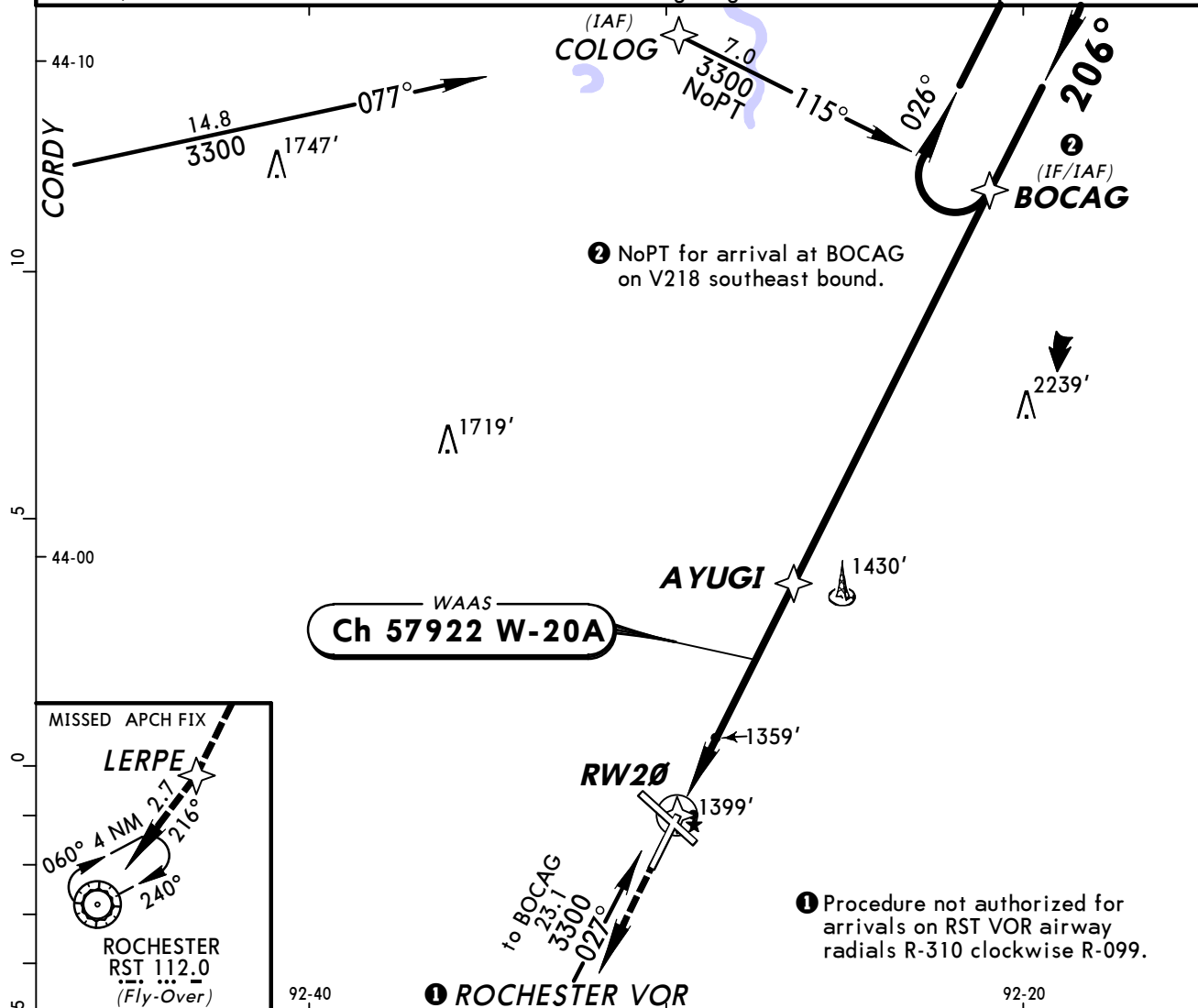
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KRST/RST ROCHESTER INTL

JEPPESEN
24 JUN 11 (12-3) Eff 30 Jun

ROCHESTER, MINN
RNAV (GPS) Rwy 20

ATIS (ASOS when Twr inop) 120.5	*ROCHESTER Approach (R) 119.8	MINNEAPOLIS Center (R) 132.35 when App inop.	*ROCHESTER Tower CTAF 118.3	*Ground 121.9
WAAS Ch 57922 W-20A	Final Apch Crs 206°	Minimum Alt AYUGI 3000' (1718')	LP MDA(H) 1620' (338')	Apt Elev 1317' Rwy 20 1282'
MISSED APCH: Climb to 3000' direct LERPE and on track 216° to RST VOR and hold.				
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000' 1. DME/DME RNP-0.30 not authorized. 2. Pilot controlled lighting 118.3.				



Gnd speed-Kts	70	90	100	120	140	160		REIL PAPI-L	3000'	→	LERPE
Descent angle [3.00°]	372	478	531	637	743	849					
MAP at RWY 20											

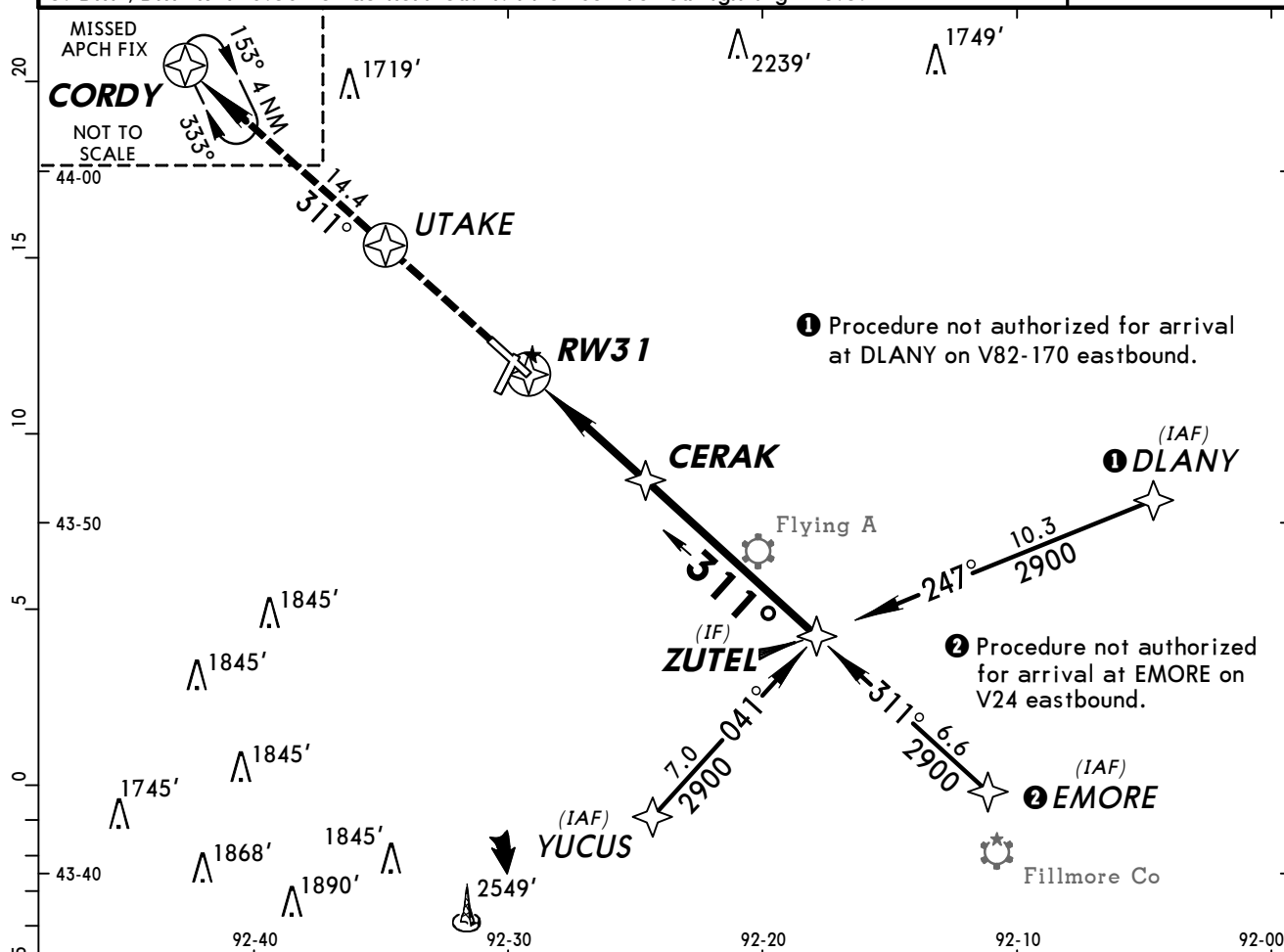
STRAIGHT-IN LANDING RWY 20				CIRCLE-TO-LAND			
LP		LNAV		Max Kts	MDA(H)		
MDA(H) 1620' (338')		MDA(H) 1660' (378')		90	1720' (403') -1		
1		1		120	1780' (463') -1		
				140	1780' (463') -1½		
				165	1880' (563') -2		

KRST/RST ROCHESTER INTL

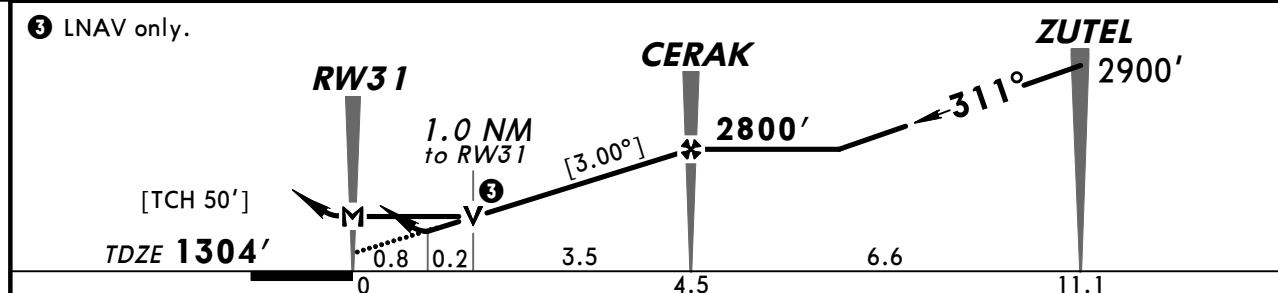
JEPPESSEN
24 JUN 11 (12-4) Eff 30 Jun

ROCHESTER, MINN
RNAV (GPS) Rwy 31

ATIS (ASOS when Twr inop)		*ROCHESTER Approach (R)		MINNEAPOLIS Center (R)		*ROCHESTER Tower		*Ground	
120.5		119.8		132.35 when App inop.		CTAF 118.3		121.9	
RNAV	Final Apch Crs 311°		Minimum Alt CERAK 2800' (1496')		LNAV/VNAV DA(H) 1620' (316')		Apt Elev 1317' TDZE 1304'		3700' MSA RW31
MISSED APCH: Climb to 3000' direct UTAK and via 311° track to CORDY and hold.									
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000'									
1. GPS or RNP-0.30 required. 2. Baro-VNAV not authorized below -17°C (2°F). 3. DME/DME RNP-0.30 not authorized. 4. Pilot controlled lighting 118.3.									



③ LNAV only.



Gnd speed-Kts	70	90	100	120	140	160	MALSR PAPI 3000' UTAK
Descent angle [3.00°]	372	478	531	637	743	849	
MAP at RW31							

STRAIGHT-IN LANDING RWY 31							CIRCLE-TO-LAND	
LNAV/VNAV				LNAV			Max Kts	MDA(H)
DA(H) 1620' (316')				MDA(H) 1680' (376')				
		RAIL out	ALS out		RAIL out	ALS out		
A							90	1720' (403') - 1
B	RVR 24 or 1/2	RVR 40 or 3/4	RVR 50 or 1	RVR 24 or 1/2	RVR 40 or 3/4	RVR 50 or 1	120	1780' (463') - 1
C							140	1780' (463') - 1 1/2
D	RVR 40 or 3/4	RVR 50 or 1		RVR 50 or 1	RVR 60 or 1 1/4		165	1880' (563') - 2

CHANGES: None.

