REMEDIAL ACTION WORK PLAN

FOR

BCP SITE NO. C932174
4435-4445 MILITARY ROAD SITE
4435-4445 MILITARY ROAD
TOWN OF NIAGARA, NEW YORK

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SEPTEMBER 2021
REVISED JANUARY 2022

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Acronym List

AA	Alternatives Analysis
ASP	Analytical Services Protocol
BCA	Brownfield Cleanup Agreement
BCP	Brownfield cleanup Program
BGS	Below Ground Surface
CAMP	Community Air Monitoring Plan
CVOC	Chlorinated Volatile Organic Compound
DER	Department of Environmental Remediation
DUSR	Data Usability and Summary Report
EDD	Electronic Data Deliverable
ELAP	Environmental Laboratory Accreditation Program
ESA	Environmental Site Assessment
FER	Final Engineering Report
GPR	Ground Penetrating Radar
HASP	Health and Safety Plan
ISMP	Interim Site Management Plan
IRM	Interim Remedial Measures
IRM WP	Interim Remedial Measures Work Plan
MS/MSD	Matrix Spike / Matrix Spike Duplicate
MSL	Mean Sea Level
DNAPL	Dense Non-Aqueous Phase Liquid
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOL	New York State Department of Labor
PAH	Polycyclic Aromatic Hydrocarbons
PPM	Parts per Million
PCB	Polychlorinated Biphenyl
PID	Photo-ionization Detector
PCE	Tetrachloroethylene
PFAS	Per- and Polyfluoroalkyl Substances
QA/QC	Quality Assurance / Quality Control

RAO	Remedial Action Objective
REC	Recognized Environmental Condition
RI	Remedial Investigation
RIWP	Remedial Investigation Work Plan
RAWP	Remedial Action Work Plan
SCG	Standards, Criteria, Guidance
SCO	Soil Cleanup Objective
Site	4435 – 4445 Military Road
SMP	Site management Plan
SSDS	Sub-Slab Depressurization System
SVOC	Semi volatile Organic Compound
TAL	Target Analyte List
TCE	Trichloroethene
TCL	Target Compound List
TCLP	Toxicity Characteristic leaching Procedure
TOGS	Technical and Operational Guidance Series
µG/M^3	Microgram per Cubic Meter
USEPA	United States Environmental Protection Agency
USGS	United States Geologic Service
UST	Underground Storage Tank
VOC	Volatile Organic Compound
VOV	Volatile Organic Vapor

I, John T. Camp, certify that I am currently a NYS Registered Professional Engineer and that this Remedial Action Work Plan Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

John T. Camp
State of New York Professional Engineer No. 082375

January 26, 2022

1 INTRODUCTION

C&S Engineers, Inc. (C&S) has prepared this Remedial Action Work Plan (RAWP) Report on behalf of the applicant for Brownfield Cleanup Program (BCP) Site No. C932174, Town of Niagara (hereafter known as "Applicant"), for the 4435-4445 Military Road BCP Site located at 4435-4445 Military Road, Town of Niagara, New York (the "Site"). **Figure 1** shows the location of the Site and **Figure 2** shows the Site boundaries and identified pertinent site features.

In February of 2019, the Town of Niagara, (Applicant) acting as BCP Volunteer, submitted a BCP Application to remediate 4435-4445 Military Road in Niagara County, New York. A fully executed Brownfield Cleanup Agreement (BCA) was issued on June 28, 2019.

A Remedial Investigation/Interim Remedial Measure Work Plan (RI/IRM Work Plan) was subsequently approved on December 23, 2019, and the Remedial Investigation (RI) commenced in March of 2020.

Prior to the RI activities, various wastes and possible sources of contamination were identified in and around the Site structure. The wastes included large stockpiles of tires, various accumulated liquid and solid wastes associated with automotive services, an above ground petroleum storage tank, and three in-ground automotive lifts. To allow full-site access and accurately complete the RI, these items became part of an IRM that was completed prior to the RI. The IRM included the following:

- Removal and off-site disposal/recycling of all on-site tires
- Disposal of fluids in containers within the auto repair station
- Removal of aboveground petroleum storage tanks
- Removal of in-ground automotive lifts and proper disposal of associated fluids

In addition to the above IRMs, the planned abatement and demolition activities of the onsite structure took place at the same time and prior to the list of activities above to provide easier access to the IRM areas within the structure. However, the abatement and demolition activities themselves were not considered an IRM.

Disposal activities and abatement and demolition activities began on February 13, 2020. The onsite structure and all wastes had been removed from the site by March 6, 2020. In total, 22.03 tons of tires were disposed off-site. Abatement activities were officially cleared by a third party monitoring service on April 28, 2020 after final removal of some remaining floor mastic.

The RI was conducted to assess the nature and extent of contamination at the Site and consisted of:

- The collection and analysis of five surface soil samples focusing on the grass covered area on the east of the property,
- The advancement of 11 soil borings and collection and analysis of 21 subsurface soil samples,
- The excavation of two test pits
- The performance of two rounds of groundwater sampling in monitoring wells installed in previous investigations

Soil and groundwater samples were analyzed for a combination of volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), metals, and per- and polyfluoroalkyl substances (PFAS).

In addition to the sampling completed during the RI, sampling data was used from the previous Phase II ESA Investigations to characterize and delineate soil contamination surrounding the existing building. Phase II ESA sampling consisted of the following:

- Installation of three monitoring wells (Panamerican 2014)
- Collection and analysis of four subsurface HFM samples: BH-3, BH-4, BH-9, and BH-11 (Panamerican 2014)
- Completion of an additional 32 soil borings and installation of four additional monitoring wells (C&S 2017)
    - Soil samples surrounding BH-4 and BH-9 (Panamerican 2013) were further characterized through delineation samples within the HFM

Contamination exceeding soil cleanup objectives (SCO) appropriate for the proposed Site use (Commercial Use) was identified and the contamination is generally associated with historic fill material (HFM) located at the site. HFM contamination exceeding SCOs applicable to the intended use of the site include metals and some SVOCs. One marginal groundwater exceedance of a CVOC has been detected in one onsite monitoring well. The RI is discussed in further detail in Section 2.5. **Figure 4** shows the locations of samples collected during the RI.

Additionally, radiological impacted soils were encountered beneath the parking lot on the northwestern side of the Site. A recent walkover survey has delineated the impacted soils with the highest radiological measurements to an approximate 40 by 40 foot area (**Figure 9**). It should be noted that this area is intended to be remediated in conjunction with the recommended remedial alternative through removal and proper disposal in accordance with all local, state, and federal regulations. The remediation of said radiological material is being completed by the applicant under their own accord, and is not considered a part of the recommended remedial alternative nor is it being required by the NYSDEC under the BCP.

2 PROJECT BACKGROUND

2.1 Site Description

The Site is comprised of one parcel: 4435-4445 Military Road (SBL: 131.10-2-29).

The BCP Site is located in the northern portion of the Town of Niagara, Niagara County, New York. The Site is approximately 1.15-acres and is owned by the Town of Niagara. Sweet Home Road is located to the north, Grauer Road is located to the south, Military Road is located to the west and Hermitage Street is located at a distance to the east. The site is bounded by residential properties and Military and Grauer Roads. Land uses immediately adjacent to the BCP Site include residential and commercial uses. Land uses immediately adjacent to the Subject Property are summarized in Table 2-1: Adjoining Properties below.

Table 2-1: Adjoining Properties

DIRECTION	LAND USE DESCRIPTION
North	Residential and Forested Area
South	Commercial (Scott Furniture & Interiors) and Residential
East	Residential
West	Commercial (Children of Niagara Child Care) and Residential

The former site buildings have been demolished and the lot is now empty. An asphalt parking lot covers the western two-thirds of the site and the former building concrete slab, while the remaining eastern third of the property is grass covered. The northeastern portion of the site contains a small wooded area.

The topography in the vicinity of the Subject Property is generally flat and slightly sloped to the southwest. The same is true of onsite drainage patterns. Site drainage generally slopes southwest towards a few storm water drainage inlets located along Military and Grauer Road.

The general geologic setting at the site shows native soils of silty clay loam. This soil type is naturally somewhat poorly drained and has very slow infiltration rates. Groundwater flow at the site appears to flow southwest across the site with groundwater elevations found at five to eight feet below ground surface.

Figure 1 shows the location of the Site and **Figure 2** shows the Site boundaries and identified pertinent site features.

2.2 Geology and Hydrogeology

2.2.1 Geology

Historic fill material (HFM) was generally observed across the Site from beneath the asphalt or topsoil surface to approximately one feet to three feet below ground surface (bgs). The HFM consists of a mixture of soil types (sand, silt and or clay), ash, coal, gravel, black sands, occasional slag, and construction demolition debris. HFM depths were noted to be deepest just outside the building footprint to three feet bgs and in the southwest corner of the property ending at 2 feet bgs. Beneath the HFM, native soils of brown clay were found as shallow as eight inches to one foot bgs; changing to brown clayey silts in the water bearing zones.

During the IRM removals of the automotive lifts within the concrete floor slab, native soils were found at approximately 8 inches to one-foot bgs. Native soils in this area were found directly below the concrete slab construction, with no indications of HFM present.

2.2.2 Hydrogeology

Groundwater on the site during RI investigations was found at depths of approximately five to eight feet bgs. Previous investigations call out depths ranging from ten to 13 feet bgs, which is most likely due to the dryer weather associated with the Phase II sampling months. Table 2-1 below presents the groundwater monitoring well measurements from the 2017 Phase II ESA and 2020 RI.

Table 2-2
Summary of Groundwater Monitoring Well Measurements

2017 Phase II			
Well ID	*Groundwater Depth (ft.)*	*Elevation (ft.)*	*Groundwater Elevation (ft.)*
MW-2[a]	10.08	599	588.92
MW-3[a]	11.63	600.86	589.23
MW-4[b]	12.12	600.81	588.69
MW-5 [b]	11.04	600.29	589.25
MW-6 [b]	11.43	599.51	588.08
MW-7 [b]	11.18	600.04	588.86
2020 Remedial Investigation			
Well ID	*Groundwater Depth (ft.)*	*Elevation (ft.)*	*Groundwater Elevation (ft.)*
MW-2[a]	NA	599	-

MW-3[a]	Full to TOC*	600.86	-
MW-4[b]	NA	600.81	-
MW-5 [b]	5.60	600.29	594.69
MW-6 [b]	7.20	599.51	592.31
MW-7 [b]	6.00	600.04	594.04
2021 Pre Design Investigation			
Well ID	*Groundwater Depth (ft.)*	*Elevation (ft.)*	*Groundwater Elevation (ft.)*
MW-3[a]	Full to TOC*	600.86	-

Notes:
a – 2014 Phase II installed well; b – 2017 Phase II installed well; NA – well not sampled/measured;
* - well seal apparently damaged found perched groundwater below asphalt seeping into well casing at bottom of flush mount collar seal; TOC – top of casing.

Based on the water levels found in the previous Phase II ESA report and the RI, groundwater appears to flow in a southwesterly direction across the site.

2.3 Site History

According to historical records, the Site was initially developed for commercial uses starting around 1960 uses before this time indicate vacant land. In the 1960s, the Site was used as a laundry, dry cleaner and barbershop. As the 1960s ended, portions of the building at the Site contained auto repair and a gas station. The use of the Site as an auto tire store and auto repair shop, dry cleaner, and barbershop continued throughout the 1980's with the addition of a pizza shop. The use of a portion of the site as a cleaner ended by 1994. The most recent use of the Subject Property included commercial use as Culbert's Wholesale Tire. Culbert's utilized the northern portion of the building at the Site for storage and the southern portion of the building for specialized auto equipment and repair. The property was foreclosed upon by Niagara County in 2018, and the Town of Niagara assumed ownership on October 11, 2018.

Prior to the beginning of the soil sampling activities of this RI, demolition and abatement activities and remedial efforts were completed at the Site. Demolition and abatement activities began at the Site on February 24, 2020. The Site structures were abated and demolished in accordance with applicable federal, state, and local regulations.

Following the demolition and disposal of the onsite structures, remedial efforts were undertaken on March 6, 2020. Remedial efforts included the removal of three automotive lifts found within the concrete slab, proper disposal of all abandoned tires, removal of a small AST, and proper disposal of abandoned fluid containers related to automotive repair. A summary of the IRM activities are discussed in Section 2.6.

2.4 Previous Investigations

Environmental information exists for the Site from a 2009 Phase I ESA completed by IYER, a 2014 Phase II ESA completed by Panamerican Environmental, as well as an additional 2017 Phase I and Phase II ESA completed by C&S Companies. The following provides a summary of those reports.

The 2014 Phase II ESA (Panamerican Environmental) included an inventory of containers requiring removal/disposal, a geophysical survey, advancement of 12 soil borings, installation of three groundwater monitoring wells, radiological screening, and the collection and analysis of eight soil samples and one round of groundwater analysis. The soil and groundwater samples were analyzed for US Environmental Protection Agency (EPA) Target Compound List (TCL) volatile organic compounds (VOCs), TCL semi-volatile organic compounds (SVOCs), pesticides, Target Analyte List (TAL) metals and polychlorinated biphenyls (PCB).

As part 2014 Phase II investigation, a Pre-Demolition Asbestos-Containing Materials and Lead-Based Paint Inspection was completed on the onsite buildings.

An additional Phase II ESA (C&S Companies) was completed in 2017 to provide further information on the RECs identified as a result of the 2017 Phase I ESA conducted by C&S Companies. The previous ESAs did not completely characterize and/or delineate the Site. The intent of the 2017 Phase II ESA was to complete the characterization of the environmental concerns relative to the Site. The Phase II ESA included a floor drain assessment, chemical inventory, the advancement of 39 soil borings, installation of four groundwater monitoring wells, and the collection and analysis of nine surface soil samples, 19 soil samples and one round of groundwater analysis from five wells. Surface and subsurface soil samples were analyzed primarily for TAL metals, while a subset of samples were analyzed for TCL VOCs and TCL SVOCs in the area known to contain the former pump island. The groundwater samples were analyzed for TCL VOCs, TCL SVOCs, and TAL metals. The Phase II ESAs are further described in Section 2.3.

The 2017 Phase II ESA has called out three areas of concern, or areas containing known contamination, will be herein referred to Areas 1 to 3:

Area 1: Metal contamination in the area of 2014 Phase II ESA soil boring BH-4

Area 2: Metal contamination in the area of 2014 Phase II ESA soil boring BH-9 location of former pump island

Area 3: Area identified in the 2014 and 2017 Phase II ESA to contain elevated radiation levels in the fill material

Analytical results and findings from the investigations are summarized in **Section 2.4.1** below.

2.4.1 Previous Investigation Findings

Historical records indicate the Site has been primarily associated with commercial uses throughout the 1900s. Various commercial tenants have occupied the property over time, including a former laundromat, gas station, and tire/auto repair shop. Records show dry cleaners on the property from the mid-1900s to the 1990s. The gas station and likely former pump island operated during the mid-1900s up to approximately the 1970s and were constructed on the southern portion of the Site at the corner of Military and Grauer Road. The tire and auto repair shop was located in the middle portion of the onsite buildings and has been noted to have used the rear portion of the building as a storage yard for used tires and associated auto repair materials.

For purposes of this discussion and to clarify previous sampling efforts, surface soils are considered to be 0 to 2 inches below grade, near surface soils to be 0 to 1 foot below grade, and subsurface soils to be below 1 foot below grade.

Radiological Impacts

Radiological impacts have been noted on the western portion of the Site. Material found within the urban fill in this area is believed to be the source of the impact. Based on gamma scintillation surveys, soils down to native clay are shown to exceed more than twice background in borings taken in the previous 2014 and 2017 Phase II ESAs. One boring, BH-10 noted readings up to 41,000 counts per minute (cpm) in the 2014 Phase II ESA. A more recent gamma scintillation survey completed with the assistance of the NYSDEC on July 2, 2021 has defined the highest radiological impacts to be located within a 35 x 35 foot area (**Figure 9**) on the western portion of the Site.

Surface Soil

Surface sampling investigations show the primary contaminants of concern to be metals. Surface soils were primarily impacted within Area 1; surrounding soil boring BH-4, and a few detections in one sample from each Area 2 (BH-9) and Area 3 (BH-11). Detections of metals included arsenic, cadmium, chromium, copper, lead, and zinc. Multiple surface samples within Area 1 exceeded Unrestricted Use SCOs for metals. The 2014 Phase II boring, BH-4 contained the highest metal exceedances with contraventions of the Residential, Restricted Residential, Commercial, and Industrial SCOs. The 2017 Phase II surface samples surrounding BH-4 attempted to delineate the extent of metal contamination through concentric outward sampling (BH-4A-SS through BH-4I-SS). BH-4A-SS noted exceedances of metals for arsenic, cadmium, copper, lead and, zinc; with arsenic and copper exceeding Commercial Use SCOs (**Figure 5a**).

Near Surface Soil

Near surface soil samples taken at depths of zero to one foot bgs show impacts of metals. Near surface soil impacts were noted in Area 2. The 2014 Phase II ESA sample BH-9, collected from one to three feet bgs, contained chromium levels exceeding Commercial Use SCOs. Additional delineation samples taken during the 2017 Phase II showed detects of chromium exceeding commercial SCOs at one foot bgs extending outward from the BH-9 boring location (**Figure 5a**).

Subsurface Soil

Previous investigation of the subsurface completed in the 2014 and 2017 Phase II ESAs show metal and SVOC contamination. Metal contamination exceeding SCOs has been found in the fill material from one to two feet bgs. Native soils below the fill material do not show exceedances of metals. Subsurface metal exceedances are primarily located in the front, southwestern corner of the property near BH-9 at depths of one foot to 2 feet below grade, or to native clay soils. Metal exceedances in the subsurface are for chromium, exceeding Commercial Use SCOs in the area of BH-9 and dropping to Unrestricted Use SCOs or non-detect in all directions further away from BH-9. BH-11 and BH-4 also have Unrestricted Use exceedances of metals at depths of one to three feet. The highest exceedances of chromium were around the area of BH-9 ranged from 3050 ppm to 4820 ppm, exceeding the Commercial Use SCO of 1500 ppm.

Radiological impacts were also noted in subsurface soil at Area 3 within urban fill material starting at a depth of 0.5 feet, to native clays at approximately two feet bgs.

Investigation of the supposed former pump island in the southwestern corner of the site (2016) showed elevated PID readings in various borings. Borings B-23, B-25, and B-25-10S contained the highest values. B-23 read 2,004 ppm at 14 feet bgs, B-25 read 638 ppm at 13 to 14 feet bgs, and B-25-10S read 1095 ppm at 13 to 14 feet bgs. PID values decreased in value further away from these locations. Petroleum-like odors were also noted at the time of sampling, but no visual staining or free product was observed. Because of the relatively higher PID readings at the time of sampling and the USEPA's involvement with this project via a Brownfield Assessment Grant, Niagara County elected to act conservatively and report the spill at the time of the investigation instead of waiting for the results. Samples for VOCs were taken in each of the boring zones exhibiting the high PID readings. Results of these samples were not indicative of a spill, nor exceed applicable SCOs. Exceedances of VOCs were found in one sample at BH-25 at a depth of six to seven feet below grade. VOCs at BH-25 only slightly exceed Unrestricted Use SCOs for ethylbenzene, m/p-xylene, and o-xylene. VOCs were not detected in the remaining borings around the former pump island.

The fill material across the site appears to be a mixture of soil types (sand, silt and or clay), ash, brick, gravel, and construction demolition debris. The native soil is a brown clay and clayey silt. General geological characteristics and fill depths of the three Areas are listed below:

Area 1 (BH-4 Area)

Fill material was observed from two inches to 10 inches below ground surface. BH-4 noted fill material to a depth of three feet along the building edge. Directly beneath the fill material was native clay.

Area 2 (BH-9 Area)

Soil borings were advanced in the parking lot on the eastern half of the Site. Asphalt thickness ranged from two-and-a-half inches to seven inches. Fill material was observed beneath the asphalt to 25 inches. Directly beneath the fill material was native clay.

Area 3 Radiological Fill Area

Soil borings were advanced in the parking lot on the eastern half of the Site. Asphalt thickness ranged from two-and-a-half inches to seven inches. Fill material was observed beneath the asphalt to one to two feet bgs. C&S confirmed that the top two feet of fill material located on-site contain slightly elevated levels of radiation, varying between two and seven times the background level. The highest borehole readings came from locations closer to Military Road. Directly beneath the fill material was native clay.

Groundwater

Groundwater wells on the Site were screened between approximately 5 to 15 feet bgs. One round of groundwater sampling was conducted during the 2014 Phase II ESA for monitoring wells MW-1, MW-2, and MW-3. Four additional monitoring wells MW-4, MW-5, MW-6, and MW-7 were installed during the 2017 Phase II ESA in which sampling was completed for the additional wells as well as a second round of sampling conducted at MW-2.

The following summarizes the results of the previous groundwater sampling:

- One groundwater sample in well MW-5 detected a single VOC above the NYSDEC TOGS 1.1.1 GA groundwater standards. 1,2-dichloroethane was detected at 3.5 ppm, slightly above the groundwater standard of 0.6 ppm. No VOC odors were recorded during either Phase II ESA investigation.
- No SVOCs were detected at concentrations above the NYSDEC TOGS 1.1.1 GA groundwater standards.

- The sample collected from MW-03 shows concentrations of the pesticides Aldrin and delta-BHC slightly above the NYSDEC TOGS 1.1.1 GA groundwater standards. However, these reported pesticide concentrations are low and listed as approximate: found below the laboratory quantitation limit, but greater than the Method Detection Limit (MDL). Groundwater in this area of Niagara County is not used as a source of drinking water and exposure to groundwater is unlikely given its depth. Additionally, these compounds were not detected in on-site soil samples.

Seven of the eight total groundwater samples on the property contained concentrations that exceeded NYSDEC TOGS 1.1.1 GA groundwater standards for metals. The exceedances of metals (aluminum, iron, lead, magnesium, manganese, and sodium) in groundwater has been attributed to the high turbidity levels at the time of sampling.

2.5 Summary of Remedial Investigation and Pre Design Investigation

2.5.1 Remedial Investigation Findings

The RI was conducted to assess the nature and extent of contamination at the Site and consisted of:

- The collection and analysis of five surface soil samples focusing on the grass covered area on the east of the property,
- The advancement of 11 soil borings and collection and analysis of 21 subsurface soil samples,
- The excavation of two test pits
- The performance of two rounds of groundwater sampling in monitoring wells installed in previous investigations
- The collection of quality assurance / quality control (QA / QC) samples

Soil and groundwater samples were analyzed for a combination of volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), metals, and per- and polyfluoroalkyl substances (PFAS).

Contaminant concentrations exceeding Commercial Use SCOs were identified and, generally, the contamination is associated with HFM at the Site. Constituents in the HFM that exceed Commercial Use SCOs generally include metals and one SVOC. In total, seven sample locations have been shown to exhibit exceedances of Commercial Use SCOs across the property. Two of these sample locations have been identified and previously delineated in the 2017 Phase II ESA. In addition, one

marginal exceedance of a CVOC in groundwater has been identified. The following bullets summarize the results of the RI:

- A combination of metals and an SVOC (benzo(a)pyrene) were identified at concentrations greater than Commercial Use SCOs at various locations across the site in surface and/or subsurface soils that contained HFM.
- Surface soil sample results indicate exceedances of various metals such as arsenic, barium, cadmium, copper, mercury, and zinc above Commercial Use SCOs along the eastern side of the property at three locations.
- Subsurface soil sample results indicate exceedances of metals (mercury and chromium) and an SVOC (benzo(a)pyrene) in various locations across the western portion of the site. These exceedances appear to be only within the HFM, as native soils sampled below the HFM do not show Commercial Use exceedances.
- Groundwater sampling completed at MW-05 show impacts of the CVOC 1,2-dichloroethene marginally exceeding TOGS 1.1.1 guidance values.
- Two soil vapor samples were collected on the western and southwestern boundary (downgradient) of the site. The results of the downgradient soil vapor sampling detected gasoline related VOCs in on-site soil vapor. The detected soil vapor constituents have the potential to migrate off-site.
- Previous Phase II ESA findings also indicate an area of radiologically impacted soils show within HFM in the northwestern portion of the site along Military Road.

Figures 4 through **Figure 5b** and **Tables 1** through **Table 6** summarize the results of the RI for each medium investigated.

2.5.2 Pre-Design Investigation Findings

A Pre-Design Investigation (PDI) Work Plan was submitted to the NYSDEC and approved on February 9, 2021. The PDI Work Plan outlined the sampling protocols that were followed to delineate the hotspots found during the RI sampling efforts. Additionally the PDI required the sampling of monitoring wells MW-03, TMW-08, and TMW-09 to determine chromium impacts to groundwater. **Figure 6** presents the location of the hotspots. Because two of the hot spots had been delineated during previous investigations, the objective of the PDI was to completely delineate the excavation extents of the remaining hot spots and use this information to finalize this RAWP for the Site. Results from the delineation soil sampling are presented on **Table 2c** and can be seen on **Figure 7**. The following bullets summarize the results of the PDI:

- Delineation sampling completed at boring B04, B06, B09, and B14 indicated that the extent of contamination extends outward two feet in every direction, covering a 16 square foot area at each location.

- Delineation sampling completed at boring B01 indicated that the extent of chromium contamination exceeding Commercial Use SCOs and hexavalent chromium exceeding Protection of Groundwater SCOs extends outward, covering a 36-square-foot area surrounding the boring location.
- Delineation sampling for chromium was unable to fully define the extent of contamination in the north, east, and south directions. Chromium samples were detected to exceed Commercial Use SCOs out to the final, eight-foot radial sample location in the north, south, and east directions. Observations at the time of field work noted a white, chalky like substance extending out in all directions from B03. The white material was noted to exist in the north, east, and south directions past the eight-foot radial sample distance. Chromium was detected at levels below Commercial Use in the western direction at a six-foot radial distance where materials were found to change to crushed No. 02 stone in what appeared to be the DOT right-away.
- Three additional samples were collected at B03 and analyzed for hexavalent chromium at the delineation sample locations with the highest chromium detections; B03-2S, B03-4S, and B03-4W. The samples detected results of hexavalent chromium below Commercial use SCOs, but above Protection of Groundwater SCOs (Table 2d).
- Hexavalent chromium was detected at levels exceeding guidance values in all wells sampled during the PDI. MW-03 detected hexavalent chromium at concentrations exceeding the guidance value by two orders of magnitude, while TMW-08 and TMW-09 detected concentrations marginally exceeding the guidance value of 0.05 mg/l at 0.12 and 0.40 ug/L, respectively.

