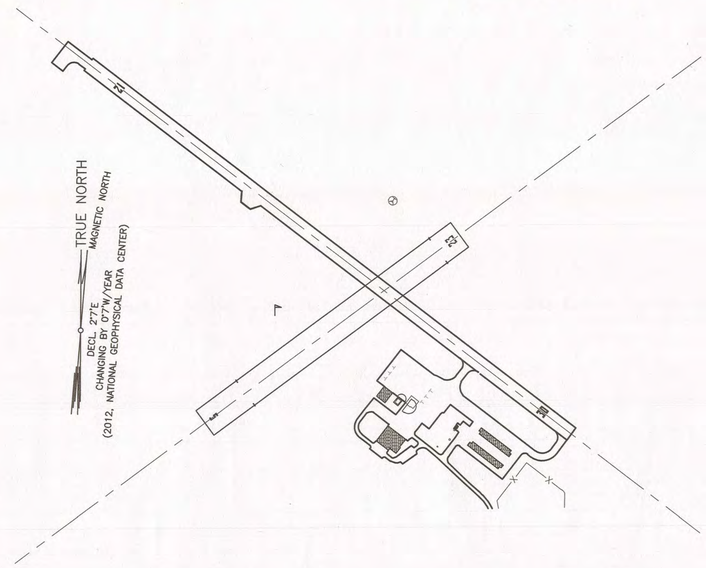
AIRPORT LAYOUT PLAN
REDWOOD FALLS MUNICIPAL AIRPORT (RWF)
REDWOOD FALLS, MINNESOTA

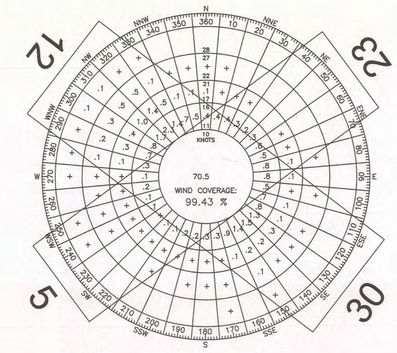
STATE OF MINNESOTA
NOT TO SCALE

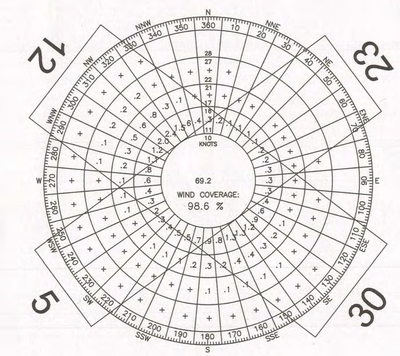
LOCATION MAP
MINNESOTA HIGHWAY MAP (2010)
0 10 20
SCALE MILES



DATE OF LAYOUT:
DECEMBER 2012

0 500 1000
SCALE FEET





EXISTING WIND COVERAGE						
Wind Speed	ALL WEATHER			IFR		
	RWY 12/30	RWY 5/23	COMBINED	RWY 12/30	RWY 5/23	COMBINED
10.5 KNOTS	92.94%	77.39%	97.27%	94.83%	77.92%	98.56%
13 KNOTS	96.35%	-	98.60%	97.67%	-	99.43%

NOTE: COMBINED WIND COVERAGE LIMITED TO 10.5 KNOT CROSSWIND FOR RUNWAY 5/23 PER AIRPORT DESIGN STANDARDS
SOURCE: NATIONAL CLIMATIC DATA CENTER, ASHEVILLE, NC
FOR: REDWOOD FALLS MUNICIPAL AIRPORT ASOS, REDWOOD FALLS, MN
PERIOD: 2002-2011
IFR = VISIBILITY LESS THAN 3 MILES AND/OR CLOUD CEILING LESS THAN 1,000 FEET

VICINITY MAP
GOOGLE EARTH IMAGE (9/13/2012)
0 1500 3000
SCALE FEET

AIRPORT DATA TABLE			
ITEM	EXISTING	FUTURE	ULTIMATE
AIRPORT ELEVATION (MSL)	1023.6'		
AIRPORT REFERENCE POINT (ARP)	N 44° 32' 48.795" W 95° 04' 55.233"	N 44° 32' 48.919" W 95° 04' 55.087"	N 44° 32' 48.774" W 95° 04' 53.803"
MEAN MAX. TEMPERATURE (JULY)	85.2°F		
AIRPORT NAVAIDS AND MISCELLANEOUS FACILITIES*	VOR, LIGHTED WIND CONE, BEACON, ASOS		
AIRPORT REFERENCE CODE	B-II		
AIRPORT IDENTIFIER	RWF		
NPIAS ROLE	GENERAL AVIATION		

*LIGHTED WIND CONE, BEACON OWNED BY AIRPORT SPONSOR

15 AGL 1837 -NRA

MN/DOT AERONAUTICS
CONDITIONALLY APPROVED
NAME: DATE: 2/27/2015

SHEET INDEX

1 TITLE SHEET
2 AIRPORT DATA SHEET
3 AIRPORT LAYOUT DRAWING
4 ULTIMATE AIRPORT AIRSPACE DRAWING
5 TERMINAL AREA PLAN
6 INNER APPROACH SURFACE RWY 12
7 INNER APPROACH SURFACE RWY 30
8 INNER APPROACH SURFACE RWY 5/23
9 OFF-AIRPORT LAND USE PLAN DRAWING
10 ON-AIRPORT LAND USE PLAN DRAWING
11 AIRPORT PROPERTY MAP - EXHIBIT A
12 AIRPORT DEPARTURE SURFACE 12/30

AIRPORT COMMISSION
DON YRJO, CHAIRMAN
DAVID BUNTING
HARRY DAVIS
TIM GILK
PETER U'REN

CITY STAFF
KEITH MUETZEL, CITY ADMINISTRATOR
JIM DOERING, PUBLIC WORKS PROJECT COORDINATOR
WINSTON VENABLE, AIRPORT MANAGER

FAA AIP 3-27-0083-12-12

On behalf of Bolton & Menk, Inc. this Airport Layout Plan (ALP) was prepared for Redwood Falls Municipal Airport according to the applicable Advisory Circulars, the current version of the Great Lakes Region ALP Checklist, and accurately depicts the proposed use of airspace at the time of submittal. The ALP conforms with FAA design standards, except as noted.

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H:\REDW\T41104234\C3D\1_104234-01TITLE 2.dwg 6/6/14 2:07 pm

AIRPORT LAYOUT PLAN APPROVAL

FEDERAL AVIATION ADMINISTRATION (FAA)
CONDITIONALLY APPROVED
Subject to comments in letter dated: 9.16.15
Federal Aviation Administration

MINNESOTA DEPARTMENT OF TRANSPORTATION (MN/DOT)

CITY OF REDWOOD FALLS, MINNESOTA
APPROVED BY:
APPROVED DATE : 2-13-15 MAYOR
ATTEST DATE : 2-13-15 CITY ADMINISTRATOR

BOLTON & MENK, INC.
APPROVED BY:
APPROVED DATE : 2-19-15 SILAS PARMAR, P.E.
ATTEST DATE : 2-19-2015 MELISSA R. UNDERWOOD

REVISIONS		
BY	DATE	CHANGE

REDWOOD FALLS, MINNESOTA
REDWOOD FALLS MUNICIPAL AIRPORT
TITLE SHEET

SCALE VARIES | DESIGNED : MSW/CTH | DRAWN : CTH | CHECKED : MSW | DATE : 5/3/13 | SHEET 1 OF 12

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN CHASKA, MN BURNSVILLE, MN WILLMAR, MN BAXTER, MN ROCHESTER, MN MAPLEWOOD, MN RAMSEY, MN BAXTER, MN AMES, IA SPENCER, IA

RUNWAY DATA TABLE

ITEM	RUNWAY 12/30 EXISTING		RUNWAY 12/30 ULTIMATE (1)		RUNWAY 5/23 EXISTING		RUNWAY 5/23 FUTURE		RUNWAY 5/23 ULTIMATE	
RUNWAY DESIGN CODE (RDC)	B-II		B-II		A-I (SMALL)		A-I (SMALL)		A-I (SMALL)	
RUNWAY LENGTH x WIDTH	4000' X 100'		4400' X 100'		2081' X 200'		2001' X 200'		2300' X 200'	
MAXIMUM ELEVATION ABOVE MSL	1023.6'		1023.6'		1023.1'		1023.1'		1023.1'	
PERCENT EFFECTIVE GRADIENT	0.12%		0.11%		0.07%		0.07%		0.00%	
PERCENT WIND COVERAGE (ALL-WEATHER)	92.94%		92.94%		77.39%		77.39%		77.39%	
RUNWAY UTILITY CLASSIFICATION	OTHER THAN UTILITY		OTHER THAN UTILITY		UTILITY		UTILITY		UTILITY	
RUNWAY MARKINGS	NON-PRECISION INSTRUMENT		NON-PRECISION INSTRUMENT		NONE		NONE		NONE	
RUNWAY LIGHTING	MIRL		MIRL		NONE		NONE		NONE	
PAVEMENT MATERIAL	BITUMINOUS		BITUMINOUS		TURF		TURF		TURF	
PAVEMENT STRENGTH (PUBLISHED)	23,000 (SWG), 43,000 (DWG)		23,000 (SWG), 43,000 (DWG)		-		-		-	
RUNWAY SAFETY AREA (RSA) LENGTH BEYOND RUNWAY END	300'		300'		240'		240'		240'	
RUNWAY SAFETY AREA (RSA) WIDTH	150'		150'		120'		120'		120'	
RUNWAY OBJECT FREE AREA (ROFA) LENGTH BEYOND RUNWAY END	300'		300'		240'		240'		240'	
RUNWAY OBJECT FREE AREA (ROFA) WIDTH	500'		500'		250'		250'		250'	
RUNWAY OBSTACLE FREE ZONE (ROFZ) LENGTH BEYOND RUNWAY END	200'		200'		200'		200'		200'	
RUNWAY OBSTACLE FREE ZONE (ROFZ) WIDTH	400'		400'		250'		250'		250'	
PRECISION OBSTACLE FREE ZONE (POFZ) WIDTH	N/A		N/A		N/A		N/A		N/A	
PRECISION OBSTACLE FREE ZONE (POFZ) LENGTH BEYOND RUNWAY END	N/A		N/A		N/A		N/A		N/A	
TAXIWAY DESIGN GROUP (TDG)	TDG-2		TDG-2		TDG-1		TDG-1		TDG-1	
TAXIWAY WIDTH	35'		35'		-		-		-	
TAXIWAY OBJECT FREE AREA WIDTH	131'		131'		-		-		-	
TAXIWAY SAFETY AREA WIDTH	79'		79'		-		-		-	
TAXIWAY LIGHTING	NONE		MITL		-		-		-	
	12	30	12	30	5	23	5	23	5	23
RUNWAY ORIENTATION (TRUE)	127.52°	307.52°	127.52°	307.52°	53.40°	233.40°	53.40°	233.40°	53.40°	233.40°
MAGNETIC VARIATION (2010)	2.12° E	2.12° E	2.12° E	2.12° E	2.12° E	2.12° E	2.12° E	2.12° E	2.12° E	2.12° E
RUNWAY ORIENTATION (MAGNETIC)	125.43°	305.43°	125.43°	305.43°	51.27°	231.27°	51.27°	231.27°	51.27°	231.27°
APPROACH TYPE (VIS, NPA, APV, PA)*; 14 CFR PART 77 CODE	VIS; B(V)	APV; C(NP)	APV; C(NP)	APV; C(NP)	VIS; A(V)	VIS; A(V)	VIS; A(V)	VIS; A(V)	VIS; A(V)	VIS; A(V)
APPROACH MINIMUMS	VISUAL	1 MILE	1 MILE	1 MILE	VISUAL	VISUAL	VISUAL	VISUAL	VISUAL	VISUAL
APPROACH SURFACE SLOPE	20:1	34:1	34:1	34:1	20:1	20:1	20:1	20:1	20:1	20:1
RUNWAY DEPARTURE SURFACE	YES	YES	YES	YES	N/A	N/A	N/A	N/A	N/A	N/A
AERONAUTICAL SURVEY TYPE REQUIRED	NON-VERTICALLY GUIDED	NON-VERTICALLY GUIDED	VERTICALLY GUIDED	VERTICALLY GUIDED	NON-VERTICALLY GUIDED	NON-VERTICALLY GUIDED	NON-VERTICALLY GUIDED	NON-VERTICALLY GUIDED	NON-VERTICALLY GUIDED	NON-VERTICALLY GUIDED
ELECTRONIC/INSTRUMENT AIDS	NONE	GPS/LPV	GPS/LPV	GPS/LPV	NONE	NONE	NONE	NONE	NONE	NONE
VISUAL APPROACH AIDS	PAPI/REIL	PAPI/REIL	PAPI/REIL	PAPI/REIL	NONE	NONE	NONE	NONE	NONE	NONE
RUNWAY END ELEVATION	1017.70'	1022.60'	1017.70'	1022.40'	1017.60'	1019.10'	1017.60'	1019.10'	1017.60'	1017.60'
DISPLACED THRESHOLD RUNWAY END ELEVATION	NONE	NONE	NONE	NONE	1017.60'	1020.20'	NONE	NONE	NONE	NONE
TOUCHDOWN ZONE ELEVATION (TDZE)	1023.68'	1023.68'	1023.68'	1023.68'	1023.40'	1023.40'	1023.40'	1023.40'	1023.40'	1023.40'
DISPLACED THRESHOLD LENGTH	NONE	NONE	NONE	NONE	330'	176'	NONE	NONE	NONE	NONE
TAKEOFF RUN AVAILABLE (TORA)	4000'	4000'	4400'	4400'	2081'	2081'	2001'	2001'	2300'	2300'
TAKEOFF DISTANCE AVAILABLE (TODA)	4000'	4000'	4400'	4400'	2081'	2081'	2001'	2001'	2300'	2300'
ACCELERATE STOP DISTANCE AVAILABLE (ASDA)	4000'	4000'	4400'	4400'	2081'	2081'	2001'	2001'	2300'	2300'
LANDING DISTANCE AVAILABLE (LDA)	4000'	4000'	4400'	4400'	1751'	1905'	2001'	2001'	2300'	2300'
RUNWAY PROTECTION ZONE (RPZ) DIMENSIONS (INNER WIDTH X OUTER WIDTH X LENGTH)	500' X 700' X 1000'	500' X 700' X 1000'	500' X 700' X 1000'	500' X 700' X 1000'	250' X 450' X 1000'	250' X 450' X 1000'	250' X 450' X 1000'	250' X 450' X 1000'	250' X 450' X 1000'	250' X 450' X 1000'

