

# NORFOLK AIRPORT AUTHORITY NORFOLK INTERNATIONAL AIRPORT AIRPORT LAYOUT PLAN February 2021



Federal Aviation Administration

March 24, 2021

Mr. Robert Bowen, Executive Director  
Norfolk Airport Authority  
Norfolk International Airport  
2200 Norview Avenue  
Norfolk, VA 23518-5807

Re: **Airport Master Plan Update  
Norfolk International Airport  
Norfolk, Virginia  
AIP # 3-51-0036-067-2017**

Dear Mr. Bowen:

The Norfolk International Airport (ORF) Airport Layout Plan (ALP), prepared by CHA, is conditionally approved and the master plan narrative report is accepted.

An aeronautical study 2020-AEA-2096-NRA was conducted on the proposed development depicted on the ALP. This determination does not constitute FAA approval or disapproval of the physical development involved in the proposal. It is a determination with respect to the safe and efficient use of navigable airspace by aircraft and with respect to the safety of persons and property on the ground. This approval includes the following two conditions:

1. The future parallel runway is not justified at this time, within the twenty year planning horizon, but is being depicted on the ALP to protect surrounding airspace and land use. It is the FAA's expectation that the Norfolk Airport Authority (NAA) will work with local governments to protect the surrounding land use from incompatible development.
2. The forecast of aviation activity and resulting ALP were prepared either before or at the time of the evolving impacts of the COVID-19 public health emergency. It is warranted to acknowledge the reduced confidence in growth projections used in the study as a result of the pandemic. Accordingly, FAA approval of the ALP does not constitute justification for future projects. Justification for future projects will be made based on activity levels at the time the project is requested for development. Documentation of actual activity levels meeting planning activity levels will be necessary to justify AIP funding for eligible projects.

The FAA has only limited means to prevent the construction of structures near an airport. The airport sponsor has the primary responsibility to protect the airport environs through such means as local zoning ordinances, property acquisition, aviation easements, letters of agreement or other means.

WASHINGTON AIRPORTS DISTRICT OFFICE  
13873 Park Center Road, Suite 490 S  
Herndon, Virginia 20171  
Telephone: 703/487-3971  
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Notwithstanding, all items of development shown on the ALP shall comply with the requirements of the National Environmental Policies Act of 1969 (P.L. 91-190). The appropriate environmental processing for each proposed project has not occurred and will require a formal FAA Section 163 determination as each project or group of projects become ripe for decision making.

When construction of any proposed structure or development indicated on the ALP is undertaken, such construction requires normal 45-day advance notification to FAA for review in accordance with applicable Federal Aviation Regulations (i.e., Parts 77, 157, 152, etc.). More notice is generally beneficial to ensure that all statutory, regulatory, technical and operational issues can be addressed in a timely manner.

Please attach this letter to the Airport Layout Plan Update and retain for your files. If you should have any questions in regards to this letter, please do not hesitate to contact Jeff Breeden at (703) 487-3978.

Sincerely,

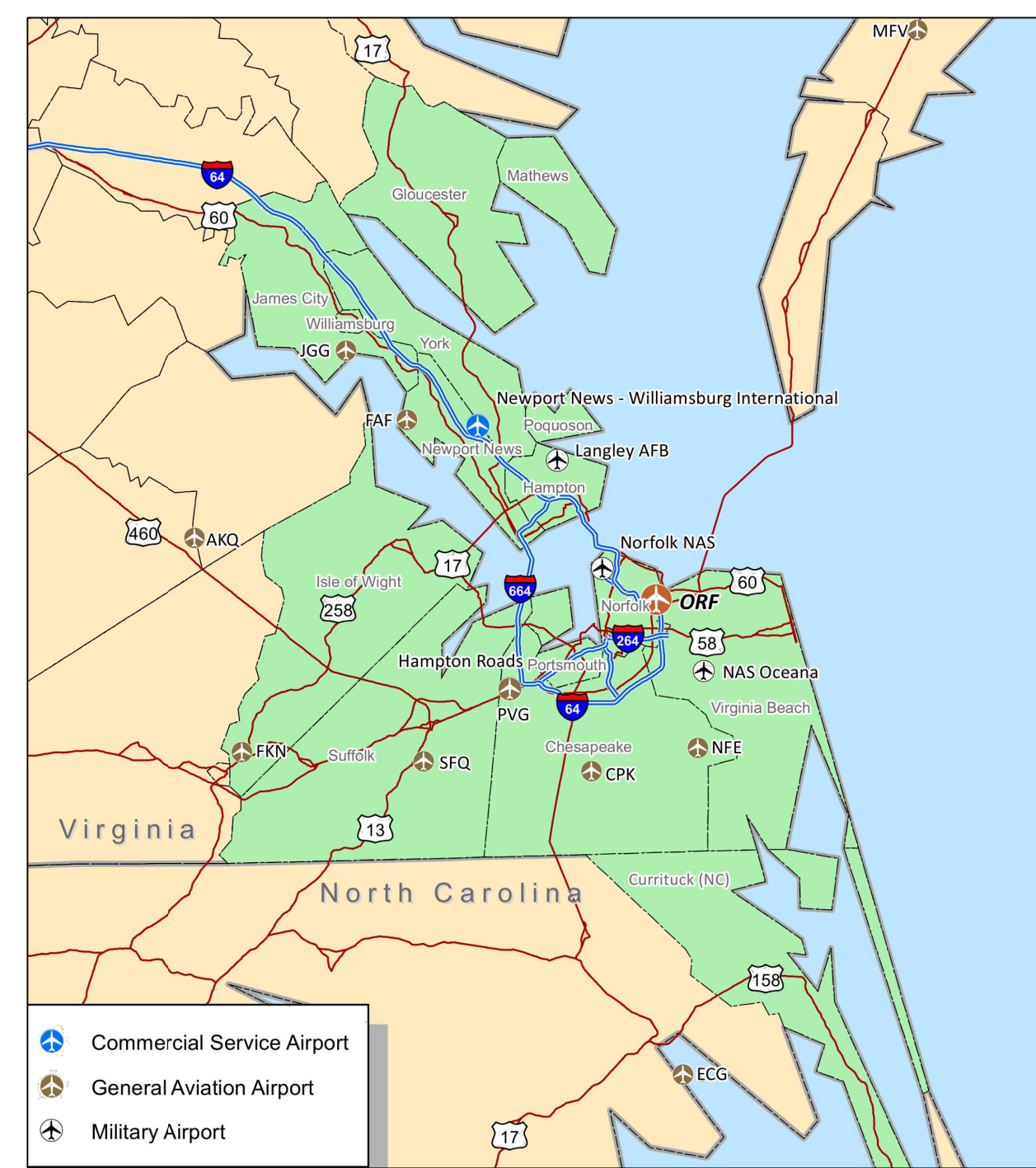
MATTHEW J THYS Digitally signed by MATTHEW J THYS  
Date: 2021.03.24 16:04:33 -04'00'

Matthew J. Thys, Manager  
Washington Airports District Office

cc: Anthony Rondeau, NAA (via email)  
Rusty Harrington, DOAV (via email)



LOCATION MAP



VICINITY MAP



SHEET INDEX	
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34	PROPERTY DATA TABLES
35	FUTURE AIRPORT LAYOUT PLAN

FEDERAL AVIATION ADMINISTRATION APPROVAL

MATTHEW J THYS  
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Date: 2021.04.23 14:32:53 -04'00'

FEDERAL AVIATION ADMINISTRATION APPROVED SUBJECT TO COMMENTS AND CONDITIONS NOTED IN LETTER FROM MANAGER, WASHINGTON AIRPORTS DISTRICT OFFICE DATED MARCH 24, 2021.

DATE

VIRGINIA DEPARTMENT OF AVIATION APPROVAL

Flynn Mark  
tuy64266  
Digitally signed by Flynn Mark  
Date: 2021.04.23 10:41:36 -04'00'

Mark K. Flynn  
DIRECTOR, VIRGINIA DEPARTMENT OF AVIATION

DATE

NORFOLK AIRPORT AUTHORITY APPROVAL

Robert S. Bowen  
Digitally signed by Robert S. Bowen  
Date: 2021.04.22 14:32:32 -04'00'

Robert S. Bowen, A.A.E.  
EXECUTIVE DIRECTOR, NORFOLK AIRPORT AUTHORITY

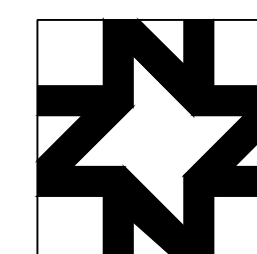
DATE

NO	DATE	REVISION	BY	CHK	APPR.

DESIGNED BY: RTL  
DRAWN BY: JAH  
REVIEWED BY: NSL  
APPROVED BY: NAA/DOAV/FAA



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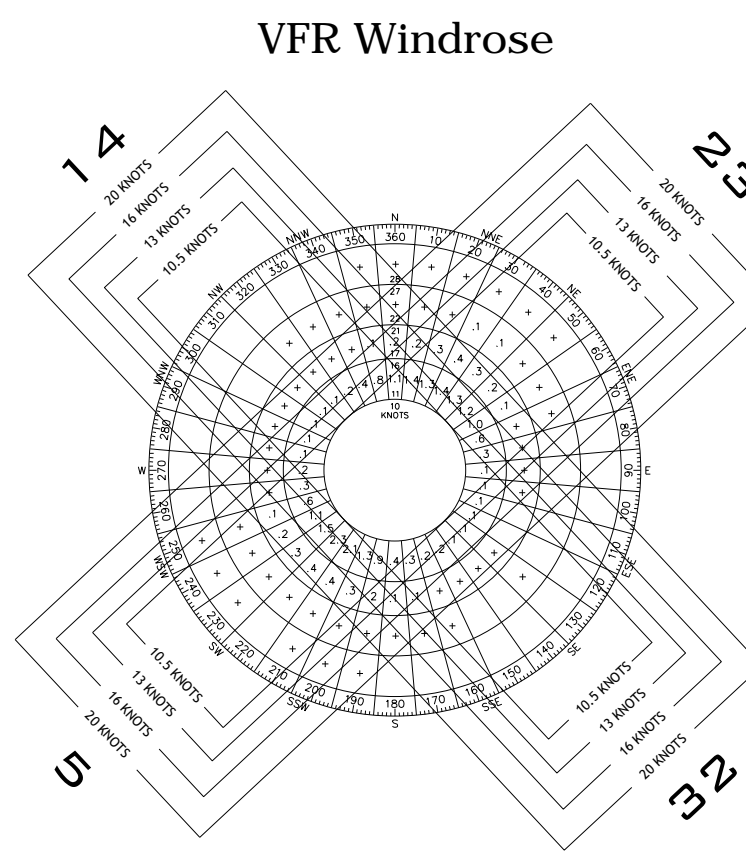


NORFOLK INTERNATIONAL AIRPORT

PROJECT NAME: AIRPORT LAYOUT PLAN  
SHEET TITLE: TITLE SHEET

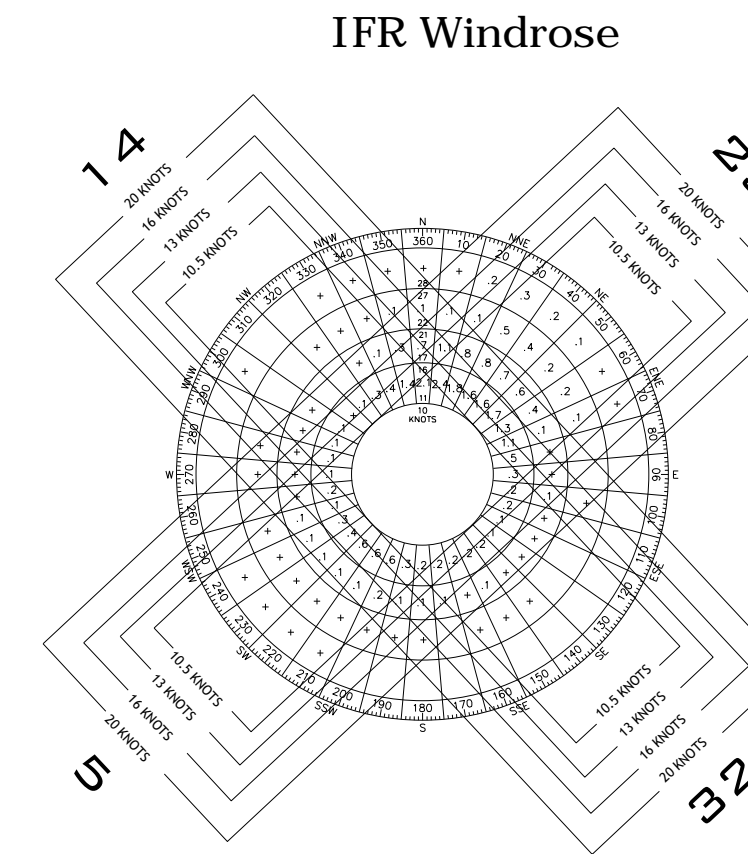
JOB NO. 33370	DATE 02/15/2021
FILE NAME ORF_ALP-TITLE	REV. NO.
DWG. NO.	

AIRPORT DATA		
2200 NORVIEW AVENUE		
NORFOLK, VA 23518-5807		
CITY OF NORFOLK		
ITEM	EXISTING	FUTURE
AIRPORT OWNER	NORFOLK AIRPORT AUTHORITY/CITY OF NORFOLK	
STATE SERVICE LEVEL	COMMERCIAL SERVICE (CM)	
NPIAS SERVICE LEVEL	PRIMARY (P)	
AIRPORT REFERENCE CODE // CRITICAL AIRCRAFT	D-IV // BOEING 757-200	D-IV // BOEING 767-300ER
MEAN MAXIMUM TEMPERATURE OF HOTTEST MONTH (NOAA)	87.4° F / JULY	
AIRPORT ELEVATION (MSL) NAVD 88 STANDARDS	26.4'	
MAGNETIC DECLINATION	10°55' W ± 0°21' changing by 0°1' W per year	
	NOAA National Centers for Environmental Information (WMM2015)	
AIRPORT REFERENCE POINT NAD 83 STANDARDS	36° 53' 40.57" N 76° 12' 4.43" W	36° 53' 37.07" N 76° 11' 57.68" W
AIRPORT NAVIGATIONAL AIDS	ILS (CAT I), LOC/DME, PAPI-4, NDB, RVR, MALSR RNAV(GPS & RNP), WAAS/LPV	
MISCELLANEOUS FACILITIES	LIGHTED WIND CONES, AIRPORT SURVEILLANCE RADAR (ASR-9), HIRL, MITL, TDZL, C/L, AWOS	



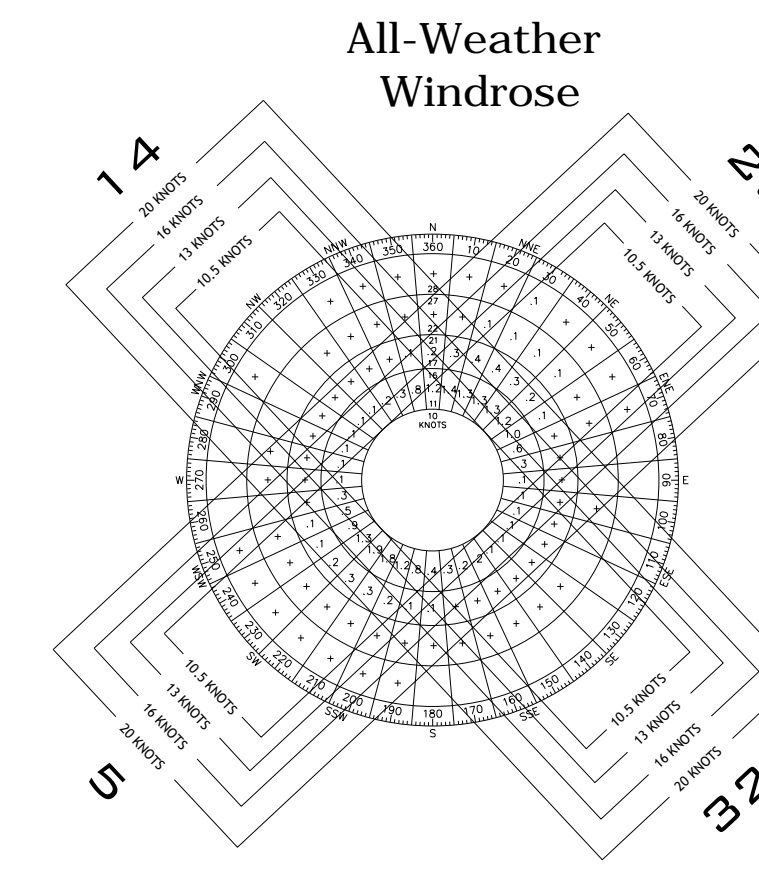
VFR Observations				
RUNWAY	10.5 KNOTS	13 KNOTS	16 KNOTS	20 KNOTS
Runway 5/23	95.75%	98.27%	99.70%	99.96%
Runway 14/32	78.79%	87.17%	96.01%	99.04%
Combined	98.77%	99.72%	99.96%	100%

DATA SOURCE: NOAA National Center for Environmental Information - Southeast Regional Climate Center Chapel Hill, NC  
Norfolk International Airport Norfolk, VA Station 723080  
OBSERVATIONS: 92,646 Observations  
2007-2017



IFR Observations				
RUNWAY	10.5 KNOTS	13 KNOTS	16 KNOTS	20 KNOTS
Runway 5/23	92.05%	96.34%	98.90%	99.75%
Runway 14/32	76.67%	84.58%	92.52%	96.68%
Combined	96.51%	98.88%	99.75%	99.98%

DATA SOURCE: NOAA National Center for Environmental Information - Southeast Regional Climate Center Chapel Hill, NC  
Norfolk International Airport Norfolk, VA Station 723080  
OBSERVATIONS: 15,056 Observations  
2007-2017



All-Weather Observations				
RUNWAY	10.5 KNOTS	13 KNOTS	16 KNOTS	20 KNOTS
Runway 5/23	95.56%	98.14%	99.62%	99.93%
Runway 14/32	80.00%	87.77%	95.89%	98.81%
Combined	98.58%	99.64%	99.93%	99.99%

DATA SOURCE: NOAA National Center for Environmental Information - Southeast Regional Climate Center Chapel Hill, NC  
Norfolk International Airport Norfolk, VA Station 723080  
OBSERVATIONS: 131,281 Observations  
2007-2017

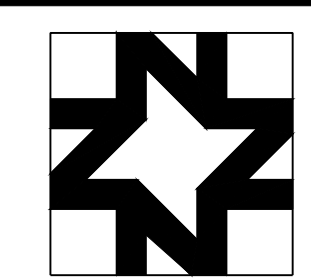
DESCRIPTION	RUNWAY DATA												
	RUNWAY 5-23				RUNWAY 14-32				RUNWAY 5R-23L (SHOWN FOR AIRSPACE AND LAND USE PLANNING PURPOSES ONLY)				
	EXISTING		FUTURE		EXISTING		FUTURE		FUTURE		ULTIMATE		
5	23	5L	23R	14	32	14	32	5R	23L	5R	23L		
RUNWAY LENGTH	9,001'		9,001'		4,876'					5,500'	23L	9,001'	23L
RUNWAY WIDTH	150'		150'		150'					100'		150'	
PAVEMENT TYPE // SURFACE TYPE	ASPHALT, CONCRETE, GROOVED		ASPHALT, CONCRETE, GROOVED		ASPHALT, GROOVED				CONCRETE, GROOVED		CONCRETE, GROOVED		
PAVEMENT CONDITION	FAIR		TBD		GOOD				N/A		N/A		
PAVEMENT CONDITION NUMBER	53 R/C/W/T		TBD		27 / F/A/W/T				N/A		N/A		
PAVEMENT STRENGTH (SINGLE)	150,000 LBS.		150,000 LBS.		75,000 LBS.				TBD		150,000 LBS.		
PAVEMENT STRENGTH (DUAL)	200,000 LBS.		200,000 LBS.		100,000 LBS.				TBD		200,000 LBS.		
PAVEMENT STRENGTH (DOUBLE TANDEM)	350,000 LBS.		350,000 LBS.		N/A				TBD		350,000 LBS.		
PAVEMENT STRENGTH (DUAL DOUBLE TANDEM)	475,000 LBS.		475,000 LBS.		N/A				TBD		475,000 LBS.		
EFFECTIVE RUNWAY GRADIENT	0.12%		0.12%		0.14%				TBD		TBD		
MAXIMUM RUNWAY GRADIENT	0.8%		0.8%		0.5%				0.30%		0.3%		
% WIND COVERAGE	SEE ABOVE		SEE ABOVE		SEE ABOVE				SEE ABOVE		SEE ABOVE		
APPROACH TYPE	PRECISION		PRECISION		NON-PRECISION				NON-PRECISION		PRECISION		
APPROACH VISIBILITY MINIMUM	2400 RVR		2400 RVR		1 1/4 MILE				5000 RVR		5000 RVR		
RUNWAY CATEGORY (14 CFR PART 77)	PRECISION		PRECISION		NON-PRECISION				NON-PRECISION		PRECISION		
APPROACH SLOPE (14 CFR PART 77)	50:1		50:1		34:1				34:1		50:1		
DESIGN AIRCRAFT	BOEING 757-200				BOEING 767-300ER				BOEING 737-700				
RUNWAY DESIGN CODE (RDC)	D / IV / 2400		D / IV / 2400		C / III / 5000				C / II / 5000		D / IV / 2400		
RUNWAY REFERENCE CODE (RRC)	D / IV		D / IV		C / III				C / II		D / IV		
DEPARTURE RUNWAY SURFACE	YES		YES		YES				YES		YES		
THRESHOLD SITING SURFACE	SEE TSS TABLE		SEE TSS TABLE		SEE TSS TABLE				SEE TSS TABLE		SEE TSS TABLE		
TOUCHDOWN ZONE ELEVATION	26.10'		25.77'		24.34'				24.34'		24.34'		
HORIZONTAL / VERTICAL DATUM	NAD 83 / NAVD 88		NAD 83 / NAVD 88		NAD 83 / NAVD 88				NAD 83 / NAVD 88		NAD 83 / NAVD 88		
AERONAUTICAL SURVEY	VGS		VGS		VGS				VGS		TBD		
RUNWAY MARKINGS	PRECISION		PRECISION		NON-PRECISION				NON-PRECISION		PRECISION		
RUNWAY LIGHTING	HIRL, TDZ, CL		HIRL, CL		HIRL, TDZ, CL				HIRL		HIRL, CL		
APPROACH LIGHTING	MALSR		MALSR		NONE				NONE		MALSR		
VISUAL AND INSTRUMENT NAVIGATIONAL AIDS	ILS (CAT I), LOC/DME, PAPI-4, NDB, RVR, VORTAC, RNAV(GPS & RNP), WAAS/LPV		ILS (CAT I), LOC/DME, PAPI-4, NDB, RVR, RNAV(GPS & RNP), WAAS/LPV		PAPI-2, NDB, RNAV(GPS), VOR, REIL				PAPI-2, NDB, RNAV(GPS), VOR/DME, REIL		ILS, LOC/DME, PAPI, RNAV		
RUNWAY END COORDINATES & ELEVATIONS	LATITUDE	36° 53' 9.10" N	36° 54' 19.44" N	36° 53' 9.10" N	36° 54' 19.44" N	36° 53' 48.58" N	36° 53' 18.91" N			36° 53' 3.79" N	36° 53' 46.76" N	36° 53' 3.79" N	36° 54' 14.12" N
	LONGITUDE	76° 12' 29.86" W	76° 11' 21.96" W	76° 12' 29.86" W	76° 11' 21.96" W	76° 12' 43.79" W	76° 11' 56.48" W			76° 12' 21.32" W	76° 11' 39.84" W	76° 12' 21.32" W	76° 11' 13.42" W
	ELEVATION	17.7'	15.1'	17.7'	15.1'	17.7'	21.7'			17.6'	24.1'	17.6'	24.1'
DISPLACED THRESHOLD COORDINATES & ELEVATIONS	LATITUDE	36° 53' 16.92" N	N/A	36° 53' 16.92" N	N/A	36° 53' 45.09" N	N/A			36° 53' 8.52" N	N/A	36° 53' 8.52" N	N/A
	LONGITUDE	76° 12' 22.32" W	N/A	76° 12' 22.32" W	N/A	76° 12' 38.20" W	N/A			76° 12' 16.76" W	N/A	76° 12' 16.76" W	N/A
	DISTANCE	1,000'	N/A	1,000'	N/A	575'	N/A			600'	N/A	990'	N/A
DECLARED DISTANCES	ELEVATION	20.6'	N/A	20.6'	N/A	19.3'	N/A			12.0'	N/A	12.0'	N/A
	TORA	9,001'	9,001'	9,001'	9,001'	4,876'	9,001'			5,500'	5,500'	9,001'	9,001'
	TODA	9,001'	9,001'	9,001'	9,001'	4,876'	9,001'			5,500'	5,500'	9,001'	9,001'
	ASDA	8,809'	8,995'	1,000'	1,000'	4,876'	3,901'			5,500'	5,500'	9,001'	9,001'
	LDA	7,809'	8,995'	1,000'	1,000'	4,301'	3,901'			4,500'	5,500'	9,001'	9,001'
	CLEARWAY	NONE	NONE	NONE	NONE	NONE	NONE			NONE	NONE	NONE	NONE
	STOPWAY	NONE	NONE	NONE	NONE	NONE	NONE			NONE	NONE	NONE	NONE

