

Airport Commission Meeting

February 8, 2022

PFAS Investigation
Status Update



Overview of Work Performed

O&M of POET Systems

Private Well Sampling

Soil Sampling along
Monohansett Rd

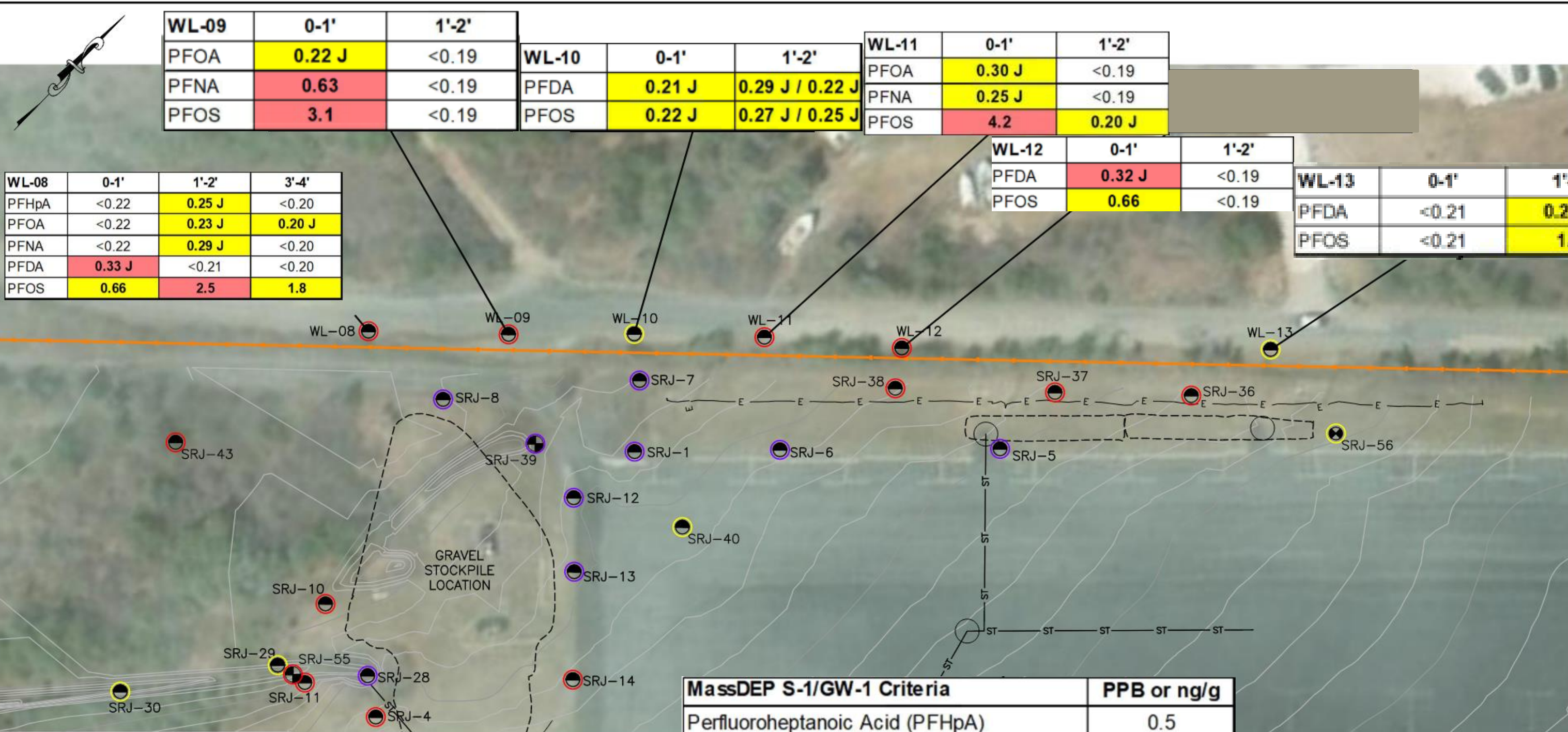
Groundwater Sampling at
the Airport

Total Sampling Results and Response

	MVR	Monohansett	Nobadeer Way	Total
Access Agreements	24	33	23	88
Sampling Status				
# of Private Wells Sampled	22	35	20	77
# of Samples Collected	355	125	20	500
Most Recent Results				
ND	9	20	2	31
<20ppt	54	16	12	82
>20 & <200ppt	49	32	7	88
>200ppt	73	0	0	73
POET Systems Installed	15	4	0	19
Residences with Bottled Water	22	17	26	65
Connected to Town Water	0	0	8	8

Sampling Figures and Data

(Hold “Ctrl” key and press “+” key to enlarge graphics and figures)