(1) RECOMMEND RE-NUMBERING TO 13/31 IN THE FUTURE
NOTE: HORIZONTAL DATUM IS NAD 83. VERTICAL DATUM IS NAVD 88
*VIS = VISUAL; NPA = NON-PRECISION INSTRUMENT; APV = APPROACH WITH VERTICAL GUIDANCE; PA = PRECISION APPROACH

CRITICAL AIRCRAFT DATA TABLE

	RUNWAY 12/30 EXISTING	RUNWAY 12/30 ULTIMATE	RUNWAY 5/23 EXISTING/FUTURE/ULTIMATE
RUNWAY DESIGN CODE	B-II	B-II	A-I (SMALL)
AIRCRAFT TYPE	BEECHCRAFT KING AIR B-200	CESSNA CITATION 560	CESSNA 172
WINGSPAN	54'-6"	52'-2"	36'-1"
TAIL HEIGHT	15'-0"	15'-0"	8'-11"
TAXIWAY DESIGN GROUP (TDG)	TDG-2	TDG-1	TDG-1
APPROACH SPEED	97.5 KTS	106.6 KTS	61.1 KTS
MAXIMUM TAKEOFF WEIGHT	12,500 LBS	16,300 LBS	2,450 LBS

MODIFICATION TO DESIGN STANDARDS

APPROVAL DATE	AIRSPACE CASE #	LOCATION	STANDARD MODIFIED	DESCRIPTION
NO MODIFICATIONS TO DESIGN STANDARDS REQUESTED				

EXISTING OBSTACLE FREE ZONE (OFZ) PENETRATIONS TABLE

ALP SHEET #	RUNWAY	I.D.	DESCRIPTION	OBJECT ELEVATION	OFZ SURFACE ELEVATION	OFZ PENETRATION	DISPOSITION
9	5	2	FIELD ROAD	1034.3	1017.60	16.70	SHIFT RUNWAY

EXISTING APPROACH/DEPARTURE SURFACE (APDS) PENETRATION TABLE

ALP SHEET #	RUNWAY	I.D.	DESCRIPTION	OBJECT ELEVATION	APDS SURFACE ELEVATION	APDS PENETRATION	DISPOSITION
7	12	10	TREE	1052.2	1039.6	12.6	REMOVE
9	5	7	TREE	1055.0	1054.7	0.3	REMOVE
9	5	16	TREE	1104.9	1104.7	0.2	REMOVE
9	23	19	TREE	1072.2	1064.8	7.4	REMOVE
9	23	20	TREE	1075.3	1067.5	7.8	REMOVE
9	23	21	TREE	1079.7	1066.2	13.4	REMOVE
9	23	22	TREE	1077.8	1009.8	8.1	REMOVE

NOTE: EXISTING APPROACH/DEPARTURE SURFACE PENETRATIONS ARE EVALUATED TO FAA 150/5300-13A STANDARDS:
-RUNWAY 12/30: ROW 4 (APPROACH END OF RUNWAYS EXPECTED TO SUPPORT INSTRUMENT NIGHT OPERATIONS, SERVING APPROACH CATEGORY A & B AIRCRAFT ONLY)
-RUNWAY 05/23: ROW 2 (APPROACH END OF RUNWAYS EXPECTED TO SERVE SMALL AIRPLANES WITH APPROACH SPEEDS OF 50 KNOTS OR MORE. VISUAL RUNWAYS ONLY, DAY/NIGHT)
-RUNWAY 30: ROW 8 (APPROACH END OF RUNWAYS EXPECTED TO ACCOMMODATE APPROACHES WITH VERTICAL GUIDANCE (GLIDE PATH QUALIFICATION SURFACE [GQS])

EXISTING RUNWAY END COORDINATES

	RUNWAY 12/30		RUNWAY 5/23	
	12	30	5	23
LATITUDE	N 44° 33' 02.62"	N 44° 32' 38.51"	N 44° 32' 39.26"	N 44° 32' 51.49"
LONGITUDE	W 95° 05' 17.18"	W 95° 04' 33.44"	W 95° 05' 06.66"	W 95° 04' 43.55"

FUTURE RUNWAY END COORDINATES

	RUNWAY 12/30		RUNWAY 5/23	
	12	30	5	23
LATITUDE	SAME AS EXISTING		N 44° 32' 39.73"	N 44° 32' 51.49"
LONGITUDE			W 95° 05' 05.77"	W 95° 04' 43.55"

ULTIMATE RUNWAY END COORDINATES

	RUNWAY 12/30		RUNWAY 5/23	
	12	30	5	23
LATITUDE	N 44° 33' 03.23"	N 44° 32' 36.71"	N 44° 32' 39.73"	N 44° 32' 53.24"
LONGITUDE	W 95° 05' 18.28"	W 95° 04' 30.16"	W 95° 05' 05.77"	W 95° 04' 40.24"

EXISTING DISPLACED THRESHOLD COORDINATES

	RUNWAY 12/30		RUNWAY 5/23	
	12	30	5	23
LATITUDE	NONE	NONE	N 44° 32' 41.20"	N 44° 32' 50.45"
LONGITUDE			W 95° 05' 03.00"	W 95° 04' 45.51"

FUTURE DISPLACED THRESHOLD COORDINATES

	RUNWAY 12/30		RUNWAY 5/23	
	12	30	5	23
LATITUDE	NONE	NONE	NONE	NONE
LONGITUDE				

ULTIMATE DISPLACED THRESHOLD COORDINATES

	RUNWAY 12/30		RUNWAY 5/23	
	12	30	5	23
LATITUDE	NONE	NONE	NONE	NONE
LONGITUDE				

NOTE: DRAWING NOT TO SCALE

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H:\REDW\T41104234\C3D\2_104234-02AIRPORT DATA.dwg 5/22/14 11:27 am

DESIGNED MSW
DRAWN CTH
CHECKED MSW

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN BURNSVILLE, MN
WILLMAR, MN CHASKA, MN RAMSEY, MN MAPLEWOOD, MN
BAXTER, MN ROCHESTER, MN AMES, IA SPENCER, IA

REV.	BY	DATE

REDWOOD FALLS MUNICIPAL AIRPORT
AIRPORT LAYOUT PLAN
AIRPORT DATA SHEET

ULTIMATE FAA RUNWAY 5 PROTECTION ZONE (RPZ) (250' X 1000' X 450')
ULTIMATE MnDOT CLEAR ZONE (CZ) (500' X 1000' X 800')
EXISTING FAA RUNWAY 5 PROTECTION ZONE (RPZ) (250' X 1000' X 450')
EXISTING MnDOT CLEAR ZONE (CZ) (500' X 1000' X 800')
EXISTING APDS (20:1 SLOPE)
EXISTING RW 23 END LAT: N 44° 32' 57.49" LONG: W 95° 04' 43.55" ELEV: 1019.1'
EXISTING RW 23 DISP. THRESH. LAT: N 44° 32' 50.45" LONG: W 95° 04' 45.51" ELEV: 1019.0'
RUNWAY INTERSECTION LAT: N 44° 32' 47.86" LONG: W 95° 04' 50.40" ELEV: 1023.1' (RW 5/23 HIGH POINT)
ULTIMATE RW 23 END LAT: N 44° 32' 53.24" LONG: W 95° 04' 40.24" ELEV: 1017.6'
EXISTING RW 12 END LAT: N 44° 33' 02.62" LONG: W 95° 05' 17.18" ELEV: 1017.7' (LOW PT.)
ULTIMATE RW 12 END LAT: N 44° 33' 03.23" LONG: W 95° 05' 18.28" ELEV: 1017.7' (LOW PT.)
RW 12/30 HIGH POINT LAT: N 44° 32' 51.90" LONG: W 95° 04' 57.73" ELEV: 1023.6'
EXISTING RW 30 END LAT: N 44° 32' 38.51" LONG: W 95° 04' 33.44" ELEV: 1022.6'
ULTIMATE RW 30 END LAT: N 44° 32' 36.71" LONG: W 95° 04' 30.16" ELEV: 1022.4'
EXISTING FAA RUNWAY 30 PROTECTION ZONE (RPZ) (500' X 1000' X 700')
ULTIMATE FAA RUNWAY 30 PROTECTION ZONE (RPZ) (500' X 1000' X 700')
EXISTING, FUTURE, AND ULTIMATE ASOS
EXISTING 48-HOUR STORM WATER BASIN
FUTURE 48-HOUR STORM WATER BASIN
EXISTING, FUTURE AND ULTIMATE WINDCONE
ULTIMATE PERIMETER FENCE (10')
EXISTING AIRPORT PROPERTY
RUNWAY 12 APPROACH SLOPE 20:1 (EX.); 34:1 (FUT./ULT.) OTHER-THAN-UTILITY
RUNWAY 30 APPROACH SLOPE 34:1 OTHER-THAN-UTILITY
RUNWAY 23 APPROACH SLOPE 20:1 UTILITY
RUNWAY 5 APPROACH SLOPE 20:1 UTILITY
CENTRAL PORTION OF RPZ
127.52'/307.52' (TRUE) 4,000' X 100' EX. 4,400' X 100' ULT.
EXISTING TURF TAXIWAY
ULTIMATE TAXIWAY (35')
TAXIWAY OBJECT FREE AREA (TOFA)
PRIMARY SURFACE
ULTIMATE RVZ
EXISTING RVZ
ROFA
ROFZ
ROFZ/ROFA
RSA
TDZE: 1023.6'
EX. PAPI
ULT. PAPI
EX. REIL
ULT. REIL
ULT. REIL (TYP.)
EXISTING ARP
ULTIMATE ARP
FUTURE ARP
BRL (20')
REDPORT SURVEY MONUMENT
EXISTING FENCE (4')
EXISTING/ULTIMATE AIRPORT BEACON
FUTURE 48-HOUR STORM WATER BASIN
EXISTING RW 5 DISP. THRESH. LAT: N 44° 32' 41.20" LONG: W 95° 05' 03.00" ELEV: 1017.6'
ULTIMATE RW 5 END LAT: N 44° 32' 39.73" LONG: W 95° 05' 05.77" ELEV: 1017.6' (LOW PT.)
EXISTING RW 5 END LAT: N 44° 32' 39.26" LONG: W 95° 05' 06.66" ELEV: 1017.6' (LOW PT.)
EXISTING APDS VISUAL, DAY/NIGHT, ≥ 50KTS. (20:1 SLOPE)
BURR OAK ROAD ELEV: 1011.13' EX. CL: 55.48' FUT. CL: 33.90' ULT. CL: 29.91'
COUNTY HWY 101 ELEV: 1002.55' EX. CL: 77.74' FUT. CL: 49.80' ULT. CL: 45.53'
COUNTY HWY 101 ELEV: 1013.24' EX. CL: 52.39' FUT. CL: 33.76' ULT. CL: 29.70'
ACTIVE AID ROAD ELEV: 1016.34' EX. CL: 77.25' FUT. CL: 43.08' ULT. CL: 38.53'
PONDEROSA ROAD ELEV: 1006.24' EX. CL: 24.48' FUT. CL: 19.42' ULT. CL: 18.18'
FUTURE PAVEMENT REMOVAL
PONDEROSA ROAD ELEV: 1013.95' EX. CL: 47.08' FUT. CL: 28.06' ULT. CL: 24.19'
PONDEROSA ROAD ELEV: 1008.40' EX. CL: 39.32' FUT. CL: 27.65' ULT. CL: 24.01'
COUNTY HWY 101 ELEV: 1017.83' EX. CL: 49.60' FUT. CL: 27.60 ULT. CL: 23.60'
QUALITY DRIVE ELEV: 1019.71' EX. CL: 10.98' ULT. CL: 15.47'
QUALITY DRIVE ELEV: 1019.92' EX. CL: 12.67' ULT. CL: 17.35'
QUALITY DRIVE ELEV: 1020.13' EX. CL: 19.35' ULT. CL: 24.57'
INDUSTRIAL DRIVE ELEV: 1021.80' EX. CL: 16.72' ULT. CL: 22.45'
INDUSTRIAL DRIVE ELEV: 1019.17' EX. CL: 32.43' ULT. CL: 39.01'
INDUSTRIAL DRIVE ELEV: 1022.81' EX. CL: 18.47' ULT. CL: 21.33'
ULTIMATE MnDOT CLEAR ZONE (CZ) (500' X 1000' X 800')
EXISTING MnDOT CLEAR ZONE (CZ) (500' X 1000' X 800')
ULTIMATE FAA RUNWAY 5 PROTECTION ZONE (RPZ) (250' X 1000' X 450')
EXISTING FAA RUNWAY 5 PROTECTION ZONE (RPZ) (250' X 1000' X 450')
EXISTING MnDOT CLEAR ZONE (CZ) (500' X 1700' X 1010')
ULTIMATE MnDOT CLEAR ZONE (CZ) (500' X 1700' X 1010')
ULTIMATE FAA RUNWAY 12 PROTECTION ZONE (RPZ) (500' X 1000' X 700')
EXISTING FAA RUNWAY 12 PROTECTION ZONE (RPZ) (500' X 1000' X 700')
COUNTY STATE AID HIGHWAY 101
COUNTY STATE AID HIGHWAY 1
US HIGHWAY 71/STATE HIGHWAY 19
US HIGHWAY 71 ELEV: 1019.83' EX. CL: 62.63' ULT. CL: 53.62'
US HIGHWAY 71 ELEV: 1022.02' EX. CL: 40.78' ULT. CL: 31.76'
US HIGHWAY 71 ELEV: 1021.91' EX. CL: 26.74' ULT. CL: 17.73'
FRONTAGE ROAD ELEV: 1022.39' EX. CL: 20.04' ULT. CL: 16.97'
FRONTAGE ROAD
TRUE NORTH
MAGNETIC NORTH (2012 NATIONAL GEOPHYSICAL DATA CENTER)
DECL 2.27°E 0.7'W/YEAR
CHANGING BY 0'6'W/YEAR