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DESIGNED BY	RTL
DRAWN BY	JAH
REVIEWED BY	NSL
APPROVED BY	NAA/DOAV/FAA



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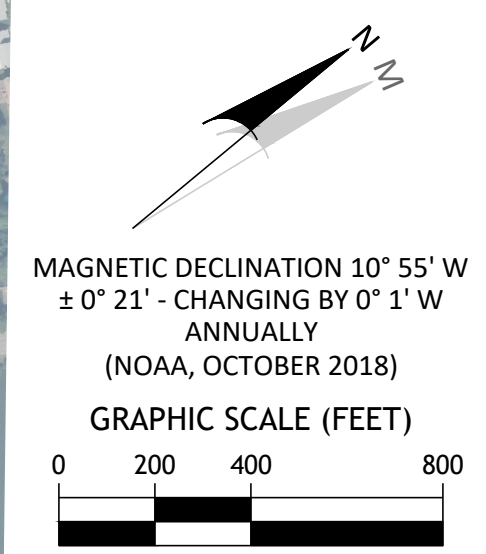
NORFOLK INTERNATIONAL AIRPORT

PROJECT NAME	AIRPORT LAYOUT PLAN		JOB NO.	33370	DATE	02/15/2021
SHEET TITLE	AIRPORT DATA SHEET 1		FILE NAME	ORF_ALP-AIRPORT DATA SHEET	REV. NO.	
			DWG. NO.	2 of 35		



EXISTING FACILITIES TABLE		
NO.	DESCRIPTION	ELEV.
1	DEPARTURES TERMINAL	80.9'
2	AUTOMOBILE PARKING GARAGES	125.3'
3	AIRFIELD LIGHTING VAULT	26.0'
4	TRITURATOR	33.8'
5	ARRIVALS TERMINAL	125.3'
6	AIRCRAFT RESCUE AND FIREFIGHTING STATION (ARFF)	45.7'
7	ARFF STORAGE BLDG.	43.1'
8	AIR CARGO BLDG.	43.0'
9	AIR CARGO BLDG.	44.6'
10	CATERING FACILITY	41.3'
11	FAA REMOTE COMMUNICATIONS FACILITY (RTR)	31.4'
12	RENTAL CAR RETURN BLDG.	42.2'
13	FAA SUPPORT BLDG.	41.1'
14	FAA ATCT	151.7'
15	FUEL FARM	
16	FORMER FAA SUPPORT BLDG. (ABANDONED)	36.4'
17	GROUND RUN-UP ENCLOSURE (GRE)	N/A
18	FAA SUPPORT BLDG.	36.3'
19	FAA ASR-9 RADAR	34.5'
20	G.A. TERMINAL & HANGAR FACILITY C-1	51.0'
21	HANGAR C-2	55.7'
22	HANGAR C-2	55.7'

EXISTING FACILITIES TABLE		
NO.	DESCRIPTION	ELEV.
23	T-HANGAR BLDG. #1	35.4'
24	T-HANGAR BLDG. #2	37.0'
25	T-HANGAR BLDG. #3	36.3'
26	AIRCRAFT MAINTENANCE HANGAR	61.7'
27	AIRFIELD MAINTENANCE FACILITY	48.7'
28	GENERAL AVIATION FUEL FARM	27.8'
29	ARFF TRAINING FACILITY	N/A
30	HANGAR C-5	42.9'
31	HANGAR C-3	54.0'
31	HANGAR C-3	54.0'
32	HANGAR C-4	55.1'
33	FBO MAINTENANCE SHOP	44.5'
34	AIRFIELD MAINTENANCE BLDG.	39.5'
35	LONG TERM PARKING	N/A
36	SHORT TERM PARKING	N/A
37	RW 5 LOCALIZER & MALSR EQIP. SHELTER	9.0'
38	RW 5 MALSR	N/A
39	RW 23 LOCALIZER	N/A
40	RW 23 LOCALIZER & MALSR EQIP. SHELTER	12.4'
41	RW 23 MALSR	N/A
42	RW 23 LOCALIZER	N/A
43	GENERAL AVIATION CUSTOMS AND BORDER PATROL (CBP) FACILITY	N/A



TRAVERSE WAYS TABLE				
IDENTIFIER	ROAD NAME	GROUND ELEV.	VEHICLE HT.	TOP ELEV. OF VEHICLE
A	MILITARY HWY.	14.8	15	29.8
B	I-64 ON RAMP 1	13.4	15	28.4
C	I-64 ON RAMP 2	15.2	15	30.2
D	I-64 OFF RAMP 1	14.6	15	29.6
E	MILLER STORE RD.	12.6	15	27.6
F	I-64 LANE 1	26.3	17	43.3
G	I-64 LANE 2	28.9	17	45.9
H	I-64 LANE 3	22.9	17	39.9
I	I-64 OFF RAMP 2	18.7	15	33.7
J	ACCESS ROAD	14.0	10	24.0
K	ACCESS ROAD	9.2	10	19.2
L	ACCESS ROAD	8.5	10	18.5
M	HWY. 60 LANE 1	10.6	15	25.6
N	HWY. 60 LANE 2	9.3	15	24.3
O	HWY. 60 LANE 1	11.7	15	26.7
P	HWY. 60 LANE 2	11.9	15	26.9
Q	HWY. 60 LANE 1	16.5	15	31.5
R	HWY. 60 LANE 2	15.9	15	30.9

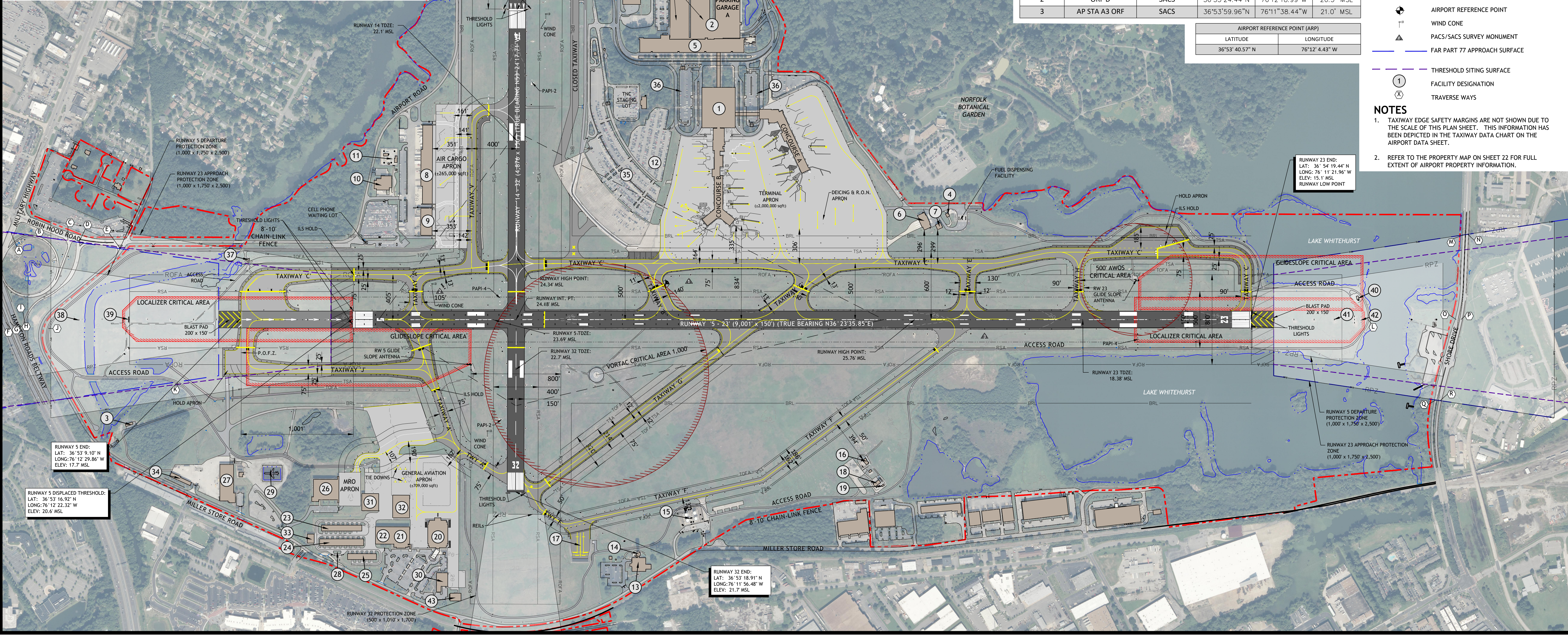
PACS & SACS MONUMENTATION TABLE					
IDENTIFIER	MONUMENT NAME	CONTROL	LATITUDE	LONGITUDE	ELEVATION
1	ORF C	PACS	36°53' 42.33"N	76°12' 03.04"W	21.6' MSL
2	ORF D	SACS	36°53'24.44"N	76°12'18.99"W	20.3' MSL
3	AP STA A3 ORF	SACS	36°53'59.96"N	76°11'38.44"W	21.0' MSL

AIRPORT REFERENCE POINT (ARP)	
LATITUDE	LONGITUDE
36°53' 40.57" N	76°12' 4.43" W

### LEGEND

- EX. BUILDING
- EX. RUNWAY PAVEMENT
- EX. RUNWAY SHOULDER PAVEMENT
- EX. TAXIWAY PAVEMENT
- EX. APRON PAVEMENT
- ELEVATION CONTOUR
- EXISTING GROUND SPOT ELEVATION
- AIRPORT FENCE (8' to 10' Chain-link w/1" Wire)
- WATER/DETENTION AREAS
- NAVAID CRITICAL AREA
- RUNWAY APPROACH PROTECTION ZONE (RPZ)
- RSA - RUNWAY SAFETY AREA (RSA)
- ROFA - RUNWAY OBJECT FREE AREA (ROFA)
- RW - RUNWAY OBSTACLE FREE ZONE (ROFZ)
- PRECISION OBSTACLE FREE ZONE (POFZ)
- 35' BUILDING RESTRICTION LINE (BRL)
- RUNWAY VISIBILITY ZONE (RVZ)
- EX. TAXIWAY SAFETY AREA (TSA)
- EX. TAXIWAY OBJECT FREE AREA (TOFA)
- EX. AIRPORT PROPERTY LINE
- AIRPORT REFERENCE POINT
- WIND CONE
- PACS/SACS SURVEY MONUMENT
- FAR PART 77 APPROACH SURFACE
- THRESHOLD SITING SURFACE
- FACILITY DESIGNATION
- TRAVERSE WAYS

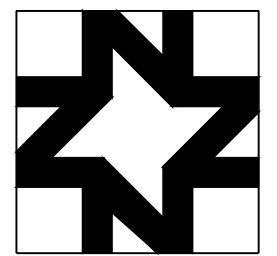
- ### NOTES
- TAXIWAY EDGE SAFETY MARGINS ARE NOT SHOWN DUE TO THE SCALE OF THIS PLAN SHEET. THIS INFORMATION HAS BEEN DEPICTED IN THE TAXIWAY DATA CHART ON THE AIRPORT DATA SHEET.
  - REFER TO THE PROPERTY MAP ON SHEET 22 FOR FULL EXTENT OF AIRPORT PROPERTY INFORMATION.



DESIGNED BY	RTL
DRAWN BY	JAH
REVIEWED BY	NSL
APPROVED BY	NAA/DOAV/FAA



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NORFOLK INTERNATIONAL AIRPORT

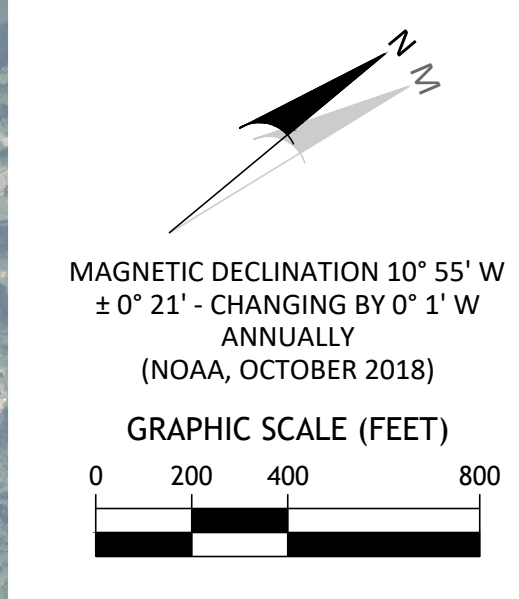
PROJECT NAME  
**AIRPORT LAYOUT PLAN**  
 SHEET TITLE  
**EXISTING AIRPORT LAYOUT PLAN**

JOB NO.	33370	DATE	02/15/2021
FILE NAME	ORF_ALP-EXISTING	REV. NO.	
DWG. NO.			

EXISTING FACILITIES TABLE		
NO.	DESCRIPTION	ELEV.
1	DEPARTURES TERMINAL	80.9'
2	AUTOMOBILE PARKING GARAGE	125.3'
5	ARRIVALS TERMINAL	125.3'
12	RENTAL CAR RETURN BLDG.	42.2'
15	FUEL FARM	TBD
16	FORMER FAA SUPPORT BLDG. (ABANDONED)	36.4'
17	GROUND RUN-UP ENCLOSURE (GRE)	TBD
23	REBUILT T-HANGAR BLDG. #1	35.4'
24	REBUILT T-HANGAR BLDG. #2	37.0'
25	T-HANGAR BLDG. #3	36.3'
29	ARFF TRAINING FACILITY	TBD
34	AIRFIELD MAINTENANCE BLDG.	39.5'

PROPOSED FACILITIES TABLE		
NO.	DESCRIPTION	ELEV.
F1	REBUILT CONCOURSES 'A AND B'	TBD
F2	NEW CONCRAC/PARKING EXPANSION	TBD
F3	NEW DEPARTURES TERMINAL/CURBSIDE	TBD
F4	NEW 'CONCOURSE C'	TBD
F5	TERMINAL APRON EXPANSION (±1,357,500 SF)	N/A
F6	NEW AIR CARGO SORT FACILITY/APRON	TBD
F7	NEW TERMINAL DEICING APRON (±317,160 sf)	N/A
F8	NEW AIRLINE FUEL/GLYCOL STORAGE FACILITY	TBD
F9	NEW INDEPENDENT RENTAL CAR QTA FACILITY	TBD
F10	TAXIWAY 'C' REALIGNMENT	N/A
F11	NEW GENERAL AVIATION APRON (±36,960 SY)	N/A
F12	REBUILT T-HANGARS	TBD
F13	FUTR. GARAGE D	TBD
F14	FUTR. MAINTENANCE FACILITY	TBD

- NOTES**
- TAXIWAY EDGE SAFETY MARGINS ARE NOT SHOWN DUE TO THE SCALE OF THIS PLAN SHEET. THIS INFORMATION HAS BEEN DEPICTED IN THE TAXIWAY DATA CHART ON THE AIRPORT DATA SHEET.
  - REFER TO THE PROPERTY MAP ON SHEETS 22 AND 23 FOR FULL EXTENT OF AIRPORT PROPERTY INFORMATION.
  - PLAN ONLY DEPICTS PROPOSED FACILITIES AND EXISTING FACILITIES AFFECTED BY FUTURE DEVELOPMENT. REFER TO SHEET 4 EXISTING AIRPORT LAYOUT PLAN FOR ALL EXISTING FACILITIES.



TRAVERSE WAYS TABLE				
IDENTIFIER	ROAD NAME	GROUND ELEV.	VEHICLE HT.	TOP ELEV. OF VEHICLE
A	MILITARY HWY.	14.8	15	29.8
B	I-64 ON RAMP 1	13.4	15	28.4
C	I-64 ON RAMP 2	15.2	15	30.2
D	I-64 OFF RAMP 1	14.6	15	29.6
E	MILLER STORE RD.	12.6	15	27.6
F	I-64 LANE 1	26.3	17	43.3
G	I-64 LANE 2	28.9	17	45.9
H	I-64 LANE 3	22.9	17	39.9
I	I-64 OFF RAMP 2	18.7	15	33.7
J	ACCESS ROAD	14.0	10	24.0
K	ACCESS ROAD	9.2	10	19.2
L	ACCESS ROAD	8.5	10	18.5
M	HWY. 60 LANE 1	10.6	15	25.6
N	HWY. 60 LANE 2	9.3	15	24.3
O	HWY. 60 LANE 1	11.7	15	26.7
P	HWY. 60 LANE 2	11.9	15	26.9
Q	HWY. 60 LANE 1	16.5	15	31.5
R	HWY. 60 LANE 2	15.9	15	30.9

PACS & SACS MONUMENTATION TABLE					
IDENTIFIER	MONUMENT NAME	CONTROL	LATITUDE	LONGITUDE	ELEVATION
1	ORF C	PACS	36° 53' 42.33" N	76° 12' 03.04" W	21.6' MSL
2	ORF D	SACS	36° 53' 24.44" N	76° 12' 18.99" W	20.3' MSL
3	AP STA A3 ORF	SACS	36° 53' 59.96" N	76° 11' 38.44" W	21.0' MSL

FUTURE AIRPORT REFERENCE POINT (ARP)	
LATITUDE	LONGITUDE
36° 53' 37.07" N	76° 11' 57.68" W

**FEDERAL AVIATION ADMINISTRATION APPROVAL**

MATTHEW J THYS  
Digitally signed by MATTHEW J THYS  
Date: 2021.04.23 14:32:53 -04'00'

**VIRGINIA DEPARTMENT OF AVIATION APPROVAL**

Flynn Mark tuy64266  
Digitally signed by Flynn Mark tuy64266  
Date: 2021.04.23 10:41:36 -04'00'

**NORFOLK AIRPORT AUTHORITY APPROVAL**

Robert S. Bowen  
Digitally signed by Robert S. Bowen  
Date: 2021.04.22 14:32:32 -04'00'

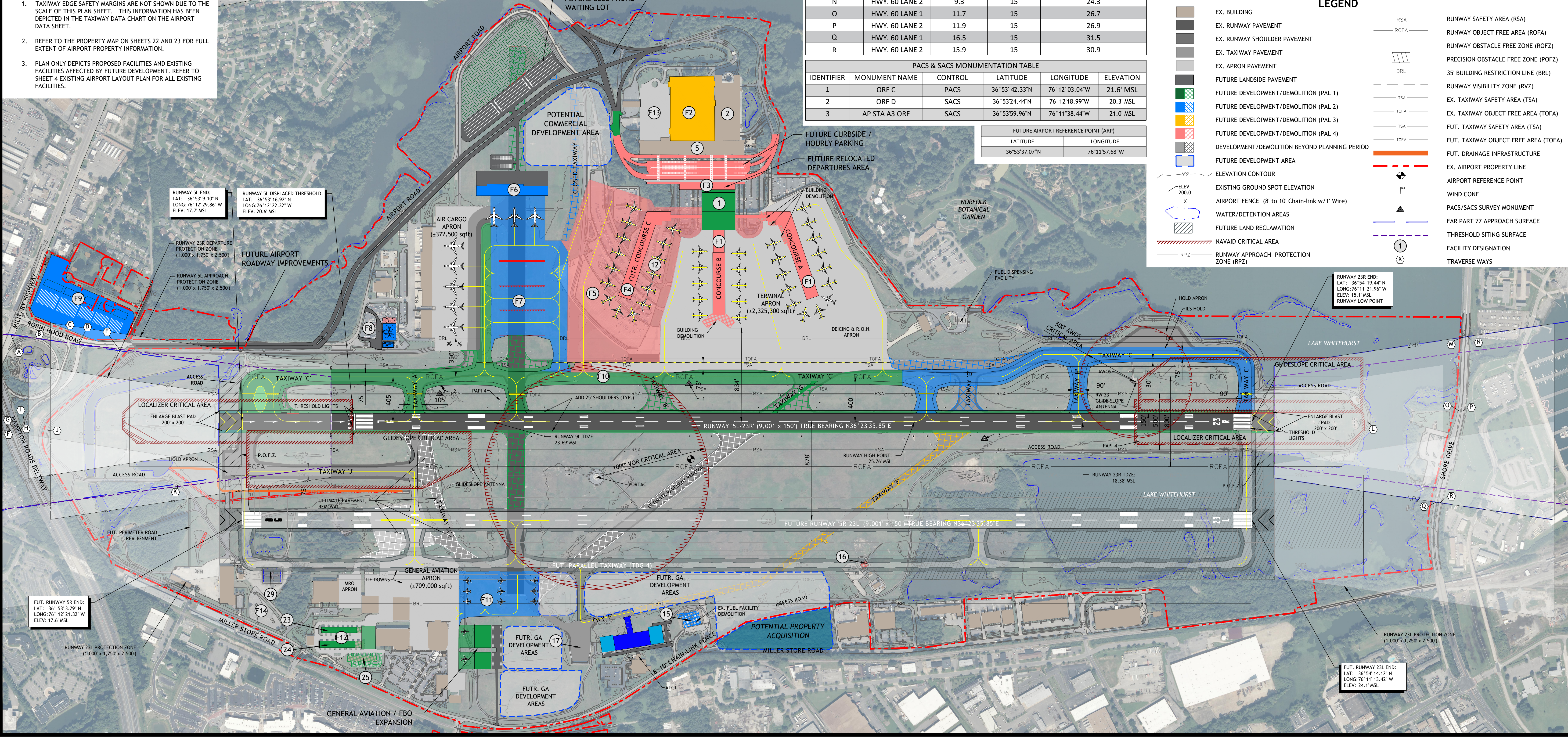
FEDERAL AVIATION ADMINISTRATION APPROVED SUBJECT TO COMMENTS AND CONDITIONS NOTED IN LETTER FROM MANAGER, WASHINGTON AIRPORTS DISTRICT OFFICE DATED MARCH 24, 2021.

