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November 8, 2022

Mr. Anthony Bollasina
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7019

Re: Supplemental Remedial Investigation Work Plan (Revised November 8, 2022)
Sullivan County International Airport
75CR 183A, Swan Lake, New York
NYSDEC Site No. 353016

Dear Mr. Bollasina:

This Supplemental Remedial Investigation Work Plan (SRI WP) has been prepared for the Sullivan County International Airport (SCIA) on behalf of the Sullivan County Division of Public Works. The SCIA is listed on the New York State Registry of Inactive Hazardous Waste Disposal Sites database as New York State Department of Environmental Conservation (NYSDEC) Site No. 353016.

Remedial Investigation activities were completed in 2021 and a Draft Remedial Investigation Report (RIR) was submitted to the NYSDEC in June 2022. The NYSDEC provided comments regarding the RIR on August 10, 2022. The NYSDEC indicated agreement with recommendations in the RIR and further specified that focused investigation in the shallow bedrock is warranted at Areas of Concern (AOCs) 1, 2, and 5.

The purpose of the SRI is to further delineate the horizontal and vertical extent of per- and polyfluoroalkyl substances (PFAS) that have been identified at the SCIA. The attached proposed sampling table and figures outline the locations and samples that will be collected as part of the SRI. An in-person file review will be completed as part of the Supplemental RI activities, as requested by the NYSDEC.

Sample collection methods and quality control procedures will follow those described in the NYSDEC- approved Remedial Investigation/Feasibility Study (RIFS) Work Plan, (EnSafe, June 2021). The SRI scope will include soil sample collection, overburden monitoring well installation, bedrock monitoring well installation, and groundwater sampling. The newly installed monitoring wells will be developed and groundwater samples will be collected a minimum of seven days after installation and development. A synoptic round of groundwater elevation readings will also be obtained at each AOC. Additionally, during ground intrusive activities, continuous perimeter air

monitoring will be conducted in accordance with the Community Air Monitoring Plan outlined in the RIFS Work Plan.

SAMPLING AND ANALYSIS

AOC 1

The SRI will include collection of shallow soil samples at AOC 1 to delineate horizontal and vertical extent of PFAS in soil. Additional SRI activities at AOC 1 will include installation of two overburden monitoring wells and three shallow bedrock monitoring wells. Groundwater samples will be collected from the newly installed monitoring wells to evaluate extent of PFAS impacts. In addition, and at NYSDEC request, a surface water sample will be collected from location SW01 and submitted for volatile organic compound analysis.

AOC 2

The SRI will include collection of soil samples at AOC 2 to delineate the horizontal extent of PFAS and to evaluate the location and elevation of the bedrock surface. Additional SRI activities at AOC 2 will include installation of two shallow bedrock monitoring wells. Groundwater samples will be collected from the newly installed monitoring wells to evaluate extent of PFAS impacts. An additional sample will also be collected from existing Well #2 during the groundwater sample event.

AOC 5

The SRI will include collection of shallow soil samples at AOC 5 to delineate horizontal and vertical extent of PFAS. Additional SRI activities at AOC 5 will include installation of a shallow bedrock monitoring well. A groundwater sample will be collected from the newly installed monitoring well to evaluate the potential presence of PFAS.

Soil samples will be collected using stainless-steel sampling instruments (e.g., hand auger or trowels) and stainless-steel bowls. Soil samples will be collected at the locations and depths described in Table 1. Samples will be collected in laboratory-supplied sample jars, placed on ice in a cooler, and shipped under chain-of-custody documentation to an New York State Department of Health Environmental Laboratory Approval Program-certified laboratory for PFAS analysis via United States Environmental Protection Agency Method 537 (modified).