LEGEND	EXISTING	FUTURE/ULTIMATE
PAVEMENT		
TURF		
BUILDING		
AIRPORT PROPERTY LINE		
AIRPORT EASEMENT LINE		
AIRPORT REFERENCE POINT		
WIND INDICATOR		
BUILDING RESTRICTION LINE		
ROTATING BEACON		
ASOS WEATHER FACILITY		
DRAINAGE PATTERN		
FENCE		
RUNWAY OBSTACLE FREE ZONE		
RUNWAY OBJECT FREE AREA		
RUNWAY SAFETY AREA		
RUNWAY PROTECTION ZONE		
MnDOT CLEAR ZONE		
APPROACH SURFACE		
PRIMARY SURFACE		
TIEDOWNS		
TAXIWAY OBJECT FREE AREA		

0 300 600
SCALE FEET

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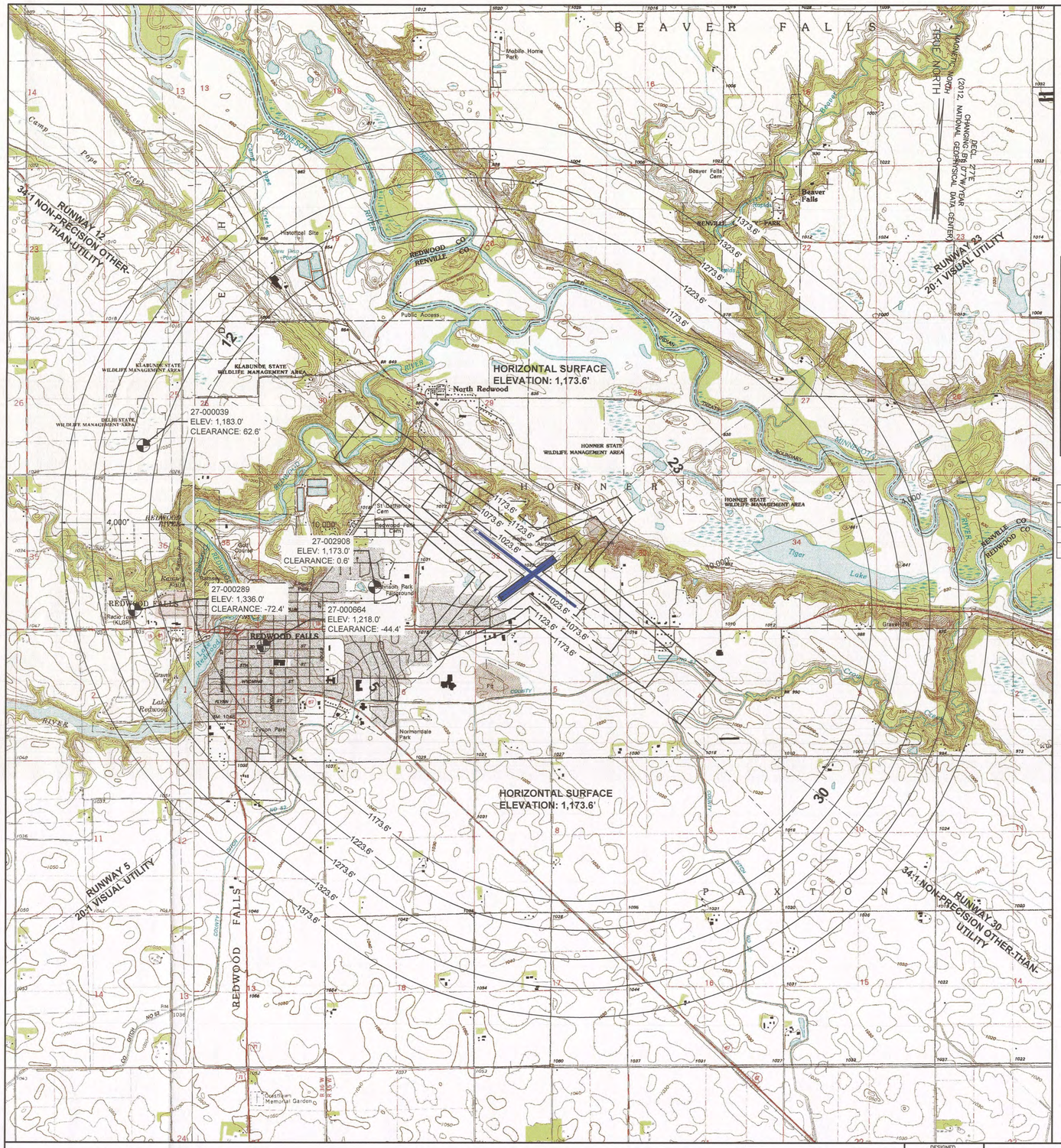
REDWOOD FALLS MUNICIPAL AIRPORT
AIRPORT LAYOUT PLAN
AIRPORT LAYOUT DRAWING

SHEET 3 OF 12



NOTES
1. BASE MAP USGS QUAD MAP.
2. GROUND CONTOUR INTERVAL 10'
3. IMAGINARY SURFACES ARE BASED ON F.A.R. PART 77 FOR ULTIMATE RUNWAY CONFIGURATION.
4. THE AERIAL CONTOURS ILLUSTRATE THE HEIGHT LIMITATIONS WITHIN EACH ZONE.
5. A SLOPE, SUCH AS 20:1, EXPRESSES THE HORIZONTAL DISTANCE OF 20' TO THE VERTICAL DISTANCE OF 1'.
6. EXISTING TOPOGRAPHICAL SYMBOLS ARE THOSE USED BY THE U.S. GEOLOGICAL SURVEY.
7. ULTIMATE AIRPORT ELEVATION: 1023.6' MSL.
8. ULTIMATE RUNWAY 12/30 PART 77 CODE: C(NP).
9. ULTIMATE RUNWAY 5/23 PART 77 CODE: A(V).
10. HEIGHT LIMITATIONS ENFORCED BY 1974 ZONING ORDINANCE

ITEM	DIMENSIONAL STANDARDS	
	VISUAL RUNWAY	NON-PRECISION INSTRUMENT APPROACH
	A	C
WIDTH OF PRIMARY SURFACE AND APPROACH SURFACE WIDTH INNER	250'	500'
RADIUS OF HORIZONTAL SURFACE	5,000'	10,000'
APPROACH SURFACE WIDTH AT END	1,250'	3,500'
APPROACH SURFACE LENGTH	5,000'	10,000'
APPROACH SLOPE	20:1	34:1

OBSTRUCTION TABLE (BEYOND INNER APPROACH)

OBJECT ID	CITY	LATITUDE	LONGITUDE	TYPE	AGL HGT	AMSL	*IMAGINARY SURFACE	PART 77 ELEVATION	PENETRATION	LIGHTING/ MARKINGS	DISPOSITION
27-000664	REDWOOD FALLS	N44° 32' 23"	W95° 06' 57"	TOWER	176'	1218'	H	1173.6'	44.4'	RED	NO ACTION (1)
27-000289	REDWOOD FALLS	N44° 32' 35"	W95° 07' 58"	TOWER	307'	1336'	C	1243.6'	72.4'	RED	NO ACTION (2)

*H = HORIZONTAL SURFACE
C = CONICAL SURFACE

FAA AERONAUTICAL STUDY PREVIOUSLY CONDUCTED:
1. 1981-AGL-00535-OE
2. 1991-AGL-01434-OE

LEGEND
- RUNWAY
- 1300 TOPOGRAPHIC CONTOURS
- AERIAL CONTOURS
- ZONE BOUNDARY

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REDWOOD FALLS MUNICIPAL AIRPORT
AIRPORT LAYOUT PLAN
ULTIMATE AIRPORT AIRSPACE DRAWING

SHEET 4 OF 12

LEGEND	EXISTING	ULTIMATE
PAVEMENT		
TURF		
BUILDING		
AIRPORT PROPERTY LINE		
AIRPORT EASEMENT LINE		
AIRPORT REFERENCE POINT		
WIND INDICATOR		
BUILDING RESTRICTION LINE		
ROTATING BEACON		
ASOS WEATHER FACILITY		
DRAINAGE PATTERN		
FENCE		
RUNWAY OBSTACLE FREE ZONE		
RUNWAY OBJECT FREE AREA		
RUNWAY SAFETY AREA		
RUNWAY PROTECTION ZONE		
MnDOT CLEAR ZONE		
APPROACH SURFACE		
PRIMARY SURFACE		
TIEDOWNS		
TAXIWAY OBJECT FREE AREA		

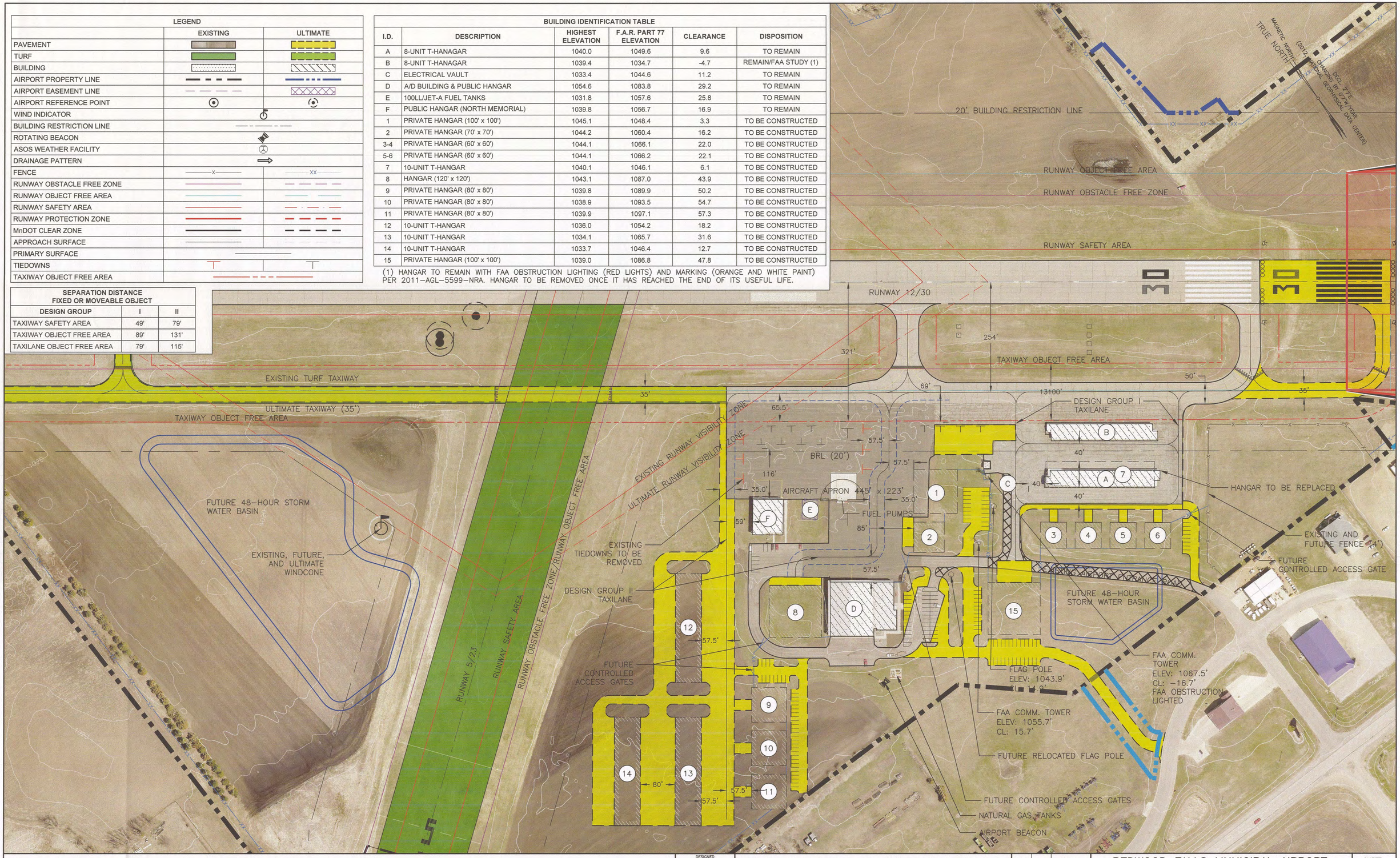
BUILDING IDENTIFICATION TABLE

I.D.	DESCRIPTION	HIGHEST ELEVATION	F.A.R. PART 77 ELEVATION	CLEARANCE	DISPOSITION
A	8-UNIT T-HANAGAR	1040.0	1049.6	9.6	TO REMAIN
B	8-UNIT T-HANAGAR	1039.4	1034.7	-4.7	REMAIN/FAA STUDY (1)
C	ELECTRICAL VAULT	1033.4	1044.6	11.2	TO REMAIN
D	A/D BUILDING & PUBLIC HANGAR	1054.6	1083.8	29.2	TO REMAIN
E	100LL/JET-A FUEL TANKS	1031.8	1057.6	25.8	TO REMAIN
F	PUBLIC HANGAR (NORTH MEMORIAL)	1039.8	1056.7	16.9	TO REMAIN
1	PRIVATE HANGAR (100' x 100')	1045.1	1048.4	3.3	TO BE CONSTRUCTED
2	PRIVATE HANGAR (70' x 70')	1044.2	1060.4	16.2	TO BE CONSTRUCTED
3-4	PRIVATE HANGAR (60' x 60')	1044.1	1066.1	22.0	TO BE CONSTRUCTED
5-6	PRIVATE HANGAR (60' x 60')	1044.1	1066.2	22.1	TO BE CONSTRUCTED
7	10-UNIT T-HANGAR	1040.1	1046.1	6.1	TO BE CONSTRUCTED
8	HANGAR (120' x 120')	1043.1	1087.0	43.9	TO BE CONSTRUCTED
9	PRIVATE HANGAR (80' x 80')	1039.8	1089.9	50.2	TO BE CONSTRUCTED
10	PRIVATE HANGAR (80' x 80')	1038.9	1093.5	54.7	TO BE CONSTRUCTED
11	PRIVATE HANGAR (80' x 80')	1039.9	1097.1	57.3	TO BE CONSTRUCTED
12	10-UNIT T-HANGAR	1036.0	1054.2	18.2	TO BE CONSTRUCTED
13	10-UNIT T-HANGAR	1034.1	1065.7	31.6	TO BE CONSTRUCTED
14	10-UNIT T-HANGAR	1033.7	1046.4	12.7	TO BE CONSTRUCTED
15	PRIVATE HANGAR (100' x 100')	1039.0	1086.8	47.8	TO BE CONSTRUCTED

(1) HANGAR TO REMAIN WITH FAA OBSTRUCTION LIGHTING (RED LIGHTS) AND MARKING (ORANGE AND WHITE PAINT) PER 2011-AGL-5599-NRA. HANGAR TO BE REMOVED ONCE IT HAS REACHED THE END OF ITS USEFUL LIFE.

