Appendix A - Quality Assurance Project Plan

INVENTUM ENGINEERING, P.C.

Quality Assurance Project Plan

80 Lyndon Road, LLC.

Brownfield Cleanup Program Site

80 Lyndon Road

Fairport, NY 14150

January 08, 2024

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HERNDON, VA 20170
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1 Introduction

The purpose of this Quality Assurance Project Plan (QAPP) is to serve as a guidance document during implementation of the Remedial Investigation (RI) for 80 Lyndon Road, LLC., The proposed Brownfield Cleanup Program Site (BCP Site) is located at 80 Lyndon Road in Fairport, Monroe County, New York. The RI will be conducted in accordance with the executed BCP Agreement between the New York Statement Department of Environmental Conservation (NYSDEC) and 80 Lyndon Road, LLC.

This QAPP is designed to provide an overview of Quality Assurance/Quality Control (QA/QC) procedures. Specific methods and QA/QC procedure for chemical testing of environmental samples obtained from the site as part of the RI Work Plan (RIWP) are defined.

An Inventum Engineering, P.C. (Inventum) Project Manager will be responsible for verifying that QA procedures are followed during the investigation and analysis. This will provide for the valid collection of representative samples. The Project Manager will be in direct contact with the analytical laboratory to ensure that holding times and other QA/QC requirements are met. The selected laboratory will be responsible for overseeing analytical QA/QC activities.

The estimated number of environmental samples and corresponding analytical parameters/methods are provided in Table 1 below. These sample quantities may vary depending on media availability and routine adjustments made during the field work.

Table 1 – Analytical Parameters and Methods

Parameter	EPA Method Reference	Groundwater	Soil / Sediment	Surface Water
Metals	6010C	34	65	
Metals	200.7			6
Volatile Organic Compounds	8260C	34	54	
Volatile Organic Compounds	624.1			6
Semi-Volatile Organic Compounds	8270D	34	65	
Semi-Volatile Organic Compounds	625.1			6
Polychlorinated Biphenyls	8082A		59	
Pesticides	8081B	24	59	6
Herbicides	8151A	24	59	6

1,4 Dioxane	8270SIM	24	65	6
Per- and Polyfluoroalkyl Substances	1633 (draft)	24	65	6
Toxicity Characteristic Leaching Procedure	1311	As Required	As Required	As Required
Field Duplicates		1 per 20 Samples Collected (included in totals above)	1 per 20 Samples Collected (included in totals above)	1 per 20 Samples Collected (included in totals above)
Matrix Spike (MS)/Matrix Spike Duplicate (MSD)		1 per 20 Samples Collected (included in totals above)	1 per 20 Samples Collected (included in totals above)	1 per 20 Samples Collected (included in totals above)
Trip Blanks	8260	One per Volatile Shipment		
Rinsate (Equipment) Blanks	All Sample Parameters Being Collected by use of Non-Disposable Equipment	10% of Total Sampling Program for Non-Disposable Equipment	10% of Total Sampling Program for Non-Disposable Equipment	

The analytical laboratory utilized will be a certified NYSDOH ELAP laboratory for the appropriates categories. The laboratory QA Manager will be responsible for performing project-specific audits and overseeing the quality control data generated.

2 Data Quality Objectives

Data Quality Objectives (DQOs) are qualitative and quantitative statements which specify the quality of data required to support the investigation of the Site. DQOs focus on the identification of the end use of the data to be collected. The project DQOs will be achieved utilizing the definitive data category, as outlined in Guidance for the Data Quality Objectives Process, EPA QA/G-4 (September 1994). All samples will provide definitive data, which are generated using rigorous analytical methods, such as the reference methods approved by the United States Environmental Protection Agency (USEPA). The purpose of this investigation is to establish a baseline of current conditions in order to aid in the development of an Alternatives Analysis (AA) for the proposed BCP Site.

Within the context of the purpose stated above, the project DQOs for data collected during the investigation are:

- To assess the current nature and extent of contamination in groundwater.
- To assess the current nature and extent of contamination in surficial soils.
- To assess the current nature and extent of contamination in subsurface soils.
- To assess the current nature and extent of contamination in surface water and stream sediments.

2.1 QA Objectives for Chemical Data Management

Sample analytical methodology for the media sampled and data deliverables will meet the requirements in the most recent NYSDEC Analytical Services Protocol (ASP). Laboratories will be instructed that completed Sample Preparation and Analysis Summary forms are to be submitted with the analytical data packages. The laboratory will also be instructed that matrix interferences must be cleaned up, to the extent practicable. Data Usability Summary Reports (DUSRs) will be generated. In order to achieve the definitive data category described above, the data quality indicators of precision, accuracy, representativeness, comparability, and completeness will be measured during offsite chemical analysis.

2.1.1 Precision

Precision examines the distribution of the reported values about their mean. The distribution of reported values refers to how different the individual reported values are from the average reported value. Precision may be affected by the natural variation of the matrix or contamination within that matrix, as well as by errors made in field and/or laboratory handling procedures. Precision is evaluated using analyses of a laboratory matrix spike/matrix spike duplicate (for organics) and matrix duplicates (for inorganics), which not only exhibit sampling and analytical precision, but indicate analytical precision through the reproducibility of the analytical results. Relative Percent Difference (RPD) is used to evaluate precision. RPD criteria must meet the method requirements identified in QAPP Section 6.1.

2.1.2 Accuracy

Accuracy measures the analytical bias in a measurement system. Sources of error are the sampling process, field contamination, preservation, handling, sample matrix, sample preparation, and analysis techniques. This data helps to assess the potential concentration contribution from various outside sources. The laboratory objective for accuracy is to equal or exceed the accuracy demonstrated for the applied analytical methods on samples of the same matrix. The percent recovery criterion is used to estimate accuracy based on recovery in the matrix spike/matrix spike duplicate and matrix spike blank samples. The spike and spike duplicate, which will give an indication of matrix effects that may be affecting target compounds is also a good gauge of method efficiency.

2.1.3 Representativeness

Representativeness expresses the degree to which the sample data accurately and precisely represents the characteristics of a population of samples, parameter variations at a sampling point, or environmental conditions. Representativeness is a qualitative parameter, which is most concerned with the proper design of the sampling program or sub-sampling of a given sample. Objectives for representativeness are defined for sampling and analysis tasks and are a function of the investigative objectives. The sampling procedures have been selected with the goal of obtaining representative samples for the media of concern.

2.1.4 Comparability

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. A DQO for this program is to produce data with the greatest practicable degree of comparability. This goal is achieved through using standard techniques to collect and analyze representative samples and reporting analytical results in appropriate units. Complete field documentation will support the assessment of comparability. Comparability is limited by the other parameters (e.g.,

precision, accuracy, representativeness, completeness, comparability), because only when precision and accuracy are known can data sets be compared with confidence. In order for data sets to be comparable, it is imperative that contract-required methods and procedures be explicitly followed.

2.1.5 Completeness

Completeness is defined as a measure of the amount of valid data obtainable from a measurement system compared to the amount that was expected to be obtained under normal conditions. It is important that appropriate QA procedures be maintained to verify that valid data are obtained in order to meet project needs. For the data generated, a goal of 90% is required for completeness (or usability) of the analytical data. If this goal is not met, then NYSDEC, Inventum, and the 80 Lyndon Road project personnel will determine whether the deviations might cause the data to be rejected.

3 Sampling Locations, Custody, Holding Times, and Analysis

Sample locations and procedures are discussed in the RI Scope of Work and the accompanying Tables and Figures of the Site's RIWP. Procedures for chain of custody, holding times and laboratory analyses shall be followed as per SW-846 and as per the laboratory's Quality Assurance Plan. All holding times begin with validated time of sample receipt (VTSR) at the laboratory. The laboratory must meet the method required detection limits which are referenced within the EPA Methods (QAPP Table 1).

In addition, for the emerging contaminants, the laboratory must meet the reporting limits for PFAS specified in the NYSDEC's most recent update to *Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) Under NYSDEC's Part 375 Remedial Programs (April 2023)* of 2 nanograms per liter (ng/L) for aqueous samples and 0.5 micrograms per kilogram (µg/kg) for solids and 0.28 micrograms per liter (µg/L) for 1,4-Dioxane.

4 Calibration Procedures and Frequency

In order to obtain a high level of precision and accuracy during sample processing procedures laboratory instruments must be calibrated properly. Several analytical support areas must be considered so the integrity of standards and reagents is upheld prior to instrument calibration. The following section describes the analytical support areas and laboratory instrument calibration procedures.

4.1 Analytical Support Areas

Prior to generating quality data, several analytical support areas must be considered; these are detailed in the following paragraphs.

- Standard/Reagent Preparation - Primary reference standards and secondary standard solutions shall be obtained from National Institute of Standards and Technology (NIST), or other reliable commercial sources to verify the highest purity possible. The preparation and maintenance of standards and reagents will be accomplished according to the methods referenced. All standards and standard solutions are to be formally documented (i.e., in a logbook) and should identify the supplier, lot number, purity/concentration, receipt/preparation date, preparers name, method of preparation, expiration date, and any other pertinent information. All standard solutions shall be validated prior to use. Care shall be exercised in the proper storage and handling of standard solutions (e.g., separating volatile standards from nonvolatile standards). The laboratory shall continually monitor the quality of the standards and reagents through well documented procedures.

- Balances - The analytical balances shall be calibrated and maintained in accordance with manufacturer specifications. Calibration is conducted with two Class “ASTM" weights that bracket the expected balance use range. The laboratory shall check the accuracy of the balances daily and they must be properly documented in permanently bound logbooks.

- Refrigerators/Freezers - The temperature of the refrigerators and freezers within the laboratory shall be monitored and recorded daily. This will verify that the quality of the standards and reagents is not compromised, and the integrity of the analytical samples is upheld. Appropriate acceptance ranges (2 to 6°C for refrigerators) shall be clearly posted on each unit in service.

- Water Supply System - The laboratory must maintain a sufficient water supply for all project needs. The grade of the water must be of the highest quality (analyte-free) in order to eliminate false-positives from the analytical results. Ultraviolet cartridges or carbon absorption treatments are recommended for organic analyses and ion-exchange treatment is recommended for inorganic tests. Appropriate documentation of the quality of the water supply system(s) will be performed on a regular basis.

4.2 Laboratory Instruments

Calibration of instruments is required to verify that the analytical system is operating properly and at the sensitivity necessary to meet established quantitation limits. Each instrument for organic and inorganic analyses shall be calibrated with standards appropriate to the type of instrument and linear range established within the analytical method(s). Calibration of laboratory instruments will be performed according to specified methods.

In addition to the requirements stated within the analytical methods, the contract laboratory will be required to analyze an additional low-level standard at or near the detection limits. In general, standards will be used that bracket the expected concentration of the samples. This will require the use of different concentration levels, which are used to demonstrate the instrument's linear range of calibration.

Calibration of an instrument must be performed prior to the analysis of any samples and then at periodic intervals (continuing calibration) during the sample analysis to verify that the instrument is still calibrated. If the contract laboratory cannot meet the method required calibration requirements, corrective action shall be taken as discussed in QAPP Section 7. All corrective action procedures taken by the contract laboratory are to be documented, summarized within the case narrative, and submitted with the analytical results.

5 Internal Quality Control Checks

Internal QC checks are used to determine if analytical operations at the laboratory are in control, as well as determining the effect sample matrix may have on data being generated. Two types of internal checks are performed and are described as batch QC and matrix-specific QC procedures. The type and frequency of specific QC samples performed by the contract laboratory will be according to the specified analytical method and project specific requirements. Acceptable criteria and/or target ranges for these QC samples are presented within the referenced analytical methods.

QC results which vary from acceptable ranges shall result in the implementation of appropriate corrective measures, potential application of qualifiers, and/or an assessment of the impact these corrective measures

have on the established data quality objectives. Quality control samples including any project-specific QC will be analyzed are discussed below.

5.1 Batch QC

Method Blanks - A method blank is defined as laboratory-distilled or deionized water that is carried through the entire analytical procedure. The method blank is used to determine the level of laboratory background contamination. Method blanks are analyzed at a frequency of one per analytical batch.

Matrix Spike Blank Samples - A matrix spike blank (MSB) sample is an aliquot of water spiked (fortified) with all the elements being analyzed for calculation of precision and accuracy to verify that the analysis that is being performed is in control. An MSB will be performed for each matrix and organic parameter only.

5.2 Matrix-Specific QC

Matrix Spike Samples - An aliquot of a matrix is spiked with known concentrations of specific compounds as stipulated by the methodology. The matrix spike (MS) and matrix spike duplicate (MSD) are subjected to the entire analytical procedure in order to assess both accuracy and precision of the method for the matrix by measuring the percent recovery and relative percent difference of the two spiked samples. The samples are used to assess matrix interference effects on the method, as well as to evaluate instrument performance. MS/MSDs are analyzed at a frequency of one each per 20 samples per matrix.

Matrix Duplicates - The matrix duplicate (MD) is two representative aliquots of the same sample which are prepared and analyzed identically. The collection of duplicate samples provides for the evaluation of precision both in the field and at the laboratory by comparing the analytical results of two samples taken from the same location. Obtaining duplicate samples from a soil matrix requires homogenization (except for volatile organic compounds) of the sample aliquot prior to filling sample containers, in order to best achieve representative samples. Every effort will be made to obtain replicate samples; however, due to interferences, lack of homogeneity, and the nature of the soil samples, the analytical results are not always reproducible.

Rinsate (Equipment) Blanks - A rinsate blank is a sample of laboratory demonstrated analyte free water passed through and over the cleaned sampling equipment. A rinsate blank is used to indicate potential contamination from ambient air and from sample instruments used to collect and transfer samples. This water must originate from one common source within the laboratory and must be the same water used by the laboratory performing the analysis. The rinsate blank should be collected, transported, and analyzed in the same manner as the samples acquired that day. Rinsate blanks for nonaqueous matrices should be performed at a rate of 10 percent of the total number of samples collected throughout the sampling event. Rinse blanks will not be performed on samples (i.e., groundwater) where dedicated disposable equipment is used.

Trip Blanks - Trip blanks are not required for nonaqueous matrices. Trip blanks are required for aqueous sampling events. They consist of a set of sample bottles filled at the laboratory with laboratory demonstrated analyte free water. These samples then accompany the bottles that are prepared at the lab into the field and back to the laboratory, along with the collected samples for analysis. These bottles are never opened in the field. Trip blanks must return to the lab with the same set of bottles they accompanied to the field. Trip blanks will be analyzed for volatile organic parameters. Trip blanks must be included at a rate of one per volatile sample shipment.

6 Calculation of Data Quality Indicators

6.1 Precision

Precision is evaluated using analyses of a field duplicate and/or a laboratory MS/MSD which not only exhibit sampling and analytical precision but indicate analytical precision through the reproducibility of the analytical results. RPD is used to evaluate precision by the following formula:

$$RPD = \frac{(X1 - X2) \times 100\%}{[(X1 + X2)/2]}$$

Where:

X1= Measured value of sample or matrix spike

X2= Measured value of duplicate or matrix spike duplicate

Precision will be determined through the use of MS/MSD (for organics) and matrix duplicates (for inorganics) analyses.

6.2 Accuracy

Accuracy is defined as the degree of difference between the measured or calculated value and the true value. The closer the numerical value of the measurement comes to the true value or actual concentration, the more accurate the measurement is. Analytical accuracy is expressed as the percent recovery of a compound or element that has been added to the environmental sample at known concentrations before analysis. Analytical accuracy may be assessed through the use of known and unknown QC samples and spiked samples. It is presented as percent recovery. Accuracy will be determined from matrix spike, matrix spike duplicate, and matrix spike blank samples, as well as from surrogate compounds added to organic fractions (i.e., volatiles, semi volatiles, PCB), and is calculated as follows:

$$\text{Accuracy (\%R)} = \frac{(Xs - Xu) \times 100\%}{K}$$

Where:

Xs- Measured value of the spike sample

Xu- Measured value of the unspiked sample

K - Known amount of spike in the sample

6.3 Completeness

Completeness is calculated on a per matrix basis for the project and is calculated as follows:

$$\text{Completeness (\%C)} = \frac{(Xv - Xn) \times 100\%}{N}$$

Where:

Xv- Number of valid measurements

Xn- Number of invalid measurements

N - Number of valid measurements expected to be obtained

7 Corrective Actions

Laboratory corrective actions shall be implemented to resolve problems and restore proper functioning to the analytical system when errors, deficiencies, or out-of-control situations exist at the laboratory. Full documentation of the corrective action procedure needed to resolve the problem shall be filed in the project records, and the information summarized in the case narrative. A discussion of the corrective actions to be taken is presented in the following sections.

7.1 Incoming Samples

Problems noted during sample receipt shall be documented by the laboratory. The Inventum Project Manager shall be contacted immediately for problem resolution. All corrective actions shall be documented thoroughly.

7.2 Sample Holding Times

If any sample extraction and/or analyses exceed method holding time requirements, the Inventum Project Manager shall be notified immediately for problem resolution. All corrective actions shall be documented thoroughly.

7.3 Instrument Calibration

Sample analysis shall not be allowed until all initial calibrations meet the appropriate requirements. All laboratory instrumentation must be calibrated in accordance with method requirements. If any initial/continuing calibration standards exceed method QC limits, recalibration must be performed and, if necessary, reanalysis of all samples affected back to the previous acceptable calibration check.

7.4 Reporting Limits

The laboratory must meet the method required detection limits listed in NYSDEC ASP, 10/95 criteria. If difficulties arise in achieving these limits due to a particular sample matrix, the laboratory must notify Inventum personnel for problem resolution. In order to achieve those detection limits, the laboratory must utilize all appropriate cleanup procedures in an attempt to retain the project required detection limits. When any sample requires a secondary dilution due to high levels of target analytes, the laboratory must document all initial analyses and secondary dilution results. Secondary dilution will be permitted only to bring target analytes within the linear range of calibration. If samples are analyzed at a secondary dilution with no target analytes detected, the Project Manager will be immediately notified so that appropriate corrective actions can be initiated.

7.5 Method QC

All QC method-specified QC samples shall meet the method requirements referenced in the analytical methods. Failure of method-required QC will result in the review and possible qualification of all affected data. If the laboratory cannot find any errors, the affected sample(s) shall be reanalyzed and/or re-extracted/redigested, then reanalyzed within method-required holding times to verify the presence or absence of matrix effects. If matrix effect is confirmed, the corresponding data shall be flagged accordingly using the flagging symbols and criteria. If matrix effect is not confirmed, then the entire batch of samples may have to be reanalyzed and/or re-extracted/redigested, then reanalyzed. Inventum shall be notified as soon as possible to discuss possible corrective actions should unusually difficult sample matrices be encountered.

7.6 Calculation Errors

All analytical results must be reviewed systematically for accuracy prior to submittal. If upon data review calculation and/or reporting errors exist, the laboratory will be required to reissue the analytical data report with the corrective actions appropriately documented in the case narrative.

8 Data Reduction, Validation, and usability

8.1 Data Reduction

Laboratory analytical data are first generated in raw form at the instrument. These data may be either in a graphic or printed tabular format. Specific data generation procedures and calculations are found in each of the referenced. Analytical results must be reported consistently. Identification of all analytes must be accomplished with an authentic standard of the analyte traceable to NIST or USEPA sources. Individuals experienced with a method's particular analysis and knowledgeable of requirements will perform data reduction.

8.2 Data Validation

Data validation is a systematic procedure of reviewing a body of data against a set of established criteria to provide a specified level of assurance of validity prior to its intended use. All analytical samples collected will receive a limited data review. All analytical samples will also receive a third-party verification and validation based on completeness and compliance checks of sample receipt conditions and both sample-related and instrument-related QC results. In addition, a minimum of 10-percent of the samples will also receive third-party recalculations checks and review of actual instrument outputs (i.e. Stage 4). A third-party Data Usability Summary Report (DUSR) will be prepared for all samples collected during the RI. Inventum personnel may recommend further third-party validation if significant deviations and problems with the analytical data are uncovered during completion of the work.

The methods as well as the general guidelines presented in the following documents will be used during the data review USEPA Contract Laboratory Program (CLP) Organic Data Review, SOP Nos. HW-6, Revision #11 and USEPA Evaluation of Metals Data for the Contract Laboratory Program based on 3/90, SOW, Revision XI. These documents will be used with the following exceptions:

- Technical holding times will be in accordance with NYSDEC ASP, 10/95 edition.
- Organic calibration and QC criteria will be in accordance with NYSDEC ASP, 10/95 edition. Data will be qualified if it does not meet NYSDEC ASP, 10/95 criteria.

Where possible, discrepancies will be resolved by the project manager (i.e., no letters will be written to laboratories). A complete analytical data validation is not anticipated. However, if the initial limited data audit reveals significant deviations and problems with the analytical data, project personnel may recommend a complete variation of the data.

Category B deliverables will be provided for all samples collected to delineate the nature and extent of contamination. Electronic Data Deliverables (EDDs) consistent with the most recent NYSDEC Environmental Information Management System (EIMS) format will be included with the deliverables and will be uploaded to the EIMS.

9 References

- Comprehensive Environmental Response Compensation and Liability Act (CERCLA) Quality Assurance Manual, Final Copy, Revision I, October 1989.
- National Enforcement Investigations Center of USEPA Office of Enforcement. NEIC Policies and Procedures. Washington: USEPA.
- New York State Department of Environmental Conservation (NYSDEC). 1995. Analytical Services Protocol, (ASP) 10/95 Edition. Albany: NYSDEC.

Appendix B – Health and Safety Plan

Inventum Engineering, PC
Site-Specific Health and Safety Plan (HASP)

(Required for all Type 2 and 3 projects.)

1. General Information

Client Name: 80 Lyndon Road, LLC.

Project #: 80 Lyndon Road

Project Name: 80 Lyndon Road

Project Manager: John Black, PE

Street Address:
80 Lyndon Road
Fairport, New York 14450

Prepared By: James Edwards **Date: January 5, 2024**

Approved By: John Black, P.E. **Date: January 8, 20242**

Proposed Date(s) of Work: TBD

Proposed Scope of Work:

Inventum Engineering, PC (Inventum) will be the owner's representative, investigation team and engineer supporting the site management, site investigation(s), and remedial investigation(s) through the proposed New York State Brownfield Cleanup Program (BCP) for 80 Lyndon Road, LLC located on the former Granger Landfill (Site). The general scope of work is provided below, and tasks will be updated with additional details/specifications as the project progresses through the BCP.

Task 1 - Site Management and Oversight

Inventum will conduct site visits, general management support, and general contractor and subcontractor oversight related to the remedial investigation for the Site. This task includes site visits related to oversight of the RI, but specifically excludes Inventum personnel directly performing any intrusive site work or oversight of contractors/subcontractors performing intrusive site work. Direct intrusive site work and/or intrusive site work oversight is covered under Tasks 2 through 7 below.

Task 2 – Surficial Soil Sampling

Surficial (approximately 0 to 2 feet below ground surface [bgs]) soil samples will be collected from various locations of the Site to establish current conditions. Shallow samples will be collected using a hand-auger, shovel, or trowel and the material will be recovered for lithological characterization and field screening with a PID equipped with a 10.6 eV lamp. All observations and measurements will be logged in the field notebook. Samples may be collected for various constituents including Metals, Semi-Volatile Organic

Compounds (SVOCs), Volatile Organic Compounds (VOCs), Pesticide, Herbicides, Polychlorinated Biphenyls (PCBs), 1,4-Dioxane, and Per- and Polyfluoroalkyl Substances (PFAS).

Task 3 – Subsurface Soil Sampling

Subsurface (> 1 feet bgs) soils samples will be collected from various locations of the Site to establish current conditions. Depending on the depth of sample, subsurface samples may be collected using a hand-auger, shovel, trowel, light or heavy excavating equipment, direct-push equipment, or rotary drilling equipment. Material will be recovered for lithological characterization and field screening with a PID equipped with a 10.6 eV lamp. All observations and measurements will be logged in the field notebook. Samples may be collected for various constituents including Metals, SVOCs, VOCs, PCBs, Pesticide, Herbicides, 1,4-Dioxane, and PFAS.

Task 4 – Surface Water (Stream) and Sediment Sampling

Water and sediment sampling from along Thomas Creek. Surface water and sediment samples will be analyzed for VOCs, SVOCs, Metals, Pesticide, Herbicides, 1,4-Dioxane, and PFAS.

These samples shall be collected in accordance with approved work plans. No personnel will enter the stream to collect samples

Task 5 – Monitoring Well Installation

New monitoring wells may be installed as part of the investigation(s) and remedial activities. The borings for the wells will be advanced to depth using hollow-stem augers and include the collection of soil samples for lithological characterization and for samples for analytical testing. Unconsolidated material samples will be collected for observation and screening with a photo-ionization detector (PID) equipped with a 10.6 eV lamp in a continuous interval over the total depth of the boring with a split barrel sampler driven through the augers. All lithological observations, field measurements, and well construction details will be logged in the field notebook. Surface and subsurface soil samples may be collected in accordance with Tasks 2 and 3.

The new wells will be completed with a 2-inch diameter Schedule 40 polyvinyl chloride (PVC) well casing and 5-feet of 0.010-inch slotted screen. A sand filter pack will be placed from the bottom of the screened interval to a minimum of 1 foot above the top of the screen. A 2-foot bentonite seal will be placed on top the filter pack and the remaining annular space will be completed with a cement grout (Portland Type I cement with 3 – 5% bentonite). The wells may either be completed flush-to-grade within a traffic rated box or within a steel bollard enclosure that protrudes a minimum of 2-feet above ground surface.

All newly installed wells will be developed prior to sampling and any existing monitoring wells may be redeveloped prior to sampling. The water levels in the monitoring wells will be manually measured using an oil/water interface probe prior to redevelopment and the depth to water, depth and thickness of any Light Non-Aqueous Phase Liquid (LNAPL), and the total depth of the well will be measured and logged in the field notebook. LNAPL is not anticipated based on historical data. The wells will be redeveloped by removing three well volumes, purging the wells until dry, or purging and surging the wells using a submersible pump.

Field parameters (temperature, pH, conductivity, ORP, turbidity) will be measured and logged in the field notebook at least three (3) times during the development process (beginning, middle, and end) using a hand-held water quality monitor. All development water will be containerized and stored in appropriately labeled drums or totes and disposed offsite or treated and discharged in accordance with site permits and applicable local, state, and federal regulations.

Task 6 – Groundwater Monitoring and Sampling

Inspections will be conducted prior to sampling and will include visual observations of the well head, seal, and cover. Measurements of the depth to liquid (if LNAPL is present), depth to water, and the overall total depth of the well will be collected using an oil/water interface probe and recorded in the field notebook for comparison to construction dimensions and previous records.

Monitoring wells will be sampled using a bailer by standard purge methods or peristaltic pump or QED bladder pump following low-flow sampling procedures. Field parameters (temperature, pH, dissolved oxygen, conductivity, ORP, turbidity) will be measured and logged in the field notebook at periodic intervals using a hand-held water quality monitor. All purge water will be containerized and stored in appropriately labeled drums or totes and disposed offsite or treated and discharged in accordance with applicable local, state, and federal regulations.

Samples may be collected for various constituents including Metals, SVOCs, VOCs, Pesticides, Herbicides, Cyanide, 1,4-Dioxane, and PFAS.

