

AIRPORT LAYOUT PLAN FOR CLOQUET/CARLTON COUNTY AIRPORT

CLOQUET, MINNESOTA

Sponsored By:

CARLTON COUNTY, MINNESOTA

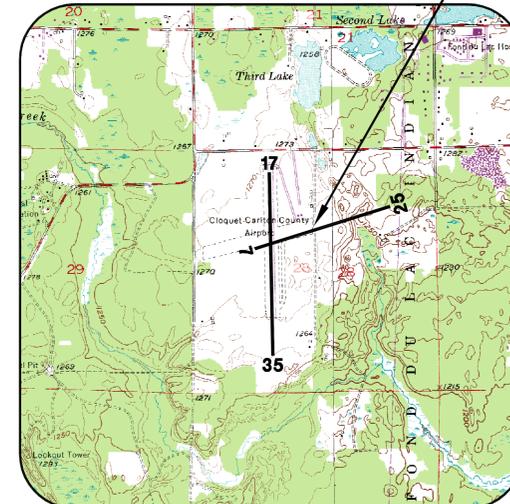
ALP DATE: AUGUST, 2012

CLOQUET/ CARLTON COUNTY AIRPORT (COQ)

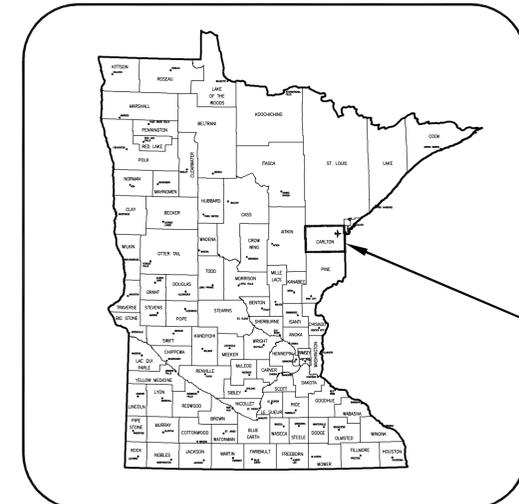


LOCATION MAP ↑
NOT TO SCALE

CLOQUET/ CARLTON COUNTY AIRPORT (COQ)



VICINITY MAP ↑
SCALE: 1"=2,000'



COUNTY LOCATION MAP ↑
NOT TO SCALE

CARLTON COUNTY, MN

ALP Checklist Certification for Airspace Review

On behalf of Reynolds, Smith and Hills, Inc., I certify that the ALP prepared for the Cloquet/Carlton County Airport, was prepared according to the ALP checklist and accurately depicts the proposed use of airspace. The ALP conforms with FAA design standards, except as noted:

Signed: Jeffrey P. Smith Date: 9/14/12
JEFFREY P. SMITH, CM

FAA DISCLAIMER

THE PREPARATION OF THIS DOCUMENT MAY HAVE BEEN SUPPORTED, IN PART, THROUGH THE AIRPORT IMPROVEMENT PROGRAM AS PROVIDED UNDER TITLE 49 U.S.C., SECTION 47104. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA OR THE MINNESOTA DOT. ACCEPTANCE OF THIS REPORT BY THE FAA AND MINNESOTA DOT DOES NOT IN ANYWAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES OR THE STATE OF MINNESOTA TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED THEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE OR WOULD HAVE JUSTIFICATION IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS.

CARLTON COUNTY, MINNESOTA

APPROVED _____ DATE _____
WAYNE L. OLSON, P.E. - COUNTY ENGINEER

PLANS PREPARED BY:

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APPROVED Jeffrey P. Smith 9/14/12
JEFFREY P. SMITH, CM DATE

AIRPORT LAYOUT PLAN DRAWING SHEET INDEX

SHEET NUMBER	SHEET TITLE	REVISION DATE & INITIALS
1	TITLE SHEET	
2	AIRPORT DATA SHEET	
3	EXISTING AIRPORT LAYOUT PLAN	
4	FUTURE AIRPORT LAYOUT PLAN	
5	TERMINAL AREA PLAN	
6	RUNWAY 7 APPROACH DRAWING	
7	RUNWAY 25 APPROACH DRAWING	
8	RUNWAY 17 (18) APPROACH DRAWING	
9	RUNWAY 35 (36) APPROACH DRAWING	
10	PART 77 AND MNDOT AIRSPACE SURFACE	
11	AIRPORT LAND USE PLAN	
12	MN/DOT ZONING DRAWING	
13	AIRPORT PROPERTY MAP	

**CLOQUET/
CARLTON COUNTY
AIRPORT**

**AIRPORT
LAYOUT PLAN**

CONSULTANTS

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED: **AUGUST, 2012**
REVIEWED BY: **DKC**
DRAWN BY: **TWZ**
DESIGNED BY: **JPS**