Pre-Design Investigation sampling has revealed that chromium and hexavalent chromium are contaminants of concern at the Site. Chromium and hexavalent chromium contamination is considered to be a concern in the northwest and southwest portions of the site (B01 and B03), but is a function of the existing HFM found in the top one to two feet in these areas. Removal of the HFM (source material) will thus alleviate groundwater contamination.

2.6 Summary of Interim Remedial Measures

Prior to the RI activities, various wastes and possible sources of contamination were identified in and around the Site structure. The wastes included large stockpiles of tires, various accumulated liquid and solid wastes associated with automotive services, an above ground petroleum storage tank, and three in-ground automotive lifts. To allow full-site access and accurately complete the RI, these items became part of an IRM that was completed prior to the RI. The IRM included the following:

- Removal and off-site disposal/recycling of all on-site tires
- Disposal of fluids in containers within the auto repair station
- Removal of aboveground petroleum storage tank
- Removal of in-ground automotive lifts and disposal of associated fluids

Disposal activities of the wastes described above began on February 13, 2020. A total of 22.33 tons of tires were disposed off-site at Modern Disposal Landfill located at 1445 Pletcher Rd, Model City, New York. Fluids found in abandoned containers in the auto repair garage and the onsite AST were consolidated and properly disposed. Demolition and abatement activities were completed for the onsite structure on March 5, 2020, which allowed access and removal of the three in ground automotive lifts on March 6, 2020. One of the three automotive lifts removed was found to contain approximately 10 gallons of hydraulic lift oil, and was drained into a 55-gallon drum onsite. This oil was sampled and tested for PCBs. PCB results indicated the presence of PCB-1260 at 4.03 mg/kg and were deemed safe to dispose of as Non RCRA, Non DOT Regulated Hydraulic Oil. Upon receipt of the PCB sample results and coordination with the disposal contractor, all of the oils previously collected from the onsite AST, fluid containers, and automotive lift were consolidated into one 55-gallon drum, totaling 15 gallons. The consolidated fluids were disposed of properly as Non RCRA, Non DOT Regulated Hydraulic Oil on May 11, 2020 at Chemical Solvents Inc. in Cleveland Ohio. The empty AST and three empty hydraulic lifts were recycled at Metallico Buffalo, Inc. in Buffalo, New York.

3 REMEDIAL ACTION WORK PLAN

This is the Remedial Action Work Plan (RAWP) for the Site. This RAWP is based on the data collected during the RI and PDI of the Site and the recommended final remedial approach for the Site proposed in the Alternatives Analysis Report (AAR).

Because the Site is currently zoned for commercial activities and the Town (applicant) intends to sell this parcel, after completion of the BCP, to a commercial developer, the proposed future use has been defined as Commercial Use. This RAWP identifies the controls to be applied with respect to the remediation of the Site and how the actions will successfully achieve Commercial Use SCOs and Protection of Groundwater SCOs (at specific locations).

3.1 Introduction

As summarized in the AAR, the recommended final remedial approach for the Site is the Track 4 (Commercial Use) – Selective Fill Removal remedy, which includes the following ECs / ICs:

- Removal and disposal of urban fill down to native clays in the areas with contraventions of the Commercial Use SCOs
- Removal and disposal of urban fill down to native clays in the areas of B01 and B03 with contraventions of Protection of Groundwater SCOs
- Placement of clean fill material meeting applicable DER-10 guidelines within the areas of excavation to bring the excavation areas back up to grade
- The placement of Institutional Controls on the Site, including:
    - Placing an Environmental Easement on the Site that limits future site use to commercial or industrial uses
    - Requirements for the development and adherence to a Site Management Plan (SMP) that includes the following:
        - A soil handling and management plan
        - A requirement for future building construction to include a soil vapor study to determine possible vapor intrusion impacts and/or the installation of an SSDS prior to building occupancy
        - An annual groundwater monitoring program
        - Annual inspections
        - Annual Periodic Review Reporting

Monitoring wells not included in the groundwater monitoring program will be decommissioned in accordance with the Department's CP-43: Groundwater Monitoring Well Decommissioning Policy.

This remedy is protective of human health and the environment, and is implementable in one construction season. This remedy utilizes a focused

excavation approach to eliminate potential exposure pathways and fully satisfies the Remedial Action Objectives (RAOs) for the Site, as described below.

3.2 Remedial Action Objectives

Remedial Action Objectives (RAOs) are medium-specific objectives for the protection of public health and the environment and are developed based on contaminant-specific standards, criteria, and guidance (SCGs) established by NYSDEC and/or New York State Department of Health (NYSDOH). Remedial Action Objectives (RAOs) have been developed for the Site in each environmental medial where contamination is present. The RAOs are listed below:

Soil RAOs

The RAOs for soil used in this RAWP are:

- RAOs for Public Health Protection
  - Prevent ingestion/direct contact with contaminated soil.
  - Prevent inhalation exposure to contaminants volatilizing from soil.
  - Prevent inhalation exposure of contaminants though soil vapor intrusion within future on-site buildings.
  - Prevent further contamination to groundwater through removal of identified source areas.

- RAOs for Environmental Protection
  - Prevent migration of contaminants that would result in groundwater or surface water contamination.
  - Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

Groundwater RAOs

The RAOs for groundwater used in this RAWP are:

- RAOs for Public Health Protection
  - Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards; and
  - Prevent contact with, or inhalation of, volatiles from contaminated groundwater.
- RAOs for Environmental Protection
  - Restore groundwater aquifer to pre-disposal / pre-release conditions, to the extent practicable.
  - Prevent the discharge of contaminants to surface water.

- Remove the source of ground or surface water contamination.

Soil Vapor RAOs

The RAOs for soil vapor used in this RAWP are:

- RAOs for Public Health Protection
  - Mitigate impacts to public health resulting from or the potential for, soil vapor intrusion into future buildings constructed at the site.

3.3 Site Control

Site control is an important aspect of this remedial program. In order to safeguard the health and safety of site workers and the general public, access to all remedial work areas will be restricted. Perimeter fencing will be installed to facilitate site control. Additionally, temporary construction fencing will be erected around accessible excavations and staging areas to prevent unauthorized personnel from entering these areas.

3.4 Site Preparation

Site preparation activities include:

- Installation of perimeter fencing.
- Installation of temporary fencing to restrict access to remedial work areas.

3.5 Excavation

As discussed previously, HFM is present across the majority of the Site. Portions of the HFM have been shown to exhibit concentrations of metals and an SVOC above Commercial Use SCOs. Additional sampling in areas B01 and B03 have raised concern of hexavalent chromium impacting groundwater. These areas will be excavated based on delineation sampling results below Protection of Groundwater SCOs. The underlying native material meets at a minimum, the Commercial Use and Protection of Groundwater SCOs. **Figure 9** depicts the excavation extents of all eight hotspots discovered during investigative sampling. Two of the hot spots were previously delineated during the 2017 Phase II ESA (**Figure 5a** and **5b**), and the Pre-Design Investigation was used to delineate the remaining hot spots (**Figure 7 & Table 2d**), except for sample location B03, prior to the development of the recommended alternative (**Figure 9**).The remaining hot spot at B03 has not been fully delineated in the north, south, and east directions. The estimated extents of excavation surrounding B03 in the north, south, and east directions are shown on **Figure 9.** Confirmatory samples for these directions will be taken once removal of the asphalt surface in the area has been completed during excavation activities.

Earthwork will be conducted consistent with the attached EWP. The EWP is provided as **Appendix A**. The Health and Safety Plan (HASP) is provided as **Appendix A**. The EWP requires, but is not limited to:

- Oversight / observance of work by an environmental scientist or engineer
- Proper screening and testing of soil / HFM
- Dust and VOC controls
- Stormwater pollution prevention controls
- Soil stockpile and loading controls
- Inspections
- Good housekeeping
- Trucking permits and approved trucking routes

3.6 Backfilling

Excavations at the Site will be backfilled with material such as clean soil, crushed stone, and / or clean pulverized asphalt or concrete to an elevation to facilitate construction of the Site.

For each source of backfill that is imported to the Site, one of the following will be completed prior to importing the backfill.

a. Documentation will be provided to NYSDEC as to the source of the material and the consistency of the material in accordance with the exemption for no chemical testing listed in DER-10 Section 5.4(e)(5); **OR**

b. Chemical testing will be completed in accordance with the following table:

Table 3-1
DER-10 5.4(e)10

<table>
<tr><td colspan="4">Recommended Number of Soil Samples for Soil Imported To or Exported From a Site</td></tr>
<tr><td>Contaminant</td><td>VOCs</td><td colspan="2">SVOCs, Inorganics & PCBs/Pesticides</td></tr>
<tr><td>Soil Quantity (cubic yards)</td><td>Discrete Samples</td><td>Composite</td><td>Discrete Samples/Composite</td></tr>
<tr><td>0-50</td><td>1</td><td>1</td><td rowspan="8">3-5 discrete samples from different locations in the fill being provided will comprise a composite sample for analysis</td></tr>
<tr><td>50-100</td><td>2</td><td>1</td></tr>
<tr><td>100-200</td><td>3</td><td>1</td></tr>
<tr><td>200-300</td><td>4</td><td>1</td></tr>
<tr><td>300-400</td><td>4</td><td>2</td></tr>
<tr><td>400-500</td><td>5</td><td>2</td></tr>
<tr><td>500-800</td><td>6</td><td>2</td></tr>
<tr><td>800-1000</td><td>7</td><td>2</td></tr>
<tr><td>1000</td><td colspan="3">Add an additional 2 VOC and 1 composite for each additional 1000 Cubic yards or consult with DER</td></tr>
</table>

Taken from DER-10 - Table 5.4(e)10

Imported fill will be tested for 1,4-dioxane and PFAS. 1,4-dioxane and shall be sampled as discrete samples per the above table. PFAS shall be sampled as composite samples per the table above.

For materials that must undergo laboratory analytical testing, the results for each new source of fill will meet the values provided in Appendix 5 of DER-10 for Commercial Use and will receive approval by the NYSDEC prior to being imported to the Site.

On-site soil which does not exceed the above excavation criteria may be used to establish the designed grades at the site. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site, as necessary.

3.7 Air Monitoring

When intrusive subsurface work is being performed at the Site, the CAMP included in **Appendix C** will be implemented.

The action threshold for VOCs established in the CAMP is 5 ppm above background. If this value is exceeded for the 15-minute average work will be halted and work may resume once instantaneous readings fall below 5 ppm. The action level for dust is 100 ($\mu g/m^3$) over background during a 15-minute average. If this limit is exceeded, dust suppression techniques will be employed, including using water to wet the area.

Community air monitoring data will be provided to the NYSDOH and Department project managers on a weekly basis. The project managers will be notified immediately of any exceedances, the reason for the exceedance, and a description of any mitigation actions taken.

3.8 Erosion and Dust Controls

As part of the remedial actions to be performed at the Site, measures will be needed to limit erosion and dust generation. Erosion control and dust suppression techniques will be employed as necessary to limit erosion and fugitive dust generated in disturbed areas during remediation and redevelopment activities. Such techniques may be employed even if the community air monitoring results indicate that particulate levels are below action levels. Techniques may include but are not limited to:

- Using silt fencing, hay bales, and / or mulching
- Applying water on haul roads and ingress / egress points

- Wetting equipment and excavation surfaces
- Hauling materials in properly tarped or watertight containers
- Limiting vehicle speed on the Site
- Limiting the size of excavations
- Covering excavated areas and materials following excavation

Effectiveness of the dust suppression measures will be evaluated based on the results of the air monitoring that will be conducted under the CAMP provided in **Appendix C**.

3.9 Confirmatory Sampling

The RI and subsequent PDI determined the nature and extent of contamination on the Site and sufficient data was generated to allow for soil removal that will not require confirmatory sampling, except in the area of B03 as specified in **Section 3.6** above. Therefore, confirmatory sampling is not expected outside of the B03 excavation. However, if while implementing the remedy or performing future development work, soil contamination is discovered that differs from that identified during the RI and PDI, confirmatory sampling may be considered in light of the requirements of DER-10, or in consultation with the Department.

3.9.1 Boring B03 Confirmatory Sampling

As discussed in **Section 3.6**, sampling completed surrounding boring B03 was unable to delineate the extents of chromium contamination in the north, south, and east directions within the eight foot radius as shown on **Figure 7**. Contamination in this area appears to be linked to HFM described as a white chalky material within the RI. The HFM material appears to be a source of contamination for groundwater based upon down gradient groundwater sampling results. **Figure 9** depicts the estimated extents of contamination surrounding B03 based upon nearby sampling data.

Soil samples will be collected from each sidewall at the hotspot remediation. Native clays were previously sampled during the RI and have been shown to exceed only Unrestricted Use SCOs, and thus will serve as the excavation depth limit. Samples collected from these locations will be compared to NYSDEC Protection of Groundwater SCOs. Confirmatory samples with concentrations below Protection of Groundwater SCOs will show that the hotspot remediation was successful removing contaminants of concern in the fill material. At this time, up to 15 samples, one sidewall sample for every 30 linear feet (following NYSDEC DER-10 protocol), will be collected and analyzed for the following:

- Hexavalent chromium

At this time, the horizontal and vertical extents are assumed until confirmatory soil samples are collected and results indicate the contaminants of concern are below Protection of Groundwater SCOs. If the concentration of contaminants exceed Protection of Groundwater SCOs, then additional material will be removed from the sidewalls of the excavation. This process will be repeated until the contaminants of concern are below Protection of Groundwater SCOs.

3.10 In-place Cover System

Figure 10 shows the Site-Wide Cover System to remain in place post excavation. All existing hardscape is planned to remain in place unless required to be removed as a part of the proposed remedy. This includes the existing asphalt parking lot and remaining concrete building slabs. The existing one-foot soil cover on the eastern side of the parcel is also planned to remain in place. **Figure 10** illustrates the locations of all excavation locations. These areas will all be excavated to depths one to two feet bgs, or to native clays and backfilled with approved imported stone.

3.11 Contingent Soil Vapor Mitigation

Recent soil vapor sampling was completed along the western and southwestern boundary (downgradient) of the site. The results of the downgradient soil vapor sampling detected gasoline related VOCs in on-site soil vapor. The detected soil vapor constituents have the potential to migrate off-site.

An Offsite Exposure Assessment at the adjacent daycare facility has been deemed necessary by the NYSDEC and NYSDOH. This Assessment will include the collection of soil vapor and indoor air samples to assess the possibility of gasoline related VOCs migrating from the BCP Site and effecting indoor air at the daycare. This assessment work is to be completed in conjunction with the proposed soil remediation discussed within this RAWP. Should the results of the Offsite Exposure Assessment indicate that gasoline related VOCs are impacting the daycare and are in connection with the BCP Site, an addendum to this RAWP will be issued outlining the soil vapor mitigation that will be necessary on the western boundary of the Site.

3.12 Quality Assurance / Quality Control

Quality Assurance / Quality Control (QA/QC) samples will be collected based on the minimum number of samples per media type defined in the previously approved Remedial Investigation Work Plan.

3.13 Schedule

It is assumed that NYSDEC will promptly review this Work Plan. Below is an anticipated schedule of milestones for the remediation of the Site.

Anticipated Date	Milestone
Late January 2021	Remedial Action Work Plan Submission
Mid February 2021	RAWP Approved
Late February 2021	Remedial Work Begins
Early March 2021	Remedial Work Ends
Early June 2022	Final Engineering Report Submission
Early July 2022	FER Approved
Early June 2022	Site Management Plan (SMP) Submission
Early July 2022	SMP Approved

3.14 Final Engineering Report

Upon completion of the work described within this RAWP, a Final Engineering Report will be developed documenting the conformance and implementation of the approved RAWP. All documents and data generated as a part of the RAWP will be submitted in accordance with DER protocols. The FER will be certified by a Professional Engineer in accordance with DER10-1.5(b)(4). All as-builts presented in the FER will be stamped by a licensed professional engineer.

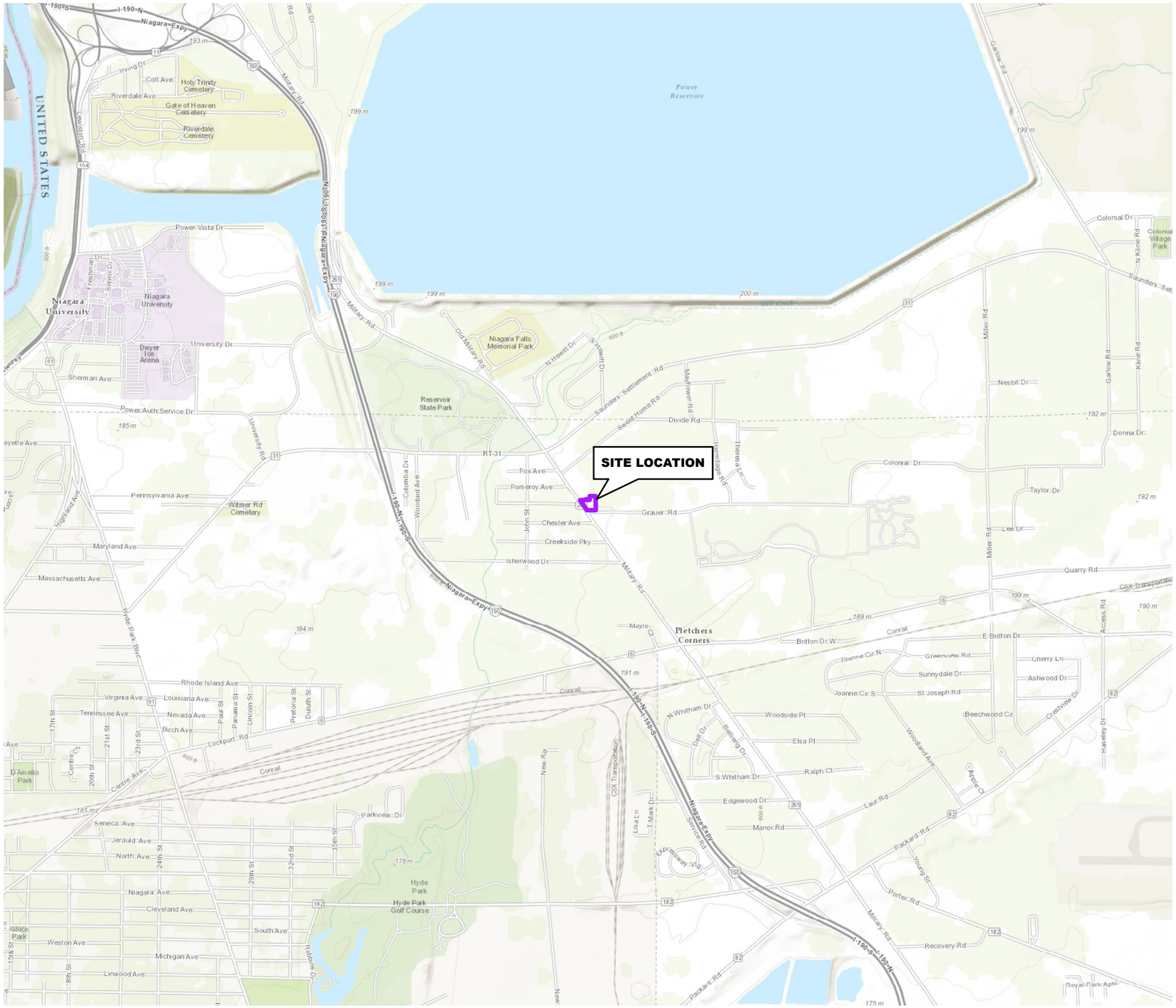
3.15 Evaluation

It is important to assess the effectiveness of the implementation of the RAWP. Measures to determine the short-term and long-term success of the remedy, include, but may not be limited to the following:

- Groundwater monitoring
- Ongoing O&M of ECs
- Site control

The evaluation criteria for these items are currently under consideration and will be detailed in the final SMP.

Figures



LEGEND

PROPERTY BOUNDARY

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REMEDIAL INVESTIGATION IRM AND ALTERNATIVE ANALYSIS REPORT
TOWN OF NIAGARA, NEW YORK

MARK	DATE	DESCRIPTION

REVISIONS

PROJECT NO:	Q47.001.001
DATE:	FEBRUARY 22, 2016
DRAWN BY:	C. MARTIN
DESIGNED BY:	C. MARTIN
CHECKED BY:	M. COLMERAUER

SITE LOCATION

FIGURE 1

Path: F:\Project\Q47 - Niagara County Dept of Economic Development\Planning-Study\GIS\SITE LOCATION.mxd

Legend

- 2013 SOIL BORING LOCATIONS
- 2016 SOIL BORING LOCATIONS
- 2017 SOIL BORING LOCATIONS (FORMER PUMP ISLAND INVESTIGATION)
- 2013 GROUNDWATER MONITORING WELLS
- 2016 GROUNDWATER MONITORING WELLS
- PROPERTY BOUNDARY
- RECONGIZED ENVIRONMENTAL CONDITION (REC) AREA

0 20 40 80 Feet

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TOWN OF NIAGARA, NEW YORK

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REVISIONS

PROJECT NO:	249.006.001
DATE:	11/26/2018
DRAWN BY:	A. DEMARCHI
DESIGNED BY:	A. DEMARCHI
CHECKED BY:	D. RIKER

SITE DETAIL

FIGURE 2

Legend

- CONTAINS ANALYTES ABOVE UNRESTRICTED USE BUT BELOW COMMERCIAL USE SCOS
- CONTAINS ANALYTES ABOVE COMMERCIAL USE SCOS

SAMPLE RESULTS KEY:
SAMPLE ID
SAMPLE DATE

ANALYTE - CONCENTRATION

Notes

1) ONLY ANALYTES EXCEEDING UNRESTRICTED USE SCOS, AT A MINIMUM, ARE SHOWN.

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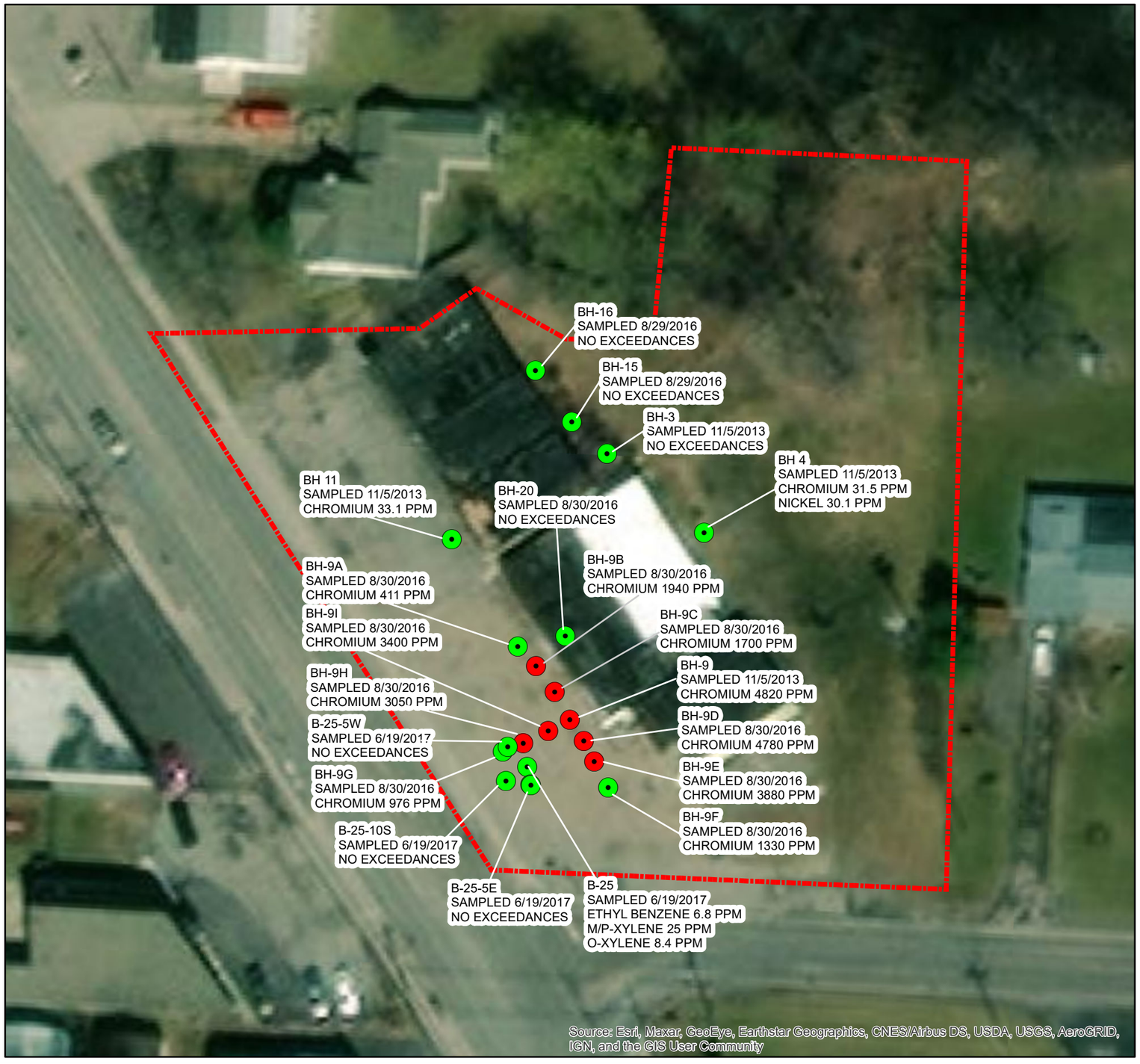
CHECKED BY:	D. RIKER

PREVIOUS PHASE II

SURFACE SOIL SAMPLE RESULTS

FIGURE 3A



Legend

- CONTAINS ANALYTES ABOVE UNRESTRICTED USE BUT BELOW COMMERCIAL USE SCOS
- CONTAINS ANALYTES ABOVE COMMERCIAL USE SCOS

SAMPLE RESULTS KEY:
SAMPLE ID
SAMPLE DATE

ANALYTE - CONCENTRATION

Notes

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PREVIOUS PHASE II

SUB SURFACE SOIL SAMPLE RESULTS

FIGURE 3B

Legend

- 2013 SOIL BORING LOCATIONS
- 2013 GROUNDWATER MONITORING WELLS
- 2016 GROUNDWATER MONITORING WELLS
- RI NEAR SURFACE & SUBSURFACE SAMPLING LOCATIONS (BELOW PAVED AREAS)
- RI SURFACE, NEAR SURFACE, & SUBSURFACE SAMPLING LOCATIONS
- RI AUTOMOTIVE LIFT SAMPLING LOCATIONS
- SOIL VAPOR WELL SAMPLING POINTS
- RI SURFACE / NEAR SURFACE SAMPLING LOCATIONS TO INCLUDE PFAS/PFOAS
- RI GROUNDWATER SAMPLING LOCATIONS
- AUTOMOTIVE LIFT LOCATION
- 275-GALLON WASTE OIL TANK