Mark K. Flynn  
DIRECTOR, VIRGINIA DEPARTMENT OF AVIATION

Robert S. Bowen, A.A.E.  
EXECUTIVE DIRECTOR, NORFOLK AIRPORT AUTHORITY

**LEGEND**

- EX. BUILDING
- EX. RUNWAY PAVEMENT
- EX. RUNWAY SHOULDER PAVEMENT
- EX. TAXIWAY PAVEMENT
- EX. APRON PAVEMENT
- FUTURE LANDSIDE PAVEMENT
- FUTURE DEVELOPMENT/DEMOLITION (PAL 1)
- FUTURE DEVELOPMENT/DEMOLITION (PAL 2)
- FUTURE DEVELOPMENT/DEMOLITION (PAL 3)
- FUTURE DEVELOPMENT/DEMOLITION (PAL 4)
- DEVELOPMENT/DEMOLITION BEYOND PLANNING PERIOD
- FUTURE DEVELOPMENT AREA
- ELEVATION CONTOUR
- EXISTING GROUND SPOT ELEVATION
- AIRPORT FENCE (8' to 10' Chain-link w/1" Wire)
- WATER/DETENTION AREAS
- FUTURE LAND RECLAMATION
- NAVAID CRITICAL AREA
- RUNWAY APPROACH PROTECTION ZONE (RPZ)
- RSA - RUNWAY SAFETY AREA (RSA)
- ROFA - RUNWAY OBJECT FREE AREA (ROFA)
- ROFZ - RUNWAY OBSTACLE FREE ZONE (ROFZ)
- POFZ - PRECISION OBSTACLE FREE ZONE (POFZ)
- BRL - 35' BUILDING RESTRICTION LINE (BRL)
- RVZ - RUNWAY VISIBILITY ZONE (RVZ)
- EX. TAXIWAY SAFETY AREA (TSA)
- EX. TAXIWAY OBJECT FREE AREA (TOFA)
- FUT. TAXIWAY SAFETY AREA (TSA)
- FUT. TAXIWAY OBJECT FREE AREA (TOFA)
- DRAINAGE INFRASTRUCTURE
- EX. AIRPORT PROPERTY LINE
- AIRPORT REFERENCE POINT
- WIND CONE
- PACS/SACS SURVEY MONUMENT
- FAR PART 77 APPROACH SURFACE
- THRESHOLD SITING SURFACE
- FACILITY DESIGNATION
- TRAVERSE WAYS



NO.	DATE	REVISION	BY	CHK.	APPR.

DESIGNED BY: RTL  
DRAWN BY: JAH  
REVIEWED BY: NSL  
APPROVED BY: NAA/DOAV/FAA

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**NORFOLK INTERNATIONAL AIRPORT**

PROJECT NAME: AIRPORT LAYOUT PLAN

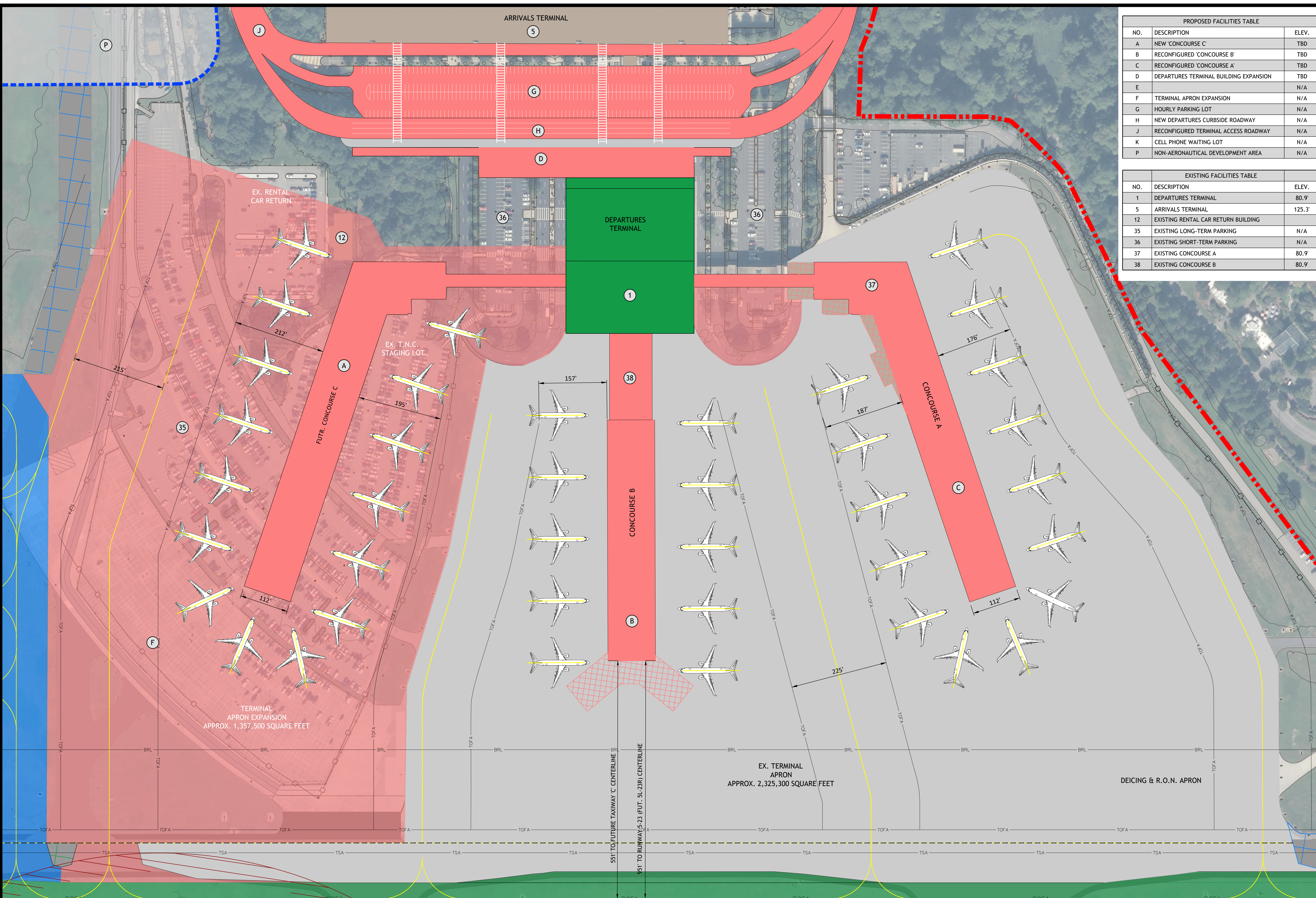
SHEET TITLE: FUTURE AIRPORT LAYOUT PLAN BY PLANNING ACTIVITY LEVEL (PAL)

JOB NO. 33370 DATE 02/15/2021

FILE NAME ORF\_ALP-FUTURE - PALS V2 REV. NO.

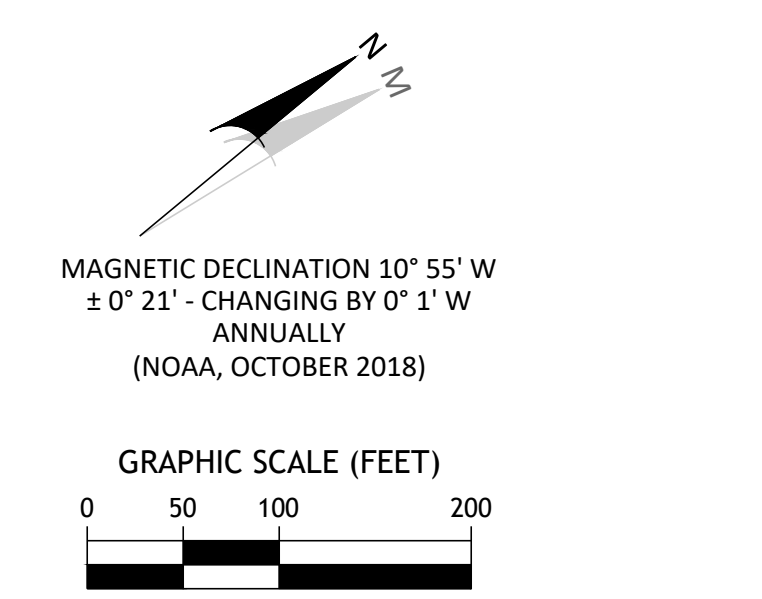
DWG. NO.

**5 of 35**



PROPOSED FACILITIES TABLE		
NO.	DESCRIPTION	ELEV.
A	NEW 'CONCOURSE C'	TBD
B	RECONFIGURED 'CONCOURSE B'	TBD
C	RECONFIGURED 'CONCOURSE A'	TBD
D	DEPARTURES TERMINAL BUILDING EXPANSION	TBD
E		N/A
F	TERMINAL APRON EXPANSION	N/A
G	HOURLY PARKING LOT	N/A
H	NEW DEPARTURES CURBSIDE ROADWAY	N/A
J	RECONFIGURED TERMINAL ACCESS ROADWAY	N/A
K	CELL PHONE WAITING LOT	N/A
P	NON-AERONAUTICAL DEVELOPMENT AREA	N/A

EXISTING FACILITIES TABLE		
NO.	DESCRIPTION	ELEV.
1	DEPARTURES TERMINAL	80.9'
5	ARRIVALS TERMINAL	125.3'
12	EXISTING RENTAL CAR RETURN BUILDING	
35	EXISTING LONG-TERM PARKING	N/A
36	EXISTING SHORT-TERM PARKING	N/A
37	EXISTING CONCOURSE A	80.9'
38	EXISTING CONCOURSE B	80.9'



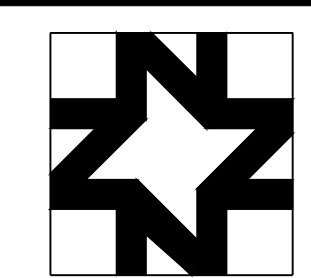
- EX. BUILDING
- EX. RUNWAY PAVEMENT
- EX. RUNWAY SHOULDER PAVEMENT
- EX. TAXIWAY PAVEMENT
- EX. APRON PAVEMENT
- FUTURE LANDSIDE PAVEMENT
- FUTURE DEVELOPMENT/DEMOLITION (PAL 1)
- FUTURE DEVELOPMENT/DEMOLITION (PAL 2)
- FUTURE DEVELOPMENT/DEMOLITION (PAL 3)
- FUTURE DEVELOPMENT/DEMOLITION (PAL 4)
- DEVELOPMENT/DEMOLITION BEYOND PLANNING PERIOD
- FUTURE DEVELOPMENT AREA
- ELEVATION CONTOUR
- EXISTING GROUND SPOT ELEVATION
- AIRPORT FENCE (8' to 10' Chain-link w/1' Wire)
- WATER/RETENTION AREAS
- NAVAID CRITICAL AREA
- RPZ - RUNWAY APPROACH PROTECTION ZONE (RPZ)
- RSA - RUNWAY SAFETY AREA (RSA)
- ROFA - RUNWAY OBJECT FREE AREA (ROFA)
- ROFZ - RUNWAY OBSTACLE FREE ZONE (ROFZ)
- POFZ - PRECISION OBSTACLE FREE ZONE (POFZ)
- BRL - 35' BUILDING RESTRICTION LINE (BRL)
- RVZ - RUNWAY VISIBILITY ZONE (RVZ)
- TSA - EX. TAXIWAY SAFETY AREA (TSA)
- TOFA - EX. TAXIWAY OBJECT FREE AREA (TOFA)
- TSA - FUT. TAXIWAY SAFETY AREA (TSA)
- TOFA - FUT. TAXIWAY/LANE OBJECT FREE AREA (TOFA)
- FUT. DRAINAGE INFRASTRUCTURE
- EX. AIRPORT PROPERTY LINE
- WIND CONE
- FACILITY DESIGNATION

NO.	DATE	REVISION	BY	CHK.	APPR.

DESIGNED BY	RTL
DRAWN BY	JAH
REVIEWED BY	NSL
APPROVED BY	NAA/DOAV/FAA



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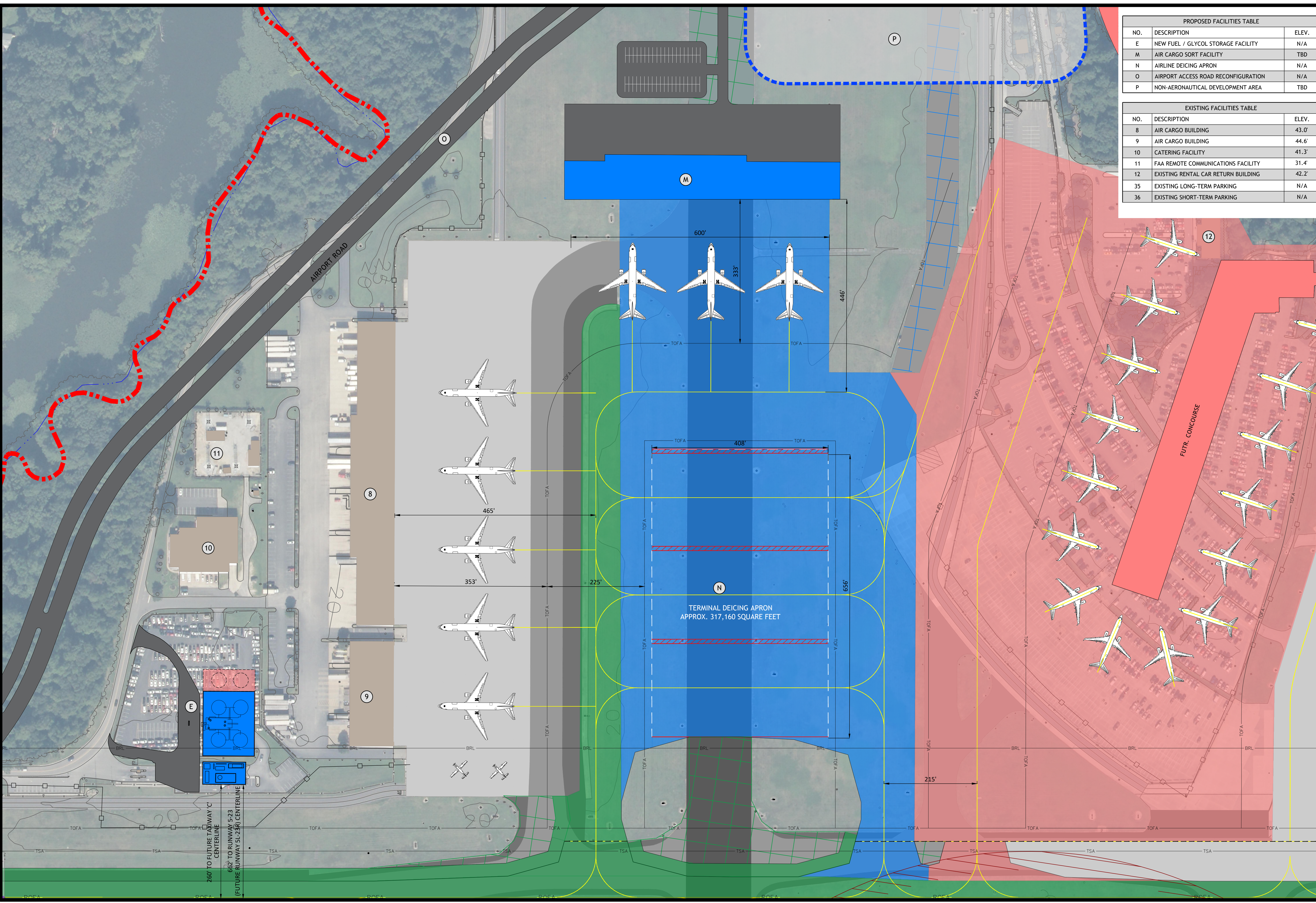
NORFOLK INTERNATIONAL AIRPORT

PROJECT NAME  
**AIRPORT LAYOUT PLAN**

SHEET TITLE  
**PASSENGER TERMINAL AREA PLAN**

JOB NO.	33370	DATE	02/15/2021
FILE NAME	DRF_ALP-TERMINAL	REV. NO.	
DWG. NO.			

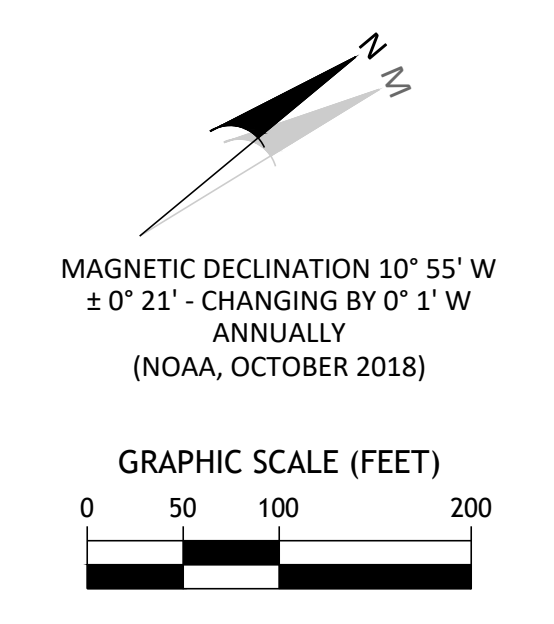
**6 of 35**



PROPOSED FACILITIES TABLE		
NO.	DESCRIPTION	ELEV.
E	NEW FUEL / GLYCOL STORAGE FACILITY	N/A
M	AIR CARGO SORT FACILITY	TBD
N	AIRLINE DEICING APRON	N/A
O	AIRPORT ACCESS ROAD RECONFIGURATION	N/A
P	NON-AERONAUTICAL DEVELOPMENT AREA	TBD

EXISTING FACILITIES TABLE		
NO.	DESCRIPTION	ELEV.
8	AIR CARGO BUILDING	43.0'
9	AIR CARGO BUILDING	44.6'
10	CATERING FACILITY	41.3'
11	FAA REMOTE COMMUNICATIONS FACILITY	31.4'
12	EXISTING RENTAL CAR RETURN BUILDING	42.2'
35	EXISTING LONG-TERM PARKING	N/A
36	EXISTING SHORT-TERM PARKING	N/A



- EX. BUILDING
- EX. RUNWAY PAVEMENT
- EX. RUNWAY SHOULDER PAVEMENT
- EX. TAXIWAY PAVEMENT
- EX. APRON PAVEMENT
- FUTURE LANDSIDE PAVEMENT
- FUTURE DEVELOPMENT/DEMOLITION (PAL 1)
- FUTURE DEVELOPMENT/DEMOLITION (PAL 2)
- FUTURE DEVELOPMENT/DEMOLITION (PAL 3)
- FUTURE DEVELOPMENT/DEMOLITION (PAL 4)
- DEVELOPMENT/DEMOLITION BEYOND PLANNING PERIOD
- FUTURE DEVELOPMENT AREA
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- FUT. DRAINAGE INFRASTRUCTURE
- EX. AIRPORT PROPERTY LINE
- WIND CONE
- FACILITY DESIGNATION

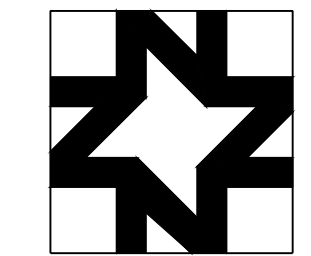
DESIGNED BY	RTL
DRAWN BY	JAH
REVIEWED BY	NSL
APPROVED BY	NAA/DOAV/FAA

NO.	DATE	REVISION	BY	CHK.	APPR.