AEP PROJECT NUMBER
213-4581-005

SHEET TITLE

AIRPORT DATA SHEET

SHEET NUMBER
2 OF 13

**FINAL
DOCUMENTS**

RUNWAY DATA	RUNWAY DATA TABLE							
	EXISTING (E)		FUTURE (F)		EXISTING (E)		FUTURE (F)	
	RUNWAY 17-35		RUNWAY 18-36		RUNWAY 7-25		RUNWAY 7-25	
	RWY 17	RWY 35	RWY 18	RWY 36	RWY 7	RWY 25	RWY 7	RWY 25
RUNWAY LENGTH x WIDTH	4,003' x 75' 2		4,803' x 75'		3,100' x 75'		3,100' x 75'	
BLAST PAD / OVERRUN	NONE		NONE		NONE		NONE	
DISPLACED THRESHOLD DISTANCE	NONE		NONE		NONE		NONE	
PAVEMENT SURFACE COURSE	ASPHALT		ASPHALT		ASPHALT		ASPHALT	
PAVEMENT STRENGTH (GEAR TYPE)	8,000 LBS. (SWG) / 12,500 LBS. (DWG)		12,500 LBS. (SWG) / 30,000 LBS. (DWG)		12,500 LBS. (SWG)		12,500 LBS. (SWG)	
AIRPORT REFERENCE CODE (ARC) 1	ARC B-II (OTHER THAN UTILITY)		ARC B-II (OTHER THAN UTILITY)		ARC B-II (UTILITY)		ARC B-II (UTILITY)	
REPRESENTATIVE CRITICAL AIRCRAFT	TWIN TURBOPROP (BEECH KING AIR C90)		TWIN TURBOPROP (BEECH KING AIR 350)		SINGLE PISTON (BEECH BONANZA)		SINGLE PISTON (BEECH BONANZA)	
CRITICAL AIRCRAFT STAGE LENGTH	500 MILES		500 MILES		500 MILES OR LESS		500 MILES OR LESS	
RUNWAY END LATITUDE (NAD83)	46° 42' 20.353" (C) 2		46° 41' 40.856" (C) 2		46° 42' 03.845" (C)		46° 42' 12.835" (C)	
RUNWAY END LONGITUDE (NAD83)	92° 30' 20.308" (C) 2		92° 30' 19.429" (EST.)		92° 30' 24.964" (C)		92° 29' 42.459" (C)	
RUNWAY BEARING (TRUE)	N179° 12' 21.6"E (179.203°)		N179° 12' 21.6"E (179.203°)		N72° 55' 34.25"E (72.926°)		N72° 55' 34.25"E (72.926°)	
RUNWAY END ELEVATION (MSL)	1,278.6' (C) 2		1,272.0' (EST.)		1,277.1' (C)		1,277.1' (C)	
DISPLACED THRESHOLD ELEVATION (MSL)	N/A		N/A		N/A		N/A	
RUNWAY TDZ ELEVATION (MSL)	1,279.0' 2		1,278.5' 2		1,277.0' (EST.)		1,277.0' (EST.)	
RUNWAY HIGH-POINT ELEVATION (MSL)	1,279.0' (NEAR RWY 17 END)		1,279' EST. (NEAR RWY 18 END)		1,277.1' (RWY 7 END)		1,277.1' (RWY 7 END)	
RUNWAY LOW-POINT ELEVATION (MSL)	1,272.6' (RWY 35 END)		1,272' EST. (RWY 36 END)		1,267.1' (RWY 25 END)		1,267.1' (RWY 25 END)	
EFFECTIVE GRADIENT (%)	-0.1%		+0.1%		-0.3%		+0.3%	
RUNWAY INSTRUMENT APPROACH AIDS	GPS (RNAV-LPV) NDB		GPS (RNAV-LPV) NDB		NONE		GPS (RNAV)	
INSTRUMENT APPROACH MINIMUMS	1-MILE / ±280' AGL. (NPI)		1-MILE / ±250' AGL. (NPI)		NONE		1-MILE / ±500' AGL.	
PART 77 APPROACH TYPE/CATEGORY	NON-PRECISION TYPE C (APV)		NON-PRECISION TYPE C (APV)		VISUAL		NON-PRECISION TYPE A (NPI)	
PART 77 APPROACH SURFACE / SLOPE	500' x 3,500' x 10,000' @ 34:1		500' x 3,500' x 10,000' @ 34:1		250' x 1,250' x 5,000' @ 20:1		500' x 2,000' x 5,000' @ 20:1	
MINDOT CLEAR ZONE (DIMENSION/SLOPE)	500' x 1,010' x 1,700' @ 34:1		500' x 1,010' x 1,700' @ 34:1		500' x 700' x 1,000' @ 20:1		500' x 800' x 1,000' @ 20:1	
VISUAL APPROACH AIDS	PAPI-4L REIL		PAPI-4L ODALS		NONE		REIL PAPI-2L	
RUNWAY LIGHTING	MEDIUM INTENSITY (MIRL)		MEDIUM INTENSITY (MIRL)		MEDIUM INTENSITY (MIRL)		MEDIUM INTENSITY (MIRL)	
RUNWAY MARKING	NON-PRECISION (NPI)		NON-PRECISION (NPI)		NON-PRECISION (NPI)		NON-PRECISION (NPI)	
RUNWAY OBJECT FREE AREA (ROFA)	500' WIDE x 300' BEYOND		500' WIDE x 300' BEYOND		500' WIDE x 300' BEYOND		500' WIDE x 300' BEYOND	
RUNWAY SAFETY AREA (RSA)	150' WIDE x 300' BEYOND		150' WIDE x 300' BEYOND		150' WIDE x 300' BEYOND		150' WIDE x 300' BEYOND	
RUNWAY OBSTACLE FREE ZONE (OFZ)	400' WIDE x 200' BEYOND		400' WIDE x 200' BEYOND		250' WIDE x 200' BEYOND		250' WIDE x 200' BEYOND	
PRECISION OBSTACLE FREE ZONE (POFZ)	N/A		N/A		N/A		N/A	
RUNWAY PROTECTION ZONE (RPZ)	500' x 700' x 1,000'		500' x 700' x 1,000'		500' x 700' x 1,000'		500' x 700' x 1,000'	
RUNWAY-TO-TAXIWAY CENTERLINE	240' (PARTIAL PARALLEL)		240' (FULL PARALLEL)		NONE		240' (PARTIAL PARALLEL ENTRY)	
RSA OBJECT PENETRATIONS(S)	NONE		NONE		NONE		NONE	
OFZ OBJECT PENETRATIONS(S)	NONE		NONE		NONE		NONE	
TSS OBJECT PENETRATIONS(S)	NONE		NONE		NONE		NONE	
RUNWAY VISIBILITY ZONE VIOLATION	APRON / FUEL STAND		NONE		NONE		NONE	

TABLE NOTE 1: UTILITY - AIRCRAFT HAVING A MAXIMUM CERTIFIED TAKEOFF WEIGHT LESS THAN OR EQUAL TO 12,500 POUNDS | OTHER-THAN-UTILITY - AIRCRAFT HAVING A MAXIMUM CERTIFIED TAKEOFF WEIGHT GREATER THAN 12,500 POUNDS.
TABLE NOTE 2: RUNWAY LENGTH, ELEVATIONS AND COORDINATES PER MARTINEZ GEOSPATIAL SURVEY DATED MAY2006. FAA DATA REVISED BETWEEN 2010 AND 2012 TO ACCOUNT FOR NAD VERTICAL CONVERSION AND COORDINATE ROUNDING.

