April 7, 2023

Mr. Matthew Hubicki
Assistant Environmental Engineer, Remedial Bureau C
NYSDEC, Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7014

Re: Emerging Contaminants Groundwater Sampling Plan
Mr. Cleaners – Shrub Oak Shopping Center – BCP Site Code C360117
1360 East Main Street, Shrub Oak, New York 10588

Dear Mr. Hubicki:

This letter serves as a work plan for a groundwater sampling event for 1,4-dioxane and polyfluoroalkyl substances (PFAS) (collectively referred to as "Emerging Contaminants") at the Shrub Oak Shopping Center (New York State Department of Environmental Conservation [NYSDEC] Brownfield Cleanup Program Index #C360117) located in Shrub Oak, New York.

To characterize onsite groundwater conditions, three existing monitoring wells will be redeveloped and sampled. Quality control (QC) samples, including an equipment blank matrix spike/matrix spike duplicate (MS/MSD), and field duplicate will also be collected. Prior to sampling, depth to water will be measured at each well using an electronic water level meter with an accuracy of +/-0.01 feet. Field parameters will be collected using a water quality meter during purging and prior to sampling. Field parameters, as described in the USEPA low-flow sampling requirements (pH, dissolved oxygen, ORP, etc.), will be recorded. All wells will be purged and sampled using a peristaltic pump using the methods described in "Low Stress Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells" (USEPA, 2010) and in accordance with the NYSDEC November 2022 PFAS guidance document. Tubing materials will be either high-density polyethylene (HDPE), silicone, and/or polypropylene. Dedicated sampling equipment will be used during sampling collection. Nitrile gloves will be worn while conducting field work and handling sampling containers. Decontamination of the water level and water quality meter will be completed using Alconox and clean, PFAS-free water.

All samples will be placed in laboratory-supplied containers, shipped under chain of custody procedures, and analyzed at a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP)-certified laboratory. The three groundwater samples will be analyzed for 1,4-dioxane via USEPA Method 8270 SIM and PFAS via USEPA Method 1633, which will include the 40 compounds listed in the NYSDEC November 2022 PFAS guidance document.

The wells selected to be sampled include MW-2 to characterize downgradient conditions, MW-6 for the source area, and MW-11 for upgradient conditions. Well construction logs for the three monitoring wells are provided in Attachment 1 and the well locations are shown in Plate 1.

209 Shafter Street ■ Islandia, New York 11749 ■ +1.631.232.2600 ■ www.rouxinc.com
California ■ Illinois ■ Massachusetts ■ New Jersey ■ New York ■ Texas ■ Virginia

Should you have any questions regarding this work plan or require additional information, please contact Christian Hoelzli at (631) 232-2600 or choelzli@rouxinc.com.

Sincerely,

ROUX ENVIRONMENTAL ENGINEERING AND GEOLOGY, D.P.C.

Christian Hoelzli
Project Engineer

Frank Cherena, P.G.
Principal Hydrogeologist

Attachments

cc: Shrub Oak Partners, LLC
Wanda Monahan, Esq.
John C. Hart Memorial Library, Attn: Patricia Baressi, Repository Director

ATTACHMENT 1

Well Construction Logs

	HRP Engineering, P.C. Monitoring Well Installation Log	**WELL NO:** HRP-MW-2 **PAGE** 1 **OF** 2 **PAGES**

PROJECT: Mr. Cleaners	**SCREEN SIZE & TYPE:** Continuous wrap PVC 2 inch
JOB NUMBER: NEW9628.p2	**SLOT NO.:** 10 **SETTING:** 25 to 45 ftbg
DATE COMPLETED: 4/3/12	**SAND PACK SIZE & TYPE:** 00
DRILLING COMPANY: Geologic	**SETTING:** 24 to 45 ftbg
RIG TYPE: Hollow Stem Auger	**CASING SIZE & TYPE:** 2 inch schedule 40 PVC
DRILLING METHOD: Hollow Stem Auger	**SETTING:** 0.5 to 25 ftbg
HAMMER WEIGHT/DROP: 140	**SEAL TYPE:** Bentonite pellets
SAMPLING METHOD: Split Spoon	**SETTING:** 24 to 14 ftbg
OBSERVER: James Charter	**BACKFILL TYPE:** Portland cement
REFERENCE POINT (RP): Grade	**STATIC WATER LEVEL:** 10 ftbg
STICK-UP: None	**GPS COORDINATES: N:**
SURFACE COMPLETION: Flush-mounted curb-box	**W:**
REMARKS: Asphalt 0.5' thick	
ABBREVIATIONS: SS = split spoon W = wash C = cuttings G = grab ST = shelby tube REC = recovery PPM = parts per million	

