VICINITY MAP

(NO SCALE)

AIRPORT LAYOUT PLAN

FOR

PERHAM MUNICIPAL AIRPORT

PERHAM, OTTER TAIL COUNTY, MINNESOTA

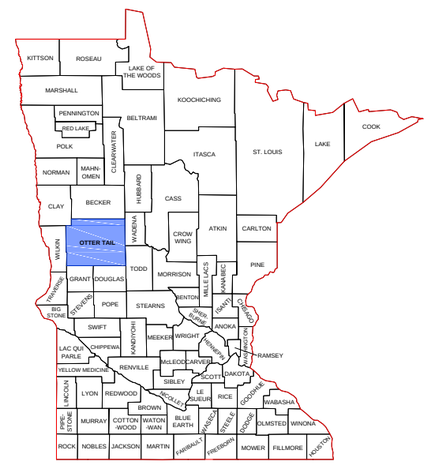
CITY OF PERHAM (OWNER)

June 2020

LOCATION MAP

(NO SCALE)

ON BEHALF OF THE CITY OF PERHAM, THIS AIRPORT LAYOUT PLAN (ALP) WAS PREPARED BY KLJ AND, IN GENERAL, FOLLOWS APPLICABLE FAA ADVISORY CIRCULARS AT THE TIME THE PROJECT WAS SCOPED. THE AIRPORT IS CLASSIFIED AS A STATE AIRPORT, AND IS NOT OBLIGATED TO THE FULL EXTENT OF FAA GUIDELINES. IN GENERAL, THIS AIRPORT LAYOUT PLAN FOLLOWS THE FAA'S ARP SOP 2.OO STANDARD PROCEDURE FOR FAA REVIEW AND APPROVAL OF AIRPORT LAYOUT PLANS (ALPs), BUT MAY NOT INCLUDE ALL ELEMENTS. ALL DATA THAT WAS COLLECTED FOR THE PURPOSE OF THIS PROJECT IS ACCURATELY DEPICTED, AND FOLLOWS FAA GUIDELINES WHERE APPLICABLE.



STATE OF MINNESOTA

REVISION DATE

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2. AIRPORT DATA SHEET
3. AIRPORT LAYOUT PLAN
4. TERMINAL AREA
5. INNER PORTION OF THE APPROACH SURFACE - RUNWAY 13 END
6. INNER PORTION OF THE APPROACH SURFACE - RUNWAY 31 END
7. AIRPORT AIRSPACE
8. MnDOT LAND USE DRAWING
9. LAND USE DRAWING
10. AIRPORT PROPERTY MAP

ALP APPROVALS

AIRSPACE APPROVAL

ALP AIRSPACE APPROVAL DATE: _____

CASE #:_____

MNDOT OFFICE OF AERONAUTICS

SIGNATURE:_____

NAME:_____

TITLE:_____

DATE: _____

AIRPORT SPONSOR

SIGNATURE:_____

NAME:_____

TITLE:_____

DATE: _____

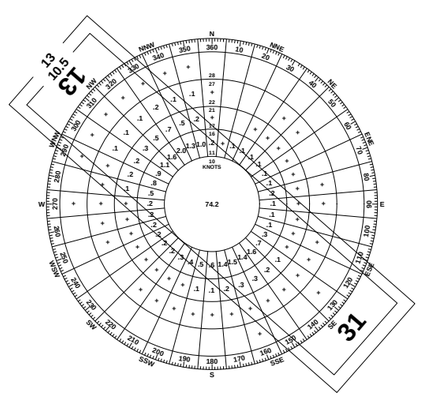
PLANNING FIRM REPRESENTATIVE

SIGNATURE:_____

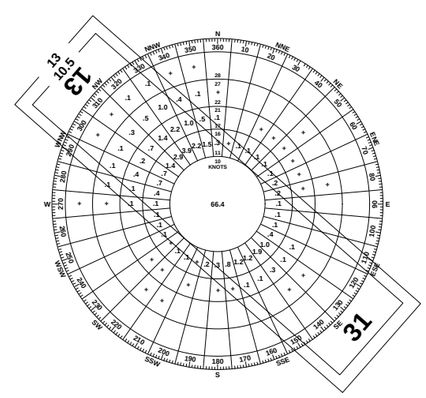
NAME:_____

TITLE:_____

DATE: _____



ALL WEATHER



IFR

WINDROSE

ALL-WEATHER WIND COVERAGE		
CONFIGURATION	CROSSWIND COMPONENT	
	10.5 KNOTS	13 KNOTS
RUNWAY 13-31	96.16%	98.75%
SOURCE: DTL AWOS (2008-2017, HOURLY) FROM NATIONAL CLIMATIC DATA CENTER 86,537 TOTAL OBSERVATIONS		

INSTRUMENT FLIGHT RULES (IFR) WIND COVERAGE		
CONFIGURATION	CROSSWIND COMPONENT	
	10.5 KNOTS	13 KNOTS
RUNWAY 13-31	96.95%	98.97%
12,089 TOTAL OBSERVATIONS		
SOURCE: DTL AWOS (2008-2017, HOURLY) FROM NATIONAL CLIMATIC DATA CENTER IFR = VISIBILITY LOWER THAN 3 MILES OR CEILING LOWER THAN 1,000 FEET		

PERHAM MUNICIPAL AIRPORT

PROJ. #141217109

PERHAM MUNICIPAL AIRPORT

CITY OF PERHAM (OWNER)

PERHAM, MINNESOTA

TO BE USED AS A COMPLETE DRAWING SET FOR PLANNING PURPOSES ONLY, NOT FOR CONSTRUCTION

Rev.	Date	Description

TITLE SHEET

DRAFTED: MTK

REVIEWED: ARTZ

PROJECT NUMBER: 141217109

SHEET: 1

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RUNWAY DATA TABLE		
	PRIMARY RUNWAY 13/31	
ITEM	EXISTING & ULTIMATE (E & U)	
RUNWAY DESIGNATION	13	31
RUNWAY DESIGN CODE (RDC)	B-II(S)-5000	B-II(S)-5000
APPROACH REFERENCE CODE (APRC)	N/A	N/A
DEPARTURE REFERENCE CODE (DPRC)	N/A	N/A
RUNWAY DIMENSIONS	4102' x 75'	
RUNWAY LENGTH CRITERIA	-	
CRITICAL AIRCRAFT (TYPE)	BEECHCRAFT KING AIR 200	
CRITICAL AIRCRAFT (WINGSPAN)	57'	
CRITICAL AIRCRAFT (TAIL HEIGHT)	15'	
CRITICAL AIRCRAFT (APPROACH SPEED)	97 (Kts.)	
MAXIMUM TAKEOFF WEIGHT (MTOW)	12500 (LBS.)	
RUNWAY END ELEVATION	1376.1'	1371.4'
TOUCHDOWN ZONE ELEVATION (TDZE)	1376.1'	1373.8'
RUNWAY GRADIENT	0.115%	
MAX GRADE WITHIN RUNWAY LENGTH (%)	2.000%	
RUNWAY MEETS LINE OF SIGHT REQUIREMENTS	YES	
RUNWAY LIGHTING	MIRL	
PAVEMENT TYPE	BITUMINOUS	
RUNWAY CATEGORY	UTILITY	
PAVEMENT STRENGTH (WHEEL-LOAD)	12500 LBS (SW)	
PAVEMENT CLASSIFICATION NUMBER (PCN)	N/A	
PAVEMENT MARKINGS	NON-PRECISION	NON-PRECISION
SURFACE TREATMENT	NONE	
RUNWAY SAFETY AREA (RSA)	4702' x 150'	
RUNWAY OBJECT FREE AREA (OFA)	4702' x 500'	
RUNWAY OBSTACLE FREE ZONE (OFZ)	4502' x 250'	
14 CFR PART 77 APPROACH TYPE	NON-PRECISION	NON-PRECISION
14 CFR PART 77 APPROACH SLOPE	20:1	20:1
14 CFR PART 77 APPROACH DIMENSIONS	500 X 2000 X 5000	500 X 2000 X 5000
VISIBILITY MINIMUMS	1 MILE	1 MILE
THRESHOLD SITING SURFACE (TSS) CATEGORY	4	4
THRESHOLD SITING SURFACE (TSS) SLOPE	20:1	20:1
THRESHOLD SITING SURFACE (TSS) DIMENSIONS	STARTS 200' FROM THRESHOLD, 400' X 3400' X 10000'	STARTS 200' FROM THRESHOLD, 400' X 3400' X 10000'
GLIDEPATH QUALIFICATION SURFACE (GQS)	30:1	30:1
GLIDEPATH QUALIFICATION SURFACE (GQS) DIMENSIONS	275' X 1520' X 10000'	275' X 1520' X 10000'
DEPARTURE SURFACE	40:1	40:1
DEPARTURE SURFACE DIMENSIONS	1000' X 6466' X 10200'	1000' X 6466' X 10200'
AERONAUTICAL SURVEY-TYPE REQUIRED	-	-
RUNWAY ORIENTATION (TRUE)	130.31°	310.31°
MAGNETIC DECLINATION (2020)	1.91° (E)	1.91° (E)
RUNWAY ORIENTATION (MAGNETIC)	128.4°	308.4°
VISUAL AND INSTRUMENT NAVAIDS (NAVAIDs)	PAPI, REIL	PAPI, REIL
DISPLACED THRESHOLD	None	None
TAKEOFF RUNWAY AVAILABLE (TORA)	4102'	4102'
TAKEOFF DISTANCE AVAILABLE (TODA)	4102'	4102'
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	4102'	4102'
LANDING DISTANCE AVAILABLE (LDA)	4102'	4102'
RPZ DIMENSIONS - APPROACH	250' X 450' X 1000'	250' X 450' X 1000'
RPZ DIMENSIONS - DEPARTURE	250' X 450' X 1000'	250' X 450' X 1000'