0 20 40 80 Feet

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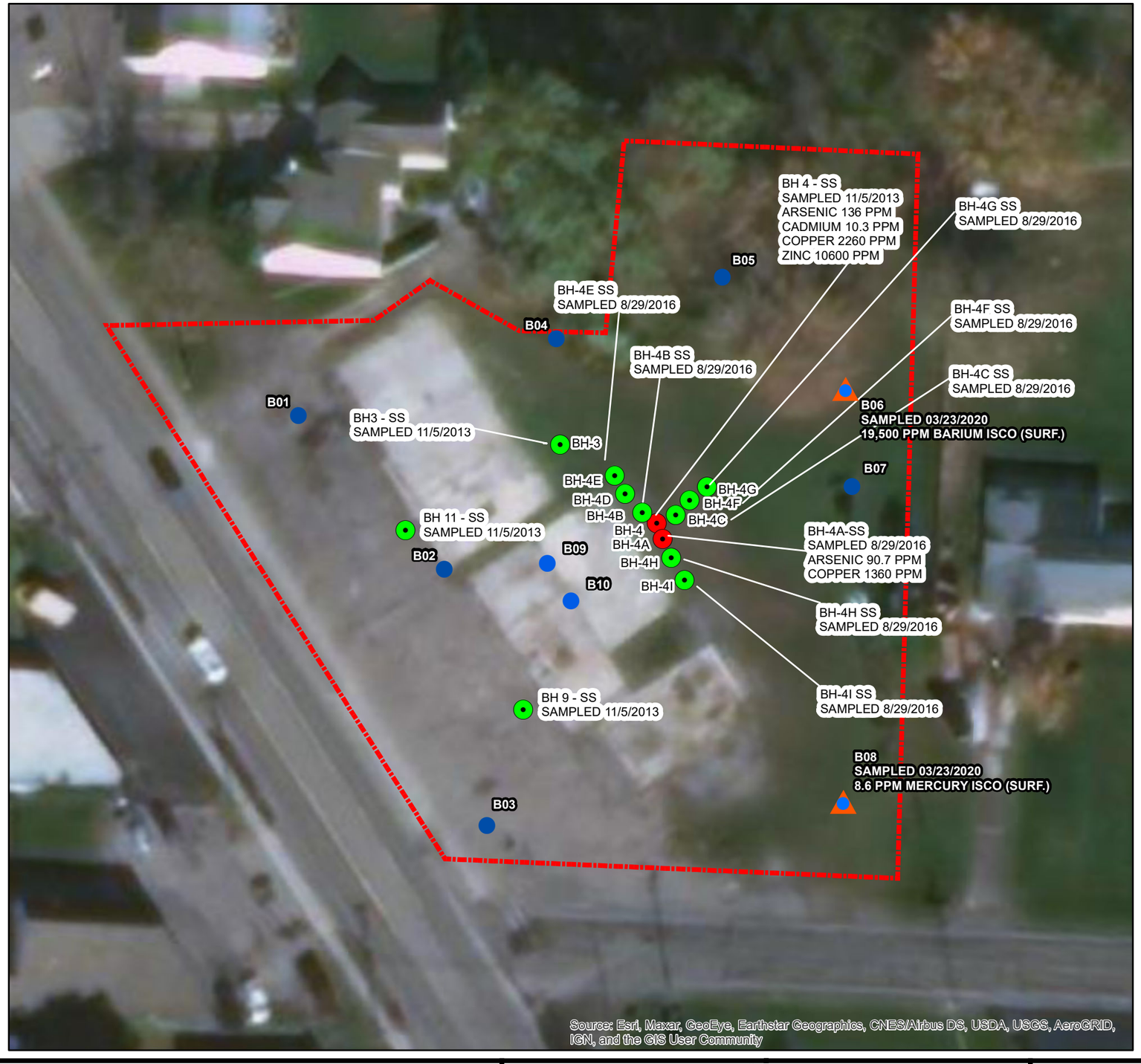
RI SAMPLE & IRM LOCATION MAP

FIGURE 4



Legend

- RI SURFACE SAMPLE LOCATIONS CONTAINING ANALYTES ABOVE COMMERCIAL USE SCO
- RI SUBSURFACE SOIL SAMPLES

PREVIOUS PHASE II SAMPLE LOCATIONS

- CONTAINS ANALYTES ABOVE UNRESTRICTED USE BUT BELOW COMMERCIAL USE SCOS
- CONTAINS ANALYTES ABOVE COMMERCIAL USE SCOS

SAMPLE RESULTS KEY:
SAMPLE ID
SAMPLE DATE

ANALYTE - CONCENTRATION

Notes

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DATE:	11/26/2018
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CHECKED BY:	D. RIKER

SURFACE SOIL SAMPLING RESULTS

FIGURE 5A

Legend

- RI SUBSURFACE SAMPLE LOCATIONS CONTAINING ANALYTES ABOVE COMMERCIAL USE SCO
- RI SUBSURFACE SOIL SAMPLES

PREVIOUS PHASE II SAMPLE LOCATIONS

- CONTAINS ANALYTES ABOVE UNRESTRICTED USE BUT BELOW COMMERCIAL USE SCOS
- CONTAINS ANALYTES ABOVE COMMERCIAL USE SCOS

SAMPLE RESULTS KEY:
SAMPLE ID
SAMPLE DATE

ANALYTE - CONCENTRATION

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PROJECT NO:	249.006.001
DATE:	11/26/2018
DRAWN BY:	A. DEMARCHI
DESIGNED BY:	A. DEMARCHI
CHECKED BY:	D. RIKER

SUB SURFACE SOIL SAMPLE RESULTS

FIGURE 5B

Legend

- SURFACE SOIL DELINEATION LOCATION
- SUB-SURFACE SOIL DELINEATION LOCATION
- ADDITIONAL RI SAMPLE (METAL & SVOC ANALYSIS)
- ADDITIONAL RI SAMPLE (PART 375 ANALYSIS SUITE)

Labels

B06	- SAMPLE ID
SURFACE	- SAMPLE DEPTH
BARIUM 19,500 PPM	- CONCENTRATION EXCEEDING COMMERCIAL USE SCO

Horizontal Delineation Extents

8'
6'
4'
2'

Notes

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0 20 40 80 Feet

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DATE:	5/18/2021
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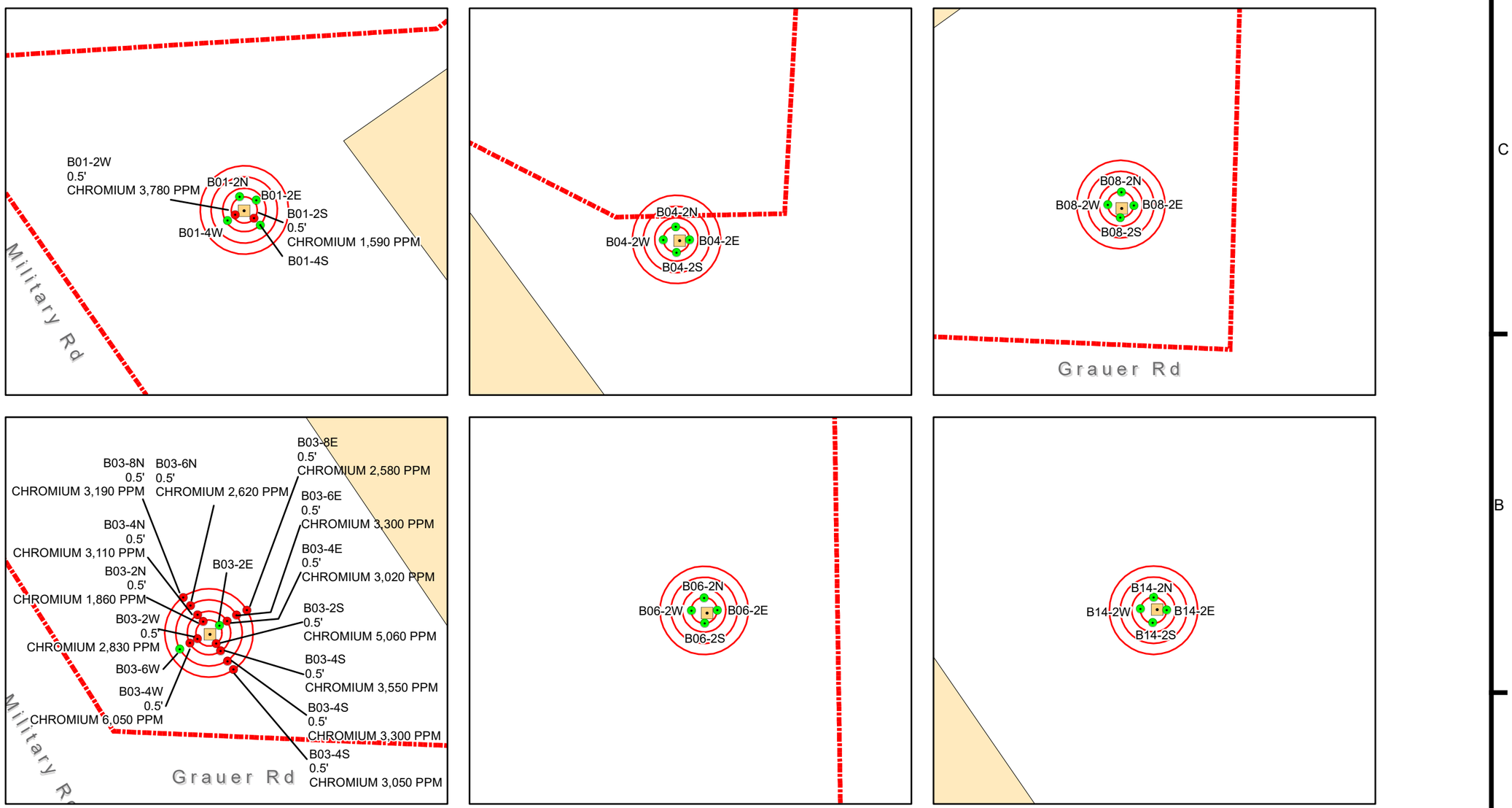
PDI SAMPLE LOCATION MAP

FIGURE 6



Legend

- CONTAINS ANALYTES ABOVE UNRESTRICTED USE BUT BELOW COMMERCIAL USE SCOS AND/OR PROTECTION OF GROUNDWATER SCOS (FOR CR6)
- CONTAINS ANALYTES ABOVE COMMERCIAL USE SCOS OR PROTECTION OF GROUNDWATER SCOS (FOR CR6)
- FORMER BUILDING FOOTPRINT

Labels

B03-6E - SAMPLE ID
0.5' - SAMPLE DEPTH
CHROMIUM 3,300 PPM - CONCENTRATION EXCEEDING COMMERCIAL USE SCO

Horizontal Delineation Extents

8'
6'
4'
2'

0 10 20 40 Feet

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PDI SOIL SAMPLE RESULTS

FIGURE 7

Legend

- 2013 GROUNDWATER MONITORING WELLS
- 2016 GROUNDWATER MONITORING WELLS

2017 Phase II

Well ID	*Groundwater Depth (ft.)*	*Elevation (ft.)*	*Groundwater Elevation (ft.)*
MW-2	10.08	599	588.92
MW-3	11.63	600.86	589.23
MW-4	12.12	600.81	588.69
MW-5	11.04	600.29	589.25
MW-6	11.43	599.51	588.08
MW-7	11.18	600.04	588.86

0 20 40 80 Feet

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CHECKED BY:	D. RIKER

2017 GROUNDWATER CONTOUR

FIGURE 8A

Legend

- 2013 GROUNDWATER MONITORING WELLS
- 2016 GROUNDWATER MONITORING WELLS

2020 Remedial Investigation

Well ID	*Groundwater Depth (ft.)*	*Elevation (ft.)*	*Groundwater Elevation (ft.)*
MW-2	NA	599	-
MW-3	Full to TOC	600.86	-
MW-4	NA	600.81	-
MW-5	5.6	600.29	594.69
MW-6	7.2	599.51	592.31
MW-7	6	600.04	594.04

0 20 40 80 Feet

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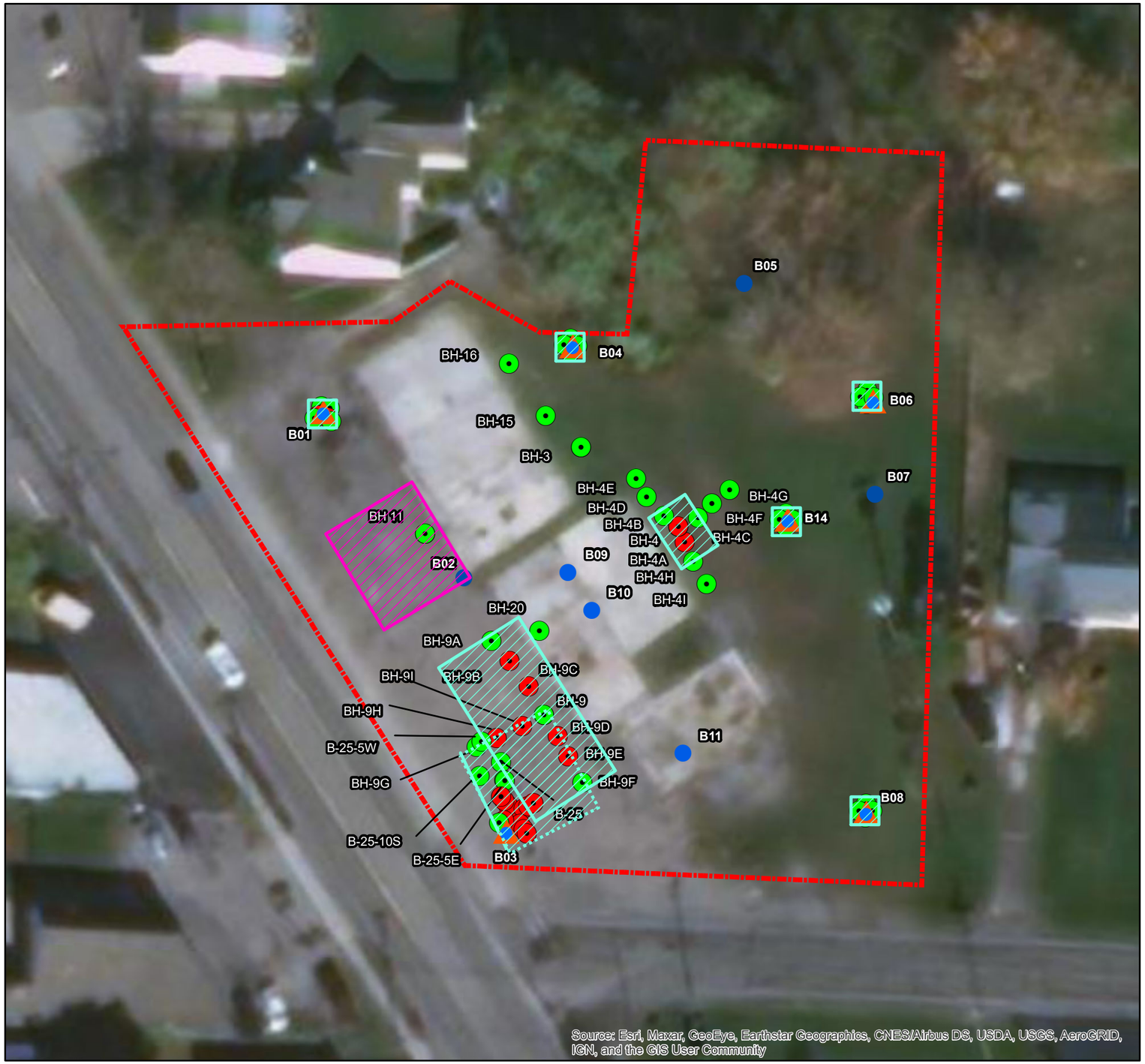
PROJECT NO:	249.006.001
DATE:	05/09/2019
DRAWN BY:	C. MARTIN
DESIGNED BY:	A. BRENNEN
CHECKED BY:	D. RIKER

2020 GROUNDWATER CONTOUR

FIGURE 8B



Legend

- RI SAMPLE LOCATIONS CONTAINING ANALYTES ABOVE COMMERCIAL USE SCO
- RI SOIL SAMPLES

PREVIOUS PHASE II SAMPLE LOCATIONS

- CONTAINS ANALYTES ABOVE UNRESTRICTED USE BUT BELOW COMMERCIAL USE SCOS
- CONTAINS ANALYTES ABOVE COMMERCIAL USE SCOS
- 1-2 FOOT EXCAVATION OR TO NATIVE SOILS
- ESTIMATED EXCAVATION TO NATIVE SOILS
- RADILOGICAL CONTAMINATED MATERIAL: 1-2 FOOT EXCAVATION OR TO NATIVE SOILS

Notes

1) ONLY ANALYTES EXCEEDING UNRESTRICTED USE SCOS, AT A MINIMUM, ARE SHOWN. EXECPT WHERE OTHERWISE NOTED BY "NO EXCEEDANCE"

0 20 40 80 Feet

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N

4435-4445 MILITARY ROAD
REMEDIAL INVESTIGATION/IRM
AND ALTERNATIVE ANALYSIS
REPORT
TOWN OF NIAGARA, NEW YORK

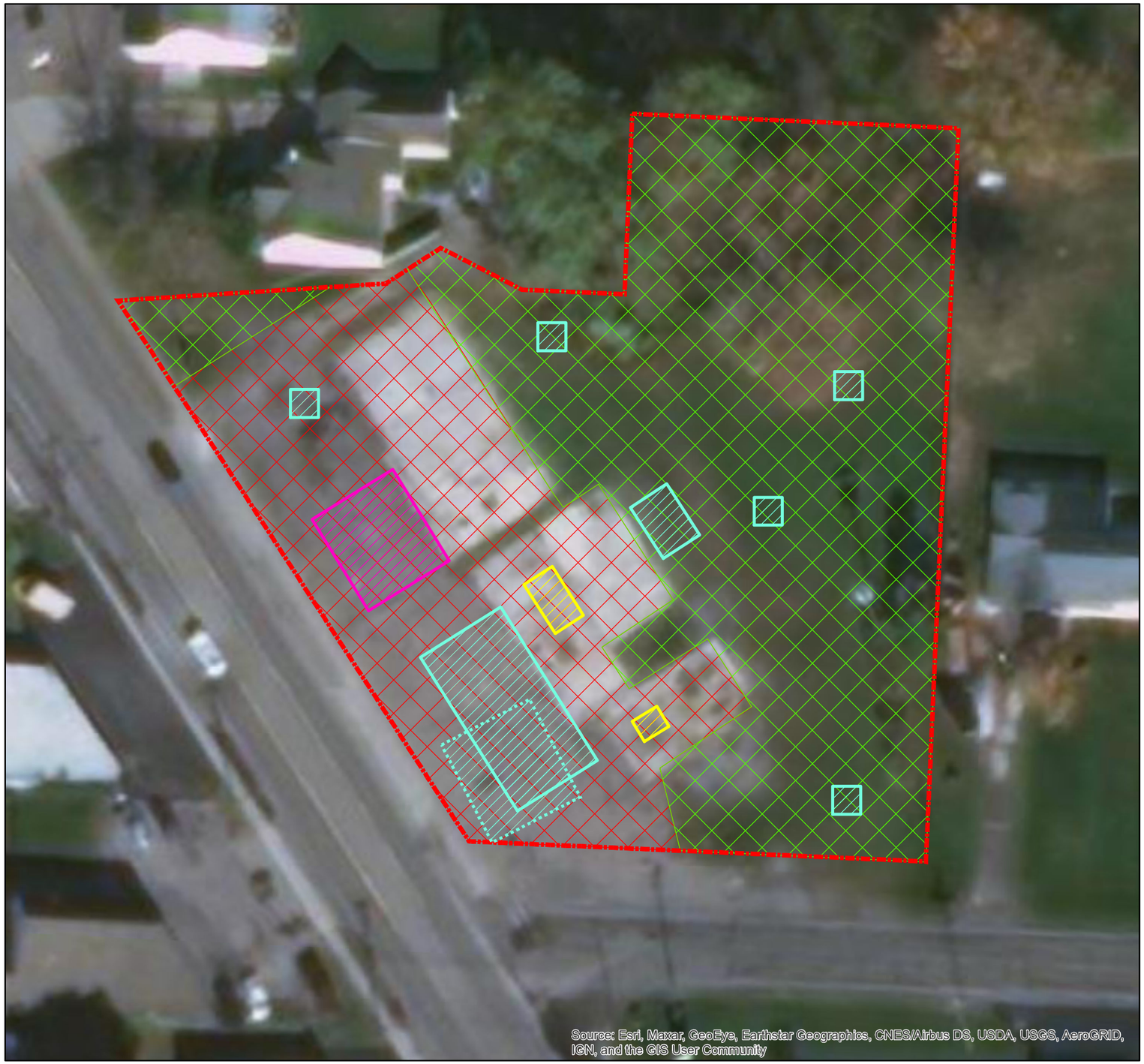
MARK	DATE	DESCRIPTION

REVISIONS

PROJECT NO:	249.006.001
DATE:	10/23/2020
DRAWN BY:	C. MARTIN
DESIGNED BY:	C. MARTIN
CHECKED BY:	D. RIKER

RECOMMENDED ALTERNATIVE

FIGURE 9



Legend

- BCP BOUNDARY
- 1-2 FOOT EXCAVATION OR TO NATIVE SOILS TO BE BACKFILLED WITH IMPORTED STONE
- ESTIMATED EXCAVATION TO NATIVE SOILS TO BE BACKFILLED WITH IMPORTED STONE
- RADIOLOGICAL CONTAMINATED MATERIAL: 1-2 FOOT EXCAVATION OR TO NATIVE SOILS TO BE BACKFILLED WITH IMPORTED STONE
- AUTOMOTIVE LIFT LOCATIONS TO BE BACKFILLED WITH ONE FOOT OF IMPORTED STONE
- EXISTING HARDSCAPE COVER TO REMAIN
- EXISTING ONE FOOT SOIL COVER TO REMAIN IN PLACE

0 20 40 80 Feet

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4435-4445 MILITARY ROAD
REMEDIAL ACTION WORK PLAN
TOWN OF NIAGARA, NEW YORK

MARK	DATE	DESCRIPTION

REVISIONS

PROJECT NO:	249.006.001
DATE:	1/17/2022
DRAWN BY:	C. MARTIN
DESIGNED BY:	C. MARTIN
CHECKED BY:	D. RIKER

SITE-WIDE COVER SYSTEM

FIGURE 10

Tables

Table 1

SURFACE SOIL RESULTS
4435-4445 MILITARY ROAD

Location ID - Sample Depth Date Sampled Sample Matrix Units	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use	B04 03/23/2020 SOIL mg/kg		B05 03/23/2020 SOIL mg/kg		B06 03/23/2020 SOIL mg/kg		B07 03/23/2020 SOIL mg/kg		B08 03/23/2020 SOIL mg/kg	
SVOCs															
1,4-Dioxane	0.10	9.80	13.00	130.00	250.00	ND		ND		ND		ND		ND	
o-Cresol	0.33	100.00	100.00	500.00	1000.00	ND		ND		ND		ND		ND	
m-Cresol	0.33	100.00	100.00	500.00	1000.00	ND		ND		ND		ND		ND	
p-Cresol	0.33	34.00	100.00	500.00	1000.00	ND		ND		ND		ND		ND	
Acenaphthene	20.00	100.00	100.00	500.00	1000.00	ND		ND		ND		ND		ND	
Acenaphthylene	100.00	100.00	100.00	500.00	1000.00	ND		ND		ND		ND		ND	
Anthracene	100.00	100.00	100.00	500.00	1000.00	ND		ND		ND		ND		ND	
Benzo[a]anthracene	1.00	1.00	1.00	5.60	11.00	ND		ND		0.3	J	ND		0.5	J
Benzo[a]pyrene	1.00	1.00	1.00	1.00	1.10	ND		ND		0.3	J	ND		0.6	J
Benzo[b]fluoranthene	1.00	1.00	1.00	5.60	11.00	ND		ND		0.6		0.4	J	0.7	J
Benzo[g,h,i]perylene	100.00	100.00	100.00	500.00	1000.00	ND		ND		0.4	J	ND		0.5	J
Benzo[k]fluoranthene	0.80	1.00	3.90	56.00	110.00	ND		ND		ND		ND		0.3	J
Chrysene	1.00	1.00	3.90	56.00	110.00	ND		ND		0.4	J	ND		0.6	J
Dibenz(a,h)anthracene	0.33	0.33	0.33	0.56	1.10	ND		ND		ND		ND		ND	
Dibenzofuran	7.00	14.00	59.00	350.00	1000.00	ND		ND		ND		ND		ND	
Fluoranthene	100.00	100.00	100.00	500.00	1000.00	ND		ND		0.6	J	0.3	J	1.2	
Fluorene	30.00	100.00	100.00	500.00	1000.00	ND		ND		ND		ND		ND	
Hexachlorobenzene	0.33	0.33	1.20	6.00	12.00	ND		ND		ND		ND		ND	
Indeno[1,2,3-cd]pyrene	0.50	0.50	0.50	5.60	11.00	ND		ND		0.3	J	ND		0.4	J
Naphthalene	12.00	100.00	100.00	500.00	1000.00	ND		ND		ND		ND		ND	
Pentachlorophenol	0.800	2.40	6.700	6.700	55.000	ND		ND		ND		ND		ND	
Phenanthrene	100.00	100.00	100.00	500.00	1000.00	ND		ND		0.2	J	ND		0.5	J
Phenol	0.33	100.00	100.00	500.00	1000.00	ND		ND		ND		ND		ND	
Pyrene	100.00	100.00	100.00	500.00	1000.00	ND		ND		0.5	J	0.3	J	0.9	J
Pesticidies															
4,4'-DDD	0.0033	2.60	13.00	92	180	ND		ND		ND		ND		ND	
4,4'-DDE	0.0033	1.80	8.90	62	120	ND		ND		ND		ND		ND	
4,4'-DDT	0.0033	1.70	7.90	47	94	**0.02**	J	0.003	J	**0.01**	J	**0.01**	J	**0.01**	J
Aldrin	0.0050	0.02	0.10	0.68	1.40	ND		ND		ND		ND		ND	
alpha-BHC	0.0200	0.10	0.48	3.40	6.80	ND		ND		ND		ND		ND	
beta-BHC	0.0360	0.07	0.36	3.0	14.0	ND		ND		ND		0.002	U	ND	
Chlordane (.alpha.)	0.0940	0.91	4.20	24.0	47.0	ND		ND		ND		ND		ND	
delta-BHC	0.0400	100.00	100.00	500.0	1000.0	0.05	U	0.002	JB	0.01	JB	0.002	U	0.04	U
Dieldrin	0.0050	0.04	0.20	1.40	2.80	ND		ND		ND		ND		ND	
Endosulfan I	2.40	4.80	24.0	200	920	ND		ND		ND		ND		ND	
Endosulfan II	2.40	4.80	24.0	200	920	ND		ND		ND		ND		ND	
Endosulfan sulfate	2.40	4.80	24.0	200	920	0.02	J	0.002	J	0.005	J	ND		ND	
Endrin	0.014	2.20	11	89	410	ND		ND		ND		ND		ND	
Endrin aldehyde						ND		0.006	J	0.02	J	ND		ND	
Endrin ketone						ND		0.003	J	0.01	J	ND		ND	
gamma-BHC (Lindane)	0.100	0.28	1.30	9.20	23.0	ND		ND		ND		ND		ND	
Heptachlor	0.042	0.42	2.10	15.0	29.0	ND		ND		ND		ND		ND	

Table 1

SURFACE SOIL RESULTS
4435-4445 MILITARY ROAD

Location ID - Sample Depth Date Sampled Sample Matrix Units	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use	B04 03/23/2020 SOIL mg/kg		B05 03/23/2020 SOIL mg/kg		B06 03/23/2020 SOIL mg/kg		B07 03/23/2020 SOIL mg/kg		B08 03/23/2020 SOIL mg/kg	
PCBs															
PCB-1016						ND		ND		ND		ND		ND	
PCB-1221						ND		ND		ND		ND		ND	
PCB-1232						ND		ND		ND		ND		ND	
PCB-1242						ND		ND		ND		ND		ND	
PCB-1248						ND		ND		ND		ND		ND	
PCB-1254						ND		ND		ND		ND		ND	
PCB-1260						ND		ND		ND		ND		ND	
Metals															
Mercury	0.18	0.81	0.81	2.8	5.7	**0.27**		**0.084**		**0.34**		**0.086**		**8.6**	
Arsenic	13	16	16	16	16	**4.3**		**0.87**	J	**6.5**		**1.7**	J	**3.6**	
Barium	350	350	400	400	10000	**97.5**		**28.6**		**19500**	B	**18.5**		**69.3**	
Beryllium	7.2	14	72	590	2700	**0.29**	J	**0.089**	J	**0.67**		**0.032**	J	**0.49**	
Cadmium	2.5	2.5	4.3	9.3	60	**1.5**		**0.075**	J	**0.24**		**0.22**		**0.75**	
Chromium	30	36	180	1500	6800	**27.9**		**7.1**		**32.4**		**2.8**		**32.6**	
Copper	50	270	270	270	10000	**27.1**		**5.1**		**31.3**		**5.1**		**20.5**	
Lead	63	400	400	1000	3900	**881**		**76.3**		**342**	B	**10.2**		**57.8**	
Manganese	1600	2000	2000	10000	10000	**487**		**182**	^	**622**	B	**256**		**474**	
Nickel	30	140	310	310	10000	**19.0**		**3.7**	J	**25.5**		**2.5**	J	**15.4**	
Selenium	3.9	36	180	1500	6800	ND		**0.54**	JB	**0.48**	JB	ND		ND	
Silver	2	36	180	1500	6800	ND		ND		ND		ND		ND	
Zinc	109	2200	10000	10000	10000	**322**		**39.9**	B	**163**	B	**33.9**		**147**	
WetChem															
Cyanide	27		27	27	10000	ND		ND		ND		ND		ND	

Analytical Data compared to Part 375 Standards and DER-10

ND indicates analyte was not detected.