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	REC. (FEET)	MOISTURE	DESCRIPTION	PID READING (PPM)
FROM	TO						
0.5	2	SS	16-11-12	0.9	Moist	SAND, coarse to fine; some coarse to fine gravel; little silt; brown; loose ; no staining or odor	0.0
2	4	SS	9-6-12-9	1.41	Moist	SAND, coarse to fine; little coarse to fine gravel; little silt; grey; loose; no odor or staining.	0.0
4	6	SS	3-3-2-3	1.9	Moist	SAND, coarse to fine; little coarse to fine gravel; little silt; grey; loose; no odor or staining.	0.0
6	8	SS	3-3-2-4	0.0		No recovery.	
8	10	SS	3-2-1-3	1.7	Wet at 9.5	SAND, fine; some silt; trace fine gravel; trace clay; loose; grey-brown; no odor or staining.	0.0
10	12	SS	2-2-2-2	0.8	Wet	SAND, fine; some silt; trace fine gravel; trace clay; loose; grey-brown; no odor or staining.	0.0
12	14	SS	2-2-2-2	0.0		No recovery	
14	16	SS	3-4-4-4	0.3	Wet	SAND, fine; some silt; trace fine gravel; trace clay; loose; grey-brown; no odor or staining.	0.0

PROJECT: Mr. Cleaners	JOB NUMBER: NEW9628.p2
WELL NO.: HRP-MW-2	PAGE 2 OF 2

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	REC. (FEET)	MOISTURE	DESCRIPTION	PID READING (PPM)
FROM	TO						
16	18	SS	6-4-4-10	1.0	Wet	SAND, fine; some silt; trace fine gravel; trace clay; loose; grey-brown; no odor or staining.	0.0
18	20	SS	6-3-3-6	1.2	Wet Moist	18 to 19.5: SAND, fine; some silt; trace fine gravel; trace clay; loose; grey; no odor or staining. 19.5 to 20: Organic peat material; no odor no staining.	0.0 0.0
20	22	SS	4-2-2-4	1.4	Moist	Organic peat material; no odor no staining.	0.0
22	24	SS	5-5-6-5	1.6	Moist	22 to 23: Organic peat material; no odor no staining. 23 to 24: Organic SILT	0.0 0.0
24	26	SS	2-1-2-1	0.9	Moist	SILT; trace clay; trace organics; grey; loose; no odor or staining.	0.0
26	28	SS	2-7-4-5	1.0	Moist	SILT; trace clay; trace organics; grey; loose; no odor or staining.	0.0
28	30	SS	9-6-4-6	1.0	Moist	SILT and CLAY; trace organics; no odor or staining.	0.0
30	32	SS	6-5-4-9	0.4	Wet	Coarse to fine SAND and GRAVEL; some silt; loose; brown; no odor or staining.	0.0
32	34	SS	10-5-22-9	0.4	Wet	Coarse to fine SAND and GRAVEL; some silt; loose; brown; no odor or staining.	0.0
34	36	SS	12-7-5-6	0.6	Wet	SAND, coarse to fine; some gravel; trace silt; brown; loose; no odor or staining.	0.0
36	38	SS	5-3-4-4	0.6	Wet	SAND, coarse to fine; some gravel; trace silt; brown; loose; no odor or staining.	0.0
38	40	SS	12-11-6-8	0.7	Wet	SAND, coarse to fine; some gravel; trace silt; brown; loose; no odor or staining.	0.0
40	42	SS	5-16-12-11	0.8	Wet	SAND, coarse to fine; little gravel; trace silt; brown; compact; no odor or staining.	0.0
42	44	SS	21-9-9-12	1.3	Wet	SAND, coarse to fine; little gravel; trace silt; brown; compact; no odor or staining.	0.0
	44					Auger refusal, end of boring.	