Groundwater samples collected from bedrock monitoring wells (MW-03I, 04I, 05I, 06I, 07I, and 08I) are expected to require a bladder pump (or other submersible type pump) utilizing

low- flow sampling procedures outlined in U.S. EPA Region 1 Low-Stress (Low-Flow) EQASOP-GW001 (U.S. EPA, January 19, 2010). Groundwater samples collected from overburden monitoring wells (MW-04, and 05) are expected to be obtained with a peristaltic pump (or other similar type pump) utilizing low-flow sampling procedures. Groundwater will be measured in the field for pH, specific conductivity, turbidity, temperature, dissolved oxygen, and oxidation-reduction potential to determine purge stabilization. After the field parameters meet stabilization criteria, in- line field measurement equipment will be disconnected, and samples will be collected into laboratory-prepared glassware. Samples will be placed on ice in a cooler and shipped under chain- of- custody documentation to an New York State Department of Health Environmental Laboratory Approval Program-certified laboratory for PFAS analysis via United States Environmental Protection Agency Method 537 (modified).

The surface water sample collected from AOC 1 will be submitted to an New York State Department of Health Environmental Laboratory Approval Program-certified laboratory for volatile organic compound analysis via United States Environmental Protection Agency Method 8260.

WELL 3 PUMP TEST

A short-term pump test will be conducted at Well #3 to evaluate hydrogeologic parameters and potential connectivity with other monitoring wells. The pump in Well #3 will be operated at a flow rate between 5 and 10 gallons per minute for a period of 4 to 6 hours, depending on the results and affects that are observed at nearby wells. Previous well records and potable well pump test details will be reviewed prior to initiation of the short-term pump test.

ELEVATION AND LOCATION SURVEY

New and existing monitoring wells, as well as former potable wells, will be surveyed both horizontally and vertically by a New York State licensed surveyor. The vertical elevation accuracy will be ± 0.01 ft, and the horizontal location will have an accuracy of ± 0.1 ft. Specifically, the elevation for each monitoring well will be established at the top of the monitoring well's inner polyvinyl chloride casing (this elevation point will be designated by a permanent mark on the top of each well's inner casing) and at ground surface. Vertical elevations will be related to the North American Vertical Datum 1988.

The well elevations will be utilized with water level monitoring data to determine the apparent local groundwater flow pattern.

REPORTING

Upon completion of field work, and after receipt of laboratory analytical results, a supplemental RI Report will be prepared and submitted to NYSDEC that will summarize the analytical results on tables and figures. Results from the in-person NYSDEC file review will also be included in the Supplemental RI report.

Please contact me at rmccarthy@ensafe.com or 860-665-1140 if you have any questions regarding this sampling effort.

Sincerely,

EnSafe Inc.

By: Robert McCarthy, PE, LEP
Project Manager

Attachments:

Table 1	Supplemental Remedial Investigation Sampling Plan and Field Quality Control Samples
Figure 8	Proposed Sample Locations – AOC 1
Figure 10	Proposed Sample Locations – AOC 2
Figure 12	Proposed Sample Locations – AOC 5

cc: Mr. Caleb Mall, Permitting and Environmental Compliance Coordinator, SCDPW

Table 1

Table 1
Supplemental Remedial Investigation
Sampling Plan and Field Quality Control Samples

