June 5, 2018

Ms. Charlotte Theobald
NYSDEC Division of Environmental Remediation, Region 8
6274 East Avon-Lima Road
Avon, NY 14414-9516

Re: Emerging Contaminants Groundwater Sampling Work Plan
Carriage Cleaners – Penfield Site
Penfield, New York
NYSDEC Site No. C828131

Dear Ms. Theobald:

On behalf of our client, Springs Land Company, LLC, Benchmark Environmental Engineering and Science, PLLC (Benchmark), in association with TurnKey Environmental Restoration, LLC (TurnKey), referred to herein as Benchmark-Turnkey, has prepared this emerging contaminant groundwater sampling work plan for the above referenced Site. On May 3, 2018, Springs Land Company, LLC received a letter from the Department requiring the Site be sampled as part of the State-wide initiative to better understand the risk posed by 1,4-dioxane and per- and polyfluoroalkyl substances (PFAS).

Benchmark-Turnkey proposes to conduct the emerging contaminant sampling on two (2) of the existing monitoring wells at the Site. Specifically, MW-5 (up-gradient location) and MW-7 (down-gradient location) will be sampled for 1,4-dioxane and PFAS, see attached figure.

**Sampling Preparation**

Sampling equipment, components, and containers will be handled appropriately to avoid contact with aluminum foil, low density polyethylene (LDPE), glass, or polytetrafluoroethylene (PTFE, aka. teflon) materials including sample bottle cap liners with a Teflon layer. Clothing to be worn by sampling personnel will be laundered multiple times (without the use of fabric softener) and will not contain PTFE material (including GORE-TEX® and Tyvek) or that which has been waterproofed with perfluorinated compounds (PFC) materials. Regarding note taking, no waterproof field books will be used nor will plastic clipboards, binders or spiral hard cover notebooks. Further, no Sharpies markers or Post-It Notes will be used. Typical ballpoint pens are acceptable.

Many food and drink packaging materials contain PFCs. If consumption of food and drink occurs prior to and/or during the sampling event, sample personnel will use a standard two (2) step decontamination procedure using detergent and clean water rinse to wash hands prior to starting and/or resuming sampling.

**Sampling Procedures**

Prior to well purge sample collection, static water levels will be measured and recorded. The groundwater wells will be developed using a plastic submersible pump (containing nitrile seals) and PVC tubing prior to sampling the groundwater at the two (2) locations, starting with the up-gradient location first (MW-5). The wells will be purged using low-flow sampling techniques to minimize water level draw down within the well until groundwater quality parameters (pH, temperature, turbidity, DO, ORP, specific conductance) stabilize or at least a minimum of one (1) well volume has been removed.

In general, stability is defined as variation between field measurements of 10 percent or less and no overall upward or downward trend in the measurements. Upon stabilization of field parameters, groundwater samples for the emergent contaminants will be collected from the submersible pump and PVC tubing. Sampling personnel will wear nitrile gloves while handling empty sample containers, filling sample containers, sealing sample containers, and placement into sample coolers. Samples will be placed on ice prior to transportation to the laboratory.

If sampling equipment and/or sampling personnel's hands come in contact with PFC materials, a standard two (2) step decontamination process using detergent and clean water rinse will be performed on the equipment prior to reuse or the sampling personnel's hands prior to continuing with the sampling. Clean nitrile gloves will be worn while handling sample containers, during the groundwater sampling, and sealing/placement of samples into the laboratory supplied cooler.

**Sample Analysis**

Groundwater samples will be analyzed by an Environmental Laboratory Accreditation Program (ELAP) certified laboratory, which will provide a Category B deliverable package for preparation of a Data Validation Usability Summary Report (DUSR) by a third party data validator.

Samples collected for 1,4-dioxine analysis will be collected into laboratory provided containers: two (2) 500 milliliter (ml) unpreserved amber bottles for each well location. The samples will be analyzed via EPA Method 8270 Selective Ion Monitoring (SIM) mode. The method detection limit (MDL) for the 1,4-dioxane analysis will be no higher than 0.28 micrograms per liter (µg/l), assuming there is no sample matrix interference. The samples have a holding time of 7 days till extraction and 40 days for the extract. Standard turnaround time will be used for the analysis.

Samples collected for PFAS analysis will be collected into laboratory provided containers: three (3) 250 ml plastic bottles preserved with Trizma for each well location. The samples will be analyzed via a modified EPA Method 537 to achieve reporting limits of 2 nanograms

per liter (ng/l). The samples have a holding time of 14 days for analysis. Standard turnaround time will be used for the analysis.