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KRST/RST ROCHESTER INTL

24 JUN 11

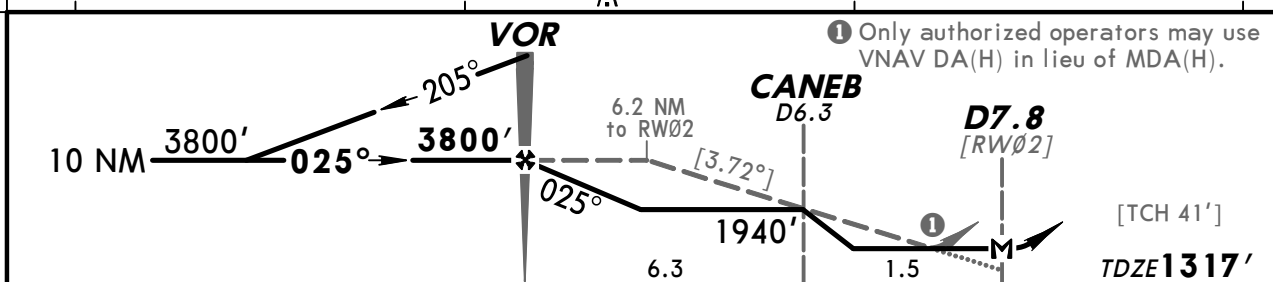
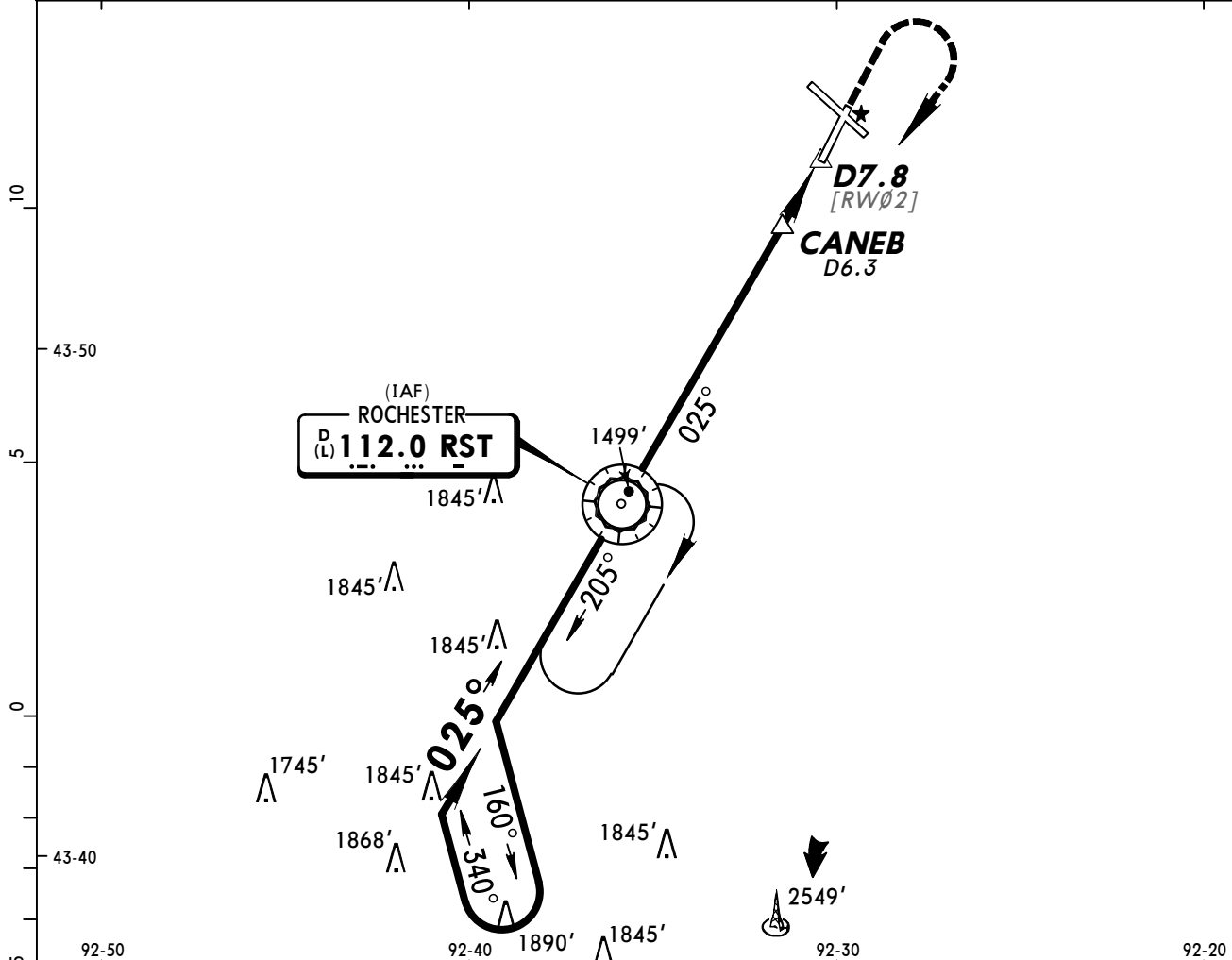
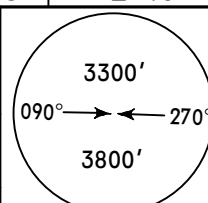
13-1

Eff 30 Jun

ROCHESTER, MINN VOR Rwy 2

BRIEFING STRIP™

ATIS (ASOS when Twr inop) 120.5		*ROCHESTER Approach (R) 119.8		MINNEAPOLIS Center (R) 132.35 when App inop.		*ROCHESTER Tower CTAF 118.3		*Ground 121.9	
VOR RST 112.0	Final Apch Crs 025°	Minimum Alt VOR 3800' (2483')	MDA(H) (CONDITIONAL) 1680' (363')	Apt Elev 1317' TDZE 1317'		3300' 090°→←270° 3800' MSA RST VOR			
MISSED APCH: Climb to 2500' then climbing RIGHT turn to 3800' direct RST VOR and hold.									
Alt Set: INCHES		Trans level: FL 180		Trans alt: 18000'					
1. VGSI and descent angles not coincident. 2. Pilot controlled lighting 118.3.									



Gnd speed-Kts	70	90	100	120	140	160	REIL		2500'	3800'	→	RST 112.0
Descent angle [3.72°]	461	593	658	790	922	1053	VASI-L		↑	RT	→	
MAP at D7.8 or VOR to MAP	7.8	6:41	5:12	4:41	3:54	3:21						

STRAIGHT-IN LANDING RWY 2				CIRCLE-TO-LAND			
MDA(H) 1680' (363')		MDA(H) 1940' (623')		With CANEB		Without CANEB	
With CANEB		Without CANEB		Max Kts	MDA(H)	MDA(H)	
1		1		90	1720' (403') - 1	1940' (623') - 1	
				120	1780' (463') - 1		
				140	1780' (463') - 1½		
NA		2		165	1880' (563') - 2	1940' (623') - 2	

CHANGES: None.

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KRST/RST ROCHESTER INTL

JEPPESEN
24 JUN 11 (13-2) Eff 30 Jun

ROCHESTER, MINN
VOR DME Rwy 20

BRIEFING STRIP™

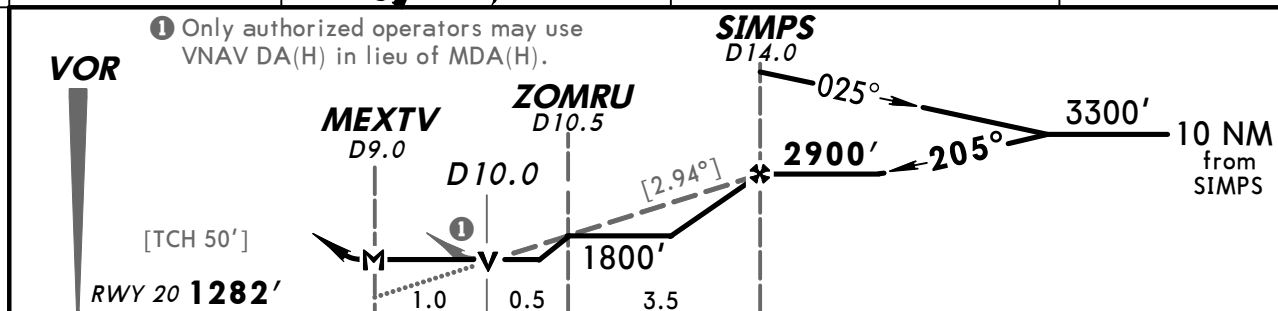
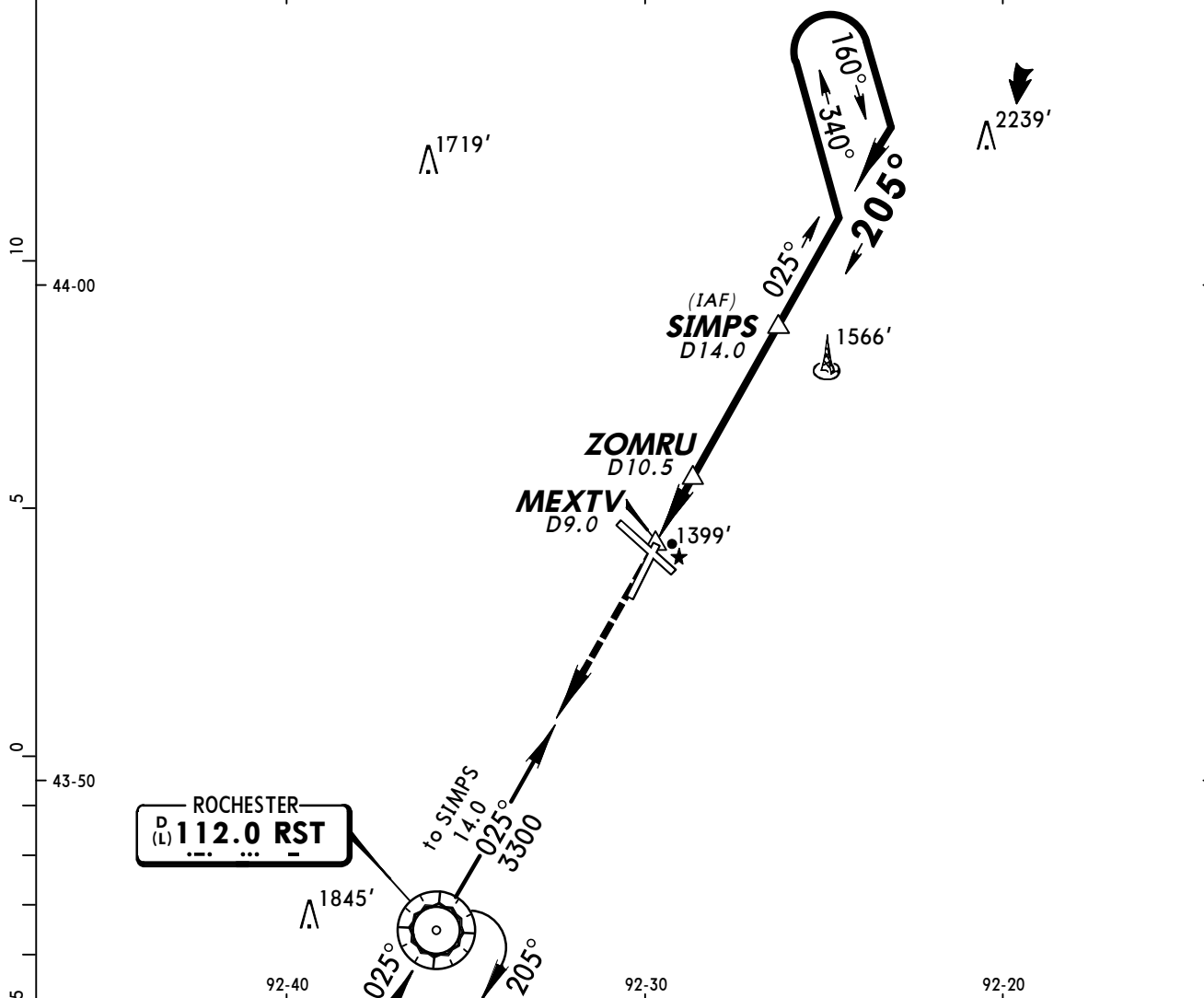
ATIS (ASOS when Twr inop) 120.5		*ROCHESTER Approach (R) 119.8		MINNEAPOLIS Center (R) 132.35 when App inop.		*ROCHESTER Tower CTAF 118.3		*Ground 121.9	
VOR RST 112.0		Final Apch Crs 205°		Minimum Alt SIMPS 2900' (1618')		MDA(H) 1660' (378')		Apt Elev 1317' Rwy 20 1282'	
MISSED APCH: Climb to 3000' direct RST VOR and hold.									
Alt Set: INCHES 1. Pilot controlled lighting 118.3.				Trans level: FL 180			Trans alt: 18000'		

3300'

090°→←270°

3900'

MSA RST VOR



Gnd speed-Kts	70	90	100	120	140	160		REIL	3000'		RST
Descent angle [2.94°]	364	468	520	624	728	832		PAPI-L	↑	→	112.0
MAP at MEXTV											

STRAIGHT-IN LANDING RWY 20				CIRCLE-TO-LAND			
MDA(H) 1660' (378')				Max Kts.	MDA(H)		
A	1			90	1720' (403') - 1		
B				120	1780' (463') - 1		
C				140	1780' (463') - 1½		
D				165	1880' (563') - 2		

CHANGES: Final approach course, MSA, intersections, profile.

