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# Site Characterization Sampling and Analysis Plan
# Loucks Road Extension – Offsite
# NYSDEC Site No. C734145A
# Town of Dewitt, East Syracuse, New York
# June 2023

Prepared for: New York State Department of Environmental Conservation (NYSDEC)
Prepared by: Ecology and Environment Engineering and Geology, P.C. (E & E)

## 1 Objective

This Sampling and Analysis Plan (SAP) was prepared for site characterization activities at the Loucks Road Extension - Offsite, NYSDEC Site Number C734145A (the Site). This site characterization is driven by the discovery of polychlorinated biphenyls (PCBs) in surface and shallow subsurface soils discovered by a land development contractor. Through subsequent sampling and analysis by the Owner's consultant, the presence of PCBs was confirmed (see Figure 1).

This SAP will be implemented during the site characterization activities. The primary elements of the site characterization include:

- Surface and subsurface soil sampling conducted with hand tools and the Installation of soil borings to determine the extent that contamination is present in soil.

## 2 Background

### 2.1 Site Description

The Loucks Road Extension offsite area is located in a rural suburban area along Canada Drive, Loucks Road Extension, and Collamer Road (NYS Route 298) in the Town of Dewitt, New York. The offsite area mainly consists of sections along Loucks Road and Canada Drive and the landscaped, municipally owned land along each road. The site is located to the west/northwest of the Bowers Business Park Brownfield Cleanup Program (Bowers BCP, Site No. C734145). A FedEx Freight distribution facility is located adjacent to and north of the Canada Drive portion of the site. The Bowers BCP site is currently inactive and zoned for industrial use. Properties located nearby are zoned industrial, business transitional, and residential. The nearest residential properties are located on Sand Hill Road immediately adjacent to the western side of Loucks Road.

The site has a history of agricultural use (field crops, dairy, and milk plant) until the 1980s. Some sand quarrying in the southern portion of the site also occurred. In 1990 the property was sold to 100 Collingwood Corporation and the farming/quarry operations ceased. Beginning in April 2008, the site was cleared and graded, and the Loucks Road Extension and Canada Drive were

constructed, and storm/sanitary sewers were installed along both roads. The storm sewers drain to a retention pond constructed on the Bowers BCP site.

In March 2013, the owner was notified that soils sampled and analyzed at the site by the land development contractor contained PCBs. Subsequent sampling and analysis by the Owner's consultant confirmed the presence of PCBs. The NYSDEC was notified and spill # 14-00433 was assigned to the site. It is currently unknown from where the PCB-impacted soil originated; however, based on aerial photos, it appears as if soil from piles previously present onsite was used as grading and fill material during infrastructure improvements. To determine the nature and extent of the PCB contamination, the previous Owner performed additional sampling of surface soils and existing soil piles. More than 100 surface soil samples were collected within the Brownfield area and adjacent areas showing widespread PCB contamination. In addition, a limited number of soil samples at depth were collected and results for the deeper samples indicated concentrations diminish with depth supports the assumption that the PCB contamination is primarily present in surficial and near-surface soils.

## 2.2 Site Geology and Hydrology

Historical investigations at the Site were primarily focused on surficial soil and indicated that the soil overburden at the site tended to be a tan sandy loam that consists of silt, sand, and gravel.

No studies have been conducted into groundwater or hydrology at the site.

## 2.3 Previous and Ongoing Investigations

### 2.3.1 2013 to 2014 Phase II – Asbestos & Environmental Consulting Corporation

The Asbestos & Environmental Consulting Corporation (AECC) performed an investigation of PCBs in surface soils at the vacant lots of the Woodbine Business Park. The purpose of the investigation was to evaluate the extent of PCB impacted shallow soils and soil piles, which had been previously identified in topsoil that potentially originated at the Site. The results of the investigation revealed total PCB concentrations ranging from non-detect to nearly 200 parts per million (ppm) in onsite and a limited number of nearby offsite samples (AECC 2015)

### 2.3.2 2020 Off-Site Investigation – Groundwater & Environmental Services Inc.

Groundwater & Environmental Services Inc. (GES), at the request of NYSDEC, conducted an offsite investigation in 2020. This investigation characterized soil conditions within the municipally owned area along Loucks Road Extension and Canada Drive. The investigation was conducted as a follow-up to a previous investigation conducted in October and November 2019 by NYSDEC; the results of which are included in the GES report. The results of the investigation revealed PCB concentrations in surface and shallow subsurface soil that ranged from non-detect to 260 ppm. The only Aroclor detected during this investigation was Aroclor-1248 (GES 2020)

### 2.3.3 2022 to 2023 Phase II – Asbestos & Environmental Consulting Corporation

AECC, on behalf of Bowers Business Park, continues to implement a surface soil, subsurface soil, soil vapor, and groundwater investigation to determine the presence of VOCs, SVOC, metals, pesticides, herbicides, and PCBs, primarily in the onsite area of Bowers Business Park.