SEPARATION DISTANCE FIXED OR MOVEABLE OBJECT

DESIGN GROUP	I	II
TAXIWAY SAFETY AREA	49'	79'
TAXIWAY OBJECT FREE AREA	89'	131'
TAXILANE OBJECT FREE AREA	79'	115'



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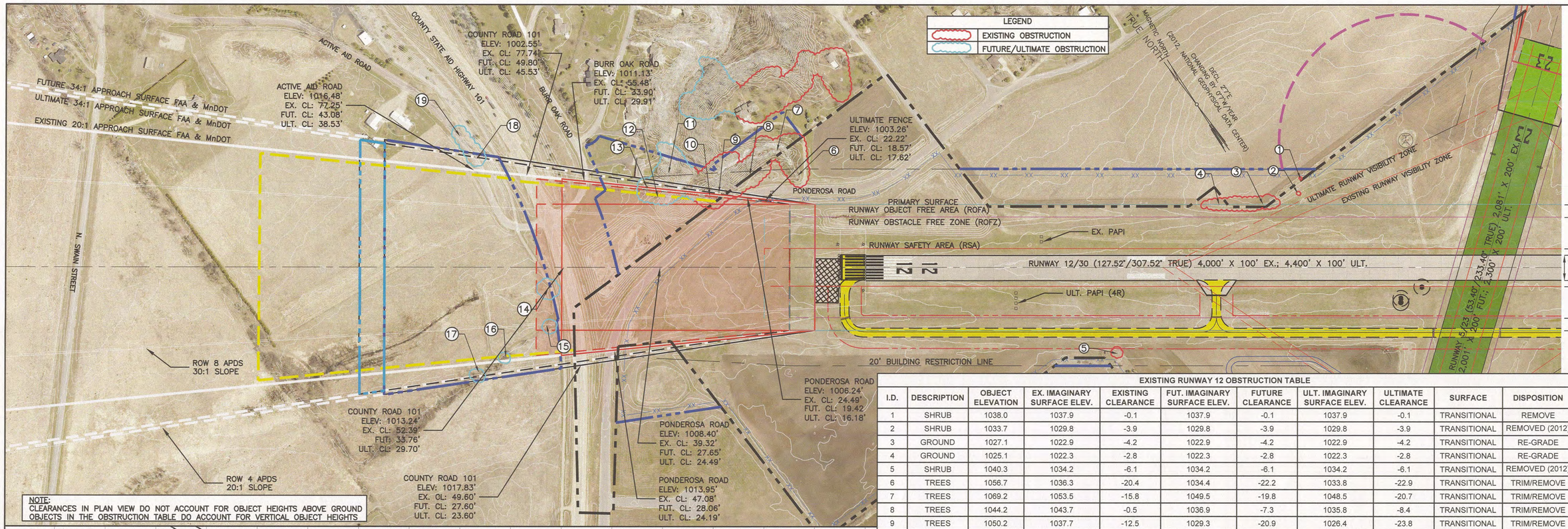
REDWOOD FALLS MUNICIPAL AIRPORT
AIRPORT LAYOUT PLAN
TERMINAL AREA PLAN

SHEET 5 OF 12

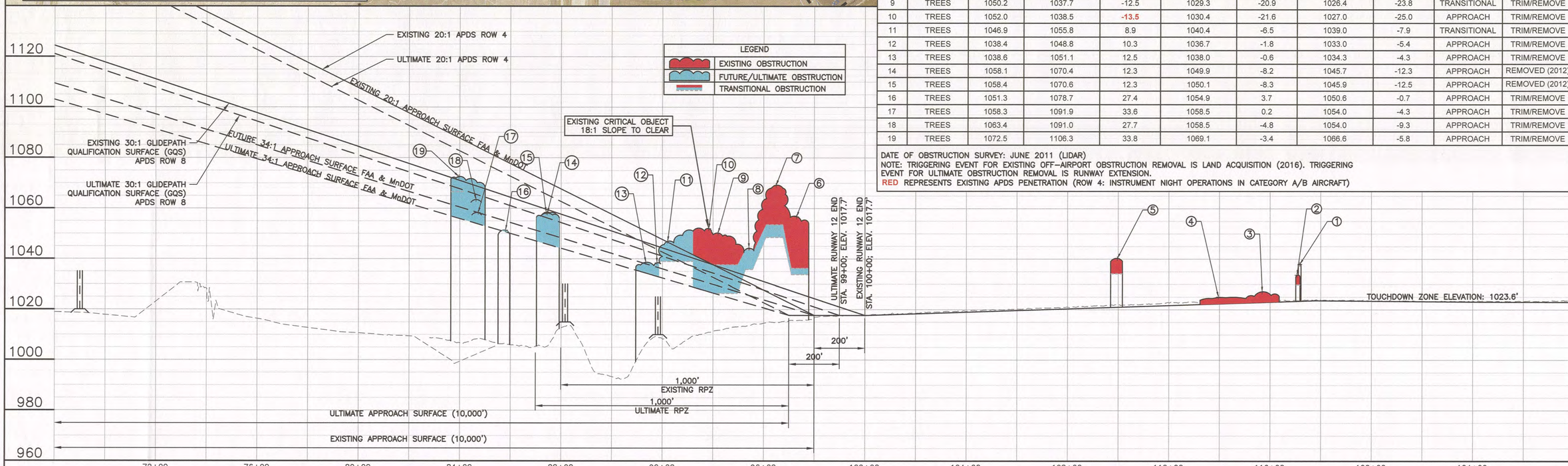


NOTE:
CLEARANCES IN PLAN VIEW DO NOT ACCOUNT FOR OBJECT HEIGHTS ABOVE GROUND OBJECTS IN THE OBSTRUCTION TABLE DO ACCOUNT FOR VERTICAL OBJECT HEIGHTS

EXISTING RUNWAY 12 OBSTRUCTION TABLE

I.D.	DESCRIPTION	OBJECT ELEVATION	EX. IMAGINARY SURFACE ELEV.	EXISTING CLEARANCE	FUT. IMAGINARY SURFACE ELEV.	FUTURE CLEARANCE	ULT. IMAGINARY SURFACE ELEV.	ULTIMATE CLEARANCE	SURFACE	DISPOSITION
1	SHRUB	1038.0	1037.9	-0.1	1037.9	-0.1	1037.9	-0.1	TRANSITIONAL	REMOVE
2	SHRUB	1033.7	1029.8	-3.9	1029.8	-3.9	1029.8	-3.9	TRANSITIONAL	REMOVED (2012)
3	GROUND	1027.1	1022.9	-4.2	1022.9	-4.2	1022.9	-4.2	TRANSITIONAL	RE-GRADE
4	GROUND	1025.1	1022.3	-2.8	1022.3	-2.8	1022.3	-2.8	TRANSITIONAL	RE-GRADE
5	SHRUB	1040.3	1034.2	-6.1	1034.2	-6.1	1034.2	-6.1	TRANSITIONAL	REMOVED (2012)
6	TREES	1056.7	1036.3	-20.4	1034.4	-22.2	1033.8	-22.9	TRANSITIONAL	TRIM/REMOVE
7	TREES	1069.2	1053.5	-15.8	1049.5	-19.8	1048.5	-20.7	TRANSITIONAL	TRIM/REMOVE
8	TREES	1044.2	1043.7	-0.5	1036.9	-7.3	1035.8	-8.4	TRANSITIONAL	TRIM/REMOVE
9	TREES	1050.2	1037.7	-12.5	1029.3	-20.9	1026.4	-23.8	TRANSITIONAL	TRIM/REMOVE
10	TREES	1052.0	1038.5	-13.5	1030.4	-21.6	1027.0	-25.0	APPROACH	TRIM/REMOVE
11	TREES	1046.9	1055.8	8.9	1040.4	-6.5	1039.0	-7.9	TRANSITIONAL	TRIM/REMOVE
12	TREES	1038.4	1048.8	10.3	1036.7	-1.8	1033.0	-5.4	APPROACH	TRIM/REMOVE
13	TREES	1038.6	1051.1	12.5	1038.0	-0.6	1034.3	-4.3	APPROACH	TRIM/REMOVE
14	TREES	1058.1	1070.4	12.3	1049.9	-8.2	1045.7	-12.3	APPROACH	REMOVED (2012)
15	TREES	1058.4	1070.6	12.3	1050.1	-8.3	1045.9	-12.5	APPROACH	REMOVED (2012)
16	TREES	1051.3	1078.7	27.4	1054.9	3.7	1050.6	-0.7	APPROACH	TRIM/REMOVE
17	TREES	1058.3	1091.9	33.6	1058.5	0.2	1054.0	-4.3	APPROACH	TRIM/REMOVE
18	TREES	1063.4	1091.0	27.7	1058.5	-4.8	1054.0	-9.3	APPROACH	TRIM/REMOVE
19	TREES	1072.5	1106.3	33.8	1069.1	-3.4	1066.6	-5.8	APPROACH	TRIM/REMOVE

DATE OF OBSTRUCTION SURVEY: JUNE 2011 (LIDAR)
NOTE: TRIGGERING EVENT FOR EXISTING OFF-AIRPORT OBSTRUCTION REMOVAL IS LAND ACQUISITION (2016). TRIGGERING EVENT FOR ULTIMATE OBSTRUCTION REMOVAL IS RUNWAY EXTENSION.
RED REPRESENTS EXISTING APDS PENETRATION (ROW 4: INSTRUMENT NIGHT OPERATIONS IN CATEGORY A/B AIRCRAFT)



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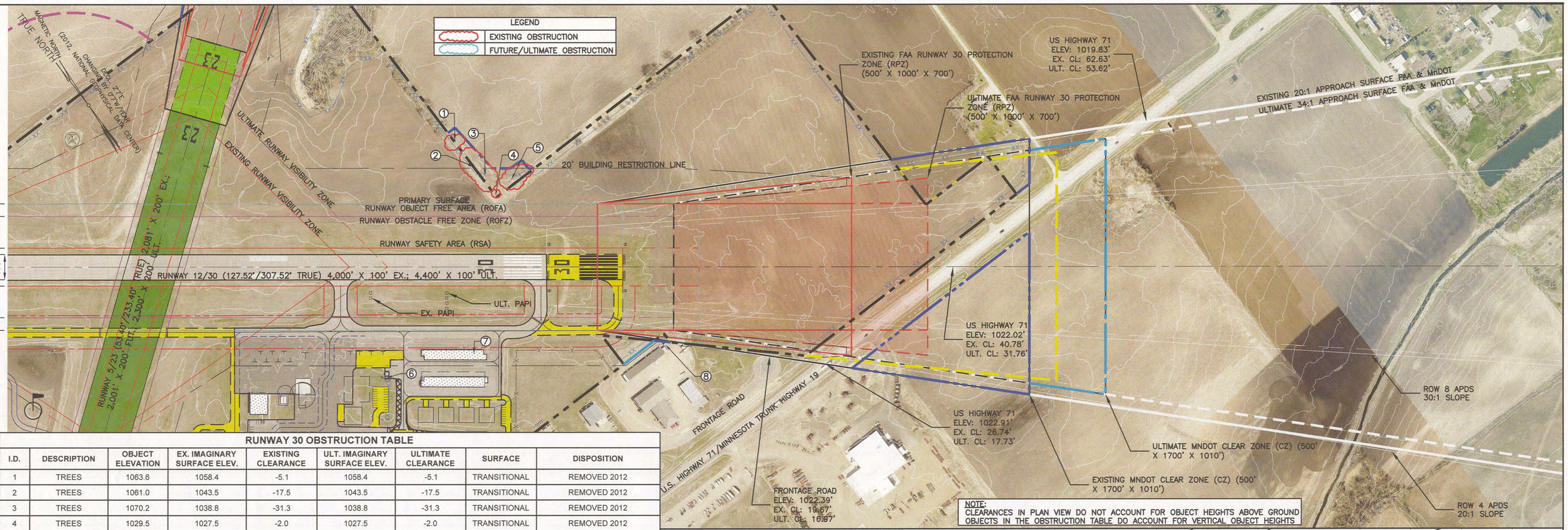
REDWOOD FALLS MUNICIPAL AIRPORT
AIRPORT LAYOUT PLAN
INNER APPROACH SURFACE RWY 12