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TERPS AMEND 14 30 JUN 2011

KRST/RST ROCHESTER INTL

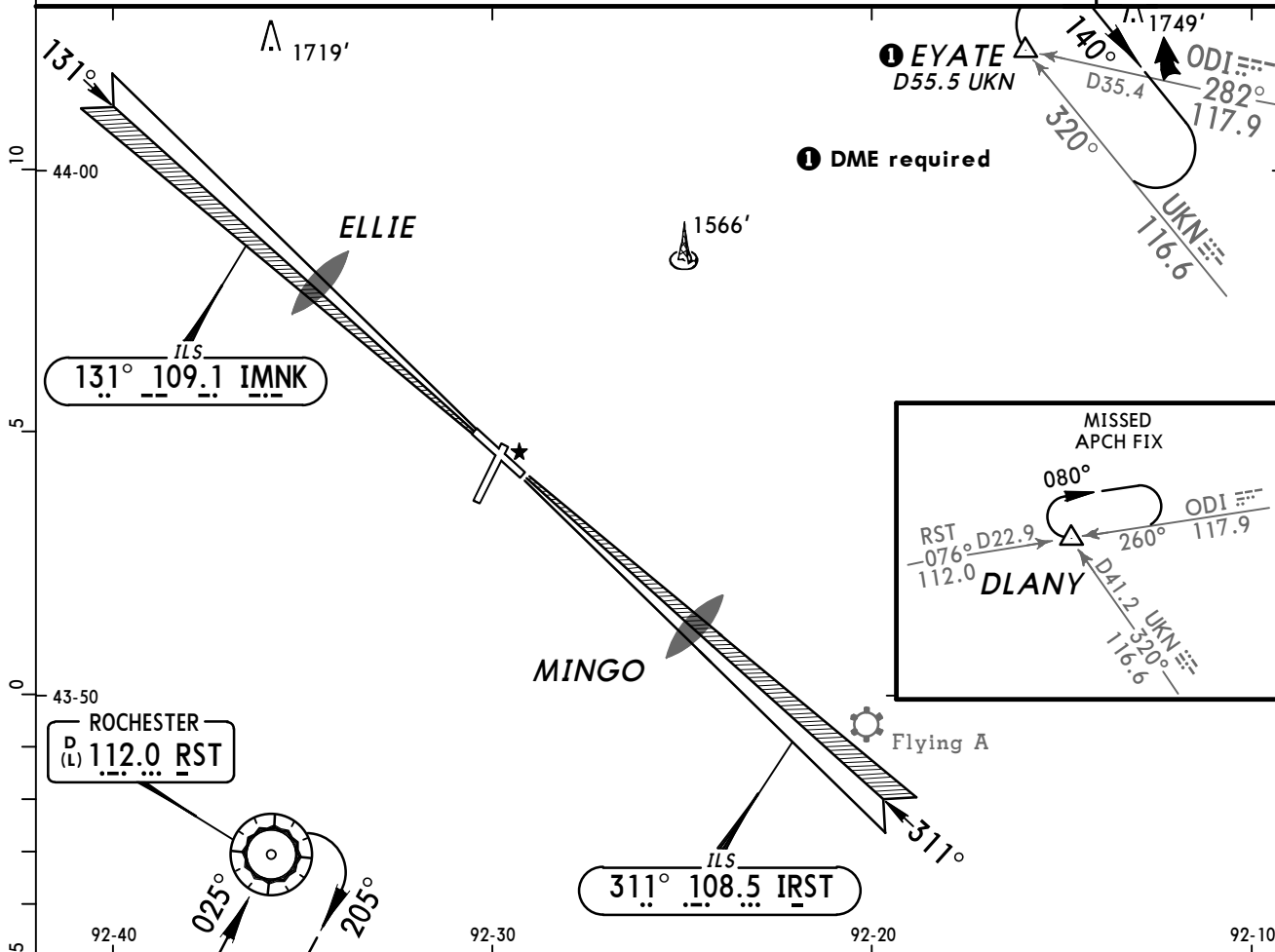
9 JAN 09

18-1

Eff 15 Jan

ROCHESTER, MINN
RADAR-1

ATIS (ASOS when Twr inop) 120.5	*ROCHESTER Approach (R) 119.8	MINNEAPOLIS Center (R) 132.35 when App inop.	*ROCHESTER Tower CTAF 118.3	*Ground 121.9
RADAR	Final Apch Crs By ATC	No FAF	MDA(H) Refer to Minimums	Apt Elev 1317' TDZE- See below
Missed Approach-See below				
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000'				
1. When control tower closed, procedure not authorized. 2. Visibility reduction by helicopters not authorized for Rwy 2/20. 3. Pilot controlled lighting 118.3.				
No MSA published				



MISSED APPROACH:

Runway 2: Climb to 3500' then climbing RIGHT turn to 4800' via ODI VOR R-282 to EYATE and hold.

Runway 20: Climb to 3000', direct RST VOR and hold.

Runway 13: Climb to 2000' then climbing LEFT turn to 3000' via heading 105° and ODI VOR R-260 to DLANY and hold.

Runway 31: Climb to 2000' then climbing LEFT turn to 3000' direct RST VOR and hold.

ASR Rwys 2, 20, 13, 31: MAP at Rwy Thr	RWY 2 TDZE 1317'	RWY 20 TDZE 1303'	RWY 13 TDZE 1280'	RWY 31 TDZE 1340'	Lighting - Refer to Airport Chart
--	---------------------	----------------------	----------------------	----------------------	--

STRAIGHT-IN LANDING			
ASR 2 MDA(H) 1680' (363')		ASR 20 MDA(H) 1660' (357')	
A	1		1
B			
C			
D	1¼		1¼
STRAIGHT-IN LANDING			
ASR 13 MDA(H) 1640' (360')		ASR 31 MDA(H) 1660' (356')	
	RAIL out	ALS out	
A	RVR 24 or 1/2	RVR 40 or 3/4	RVR 50 or 1
B			
C			
D	RVR 50 or 1	RVR 60 or 1¼	RVR 50 or 1

CIRCLE-TO-LAND	
Max Kts	MDA(H)
90	1720' (403') - 1
120	1780' (463') - 1
140	1780' (463') - 1½
165	1880' (563') - 2

CHANGES: Procedure.

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General Information

Location: St Cloud MN USA
IATA Code: STC
Lat/Long: N45° 32.8' W094° 03.6'
Elevation: 1031 ft

Airport Use: Public
Magnetic Variation: 1.2°E
Sectional Chart: Twin Cities

Fuel Types: 100 Octane (LL), Jet A
Oxygen Types: High Pressure
Repair Types: Major Airframe, Major Engine
Customs: No
Airport Type: IFR
Landing Fee: No
Control Tower: Yes
Jet Start Unit: Yes
LLWS Alert: No
Beacon: Yes
Pattern Altitude: 800 ft AGL

Sunrise: 1259 Z
Sunset: 0000 Z,

Runway Information

Runway: 05
Length x Width: 3000 ft x 75 ft
Surface Type: asphalt
TDZ-Elev: 1022 ft
Lighting: Edge, Pilot controlled

Runway: 13
Length x Width: 7000 ft x 150 ft
Surface Type: concrete
TDZ-Elev: 1031 ft
Lighting: Edge, ALS, Pilot controlled

Runway: 23
Length x Width: 3000 ft x 75 ft
Surface Type: asphalt
TDZ-Elev: 1022 ft
Lighting: Edge, Pilot controlled

Runway: 31
Length x Width: 7000 ft x 150 ft
Surface Type: concrete
TDZ-Elev: 1020 ft
Lighting: Edge, ALS, Pilot controlled

Communication Information

ATIS 119.375

ASOS 112.1

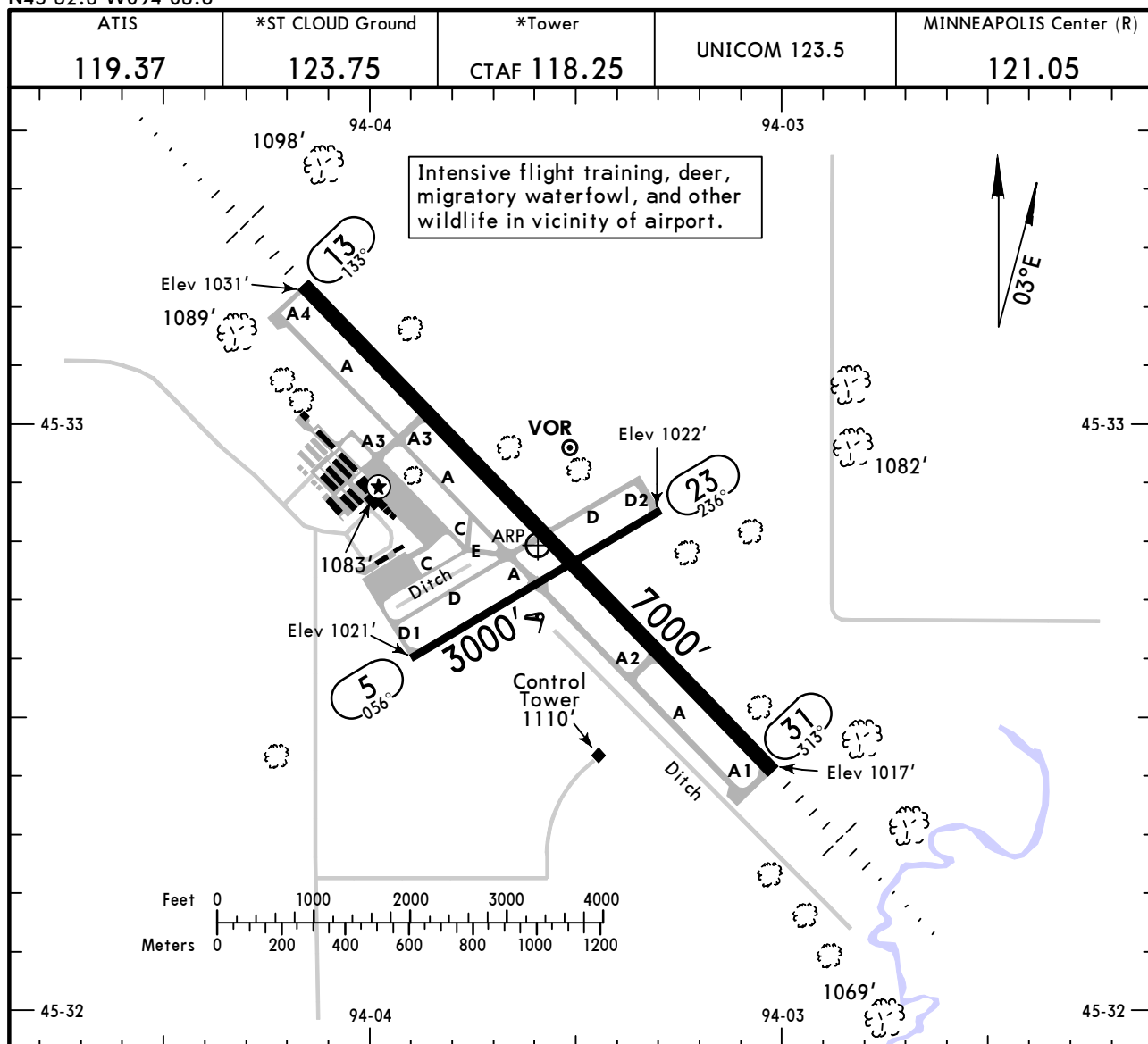
St Cloud Tower 118.25 CTAF PCL

St Cloud Ground Control 123.75

St Cloud Regl Unicom 123.5

Princeton Flight Service Station 122.5 RCO

Minneapolis Center 121.05 Remote Communications Air-Ground



ADDITIONAL RUNWAY INFORMATION

RWY			USABLE LENGTHS			WIDTH
			Threshold	Landing Beyond	TAKE-OFF	
5	23	1 MIRL porous friction course overlay				75'
13	31	1 HIRL 2 MALSR 2 PAPI-R grooved		6015'		150'
		1 HIRL 2 MALSR 2 PAPI-L grooved		6046'		

1 Increase intensity on 118.25 when Tower inop.

2 Activate on 118.25 when Tower inop.

TAKE-OFF

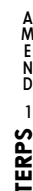
	Rwys 13, 23, 31		1 Rwy 5		
	Adequate Vis Ref	STD	With Min climb of 201'/NM to 1300'		Other
			Adequate Vis Ref	STD	
1 & 2 Eng	1/4	1	1/4	1	300-1 1/4
3 & 4 Eng		1/2		1/2	

1 Alternatively, with standard takeoff minimums and a normal 200'/NM climb gradient, takeoff must occur no later than 1100' prior to departure end of runway.