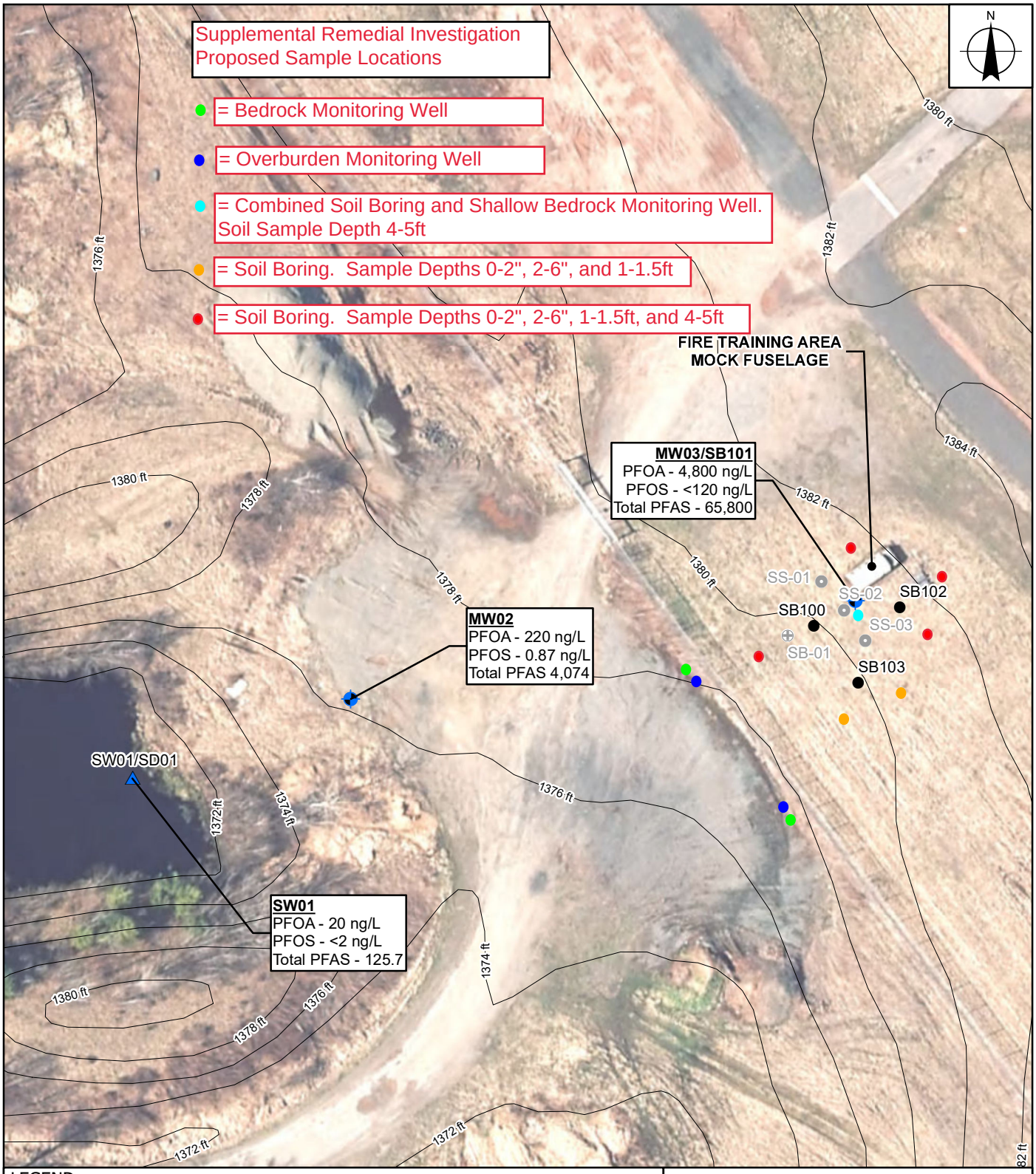
Area of Concern	Name	Sampling Details							
		Location Type	Samples	Location	Boring Depth	Sample ID	Sample Depth	PFAS	VOC
AOC 1	Active Firefighting Training Area	Soil Boring	24	SB104	5'	SB104(4-5')-YYYYMMDD	4-5 feet bgs	X	-
				SB105	1.5'	SB105(0-2")-YYYYMMDD	0-2 inches bgs	X	-
						SB105(2-6")-YYYYMMDD	2-6 inches bgs	X	-
						SB105(1-1.5')-YYYYMMDD	1-1.5 feet bgs	X	-
				SB106	1.5'	SB106(0-2")-YYYYMMDD	0-2 inches bgs	X	-
						SB106(2-6")-YYYYMMDD	2-6 inches bgs	X	-
						SB106(1-1.5')-YYYYMMDD	1-1.5 feet bgs	X	-
				SB107	5'	SB107(0-2")-YYYYMMDD	0-2 inches bgs	X	-
						SB107(2-6")-YYYYMMDD	2-6 inches bgs	X	-
						SB107(1-1.5')-YYYYMMDD	1-1.5 feet bgs	X	-
						SB107(4-5')-YYYYMMDD	4-5 feet bgs	X	-
				SB108	5'	SB108(0-2")-YYYYMMDD	0-2 inches bgs	X	-
						SB108(2-6")-YYYYMMDD	2-6 inches bgs	X	-
						SB108(1-1.5')-YYYYMMDD	1-1.5 feet bgs	X	-
						SB108(4-5')-YYYYMMDD	4-5 feet bgs	X	-
				SB109	5'	SB109(0-2")-YYYYMMDD	0-2 inches bgs	X	-
						SB109(2-6")-YYYYMMDD	2-6 inches bgs	X	-
						SB109(1-1.5')-YYYYMMDD	1-1.5 feet bgs	X	-
						SB109(4-5')-YYYYMMDD	4-5 feet bgs	X	-
				SB110	5'	SB110(0-2")-YYYYMMDD	0-2 inches bgs	X	-
						SB110(2-6")-YYYYMMDD	2-6 inches bgs	X	-
						SB110(1-1.5')-YYYYMMDD	1-1.5 feet bgs	X	-
						SB110(4-5')-YYYYMMDD	4-5 feet bgs	X	-
		Groundwater	5	MW03I	TBD / Shallow Bedrock ~50'	MW03D-YYYYMMDD	TBD	X	-
				MW04	Top of Bedrock/Refusal	MW04-YYYYMMDD	TBD	X	-
				MW04I	TBD / Shallow Bedrock ~50'	MW04D-YYYYMMDD	TBD	X	-
				MW05	Top of Bedrock/Refusal	MW05-YYYYMMDD	TBD	X	-
				MW05I	TBD / Shallow Bedrock ~50'	MW05D-YYYYMMDD	TBD	X	-
		Surface Water	1	SW01	NA	SW01-YYYYMMDD	NA	-	X
AOC 2	Former Firefighting Training Area	Soil Boring	6	SB204	Top of Bedrock/ Refusal [2]	SB204(Depth)-YYYYMMDD	Variable[1] / ~4-6'	X	-
						SB204(Depth)-YYYYMMDD	Above Bedrock	X	-