MODIFICATION TO DESIGN STANDARDS				
APPROVAL DATE	AIRSPACE CASE #	LOCATION	STANDARD MODIFIED	DESCRIPTION
NONE REQUIRED				

AIRPORT DATA TABLE		
ITEM	EXISTING (E)	ULTIMATE (U)
AIRPORT REFERENCE CODE (ARC)	B-II (SMALL)	B-II (SMALL)
AIRPORT OWNERSHIP	PUBLIC	PUBLIC
NPIAS SERVICE LEVEL	-	-
NPIAS ASSET CLASSIFICATION	-	-
STATE SYSTEM PLAN SERVICE LEVEL	INTERMEDIATE	INTERMEDIATE
AIRPORT ELEVATION (MSL)	1376.1'	1376.1'
AIRPORT REFERENCE POINT (ARP)	(N) 46° 36' 39.545"	(N) 46° 36' 39.545"
	(W) 95° 36' 21.988"	(W) 95° 36' 21.988"
MEAN MAX TEMPERATURE (MONTH)	82.1° (JUL)	
AIRPORT NAVAIDS (FAA-OWNED)	-	-
AIRPORT NAVAIDS (SPONSOR-OWNED)	Airport Beacon, Lighted Windcone	Airport Beacon, Lighted Windcone, AWOS
MISCELLANEOUS FACILITIES	-	-
MAGNETIC DECLINATION www.ngdc.noaa.gov/geomag-web/#declination	1.91° (E)	1.91° (E)
MAGNETIC DECLINATION DATE	2020	2020

TAXIWAY DATA TABLE		
	EXISTING (E)	ULTIMATE (U)
HIGHEST TAXIWAY DESIGN GROUP (TDG)	2	2
TAXIWAY WIDTH	40'	35'
TAXIWAY SAFETY AREA WIDTH	79'	79'
TAXIWAY OBJECT FREE AREA WIDTH	131'	131'
TAXIWAY EDGE SAFTETY MARGIN	7.5'	7.5'
TAXIWAY SHOULDER WIDTH	15'	15'
TAXIWAY LIGHTING	MITL	MITL
HIGHEST TAXILANE DESIGN GROUP (TDG)	1A	2
TAXILANE WIDTH	25'	35'
TAXILANE OBJECT FREE AREA WIDTH	115'	115'
TAXILANE LIGHTING	NONE	NONE

COORDINATE SUMMARY TABLE			
Point	Elevation	Latitude	Longitude
ARP (E & U)	N/A	N 46° 36' 39.545"	W 95° 36' 21.988"
Rwy 13 End (E & U)	1376.1'	N 46° 36' 52.643"	W 95° 36' 44.392"
Rwy 13 TDZE (E & U)	1376.1'	N 46° 36' 52.643"	W 95° 36' 44.392"
Rwy 31 End (E & U)	1371.4'	N 46° 36' 26.446"	W 95° 35' 59.587"
Rwy 31 TDZE (E & U)	1373.8'	N 46° 36' 45.606"	W 95° 36' 32.355"
RWY = Runway TDZE = Touchdown Zone Elevation ARP = Airport Reference Point			

NOTES:

1. DATA USED WITHIN THIS AIRPORT LAYOUT PLAN SET IS BASED ON:
   - -PHOTOGRAMMETRIC SURVEY (AERIAL) COMPLETED JULY, 2019 BY KLJ
   - -USGS NATIONAL ELEVATION DATASET AT 1/9 ARC SECOND.
   - -NOAA NATIONAL FLIGHT DATA CENTER DIGITAL OBSTACLE FILE FROM 04/19/2020.
   - -QUADRANGLE MAPS FROM USGS.
   (DATA IS ONLY AS ACCURATE AS THE SOURCES LISTED. ANY TOWERS, STRUCTURES, OR OBJECTS CONSTRUCTED AFTER THESE DATES ARE NOT REPRESENTED IN THIS AIRPORT LAYOUT PLAN SET.)
2. HORIZONTAL DATUM = (GRID) STATE PLANE, NAD 83, MN CENTRAL - FIPS 2202, U.S. SURVEY FEET
3. VERTICAL DATUM = VERTICAL DATUM = NAVD 88, U.S. SURVEY FEET
4. LATITUDE & LONGITUDE CALCULATED USING CORPSCON VERSION 6.0.1.

KLJ

PERHAM MUNICIPAL AIRPORT

CITY OF PERHAM (OWNER)

PERHAM, MINNESOTA

TO BE USED AS A COMPLETE DRAWING SET FOR PLANNING PURPOSES ONLY, NOT FOR CONSTRUCTION

AIRPORT DATA SHEET

Rev.	Date	Description

DRAFTED MTK

REVIEWED ARTZ

PROJECT NUMBER 141217109

SHEET 2

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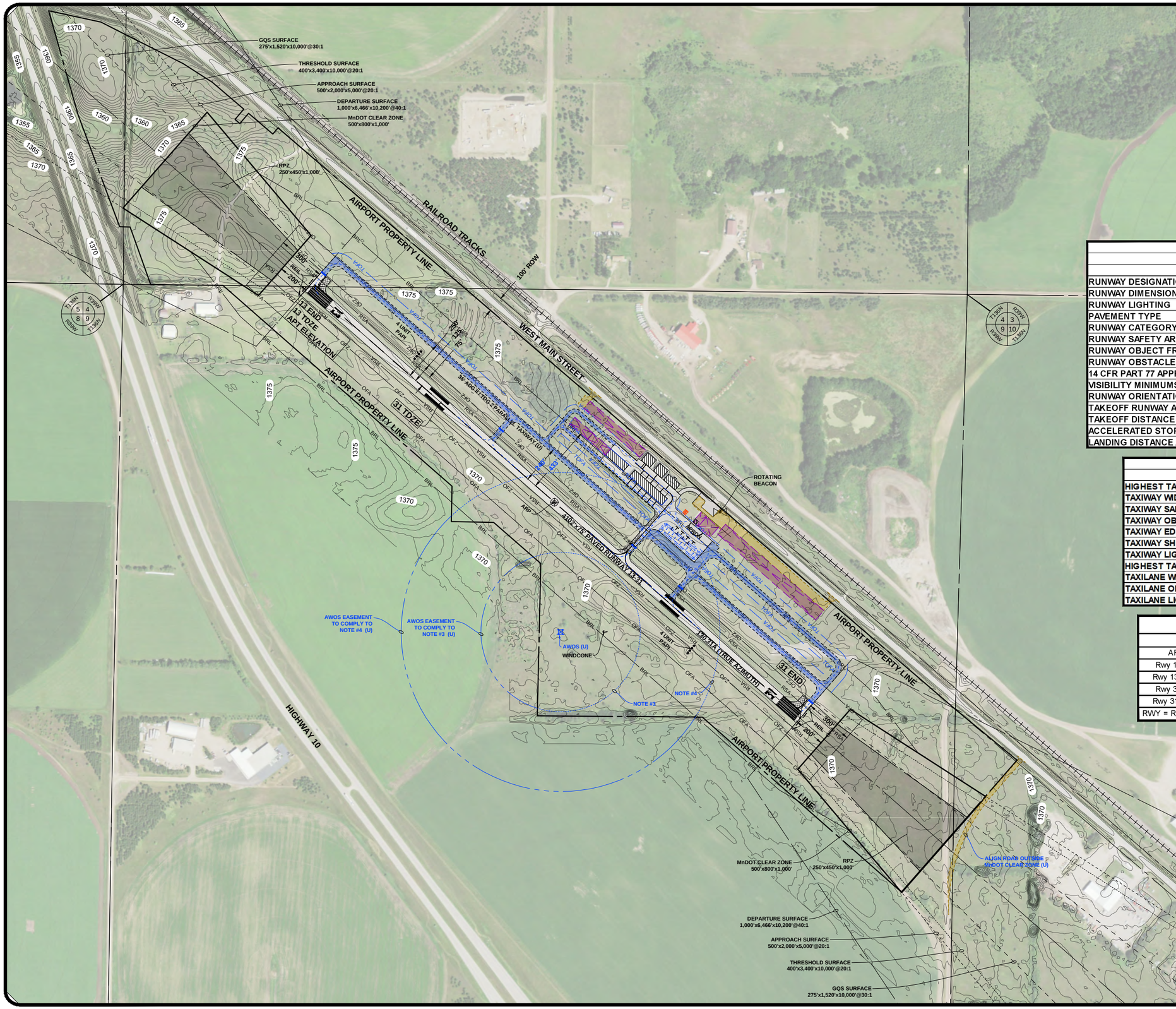

NOTES:
1. SEE SHEET 2 FOR AIRPORT & RUNWAY DATA TABLES.
2. SEE INNER APPROACH SHEETS FOR OBSTACLE DATA.
3. OBJECTS WITHIN 500' MUST REMAIN 15' BELOW WIND SENSOR.
4. OBJECTS 500'-1000' MUST REMAIN 10' BELOW WIND SENSOR.