FOR FILING AS ALTERNATE

Authorized Only When Local Weather Available & Twr Operating		Authorized Only When Local Weather Available				
ILS Rwy 13		LOC Rwy 13	RNAV (GPS) Rwy 13 RNAV (GPS) Rwy 31	RNAV (GPS) Rwy 5 RNAV (GPS) Rwy 23	Other	
A	700-2	800-2	800-2	800-2	800-2	
B				NA		
C						
D						

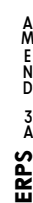
BRIEFING STRIP TM



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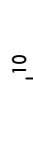
BRIEFING STRIP™



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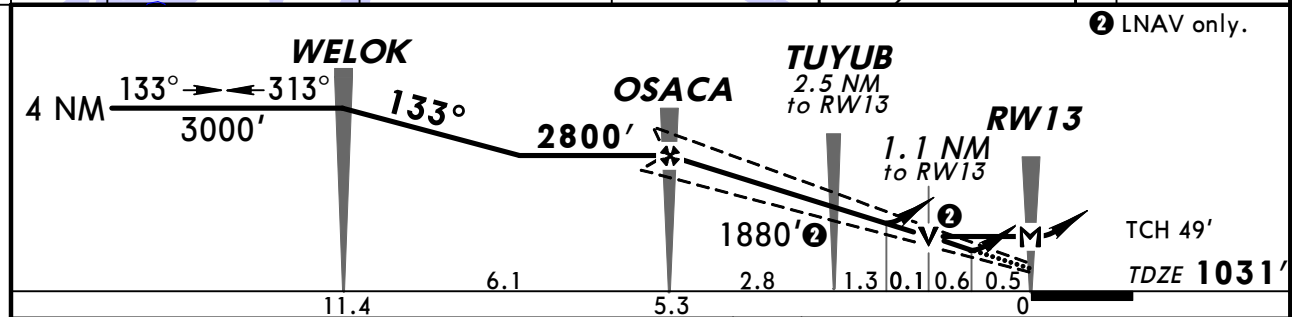
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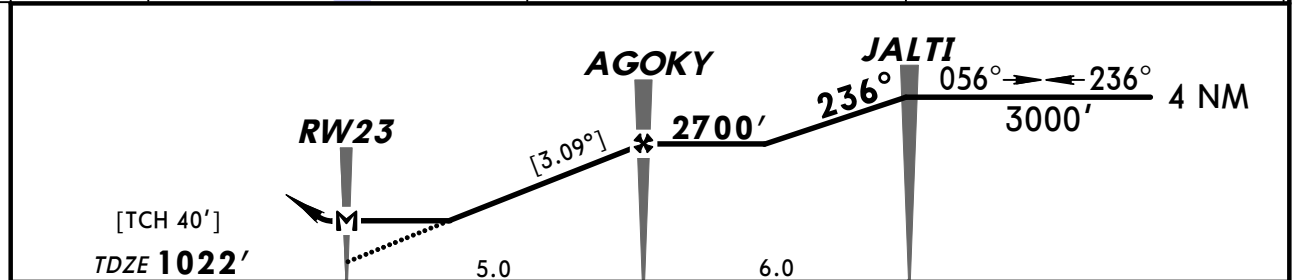
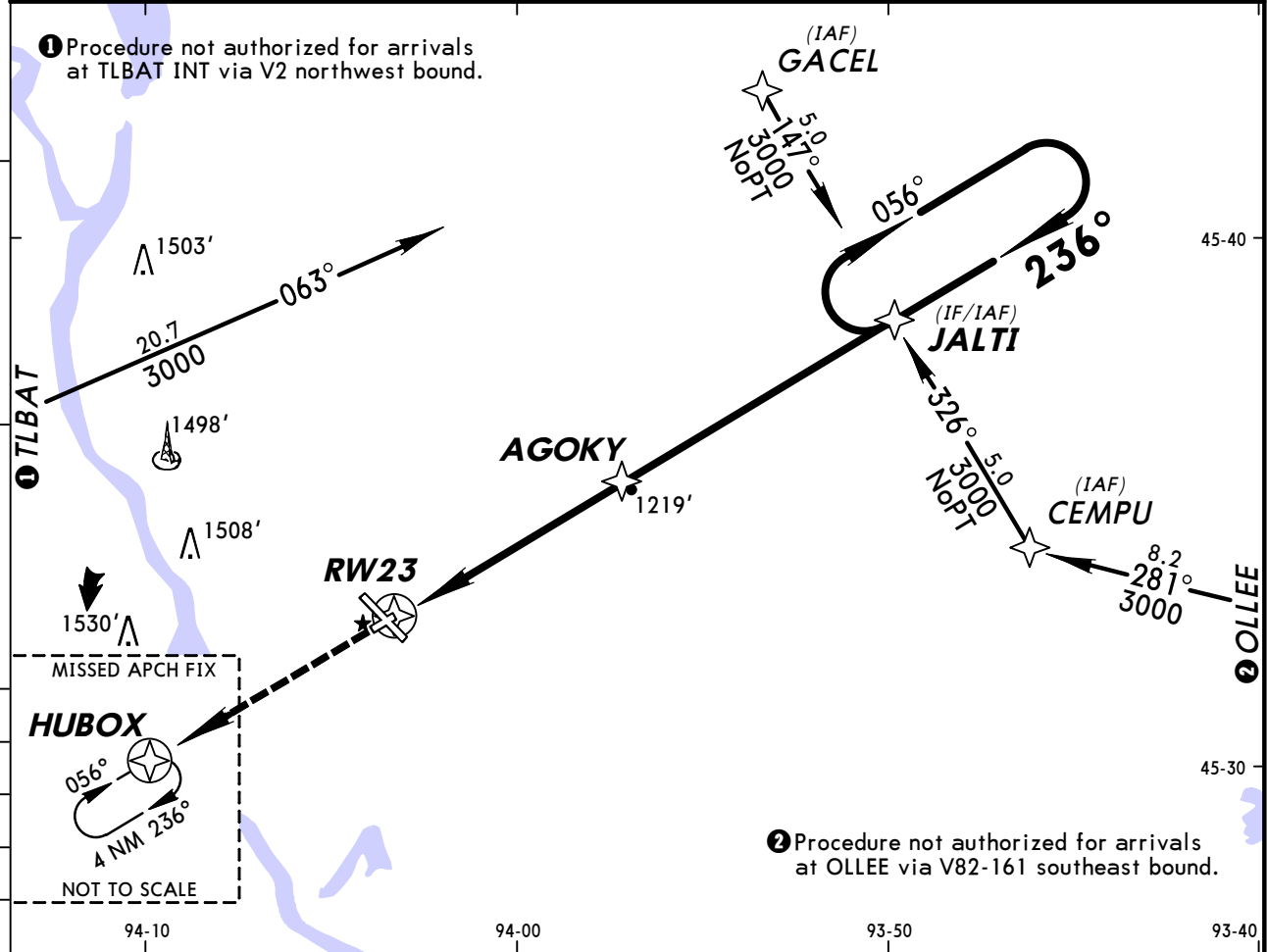
ATIS 119.37	MINNEAPOLIS Center (R) 121.05	*ST CLOUD Tower CTAF 118.25	*Ground 123.75
WAAS Ch 82013 W-13A	Final Apch Crs 133°	Minimum Alt OSACA 2800' (1769')	LPV DA(H) (CONDITIONAL) 1231' (200') Apt Elev 1031' TDZE 1031'
MISSED APCH: Climb to 3000' direct ZUXAL and hold. Alt Set: INCHES Trans level: FL 180 Trans alt: 18000' 1. Use local altimeter setting; if not received, use Little Falls altimeter setting. 2. VDP and Baro-VNAV not authorized when using Little Falls altimeter setting. 3. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -17°C (2°F) or above 47°C (116°F). 4. DME/DME RNP-0.30 not authorized 5. Pilot controlled lighting 118.25.			
			3500' MSA RW13



Gnd speed-Kts	70	90	100	120	140	160	MALS	3000'	PAPI	D	ZUXAL
Glide Path Angle	3.00°	372	478	531	637	743	849				
MAP at RW13											

STRAIGHT-IN LANDING RWY 13							CIRCLE-TO-LAND Not Authorized at Night to Rwy 5-23	
LPV DA(H) 1231' (200')		With Local Altimeter Setting LNAV/VNAV DA(H) 1455' (424')		LNAV MDA(H) 1440' (409')			Max Kts	With Local Altimeter Setting MDA(H)
RAIL or ALS out		RAIL or ALS out		RAIL out		ALS out	90	1500' (469')-1
A				1/2	3/4	1	120	1500' (469')-1
B	1/2	3/4	1	1 1/2	3/4	1 1/4	140	1500' (469')-1 1/2
C							165	1620' (589')-2
D								
With Little Falls Altimeter Setting							Max Kts	With Little Falls Altimeter Setting MDA(H)
DA(H) 1307' (276')		DA(H) 1531' (500')		MDA(H) 1520' (489')			90	1580' (549')-1
RAIL or ALS out		RAIL or ALS out		RAIL out		ALS out	120	1580' (549')-1
A				1/2	3/4	1	140	1580' (549')-1 1/2
B	1/2	1	1 1/4	1 3/4	3/4	1 1/4	165	1700' (669')-2
C								
D								

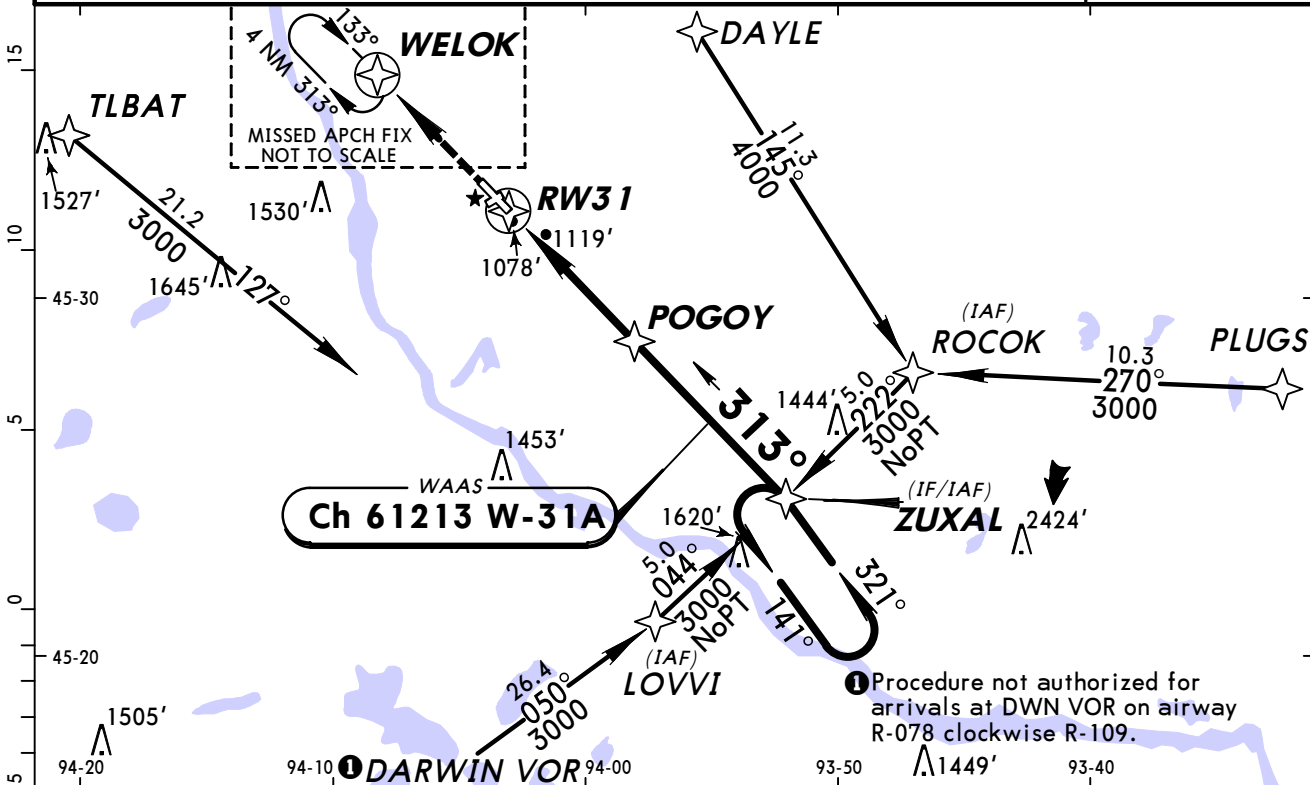
ATIS 119.37		MINNEAPOLIS Center (R) 121.05		*ST CLOUD Tower CTAF 118.25		*Ground 123.75	
RNAV	Final Apch Crs 236°	Minimum Alt AGOKY 2700' (1678')	LNAV MDA(H) (CONDITIONAL) 1440' (418')		Apt Elev 1031' TDZE 1022'		3500' MSA RW23
MISSED APCH: Climb to 3000' direct HUBOX and hold.							
Alt Set: INCHES							



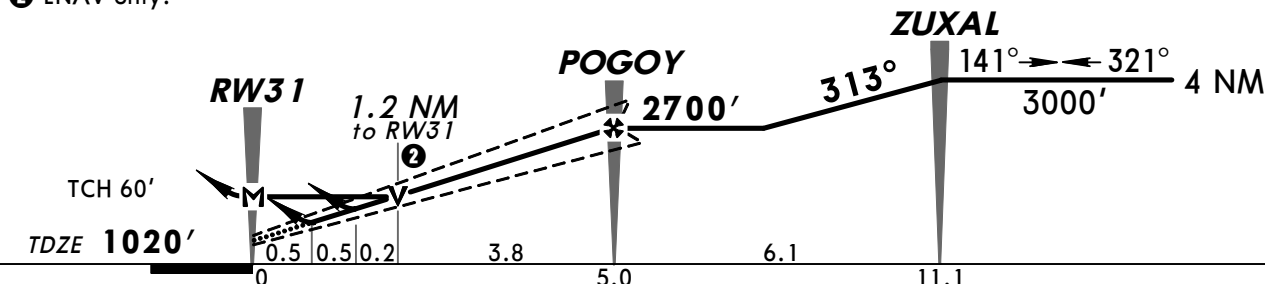
Gnd speed-Kts	70	90	100	120	140	160		
Descent angle [3.09°]	383	492	547	656	765	875		
MAP at RW23								