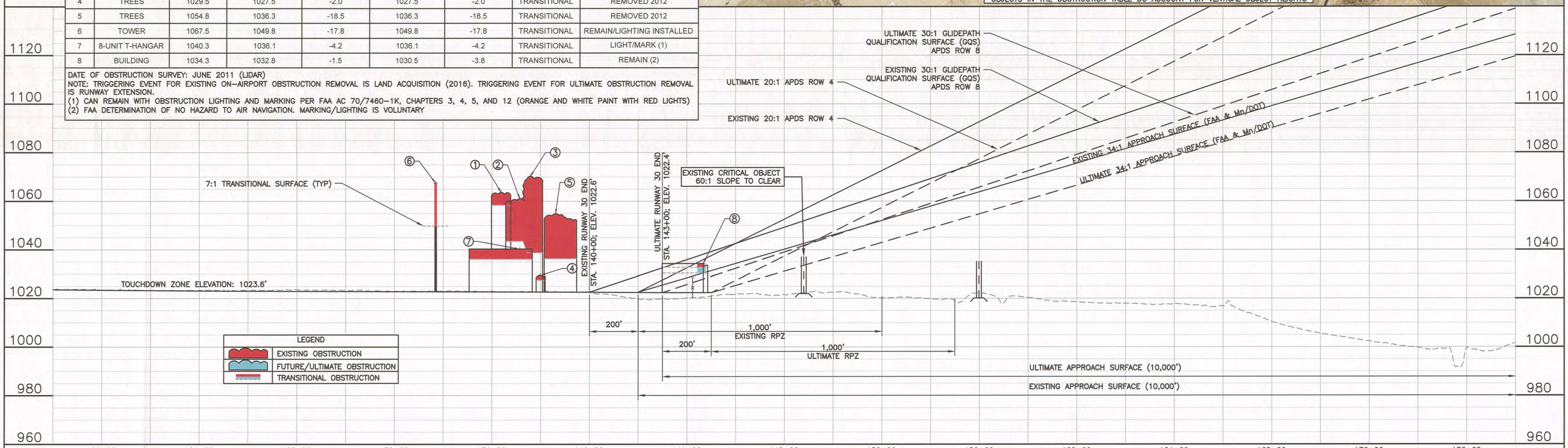
SHEET 6 OF 12



RUNWAY 30 OBSTRUCTION TABLE

I.D.	DESCRIPTION	OBJECT ELEVATION	EX. IMAGINARY SURFACE ELEV.	EXISTING CLEARANCE	ULT. IMAGINARY SURFACE ELEV.	ULTIMATE CLEARANCE	SURFACE	DISPOSITION
1	TREES	1063.6	1058.4	-5.1	1058.4	-5.1	TRANSITIONAL	REMOVED 2012
2	TREES	1061.0	1043.5	-17.5	1043.5	-17.5	TRANSITIONAL	REMOVED 2012
3	TREES	1070.2	1038.8	-31.3	1038.8	-31.3	TRANSITIONAL	REMOVED 2012
4	TREES	1029.5	1027.5	-2.0	1027.5	-2.0	TRANSITIONAL	REMOVED 2012
5	TREES	1054.8	1036.3	-18.5	1036.3	-18.5	TRANSITIONAL	REMOVED 2012
6	TOWER	1067.5	1049.8	-17.8	1049.8	-17.8	TRANSITIONAL	REMAIN/LIGHTING INSTALLED
7	8-UNIT T-HANGAR	1040.3	1036.1	-4.2	1036.1	-4.2	TRANSITIONAL	LIGHT/MARK (1)
8	BUILDING	1034.3	1032.8	-1.5	1030.5	-3.8	TRANSITIONAL	REMAIN (2)

DATE OF OBSTRUCTION SURVEY: JUNE 2011 (LIDAR)
NOTE: TRIGGERING EVENT FOR EXISTING ON-AIRPORT OBSTRUCTION REMOVAL IS LAND ACQUISITION (2016). TRIGGERING EVENT FOR ULTIMATE OBSTRUCTION REMOVAL IS RUNWAY EXTENSION.
(1) CAN REMAIN WITH OBSTRUCTION LIGHTING AND MARKING PER FAA AC 70/7460-1K, CHAPTERS 3, 4, 5, AND 12 (ORANGE AND WHITE PAINT WITH RED LIGHTS)
(2) FAA DETERMINATION OF NO HAZARD TO AIR NAVIGATION. MARKING/LIGHTING IS VOLUNTARY



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REDWOOD FALLS MUNICIPAL AIRPORT
AIRPORT LAYOUT PLAN
INNER APPROACH SURFACE RWY 30

SHEET 7 OF 12

RUNWAY 5/23 OBSTRUCTION TABLE

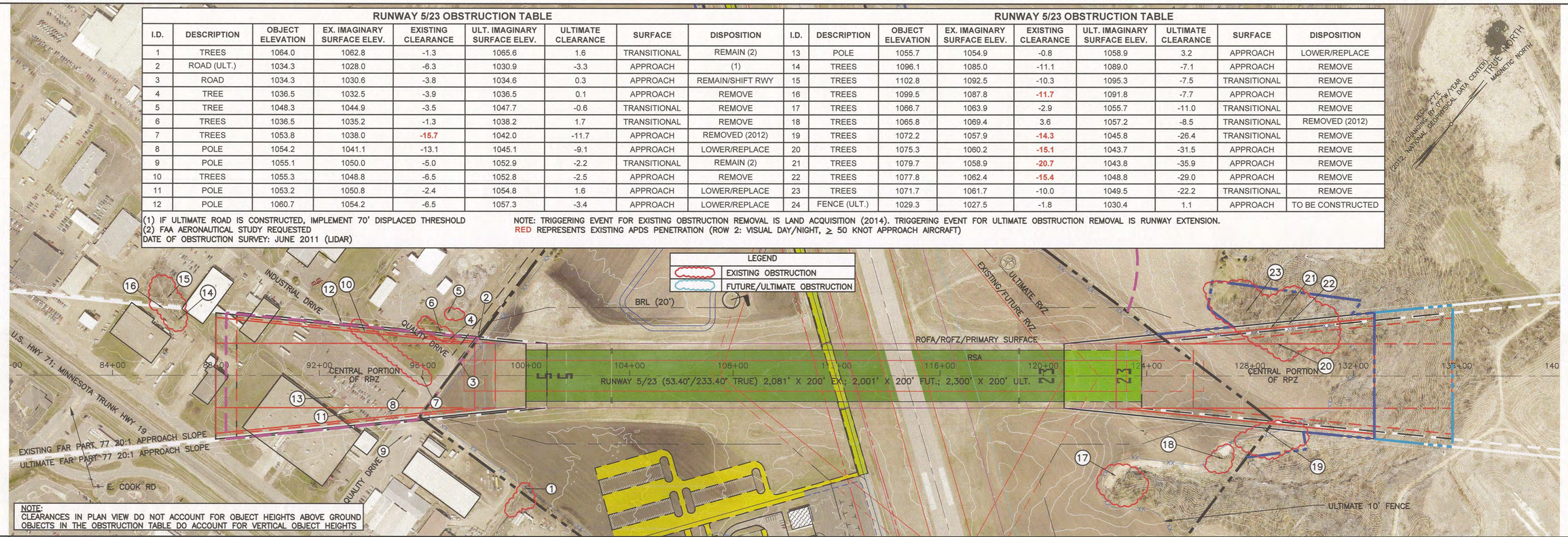
I.D.	DESCRIPTION	OBJECT ELEVATION	EX. IMAGINARY SURFACE ELEV.	EXISTING CLEARANCE	ULT. IMAGINARY SURFACE ELEV.	ULTIMATE CLEARANCE	SURFACE	DISPOSITION
1	TREES	1064.0	1062.8	-1.3	1065.6	1.6	TRANSITIONAL	REMAIN (2)
2	ROAD (ULT.)	1034.3	1028.0	-6.3	1030.9	-3.3	APPROACH	(1)
3	ROAD	1034.3	1030.6	-3.8	1034.6	0.3	APPROACH	REMAIN/SHIFT RWY
4	TREE	1036.5	1032.5	-3.9	1036.5	0.1	APPROACH	REMOVE
5	TREE	1048.3	1044.9	-3.5	1047.7	-0.6	TRANSITIONAL	REMOVE
6	TREES	1036.5	1035.2	-1.3	1038.2	1.7	TRANSITIONAL	REMOVE
7	TREES	1053.8	1038.0	-15.7	1042.0	-11.7	APPROACH	REMOVED (2012)
8	POLE	1054.2	1041.1	-13.1	1045.1	-9.1	APPROACH	LOWER/REPLACE
9	POLE	1055.1	1050.0	-5.0	1052.9	-2.2	TRANSITIONAL	REMAIN (2)
10	TREES	1055.3	1048.8	-6.5	1052.8	-2.5	APPROACH	REMOVE
11	POLE	1053.2	1050.8	-2.4	1054.8	1.6	APPROACH	LOWER/REPLACE
12	POLE	1060.7	1054.2	-6.5	1057.3	-3.4	APPROACH	LOWER/REPLACE

RUNWAY 5/23 OBSTRUCTION TABLE

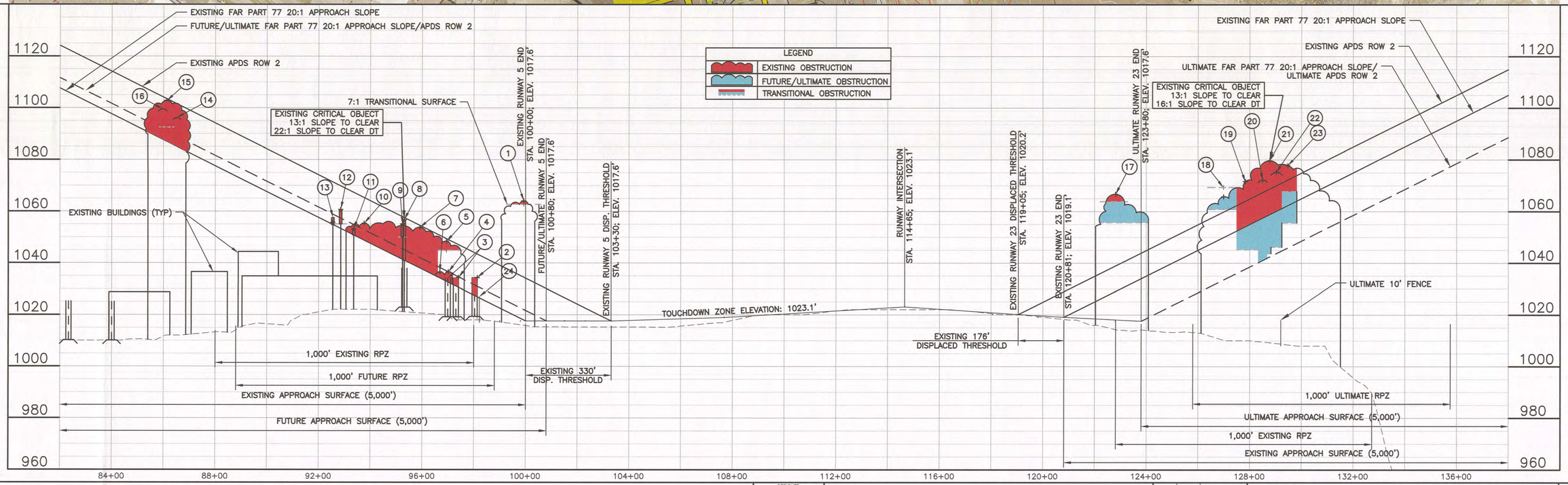
I.D.	DESCRIPTION	OBJECT ELEVATION	EX. IMAGINARY SURFACE ELEV.	EXISTING CLEARANCE	ULT. IMAGINARY SURFACE ELEV.	ULTIMATE CLEARANCE	SURFACE	DISPOSITION
13	POLE	1055.7	1054.9	-0.8	1058.9	3.2	APPROACH	LOWER/REPLACE
14	TREES	1096.1	1085.0	-11.1	1089.0	-7.1	APPROACH	REMOVE
15	TREES	1102.8	1092.5	-10.3	1095.3	-7.5	TRANSITIONAL	REMOVE
16	TREES	1099.5	1087.8	-11.7	1091.8	-7.7	APPROACH	REMOVE
17	TREES	1066.7	1063.9	-2.9	1055.7	-11.0	TRANSITIONAL	REMOVE
18	TREES	1065.8	1069.4	3.6	1057.2	-8.5	TRANSITIONAL	REMOVED (2012)
19	TREES	1072.2	1057.9	-14.3	1045.8	-26.4	TRANSITIONAL	REMOVE
20	TREES	1075.3	1060.2	-15.1	1043.7	-31.5	APPROACH	REMOVE
21	TREES	1079.7	1058.9	-20.7	1043.8	-35.9	APPROACH	REMOVE
22	TREES	1077.8	1062.4	-15.4	1048.8	-29.0	APPROACH	REMOVE
23	TREES	1071.7	1061.7	-10.0	1049.5	-22.2	TRANSITIONAL	REMOVE
24	FENCE (ULT.)	1029.3	1027.5	-1.8	1030.4	1.1	APPROACH	TO BE CONSTRUCTED

(1) IF ULTIMATE ROAD IS CONSTRUCTED, IMPLEMENT 70' DISPLACED THRESHOLD
(2) FAA AERONAUTICAL STUDY REQUESTED
DATE OF OBSTRUCTION SURVEY: JUNE 2011 (LIDAR)

NOTE: TRIGGERING EVENT FOR EXISTING OBSTRUCTION REMOVAL IS LAND ACQUISITION (2014). TRIGGERING EVENT FOR ULTIMATE OBSTRUCTION REMOVAL IS RUNWAY EXTENSION.
RED REPRESENTS EXISTING APDS PENETRATION (ROW 2: VISUAL DAY/NIGHT, ≥ 50 KNOT APPROACH AIRCRAFT)



NOTE:
CLEARANCES IN PLAN VIEW DO NOT ACCOUNT FOR OBJECT HEIGHTS ABOVE GROUND OBJECTS IN THE OBSTRUCTION TABLE DO ACCOUNT FOR VERTICAL OBJECT HEIGHTS