Task 7 – Sampling of Residuals

Samples may be collected from possible discovered drums or containers at the proposed BCP Site and from containerized investigation derived waste to characterize contents and prepare profiles for recycling and disposal. To the extent practicable, all samples will be collected from the surface or from equipment outside the accumulation. Samples may be collected installed using a bailer, hand-auger, shovel, trowel, sludge sampler or other long reach equipment. Material will be recovered, and field screened with a PID equipped with a 10.6 eV lamp. All observations and measurements will be logged in the field notebook.

Inventum Engineering, PC
Site-Specific Health and Safety Plan (HASP)

(Required for all Type 2 and 3 projects.)

Samples may be collected for various constituents including Metals, SVOCs, VOCs, PCBs, hazardous characteristics, pH and water content.

Inventum Role(s) On Site:

☐ Inventum Staff Will Not Be On Site (HASP and Risk Analysis is for subcontractor information only)

☒ Resident Project Representative (*e.g.,* "Observe and Document")

☐ Construction Manager (*e.g.,* CM, Managing/General Contractor)

☒ Representative for Client (*e.g.,* "Agent for Owner")

☒ General On-site Consulting/Engineering Services

☒ Other

☒ Soil Sampling	☒ Solid Waste Sampling	☒ Liquid Waste Sampling
☒ Groundwater Sampling	☒ Surface Water Sampling	☒ Wastewater Sampling
☒ Sediment Sampling	☐ Surveying	☐ Confined Space Entry

Risk Analysis (RA)

(Required for all Inventum Type 2 or Type 3 field projects.)

Major Project Tasks	Inventum Task	Subcontractor Task	Minimum PPE Level Required see HASP for details (suggested levels for Subcontractor work)
1. Site Management and Oversight	☒	☐	☐ N/A ☒ D ☐ C ☐ B ☐ A
2. Surficial Soil Sampling	☒	☒	☐ N/A ☒ D ☐ C ☐ B ☐ A
3. Subsurface Soil Sampling	☒	☒	☐ N/A ☒ D ☐ C ☐ B ☐ A
4. Permit Compliance Water and Wastewater Sampling	☒	☒	☐ N/A ☒ D ☐ C ☐ B ☐ A
5. Monitoring Well Abandonment	☒	☒	☐ N/A ☒ D ☐ C ☐ B ☐ A
6. Monitoring Well Installation	☒	☒	☐ N/A ☒ D ☐ C ☐ B ☐ A
7. Groundwater Monitoring and Sampling	☒	☒	☐ N/A ☒ D ☐ C ☐ B ☐ A
8. Sampling of Residuals	☒	☒	☐ N/A ☒ D ☐ C ☐ B ☐ A

2. Contingency Planning

LOCAL EMERGENCY RESOURCES:	
Ambulance: 911	Emergency Room: 585.922.2000 (non-emergency)
Police: 911	Fire Department: 911
NYSDEC Contact: Pending	Poison Control Center: 800.222.1222 ☐ Specify:
Other (client services offered, etc.):	

SITE RESOURCES:			
Drinking Water Supply	☐ Inventum	☐ Subcontractor	☒ Client
Wash Water Supply	☐ Inventum	☐ Subcontractor	☒ Client
Telephone – Land Line		☐ Subcontractor	☒ Client
Telephone - Cellular	☒ Inventum	☐ Subcontractor	
First Aid Kit	☒ Inventum	☒ Subcontractor	
Fire Extinguisher	☐ Inventum	☒ Subcontractor	☒ Client
Emergency Shower **N/A**	☐ Inventum	☐ Subcontractor	☐ Client
Eye Wash **N/A**	☐ Inventum	☐ Subcontractor	☐ Client
Other: Confined space retrieval device **N/A**	☐ Inventum	☐ Subcontractor	☐ Client

Risk Analysis (RA)

(Required for all Inventum Type 2 or Type 3 field projects.)

EMERGENCY/SAFETY CONTACTS:	
Inventum Technical Contacts	John Black (571.217.6761); Todd Waldrop (571.217.3627); James Edwards (571.232.5048)
Inventum Project Manager (PM): John Black	571.217.6761
Inventum Office Safety Coordinator (OSC)	John Black (571.217.6761); Todd Waldrop (571.217.3627); James Edwards (571.232.5048)
Inventum Field Contact:	John Black (571.217.6761); Todd Waldrop (571.217.3627); James Edwards (571.232.5048); Roxanne Birx (585.734.5255); Peter Zaffram (716.553.5129); Corey Bryerton (716.720.3256)
Contractor Contact (To Vary – Main Remedial Contractor provided):	Pending – not yet selected
Client Contact:	Swan O'Donnell (585.606.1679)
Facility (Rochester Ice Center)	585.223.2160

Emergency Route:

Hospitals or clinics identified for emergency medical care should be contacted, to verify that emergency care is provided at that location. Verify the exact location of the medical facility during this call. See directions and map of route to Rochester General Hospital on the following page:

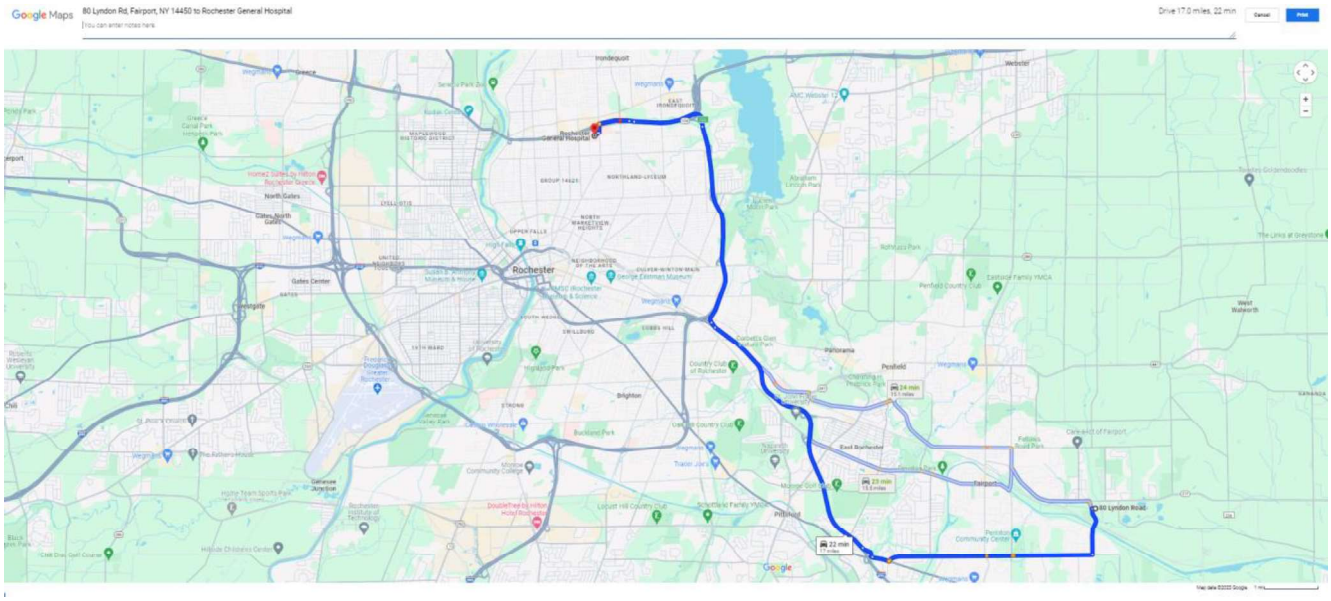
Hospital: **Rochester General Hospital**
1425 Portland Ave
Rochester, NY 14621
585.922.2000

Other: NA

Risk Analysis (RA)

(Required for all Inventum Type 2 or Type 3 field projects.)

Map to Hospital



Directions to Hospital:

- Turn Left (South) onto Lyndon Road
- Turn Right onto Ayrault Road (0.9 miles)
- Turn Right onto NY-31 W/Palmyra Road/Pittsford Palmyra Road (3.8 miles)
- Use Right Lane to Merge onto I-490 West (0.4 miles)
- Exit at Exit 21 for NY-590 North (5.3 miles)
- Keep Right at the fork following signs for State Route 590 North and Merge onto NY-590 North
- Using Right two lane, take Exit 10A to Merge onto NY-104 West (3.7 miles)
- Take the Exit toward Goodman St/Portland Ave (1.5 miles)
- Merge onto NY-104 Service Road West
- Use the Middle Lane to Turn Left onto Portland Ave (0.6 miles)
- Turn Right onto Rochester General Hospital Drive (0.2 miles)
- Turn Left into Rochester General Hospital

Emergency Procedures:

If an emergency develops at the site, the first responder should take the following course of action:

- Notify the proper emergency services for assistance.
- Notify other personnel at the site.
- As soon as possible, contact the Inventum Project Manager to inform them of the incident.
- Complete the Inventum Incident Report Form (see Appendices) within 24 hours of the incident and client notifications, as required.

Risk Analysis (RA)

(Required for all Inventum Type 2 or Type 3 field projects.)

Investigation of Near Miss Incident and Initial Report of Incident/Exposure:

Inventum employees are required to report any incident, near miss, or injury, as soon as possible, by contacting the following:

☒ Inventum Managing Partner ☒ Notify supervisor ☐ Notify project manager

☐ Notify Site Manager () ☐ Complete client report: as required

(name):

(phone number):

Emergency Equipment Required On Site:

☒ First Aid Kit

☐ Emergency Eye Wash

☐ Emergency Shower

☐ Fire Extinguisher

☐ Spill Control Media

☐ Tripod/Hoist/Harness for non-entry confined space rescue

Risk Analysis (RA)

(Required for all Inventum Type 2 or Type 3 field projects.)

3. Site Classification

	Identification of Potential Hazards	YES	NO	SITE TYPE[1]
1.	Is the work a Phase I ESA (i.e., supervised plant walk-through, etc.)?	☒	☐	1
2.	Is the work being performed solely by a subcontractor (i.e., INVENTUM not on site)?	☐	☒	1
3.	Is the work just a supervised inspection for process evaluation, other inspections, meetings, records review, or a tour?	☒	☐	1
4.[1]	Is the work completely absent of any chemical, physical, biological, or radiological hazards which would require a site-specific health and safety plan?	☐	☒	1
5.	Does the work include any mandatory client H&S requirements?	☒	☐	1, 2, or 3
6.	Does the project include on-site work other than office type areas?	☒	☐	2 or 3
7.	Does the proposed work scope involve any of the following:			
	Known and controlled chemical or biological hazards	☒	☐	2
	Unprotected work at elevation (fall protection required)	☐	☒	2
	Invasive activities (*i.e.,* Phase II ESA, UST Removal, sampling, etc.)	☒	☐	2 or 3
	Exposure to ionizing radiation (i.e., using nuclear gauges, etc.)	☐	☒	2 or 3
	Open excavations/trenches (Competent Person may be required on site)	☒	☐	2 or 3
	Confined space entry (permit may be required)	☐	☒	2 or 3
	The use of scaffolding (qualified inspections are required)	☐	☒	2 or 3
	Heavy equipment	☒	☐	2 or 3
	Facility maintenance (O&M, piping, electrical, lockout/tagout, etc.)	☐	☒	2 or 3
	Underground utilities may be encountered	☒	☐	2 or 3
	Overhead utilities may be encountered	☒	☐	2 or 3
	Stack testing	☐	☒	2 or 3
	Geotechnical drilling	☒	☐	2 or 3
	Demolition Activities with known or suspected contamination	☒	☐	2 or 3
	Unknown or uncontrolled chemical or biological hazards	☐	☒	3
	Known and uncontrolled chemical or biological hazards	☒	☐	3
	Waste sampling	☒	☐	3
	Construction activities with known or suspected contamination	☒	☐	3
	Remedial activities (RCRA, CERCLA, EnviroBlend®, Oxigent, etc.)	☒	☐	3
8.	Is the work regulated by 29 CFR 1910.120 (OSHA) or 30 CFR (MSHA)?	☒	☐	3
9.	Is the work regulated by NPL, CERCLA, RCRA, TSD, or SARA?	☒	☐	3

[1] Denotes typical site level (based on activities).

Risk Analysis (RA)

(Required for all Inventum Type 2 or Type 3 field projects.)

Site Type Designation:

☐ **Type 1** Known and controlled hazards associated with consulting/engineering services.

☐ **Type 2** Known and controlled hazards, but with invasive, hazardous activities and/or civil/mechanical construction related services, or sampling.

☒ **Type 3** Unknown and/or uncontrolled hazards associated with corrective action clean-up, and/or remediation of hazardous substances.

4. Site Characterization

Client Requirement(s)[1]:	☒ None	☐ Site Orientation	☐ H&S Orientation
	☐ Permits or Other Requirements (specify and attach, if available):		
Site Information:	☒ Map/Diagram (attach)	☐ Map/Diagram Unavailable	
	☐ Inactive Site	☒ Active Site (specify below)	
General Environmental Concerns:	☒ Contaminated Water	☒ Wastewater	☒ Dust
	☒ Contaminated Soil	☒ Solid Waste	☒ Noise
	☒ Contaminated Air	☒ Waterways	☐ Other:
Site Security/Access Control:	☐ None	☒ On Site	
	☐ Other (explain):		
Amenities Available for Work:	☐ None	☒ Waste Storage	☒ Restrooms
	☐ Tools/Equipment Storage	☐ Office/Trailer Space	☐ Supplies Storage
Utilities Available for Work:	☐ None	☒ As Listed: Water, electric	
Medical Services Available:	☐ None On Site	☒ As Listed: First Aid	
Facility Alarms/Signals:	☒ None	☐ As Listed:	
Traffic/Parking/Railway Issues:	☐ None	☒ As Listed (On-Site/Off-Site): On-site parking	
☐ Permits Required (specify)[2]:	☐ Confined Space Entry	☐ Local:	☐ State:
	☐ Federal:	☐ Other:	☒ N/A
☒ Utility Locate Service(s):	☒ On Site	☐ Client	☐ Other:
	☐ Off Site	☐	☒ One Call
		☐	☐ N/A

[1] If relying on the client for any specific hazard identification and control, implemented control and effectiveness should be documented prior to beginning any work activities. This is recommended for all field projects.

[2] Permit examples: Utilities (electrical, water, gas, etc.); Excavations; Explosives; Cranes; Burning; Fuel storage; Traffic control; Hoists; Cutting; Welding; Demolition; Confined space; Restricted access areas; etc.

Risk Analysis (RA)

(Required for all Inventum Type 2 or Type 3 field projects.)

Detailed Physical Description of Site/Facility: ☒ **Map/Diagram Attached**

The 80 Lyndon Road site address is 80 Lyndon Road, Fairport, New York and is located in a mixed-use area within the Town of Perinton in Monroe County, New York (Figure 1). The Monroe County Tax Parcel number is Section 154. 030; Block 1; Lot-26 and the total surveyed acreage is 23. 468. Of the total surveyed acreage of 23.468, 0.711 acres of the parcel is located southwest of the main parcel and on the west side of Lyndon Road (County Route 44). The site surveyed boundary is shown on Figure 2.

Surrounding the ice skating facility are 14.42 acres of woodlands, Thomas Creek and 1.71 acres of maintained lawn. Thomas Creek runs parallel to the eastern border and runs parallel to the west side of the property before Thomas Creek wraps around the southern portion of the site before flowing west. Runoff is controlled by an onsite stormwater retention basin. The Site in a mixed use area consisting of undeveloped land, residential, and recreational sport fields.

The proposed BCP Site is bounded to the north by two residential tracts that are approximately 6-7 acres each. To the east, the site borders an undeveloped tract that is zone residential and an undeveloped tract that is zone industrial. An additional undeveloped tract that is zone residential borders the Site to the South. Lyndon Road is along the west side of the Site and to the west of Lyndon Road is the inactive Little League Sanitary Landfill (Solid Waste ID: 28S12 and Inactive Hazardous Waste Number: 828026A, Class N) which is now operational sport fields.

Previous Site Remediation

A Phase II field investigation was conducted and completed in 1991 by Ecology and Environment Engineering, P.C. in conjunction with the adjacent Little League Landfill site (#828026A). This investigation included an initial site reconnaissance, an electromagnetic terrain conductivity (EM31) survey, and a portable proton magnetometer survey to define the site geological conditions, locate and buried metals, and determine the presence of contaminant plumes. Four monitoring wells were installed in the overburden of the former Granger Landfill which is the proposed BCP Site. Groundwater, surface water, and sediment samples were collected from the former Granger Landfill site. The results did not indicate that there was any significant contamination at the site.[1] The more recent investigation in 2020 and 2023 which were conducted under the direction the NYSDEC were focused on investigating potential impacts to drinking water sources and other receptors (Parsons, 2020) and assess the potential for site-related constituents to migrate off-site above regulatory standards and guidance values (Ramboll, 2023).

In August 2020, emerging contaminant sampling was completed by Parsons (Parsons, 2020) under the Inactive Landfill Initiative which included the collection of four groundwater samples. Four monitoring wells were installed in the eastern portion of the proposed BCP Site. The depths of the monitoring wells range from 15-feet to 31-feet below the ground surface. The collected groundwater samples were analyzed for volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons, 1,4-dioxane, perfluorinated compounds, baseline leachate indicators, and modified baseline metals.

Soil samples were not collected for laboratory analysis during the August 2020 investigation.

[1] The 1991 Phase II investigation is not available to 80 Lyndon Road, LLC.

Risk Analysis (RA)

(Required for all Inventum Type 2 or Type 3 field projects.)

In 2023, Ramboll[2] conducted an environmental site characterization of the proposed BCP Site under the direction of the NYSDEC. The requestor only has access to the work plan that was prepared by Ramboll in advance of the field investigation and the analytical laboratory reports for the samples collected during the site characterization investigation. In summary, the project objective of Ramboll's work plan was to assess the potential for site-related constituents to migrate off-site above regulatory standards and guidance values. The site characterization evaluated the presence of VOCs, semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), 1,4-dioxane, per- and poly-fluoroalkyl substances (PFAS), inorganics, mercury, cyanide, and pesticides/herbicides in groundwater, surface water, soil, sediment, and fill material. The scheduled sampling consisted of:

- Soil sampling from three selected intervals from four soil boring locations
- Six test pit trenches with a projected depth of 4-feet to six feet and up to 8-feet in length.
- Install four monitoring wells to collect groundwater samples. The intent was to install the well screen in native material either vertically or horizontally outside the fill material to assess potential for migration of contaminants
- Surface water and sediment sampling of two samples collected from an upstream and downstream stream location

Soil – SVOC were detected in upper 1-foot soils at below restricted residential (DER-10 Part 375, Soil Cleanup Objectives [SCO]) standards at three soil boring /monitoring well locations around the perimeter of the Site. Lead was the only metal detected above restricted residential levels along the eastern portion of the site near Lyndon Road.

PFOA and PFOS were detected at multiple intervals from five monitoring well borings and at three test pit locations across the Site. PFOA and PFAS were detected above restricted residential levels at one test pit location in the northeast portion of the site in the upper surface soil sample and PFOS was detected over restricted residential levels at 6-feet to 8-feet below the ground surface in the southeast portion of the site a monitoring well boring. The SVOCs Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene and Indeno(1,2,3-cd)pyrene were also detected in the upper 1-foot at above Commercial and Industrial SCOs

During the test pitting, a buried container of medical waste and a drum of material which was sampled and contained elevated levels of VOCs and SVOCs levels was observed which indicates the landfill was used for disposal of other waste besides the intended use of disposal of boards, wooded debris, and rubble. A sample from the drum contained 2-Butanone (MEK), Ethylbenxene, Toluene, m,p-Xylene, o-Xylene, Xylene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene above industrial SCOs and Benzo(b)fluoranthene, Chrysene, and Indeno(1,2,3-cd)pyrene at above restricted residential SCOs.

Groundwater – PFOS and PFOA were detected at concentrations above their applicable Class GA standards in four of the seven onsite monitoring wells. The four wells with the exceedance are located along the eastern and southern portion of the site. PFOS exceedances ranged from 3. 8 to 847 ng/L and PFOA ranged from 24 to 5,470 ng/L.

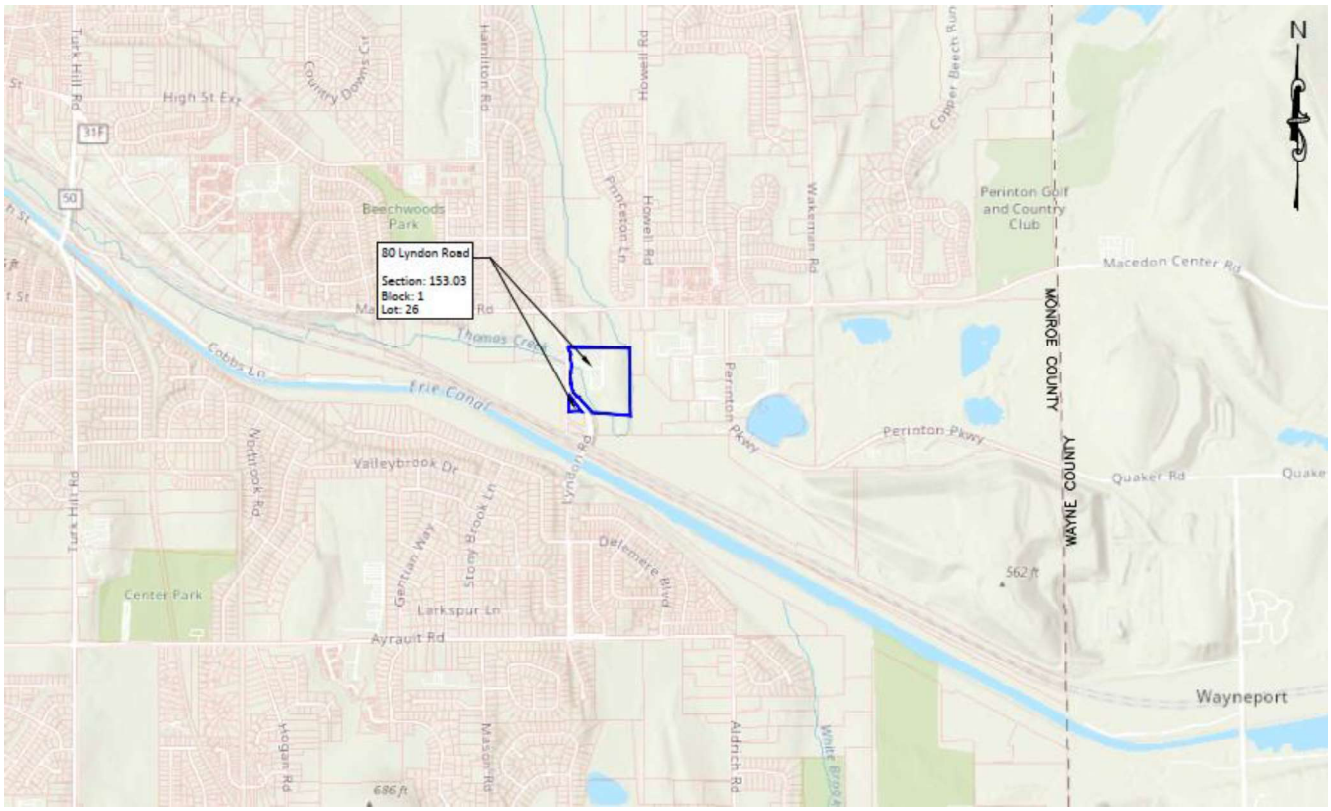
[2] 80 Lyndon Road, LLC does not have copy a Site Characterization Report. Only a work plan, laboratory reports and sample location figure was made available to 80 Lyndon Road, LLC.

Risk Analysis (RA)

(Required for all Inventum Type 2 or Type 3 field projects.)

Surface Water – Five surface water samples were collected onsite from Thomas Creek and one surface water sample from the southwest portion of the site had an exceedance of PFOA above the Ambient Water Quality Guidance Values, April 2023, (Human Health Criteria for Surface Water and Groundwater) at 6. 8 ng/L.

Figure 1; Site Location



Site Activities/Current Operations: ☒ None ☐ As Specified

Other Concurrent Site Activities, Work, and/or Other Adjacent Hazards or Concerns:

☐ None

As Specified:

☐ Schools ☐ Daycare ☐ Hospital ☐ Airport

☐ Residential ☐ Offices ☐ Shopping

☒ Active parking lot and ice skating facility

5. Hazard Evaluation

Complete (1) Substance Name (be specific)	Specific Applicable OSHA Standard (if any)	Physical State (2) (S, L, G, Aq, Vap, F, P)	Max. (3) Conc. Level Per Physical State	General (4) Control Measures (Eng., Admin., PPE)
Acetone	2400 mg/m3	S	9,300 ug/kg	Eng., PPE
Benzo(a)anthracene	0.2 mg/m3	S	4,230 ug/kg	Eng., PPE
Benzo(a)pyrene	0.2 mg/m3	S	4,660 ug/kg	Eng., PPE
Benzo(b)fluoranthene	0.2 mg/m3	S	5,180 ug/kg	Eng., PPE
Benzene	1 ppm (PEL TWA)		191 ug/kg	Eng., PPE
Benzo(k)fluoranthene	N/A	S	2,130 ug/kg	Eng., PPE
Chlorobenzene	350 mg/m3	L	16 ug/L	Eng., PPE
Chrysene	0.2 mg/m3	S	4,030 ug/kg	Eng., PPE
1,4-Dichlorobenzne	450 mg/m3	S, L	<74 ug/L, 2.6 ug/L	Eng., PPE
2,4-Dimethylphenol	N/A	L	2.6 ug/L	
1-4-Dioxane	360 mg/m3	L	43 ug/L	
Ethylbenzene	545 mg/m3	S, L	387,000 ug/kg, 21.5 ug/L	Eng., PPE
Indeno(1,2,3-Cd) Pyrene	NA	S	3,520 ug/kg	Eng., PPE
Methyl ethyl ketone (MEK) 2-Butanone	590 mg/m3	S	940,000 mg/kg	Eng., PPE
Toluene	200 ppm	S, L	1,130,000 ug/kg	Eng., PPE
Total Xylenes	435 mg/m3	S, L	2,960,000 ug/kg, 142 ug/L	Eng., PPE
Lead	0.05 mg/m3	S	446 mg/kg	Eng., PPE
Magnesium	NA	L	97,900 ug/L	Eng., PPE
Sodium	NA	L	89,500 ug/L	Eng., PPE

(1) Use OSHA regulated name, not elemental forms. If available, attach SDS. Identify any sample preservative or O&M chemicals or subcontractor chemicals in this table also.
(2) S = Solids, L = Liquid, G = Gas, Aq = Aqueous, Vap = Vapor, F = Fume, P = Airborne Particulate.
(3) Site Maps with Soil and Groundwater exceedances are included in Attachment A.
(4) See the following sections for detailed control measures: personal protection equipment (PPE), Air Monitoring (Admin), or Site Control (Admin and Eng.).
(6) IP = Ionization Potential, VP = Vapor Pressure, LEL = Lower Explosive Limit, UEL = Upper Explosive Limit, N/A = Not Applicable, N.D. = Not Determined
(7) IDLH = Immediately Dangerous to Life and Health. NEVER enter IDLH conditions on site without proper respiratory protection.
(8) C = Ceiling Value, ST = Short-Term Exposure Limit, TWA = Time-Weighted Average, None Est. = None Established
(9) R = Respirable Limit, T = Total Limit
(10) Warning Properties: Good (G), Poor (P), None (N)

Risk Analysis (RA)

(Required for all Inventum Type 2 or Type 3 field projects.)