STRAIGHT-IN LANDING RWY 23				CIRCLE-TO-LAND			
LNAV				With Local Altimeter Setting		With Little Falls Altimeter Setting	
MDA(H) 1440' (418')		MDA(H) 1520' (498')		Max Kts	MDA(H)	MDA(H)	
With Local Altimeter Setting		With Little Falls Altimeter Setting		90	1500' (469') - 1	1580' (549') - 1	
A	1		1	120	1500' (469') - 1 1/2	1580' (549') - 1 1/2	
B							
C	1 1/4		1 1/2	140	1500' (469') - 1 1/2	1580' (549') - 1 1/2	
D	NA			D	NA	NA	

ATIS 119.37	MINNEAPOLIS Center (R) 121.05	*ST CLOUD Tower CTAF 118.25	*Ground 123.75
WAAS Ch 61213 W-31A	Final Apch Crs 313°	Minimum Alt POGOY 2700' (1680')	LPV DA(H) (CONDITIONAL) 1220' (200')
Apt Elev 1031'			
TDZE 1020'			
MISSED APCH: Climb to 3000' direct WELOK and hold.			
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000'			
1. Use local altimeter setting; if not received, use Little Falls altimeter setting. 2. Baro-VNAV and VDP not authorized when using Little Falls altimeter setting. 3. For uncompensated Baro-VNAV systems LNAV/VNAV not authorized below -17°C (2°F), or above 46°C (114°F). 4. DME/DME RNP-0.30 not authorized. 5. Pilot controlled lighting 118.25.			
3500'			
MSA RW31			



② LNAV only.

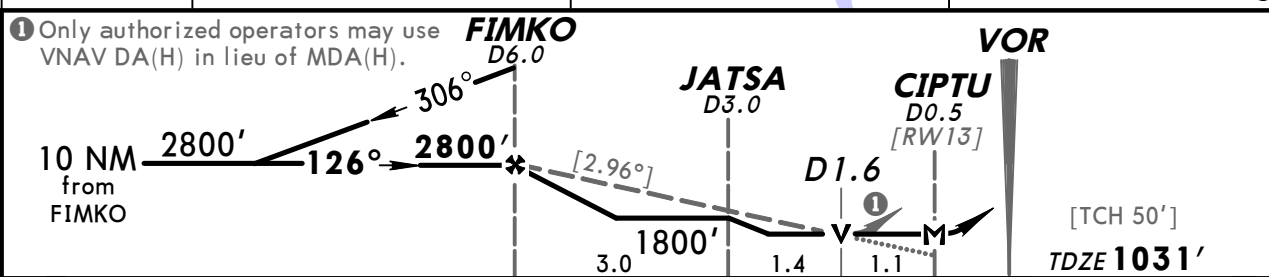
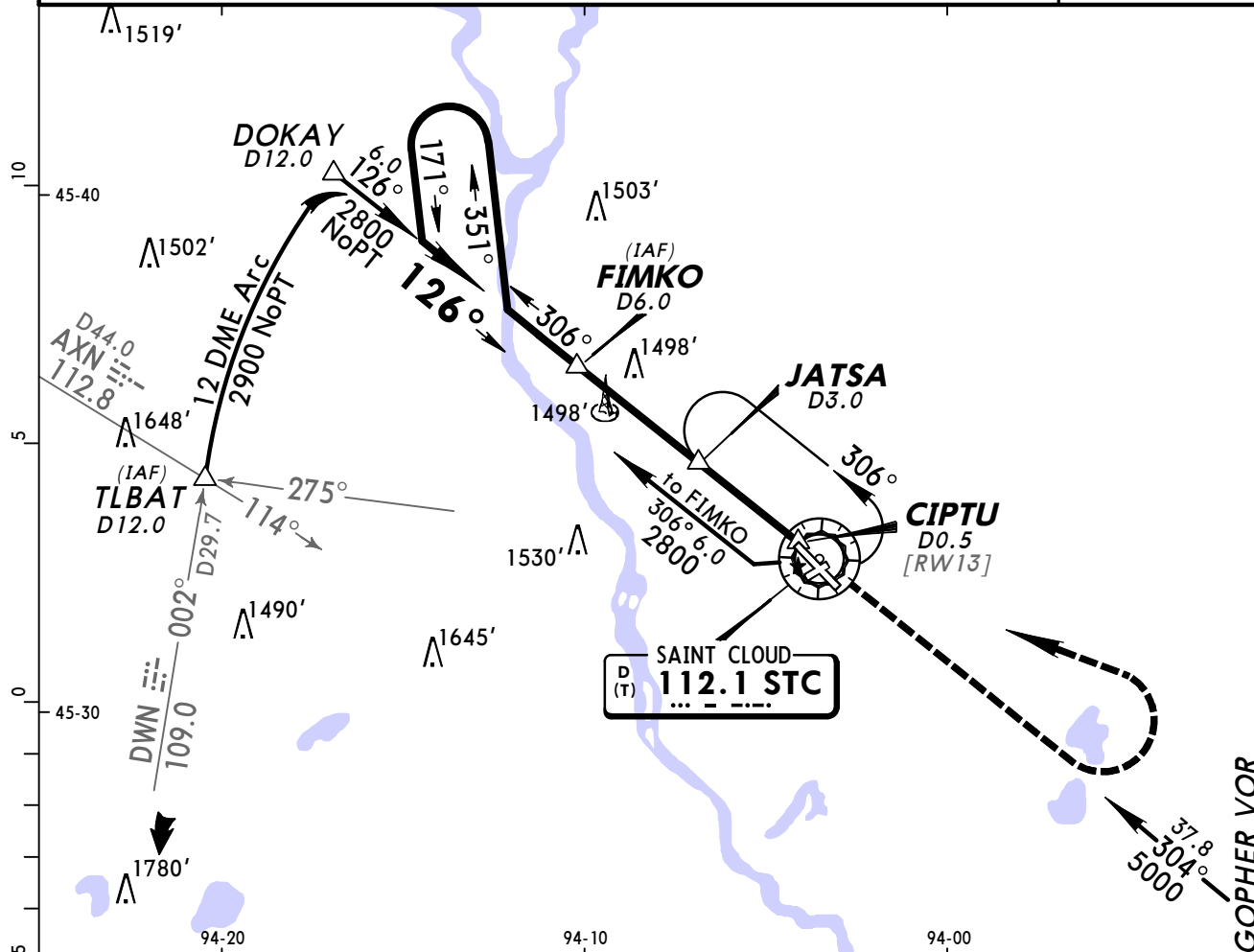


Gnd speed-Kts	70	90	100	120	140	160	MALSR	3000'	WELOK
Glide Path Angle	3.00°	372	478	531	637	743	PAPI	↑	
MAP at RW31									

STRAIGHT-IN LANDING RWY 31							CIRCLE-TO-LAND Not Authorized at Night of Rwy 5-23	
LPV DA(H) 1220' (200')		With Local Altimeter Setting LNAV/VNAV DA(H) 1379' (359')		LNAV MDA(H) 1440' (420')			Max Kts	With Local Altimeter Setting MDA(H)
RAIL or ALS out		RAIL or ALS out		RAIL out		ALS out	90	1500' (469')-1
A				1/2	3/4	1	120	1500' (469')-1 1/2
B	1/2	3/4	3/4	1 1/4	3/4	1 1/4	140	1500' (469')-1 1/2
C							165	1620' (589')-2
D								
With Little Falls Altimeter Setting							Max Kts	With Little Falls Altimeter Setting MDA(H)
DA(H) 1296' (276')		DA(H) 1455' (435')		MDA(H) 1520' (500')			90	1580' (549')-1
RAIL or ALS out		RAIL or ALS out		RAIL out		ALS out	120	1580' (549')-1 1/2
A				1/2	3/4	1	140	1580' (549')-1 1/2
B	1/2	1	1	1 1/2	3/4	1 1/4	165	1700' (669')-2
C								
D								

BRIEFING STRIP™

ATIS 119.37		MINNEAPOLIS Center (R) 121.05		*ST CLOUD Tower CTAF 118.25		*Ground 123.75	
VOR STC 112.1	Final Apch Crs 126°	Minimum Alt FIMKO 2800' (1769')	MDA(H) (CONDITIONAL) 1440' (409')	Apt Elev 1031' TDZE 1031'		3500' MSA STC VOR	
MISSED APCH: Climb to 2800' then LEFT turn direct STC VOR and hold.							
Alt Set: INCHES							



Gnd speed-Kts	70	90	100	120	140	160	MALSR	2800'	LT	STC 112.1
Descent angle [2.96°]	367	471	524	628	733	838	PAPI			
MAP at CIPTU										

STRAIGHT-IN LANDING RWY 13				CIRCLE-TO-LAND			
MDA(H) 1440' (409')				With Local Altimeter Setting		With Little Falls Altimeter Setting	
	RAIL out	ALS out	Max Kts	MDA(H)		MDA(H)	
A	1/2		90	1500' (469')-1		1580' (549')-1	
B	3/4	1	120	1500' (469')-1 1/2		1580' (549')-1 1/2	
C			140	1620' (589')-2		1700' (669')-2	
D	1	1 1/4	165				

MDA(H) 1520' (489') with Little Falls altimeter setting.

CHANGES: Ground frequency revised.

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BRIEFING STRIP™

STRAIGHT-IN LANDING RWY 31				CIRCLE-TO-LAND		
1 MDA(H) 1440' (420')				With Local Altimeter Setting		With Little Falls Altimeter Setting
		RAIL out	ALS out	Max Kts	MDA(H)	MDA(H)
A	1/2	3/4	1	90	1500' (469') - 1	1580' (549') - 1
B				120	1500' (469') - 1 1/2	1580' (549') - 1 1/2
C	140			1620' (589') - 2	1700' (669') - 2	
D	1	1 1/4		165		

CHANGES: Ground frequency revised.

TERPS
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O A

General Information

Location: Thief River Falls MN USA

IATA Code: TVF

Lat/Long: N48° 03.9' W096° 11.1'