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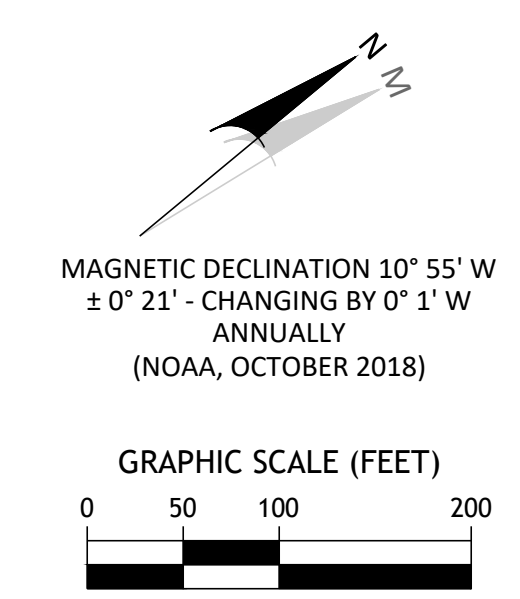
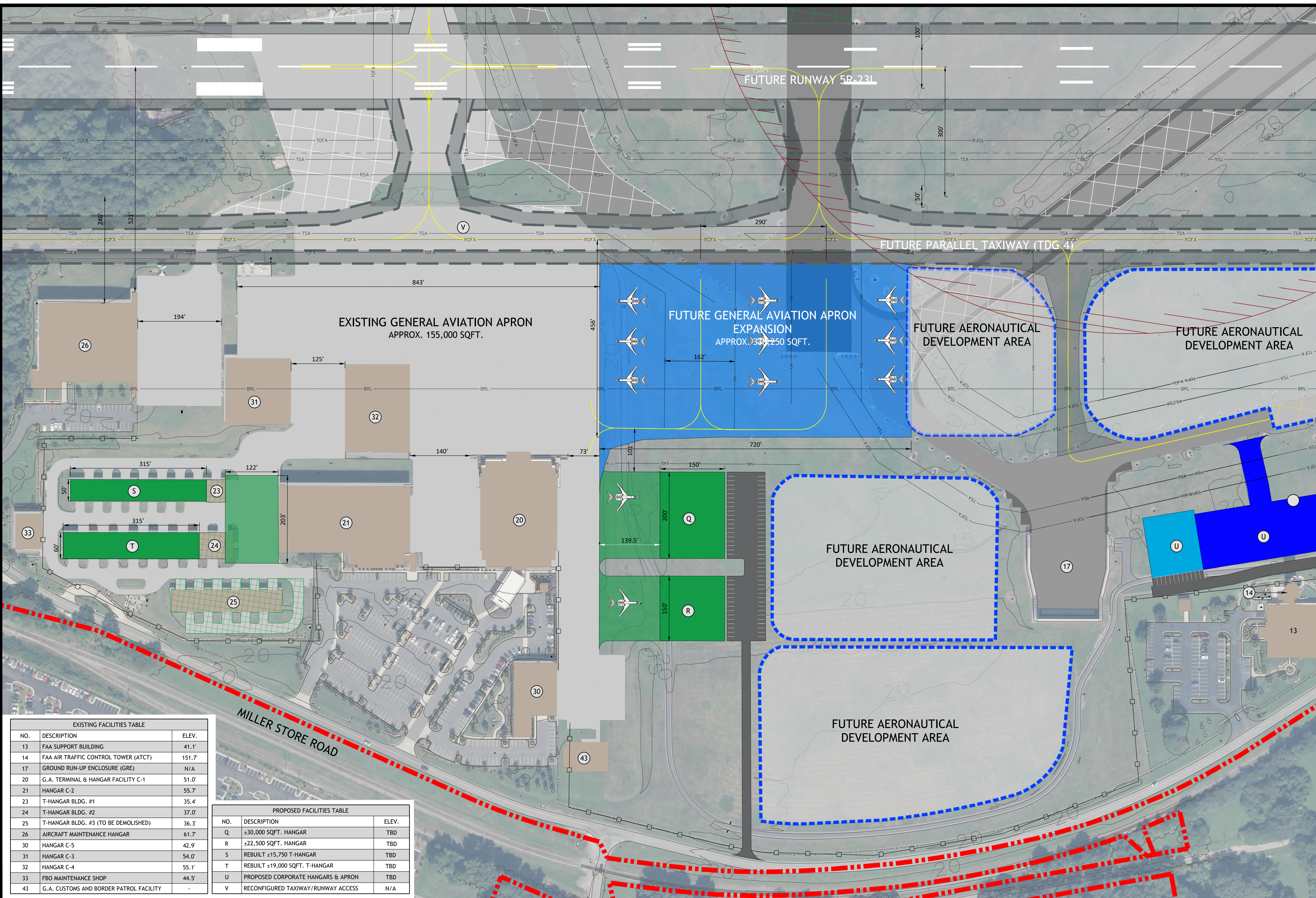
NORFOLK INTERNATIONAL AIRPORT

PROJECT NAME  
**AIRPORT LAYOUT PLAN**

SHEET TITLE  
**CARGO AREA PLAN**

JOB NO.	33370	DATE	02/15/2021
FILE NAME	DRF_ALP-TERMINAL	REV. NO.	
DWG. NO.			

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- EX. BUILDING
- EX. RUNWAY PAVEMENT
- EX. RUNWAY SHOULDER PAVEMENT
- EX. TAXIWAY PAVEMENT
- EX. APRON PAVEMENT
- FUTURE AIRFIELD PAVEMENT
- FUTURE LANDSIDE PAVEMENT
- FUTURE BUILDING
- PAVEMENT REMOVAL
- BUILDING DEMOLITION
- FUTURE DEVELOPMENT AREA
- ELEVATION CONTOUR
- EXISTING GROUND SPOT ELEVATION
- AIRPORT FENCE (8' to 10' Chain-link w/1' Wire)
- WATER/RETENTION AREAS
- NAVAID CRITICAL AREA
- RUNWAY APPROACH PROTECTION ZONE (RPZ)
- RSA RUNWAY SAFETY AREA (RSA)
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- TSA EX. TAXIWAY SAFETY AREA (TSA)
- TOFA EX. TAXIWAY OBJECT FREE AREA (TOFA)
- TSA FUT. TAXIWAY SAFETY AREA (TSA)
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- FUT. DRAINAGE INFRASTRUCTURE
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- WIND CONE
- FACILITY DESIGNATION

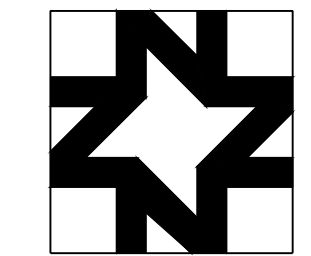
EXISTING FACILITIES TABLE		
NO.	DESCRIPTION	ELEV.
13	FAA SUPPORT BUILDING	41.1'
14	FAA AIR TRAFFIC CONTROL TOWER (ATCT)	151.7
17	GROUND RUN-UP ENCLOSURE (GRE)	N/A
20	G.A. TERMINAL & HANGAR FACILITY C-1	51.0'
21	HANGAR C-2	55.7
23	T-HANGAR BLDG. #1	35.4'
24	T-HANGAR BLDG. #2	37.0'
25	T-HANGAR BLDG. #3 (TO BE DEMOLISHED)	36.3'
26	AIRCRAFT MAINTENANCE HANGAR	61.7'
30	HANGAR C-5	42.9
31	HANGAR C-3	54.0'
32	HANGAR C-4	55.1'
33	FBO MAINTENANCE SHOP	44.5'
43	G.A. CUSTOMS AND BORDER PATROL FACILITY	-

PROPOSED FACILITIES TABLE		
NO.	DESCRIPTION	ELEV.
Q	±30,000 SQFT. HANGAR	TBD
R	±22,500 SQFT. HANGAR	TBD
S	REBUILT ±15,750 T-HANGAR	TBD
T	REBUILT ±19,000 SQFT. T-HANGAR	TBD
U	PROPOSED CORPORATE HANGARS & APRON	TBD
V	RECONFIGURED TAXIWAY/RUNWAY ACCESS	N/A

NO.	DATE	REVISION	BY	CHK.	APPR.



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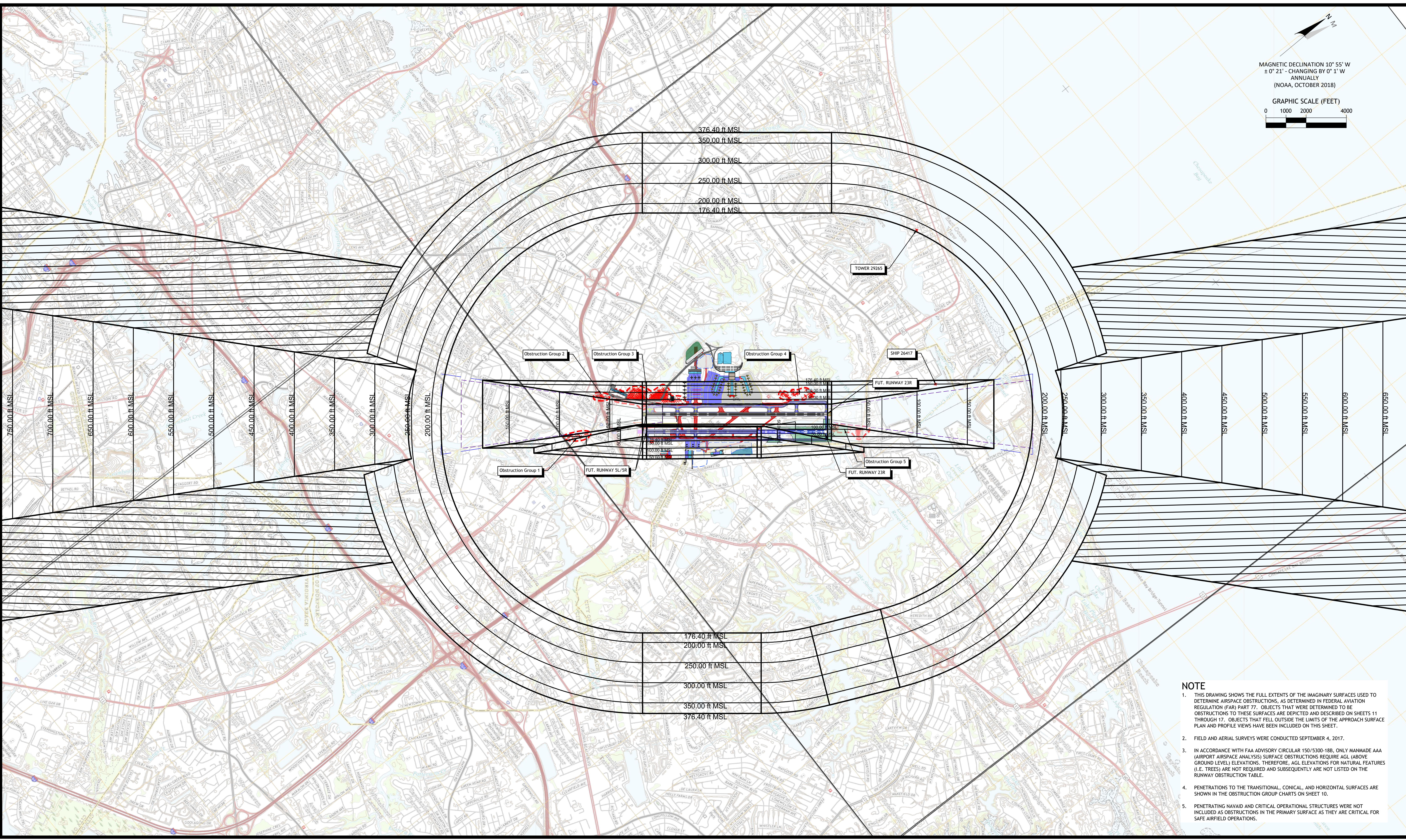
NORFOLK INTERNATIONAL AIRPORT

PROJECT NAME  
**AIRPORT LAYOUT PLAN**

SHEET TITLE  
**GENERAL AVIATION AREA PLAN**

JOB NO. 33370	DATE 02/15/2021
FILE NAME DRF_ALP-TERMINAL	REV. NO.
DWG. NO.	





**NOTE**

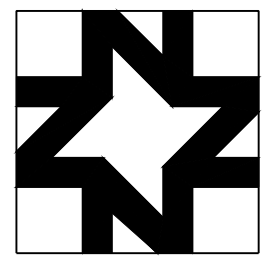
1. THIS DRAWING SHOWS THE FULL EXTENTS OF THE IMAGINARY SURFACES USED TO DETERMINE AIRSPACE OBSTRUCTIONS, AS DETERMINED IN FEDERAL AVIATION REGULATION (FAR) PART 77. OBJECTS THAT WERE DETERMINED TO BE OBSTRUCTIONS TO THESE SURFACES ARE DEPICTED AND DESCRIBED ON SHEETS 11 THROUGH 17. OBJECTS THAT FELL OUTSIDE THE LIMITS OF THE APPROACH SURFACE PLAN AND PROFILE VIEWS HAVE BEEN INCLUDED ON THIS SHEET.
2. FIELD AND AERIAL SURVEYS WERE CONDUCTED SEPTEMBER 4, 2017.
3. IN ACCORDANCE WITH FAA ADVISORY CIRCULAR 150/5300-18B, ONLY MANMADE AAA (AIRPORT AIRSPACE ANALYSIS) SURFACE OBSTRUCTIONS REQUIRE AGL (ABOVE GROUND LEVEL) ELEVATIONS. THEREFORE, AGL ELEVATIONS FOR NATURAL FEATURES (I.E. TREES) ARE NOT REQUIRED AND SUBSEQUENTLY ARE NOT LISTED ON THE RUNWAY OBSTRUCTION TABLE.
4. PENETRATIONS TO THE TRANSITIONAL, CONICAL, AND HORIZONTAL SURFACES ARE SHOWN IN THE OBSTRUCTION GROUP CHARTS ON SHEET 10.
5. PENETRATING NAVAID AND CRITICAL OPERATIONAL STRUCTURES WERE NOT INCLUDED AS OBSTRUCTIONS IN THE PRIMARY SURFACE AS THEY ARE CRITICAL FOR SAFE AIRFIELD OPERATIONS.

NO	DATE	REVISION	BY	CHK	APPR.

DESIGNED BY: RTL  
DRAWN BY: JAH  
REVIEWED BY: NSL  
APPROVED BY: NAA/DOAV/FAA



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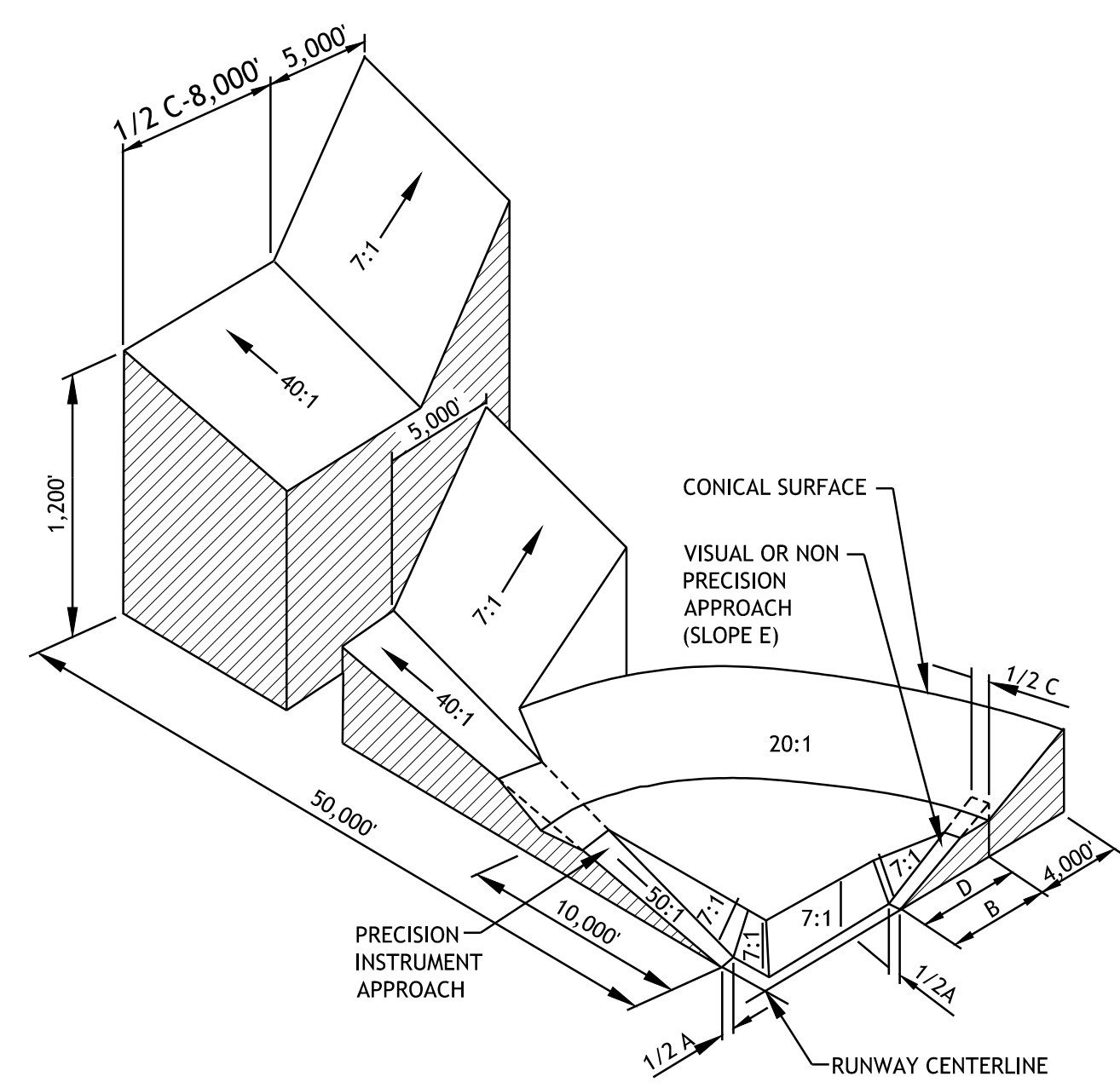


NORFOLK INTERNATIONAL AIRPORT

PROJECT NAME  
**AIRPORT LAYOUT PLAN**

SHEET TITLE  
**AIRSPACE PLAN**

JOB NO. 33370 DATE 02/15/2021  
FILE NAME DRF\_ALP-P77\_AIRSPACE REV. NO.  
DWC NO.



ISOMETRIC VIEW OF SECTION  
77.25 CIVIL AIRPORT IMAGINARY SURFACES

DIM	ITEM	VISUAL RUNWAY		NON-PRECISION INSTRUMENT RUNWAY			PRECISION INSTRUMENT RUNWAY
		A	B	A	B		
A	WIDTH OF PRIMARY SURFACE AND APPROACH SURFACE WIDTH AT INNER END	250	500	500	500	1,000	1,000
B	RADIUS OF HORIZONTAL SURFACE	5,000	5,000	5,000	10,000	10,000	10,000
		VISUAL RUNWAY		NON-PRECISION INSTRUMENT RUNWAY			PRECISION INSTRUMENT RUNWAY
		A	B	A	B		
C	APPROACH SURFACE WIDTH AT END	1,250	1,500	2,000	3,500	4,000	16,000
D	APPROACH SURFACE LENGTH	5,000	5,000	5,000	10,000	10,000	50,000*
E	APPROACH SLOPE	20:1	20:1	20:1	34:1	34:1	50:1 / 40:1*

A - UTILITY RUNWAYS  
 B - RUNWAYS LARGER THAN UTILITY  
 C - VISIBILITY MINIMUMS GREATER THAN 3/4 MILES  
 D - VISIBILITY MINIMUMS AS LOW AS 3/4 MILE  
 \* - PRECISION INSTRUMENT APPROACH SLOPE IS 50:1 FOR INNER 10,000 FT. AND 40:1 FOR AN ADDITIONAL 40,000 FT.