				SB205	Top of Bedrock/ Refusal [2]	SB205(Depth)-YYYYMMDD	Variable[1] / ~4-6'	X	-
						SB205(Depth)-YYYYMMDD	Above Bedrock	X	-
				SB206	Top of Bedrock/ Refusal [2]	SB206(Depth)-YYYYMMDD	Variable[1] / ~4-6'	X	-
						SB206(Depth)-YYYYMMDD	Above Bedrock	X	-
		Groundwater	3	MW06I	TBD / Shallow Bedrock ~50'	MW06-YYYYMMDD	TBD ~26 - 51 feet	X	-
				MW07I	TBD / Shallow Bedrock ~50'	MW07-YYYYMMDD	TBD ~26 - 51 feet	X	-
				Well #2[3]	NA	W2-YYYYMMDD	Approx. 25 ft below water table	X	-
AOC 5	Terminal Building	Soil Boring	9	SB503	1.5'	SB503(0-2")-YYYYMMDD	0-2 inches bgs	X	-
						SB503(2-6")-YYYYMMDD	2-6 inches bgs	X	-
						SB503(1-1.5)-YYYYMMDD	1-1.5 feet bgs	X	-
				SB504	1.5'	SB504(0-2")-YYYYMMDD	0-2 inches bgs	X	-
						SB504(2-6")-YYYYMMDD	2-6 inches bgs	X	-
						SB504(1-1.5)-YYYYMMDD	1-1.5 feet bgs	X	-
				SB505	1.5'	SB505(0-2")-YYYYMMDD	0-2 inches bgs	X	-
						SB505(2-6")-YYYYMMDD	2-6 inches bgs	X	-
						SB505(1-1.5)-YYYYMMDD	1-1.5 feet bgs	X	-
		Groundwater	1	MW08I	TBD / Shallow Bedrock ~50'	MW08-YYYYMMDD	TBD ~26 - 51 feet	X	-
TB	Trip Blank	Surface Water	One Per Cooler (VOCs Only)	NA	NA	TB01-YYYMMDD	NA	-	X
DUP	Field Duplicate	Soil Boring	1 Per Sample Batch/ Minimum 1 per 20 Samples	SB106	1.5'	SO-DUP01-YYYYMMDD	2-6 inches bgs	X	-
				SB204	Top of Bedrock/ Refusal [2]	SO-DUP02-YYYYMMDD	Above Bedrock	X	-
		Groundwater		MW08I	NA	GW-DUP01-YYYYMMDD	TBD	X	-
MS/MSD	Matrix Spike / Matrix Spike Duplicate	Soil Boring	1 Per Sample Batch/ Minimum 1 per 20 Samples	SB107	5'	SB107(0-2")-YYYYMMDD	0-2 inches bgs	X	-
				SB504	1.5'	SB504(0-2")-YYYYMMDD	0-2 inches bgs	X	-
		Groundwater		Well #2	NA	W2-YYYYMMDD	Approx. 25 ft below water table	X	-
EB	Equipment Blank	Soil Boring Sample Equipment	1 Per 20 Samples	SB108	TBD	SO-EB01-YYYYMMDD	TBD	X	-
				SB505	TBD	SO-EB02-YYYYMMDD	TBD	X	-
		Groundwater Sample Equipment		MW04	NA	GW-EB01-YYYYMMDD	TBD	X	-