WL-09	0-1'	1'-2'
PFOA	0.22 J	<0.19
PFNA	0.63	<0.19
PFOS	3.1	<0.19

WL-10	0-1'	1'-2'
PFDA	0.21 J	0.29 J / 0.22 J
PFOS	0.22 J	0.27 J / 0.25 J

WL-11	0-1'	1'-2'
PFOA	0.30 J	<0.19
PFNA	0.25 J	<0.19
PFOS	4.2	0.20 J

WL-12	0-1'	1'-2'
PFDA	0.32 J	<0.19
PFOS	0.66	<0.19

WL-13	0-1'	1'-2'
PFDA	<0.21	0.27 J
PFOS	<0.21	1.6

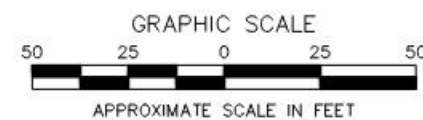
WL-08	0-1'	1'-2'	3'-4'
PFHpA	<0.22	0.25 J	<0.20
PFOA	<0.22	0.23 J	0.20 J
PFNA	<0.22	0.29 J	<0.20
PFDA	0.33 J	<0.21	<0.20
PFOS	0.66	2.5	1.8

MassDEP S-1/GW-1 Criteria	PPB or ng/g
Perfluoroheptanoic Acid (PFHpA)	0.5
Perfluorooctanoic Acid (PFOA)	0.72
Perfluorononanoic Acid (PFNA)	0.32
Perfluorodecanoic Acid (PFDA)	0.3
Perfluorohexanesulfonic acid (PFHxS)	0.3
Perfluorooctanesulfonic Acid (PFOS)	2

- LEGEND**
- EXISTING CONTOUR AT 0.5 FT INTERVAL
 - PROPOSED CONTOUR AT 0.5 FT INTERVAL
 - SOIL BORING LOCATION
 - COMBINED GW/SOIL BORING LOCATION
 - GROUNDWATER ONLY BORING LOCATION
 - PFAS6 NOT DETECTED
 - PFAS6 DETECTED BELOW APPLICABLE MASSDEP CRITERIA
 - PFAS6 EXCEEDANCE OF APPLICABLE MASSDEP CRITERIA
 - PFAS6 EXCEEDANCE OF 10X THE APPLICABLE MASSDEP CRITERIA

NOTES:
 1'-2' = INDICATES DEPTH INTERVAL OF SAMPLE IN FEET BELOW GROUND SURFACE
 2.9 / 3.0 = INDICATES ANALYTICAL RESULTS FROM PRIMARY AND DUPLICATE SAMPLES
 < = INDICATES THE ANALYTE WAS NOT DETECTED.
 J = RESULT IS ESTIMATED.
 BOLD INDICATES DETECTED RESULT.

Green	PFAS6 not detected
Yellow	PFAS6 detected below criteria
Red	PFAS6 exceedance of criteria
Purple	PFAS6 exceedance of 10x the criteria



MONOHANSETT ROAD
 WATER LINE CROSSING
 SOIL SAMPLES

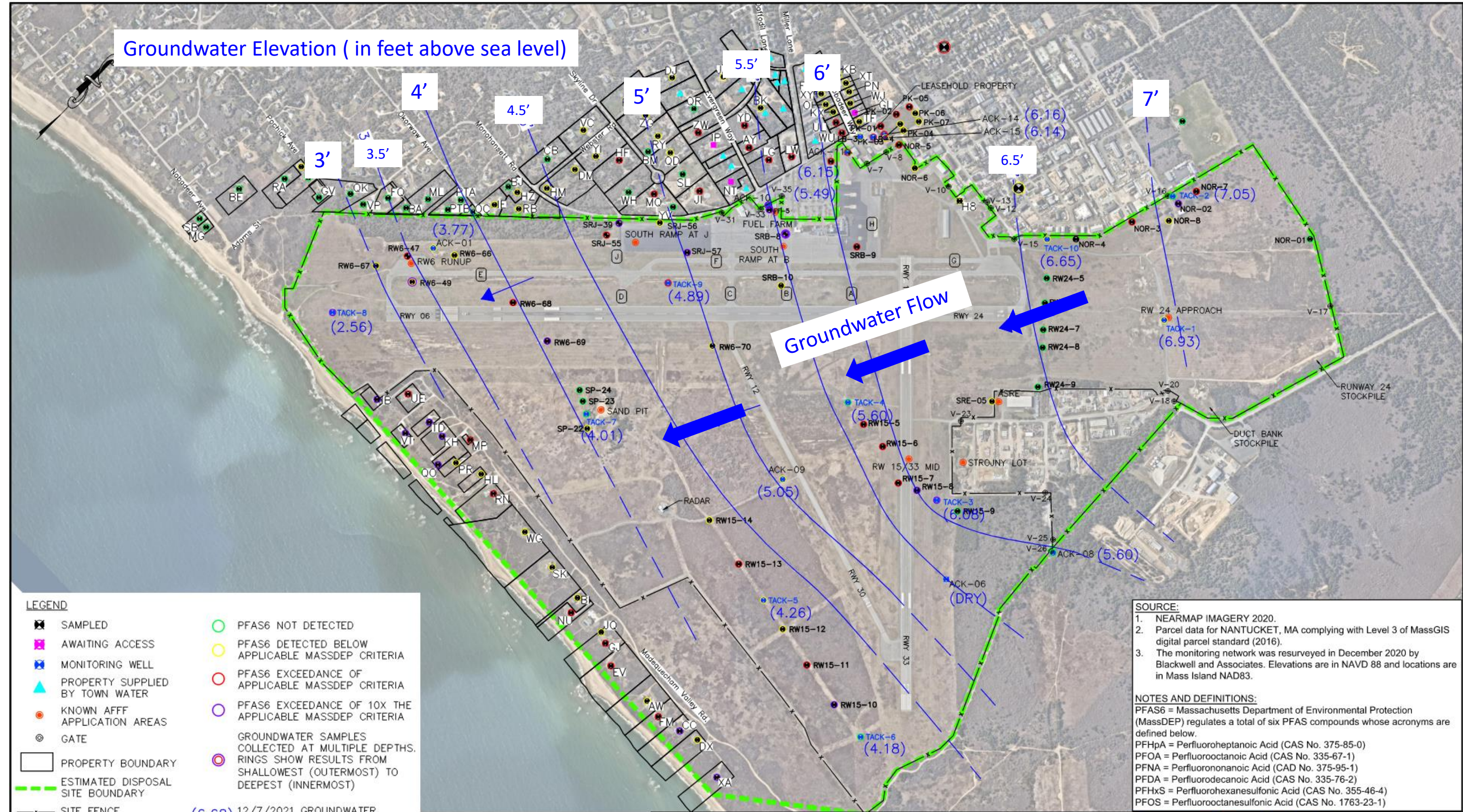
NANTUCKET MEMORIAL AIRPORT
 14 AIRPORT RD, NANTUCKET, MA 02554