HRP Engineering, P.C.
Monitoring Well Installation Log

WELL NO: HRP-MW-6

PROJECT: Mr. Cleaners	**SCREEN SIZE & TYPE:** Continuous wrap PVC 2 inch
JOB NUMBER: NEW9628.p2	**SLOT NO.:** 10 **SETTING:** 15 to 25 ftbg
DATE COMPLETED: 4/9/12	**SAND PACK SIZE & TYPE:** 00
DRILLING COMPANY: Geologic	**SETTING:** 13 to 25 ftbg
RIG TYPE: Hollow Stem Auger	**CASING SIZE & TYPE:** 2 inch schedule 40 PVC
DRILLING METHOD: Hollow Stem Auger	**SETTING:** 0.5 to 15 ftbg
HAMMER WEIGHT/DROP: 140	**SEAL TYPE:** Bentonite pellets
SAMPLING METHOD: Split Spoon	**SETTING:** 13 to 8 ftbg
OBSERVER: Mark Wright	**BACKFILL TYPE:** Portland cement
REFERENCE POINT (RP): Grade	**STATIC WATER LEVEL:** 19.3 ftbg
STICK-UP: None	**GPS COORDINATES: N:**
SURFACE COMPLETION: Flush-mounted curb-box	**W:**

REMARKS: Asphalt 0.5’ thick

ABBREVIATIONS: SS = split spoon W = wash C = cuttings G = grab ST = shelby tube REC = recovery PPM = parts per million

DEPTH (FEET) FROM	DEPTH (FEET) TO	SAMPLE TYPE	BLOW COUNT	REC. (FEET)	MOISTURE	DESCRIPTION	PID READING (PPM)
0.5	2	SS	7-14-25	1.1	Dry	SAND, medium; little fine gravel; trace coarse gravel; grey-brown; medium compact; no odor or staining	0.0
2	4	SS	50/0.3	0.4	Dry	SAND, medium; little fine gravel; trace coarse gravel; grey-brown; medium compact; no odor or staining	0.0
4	6	SS	18-12-12-18	1.0	Dry	SAND, medium; some fine gravel; trace silt; brown; loose; no odor or staining.	0.0
6	8	SS	12-9-8-13	1.4	Dry	SAND, medium; little gravel; little silt; brown; loose; no odor or staining.	0.0
8	10	SS	9-16-16-17	0.2	Dry	SAND, medium; little gravel; little silt; brown; loose; no odor or staining.	0.0
10	12	SS	18-13-16-15	1.9	Moist Moist	10-11: SAND, medium; little gravel; little silt; brown; loose; no odor or staining. 11-12: SAND, medium to coarse; some gravel; brown; loose; no odor or staining	0.0 128.6

PROJECT: Mr. Cleaners	JOB NUMBER: NEW9628.p2
WELL NO.: HRP-MW-6	PAGE 2 OF 2

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	REC. (FEET)	MOISTURE	DESCRIPTION	PID READING (PPM)
FROM	TO						
12	14	SS	12-15-10-10	0		No recovery	
14	16	SS	8-9-16-12	1.2	Moist	SAND, medium to coarse; some gravel; brown; loose; no odor or staining	29.0
16	18	SS	12-11-10-11	1.5	Moist	SAND, medium to coarse; some gravel; brown; loose; no odor or staining	14.2
18	20	SS	8-9-11-6	1.1	Wet at 19’	SAND, medium to coarse; little fine grave; brown; loose; no odor or staining.	28.0
20	22	SS	2-5-5-5	0.7	Wet	SAND, medium to coarse; little fine grave; brown; loose; no odor or staining.	11.7
22	24	SS	5-5-5-5	0.3	Wet	SAND, medium to coarse; little fine grave; brown; loose; no odor or staining.	5.1
24	26	SS	12-18-16-12	1.8	Wet	Coarse SAND and fine GRAVEL; loose; brown; no odor or staining.	0.5
26	28	SS	9-16-28-21	1.3	Wet	Coarse SAND and fine GRAVEL; loose; brown; no odor or staining.	0.0
	28					End of boring	

EXCEL Environmental Resources, Inc.