Elevation: 1119 ft

Airport Use: Public

Magnetic Variation: 2.8°E

Sectional Chart: Twin Cities

Fuel Types: 100 Octane (LL), Jet A, Jet A+

Repair Types: Major Airframe, Major Engine

Customs: No

Airport Type: IFR

Landing Fee: No

Control Tower: No

Jet Start Unit: Yes

LLWS Alert: No

Beacon: Yes

Sunrise: 1310 Z

Sunset: 0005 Z,

Runway Information

Runway: 03

Length x Width: 4997 ft x 75 ft

Surface Type: asphalt

TDZ-Elev: 1116 ft

Lighting: Edge, REIL, Pilot controlled

Runway: 13

Length x Width: 6503 ft x 150 ft

Surface Type: asphalt

TDZ-Elev: 1115 ft

Lighting: Edge, REIL, Pilot controlled

Runway: 21

Length x Width: 4997 ft x 75 ft

Surface Type: asphalt

TDZ-Elev: 1119 ft

Lighting: Edge, REIL, Pilot controlled

Runway: 31

Length x Width: 6503 ft x 150 ft

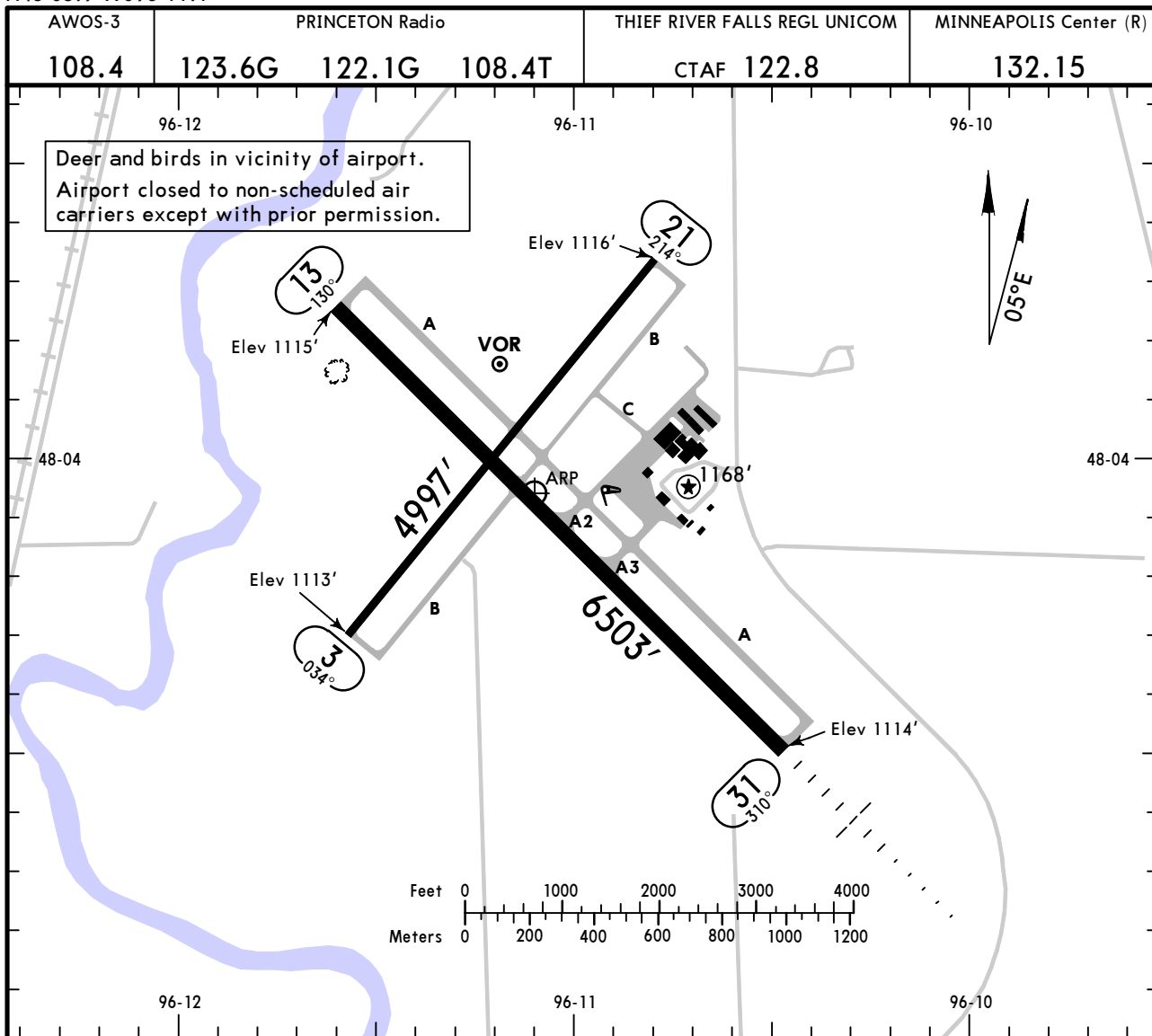
Surface Type: asphalt

TDZ-Elev: 1115 ft

Lighting: Edge, ALS, Pilot controlled

Communication Information

AWOS 108.4
Thief River Falls Regl Unicom 122.8 CTAF PCL
Princeton Flight Service Station 123.6 RCO
Princeton Flight Service Station 122.1 RCO
Princeton Flight Service Station 108.4 RCO
Minneapolis Center 132.15 Remote Communications Air-Ground



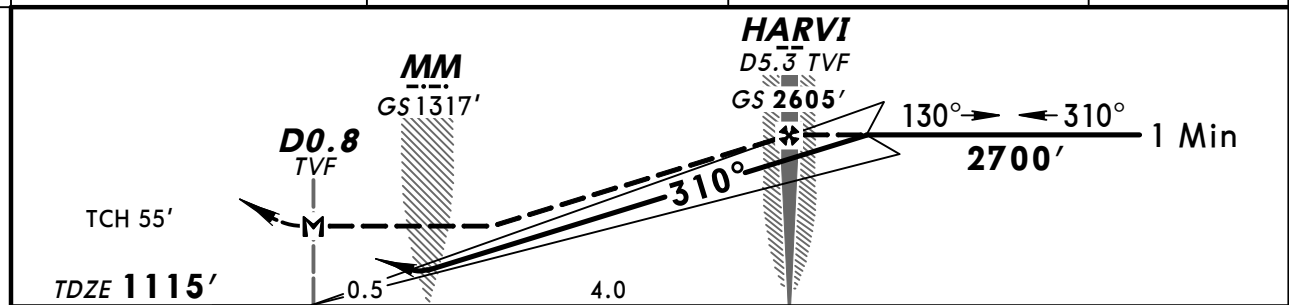
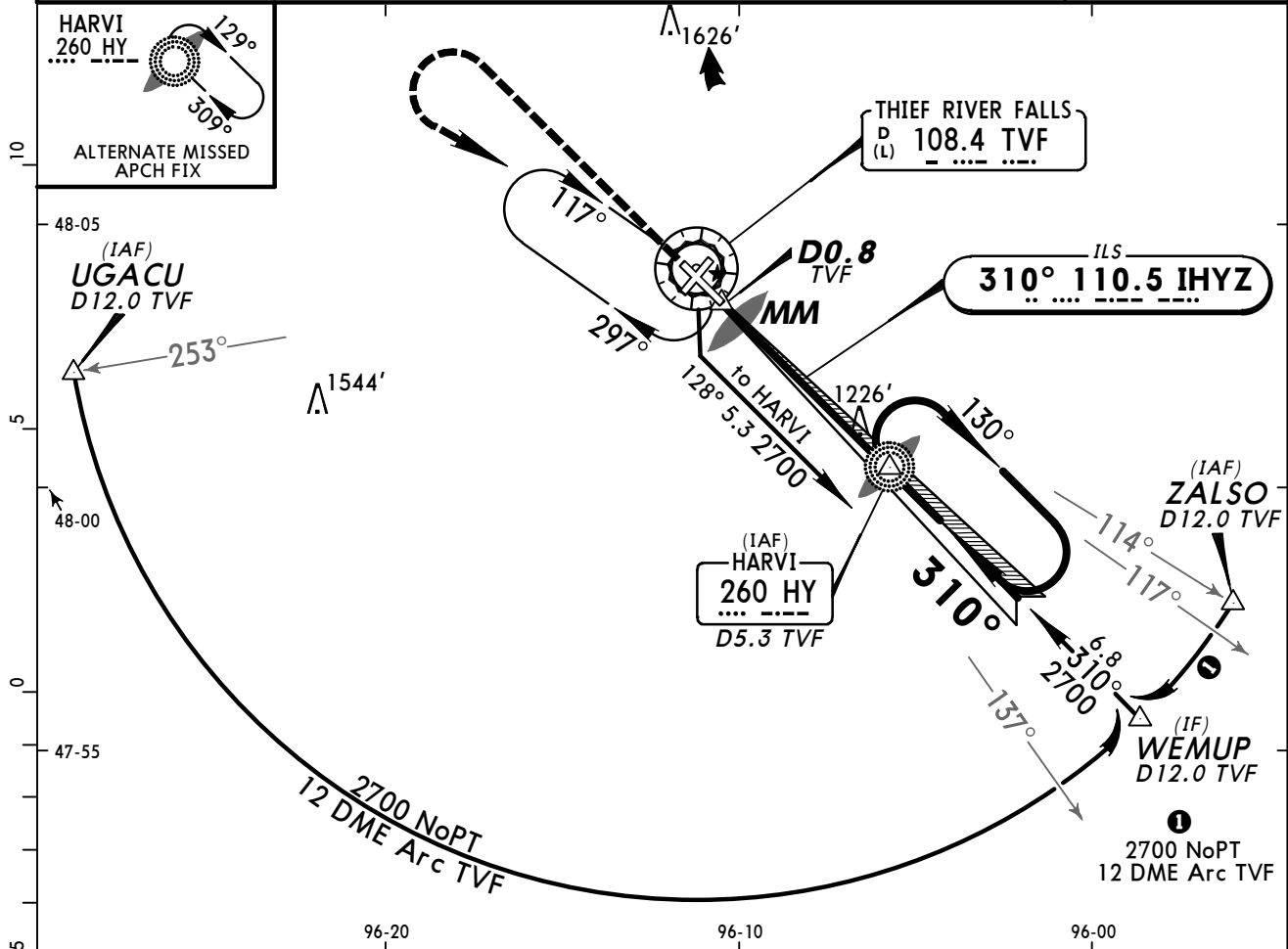
ADDITIONAL RUNWAY INFORMATION

RWY		USABLE LENGTHS				WIDTH
		LANDING BEYOND		TAKE-OFF		
		Threshold	Glide Slope			
3 ① 21	② MIRL ② REIL PAPI-L grooved				75'	
13 31	② HIRL ② REIL PAPI-L grooved				150'	
	② HIRL ② MALSR PAPI-L grooved		5452'			

- ① Rwy 3/21 closed to air carrier operations with more than 9 passenger seats.
② Activate on 122.8.

TAKE-OFF			FOR FILING AS ALTERNATE		
Rwys 3, 13, 21, 31			VOR DME Rwy 13 VOR DME Rwy 31 VOR Rwy 31	Authorized Only When Local Weather Available	Other
	Adequate Vis Ref	STD		RNAV (GPS) Rwy 13 RNAV (GPS) Rwy 31 VOR Rwy 13	
1 & 2 Eng	1/4	1	800-2	800-2	NA
3 & 4 Eng		1/2			

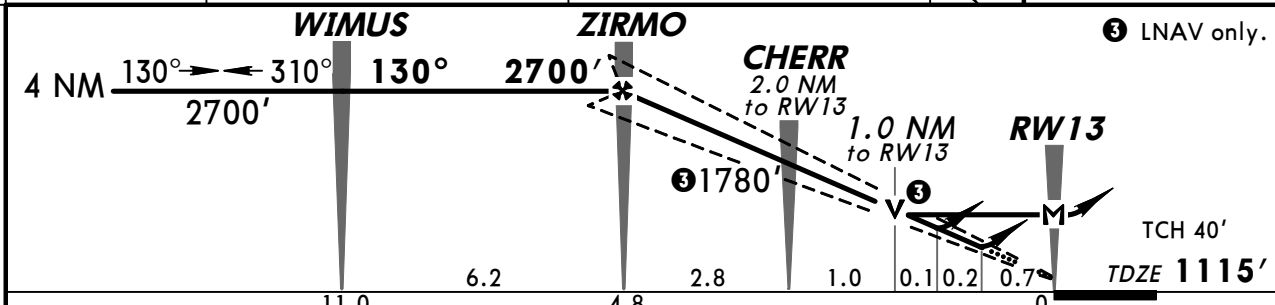
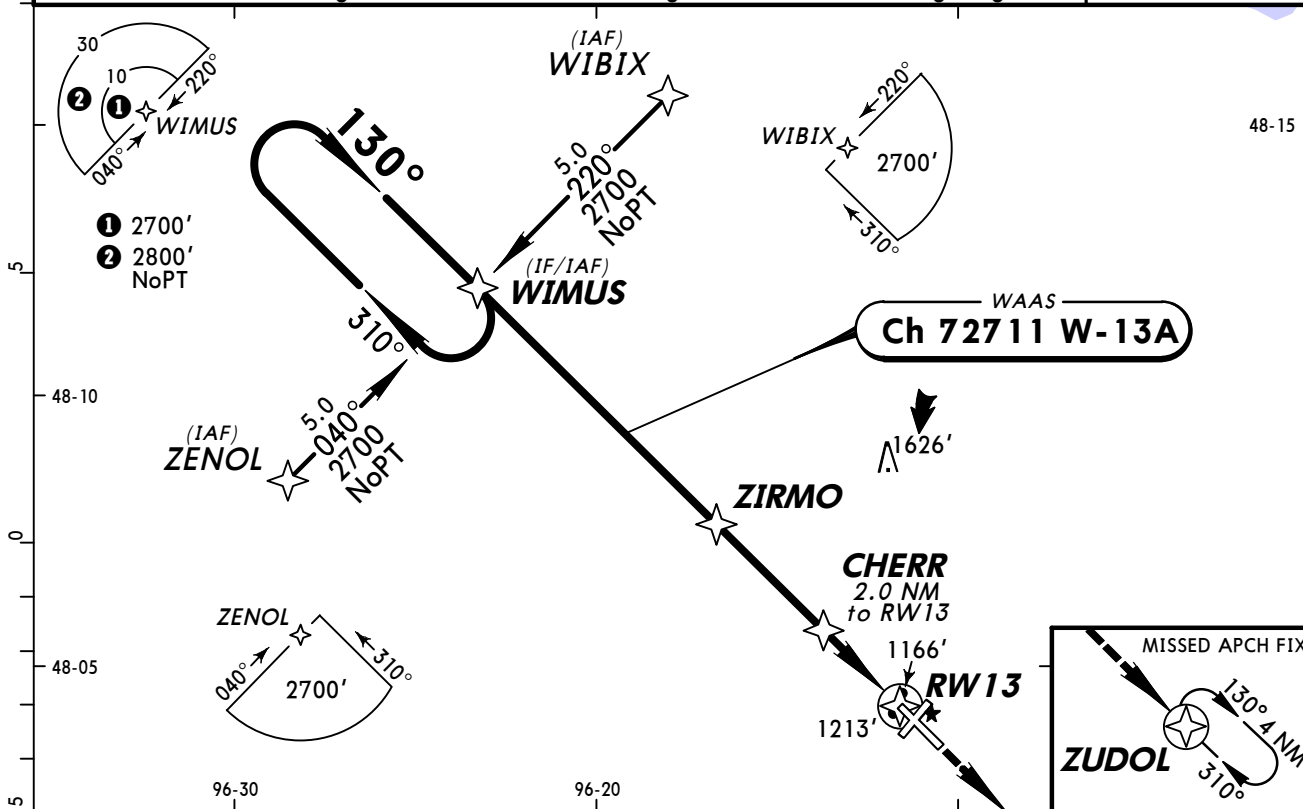
AWOS-3 108.4	MINNEAPOLIS Center (R) 132.15	PRINCETON Radio 123.6G 122.1G 108.4T	THIEF RIVER FALLS REGL UNICOM CTAF 122.8
LOC IHZY 110.5	Final Apch Crs 310°	GS HARVI 2605' (1490')	ILS DA(H) (CONDITIONAL) 1315' (200')
Apt Elev 1119' TDZE 1115'			2700'
MISSED APCH: Climb to 2700' then LEFT turn direct TVF VOR and hold.			
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000'			
1. ADF or DME required. 2. Use local altimeter setting; if not received, use Crookston altimeter setting. 3. Pilot controlled lighting 122.8.			
MSA HY LOM			