LEGEND

EXISTING (E)	ITEM	ULTIMATE (U)
	AIRPORT PROPERTY LINE	
BRL	25' BUILDING RESTRICTION LINE (BRL)	BRL
OFA	RUNWAY OBJECT FREE AREA (OFA)	OFA
RSA	RUNWAY SAFETY AREA (RSA)	RSA
TOFA	TAXIWAY OBJECT FREE AREA (TOFA)	TOFA
N/A	BUILDING/BUILDING LOT	N/A
ASPHALT CONCRETE	AIRSIDE PAVED SURFACE	
	LANDSIDE ROAD/PARKING	
NONE	WILDLIFE FENCE	
	AIRPLANE TIEDOWN	
N/A	BUILDING/PAVEMENT TO BE REMOVED	

RUNWAY DATA TABLE

ITEM	PRIMARY RUNWAY 13/31 EXISTING & ULTIMATE (E & U)	
RUNWAY DESIGNATION	13	31
RUNWAY DIMENSIONS	4102' x 75'	
RUNWAY LIGHTING	MIRL	
PAVEMENT TYPE	BITUMINOUS	
RUNWAY CATEGORY	UTILITY	
RUNWAY SAFETY AREA (RSA)	4702' x 150'	
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RUNWAY OBSTACLE FREE ZONE (OFZ)	4502' x 250'	
14 CFR PART 77 APPROACH TYPE	NON-PRECISION	NON-PRECISION
VISIBILITY MINIMUMS	1 MILE	1 MILE
RUNWAY ORIENTATION (TRUE)	130.31°	310.31°
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KLJ

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CITY OF PERHAM (OWNER)

PERHAM, MINNESOTA

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AIRPORT LAYOUT PLAN

Rev.	Date	Description

DRAFTED MTK

REVIEWED ARTZ

PROJECT NUMBER 141217109

SHEET 3

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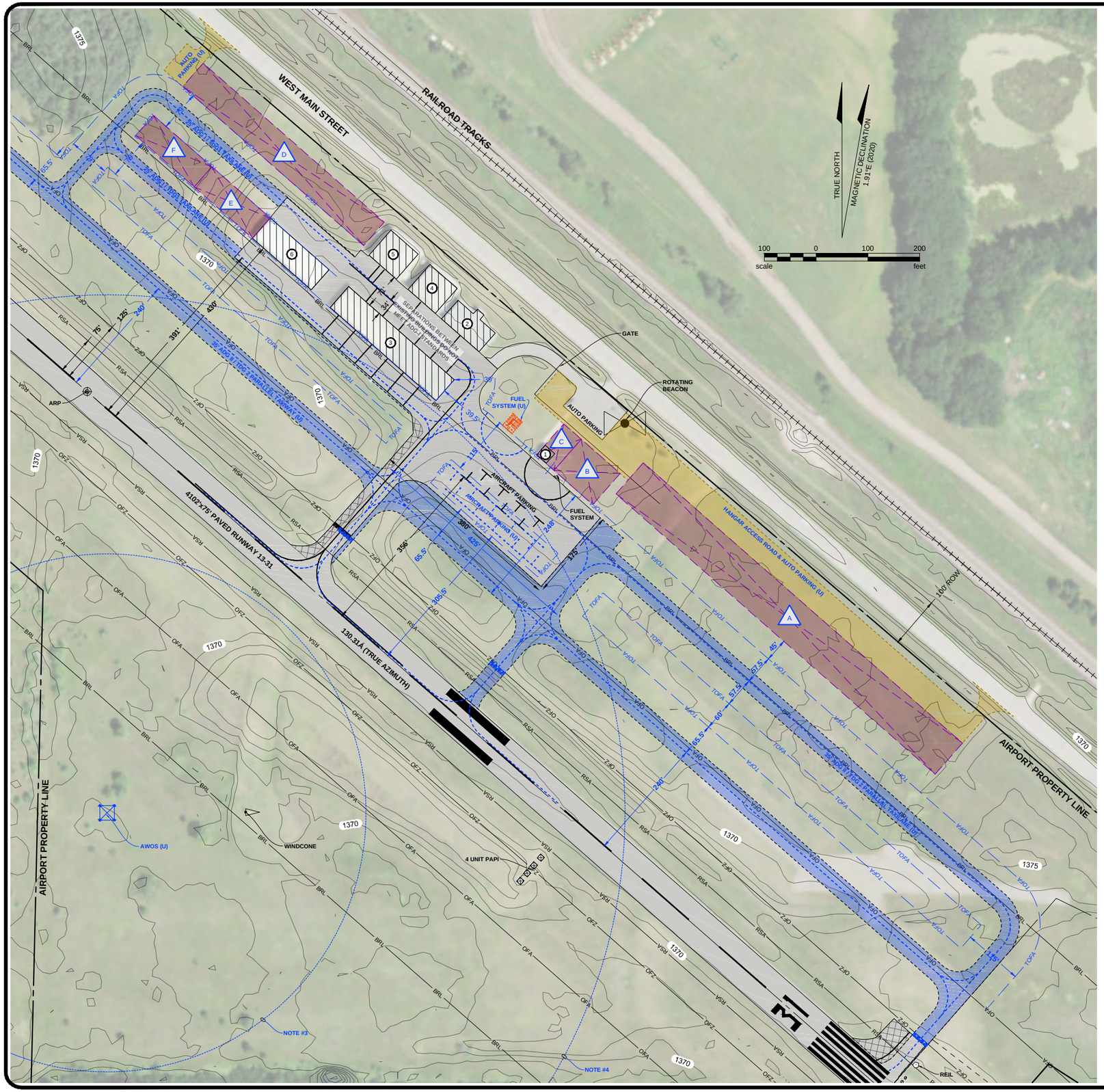
June 9, 2020 - 3:28 PM - K:\Projects\Airport\MN\Perham_16D\141217109\CAD\ALP\141217109_Plan.dwg (Plan)



NOTES:
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3. OBJECTS WITHIN 500' MUST REMAIN 15' BELOW WIND SENSOR.
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LEGEND

EXISTING (E)	ITEM	ULTIMATE (U)
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BRL	25' BUILDING RESTRICTION LINE (BRL)	BRL
OFA	RUNWAY OBJECT FREE AREA (OFA)	OFA
RSA	RUNWAY SAFETY AREA (RSA)	RSA
TOFA	TAXIWAY OBJECT FREE AREA (TOFA)	TOFA
N/A	BUILDING/BUILDING LOT	N/A
ASPHALT / CONCRETE	AIRSIDE PAVED SURFACE	
	LANDSIDE ROAD/PARKING	
NONE	WILDLIFE FENCE	
	AIRPLANE TIEDOWN	
N/A	BUILDING/PAVEMENT TO BE REMOVED	

BUILDING IDENTIFICATION TABLE (E)

ID	DESCRIPTION	PEAK ELEVATION	OBSTRUCTION LIGHTING	DISPOSITION
1	TERMINAL	1387'	NONE	TO REMAIN
2	HANGAR	1395'	NONE	TO REMAIN
3	T-HANGAR	1391'	NONE	TO REMAIN
4	HANGAR	1404'	NONE	TO REMAIN
5	HANGAR	1404'	NONE	TO REMAIN
6	T-HANGAR	1393'	NONE	TO REMAIN

LOT IDENTIFICATION TABLE (U)

ID	DESCRIPTION
A	800' x 80' GROUP I & II HANGAR DEVELOPMENT
B	100' x 80' GROUP I & II FBO DEVELOPMENT
C	80' x 45' TERMINAL / SRE DEVELOPMENT
D	465' x 60' GROUP I HANGER DEVELOPMENT
E	150' x 52' GROUP I T-HANGER DEVELOPMENT
F	150' x 52' GROUP I T-HANGER DEVELOPMENT

PERHAM MUNICIPAL AIRPORT

CITY OF PERHAM (OWNER)