Notes:

1. Variable depth for soil sample based on lithology and field observations; sample 1 foot interval between approximately 4 to 6 feet below grade
2. Intermediate depth soil sample will be collected if depth to bedrock is 6 feet below grade or greater; target depth for intermediate sample approximately 4 to 6 feet below grade.
3. Existing on-site former potable well

PFAS	Per- and Polyfluoroalkyl Substances by EPA Method 537.1	EB	Equipment Blank
VOC	Volatile Organic Compounds by EPA Method 8260B	NA	Not Applicable
TB	Trip Blank	YYYYMMDD	Year, Month, Day
DUP	Duplicate / Field Duplicate	TBD	To Be Determined
MS/MSD	Matrix Spike/Matrix Spike Duplicate		

Figures



LEGEND

- CO-LOCATED SURFACE WATER AND SEDIMENT SAMPLING STATION
- SOIL BORING
- SOIL BORING/OVERBURDEN MONITORING WELL
- SC COMBINED SURFACE & SUBSURFACE SAMPLE
- SC SURFACE SOIL SAMPLE
- 2 FT CONTOUR

NOTES:
- PFOA = PERFLUOROOCTANOIC ACID
- PFOS = PERFLUOROOCTANESULFONIC ACID
- TOATAL PFAS = SUM OF ALL PER- AND POLYFLUOROALKYL SUBSTANCES DETECTED
- RESULTS IN NANOGRAMS PER LITER - ng/L

NAD 1983 STATE PLANE
NEW YORK EAST FEET

0 25 50
SCALE IN FEET

FIGURE 8
SAMPLE LOCATIONS - AOC 1
REMEDIAL INVESTIGATION
SULLIVAN COUNTY INTERNATIONAL AIRPORT
75 COUNTY ROAD 183A
SWAN LAKE, NEW YORK 12783