OBSTRUCTION GROUP 1							
Penetration	OBJECT	NORTHING	EASTING	OBJECT ELEVATION	PART 77 ELEVATION	PENETRATION (FT.)	SURFACE
MINIMUM	TREE 45574	3486379.4	12151701.6	103.0	101.6	1.0	TRANSITIONAL
MAXIMUM	TREE 45526	3486816.6	12151898.3	109.5	87.7	22.0	TRANSITIONAL
AVERAGE	---	---	---	106.3	94.6	11.5	---

OBSTRUCTION GROUP 2							
Penetration	OBJECT	NORTHING	EASTING	OBJECT ELEVATION	PART 77 ELEVATION	PENETRATION (FT.)	SURFACE
MINIMUM	UTILITY POLE 41454	3488925.1	12151160.5	65.7	63.4	2.0	TRANSITIONAL
MAXIMUM	UTILITY POLE 41462	3488883.0	12151127.4	72.2	63.6	9.0	TRANSITIONAL
AVERAGE	---	---	---	69.0	63.5	5.5	---

OBSTRUCTION GROUP 3							
Penetration	OBJECT	NORTHING	EASTING	OBJECT ELEVATION	PART 77 ELEVATION	PENETRATION (FT.)	SURFACE
MINIMUM	LIGHT POLE 41838	3491588.8	12153365.1	37.8	37.2	1.0	TRANSITIONAL
MAXIMUM	LIGHT POLE 22126	3491335.2	12153174.8	96.7	37.7	59.0	TRANSITIONAL
AVERAGE	---	---	---	67.3	37.4	30.0	---

OBSTRUCTION GROUP 4							
Penetration	OBJECT	NORTHING	EASTING	OBJECT ELEVATION	PART 77 ELEVATION	PENETRATION (FT.)	SURFACE
MINIMUM	TREE 43438	3496768.6	12156701.4	92.8	90.7	2.0	TRANSITIONAL
MAXIMUM	TREE 22568	3496638.7	12156691.8	95.0	80.8	14.0	TRANSITIONAL
AVERAGE	---	---	---	95.0	95.0	95.0	---

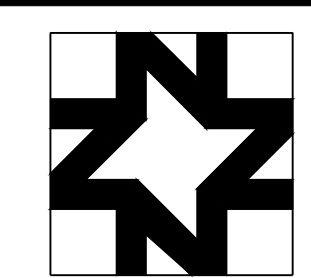
OBSTRUCTION GROUP 5							
Penetration	OBJECT	NORTHING	EASTING	OBJECT ELEVATION	PART 77 ELEVATION	PENETRATION (FT.)	SURFACE
MINIMUM	TREE 43926	3497242.1	12159308.0	58.7	56.4	2.0	TRANSITIONAL
MAXIMUM	TREE 26549	3498213.0	12159989.1	85.0	51.2	34.0	TRANSITIONAL
AVERAGE	---	---	---	95.0	95.0	95.0	---

INDIVIDUAL OBJECTS							
OBJECT	NORTHING	EASTING	OBJECT ELEVATION	PART 77 ELEVATION	PENETRATION (FT.)	SURFACE	
SHIP 26417	3502588.2	12160411.6	160.5	151.7	9.0	TRANSITIONAL	
TOWER 29265	3506374.0	12153692.0	218.5	180.3	38.0	HORIZONTAL	

DESIGNED BY	RTL				
DRAWN BY	JAH				
REVIEWED BY	NSL				
APPROVED BY	NAA/DOAV/FAA				
NO	DATE	REVISION	BY	CHK	APPR.
		NOT APPLICABLE			



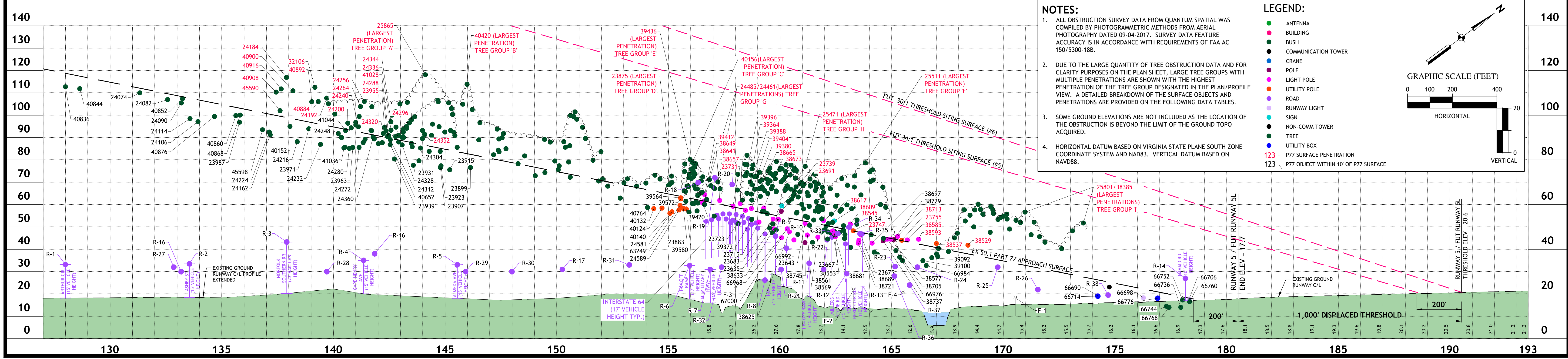
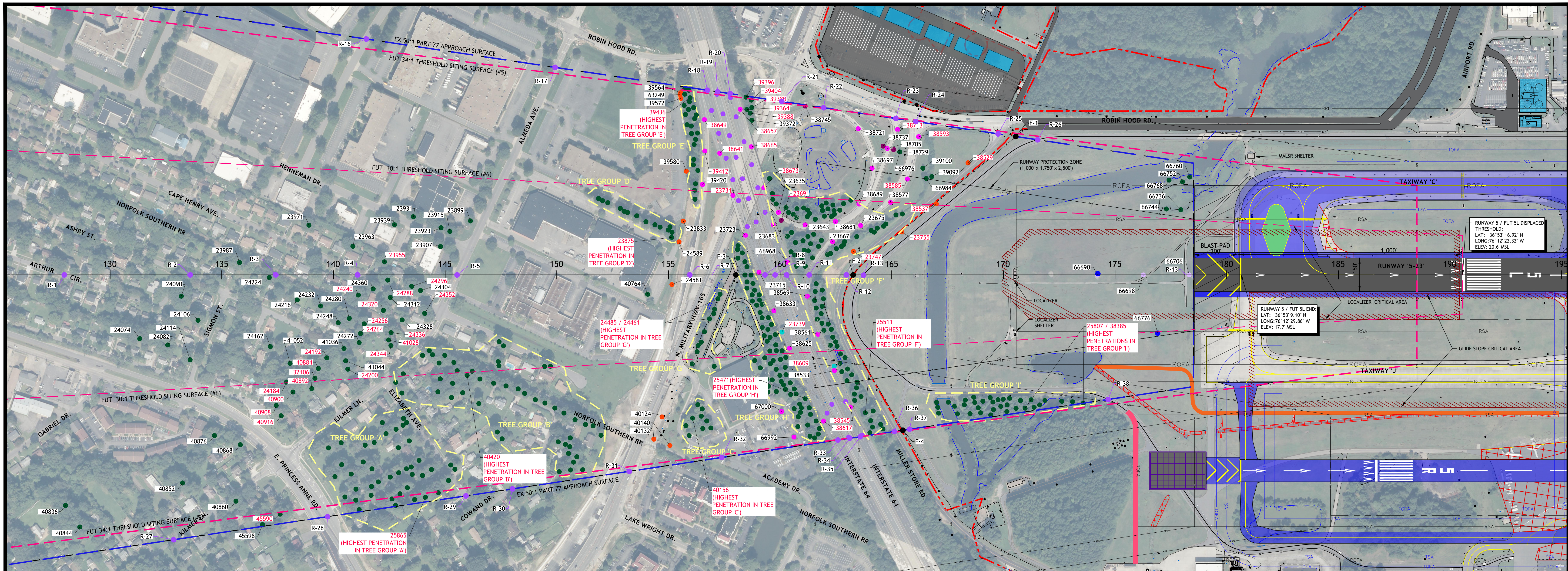
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NORFOLK INTERNATIONAL AIRPORT

PROJECT NAME	AIRPORT LAYOUT PLAN
SHEET TITLE	AIRSPACE OBSTRUCTIONS AND DETAILS

JOB NO.	33370	DATE	02/15/2021
FILE NAME	ORF_ALP-P77 AIRSPACE	REV. NO.	
DWG. NO.			



**NOTES:**

- ALL OBSTRUCTION SURVEY DATA FROM QUANTUM SPATIAL WAS COMPILED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED 09-04-2017. SURVEY DATA FEATURE ACCURACY IS IN ACCORDANCE WITH REQUIREMENTS OF FAA AC 150/5300-18B.
- DUE TO THE LARGE QUANTITY OF TREE OBSTRUCTION DATA AND FOR CLARITY PURPOSES ON THE PLAN SHEET, LARGE TREE GROUPS WITH MULTIPLE PENETRATIONS ARE SHOWN WITH THE HIGHEST PENETRATION OF THE TREE GROUP DESIGNATED IN THE PLAN/PROFILE VIEW. A DETAILED BREAKDOWN OF THE SURFACE OBJECTS AND PENETRATIONS ARE PROVIDED ON THE FOLLOWING DATA TABLES.
- SOME GROUND ELEVATIONS ARE NOT INCLUDED AS THE LOCATION OF THE OBSTRUCTION IS BEYOND THE LIMIT OF THE GROUND TOPO ACQUIRED.
- HORIZONTAL DATUM BASED ON VIRGINIA STATE PLANE SOUTH ZONE COORDINATE SYSTEM AND NAD83. VERTICAL DATUM BASED ON NAVD88.

**LEGEND:**

- ANTENNA
- BUILDING
- BUSH
- COMMUNICATION TOWER
- CRANE
- POLE
- LIGHT POLE
- UTILITY POLE
- ROAD
- RUNWAY LIGHT
- SIGN
- NON-COMM TOWER
- TREE
- UTILITY BOX
- 123 P77 SURFACE PENETRATION
- 123 P77 OBJECT WITHIN 10' OF P77 SURFACE

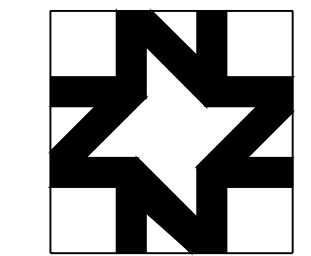
**GRAPHIC SCALE (FEET)**

HORIZONTAL: 0 100 200 400  
VERTICAL: 0 20 40 60 80 100 120 140

DESIGNED BY	RTL
DRAWN BY	JAH
REVIEWED BY	NSL
APPROVED BY	NAA/DOAV/FAA



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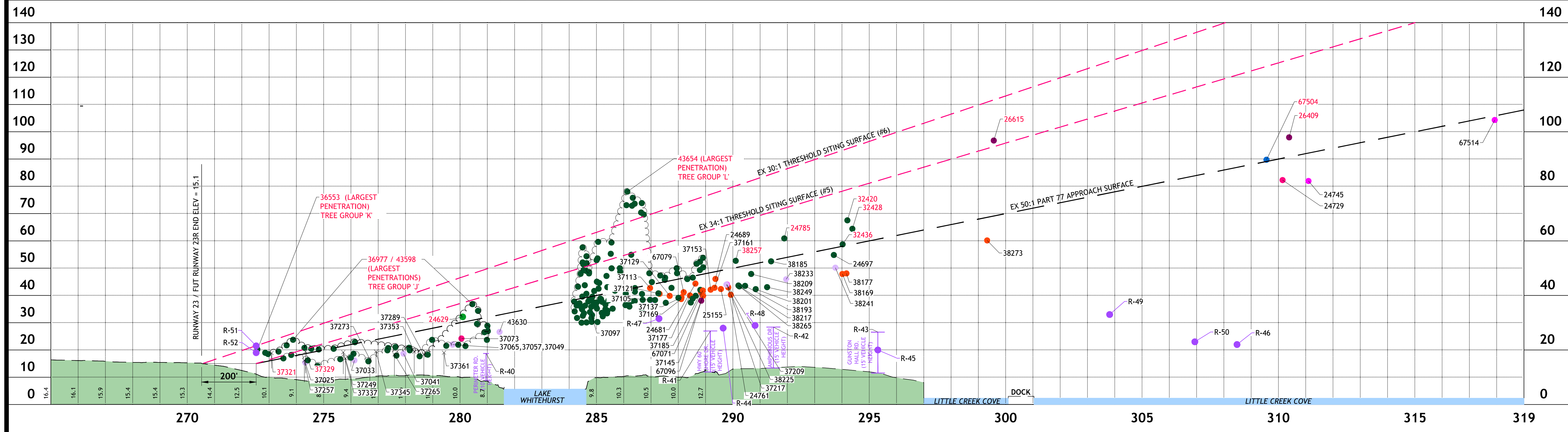
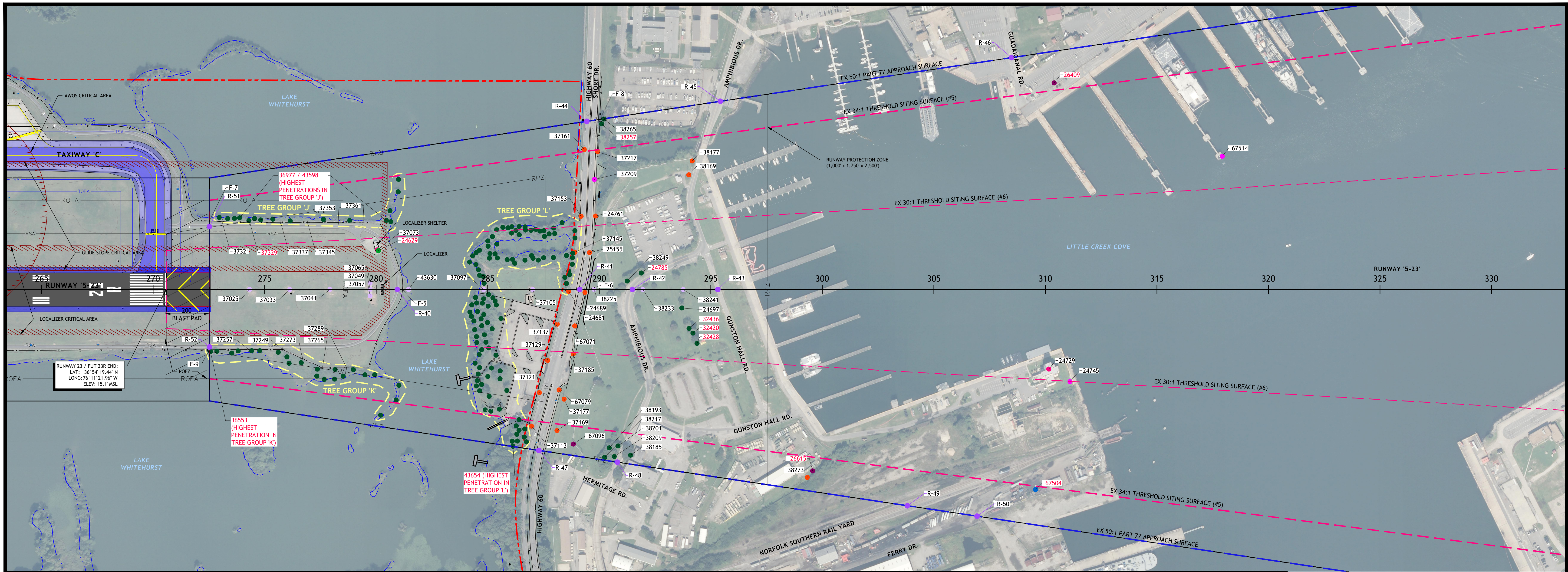


NORFOLK INTERNATIONAL AIRPORT

PROJECT NAME  
**AIRPORT LAYOUT PLAN**

SHEET TITLE  
**RUNWAY 5 (FUTURE RUNWAY 5L) INNER APPROACH**

JOB NO.	33370	DATE	02/15/2021
FILE NAME	DIRF_ALP-5-23 APPROACH	REV. NO.	
DWG. NO.			



**LEGEND:**

- ANTENNA
- BUILDING
- BUSH
- COMMUNICATION TOWER
- CRANE
- POLE
- LIGHT POLE
- UTILITY POLE
- ROAD
- RUNWAY LIGHT
- SIGN
- NON-COMM TOWER
- TREE
- UTILITY BOX
- 123 ~ P77 SURFACE PENETRATION
- 123 ~ P77 OBJECT WITHIN 10' OF P77 SURFACE

**NOTES:**

- ALL OBSTRUCTION SURVEY DATA FROM QUANTUM SPATIAL WAS COMPILED BY PHOTGRAMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED 09-04-2017. SURVEY DATA FEATURE ACCURACY IS IN ACCORDANCE WITH REQUIREMENTS OF FAA AC 150/5300-18B.
- DUE TO THE LARGE QUANTITY OF TREE OBSTRUCTION DATA AND FOR CLARITY PURPOSES ON THE PLAN SHEET, LARGE TREE AREAS WITH MULTIPLE PENETRATIONS HAVE BEEN GROUPED WITH THE HIGHEST PENETRATION OF THE TREE GROUP BEING SPOTLIGHTED IN THE PLAN/PROFILE VIEW. A DETAILED BREAKDOWN OF THE SURFACE OBJECTS AND PENETRATIONS ARE PROVIDED ON THE FOLLOWING DATA TABLES.
- SOME GROUND ELEVATIONS ARE NOT INCLUDED AS THE LOCATION OF THE OBSTRUCTION IS BEYOND THE LIMIT OF THE GROUND TOPO ACQUIRED.
- GRID BASED ON VIRGINIA STATE PLANE SOUTH ZONE COORDINATE SYSTEM AND NAD 1983. VERTICAL DATUM BASED ON NAVD 1988.

**GRAPHIC SCALE (FEET)**

0 100 200 400  
HORIZONTAL

0 20  
VERTICAL

DESIGNED BY	RTL
DRAWN BY	JAH
REVIEWED BY	NSL
APPROVED BY	NAA/DOAV/FAA

NO	DATE	REVISION	BY	CHK	APPR

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**NORFOLK INTERNATIONAL AIRPORT**

PROJECT NAME  
**AIRPORT LAYOUT PLAN**

SHEET TITLE  
**RUNWAY 23 (FUTURE RUNWAY 23R) INNER APPROACH**

JOB NO. 33370 DATE 02/15/2021

FILE NAME ORF\_ALP-5-23 APPROCH REV. NO.

DWG. NO.

**12 of 35**



TREE GROUP 'A' OBSTRUCTIONS

Table with columns: PT #, OBJECT, OBJ. ELEV., GROUND ELEV., 50:1 PART 77 APPROACH (P77 Elev, PENETRATION (FT.)), EASTING, NORTHING, TRIGGERING EVENT, DISPOSITION. Contains 55 rows of obstruction data.

TREE GROUP 'B' OBSTRUCTIONS

Table with columns: PT #, OBJECT, OBJ. ELEV., GROUND ELEV., 50:1 PART 77 APPROACH (P77 Elev, PENETRATION (FT.)), EASTING, NORTHING, TRIGGERING EVENT, DISPOSITION. Contains 55 rows of obstruction data.

TREE GROUP 'F' OBSTRUCTIONS

Table with columns: PT #, OBJECT, OBJ. ELEV., GROUND ELEV., 50:1 PART 77 APPROACH (P77 Elev, PENETRATION (FT.)), EASTING, NORTHING, TRIGGERING EVENT, DISPOSITION. Contains 55 rows of obstruction data.

TREE GROUP 'C' OBSTRUCTIONS

Table with columns: PT #, OBJECT, OBJ. ELEV., GROUND ELEV., 50:1 PART 77 APPROACH (P77 Elev, PENETRATION (FT.)), EASTING, NORTHING, TRIGGERING EVENT, DISPOSITION. Contains 55 rows of obstruction data.

TREE GROUP 'E' OBSTRUCTIONS

Table with columns: PT #, OBJECT, OBJ. ELEV., GROUND ELEV., 50:1 PART 77 APPROACH (P77 Elev, PENETRATION (FT.)), EASTING, NORTHING, TRIGGERING EVENT, DISPOSITION. Contains 55 rows of obstruction data.

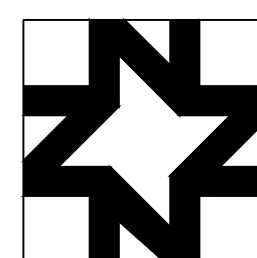
TREE GROUP 'D' OBSTRUCTIONS

Table with columns: PT #, OBJECT, OBJ. ELEV., GROUND ELEV., 50:1 PART 77 APPROACH (P77 Elev, PENETRATION (FT.)), EASTING, NORTHING, TRIGGERING EVENT, DISPOSITION. Contains 55 rows of obstruction data.

- NOTES: 1. ALL OBSTRUCTION SURVEY DATA FROM QUANTUM SPATIAL WAS COMPILED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED 09-04-2017. SURVEY DATA FEATURE ACCURACY IS IN ACCORDANCE WITH REQUIREMENTS OF FAA AC 150/5300-18B. 2. DUE TO THE LARGE QUANTITY OF TREE OBSTRUCTION DATA AND FOR CLARITY PURPOSES ON THE PLAN SHEET, LARGE TREE AREAS WITH MULTIPLE PENETRATIONS HAVE BEEN GROUPED WITH THE HIGHEST PENETRATION OF THE TREE GROUP BEING SPOTLIGHTED IN THE PLAN/PROFILE VIEW. A DETAILED BREAKDOWN OF THE SURFACE OBJECTS AND PENETRATIONS ARE PROVIDED ON THE FOLLOWING DATA TABLES. 3. SOME GROUND ELEVATIONS ARE NOT INCLUDED AS THE LOCATION OF THE OBSTRUCTION IS BEYOND THE LIMIT OF THE GROUND TOPO ACQUIRED. 4. GRID BASED ON VIRGINIA STATE PLANE SOUTH ZONE COORDINATE SYSTEM AND NAD 1983. VERTICAL DATUM BASED ON NAVD 1988. 5. NEGATIVE PENETRATION VALUE REPRESENTS OBJECT CLEARANCE FROM SURFACE. POSITIVE PENETRATION VALUE REPRESENTS AMOUNT ABOVE THE SURFACE.



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NORFOLK INTERNATIONAL AIRPORT

PROJECT NAME: AIRPORT LAYOUT PLAN
SHEET TITLE: RUNWAY 5 APPROACH OBSTRUCTIONS 2

JOB NO. 33370 DATE 02/15/2021
FILE NAME: G:\ALP-5-23 APPROCH OBSTR TABLES
REV. NO.
DWC. NO.

Table with columns: NO, DATE, REVISION, BY, CK, APPR. Includes revision history and approval signatures.

TREE GROUP 'F' OBSTRUCTIONS (Con't.)

Table with 10 columns: PT #, OBJECT, OBJ. ELEV., GROUND ELEV., 50:1 PART 77 APPROACH (P77 Elev, PENETRATION (FT.)), EASTING, NORTHING, TRIGGERING EVENT, DISPOSITION. Rows include PT # 39300, 39308, 39316, 39324, 39332, 39340, 39348, 39356, 45374.

TREE GROUP 'H' OBSTRUCTIONS

Table with 10 columns: PT #, OBJECT, OBJ. ELEV., GROUND ELEV., 50:1 PART 77 APPROACH (P77 Elev, PENETRATION (FT.)), EASTING, NORTHING, TRIGGERING EVENT, DISPOSITION. Rows include PT # 23769, 23785, 23793, 25463, 25471, 25479, 31909, 31917, 31925, 31933, 39628, 39636, 39644, 39652, 39660, 39668, 39676, 39684, 39692, 39700, 39708, 39716, 39724, 39732, 39740, 39748, 39756, 39764, 39772, 39780, 39788, 39796, 39804, 39812, 39820, 39828, 39836, 39844, 39852, 39860, 39868, 39876, 39884, 39892, 39900, 39908, 39916, 39924, 39932, 39940, 39948, 39956, 39964, 39972, 39980, 39988, 39996, 40004, 40012, 40020, 40028, 40036, 40044, 40052, 40060, 40068, 40076, 40084, 40092, 40100, 40108, 40116.

TREE GROUP 'I' OBSTRUCTIONS

Table with 10 columns: PT #, OBJECT, OBJ. ELEV., GROUND ELEV., 50:1 PART 77 APPROACH (P77 Elev, PENETRATION (FT.)), EASTING, NORTHING, TRIGGERING EVENT, DISPOSITION. Rows include PT # 25665, 25681, 25689, 25801, 38281, 38289, 38297, 38305, 38313, 38321, 38329, 38337, 38345, 38353, 38361, 38369, 38377, 38385, 38393, 38401, 38409, 38417, 38425, 38433, 38441, 38449, 38457, 38465, 38473, 38481, 38489, 38497, 38505, 38513.

TREE GROUP 'G' OBSTRUCTIONS

Table with 10 columns: PT #, OBJECT, OBJ. ELEV., GROUND ELEV., 50:1 PART 77 APPROACH (P77 Elev, PENETRATION (FT.)), EASTING, NORTHING, TRIGGERING EVENT, DISPOSITION. Rows include PT # 24453, 24461, 24469, 24477, 24485, 24493, 24501, 24509, 24517, 40228, 40236.

NOTES:

- 1. ALL OBSTRUCTION SURVEY DATA FROM QUANTUM SPATIAL WAS COMPILED BY PHOTOGAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED 09-04-2017. SURVEY DATA FEATURE ACCURACY IS IN ACCORDANCE WITH REQUIREMENTS OF FAA AC 150/5300-18B.
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4. GRID BASED ON VIRGINIA STATE PLANE SOUTH ZONE COORDINATE SYSTEM AND NAD 1983. VERTICAL DATUM BASED ON NAVD 1988.
5. NEGATIVE PENETRATION VALUE REPRESENTS OBJECT CLEARANCE FROM SURFACE. POSITIVE PENETRATION VALUE REPRESENTS AMOUNT ABOVE THE SURFACE.