PERHAM, MINNESOTA

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TERMINAL AREA

Rev.	Date	Description

DRAFTED: MTK
REVIEWED: ARTZ
PROJECT NUMBER: 141217109
SHEET: 4

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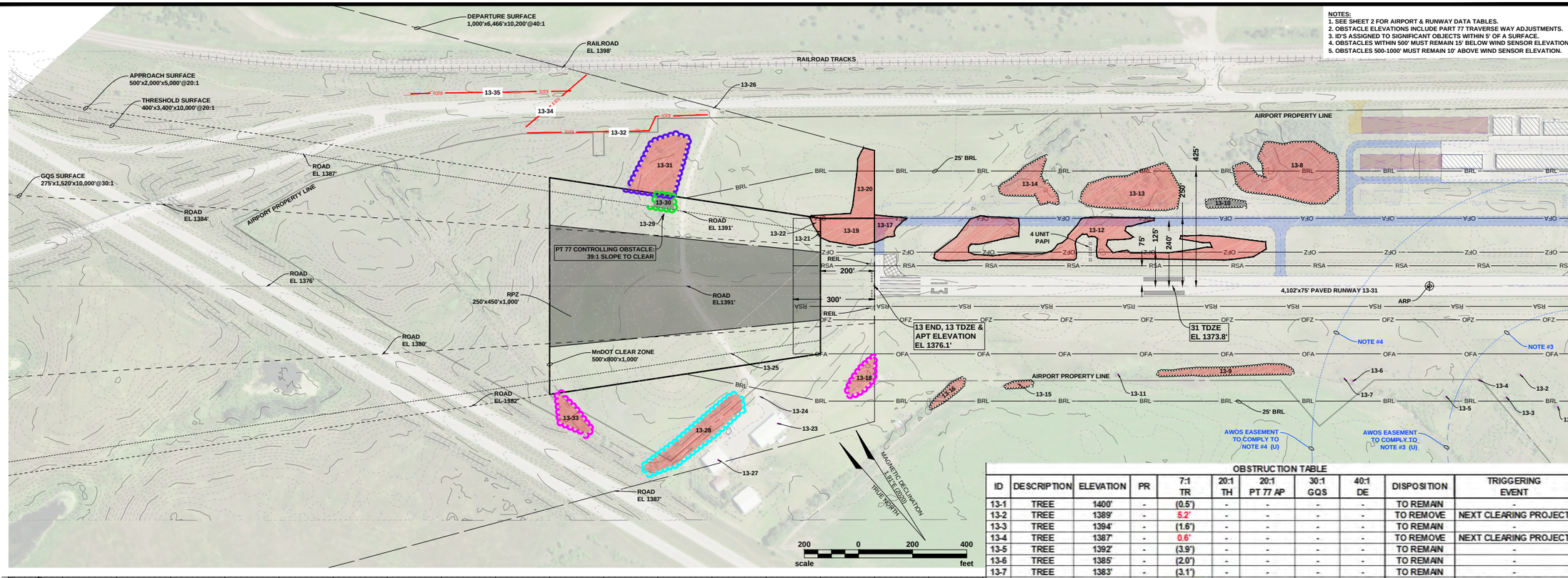
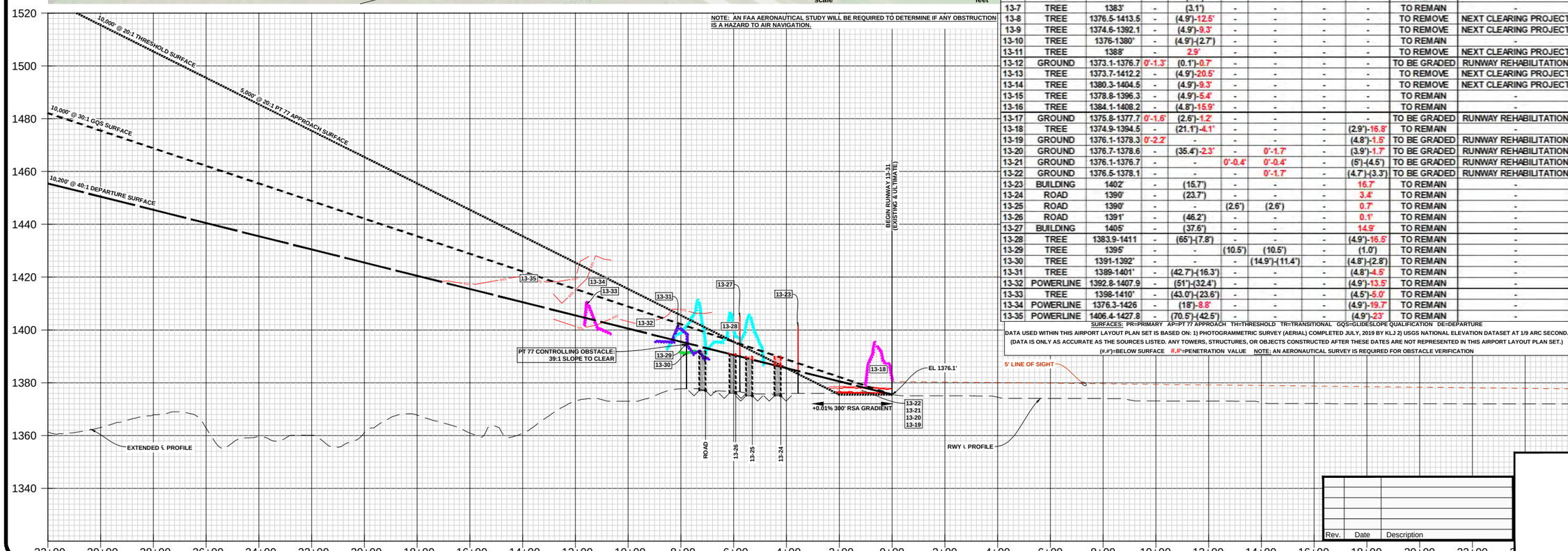
June 9, 2020 - 3:28 PM - K:\Projects\Airport\MN\Perham_16D\141217109\CAD\ALP\141217109_Terminal.dwg (Terminal)

NOTES:
1. SEE SHEET 2 FOR AIRPORT & RUNWAY DATA TABLES.
2. OBSTACLE ELEVATIONS INCLUDE PART 77 TRAVERSE WAY ADJUSTMENTS.
3. ID'S ASSIGNED TO SIGNIFICANT OBJECTS WITHIN 5' OF A SURFACE.
4. OBSTACLES WITHIN 500' MUST REMAIN 15' BELOW WIND SENSOR ELEVATION.
5. OBSTACLES 500-1000' MUST REMAIN 10' ABOVE WIND SENSOR ELEVATION.





OBSTRUCTION TABLE

ID	DESCRIPTION	ELEVATION	PR	7:1 TR	20:1 TH	20:1 PT 77 AP	30:1 GQS	40:1 DE	DISPOSITION	TRIGGERING EVENT
13-1	TREE	1400'	-	(0.5')	-	-	-	-	TO REMAIN	-
13-2	TREE	1389'	-	5.2'	-	-	-	-	TO REMOVE	NEXT CLEARING PROJECT
13-3	TREE	1394'	-	(1.6')	-	-	-	-	TO REMAIN	-
13-4	TREE	1387'	-	0.6'	-	-	-	-	TO REMOVE	NEXT CLEARING PROJECT
13-5	TREE	1392'	-	(3.9')	-	-	-	-	TO REMAIN	-
13-6	TREE	1385'	-	(2.0')	-	-	-	-	TO REMAIN	-
13-7	TREE	1383'	-	(3.1')	-	-	-	-	TO REMAIN	-
13-8	TREE	1376.5-1413.5	-	(4.9')-12.5'	-	-	-	-	TO REMOVE	NEXT CLEARING PROJECT
13-9	TREE	1374.6-1392.1	-	(4.9')-9.3'	-	-	-	-	TO REMOVE	NEXT CLEARING PROJECT
13-10	TREE	1376-1380'	-	(4.9')-(2.7')	-	-	-	-	TO REMAIN	-
13-11	TREE	1388'	-	2.9'	-	-	-	-	TO REMOVE	NEXT CLEARING PROJECT
13-12	GROUND	1373.1-1376.7	0'-1.3'	(0.1')-0.7'	-	-	-	-	TO BE GRADED	RUNWAY REHABILITATION
13-13	TREE	1373.7-1412.2	-	(4.9')-20.5'	-	-	-	-	TO REMOVE	NEXT CLEARING PROJECT
13-14	TREE	1380.3-1404.5	-	(4.9')-9.3'	-	-	-	-	TO REMOVE	NEXT CLEARING PROJECT
13-15	TREE	1378.8-1396.3	-	(4.9')-5.4'	-	-	-	-	TO REMAIN	-
13-16	TREE	1384.1-1408.2	-	(4.8')-15.9'	-	-	-	-	TO REMAIN	-
13-17	GROUND	1375.8-1377.7	0'-1.6'	(2.6')-1.2'	-	-	-	-	TO BE GRADED	RUNWAY REHABILITATION
13-18	TREE	1374.9-1394.5	-	(21.1')-4.1'	-	-	-	(2.9')-16.8'	TO REMAIN	-
13-19	GROUND	1376.1-1378.3	0'-2.2'	-	-	-	-	(4.8')-1.5'	TO BE GRADED	RUNWAY REHABILITATION
13-20	GROUND	1376.7-1378.6	-	(35.4')-2.3'	-	0'-1.7'	-	(3.9')-1.7'	TO BE GRADED	RUNWAY REHABILITATION
13-21	GROUND	1376.1-1376.7	-	-	0'-0.4'	0'-0.4'	-	(5')-(4.5')	TO BE GRADED	RUNWAY REHABILITATION
13-22	GROUND	1376.5-1378.1	-	-	-	0'-1.7'	-	(4.7')-(3.3')	TO BE GRADED	RUNWAY REHABILITATION
13-23	BUILDING	1402'	-	(15.7')	-	-	-	16.7'	TO REMAIN	-
13-24	ROAD	1390'	-	(23.7')	-	-	-	3.4'	TO REMAIN	-
13-25	ROAD	1390'	-	-	(2.6')	(2.6')	-	0.7'	TO REMAIN	-
13-26	ROAD	1391'	-	(46.2')	-	-	-	0.1'	TO REMAIN	-
13-27	BUILDING	1405'	-	(37.6')	-	-	-	14.9'	TO REMAIN	-
13-28	TREE	1383.9-1411	-	(65')-(7.8')	-	-	-	(4.9')-16.5'	TO REMAIN	-
13-29	TREE	1395'	-	-	(10.5')	(10.5')	-	(1.0')	TO REMAIN	-
13-30	TREE	1391-1392'	-	-	-	(14.9')-(11.4')	-	(4.8')-(2.8')	TO REMAIN	-
13-31	TREE	1389-1401'	-	(42.7')-(16.3')	-	-	-	(4.8')-4.5'	TO REMAIN	-
13-32	POWERLINE	1392.8-1407.9	-	(51')-(32.4')	-	-	-	(4.9')-13.5'	TO REMAIN	-
13-33	TREE	1398-1410'	-	(43.0')-(23.6')	-	-	-	(4.5')-5.0'	TO REMAIN	-
13-34	POWERLINE	1376.3-1426	-	(18')-8.8'	-	-	-	(4.9')-19.7'	TO REMAIN	-
13-35	POWERLINE	1406.4-1427.8	-	(70.5')-(42.5')	-	-	-	(4.9')-23'	TO REMAIN	-

SURFACES: PR=PRIMARY AP=PT 77 APPROACH TH=THRESHOLD TR=TRANSITIONAL GQS=GLIDESLOPE QUALIFICATION DE=DEPARTURE

DATA USED WITHIN THIS AIRPORT LAYOUT PLAN SET IS BASED ON: 1) PHOTOGRAMMETRIC SURVEY (AERIAL) COMPLETED JULY, 2019 BY KLJ 2) USGS NATIONAL ELEVATION DATASET AT 1/9 ARC SECOND. (DATA IS ONLY AS ACCURATE AS THE SOURCES LISTED. ANY TOWERS, STRUCTURES, OR OBJECTS CONSTRUCTED AFTER THESE DATES ARE NOT REPRESENTED IN THIS AIRPORT LAYOUT PLAN SET.)