# 3 General Site Activities

A New York State-licensed land surveyor (Popli Design Group) will be subcontracted to perform a base map site survey that include a partial property parcel survey, edge of pavement and sidewalks, utility locations, surface water drainage features, and other pertinent site features. Proposed sampling locations for this site characterization will be determined using the results of previous sampling efforts and discussion with the U.S. Environmental Protection Agency (EPA) regarding Toxic Substances Control Act (TSCA) requirements. The proposed location coordinates will be sent to the surveyor to locate and mark the proposed sampling locations at the site. All locations will be surveyed to a horizontal accuracy of 0.5 foot and vertical accuracy of 0.01 foot. Proposed sampling locations are depicted on Figure 1.

LaBella Associates will be subcontracted to provide drilling services. LaBella will contact Dig Safely New York to request mark-outs of underground utilities prior to beginning intrusive activities in accordance with New York Code Rule 753. In addition, the subcontractor will utilize the use of a private utility locating service to locate private service lines including those servicing the FedEx Freight facility, if needed.

The sampling event will start with E & E staff collecting and processing soil samples at each proposed location from depth intervals of 0-2 inches (below vegetative cover) and 6-12 inches at each location manually (e.g., hand auger, trowel) prior to mobilization of the subcontractor's equipment. The subcontractor will then collect additional soil from 12 to 36 inches in depth using a direct-push rig and macrocore system. During subcontractor sampling, E & E staff will conduct sample logging and processing (see Section 4).

All field activities described below will be performed in accordance with E & E's Master Quality Assurance Project Plan (QAPP) (E & E 2020a) and Field Activities Plan (FAP) (E & E 2020b).

A Community Air Monitoring Plan (CHSP) will be implemented during site activities (see Appendix A).

A summary of planned environmental sampling is provided in Table 1.

# 4 Soil Boring and Soil Sampling

The initial phase of sampling includes 59 proposed new locations (see Figure 1) for the purpose of delineating the horizontal and vertical extent of PCB contamination in soil. Following evaluation of these results and additional discussion with EPA representatives regarding disposition of the PCB remediation wastes, additional samples may be collected.

Initially, E & E staff will collect samples from each location using hand tools (e.g. hand augers, trowels) to a depth of 12 inches below ground surface. The same or immediately adjacent locations will be sampled to a final depth of 36 inches by a subcontractor using a direct push (i.e., Geoprobe or equivalent) rig and macrocore system. If the locations that are initially sampled to a depth of 12 inches remain open, the macrocore will be used within the same hole to collect material from 12 to 36 inches in depth. Alternatively, a location immediately adjacent to the original location will be sampled from 0 to 36 inches, but subsampling shall only occur in the range of 12 to 36 inches. At all sampling locations, soil descriptions will be recorded by an E & E geologist.

Sub sampling of surface and subsurface soil samples shall be conducted at the following depth intervals at each location (depths measured below vegetative cover):

| | |
|---|---|
| 0 – 2 inches | Submit to lab |
| 6 – 12 inches | Submit to lab |
| 12 – 24 inches | Submit to lab |
| 24 – 36 inches | Archive at lab pending above results |

The top three intervals from each location shall be submitted to an Environmental Laboratory Approval Program-approved laboratory for analysis of PCBs by EPA SW-846 Method 8082A. The bottom interval (24-36 inches) at each location will be subsampled and processed in the field but will be archived at the laboratory pending the results of the shallower samples. All analyses will be performed by Alpha Analytical, Inc. A 2-week turnaround time will be requested for laboratory reporting such that results of the initial samples may be evaluated and requests for analysis of the deepest interval requested within 30 days of sampling. Evaluation of the results and recommendations for analysis will be discussed with NYSDEC prior to implementation.

Nomenclature for soil sample identification will include the soil boring location name followed by the depth interval in inches (e.g., SB01-Z00-02).