CONCORD		NEW HAMPSHIRE	
DRAWN	DCH	DATE	JAN 2022
CHECKED	LLK	DATE	JAN 2022
DES. ENG.		SCALE	AS SHOWN
REVISION		FIGURE NO.	
W.O. NO.	15295.007.001		

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Groundwater Elevation (in feet above sea level)



LEGEND

- SAMPLED
- AWAITING ACCESS
- MONITORING WELL
- PROPERTY SUPPLIED BY TOWN WATER
- KNOWN AFF APPLICATION AREAS
- GATE
- PROPERTY BOUNDARY
- ESTIMATED DISPOSAL SITE BOUNDARY
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- GROUNDWATER SAMPLES COLLECTED AT MULTIPLE DEPTHS. RINGS SHOW RESULTS FROM SHALLOWEST (OUTERMOST) TO DEEPEST (INNERMOST)
- 12/7/2021 GROUNDWATER ELEVATION (IN FEET)
- GROUNDWATER FLOW DIRECTION
- GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)

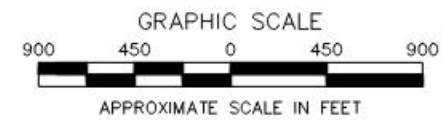
SOURCE:

1. NEARMAP IMAGERY 2020.
2. Parcel data for NANTUCKET, MA complying with Level 3 of MassGIS digital parcel standard (2016).
3. The monitoring network was resurveyed in December 2020 by Blackwell and Associates. Elevations are in NAVD 88 and locations are in Mass Island NAD83.

NOTES AND DEFINITIONS:

PFAS6 = Massachusetts Department of Environmental Protection (MassDEP) regulates a total of six PFAS compounds whose acronyms are defined below.

PFHpA = Perfluoroheptanoic Acid (CAS No. 375-85-0)
 PFOA = Perfluorooctanoic Acid (CAS No. 335-67-1)
 PFNA = Perfluorononanoic Acid (CAS No. 375-95-1)
 PFDA = Perfluorodecanoic Acid (CAS No. 335-76-2)
 PFHxS = Perfluorohexanesulfonic Acid (CAS No. 355-46-4)
 PFOS = Perfluorooctanesulfonic Acid (CAS No. 1763-23-1)