(#.#')=BELOW SURFACE #.#'=PENETRATION VALUE NOTE: AN AERONAUTICAL SURVEY IS REQUIRED FOR OBSTACLE VERIFICATION

Rev.	Date	Description

KLJ

PERHAM MUNICIPAL AIRPORT

CITY OF PERHAM (OWNER)

PERHAM, MINNESOTA

TO BE USED AS A COMPLETE DRAWING SET FOR PLANNING PURPOSES ONLY, NOT FOR CONSTRUCTION

INNER PORTION OF THE APPROACH SURFACE RUNWAY 13 END

DRAFTED MTK

REVIEWED ARTZ

PROJECT NUMBER 141217109

SHEET 5

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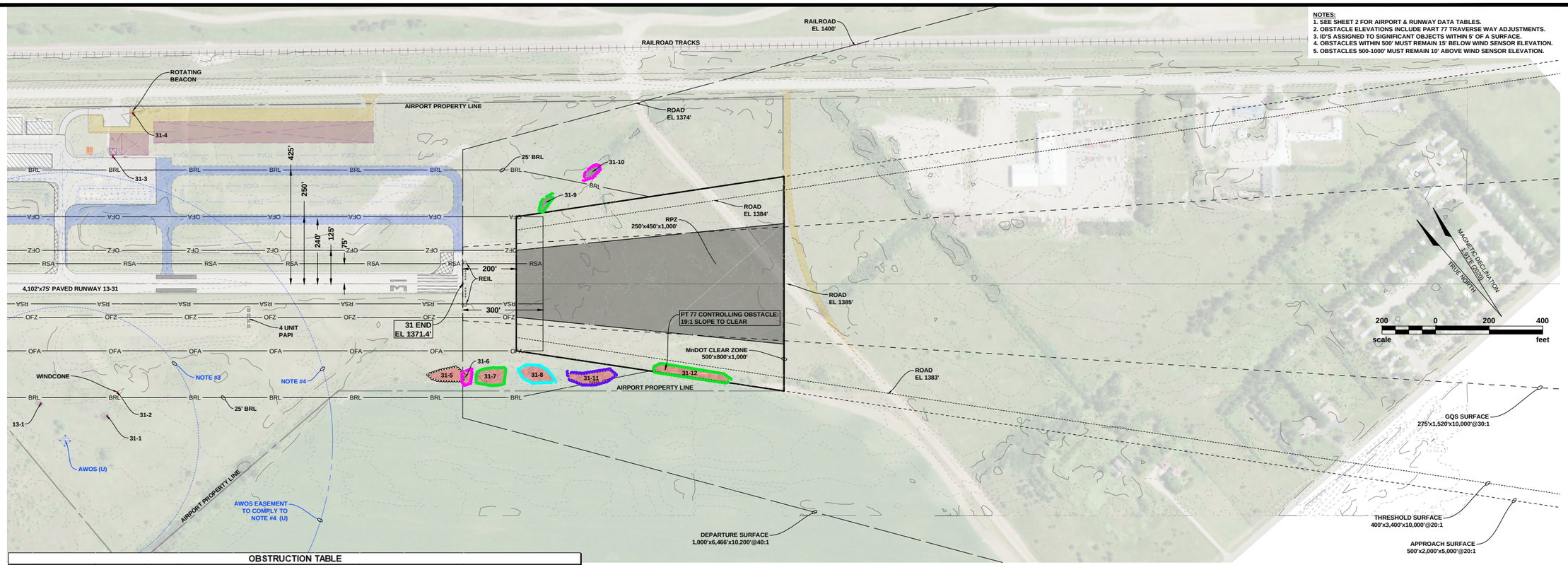
June 11, 2020 - 4:50 PM - K:\Projects\Airport\MN\Perham_16D\141217109\CAD\ALP\141217109_InnerApproach.dwg (13End)

NOTES:
1. SEE SHEET 2 FOR AIRPORT & RUNWAY DATA TABLES.
2. OBSTACLE ELEVATIONS INCLUDE PART 77 TRAVERSE WAY ADJUSTMENTS.
3. ID'S ASSIGNED TO SIGNIFICANT OBJECTS WITHIN 5' OF A SURFACE.
4. OBSTACLES WITHIN 500' MUST REMAIN 15' BELOW WIND SENSOR ELEVATION.
5. OBSTACLES 500-1000' MUST REMAIN 10' ABOVE WIND SENSOR ELEVATION.



OBSTRUCTION TABLE

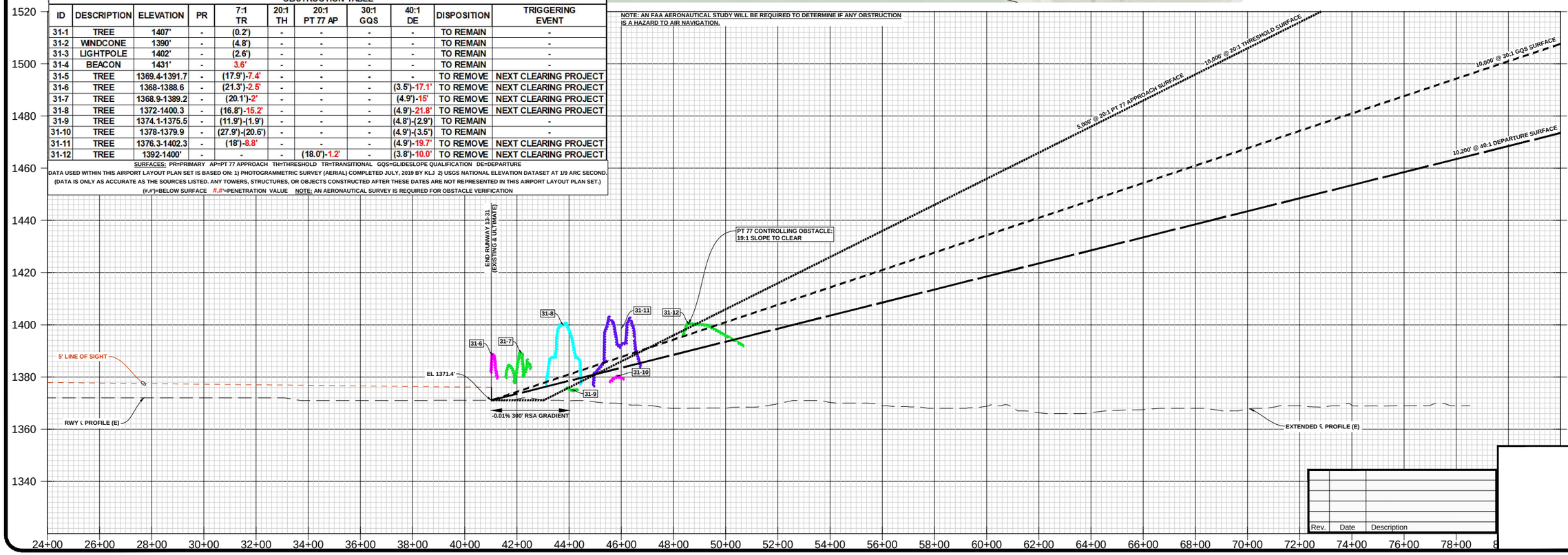
ID	DESCRIPTION	ELEVATION	PR	7:1 TR	20:1 TH	20:1 PT 77 AP	30:1 GQS	40:1 DE	DISPOSITION	TRIGGERING EVENT
31-1	TREE	1407'	-	(0.2')	-	-	-	-	TO REMAIN	-
31-2	WINDCONE	1390'	-	(4.8')	-	-	-	-	TO REMAIN	-
31-3	LIGHTPOLE	1402'	-	(2.6')	-	-	-	-	TO REMAIN	-
31-4	BEACON	1431'	-	3.6'	-	-	-	-	TO REMAIN	-
31-5	TREE	1369.4-1391.7	-	(17.9')-7.4'	-	-	-	-	TO REMOVE	NEXT CLEARING PROJECT
31-6	TREE	1368-1388.6	-	(21.3')-2.5'	-	-	-	(3.5')-17.1'	TO REMOVE	NEXT CLEARING PROJECT
31-7	TREE	1368.9-1389.2	-	(20.1')-2'	-	-	-	(4.9')-15'	TO REMOVE	NEXT CLEARING PROJECT
31-8	TREE	1372-1400.3	-	(16.8')-15.2'	-	-	-	(4.9')-21.8'	TO REMOVE	NEXT CLEARING PROJECT
31-9	TREE	1374.1-1375.5	-	(11.9')-(1.9')	-	-	-	(4.8')-(2.9')	TO REMAIN	-
31-10	TREE	1378-1379.9	-	(27.9')-(20.6')	-	-	-	(4.9')-(3.5')	TO REMAIN	-
31-11	TREE	1376.3-1402.3	-	(18')-8.8'	-	-	-	(4.9')-19.7'	TO REMOVE	NEXT CLEARING PROJECT
31-12	TREE	1392-1400'	-	-	-	(18.0')-1.2'	-	(3.8')-10.0'	TO REMOVE	NEXT CLEARING PROJECT

SURFACES: PR=PRIMARY AP=PT 77 APPROACH TH=THRESHOLD TR=TRANSITIONAL GQS=GLIDESLOPE QUALIFICATION DE=DEPARTURE

DATA USED WITHIN THIS AIRPORT LAYOUT PLAN SET IS BASED ON: 1) PHOTOGRAMMETRIC SURVEY (AERIAL) COMPLETED JULY, 2019 BY KLJ 2) USGS NATIONAL ELEVATION DATASET AT 1/9 ARC SECOND. (DATA IS ONLY AS ACCURATE AS THE SOURCES LISTED. ANY TOWERS, STRUCTURES, OR OBJECTS CONSTRUCTED AFTER THESE DATES ARE NOT REPRESENTED IN THIS AIRPORT LAYOUT PLAN SET.)