SURVEY CONTROL POINT DATA				
IDENTIFIER DESCRIPTION	STATION (PID)	LATITUDE	LONGITUDE	ELEVATION (MSL)
COQA (PAC)	DN9484	46 42 14.26	92 30 15.59	1,275.6
COQB (SAC)	DN9485	46 41 53.09	92 30 11.76	1,278.0
COQC (SAC)	DN9486	46 42 04.74	92 30 01.19	1,272.4
CLOPORT AZ MK	RN1752	46 41 40.84	92 30 21.30	1,269.0
CLOPORT	RN1751	46 42 20.35	92 30 22.27	1,276.0
C2	KNIFE MNDT	46° 41' 24.48"	92° 27' 25.15"	1,094.1

TABLE SOURCE: PAC/SACS SURVEY FROM NGS WEBSITE, OBTAINED AUGUST, 2012 (NAD 83 / NAVD 88).
TABLE SOURCE: C2 SURVEY STATION FROM HAROLD NESS TECHNICAL SERVICES SURVEY, OBTAINED MAY, 2005.
NOTE: DATUMS IN NORTH AMERICAN DATUM (NAD) 83 | NORTH AMERICAN VERTICAL DATUM (NAVD) 88
NOTE: PRIMARY (PACS) AND SECONDARY (SACS) CONTROLS ESTABLISHED 7-2012.
NOTE: SURVEY STATION KNIFE MNDT IS LOCATED APPROXIMATELY 2,000 FEET SOUTHEAST OF THE AIRPORT.

AIRPORT DATA TABLE		
AIRPORT DATA	EXISTING	FUTURE (1-20 YEARS)
ASSOCIATED CITY	CLOQUET, MN	
COUNTY	CARLTON	
TOWNSHIP / TOWN / RANGE	CLOQUET / 49 NORTH / 17 WEST	
AIRPORT FIELD ELEVATION (MSL)	1,279.0' (1,279.1' ACTUAL) 1	1,279.0' (1,279.1' ACTUAL) 1
AIRPORT REFERENCE POINT (NAD83)	46° 42' 03.98" 92° 30' 12.83"	46° 42' 03.64" 92° 30' 13.55"
FAA NPIAS SERVICE LEVEL	GENERAL AVIATION	GENERAL AVIATION
MINNESOTA SYSTEM PLAN CATEGORY	INTERMEDIATE	INTERMEDIATE
CRITICAL DESIGN AIRCRAFT (TYPE)	MULTI-ENGINE TURBINE (BEECH KING AIR C90)	MULTI-ENGINE TURBINE (BEECH KING AIR 350)
AIRPORT REFERENCE CODE (ARC)	ARC B-II	ARC B-II
ARC - AIRCRAFT APPROACH CATEGORY (AAC)	B (91 TO <121 KNOTS)	B (91 TO <121 KNOTS)
ARC - AIRPLANE DESIGN GROUP - WINGSPAN (ADG)	GROUP II (49' TO <79')	GROUP II (49' TO <79')
ARC - AIRPLANE DESIGN GROUP - TAIL HEIGHT (ADG)	GROUP II (20' TO <30')	GROUP II (20' TO <30')
AIRPORT AIDS	LIGHTED WINDCONE	LIGHTED WINDCONE
AIRPORT TERMINAL NAVAIDS	NDB GPS VOR/DME BEACON	NDB GPS VOR/DME BEACON
MAGNETIC VARIATION	0° 8' WEST (EPOCH YEAR 2010)	0° 8' WEST (EPOCH YEAR 2010)
MEAN MAXIMUM TEMPERATURE (HOTTEST MONTH)	81°F (JULY)	81°F (JULY)
TAXIWAY LIGHTING	EDGE REFLECTORS SIGNS CENTERLINE MARKING	LITL SIGNS CENTERLINE MARKING
MISCELLANEOUS FACILITIES	AWOS-3 LIGHTED WINDCONE	AWOS-3 LIGHTED WINDCONE

TABLE NOTE 1: RUNWAY LENGTH, ELEVATIONS AND COORDINATES REVISED BY FAA TO ACCOUNT FOR NAD VERTICAL CONVERSION AND COORDINATE ROUNDING.

ABBREVIATIONS:

(E) - EXISTING | (F) - FUTURE
(S) - SURVEYED | (C) - CALCULATED
SWG - SINGLE WHEEL GEAR | DWG - DUAL WHEEL GEAR

AGL - ABOVE GROUND LEVEL
ALS/MALS/R - APPROACH LIGHTING SYSTEM
APV - APPROACH WITH VERTICAL GUIDANCE INSTRUMENT
ARC - AIRPORT REFERENCE CODE
APP - AIRPORT REFERENCE POINT
ASOS/AWOS - AUTOMATED WEATHER OBSERVING SYSTEM
GPS - GLOBAL POSITIONING SYSTEM
IFR - INSTRUMENT FLIGHT RULES
ILS - INSTRUMENT LANDING SYSTEM
LITL - LOW INTENSITY TAXIWAY LIGHTS

MALS/R - MEDIUM INTENSITY APPROACH LIGHTING SYSTEM
MIRL - MEDIUM INTENSITY RUNWAY INDICATOR LIGHTS
MITL - MEDIUM INTENSITY TAXIWAY LIGHTS
MSL - MEAN SEA LEVEL
NDB - NON-DIRECTIONAL BEACON
NPI - NON-PRECISION INSTRUMENT
ODALS - OMNI DIRECTION APPROACH LIGHT SYSTEM
OFZ - OBJECT FREE ZONE
PAPI - PRECISION APPROACH PATH INDICATOR LIGHTS
REIL - RUNWAY END IDENTIFIER LIGHTS
RNAV - AREA NAVIGATION
TSS - THRESHOLD SITING SURFACE
VASI - VISUAL APPROACH SLOPE INDICATOR LIGHTS
VOR/VORTAC - VERY HIGH FREQUENCY OMNI DIRECTIONAL RANGE RADIO BEACON