Blank space indicates analyte was not analyzed for in that sample.

B - Compound was found in the blank and sample.

F1 - MS and/or MSD recovery exceeds control limits.

F2 - MS/MSD RPD exceeds control limits

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

vs - Reported analyte concentrations are below 200 ug/kg and may be biased low due to the sample not being collected according to 5035A-L low-level specifications.

U - The analyte was analyzed for but was not detected at or above the sample quantitation limit.

Table 2a

SUB-SURFACESOIL RESULTS
HFM SAMPLES
4435-4445 MILITARY ROAD

Location ID - Sample Depth Date Sampled Sample Matrix Units	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use	B01-00-0.5 03/23/2020 SOIL mg/kg	B02-00-0.5 03/23/2020 SOIL mg/kg	B03-00-0.5 03/23/2020 SOIL mg/kg	B04-00-0.5 03/23/2020 SOIL mg/kg	B05-00-0.5 03/23/2020 SOIL mg/kg	B06-00-0.5 03/23/2020 SOIL mg/kg	B07-00-0.4 03/23/2020 SOIL mg/kg	B08-00-0.4 03/23/2020 SOIL mg/kg
VOCs													
1,1,1-Trichloroethane	0.68	100	100	500	1000	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
1,1-Dichloroethane	0.27	19	26.0	240	480	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
1,1-Dichloroethene	0.33	100	100.0	500	1000	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
1,2,4-Trimethylbenzene	3.60	47	52.0	190	380	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
1,2-Dichlorobenzene	1.10	100	100.0	500	1000	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
1,2-Dichloroethane	0.02	2.30	3.1	30	60	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
1,3,5-Trimethylbenzene	8.40	47	52	190	380	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
1,3-Dichlorobenzene	2.40	17	49	280	560	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
1,4-Dichlorobenzene	1.80	9.80	13	130	250	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
1,4-Dioxane	0.10	9.80	13	130	250	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
2-Butanone (MEK)	0.12	100	100	500	1000	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
Acetone	0.05	100	100	500	1000	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
Benzene	0.06	2.90	4.8	44	89	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
Carbon tetrachloride	0.76	1.40	2.4	22	44	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
Chlorobenzene	1.10	100	100	500	1000	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
Chloroform	0.37	10	49	350	700	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
cis-1,2-Dichloroethene	0.25	59	100	500	1000	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
Ethylbenzene	1.00	30	41	390	780	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
Methyl tert-butyl ether	0.93	62	100	500	1000	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
Methylene Chloride	0.05	51	100	500	1000	ND vs	ND vs	ND vs	ND vs	0.004 **JBvs**	ND vs	ND vs	ND vs
n-Butylbenzene	12.00	100	100	500	1000	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
N-Propylbenzene	3.90	100	100	500	1000	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
sec-Butylbenzene	11.00	100	100	500	1000	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
tert-Butylbenzene	5.90	100	100	500	1000	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
Tetrachloroethene	1.30	5.50	19	150	300	ND vs	ND vs	ND vs	0.03 **vs**	ND vs	ND vs	ND vs	ND vs
Toluene	0.70	100	100	500	1000	ND vs	0.0005 **Jvs**	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
trans-1,2-Dichloroethene	0.19	100	100	500	1000	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
Trichloroethene	0.47	10	21	200	400	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
Vinyl chloride	0.02	0.21	0.9	13	27	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs
Xylenes, Total	0.26	100	100	500	1000	ND vs	ND vs	ND vs	ND vs	ND vs	ND vs	0.001 **Jvs**	
SVOCs													
1,4-Dioxane	0.10	9.80	13.00	130.00	250.00	ND	ND	ND	ND	ND	ND	ND	ND
o-Cresol	0.33	100.00	100.00	500.00	1000.00	ND	ND	ND	ND	ND	ND	ND	ND
m-Cresol	0.33	100.00	100.00	500.00	1000.00	ND	ND	ND	ND	ND	ND	ND	ND
p-Cresol	0.33	34.00	100.00	500.00	1000.00	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	20.00	100.00	100.00	500.00	1000.00	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	100.00	100.00	100.00	500.00	1000.00	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	100.00	100.00	100.00	500.00	1000.00	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[a]anthracene	1.00	1.00	1.00	5.60	11.00	ND	ND	ND	**1.5** **J**	ND	ND	0.3 **J**	ND
Benzo[a]pyrene	1.00	1.00	1.00	1.00	1.10	ND	ND	ND	**1.6** **J**	ND	ND	0.4 **J**	ND
Benzo[b]fluoranthene	1.00	1.00	1.00	5.60	11.00	ND	ND	ND	**2.2** **J**	ND	0.2	0.5 **J**	ND
Benzo[g,h,i]perylene	100.00	100.00	100.00	500.00	1000.00	ND	ND	ND	1.3	ND	0.1	0.3 **J**	ND
Benzo[k]fluoranthene	0.80	1.00	3.90	56.00	110.00	ND	ND	ND	**1.0** **J**	ND	ND	0.2 **J**	ND
Chrysene	1.00	1.00	3.90	56.00	110.00	ND	ND	ND	**1.5** **J**	ND	ND	0.3 **J**	ND
Dibenz(a,h)anthracene	0.33	0.33	0.33	0.56	1.10	ND	ND	ND	**0.4** **J**	ND	ND	ND	ND
Dibenzofuran	7.00	14.00	59.00	350.00	1000.00	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	100.00	100.00	100.00	500.00	1000.00	ND	ND	ND	2.4	0.1 **J**	0.2 **J**	0.7 **J**	ND
Fluorene	30.00	100.00	100.00	500.00	1000.00	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	0.33	0.33	1.20	6.00	12.00	ND	ND	ND	ND	ND	ND	ND	ND
Indeno[1,2,3-cd]pyrene	0.50	0.50	0.50	5.60	11.00	ND	ND	ND	**1.2** **J**	ND	ND	0.3 **J**	ND
Naphthalene	12.00	100.00	100.00	500.00	1000.00	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	0.800	2.40	6.700	6.700	55.000	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	100.00	100.00	100.00	500.00	1000.00	ND	ND	ND	0.6 **J**	ND	ND	0.3 **J**	ND
Phenol	0.33	100.00	100.00	500.00	1000.00	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	100.00	100.00	100.00	500.00	1000.00	ND	ND	ND	2.0	0.2 **J**	0.2 **J**	0.5 **J**	ND

Table 2a

SUB-SURFACESOIL RESULTS
HFM SAMPLES
4435-4445 MILITARY ROAD

Pesticidies																				
4,4'-DDD	0.0033	2.60	13.00	92	180	ND		ND		ND		ND		ND		**0.01**	**J**	ND		ND	
4,4'-DDE	0.0033	1.80	8.90	62	120	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDT	0.0033	1.70	7.90	47	94	0.011		ND		ND		**0.01**	**J**	**0.01**	**J**	**0.004**	**J**	ND		**0.03**	**J**
Aldrin	0.0050	0.02	0.10	0.68	1.40	ND		ND		ND		ND		ND		ND		ND		ND	
alpha-BHC	0.0200	0.10	0.48	3.40	6.80	ND		ND		ND		ND		ND		ND		ND		ND	
beta-BHC	0.0360	0.07	0.36	3.0	14.0	ND		ND		ND	F1	ND		ND		ND		ND		ND	
Chlordane (.alpha.)	0.0940	0.91	4.20	24.0	47.0	ND		ND		ND		ND		ND		ND		ND		ND	
delta-BHC	0.0400	100.00	100.00	500.0	1000.0	ND		ND		0.054	**U**	0.036	**U**	0.01	**JB**	0.011	**U**	0.019	**U**	ND	
Dieldrin	0.0050	0.04	0.20	1.40	2.80	ND		ND		ND		ND		ND		ND		ND		ND	
Endosulfan I	2.40	4.80	24.0	200	920	ND		ND		ND	UJ	ND		ND		ND		ND		ND	
Endosulfan II	2.40	4.80	24.0	200	920	ND		ND		ND		ND		ND		ND		ND		ND	
Endosulfan sulfate	2.40	4.80	24.0	200	920	ND		ND		ND		ND		ND		ND		ND		ND	
Endrin	0.014	2.20	11	89	410	ND		ND		ND		ND		ND		ND		ND		ND	
Endrin aldehyde						ND		ND		ND		ND		0.01	**J**	ND		ND		ND	
gamma-BHC (Lindane)	0.100	0.28	1.30	9.20	23.0	ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor	0.042	0.42	2.10	15.0	29.0	ND		ND		ND		ND		ND		ND		ND		ND	
Methoxychlor						ND		ND		ND		ND		0.01	**J**	ND		ND		ND	
PCBs																				
PCB-1016						ND		ND		ND		ND		ND		ND		ND		ND	
PCB-1221						ND		ND		ND		ND		ND		ND		ND		ND	
PCB-1232						ND		ND		ND		ND		ND		ND		ND		ND	
PCB-1242						ND		ND		ND		ND		ND		ND		ND		ND	
PCB-1248						ND		ND		ND		ND		ND		ND		ND		ND	
PCB-1254						ND		ND		ND		ND		ND		ND		ND		ND	
PCB-1260						ND		ND		ND		ND		ND		ND		ND		ND	
Metals																				
Mercury	0.18	0.81	0.81	2.8	5.7	**0.098**		**0.031**	**R**	**8.6**		**0.45**		**1.4**		**0.28**		**0.37**		**5.4**	
Arsenic	13	16	16	16	16	ND		**1.6**	**J**	ND		**7.8**		**5.8**		**6.8**		**3.2**		**4.6**	
Barium	350	350	400	400	10000	**56.5**		**5.9**	**R**	**67.2**	**J**	**45.1**		**68.8**	**B**	**119**		**210**		**68.7**	
Beryllium	7.2	14	72	590	2700	**0.60**		**0.060**	**J**	**0.18**	**J**	**0.26**		**0.46**		**0.79**		**0.20**	**J**	**0.48**	
Cadmium	2.5	2.5	4.3	9.3	60	**0.69**		**1.0**	**J**	**1.3**	**J**	**0.89**		**1.3**		**0.83**		**2.6**		**2.3**	
Chromium	30	36	180	1500	6800	**2750**		**18.1**	**R**	**4240**	**F2**	**23.0**		**24.8**		**35.5**		**32.5**		**36.5**	
Copper	50	270	270	270	10000	**14.5**		**5.3**	**R**	**13.4**	**J**	**53.4**		**16.9**		**24.5**		**34.1**		**25.2**	
Lead	63	400	400	1000	3900	**30.4**		**40.3**	**J**	**23.7**	**J**	**397**		**190**	**B**	**99.9**		**125**		**94.6**	
Manganese	1600	2000	2000	10000	10000	**400**		**448**	**J**	**379**	**J**	**476**		**608**	**B**	**667**		**681**		**583**	
Nickel	30	140	310	310	10000	**12.7**		**4.6**	**R**	**26.3**		**10.5**		**16.6**		**30.3**		**14.6**		**17.9**	
Selenium	3.9	36	180	1500	6800	**0.47**	**J**	ND		ND		ND		ND		ND		ND		ND	
Silver	2	36	180	1500	6800	ND		ND		ND		ND		ND		ND		ND		ND	
Zinc	109	2200	10000	10000	10000	**59.8**		**231**	**J**	**322**		**188**		**308**	**B**	**159**		**326**		**372**	
WetChem																				
Cyanide	27		27	27	10000	ND		ND		ND		ND		ND		ND		ND		ND	

Analytical Data compared to Part 375 Standards and DER-10
ND indicates analyte was not detected.
Blank space indicates analyte was not analyzed for in that sample.
B - Compound was found in the blank and sample.
F1 - MS and/or MSD recovery exceeds control limits.
F2 - MS/MSD RPD exceeds control limits
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
vs - Reported analyte concentrations are below 200 ug/kg and may be biased low due to the sample not being collected according to 5035A-L low-level specifications.
U - The analyte was analyzed for but was not detected at or above the sample quantitation limit.
R - The sample result has been rejected in the DUSR

Table 2b

SUB-SURFACE SOIL RESULTS
PFA/PFOAs
4435-4445 MILITARY ROAD

Location ID - Sample Depth	B01-00-0.5		B02-00-0.5		DUP-1		B03-00-0.5		B06-00-0.5		B08-00-0.4		B02-00-0.5-RS		B06-00-0.5-RS	
Date Sampled	03/23/2020		03/23/2020		03/23/2020		03/23/2020		03/23/2020		03/23/2020		05/19/2020		05/19/2020	
Sample Matrix	SOIL		SOIL		SOIL		SOIL		SOIL (NATIVE)		SOIL		SPLP		SPLP	
Units	ppt		ppt		ppt		ppt		ppt		ppt		ppt		ppt	
LCMS																
Perfluorobutanoic acid (PFBA)	180.0	JB	200.0	U	190.0	U	300.0	U	310.0	U	230.0	U	0.87	JB	1.3	JB
Perfluoropentanoic acid (PFPeA)	ND		ND		ND		ND		ND		130.0	J	0.76	J	0.50	J
Perfluorohexanoic acid (PFHxA)	ND		ND		ND		ND		54.0	J	68.0	J	ND		ND	
Perfluoroheptanoic acid (PFHpA)	ND		41.0	J	44.0	J	ND		62.0	J	77.0	J	ND		0.49	J
Perfluorooctanoic acid (PFOA)	ND		ND		ND		ND		180.0	J	150.0	J	ND		2.0	
Perfluorononanoic acid (PFNA)	ND		63.0	J	ND		ND		87.0	J	65.0	J	ND		ND	
Perfluorodecanoic acid (PFDA)	ND		300.0		160.0	J	ND		120.0	J	250.0		ND		ND	
Perfluoroundecanoic acid (PFUnA)	ND		220.0		200.0		ND		100.0	J	68.0	J	ND		ND	
Perfluorododecanoic acid (PFDoA)	ND		170.0	J	280.0		ND		85.0	J	86.0	J	ND		ND	
Perfluorotridecanoic acid (PFTriA)	ND		ND		ND		ND		ND		ND		ND		ND	
Perfluorotetradecanoic acid (PFTeA)	ND		ND		ND		ND		ND		ND		ND		ND	
Perfluorobutanesulfonic acid (PFBS)	ND		ND		ND		ND		31.0	J	ND		ND		ND	
Perfluorohexanesulfonic acid (PFHxS)	ND		65.0	J	73.0	J	ND		52.0	J	48.0	J	0.30	JB	0.57	JB
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ND		ND		ND		ND		ND		ND		ND	
Perfluorooctanesulfonic acid (PFOS)	ND		1100.0		860.0		ND		1900.0		880.0		0.85	J	2.9	I
Perfluorodecanesulfonic acid (PFDS)	ND		46.0	J	66.0	J	ND		ND		ND		ND		ND	
Perfluorooctanesulfonamide (FOSA)	ND		ND		ND		ND		ND		ND		0.68	JB	0.42	JB
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		ND		ND		ND		ND		ND		ND		ND	
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		ND		ND		ND		ND		ND		ND		ND	
6:2 FTS	ND		ND		ND		ND		ND		ND		ND		ND	
8:2 FTS	ND		ND		ND		ND		ND		ND		ND		ND	

Analytical Data compared to Part 375 Standards and DER-10

All soil samples were taken within the HFM onsite unless otherwise noted. (B06)

ND indicates analyte was not detected.

Blank space indicates analyte was not analyzed for in that sample.

B - Compound was found in the blank and sample.

F1 - MS and/or MSD recovery exceeds control limits.

F2 - MS/MSD RPD exceeds control limits

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

vs - Reported analyte concentrations are below 200 ug/kg and may be biased low due to the sample not being collected according to 5035A-L low-level specifications.

U - The analyte was analyzed for but was not detected at or above the sample quantitation limit.

Table 2c

SUB-SURFACESOIL RESULTS
NATIVE SOIL
4435-4445 MILITARY ROAD

Location ID - Sample Depth Date Sampled Sample Matrix Units	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use	B01-01-1 03/23/2020 SOIL mg/kg		B02-01-1 03/23/2020 SOIL mg/kg		B03-01-2 03/23/2020 SOIL mg/kg		B04-01-1 03/23/2020 SOIL mg/kg		B05-01-1.5 03/23/2020 SOIL mg/kg		B06-01-1 03/23/2020 SOIL mg/kg		B07-01-1 03/23/2020 SOIL mg/kg		B08-01-1 03/23/2020 SOIL mg/kg		B09-03-8 03/23/2020 SOIL ug/kg		B10-03-8 03/23/2020 SOIL mg/kg		B11-03-8 03/23/2020 SOIL mg/kg	
VOCs																											
1,1,1-Trichloroethane	0.68	100	100	500	1000	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	**0.01**	**vs**
1,1-Dichloroethane	0.27	19	26.0	240	480	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs
1,1-Dichloroethene	0.33	100	100.0	500	1000	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs
1,2,4-Trimethylbenzene	3.60	47	52.0	190	380	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	**0.01**	**vs**
1,2-Dichlorobenzene	1.10	100	100.0	500	1000	ND	vs	ND	vs	ND	vs	ND	vs	ND	F1 vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs
1,2-Dichloroethane	0.02	2.30	3.1	30	60	ND	vs	ND	vs	ND	vs	ND	vs	ND	F1 vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs
1,3,5-Trimethylbenzene	8.40	47	52	190	380	ND	vs	ND	vs	0.001	**Jvs**	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	**0.001**	**Jvs**
1,3-Dichlorobenzene	2.40	17	49	280	560	ND	vs	ND	vs	ND	vs	ND	vs	ND	F1 vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs
1,4-Dichlorobenzene	1.80	9.80	13	130	250	ND	vs	ND	vs	ND	vs	ND	vs	ND	F1 vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs
1,4-Dioxane	0.10	9.80	13	130	250	ND	vs	ND	vs	ND	vs	ND	vs	ND	F1 vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs
2-Butanone (MEK)	0.12	100	100	500	1000	ND	vs	ND	vs	ND	vs	ND	vs	ND	F1 vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	**0.0**	**Jvs**
Acetone	0.05	100	100	500	1000	0.01	**Jvs**	0.01	**Jvs**	0.020	**Jvs**	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	**0.02**	**Jvs**	**0.02**	**Jvs**
Benzene	0.06	2.90	4.8	44	89	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	**0.0003**	**Jvs**
Carbon tetrachloride	0.76	1.40	2.4	22	44	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs
Chlorobenzene	1.10	100	100	500	1000	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs
Chloroform	0.37	10	49	350	700	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs
cis-1,2-Dichloroethene	0.25	59	100	500	1000	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs
Ethylbenzene	1.00	30	41	390	780	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	**0.001**	**Jvs**
Methyl tert-butyl ether	0.93	62	100	500	1000	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs
Methylene Chloride	0.05	51	100	500	1000	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	0.004	**JBvs**	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs
n-Butylbenzene	12.00	100	100	500	1000	ND	vs	ND	vs	ND	vs	ND	vs	ND	F1 vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs
N-Propylbenzene	3.90	100	100	500	1000	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	**0.001**	**Jvs**
sec-Butylbenzene	11.00	100	100	500	1000	ND	vs	ND	vs	ND	vs	ND	vs	ND	F1 vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs
tert-Butylbenzene	5.90	100	100	500	1000	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs
Tetrachloroethene	1.30	5.50	19	150	300	ND	vs	ND	vs	ND	vs	0.03	**vs**	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs
Toluene	0.70	100	100	500	1000	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	**0.001**	**Jvs**
trans-1,2-Dichloroethene	0.19	100	100	500	1000	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs
Trichloroethene	0.47	10	21	200	400	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs
Vinyl chloride	0.02	0.21	0.9	13	27	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs
Xylenes, Total	0.26	100	100	500	1000	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	ND	vs	**0.003**	**Jvs**
SVOCs																											
1,4-Dioxane	0.10	9.80	13.00	130.00	250.00	ND		ND		ND		ND		ND		ND		ND		ND							
o-Cresol	0.33	100.00	100.00	500.00	1000.00	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND			
m-Cresol	0.33	100.00	100.00	500.00	1000.00	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND			
p-Cresol	0.33	34.00	100.00	500.00	1000.00	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND			
Acenaphthene	20.00	100.00	100.00	500.00	1000.00	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND			
Acenaphthylene	100.00	100.00	100.00	500.00	1000.00	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND			
Anthracene	100.00	100.00	100.00	500.00	1000.00	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND			
Benzo[a]anthracene	1.00	1.00	1.00	5.60	11.00	ND		ND		ND		ND		0.05	**J**	ND		ND		0.03	**J**	ND		ND		**0.3**	**J**
Benzo[a]pyrene	1.00	1.00	1.00	1.00	1.10	ND		ND		ND		ND		0.05	**J**	ND		ND		ND		ND		ND		**0.3**	**J**
Benzo[b]fluoranthene	1.00	1.00	1.00	5.60	11.00	ND		ND		ND		ND		0.08	**JK**	ND		ND		0.04	**J**	ND		ND		**0.3**	**J**
Benzo[g,h,i]perylene	100.00	100.00	100.00	500.00	1000.00	ND		ND		ND		ND		0.04	**J**	ND		ND		ND		ND		ND		**0.2**	**J**
Benzo[k]fluoranthene	0.80	1.00	3.90	56.00	110.00	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		**0.1**	**J**
Chrysene	1.00	1.00	3.90	56.00	110.00	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		**0.4**	**J**
Dibenz(a,h)anthracene	0.33	0.33	0.33	0.56	1.10	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND			
Dibenzofuran	7.00	14.00	59.00	350.00	1000.00	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND			
Fluoranthene	100.00	100.00	100.00	500.00	1000.00	ND		ND		ND		ND		0.07	**J**	ND		ND		0.1	**J**	ND		ND		**0.6**	**J**
Fluorene	30.00	100.00	100.00	500.00	1000.00	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND			
Hexachlorobenzene	0.33	0.33	1.20	6.00	12.00	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND			
Indeno[1,2,3-cd]pyrene	0.50	0.50	0.50	5.60	11.00	ND		ND		ND		ND		0.03	**J**	ND		ND		ND		ND		ND		**0.2**	**J**
Naphthalene	12.00	100.00	100.00	500.00	1000.00	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND			
Pentachlorophenol	0.800	2.40	6.700	6.700	55.000	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND			
Phenanthrene	100.00	100.00	100.00	500.00	1000.00	ND		ND		ND		ND		0.05	**J**	ND		ND		0.04	**J**	ND		ND		**0.3**	**J**
Phenol	0.33	100.00	100.00	500.00	1000.00	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND			
Pyrene	100.00	100.00	100.00	500.00	1000.00	ND		ND		ND		ND		0.07	**J**	ND		ND		0.04	**J**	ND		ND		**0.5**	**J**