5. Hazard Evaluation (continued)

Site-Specific Physical Hazards

HAZARD	SPECIFIC CONTROL MEASURE
Slip/Trip/Fall Injury	– Use roads or trails whenever possible. – Occasionally reassess route to avoid dangerous terrain. – Maintain good housekeeping and keep work area clear of loose materials and equipment. – Use portable steps to mount and dismount sampling vehicle.
Ingestion of or contact with impacted soil	– Wear safety glasses. – Wear nitrile and appropriate cut-/puncture-resistant gloves (see Glove Selection Guideline) when performing tasks. – Wash hands and arms thoroughly when daily work is completed. – No eating, drinking, or smoking while conducting monitoring or sampling activities.
Pinched fingers or toes	– Wear appropriate cut-/puncture-resistant gloves (see Glove Selection Guideline) when the potential for hand injury exists. – Wear steel-toed safety shoes with steel shanks while on site.
Strained muscles	– Use proper lifting posture, techniques, and equipment when handling heavy objects. – Use two people for loads >40 lbs. or awkward items. – Take rests as needed during and between carries.
Cutting activities	– Wear appropriate cut-/puncture-resistant gloves (see Glove Selection Guideline) when the potential for hand injury exists.
Flying debris/eye injuries	– Wear ANSI-approved safety glasses when the potential for flying debris and eye injuries exists.

Risk Analysis (RA)

(Required for all Inventum Type 2 or Type 3 field projects.)

Other Common Physical Hazards

(modify as needed, but include with all project hazard assessments)

☒	PHYSICAL HAZARD	GENERAL CONTROL MEASURE
☐	Aboveground Storage Tanks (AST)	Be aware of any aboveground storage tanks and the type of material being stored in them. Be aware of the potential of spills, fires, explosions, etc., while working near the tanks. Stay clear of tanks whenever possible and be aware of any equipment operators near the tank(s).
☒	Animals (dogs, etc.)	Be aware of any animals on site or adjacent to the site. Appropriate care should be taken if any feral (wild) animals are encountered.
☐	Blasting/Explosives	INVENTUM personnel shall not handle any explosive devices or materials. INVENTUM personnel should understand the blasting procedures being used by the subcontractor, and all of the associated health & safety precautions. The subcontractor shall handle, store, and use the explosives in accordance with 29 CFR 1926.900, Subpart H and U.
☐	Boat or Barge	A boat or barge should be used that is adequately stable for the type of activity conducted. The boat or barge should have all of the appropriate and current licensing and registrations required by the applicable regulatory agencies. All applicable laws and regulations will be followed when launching the boat or barge, and when navigating to and from the work site. Personal floatation devices should always be worn while navigating the boat or barge. The boat must be equipped with the following approved United States Coast Guard (USCG) safety equipment: – A Type 1, 2, or 3 personal flotation device (PFD) for every person aboard (should be worn while navigating) The following equipment is recommended: – A Type 4 throwable PFD – Audible distress signal device (air horn, whistle) – Fire extinguisher (if engine-propelled) – Auxiliary propulsion (spare paddles, trolling motor) – Bow and stern lines – Anchor and anchor line – First aid kit – Visual distress signal device(s) (flares, dyes) – Additional PFDs Be familiar with local weather and tidal characteristics. Do not conduct sampling from a boat/barge when threatening weather is imminent, or poor visibility exists. Sampling from a boat is prohibited in water containing substances likely to cause injury upon short-term or prolonged contact. Sampling from a boat is prohibited when the temperature of the water is high or low enough to cause injury upon short-term or prolonged exposure. Avoid sampling from a boat when unsafe water turbulence (waves) exists. Avoid standing in a boat. Always use the buddy system when sampling from a boat or barge; one person should be on shore with visual contact of the barge and should be able to summon emergency assistance if needed. Be familiar with local weather and tidal characteristics. Work on a boat or barge will not be performed when threatening or severe weather is impending or present.

Risk Analysis (RA)

(Required for all Inventum Type 2 or Type 3 field projects.)

Other Common Physical Hazards

(modify as needed, but include with all project hazard assessments)

☒	PHYSICAL HAZARD	GENERAL CONTROL MEASURE
☒	Briars or Thistles	Be aware of any briars or thistles on site. Wear appropriate clothing and gloves. Avoid contact with briars or thistles whenever possible.
☒	Business Traffic	Be aware of traffic patterns associated with local businesses near the work site. Allow traffic to enter and exit the businesses in such a manner to avoid creating traffic hazards, back-ups, delays, or potential accident situations.
☐	Cement Dust	Stay clear of mixing operations and avoid contact with or breathing of the dust.
☐	Chain Saws	Stay clear of any chain saw operations. Subcontractor is responsible for the safe use of chain saws on site.
☐	Cleaning Agents	Use caution when applying cleaning agent to equipment. Use gloves, safety glasses, splash shields, and protective clothing as needed.
☒	Client Activities	Be aware of client activities at or adjacent to the site. Work activities should be coordinated with other site activities to avoid conflicts.
☒	Cold Stress	Work schedules may be modified when temperatures are below 20° F as measured by the wind chill factor. Take frequent breaks to warm up. Drink plenty of fluids. Wear appropriate clothing, and monitor for cold stress symptoms (frostbite, hypothermia, etc.).
☐	Compressed Air or Gas Cylinders	Compressed air or gas cylinders should be clearly marked, and they should be stored, transported, and secured in an approved manner.
☐	Compressed Air/Gas or Pressurized Liquids Hoses, Lines & Fittings	Compressed air or gas, or pressurized liquid lines or hoses should be inspected at least daily, or in the event a leak develops, or if a line or hose is run over or crimped.
☐	Concrete/Masonry/ Foundations	No construction loads shall be placed on a concrete structure or portion of a concrete structure unless a person who is qualified in structural design has determined that the structure or portion of the structure is capable of supporting the loads. All protruding reinforcing steel, onto and into which employees could fall, shall be guarded to eliminate the hazard of impalement. No employee shall be permitted to work under concrete buckets while buckets are being elevated or lowered into position. To the extent practical, elevated concrete buckets shall be routed so that no employee, or the fewest number of employees, are exposed to the hazards associated with falling concrete buckets. A limited access zone shall be established whenever a masonry wall is being constructed. All masonry walls over eight feet in height shall be adequately braced to prevent overturning and to prevent collapse unless the wall is adequately supported so that it will not overturn or collapse. The bracing shall remain in place until permanent supporting elements of the structure are in place.
☐	Confined Spaces (tanks, vaults, vessels, trenches, manholes, some excavations, etc.)	The scope of this project does entail entry into confined spaces. Confined spaces will not be entered unless a confined space entry permit has been completed, signed, and approved, and all participating personnel are trained in confined space entry procedures, including safety, and rescue procedures. All potential hazards of confined space may not be addressed by this hazard assessment, and health and safety plan.
☒	Cutting Tools	Stay clear of contractors' cutting tools, especially saws and torches. Be aware that cutting operations could create other hazards, such as falling objects, or shifting materials, etc. Safety glasses should be worn while using cutting tools. Spark-proof tools should be used when working in areas of potential explosive or flammable conditions. Fixed-open blade knives are prohibited.

Risk Analysis (RA)

(Required for all Inventum Type 2 or Type 3 field projects.)

Other Common Physical Hazards

(modify as needed, but include with all project hazard assessments)

☒	PHYSICAL HAZARD	GENERAL CONTROL MEASURE
☐	Demolition Activities	Stay clear of walls, ceilings, roofs, etc., as they are being demolished.
☐	Demolition Debris	Demolition material should only be handled by appropriate equipment because of sharp points, edges, etc. Demolition material may also pose a trip hazard, fall, or puncture hazard, so avoid walking or climbing on debris piles, etc.
☒	Drums	If drums are used on-site, they should be clearly labeled with the name of the contents and the appropriate label. Drums should only be handled with the appropriate equipment. Drums discovered during excavations, etc., shall not be opened or moved until appropriate identification can be performed. At a minimum, Level B protection is required for sampling any unlabeled drums discovered during remediation procedures.
☒	Dust/Particulates (Particulates Not Otherwise Regulated) (PNOR) (OSHA PEL = 15 mg./m^3, total) (OSHA PEL = 5 mg./m^3, respirable)	For general dust, work should be performed up-wind if possible. If conditions warrant it, monitoring should be done with a PM-10. Monitoring should occur at least 3 times per day, and every time re-entering the site. Readings should be taken downwind from the work area or inside the equipment as indicated by the conditions on site. If the OSHA PEL is exceeded, or is likely to be exceeded, engineering or administrative controls should be used, or a dust respirator must be worn. For hazardous dusts, a detailed air monitoring plan and a respiratory protection plan should be developed for the site activities.
☐	Elevated Work	For any construction work activities elevated 6 feet or more, or other non-construction activities elevated 4 feet or more, fall protection must be provided. Caution should be taken on catwalks and ladders because of potential slippery conditions, or the potential for footwear to catch on the surfaces.
☐	Energized Sources (electrical equipment or hookups, lines, etc.,) (Lockout/Tagout)	Contractors for all electrical activities, and any facility equipment with moving parts should follow proper lock-out/tag-out procedures, and only properly trained employees will perform the work. Employees will not perform any lock-out/tag-out activities unless personnel are properly trained in lockout/tagout procedures. Heed any caution signs or labels.
☒	Equipment Exhaust	Equipment exhaust should be ventilated away from the work area while drilling inside structures. Industrial fans can be used to move exhaust out of the area.
☒	Ergonomic Issues (job hazard analysis)	Ergonomic hazards will be addressed on a site-specific basis once mobilization to the field has occurred. Workstations will be evaluated on an individual basis.
☒	Evening Work	If work is performed during the evening hours, work shall be limited by the availability and the quality of artificial lighting. Care should also be taken to avoid slip, trip, and fall hazards that are not as easy to identify during low light conditions.
☒	Excavations	Stay clear of excavation walls. INVENTUM personnel will not enter an excavation, in accordance with 1926 Sub Part P. Subcontractor must provide a Competent Person on site if one is required by the planned activities. Side cuts should conform to 1926 Subpart P requirements, or shoring should be used. All open excavations should be secured using traffic cones, barrier tape, or barricade signs stating, "Do Not Enter Excavations", especially if left open overnight.
☐	Explosives	Be aware of potential explosive materials and how to identify them. No smoking is allowed on-site or near where potential explosive materials may be present.
☐	Facility Conveyors (product or waste lines)	Stay clear of facility conveyors, product process lines, and waste disposal lines. Be aware of any client-specific health and safety requirements to work in these areas.

Risk Analysis (RA)

(Required for all Inventum Type 2 or Type 3 field projects.)

Other Common Physical Hazards

(modify as needed, but include with all project hazard assessments)

☒	PHYSICAL HAZARD	GENERAL CONTROL MEASURE
☐	Facility Equipment/Machinery	Be aware of active and moving client equipment on site.
☐	Facility Piping - aboveground	Stay clear of aboveground pipes. Client is responsible to identify all applicable aboveground facility pipes prior to any work activities in the area. Pipes can be overhead hazards, or trip hazards. Pipes can be hazardous because of the material flowing through them, such as steam, natural gas, toxic chemicals, etc. Some pipes are also coated with hazardous material such as asbestos.
☐	Facility Piping - belowground	Client is responsible to identify all applicable underground facility pipe locations prior to any subsurface activities.
☐	Fall Hazard	Proper tie-off, harnesses, railings, etc. should be used when performing work on ladders, scaffolding, man-lifts, or on the roof of buildings, etc. Stay clear of the edges of pits, trenches, quarries, etc.
☒	Falling Objects	Be aware of any potential falling objects or materials on site. Stay clear of any areas identified as potential falling object areas.
☒	Fences	Be aware of fences in disrepair that may be trip hazards or may have materials that could cause punctures or cuts. Use caution when crossing over or under fences.
☒	Field Equipment	If field equipment is heavy or awkward to carry, get assistance or use carts to help move around the site.
☒	Field Vehicle	Inventum personnel shall follow all applicable state and federal traffic laws while traveling to and from the site, and while working on the site. In particular, the following laws should be followed: speed limits, parking restrictions, use of wipers and lights during precipitation events, limiting cell phone use, etc. It is the responsibility of the driver to verify that all safety equipment on the vehicle is working properly before driving the vehicle. In particular, the following items should be checked: tire pressure, tire tread, windshield wipers, windshield washer, headlights, tail lights, brake lights, spare tire, fire extinguisher, first aid kit, etc.
☒	Fire Hazards	Eliminate sources of ignition in work areas that have ignitable materials. Provide an ABC fire extinguisher in close proximity to the support zone.
☒	Flooded Areas	Do not drive through flooded areas or standing water. Do not wade into moving water, or water deeper than 2 feet without adequate assistance.
☒	Flying Debris/ Eye Injuries	Be aware of any flying debris on site and wear protective eyewear when necessary.
☒	Fork Lifts	Be aware of forklift patterns and stay clear of those routes.
☒	Hand Tools	Use only the appropriate tool for the task at hand. Use the tool(s) as designed, described, and intended by the manufacturer.
☒	Heat Stress	The work schedule may be modified if the ambient temperature is more than 80° F. Take breaks as necessary, and drink plenty of fluids. If necessary, wear sunscreen and sunglasses on bright days. Monitor site personnel for signs of heat stress symptoms (heat rash, heat cramps, heat exhaustion, or heat stroke).

Risk Analysis (RA)

(Required for all Inventum Type 2 or Type 3 field projects.)

Other Common Physical Hazards

(modify as needed, but include with all project hazard assessments)

☒	PHYSICAL HAZARD	GENERAL CONTROL MEASURE
☒	Heavy Equipment	Contractor is responsible for safe operation of equipment. All mobile heavy equipment must have a functioning backup alarm, and operators must comply with manufacturer's equipment instructions. Maintain proper distance and remain in line of sight of operator and out of reach of equipment. Isolate equipment swings, if possible. Make eye contact with the equipment operator before approaching the equipment. Understand and review hand signals, and wear orange safety vest, if necessary.
☒	Heavy Lifting	Use proper lifting procedures and equipment when handling heavy objects such as drums, manhole covers, tank covers, etc.
☐	High Pressure Gas Lines, etc.	Be aware of high-pressure gas lines and follow approved safety precautions when working with or around the lines.
☐	Highway Traffic	Traffic control within the right-of-way will be in accordance with the WDOT "Work Zone Safety – Guidelines for Construction, Maintenance, and Utility Operations" procedures. Work may be restricted within specific lanes during peak traffic times. Verify peak traffic times, and review planned activities with the WDOT, so that appropriate lane closures can be coordinated.
☒	Housekeeping	All field vehicles, job trailers, and field offices will be properly cleaned and organized to prevent cluttered work and storage areas.
☐	Hunters/Firing Range, etc.	Be aware of surrounding activities that may involve hunting, firearms, etc. that may not be in your immediate area, but could create an unsafe work environment.
☒	Ice (thin)	When project activities include either crossing ice or working directly on the ice, a detailed plan should be developed that will be used to continually evaluate the ice conditions, and to determine when work should be terminated due to unsafe conditions. All staff working on the ice will wear an appropriate and approved personal flotation device. Other emergency equipment such as ropes, a throwable flotation device, a means to warm a wet and cold worker, etc. must be available. A buddy system should also be used for this type of work, such that one person is always on shore or at least on previously determined safe ice.
☒	Insects (ticks, bees, spiders, etc.)	Site workers with known allergies to insect bites should carry their own medication. In case of emergencies, inform fellow workers of any severe allergies. Use insect repellant as necessary, and as specifically allowed on site. If possible, wear long-sleeved shirts and pants. If appropriate, check for ticks at the end of each day. Have other appropriate first aid supplies handy for bites.
☒	Stakeholders	Be aware of the potential for irate neighbors or outsiders that may interfere with work activities, or that may potentially damage equipment or on-site materials, etc.
☐	Ladders	Ladders should only be used if they are in good condition, conform to OSHA requirements, and if they will be used in an appropriate manner. Be especially cautious of slipping on ladders when the ladder or footwear is wet or dirty.
☐	Landfill Gas (Methane, CO2, Hydrogen Sulfide)	Avoid breathing gas, especially in low oxygen areas (simple asphyxiant). Potentially flammable and explosive, so keep ignition sources away from gas. Explosive conditions of LEL >5% in a work area should be ventilated as soon as possible, or the area should be evacuated.
☐	Leachate (Municipal Solid Waste (MSW))	MSW leachate may contain hazardous biological substances, so avoid physical contact with leachate and, if possible, stay up-wind. If contact is made with leachate, wash affected areas thoroughly with soap and water. If boots contact leachate, they should be thoroughly washed with soap and water also.

Risk Analysis (RA)

(Required for all Inventum Type 2 or Type 3 field projects.)

Other Common Physical Hazards

(modify as needed, but include with all project hazard assessments)

☒	PHYSICAL HAZARD	GENERAL CONTROL MEASURE
☒	Lead	Wear gloves when in contact with lead contaminated soil, etc. Thoroughly wash hands and arms when daily work is completed.
☒	Long Hours/Fatigue	Long work hours can lead to fatigue, and fatigue can lead to the physical inability to perform the work in a safe manner, or travel to or from a work site in a safe manner. If long work hours are scheduled, or if the scheduled work takes longer than planned, field staff should determine if fatigue is, or will be, an issue. Field staff should evaluate whether they are able to complete the work in a safe manner, or whether they are able to travel in a safe manner. If fatigue is an issue, appropriate breaks should be planned or taken, including overnight stays when necessary.
☒	Material Handling	Move containers and heavy material only with the proper equipment, and secure them to prevent dropping, falling, or loss of control during transport. Stay clear of material handling operations, especially near slopes. Do not stand down the slope from equipment, supplies or materials being moved above on the slope, or being deployed onto the slope.
☒	Material Storage	Stored material may be a falling hazard, or a crush hazard. Do not stand adjacent to materials stacked up, such as pipes, geosynthetic rolls, etc., or in the area of deployment.
☐	Methane Gas (Landfill Gas)	Explosive conditions (5% LEL) will be ventilated, if encountered, prior to working in an area. Methane is a simple asphyxiant.
☐	Mine or Quarry	No work shall be performed within 15 feet (or other designated client setback, whichever is greatest) of the mine or quarry walls. Be aware of the potential for falling rocks or slope failures.
☐	Municipal Solid Waste (MSW)	MSW may contain hazardous biological substances, so avoid physical contact, and if possible, stay up-wind. Wear appropriate PPE, such as gloves, safety shoes, and safety glasses. Wash hands, arms, and face after working near MSW. Reusable PPE and equipment should be thoroughly decontaminated after exposure to MSW. MSW may also contain sharp objects with the potential to puncture PPE.
☐	Natural Gas	Natural gas is flammable and explosive. Keep ignition sources away from gas sources. Use spark-proof tools when working with gas lines, etc.
☒	Noise	Hearing protection must be worn when noise levels exceed 85 dBA in the work area. If you need to raise your voice to be heard at the work site, then hearing protection should be worn. Hearing protection will be worn near drill rigs.
☒	Overhead Hazards	Pay attention to overhead equipment, piping, and structures. A hard hat must be worn at all times when overhead hazards are present on site including the operation of a drill rig.
☒	Pedestrian Traffic (public, client, workers)	Be aware of pedestrian traffic patterns and route traffic around the exclusion zone(s), as necessary, to avoid distractions and the potential for exposures or accidents. Use appropriate barricades and caution tape to mark work areas.
☒	Poisonous Plants	Be able to identify any local poisonous plants and avoid them if possible or wear protective clothing as necessary. When removing potentially exposed clothing or PPE, the clothing or PPE should be carefully and thoroughly washed or decontaminated.
☒	Portable Heaters	Be aware of portable heater locations and stay a safe distance from them.
☒	Power Washing Equipment	Stay clear of the power washing nozzles and equipment.
☐	Propane Tanks	Be aware of propane tank locations, and any gas lines leading to or from the tanks.

Risk Analysis (RA)

(Required for all Inventum Type 2 or Type 3 field projects.)

Other Common Physical Hazards

(modify as needed, but include with all project hazard assessments)

☒	PHYSICAL HAZARD	GENERAL CONTROL MEASURE
☐	Radiation (ionizing)	Exposure to ionizing radiation can be controlled by one of three methods: time, distance, or shielding. Limit your time near the radioactive source. Keep your distance from the radioactive source. Shield yourself from the radioactive source with appropriate shielding material. If the radioactive source(s) are from INVENTUM equipment, the INVENTUM employee using the equipment needs required training to use the equipment and must be monitored using a dosimeter badge.
☐	Rock Blasting	Contractor is responsible for following safe blasting protocol. Heed all contractor warnings at time of blasting and stay well clear until safe to return to area, as indicated by the contractor.
☒	Sample Preservative Chemicals:	Wear safety glasses and nitrile gloves when adding preservative chemicals to sample bottles or vials. Have clean wash water nearby.
☐	Scaffolding	Stay clear of scaffolding. Be aware of the OSHA safety requirements for using constructing and scaffolding.
☒	Severe Weather	Work may be suspended if dangerous weather conditions (lightning, tornadoes, high winds, heavy rain, freezing rain, etc.) occur. Be aware of changing weather conditions and be prepared to take shelter as necessary. Potential shelters should be identified prior to beginning work.
☒	Sharp Objects	Wear appropriate gloves when handling sharp objects or use appropriate equipment to move objects.
☒	Slippery Ground/Surfaces	Exercise caution, especially on slopes, field trailer floors and stairs, after a precipitation event. Use slip resistant boots or implement surface preparations to eliminate the slippery nature of the surface prior to accessing the area. Spill control measures and general housekeeping should be utilized to help prevent slipping on wet floors, wet pavement, and general work areas.
☒	Slips, Trips, and Falls:	Maintain clear walkways for work areas.
☒	Snakes	Be aware of the potential for snakes in the area and wear snake boots, snake chaps, gaiters, or leggings as needed.
☒	Steam Cleaning Equipment	Stay clear of the steam cleaning nozzles and equipment.
☐	Steel Erection	All materials, equipment, and tools, which are not in use while aloft, shall be secured against accidental displacement. The controlling contractor shall bar other construction processes below steel erection unless overhead protection for the employees below is provided. Employees engaged in steel erection activities on a walking/working surface with an unprotected side or edge more than 15 feet above a lower level shall be protected from fall hazards by guardrail systems, safety net systems, personal fall arrest systems, positioning device systems or fall restraint systems.
☐	Steep Slopes or Banks	Pay attention to footing and walking. Stay a safe distance from unstable or extremely steep slopes. Wear appropriate footwear. Be aware of potential slope or bank failures. Heavy equipment should not be operated on or near unstable slopes or banks.
☒	Strong Nuisance Odors	Strong odors should be ventilated before entering a work area, or a respirator shall be worn as needed.
☒	Sunburn	For extended periods of time outdoors on sunny days, sunglasses, long-sleeved shirts and long pants should be worn to help prevent sunburn and eye problems. Wear sunscreen as appropriate for the project.
☒	Surface Water	Working next to or on, bodies of water shall be done using the buddy system. Staff shall wear USCG-approved personal floatation devices when on or adjacent to bodies of water.

Risk Analysis (RA)

(Required for all Inventum Type 2 or Type 3 field projects.)

Other Common Physical Hazards

(modify as needed, but include with all project hazard assessments)

☒	PHYSICAL HAZARD	GENERAL CONTROL MEASURE
☒	Terrain	Uneven or steep terrain can cause hazardous conditions for walking and transporting equipment around the site. Site personnel should use caution when working on uneven surfaces, and they should avoid working down-slope from heavy equipment, or materials being moved or stored.
☒	Traffic (client, contractors, public, semi-trucks, forklifts, etc.)	Obey all posted speed limits. Park in designated areas only. Be aware of traffic patterns on site, and during access to the site. Use orange traffic cones and barrier warning tape, as needed, or if within 25 feet of the right-of-way. INVENTUM personnel must wear orange safety vests when working in or near traffic areas. Class 2 traffic vests are required with traffic speeds 25 mph or higher. Class 3 traffic vests are required with traffic speeds 50 mph or higher.
☐	Trains/Railroad Tracks	Be aware of any train activities on the site, entering or leaving the site, or immediately adjacent to the site. Do not walk between the rails or on the railroad ties. When driving, stop at all railroad crossings, even if they are unmarked, and look in both directions before proceeding across the tracks.
☒	Transporting Hazardous Materials	INVENTUM personnel who transport hazardous materials shall have the required DOT training prior to transporting materials, and will comply with all applicable DOT regulations and requirements for labeling, packaging, etc.
☒	Tree Cutting	Stay clear of tree cutting activities.
☒	Trenching	INVENTUM personnel will enter trenches in accordance with 1926 Sub Part P. Be aware that some trenching conditions may result in a confined space condition.
☒	Trip Hazards (wires, cords, hoses, debris, corn stubble, uneven surfaces, etc.)	Temporary wires, cords, hoses, etc., should be properly located, marked, and protected to help prevent tripping and disruption to work activities. Trip hazards are particularly a problem early in the morning, late in the day, or under other poor lighting conditions.
☐	Underground Storage Tanks (USTs) (Septic Tanks)	If any unknown USTs are encountered, drilling or excavations will be terminated in that location until a new scope of work, Risk Assessment and Health & Safety Plan can be developed.
☒	Uneven Surfaces	Be aware of uneven walking or driving surfaces and exercise caution when moving around the site.
☒	Utilities – Overhead (electrical, telephone, cable TV, etc.)	A subcontractor, the client, or INVENTUM will locate and identify all overhead utilities. The owner or client will be responsible for identifying all applicable overhead utilities, product lines, pipes, and aboveground tanks. A minimum clearance of 20 feet must be maintained between equipment and overhead utility lines.
☒	Utilities – Underground (electric, gas, telephone, water, storm sewer, sanitary sewer, cable TV, etc.)	A subcontractor, the client, or INVENTUM will call Digger's Hotline to locate all underground utilities. The owner or client will be responsible for marking all applicable on-site underground utilities, product lines, pipes, and tanks.
☒	Waterways	Exercise caution near, around, or in waterways. Harnesses should be worn when working in, or within 4 feet of, the waterway, especially when attempting to sample from shore or a boat or barge. All applicable laws and regulations will be followed when navigating a boat or barge to and from a work site.

Risk Analysis (RA)

(Required for all Inventum Type 2 or Type 3 field projects.)

Other Common Physical Hazards

(modify as needed, but include with all project hazard assessments)

☒	PHYSICAL HAZARD	GENERAL CONTROL MEASURE
☒	Welding Tools	Stay clear of welding operations, and do not look directly at the welding process without appropriate eyewear and shield.
☐	Traffic Control	**Traffic Control**: Traffic control within the right-of-way will be in accordance with the local Public Right-of-Way Agency. Work may be restricted within specific lanes during peak traffic times. Verify peak traffic times and review planned activities with the local Public Right-of-Way Agency, so that appropriate lane closures can be coordinated.