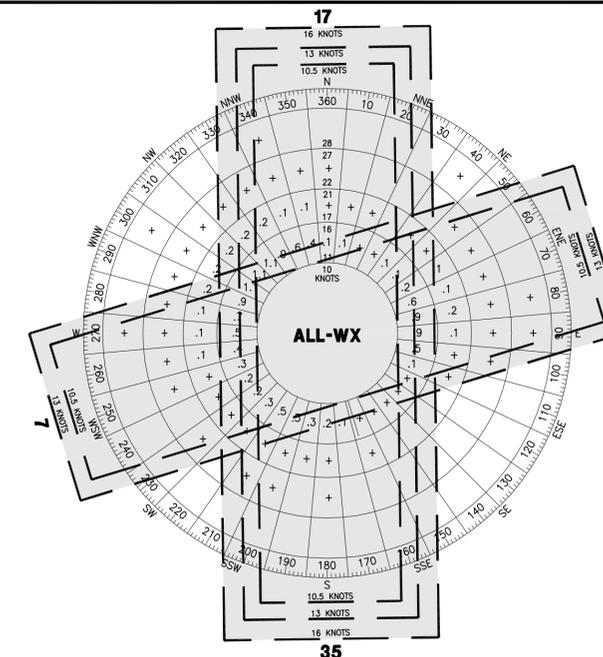
MODIFICATIONS OF DESIGN STANDARDS			
NO.	DESCRIPTION OF FAA STANDARD MODIFIED	FAA AIRSPACE CASE NUMBER	DATE APPROVED
--	NO MODIFICATIONS TO STANDARDS	--	--

DECLARED DISTANCES					
RUNWAY END	TORA	TODA	ASDA	LDA	STOPWAY / CLEARWAY
RUNWAY 17 (E)	4,003'	4,003'	4,003'	4,003'	0' / 0'
RUNWAY 35 (E)	4,003'	4,003'	4,003'	4,003'	0' / 0'
RUNWAY 18 (F)	4,803'	4,803'	4,803'	4,803'	0' / 0'
RUNWAY 36 (F)	4,803'	4,803'	4,803'	4,803'	0' / 0'
RUNWAY 7 (E/F)	3,100'	3,100'	3,100'	3,100'	0' / 0'
RUNWAY 25 (E/F)	3,100'	3,100'	3,100'	3,100'	0' / 0'

TORA - TAKEOFF RUN AVAILABLE | TODA - TAKEOFF DISTANCE AVAILABLE
ASDA - ACCELERATE STOP DISTANCE AVAILABLE | LDA - LANDING DISTANCE AVAILABLE
(E) - EXISTING | (F) - FUTURE

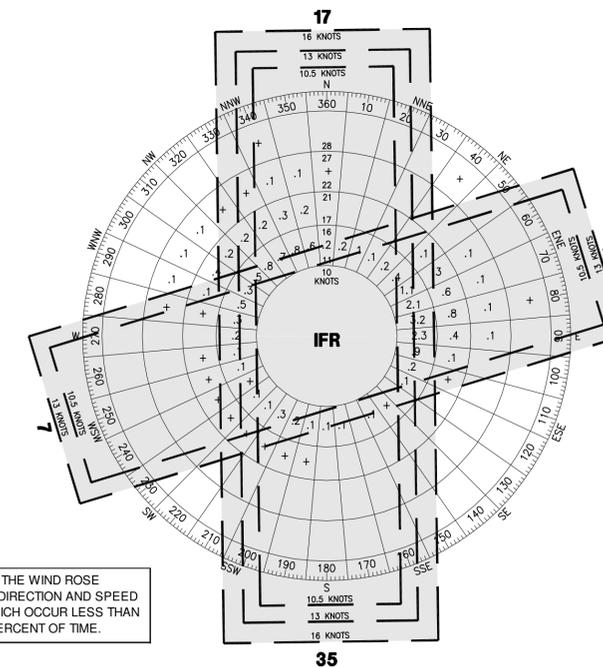
NAVAID / COMMUNICATION EQUIPMENT DATA TABLE			
EQUIPMENT	LATITUDE	LONGITUDE	ELEVATION
NDB STATION (L)	46° 41' 49.80"	92° 30' 11.68"	1,297'
AWOS-3 STATION	46° 41' 55.11"	92° 30' 12.47"	1,310'

SOURCE: NATIONAL GEOSPATIAL INTELLIGENCE AGENCY, MAY, 2010
SOURCE: DIGITAL GLOBE 2010/GOOGLE EARTH, MAY, 2010



WIND DATA TABLE - ALL WEATHER (ALL-WX)			
RUNWAY	10.5 KNOTS	13 KNOTS	16 KNOTS
17/35 (18/36)	90.65%	94.64%	98.47%
7/25	93.48%	96.64%	99.12%
COMBINED	98.07%	99.55%	99.90%