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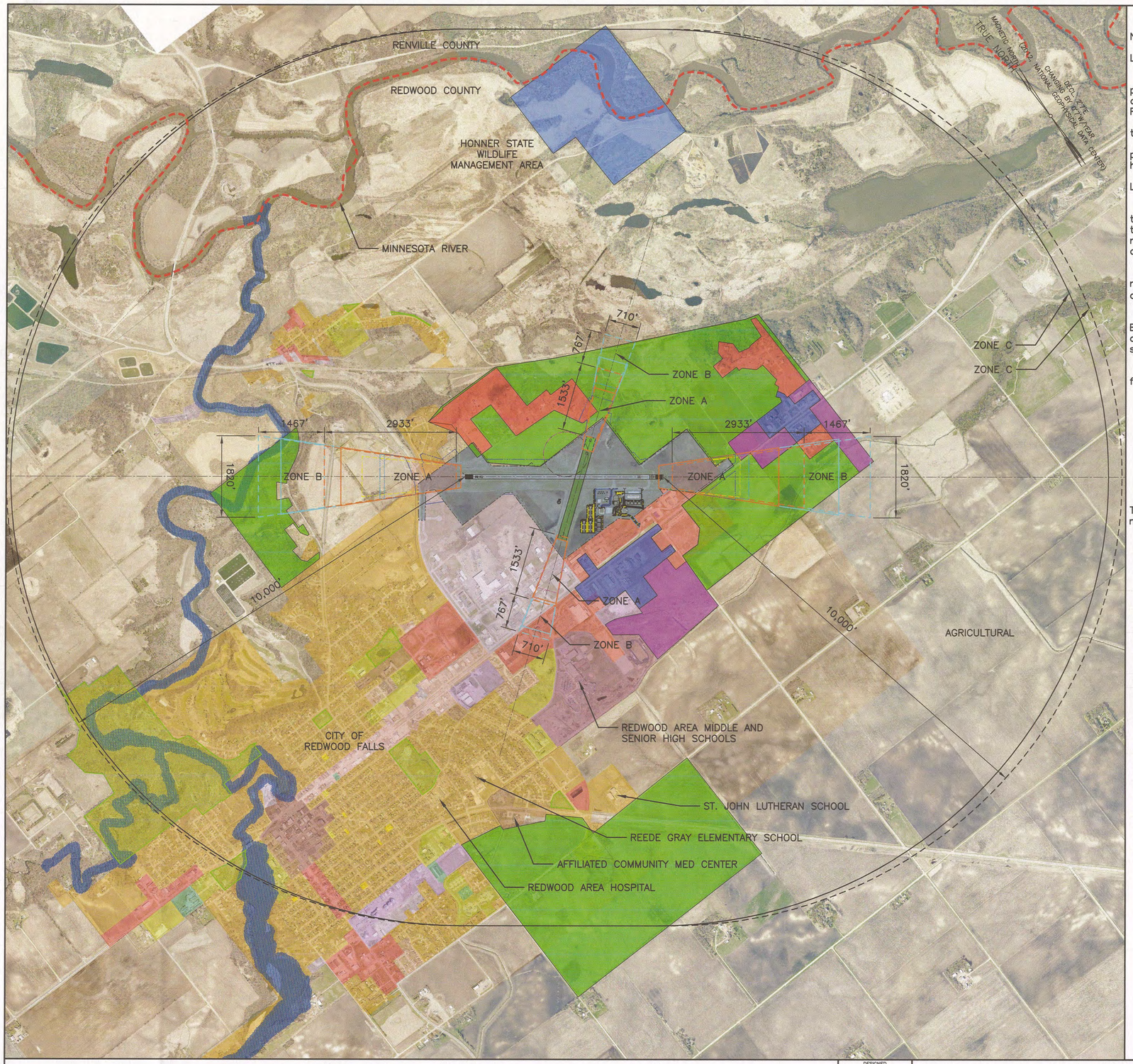
REDWOOD FALLS MUNICIPAL AIRPORT
AIRPORT LAYOUT PLAN
INNER APPROACH SURFACE RWY 5/23

SHEET 8 OF 12



REDWOOD FALLS MUNICIPAL AIRPORT ZONING ORDINANCE (1974)/REDWOOD COUNTY ZONING ORDINANCE SECTION 34
Notes:

Land use zoning shall be subject to Minnesota Rules Chapter 8800.2400, Subpart 6:

An airport hazard endangers the lives and property of users of the Redwood Falls Municipal Airport, and property or occupants of land in its vicinity, and also if of the obstructive type, in effect reduces the size of the area available for landing, takeoff, and maneuvering of aircraft, thus tending to destroy or impair the utility of the Redwood Falls Municipal Airport and the public investment therein.

The creation or establishment of an airport hazard is a public nuisance and an injury to the region served by the Redwood Falls Municipal Airport.

For the protection of the public health, safety, order, convenience, prosperity and general welfare, and for the promotion of the most appropriate use of land, it is necessary to prevent the creation or establishment of airport hazards.

Land use restrictions:

1. No use shall be made of any land in any of the safety zones which creates or causes interference with the operations of radio or electronic facilities on the airport or with radio or electronic communications between the airport and aircraft, makes it difficult for pilots to distinguish between the airport lights and other lights, results in glare in the eyes of pilots using the airport, impairs the visibility in the vicinity of the airport, or otherwise endangers the landing, taking off, or maneuvering of aircraft.

2. Zone A shall contain no buildings or temporary structures and shall be restricted to those uses which will not create, attract or bring together an assembly of persons thereon. Permitted uses may include agriculture, light outdoor recreation (non–spectator), cemetaries and auto parking.

3. Zone B shall be restricted in use as follows:
Each single commercial or industrial use shall be of a size note less than three acres, shall not contain dwellings and shall contain no more than one building per three acre tract of land. Each single commercial or industrial use shall not create, attract, or bring together a site population that would exceed 15 times that of the site acreage.

The maximum ground area to be covered by a single commercial or industrial building shall not exceed the following minimum rations with respect to the building site area:

At Least (Acres)	But Less Than (Acres)	Ratio of Site Area to 1st Floor Bldg. Area	1st Floor Bldg. Area (sq. ft.)	Max. Site Population (15 persons/A)
3	4	12:1	10,900	45
4	6	10:1	17,400	60
6	10	8:1	32,600	90
10	20	6:1	72,500	150
20	and up	4:1	218,000	300

The following uses are specifically prohibited in Zone B: Churches, hospitals, schools, theatres, stadiums, hotels and motels, trailer courts, campgrounds, and other places of public or semi–public assembly.

4. Zone C is subject only to the general restrictions contained in item 1.

AIRPORT SAFETY AREA DIMENSIONS

	INNER WIDTH	ZONE A LENGTH	ZONE A OUTER WIDTH	ZONE B LENGTH	ZONE B OUTER WIDTH	ZONE C RADIUS
RUNWAY 12/30						
EXISTING CONFIGURATION	500'	2,667'	1,333'	1,400'	1,700'	10,000'
ULTIMATE CONFIGURATION	500'	2,933'	1,380'	1,467'	1,820'	10,000'
RUNWAY 05/23						
EXISTING CONFIGURATION	250'	1,388'	527'	694'	664'	10,000'
ULTIMATE CONFIGURATION	250'	1,533'	557'	767'	710'	10,000'

LEGEND

DESCRIPTION	EXISTING	FUTURE	ULTIMATE
AIRPORT PROPERTY LINE			
AIRPORT EASEMENT LINE		N/A	
SAFETY ZONE A		N/A	
SAFETY ZONE B		N/A	
SAFETY ZONE C		N/A	
COUNTY LINE			

Note: N/A = Not Applicable

CITY OF REDWOOD FALLS LAND USE/ZONING	
AIRPORT	
B-2: LIMITED NEIGHBORHOOD BUSINESS DISTRICT	
B-3: AUTO-ORIENTED BUSINESS DISTRICT	
B-4: CENTRAL BUSINESS DISTRICT	
I-1: LIMITED INDUSTRIAL DISTRICT	
I-2: GENERAL INDUSTRIAL DISTRICT	
PUD: PLANNED UNIT DEVELOPMENT	
R-2: SINGLE AND TWO FAMILY RESIDENTIAL DISTRICT	
R-3: RESTRICTED MULTIPLE-FAMILY DISTRICT	
R-4: MULTIPLE FAMILY RESIDENTAIL DISTRICT	
R-B: RESIDENTIAL-BUSINESS DISTRICT	
R-M: MANUFACTURED/MOBILE HOME PARK DISTRICT	
R-R: RURAL RESIDENTIAL DISTRICT	
RSD: SCHOOL DISTRICT	
PARK	
REDWOOD COUNTY LAND USE/ZONING	
B1: HIGHWAY SERVICE BUSINESS	
I1: INDUSTRY DISTRICT	
R1: RURAL RESIDENTIAL DISTRICT	
S: SCENIC RIVER DISTRICT	
UE: URBAN EXPANSION DISTRICT	

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SCALE FEET

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DESIGNED MSW/CTH
DRAWN CTH
CHECKED MSW

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Consulting Engineers & Surveyors
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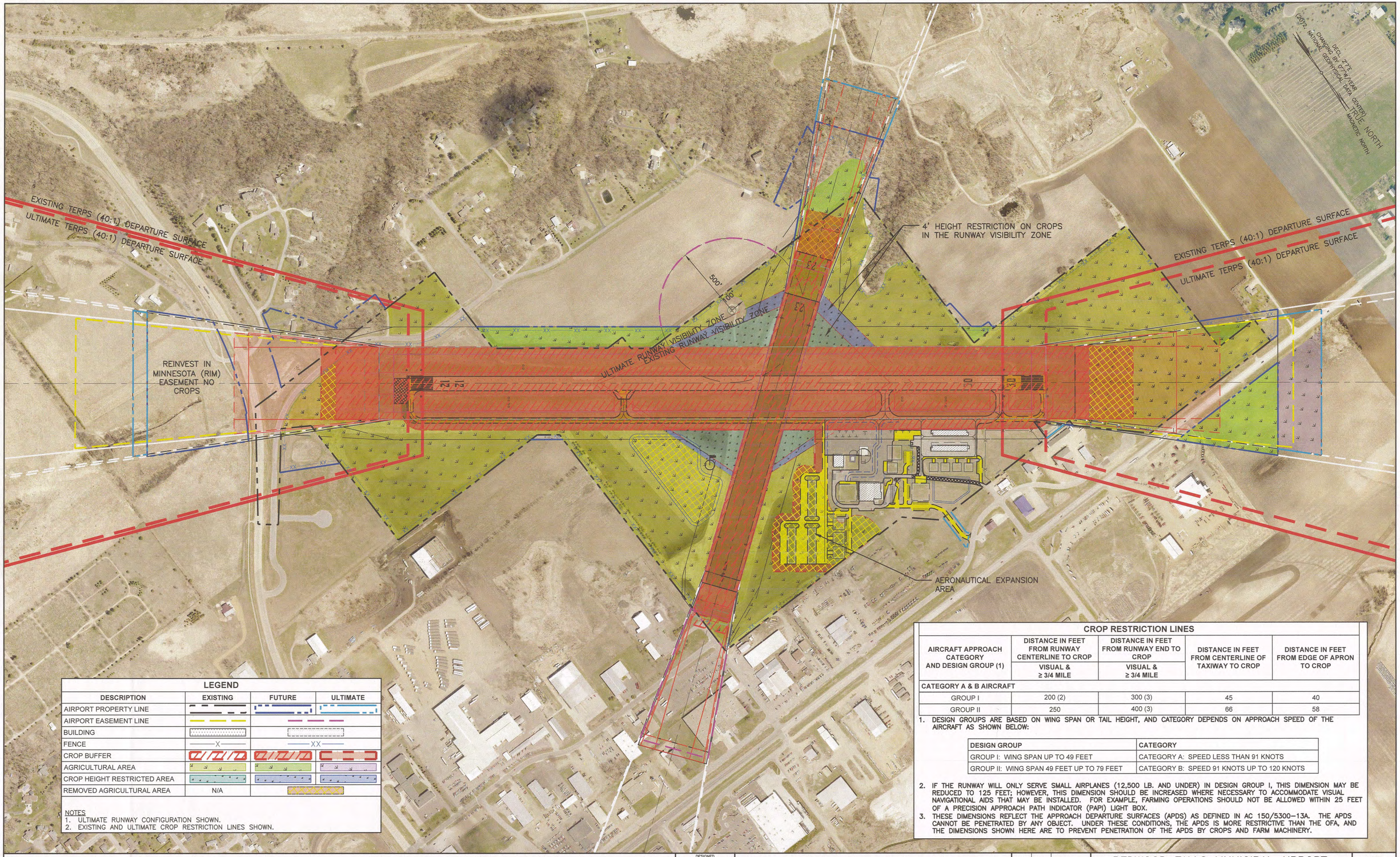
WILLMAR, MN CHASKA, MN RAMSEY, MN MAPLEWOOD, MN
BAXTER, MN ROCHESTER, MN AMES, IA SPENCER, IA

REV.	BY	DATE

REDWOOD FALLS MUNICIPAL AIRPORT
AIRPORT LAYOUT PLAN
OFF–AIRPORT LAND USE PLAN DRAWING



LEGEND

DESCRIPTION	EXISTING	FUTURE	ULTIMATE
AIRPORT PROPERTY LINE			
AIRPORT EASEMENT LINE			
BUILDING			
FENCE	—X—	—XX—	
CROP BUFFER			
AGRICULTURAL AREA			
CROP HEIGHT RESTRICTED AREA			
REMOVED AGRICULTURAL AREA	N/A		

NOTES
1. ULTIMATE RUNWAY CONFIGURATION SHOWN.
2. EXISTING AND ULTIMATE CROP RESTRICTION LINES SHOWN.

CROP RESTRICTION LINES

AIRCRAFT APPROACH CATEGORY AND DESIGN GROUP (1)	DISTANCE IN FEET FROM RUNWAY CENTERLINE TO CROP	DISTANCE IN FEET FROM RUNWAY END TO CROP	DISTANCE IN FEET FROM CENTERLINE OF TAXIWAY TO CROP	DISTANCE IN FEET FROM EDGE OF APRON TO CROP
	VISUAL & ≥ 3/4 MILE	VISUAL & ≥ 3/4 MILE		
CATEGORY A & B AIRCRAFT				
GROUP I	200 (2)	300 (3)	45	40
GROUP II	250	400 (3)	66	58

1. DESIGN GROUPS ARE BASED ON WING SPAN OR TAIL HEIGHT, AND CATEGORY DEPENDS ON APPROACH SPEED OF THE AIRCRAFT AS SHOWN BELOW:

DESIGN GROUP	CATEGORY
GROUP I: WING SPAN UP TO 49 FEET	CATEGORY A: SPEED LESS THAN 91 KNOTS
GROUP II: WING SPAN 49 FEET UP TO 79 FEET	CATEGORY B: SPEED 91 KNOTS UP TO 120 KNOTS

2. IF THE RUNWAY WILL ONLY SERVE SMALL AIRPLANES (12,500 LB. AND UNDER) IN DESIGN GROUP I, THIS DIMENSION MAY BE REDUCED TO 125 FEET; HOWEVER, THIS DIMENSION SHOULD BE INCREASED WHERE NECESSARY TO ACCOMMODATE VISUAL NAVIGATIONAL AIDS THAT MAY BE INSTALLED. FOR EXAMPLE, FARMING OPERATIONS SHOULD NOT BE ALLOWED WITHIN 25 FEET OF A PRECISION APPROACH PATH INDICATOR (PAPI) LIGHT BOX.
3. THESE DIMENSIONS REFLECT THE APPROACH DEPARTURE SURFACES (APDS) AS DEFINED IN AC 150/5300-13A. THE APDS CANNOT BE PENETRATED BY ANY OBJECT. UNDER THESE CONDITIONS, THE APDS IS MORE RESTRICTIVE THAN THE OFA, AND THE DIMENSIONS SHOWN HERE ARE TO PREVENT PENETRATION OF THE APDS BY CROPS AND FARM MACHINERY.