Proposed Date(s) of Inventum Work: TBD

ON-SITE PROJECT TEAM MEMBER	ON-SITE PROJECT RESPONSIBILITIES
John Black	Inventum Site Health and Safety Representative (Supervisor); Remedial Contractor Oversight
James Edwards	Inventum Site Health and Safety Representative (Supervisor); Remedial Contractor Oversight
Peter Zaffram	Inventum Site Health and Safety Representative; Remedial Contractor Oversight

Any required construction/demolition activities: ☒ No ☐ Yes If Yes, complete Section 1

Site-Specific Health and Safety Plan

(Required for all Inventum Type 2 or Type 3 field projects.)

1. Construction Tasks: work tasks to be performed by Inventum staff or Inventum subcontractors

Civil

- ☐ Sewer (utility)
- ☐ Water (utility)
- ☐ Electric (utility)
- ☐ Communications (utility)
- ☐ Siding
- ☐ Roofing
- ☐ Drywall
- ☐ Flooring
- ☐ Ceilings
- ☐ Casework
- ☐ Masonry
- ☐ Escalator
- ☐ Steel (erection)
- ☐ Pre-cast (erection)
- ☐ Concrete (erection)
- ☐ Re-bar
- ☐ Elevator
- ☐ Fireproofing
- ☐ Windows
- ☐ Landscaping
- ☐ Painting
- ☐ Insulation
- ☐ Doors
- ☐ Finish Concrete

Mechanical

- ☐ Insulation
- ☐ Millwright
- ☐ Fire Protection
- ☐ Boiler
- ☐ Industrial Ventilation
- ☐ Steel Fabrication/Erection

Other

- ☐ Electrical
- ☐ Demolition (attach a detailed "**Demolition Plan**")

- ☐ Others
- ☐ Others
- ☐ Others

Estimated Direct-Hire Inventum Employees:

Home Office: ☐ Not Applicable ☐ Specify:

Craft Labor: ☐ Not Applicable ☐ Specify:

Craft	Quantity
Craft	Quantity

Site-Specific Health and Safety Plan

(Required for all Inventum Type 2 or Type 3 field projects.)

2. Applicable Safety Standards or Regulations:

☒ Federal OSHA ☐ State OSHA ☐ Owner/Client

Specific Standards:	29 CFR 1910 (OSHA)	29 CFR 1926 (Other Regulations)
☒ Medical Services and First Aid	1910.151	1926.50
☒ Hazard Communication (HAZCOM)	1910.1200	1926.59
☒ Lead Exposure	1910.1025	1926.62
☒ HAZWOPER	1910.120	1926.65
☒ Personal Protective Equipment (PPE)	1910.132-138	1926.95-107
☒ Respiratory Protection	1910.134	1926.103
☒ Ventilation	1910.94	1926.57
☒ Noise Exposure	1910.95	1926.52
☐ Illumination	N/A	1926.56
☐ Fire Protection	1910.157	1926.24 and 150-155
☐ Sanitation	1910.141	1926.51
☐ Materials Handling (rigging, etc.)	1910.176	1926.250-251
☐ Welding/Cutting	1910.251-255	1926.350-354
☐ Lockout/Tagout	1910.147	1926.417
☐ Electrical (flexible cords, etc.)	1910.305	1926.400-449
☐ Scaffolding	1910.28-29	1926.450-454
☐ Fall Protection (elevated work)	1910.23-29, 1910.66-68	1926.104-107; 500-503
☐ Ladders/Stairways	1910.25-27	1926.1050 and 1060
☐ Cranes, Derricks, Hoists, Elevators, etc.	1910.179-181	1926.550-555
☐ Aerial Lifts	1910.66-68	1926.556
☐ Earthmoving Equipment	N/A	1926.602
☐ Powered Industrial Trucks (forklifts)	1910.178	1926.602
☒ Excavations and Trenching	N/A	1926.650-652
☐ Concrete and Masonry	N/A	1926.700-706
☐ Steel Erection	N/A	1926.750-761
☐ Demolition	N/A	1926.850-860
☐ Asbestos	1910.1001	1926.1101
☐ Confined Space Entry	1910.146	1926.21

Site-Specific Health and Safety Plan

(Required for all Inventum Type 2 or Type 3 field projects.)

☐ Commercial Diving	1910.401-441	1926.1071-1092
☐ Compressed Gases	1910.101-105	N/A
☐ Ionizing Radiation	1910.1096	1926.53
☒ Benzene	1910.1028	1926.1128
☐ Cadmium	1910.1027	1926.1127
☒ Tools - Hand and Power	N/A	1926.300-307
☐ Blasting and Using Explosives	N/A	1926.900-914

Site-Specific Health and Safety Plan

(Required for all Inventum Type 2 or Type 3 field projects.)

3. Training Required

(* required for all "Type 3" sites; but minimum recommended)

Check "A" if training required for everyone, and check "T" if training required for specific task.

A	T	SUBJECT	REFERENCE	
			29 CFR 1910	**29 CFR 1926 or Other**
☐	☒	HAZWOPER 40 hour*	1910.120	1926.65
☐	☐	3-Day HAZWOPER Supervised On-Site*	1910.120	1926.65
☐	☒	8-Hour HAZWOPER Refresher*	1910.120	1926.65
☐	☐	8-Hour Supervisor HAZWOPER*	1910.120	1926.65
☐	☒	First Aid, CPR*	1910.151	1926.23,.50
☐	☒	Respiratory Protection	1910.134	1926.103
☐	☐	Confined Space ☐ Permit attached	1910.146	1926.21
☐	☐	Mine Safety (MSHA)	N/A	30 CFR 48.8
☐	☐	Lockout/Tagout ☐ Permit attached	1910.147	1926.417
☒	☐	Bloodborne Pathogens	1910.1030	N/A
☒	☐	Noise Exposure	1910.95	1926.52
☐	☒	Competent Person	N/A	1926.32,.450,.650
☐	☐	Construction Health and Safety OSHA 10-Hour	N/A	1926.21
☐	☐	Demolition	N/A	1926.850
☐	☐	Excavations ☐ Permit attached	N/A	1926.650-652
☐	☐	Electrical Work	1910.332	1926.400-.449
☐	☐	Ladders/Stairways	N/A	1926.1050-1060
☐	☐	Scaffolding	1910.28	1926.450-454
☐	☐	Fall Protection	1910.23-29; 1910.66-68	1926.104,.501
☐	☐	Commercial Diving	1910.410	1926.1071-1092
☐	☐	Hot Work ☐ Permit attached	1910.251-255	1926.350
☐	☐	Lead Awareness	1910.1025	1926.62
☐	☐	Asbestos Awareness	1910.1001	1926.1101
☐	☐	Cadmium	1910.1027	1926.1127
☐	☐	Benzene	1910.1028	1926.1128
☐	☐	Ionizing Radiation	1910.1096	1926.53; 10 CFR 19.12
☐	☐	Troxler or NITON Gauge User	1910.1096	10 CFR 19.12
☐	☐	Radiation Safety Program	1910.1096	10 CFR 20.1101
☐	☐	Hazard Communication (HAZCOM)	1910.1200	1926.59
☐	☒	DOT Hazardous Materials Shipping	1910.1201	49 CFR 172.704

Client-specific training: ☒ Not Applicable ☐ Specify

Site-specific orientation: ☒ Not Applicable ☐ Specify

Competent person: ☒ Not Applicable ☐ Specify

Direct-hire employee training/certification: ☒ Not Applicable ☐ Specify

Site-Specific Health and Safety Plan

(Required for all Inventum Type 2 or Type 3 field projects.)

4. Medical Surveillance

Surveillance Required: * required for all "Type 3" sites; baseline is minimum recommended
** Specify frequency below

	29 CFR 1910	29 CFR 1926 or Other
☐ HAZWOPER Physical - Baseline*	1910.120	1926.65
☐ HAZWOPER Physical – Annual	1910.120	1926.65
☐ HAZWOPER Physical - Biennial*	1910.120	1926.65
☐ OSHA Respiratory Protection Questionnaire	1910.134	1926.103
☐ Respiratory Certification Exam	1910.134	1926.103
☐ Arsenic (urine) **	1910.1018	N/A
☐ Asbestos **	1910.1001	1926.1101
☐ Cadmium (blood) **	1910.1027	1926.1127
☐ Lead/ZPP (blood) **	1910.1025	1926.62
☐ Mercury (blood) **	N/A	N/A
☐ PCB **	N/A	N/A
☐ Vinyl Chloride **	1910.1017	1926.117
☐ Hepatitis B Vaccine (series) **	1910.1030	N/A
☐ Tetanus/Diphtheria	N/A	Stay Current
☐ Stress Test	N/A	Only as requested
☐ Visual Acuity Test	N/A	Only as requested
☐ Hearing Test (Audiometry)	N/A	Only as requested
☐ Pulmonary Function	N/A	Only as requested

Client-specific drug testing: ☒ Not Applicable ☐ Specify

Client-specific medical monitoring[1]: ☒ Not Applicable ☐ Specify

Site-specific medical monitoring: ☒ Not Applicable ☐ Specify

**Frequency of medical monitoring: ☒ Not Applicable ☐ Specify

Site-Specific Health and Safety Plan

(Required for all Inventum Type 2 or Type 3 field projects.)

5. Personal Protective Equipment (PPE)

Based on evaluation of potential hazards, the following levels of personal protection have been designated for the applicable work tasks:

Specific Inventum Job Task or Function	Minimum Level of Protection
Task 1 – Site management and Oversight	☒ D ☐ C ☐ B ☐ A
Level D: safety glasses (ANSI), safety shoes (ANSI), ear plugs (ANSI); safety vest (ANSI)	
Task 2 – Surficial Soil Sampling	☒ D ☐ C ☐ B ☐ A
Level D: safety glasses (ANSI), safety shoes (ANSI), ear plugs (ANSI); safety vest (ANSI), nitrile gloves,	
Task 3 – Subsurface Soil Sampling	☒ D ☐ C ☐ B ☐ A
Level D: Hard hat, safety glasses (ANSI), safety shoes (ANSI), nitrile gloves	
Task 4 – Permit Compliance Water and Wastewater Sampling	☒ D ☐ C ☐ B ☐ A
Level D: Hard hat, safety glasses (ANSI), safety shoes (ANSI), nitrile gloves	
Task 5 – Monitoring Well Abandonment	☒ D ☐ C ☐ B ☐ A
Level D: safety glasses (ANSI), safety shoes (ANSI), ear plugs (ANSI); safety vest (ANSI)	
Task 6 – Monitoring Well Installation	☒ D ☐ C ☐ B ☐ A
Level D: safety glasses (ANSI), safety shoes (ANSI), ear plugs (ANSI); safety vest (ANSI)	
Task 7 – Groundwater Monitoring and Sampling	☒ D ☐ C ☐ B ☐ A
Level D: Hard hat, safety glasses (ANSI), safety shoes (ANSI), nitrile gloves	
Task 8 – Sampling of Residuals	☒ D ☐ C ☐ B ☐ A
Level D: Hard hat, safety glasses (ANSI), safety shoes (ANSI), nitrile gloves	

Site-Specific Health and Safety Plan

(Required for all Inventum Type 2 or Type 3 field projects.)

Criteria for changing protection levels are as follows:

EVACUATION[2] or PROTECTION LEVEL CHANGE[3] CRITERIA	APPROVALS REQUIRED [1]
Site Evacuation Plan: ☒ Not Applicable ☐ Specify or Attach Plan:	
Change to Level D when: ☐ Not Applicable ☒	☒N/A All site work in Level D
Change to Level C when: ☒ Not Applicable ☐ dust levels exceed 2.5 mg/m^3 in the breathing zone continuously for 5 minutes.	☒ No work will be conducted in Level C. Site work will stop, controls reevaluated, and HASP updated as necessary
Change to Level B when: ☒ Not Applicable ☐ Specify	☒ Inventum will not conduct any work in Level B.
Change to Level A when: ☒ Not Applicable ☐ Specify	☒ Inventum will not conduct any work in Level A. ☒

[2] General Recommendations: Evacuate the area when LEL readings are >10% LEL in the atmosphere, or when PID readings are greater than the PEL in the breathing zone.

[3] General Recommendation: To Level C when PID readings are greater than the PEL in the breathing zone. To Level B or A only after detailed evaluation and planning.

Note: Changes to the level of protection shall be made only after the required approvals are obtained. All changes shall be recorded in the field log and reported to the Project Manager as soon as possible. Inventum's goal is to avoid using respiratory protection unless it is absolutely necessary or required. Administrative controls or engineering controls should always be considered as a means to reduce potential exposures before PPE is required or considered.

Site-Specific Health and Safety Plan

(Required for all Inventum Type 2 or Type 3 field projects.)

6. Air Monitoring (1)

The following monitoring instruments shall be used on site to measure airborne contaminant concentrations in either the breathing zone, or as part of the overall site **Air Monitoring Plan** (attach detailed plan):

MONITORING EQUIPMENT	LOCATION OF MONITORING	FREQUENCY OF MONITORING	ACTION LEVELS
☐ Combustible Gas Indicator	☐ N/A ☐ Monitoring Plan Attached ☐ Confined Space ☐ Manhole	☐ Continuously when potential combustible gases or lack of oxygen are suspected. ☐ Specify	5-10% LEL: continue with caution > 10 % LEL: evacuate the area ☐ Specify
☐ O2 Monitor ☐ CO Monitor ☐ H_2S Monitor	☐ N/A ☐ Confined Space ☐ Manhole – monitor oxygen, carbon monoxide, hydrogen sulfide , and lower explosive limit	☐ Continuously when excess oxygen (>22.5%) or lack of oxygen (<19.5%) are suspected. ☐ Test atmosphere prior to entry and continuous during confined space entry.	< 19.5% Oxygen: evacuate the area; supplied air may be needed. > 22.5% Oxygen: evacuate the area; potential fire hazard. ☐ Specify
☐ Colorimetric Tubes Type: Type: Type:	☐ N/A ☐ Specify ☐ Sample Container ☐ Confined Space ☐ Specify	☐ Periodically during sampling for analytical purposes only. ☐ Whenever noticeable odor is present. ☐ Specify	☐ Specify
☒ PID Lamp Needed: ☐ 9.8 eV ☒ 10.6 eV ☐ 11.7 eV Calibration Gas: Isobutylene Correction Factor:	☒ Personal Monitoring ☒ Sample Container ☐ Confined Space ☐ Specify	☒ Periodically during sampling for analytical purposes only. ☒ Continuously within the employee breathing zone. ☐ Specify ☐ Specify	☒ None. ☒ >5 ppm above background in breathing zone for 5+ min. Stop work and reevaluate potential sources and controls.
☐ FID	☐ N/A ☐ Specify	☐ Specify	☐ Specify
☒ Personal Dust Monitor	☐ N/A ☒ Personal Monitoring in Breathing Zone (Task 2 - 6 only)	☒ Continuously within the employee breathing zone	☒ >2.5 mg/m3 at work perimeter for 15 min sustained. Stop work and apply dust controls

Site-Specific Health and Safety Plan

(Required for all Inventum Type 2 or Type 3 field projects.)

☒Other: Perimeter Monitoring	☒ Perimeter Air Monitoring in accordance with the CAMP	☐ Specify	☐ Specify
☐Laboratory Supported ☐Personal ☐Area ☒Perimeter	☐ N/A ☐ Specify Employee breathing zone	☐ Specify continuous	☒ When visible dust is present apply dust control measures (water spray) until abated.

(1) Whenever air monitoring is required to be performed, a detailed **Air-Monitoring Plan** should be developed and attached to the HASP. The plan should include **Monitoring Locations, Frequency of Readings**, and any **Action Levels** being used to control the work site.

Air Monitoring Plan

Field monitoring of dust production is anticipated only during subsurface soil sampling (Task 2) and installation of monitoring wells (Task 7). A visual assessment of dust levels will be used continuously during the work along with personal employee monitoring and perimeter air monitoring in accordance with an approved CAMP.

Dust production during monitoring well abandoned, monitoring well installation, and surficial soil sampling is not anticipated due to the typical moisture content of the soil.

This level of nuisance dust is visually observable. If dust is observable continuously in the breathing zone for 5 minutes, dust control methods will be used (*e.g.*, water spray will be applied) until dust is abated. Work will be temporarily discontinued until dust is reduced to acceptable levels within the breathing zone. Should particulate levels above the action level be a continual problem, relevant field personnel will reassess the situation with the project manager.

Site-Specific Health and Safety Plan

(Required for all Inventum Type 2 or Type 3 field projects.)

7. Site Controls and Work Zones (describe in detail)

Facility Alarms or Signals: ☒ Not Applicable ☐ Specify

Work Permits Required: ☒ Not Applicable ☐ Specify

Work Traffic Issues: ☒ Not Applicable ☐ Specify

Parking Issues: ☒ Not Applicable ☐ Specify

Railway Traffic Issues: ☒ Not Applicable ☐

Support Zone(s):

☒ Field vehicle ☐ Job Trailer On Site ☒ Other: **Parking Lot**

Contamination Reduction Zone(s):

☒ Field vehicle ☐ Facility restroom/utility room ☐ Other:

Exclusion Zone(s):

☒ Area immediately surrounding work area ☐ Other:

Site Entry Procedures:

☒ **Notify Site Safety Contact Representative.**

☒ **Read HASP Plan and sign Acknowledgment Statement.**

☒ **Check in with the facility contact person.** ☒ **Check in with owners full time site representatives.**

☒ **Check in with facility security guard.** ☒ **All visitors must check in and sign visitor logbook in guard house.**

☒ **Wear proper personal protective equipment.**

☐ Attend facility orientation. ☐

☒ **Conduct daily safety meeting (document).**

☐ Other: Confined space – do not enter the confined space if LEL >10%, oxygen <21% or >23.5%, carbon monoxide >35 ppm, or hydrogen sulfide >7 ppm. Exit the confined space if the atmospheric conditions become hazards as noted.

Site-Specific Health and Safety Plan

(Required for all Inventum Type 2 or Type 3 field projects.)

Decontamination Procedures:

Personnel: (specify)	Work will be performed in Level D or Modified Level D, and minimal contamination is expected. Follow standard decontamination procedures, and good personal hygiene. Disposable PPE should be removed, contained, and disposed of in an appropriate manner. Prior arrangements should be made if disposal is planned for at the project site. Site workers should plan and stage for wash water and soap at the site, prior to beginning the work. Site workers should wash hands and any exposed skin extremely well with soap and water, prior to leaving the contamination reduction zone, eating, drinking, driving, or leaving the site. Any soiled or contaminated clothing should be removed and handled appropriately, by either washing as soon as possible, or if necessary, disposing. Soiled or contaminated clothing should be carefully bagged prior to disposal or washing, to reduce potential exposure.
Equipment: (specify)	Site workers should plan and stage for the appropriate decontamination method at the site prior to beginning the work. Any contaminated single-use disposable equipment or PPE should be appropriately containerized and disposed of as soon as possible in an appropriate manner. Prior arrangements should be made if disposal is planned for at the project site. Contaminated equipment or PPE that will be re-used should be handled and cleaned while wearing the appropriate PPE. Typically, equipment is decontaminated using Alconox soap and deionized water.

Disposal of Investigation-derived Material:

☒ Leave on site for disposal. Location TBD ☐ Other:

Work Limitations (time of day, buddy system, etc.):

☐ Buddy system required for some tasks.

☒ Work will be performed during daylight hours only.

☐ Work will be performed using artificial light.

Describe or attach a lighting plan: A lighting plan is attached.

☒ No eating, drinking, or smoking in contamination reduction zone(s) or exclusion zone(s).

☒ When temperatures are either above 80°F or below 20°F, work schedules may be modified.

☒ Other site-specific limitations: Do not enter battery building

Site-Specific Health and Safety Plan

(Required for all Inventum Type 2 or Type 3 field projects.)

Radiation Safety:

- ☒ Radiation information is not applicable to this project.
- ☐ Notify RSO.
- ☐ Wear dosimeter badge when handling gauge.
- ☐ Post applicable radiation signs and documents.
- ☐ Post emergency numbers.
- ☐ Provide at least two lock systems for overnight storage.
- ☐ Maintain storage at least 15 feet from full-time workstations.
- ☐ Block, brace, and securely lock the gauge during "all" transportation.
- ☐ Limit "public" exposure to gauge while in use.
- ☐ Provide sketch of gauge storage to RSO.

Site-Specific Health and Safety Plan

(Required for all Inventum Type 2 or Type 3 field projects.)

Acknowledgment Statement:

As an employee of Inventum, I have reviewed the Hazard Assessment (HA)/Health & Safety Plan (HASP). I hereby acknowledge that I have received the **required level of training and medical surveillance as necessary**, that I am knowledgeable about the contents of this site-specific RA/HSP, and that I will use personal protective equipment (PPE) and follow procedures specified in the HASP.

Signatures of Inventum Site Personnel:

	Date:	
	Date:	
	Date:	
	Date:	
	Date:	
	Date:	
	Date:	
	Date:	
	Date:	
	Date:	
	Date:	
	Date:	

INVENTUM SAFETY OBSERVATION FORM
November 2022

Location/Project Name: _____	**Date:** _____
Observer Name: _____	
Observee Name: _____	**Time:** _____
Task Observed	
Description of Task Observed and Background Information	
Positive Comments	

INVENTUM SAFETY OBSERVATION FORM
November 2022

Conclusions / Why the Questionable Items Occurred?

Feedback Session Conducted By: _____ **Date:** _____

Name of Observee's Supervisor: _____ **Time:** _____

At-Risk Observations/Root Cause Analysis

Personal Factor:
(1) Lack of skill or knowledge
(2) Correct way takes more time/requires more effort
(3) Shortcutting standard procedures is rewarded or appreciated
(4) In past, did not follow procedures or acceptable practices and no incident occurred

Job Factor:
(5) Lack of or inadequate operational procedures or work standards
(6) Inadequate communication of expectations or work standards
(7) Inadequate tools or equipment

At-Risk Observation #	Root Cause Analysis #	Solution(s) To Prevent Potential Incident from Occurring	Person Responsible	Agreed Due Date	Date Completed

Results of Verification (were solutions done?) and Validation (were solutions effective?)

Reviewed by (PM/Supervisor): _____ **Date:** _____

Approved by (Practice Safety Leader): _____ **Date:** _____

INVENTUM SAFETY OBSERVATION FORM
November 2022

PERSONAL PROTECTIVE EQUIPMENT	Safe	At-Risk	Comments
1. Hearing Protection (e.g., Ear Plugs)			
2. Head Protection (e.g., Hard Hat)			
3. ANSI Rated Eye Protection (e.g., Safety Glasses)			
4. Hand Protection (e.g., Kevlar Gloves)			
5. Foot Protection (e.g., Safety Shoes)			
6. Respiratory Protection			
7. Fall Protection Inspected (e.g., Harness)			
8. ANSI Rated Reflective Vest/High Visibility Clothing			
9. Other (Specify)			
BODY USE AND POSITIONING	**Safe**	**At-Risk**	**Comments**
10. Correct Body Use and Positioning When Lifting/Pushing/Pulling			
11. Pinch Points/Moving Equipment - Hands/Body Clear			
12. Mounts/Dismounts Using 3-Points of Contact			
13. Other (Specify)			

INVENTUM SAFETY OBSERVATION FORM
November 2022

WORK ENVIRONMENT	Safe	At-Risk	Comments
14. Work/Walk Surface Free of Obstructions (e.g., Tripping Hazards)			
15. Housekeeping/Storage			
16. Defined and Secured (e.g., warning devices, barricades, cones, flags)			
17. Suspended Load, Swing Radius & Lift Area is Barricaded			
18. Safety Shutdown Devices			
19. Proper Storage & Labeling /Disposal of Sample & Waste Materials			
20. Cylinders Stored Upright, Secured, & Caps in Place			
21. Manhole/vault Inspected for Hazards			
22. Other (Specify)			

INVENTUM SAFETY OBSERVATION FORM
November 2022

OPERATING PROCEDURES	Safe	At-Risk	Comments
23. Job Planning (HASP reviewed, JSAs, etc.)			
24. Fire Extinguishers Accessible and Inspections Current			
25. Work Permit/Authorization to Work (Hot, Cold, LOTO, Confined Space)			
26. JSA Reviewed & Followed			
27. Hazard Assessment - Hazard Hunt			
28. Interfaces with Other Functions (awareness with other personnel on site)			
29. Operators Looking Behind Prior to Backing Up			
30. Operators Wearing Seat Belts While Operating Equipment			
31. Subsurface Structures Identified			
32. Proper Trench Protective Equipment in Place			
33. Adequate Egress Is Available for Excavation & Trench (within 25 ft. if depth is <4 ft.)			
34. All Materials Set Back at Least 2 Feet From Edge of Trench/Excavation			
35. Other (Specify)			

INVENTUM SAFETY OBSERVATION FORM
November 2022

TOOLS/EQUIPMENT	Safe	At-Risk	Comments
36. Hand Tools (Proper Equipment Selection, Condition, and Use)			
37. Power Tools (Proper Equipment Selection, Condition, and Use)			
38. Equipment, Including Heavy (Proper Equipment Selection, Condition, and Use)			
39. Hoses Inspected			
40. Required Monitoring Equipment Calibrated & Used			
41. Ladders Set up Correctly & Inspected			
42. Right Tools for the Job are Available and in Good Condition - No Fixed Open Blade Knives (FOBKs)			
43. Other (Specify)			
Total #	0	0	

Daily Hazard Review Topic and Sign-In:

Daily Review Topic	Date

Acknowledgment Statement:

As an affected employee of Inventum Engineering, I hereby acknowledge that I have reviewed the contents of this site-specific HSP and the **daily safety meeting topic**, and that I will use the applicable personal protective equipment (PPE) and follow the procedures specified in the HASP.

Signatures of all onsite Inventum Personnel, including Direct-Hires (Required):

_____ Date: _____

_____ Date: _____

_____ Date: _____

_____ Date: _____

_____ Date: _____

_____ Date: _____

_____ Date: _____

Date:

_____ _____

Date:

_____ _____

Date:

_____ _____

_____ Date: _____

Attachment A – Site Maps with Soil, Surface Water, and Groundwater Exceedances

D

REFERENCE:
1. NYS ITS GEOSPATIAL SERVICES, HTTPS://EXPERIENCE.ARCGIS.COM/EXPERIENCE

DRAWING BY	RB
CHECKED	JE
APPROVED	JB

SITE AERIAL
80 LYNDON ROAD
FAIRPORT, NEW YORK 14450

INVENTUM ENGINEERING
441 CARLISLE DRIVE
SUITE C
HERNDON, VIRGINIA 20170
(703) 722-6049
www.InventumEng.com

FIGURE 1

DRAWING NUMBER
REMEDIAL INVESTIGATION WORKPLAN

D

Source: Schultz Associates, 2023, Map of a Survey of 80 Lyndon Road, Town of Perinton, County of Monroe, New York.