(#.#)=BELOW SURFACE #.#'=PENETRATION VALUE NOTE: AN AERONAUTICAL SURVEY IS REQUIRED FOR OBSTACLE VERIFICATION

NOTE: AN FAA AERONAUTICAL STUDY WILL BE REQUIRED TO DETERMINE IF ANY OBSTRUCTION IS A HAZARD TO AIR NAVIGATION.



Rev.	Date	Description

PERHAM MUNICIPAL AIRPORT

CITY OF PERHAM (OWNER)

PERHAM, MINNESOTA

TO BE USED AS A COMPLETE DRAWING SET FOR PLANNING PURPOSES ONLY, NOT FOR CONSTRUCTION

INNER PORTION OF THE APPROACH SURFACE RUNWAY 31 END

DRAFTED MTK

REVIEWED ARTZ

PROJECT NUMBER 141217109

SHEET 6

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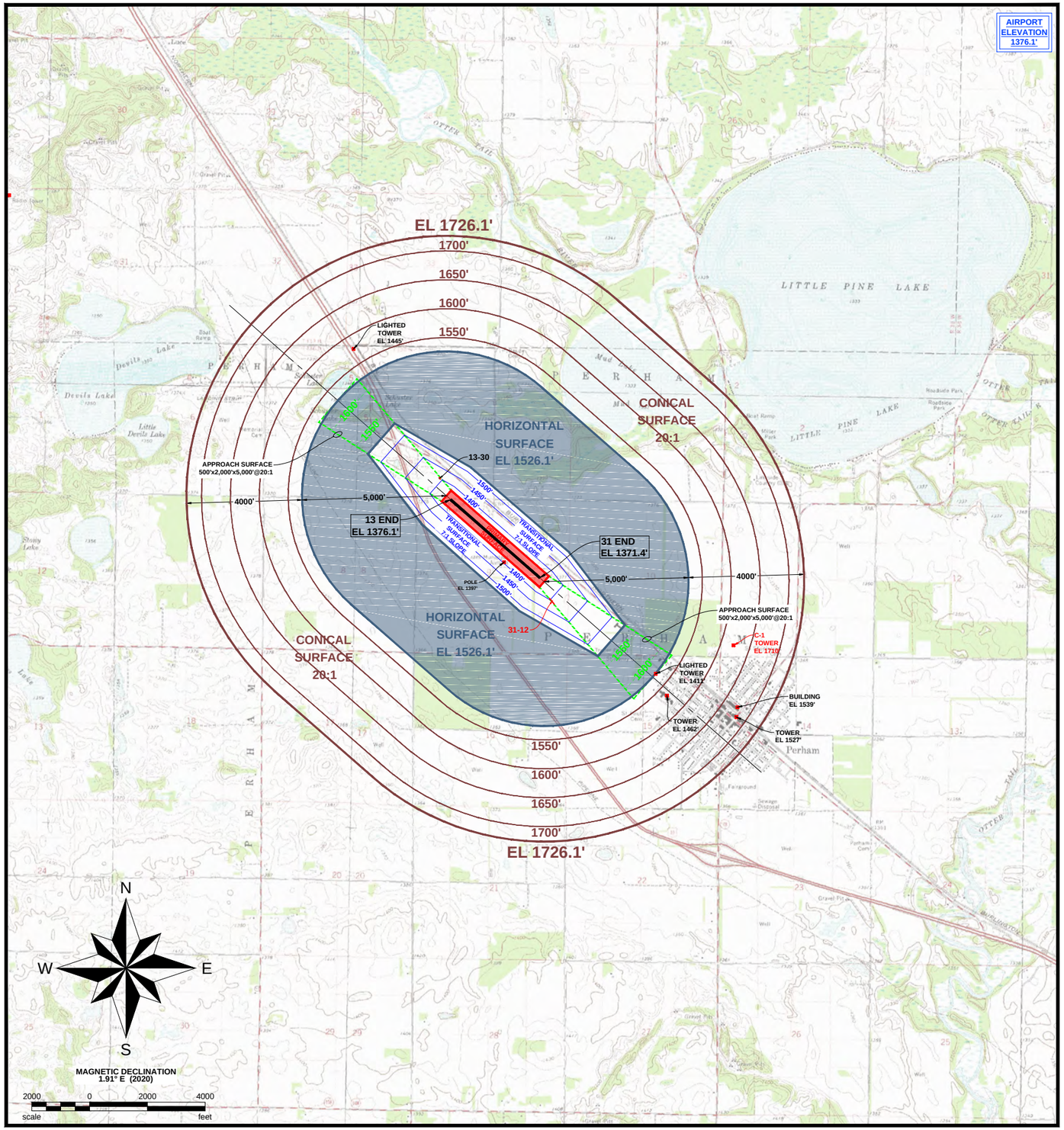
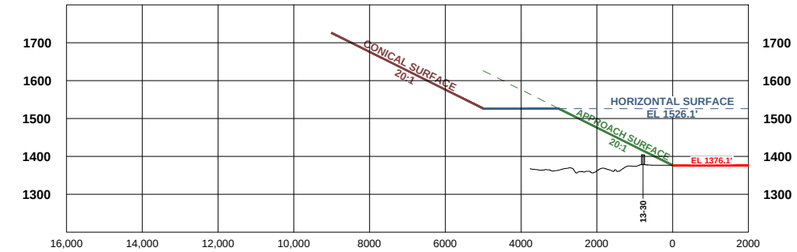
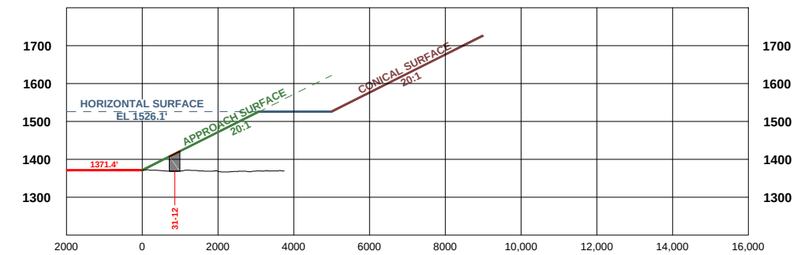




APPROACH TO 13 END



APPROACH TO 31 END

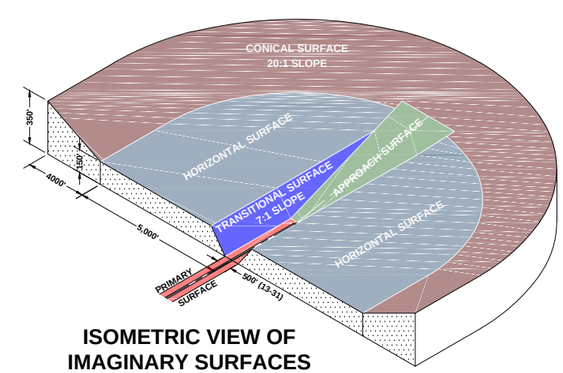
PART 77 AIRSPACE SCHEDULE OF OBSTACLES

ID	DESCRIPTION	ELEVATION AMSL (FEET)	PART 77 SURFACE	OBJECT PENETRATION	DISPOSITION
13-30	TREE MASS	1391 - 1392'	20:1 APPROACH	(11') - (15')	TO REMAIN
31-12	TREE MASS	1392 - 1400'	20:1 APPROACH	(18') - 1'	TO REMAIN
C-1	TOWER	1710'	20:1 CONICAL	88'	TO REMAIN

SEE INNER APPROACH SURFACE SHEETS FOR ADDITIONAL CLOSE-IN AIRSPACE OBSTACLES.
#,#' = PENETRATES SURFACE (B) = BELOW SURFACE

NOTES:

1. DATA USED WITHIN THIS AIRPORT LAYOUT PLAN SET IS BASED ON:
   -PHOTOGRAMMETRIC SURVEY (AERIAL) COMPLETED JULY, 2019 BY KLJ
   -USGS NATIONAL ELEVATION DATASET AT 1/9 ARC SECOND.
   -NOAA NATIONAL FLIGHT DATA CENTER DIGITAL OBSTACLE FILE FROM 04/19/2020.
   -QUADRANGLE MAPS FROM USGS.
   (DATA IS ONLY AS ACCURATE AS THE SOURCES LISTED. ANY TOWERS, STRUCTURES, OR OBJECTS CONSTRUCTED AFTER THESE DATES ARE NOT REPRESENTED IN THIS AIRPORT LAYOUT PLAN SET.)
2. HORIZONTAL DATUM = (GRID) STATE PLANE, NAD 83, MN CENTRAL - FIPS 2202, U.S. SURVEY FEET
3. VERTICAL DATUM = VERTICAL DATUM = NAVD 88, U.S. SURVEY FEET
4. SEE SHEET 2 FOR AIRPORT & RUNWAY DATA TABLES.
5. SEE INNER APPROACH SURFACE SHEETS FOR ADDITIONAL CLOSE-IN AIRSPACE OBSTACLES.
6. AIRSPACE APPLIED TO THIS DRAWING IS BASED ON PART 77 OF THE F.A.R.'s.
7. ID'S ASSIGNED TO SIGNIFICANT OBJECTS WITHIN 5' OF A SURFACE.
8. OBSTACLE ELEVATIONS INCLUDE PART 77 TRAVERSE WAY ADJUSTMENTS.