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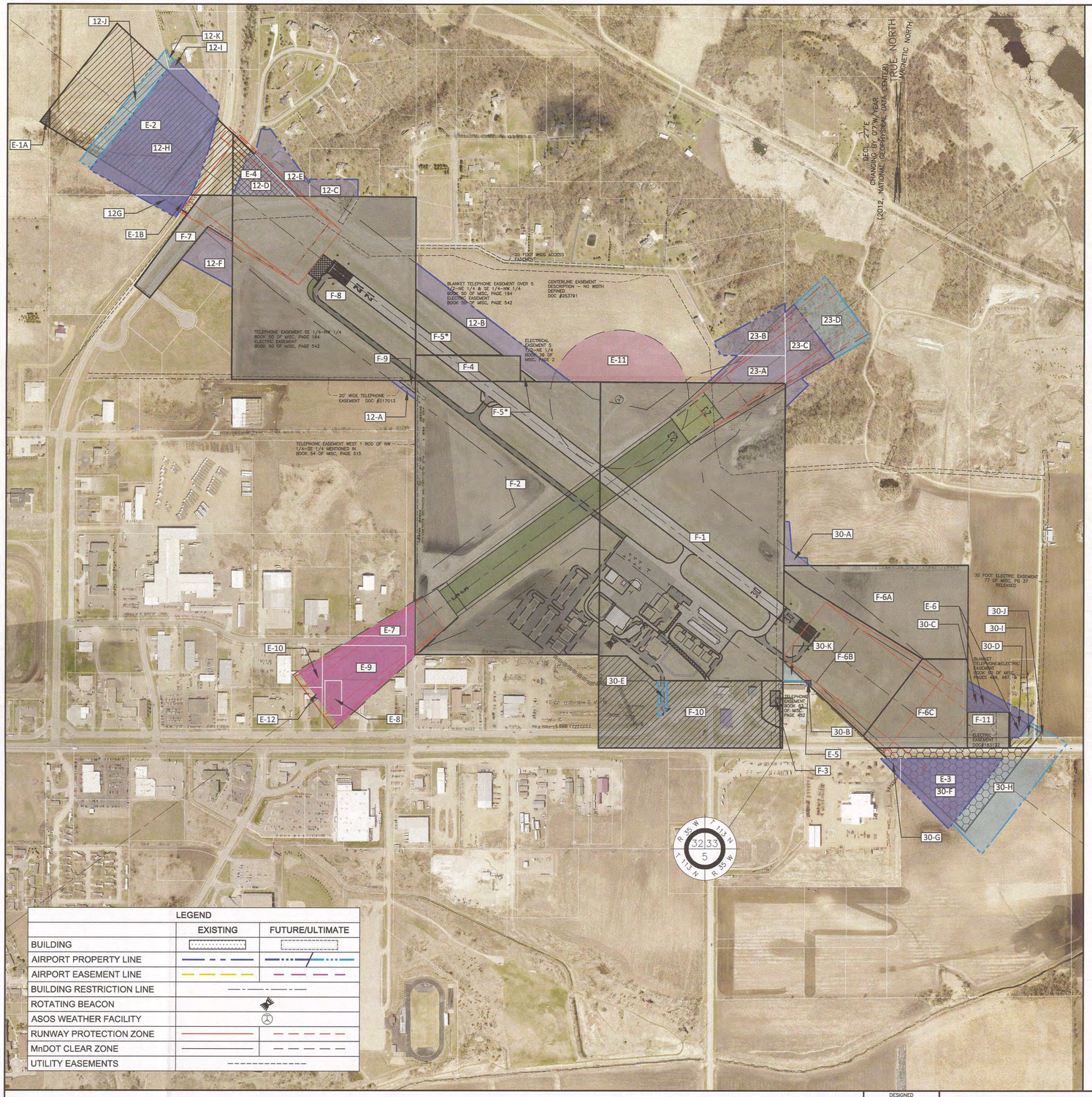
WILLMAR, MN CHASKA, MN RAMSEY, MN MAPLEWOOD, MN
BAXTER, MN ROCHESTER, MN AMES, IA SPENCER, IA

REV.	BY	DATE

REDWOOD FALLS MUNICIPAL AIRPORT
AIRPORT LAYOUT PLAN
ON-AIRPORT LAND USE PLAN DRAWING



EXISTING PROPERTY INFORMATION

PARCEL	TYPE	GRANTOR	DOCUMENT (BOOK/PAGE)	ACQUISITION DATE	FEDERAL/STATE AID NUMBER	ACREAGE (APPROX.)
F-1	FEE	CHARLES & MARY DOMS	96/592	4/2/1947	S.P. 6401-00A	77.62
F-2	FEE	JESSIE & FRANK DUNKLE	96/594	4/7/1947	S.P. 6401-00A	60.00
F-3	FEE	WALTER & ELIZABETH MOUNT	109/484	4/29/1958	NONE	0.28
F-4	FEE	ELLEN & RAY DAVIS	111/169	2/2/1960	S.P. 6401-05A	3.20
F-5*	FEE	VERNON & LAURA ZACHOW	124/593	12/22/1972	S.P. 6401-09, -10	3.55
F-6A	FEE	S.R. & SUSAN KLABUNDE	124/559	12/14/1972	S.P. 6401-09, -10	13.42
F-6B	FEE	S.R. & SUSAN KLABUNDE	124/561	12/14/1972	S.P. 6401-09, -10	13.61
F-6C	FEE	S.R. & SUSAN KLABUNDE	127/573	7/30/1974	S.P. 6401-09, -10	6.95
F-7	FEE	NOT AVAILABLE	DEEDS, PAGE 523	1/30/1973	S.P. 6401-09, -10	3.94
F-8	FEE	DAVIS, MAGUIRE, ZACHOW	128/25	9/27/1974	S.P. 6401-09, -10	40.27
F-9	FEE	NOT AVAILABLE	124/595	NOT AVAILABLE	NOT AVAILABLE	0.13
F-10	REALLOCATION	REDWOOD FALLS PORT AUTH.	DOC #299056	2/23/2001	NONE	13.69
F-11	FEE	DORIS M. RODD	DOC #315588	12/30/2004	AIP 3-27-0083-04-04	1.30
E-1A	EASEMENT	KENNETH & ETHEL KEIL	DOC #216083	6/24/1974	S.P. 6401-09, -10	0.11
E-1B	EASEMENT	KENNETH & ETHEL KEIL	DOC #216083	6/24/1974	S.P. 6401-09, -10	0.29
E-2	EASEMENT	CHURCH OF ST. CATHERINE	DOC #216088	6/24/1974	S.P. 6401-09, -10	18.02
E-3	EASEMENT	EDITH B PARSONS	DOC #216090	6/24/1974	S.P. 6401-09, -10	6.48
E-4	EASEMENT	HARRY & DIANNE TRYON	DOC #216091	6/24/1974	S.P. 6401-09, -10	1.85
E-5	EASEMENT	HARRY AND ETHEL OMTVEDT	DOC #216092	6/24/1974	S.P. 6401-09, -10	0.05
E-6	EASEMENT	DAHLBERG, ET AL.	DOC #216093	6/24/1974	S.P. 6401-09, -10	1.26
* F-5 contains two tracts under one deed.					TOTAL EXISTING FEE	210.6
					TOTAL EXISTING EASEMENT	28.06

FUTURE PROPERTY INFORMATION

PARCEL	DESCRIPTION	GRANTOR	JUSTIFICATION	ACQUISITION DATE	FEDERAL/STATE AID NUMBER	ACREAGE (APPROX.)
E-7	EASEMENT	MINNESOTA DEPARTMENT OF TRANS.	RUNWAY 5 RPZ	TO BE ACQUIRED	FUTURE	0.86
E-8	EASEMENT	DAKTRONICS, INC.	RUNWAY 5 RPZ	TO BE ACQUIRED	FUTURE	1.85
E-9	EASEMENT	DAKTRONICS, INC.	RUNWAY 5 RPZ	TO BE ACQUIRED	FUTURE	3.30
E-10	EASEMENT	REDWOOD FALLS INDUSTRIES, INC.	RUNWAY 5 RPZ	TO BE ACQUIRED	FUTURE	0.77
E-12	EASEMENT	PAUL & SUSAN SWOBODA	RUNWAY 5 RPZ	TO BE ACQUIRED	FUTURE	0.14
12-A	FEE	CITY OF REDWOOD FALLS	RUNWAY 12/30 BRL	TO BE ACQUIRED	FUTURE	0.14
12-B	FEE	R. NELSON & T. MARGUTH	RUNWAY 12/30 BRL	TO BE ACQUIRED	FUTURE	4.15
12-C	FEE	DALE & MARLIS JACOBSEN	RUNWAY 12 AIRSPACE	TO BE ACQUIRED	FUTURE	0.99
12-D	FEE	REDWOOD FALLS PORT AUTHORITY	RUNWAY 12 APPROACH	TO BE ACQUIRED	FUTURE	1.74
12-E	FEE	JOSEPHINE KREMIN	RUNWAY 12 APPROACH	TO BE ACQUIRED	FUTURE	2.01
12-F	FEE	REDWOOD FALLS PORT AUTHORITY	RUNWAY 12 APPROACH	TO BE ACQUIRED	FUTURE	2.12
12-G	FEE	ETHEL KEIL	RUNWAY 12 CZ	TO BE ACQUIRED	FUTURE	0.74
12-H	FEE	MICHAEL & JULIA SALMON	RUNWAY 12 CZ	TO BE ACQUIRED	FUTURE	12.10
12-I	FEE	VERNON & SHEILA STAGE	RUNWAY 12 CZ	TO BE ACQUIRED	FUTURE	0.09
23-A	FEE	R. NELSON & T. MARGUTH	RUNWAY 23 APPROACH	TO BE ACQUIRED	FUTURE	1.95
23-B	FEE	CARLETON BJERKE	RUNWAY 23 APPROACH	TO BE ACQUIRED	FUTURE	2.74
23-C	FEE	NORTHERN CON-AGG	RUNWAY 23 APPROACH	TO BE ACQUIRED	FUTURE	2.99
30-A	FEE	NORTHERN CON-AGG	RUNWAY 12/30 BRL	TO BE ACQUIRED	FUTURE	0.42
30-B	FEE	CLEMENTS LUMBER	RUNWAY 30 RPZ/CZ	TO BE ACQUIRED	FUTURE	0.03
30-C	FEE	GILMAN DAHLBERG	RUNWAY 30 CZ	TO BE ACQUIRED	FUTURE	0.98
30-D	FEE	NORTHERN CON-AGG	RUNWAY 30 CZ	TO BE ACQUIRED	FUTURE	0.58
30-E	FEE	REDWOOD FALLS PORT AUTHORITY	ENTRANCE ROAD	TO BE ACQUIRED	FUTURE	0.37
30-F	FEE	NELSON FAMILY FARMS	RUNWAY 30 CZ	TO BE ACQUIRED	FUTURE	4.90
30-G	FEE	TITAN MACHINERY	RUNWAY 30 CZ	TO BE ACQUIRED	FUTURE	0.24
(1) PART 77 PROTECTION MAY BE NEGOTIATED IN THESE AREAS SEPARATE OF EASEMENT OR FEE ACQUISITION FOR RUNWAY 5 AND 12 ENDS.				TOTAL NEAR-TERM FEE		39.3
				TOTAL NEAR-TERM EASEMENT		6.9

ULTIMATE PROPERTY INFORMATION

PARCEL	DESCRIPTION	GRANTOR	JUSTIFICATION	ACQUISITION DATE	FEDERAL/ STATE AID NUMBER	ACREAGE (APPROX.)
E-11	EASEMENT	R. NELSON & T. MARGUTH	ASOS CLEAR AREA	TO BE ACQUIRED	FUTURE	6.09
12-J	FEE	MICHAEL & JULIA SALMON	RUNWAY 12 CZ	TO BE ACQUIRED	FUTURE	2.15
12-K	FEE	VERNON & SHEILA STAGE	RUNWAY 12 CZ	TO BE ACQUIRED	FUTURE	0.07
23-D	FEE	NORTHERN CON-AGG	RUNWAY 23 APPROACH	TO BE ACQUIRED	FUTURE	3.61
30-H	FEE	NELSON FAMILY FARMS	RUNWAY 30 CZ	TO BE ACQUIRED	FUTURE	5.06
30-I	FEE	NORTHERN CON-AGG	RUNWAY 30 CZ	TO BE ACQUIRED	FUTURE	0.15
30-J	FEE	GILMAN DAHLBERG	RUNWAY 30 CZ	TO BE ACQUIRED	FUTURE	0.18
30-K	FEE	REDWOOD FALLS PORT AUTHORITY	TAXIWAY EXTENSION	TO BE ACQUIRED		0.25
				TOTAL ULTIMATE FEE		11.5
				TOTAL ULTIMATE EASEMENT		6.1

LEGEND

	EXISTING	FUTURE/ULTIMATE
BUILDING		
AIRPORT PROPERTY LINE		
AIRPORT EASEMENT LINE		
BUILDING RESTRICTION LINE		
ROTATING BEACON		
ASOS WEATHER FACILITY		
RUNWAY PROTECTION ZONE		
MnDOT CLEAR ZONE		
UTILITY EASEMENTS		