MONITORING WELL LOG
MW-11

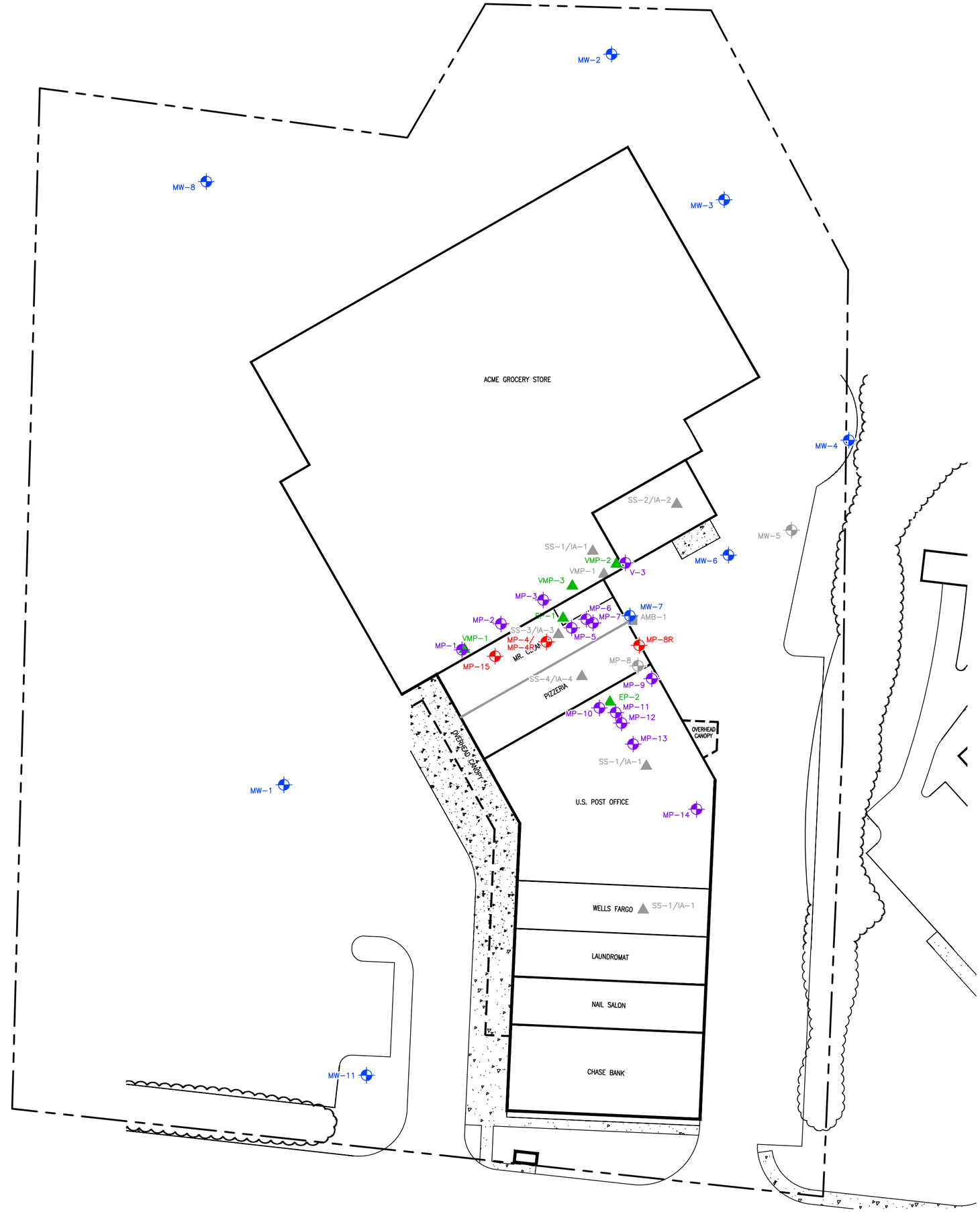
PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Mr Cleaners - Shrub Oak**	DRILLING CO.:	**AmeriDrill, Inc**
SITE LOCATION:	**1360 East Main Street Shrub Oak, NY**	DRILLER:	**Tom Brown**
		RIG TYPE:	**HS Auger**
JOB NO.:	**12229**	DRILLING METHOD:	**4'' Hollow-Stem Auger**
LOGGED BY:	**Michael Bonafede**	SAMPLING METHOD:	**2' split-spoons**
DATE STARTED:	**12/9/2015**	HAMMER WT./DROP:	**N/A**
DATE FINISHED:	**12/9/2015**	COMPLETION DEPTH:	**27.50'**
		GROUNDWATER DEPTH:	**25.50'**