Table 2c

SUB-SURFACESOIL RESULTS
NATIVE SOIL
4435-4445 MILITARY ROAD

Location ID - Sample Depth Date Sampled Sample Matrix Units	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use	B01-01-1 03/23/2020 SOIL mg/kg	B02-01-1 03/23/2020 SOIL mg/kg	B03-01-2 03/23/2020 SOIL mg/kg	B04-01-1 03/23/2020 SOIL mg/kg	B05-01-1.5 03/23/2020 SOIL mg/kg	B06-01-1 03/23/2020 SOIL mg/kg	B07-01-1 03/23/2020 SOIL mg/kg	B08-01-1 03/23/2020 SOIL mg/kg	B09-03-8 03/23/2020 SOIL ug/kg	B10-03-8 03/23/2020 SOIL mg/kg	B11-03-8 03/23/2020 SOIL mg/kg
Pesticides																
4,4'-DDD	0.0033	2.60	13.00	92	180	ND	ND	ND	ND	ND	ND	ND	0.003 **J**			
4,4'-DDE	0.0033	1.80	8.90	62	120	ND	ND	ND	ND	ND	ND	ND				
4,4'-DDT	0.0033	1.70	7.90	47	94	ND	ND	ND	ND	0.003 **J**	ND	ND	**0.003** **J**			
Aldrin	0.0050	0.02	0.10	0.68	1.40	ND	ND	ND	ND	ND	ND	ND	ND			
alpha-BHC	0.0200	0.10	0.48	3.40	6.80	ND	ND	ND	ND	ND	ND	ND	ND			
beta-BHC	0.0360	0.07	0.36	3.0	14.0	ND	ND	ND	ND	ND	ND	0.002 **U**	ND			
Chlordane (.alpha.)	0.0940	0.91	4.20	24.0	47.0	ND	ND	ND	ND	ND	ND	ND	ND			
delta-BHC	0.0400	100.00	100.00	500.0	1000.0	ND	0.002 **U**	0.002 **U**	0.002 **U**	0.003 **JB**	0.001 **JB**	0.002 **U**	0.010 **U**			
Dieldrin	0.0050	0.04	0.20	1.40	2.80	ND	ND	ND	ND	ND	ND	ND	ND			
Endosulfan I	2.40	4.80	24.0	200	920	ND	ND	ND	ND	ND	ND	ND	ND			
Endosulfan II	2.40	4.80	24.0	200	920	ND	ND	ND	ND	ND	ND	ND	ND			
Endosulfan sulfate	2.40	4.80	24.0	200	920	ND	ND	ND	0.001 **J**	ND	ND	ND	ND			
Endrin	0.014	2.20	11	89	410	ND	ND	ND	ND	ND	ND	ND	ND			
Endrin aldehyde						ND	ND	ND	ND	0.003 **J**	ND	ND	ND			
gamma-BHC (Lindane)	0.100	0.28	1.30	9.20	23.0	ND	0.002 **U**	0.002 **U**	0.002 **U**	0.002 **JB**	0.001 **JB**	0.0019 **U**	0.010 **U**			
Heptachlor	0.042	0.42	2.10	15.0	29.0	ND	ND	ND	ND	ND	ND	ND	ND			
Heptachlor epoxide						0.001 **J**	ND	ND	ND	ND	ND	ND	ND			
PCBs																
PCB-1016						ND	ND	ND	ND	ND	ND	ND	ND			
PCB-1221						ND	ND	ND	ND	ND	ND	ND	ND			
PCB-1232						ND	ND	ND	ND	ND	ND	ND	ND			
PCB-1242						ND	ND	ND	ND	ND	ND	ND	ND			
PCB-1248						ND	ND	ND	ND	ND	ND	ND	ND			
PCB-1254						ND	ND	ND	ND	ND	ND	ND	ND			
PCB-1260						ND	ND	ND	ND	ND	ND	ND	ND			
Metals																
Mercury	0.18	0.81	0.81	2.8	5.7	**0.025**	**0.096**	**0.034**	**0.067**	**0.057**	**0.031**	**0.045**	**0.076**			
Arsenic	13	16	16	16	16	**4.7**	**6.2**	**7.0**	**5.3**	**5.8**	**5.6**	**4.5**	**6.5**			
Barium	350	350	400	400	10000	**131**	**133**	**133**	**135**	**118** **B**	**143** **F1**	**111**	**104**			
Beryllium	7.2	14	72	590	2700	**0.99**	**1.1**	**1.1**	**1.3**	**1.1**	**1.3**	**0.98**	**1.0**			
Cadmium	2.5	2.5	4.3	9.3	60	**0.20** **J**	**0.17** **J**	**0.23** **J**	**0.22** **J**	**0.30**	**0.18** **J**	**0.16** **J**	**0.39**			
Chromium	30	36	180	1500	6800	**40.8**	**28.1**	**33.9**	**34.9**	**35.1**	**40.2**	**25.9**	**30.8**			
Copper	50	270	270	270	10000	**18.8**	**21.1**	**25.3**	**20.9**	**17.3**	**22.9**	**5.4**	**13.4**			
Lead	63	400	400	1000	3900	**11.2**	**12.5**	**13.3**	**14.2**	**27.6** **B**	**16.7**	**13.6**	**29.2**			
Manganese	1600	2000	2000	10000	10000	**510**	**290**	**466**	**636**	**827** **B**	**373**	**365**	**940**			
Nickel	30	140	310	310	10000	**32.8**	**39.5**	**45.8**	**36.5**	**25.7**	**34.4**	**18.3**	**22.9**			
Selenium	3.9	36	180	1500	6800	ND	ND	ND	ND	ND	ND	ND	**1.3** **J**			
Silver	2	36	180	1500	6800	ND	ND	ND	ND	ND	ND	ND	ND			
Zinc	109	2200	10000	10000	10000	**59.0**	**60.3**	**67.8**	**70.1**	**113** **B**	**81.6** **B**	**81.4**	**99.8**			
WetChem																
Cyanide	27	27	27	27	10000	ND	ND	ND	ND	ND	ND	ND	ND			

Analytical Data compared to Part 375 Standards and DER-10
ND indicates analyte was not detected.
Blank space indicates analyte was not analyzed for in that sample.
B - Compound was found in the blank and sample.
F1 - MS and/or MSD recovery exceeds control limits.
F2 - MS/MSD RPD exceeds control limits
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
vs - Reported analyte concentrations are below 200 ug/kg and may be biased low due to the sample not being collected according to 5035A-L low-level specifications.

Table 2d

DELINEATION SOIL RESULTS
4435-4445 MILITARY ROAD

Location ID	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use	Protection of Groundwater	B01-2N	B01-2E	B01-2S	B01-2W	B01-4S	B01-4W	BO1-00-0-1	BOI-2N	BOI-2E	BOI-4W	BOI-4S
Sample Depth							0.5'	0.5'	0.5'	0.5'	0.5'	0.5'		0.5'	0.5'	0.5'	0.5'
Date Sampled							01/21/2021	01/21/2021	01/21/2021	01/21/2021	01/21/2021	01/21/2021	06/29/2021	06/29/2021	06/29/2021	06/29/2021	06/29/2021
Sample Matrix							SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
Units							mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals																	
Chromium	30	36	180	1500	6800	NA	1180	1290	1590	3780	265	816					
WetChem																	
Chromium (hexavalent)	1	22	110	400	800	19							36.4	ND	ND	ND	ND

Location ID	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use	Protection of Groundwater	B03-2N	B03-2E	B03-2S	B03-2S	B03-2W	B03-4N	B03-4E	B03-4S	B03-4S	B03-4W	B03-4W	B03-6N	B03-6E	B03-6S	B03-6W	B03-8N	B03-8E	B03-8S
Sample Depth							0.5'	0.5'	0.5'	0.5'	0.5'	0.5'	0.5'	0.5'	0.5'	0.5'	0.5'	0.5'	0.5'	0.5'	0.5'	0.5'	0.5'	0.5'
Date Sampled							01/21/2021	01/21/2021	01/21/2021	03/11/2021	01/21/2021	01/21/2021	01/21/2021	01/21/2021	03/11/2021	01/21/2021	03/11/2021	01/21/2021	01/21/2021	01/21/2021	01/21/2021	01/21/2021	01/21/2021	01/21/2021
Sample Matrix							SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
Units							mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals																								
Mercury	0.18	0.81	0.81	2.8	5.7	NA	0.31	0.061	0.19		0.12	0.12	0.031	0.16		ND								
Chromium	30	36	180	1500	6800	NA	1860	1090	5060		2830	3110	3020	3550		6050		2620	3300	2800	116	3190	2580	3050
WetChem																								
Chromium (hexavalent)	1	22	110	400	800	19				34.5					6.9		137							

Location ID	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use	Protection of Groundwater	B04-2N	B04-2E	B04-2S	B04-2W
Sample Depth							0.5'	0.5'	0.5'	0.5'
Date Sampled							01/21/2021	01/21/2021	01/21/2021	01/21/2021
Sample Matrix							SO	SO	SO	SO
Units							ug/kg	ug/kg	ug/kg	ug/kg
SVOCs										
Benzo[a]pyrene	1	1	1	1	1	NA	0.12 J	0.095 J	0.10 J	0.093 J

Location ID	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use	Protection of Groundwater	B06-2N	B06-2E	B06-2S	B06-2W
Sample Depth							Surface	Surface	Surface	Surface
Date Sampled							01/21/2021	01/21/2021	01/21/2021	01/21/2021
Sample Matrix							SO	SO	SO	SO
Units							mg/kg	mg/kg	mg/kg	mg/kg
Metals										
Barium	350	350	400	400	10000	NA	105 ^6+	105 ^6+	77.2 ^6-	64.4 ^6+

Location ID	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use	Protection of Groundwater	B08-2N	B08-2E	B08-2S	B08-2W
Sample Depth							0.4'	0.4'	0.4'	0.4'
Date Sampled							01/21/2021	01/21/2021	01/21/2021	01/21/2021
Sample Matrix							SO	SO	SO	SO
Units							mg/kg	mg/kg	mg/kg	mg/kg
Metals										
Mercury	0.18	0.81	0.81	2.8	5.7	NA	1.0	1.3	0.60	0.45

Location ID	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use	Protection of Groundwater	B14-2N	B14-2S	B14-2E	B14-2W
Sample Depth							0-1'	0-1'	0-1'	0-1'
Date Sampled							03/11/2021	03/11/2021	03/11/2021	03/11/2021
Sample Matrix							SO	SO	SO	SO
Units							mg/kg	mg/kg	mg/kg	mg/kg
Metals										
Mercury	0.18	0.81	0.81	2.8	5.7	NA	0.24	0.11	0.50	0.19

Analytical Data compared to Part 375 Standards and DER-10
ND indicates analyte was not detected.
NA indicates SCO not applicable for specific analyte
Blank space indicates analyte was not analyzed for in that sample.
^6+ - Interference Check Standard (ICSA and/or ICSAB) is outside acceptance limits, high biased.
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Table 2e

ADDITIONAL RI SOIL RESULTS
4435-4445 MILITARY ROAD

Location ID	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use	B14-00-0-1		B13-00-0-1		B12-00-0-1	
Sample Depth						0-1'		0-1'		0-1'	
Date Sampled						01/21/2021		01/21/2021		01/21/2021	
Sample Matrix						SO		SO		SO	
Units						mg/kg		mg/kg		mg/kg	
VOCs											
1,1,1-Trichloroethane	1	100	100	500	1000	ND	vs				
1,1-Dichloroethane	0	19	26	240	480	ND	vs				
1,1-Dichloroethene	0	100	100	500	1000	ND	vs				
1,2-Dichlorobenzene	1	100	100	500	1000	ND	vs				
1,2-Dichloroethane	0	2	3	30	60	ND	vs				
1,3-Dichlorobenzene	2	17	49	280	560	ND	vs				
1,4-Dichlorobenzene	2	10	13	130	250	ND	vs				
2-Butanone (MEK)	0	100	100	500	1000	ND	vs				
Acetone	0	100	100	500	1000	ND	vs				
Benzene	0	3	5	44	89	ND	vs				
Carbon tetrachloride	1	1	2	22	44	ND	vs				
Chlorobenzene	1	100	100	500	1000	ND	vs				
Chloroform	0	10	49	350	700	ND	vs				
cis-1,2-Dichloroethene	0	59	100	500	1000	ND	vs				
Ethylbenzene	1	30	41	390	780	ND	vs				
Methyl tert-butyl ether	1	62	100	500	1000	ND	vs				
Methylene Chloride	0	51	100	500	1000	**0.0031**	**Jvs**				
Tetrachloroethene	1	6	19	150	300	ND	vs				
Toluene	1	100	100	500	1000	ND	vs				
trans-1,2-Dichloroethene	0	100	100	500	1000	ND	vs				
Trichloroethene	0	10	21	200	400	ND	vs				
Vinyl chloride	0	0	1	13	27	ND	vs				
Xylenes, Total	0	100	100	500	1000	ND	vs				
SVOCs											
1,4-Dioxane	0	10	13	130	250	ND		ND		ND	
2-Methylphenol	0	100	100	500	1000	ND		ND		ND	
4-Methylphenol	0	34	100	500	1000	ND		ND		ND	
Acenaphthene	20	100	100	500	1000	ND		ND		ND	
Acenaphthylene	100	100	100	500	1000	ND		ND		ND	
Anthracene	100	100	100	500	1000	ND		ND		ND	
Benzo[a]anthracene	1	1	1	6	11	**0.150**	**J**	**0.095**	**J**	**0.240**	**J**
Benzo[a]pyrene	1	1	1	1	1	**0.180**	**J**	**0.100**	**J**	**0.280**	**J**
Benzo[b]fluoranthene	1	1	1	6	11	**0.260**		**0.130**	**J**	**0.360**	**JF2**
Benzo[g,h,i]perylene	100	100	100	500	1000	**0.140**	**J**	**0.086**	**J**	**0.240**	**J**
Benzo[k]fluoranthene	1	1	4	56	110	**0.076**	**J**	**0.059**	**J**	**0.190**	**J**
Chrysene	1	1	4	56	110	**0.210**		**0.110**	**J**	**0.320**	**J**
Dibenz(a,h)anthracene	0	0	0	1	1	ND		ND		ND	
Dibenzofuran	7	14	59	350	1000	ND		ND		ND	
Fluoranthene	100	100	100	500	1000	**0.260**		**0.180**	**J**	**0.490**	**JF1**
Fluorene	30	100	100	500	1000	ND		ND		ND	
Hexachlorobenzene	0	0	1	6	12	ND		ND		ND	
Indeno[1,2,3-cd]pyrene	1	1	1	6	11	**0.120**	**J**	**0.076**	**J**	**0.220**	**J**
Naphthalene	12	100	100	500	1000	ND		ND		ND	
Pentachlorophenol	1	2	7	7	55	ND		ND		ND	
Phenanthrene	100	100	100	500	1000	**0.140**	**J**	**0.090**	**J**	**0.230**	**J**
Phenol	0	100	100	500	1000	ND		ND		ND	
Pyrene	100	100	100	500	1000	**0.200**	**J**	**0.150**	**J**	**0.340**	**J**
Pesticidies											
4,4'-DDD	0.0	3	13	92	180	ND					
4,4'-DDE	0.0	2	9	62	120	**0.00140**	**J**				
4,4'-DDT	0.0	2	8	47	94	ND					
Aldrin	0	0	0	1	1	ND					
alpha-BHC	0	0	0	3	7	ND					
cis-Chlordane	0	1	4	24	47	ND					
beta-BHC	0	0	0	3	14	ND					
delta-BHC	0	100	100	500	1000	ND					
Dieldrin	0	0	0	1	3	ND					
Endosulfan I	2	5	24	200	920	ND					
Endosulfan II	2	5	24	200	920	**0.00072**	**J**				
Endosulfan sulfate	2	5	24	200	920	ND					
Endrin	0	2	11	89	410	ND					
gamma-BHC (Lindane)	0	0	1	9	23	ND					
trans-Chlordane						ND					
Heptachlor	0	0	2	15	29	ND					

Table 2e

ADDITIONAL RI SOIL RESULTS
4435-4445 MILITARY ROAD

Location ID	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use	B14-00-0-1		B13-00-0-1		B12-00-0-1	
Sample Depth						0-1'		0-1'		0-1'	
Date Sampled						01/21/2021		01/21/2021		01/21/2021	
Sample Matrix						SO		SO		SO	
Units						mg/kg		mg/kg		mg/kg	
PCBs											
PCB-1016						ND					
PCB-1221						ND					
PCB-1232						ND					
PCB-1242						ND					
PCB-1248						ND					
PCB-1254						ND					
PCB-1260						ND					
Total PCBs	0.1	1	1	1	25	ND					
Metals											
Aluminum						13300		21000		9780	F1
Mercury	0.18	0.81	0.81	2.8	5.7	8.4		1.1		0.69	F1
Antimony						ND		ND		ND	F1
Arsenic	13	16	16	16	16	7.8		5.3		5.9	
Barium	350	350	400	400	10000	197	^6-	87.9	^6-	87.0	^6+F1
Beryllium	7.2	14	72	590	2700	0.66		0.81		0.43	
Cadmium	2.5	2.5	4.3	9.3	60	0.89		0.28		1.1	
Calcium						105000	B	37800	B	90400	BF2
Chromium						300		27.8		29.8	F1
Cobalt						7.5		12.9		6.7	
Copper	50	270	270	270	10000	74.8		17.1		36.5	
Iron						17600		22500		18200	
Lead	63	400	400	1000	3900	185		63.2		165	F1F2
Magnesium						57000		25500		56100	F2
Manganese	1600	2000	2000		10000	719	B	316	B	571	BF2
Nickel	30	140	310	310	10000	20.7		21.3		22.1	
Potassium						3480		3600		2460	F1
Selenium	3.9	36	180	1500	6800	1.7	J	2.1	J	1.3	J
Silver	2	36	180	1500	6800	0.28	J	0.28	J	ND	
Sodium						252	B	146	JB	144	JB
Thallium						ND		ND		ND	
Vanadium						28.8		40.0		21.4	F1
Zinc	109	2200		10000	10000	189		112		206	
WetChem											
Cyanide	27	27	27	27	10000	ND					

Analytical Data compared to Part 375 Standards and DER-10

ND indicates analyte was not detected.

Blank space indicates analyte was not analyzed for in that sample.

^6+ - Interference Check Standard (ICSA and/or ICSAB) is outside acceptance limits, high biased.

B - Compound was found in the blank and sample.

F1 - MS and/or MSD recovery exceeds control limits.

F2 - MS/MSD RPD exceeds control limits

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

vs - Reported analyte concentrations are below 200 ug/kg and may be biased low due to the sample not being collected according to 5035A-L low-level specifications.

Table 3

2014 PHASE II ESA
SOIL RESULTS
4435-4445 MILITARY ROAD

TABLE 1 - 4435 MILITARY ROAD - PHASE 2 ESA SOIL SAMPLE ANALTICAL RESULTS SUMMARY * PAGE 1 of 2												
Sampling Program	**PEI - Phase 2 ESA SOIL BORING SAMPLING PROGRAM**											
Sample Number	**BH 3**	**BH 3 - SS**	**BH 4**	**BH 4 - SS**	**BH 9**	**BH 9 - SS**	**BH 11**	**BH 11 - SS**	**NYSDEC**	**NYSDEC**	**NYSDEC**	**NYSDEC**
Sample Date	**11/5/2013**	**11/5/2013**	**11/5/2013**	**11/5/2013**	**11/5/2013**	**11/5/2013**	**11/5/2013**	**11/5/2013**	**PART 375**	**PART 375**	**PART 375**	**PART 375**
Sample depth (bgs)	**1' - 3'**	**Surface**	**1' - 3'**	**Surface**	**1' - 3'**	**Surface**	**1' - 3'**	**Surface**	**Residential**	**Restrict Res**	**Comercial**	**Industrial**
Compounds	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**(a)**	**(b)**	**(c)**	**(d)**
Metals												
Mercury	0.13	0.27	0.54	0.04	0.39	0.13	0.19	0.01	0.81	1	2.8	5.7
Arsenic	3.12	4.6	5.3	**138(a)-(d)**	1.5 J	2.4	4.7	6.3	16	16	16	16
Barium	38.0	120	121	138	22.4	23.9	101	110	350	400	400	10,000
Beryllium	ND	0.67	0.94	ND	ND	ND	0.85	0.87	14	72	590	2,700
Cadmium	0.63 J	2.13	0.97	**10.3 (a)-(c)**	ND	**3.07 (a)**	0.81	0.89	2.5	4.3	9.3	60
Chromium	12.6	43.9	31.5	**44.1 (a)**	**4820 (a)-(c)**	959	33.1	**34.5**	36	180	1500	6800
Copper	12.8	42,8	27.2	**2260 (a)-(c)**	17.9	5.9	18.1	19.2	270	270	270	10000
Lead (Axial)	18.4	88.5	37.8	**863 (a) (b)**	ND	127	22.9	24.1	400	400	1000	3900
Magnesium	ND	ND	ND	ND	313	ND	ND	ND	N/A	N/A	N/A	N/A
Manganese	324	451	646	5.08	ND	408	1500	1300	2000	2000	10000	10,000
Nickel	**8.8**	25.8	30.1	89.4	26.9	31.7	22.3	23.3	140	310	310	10000
Selenium	ND	2.2	3.5	ND	ND	ND	3.1	3.8	36	180	1500	6800
Silver	ND	0.58 J	0.68 J	2.7	ND	ND	1.34	1.2 J	36	180	1500	6800
Zinc	84	308	**92.7**	**10600(a)-(d)**	31	759	83.6	91.6	2200	10000	10000	10000
PCBS												
PCB-1248	ND	ND	0.04 J	0.02 J	ND	ND	ND	ND	1	1	1	25
Pesticides												
4,4-DDT	0.003 J	0.004 J	ND	0.002 J	ND	ND	ND	ND	1.7	N	47.0	94
4,4 DDD	0.003 J	0.002 J	0.002 J	0.002 J	ND	ND	ND	ND	2.6	13	92.0	180
Endrin Aldehyde	0.003 J	0,028	0.002 J	0.01 J	ND	M\ND	ND	ND	N/A	N/A	N/A	N/A
alpha-BHC	ND	ND	ND	ND	ND	ND	ND	ND	0.097	0.48	3.4	6.8
beta BHC	ND	ND	0.003 J	0.002 J	ND	ND	ND	ND	0.072	0.36	3	14
delta BHC	ND	ND	0.004 J	0.003 J	ND	ND	ND	ND	100	100	500.00	1000
Endosulfan Sulfate	ND	ND	ND	ND	ND	0.003 J	ND	ND	4.8	24	200.00	920
cis-Chlordane	ND	0.004	ND	ND	ND	ND	0.002 J	0.009	N/A	N/A	N/A	N/A
Dieldrin	ND	ND	ND	0.002	ND	ND	ND	ND	0.039	0.2	1.40	2.8
Methoxychlor	ND	0.005	ND	0.002 J	ND	ND	ND	ND	N/A	N/A	N/A	N/A

Table 3

2014 PHASE II ESA
SOIL RESULTS
4435-4445 MILITARY ROAD

TABLE 1 - 4435 MILITARY ROAD - PHASE 2 ESA SOIL SAMPLE ANALTICAL RESULTS SUMMARY * PAGE 2 of 2												
Sampling Program	**PEI - Phase 2 ESA SOIL BORING SAMPLING PROGRAM**											
Sample Number	**BH 3**	**BH 3 - SS**	**BH 4**	**BH 4 - SS**	**BH 9**	**BH 9 - SS**	**BH 11**	**BH 11 - SS**	**NYSDEC**	**NYSDEC**	**NYSDEC**	**NYSDEC**
Sample Date	**11/5/2013**	**11/5/2013**	**11/5/2013**	**11/5/2013**	**11/5/2013**	**11/5/2013**	**11/5/2013**	**11/5/2013**	**PART 375**	**PART 375**	**PART 375**	**PART 375**
Sample depth (bgs)	**1' - 3'**	**Surface**	**1' - 3'**	**Surface**	**1' - 3'**	**Surface**	**1' - 3'**	**Surface**	**Residential**	**Restrict Res**	**Comercial**	**Industrial**
Compounds	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**(a)**	**(b)**	**(c)**	**(d)**
VOCs												
o-Xylene	ND	N/A	0.002 J	N/A	ND	N/A	ND	N/A	100	100	500	1000
Toluene	ND	N/A	0.006 J	N/A	ND	N/A	ND	N/A	100	100	500	1000
Ethylbenzene	ND	N/A	0.001 J	N/A	ND	N/A	ND	N/A	30	41	390	780
Acetone	ND	N/A	0.027 J	N/A	0.025 J	N/A	0.02 J	N/A	100	100	500	1000
1,2,4 Trimethylbenzene	ND	N/A	0.003 J	N/A	ND	N/A	ND	N/A	47	52	190	380
1,3,5 Trimethylbenzene	ND	N/A	0.001 J	N/A	ND	N/A	ND	N/A	47	52	190	380
2-Butanone	ND	N/A	ND	N/A	ND	N/A	ND	N/A	N/A	N/A	N/A	N/A
Benzene	ND	N/A	0.004 J	N/A	ND	N/A	ND	N/A	2.9	4.8	44	89
Carbon Disulfide	ND	N/A	0.003 J	N/A	ND	N/A	ND	N/A	N/A	N/A	N/A	N/A
Cyclohexane	ND	N/A	0.006 J	N/A	ND	N/A	ND	N/A	N/A	N/A	N/A	N/A
Methylcyclohexane	ND	N/A	0.008 J	N/A	ND	N/A	ND	N/A	N/A	N/A	N/A	N/A
Tetrachloroethene	0.02	N/A	ND	N/A	ND	N/A	ND	N/A	5.5	19	150	300
m,p-Xylene	ND	N/A	ND	N/A	ND	N/A	ND	N/A	100	100	500	1000
TICs (Total)	ND	N/A	0.4 J	N/A	0.03	N/A	ND	N/A	N/A	N/A	N/A	NA
SVOCs												
Benzo(a)anthracene	ND	0.42	ND	ND	ND	ND	ND	0.25 J	1	1	5.6	11
Benzo(a)pyrene	ND	0.4	ND	ND	ND	ND	ND	0.25 J	1	1	1	1.1
Benzo(b)fluoranthene	ND	0.39	ND	ND	ND	ND	ND	0.26 J	1	1	5.6	11
Benzo(g,h,I)perylene	ND	0.25 J	ND	ND	ND	ND	ND	ND	100	100	500	1000
Benzo(k)fluoranthene	ND	0.37	ND	ND	ND	ND	ND	0.24 J	1	3.9	56	110
Chrysene	ND	0.46	ND	ND	ND	ND	0.22 J	0.31 J	1	3.9	56	110
Bis (2-ethylhexyl) phthalate	ND	0.35	ND	ND	ND	ND	ND	ND	N/A	N/A	N/A	N/A
Butylbenzylphthalate	ND	0.43	ND	ND	ND	ND	ND	ND	N/A	N/A	N/A	N/A
Fluoranthene	ND	0.93	ND	ND	ND	ND	0.42	ND	100	100	500	1000
Indeno(1,2,3-cd)pyrene	ND	0.32	ND	ND	ND	ND	ND	ND	0.5	0.5	5.6	11
Phenanthrene	ND	0.53	ND	ND	ND	ND	0.24 J	0.31 J	100	100	500	1000
Pyrene	ND	0.81	ND	ND	ND	ND	0.32 J	0.48	100	100	500	1000
TICs (Total)	1	3.6	11.9	7.2	1.4	1.6	7.4	2.3	N/A	N/A	NA	NA

*** Data Has Been Validated**

ND - Non-Detect NA - Not Available
Shaded Value - Exceeds Part 375 SCOs
TICs - Tentitively Identified Compounds
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
C - Calibration acceptability criteria exceeded for this analyte
J - Estimated value-below calibration range N - Analysis indicates tentitive analyte identification

Table 4a

2017 Phase II ESA
Surface Soil Sampling Results
4445 Military Road

Sample ID	NY SCO - Unrestricted Use	NY SCO - Residential	NY SCO - Restricted Residential	NY SCO - Commercial	NY SCO - Industrial	BH-4A-SS	BH-4B-SS	BH-4C-SS	BH-4D-SS	BH-4E-SS	BH-4F-SS	BH-4G-SS	BH-4H-SS	BH-4I-SS
Lab Sample Number						H4680-01	H4680-02	H4680-03	H4680-04	H4680-05	H4680-06	H4680-07	H4680-08	H4680-09
Sampling Date						8/29/2016	8/29/2016	8/29/2016	8/29/2016	8/29/2016	8/29/2016	8/29/2016	8/29/2016	8/29/2016
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Volatile Organic Compounds														
Acetone	0.05	100	100	500	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide		100				NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone	0.12	100	100	500	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene		59	100	500	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	2.9	4.8	44	89	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	0.02	2.3	3.1	30	60	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	0.47	10	21	200	400	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	100	100	500	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	5.5	19	150	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylene (Mixed)	0.26	100	100	500	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	2.4	17	49	280	560	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	1.8	9.8	13	130	250	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semi-Volatile Organic Compounds														
Acenaphthene	20	100	100	500	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	100	100	100	500	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	100	100	100	500	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	1	1	1	5.6	11	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	1	1	1	1	1.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1	1	1	5.6	11	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	100	100	100	500	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	0.8	1	3.9	56	110	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	1	3.9	56	110	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	0.33	0.33	0.33	0.56	1.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	7	14	59	350	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	100	100	500	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	30	100	100	500	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	0.33	0.41	1.2	6	12	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.5	5.6	11	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	12	100	100	500	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	100	100	100	500	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	0.33	100	100	500	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	100	100	500	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals														
Arsenic	13	16	16	16	16	90.7 D	3.73	6.22	6.54	7.15	5.96	5.02	4.95	9.83
Cadmium	2.5	2.5	4.3	9.3	60	3.94 D	2.42	0.517	0.178 J	0.456	1.69	2.57	1.7	3.32
Chromium	30	36	180	1500	6800	27.5 D	7.76	27.3	25	32.3	25.1	276	23.7	5.86
Copper	50	270	270	270	10000	1360 D	22.6	39.3	35	38.6	52	83.4	38	92.4
Lead	63	400	400	1000	3900	665 D	70.4	66.7	39.7	86.4	119	126	131	182
Zinc	109	2200	10000	10000	10000	6290 D	742	132	86.1	174	472	410	477	1010

Notes:

All concentrtaions in mg/kg

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL. The concentration given is an approximate value.