ISOMETRIC VIEW OF IMAGINARY SURFACES

PERHAM MUNICIPAL AIRPORT

CITY OF PERHAM (OWNER)

PERHAM, MINNESOTA

TO BE USED AS A COMPLETE DRAWING SET FOR PLANNING PURPOSES ONLY, NOT FOR CONSTRUCTION

AIRPORT AIRSPACE

Rev.	Date	Description

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PROJECT NUMBER 141217109
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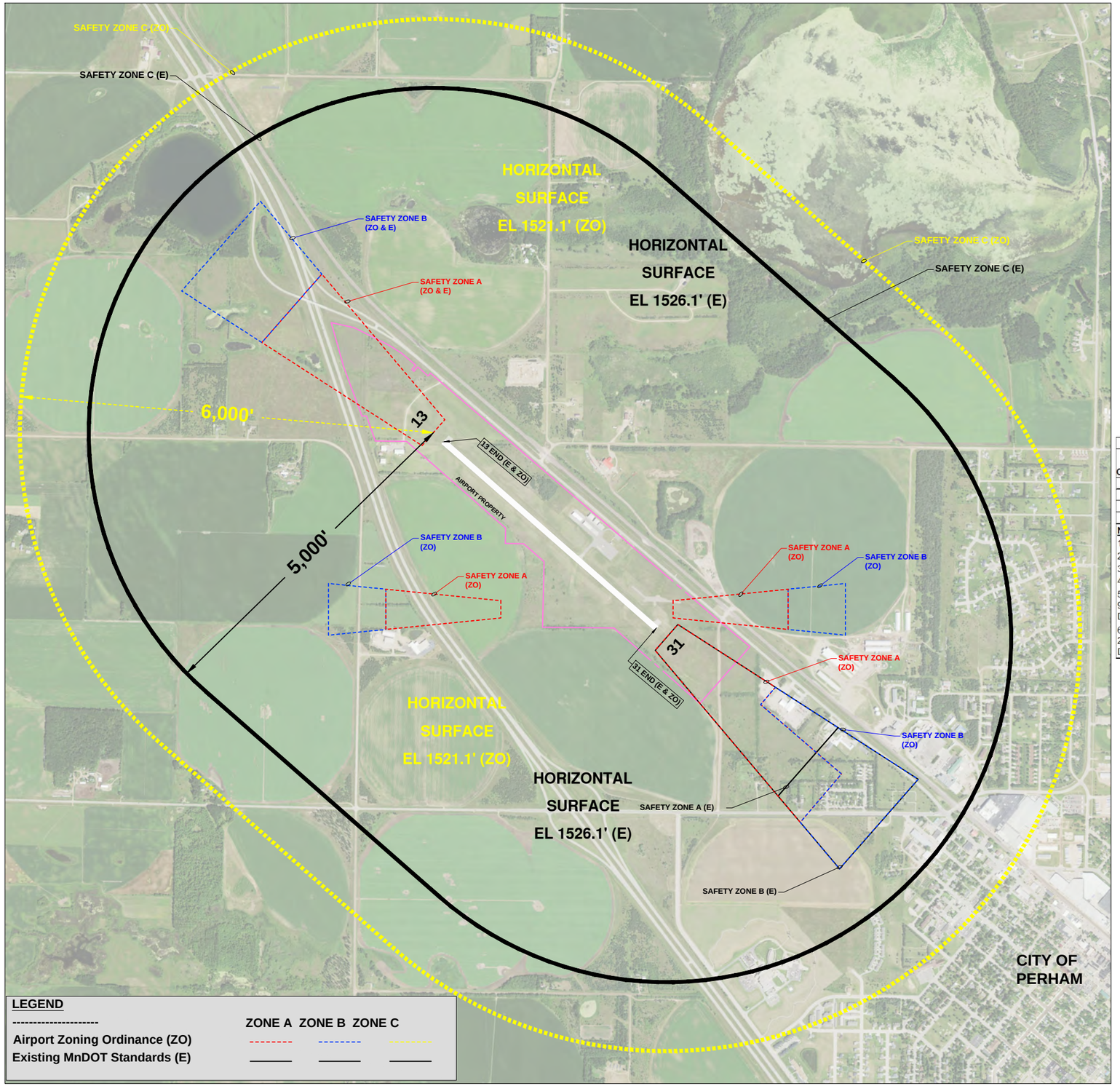


Airport Safety Zoning Ordinance for Perham Municipal Airport
Adopted: June 22, 1995
Land Use Restrictions

General Restrictions
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, make it difficult for pilots to distinguish between airport lights and other lights, results in glare in the eyes of pilots using the airport, impairs visibility in the vicinity of the airport, or otherwise endangers the landing, taking off, or maneuvering of aircraft. Subject at all times to the height restrictions set forth in the zoning ordinance.

Zone A
Zone A shall contain no buildings, temporary structures, exposed transmission lines, or other similar above-ground land use structural hazards and shall be restricted to those uses which will not create, attract, or bring together an assembly of persons thereon. Permitted uses may include, but are not limited to, such uses as agriculture (seasonal crops), horticulture, animal husbandry, raising of livestock, wildlife habitat, light outdoor recreation (non-spectator), cemeteries, and automobile parking. Subject at all times to the height restrictions set forth in the zoning ordinance.

Zone B
Zone B shall be restricted in use as follows. Each use shall be on a site whose area shall not be less than three acres. Each use shall not create, attract, or bring together a site population that would exceed 15 times that of the site acreage. Each site shall have no more than one building plot upon which any number of structures may be erected. A building plot shall be a single, uniform, and non-contrived area, whose shape is uncomplicated and whose area shall not exceed the following minimum ratios stated in the zoning ordinance. The following uses are specifically prohibited in Zone B: Churches, hospitals, schools, theaters, stadiums, hotels, motels, trailer courts, campgrounds, and other places of frequent public or semi-public assembly. Subject at all times to the height restrictions set forth in the zoning ordinance.

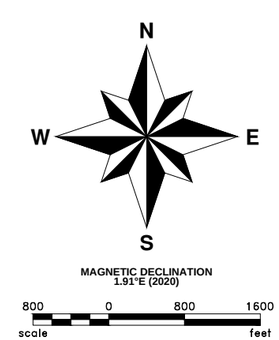
Zone C
Zone C is subject only to height restrictions set forth in the zoning ordinance. Safety Zone "C" is enclosed within the perimeter of the horizontal zone.

Boundary Limitations
The municipality may regulate the location, size, and use of buildings and the density of population in that portion of an airport hazard area un the approach zones for a distance to exceed two miles from the airport boundary and in other portions of an airport hazard area not to exceed one mile from the airport boundary.

AIRPORT ZONING DIMENSIONS

CONFIG.	RUNWAY END(S)	RUNWAY LENGTH	ZONE A LENGTH	ZONE A INNER WIDTH	ZONE A OUTER WIDTH	ZONE B LENGTH	ZONE B INNER WIDTH	ZONE B OUTER WIDTH	ZONE C ARC RADIUS
ZO	31	4,100'	NOTE 5*	NOTE 5*	NOTE 5*	NOTE 6*	NOTE 6*	NOTE 6*	6,000'
ZO	13	4,100'	2,733'	500'	1,320'	1367'	1,320'	1,730'	6,000'
ZO	9, 27	2,500'	1,667'	250'	583'	833'	583'	750'	6,000'
E	13,31	4,102'	2,735'	500'	1,320'	1367'	1,320'	1,730'	5,000'

NOTES:
1) CONFIGURATION: E = EXISTING MnDOT STANDARDS, ZO = ZONING ORDINANCE
2) ZONING ORDINANCE SOURCE = PERHAM MUNICIPAL AIRPORT ZONING ORDINANCE (1995)
3) ZONE A BEGINS AT END OF PRIMARY SURFACE
4) ZONE B BEGINS AT END OF ZONE A
5) [S41°17' 11"W] A DISTANCE OF 250'; THENCE [S40°10'58"E] A DISTANCE OF 3264.17'; THENCE [N40°29'56"E] A DISTANCE OF 921.93'; THENCE [N49°22'20"W] A DISTANCE OF 1545.79'; THENCE [N40°31'00"E] A DISTANCE OF 329.96'; THENCE [N57°14'40"W] A DISTANCE OF 1683.89'; THENCE [S41°17'11"W] A DISTANCE OF 250'
6) [S40°10'58"E] A DISTANCE OF 881.7'; THENCE [N41°17'11"E] A DISTANCE OF 1730'; THENCE [N57°14'40"W] A DISTANCE OF 2461.98'; THENCE [S40°41'00"W] A DISTANCE OF 329.96'; THENCE [S49°22'20"E] A DISTANCE OF 1545.79'; THENCE [S40°29'56"W] A DISTANCE OF 921.93'