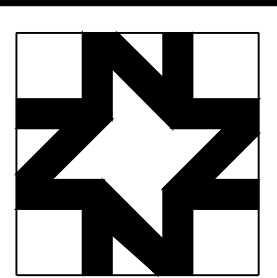
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Table with 2 columns: NO, DATE, and 3 columns: REVISION, BY, CK, APPR.

DESIGNED BY: RTL
DRAWN BY: JAH
REVIEWED BY: NSL
APPROVED BY: NAA/DOAV/FAA



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NORFOLK INTERNATIONAL AIRPORT

PROJECT NAME: AIRPORT LAYOUT PLAN
SHEET TITLE: RUNWAY 5 APPROACH OBSTRUCTIONS 3

JOB NO. 33370 DATE 02/15/2021
FILE NAME DIR\_APP-5-23 APPROX OBSTR TABLES REV. NO.
DWC. NO.
15 of 35

RUNWAY 23 THRESHOLD SITING SURFACE OBSTRUCTIONS

Table with columns: OBJECT, PART OF TREE GROUP, OBJ. ELEV., GROUND ELEV., 34:1 TSS 5 APPROACH (TSS 5 Elev, PENETRATION (FT.)), EASTING, NORTHING, TRIGGERING EVENT, DISPOSITION.

ROADWAY OBSTRUCTIONS

Table with columns: PT#, OBJECT, EASTING, NORTHING, GROUND ELEV, GROUND + VEHICLE HT., VEHICLE HT. (FT), P77 ELEV., PENETRATION, TRIGGERING EVENT, DISPOSITION.

FENCE OBSTRUCTIONS

Table with columns: PT#, OBJECT, EASTING, NORTHING, GROUND ELEV, GROUND + FENCE HT., FENCE HT. (FT), P77 ELEV., PENETRATION, TRIGGERING EVENT, DISPOSITION.

NOTES:

- 1. ALL OBSTRUCTION SURVEY DATA FROM QUANTUM SPATIAL WAS COMPILED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED 09-04-2017. SURVEY DATA FEATURE ACCURACY IS IN ACCORDANCE WITH REQUIREMENTS OF FAA AC 150/5300-18B.
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4. GRID BASED ON VIRGINIA STATE PLANE SOUTH ZONE COORDINATE SYSTEM AND NAD 1983. VERTICAL DATUM BASED ON NAVD 1988.
5. NEGATIVE PENETRATION VALUE REPRESENTS OBJECT CLEARANCE FROM SURFACE. POSITIVE PENETRATION VALUE REPRESENTS AMOUNT ABOVE THE SURFACE.

SURFACE OBSTRUCTIONS

Table with columns: PT #, OBJECT, OBJ. ELEV., GROUND ELEV., 50:1 PART 77 APPROACH (P77 Elev, PENETRATION (FT.)), EASTING, NORTHING, TRIGGERING EVENT, DISPOSITION.

TREE GROUP 'J' OBSTRUCTIONS

Table with columns: PT #, OBJECT, OBJ. ELEV., GROUND ELEV., 50:1 PART 77 APPROACH (P77 Elev, PENETRATION (FT.)), EASTING, NORTHING, TRIGGERING EVENT, DISPOSITION.

TREE GROUP 'K' OBSTRUCTIONS

Table with columns: PT #, OBJECT, OBJ. ELEV., GROUND ELEV., 50:1 PART 77 APPROACH (P77 Elev, PENETRATION (FT.)), EASTING, NORTHING, TRIGGERING EVENT, DISPOSITION.

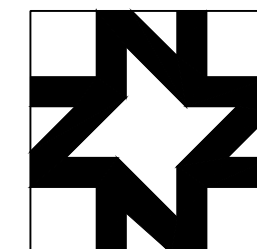
TREE GROUP 'L' OBSTRUCTIONS

Table with columns: PT #, OBJECT, OBJ. ELEV., GROUND ELEV., 50:1 PART 77 APPROACH (P77 Elev, PENETRATION (FT.)), EASTING, NORTHING, TRIGGERING EVENT, DISPOSITION.

Table with columns: NO, DATE, REVISION, BY, CK, APPR.



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NORFOLK INTERNATIONAL AIRPORT

PROJECT NAME: AIRPORT LAYOUT PLAN
SHEET TITLE: RUNWAY 23 APPROACH OBSTRUCTIONS 1

Table with columns: JOB NO. 33370, DATE 02/15/2021, FILE NAME: DIR\_ALP-5-23 APPROCH OBSTR TABLES, REV. NO.



TREE GROUP 'L' OBSTRUCTIONS

PT #	OBJECT	OBJ. ELEV.	GROUND ELEV.	50:1 PART 77 APPROACH		EASTING	NORTHING	TRIGGERING EVENT	DISPOSITION
				P77 Elev	PENETRATION (FT.)				
37761	TREE	35.15	Not Available	40.02	-5	12159349.45	3498505.27	EX CONDITIONS	TO BE REMOVED
37769	TREE	33.89	Not Available	39.51	-6	12159323.43	3498492.70	EX CONDITIONS	TO BE REMOVED
37777	TREE	31.67	Not Available	39.62	-8	12159311.44	3498508.24	EX CONDITIONS	TO BE REMOVED
37785	TREE	29.99	Not Available	38.89	-9	12159284.86	3498482.76	EX CONDITIONS	TO BE REMOVED
37793	TREE	32.51	Not Available	38.99	-6	12159307.40	3498472.00	EX CONDITIONS	TO BE REMOVED
37801	TREE	30.23	Not Available	40.06	-10	12159308.52	3498537.83	EX CONDITIONS	TO BE REMOVED
37809	TREE	32.33	Not Available	40.45	-8	12159332.33	3498544.64	EX CONDITIONS	TO BE REMOVED
37817	TREE	34.97	Not Available	40.64	-6	12159349.70	3498543.79	EX CONDITIONS	TO BE REMOVED
37825	TREE	33.41	Not Available	40.76	-7	12159367.43	3498538.08	EX CONDITIONS	TO BE REMOVED
37833	TREE	30.29	Not Available	39.64	-9	12159368.60	3498467.13	EX CONDITIONS	TO BE REMOVED
37841	TREE	39.53	Not Available	39.69	0	12159443.47	3498415.45	EX CONDITIONS	TO BE REMOVED
37849	TREE	35.12	Not Available	41.18	-6	12159428.36	3498518.78	EX CONDITIONS	TO BE REMOVED
37857	TREE	32.78	Not Available	39.66	-7	12159256.57	3498551.52	EX CONDITIONS	TO BE REMOVED
37865	TREE	35.78	Not Available	39.60	-4	12159231.04	3498566.64	EX CONDITIONS	TO BE REMOVED
37873	TREE	36.26	Not Available	39.15	-3	12159192.72	3498566.93	EX CONDITIONS	TO BE REMOVED
37881	TREE	37.76	Not Available	38.36	-1	12159141.05	3498555.36	EX CONDITIONS	TO BE REMOVED
37889	TREE	34.88	Not Available	38.93	-4	12159166.92	3498571.83	EX CONDITIONS	TO BE REMOVED
37897	TREE	30.08	Not Available	39.26	-9	12159215.66	3498556.49	EX CONDITIONS	TO BE REMOVED
37905	TREE	40.58	Not Available	39.25	1	12159124.69	3498622.83	EX CONDITIONS	TO BE REMOVED
37913	TREE	39.56	Not Available	38.95	1	12159124.36	3498604.59	EX CONDITIONS	TO BE REMOVED
37921	TREE	44.54	Not Available	40.19	4	12159164.76	3498651.72	EX CONDITIONS	TO BE REMOVED
37929	TREE	38.12	Not Available	40.86	-3	12159200.67	3498666.93	EX CONDITIONS	TO BE REMOVED
37937	TREE	36.62	Not Available	40.64	-4	12159179.42	3498669.25	EX CONDITIONS	TO BE REMOVED
37945	TREE	35.90	Not Available	42.40	-7	12159265.50	3498715.06	EX CONDITIONS	TO BE REMOVED
37953	TREE	37.40	Not Available	42.21	-5	12159245.31	3498717.88	EX CONDITIONS	TO BE REMOVED
37961	TREE	40.52	Not Available	43.32	-3	12159281.38	3498760.47	EX CONDITIONS	TO BE REMOVED
37969	TREE	45.68	Not Available	44.99	1	12159322.40	3498834.11	EX CONDITIONS	TO BE REMOVED
37977	TREE	40.76	Not Available	44.53	-4	12159316.88	3498809.13	EX CONDITIONS	TO BE REMOVED
37985	TREE	38.36	Not Available	43.91	-6	12159282.92	3498796.03	EX CONDITIONS	TO BE REMOVED
37993	TREE	46.52	Not Available	47.05	-1	12159375.12	3498922.99	EX CONDITIONS	TO BE REMOVED
38001	TREE	42.02	Not Available	47.60	-6	12159383.17	3498951.28	EX CONDITIONS	TO BE REMOVED
38009	TREE	39.86	Not Available	47.26	-7	12159438.26	3498889.32	EX CONDITIONS	TO BE REMOVED
38017	TREE	38.84	Not Available	47.04	-8	12159475.88	3498847.99	EX CONDITIONS	TO BE REMOVED
38025	TREE	37.40	Not Available	46.90	-10	12159450.07	3498858.56	EX CONDITIONS	TO BE REMOVED
38033	TREE	50.30	Not Available	47.81	2	12159334.66	3498999.98	EX CONDITIONS	TO BE REMOVED
38041	TREE	47.30	Not Available	44.66	3	12159216.25	3498801.59	EX CONDITIONS	TO BE REMOVED
38049	TREE	42.74	Not Available	45.49	-3	12159250.90	3498917.39	EX CONDITIONS	TO BE REMOVED
38057	TREE	37.28	Not Available	45.07	-8	12159247.28	3498894.00	EX CONDITIONS	TO BE REMOVED
38065	TREE	39.08	Not Available	45.99	-7	12159264.68	3498938.76	EX CONDITIONS	TO BE REMOVED
38073	TREE	38.30	Not Available	44.28	-6	12159198.71	3498880.92	EX CONDITIONS	TO BE REMOVED
38081	TREE	38.36	Not Available	43.38	-5	12159174.48	3498842.74	EX CONDITIONS	TO BE REMOVED
38089	TREE	41.36	Not Available	42.80	-1	12159144.45	3498829.06	EX CONDITIONS	TO BE REMOVED
38097	TREE	42.68	Not Available	42.81	0	12159174.57	3498807.29	EX CONDITIONS	TO BE REMOVED
38105	TREE	42.74	Not Available	41.80	1	12159119.76	3498784.92	EX CONDITIONS	TO BE REMOVED
38113	TREE	41.72	Not Available	41.34	0	12159104.48	3498767.81	EX CONDITIONS	TO BE REMOVED
38121	TREE	37.64	Not Available	40.41	-3	12159110.25	3498705.58	EX CONDITIONS	TO BE REMOVED
38129	TREE	36.44	Not Available	42.12	-6	12159148.11	3498783.94	EX CONDITIONS	TO BE REMOVED
38137	TREE	37.82	Not Available	42.52	-5	12159150.61	3498806.87	EX CONDITIONS	TO BE REMOVED
38145	TREE	34.04	Not Available	43.34	-9	12159162.06	3498849.42	EX CONDITIONS	TO BE REMOVED
38153	TREE	34.40	Not Available	40.80	-6	12159148.70	3498701.46	EX CONDITIONS	TO BE REMOVED
38161	TREE	37.40	Not Available	40.00	-3	12159113.71	3498677.66	EX CONDITIONS	TO BE REMOVED
43654	TREE	78.06	Not Available	42.62	35	12159921.04	3498222.25	EX CONDITIONS	TO BE REMOVED
67053	TREE	38.84	Not Available	40.26	-1	12159735.58	3498235.70	EX CONDITIONS	TO BE REMOVED

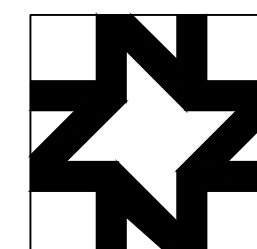
NOTES:

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- NEGATIVE PENETRATION VALUE REPRESENTS OBJECT CLEARANCE FROM SURFACE. POSITIVE PENETRATION VALUE REPRESENTS AMOUNT ABOVE THE SURFACE.

DESIGNED BY: RTL  
 DRAWN BY: JAH  
 REVIEWED BY: NSL  
 APPROVED BY: NAA/DOAV/FAA



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NORFOLK INTERNATIONAL AIRPORT

PROJECT NAME

AIRPORT LAYOUT PLAN

SHEET TITLE

RUNWAY 23 APPROACH OBSTRUCTIONS 2

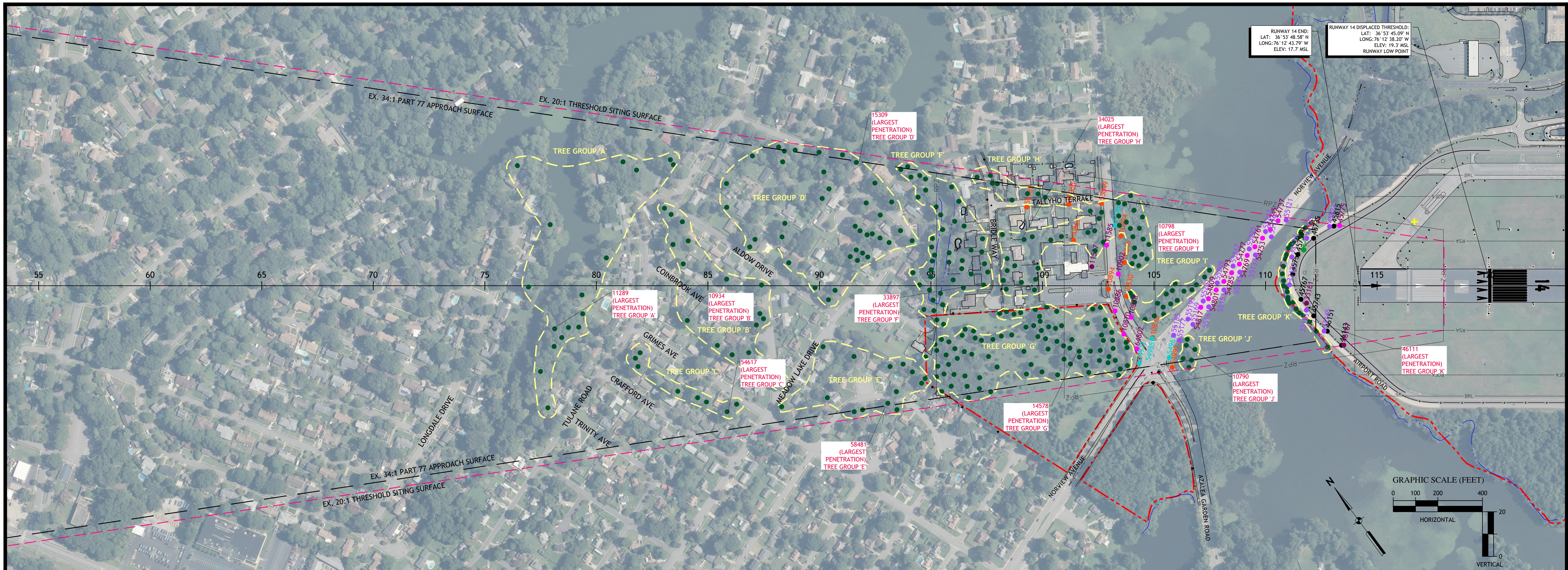
JOB NO. 33370 DATE 02/15/2021

FILE NAME: DIR\_ALP-5-23\_APPROCH\_OBSTR TABLES REV. NO. DWG. NO.

17 of 35

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NO	DATE	REVISION	BY	CHK	APPR.

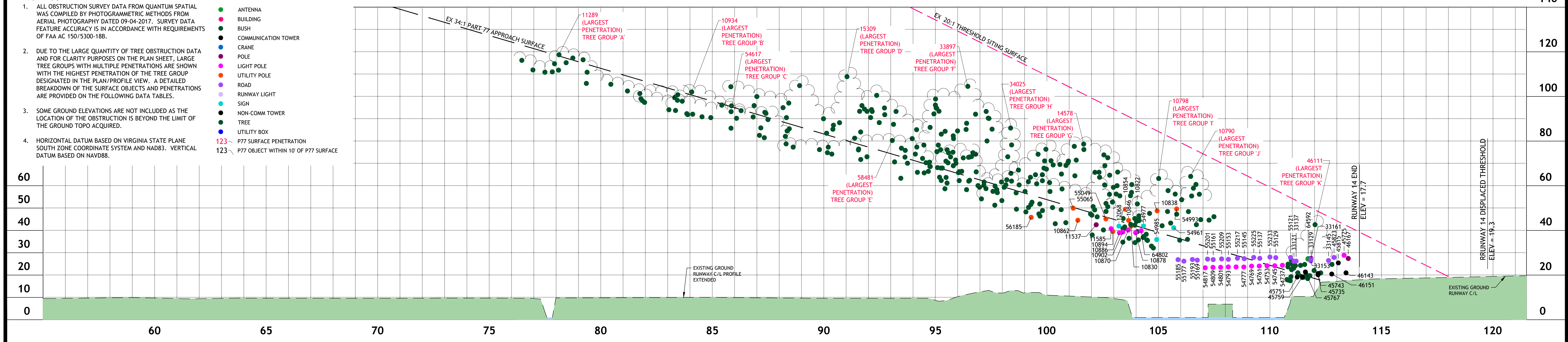


**NOTES:**

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- HORIZONTAL DATUM BASED ON VIRGINIA STATE PLANE SOUTH ZONE COORDINATE SYSTEM AND NAD83. VERTICAL DATUM BASED ON NAVD88.

**LEGEND:**

- ANTENNA
- BUILDING
- BUSH
- COMMUNICATION TOWER
- CRANE
- POLE
- LIGHT POLE
- UTILITY POLE
- ROAD
- RUNWAY LIGHT
- SIGN
- NON-COMM TOWER
- TREE
- UTILITY BOX
- 123 ~ P77 SURFACE PENETRATION
- 123 ~ P77 OBJECT WITHIN 10' OF P77 SURFACE



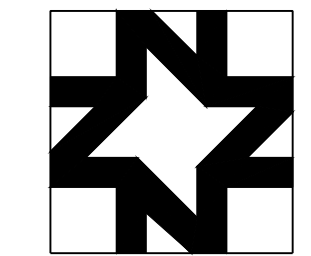
DESIGNED BY	RTL
DRAWN BY	JAH
REVIEWED BY	NSL
APPROVED BY	NAA/DOAV/FAA

NO.	DATE	REVISION	BY	CHK.	APPR.



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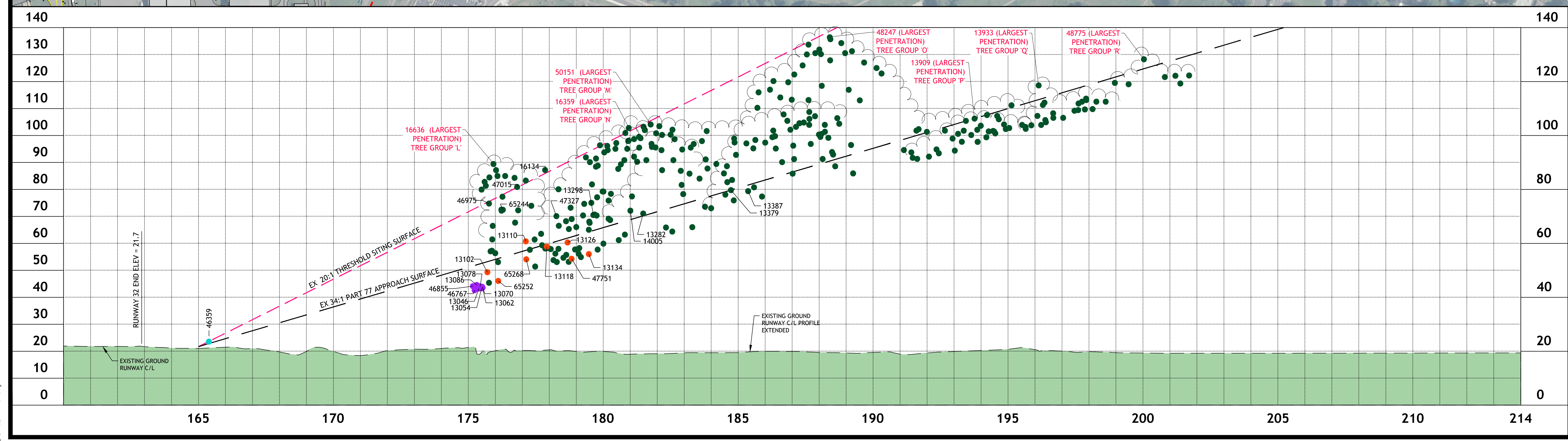
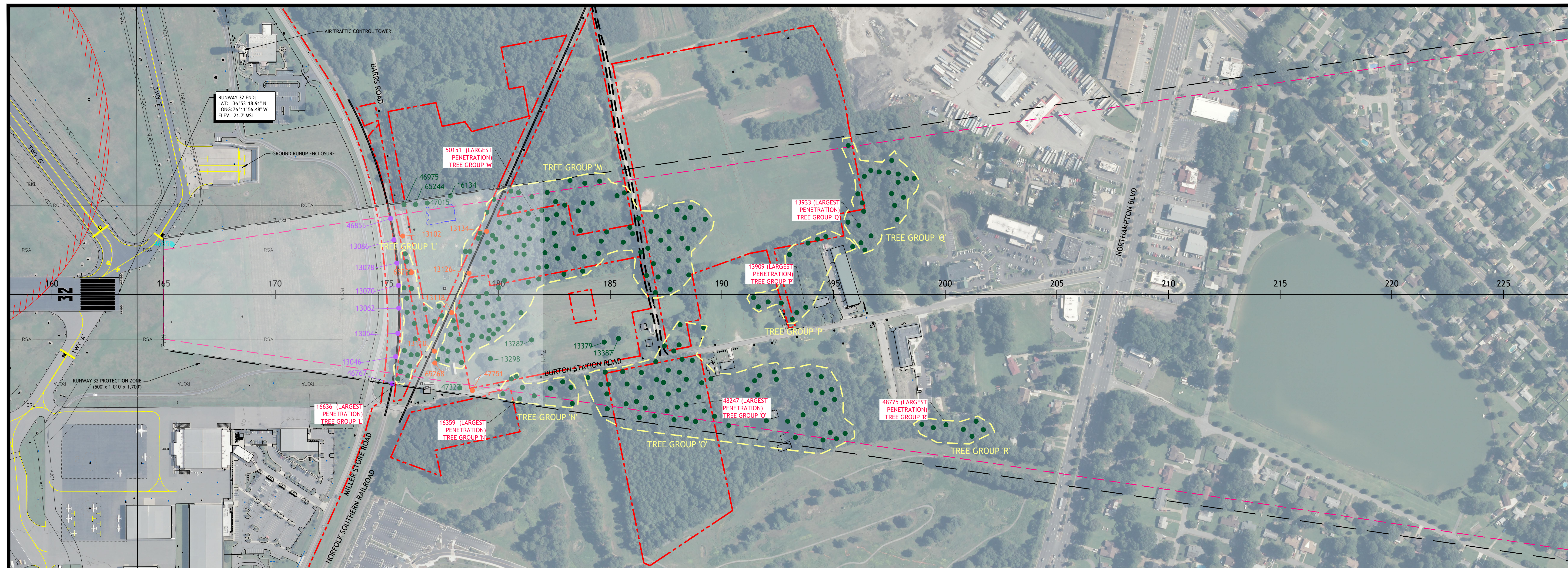


**NORFOLK INTERNATIONAL AIRPORT**

PROJECT NAME  
**AIRPORT LAYOUT PLAN**

SHEET TITLE  
**RUNWAY 14 APPROACH**

JOB NO.	33370	DATE	02/15/2021
FILE NAME	DRF_ALP-14 APPROACH	REV. NO.	
DWG. NO.			