D - The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.

NA - Not Analyzed For

Only compounds with Part 375 SCO Standards

Table 4b

2017 Phase II ESA
Subsurface Soil Sampling Results
4445 Military Road

Sample ID	NY SCO - Unrestricted Use	NY SCO - Residential	NY SCO - Restricted Residential	NY SCO - Commercial	NY SCO - Industrial	BH-20-12-15 FT	BH-26-1 FT	BH-15-0-1 FT	BH-16-0-1 FT	DUP-A	BH-9A-1 FT	BH-9B-1 FT	BH-9C-1 FT	BH-9D-1 FT	BH-9E-1 FT	BH-9F-1 FT	BH-9G-1 FT	BH-9H-1 FT	BH-9I-1 FT	DUP-B
Lab Sample Number						H4680-27	H4680-30	H4680-10	H4680-11	H4680-14	H4680-17	H4680-18	H4680-19	H4680-20	H4680-21	H4680-22	H4680-23	H4680-24	H4680-25	H4680-26
Sampling Date						8/30/2016	8/30/2016	8/29/2016	8/29/2016	8/29/2016	8/30/2016	8/30/2016	8/30/2016	8/30/2016	8/30/2016	8/30/2016	8/30/2016	8/30/2016	8/30/2016	8/30/2016
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Volatile Organic Compounds																				
Acetone	0.05	100	100	500	1000	0.013 J	0.0229 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide		100				0.0018 J	0.0046 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone	0.12	100	100	500	1000	0.0264 U	0.0229 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene		59	100	500	1000	0.0042 J	0.0046 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	2.9	4.8	44	89	0.0053 U	0.0046 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	0.02	2.3	3.1	30	60	0.0098	0.0046 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	0.47	10	21	200	400	0.0053 U	0.0046 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	100	100	500	1000	0.0017 J	0.0023 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	5.5	19	150	300	0.0053 U	0.0046 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylene (Mixed)	0.26	100	100	500	1000			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	2.4	17	49	280	560	0.0053 U	0.0046 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	1.8	9.8	13	130	250	0.0053 U	0.0046 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semi-Volatile Organic Compounds																				
Acenaphthene	20	100	100	500	1000	0.38 U	0.37 U	2 U	0.38 U	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	100	100	100	500	1000	0.38 U	0.37 U	2 U	0.38 U	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	100	100	100	500	1000	0.38 U	0.11 J	2 U	0.0936 J	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	1	1	1	5.6	11	0.38 U	0.46	2 U	0.3 J	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	1	1	1	1	1.1	0.38 U	0.38	2 U	0.26 J	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1	1	1	5.6	11	0.38 U	0.47	2 U	0.3 J	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	100	100	100	500	1000	0.38 U	0.24 J	2 U	0.18 J	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	0.8	1	3.9	56	110	0.38 U	0.26 J	2 U	0.19 J	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	1	3.9	56	110	0.38 U	0.39	2 U	0.29 J	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	0.33	0.33	0.33	0.56	1.1	0.38 U	0.37 U	2 U	0.38 U	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	7	14	59	350	1000	0.38 U	0.37 U	2 U	0.38 U	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	100	100	500	1000	0.38 U	0.83	2 U	0.55	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	30	100	100	500	1000	0.38 U	0.37 U	2 U	0.38 U	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	0.33	0.41	1.2	6	12	0.38 U	0.37 U	2 U	0.38 U	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.5	5.6	11	0.38 U	0.25 J	2 U	0.19 J	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	12	100	100	500	1000	0.38 U	0.37 U	2 U	0.38 U	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	100	100	100	500	1000	0.38 U	0.41	2 U	0.3 J	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	0.33	100	100	500	1000	0.38 U	0.0952 J	2 U	0.38 U	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	100	100	500	1000	0.38 U	0.71	2 U	0.48	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals																				
Arsenic	13	16	16	16	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	2.5	4.3	9.3	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	30	36	180	1500	6800	NA	NA	NA	NA	NA	411	1940	1700	4780	3880	1330	976	3050	3400	23.2
Copper	50	270	270	270	10000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	400	400	1000	3900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	2200	10000	10000	10000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

All concentrtaions in mg/kg

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL.
The concentration given is an approximate value.

NA - Not Analyzed For

U - The compound was not detected at the indicated concentration.

Only compounds with Part 375 SCO Standards

Table 4c

2017 Phase II ESA
Pump Island Subsurface Soil Sampling Results
4445 Military Road

Sample ID Lab Sample Number Sampling Date Units	NY SCO - Unrestricted Use mg/kg	NY SCO - Residential mg/kg	NY SCO - Restricted Residential mg/kg	NY SCO - Commercial mg/kg	NY SCO - Industrial mg/kg	B-25-6-7 FT L1720848-01 6/19/2017 mg/kg	B-25-10S-13-14 FT L1720848-06 6/19/2017 mg/kg	B-25-5E-13-14 FT L1720848-08 6/19/2017 mg/kg	B-25-5W-13-14 FT L1720848-10 6/19/2017 mg/kg
Volatile Organics by GC/MS									
Toluene	0.7	100	100	500	1000	0.4	0.097 U	0.086 U	0.099 U
Ethylbenzene	1	30	41	390	780	6.8	0.048 J	0.021 J	0.066 U
p/m-Xylene	0.26	100	100	500	1000	25	0.11 J	0.11 U	0.13 U
o-Xylene	0.26	100	100	500	1000	8.4	0.028 J	0.11 U	0.13 U
Isopropylbenzene		100				0.86	0.27	0.42	0.059 J
Cyclohexane						1 J	1.5	2.5	0.08 J
Methyl cyclohexane						0.26 J	0.36	0.64	0.26 U

Notes:

All concentrtaions in mg/kg

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL. The concentration given is an approximate value.

U - The compound was not detected at the indicated concentration.

Table 5a

GROUNDWATER RESULTS
4435-4445 MILITARY ROAD

Location ID		MW-03		MW-05		MW-06		MW-07		DUP-200205	
Date Sampled		02/05/2020		02/05/2020		02/05/2020		02/05/2020		02/05/2020	
Sample Matrix		Water		Water		Water		Water		Water	
Units	NYS TOGS Groundwater Standand & Guidance Value	ug/l		ug/l		ug/l		ug/l		ug/l	
VOCs											
1,1,1-Trichloroethane	5	ND		ND		ND		ND		ND	
1,1,2,2-Tetrachloroethane	5	ND		ND		ND		ND		ND	
1,1,2-Trichloro-1,2,2-trifluoroethane	5	ND		ND		ND		ND		ND	
1,1,2-Trichloroethane	1	ND		ND		ND		ND		ND	
1,1-Dichloroethane	5	ND		ND		ND		ND		ND	
1,1-Dichloroethene	5	ND		ND		ND		ND		ND	
1,2,4-Trichlorobenzene	5	ND	*	ND	UJ	ND	UJ	ND	UJ	ND	*
1,2-Dichlorobenzene	3	ND		ND		ND		ND		ND	
1,2-Dichloroethane	0.6	ND		1.3		ND		ND		ND	
1,2-Dichloropropane	5	ND		ND		ND		ND		ND	
1,3-Dichlorobenzene	3	ND		ND		ND		ND		ND	
1,4-Dichlorobenzene	3	ND		ND		ND		ND		ND	
2-Butanone (MEK)	50	ND		ND		ND		ND		ND	
2-Hexanone	50	ND		ND	F1	ND		ND		ND	
Acetone	50	ND		ND		ND		ND		ND	
Benzene	1	ND		ND		ND		ND		ND	
Bromodichloromethane	50	ND		ND		ND		ND		ND	
Bromoform	50	ND		ND		ND		ND		ND	
Bromomethane	5	ND		ND		ND		ND		ND	
Carbon disulfide	60	ND		ND		ND		ND		0.27	J
Carbon tetrachloride	5	ND		ND		ND		ND		ND	
Chlorobenzene	5	ND		ND		ND		ND		ND	
Chloroethane	5	ND		ND		ND		ND		ND	
Chloroform	7	ND		ND		ND		ND		ND	
Chloromethane	5	ND		ND		ND		ND		ND	
cis-1,2-Dichloroethene	5	ND		ND		ND		ND		ND	
Dibromochloromethane	50	ND		ND		ND		ND		ND	
Dichlorodifluoromethane	5	ND		ND		ND		ND		ND	
Ethylbenzene	5	ND		ND		ND		ND		ND	
1,2-Dibromoethane	0.0006a	ND		ND		ND		ND		ND	
Isopropylbenzene	5	ND		ND		ND		ND		ND	
Methyl tert-butyl ether	10	ND		ND		2.9		ND		ND	
Methylene Chloride	5	ND		ND		ND		ND		ND	
Styrene	5	ND		ND		ND		ND		ND	
Tetrachloroethene	5	ND		ND		ND		ND		ND	
Toluene	5	ND		ND		ND		ND		ND	
trans-1,2-Dichloroethene	5	ND		ND		ND		ND		ND	
Trichloroethene	5	ND		ND		ND		ND		ND	
Trichlorofluoromethane	5	ND		ND		ND		ND		ND	
Vinyl chloride	2	ND		ND		ND		ND		ND	
Xylenes, Total	5	ND		ND		ND		ND		ND	

Table 5a

GROUNDWATER RESULTS
4435-4445 MILITARY ROAD

	Location ID	MW-03	MW-05		MW-06	MW-07	DUP-200205	
	Date Sampled	02/05/2020	02/05/2020		02/05/2020	02/05/2020	02/05/2020	
	Sample Matrix	Water	Water		Water	Water	Water	
	Units	ug/l	ug/l		ug/l	ug/l	ug/l	
	NYS TOGS Groundwater Standand & Guidance Value							
SVOCs								
1,4-Dioxane			ND		1.1	ND	ND	
2,4-Dichlorophenol	5	ND	ND		ND	ND	ND	
2,4-Dinitrotoluene	5	ND	ND	F2	ND	ND	ND	
2,6-Dinitrotoluene	5	ND	ND	F2	ND	ND	ND	
2-Chloronaphthalene	10	ND	ND		ND	ND	ND	
2-Nitroaniline	5	ND	ND	F2	ND	ND	ND	
3,3'-Dichlorobenzidine	5	ND	ND		ND	ND	ND	
3-Nitroaniline	5	ND	ND	F2	ND	ND	ND	
4-Chloroaniline	5	ND	ND		ND	ND	ND	
4-Nitroaniline	5	ND	ND		ND	ND	ND	
Acenaphthene	20	ND	ND		ND	ND	ND	
Anthracene	50	ND	ND	F2	ND	ND	ND	
Atrazine	7.5	ND	ND	F2	ND	ND	ND	
Benzo[a]anthracene	0.002a	ND	ND	F2	ND	ND	ND	
Benzo[b]fluoranthene	0.002a	ND	ND	F2	ND	ND	ND	
Benzo[k]fluoranthene	0.002a	ND	ND		ND	ND	ND	
Biphenyl	5	ND	ND		ND	ND	ND	
bis (2-chloroisopropyl) ether	5	ND	ND		ND	ND	ND	
Bis(2-chloroethoxy)methane	5	ND	ND	F2	ND	ND	ND	
Bis(2-chloroethyl)ether	1	ND	ND	F2	ND	ND	ND	
Bis(2-ethylhexyl) phthalate	5	ND	ND	F2	ND	ND	ND	
Butyl benzyl phthalate	50	ND	ND	F2	ND	ND	ND	
Chrysene	0.002a	ND	ND	F2	ND	ND	ND	
Diethyl phthalate	50	ND	ND	F2	ND	ND	ND	
Dimethyl phthalate	50	ND	ND	F2	ND	ND	ND	
Di-n-butyl phthalate	50	ND	ND	F2	ND	ND	0.35	J
Di-n-octyl phthalate	50	ND	ND	F2	ND	ND	ND	
Fluoranthene	50	ND	ND	F2	ND	ND	ND	
Fluorene	50	ND	ND	F2	ND	ND	ND	
Hexachlorobenzene	0.04a	ND	ND	F2	ND	ND	ND	
Hexachlorobutadiene	0.5a	ND	ND		ND	ND	ND	
Hexachlorocyclopentadiene	5	ND	ND		ND	ND	ND	
Hexachloroethane	5	ND	ND		ND	ND	ND	
Indeno[1,2,3-cd]pyrene	0.002a	ND	ND	F2	ND	ND	ND	
Isophorone	50	ND	ND	F2	ND	ND	ND	
Naphthalene	10	ND	ND		ND	ND	ND	
Nitrobenzene	0.4	ND	ND		ND	ND	ND	
N-Nitrosodiphenylamine	50	ND	ND	F2	ND	ND	ND	
Phenanthrene	50	ND	ND	F2	ND	ND	ND	
Pyrene	50	ND	ND	F2	ND	ND	ND	

Table 5a

GROUNDWATER RESULTS
4435-4445 MILITARY ROAD

Location ID		MW-03		MW-05		MW-06		MW-07		DUP-200205	
Date Sampled		02/05/2020		02/05/2020		02/05/2020		02/05/2020		02/05/2020	
Sample Matrix		Water		Water		Water		Water		Water	
Units	NYS TOGS Groundwater Standand & Guidance Value	ug/l		ug/l		ug/l		ug/l		ug/l	
Pesticidies											
4,4'-DDD	0.3	0.050	U	0.250	U	0.050	U	0.050	U	ND	
4,4'-DDE	0.2	ND		ND		ND		ND		ND	
4,4'-DDT	0.2	ND	*	0.15	J*	ND	*	0.031	J*	0.031	J*
alpha-BHC	0.01	ND		0.250	U	ND		0.050	U	0.050	U
beta-BHC	0.04	ND		ND		ND		ND		ND	
delta-BHC	0.04	ND		0.250	U	0.050	U	0.050	U	0.050	U
Dieldrin	0.004	ND		ND		ND		ND		ND	
Endrin	ND	ND		ND		ND		ND		ND	
Endrin aldehyde	5	0.020	J	0.12	J	ND		ND		0.024	J
gamma-BHC (Lindane)	0.05	ND		0.250	U	ND		ND		0.050	U
Heptachlor	0.04	ND		ND		ND		ND		ND	
Heptachlor epoxide	0.03	0.013	J	ND		ND		0.0089	J	ND	
Methoxychlor	35	ND		ND		ND		ND		0.053	
Toxaphene	0.06	ND		ND		ND		ND		ND	
PCBs											
PCB-1016		ND		ND		ND		ND		ND	
PCB-1221		ND		ND		ND		ND		ND	
PCB-1232		ND		ND		ND		ND		ND	
PCB-1242		ND		ND		ND		ND		ND	
PCB-1248		ND		ND		ND		ND		ND	
PCB-1254		ND		ND		ND		ND		ND	
PCB-1260		ND		ND		ND		ND		ND	
Metals											
Mercury	0.7	ND		0.470		ND		ND		ND	
Mercury, Dissolved	0.7					ND					
Arsenic	25	6	J	ND		ND		ND		ND	
Arsenic, Dissolved	25					ND					
Barium	1000	48		59		110		53		38	
Barium, Dissolved	1000					34					
Beryllium	3	0	J	ND		1	J	0	J	ND	
Beryllium, Dissolved	3					ND					
Cadmium	5	ND		ND		1	J	1	J	ND	
Cadmium, Dissolved	5					ND					
Chromium	50	190		ND		11		6		200	
Chromium, Dissolved	50					ND					
Copper	200	4	J	ND		9	J	6	J	3	J
Copper, Dissolved	200					ND					
Iron	300	1200	B	200		10800	B	4000	B	700	B
Iron, Dissolved	300					ND					
Lead	25	8	J	ND		18		10		4	J
Lead, Dissolved	25					ND					
Magnesium	35000	24800		50000		40800		38100		19900	

Table 5a

GROUNDWATER RESULTS
4435-4445 MILITARY ROAD

	Location ID	MW-03		MW-05		MW-06		MW-07		DUP-200205	
	Date Sampled	02/05/2020		02/05/2020		02/05/2020		02/05/2020		02/05/2020	
	Sample Matrix	Water		Water		Water		Water		Water	
	Units	ug/l		ug/l		ug/l		ug/l		ug/l	
	NYS TOGS Groundwater Standand & Guidance Value										
Magnesium, Dissolved	35000					24100					
Manganese	300	41	B	480	F1	350	B	54	B	23	B
Manganese, Dissolved	300					21					
Nickel	100	2	J	1	J	11		4	J	1	J
Nickel, Dissolved	100					2	J				
Selenium	10	ND		ND		ND		ND		ND	
Selenium, Dissolved	10					ND					
Silver	50	ND		ND		ND		ND		ND	
Silver, Dissolved	50					ND					
Sodium	20000	43400		43300		120000		85300		44300	
Sodium, Dissolved	20000					114000					
Thallium	0.5	ND		ND		ND		ND		ND	
Thallium, Dissolved	0.5					ND					
Zinc	2000	16	B	2	J	57	B	37	B	9	JB
Zinc, Dissolved	2000					100	U				
Cyanide, Total	200	ND		ND		ND		ND	F1	ND	

ND indicates analyte was not detected.

Blank space indicates analyte was not analyzed for in that sample.

* - LCS or LCSD is outside acceptance limits.

B - Compound was found in the blank and sample.

F1 - MS and/or MSD Recovery is outside acceptance limits.

F2 - MS/MSD RPD exceeds control limits

I - Value is EMPC (estimated maximum possible concentration).

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

U - The analyte was analyzed for but was not detected at or above the sample quantitation limit.

TABLE 5b

GROUNDWATER SAMPLE RESULTS - PFAS
4435-4445 MILITARY ROAD SITE

	Location ID	MW-05		MW-06		MW-07		DUP-200205		MW-06 RS	
	Sample Matrix	Water		Water		Water		Water		Water	
	Date Sampled	02/05/2020		02/05/2020		02/05/2020		02/05/2020		05/19/2020	
	Units	ng/l		ng/l		ng/l		ng/l		ng/l	
LCMS											
Perfluorobutanoic acid (PFBA)		17	B	28	B	4.9	B	5.7	B	4.3	
Perfluoropentanoic acid (PFPeA)		18		47		2.0		2.0		1.6	J
Perfluorohexanoic acid (PFHxA)		14		40		1.8	J	2.6		1.9	
Perfluoroheptanoic acid (PFHpA)		12		29		1.1	J	1.5	J	1.4	J
Perfluorooctanoic acid (PFOA)		16		49		3.9		2.0		3.2	
Perfluorononanoic acid (PFNA)		2.3		11		0.26	J	0.62	J	1.1	JB
Perfluorodecanoic acid (PFDA)		ND		5.1		ND		ND		ND	
Perfluoroundecanoic acid (PFUnA)		ND		ND		ND		ND		ND	
Perfluorododecanoic acid (PFDoA)		ND		ND		ND		ND		ND	
Perfluorotridecanoic acid (PFTriA)		ND		ND		ND		ND		ND	
Perfluorotetradecanoic acid (PFTeA)		ND		ND		ND		ND		ND	
Perfluorobutanesulfonic acid (PFBS)		1.3	J	1.6	J	1.4	J	0.92	J	0.82	J
Perfluorohexanesulfonic acid (PFHxS)		1.8	J	3.9		1.8	J	0.87	J	0.97	J
Perfluoroheptanesulfonic Acid (PFHpS)		ND		ND		ND		ND		ND	
Perfluorooctanesulfonic acid (PFOS)		4.0		15		3.3	I	3.5		4.1	
Perfluorodecanesulfonic acid (PFDS)		ND		ND		ND		ND		ND	
Perfluorooctanesulfonamide (PFOSA)		ND		ND		ND		ND		ND	
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)		ND		ND		ND		ND		ND	
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)		ND		ND		ND		ND		ND	
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)		ND		ND		ND		ND		ND	
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)		ND		ND		ND		ND		ND	
	TOTAL PFAS	86		230		20		20		19.4	

ND indicates analyte was not detected.
Blank space indicates analyte was not analyzed for in that sample.
* - LCS or LCSD is outside acceptance limits.
B - Compound was found in the blank and sample.
F1 - MS and/or MSD Recovery is outside acceptance limits.
F2 - MS/MSD RPD exceeds control limits
I - Value is EMPC (estimated maximum possible concentration).
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
MW-06 RS was resampled on 5/19/2020.

Table 5c

PRE DELINEATION SAMPLING
GROUNDWATER RESULTS
4435-4445 MILITARY ROAD

	Location ID	MW-03		TMW-08		TMW-09		TMW-08		TMW-09	
	Date Sampled	04/16/2021		04/16/2021		04/16/2021		05/04/2021		05/04/2021	
	Sample Matrix	Water		Water		Water		Water		Water	
	Units	mg/l		mg/l		mg/l		mg/l		mg/l	
	NYS TOGS Groundwater Standand & Guidance Value										
Metals											
Chromium	0.05	**2.00**	^+			**0.25**	^+				
Chromium, Dissolved	0.05	**2.00**				**0.01**					
WetChem											
Chromium, hexavalent	0.05	**1.00**		**0.23**				**0.12**		**0.40**	

ND indicates analyte was not detected.

Blank space indicates analyte was not analyzed for in that sample.

^+ - Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.

Table 6

SOIL VAPOR SAMPLING RESULTS
4435-4445 MILITARY ROAD

Location ID	NYSDOH Guidance Value	VP-01		VP-02
Date Sampled		8/5/2021		8/5/2021
Sample Matrix		Soil Vapor		Soil Vapor
Analysis		TO-15		TO-21
Units		ug/M^3		ug/M^3
Volatile Organics				
1,1,1-Trichloroethane		ND		ND
1,1,2,2-Tetrachloroethane		ND		ND
1,1,2-Trichloroethane		ND		ND
1,1-Dichloroethane		ND		ND
1,1-Dichloroethene		ND		ND
1,2,4-Trichlorobenzene		ND		ND
1,2,4-Trimethylbenzene		2.1		9.5
1,2-Dibromoethane		ND		ND
1,2-Dichlorobenzene		ND		ND
1,2-Dichloroethane		ND		ND
1,2-Dichloropropane		ND		ND
1,3,5-Trimethylbenzene		1.5		4.1
1,3-butadiene		ND		ND
1,3-Dichlorobenzene		ND		8.9
1,4-Dichlorobenzene		ND		ND
1,4-Dioxane		ND		ND
2,2,4-trimethylpentane		2700		110
4-ethyltoluene		0.49	J	3.0
Acetone		5300		5900
Allyl chloride		ND		ND
Benzene		3.4		61
Benzyl chloride		ND		ND
Bromodichloromethane		ND		ND
Bromoform		ND		ND
Bromomethane		ND		ND
Carbon disulfide		1.4		34
Carbon tetrachloride		ND		ND
Chlorobenzene		ND		ND
Chloroethane		ND		0.92
Chloroform		ND		11
Chloromethane		ND		ND
cis-1,2-Dichloroethene		ND		ND
cis-1,3-Dichloropropene		ND		ND
Cyclohexane		6.0		130
Dibromochloromethane		ND		ND
Ethyl acetate		ND		ND
Ethylbenzene		2.0		8.2
Freon 11		1.3		1.9
Freon 113		ND		ND
Freon 114		ND		ND
Freon 12		2.3		2.3
Heptane		ND		52
Hexachloro-1,3-butadiene		ND		ND
Hexane		35		410
Isopropyl alcohol		47		42
m&p-Xylene		7.5		34
Methyl Butyl Ketone		ND		ND
Methyl Ethyl Ketone		87		100
Methyl Isobutyl Ketone		ND		ND
Methyl tert-butyl ether		ND		ND
Methylene chloride	60	0.83		1.5
o-Xylene		2.2		10
Propylene		ND		ND
Styrene		ND		0.89
Tetrachloroethylene	30	ND		ND
Tetrahydrofuran		ND		ND
Toluene		7.0		33
trans-1,2-Dichloroethene		ND		ND
trans-1,3-Dichloropropene		ND		ND
Trichloroethene	2	ND		ND
Vinyl acetate		ND		ND
Vinyl Bromide		ND		ND
Vinyl chloride		ND		ND

- Analytical results compared to NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006.
- Results and guidance in ug/m3
- Highlighted cell indicates the respective guidance value exceeded.
- "- -" indicates analysis not performed.
- Blank space indicates that a NYSDOH Guidance Value does not exist
- ND indicates analyte was not detected above laboratory detection limits.
- "J" indicates the analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Appendix A
Excavation Work Plan

4435-4445 Military Road Site
SITE NO. C932174
Excavation Work Plan

1. NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the site owner or their representative will notify the NYSDEC. **Table 1** includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information.