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PERHAM MUNICIPAL AIRPORT
CITY OF PERHAM (OWNER)
PERHAM, MINNESOTA

TO BE USED AS A COMPLETE DRAWING SET FOR PLANNING PURPOSES ONLY, NOT FOR CONSTRUCTION

MnDOT LAND USE DRAWING

Rev.	Date	Description

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PROJECT NUMBER 141217109
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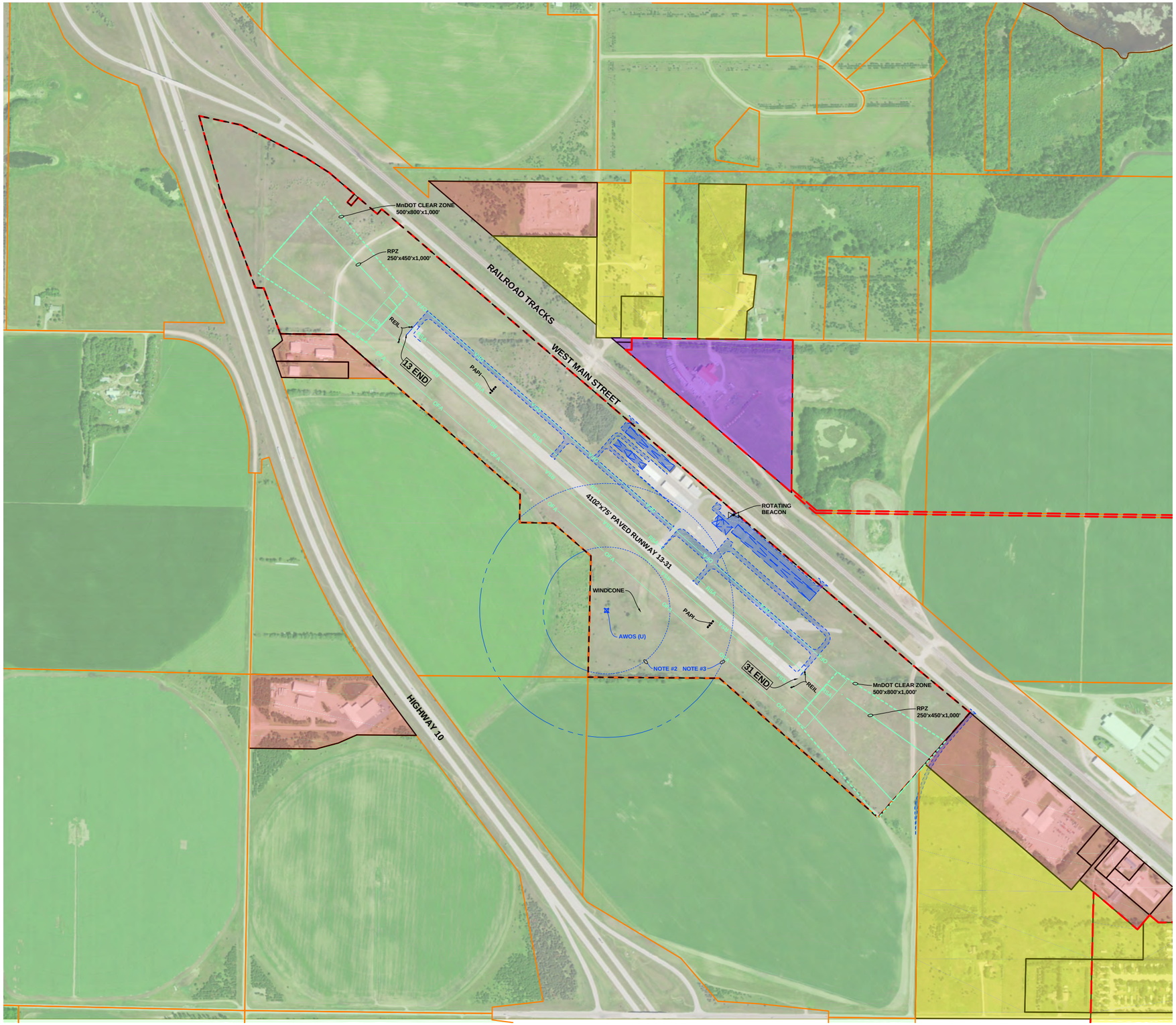

NOTES:
1. SEE SHEET 2 FOR AIRPORT & RUNWAY DATA TABLES.
2. OBJECTS WITHIN 500' MUST REMAIN 15' BELOW WIND SENSOR.
3. OBJECTS 500'-1000' MUST REMAIN 10' BELOW WIND SENSOR.

LEGEND

- COMMERCIAL
- AGRICULTURE
- RESIDENTIAL
- INDUSTRIAL
- ULTIMATE DEVELOPMENT
- EXISTING RPZ
- EXISTING MnDOT CLEARZONE
- CITY BOUNDARY
- EXISTING AIRPORT PROPERTY
- RUNWAY OBJECT FREE AREA (OFA)
- RUNWAY SAFETY AREA (RSA)

TRUE NORTH

MAGNETIC DECLINATION 1.91°E (2020)

400 0 400 800
scale feet

PERHAM MUNICIPAL AIRPORT

CITY OF PERHAM (OWNER)

PERHAM, MINNESOTA

TO BE USED AS A COMPLETE DRAWING SET FOR PLANNING PURPOSES ONLY, NOT FOR CONSTRUCTION

LAND USE DRAWING

Rev.	Date	Description

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TLG
REVIEWED
ARTZ
PROJECT NUMBER
141217109

SHEET
9

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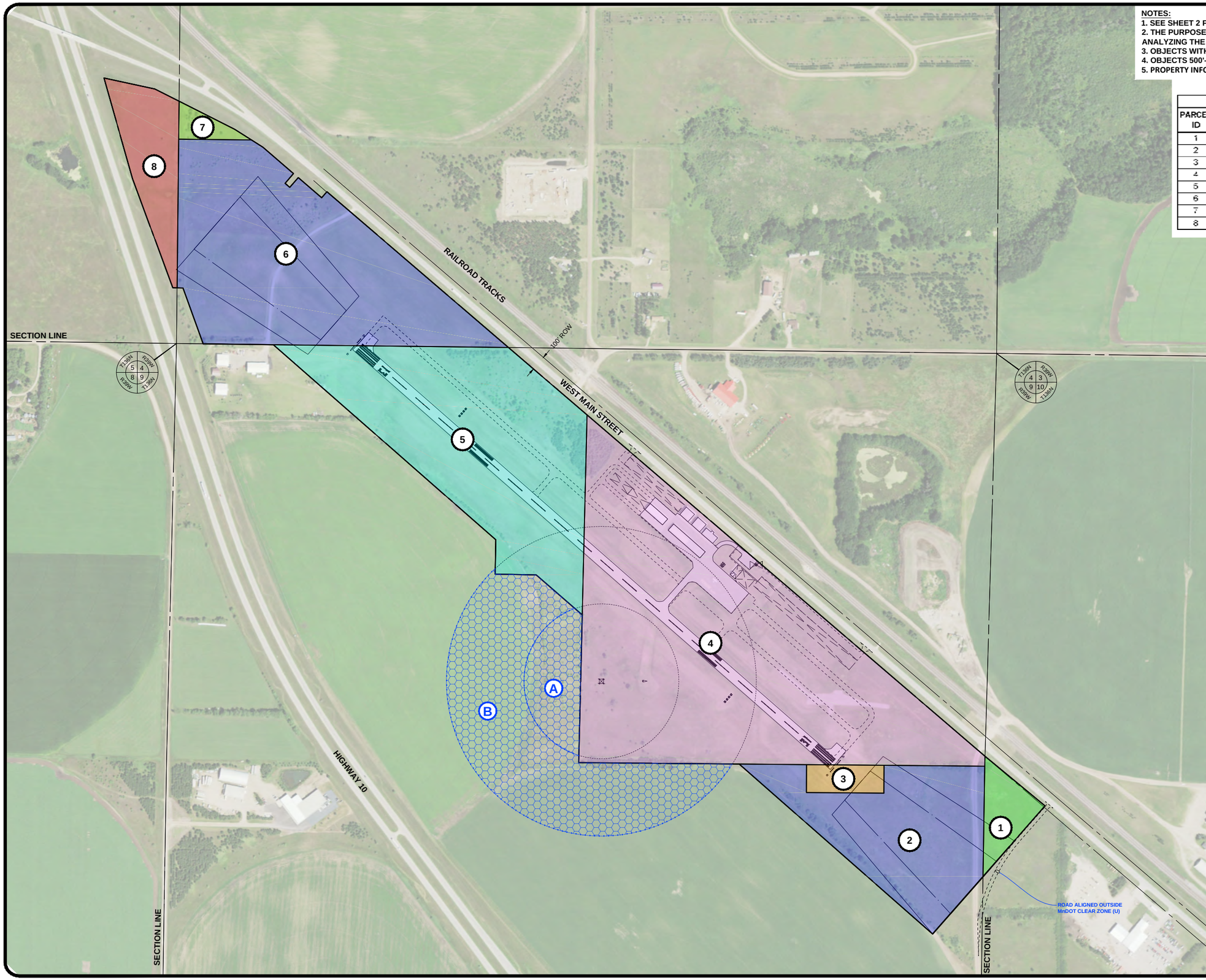

NOTES:

1. SEE SHEET 2 FOR AIRPORT & RUNWAY DATA TABLES.
2. THE PURPOSE OF THIS DRAWING IS TO PROVIDE INFORMATION FOR ANALYZING THE CURRENT AND FUTURE AERONAUTICAL USE OF LAND.
3. OBJECTS WITHIN 500' MUST REMAIN 15' BELOW WIND SENSOR.
4. OBJECTS 500'-1000' MUST REMAIN 10' BELOW WIND SENSOR.
5. PROPERTY INFORMATION PROVIDED BY THE CITY OF PERHAM.

EXISTING PROPERTY TABLE

PARCEL ID	TAX PARCEL NUMBER	TYPE OF ACQUISITION	ACREAGE
1	77.0000.000920.10	FEE	3.57
2	77.0000.000880.03	FEE	20.03
3	77.0000.000880.00	FEE	2.01
4	77.0000.000900.02	FEE	69.47
5	77.0000.000890.00	FEE	38.69
6	77.0000.000820.02	FEE	39.82
7	77.0000.000590.03	FEE	1.16
8	77.0000.000640.00	FEE	8.37

ULTIMATE PROPERTY TABLE

PARCEL ID	PURPOSE OF ACQUISITION	ACREAGE
A	NAVAID EASEMENT (NOTE 3)	+/- 6
B	NAVAID EASEMENT (NOTE 4)	+/- 29

TRUE NORTH

MAGNETIC DECLINATION 1.91°E (2020)

300 0 300 600
scale feet

KLJ

PERHAM MUNICIPAL AIRPORT

CITY OF PERHAM (OWNER)

PERHAM, MINNESOTA

TO BE USED AS A COMPLETE DRAWING SET FOR PLANNING PURPOSES ONLY, NOT FOR CONSTRUCTION

AIRPORT PROPERTY MAP

Rev.	Date	Description

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PROJECT NUMBER 141217109

SHEET 10

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