# 5 Equipment Decontamination

The following procedures will be used for all non-dedicated equipment and tools including downhole equipment such as macro-core cutting shoes:

- Initially remove all foreign matter;
- Scrub with brushes in a laboratory-grade detergent solution;
- Rinse with potable water; and
- Rinse with distilled water.

# 6 Quality Assurance/Quality Control (QA/QC)

QA/QC procedures will be performed in accordance with E & E's 2020 *Master Quality Assurance Project Plan for New York State Department of Environmental Conservation Projects*, *Contract No. D009807*. Specific activities that apply to the implementation of this sampling plan include:

- Collection of field duplicates at a rate of 1 per 20 samples per matrix.
- Collection of additional volume for matrix spike/matrix spike duplicate (MS/MSD) analysis at a rate of 1 per 20 samples per matrix.
- Collection of at least one equipment rinsate blank daily from non-dedicated sampling equipment in direct contact with soil (such as hand augers). Laboratory-supplied, analyte-free water shall be used for rinsate blanks.
- Document all data and observations on field data sheets and/or in the field logbooks.
- Operate and calibrate all field instruments in accordance with operating instructions as supplied by the manufacturer unless otherwise specified.
- Ensure all laboratory deliverables are validated by an E & E chemist prior to release.

# 7 Project Logbook and Photo-Documentation

Photos of the site will be taken, and associated notes will be recorded in the field logbook. A logbook will be maintained to record all on-site activities. Data from the sampling events will be forwarded to NYSDEC and summarized in the site characterization report.

# 8 Sample Packaging

The sample containers will be placed inside sealed plastic bags as a precaution against cross-contamination caused by leakage or breakage. The samples will be placed in coolers with wet ice to begin the cooling process. Samples will be picked up by a laboratory courier or dropped off at Alpha Analytical's local East Syracuse service center:

Alpha Analytical Inc.
10 Adler Drive, Suite 108
East Syracuse, NY 13057
Phone 800-624-9220.

# 9 Investigation-Derived Waste Disposal

Three investigation-derived waste streams are expected to be generated during sampling activities: expendable material solid wastes such as personal protective equipment, paper towels, plastic macro-core sleeves, etc.; excess soil from soil boring drilling; and decontamination water. Expendable materials generated during the investigation will be bagged and disposed of off-site as non-hazardous solid waste by E & E or the drilling subcontractor. Excess soil cuttings will be placed back into the soil boring from which they came. Decontamination liquids will be disposed of on the ground at a location of known elevated PCB contamination such as historical sampling locations OS-SB-10 or OS-SS-20 (see Figure 1).

# 10 Site-Specific Health and Safety Plan

A site-specific health and safety plan has been prepared for this fieldwork and is attached in Appendix B.

# 11 Reporting

E & E will document the details of daily field activities and submitted a daily summary report (email) to NYSDEC.

The laboratory shall provide "Category B" deliverables as described in Appendix 2B of NYSDEC's *Technical Guidance for Site Investigation and Remediation, DER-10* (NYSDEC 2010). Lab deliverables will include a complete electronic (PDF) report and NYSDEC EQuIS electronic data deliverable (EDD). An E & E chemist will review the report for completeness and process the EDD to assign appropriate location codes, sample matrices, parent sample codes, etc. The laboratory data will be validated by an E & E chemist and will include review of the deliverables, assessment of the validity and usability of the results, and preparation of data usability summary reports in accordance with Appendix 2B of DER-10 (NYSDEC 2010). The validator will update the EDDs with validator qualifiers, prepare and submit an EQuIS EDD to NYSDEC, and prepare final report tables. Validated sample data will be presented in a table accompanied by site figures depicting the sampling locations.

Following completion of all sample analyses and completion of data validation, E & E will prepare a site characterization report that will include photos and a description of the activities performed, any deviations from proposed procedures, sampling locations depicted on site maps, and analytical results in tables. The draft report will be submitted electronically to NYSDEC for review. Following completion of the draft site characterization report, E & E will schedule a discussion with NYSDEC and EPA to determine what data gaps, if any, exist to support preparation of a TSCA Self-Implementing Cleanup Plan. The need for additional data collection to satisfy TSCA requirements will be determined at that time and if additional data is required, it will be incorporated into the draft site characterization report prior to preparing the final report.

# 12 References


Asbestos and Environmental Consulting Corporation (AECC). 2015. *PCBs in Surface Soils Report, NYSDEC Spill File Number 13-00433*, prepared for Woodbine Business Park, Inc., September 2015.