Table 1: Notifications*

Name	Contact Information
NYSDEC Project Manager Andrew Zwack	(716) 851-7220 Andrew.Zwack@dec.ny.gov
NYSDEC Regional Geologist Stan Radon	(716) 851-7220 stanley.radon@dec.ny.gov
NYSDEC Site Control Kelly Lewandowski	(518) 402-9547 Kelly.lewandowski@dec.ny.gov

* Note: Notifications are subject to change and will be updated as necessary.

The email notification to the Project Manager will include:

- A detailed description of the work to be performed, including the location and areal extent of excavation, plans/drawings for site re-grading, estimated volumes of contaminated soil to be excavated;
- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this EWP;
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120;
- A copy of the contractor's health and safety plan (HASP), in electronic format, if it differs from the HASP provided in the Remedial Investigation Work Plan (RIWP) for the site;
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

2. SOIL SCREENING METHODS

Visual, olfactory and instrument-based (e.g. photoionization detector) soil screening will be performed by a qualified environmental professional during all excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed when invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal and material that requires testing to determine if the material can be reused on-site as soil beneath a cover or if the material can be used as cover soil. Further discussion of off-site disposal of materials and on-site reuse is provided in Sections 6 and 7 of this Plan.

3. SOIL STAGING METHODS

Potentially contaminated soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC.

4. MATERIALS EXCAVATION AND LOAD-OUT

A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and remedial party (if applicable) and its contractors are responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work is posed by utilities or easements on the site. Prior to intrusive work, Digsafe NY and National Grid will be notified.

As necessary, loaded vehicles leaving the site will be appropriately lined, tarped, and / or securely covered. Shipments will be manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

Locations where vehicles enter or exit the site shall be inspected daily for evidence of offsite soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials.

5. MATERIALS TRANSPORT OFF-SITE

Transport of regulated materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the site will be properly secured and covered with loose-fitting canvas-type or tight-fitting covers, as appropriate. If loads contain wet material capable of producing free liquid, truck liners will be used.

Truck transport routes must take into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport.

Trucks will be prohibited from stopping and idling in the neighborhood outside the project site.

Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development.

Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Offsite queuing will be prohibited.

6. MATERIALS DISPOSAL OFF-SITE

Unless proved otherwise by analytical testing, material excavated and removed from the site will be treated as contaminated. Regulated material and will be transported and disposed in accordance with local, state, and federal regulations. If disposal of material from this site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of materials from this site will not occur without formal NYSDEC approval.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility, if appropriate, (e.g. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc.). Actual disposal quantities and associated documentation will be reported to the NYSDEC at the completion of the remedial work. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill, contaminated soils, and clean construction and demolition debris taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR

Part 360-1.2. Material that does not meet Unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

7. FLUIDS MANAGEMENT

All liquids to be removed from the site, including but not limited to, excavation dewatering, decontamination waters and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, state, and federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the site, and will be managed off-site, unless prior approval is obtained from NYSDEC.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed under a SPDES permit.

8. BACKFILL FROM OFF-SITE SOURCES

All materials proposed for import onto the site will be approved by the qualified environmental professional and will be in compliance with provisions in this RAWP prior to receipt at the site. A Request to Import/Reuse Fill or Soil form, which can be found at http://www.dec.ny.gov/regulations/67386.html, will be prepared and submitted to the NYSDEC project manager allowing a minimum of 5 business days for review.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC. Solid waste will not be imported onto the site.

Trucks entering the site with imported soils will be appropriately covered. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

9. STORMWATER POLLUTION PREVENTION

Erosion and sediment control measures shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Erosion and sediment control measures specific to the RAWP have been listed below:

Erosion and sediment control devices will be installed on the site as appropriate. Because excavation will be done via direct-loading, minimal onsite disturbance is anticpated. Downstream stormwater inlets will be protected during site excavation activities using silt

socks or similar products. Accumulated sediments will be removed as required to keep the silt socks or barriers functional. If soil stockpiles accumulate onsite, they will be properly tarped with the installation of perimeter silt-fencing at the end of eash work day.

10. EXCAVATION CONTINGENCY PLAN

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the Periodic Review Report, Monthly Monitoring Report, and/or Remedial Investigation Report.

11. COMMUNITY AIR MONITORING PLAN

Air sampling locations are to be determined. These locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and downwind monitoring stations. Exceedances of action levels listed in the CAMP will be reported to NYSDEC.

12. ODOR CONTROL PLAN

This odor control plan is capable of controlling emissions of nuisance odors off-site. Specific odor control methods to be used on a routine basis is not anticipated to be necessary. If nuisance odors are identified at the site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the remedial party's remediation contractor, and any measures that are implemented will be discussed in the final SMP.

All necessary means will be employed to prevent on- and off-site nuisances. At a minimum, these measures will include:

a) Limiting the area of open excavations and size of soil stockpiles;

b) Shrouding open excavations with tarps and other covers; and
c) Using foams to cover exposed odorous soils.

If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include:

d) Direct load-out of soils to trucks for off-site disposal;
e) Use of chemical odorants in spray or misting systems; and,
f) Use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting / filtering systems.

13. DUST CONTROL PLAN

A dust suppression plan that addresses dust management during invasive on-site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved through the use of a dedicated on-site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

14. OTHER NUISANCES

A plan will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances.

Appendix B
Health & Safety Plan

Health and Safety Plan
for
4435-4445 Military Road Site

BCP Site No. C932174

4435-4445 Military Road Site

4435-4445 Military Road

Town of Niagara, New York

Prepared by

C&S Engineers, Inc.
141 Elm Street, Suite 100
Buffalo, New York 14203

September, 2021

EMERGENCY PHONE NUMBERS

Emergency Medical Service 911

Police Department 911

Fire Department 911

Mount St. Mary's Hospital ..... (716) 297-4800

National Response Center ..... (800) 424-8802

Poison Control Center ..... (800) 222-1222

Center for Disease Control ..... (800) 311-3435

NYSDEC Region 9 (Buffalo, New York) ..... (716) 851-7201

C&S Engineers ..... (315) 455-2000

Niagara Town Office ..... (716) 297-5243

TABLE OF CONTENTS

FIGURES

SECTION 1 – GENERAL INFORMATION

This Health and Safety Plan (HASP) addresses health and safety considerations for the activities that personnel employed by C&S Engineers, Inc., (C&S) may be engaged in during site investigation at the 4435-4445 Military Road Site located in Town of Niagara, New York (Site). **Figure 1** and **Figure 2** shows the location and layout of the Site. This HASP will be implemented by the Health and Safety Officer (HSO) during site work.

Compliance with this HASP is required of C&S personnel who enter this Site. The content of the HASP may change or undergo revision based upon additional information made available to the health, safety, and training (H&S) committee, monitoring results or changes in the technical scope of work. Any changes proposed must be reviewed by the H&S committee.

1.1 Responsibilities

Project Manager……	Dan Riker Phone: (716) 955-3018 Cell: (716) 572-5312
Health and Safety Manager……	Brent Testut Phone: (315) 703-4376 Cell: (707) 631-8846
Site Health and Safety Officer……....	Alex Brennen Phone: (716) 427-6385 Cell: (716) 946-9133
Emergency Coordinator……..	Alex brennen Phone: (716) 427-6385 Cell: (716) 946-9133

SECTION 2 - HEALTH AND SAFETY PERSONNEL

The following information briefly describes the health and safety designations and general responsibilities for this Site.

2.1 Project Manager (PM)

The PM is responsible for the overall project including the implementation of the HASP. Specifically, this includes allocating adequate manpower, equipment, and time resources to conduct Site activities safely.

2.2 Health and Safety Manager

- Has the overall responsibility for coordinating and reporting health and safety activities and the health and safety of Site Workers.
- Must have completed, at a minimum, the OSHA 30-Hour Construction Safety Training, and either the 24-Hour training course for the Occasional Hazardous Waste Site Worker or the 40-Hour training course for the Hazardous Waste Operations Worker that meets OHSA 29 CFR 1910.
- Must have completed the 8-Hour Site supervisor/manager's course for supervisors and managers having responsibilities for hazardous waste Site operations and management.
- Directs and coordinates health and safety monitoring activities.
- Ensures that field teams utilize proper personal protective equipment (PPE).
- Conducts initial on-site specific training prior to Site Workers commencing work.
- Conducts and documents daily and periodic safety briefings.
- Ensures that field team members comply with this HASP.
- Immediately notifies the Project Manager of all accident/incidents.
- Determines upgrading or downgrading of PPE based on Site conditions and/or real time monitoring results.
- Ensures that monitoring instruments are calibrated daily or as the manufacturer's instructions determine.
- Provides daily summaries of field operations and progress to the Project Manager.
- Submits and maintains all documentation required in this HASP and any other pertinent health and safety documentation.

2.3 Health and Safety Officer (HSO)

- Must be designated by the Health and Safety Manager and at a minimum, have the 40-Hour training course for the Hazardous Waste Operations Worker that meets OHSA 29 CFR 1910, as well as the OSHA 10-Hour Construction Safety Training.
- Must schedule and attend a Pre-Construction Safety Meeting with the Health and Safety Manager to discuss the Subcontractor Safety Requirements and must attend the Weekly Subcontractor Coordination Meeting.
- Responsible for ensuring subcontractors and their lower tier contractors comply with project safety requirements.

- Must make frequent and regular inspections of their work areas and activities and ensure hazards that are under their control are corrected immediately and all other hazards are reported to the Project Manager and Health and Safety Manager.
- Must report all work related injuries, regardless of severity, to the Project Manager and the Health and Safety Manager within 24 hours after they occur.

2.4 Emergency Coordinator

- Will at a minimum, have the 40-Hour training course for the Hazardous Waste Operations Worker that meets OHSA 29 CFR 1910, as well as the OSHA 10-Hour Construction Safety Training.
- The Emergency Coordinator or his on-site designee will, in coordination with the Town of Niagara, implement the emergency response procedures outlined in Section 12 whenever conditions at the Site warrant such action.
- The Emergency Coordinator or his on-site designee will be responsible for assuring the evacuation, emergency treatment, emergency transport of C&S personnel as necessary, and notification of emergency response units (refer to phone listing in the beginning of this HASP) and the appropriate management staff.

2.5 Site Workers

- Report any unsafe or potentially hazardous conditions to the Health and Safety Officer and Manager.
- Maintain knowledge of the information, instructions, and emergency response actions contained in the HASP.
- Comply with rules, regulations, and procedures as set forth in this HASP, including any revisions that are instituted.
- Prevent unauthorized personnel from entering work Site.

SECTION 3 - PERTINENT SITE INFORMATION

3.1 Site Location and General History

The Site is comprised of one parcel: 4435-4445 Military Road (SBL: 131.10-2-29). The BCP Site is located in the northern portion of the Town of Niagara, Niagara County, New York. The Site is approximately 1.15 acres and is owned by the Town of Niagara. Sweet Home Road is located to the north, Grauer Road is located to the south, Military Road is located to the west and Hermitage Street is located at a distance to the east. The site is bounded by residential properties and Military and Grauer Roads.

According to historical records, the Site was initially developed for commercial uses starting around 1960, prior to which the land was vacant. In the 1960s, the Site was used as a laundry, dry cleaner and barbershop. As the 1960s ended, portions of the building at the Site contained auto repair and a gas station. The use of the Site as an auto tire store and auto repair shop, dry cleaner, and barbershop continued throughout the 1980's with the addition of a pizza shop. The use of a portion of the site as a cleaner ended by 1994. The most recent use of the Subject Property included commercial use as Culbert's Wholesale Tire. Culbert's utilized the northern portion of the building at the Site for storage and the southern portion of the building for specialized auto equipment and repair. The property was foreclosed upon by Niagara County in 2018, and the Town of Niagara assumed ownership on October 11, 2018.

SECTION 4 – TRAINING

4.1 Site-Specific Training

Training will be provided that specifically addresses the activities, procedures, monitoring, and equipment for the Site operations prior to going on site. Training will include familiarization with Site and facility layout, known and potential hazards, and emergency services at the Site, and details all provisions contained within this HASP. This training will also allow Site Workers to clarify anything they do not understand and to reinforce their responsibilities regarding safety and operations for their particular activity.

4.2 Safety Briefings

C&S project personnel will be given briefings by the HSO on a daily or as needed basis to further assist Site workers in conducting their activities safely. Pertinent information will be provided when new operations are to be conducted. Changes in work practices must be implemented due to new information made available, or if Site or environmental conditions change. Briefings will also be given to facilitate conformance with prescribed safety practices. When conformance with these practices is not occurring or if deficiencies are identified during safety audits, the project manager will be notified.

SECTION 5 - PERSONAL PROTECTIVE EQUIPMENT

5.1 General

The level of protection to be worn by field personnel will be defined and controlled by the HSO. Depending upon the type and levels of material present or anticipated at the site, varying degrees of protective equipment will be needed. If the possible hazards are unknown, a reasonable level of protection will be taken until sampling and monitoring results can ascertain potential risks. The levels of protection listed below are based on USEPA Guidelines. A list of the appropriate clothing for each level is also provided.

Level A protection must be worn when a reasonable determination has been made that the highest available level of respiratory, skin, eye, and mucous membrane protection is needed. It should be noted that while Level A provides maximum available protection, it does not protect against all possible hazards. Consideration of the heat stress that can arise from wearing Level A protection should also enter into the decision making process. Level A protection includes:

- Open circuit, pressure-demand self-contained breathing apparatus (SCBA)
- Totally encapsulated chemical resistant suit
- Gloves, inner (surgical type)
- Gloves, outer, chemical protective
- Boots, chemical protective

Level B protection must be used when the highest level of respiratory protection is needed, but hazardous material exposure to the few unprotected areas of the body (e.g., the back of the neck) is unlikely. Level B protection includes:

- Open circuit, pressure-demand SCBA or pressure airline with escape air bottle
- Chemical protective clothing: Overalls and long sleeved jacket; disposal chemical resistant coveralls; coveralls; one or two piece chemical splash suit with hood
- Gloves, inner (surgical type)
- Gloves, outer, chemical protective
- Boots, chemical protective

Level C must be used when the required level of respiratory protection is known, or reasonably assumed to be, not greater than the level of protection afforded by air purifying respirators; and hazardous materials exposure to the few unprotected areas of the body (e.g. the back of the neck) is unlikely. Level C protection includes:

- Full or half face air-purifying respirator
- Chemical protective clothing: Overalls and long-sleeve jacket; disposable chemical resistant coveralls; coveralls; one or two piece chemical splash suit
- Gloves, inner (surgical type)
- Gloves, outer, chemical protective
- Boots, chemical protective

Level D is the basic work uniform. It cannot be worn on any site where respiratory or skin hazards exist. Level D protection includes:

- Safety boots/shoes
- Safety glasses
- Hard hat with optional face shield

Note that the use of SCBA and airline equipment is contingent upon the user receiving special training in the proper use and maintenance of such equipment.

5.2 Personal Protective Equipment – Site Specific

Level D with some modification will be required when working in the work zone on this Site. In addition to the basic work uniform specified by Level D protection, Nitrile gloves will be required when contact with soil or ground water is likely. Hearing protection will be worn when power equipment is used to perform subsurface investigation work. An upgrade to a higher level (Level C) of protection may occur if determined necessary by the HSO.

SECTION 6 - MONITORING PROCEDURES

6.1 Monitoring During Site Operations

All Site environmental monitoring should be accompanied by periodic meteorological monitoring of appropriate climatic conditions.

6.1.1 Drilling Operations (Monitoring Well Installation and Subsurface Borings)

Monitoring will be performed by the HSO or drilling observer during the conduct of work. A photoionization detector (PID) equipped with an appropriate map (e.g. 10.6 or 11.7 eV) will be utilized to monitor for the presence of volatile organic vapors within the breathing zone, the borehole, and subsurface samples upon their retrieval. Drill cuttings and excavation spoils will also be monitored by use of the PID. The PID will be field checked for calibration accuracy three times per day (morning, lunch, and end of day. If subsurface conditions warrant, a combustible gas indicator (CGI) with oxygen alarm may also be used to monitor the borehole for the presence of combustible gases. Similar monitoring of fluids produced during well development will also be conducted.

6.2 Action Levels

The action threshold for VOCs established in the CAMP is 5 ppm above background. If this value is exceeded for the 15-minute average work will be halted and work may resume once instantaneous readings fall below 5 ppm work. The action level for dust is 100 (µg/m3) over background during a 15-minute average. If this limit is exceeded, dust suppression techniques will be employed, including using water to wet the area.

6.3 Personal Monitoring Procedures

Personal monitoring shall be performed as a contingency measure in the event that VOC concentrations are consistently above the 5 ppm action level as detected by the PID. If the concentration of VOCs is above this action level, then amendments to the HASP must be made before work can continue at the Site.

SECTION 7 – COMMUNICATIONS

Cell phones will be the primary means of communicating with emergency support services/facilities.

SECTION 8 - SAFETY CONSIDERATIONS FOR SITE OPERATIONS

8.1 General

Standard safe work practices that will be followed include:

- Do not climb over/under drums, or other obstacles.
- Do not enter the work zone alone.
- Practice contamination avoidance, on and off-site.
- Plan activities ahead of time, use caution when conducting concurrently running activities.
- No eating, drinking, chewing or smoking is permitted in work zones.
- Due to the unknown nature of waste placement at the Site, extreme caution should be practiced during excavation activities.
- Apply immediate first aid to any and all cuts, scratches, abrasions, etc.
- Be alert to your own physical condition. Watch your buddy for signs of fatigue, exposure, etc.
- A work/rest regimen will be initiated when ambient temperatures and protective clothing create a potential heat or cold stress situation.
- No work will be conducted without adequate natural light or without appropriate supervision.
- Task safety briefings will be held prior to onset of task work.
- Ignition of flammable liquids within or through improvised heating devices (barrels, etc.) or space heaters is forbidden.
- Entry into areas of spaces where toxic or explosive concentrations of gases or dust may exist without proper equipment is prohibited.
- Any injury or unusual health effect must be reported to the Site health and safety officer.
- Prevent splashing or spilling of potentially contaminated materials.
- Use of contact lenses is prohibited while on site.
- Beards and other facial hair that would impair the effectiveness of respiratory protection are prohibited if respiratory protection is necessary.
- Field crew members should be familiar with the physical characteristics of investigations, including:

    - Wind direction in relation to potential sources
    - Accessibility to co-workers, equipment, and vehicles
    - Communication
    - Hot zones (areas of known or suspected contamination)
    - Site access
    - Nearest water sources

- The number of personnel and equipment in potentially contaminated areas should be minimized consistent with site operations.

8.2 Field Operations

The HSO or designee will be present on-site during all intrusive work (e.g., drilling operations, excavations, trenching) and will provide monitoring to oversee that appropriate levels of protection and safety procedures are utilized by C&S personnel. The use of salamanders or other equipment with an open flame is prohibited and the use of protective clothing, especially hard hats and boots, will be required during drilling or other heavy equipment operations.

SECTION 9 - DECONTAMINATION PROCEDURES

Decontamination involves physically removing contaminants and/or converting them chemically into innocuous substances. Only general guidance can be given on methods and techniques for decontamination. Decontamination procedures are designed to:

- Remove contaminant(s).
- Avoid spreading the contamination from the work zone.
- Avoid exposing unprotected personnel outside of the work zone to contaminants.

Contamination avoidance is the first and best method for preventing spread of contamination from a hazardous site. Each person involved in site operations must practice the basic methods of contamination avoidance listed below. Additional precautions may be required in the HASP.

- Know the limitations of all protective equipment being used.
- Do not enter a contaminated area unless it is necessary to carry out a specific objective.
- When in a contaminated area, avoid touching anything unnecessarily.
- Walk around pools of liquids, discolored areas, or any area that shows evidence of possible contamination.
- Walk upwind of contamination, if possible.
- Do not sit or lean against anything in a contaminated area. If you must kneel (e.g., to take samples), use a plastic ground sheet.
- If at all possible, do not set sampling equipment directly on contaminated areas. Place equipment on a protective cover such as a ground cloth.
- Use the proper tools necessary to safely conduct the work.

Specific methods that may reduce the chance of contamination are:

- Use of remote sampling techniques.
- Opening containers by non-manual means.
- Bagging monitoring instruments.
- Use of drum grapplers.
- Watering down dusty areas.

Equipment which will need to be decontaminated includes tools, monitoring equipment, and personal protective equipment. Items to be decontaminated will be brushed off, rinsed, and dropped into a plastic container supplied for that purpose. They will then be washed with a detergent solution and rinsed with clean water. Monitoring instruments may be wrapped in plastic bags prior to entering the field in order to reduce the potential for contamination. Instrumentation that is contaminated during field operations will be carefully wiped down. Heavy equipment, if utilized for operations where it may be contaminated, will have prescribed decontamination procedures to prevent contaminant materials from potentially leaving the Site. On-site contractors, such as drillers or backhoe operators, will be responsible for decontaminating all construction equipment prior to demobilization.

SECTION 10 – DISPOSAL PROCEDURES

All discarded materials, waste materials, or other objects shall be handled in such a way as to reduce or eliminate the potential for spreading contamination, creating a sanitary hazard, or causing litter to be left on-site. All potentially contaminated materials, e.g., clothing, gloves, etc., will be bagged or drummed as necessary and segregated for proper disposal. All contaminated waste materials shall be disposed of as required by the provisions included in the contract and consistent with regulatory provisions. All non-contaminated materials shall be collected and bagged for appropriate disposal. Investigation Derived Waste (IDW) will be managed and characterized. Characterization of IDW may require TCLP sampling and analysis consistent with the work plan for the Site and DER-10 Technical Guidance for Site Investigation and Remediation.

SECTION 11 - EMERGENCY RESPONSE PROCEDURES

As a result of the hazards at the Site, and the conditions under which operations are conducted, there is the possibility of emergency situations. This section establishes procedures for the implementation of an emergency plan.

11.1 Emergency Coordinator

Emergency Coordinator:..... Alex Brennen .....Work Phone: (716) 946-9133

The Emergency Coordinator or his on-site designee will, in concert with the Town of Niagara, implement the emergency response procedures whenever conditions at the Site warrant such action. The Emergency Coordinator or his on-site designee will be responsible for assuring the evacuation, emergency treatment, emergency transport of C&S personnel as necessary, and notification of emergency response units (**refer to phone listing** in the beginning of this HASP) and the appropriate management staff.

11.2 Evacuation

In the event of an emergency situation, such as fire, explosion, significant release of toxic gases, etc., all personnel will evacuate and assemble in a designated assembly area. The Emergency Coordinator or his on-site designee will have authority to contact outside services as required. Under no circumstances will incoming personnel or visitors be allowed to proceed into the area once the emergency signal has been given. The Emergency Coordinator or his on-site designee must see that access for emergency equipment is provided and that all ignition sources have been shut down once the emergency situation is established. Once the safety of all personnel is established, the Fire Department and other emergency response groups will be notified by telephone of the emergency.

11.3 Potential or Actual Fire or Explosion

Immediately evacuate the Site and notify local fire and police departments, and other appropriate emergency response groups, if LEL values are above 25% in the work zone or if an actual fire or explosion has taken place.

11.4 Environmental Incident (spread or release of contamination)

Control or stop the spread of contamination if possible. Notify the Emergency Coordinator and the Project Manager. Other appropriate response groups will be notified as appropriate.

11.5 Personnel Injury

Emergency first aid shall be applied on-site as necessary. Then, decontaminate (en route if necessary) and transport the individual to nearest medical facility if needed. The ambulance/rescue squad shall be contacted for transport as necessary in an emergency. A map of directions to the nearest hospital is shown in **Attachment A**.

11.6 Personnel Exposure

- *Skin Contact*: Use copious amounts of soap and water. Wash/rinse affected area thoroughly, and then provide appropriate medical attention. Eyes should be thoroughly rinsed with water for at least 15 minutes.
- *Inhalation*: Move to fresh air and/or, if necessary, decontaminate and transport to emergency medical facility.
- *Ingestion*: Decontaminate and transport to emergency medical facility.
- *Puncture Wound/Laceration*: Decontaminate, if possible, and transport to emergency medical facility.

11.7 Adverse Weather Conditions

In the event of adverse weather conditions, the HSO will determine if work can continue without sacrificing the health and safety of field workers.

11.8 Incident Investigation and Reporting

In the event of an incident, procedures discussed in the Medical Emergency/Incident Response Protocol, presented in **Appendix A** of this HASP, shall be followed.

SECTION 12 – COMMUNITY RELATIONS

13.1 Community Health and Safety Plan

13.1.1 Community Health and Safety Monitoring

As part of the site work, three general types of efforts are scheduled, including, non-intrusive reconnaissance tasks, sampling or monitoring tasks (monitoring point sampling), and intrusive tasks (test trenching, subsurface borings, monitoring well installation). During completion of general reconnaissance and sampling or monitoring tasks, potential for health and safety risks to off-site landowners or the local community are not anticipated.

During completion of intrusive efforts at or adjacent to the Site; health and safety monitoring efforts will be concentrated on the area or areas in which intrusive efforts are being completed. Since the air pathway is the most available and likely avenue for the release of potential contaminants to the atmosphere at or near the Site, in addition to limiting public or community access to the areas in which intrusive efforts are completed, health and safety measures will primarily consist of monitoring the air pathway for worker exposure.