**LEGEND:**

- ANTENNA
- BUILDING
- BUSH
- COMMUNICATION TOWER
- CRANE
- POLE
- LIGHT POLE
- UTILITY POLE
- ROAD
- RUNWAY LIGHT
- SIGN
- NON-COMM TOWER
- TREE
- UTILITY BOX
- RAILROAD
- 123 ~ P77 SURFACE PENETRATION
- 123 ~ P77 OBJECT WITHIN 10' OF P77 SURFACE

**NOTES:**

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DESIGNED BY	RTL
DRAWN BY	JAH
REVIEWED BY	NSL
APPROVED BY	NAA/DOAV/FAA

NO.	DATE	REVISION	BY	CHK.	APPR.

**CHA**

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**NORFOLK INTERNATIONAL AIRPORT**

PROJECT NAME  
**AIRPORT LAYOUT PLAN**

SHEET TITLE  
**RUNWAY 32 APPROACH**

JOB NO. 33370 DATE 02/15/2021

FILE NAME ORF\_ALP-32\_APPROCH REV. NO.

DWG. NO.

**19 of 35**

TREE GROUP 'A' OBSTRUCTIONS

Table with columns: PT#, OBJECT, OBJ. ELEV., GROUND ELEV., EXISTING 34:1 PART 77 APPROACH, EXISTING 20:1 THRESHOLD SITING SURFACE, EASTING, NORTHING, TRIGGERING EVENT, DISPOSITION.

TREE GROUP 'B' OBSTRUCTIONS

Table with columns: PT#, OBJECT, OBJ. ELEV., GROUND ELEV., EXISTING 34:1 PART 77 APPROACH, EXISTING 20:1 THRESHOLD SITING SURFACE, EASTING, NORTHING, TRIGGERING EVENT, DISPOSITION.

TREE GROUP 'C' OBSTRUCTIONS

Table with columns: PT#, OBJECT, OBJ. ELEV., GROUND ELEV., EXISTING 34:1 PART 77 APPROACH, EXISTING 20:1 THRESHOLD SITING SURFACE, EASTING, NORTHING, TRIGGERING EVENT, DISPOSITION.

SURFACE OBSTRUCTIONS

Table with columns: PT#, OBJECT, OBJ. ELEV., GROUND ELEV., EXISTING 34:1 PART 77 APPROACH, EXISTING 20:1 THRESHOLD SITING SURFACE, EASTING, NORTHING, TRIGGERING EVENT, DISPOSITION.

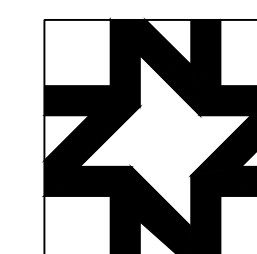
NOTES:

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DESIGNED BY: RTL
DRAWN BY: JAH
REVIEWED BY: NSL
APPROVED BY: NAA/DOAV/FAA



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NORFOLK INTERNATIONAL AIRPORT

PROJECT NAME

AIRPORT LAYOUT PLAN

SHEET TITLE

RUNWAY 14 APPROACH OBSTRUCTION 1

JOB NO. 33370 DATE 02/15/2021

FILE NAME: DIR\_ALP-14-32\_APPROCH\_OBSTR TABLES REV. NO.
DWC. NO.

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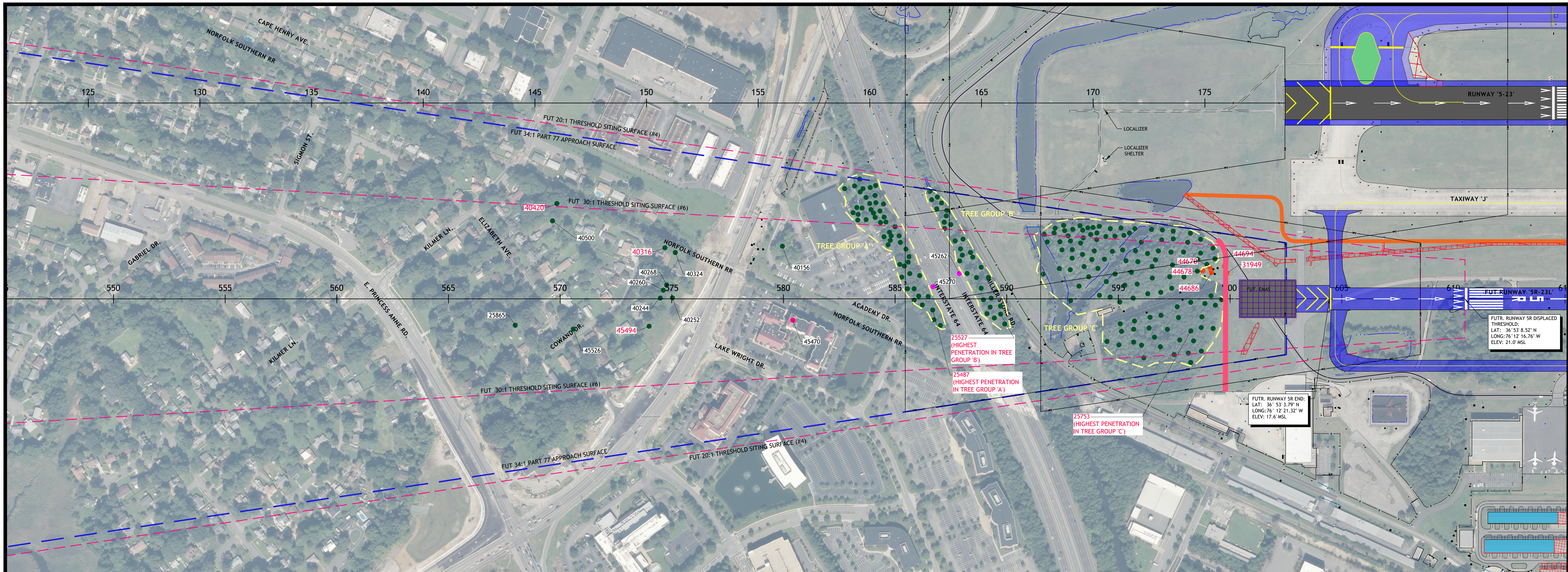












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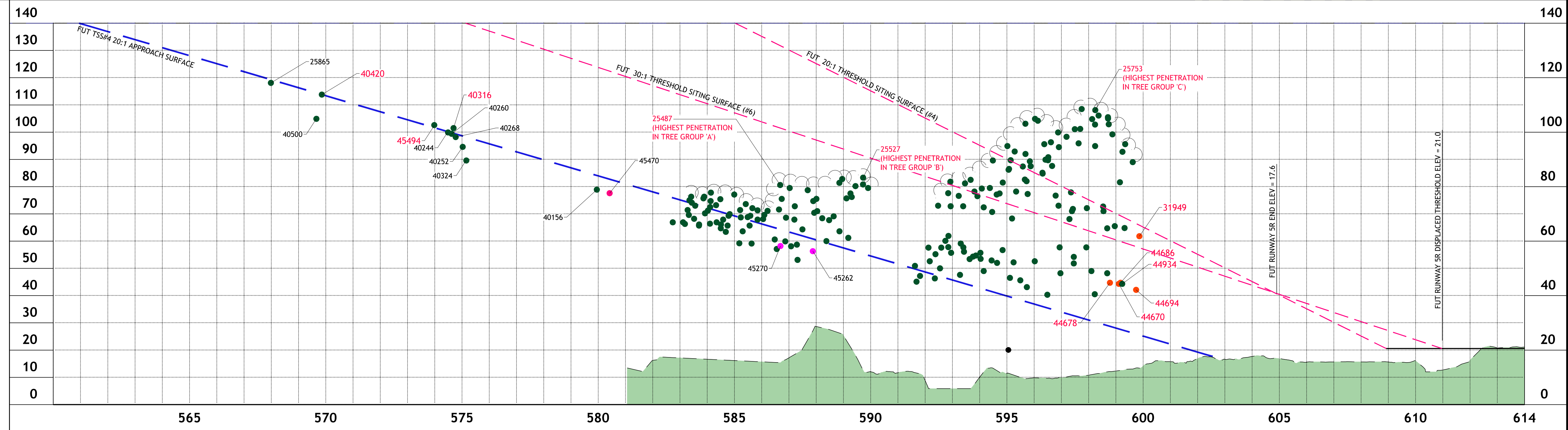
- ANTENNA
- BUILDING
- BUSH
- COMMUNICATION TOWER
- CRANE
- POLE
- LIGHT POLE
- UTILITY POLE
- ROAD
- RUNWAY LIGHT
- SIGN
- NON-COMM TOWER
- TREE
- UTILITY BOX
- 123- P77 SURFACE PENETRATION
- 123- P77 OBJECT WITHIN 10 OF P77 SURFACE

**GRAPHIC SCALE (FEET)**

HORIZONTAL: 0, 100, 200, 400

VERTICAL: 0, 20

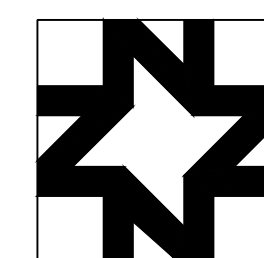
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DESIGNED BY	RTL
DRAWN BY	JAH
REVIEWED BY	NSL
APPROVED BY	NAA/DOAV/FAA



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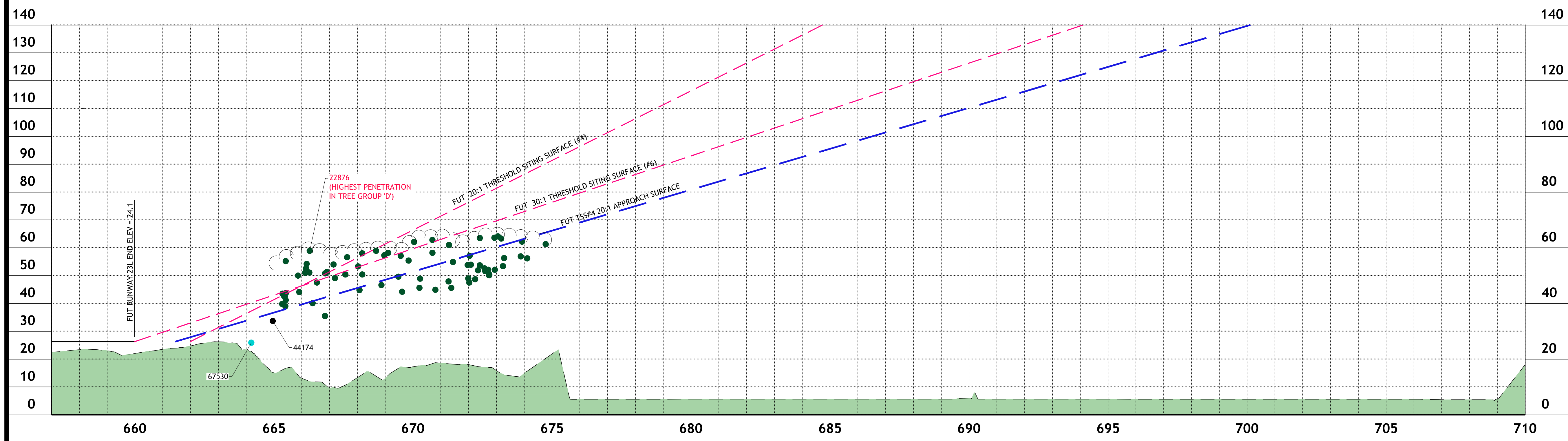
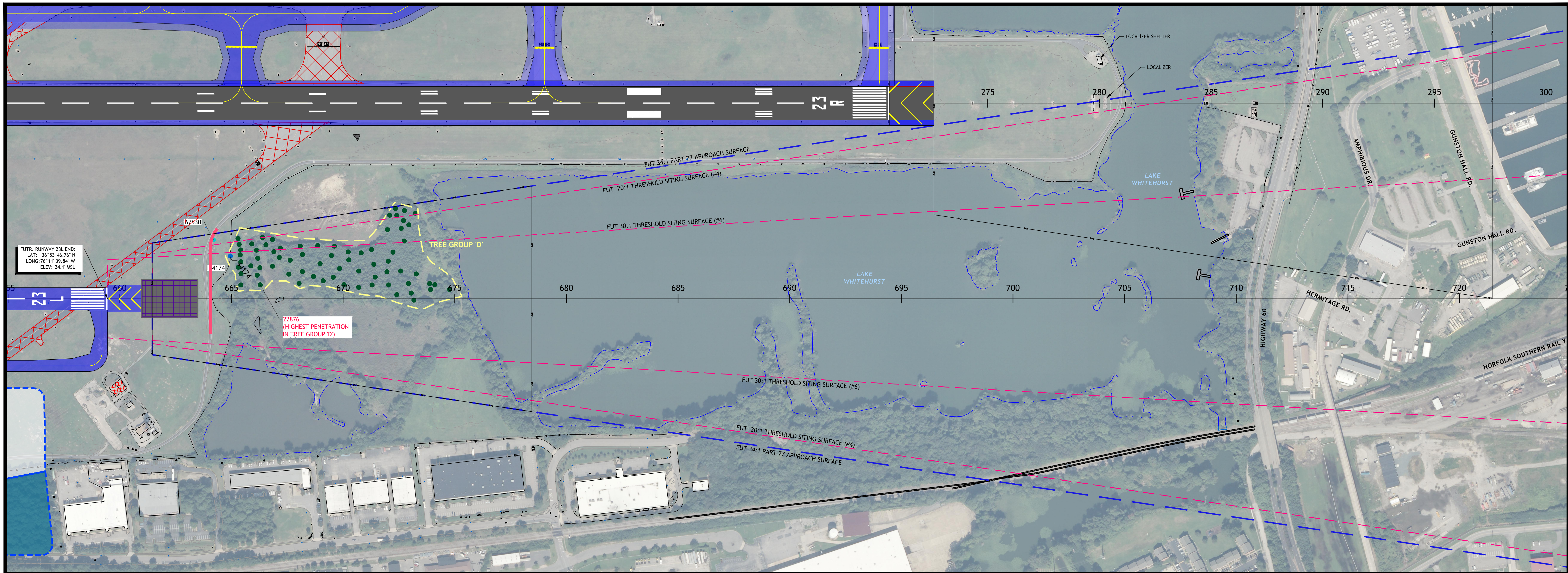


NORFOLK INTERNATIONAL AIRPORT

PROJECT NAME  
**AIRPORT LAYOUT PLAN**

SHEET TITLE  
**FUTURE RUNWAY 5R INNER APPROACH**

JOB NO.	33370	DATE	02/15/2021
FILE NAME	DIR_ALP-5-23 Parallel ALT	REV. NO.	
APPROACH			
DWG. NO.			



**LEGEND:**

- ANTENNA
- BUILDING
- BUSH
- COMMUNICATION TOWER
- CRANE
- POLE
- LIGHT POLE
- UTILITY POLE
- ROAD
- RUNWAY LIGHT
- SIGN
- NON-COMM TOWER
- TREE
- UTILITY BOX
- 123 P77 SURFACE PENETRATION
- 123 P77 OBJECT WITHIN 10 OF P77 SURFACE

**NOTES:**

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**GRAPHIC SCALE (FEET)**


0 100 200 400  
HORIZONTAL

0 20  
VERTICAL

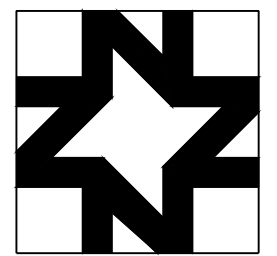
DESIGNED BY	RTL
DRAWN BY	JAH
REVIEWED BY	NSL
APPROVED BY	NAA/DOAV/FAA

NO.	DATE	REVISION	BY	CHK.	APPR.



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**NORFOLK INTERNATIONAL AIRPORT**

PROJECT NAME  
**AIRPORT LAYOUT PLAN**

SHEET TITLE  
**FUTURE RUNWAY 23L INNER APPROACH**

JOB NO.	33370	DATE	02/15/2021
FILE NAME	DIR_ALP-5-23 Parallel ALT	REV. NO.	
APPROCH			
DWG. NO.			

28 of 35

MISCELLANEOUS SURFACE OBSTRUCTIONS

Table with 12 columns: PT#, OBJECT, OBJ. ELEV., GROUND ELEV., FUTURE 34:1 PART 77 APPROACH, FUTURE 20:1 THRESHOLD SITING SURFACE, NORTHING, EASTING, TRIGGERING EVENT, DISPOSITION.

TREE GROUP A

Table with 12 columns: PT#, OBJECT, OBJ. ELEV., GROUND ELEV., FUTURE 34:1 PART 77 APPROACH, FUTURE 20:1 THRESHOLD SITING SURFACE, NORTHING, EASTING, TRIGGERING EVENT, DISPOSITION.

TREE GROUP B

Table with 12 columns: PT#, OBJECT, OBJ. ELEV., GROUND ELEV., FUTURE 34:1 PART 77 APPROACH, FUTURE 20:1 THRESHOLD SITING SURFACE, NORTHING, EASTING, TRIGGERING EVENT, DISPOSITION.

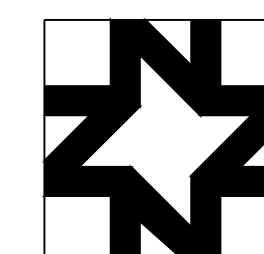
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DESIGNED BY: RTL
DRAWN BY: JAH
REVIEWED BY: NSL
APPROVED BY: NAA/DOAV/FAA



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NORFOLK INTERNATIONAL AIRPORT

PROJECT NAME
AIRPORT LAYOUT PLAN

SHEET TITLE
FUTURE RUNWAY 5R APPROACH OBSTRUCTION TABLES - 1

JOB NO. 33370 DATE 02/15/2021
FILE NAME
REV. NO.

29 of 35

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TREE GROUP 'C' OBSTRUCTIONS

Table with 12 columns: PTH, OBJECT, OBJ. ELEV., GROUND ELEV., FUTURE PART 77 ELEV., PENETRATION (FT.), FUTURE TSS ELEV., PENETRATION (FT.), NORTHING, EASTING, TRIGGERING EVENT, DISPOSITION. Contains 496 rows of tree obstruction data.

TREE GROUP 'C' OBSTRUCTIONS CONTINUED

Table with 12 columns: PTH, OBJECT, OBJ. ELEV., GROUND ELEV., FUTURE PART 77 ELEV., PENETRATION (FT.), FUTURE TSS ELEV., PENETRATION (FT.), NORTHING, EASTING, TRIGGERING EVENT, DISPOSITION. Contains 100 rows of tree obstruction data.