Ecology and Environment Engineering and Geology, P.C. (E & E). 2020a. *Master Quality Assurance Project Plan (QAPP) for New York State Department of Environmental Conservation Projects*, May 2020.

_____. 2020a. *Field Activities Plan (FAP) for the Division of Environmental Remediation Standby Engineering Services Contract D009807*, May 2020.

Groundwater & Environmental Services Inc. (GES). 2020. *Off-Site Investigation Report*, Loucks Road Extension Offsite, NYSDEC Site No. C734145A, prepared for the New York State Department of Environmental Conservation, August 2020.

New York State Department of Environmental Conservation (NYSDEC). 2010. *DER-10, Technical Guidance for Site Investigation and Remediation*, May 2010.

# Figure 1

Existing and Proposed Sampling Locations
Loucks Road Extenstion Offsite
Dewitt, New York

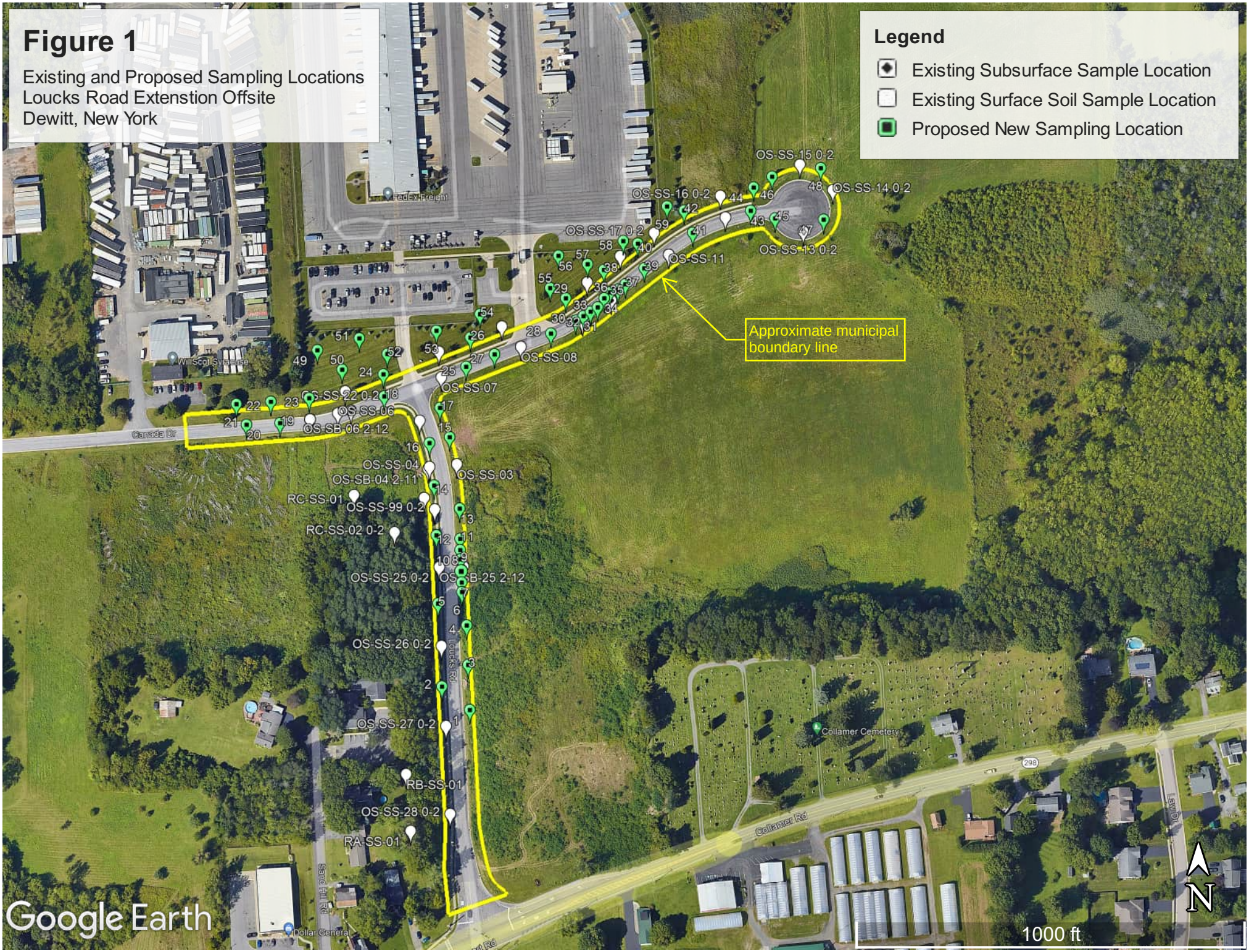

**Table 1 Analytical Summary for Loucks Road Extension**

| Analytes | Method | Matrix | Container | Sample Quantity | Field Duplicates [2] | MS/ MSD [2] | Rinse Blanks [3] | Trip Blanks | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Soil Boring (up to 4 depth intervals at 59 locations) [1]** | | | | | | | | | |
| PCBs, Test | SW-846 8082A | SO | One 2-oz glass jar and one 2-oz plastic jar | 177 | 36 | 36 | 6 | 0 | 255 |
| PCBs, Archive | SW-846 8082A | SO | One 2-oz glass jar and one 2-oz plastic jar | 59 | 12 | 12 | 6 | 0 | 89 |

Notes:

1. Three soil samples will be collected from each boring while the fourth sample will be placed on hold pending analysis.
2. Rinse blanks, field duplicates, and MS/MSD will be collected one per equipment set per 20 samples for PCBs.
3. Rinsate blanks to be collected at the rate of oner per day per set of non-dedicated sampling equipment; number shown is an estimate.

Key:

MS/MSD = Matrix Spike / Matrix Spike Duplicate

oz = ounce

SO = soil

# APPENDIX A

# COMMUNITY AIR MONITORING PLAN

**Community Health and Safety Plan**
**Loucks Rd Extension - Off Site**
**NYSDEC Site No. C734145A**
**East Syracuse, New York**

## 1.0 Community Air Monitoring Plan

The Community Air Monitoring Plan (CAMP) for this site requires real-time monitoring for volatile organic compounds (VOCs) and particulates at the downwind perimeter of each designated work area when certain activities are in progress at potentially 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, 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.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

**Volatile Organic Compound Monitoring Plan**

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil samples. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening sample sleeves, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals and anticipated contaminant concentrations, continuous monitoring may be required during sampling activities.