LAND ACQUISITION HATCH

EXISTING		ULTIMATE	
FUTURE		ULTIMATE EASEMENT	

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DESIGNED MSW/CTH
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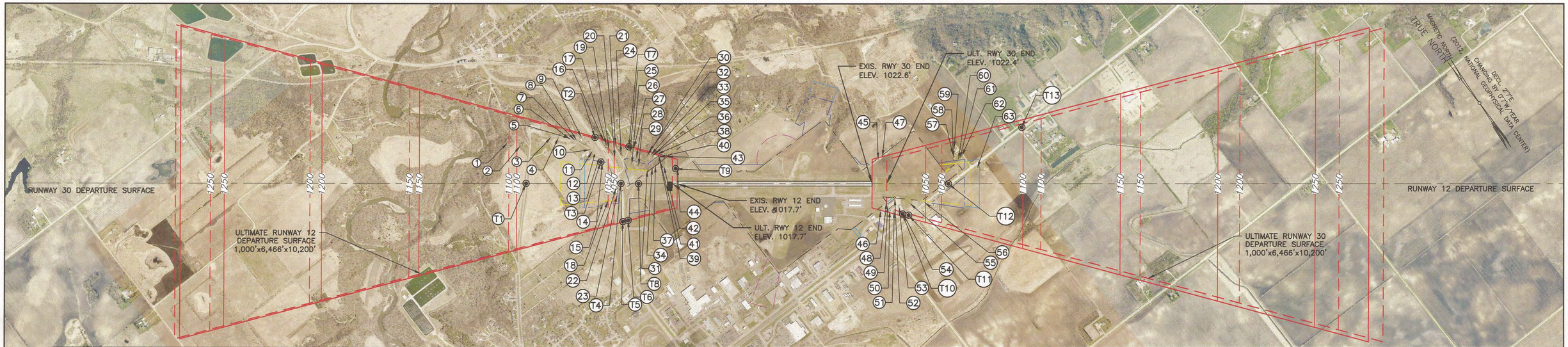
WILLMAR, MN CHASKA, MN RAMSEY, MN MAPLEWOOD, MN
BAXTER, MN ROCHESTER, MN AMES, IA SPENCER, IA

REV.	BY	DATE

REDWOOD FALLS MUNICIPAL AIRPORT
AIRPORT LAYOUT PLAN
AIRPORT PROPERTY MAP – EXHIBIT A

SHEET 11 OF 12



RUNWAY 30 DEPARTURE OBSTRUCTION TABLE

ID	DESCRIPTION	OBJECT ELEVATION	EXISTING IMAGINARY SURFACE ELEV.	ULTIMATE IMAGINARY SURFACE ELEV.	EXISTING PENETRATION	ULTIMATE PENETRATION	SURFACE	DISPOSITION
1	TREE	1100.7	1104.8	1100.7	-	0.0	DEPARTURE	PUBLISH OBSTACLE
2	TREE	1096.3	1098.1	1094.2	-	2.1	DEPARTURE	PUBLISH OBSTACLE
3	TREE	1092.8	1082.4	1078.8	10.4	14.0	DEPARTURE	PUBLISH OBSTACLE
4	TREE	1087.8	1078.6	1075.1	9.2	12.7	DEPARTURE	PUBLISH OBSTACLE
5	TREE	1089.7	1072.7	1069.3	17.0	20.5	DEPARTURE	PUBLISH OBSTACLE
6	TREE	1090.8	1072.7	1069.2	18.2	21.6	DEPARTURE	PUBLISH OBSTACLE
7	TREE	1092.5	1070.2	1066.9	22.2	25.6	DEPARTURE	PUBLISH OBSTACLE
8	TREE	1086.4	1069.3	1065.9	17.1	20.5	DEPARTURE	PUBLISH OBSTACLE
9	TREE	1068.8	1066.8	1063.5	2.0	5.3	DEPARTURE	PUBLISH OBSTACLE
10	TREE	1062.4	1062.2	1059.0	0.2	3.4	DEPARTURE	PUBLISH OBSTACLE
11	TREE	1058.2	1061.2	1058.0	-	0.2	DEPARTURE	PUBLISH OBSTACLE
12	TREE	1063.7	1059.9	1056.7	3.8	7.0	DEPARTURE	PUBLISH OBSTACLE
13	TREE	1073.6	1057.8	1054.6	15.9	19.0	DEPARTURE	TRIM/REMOVE
14	TREE	1063.3	1056.0	1052.9	7.3	10.4	DEPARTURE	TRIM/REMOVE
15	TREE	1058.4	1056.0	1052.9	2.4	5.5	DEPARTURE	PUBLISH OBSTACLE
16	TREE	1055.4	1055.5	1052.4	-	3.0	DEPARTURE	PUBLISH OBSTACLE
17	TREE	1057.0	1056.0	1050.9	3.0	6.0	DEPARTURE	PUBLISH OBSTACLE
18	TREE	1051.0	1053.1	1050.0	-	1.0	DEPARTURE	PUBLISH OBSTACLE
19	TREE	1049.8	1052.8	1049.7	-	0.1	DEPARTURE	PUBLISH OBSTACLE
20	TREE	1048.3	1049.7	1046.7	-	1.6	DEPARTURE	PUBLISH OBSTACLE
21	TREE	1050.5	1049.5	1046.5	1.0	4.0	DEPARTURE	PUBLISH OBSTACLE
22	TREE	1057.4	1049.0	1046.0	8.4	11.4	DEPARTURE	REMOVED (2012)

RUNWAY 30 DEPARTURE OBSTRUCTION TABLE

ID	DESCRIPTION	OBJECT ELEVATION	EXISTING IMAGINARY SURFACE ELEV.	ULTIMATE IMAGINARY SURFACE ELEV.	EXISTING PENETRATION	ULTIMATE PENETRATION	SURFACE	DISPOSITION
23	TREE	1057.3	1048.5	1045.6	8.8	11.7	DEPARTURE	REMOVED (2012)
24	TREES	1045.2	1046.5	1043.6	-	1.6	DEPARTURE	PUBLISH OBSTACLE
25	TREE	1041.0	1042.0	1039.1	-	1.9	DEPARTURE	PUBLISH OBSTACLE
26	TREE	1040.5	1041.0	1038.2	-	2.3	DEPARTURE	PUBLISH OBSTACLE
27	TREE	1054.3	1040.0	1037.2	14.3	17.0	DEPARTURE	PUBLISH OBSTACLE
28	TREES	1054.9	1038.7	1035.9	16.2	19.0	DEPARTURE	PUBLISH OBSTACLE
29	TREES	1049.7	1037.5	1034.8	12.2	14.9	DEPARTURE	TRIM/REMOVE
30	TREES	1044.8	1033.3	1030.6	11.5	14.2	DEPARTURE	PUBLISH OBSTACLE
31	TREES	1052.4	1033.0	1030.4	19.3	22.0	DEPARTURE	TRIM/REMOVE
32	TREES	1053.9	1032.4	1029.7	21.5	24.1	DEPARTURE	PUBLISH OBSTACLE
33	TREE	1058.3	1031.2	1028.5	27.1	29.8	DEPARTURE	PUBLISH OBSTACLE
34	TREES	1053.4	1030.5	1027.9	22.9	25.5	DEPARTURE	TRIM/REMOVE
35	TREE	1046.0	1030.6	1028.0	15.5	18.1	DEPARTURE	PUBLISH OBSTACLE
36	HOUSE	1031.4	1029.4	-	2.1	-	DEPARTURE	PUBLISH OBSTACLE
37	TREES	1064.7	1028.8	1026.3	35.8	38.4	DEPARTURE	TRIM/REMOVE
38	TREE	1054.0	1028.2	1025.7	25.8	28.4	DEPARTURE	PUBLISH OBSTACLE
39	TREE	1044.4	1027.3	-	17.1	-	DEPARTURE	PUBLISH OBSTACLE
40	TREE	1049.3	1027.2	1024.7	22.1	24.6	DEPARTURE	PUBLISH OBSTACLE
41	TREES	1068.8	1026.4	1023.9	42.4	44.9	DEPARTURE	TRIM/REMOVE
42	TREES	1059.7	1024.6	1022.1	35.1	37.6	DEPARTURE	TRIM/REMOVE
43	TREE	1028.8	1023.3	-	5.5	-	DEPARTURE	PUBLISH OBSTACLE
44	ROAD	1024.7	1017.7	1017.7	7.0	6.5	DEPARTURE	PUBLISH OBSTACLE

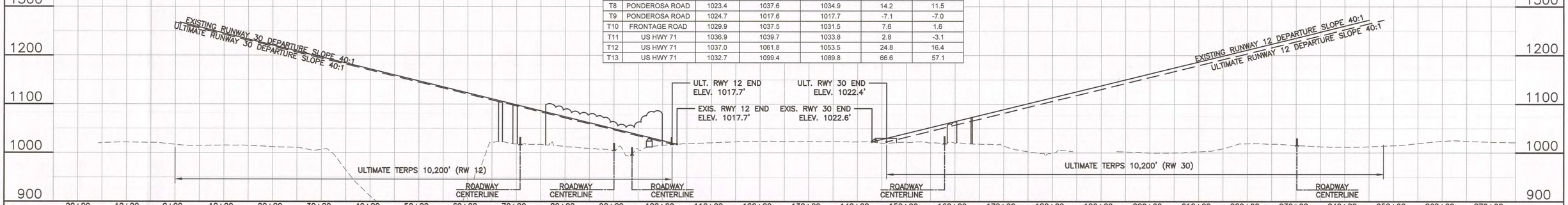
RUNWAY 12 DEPARTURE OBSTRUCTION TABLE

ID	DESCRIPTION	OBJECT ELEVATION	EXISTING IMAGINARY SURFACE ELEV.	ULTIMATE IMAGINARY SURFACE ELEV.	EXISTING PENETRATION	ULTIMATE PENETRATION	SURFACE	DISPOSITION
45	TREE	1038.3	1025.7	-	12.6	-	DEPARTURE	PUBLISH OBSTACLE
46	BUILDING	1042.3	1027.2	-	15.2	-	DEPARTURE	PUBLISH OBSTACLE
47	TREE	1035.6	1027.9	-	7.8	-	DEPARTURE	PUBLISH OBSTACLE
48	FENCE	1030.6	-	1022.4	-	8.2	DEPARTURE	PUBLISH OBSTACLE
49	BUILDING	1039.0	1030.7	1023.0	8.3	16.0	DEPARTURE	REMAIN/FAA STUDY (1)
50	BUILDING	1050.8	1031.7	-	19.1	-	DEPARTURE	PUBLISH OBSTACLE
51	BUILDING	1043.5	1034.0	-	9.5	-	DEPARTURE	PUBLISH OBSTACLE
52	BUILDING	1034.5	1034.2	1026.4	0.2	8.0	DEPARTURE	PUBLISH OBSTACLE
53	BUILDING	1037.5	1036.4	1028.6	1.1	8.9	DEPARTURE	PUBLISH OBSTACLE
54	BUILDING	1048.0	1037.8	1030.0	10.2	18.1	DEPARTURE	PUBLISH OBSTACLE
55	TREES	1036.3	1042.0	1034.0	-	2.2	DEPARTURE	PUBLISH OBSTACLE
56	ROAD	1036.9	1039.7	1033.8	-	3.1	DEPARTURE	PUBLISH OBSTACLE
57	TREE	1058.1	1064.0	1055.7	-	2.5	DEPARTURE	PUBLISH OBSTACLE
58	TREE	1064.3	1064.3	1055.9	0.0	8.4	DEPARTURE	PUBLISH OBSTACLE
59	TREE	1058.3	1064.6	1056.2	-	2.1	DEPARTURE	PUBLISH OBSTACLE
60	TREE	1060.5	1066.9	1058.5	-	3.0	DEPARTURE	PUBLISH OBSTACLE
61	TREE	1060.0	1067.6	1059.1	-	0.9	DEPARTURE	PUBLISH OBSTACLE
62	TREE	1067.7	1068.6	1060.1	-	7.6	DEPARTURE	PUBLISH OBSTACLE
63	TREE	1068.6	1076.5	1067.9	-	0.7	DEPARTURE	PUBLISH OBSTACLE

(1) FAA DETERMINATION OF NO HAZARD TO AIR NAVIGATION. MARKING/LIGHTING IS VOLUNTARY

TRAVERSE WAY VERTICAL CLEARANCE

ID	DESCRIPTION	OBJECT ELEVATION	EXISTING IMAGINARY SURFACE ELEV.	ULTIMATE IMAGINARY SURFACE ELEV.	EXISTING CLEARANCE	ULTIMATE CLEARANCE
T1	N. SWAIN ST.	1033.7	1095.3	1091.4	61.6	57.7
T2	COUNTY HWY 101	988.0	1060.3	1056.5	72.2	68.4
T3	ACTIVE AID ROAD	1031.5	1056.9	1053.8	25.4	22.3
T4	COUNTY HWY 101	1032.0	1045.2	1042.2	13.2	10.2
T5	COUNTY HWY 101	1028.2	1046.6	1043.7	18.3	15.4
T6	PONDEROSA ROAD	1030.3	1042.9	1040.0	12.6	9.7
T7	BURR OAK ROAD	1025.3	1042.4	1039.7	17.1	14.4
T8	PONDEROSA ROAD	1023.4	1037.6	1034.9	14.2	11.5
T9	PONDEROSA ROAD	1024.7	1017.6	1017.7	-7.1	-7.0
T10	FRONTAGE ROAD	1029.9	1037.5	1031.5	7.6	1.6
T11	US HWY 71	1036.9	1039.7	1033.8	2.8	-3.1
T12	US HWY 71	1037.0	1061.8	1053.5	24.8	16.4
T13	US HWY 71	1032.7	1099.4	1089.8	66.6	57.1



HORIZ. 0 1000 2000 SCALE FEET
VERT. 0 100 200 SCALE FEET

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H:\REDW\T41104234\C3D\12_104234-12RWY 1230 TERPS.dwg 2/19/15 2:40 pm

DESIGNED MSW/CTH
DRAWN CTH
CHECKED MSW

BOLTON & MENK, INC.
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REDWOOD FALLS MUNICIPAL AIRPORT
AIRPORT LAYOUT PLAN
AIRPORT DEPARTURE SURFACE 12/30

SHEET 12 OF 12