NOTES:

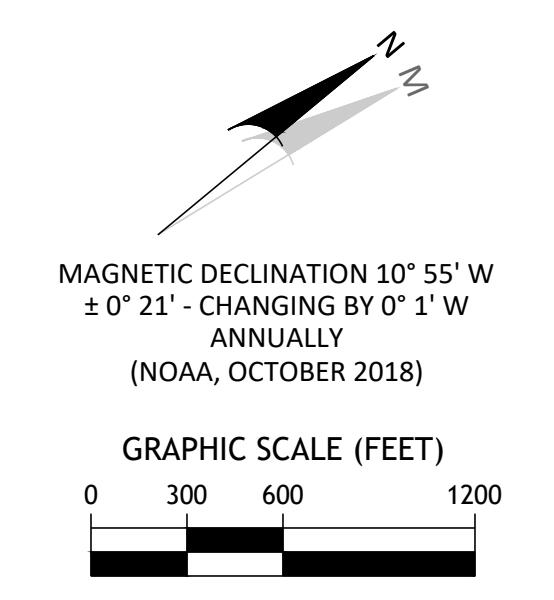
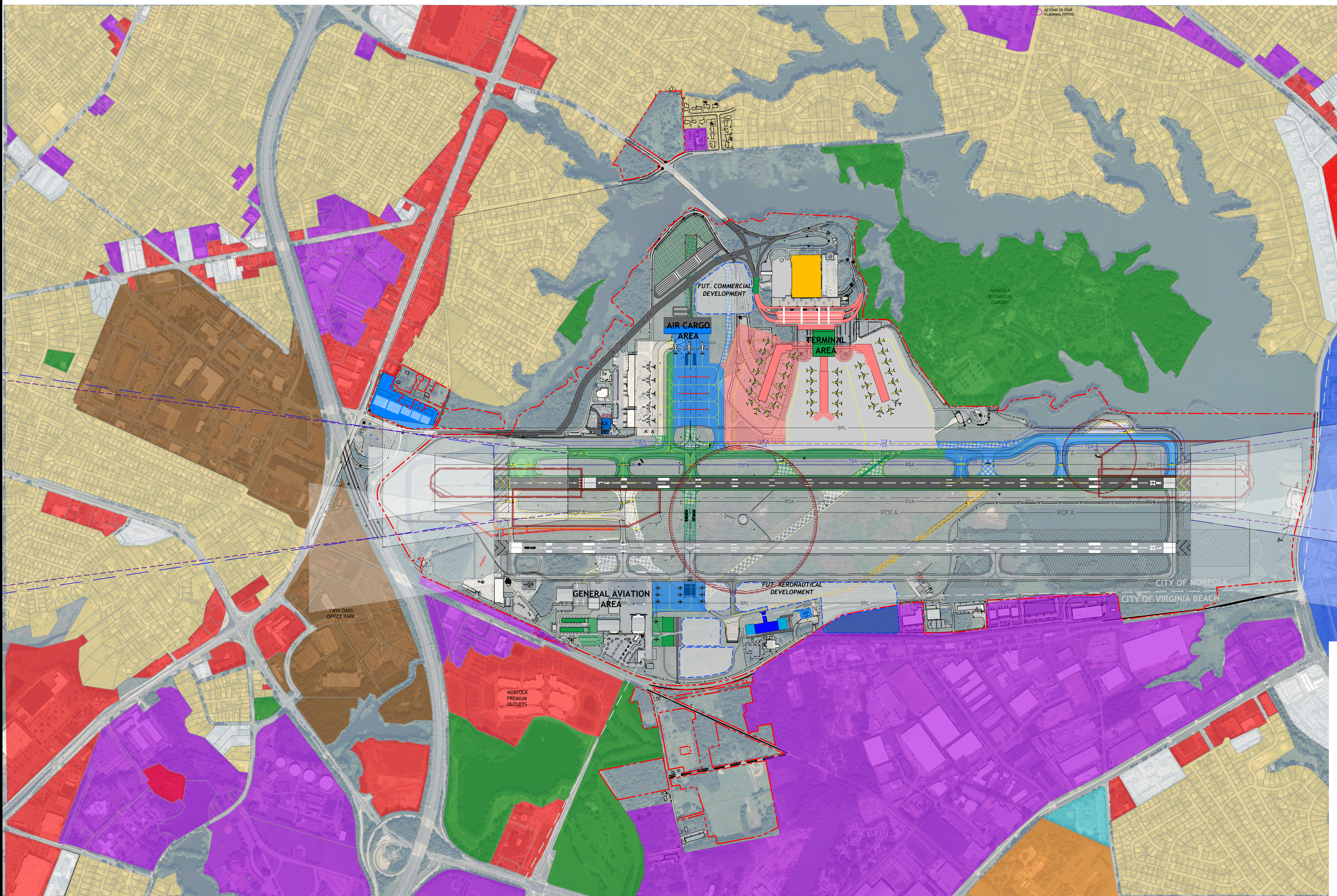
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Table with 3 columns: NO, DATE, REVISION, and 3 columns: BY, CK, APPR. Includes revision history and approval signatures.

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PROJECT NAME: AIRPORT LAYOUT PLAN. SHEET TITLE: FUTURE RUNWAY 5R APPROACH OBSTRUCTION TABLES - 2. JOB NO. 33370, DATE 02/15/2021.





**LEGEND**

	OFFICESPACE
	RESIDENTIAL
	MULTI-FAMILY RESIDENTIAL
	COMMERCIAL
	MILITARY BASE
	PARKS/RECREATION/GREENSPACE
	INDUSTRIAL
	AGRICULTURAL
	SCHOOLS & HOSPITALS
	AIRPORT PROPERTY LINE
	MUNICIPAL BOUNDARY

Sources:  
 City of Virginia Beach, VA (GIS Data) and City of Norfolk, VA (GIS) Data. Landuse information and parcel line information were sourced from these government websites.

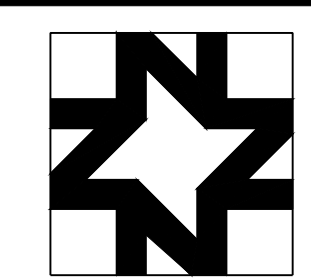
DESIGNED BY	RTL
DRAWN BY	JAH
REVIEWED BY	NSL
APPROVED BY	NAA/DOAV/FAA

NO	DATE	REVISION	BY	CHK	APPR.



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**NORFOLK INTERNATIONAL AIRPORT**

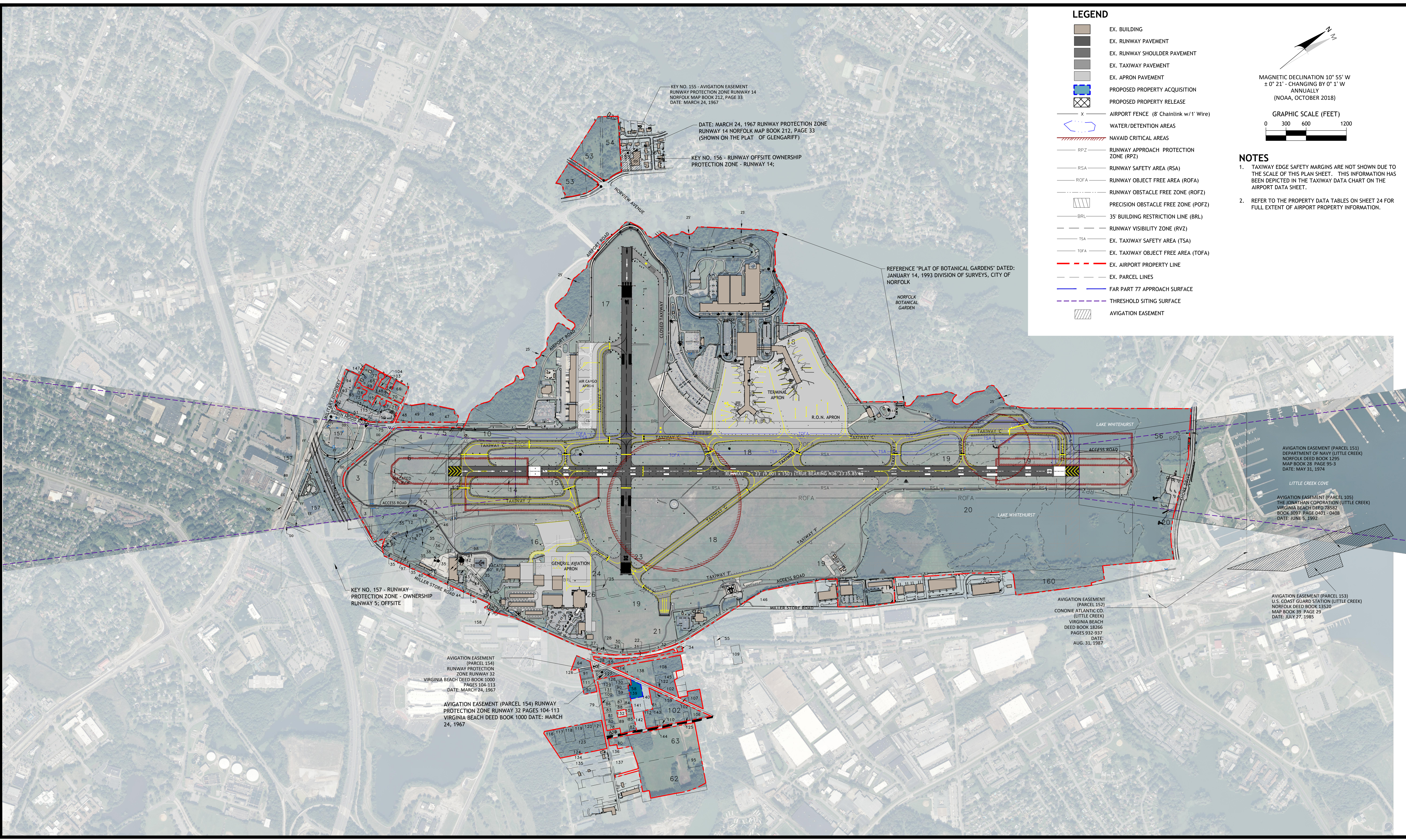
PROJECT NAME  
**AIRPORT LAYOUT PLAN**

SHEET TITLE  
**LAND USE MAP**

JOB NO.	33370	DATE	02/15/2021
FILE NAME	DRF_ALP-LAND USE MAP	REV. NO.	
DWG. NO.			

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- LEGEND**
- EX. BUILDING
  - EX. RUNWAY PAVEMENT
  - EX. RUNWAY SHOULDER PAVEMENT
  - EX. TAXIWAY PAVEMENT
  - EX. APRON PAVEMENT
  - PROPOSED PROPERTY ACQUISITION
  - PROPOSED PROPERTY RELEASE
  - AIRPORT FENCE (8' Chainlink w/1' Wire)
  - WATER/DETENTION AREAS
  - NAVAIID CRITICAL AREAS
  - RUNWAY APPROACH PROTECTION ZONE (RPZ)
  - RUNWAY SAFETY AREA (RSA)
  - RUNWAY OBJECT FREE AREA (ROFA)
  - RUNWAY OBSTACLE FREE ZONE (ROFZ)
  - PRECISION OBSTACLE FREE ZONE (POFZ)
  - 35' BUILDING RESTRICTION LINE (BRL)
  - RUNWAY VISIBILITY ZONE (RVZ)
  - EX. TAXIWAY SAFETY AREA (TSA)
  - EX. TAXIWAY OBJECT FREE AREA (TOFA)
  - EX. AIRPORT PROPERTY LINE
  - EX. PARCEL LINES
  - FAR PART 77 APPROACH SURFACE
  - THRESHOLD SITING SURFACE
  - AVIGATION EASEMENT

MAGNETIC DECLINATION 10° 55' W  
± 0° 21' - CHANGING BY 0° 1' W  
ANNUALLY  
(NOAA, OCTOBER 2018)

GRAPHIC SCALE (FEET)  
0 300 600 1200

- NOTES**
- TAXIWAY EDGE SAFETY MARGINS ARE NOT SHOWN DUE TO THE SCALE OF THIS PLAN SHEET. THIS INFORMATION HAS BEEN DEPICTED IN THE TAXIWAY DATA CHART ON THE AIRPORT DATA SHEET.
  - REFER TO THE PROPERTY DATA TABLES ON SHEET 24 FOR FULL EXTENT OF AIRPORT PROPERTY INFORMATION.

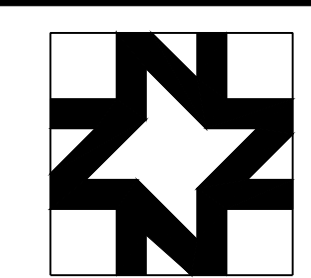
DESIGNED BY	RTL
DRAWN BY	JAH
REVIEWED BY	NSL
APPROVED BY	NAA/DOAV/FAA

NO.	DATE	REVISION	BY	CHK.	APPR.



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NORFOLK INTERNATIONAL AIRPORT

PROJECT NAME  
**AIRPORT LAYOUT PLAN**

SHEET TITLE  
**AIRPORT PROPERTY INVENTORY MAP**

JOB NO.	33370	DATE	02/15/2021
FILE NAME	016-ALP-PROPERTY INVENTORY	REV. NO.	
MAP			
DWG. NO.			



EXISTING FACILITIES TABLE		
NO.	DESCRIPTION	ELEV.
1	DEPARTURES TERMINAL	80.9'
2	AUTOMOBILE PARKING GARAGE	125.3'
5	ARRIVALS TERMINAL	125.3'
12	RENTAL CAR RETURN BLDG.	42.2'
15	FUEL FARM	TBD
16	FORMER FAA SUPPORT BLDG. (ABANDONED)	36.4'
17	GROUND RUN-UP ENCLOSURE (GRE)	TBD
23	REBUILT T-HANGAR BLDG. #1	35.4'
24	REBUILT T-HANGAR BLDG. #2	37.0'
25	T-HANGAR BLDG. #3	36.3'
29	ARFF TRAINING FACILITY	TBD
34	AIRFIELD MAINTENANCE BLDG.	39.5'

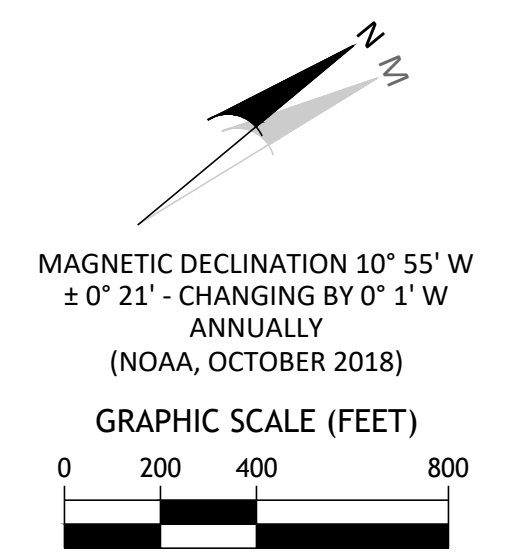
PROPOSED FACILITIES TABLE		
NO.	DESCRIPTION	ELEV.
F1	REBUILT CONCOURSES 'A AND B'	TBD
F2	NEW CONCRAC/PARKING EXPANSION	TBD
F3	NEW DEPARTURES TERMINAL/CURBSIDE	TBD
F4	NEW CONCOURSE 'C'	TBD
F5	TERMINAL APRON EXPANSION (±1,357,500 SF)	N/A
F6	NEW AIR CARGO SORT FACILITY/APRON	TBD
F7	NEW TERMINAL DEICING APRON (±317,160 sf)	N/A
F8	NEW AIRLINE FUEL/GLYCOL STORAGE FACILITY	TBD
F9	NEW INDEPENDENT RENTAL CAR QTA FACILITY	TBD
F10	TAXIWAY 'C' REALIGNMENT	N/A
F11	NEW GENERAL AVIATION APRON (±36,960 SY)	N/A
F12	REBUILT T-HANGARS	TBD
F13	FUTR. GARAGE D	TBD
F14	FUTR. MAINTENANCE FACILITY	TBD

TRAVERSE WAYS TABLE				
IDENTIFIER	ROAD NAME	GROUND ELEV.	VEHICLE HT.	TOP ELEV. OF VEHICLE
A	MILITARY HWY.	14.8	15	29.8
B	I-64 ON RAMP 1	13.4	15	28.4
C	I-64 ON RAMP 2	15.2	15	30.2
D	I-64 OFF RAMP 1	14.6	15	29.6
E	MILLER STORE RD.	12.6	15	27.6
F	I-64 LANE 1	26.3	17	43.3
G	I-64 LANE 2	28.9	17	45.9
H	I-64 LANE 3	22.9	17	39.9
I	I-64 OFF RAMP 2	18.7	15	33.7
J	ACCESS ROAD	14.0	10	24.0
K	ACCESS ROAD	9.2	10	19.2
L	ACCESS ROAD	8.5	10	18.5
M	HWY. 60 LANE 1	10.6	15	25.6
N	HWY. 60 LANE 2	9.3	15	24.3
O	HWY. 60 LANE 1	11.7	15	26.7
P	HWY. 60 LANE 2	11.9	15	26.9
Q	HWY. 60 LANE 1	16.5	15	31.5
R	HWY. 60 LANE 2	15.9	15	30.9

PACS & SACS MONUMENTATION TABLE					
IDENTIFIER	MONUMENT NAME	CONTROL	LATITUDE	LONGITUDE	ELEVATION
1	ORF C	PACS	36°53' 42.33"N	76°12' 03.04"W	21.6' MSL
2	ORF D	SACS	36°53'24.44"N	76°12'18.99"W	20.3' MSL
3	AP STA A3 ORF	SACS	36°53'59.96"N	76°11'38.44"W	21.0' MSL

FUTURE AIRPORT REFERENCE POINT (ARP)	
LATITUDE	LONGITUDE
36°53'37.07"N	76°11'57.68"W

THIS SHEET IS BEING INCLUDED AS PART OF THE ALP SET AND IS SHOWN FOR THE ASPIRATIONAL VISION OF THE NORFOLK AIRPORT AUTHORITY. THE FAA APPROVAL OF THIS ALP SET DOES NOT INCLUDE THIS SHEET.

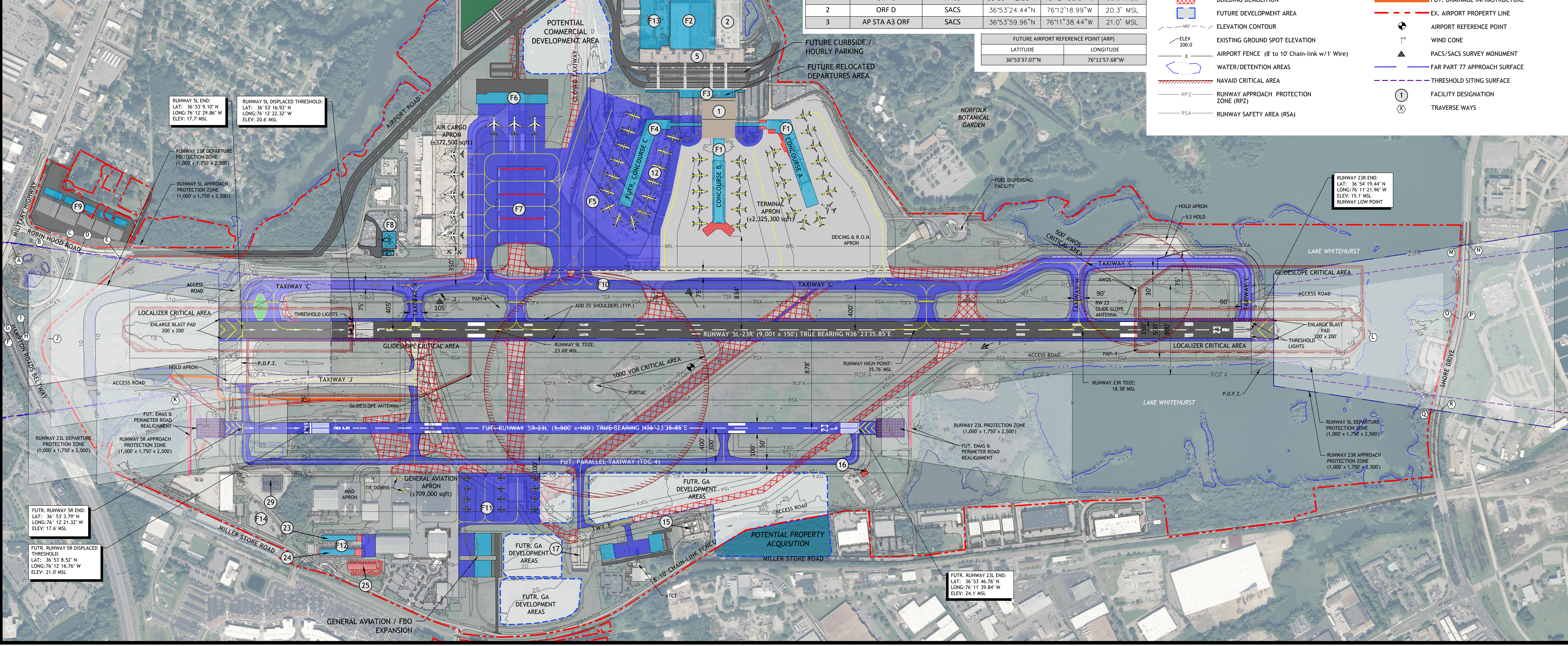


### LEGEND

- EX. BUILDING
- EX. RUNWAY PAVEMENT
- EX. RUNWAY SHOULDER PAVEMENT
- EX. TAXIWAY PAVEMENT
- EX. APRON PAVEMENT
- FUTURE AIRFIELD PAVEMENT
- FUTURE LANDSIDE PAVEMENT
- FUTURE BUILDING
- PAVEMENT REMOVAL
- BUILDING DEMOLITION
- FUTURE DEVELOPMENT AREA
- ELEVATION CONTOUR
- EXISTING GROUND SPOT ELEVATION
- AIRPORT FENCE (8' to 10' Chain-link w/1" Wire)
- WATER/DETENTION AREAS
- NAVAID CRITICAL AREA
- RUNWAY APPROACH PROTECTION ZONE (RPZ)
- RSA - RUNWAY SAFETY AREA (RSA)
- ROFA - RUNWAY OBJECT FREE AREA (ROFA)
- RUFZ - RUNWAY OBSTACLE FREE ZONE (RUFZ)
- POFZ - PRECISION OBSTACLE FREE ZONE (POFZ)
- BRL - 35' BUILDING RESTRICTION LINE (BRL)
- RVZ - RUNWAY VISIBILITY ZONE (RVZ)
- TSA - EX. TAXIWAY SAFETY AREA (TSA)
- TOFA - EX. TAXIWAY OBJECT FREE AREA (TOFA)
- FUT. TSA - FUT. TAXIWAY SAFETY AREA (TSA)
- FUT. TOFA - FUT. TAXIWAY OBJECT FREE AREA (TOFA)
- FUT. DRAINAGE INFRASTRUCTURE
- EX. AIRPORT PROPERTY LINE
- AIRPORT REFERENCE POINT
- WIND CONE
- PACS/SACS SURVEY MONUMENT
- FAR PART 77 APPROACH SURFACE
- THRESHOLD SITING SURFACE
- FACILITY DESIGNATION
- TRAVERSE WAYS

### NOTES

- TAXIWAY EDGE SAFETY MARGINS ARE NOT SHOWN DUE TO THE SCALE OF THIS PLAN SHEET. THIS INFORMATION HAS BEEN DEPICTED IN THE TAXIWAY DATA CHART ON THE AIRPORT DATA SHEET.
- REFER TO THE PROPERTY MAP ON SHEETS 22 AND 23 FOR FULL EXTENT OF AIRPORT PROPERTY INFORMATION.
- PLAN ONLY DEPICTS PROPOSED FACILITIES AND EXISTING FACILITIES AFFECTED BY FUTURE DEVELOPMENT. REFER TO SHEET 4 EXISTING AIRPORT LAYOUT PLAN FOR ALL EXISTING FACILITIES.



NO.	DATE	REVISION	BY	CHK.	APPR.

DESIGNED BY: RTL  
 DRAWN BY: JAH  
 REVIEWED BY: NSL  
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NORFOLK INTERNATIONAL AIRPORT

PROJECT NAME: AIRPORT LAYOUT PLAN  
 SHEET TITLE: FUTURE AIRPORT LAYOUT PLAN

JOB NO. 33370 DATE 02/15/2021  
 FILE NAME ORF\_ALP-FUTURE REV. NO.  
 DWG. NO.

# 35 of 35