For <u>intrusive</u> activities such as drilling and direct push sampling, VOCs must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) at intervals of no more than 15 minutes. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. VOC monitoring work shall be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. For example, for total organic vapor concentrations, a photo-ionization detector (PID) shall be used. The equipment shall be calibrated at least daily.

<u>VOC Response Levels:</u>

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

2. If sustained total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels exceeding **1 ppm over background but less than 5 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 1 ppm.

3. If the organic vapor level is **above 5 ppm** at the perimeter of the work area, activities must be shutdown and mitigative measures implemented before work can continue.

**Particulate Monitoring, Response Levels, and Actions**

Particulate concentrations shall be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring shall 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 shall be visually assessed during all work activities.

Particulate Response Levels:

1. If the downwind PM-10 particulate level is **100 micrograms per cubic meter** ($\mu g/m^3$) greater than background (upwind perimeter) for a 15-minute period or if airborne dust is visually 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 $\mu g/m^3$** 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 $\mu g/m^3$** 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 $\mu g/m^3$ of the upwind level and in preventing visible dust migration.

## 2.0 Public Safety

Intrusive activities such as drilling and direct push sampling within the community will require the development of an exclusion zone at the perimeter of the work zone. The exclusion zone is meant to prevent pedestrians from entering the work zone and potentially being exposed to contaminants or safety hazards associated with the equipment used. The exclusion zone will be marked by the use of caution tape and/or cones. When working on or near a public road the regulations listed in the NYS Manual of Uniform Traffic Control Devices (Title 17b, NYCRR) will be implemented. This includes the correct formation and placement of cones and “Road Work Ahead” signs to divert and warn oncoming traffic.

Depending on the type of work and length of time needed, traffic controllers and observers may be required.

## 3.0 Responsibility

It shall be the responsibility of the Site Safety Officer to conduct monitoring at the downwind perimeter of the work zone as defined above and record all relevant data in the health and safety field notebook, which will be available for State (DEC and DOH) personnel to review. The Site Safety Officer shall also be responsible for visually monitoring the work zone for potential safety hazards and to prevent public intrusion in the work zone.

# APPENDIX B

# SITE-SPECIFIC HEALTH AND SAFETY PLAN