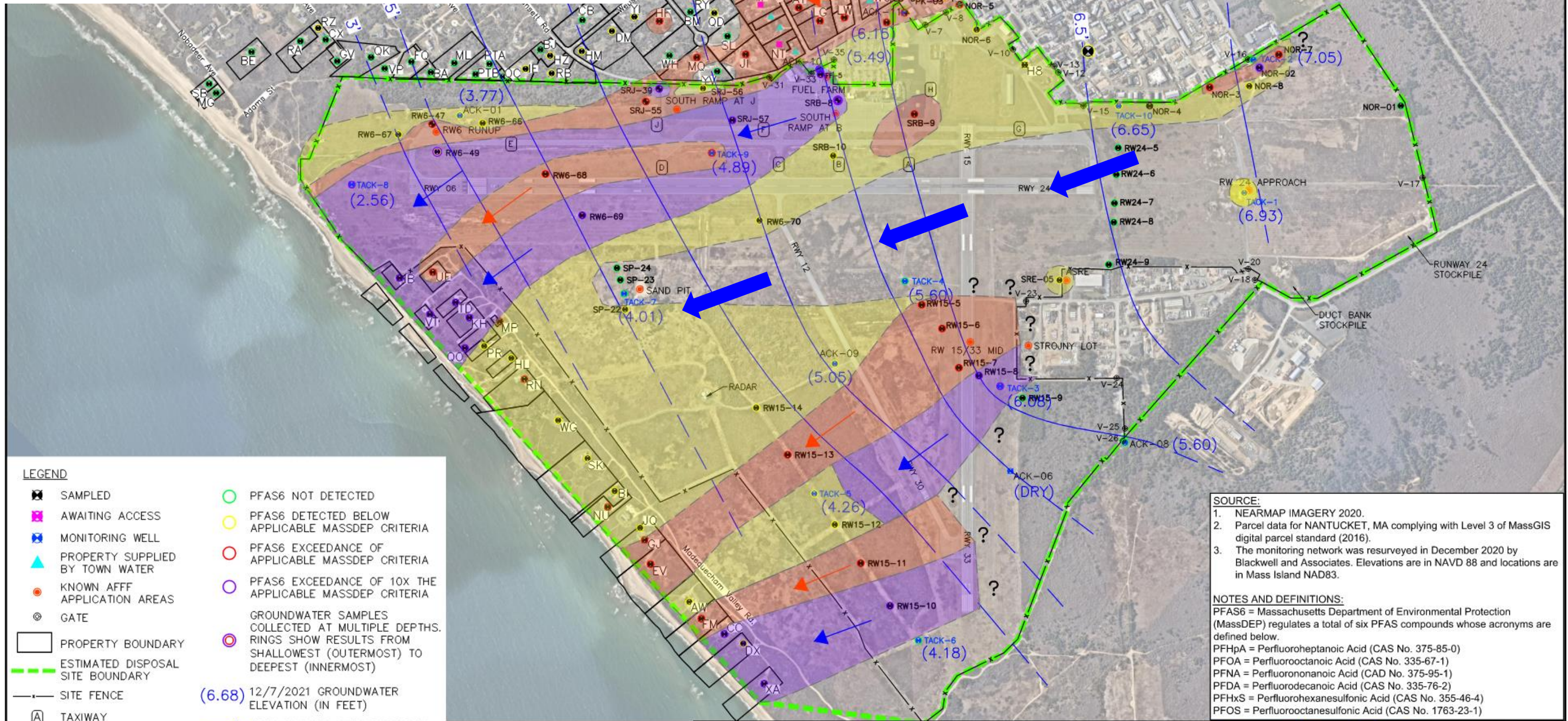
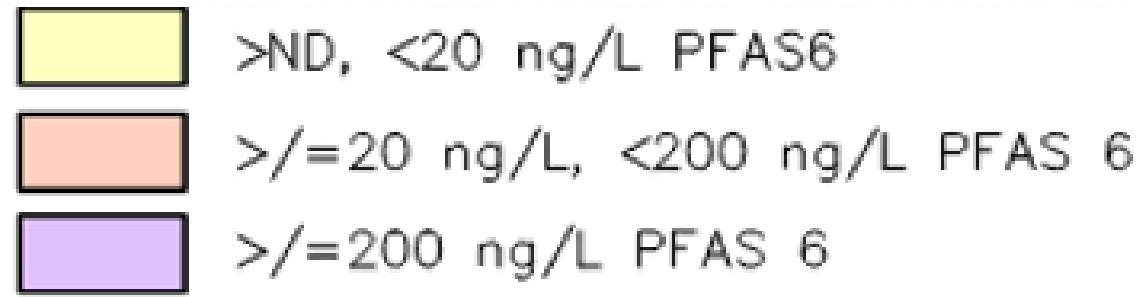
PFAS IN GROUNDWATER AND DRINKING WATER

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W.O. NO.	15295.007.001	FIGURE NO.	

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- LEGEND**
- SAMPLED
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 - MONITORING WELL
 - PROPERTY SUPPLIED BY TOWN WATER
 - KNOWN AFF APPLICATION AREAS
 - GATE
 - PROPERTY BOUNDARY
 - ESTIMATED DISPOSAL SITE BOUNDARY
 - SITE FENCE
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 - RWY 06 RUNWAY
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 - GROUNDWATER FLOW DIRECTION
 - 6' GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
 - >ND, <20 ng/L PFAS6
 - >/=20 ng/L, <200 ng/L PFAS 6
 - >/=200 ng/L PFAS 6