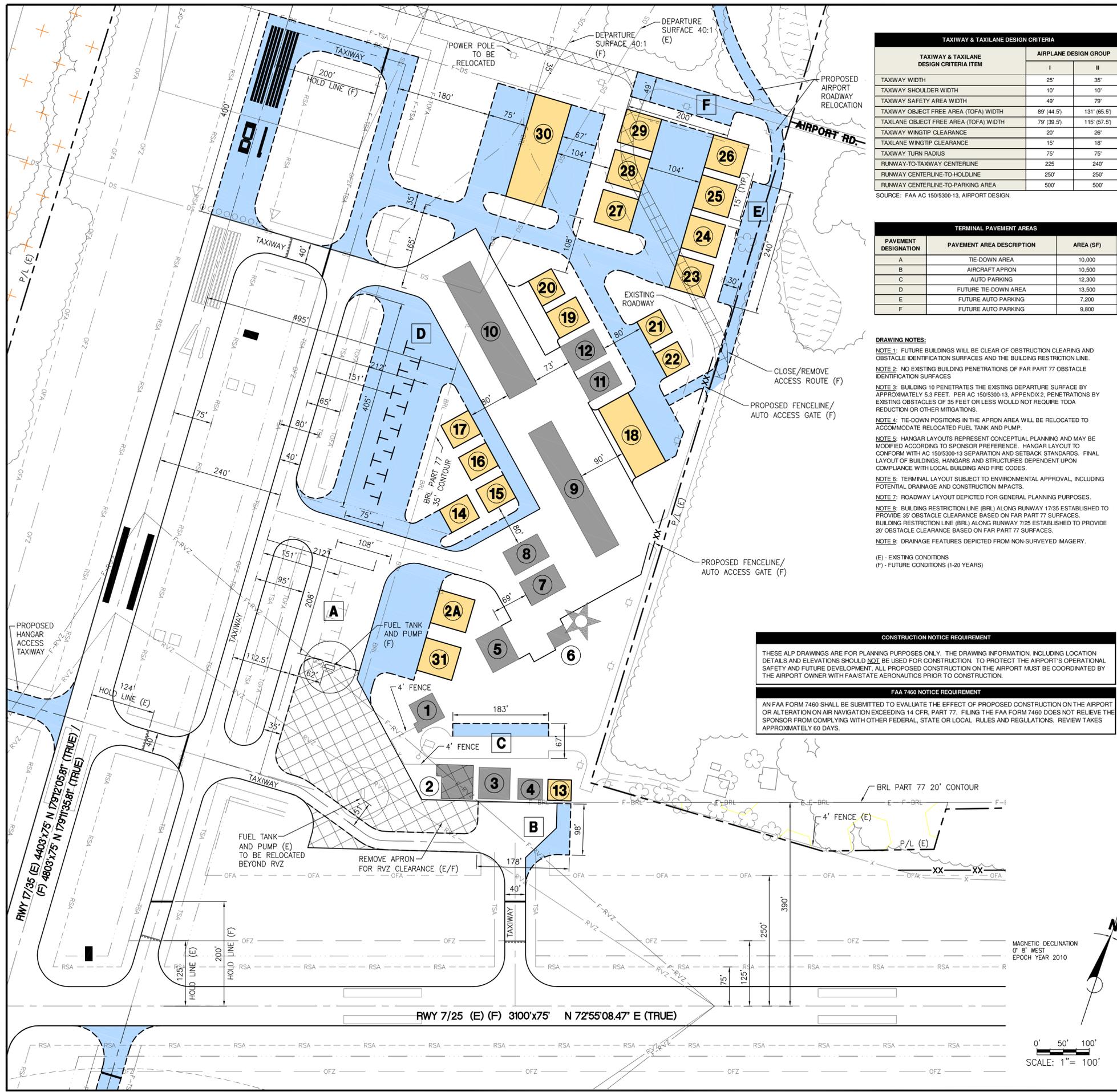
DATA SOURCE: NATIONAL CLIMATIC DATA CENTER (NCDC)
WEATHER STATION: CLOQUET AIRPORT (AWOS-3)
PERIOD OF RECORD: 1995-2004 (84,271 OBSERVATIONS)



PLUS SIGNS (+) ON THE WIND ROSE REPRESENT WIND DIRECTION AND SPEED COMBINATIONS WHICH OCCUR LESS THAN ONE-TENTH OF 1 PERCENT OF TIME.

WIND DATA TABLE - INSTRUMENT (IFR)			
RUNWAY	10.5 KNOTS	13 KNOTS	16 KNOTS
17/35 (18/36)	84.90%	90.25%	96.62%
7/25	93.77%	96.17%	98.67%
COMBINED	98.50%	99.29%	99.82%

DATA SOURCE: NATIONAL CLIMATIC DATA CENTER (NCDC)
WEATHER STATION: CLOQUET AIRPORT (AWOS-3)
PERIOD OF RECORD: 1995-2004 (4,838 OBSERVATIONS)



TAXIWAY & TAXILANE DESIGN CRITERIA		
TAXIWAY & TAXILANE DESIGN CRITERIA ITEM	AIRPLANE DESIGN GROUP	
	I	II
TAXIWAY WIDTH	25'	35'
TAXIWAY SHOULDER WIDTH	10'	10'
TAXIWAY SAFETY AREA WIDTH	49'	79'
TAXIWAY OBJECT FREE AREA (TOFA) WIDTH	89' (44.5')	131' (65.5')
TAXILANE OBJECT FREE AREA (TOFA) WIDTH	79' (39.5')	115' (57.5')
TAXIWAY WING TIP CLEARANCE	20'	26'
TAXILANE WING TIP CLEARANCE	15'	18'
TAXIWAY TURN RADIUS	75'	75'
RUNWAY-TO-TAXIWAY CENTERLINE	225'	240'
RUNWAY CENTERLINE-TO-HOLDLINE	250'	250'
RUNWAY CENTERLINE-TO-PARKING AREA	500'	500'

SOURCE: FAA AC 150/5300-13, AIRPORT DESIGN.

TERMINAL PAVEMENT AREAS		
PAVEMENT DESIGNATION	PAVEMENT AREA DESCRIPTION	AREA (SF)
A	TIE-DOWN AREA	10,000
B	AIRCRAFT APRON	10,500
C	AUTO PARKING	12,300
D	FUTURE TIE-DOWN AREA	13,500
E	FUTURE AUTO PARKING	7,200
F	FUTURE AUTO PARKING	9,800

DRAWING NOTES:

NOTE 1: FUTURE BUILDINGS WILL BE CLEAR OF OBSTRUCTION CLEARING AND OBSTACLE IDENTIFICATION SURFACES AND THE BUILDING RESTRICTION LINE.

NOTE 2: NO EXISTING BUILDING PENETRATIONS OF FAR PART 77 OBSTACLE IDENTIFICATION SURFACES.

NOTE 3: BUILDING 10 PENETRATES THE EXISTING DEPARTURE SURFACE BY APPROXIMATELY 5.3 FEET. PER AC 150/5300-13, APPENDIX 2, PENETRATIONS BY EXISTING OBSTACLES OF 35 FEET OR LESS WOULD NOT REQUIRE TODA REDUCTION OR OTHER MITIGATIONS.

NOTE 4: TIE-DOWN POSITIONS IN THE APRON AREA WILL BE RELOCATED TO ACCOMMODATE RELOCATED FUEL TANK AND PUMP.

NOTE 5: HANGAR LAYOUTS REPRESENT CONCEPTUAL PLANNING AND MAY BE MODIFIED ACCORDING TO SPONSOR PREFERENCE. HANGAR LAYOUT TO CONFORM WITH AC 150/5300-13 SEPARATION AND SETBACK STANDARDS. FINAL LAYOUT OF BUILDINGS, HANGARS AND STRUCTURES DEPENDENT UPON COMPLIANCE WITH LOCAL BUILDING AND FIRE CODES.