DRAWING BY	RB
CHECKED	JE
APPROVED	JB

PROPERTY OF INVENTUM ENGINEERING

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TOPOGRAPHIC SURVEY
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FAIRPORT, NEW YORK 14450

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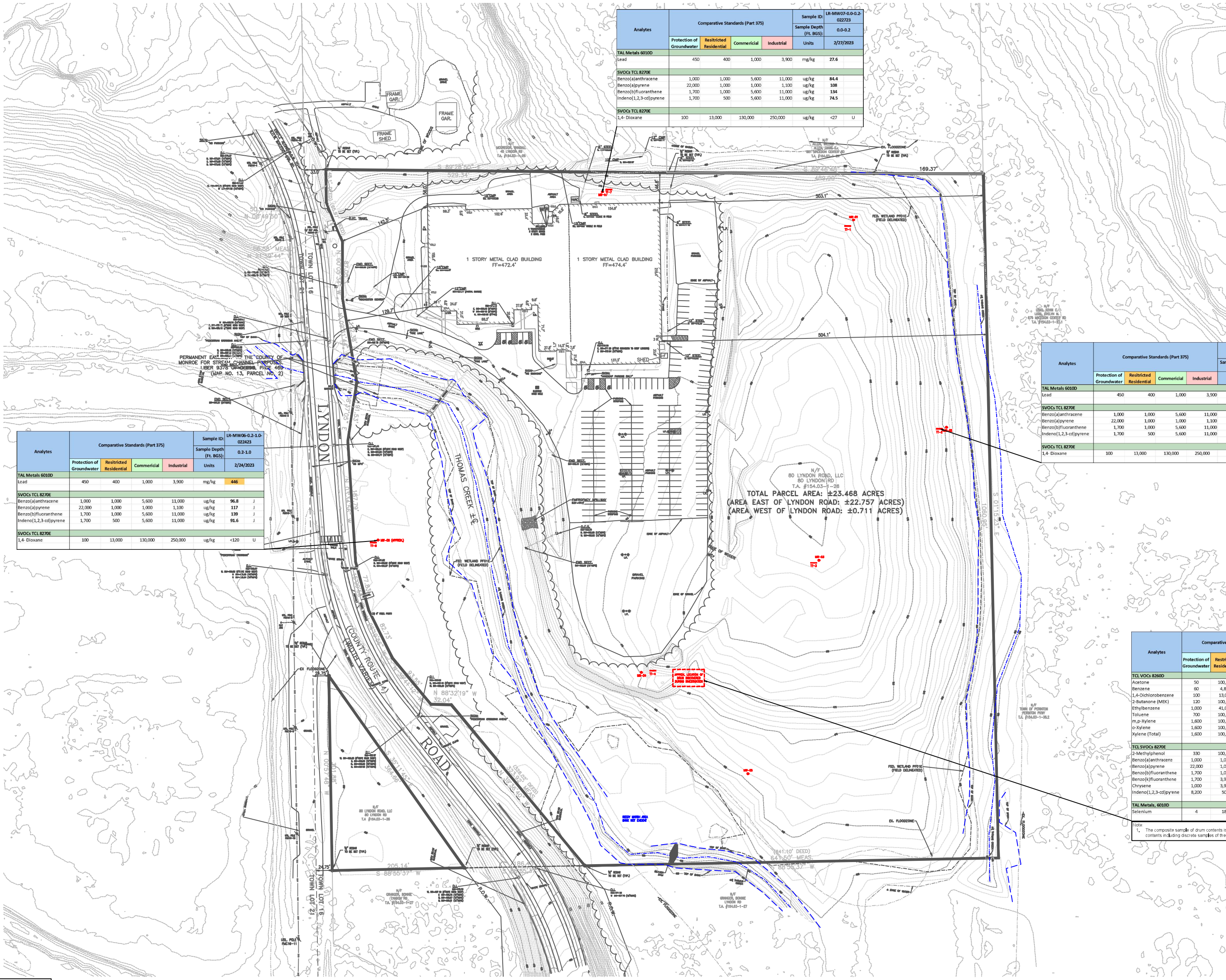
FIGURE 2

DRAWING NUMBER
REMEDIAL INVESTIGATION WORKPLAN



Analytes	Comparative Standards (Part 375)				Sample ID:	LR-MW07-0.0-0.2-022723	
					Sample Depth (Ft. BGS):	0.0-0.2	
	Protection of Groundwater	Resitricted Residential	Commericial	Industrial	Units	2/27/2023	
TAL Metals 6010D							
Lead	450	400	1,000	3,900	mg/kg	**27.6**	
SVOCs TCL 8270E							
Benzo(a)anthracene	1,000	1,000	5,600	11,000	ug/kg	**84.4**	
Benzo(a)pyrene	22,000	1,000	1,000	1,100	ug/kg	**108**	
Benzo(b)fluoranthene	1,700	1,000	5,600	11,000	ug/kg	**134**	
Indeno(1,2,3-cd)pyrene	1,700	500	5,600	11,000	ug/kg	**74.5**	
SVOCs TCL 8270E							
1,4- Dioxane	100	13,000	130,000	250,000	ug/kg	<27	U

Analytes	Comparative Standards (Part 375)				Sample ID:	LR-MW06-0.2-1.0-022423	
					Sample Depth (Ft. BGS):	0.2-1.0	
	Protection of Groundwater	Resitricted Residential	Commericial	Industrial	Units	2/24/2023	
TAL Metals 6010D							
Lead	450	400	1,000	3,900	mg/kg	**446**	
SVOCs TCL 8270E							
Benzo(a)anthracene	1,000	1,000	5,600	11,000	ug/kg	**96.8**	J
Benzo(a)pyrene	22,000	1,000	1,000	1,100	ug/kg	**117**	J
Benzo(b)fluoranthene	1,700	1,000	5,600	11,000	ug/kg	**139**	J
Indeno(1,2,3-cd)pyrene	1,700	500	5,600	11,000	ug/kg	**91.6**	J
SVOCs TCL 8270E							
1,4- Dioxane	100	13,000	130,000	250,000	ug/kg	<120	U

Analytes	Comparative Standards (Part 375)				Sample ID:	LR-TT02-0.2-1.0-030723	
					Sample Depth (Ft. BGS):	0.2-1.0	
	Protection of Groundwater	Resitricted Residential	Commericial	Industrial	Units	3/7/2023	
TAL Metals 6010D							
Lead	450	400	1,000	3,900	mg/kg	**287**	
SVOCs TCL 8270E							
Benzo(a)anthracene	1,000	1,000	5,600	11,000	ug/kg	**161**	
Benzo(a)pyrene	22,000	1,000	1,000	1,100	ug/kg	**160**	
Benzo(b)fluoranthene	1,700	1,000	5,600	11,000	ug/kg	**204**	
Indeno(1,2,3-cd)pyrene	1,700	500	5,600	11,000	ug/kg	**109**	
SVOCs TCL 8270E							
1,4- Dioxane	100	13,000	130,000	250,000	ug/kg	<27	U

Analytes	Comparative Standards (Part 375)				Sample ID:	LR-TT04-DRUM-COMP-031023	
					Description:	Drum Sample	
	Protection of Groundwater	Restricted Residential	Commerical	Industrial	Units	3/10/2023	
TCL VOCs 8260D							
Acetone	50	100,000	500,000	1,000,000	ug/kg	**9,030**	
Benzene	60	4,800	44,000	89,000	ug/kg	**191**	
1,4-Dichlorobenzene	100	13,000	130,000	250,000	ug/kg	<74	U
2-Butanone (MEK)	120	100,000	500,000	1,000,000	ug/kg	**940,000**	
Ethylbenzene	1,000	41,000	390,000	780,000	ug/kg	**387,000**	
Toluene	700	100,000	500,000	1,000,000	ug/kg	**1,130,000**	
m,p-Xylene	1,600	100,000	500,000	1,000,000	ug/kg	**2,250,000**	
o-Xylene	1,600	100,000	500,000	1,000,000	ug/kg	**708,000**	
Xylene (Total)	1,600	100,000	500,000	1,000,000	ug/kg	**2,960,000**	
TCL SVOCs 8270E							
2-Methylphenol	330	100,000	500,000	1,000,000	ug/kg	<50	U
Benzo(a)anthracene	1,000	1,000	5,600	11,000	ug/kg	**4,230**	
Benzo(a)pyrene	22,000	1,000	1,000	1,100	ug/kg	**4,660**	
Benzo(b)fluoranthene	1,700	1,000	5,600	11,000	ug/kg	**5,180**	
Benzo(k)fluoranthene	1,700	3,900	56,000	110,000	ug/kg	**2,130**	
Chrysene	1,000	3,900	56,000	110,000	ug/kg	**4,030**	
Indeno(1,2,3-cd)pyrene	8,200	500	5,600	11,000	ug/kg	**3,520**	
TAL Metals, 6010D							
Selenium	4	180	1,500	6,800	mg/kg	<12	U

Note:
1. The composite sample of drum contents is shown above. See Table ## for full analytical characterization of drum contents including discrete samples of the top and bottom of the drum contents.

Legend:
- Existing Monitoring Well
- Test Trench/Pit
- Sediment/Surface Water Sample

D

Sources:
1. Schultz Associates, 2023, Map of a Survey of 80 Lyndon Road, Town of Perinton, County of Monroe, New York.
2. Data reported from Site Characterization For Lyndon Road Landfill (Ramboll, 2023).

Notes:
1. Sample locations are approximate.

DRAWING BY	RB
CHECKED	JE
APPROVED	JB

SOIL DATA
80 LYNDON ROAD
FAIRPORT, NEW YORK 14450

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HERNDON, VIRGINIA 20170
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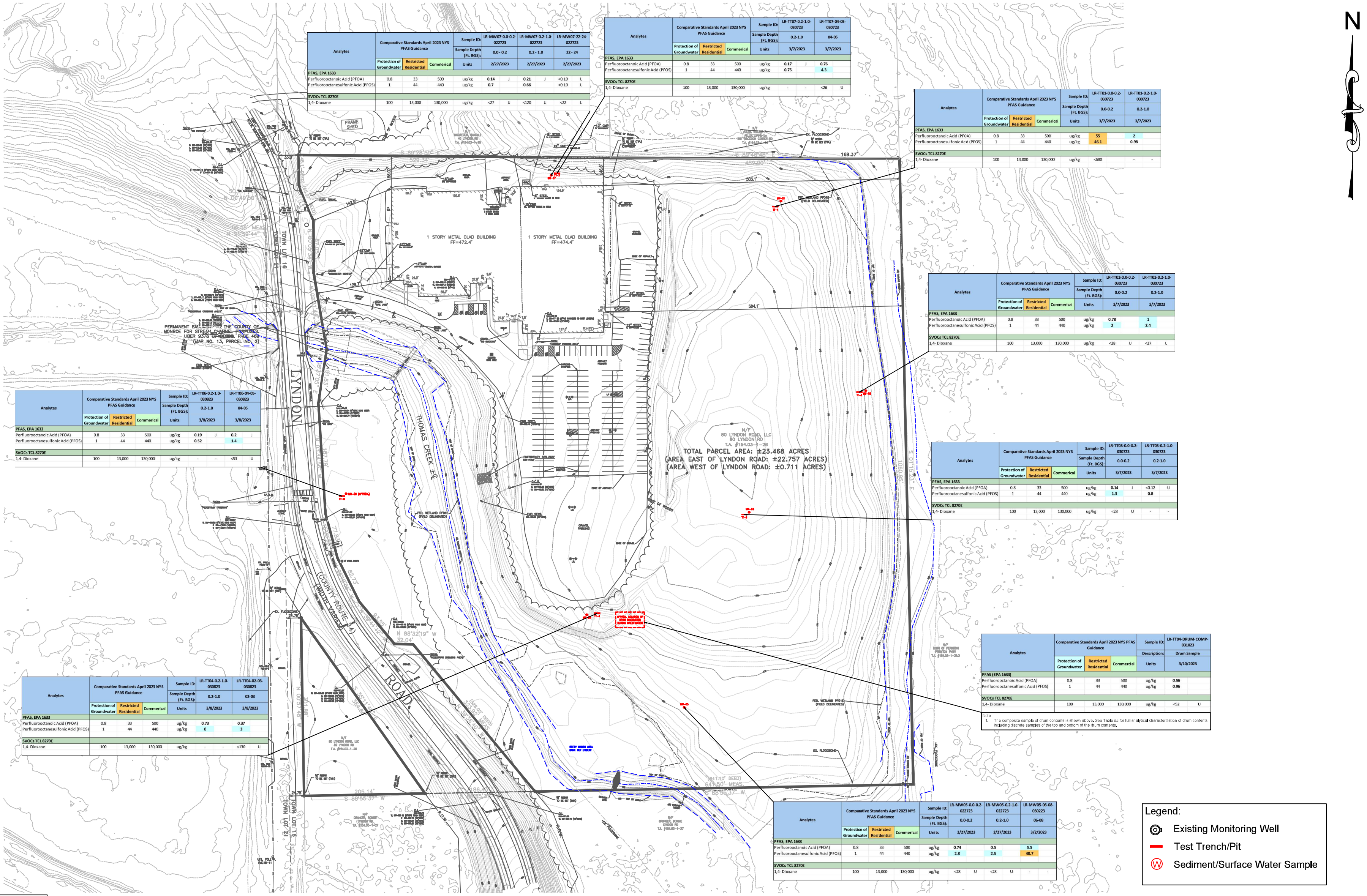
FIGURE 8

DRAWING NUMBER
REMEDIAL INVESTIGATION WORKPLAN



Analytes	Comparative Standards April 2023 NYS PFAS Guidance			Sample ID:	LR-MW07-0.0-0.2-022723		LR-MW07-0.2-1.0-022723		LR-MW07-22-24-022723	
				Sample Depth (Ft. BGS):	0.0 - 0.2		0.2 - 1.0		22 - 24	
	Protection of Groundwater	Restricted Residential	Commerical	Units	2/27/2023		2/27/2023		2/27/2023	
PFAS, EPA 1633										
Perfluorooctanoic Acid (PFOA)	0.8	33	500	ug/kg	**0.14**	J	**0.21**	J	<0.10	U
Perfluorooctanesulfonic Acid (PFOS)	1	44	440	ug/kg	**0.7**		**0.66**		<0.10	U
SVOCs TCL 8270E										
1,4- Dioxane	100	13,000	130,000	ug/kg	<27	U	<120	U	<22	U

Analytes	Comparative Standards April 2023 NYS PFAS Guidance			Sample ID:	LR-TT07-0.2-1.0-030723		LR-TT07-04-05-030723	
				Sample Depth (Ft. BGS):	0.2-1.0		04-05	
	Protection of Groundwater	Restricted Residential	Commerical	Units	3/7/2023		3/7/2023	
PFAS, EPA 1633								
Perfluorooctanoic Acid (PFOA)	0.8	33	500	ug/kg	**0.17**	J	**0.76**	
Perfluorooctanesulfonic Acid (PFOS)	1	44	440	ug/kg	**0.75**		**4.3**	
SVOCs TCL 8270E								
1,4- Dioxane	100	13,000	130,000	ug/kg	-	-	<26	U

Analytes	Comparative Standards April 2023 NYS PFAS Guidance			Sample ID:	LR-TT01-0.0-0.2-030723		LR-TT01-0.2-1.0-030723	
				Sample Depth (Ft. BGS):	0.0-0.2		0.2-1.0	
	Protection of Groundwater	Restricted Residential	Commerical	Units	3/7/2023		3/7/2023	
PFAS, EPA 1633								
Perfluorooctanoic Acid (PF0A)	0.8	33	500	ug/kg	**55**		**2**	
Perfluorooctanesulfonic Acd (PFOS)	1	44	440	ug/kg	**46.1**		**0.98**	
SVOCs TCL 8270E								
1,4- Dioxane	100	13,000	130,000	ug/kg	<680		-	-

Analytes	Comparative Standards April 2023 NYS PFAS Guidance			Sample ID:	LR-TT02-0.0-0.2-030723		LR-TT02-0.2-1.0-030723	
				Sample Depth (Ft. BGS):	0.0-0.2		0.2-1.0	
	Protection of Groundwater	Restricted Residential	Commerical	Units	3/7/2023		3/7/2023	
PFAS, EPA 1633								
Perfluorooctanoic Acid (PFOA)	0.8	33	500	ug/kg	**0.78**		**1**	
Perfluorooctanesulfonic Acid (PFOS)	1	44	440	ug/kg	**2**		**2.4**	
SVOCs TCL 8270E								
1,4- Dioxane	100	13,000	130,000	ug/kg	<28	U	<27	U

Analytes	Comparative Standards April 2023 NYS PFAS Guidance			Sample ID:	LR-TT06-0.2-1.0-030823		LR-TT06-04-05-030823	
				Sample Depth (Ft. BGS):	0.2-1.0		04-05	
	Protection of Groundwater	Restricted Residential	Commerical	Units	3/8/2023		3/8/2023	
PFAS, EPA 1633								
Perfluorooctanoic Acid (PFOA)	0.8	33	500	ug/kg	**0.19**	J	**0.2**	J
Perfluorooctanesulfonic Acid (PFOS)	1	44	440	ug/kg	**0.52**		**1.4**	
SVOCs TCL 8270E								
1,4- Dioxane	100	13,000	130,000	ug/kg	-	-	<53	U

Analytes	Comparative Standards April 2023 NYS PFAS Guidance			Sample ID:	LR-TT03-0.0-0.2-030723		LR-TT03-0.2-1.0-030723	
				Sample Depth (Ft. BGS):	0.0-0.2		0.2-1.0	
	Protection of Groundwater	Restricted Residential	Commerical	Units	3/7/2023		3/7/2023	
PFAS, EPA 1633								
Perfluorooctanoic Acid (PFOA)	0.8	33	500	ug/kg	**0.14**	J	<0.12	U
Perfluorooctanesulfonic Acid (PFOS)	1	44	440	ug/kg	**1.3**		**0.8**	
SVOCs TCL 8270E								
1,4- Dioxane	100	13,000	130,000	ug/kg	<28	U	-	-

Analytes	Comparative Standards April 2023 NYS PFAS Guidance			Sample ID:	LR-TT04-DRUM-COMP-031023	
				Description:	Drum Sample	
	Protection of Groundwater	Restricted Residential	Commercial	Units	3/10/2023	
PFAS (EPA 1633)						
Perfluorooctanoic Acid (PFOA)	0.8	33	500	ug/kg	**0.56**	
Perfluorooctanesulfonic Acid (PFOS)	1	44	440	ug/kg	**0.96**	
SVOCs TCL 8270E						
1,4- Dioxane	100	13,000	130,000	ug/kg	<52	U

Note:
1. The composite sample of drum contents is shown above. See Table ## for full analytical characterization of drum contents including discrete samples of the top and bottom of the drum contents.

Analytes	Comparative Standards April 2023 NYS PFAS Guidance			Sample ID:	LR-TT04-0.2-1.0-030823		LR-TT04-02-03-030823	
				Sample Depth (Ft. BGS):	0.2-1.0		02-03	
	Protection of Groundwater	Restricted Residential	Commerical	Units	3/8/2023		3/8/2023	
PFAS, EPA 1633								
Perfluorooctanoic Acid (PFOA)	0.8	33	500	ug/kg	**0.73**		**0.37**	
Perfluorooctanesulfonic Acid (PFOS)	1	44	440	ug/kg	**0**		**3**	
SVOCs TCL 8270E								
1,4- Dioxane	100	13,000	130,000	ug/kg	-	-	<130	U

Analytes	Comparative Standards April 2023 NYS PFAS Guidance			Sample ID:	LR-MW05-0.0-0.2-022723		LR-MW05-0.2-1.0-022723		LR-MW05-06-08-030223	
				Sample Depth (Ft. BGS):	0.0-0.2		0.2-1.0		06-08	
	Protection of Groundwater	Restricted Residential	Commerical	Units	2/27/2023		2/27/2023		3/2/2023	
PFAS, EPA 1633										
Perfluorooctanoic Acid (PFOA)	0.8	33	500	ug/kg	**0.74**		**0.5**		**5.5**	
Perfluorooctanesulfonic Acid (PFOS)	1	44	440	ug/kg	**2.8**		**2.5**		**48.7**	
SVOCs TCL 8270E										
1,4- Dioxane	100	13,000	130,000	ug/kg	<28	U	<28	U	-	-

Sources:
1. Schultz Associates, 2023, Map of a Survey of 80 Lyndon Road, Town of Perinton, County of Monroe, New York.
2. Data reported from Site Characterization For Lyndon Road Landfill (Ramboll, 2023).

Notes:
1. Sample locations are approximate.

D

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APPROVED	JB

SOIL DATA - PFAS
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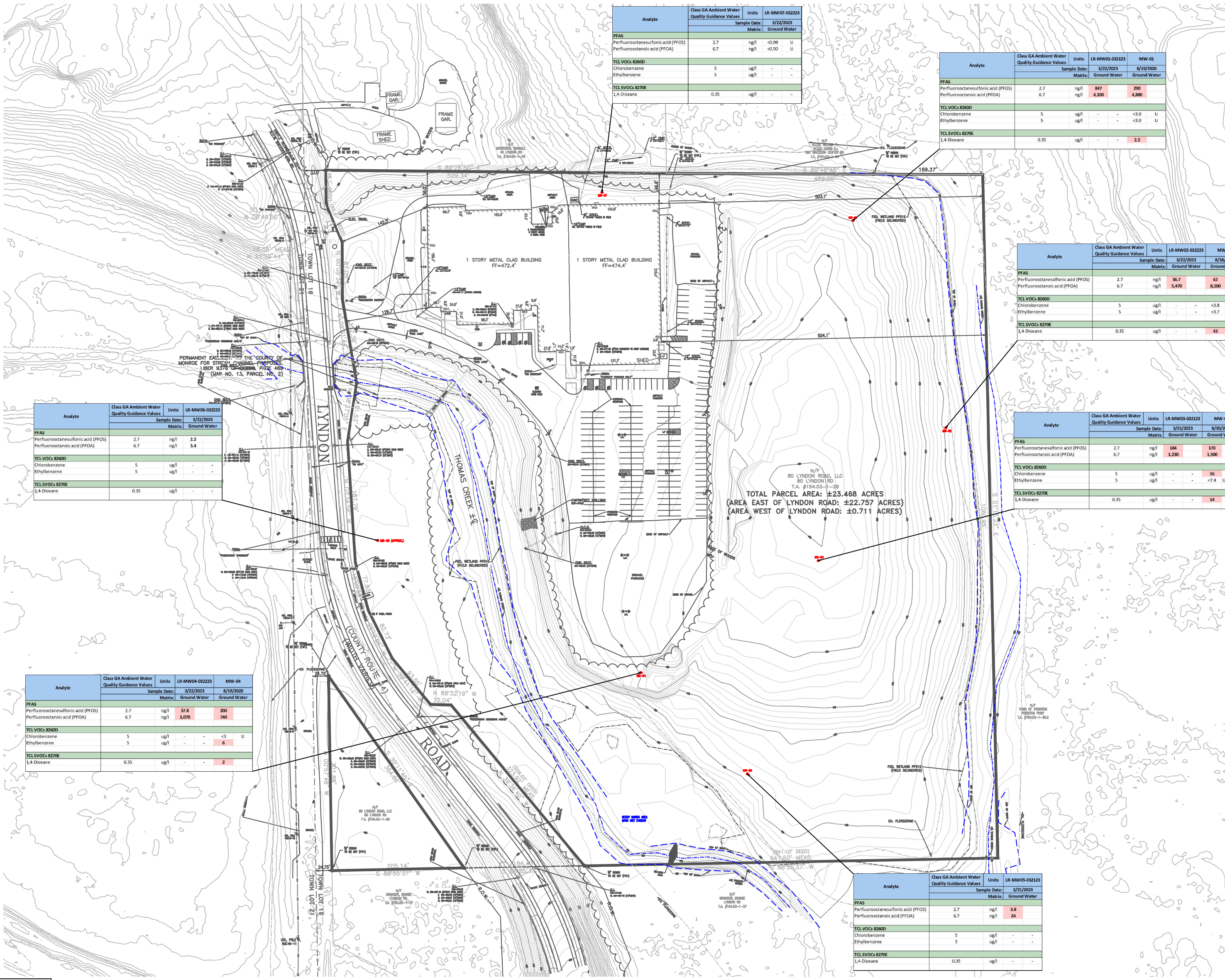
FIGURE 9

DRAWING NUMBER
REMEDIAL INVESTIGATION WORKPLAN



Analyte	Class GA Ambient Water Quality Guidance Values	Units	LR-MW07-032223	
		Sample Date:	3/22/2023	
		Matrix:	Ground Water	
PFAS				
Perfluorooctanesulfonic acid (PFOS)	2.7	ng/l	<0.99	U
Perfluorooctanoic acid (PFOA)	6.7	ng/l	<0.50	U
TCL VOCs 8260D				
Chlorobenzene	5	ug/l	-	-
Ethylbenzene	5	ug/l	-	-
TCL SVOCs 8270E				
1,4-Dioxane	0.35	ug/l	-	-

Analyte	Class GA Ambient Water Quality Guidance Values	Units	LR-MW01-032123		MW-01	
		Sample Date:	3/22/2023		8/19/2020	
		Matrix:	Ground Water		Ground Water	
PFAS						
Perfluorooctanesulfonic acid (PFOS)	2.7	ng/l	847		290	
Perfluorooctanoic acid (PFOA)	6.7	ng/l	4,100		4,800	
TCL VOCs 8260D						
Chlorobenzene	5	ug/l	-	-	<3.0	U
Ethylbenzene	5	ug/l	-	-	<3.0	U
TCL SVOCs 8270E						
1,4-Dioxane	0.35	ug/l	-	-	2.2	

Analyte	Class GA Ambient Water Quality Guidance Values	Units	LR-MW02-032223		MW-02	
		Sample Date:	3/22/2023		8/18/2020	
		Matrix:	Ground Water		Ground Water	
PFAS						
Perfluorooctanesulfonic acid (PFOS)	2.7	ng/l	36.7		62	
Perfluorooctanoic acid (PFOA)	6.7	ng/l	5,470		8,100	
TCL VOCs 8260D						
Chlorobenzene	5	ug/l	-	-	<3.8	U
Ethylbenzene	5	ug/l	-	-	<3.7	U
TCL SVOCs 8270E						
1,4-Dioxane	0.35	ug/l	-	-	43	

Analyte	Class GA Ambient Water Quality Guidance Values	Units	LR-MW03-032123		MW-03	
		Sample Date:	3/21/2023		8/20/2020	
		Matrix:	Ground Water		Ground Water	
PFAS						
Perfluorooctanesulfonic acid (PFOS)	2.7	ng/l	184		170	
Perfluorooctanoic acid (PFOA)	6.7	ng/l	1,230		1,500	
TCL VOCs 8260D						
Chlorobenzene	5	ug/l	-	-	16	
Ethylbenzene	5	ug/l	-	-	<7.4	U
TCL SVOCs 8270E						
1,4-Dioxane	0.35	ug/l	-	-	14	

Analyte	Class GA Ambient Water Quality Guidance Values	Units	LR-MW06-032223	
		Sample Date:	3/22/2023	
		Matrix:	Ground Water	
PFAS				
Perfluorooctanesulfonic acid (PFOS)	2.7	ng/l	2.2	
Perfluorooctanoic acid (PFOA)	6.7	ng/l	3.4	
TCL VOCs 8260D				
Chlorobenzene	5	ug/l	-	-
Ethylbenzene	5	ug/l	-	-
TCL SVOCs 8270E				
1,4-Dioxane	0.35	ug/l	-	-

Analyte	Class GA Ambient Water Quality Guidance Values	Units	LR-MW04-032223		MW-04	
		Sample Date:	3/22/2023		8/19/2020	
		Matrix:	Ground Water		Ground Water	
PFAS						
Perfluorooctanesulfonic acid (PFOS)	2.7	ng/l	37.8		200	
Perfluorooctanoic acid (PFOA)	6.7	ng/l	1,070		740	
TCL VOCs 8260D						
Chlorobenzene	5	ug/l	-	-	<3	U
Ethylbenzene	5	ug/l	-	-	6	
TCL SVOCs 8270E						
1,4-Dioxane	0.35	ug/l	-	-	2	

Analyte	Class GA Ambient Water Quality Guidance Values	Units	LR-MW05-032123	
		Sample Date:	3/21/2023	
		Matrix:	Ground Water	
PFAS				
Perfluorooctanesulfonic acid (PFOS)	2.7	ng/l	3.8	
Perfluorooctanoic acid (PFOA)	6.7	ng/l	24	
TCL VOCs 8260D				
Chlorobenzene	5	ug/l	-	-
Ethylbenzene	5	ug/l	-	-
TCL SVOCs 8270E				
1,4-Dioxane	0.35	ug/l	-	-

Legend:
- Existing Monitoring Well
- Test Trench/Pit
- Sediment/Surface Water Sample

Sources:
1. Schultz Associates, 2023, Map of a Survey of 80 Lyndon Road, Town of Perinton, County of Monroe, New York.
2. Data reported from Field Activities Summary Report (Parsons, 2020) and Site Characterization For Lyndon Road Landfill (Ramboll, 2023).