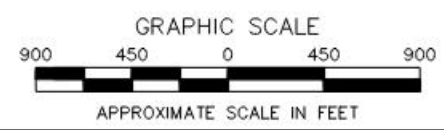
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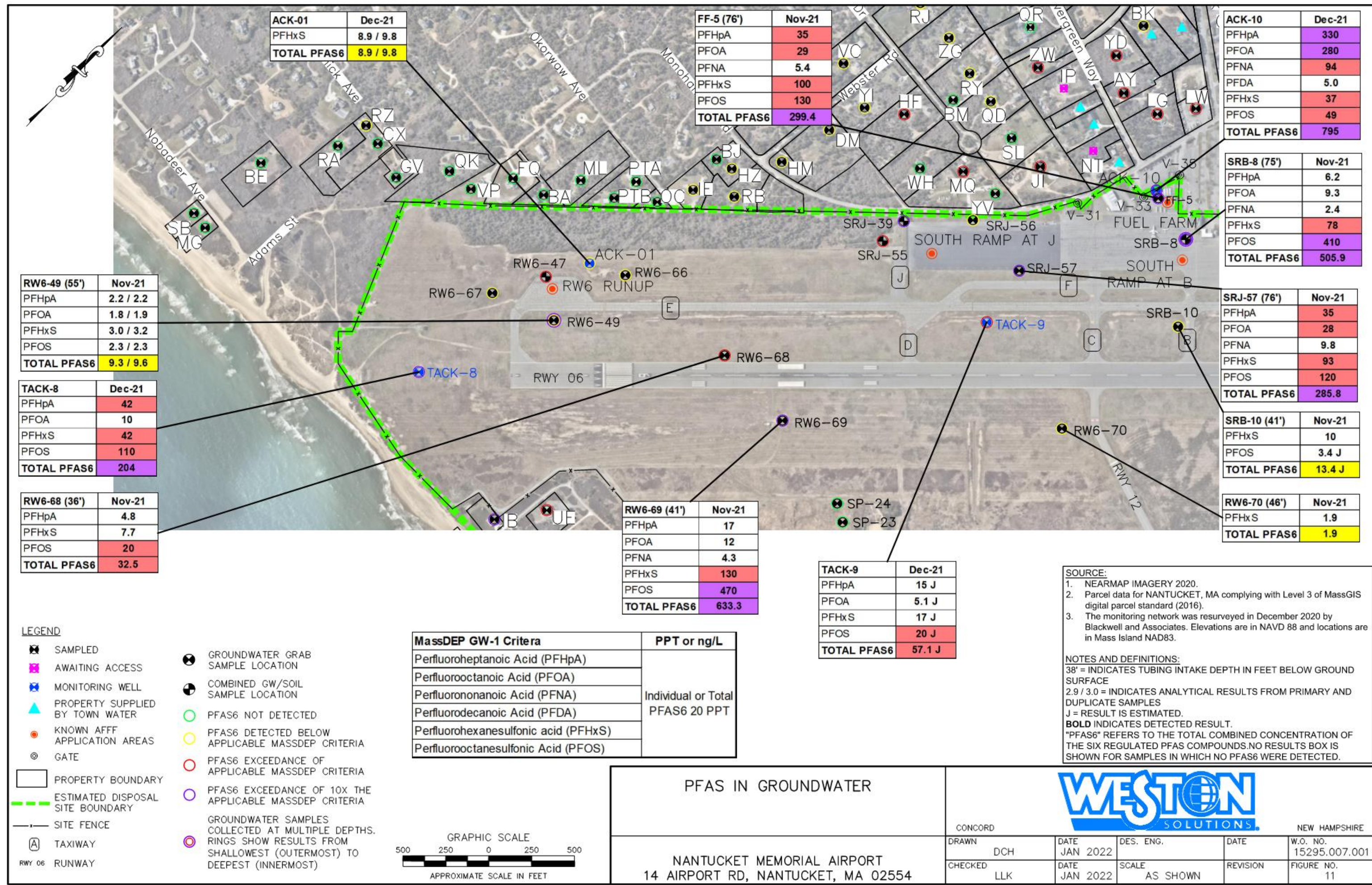
PFAS IN GROUNDWATER AND DRINKING WATER

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 14 AIRPORT RD, NANTUCKET, MA 02554

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ACK-01	Dec-21
PFHxS	8.9 / 9.8
TOTAL PFAS6	8.9 / 9.8