NOTE 6: TERMINAL LAYOUT SUBJECT TO ENVIRONMENTAL APPROVAL, INCLUDING POTENTIAL DRAINAGE AND CONSTRUCTION IMPACTS.

NOTE 7: ROADWAY LAYOUT DEPICTED FOR GENERAL PLANNING PURPOSES.

NOTE 8: BUILDING RESTRICTION LINE (BRL) ALONG RUNWAY 17/35 ESTABLISHED TO PROVIDE 35' OBSTACLE CLEARANCE BASED ON FAR PART 77 SURFACES. BUILDING RESTRICTION LINE (BRL) ALONG RUNWAY 7/25 ESTABLISHED TO PROVIDE 20' OBSTACLE CLEARANCE BASED ON FAR PART 77 SURFACES.

NOTE 9: DRAINAGE FEATURES DEPICTED FROM NON-SURVEYED IMAGERY.

(E) - EXISTING CONDITIONS
(F) - FUTURE CONDITIONS (1-20 YEARS)

CONSTRUCTION NOTICE REQUIREMENT

THESE ALP DRAWINGS ARE FOR PLANNING PURPOSES ONLY. THE DRAWING INFORMATION, INCLUDING LOCATION DETAILS AND ELEVATIONS SHOULD NOT BE USED FOR CONSTRUCTION. TO PROTECT THE AIRPORT'S OPERATIONAL SAFETY AND FUTURE DEVELOPMENT, ALL PROPOSED CONSTRUCTION ON THE AIRPORT MUST BE COORDINATED BY THE AIRPORT OWNER WITH FAA/STATE AERONAUTICS PRIOR TO CONSTRUCTION.

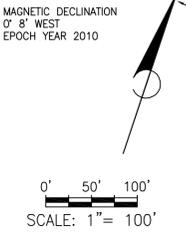
FAA 7460 NOTICE REQUIREMENT

AN FAA FORM 7460 SHALL BE SUBMITTED TO EVALUATE THE EFFECT OF PROPOSED CONSTRUCTION ON THE AIRPORT OR ALTERATION ON AIR NAVIGATION EXCEEDING 14 CFR, PART 77. FILING THE FAA FORM 7460 DOES NOT RELIEVE THE SPONSOR FROM COMPLYING WITH OTHER FEDERAL, STATE OR LOCAL RULES AND REGULATIONS. REVIEW TAKES APPROXIMATELY 60 DAYS.

BUILDING DATA TABLE				
BUILDING NUMBER	DESCRIPTION	TOP ELEV. (MSL)	FUTURE PART 77 PENETRATION (+)	BUILDING DISPOSITION
1	ARRIVALS/DEPARTURES BUILDING	1303.6	NONE	TO REMAIN
2	HANGAR	1300.4	5.7'	TO BE REMOVED /RELOCATED BEYOND RVZ
3	HANGAR	1301.8	7.1'	AIRSPACE DETERMINATION REQUIRED
4	HANGAR	1297.5	2.8'	AIRSPACE DETERMINATION REQUIRED
5	SNOW REMOVAL EQUIPMENT BUILDING (SRE)	1303.6	NONE	REMAIN
6	AIRPORT MAINTENANCE BUILDING	1294.2	NONE	REMAIN
7	HANGAR	1300.8	NONE	REMAIN
8	HANGAR	1301.0	NONE	REMAIN
9	T-HANGAR	1293.3	NONE	REMAIN
10	T-HANGAR	1293.9	NONE	REMAIN
11	HANGAR	1292.8	NONE	REMAIN
12	HANGAR	1299.0 (EST)	NONE	REMAIN
2A	HANGAR 2 RELOCATED	SEE NOTE 2	NONE	RELOCATED
13	FUTURE HANGAR	SEE NOTE 2	NONE	--
14	FUTURE HANGAR	SEE NOTE 2	NONE	--
15	FUTURE HANGAR	SEE NOTE 2	NONE	--
16	FUTURE HANGAR	SEE NOTE 2	NONE	--
17	FUTURE HANGAR	SEE NOTE 2	NONE	--
18	FUTURE T-HANGAR	SEE NOTE 2	NONE	--
19	FUTURE HANGAR	SEE NOTE 2	NONE	--
20	FUTURE HANGAR	SEE NOTE 2	NONE	--
21	FUTURE HANGAR	SEE NOTE 2	NONE	--
22	FUTURE HANGAR	SEE NOTE 2	NONE	--
23	FUTURE HANGAR	SEE NOTE 2	NONE	--
24	FUTURE HANGAR	SEE NOTE 2	NONE	--
25	FUTURE HANGAR	SEE NOTE 2	NONE	--
26	FUTURE HANGAR	SEE NOTE 2	NONE	--
27	FUTURE HANGAR	SEE NOTE 2	NONE	--
28	FUTURE HANGAR	SEE NOTE 2	NONE	--
29	FUTURE HANGAR	SEE NOTE 2	NONE	--
30	FUTURE T-HANGAR	SEE NOTE 2	NONE	--
31	FUTURE HANGAR	SEE NOTE 2	NONE	--

SOURCE: BUILDING ELEVATIONS AS PROVIDED BY MARTINEZ GEOSPATIAL, INC. SURVEY, NOVEMBER, 2008.
NOTE 1: BUILDING NUMBER PER AIRPORT STAFF, AS CONSISTENT WITH FORMER ALP.
NOTE 2: BUILDINGS CONSTRUCTED BEYOND PART 77 IMAGINARY AIRSPACE SURFACES.