Notes:
1. Sample locations are approximate.

D

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APPROVED	JB

GROUNDWATER DATA

80 LYNDON ROAD
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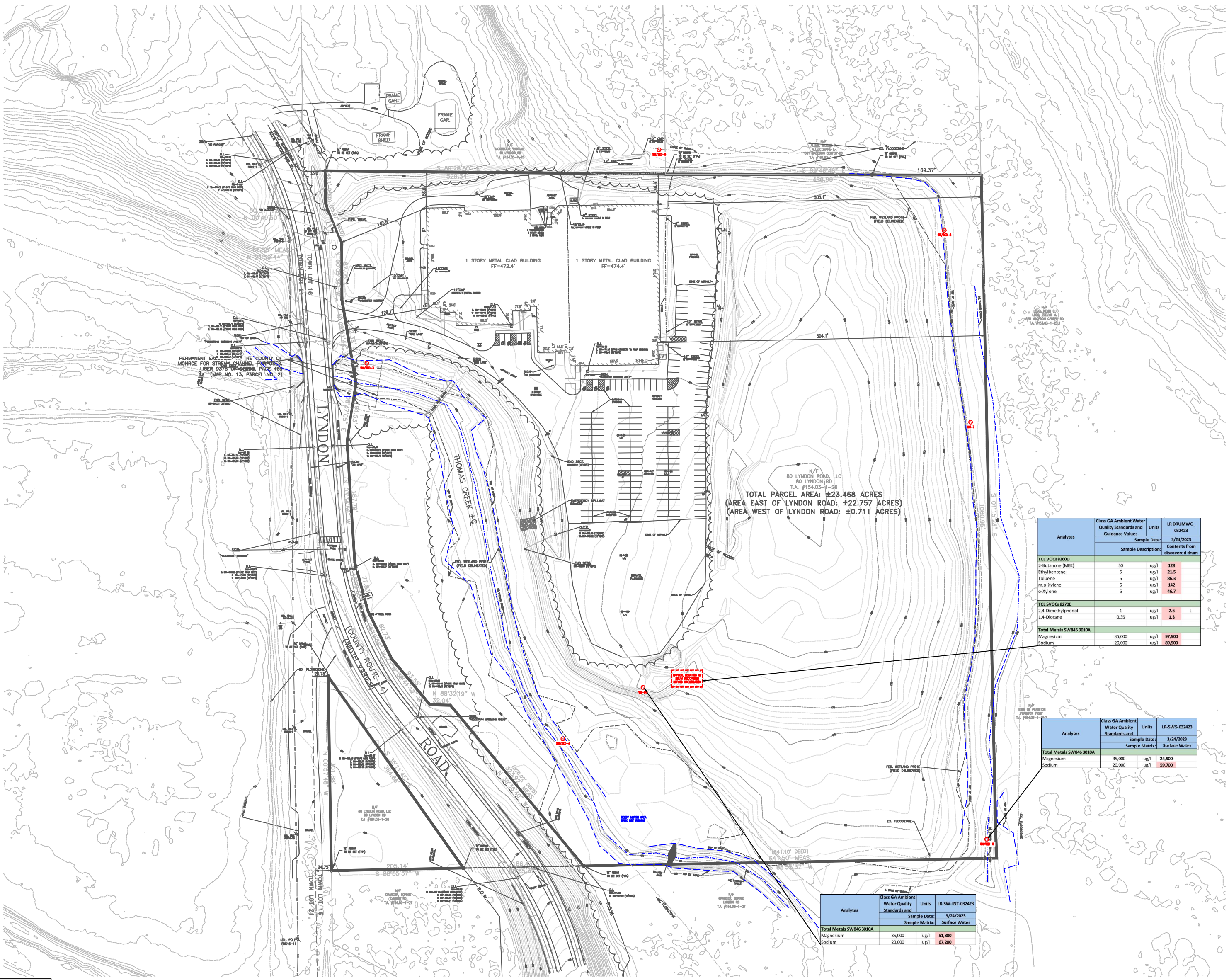
FIGURE 10

DRAWING NUMBER
REMEDIAL INVESTIGATION WORKPLAN



Analytes	Class GA Ambient Water Quality Standards and Guidance Values	Units	LR DRUMWC_032423	
	Sample Date:		3/24/2023	
	Sample Description:		Contents from discovered drum	
TCL VOCs 8260D				
2-Butanone (MEK)	50	ug/l	**128**	
Ethylbenzene	5	ug/l	**21.5**	
Toluene	5	ug/l	**86.3**	
m,p-Xylene	5	ug/l	**142**	
o-Xylene	5	ug/l	**46.7**	
TCL SVOCs 8270E				
2,4-Dimethylphenol	1	ug/l	**2.6**	J
1,4-Dioxane	0.35	ug/l	**1.3**	
Total Metals SW846 3010A				
Magnesium	35,000	ug/l	**97,900**	
Sodium	20,000	ug/l	**89,500**	

Analytes	Class GA Ambient Water Quality Standards and	Units	LR-SW5-032423
	Sample Date:		3/24/2023
	Sample Matrix:		Surface Water
Total Metals SW846 3010A			
Magnesium	35,000	ug/l	**24,500**
Sodium	20,000	ug/l	**59,700**

Analytes	Class GA Ambient Water Quality Standards and	Units	LR-SW-INT-032423
	Sample Date:		3/24/2023
	Sample Matrix:		Surface Water
Total Metals SW846 3010A			
Magnesium	35,000	ug/l	**51,800**
Sodium	20,000	ug/l	**67,200**

D

Sources:
1. Schultz Associates, 2023, Map of a Survey of 80 Lyndon Road, Town of Perinton, County of Monroe, New York.
2. Data reported from Site Characterization For Lyndon Road Landfill (Ramboll, 2023).

Notes:
1. Sample locations are approximate.

DRAWING BY	RB
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APPROVED	JB

SURFACE WATER DATA
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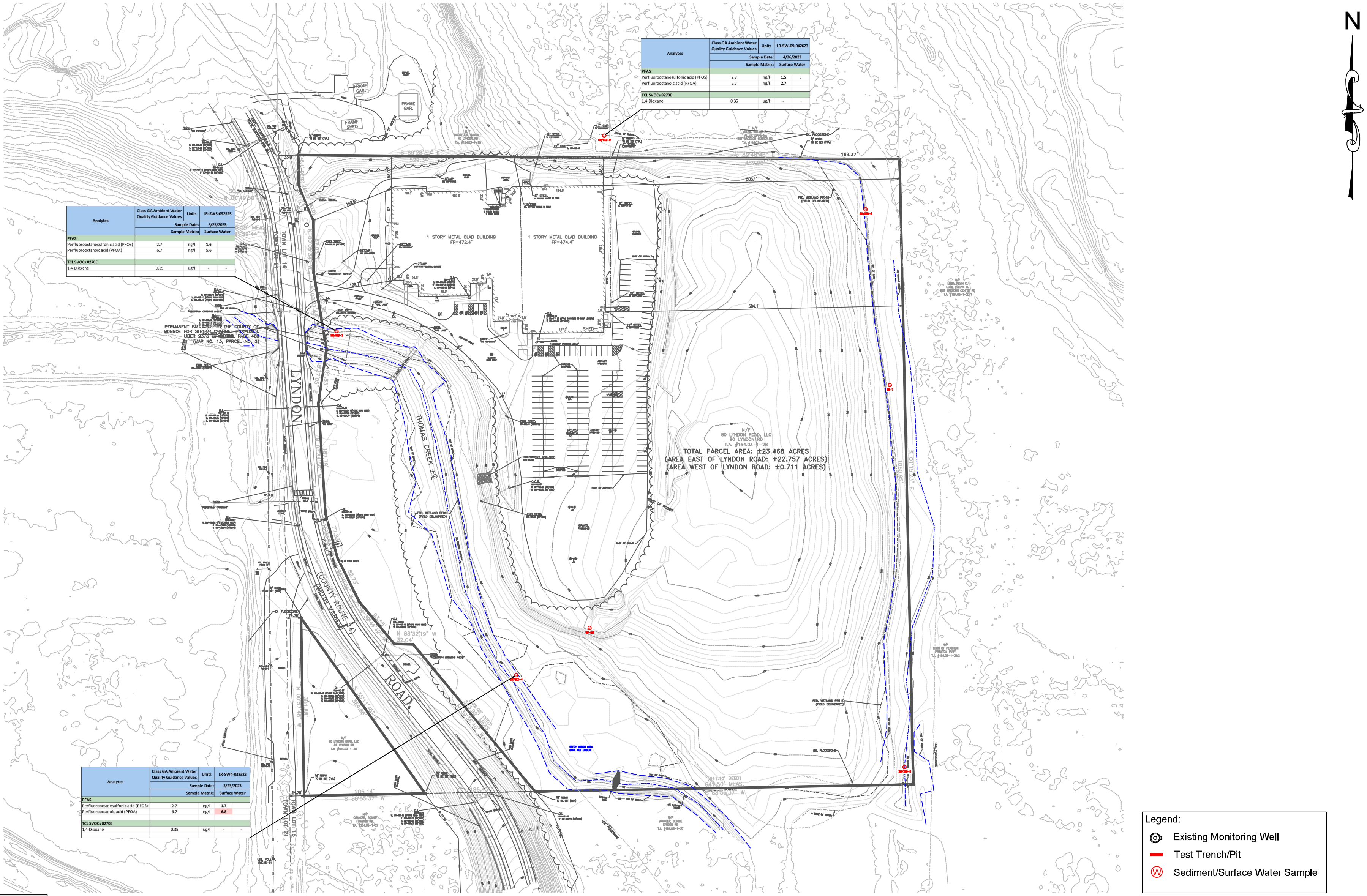
FIGURE 11

DRAWING NUMBER
REMEDIAL INVESTIGATION WORKPLAN



Analytes	Class GA Ambient Water Quality Guidance Values	Units	LR-SW-09-042623	
	Sample Date:		4/26/2023	
	Sample Matrix:		Surface Water	
PFAS				
Perfluorooctanesulfonic acid (PFOS)	2.7	ng/l	**1.5**	J
Perfluorooctanoic acid (PFOA)	6.7	ng/l	**2.7**	
TCL SVOCs 8270E				
1,4-Dioxane	0.35	ug/l	-	-

Analytes	Class GA Ambient Water Quality Guidance Values	Units	LR-SW3-032323	
	Sample Date:		3/23/2023	
	Sample Matrix:		Surface Water	
PFAS				
Perfluorooctanesulfonic acid (PFOS)	2.7	ng/l	**1.6**	
Perfluorooctanoic acid (PFOA)	6.7	ng/l	**5.6**	
TCL SVOCs 8270E				
1,4-Dioxane	0.35	ug/l	-	-

Analytes	Class GA Ambient Water Quality Guidance Values	Units	LR-SW4-032323	
	Sample Date:		3/23/2023	
	Sample Matrix:		Surface Water	
PFAS				
Perfluorooctanesulfonic acid (PFOS)	2.7	ng/l	**1.7**	
Perfluorooctanoic acid (PFOA)	6.7	ng/l	**6.8**	
TCL SVOCs 8270E				
1,4-Dioxane	0.35	ug/l	-	-

D

Sources:
1. Schultz Associates, 2023, Map of a Survey of 80 Lyndon Road, Town of Perinton, County of Monroe, New York.
2. Data reported from Site Characterization For Lyndon Road Landfill (Ramboll, 2023).

Notes:
1. Sample locations are approximate.

DRAWING BY	RB
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SURFACE WATER DATA - PFAS
80 LYNDON ROAD
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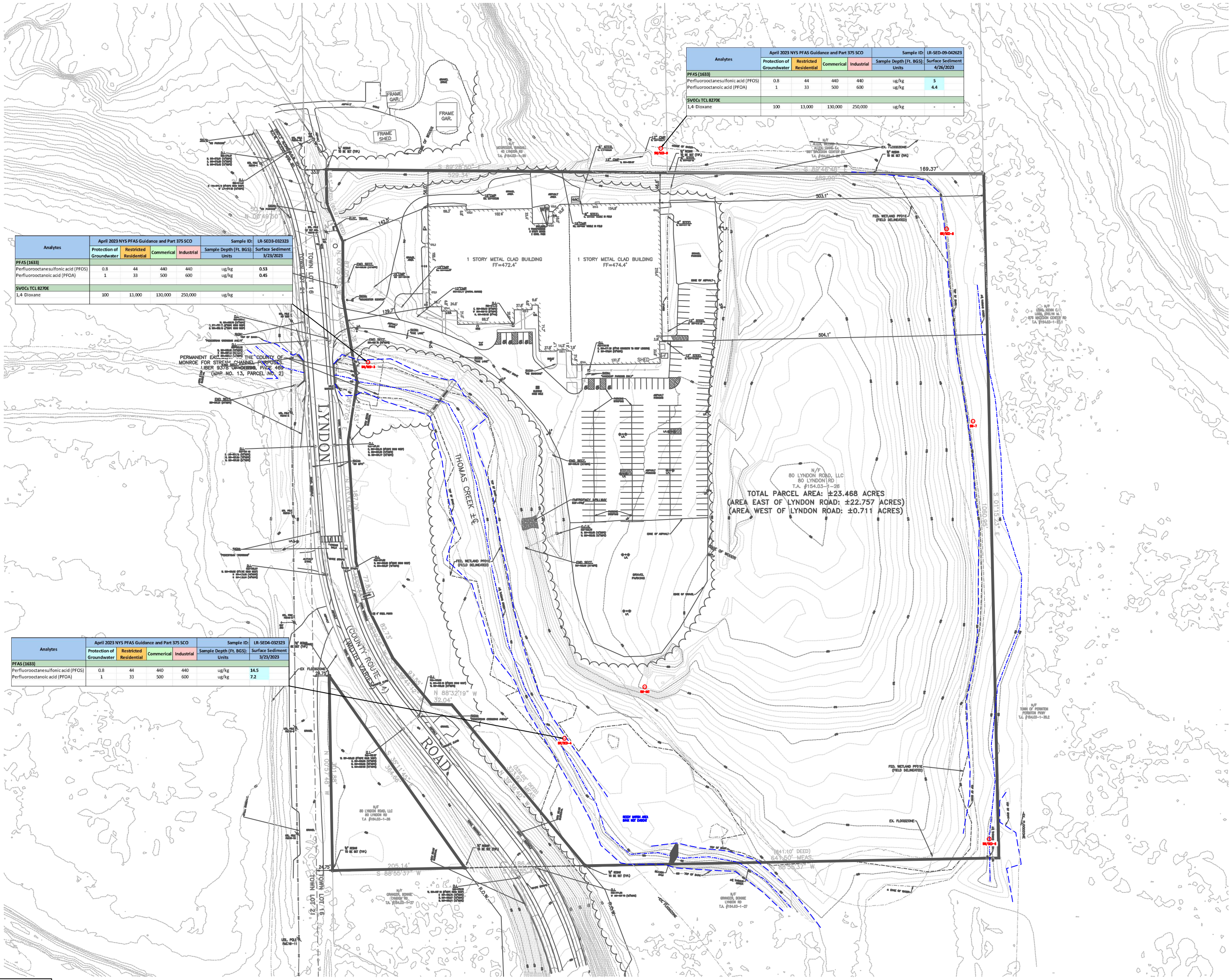
FIGURE 12

DRAWING NUMBER
REMEDIAL INVESTIGATION WORKPLAN



Analytes	April 2023 NYS PFAS Guidance and Part 375 SCO				Sample ID:	LR-SED-09-042623	
	Protection of Groundwater	Restricted Residential	Commerical	Industrial	Sample Depth (Ft. BGS):	Surface Sediment	
					Units	4/26/2023	
PFAS (1633)							
Perfluorooctanesulfonic acid (PFOS)	0.8	44	440	440	ug/kg	5	
Perfluorooctanoic acid (PFOA)	1	33	500	600	ug/kg	4.4	
SVOCs TCL 8270E							
1,4- Dioxane	100	13,000	130,000	250,000	ug/kg	-	-

Analytes	April 2023 NYS PFAS Guidance and Part 375 SCO				Sample ID:	LR-SED3-032323	
	Protection of Groundwater	Restricted Residential	Commerical	Industrial	Sample Depth (Ft. BGS):	Surface Sediment	
					Units	3/23/2023	
PFAS (1633)							
Perfluorooctanesulfonic acid (PFOS)	0.8	44	440	440	ug/kg	**0.53**	
Perfluorooctanoic acid (PFOA)	1	33	500	600	ug/kg	**0.45**	
SVOCs TCL 8270E							
1,4- Dioxane	100	13,000	130,000	250,000	ug/kg	-	-

Analytes	April 2023 NYS PFAS Guidance and Part 375 SCO				Sample ID:	LR-SED4-032323
	Protection of Groundwater	Restricted Residential	Commerical	Industrial	Sample Depth (Ft. BGS):	Surface Sediment
					Units	3/23/2023
PFAS (1633)						
Perfluorooctanesulfonic acid (PFOS)	0.8	44	440	440	ug/kg	**14.5**
Perfluorooctanoic acid (PFOA)	1	33	500	600	ug/kg	**7.2**

Legend:
- Existing Monitoring Well
- Test Trench/Pit
- Sediment/Surface Water Sample

D

1" = 80'

Sources:
1. Schultz Associates, 2023, Map of a Survey of 80 Lyndon Road, Town of Perinton, County of Monroe, New York.
2. Data reported from Site Characterization For Lyndon Road Landfill (Ramboll, 2023).

Notes:
1. Sample locations are approximate.

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SEDIMENT DATA - PFAS
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FIGURE 13

DRAWING NUMBER
REMEDIAL INVESTIGATION WORKPLAN

Appendix C – Community Air Monitoring Plan

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Community Air Monitoring Plan

80 Lyndon Road, LLC

Proposed

Brownfield Cleanup Program (BCP) Site

80 Lyndon Road

Fairport, NY 14450

January 9, 2024

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Table of Contents

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2 Community Air Monitoring Plan 1
3 VOC Monitoring, Response Levels, and Actions 2
4 Particulate Monitoring, Response Levels, and Actions 3
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1 Overview

This 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 the BCP 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.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required.

- *The 80 Lyndon Road, LLC (80 Lyndon Road) Site will have a perimeter air monitoring program before and during the Remedial Investigation (RI). If there are detections at the property line, additional monitoring requirements will be considered*[1].
- *Three (3) perimeter air monitoring station units (1 Upwind and 2 Downwind) will be mobile and moved as the work area(s) change at the 80 Lyndon Road Site. Example monitoring locations are shown on Figure 1 provided in Appendix A-2.*

Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

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

2 Community Air Monitoring Plan

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. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

- *VOC and particulate monitoring will be incorporated into the RI and IRM activities.*

[1] The text in *italic font* are comments inserted by 80 Lyndon Road, LLC in addition to the standard CAMP Template.

Continuous monitoring will be required for all ground intrusive activities within the footprint of the former landfill. 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.

- *During sampling periodic monitoring will be implemented with hand-held instruments.*

3 VOC Monitoring, Response Levels, and Actions

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. 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.

5. The NYSDEC and NYSDOH project managers for the Site will be notified within 24 hours by phone or email if there is an exceedance of the VOC action level of 25 ppm at the perimeter of the work

area as described within Section 3. The notification shall include a description of the control measures implemented to prevent further exceedances.

4 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/m3 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/m^3 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.

4. Should the action level of 150 mcg/m3 above the upwind monitoring concentration be exceeded after corrective actions are taken, work must stop and NYDEC and NYSDOH project managers for the Site must be notified within 24-hours by phone or email. The notification shall include a description of the control measures implemented to prevent further exceedances.

Appendix A-1
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/m^3 (1 to 400,000 :ug/m^3);

(c) Precision (2-sigma) at constant temperature: +/- 10 :g/m^3 for one second averaging; and +/- 1.5 g/m^3 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/m^3, 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° C (14 to 122° F);

(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/m^3 (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/m^3, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m^3 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/m^3 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 PM10 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. Activities that have a high dusting potential-- such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

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;

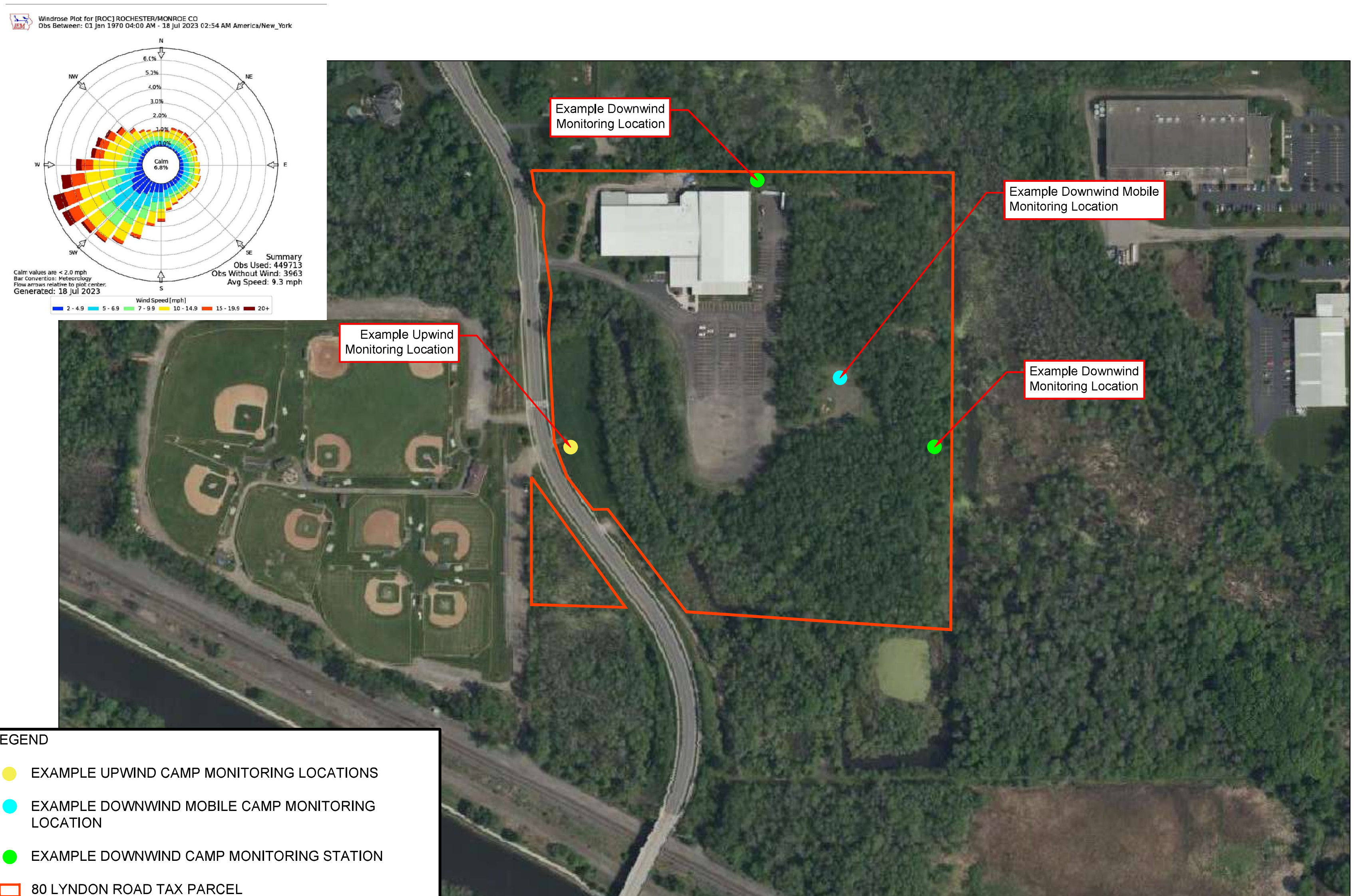
(f) Covering excavated areas and material after excavation activity ceases; and

(g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m^3 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.

Appendix A-2
Perimeter Air Monitoring Locations



LEGEND

- EXAMPLE UPWIND CAMP MONITORING LOCATIONS
- EXAMPLE DOWNWIND MOBILE CAMP MONITORING LOCATION
- EXAMPLE DOWNWIND CAMP MONITORING STATION
- 80 LYNDON ROAD TAX PARCEL

D

1 INCH = 120 FEET (22X34)

Notes:
1. Downwind and upwind monitoring locations will be moved and relocated as necessary to account for active work areas.

References:
1. 80 Lyndon Road and Surrounding Properties Aerial, *Google Earth*, https://earth.google.com/web
2. Wind Rose Rochester/Monroe County, Iowa State University IEM, https://mesonet.agron.iastate.edu/

DRAWING BY CB
CHECKED
APPROVED

COMMUNITY AIR MONITORING PLAN (CAMP)
LYNDON ROAD SITE
80 LYNDON ROAD, LLC
FAIRPORT, NY14450

INVENTUM ENGINEERING
441 CARLISLE DRIVE
SUITE C
HERNDON, VIRGINIA 20170
(703) 722-6049
www.InventumEng.com

FIGURE 1

DRAWING NUMBER
CAMP

Appendix D – Wetlands and Waterbodies Delineation Report – Earth Dimensions, Inc

Wetland and Waterbodies Delineation Report

for

LYNDON ROAD LANDFILL

Town of Perinton

Monroe County, New York

for

Inventum Engineering

EARTH DIMENSIONS, INC.