FF-5 (76')	Nov-21
PFHpA	35
PFOA	29
PFNA	5.4
PFHxS	100
PFOS	130
TOTAL PFAS6	299.4

ACK-10	Dec-21
PFHpA	330
PFOA	280
PFNA	94
PFDA	5.0
PFHxS	37
PFOS	49
TOTAL PFAS6	795

RW6-49 (55')	Nov-21
PFHpA	2.2 / 2.2
PFOA	1.8 / 1.9
PFHxS	3.0 / 3.2
PFOS	2.3 / 2.3
TOTAL PFAS6	9.3 / 9.6

SRB-8 (75')	Nov-21
PFHpA	6.2
PFOA	9.3
PFNA	2.4
PFHxS	78
PFOS	410
TOTAL PFAS6	505.9

TACK-8	Dec-21
PFHpA	42
PFOA	10
PFHxS	42
PFOS	110
TOTAL PFAS6	204

SRJ-57 (76')	Nov-21
PFHpA	35
PFOA	28
PFNA	9.8
PFHxS	93
PFOS	120
TOTAL PFAS6	285.8

RW6-68 (36')	Nov-21
PFHpA	4.8
PFHxS	7.7
PFOS	20
TOTAL PFAS6	32.5

RW6-69 (41')	Nov-21
PFHpA	17
PFOA	12
PFNA	4.3
PFHxS	130
PFOS	470
TOTAL PFAS6	633.3

SRB-10 (41')	Nov-21
PFHxS	10
PFOS	3.4 J
TOTAL PFAS6	13.4 J

RW6-70 (46')	Nov-21
PFHxS	1.9
TOTAL PFAS6	1.9

TACK-9	Dec-21
PFHpA	15 J
PFOA	5.1 J
PFHxS	17 J
PFOS	20 J
TOTAL PFAS6	57.1 J

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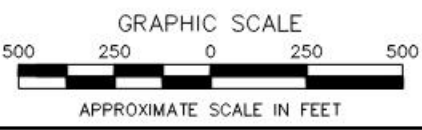
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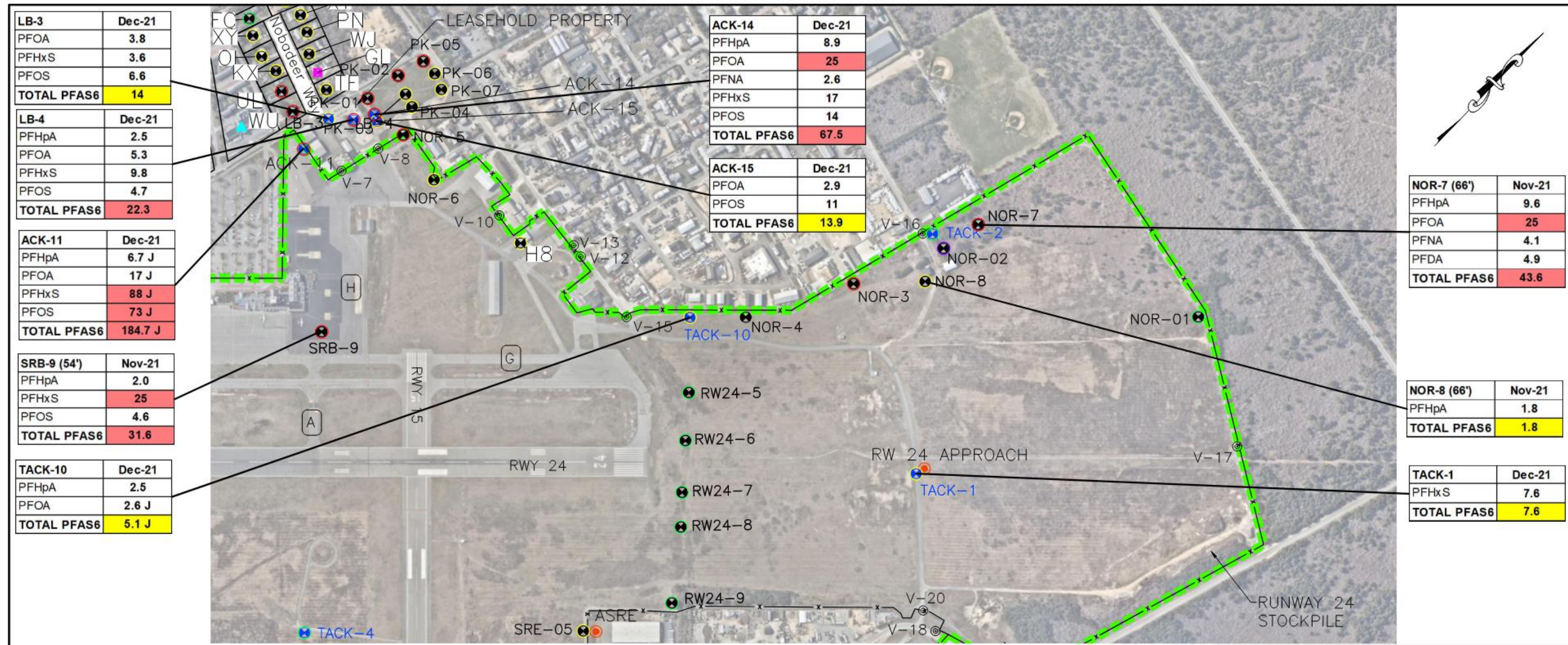
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MassDEP GW-1 Criteria	PPT or ng/L
Perfluoroheptanoic Acid (PFHpA)	Individual or Total PFAS6 20 PPT
Perfluorooctanoic Acid (PFOA)	
Perfluorononanoic Acid (PFNA)	
Perfluorodecanoic Acid (PFDA)	
Perfluorohexanesulfonic acid (PFHxS)	
Perfluorooctanesulfonic Acid (PFOS)	



PFAS IN GROUNDWATER			
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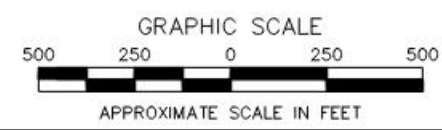
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LEGEND

- ✖ SAMPLED
- ✖ AWAITING ACCESS
- ✖ MONITORING WELL
- ▲ PROPERTY SUPPLIED BY TOWN WATER
- KNOWN AFF APPLICATION AREAS
- ⊙ GATE
- ▭ PROPERTY BOUNDARY
- ESTIMATED DISPOSAL SITE BOUNDARY
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Perfluorodecanoic Acid (PFDA)	
Perfluorohexanesulfonic acid (PFHxS)	
Perfluorooctanesulfonic Acid (PFOS)	