Gnd speed-Kts	70	90	100	120	140	160	MALSR	2700'	LT	D	TVF 108.4
GS 3.00°	377	484	538	646	753	861	PAPI				
MAP at D0.8 TVF or HARVI to MAP 4.5	3:51	3:00	2:42	2:15	1:56	1:41					

STRAIGHT-IN LANDING RWY 31										CIRCLE-TO-LAND			
ILS					LOC (GS out)					Not Authorized to Rwy 3/21			
DA(H) 1315'(200') With Local Altimeter Setting			DA(H) 1397'(282') With Crookston Altimeter Setting		MDA(H) 1480'(365') With Local Altimeter Setting			MDA(H) 1580'(465') With Crookston Altimeter Setting		With Local Altimeter Setting		With Crookston Altimeter Setting	
FULL		RAIL or ALS out	FULL	RAIL or ALS out		RAIL out	ALS out		RAIL out	ALS out	Max Kts	MDA(H)	MDA(H)
A	1/2	3/4	1/2	1	1/2	3/4	1	1/2	3/4	1	90	1540'(421')-1	1640'(521')-1
B											120	1580'(461')-1	1680'(561')-1
C											140	1580'(461')-1 1/2	1680'(561')-1 1/2
D											165	1680'(561')-2	1780'(661')-2

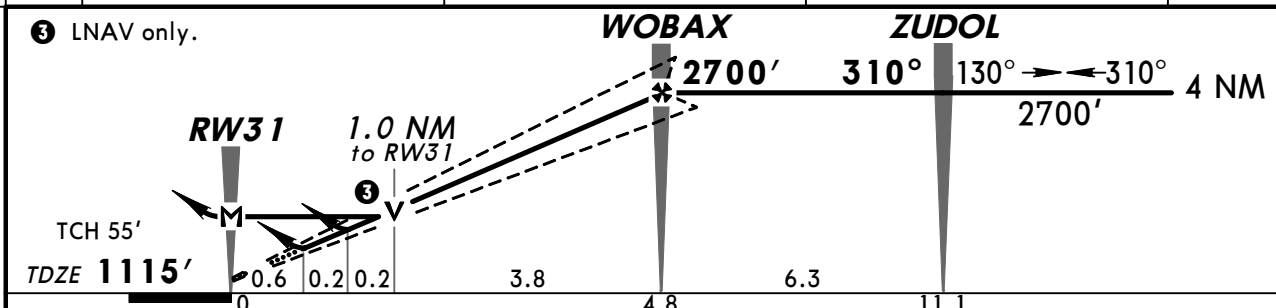
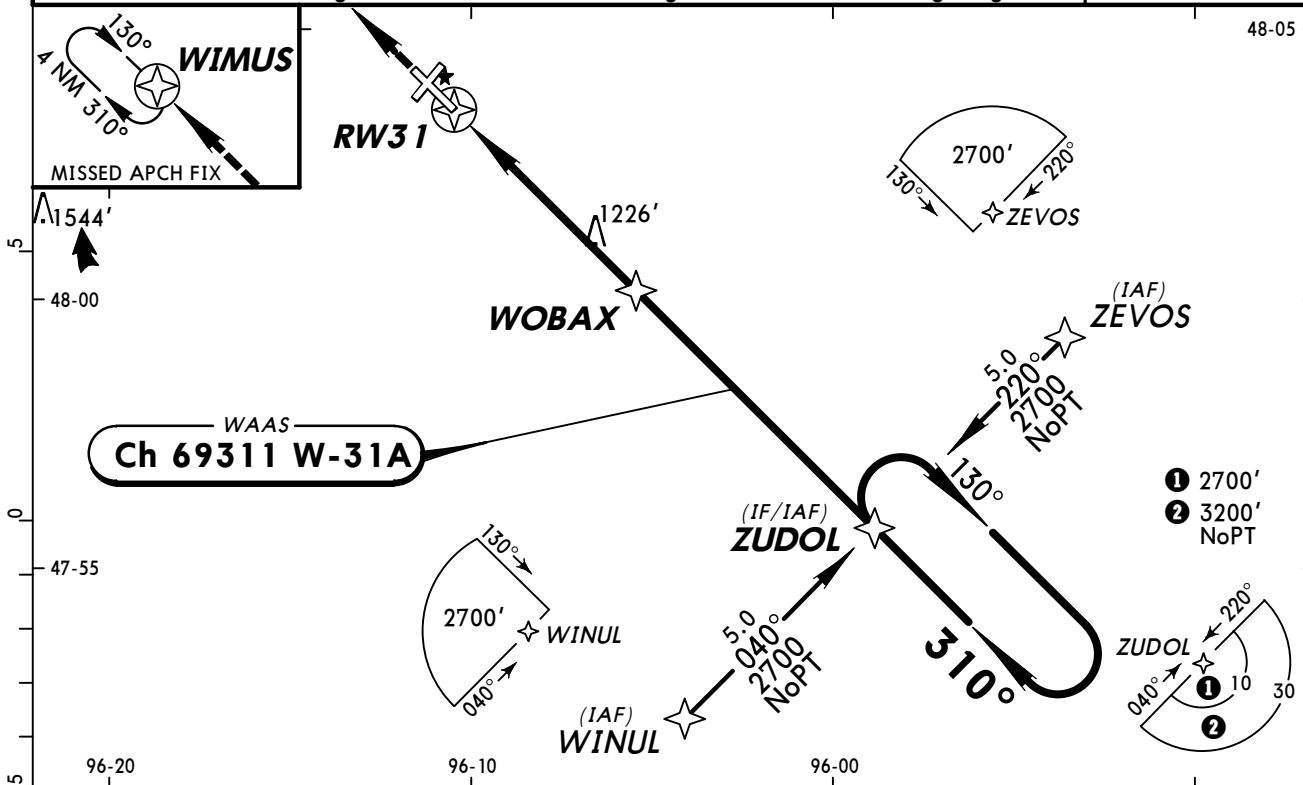
AWOS-3 108.4	MINNEAPOLIS Center (R) 132.15	PRINCETON Radio 123.6G 122.1G 108.4T	THIEF RIVER FALLS REGL UNICOM CTAF 122.8
WAAS Ch 72711 W-13A	Final Apch Crs 130°	Minimum Alt ZIRMO 2700' (1585')	LPV DA(H) (CONDITIONAL) 1365' (250')
MISSED APCH: Climb to 2700' direct ZUDOL and hold.			Apt Elev 1119' TDZE 1115'
Alt Set: INCHES 1. Use local altimeter setting; if not received, use Crookston altimeter setting. 2. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -17°C (2°F) or above 46°C (114°F). 3. DME/DME RNP-0.3 not authorized. 4. VDP and Baro-VNAV not authorized when using Crookston altimeter setting. 5. Pilot controlled lighting 122.8.			TAA 30 NM IAF



Gnd speed-Kts	70	90	100	120	140	160		REIL	2700'		ZUDOL
Glide Path Angle	3.00°	372	478	531	637	743	849	PAPI-L			
MAP at RW13											

STRAIGHT-IN LANDING RWY 13						CIRCLE-TO-LAND	
With Local Altimeter Setting						Not authorized to Rwy 3/21	
LPV		LNAV/VNAV		LNAV		Max Kts	With Local Altimeter Setting
DA(H) 1365' (250')		DA(H) 1436' (321')		MDA(H) 1480' (365')			MDA(H)
A	1	1¼	1	1¼	90	1540' (421')-1	
B					120	1580' (461')-1	
C					140	1580' (461')-1½	
D			165		1680' (561')-2		
With Crookston Altimeter Setting						Not authorized to Rwy 3/21	
LPV		LNAV/VNAV		LNAV		Max Kts	With Crookston Altimeter Setting
DA(H) 1447' (332')		DA(H) 1518' (403')		MDA(H) 1580' (465')			MDA(H)
A	1¼	1½	1	1¼	90	1640' (521')-1	
B					120	1680' (561')-1	
C					140	1680' (561')-1½	
D			165		1780' (661')-2		

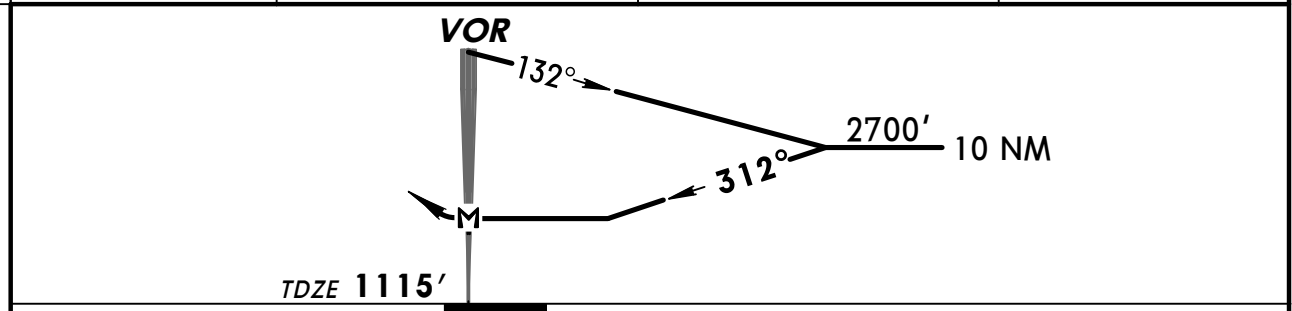
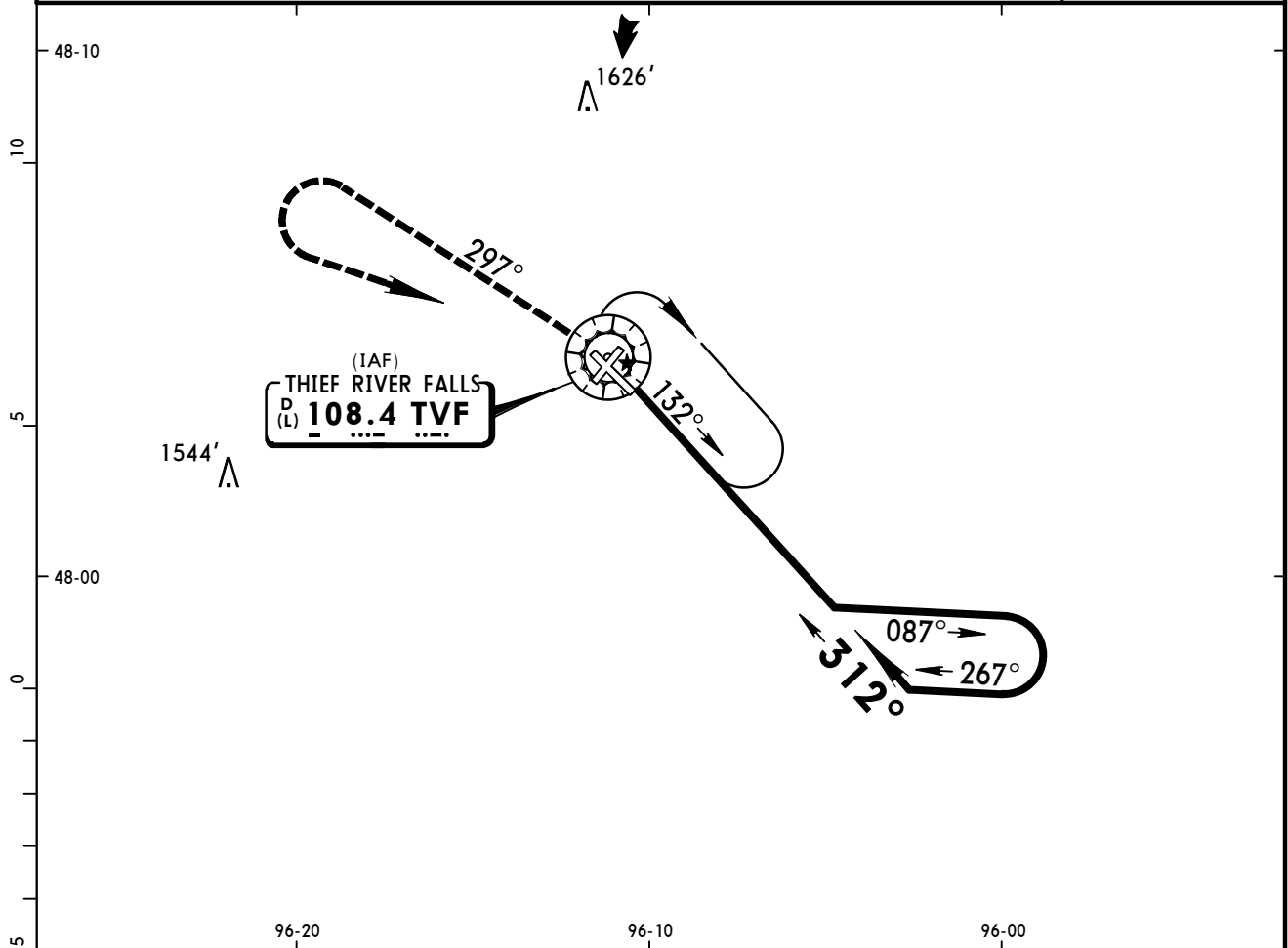
AWOS-3 108.4	MINNEAPOLIS Center (R) 132.15	PRINCETON Radio 123.6G 122.1G 108.4T	THIEF RIVER FALLS REGL UNICOM CTAF 122.8
WAAS Ch 69311 W-31A	Final Apch Crs 310°	Minimum Alt WOBAX 2700' (1585')	LPV DA(H) (CONDITIONAL) 1365' (250')
Apt Elev 1119' TDZE 1115'			
MISSED APCH: Climb to 2700' direct WIMUS and hold.			
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000' 1. Use local altimeter setting; if not received, use Crookston altimeter setting. 2. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -17°C (2°F) or above 46°C (114°F). 3. DME/DME RNP-0.3 not authorized. 4. VDP and Baro-VNAV not authorized when using Crookston altimeter setting. 5. Pilot controlled lighting 122.8.			
TAA 30 NM IAF			