Soils Investigations • Wetland Delineations

October 20, 2023
EDI Project Code: **W8J23**

REPORT SUMMARIZING
THE RESULTS OF
A WETLAND DELINEATION SURVEY OF

LYNDON ROAD LANDFILL

Prepared for Submission to:

U.S. ARMY CORPS OF ENGINEERS
478 MAIN STREET
BUFFALO, NEW YORK 14202

AND

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
6274 EAST AVON-LIMA ROAD
AVON, NEW YORK 14414

Prepared By:

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REPORT DATE: October 20, 2023

EDI PROJECT CODE: W8J23

PROJECT INFORMATION

Project Name	Lyndon Road Landfill
Street Address	80 Lyndon Road
SBL Number	154.03-1-26
Town	Perinton
County	Monroe
State	New York
Latitude/Longitude (NAD83)	43.09101°N, -77.40027°W
Investigation Area	24.4± Acres
USGS 7.5 Minute Topographical Map	Fairport Quadrangle
Waterway	Thomas Creek
Hydrologic Unit Code	04140101
Date of Delineation	October 17, 2023
Consultant	Earth Dimensions, Inc. 1091 Jamison Road Elma, New York 14059
Point of Contact	Scott Livingstone (716)655-1717 slivingstone@earthdimensions.com
Engineer	Inventum Engineering
Property Owner	80 Lyndon Road LLC
Authority	Section 404, Article 24
Permit/Letter Being Requested	Jurisdictional Determination

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EXECUTIVE SUMMARY

Inventum Engineering is working on the remediation of a 24.4± acre parcel located along the east side of Lyndon Road in the Town of Perinton, County of Monroe, and State of New York. Inventum Engineering has retained Earth Dimensions, Inc. (EDI) to complete a wetland delineation report that would allow the U.S. Army Corps of Engineers (USACE) and New York State Department of Environmental Conservation (NYSDEC) to determine their jurisdictional authority over the investigation area, pursuant to Section 404 of the Clean Water Act and Articles 15 (Protection of Waters) and 24 (Freshwater Wetlands) of the New York State Environmental Conservation Law. The proposed project does not qualify for Bipartisan Infrastructure Law (BIL) funding.

A preliminary review of available information pertaining to vegetation, soils, and hydrology in the project area was implemented prior to conducting a field investigation at the site. Sources of information included the United States Geological Survey (USGS), Natural Resources Conservation Service (NRCS), National Wetland Inventory (NWI), and NYSDEC Freshwater Wetland maps. The USGS, NRCS and NWI maps indicate the potential for wetlands under federal jurisdiction. The NYSDEC map indicates the potential for wetland under state jurisdiction.

EDI applied methodology specified by the Corps of Engineers Wetlands Delineation Manual (January 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region Version 2.0 (January 2012) to perform a delineation of Federal jurisdictional wetlands within the site. EDI identified one (1) wetland area totaling 3.24± acres within the investigation area. Thomas Creek also flows through the western portion of the investigation area. The identification number of the wetlands, their acreage and boundary flags are as follows:

TABLE 1: WETLAND SUMMARY

Wetland Identification #	Geographic Center (WGS84)		Boundary Flag #	Total Acreage On-site	Wetland Type (Cowardin)	Wetland Type (Reschke)
	Latitude	Longitude				
Wetland 1	43.08971	-77.40053	W1-1 through W1-73	3.24±	PSS1E/PEM1F	Scrub-shrub/Emergent Marsh
Total Wetland Acreage:				3.24±		

TABLE 2: STREAM & DRAINAGE SUMMARY

Stream Identification #	Geographic Center (WGS84)		Waterway	DEC Class	Linear Feet On-site	Highwater Width (Ft)	Flow Regime	Substrate	Classification (Cowardin)
	Latitude	Longitude							
Stream 1	43.09065	-77.40128	Thomas Creek	B	1145feet	25-35	Perennial	Silt, Organics	R2UB4

SECTION I: INTRODUCTION

Inventum Engineering is working on the remediation of a 24.4± acre parcel on the east side of Lyndon Road in the Town of Perinton, County of Monroe, and State of New York. The project has been given the name Lyndon Road Landfill and is located on USGS 7.5 minute quadrangle map indexed as Fairport (Figure 1). The field work was completed on October 17, 2023, using a Trimble TDC650 GPS to locate wetland and drainage boundaries.

Inventum Engineering has retained Earth Dimensions, Inc. (EDI) to complete a wetland delineation study at this site. The investigation was designed to facilitate a determination of the extent of USACE and NYSDEC jurisdiction over the project area pursuant to Section 404 of the Clean Water Act and Articles 15 (Protection of Waters) and 24 (Freshwater Wetlands) of the New York State Environmental Conservation Law.

EDI has performed a wetland delineation study at the site under guidelines specified by the *Corps of Engineers Wetlands Delineation Manual*, dated January 1987 (referred to hereafter as the Corps Manual) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region version 2.0* (January 2012) (referred to hereafter as the Northcentral and Northeast Regional Supplement). The purpose of this report is to present EDI's methods, results, conclusions and recommendations with respect to the Lyndon Road Landfill project site.

SECTION II: SITE DESCRIPTION

The Lyndon Road Landfill project area is comprised of a 24.4± acre irregular shaped investigation area on the east side of Lyndon Road and south of Macedon Center Road which is outlined on Figure 1 and depicted on the Wetland Delineation Map included in Appendix A (Figure 6).

The current topography of the Lyndon Road Landfill site is gently to moderately sloping. The site consists of a former landfill and on-site topography has been altered from its natural state. The upland within the investigation area consisted of successional northern hardwoods, successional old field, and successional shrubland communities. The wetland areas were found to consist of deep emergent marsh, and scrub-shrub swamp communities. The vegetative communities of the investigation area are described according to *Ecological Communities of New York State* (Edinger et al. 2014).

SECTION III: PRELIMINARY DATA REVIEW

A. SUMMARY OF FINDINGS

Several sources of information may be reviewed to facilitate the completion of a wetland delineation study. In some cases, it is even possible to make a preliminary office wetland determination based upon available vegetation, soils, and hydrologic information for a project area. EDI completed a preliminary review of several data sources at the onset of this study. The results of the review are summarized as follows:

1. USGS 7.5 MINUTE TOPOGRAPHICAL MAP

Figure 1 depicts the Lyndon Road Landfill project site on the Fairport quadrangle map. The figure depicts the gentle to moderately sloping topography of the site. Thomas Creek flows south through the western portion of the investigation area.

2. USFWS NATIONAL WETLANDS INVENTORY MAP

The National Wetlands Inventory (NWI) map obtained from the USFWS Wetland Mapper http://www.fws.gov/wetlands/Data/Mapper.html displays four (4) wetland types, PFO1E, PSS1E, R2UBHx, and R5UBH within the investigation area. The wetlands can be decoded as:
[P] Palustrine, [FO] Forested, [1] Broad leaved-deciduous, [E] Seasonally flooded/saturated
[P] Palustrine, [SS] Scrub-shrub, [1] Broad leaved-deciduous, [E] Seasonally flooded/saturated
[R] Riverine, [2] Lower perennial, [UB] Unconsolidated bottom, [H] Permanently flooded, [x] Excavated
[R] Riverine, [5] Unknown perennial, [UB] Unconsolidated bottom, [H] Permanently flooded

3. NATURAL RESOURCES CONSERVATION SERVICE SOILS MAP

Figure 3 presents the project area outlined on a copy of the Monroe County Soil Survey map from the National Cooperative Soil Survey. As shown on that figure, the site has the following soil types: **Soil Conservation Service Legend**

Map Unit Symbol	Map Unit Name	Hydric Rating
Ca	Canandaigua silt loam	95
CoB	Colonie loamy fine sand, 0 to 6% slopes	0

HlA	Hilton loam, 0 to 3% slopes	0
Ms	Muck, shallow	100
PaC	Palmyra gravelly fine sandy loam, 8 to 15% slopes	0
PgB	Palmyra gravelly loam, 3 to 8% slopes	0

Canandaigua Series: The Canandaigua series consists of very deep, poorly and very poorly drained soils formed in silty glacio-lacustrine sediments. These soils are on lowland lake plains and in depressional areas on glaciated uplands. Slope ranges from 0 to 3 percent. Mean annual temperature is 49 degrees F. and mean annual precipitation is 39 inches.

Colonie Series: The Colonie series consists of very deep, well drained to excessively drained soils formed in glaciolacustrine, glaciofluvial, or eolian deposits dominated by fine sand and very fine sand. They are on nearly level to steeply dissected slopes on Wisconsinan age lake plains, dunes, outwash plains, beach ridges, and deltas. Saturated hydraulic conductivity is high through very high in the mineral soil. The mean annual temperature is about 49 degrees F, and the mean annual precipitation is about 37 inches.

Hilton Series: The Hilton series consists of very deep, moderately well drained soils formed in till of Wisconsin age, derived from sandstone and limestone. They are nearly level to sloping soils on till plains and glaciated dissected plateaus. Saturated hydraulic conductivity is moderately high or high in the mineral solum and moderately high to low in the substratum. Slope ranges from 0 to 15 percent. Mean annual temperature is 47 degrees F. and mean annual precipitation is 39 inches..

Muck Series: Soils are deep to shallow, very poorly drained, organic soils developed in depression or old glacial swamps from woody and fibrous plants. These soils are generally level but are gently sloping where they occupy the outer edges of depressions

Palmyra Series: The Palmyra series consists of very deep, well drained to somewhat excessively drained soils formed in glacial outwash. They are nearly level to very steep soils formed in loamy material overlying calcareous, stratified gravel and sand. Saturated hydraulic conductivity is moderately high or high in the solum and high or very high in the substratum. Slope ranges from 0 to 40 percent. Mean annual temperature is 48 degrees F. and mean annual precipitation is 37 inches.

The U.S. Department of Agriculture's National Technical Committee for Hydric Soils Criteria has developed a list of soils that often display hydric soil characteristics. Hydric soil typically forms in places of the landscape where surface water periodically collects for some time and/or where groundwater discharges sufficient to create waterlogged or anaerobic soils. Such anaerobic soils can support the growth and survival of hydrophytic vegetation that is tolerant of such conditions. The Hydric Rating indicates the proportion of map units that meets the criteria for hydric soils. Soil units are designated as "hydric," "predominantly hydric," "partially hydric," "predominantly nonhydric," or "nonhydric" depending on the hydric rating of its respective components. "Hydric" means that all components listed for a given map unit are rated as being hydric. "Predominantly hydric" means components that comprise 66 to 99 percent of the map unit are rated as hydric. "Partially hydric" means components that comprise 33 to 66 percent of the map unit are rated as hydric. "Predominantly nonhydric" means components that comprise up to 33 percent of the map unit are rated as hydric. "Nonhydric" means that none of the components are rated as hydric. Wetland hydrologic conditions, hydric soils, and hydrophytic vegetation are the three criteria of a wetland.

4. NYSDEC FRESHWATER WETLANDS MAP

The NYSDEC Freshwater Wetlands map obtained from the online NYSDEC Environmental Resource Mapper displays state jurisdictional Freshwater Wetland PR-1 and its 500 foot check zone within and adjacent to the investigation area.

B. RESULTS OF AGENCY INFORMATION REVIEW

The preliminary data review revealed that the Corps may have jurisdiction over wetlands at the project location. The evidence consisted of wetland depicted on the USGS map (Figure 1), potential federally regulated wetlands on the NWI map (Figure 2) and hydric soils and soils with possible inclusions depicted within the project area as shown on the NRCS map (Figure 3). The preliminary data review indicated that NYSDEC may have jurisdiction over wetlands on site as depicted on the NYSDEC Resource Mapper (Figure 4). Therefore, it was considered necessary to perform a field investigation at the site in order to determine the presence of federal and state protected wetlands. The methods specified in the Corps of Engineers Wetlands Delineation Manual (January 1987) and Northcentral and Northeast Regional Supplement Version 2.0 (January 2012) were employed during the field

investigation. Procedures, results, and conclusions of the wetland delineation study are presented in the remainder of this report.

SECTION IV: FIELD INVESTIGATION PROCEDURES

WETLANDS:

Step 1

EDI applied methodology specified by the 1987 Corps of Engineers Wetlands Delineation Manual and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region to perform a delineation of Federal jurisdictional wetlands within the site. EDI used the Level 2 Routine Determination method (on-site inspection necessary) since insufficient information was available for making a determination for the entire project area. This methodology is consistent with Part IV, Section D of the Corps Manual.

Step 2

EDI's initial evaluation of the project area revealed that no atypical situations existed. If an atypical situation had existed, EDI would have used methodology outlined in Part IV, Section F of the Corps manual and/or Section 5 of the Northcentral and Northeast Supplement.

Step 3

EDI made the determination that normal environmental conditions were present, as the area was not lacking hydrophytic vegetation or hydrologic indicators due to annual, seasonal or long-term fluctuations in precipitation, surface water, or groundwater levels. The Northcentral and Northeast Supplement defines the growing season as beginning when one of the following indicators of biological activity are evident in a given year: (1) above-ground growth and development of vascular plants and/or (2) soil temperature measured at 12" below ground surface reaches 41ºF. The end of the growing season is defined as the point at which deciduous species lose their leaves or the last herbaceous plants cease flowering and their leaves become dry or brown, whichever comes latest.

Step 4

In order to accurately identify the limits of various vegetative communities and extent of wetlands on-site, a routine determination method was used. As depicted in Appendix A and included in Appendix B, thirteen (13) data points were used to characterize the site.

Step 5

The plant community inhabiting each observation point was characterized in accordance with methods specified in the Northcentral and Northeast Regional Supplement. Dominant plant species were identified within four vegetative strata (i.e. herb, sapling/shrub, tree and liana (woody vines) at each sampling point. The Northcentral and Northeast Regional Supplement defines the vegetative strata in the following manner:

Herb – A non-woody individual of a macrophytic species. Seedlings of woody plants (including vines) that are less than 3.28 feet in height are considered to be herbs.

Sapling/Shrub – A layer of vegetation composed of woody plants < 3.0 inches in diameter at breast height but greater than 3.28 feet in height, exclusive of woody vines.

Tree – A woody plant > 3.0 inches in diameter at breast height, regardless of height (exclusive of woody vines)

Liana – A layer of vegetation in forested plant communities that consist of woody vines greater than 3.28 feet in height.

As outlined in the manual, the quadrant sizes used for the vegetative strata were (i) a 3.28-foot radius for herbs; (ii) a ten-foot radius for saplings/shrubs and woody vines; and (iii) a 30-foot radius for trees. Dominant plant species were estimated using aerial coverage methods. Dominant species are defined in the Corps Manual as the most abundant plant species that when ranked in descending order of abundance and cumulatively totaled immediately exceed 50 percent of the total dominance measure for the stratum, plus any additional species comprising 20 percent or more of the total dominance measure.

The wetland indicator status (OBL, FACW, FAC, FACU, or UPL) listed for each identified species by the U.S. Fish and Wildlife Service in the National List of Plant Species that Occur in Wetlands: Northeast (Region 1) was recorded. The U.S. Fish and Wildlife wetland indicator status listings are defined as follows:

OBL – Plants that occur almost always (estimated probability >99 percent) in wetlands under natural conditions, but which may also occur rarely (estimated probability < 1 percent) in nonwetlands.

FACW – Plants that occur usually (estimated probability >67 percent to 99 percent) in wetlands, but also occur (estimated probability 1 percent to 33 percent) in nonwetlands.

FAC – Plants with a similar likelihood (estimated probability 33 percent to 67 percent) of occurring in both wetlands and nonwetlands.

FACU – Plants that occur sometimes (estimated probability 1 percent to <33 percent) in wetlands but occur more often (estimated probability >67 percent to 99 percent) in nonwetlands.

UPL – Plants that occur rarely (estimated probability < 1 percent) in wetlands but occur almost always (estimated probability >99 percent) in nonwetlands under natural conditions.

The plant community data was summarized on the data forms provided in the Northcentral and Northeast Regional Supplement included in this report as Appendix B.

Step 6

Plant data from each observation point were tested against the hydrophytic vegetation criterion specified in the Corps Manual and Northcentral and Northeast Regional Supplement. The Northcentral and Northeast Regional Supplement identifies a four-tiered approach for making a determination of whether or not the hydrophytic vegetation criteria is met for a sample plot. Indicator 1 (Rapid Test for Hydrophytic Vegetation) was first applied to determine if all dominant species across all strata are rated OBL and/or FACW. If Indicator 1 did not meet the hydrophytic vegetation criteria, Indicator 2 was then applied (dominance test); if greater than 50% of all plant species across all strata were rated OBL, FACW, or FAC, the hydrophytic vegetation criteria was considered met. In rare cases, when Indicators 1 and 2 did not meet the hydrophytic vegetation criteria but soils and hydrology criteria were met, Indicators 3 (Prevalence Index) and 4 (Morphological Adaptations) were used to make a final determination. All observation points that met the hydrophytic vegetation criterion were considered potential wetlands. Soils were then characterized.

Step 7

The Corps Manual specifies that soils need not be characterized (and are assumed hydric soils) at sampling points meeting the hydrophytic vegetation criterion if: (i) all dominant plant species have an indicator status of OBL, or (ii) all dominant species have an indicator status of OBL and/or FACW, and the wetland boundary is abrupt (at least one dominant OBL species must be present). All observation points sampled during this field investigation were examined directly for soil and hydrologic characteristics.

Step 8

At observation points requiring a soil evaluation, soil borings were performed by an EDI Soil Scientist using methods specified in the Northcentral and Northeast Regional Supplement. Soil pits were dug using a tile spade. Testpits were generally dug to a depth of 20 inches below ground surface. Soils were examined for any of the hydric soil indicators, as outlined in the Field Indicators of Hydric Soils in the United States. A determination was made as to whether or not the hydric soil criterion was met. Soils data was recorded on the data forms included in Appendix B of this report.

Step 9

EDI's Soil Scientist examined hydrologic indicators using methods specified by the Northcentral and Northeast Regional Supplement at each observation point. The wetland hydrology criterion was met if: (i) one or more primary field indicators was materially present, (ii) available hydrologic records provided necessary evidence, or (iii) two or more secondary indicators were present. Results were recorded on data forms taken from the Corps Manual and are included in this report as Appendix B.

Step 10

A wetland determination was made for every observation point. If a sample plot met the hydrophytic vegetation, hydric soil, and wetland hydrology criteria, the area was considered to be wetland.

Step 11

Based on the results of the transected data, wetland boundaries were established for each identified wetland using survey ribbon labeled “wetland delineation” and numbered consecutively along each wetland boundary. As outlined in the Corps Manual, the placement of flags was based on the limits of areas where all three parameters were met. Wetland flags were labeled W1-1 through W1-73.

STREAMS & DRAINAGES:

The federally regulated Ordinary High Water (OHW) mark of streams within the Project area were delineated utilizing the definitional criteria as presented in Title 33, Code of Federal Regulations, Part 328, and the USACE Regulatory Guidance Letter 05-05 – Guidance on Ordinary

High Water Mark Identification. Each stream is categorized in regard to its flow regime as perennial, intermittent, or ephemeral, as defined by the USACE. The Ordinary High Water (OHW) mark for each stream is surveyed using the Trimble Geo 7X GPS. Each stream is assigned a letter designation, and survey points are numbered consecutively. Substrate characteristics and water depth are noted. Streams classified as AA, A, B, C, C(t), C(ts) and D in the State of New York are regulated by NYSDEC under Article 15 Use and Protection of Waters. Streams are given classifications which designate the level of protection afforded to each waterbody. Class AA and A are assigned to sources of drinking water. Class B streams are best suited for swimming and other contact recreation, but not drinking water. Class C streams identify waters that support fishing and non-contact activities. A classification with (t) designated a stream with the potential to support trout populations. A classification of (ts) identifies waters that may support trout spawning. Class D waters are the lowest classification and are often highly imperiled.

SECTION V: RESULTS AND CONCLUSIONS

Earth Dimensions, Inc. (EDI) has completed a wetland delineation study at the Lyndon Road Landfill site located in the Town of Perinton, County of Monroe, and State of New York. A field investigation was conducted by a Soil Scientist and a Wetland Ecologist from EDI. The wetland delineation study identified one (1) wetland totaling 3.24± acres present within the Lyndon Road Landfill site. In addition, an 1145 linear foot portion of Thomas Creek, a Class B stream, was identified. No waterbodies were identified within the investigation area.

Figure 5 depicts the vegetative communities as they existed at the time of the investigation. The uplands within the investigation area were comprised of successional northern hardwoods, successional shrubland, and successional old field communities. The wetland areas were found to consist of deep emergent marsh and scrub-shrub swamp communities. The vegetative communities of the investigation area are described according to Ecological Communities of New York State (Edinger et al. 2014).

The successional northern hardwood community was dominated by the following species: eastern cottonwood (*Populus deltoides*), American sycamore (*Platanus occidentalis*), white ash (*Fraxinus americana*), poison ivy (*Toxicodendron radicans*) and white snakeroot (*Ageratina altissima*).

The successional old field community was dominated by the following species: Kentucky bluegrass (*Poa pratensis*).

The successional shrubland community was dominated by the following species: eastern cottonwood (*Populus deltoides*), common buckthorn (*Rhamnus cathartica*), mugwort (*Artemesia vulgaris*), summer grape (*Vitis aestivalis*), multiflora rose (*Rosa multiflora*), black swallow-wort (*Vincetoxicum nigrum*), tatarian honeysuckle (*Lonicera tatarica*), black locust (*Robinia pseudoacacia*), black walnut (*Juglans nigra*), white ash (*Fraxinus americana*), poison ivy (*Toxicodendron radicans*) and white snakeroot (*Ageratina altissima*).

Wetland W1 is a 3.24± acre scrub-shrub swamp/deep emergent marsh. The scrub-shrub swamp portion was dominated by green ash (*Fraxinus pennsylvanica*), common buckthorn (Rhamnus cathartica), common reed (Phragmites austrialis), summer grape (Vitis aestivalis), black willow (*Salix nigra*), eastern cottonwood (*Populus deltoides*), and American bur-reed (*Sparganium americanum*). The deep emergent marsh portion was dominated by American sycamore (*Platanus occidentalis*), black willow (*Salix nigra*), green ash (*Fraxinus pennsylvanica*), multiflora rose (*Rosa multiflora*), lizard's tail (*Saurarus cernuus*), creeping jenny (*Lysimachia nummularia*), box elder (*Acer negundo*) American bur-reed (*Sparganium americanum*), and summer grape (*Vitis aestivalis*). Soils within wetland W1 are mapped as Canandaigua silt loam and shallow muck, and had topsoil colors of 10YR2/1 with 3% 10YR5/8 mottles, 10YR4/1 with 15% 10YR5/8 mottles, 10YR4/1 with 5% 10YR5/8 mottles, and 10YR2/1 with no mottles. Wetland W1 had subsoil colors of 10YR4/1 with 5% 10YR5/8 mottles, 10YR5/1 with 20% 10YR5/8 mottles, 10YR5/1 with 10% 10YR5/8 mottles, and 10YR6/1 with 7% 10YR5/8 mottles. The texture is gravelly loam, loam, and muck. This soil fits the NRCS F3 indicator (Depleted Matrix) and F6 indicator (Redox Dark Surface). Hydrology indicators present in Wetland W1 included surface water (A1), high water table (A2), saturation (A3), Inundation visible on aerial imagery (B7), and Water-Stained Leaves (B9). Wetland W1 shows an apparent continuous connection to a Water of the U.S. It is EDI's professional opinion that wetland W1 is jurisdictional under Section 404 of the Clean Water Act.

Stream 1 is identified as Thomas Creek and flows south through the western portion of the site. This perennial channel is identified as a Class B stream by NYSDEC standards. The substrate consists of silt and organics, with vegetated banks. Within the project area, Stream 1 is approximately 30 feet wide (35 feet at top of bank) with an average water depth of 2-4 feet. EDI utilizes office and field observations to determine stream classifications. Stream 1 was identified as a perennial channel due to it being represented as a solid blue line on the USGS Topography Map (Figure 1), a defined bed and bank, and a lack of vegetation within the stream.

A map which depicts the site boundaries and the location of all observation points established during the field survey is included as Figure 6 in Appendix A of this report. Data forms are included as Appendix B. Appendix C includes representative photographs of the project area. Appendix D notes the references used during the preparation of this report and during the field investigation. Appendix E provides the names, addresses and phone numbers of the survey personnel involved in the wetland delineation study.

SECTION VI: RECOMMENDATIONS

One (1) wetland area and one (1) stream were identified during the course of a field investigation based upon the three-parameter technique (vegetation, soils, and hydrology) outlined in the Corps Manual and Northcentral and Northeast Regional Supplement. EPA provided preliminary guidance on August 29, 2023 in response to the May 25, 2023, the U.S. Supreme Court ruling in the Sackett v EPA case. Wetland W1 has a continuous connection to a traditionally navigable water and it is EDI's opinion that wetland W1 is federally jurisdictional. It is EDI's opinion that a portion of wetland W1 is part of Freshwater Wetland PR-1 and would be regulated by NYSDEC under Article 24 of the New York Conservation Law. USACE and NYSDEC approach their regulatory analyses by first considering avoidance of wetlands and minimization of wetland losses. EDI recommends the following:

(1) Submit this report to USACE and NYSDEC with a request for a wetland boundary confirmation and jurisdictional determination.

(2) If no impacts are proposed to federal or state regulated wetlands, state regulated 100-foot adjacent area or Thomas Creek based on the outcome of the jurisdictional determination, it is the professional opinion of EDI that the project may proceed without the need for Section 404, or Article 24 Permits.

(3) If any NYSDEC regulated upland adjacent area or federal or state jurisdictional wetland impacts are proposed, it is EDI's recommendation that a Joint Application for Permit and supporting documentation be submitted to the USACE and NYSDEC with a request for a Section 404 Permit, Section 401 Water Quality Certification, and/or an Article 24 Permit.