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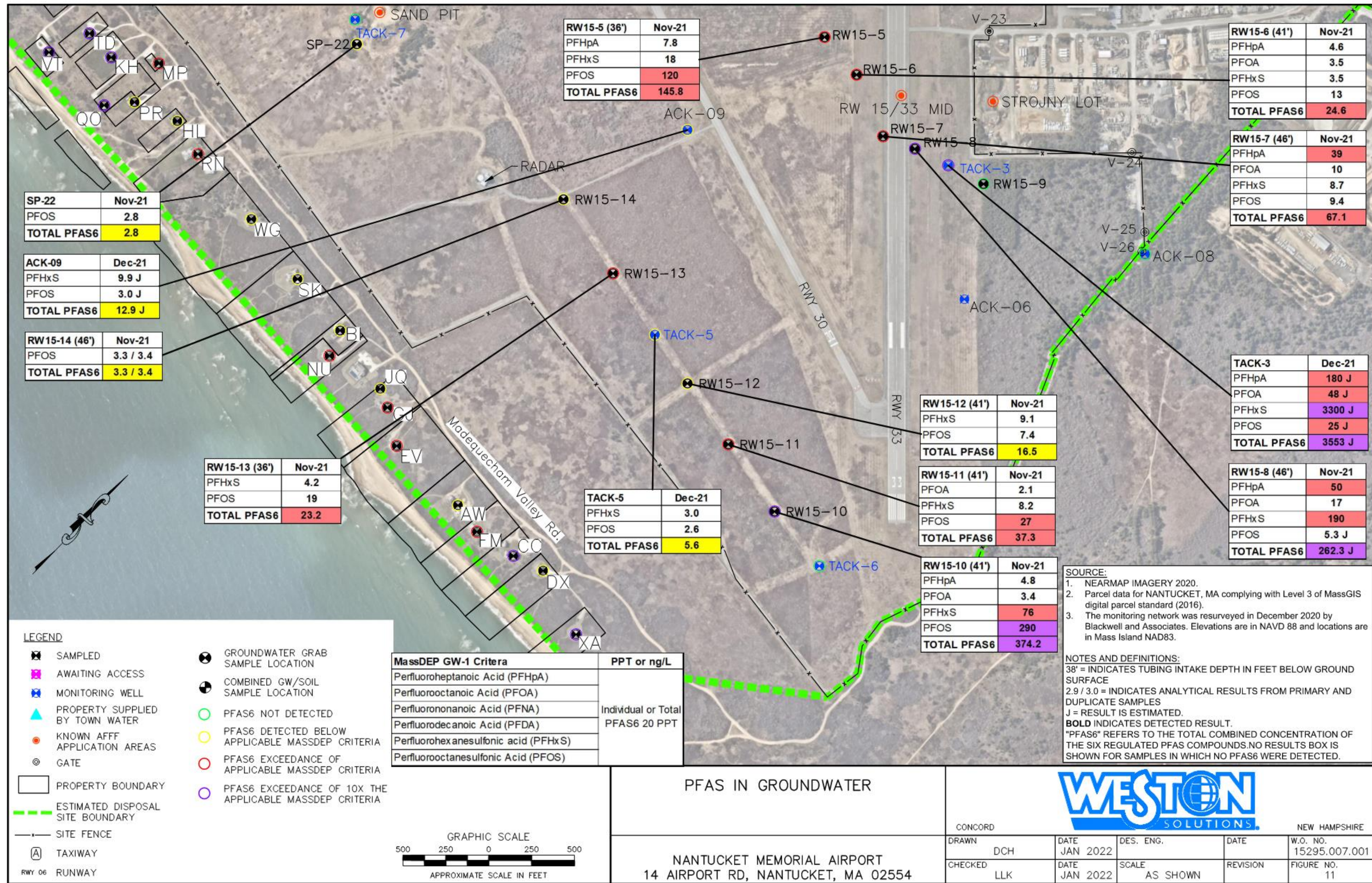
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PFAS IN GROUNDWATER		CONCORD				NEW HAMPSHIRE	
NANTUCKET MEMORIAL AIRPORT 14 AIRPORT RD, NANTUCKET, MA 02554		DRAWN	DATE	DES. ENG.	DATE	W.O. NO.	
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SP-22	Nov-21
PFOS	2.8
TOTAL PFAS6	2.8

ACK-09	Dec-21
PFHxS	9.9 J
PFOS	3.0 J
TOTAL PFAS6	12.9 J

RW15-14 (46')	Nov-21
PFOS	3.3 / 3.4
TOTAL PFAS6	3.3 / 3.4

RW15-13 (36')	Nov-21
PFHxS	4.2
PFOS	19
TOTAL PFAS6	23.2

RW15-5 (36')	Nov-21
PFHpA	7.8
PFHxS	18
PFOS	120
TOTAL PFAS6	145.8

TACK-5	Dec-21
PFHxS	3.0
PFOS	2.6
TOTAL PFAS6	5.6

RW15-12 (41')	Nov-21
PFHxS	9.1
PFOS	7.4
TOTAL PFAS6	16.5

RW15-11 (41')	Nov-21
PFOA	2.1
PFHxS	8.2
PFOS	27
TOTAL PFAS6	37.3

RW15-10 (41')	Nov-21
PFHpA	4.8
PFOA	3.4
PFHxS	76
PFOS	290
TOTAL PFAS6	374.2

RW15-6 (41')	Nov-21
PFHpA	4.6
PFOA	3.5
PFHxS	3.5
PFOS	13
TOTAL PFAS6	24.6

RW15-7 (46')	Nov-21
PFHpA	39
PFOA	10
PFHxS	8.7
PFOS	9.4
TOTAL PFAS6	67.1

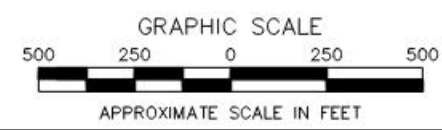
TACK-3	Dec-21
PFHpA	180 J
PFOA	48 J
PFHxS	3300 J
PFOS	25 J
TOTAL PFAS6	3553 J