**Sample Reporting**

The sample results will be tabulated and provided to the Department. An electronic data deliverable (EDD) will also be provided to NYSDEC via EQuIS. The detection limits will be provided within the table in lieu of "non-detect" or "ND" reporting. Any matrix interferences reported for the sampling will also be noted.

Please contact us if you have any questions or require additional information.

Sincerely,
Benchmark & TurnKey Companies

Nathan Munley
Project Manager

Michael Lesakowski
Principal

ec: D. Clements (Springs Land Co.)
J. Arnold (Springs Land Co.)

File: 0295-016-001

# FIGURE

F:\CAD\TurnKey\Spring Land Company\1600 Penfield Rd\Emerging Contaminant Work Plan\Figure 2_Groundwater Isopotential Map.dwg

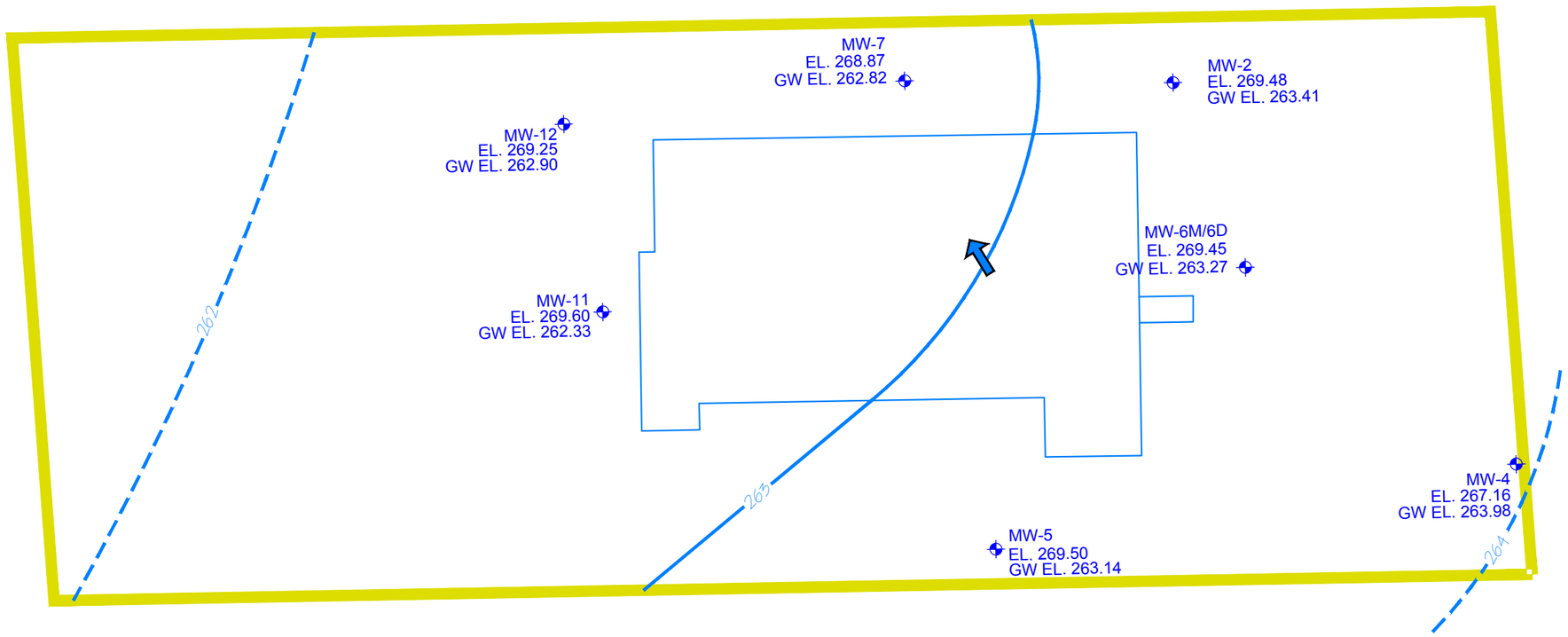
LEGEND:

PROPERTY BOUNDARY

MW-12 MONITORING WELL LOCATION

577 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)

GROUNDWATER FLOW DIRECTION




N

25' 0' 25' 50'

SCALE: 1 INCH = 25 FEET
SCALE IN FEET
(approximate)

DATE: JUNE 2018
DRAFTED BY: CMS

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TURNKEY ENVIRONMENTAL RESTORATION, LLC

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JOB NO.: B0295-016-001

# GROUNDWATER ISOPOTENTIAL MAP

FINAL ENGINEERING REPORT
CARRIAGE CLEANERS SITE
PENFIELD, NEW YORK
PREPARED FOR
SPRINGS LAND COMPANY, LLC

**FIGURE 1**