Grnd speed-Kts	70	90	100	120	140	160		MALSR	2700'	→	WIMUS
Glide Path Angle 3.00°	372	478	531	637	743	849		PAPI	↑		
MAP at RW31											

STRAIGHT-IN LANDING RWY 31								CIRCLE-TO-LAND	
With Local Altimeter Setting								Not authorized to Rwy 3/21	
LPV		LNAV/VNAV			LNAV			With Local Altimeter Setting	
DA(H) 1365' (250')		DA(H) 1427' (312')			MDA(H) 1500' (385')			MDA(H)	
RAIL or ALS out		RAIL out ALS out			RAIL out ALS out			Max Kts	
A								90	1540' (421')-1
B	1/2	3/4	1/2	3/4	1	1/2	3/4	1	120 1580' (461')-1
C								140	1580' (461')-1 1/2
D			3/4	1	1	1 1/4		165	1680' (561')-2
With Crookston Altimeter Setting								Not authorized to Rwy 3/21	
LPV		LNAV/VNAV			LNAV			With Crookston Altimeter Setting	
DA(H) 1447' (332')		DA(H) 1509' (394')			MDA(H) 1600' (485')			MDA(H)	
RAIL or ALS out		RAIL out ALS out			RAIL out ALS out			Max Kts	
A								90	1640' (521')-1
B	3/4	1 1/4	3/4	1 1/2	1/2	3/4	1	120	1680' (561')-1
C					3/4	1 1/4		140	1680' (561')-1 1/2
D			1		1	1 1/2		165	1780' (661')-2

AWOS-3		MINNEAPOLIS Center (R)		PRINCETON Radio		THIEF RIVER FALLS REGL UNICOM	
108.4		132.15		123.6G 122.1G 108.4T		CTAF 122.8	
VOR TVF 108.4	Final Apch Crs 312°	No FAF	MDA(H) 1540' (425')	Apt Elev 1119' TDZE 1115'	2700' MSA TVF VOR		
MISSED APCH: Climb to 2700' outbound via TVF VOR R-297 then LEFT turn direct TVF VOR and hold.							
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000' 1. Pilot controlled lighting 122.8.							



MAP at VOR				MALS	2700'	TVF	LT	TVF
				PAPI	↑	via 108.4 R-297		108.4

STRAIGHT-IN LANDING RWY 31				CIRCLE-TO-LAND	
MDA(H) 1540' (425')				Not Authorized to Rwy 3/21	
	RAIL out	ALS out	Max Kts	MDA(H)	
A	1/2	3/4	90	1540' (421')-1	
B	3/4	1	120	1580' (461')-1	
C	3/4	1 1/4	140	1580' (461')-1 1/2	
D	1	1 1/2	165	1680' (561')-2	

BRIEFING STRIP™

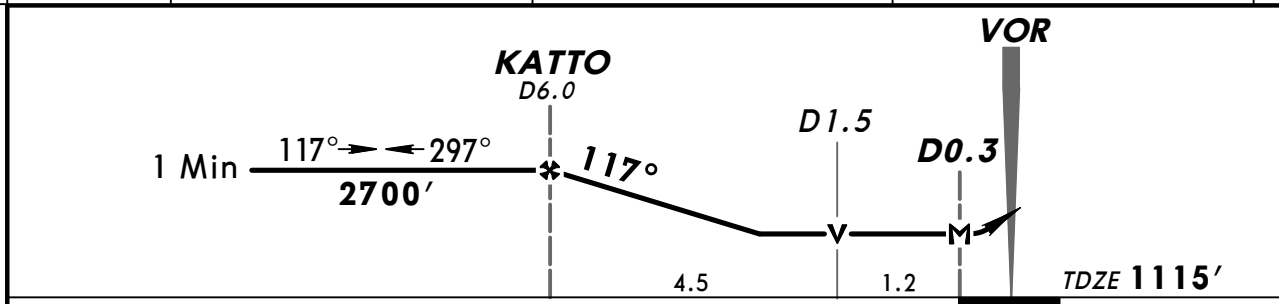
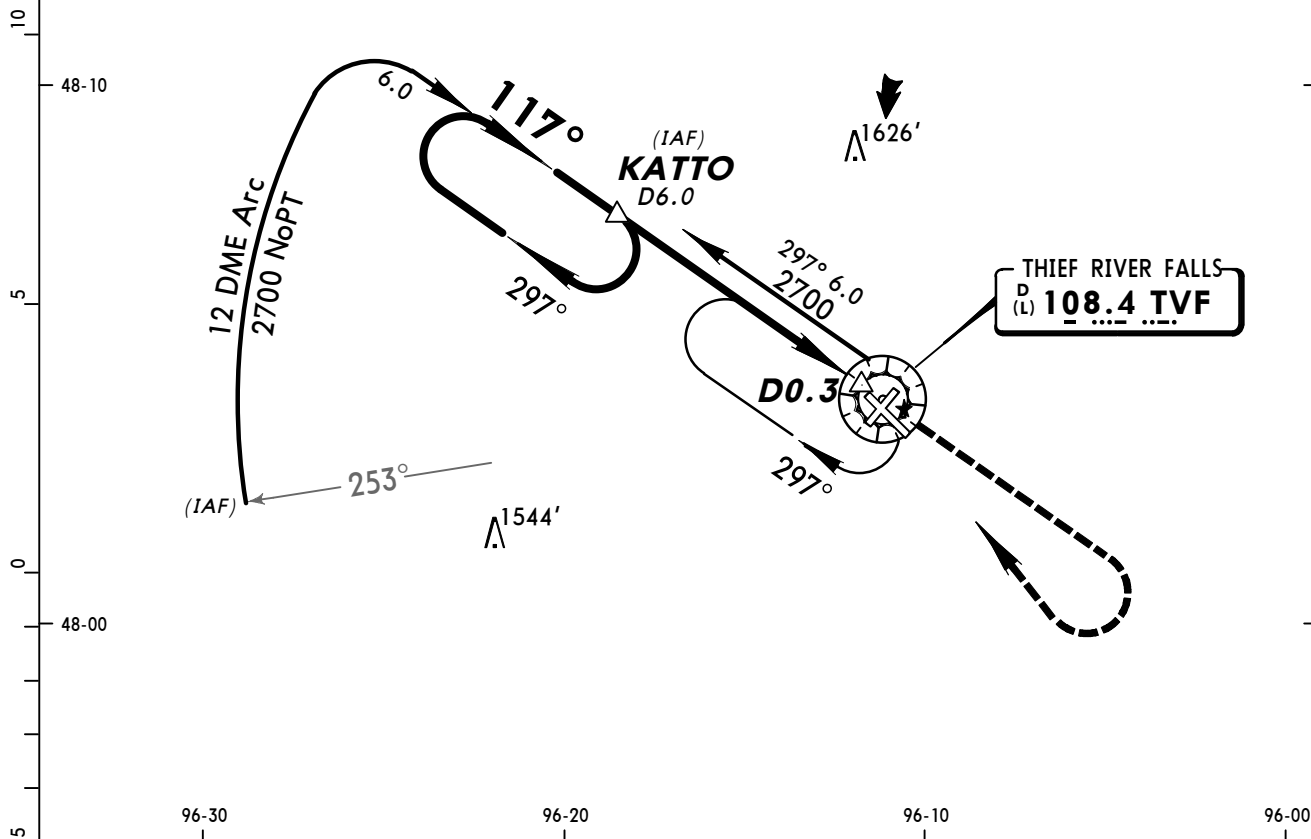


Max Kts	$MDA(H)$
90	1540' (421')-1
120	1580' (461')-1
140	1580' (461')-1½
165	1680' (561')-2

TERPS
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3 C

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BRIEFING STRIP™

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AMENDMENTS

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BRIEFING STRIP™



AMEND 9

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BRIEFING STRIP™



STRAIGHT-IN LANDING RWY 31						CIRCLE-TO-LAND			
MDA(H) 1540' (425')				MDA(H) 1640' (525')		Not Authorized to Rwy 3/21			
With Local Altimeter Setting				With Crookston Altimeter Setting		With Local Altimeter Setting		With Crookston Altimeter Setting	
		RAIL out	ALS out		RAIL out	ALS out	Max Kts.	MDA(H)	MDA(H)
A	3/4	3/4	1	3/4	1		90	1540' (421') - 1	1640' (521') - 1
B							120	1580' (461') - 1	1680' (561') - 1
C		1 1/4	1	1 1/2	140	1580' (461') - 1 1/2	1680' (561') - 1 1/2		
D			1	1 1/2	1 3/4	165	1680' (561') - 2	1780' (661') - 2	

Chart changes since cycle 03-2012

ADD = added chart, REV = revised chart, DEL = deleted chart.

ACT	PROCEDURE IDENT	INDEX	REV DATE	EFF DATE
BEMIDJI, MN (BEMIDJI REGL - KBJI)				
BRAINERD, MN (BRAINERD LAKES REGL - KBRD)				
REV	AIRPORT, AIRPORT INFO, TA...	10-9	17 Feb 2012	
REV	RNAV (GPS) RWY 5	12-1	17 Feb 2012	
REV	RNAV (GPS) RWY 23	12-2	17 Feb 2012	
DEL	RNAV (GPS) RWY 23	12-3	17 Feb 2012	
ADD	RNAV (GPS) RWY 34	12-3	17 Feb 2012	
DEL	RNAV (GPS) RWY 30	12-4	17 Feb 2012	
DEL	RNAV (GPS) RWY 34	12-5	17 Feb 2012	
REV	NDB RWY 23	16-1	17 Feb 2012	
DULUTH, MN (DULUTH INTL - KDLH)				
HIBBING, MN (RANGE REGL - KHIB)				
INTERNATIONAL FALLS, MN (FALLS INTL - KINL)				
MANKATO, MN (MANKATO REGL - KMKT)				
MARSHALL, MN (SOUTHWEST MINNESOTA REGL MARSH - KMML)				
MINNEAPOLIS, MN (MINNEAPOLIS-ST PAUL INTL/WOLD- - KMSP)				
REV	RNAV (GPS) Z RWY 35	12-7	17 Feb 2012	
ROCHESTER, MN (ROCHESTER INTL - KRST)				
ST CLOUD, MN (ST CLOUD REGL - KSTC)				
THIEF RIVER FALLS, MN (THIEF RIVER FALLS REGL - KTVF)				

TERMINAL CHART CHANGE NOTICES

No Chart Change Notices for Airport KBJI

No Chart Change Notices for Airport KBRD

No Chart Change Notices for Airport KDLH

No Chart Change Notices for Airport KHIB

No Chart Change Notices for Airport KINL

No Chart Change Notices for Airport KMKT

No Chart Change Notices for Airport KMML

No Chart Change Notices for Airport KMSP

No Chart Change Notices for Airport KRST

No Chart Change Notices for Airport KSTC

Chart Change Notices for Airport KTVF

Type: Terminal

Effectivity: Permanent

Begin Date: Immediately

End Date: No end date

(11-1) ILS or LOC Rwy 31 MM removed.