DESCRIPTION	EXISTING	FUTURE
PROPERTY LINE	---	---
EASEMENT	E	E
EASEMENT BOUNDARY	---	---
LEASE	L	L
RUNWAY SAFETY AREA	--- RSA ---	--- F-RSA ---
RUNWAY OBJECT FREE AREA	--- OFA ---	--- F-OFA ---
RUNWAY OBSTACLE FREE ZONE	--- OFZ ---	--- F-OFZ ---
RUNWAY PROTECTION ZONE	---	---
RUNWAY VISIBILITY ZONE	--- RVZ ---	--- F-RVZ ---
TAXIWAY SAFETY AREA	--- TSA ---	--- F-TSA ---
TAXIWAY OBJECT FREE AREA	--- TOFA ---	--- F-TOFA ---
BUILDING RESTRICTION LINE	BRL	F-BRL
DEPARTURE SURFACE	DS	F-DS
THRESHOLD SITING SURFACE	TSS	F-TSS
APPROACH SURFACE	77	F-77
DRAINAGE FEATURE	---	---
AIRFIELD PAVEMENT	---	---
PAVEMENT REMOVAL	---	---
AIRPORT BUILDINGS	---	---
BUILDING TO BE REMOVED	---	---
NON-AIRPORT BUILDINGS	---	---
RUNWAY LIGHT	○	●
AWOS (AUTOMATED WEATHER OBSERVATION SYSTEM)	○	●
REIL (RUNWAY END IDENTIFIER LIGHT)	▷	▷
PAPI (PRECISION APPROACH PATH INDICATOR)	---	---
ARP (AIRPORT REFERENCE POINT)	⊗	⊗
BEACON	★	★
WINDSOCK / WINDCONE	---	---
TREES	---	---
FENCE	X	XX XX
POWER POLE	---	---
FLAG	---	---



**CLOQUET/
CARLTON COUNTY
AIRPORT**

**AIRPORT
LAYOUT PLAN**

CONSULTANTS

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED: AUGUST, 2012
REVIEWED BY: DKC
DRAWN BY: TWZ
DESIGNED BY: JPS

AEP PROJECT NUMBER
213-4581-005

SHEET TITLE

**TERMINAL AREA
DRAWING**

SHEET NUMBER

5 OF 13

**FINAL
DOCUMENTS**

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9/18/2012 9:11 AM

**CLOQUET/
CARLTON COUNTY
AIRPORT**

**AIRPORT
LAYOUT PLAN**

CONSULTANTS

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED: **AUGUST, 2012**
REVIEWED BY: **DKC**
DRAWN BY: **TWZ**
DESIGNED BY: **JPS**

AEP PROJECT NUMBER
213-4581-005

SHEET TITLE

**RUNWAY 7
APPROACH
DRAWING**

SHEET NUMBER

6 OF 13

**FINAL
DOCUMENTS**

APPROACH SURFACE PENETRATION DATA TABLE - RUNWAY 7 END												
OBJECT INFORMATION			CFR PART 77 APPROACH SURFACE (PART 77)				APPENDIX 2, DEPARTURE SURFACE (DS)					
OBJECT NO.	OBJECT DESCRIPTION	OBJECT TOP ELEVATION (MSL)	PART 77 (E) SURFACE ELEV. (MSL)	PART 77 (E) PENETRATE (+) CLEAR (-)	PART 77 (F) SURFACE ELEV. (MSL)	PART 77 (F) PENETRATE (+) CLEAR (-)	AIRSPACE DISPOSITION / MITIGATION	TRIGGERING EVENT	DEPARTURE SURFACE (E) ELEV. (MSL)	DEPARTURE SURFACE (E) PENETRATE (+) CLEAR (-)	DEPARTURE SURFACE (F) ELEV. (MSL)	DEPARTURE SURFACE (F) PENETRATE (+) CLEAR (-)
1762	TREE	1358.3	---	---	1,848.9	9.4	REMOVE	NPI APPROACH	---	---	1,318.0	40
1763	TREE	1357.6	---	---	1,850.0	7.6	REMOVE	NPI APPROACH	---	---	1,318.5	39
1764	TREE	1386.9	---	---	1,885.9	3.0	REMOVE	NPI APPROACH	---	---	1,336.5	52
1765	TREE	1378.1	---	---	1,922.7	5.4	REMOVE	NPI APPROACH	---	---	1,329.2	49
1766	TREE	1373.5	---	---	1,871.0	2.5	REMOVE	NPI APPROACH	---	---	1,328.4	45
1767	TREE	1382.3	---	---	1,890.2	2.1	REMOVE	NPI APPROACH	---	---	1,337.6	55
1768	TREE	1304.4	---	---	1,803.5	0.9	REMOVE	NPI APPROACH	---	---	1,290.7	14
A101	TREETOPS	+1375	---	---	---	---	---	---	---	---	1,335.0	40
A102	TREETOPS	+1315	---	---	---	---	---	---	---	---	1,293.0	22

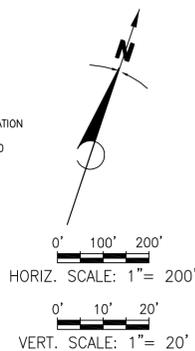
* OBJECT NOT DEPICTED | (E) - EXISTING | (F) - FUTURE | (MSL) - MEAN SEA LEVEL ELEVATION
1. OBJECT NUMBERING AND ELEVATION DATA (OBSTRUCTION ANALYSIS FILES) OBTAINED FROM MARTINEZ GEOSPATIAL, OCTOBER, 2008.
2. OBJECTS (TREES) WITHIN 10' BELOW THE AIRSPACE SURFACES SHOULD BE MITIGATED (LOWERED OR REMOVED), IN ORDER TO ANTICIPATE FUTURE GROWTH.
3. CFR PART 77 SURFACE RECOMMENDED CLEARANCES: 23' RAILROADS | 17' HIGHWAYS | 15' PUBLIC ROADS | 10' PRIVATE ROADS. ELEVATIONS IN TABLE REFLECT THE RECOMMENDED AIRSPACE CLEARANCE HEIGHT.

NOTE 1: PLAN AND PROFILE VIEW DEPICT SURVEYED OBJECTS PENETRATING OR WITHIN APPROXIMATELY 10' OF THE FAR PART 77 SURFACES. ACTUAL GROUND ELEVATION AT OBJECT MAY VARY FROM GROUND ELEVATION DEPICTED ALONG RUNWAY CENTERLINE, AS SHOWN. ROADWAY ELEVATIONS INCLUDE RECOMMENDED PART 77 CLEARANCE ELEVATION. DRAINAGE FEATURES DEPICTED FROM NON-SURVEYED IMAGERY.