13.1.2 Community Air Monitoring Plan

Efforts will be taken to complete field work in a manner which will minimize the creation of airborne dust or particulates. Under dry conditions, work areas may be wetted to control dust. During periods of extreme wind, intrusive field work may be halted until such time as the potential for creating airborne dust or particulate matter as a result of investigation activities is limited. Periodic monitoring following the guidelines of the site's Community Air Monitoring Plan (CAMP) will be implemented during all non-intrusive Site investigation activities, including surface soil and sediment sampling, and collection of groundwater samples from groundwater monitoring wells.

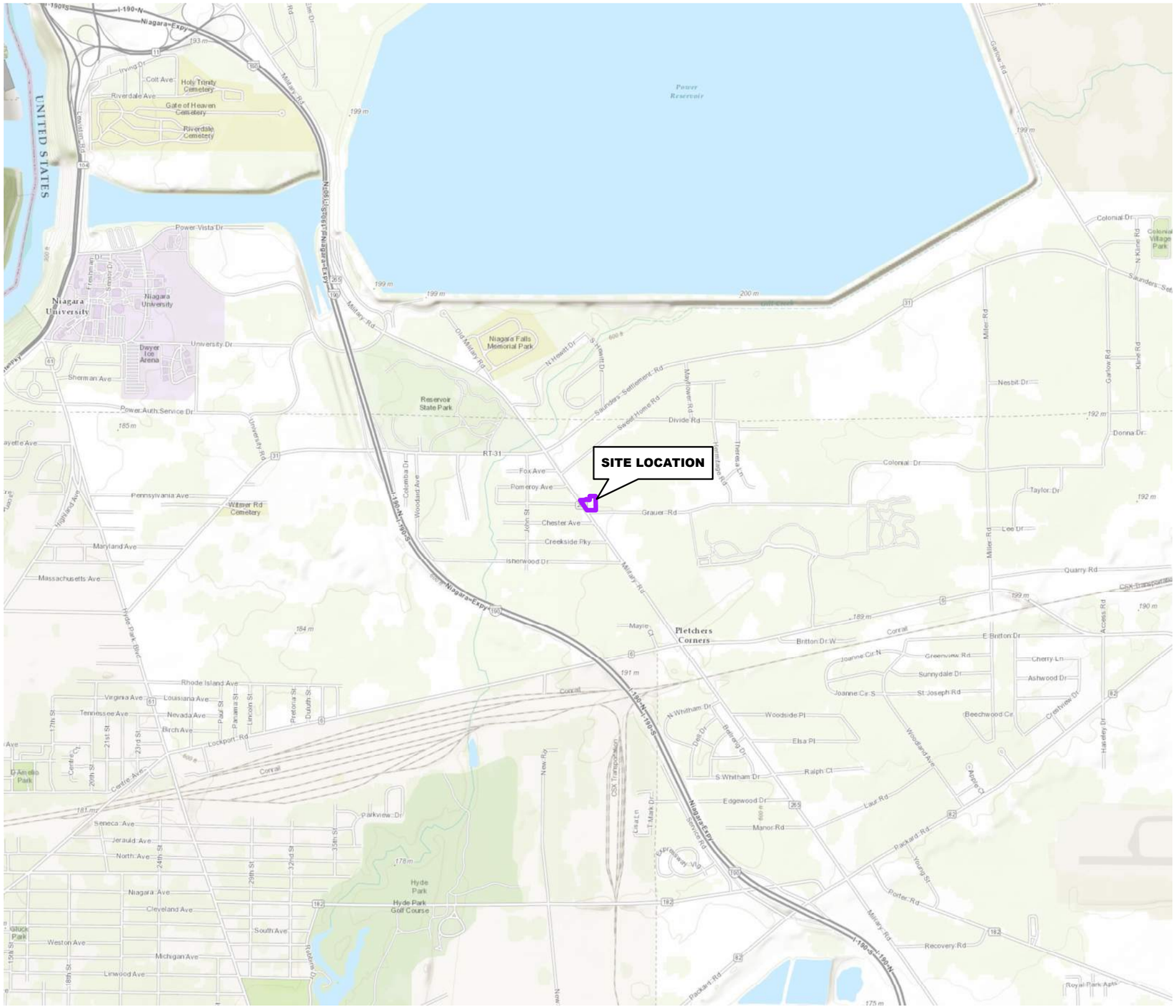
During completion of Site investigation, a CAMP will be implemented for the duration of intrusive activities. These additional air monitoring activities will include establishment of background conditions, continuous monitoring for volatile organic compounds and/or particulates at the downwind work area (exclusion zone) perimeter, recording of monitoring data, and institution and documentation of response levels and appropriate actions consistent with NYSDOH guidance.

SECTION 13 - AUTHORIZATIONS

Personnel authorized to enter the Site while operations are being conducted must be approved by the HSO. Authorization will involve completion of appropriate training courses, medical examination requirements, and review and sign-off of this HASP. No C&S personnel should enter the work zone alone. Each site visitor should check in with the HSO or Project Manager prior to entering the work zones.

FIGURE 1

SITE LOCATION MAP



LEGEND

PROPERTY BOUNDARY

0 1,000 2,000 4,000 Feet

C&S COMPANIES®
C&S Engineers, Inc.
141 Elm Street
Suite 100
Buffalo, New York 14203
Phone: 716-847-1630
Fax: 716-847-1454
www.cscos.com

N

4435 - 4445 MILITARY ROAD
REMEDIAL ACTION WORK PLAN
TOWN OF NIAGARA, NEW YORK

MARK	DATE	DESCRIPTION
REVISIONS		

PROJECT NO:	Q47.001.001
DATE:	FEBRUARY 22, 2016
DRAWN BY:	C. MARTIN
DESIGNED BY:	C. MARTIN
CHECKED BY:	M. COLMERAUER

SITE LOCATION

FIGURE 1

Path: F:\Project\Q47 - Niagara County Dept of Economic Development\Planning-Study\GIS\SITE LOCATION.mxd

FIGURE 2

SITE DETAIL PHOTO

Notes

1) ONLY ANALYTES EXCEEDING UNRESTRICTED USE SCOS, AT A MINIMUM, ARE SHOWN. EXECPT WHERE OTHERWISE NOTED BY "NO EXCEEDANCE"

0 20 40 80 Feet

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www.cscos.com

N

4435-4445 MILITARY ROAD
REMEDIAL ACTION WORK PLAN
TOWN OF NIAGARA, NEW YORK

MARK	DATE	DESCRIPTION

REVISIONS

PROJECT NO:	249.006.001
DATE:	11/16/2020
DRAWN BY:	C. MARTIN
DESIGNED BY:	C. MARTIN
CHECKED BY:	D. RIKER

SITE MAP

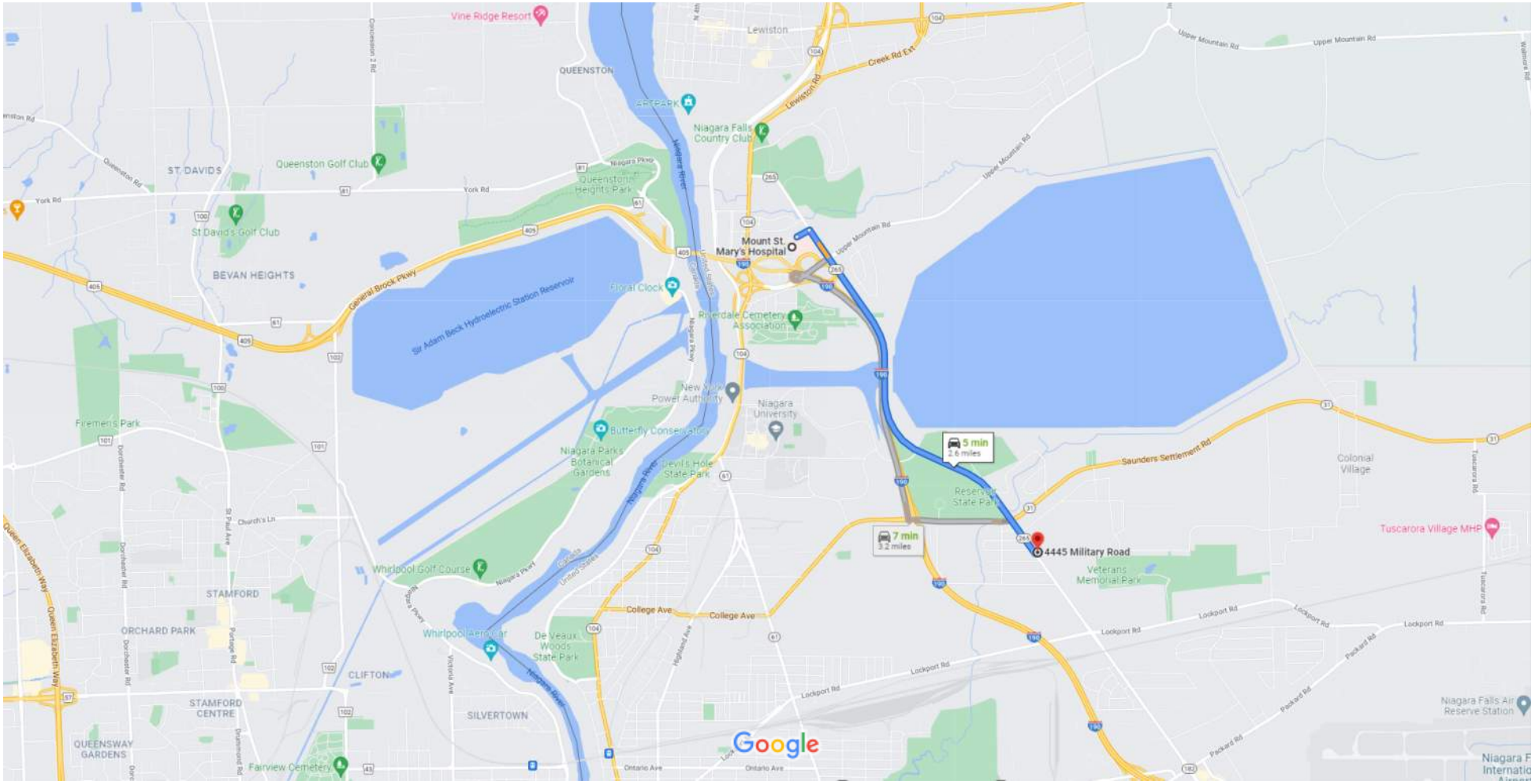
FIGURE 2

ATTACHMENT A

MAP TO HOSPITAL

Google Maps Mount St. Mary's Hospital to 4445 Military Road, Niagara Falls, NY

Drive 2.6 miles, 5 min



Map data ©2021 Google 2000 ft

Mount St. Mary's Hospital

5300 Military Rd, Lewiston, NY 14092

1. Head east toward NY-265 N

446 ft

2. Turn right onto NY-265 S

Destination will be on the left

2.5 mi

Appendix A

GUIDANCE ON INCIDENT INVESTIGATION AND REPORTING

MEDICAL EMERGENCY / INCIDENT RESPONSE PROTOCOL

1.0 PURPOSE

From time to time employees of C&S Engineers, Inc. will sustain an injury while working on the job. While every effort is being made to prevent this, in the event of an injury or illness on the job, the following procedures will be implemented. This format may also be utilized in the event of a property damage incident.

2.0 SCOPE

This guideline applies to all C&S Engineers, Inc. job sites and employees.

3.0 GUIDELINES

Upon notification or awareness of an incident/accident with injuries or illness the Emergency Coordinator or his On-Site Designee will:

1. Ensure that the injured employee is receiving immediate first aid and medical care.
2. Notify Emergency Services (911) if injuries are severe.
3. Stabilize the work area; ensure that no one else can be injured.
4. Notify the Project Manager at the earliest possible convenience**.**
5. Notify the Owner/Client at the earliest possible convenience.

To assist the Health and Safety Manager in the root cause analysis, the Emergency Coordinator or his On-Site Designee will also make an attempt to:

1. Obtain the names and phone numbers of witnesses.
2. Preserve the accident scene if possible for analysis.

3.1 Injury Management

1. If the patient is stable with non-life threatening injuries, the foreman will ensure the employee is transported to the emergency medical facility listed in Section 1 of the HASP. Directions to the nearest emergency medical facility are located in **Attachment A** of the HASP.

At no time will an injured employee drive themselves to medical care.

2. If the patient has serious or life threatening injuries, the emergency coordinator or his on- site designee will notify the emergency services for the area for treatment and transport to a hospital or emergency room. Serious injuries can be considered but not limited to head injuries, loss of consciousness, severe laceration or amputation, fractured bones, burns and eye injuries.

3. Following the treatment and care of the injured employee, the emergency coordinator or his on-site designee and the project manager will initiate the completion of the first injury report. The Health & Safety Manager will assist.

3.2 Project Manager

1. Upon notification of a personal injury or illness on the job site, will notify C&S Engineers, Inc, President and Corporate Legal and C&S Companies Health and Safety Manager.
2. Will report to the worksite to initiate the first injury report.
3. Will report to the treatment facility to check on the well being of the injured employee.
4. The project manager will ensure that the treatment facility is aware that this is a workers compensation case.
5. Will assist the Health and Safety Manager in the analysis of the incident.

3.3 Health & Safety Manager

1. Upon notification of the personal injury will determined if it is necessary to report to the treatment facility or the accident site, depending on the nature of the injuries and the circumstances of the accident.
2. Will report to the worksite to begin a root cause analysis investigation of the accident.
3. The investigation may include interview of witnesses, field crew , and project manager, the photographing of the scene, reconstruction of the accident scene, using test instruments and taking measurements. The Health and Safety Manager may draw diagrams from the information learned.
4. The Health and Safety Manager will work with the owner/client as necessary to investigate the accident.
5. The Health & Safety manager will ensure that the site is safe to resume work.
6. The Health & Safety Manager shall initiate the New York State Compensation form requirements (C-2) and forward a copy of the C-2 to the C & S Engineers, Inc. controller for transmittal to the Compensation Carrier within 8 hrs of notification of the incident or by the end of the next business day.
7. The Health and Safety manager, upon completion of the investigation, will provide the
8. Project Manager with a written investigative report (copy to the President)
9. The accident will be reviewed at the next Project Managers meeting with the intent to prevent further or similar events on other projects.
10. The Health & Safety Manager will assess the incident to determine OSHA record ability and make record if necessary on the OSHA 300 form, within five working days.

4.0 INCIDENT RESPONSE

4.1 Purpose

To prevent the occurrence of accidents on C&S Engineers, Inc., work sites and to establish a procedure for investigation and reporting of incidents occurring in, or related to C&S work activities.

4.2 Scope

Applies to all incidents related to C&S Engineers, Inc. work activities.

4.3 Definitions

Accident - An undesired event resulting in personal injury and/or property damage, and/or equipment failure.

Fatality - An injury or illness resulting in death of the individual.

Incident - Any occurrence which results in, or could potentially result in, the need for medical care or property damage. Such incidents shall include lost time accidents or illness, medical treatment cases, unplanned exposure to toxic materials or any other significant occurrence resulting in property damage or in "near misses."

Incidence Rate - the number of injuries, illnesses, or lost workdays related to a common exposure base of 100 full-time workers. The rate is calculated as:

N/EH x 200,000

N = number of injuries and illnesses or lost workday cases; EH = total hours worked by all associates during calendar year. 200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year).

Injury - An injury such as a cut, fracture, sprain, amputation, etc. which results from a work accident or from a single instantaneous event in the work environment.

Lost Workday Case - A lost workday case occurs when an injured or ill employee experiences days away from work beginning with the next scheduled work day. Lost workday cases do not occur unless the employee is effected beyond the day of injury or onset of illness.

Recordable Illness - An illness that results from the course of employment and must be entered on the OSHA 300 Log and Summary of Occupational Injuries and Illnesses. These illnesses require medical treatment and evaluation of work related injury. For example, dermatitis, bronchitis, irritation of eyes, nose, and throat can result from work and non-work related incidents.

Recordable Injury - An injury that results from the course of employment and must be entered on the OSHA 300 Log and Summary of Occupational Injuries and Illnesses. These injuries require medical treatment; may involve loss of consciousness; may result in restriction of work or motion or transfer to another job; or result in a fatality.

Near Miss - An incident which, if occurring at a different time or in a different personnel or equipment configuration, would have resulted in an incident.

4.4 Responsibilities

Employees - It shall be the responsibility of all C&S Engineers, Inc. employees to report all incidents as soon as possible to the HSC, regardless of the severity.

Human Resources - has overall responsibility for maintaining accident/ incident reporting and investigations according to current regulations and recording injuries/ illness on the OSHA 300 log, and posting the OSHA 300 log.

Emergency Coordinator - It is the responsibility of the Emergency Coordinator to investigate and prepare an appropriate report of all accidents, illnesses, and incidents occurring on or related to C&S Engineers, Inc. work. The Emergency Coordinator shall complete **Attachment A** within 24 hours of the incident occurrence.

Health and Safety Manager (HSM) - It is the responsibility of the HSM to investigate and prepare an appropriate report of all lost time injuries and illnesses and significant incidents occurring on or related to C&S Companies. The HSM shall maintain the OSHA 300 form.

Project Managers (PM) - It shall be the PM's responsibility to promptly correct any deficiencies in personnel, training, actions, or any site or equipment deficiencies that were determined to cause or contribute to the incident investigated.

5.0 GUIDELINES

5.1 Incident Investigation

The Project Manager will immediately investigate the circumstances surrounding the incident and will make recommendations to prevent recurrence. The HSM shall be immediately notified by telephone if a serious accident/ incident occurs. The incident shall be evaluated to determine whether it is OSHA recordable. If the incident is determined to be OSHA 300 recordable, it shall be entered on the OSHA 300 form.

The Project Manager with assistance from the HSM must submit to the office an incident report form pertaining to any incident resulting in injury or property damage.

5.2 Incident Report

The completed incident report must be completed by the Project Manager within 12 hours of the incident and distributed to the HSM, and Human Resources. This form shall be maintained by Human Resources for at least five years for all OSHA recordable cases. This form serves as an equivalent to the OSHA 101 form.

5.3 Incident Follow-up Report

The Incident Follow-Up Report (**Attachment B**) shall be distributed with the Incident Report within one week of the incident. Delay in filing this report shall be explained in a brief memorandum.

5.4 Reporting of Fatalities or Multiple Hospitalization Accidents

Fatalities or accidents resulting in the hospitalization of three or more employees must be reported to OSHA verbally or in writing within 8 hours. The report must contain 1) circumstances surrounding the accident(s), 2) the number of fatalities, and 3) the extent of any injuries.

5.5 OSHA 300A Summary Form

Recordable cases must be entered on the log within six workdays of receipt of the information that a recordable case has occurred. The OSHA log must be kept updated to within 45 calendar days.

OSHA 300 forms must be updated during the 5 year retention period, if there is a change in the extent or outcome of an injury or illness which affects an entry on a log. If a change is necessary, the original entry should be lined out and a corrected entry made on that log. New entries should be made for previously unrecorded cases that are discovered or for cases that initially weren't recorded but were found to be recordable after the end of the year. Log totals should also be modified to reflect these changes.

5.6 Posting

The log must be summarized at the end of the calendar year and the summary must be posted from February 1 through May 31.

5.7 OSHA 300A

Facilities selected by the Bureau of Labor Statistics (BLS) to participate in surveys of occupational injuries and illnesses will receive the OSHA 300A. The data from the annual summary on the OSHA 300 log should be transferred to the OSHA 300A, other requested information provided and the form returned as instructed by the BLS.

5.8 Access to OSHA Records

All OSHA records (accident reporting forms and OSHA 300 logs) should be available for inspection and copying by authorized Federal and State government officials.

Employees, former employees, and their representatives must be given access for inspection and copying to only the log, OSHA No. 300, for the establishment in which the employee currently works or formerly worked.

6.0 REFERENCES

29 CFR Part 1904

7.0 ATTACHMENTS

Attachment A - Incident Investigation Form
Attachment B - Incident Follow-Up Report
Attachment C - Establishing Recordability

ATTACHMENT A

INCIDENT INVESTIGATION FORM

Accident investigation should include:

Location: _____

Time of Day: _____

Accident Type: _____

Victim: _____

Nature of Injury: _____

Released Injury: _____

Hazardous Material: _____

Unsafe Acts: _____

Unsafe Conditions: _____

Policies, Decisions: _____

_____

Personal Factors: _____

_____

Environmental Factors: _____

_____

_____

ATTACHMENT B

INCIDENT FOLLOW-UP REPORT

Date _____

Foreman: _____

Date of Incident: _____

Site: _____

Brief description of incident: _____

_____

_____

_____

_____

Outcome of incident: _____

_____

_____

_____

Physician's recommendations: _____

_____

_____

_____

Date the injured returned to work: _____

Project Manager Signature: _____

Date: _____

ATTACH ANY ADDITIONAL INFORMATION TO THIS FORM

ATTACHMENT C

ESTABLISHING RECORDABILITY

1. Deciding whether to record a case and how to classify the case.

   Determine whether a fatality, injury or illness is recordable.

   A fatality is recordable if:

   - Results from employment

   An injury is recordable if:

   - Results from employment and
   - It requires medical treatment beyond first aid or
   - Results in restricted work activity or job transfer, or
   - Results in lost work day or
   - Results in loss of consciousness

   An illness is recordable if:

   - It results from employment

2. Definition of "Resulting from Employment"

   Resulting from employment is when the injury or illness results from an event or exposure in the work environment. The work environment is primarily composed of: 1) The employer's premises, and 2) other locations where associates are engaged in work-related activities or are present as a condition of their employment.

   The employer's premises include company rest rooms, hallways, cafeterias, sidewalks and parking lots. Injuries occurring in these places are generally considered work related.

   The employer's premises EXCLUDES employer controlled ball fields, tennis courts, golf courses, parks, swimming pools, gyms, and other similar recreational facilities, used by associates on a voluntary basis for their own benefit, primarily during off work hours.

   Ordinary and customary commute, is not generally considered work related.

   Employees injured or taken ill while engaged in consuming food, as part of a normal break or activity is not considered work related. Employees injured or taken ill as the result of smoking, consuming illegal drugs, alcohol or applying make up are generally not considered work related. Employee injured by un authorized horseplay is generally not considered work related, however, an employee injured as a result of a fight or other workplace violence act, may be considered work related.

Associates who travel on company business are considered to be engaged in work related activities all the time they spend in the interest of the company. This includes travel to and from customer contacts, and entertaining or being entertained for purpose of promoting or discussing business. Incidents occurring during normal living activities (eating, sleeping, recreation) or if the associate deviates from a reasonably direct route of travel are not considered OSHA recordable.

3. Distinction between Medical Treatment and First Aid.

First aid:

Any one-time treatment, and any follow up visit for the purpose of observation, of minor scratches, cuts, burns, splinters, etc., which do not ordinarily require medical care. Such one time treatment, and follow up visit for the purpose of observation, is considered first aid even though provided by a physician or registered professional personnel.

Medical Treatment (recordable):

a) Must be treated only by a physician or licensed medical personnel.
b) Impairs bodily function (i.e. normal use of senses, limbs, etc.).
c) Results in damage to physical structure of a non-superficial nature (fractures).
d) Involves complications requiring follow up medical treatment.

Appendix C
Community Air Monitoring Plan

Community Air Monitoring Plan

for

4435-4445 MILITARY ROAD SITE
4435-4445 MILITARY ROAD
TOWN OF NIAGARA, NEW YORK

BCP SITE NO. C932174

September 2021

Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil / waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

<u>VOC Monitoring, Response Levels and Actions</u>

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate

surrogate, such as isobutylene. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust

suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.

2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.

3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:

(a) Objects to be measured: Dust, mists or aerosols;
(b) Measurement Ranges: 0.001 to 400 mg/m3 (1 to 400,000 :ug/m3);
(c) Precision (2-sigma) at constant temperature: +/- 10 :g/m3 for one second averaging; and +/- 1.5 g/m3 for sixty second averaging;
(d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
(e) Resolution: 0.1% of reading or 1g/m3, whichever is larger;
(f) Particle Size Range of Maximum Response: 0.1-10;
(g) Total Number of Data Points in Memory: 10,000;
(h) Logged Data: Each data point with average concentration, time/date and data point number;
(i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
(j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;

(k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
(l) Operating Temperature: -10 to 50$_o$ C (14 to 122$_o$ F); and
(m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record-keeping plan.

5. The action level will be established at 150 ug/m3 (15 minutes average). While conservative, this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m3, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m3 above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m3 continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM-10 at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:
(a) Applying water on haul roads;
(b) Wetting equipment and excavation faces;
(c) Spraying water on buckets during excavation and dumping;
(d) Hauling materials in properly tarped or watertight containers;
(e) Restricting vehicle speeds to 10 mph;
(f) Covering excavated areas and material after excavation activity ceases; and
(g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m3 action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.

Special Requirements:

In addition or in combination with the above, the following special requirements apply for work within 20 feet of potentially exposed individuals or structures:

When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates will reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor/dust barriers, temporary negative-pressure enclosures, or special ventilation devices will be considered to prevent exposures related to the work activities and to control dust and odors. Consideration will be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

- If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 ppm, monitoring will occur within the occupied structure(s). Depending upon the nature of contamination, chemical-specific colorimetric tubes of sufficient sensitivity may be necessary for comparing the exposure point concentrations with appropriate pre-determined response levels (response actions should also be pre-determined). Background readings in the occupied spaces must be taken prior to commencement of the planned work. Any unusual background readings should be discussed with NYSDOH prior to commencement of the work.

- If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 mcg/m^3, work activities will be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 mcg/m^3 or less at the monitoring point.

- Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosivity, oxygen, hydrogen sulfide, carbon monoxide) may also need to be monitored. Response levels and actions should be pre-determined, as necessary, for each site.

Unless a self-contained, negative-pressure enclosure with proper emission controls will encompass the work area, all individuals not directly involved with the planned work must be absent from the room in which the work will occur. Monitoring requirements are as stated above under "Special Requirements for Work within 20 Feet of Potentially Exposed Individuals or Structures" except that in this instance "nearby/occupied structures" would be adjacent occupied rooms. Additionally, the location of all exhaust vents in the room and their discharge points, as well as potential vapor pathways (openings, conduits, etc.) relative to adjoining rooms, shall be understood and the monitoring locations established accordingly. In these situations, exhaust fans or other engineering controls will be used to create negative air pressure within the work area during remedial activities. Additionally, the planned work will be implemented during hours (e.g. weekends or evenings) when building occupancy is at a minimum.