REQUESTED BY:	RM
DRAWN BY:	RK
DATE:	6/10/2022
PROJECT:	0888821949

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Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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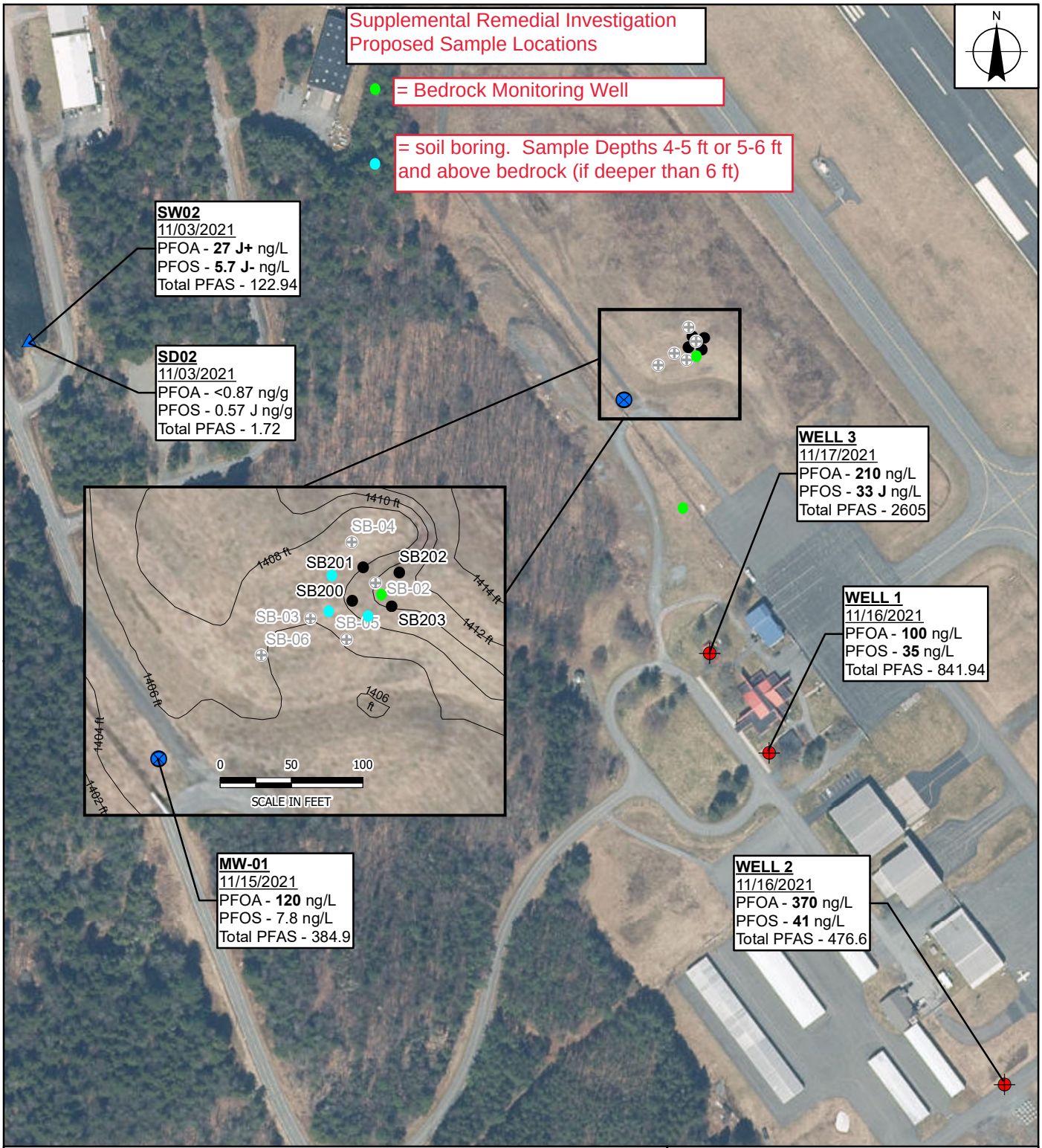

LEGEND

- CO-LOCATED SURFACE WATER AND SEDIMENT SAMPLING STATION
- SC COMBINED SURFACE & SUBSURFACE SAMPLE
- SOIL BORING
- BEDROCK MONITORING WELL
- OUT OF SERVICE SUPPLY WELL
- 2 FT CONTOUR

NOTES:

- PFOA = PERFLUOROOCTANOIC ACID
- PFOS = PERFLUOROOCTANESULFONIC ACID
- TOATAL PFAS = SUM OF ALL PER- AND POLYFLUOROALKYL SUBSTANCES DETECTED
- SEDIMENT RESULTS IN NANOGRAMS PER LITER - ng/g
- GROUNDWATER AND SURFACE WATER RESULTS IN NANOGRAMS PER GRAM ng/L

NAD 1983 STATE PLANE NEW YORK EAST FEET

0 150 300

SCALE IN FEET

FIGURE 10
AOC 2 - PFAS GROUNDWATER, SURFACE WATER, AND SEDIMENT DATA - NOVEMBER 2021
REMEDIAL INVESTIGATION
SULLIVAN COUNTY INTERNATIONAL AIRPORT
SWAN LAKE, NEW YORK 12783