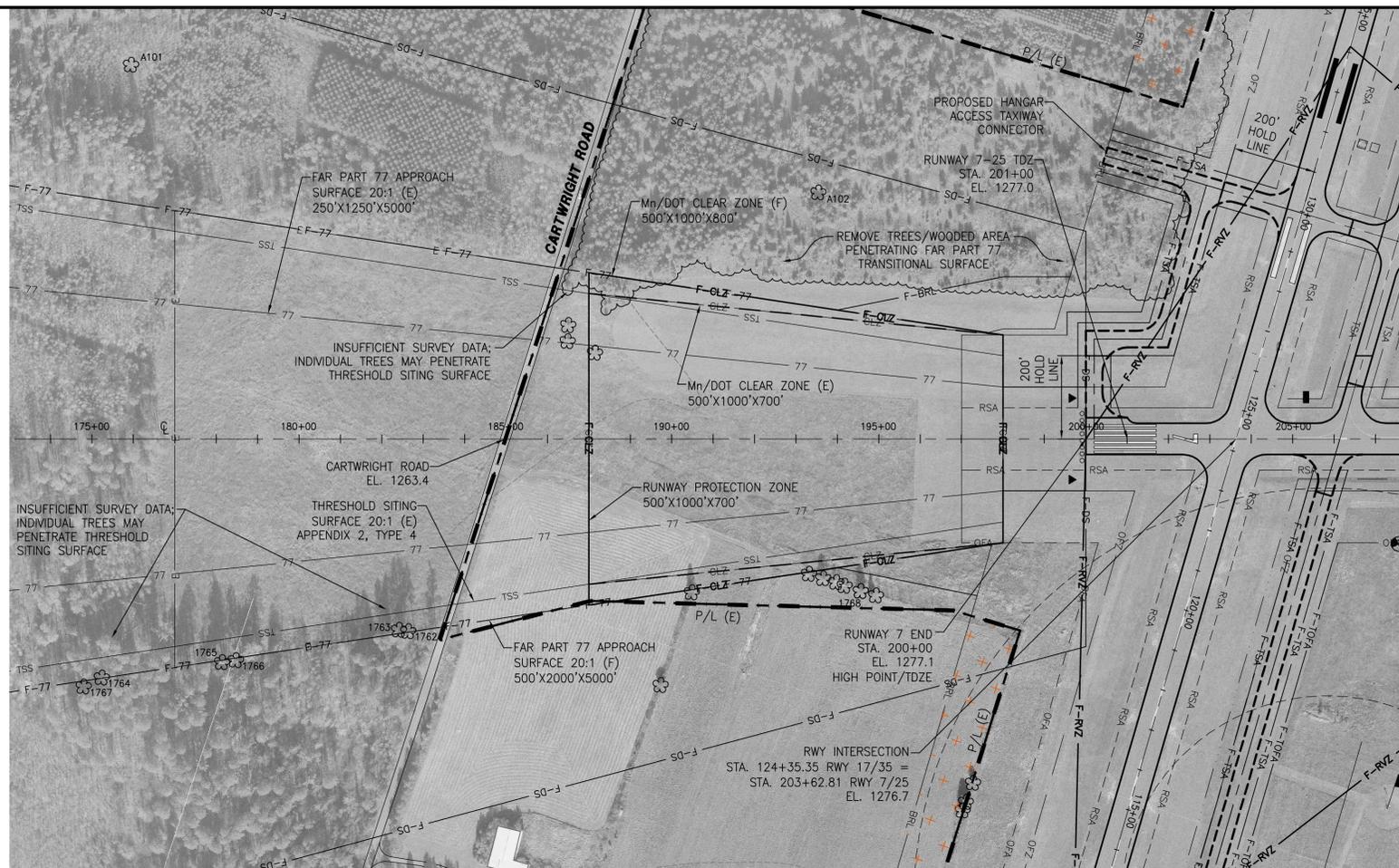
NOTE 2: ASSUMES OBSTRUCTIONS TO THE FUTURE THRESHOLD SITING SURFACE (TSS) WILL BE REMOVED, THEREFORE, THE FUTURE THRESHOLD SITING SURFACE (TSS) IS NOT DEPICTED IN PROFILE VIEW.

NOTE 3: ACQUIRE PROPERTY INTERESTS AND ADOPT/COORDINATE LAND USE CONTROLS NECESSARY TO REGULATE/MITIGATE AIRSPACE OBSTRUCTIONS.

MAGNETIC DECLINATION
0° 8' WEST
EPOCH YEAR 2010



DESCRIPTION	EXISTING	FUTURE
PROPERTY LINE	---	---
EASEMENT	E	E
EASEMENT BOUNDARY		
LEASE	L	L
RUNWAY SAFETY AREA	--- RSA ---	F-RSA
RUNWAY OBJECT FREE AREA	--- OFA ---	F-OFA
RUNWAY OBSTACLE FREE ZONE	--- OFZ ---	F-OFZ
RUNWAY PROTECTION ZONE	---	---
RUNWAY VISIBILITY ZONE	--- RVZ ---	F-RVZ
TAXIWAY SAFETY AREA	--- TSA ---	F-TSA
TAXIWAY OBJECT FREE AREA	--- TOFA ---	F-TOFA
BUILDING RESTRICTION LINE	--- BRL ---	F-BRL
DEPARTURE SURFACE	--- DS ---	F-DS
THRESHOLD SITING SURFACE	--- TSS ---	F-TSS
APPROACH SURFACE	--- 77 ---	F-77
DRAINAGE FEATURE	---	---
AIRFIELD PAVEMENT	---	---
PAVEMENT REMOVAL	---	
AIRPORT BUILDINGS		
BUILDING TO BE REMOVED		
NON-AIRPORT BUILDINGS		
RUNWAY LIGHT		
AWOS (AUTOMATED WEATHER OBSERVATION SYSTEM)		
REIL (RUNWAY END IDENTIFIER LIGHT)		
PAPI (PRECISION APPROACH PATH INDICATOR)		
ARP (AIRPORT REFERENCE POINT)		
BEACON		
WINDSOCK / WINDCONE		
TREES		
FENCE	X	XX XX
POWER POLE		
FLAG		



SOURCE: AERIAL PHOTO OBTAINED FROM MARTINEZ, MAY 2006
SOURCE: BASE MAPPING 1995 ALP
SOURCE: GROUND CONTOUR ELEVATION FROM 1991 ALP, USGS MAP, MAY 1990 SEH PLAN AND PROFILE