RW15-8 (46')	Nov-21
PFHpA	50
PFOA	17
PFHxS	190
PFOS	5.3 J
TOTAL PFAS6	262.3 J

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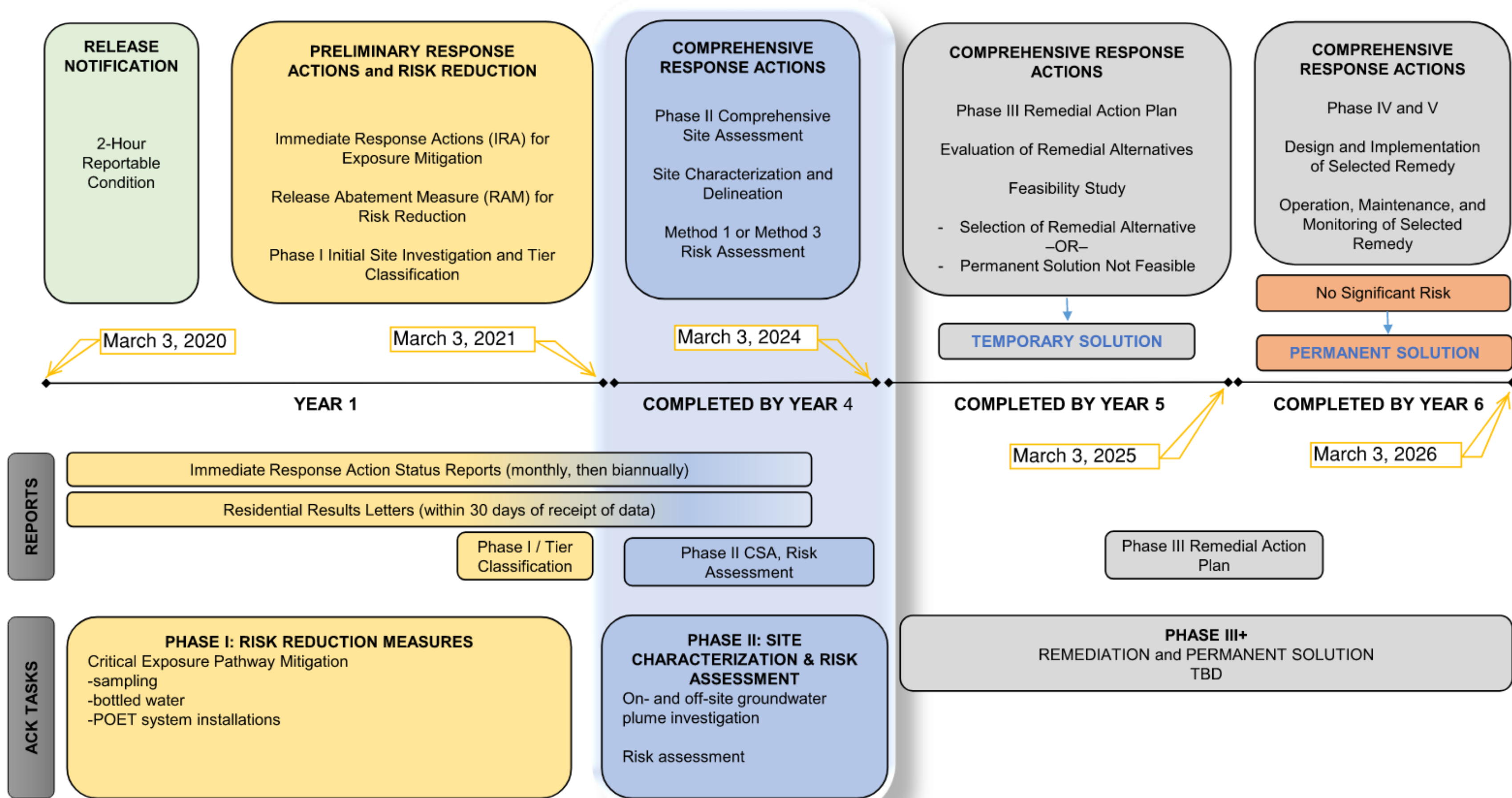
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MCP TIMELINE AND ACK TASKS



Next Steps

Limited Spring Mobilization

- Additional Groundwater Grab Sampling
- Strojny Lot and RW 15/33 Mid Area
- East End of RW-33
- North End
- Deeper Samples

Radar Plots/Off-Site Source Identification

Transducer Download

Data Compilation and Interpretation

Develop Plan for Fall Mobilization