REQUESTED BY:	MG
DRAWN BY:	RK
DATE:	9/20/2022
PROJECT:	0888821949

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Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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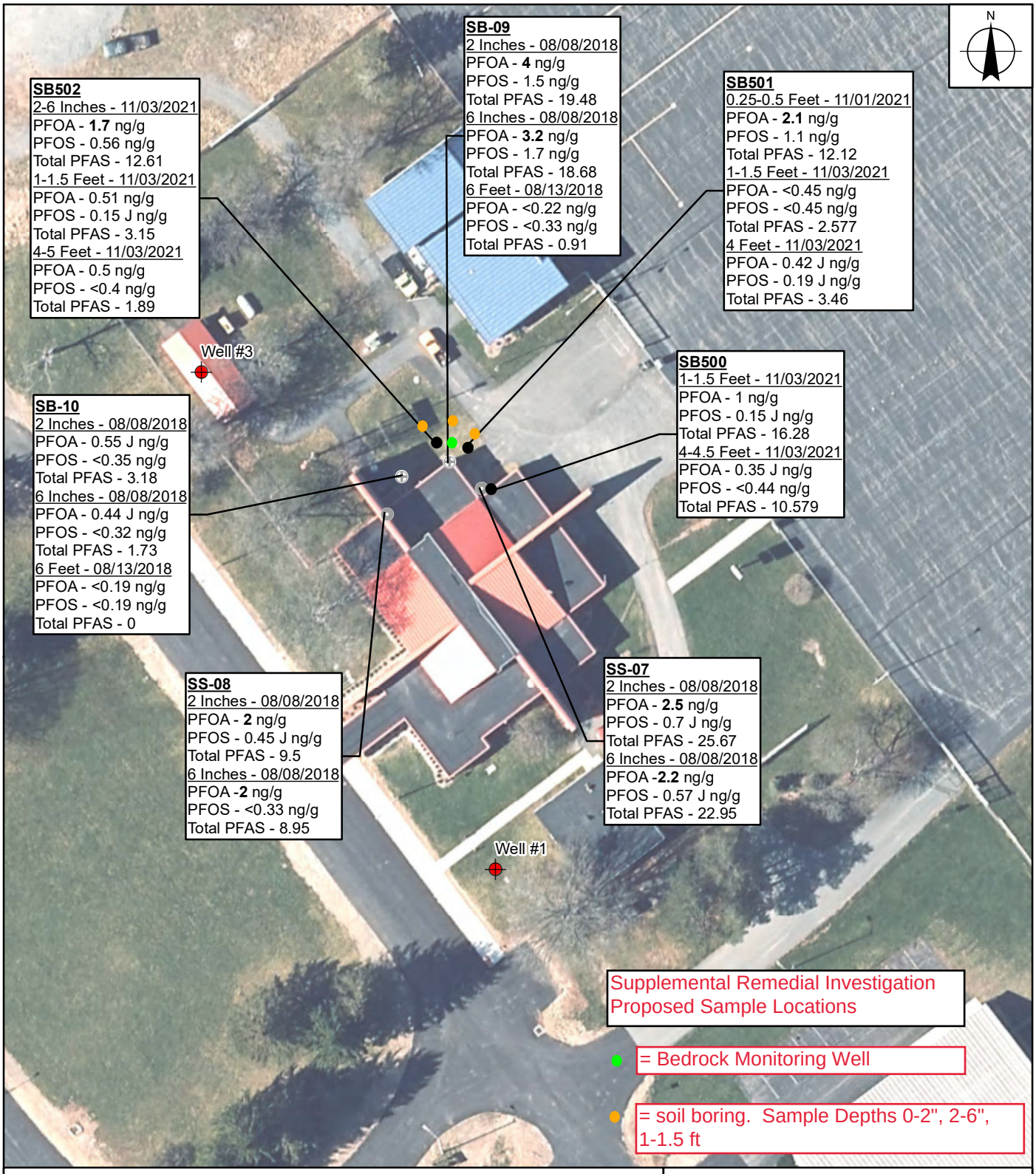

LEGEND

- SOIL BORING
- SC COMBINED SURFACE & SUBSURFACE SAMPLE
- SC SURFACE SOIL SAMPLE
- OUT OF SERVICE SUPPLY WELL

NAD 1983 STATE PLANE
NEW YORK EAST FEET

0 30 60

SCALE IN FEET

FIGURE 12
AOC 5 - PFAS SOIL DATA
REMEDIAL INVESTIGATION
SULLIVAN COUNTY INTERNATIONAL AIRPORT
SWAN LAKE, NEW YORK 12783

REQUESTED BY:	MG
DRAWN BY:	RK
DATE:	9/23/2022
PROJECT:	0888821949

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