DEPTH (feet)	SOIL LITH	PID (ppm)	SOIL DESCRIPTION	MONITORING WELL LOG	WELL CONSTRUCTION
0			0.0 - 5.0' Organics, F - M brown SAND, some gravel		Flushmount
					0.0 - 15.0' Cement/Bentonite
5			5.0 - 6.0' M - C SAND, brown, trace silt		0.0 - 31.5' 2" PVC Sch 40
			6.0 - 10.0' Organics, F - M brown SAND, some pebbles		
10			10.0 - 11.0' F - SAND, brown		
			11.0 - 15.0' F - M SAND, brown, some pebbles		
		0.0			
15			15.0 - 20.0' F - M SAND, brown, some gravel		Sand Pack: 15.0 - 27.5' #00 WG Sand
20			20.0 - 21.0' F - SAND, brown, some pebbles		
			21.0 - 25.0' F - M SAND, brown, some gravel		Screen: 22.5 - 27.5' 2" PVC Sch 40 (0.010 slot)
25			25.0 - 27.5' F - M SAND, brown, some gravel, some cobbles		

NOTES: 40 degrees fahrenheit, partly cloudy, Sunny

PLATE 1

Site Plan



LEGEND

- PROPERTY LINE
- SS-1/IA-1 — TEMPORARY SUB-SLAB SOIL VAPOR/INDOOR AIR SAMPLE LOCATION
- VMP-1 — ABANDONED EXTRACTION POINT LOCATION
- AMB-1 — AMBIENT AIR SAMPLE LOCATION
- EP-1 — EXTRACTION POINT LOCATION
- MP-1 — MONITORING POINT LOCATION
- MW-1 — MONITORING WELL LOCATION
- MW-5 — ABANDONED MONITORING WELL/ MONITORING POINT LOCATION
- MP-15 — RECENTLY INSTALLED MONITORING POINT LOCATION

NOTE

1. THE ACTIVE EXTRACTION POINT NAMED VMP-1 WAS PREVIOUSLY REFERRED TO AS VMP-4.
2. OFF-SITE MONITORING WELLS MW-9 AND MW-10 NOT SHOWN.

SOURCE

EXCEL ENVIRONMENTAL RESOURCES, INC., PROJECT #12229, "GENERALIZED SITE PLAN" DATED APRIL 22, 2019.

N

30' 0 30'

Title:

SITE PLAN

MR CLEANERS - SHRUB OAK SHOPPING CENTER
1360 EAST MAIN STREET, SHRUB OAK, NEW YORK

Prepared for:

SHRUB OAK PARTNERS

ROUX

Compiled by: C.H.	Date: 04MAY22	PLATE 1
Prepared by: G.M.	Scale: AS SHOWN	
Project Mgr: C.H.	Project: 3950.0001Y000	
File: 3950.0001Y100.01.DWG		

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