LYNDON ROAD LANDFILL

APPENDIX A - FIGURES

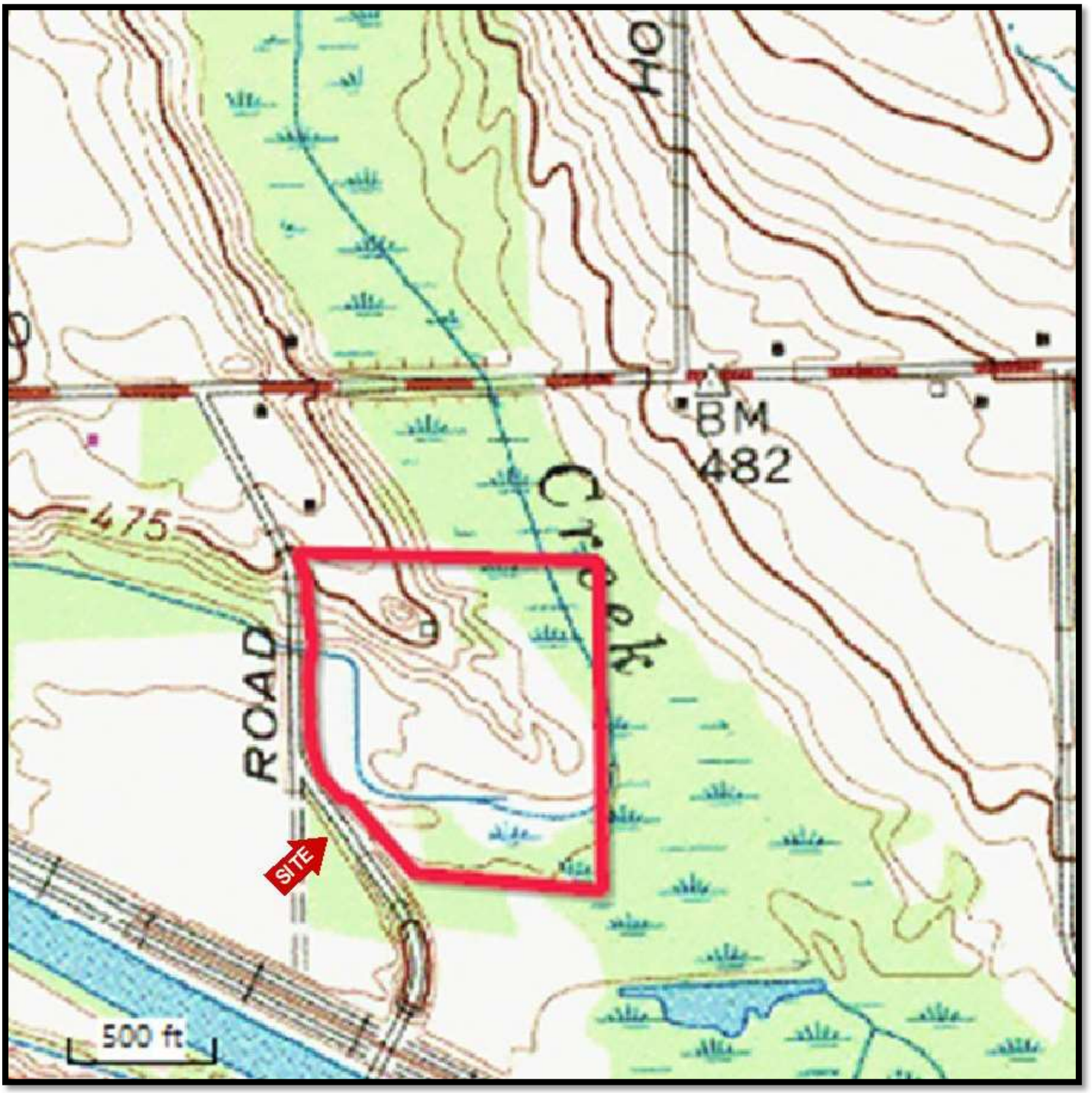


FIGURE 1: USGS 7.5 MINUTE TOPOGRAPHICAL MAP

Fairport Quadrangle / U.S. Geological Survey

Lyndon Road Landfill

Town of Perinton, Monroe County, New York

FIGURE 2: NATIONAL WETLANDS INVENTORY MAP

http://www.fws.gov/wetlands/data/mapper.HTML (Visited 10/13/23)

Lyndon Road Landfill

Town of Perinton, Monroe County, New York

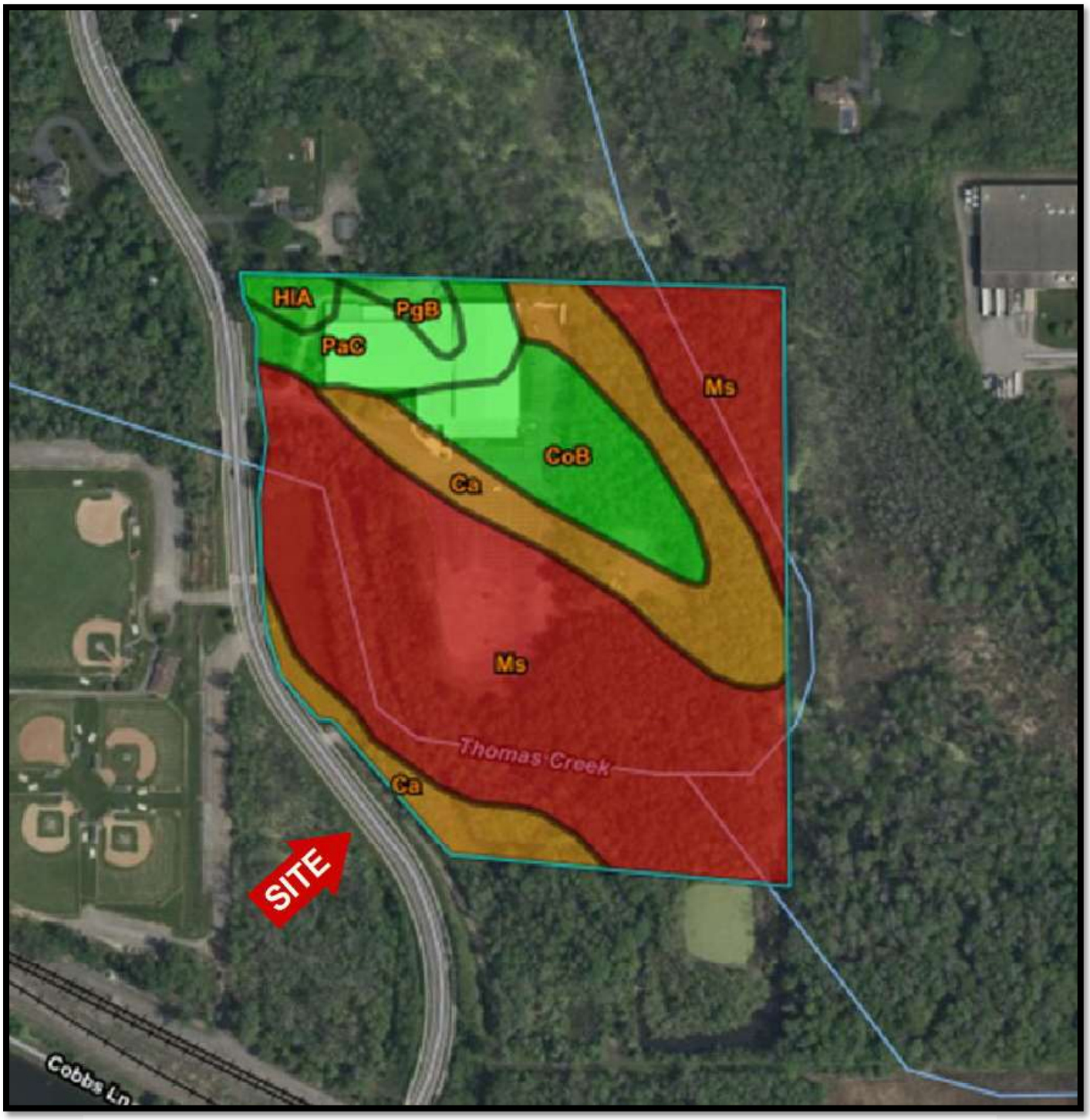


FIGURE 3: NRCS SOIL SURVEY MAP

http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx (Visited 10/13/23)

Lyndon Road Landfill

Town of Perinton, Monroe County, New York

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Monroe County, New York
Survey Area Data: Version 22, Sep 5, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 27, 2020—Jun 15, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ca	Canandaigua silt loam	95	5.0	21.8%
CoB	Colonie loamy fine sand, 0 to 6 percent slopes	0	2.5	11.0%
HlA	Hilton loam, 0 to 3 percent slopes	0	0.3	1.5%
Ms	Muck, shallow	100	13.3	57.4%
PaC	Palmyra gravelly fine sandy loam, 8 to 15 percent slopes	0	1.5	6.7%
PgB	Palmyra gravelly loam, 3 to 8 percent slopes	0	0.4	1.6%
Totals for Area of Interest			**23.1**	**100.0%**

FIGURE 4: NYSDEC ENVIRONMENTAL RESOURCE MAPPER

https://gisservices.dec.ny.gov/gis/erm/ (Visited 10/13/23)

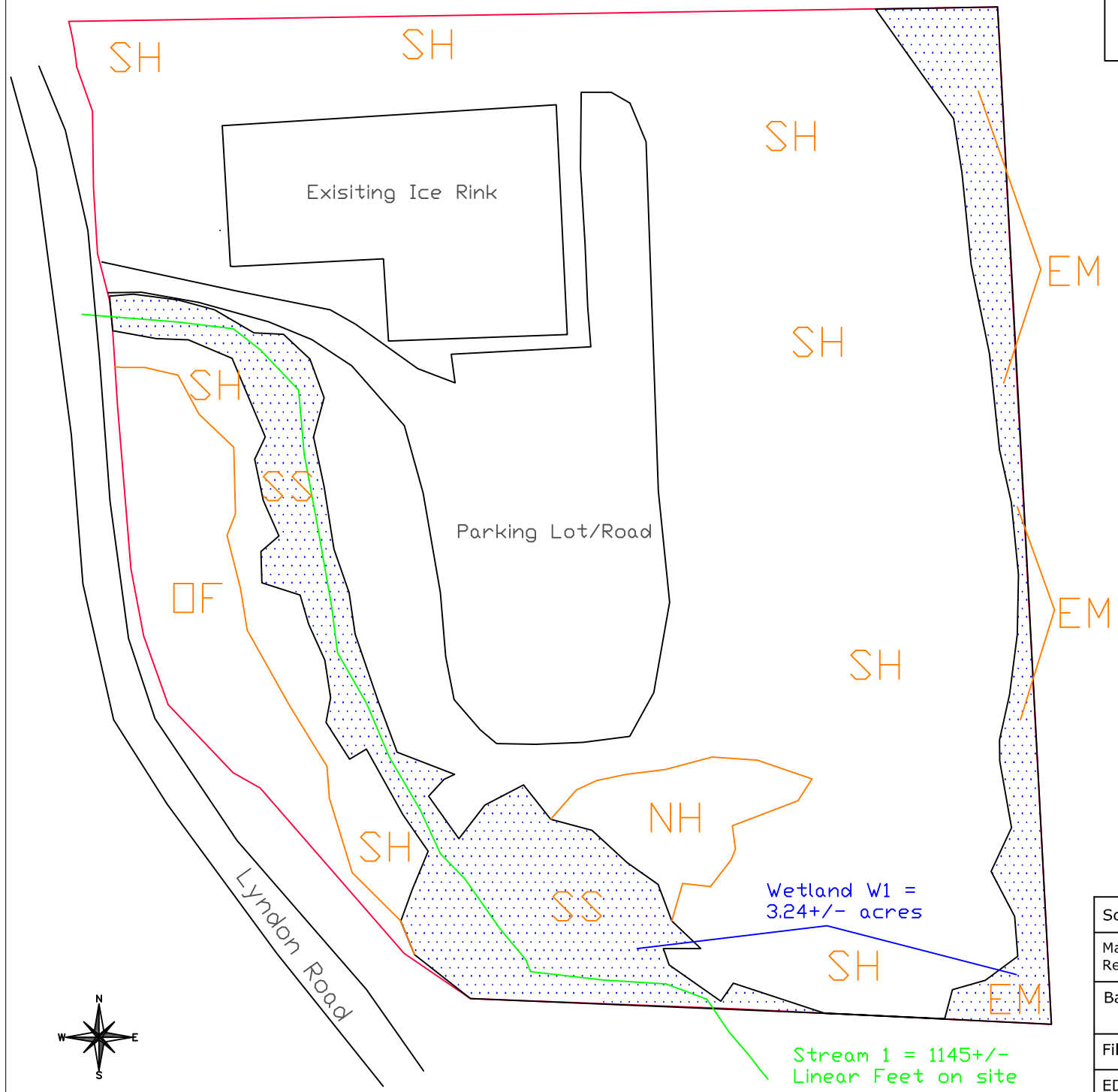
Lyndon Road Landfill

Town of Perinton, Monroe County, New York

Figure 5 - General Vegetation Map

Town of Perinton Monroe County, New York

EARTH DIMENSIONS, INC.
1091 Jamison Road | Elma New York 14059
(716) 655-1717 | Fax (716) 655-2915



Lyndon Road Landfill
LEGEND

- Limits of Investigation
- Community Boundary
- Wetland Area
- OF — Successional Old Field
- NH — Northern Hardwood
- SS — Scrub-shrub
- SH — Successional Shrubland
- EM — Deep Emergent Marsh

Scale: 0 100' 200'

Map Date: October 19, 2023/AMM for EDI
Revised:

Base Map Provided By: GPSMap 62s

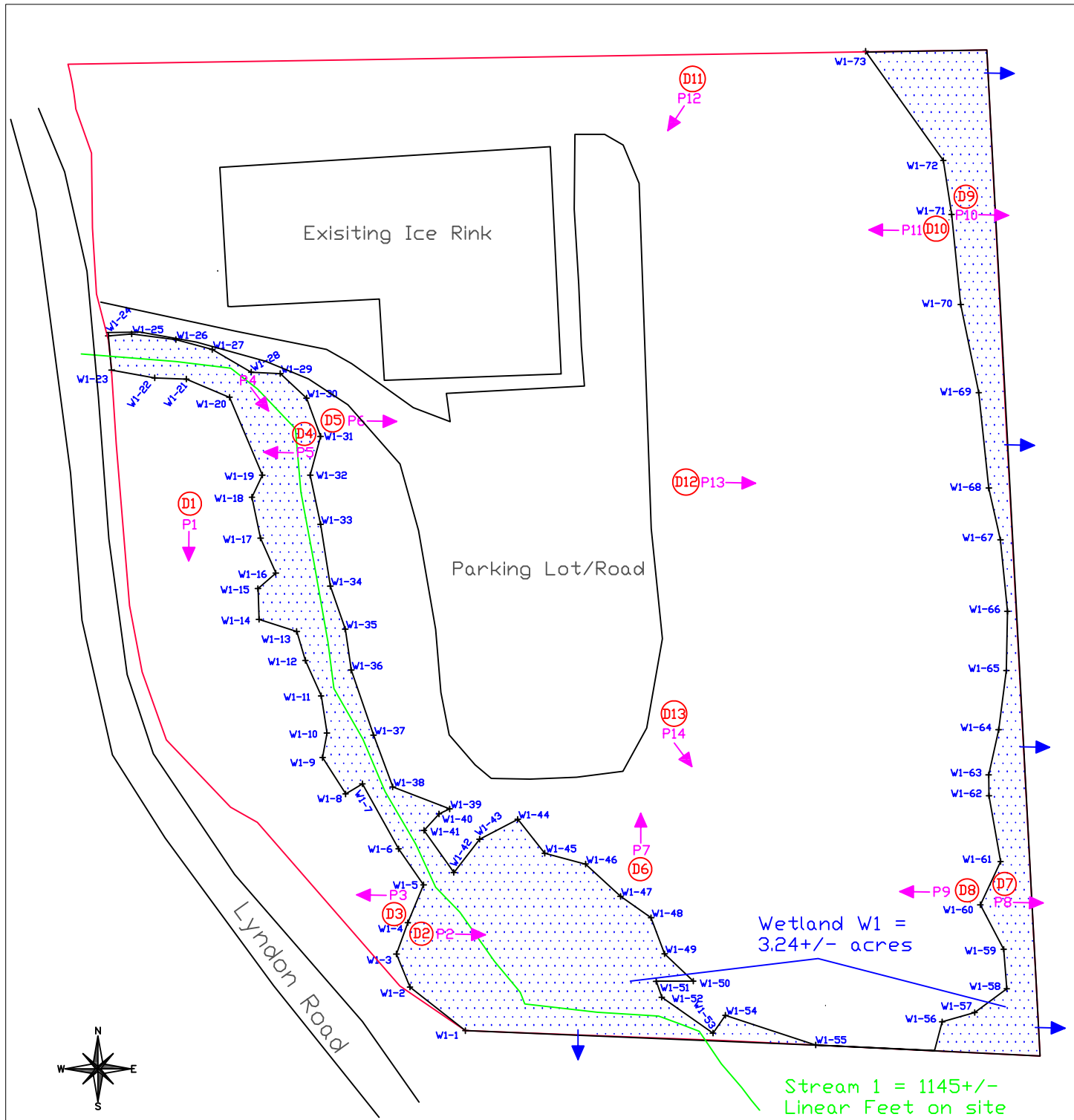
File Name: Delineation map.dwg

EDI Project Code: W8J23

Figure 6 - Wetland Delineation Map

Town of Perinton Monroe County, New York

EARTH DIMENSIONS, INC.
1091 Jamison Road | Elma New York 14059
(716) 655-1717 | Fax (716) 655-2915



Lyndon Road Landfill

LEGEND

- Limits of Investigation
- Streams
- W1-1 Wetland Boundary Flag
- Wetland Area
- P1 Photo Location
- D1 Data Point Location

Scale: 0 100' 200'

Map Date: October 19, 2023/AMM for EDI
Revised:

Base Map Provided By: GPSMap 62s

File Name: Delineation map.dwg

EDI Project Code: W8J23

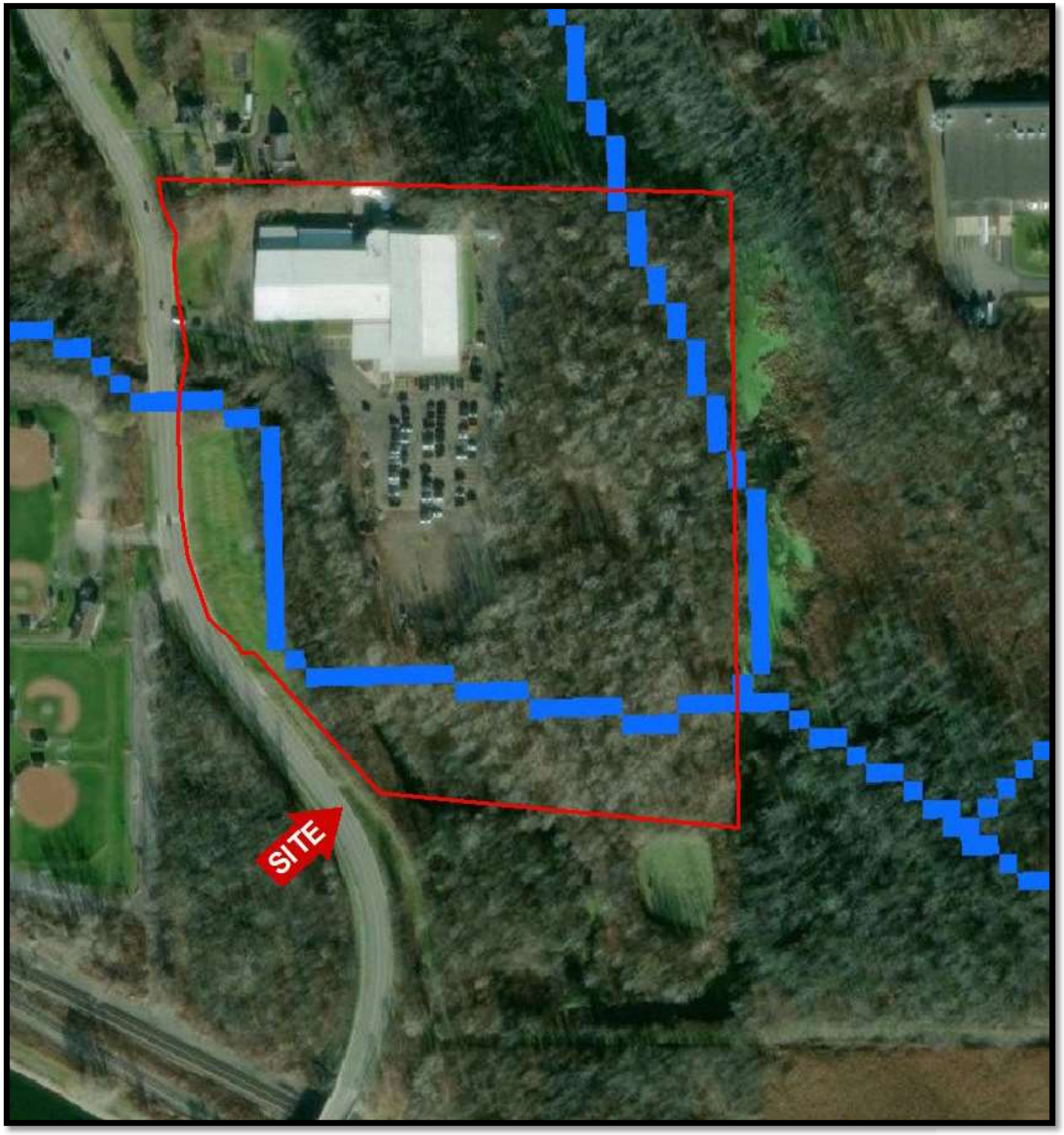


FIGURE 7: DRAINAGE MAP

https://streamstats.usgs.gov/ss/ (Visited 8/10/22)

Lyndon Road Landfill

Town of Perinton, Monroe County, New York

FIGURE 8: SITE AERIAL PHOTOGRAPH

https://gis.erie.gov/Html5Viewer133/index.html?viewer=ErieCountyNY.HTML5_2_11_0

Lyndon Road Landfill

Town of Perinton, Monroe County, New York

Figure 9: Aerial Photo With Wetlands
GoogleEarth.com (Visited 10/13/23)
Lyndon Road Landfill
Town of Perinton, Monroe County, New York

Figure 10: Soils Map With Wetlands
GoogleEarth.com (Visited 10/13/23)
Lyndon Road Landfill
Town of Lyndon, Monroe County, New York

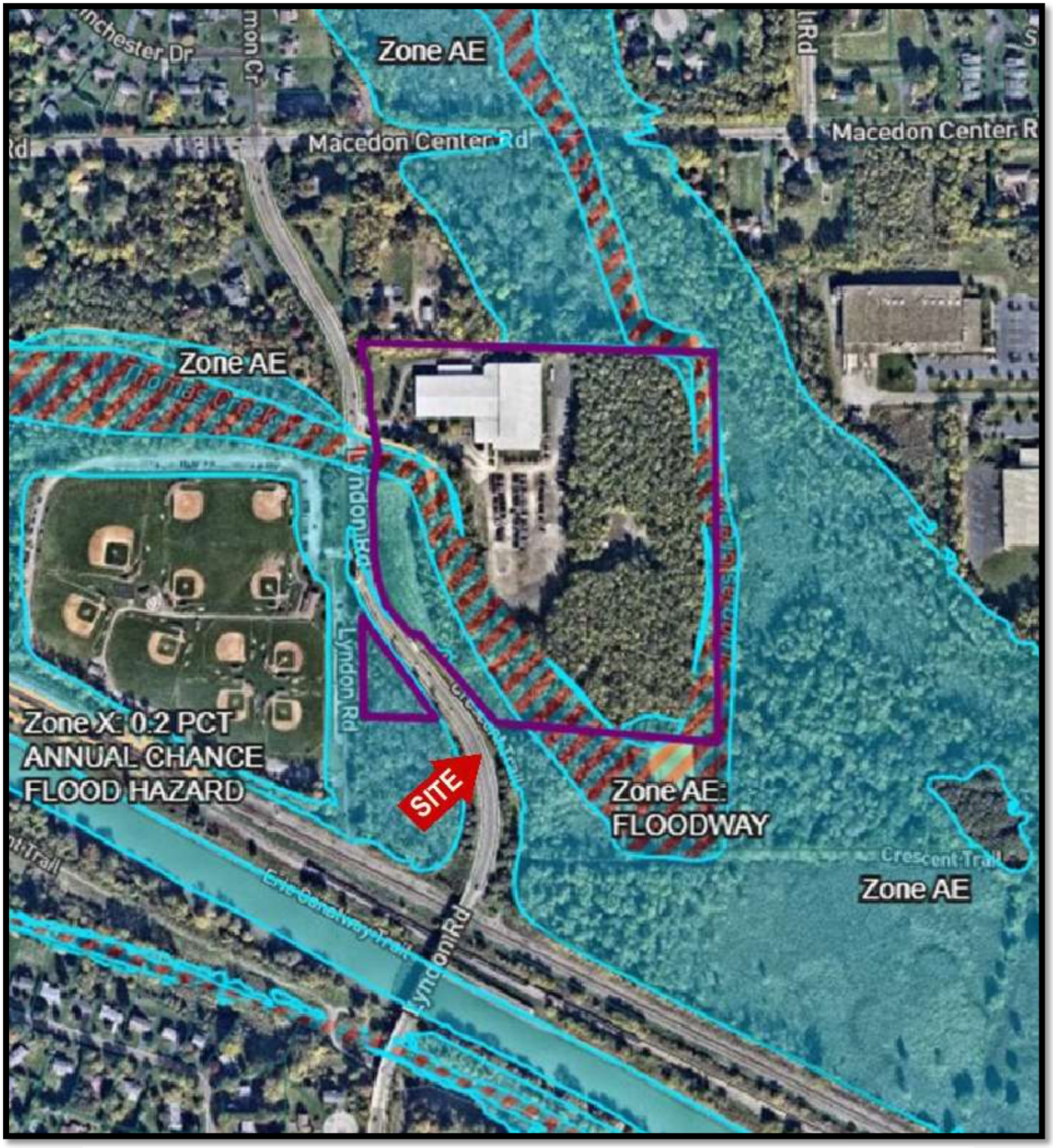


FIGURE 11: FEMA MAP

https://www.fema.gov/flood-maps (Visited 10/13/23)

Lyndon Road Landfill

Town of Perinton, Monroe County, New York

LYNDON ROAD LANDFILL

APPENDIX B – DATA SHEETS

Project Code: W8J23

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Lyndon Road Landfill – 80 Lyndon Road Town/County: Perinton/Monroe County Sampling Date: October 17, 2023

Applicant/Owner: Inventum Engineering State: New York Sampling Point: D1

Investigator(s): Scott Livingstone & Alex Molik Section, Township, Range: 154.03-1-26

Landform (hillslope, terrace, etc.): FILL PAD Local relief (concave, convex, none): NONE Slope (%): 2

Subregion (LRR or MLRA) LRRL Lat: 43.09097°N Long: -77.40188°W Datum: NAD83

Soil Map Unit Name: MUCK, SHALLOW NW I classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	If yes, optional Wetland Site ID: N/A
Wetland Hydrology Present?	Yes ____	No X	

Remarks: (Explain alternative procedures here or in a separate report.)

- UPLAND SUCCESSIONAL FIELD
- OLD FILL PAD

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): N/A
Water Table Present?	Yes ____	No X	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): N/A

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W8J23

VEGETATION : Use scientific names of plants.

Sampling Point: D1

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Poa pratensis	65	Y	FACW
2. Trifolium repens	15	N	FACW
3. Lotus corniculatus	10	N	FACU
4. Centaurea stoebe	10	N	UPL
5. Taraxacum officinale	5	N	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	105 = Total Cover		

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	95	x 4 =	380
UPL species	10	x 5 =	50
Column Totals:	105 (A)		430 (B)

Prevalence Index = B/A = 4.10

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is < 3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Successional old field

Hydrophytic Vegetation Present? Yes ___ No V

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P1 **Direction of Photo** S

Project Code: W8J23

SOIL

Sampling Point: D1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR4/1	100					gr sil	FILL MATERIAL
5-20	10YR5/4	100					gr	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes ____ No X

Remarks:

Project Code: W8J23

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Lyndon Road Landfill – 80 Lyndon Road Town/County: Perinton/Monroe County Sampling Date: October 17, 2023

Applicant/Owner: Inventum Engineering State: New York Sampling Point: DZ

Investigator(s): Scott Livingstone & Alex Molik Section, Township, Range: 154.03-1-26

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): CONCAVE Slope (%): 1

Subregion (LRR or MLRA) LRRL Lat: 43.089975° N Long: -77.410099° W Datum: NAD83

Soil Map Unit Name: CANANDAIGUA SILT LOAM NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	If yes, optional Wetland Site ID: W1

Remarks: (Explain alternative procedures here or in a separate report.)

- W1-1 -> W1-73 (OPEN)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres on Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): N/A
Water Table Present?	Yes _____	No X	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): N/A

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W8J23

VEGETATION : Use scientific names of plants.

Sampling Point: D2

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Fraxinus pennsylvanica	25	Y	FACW
2. Rhamnus cathartica	20	Y	FAC
3.			
4.			
5.			
6.			
7.			
	45 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Phragmites australis	55	Y	FACW
2. Fraxinus pennsylvanica	10	N	FACW
3. Rhamnus cathartica	10	N	FAC
4. Equisetum arvense	5	N	FAC
5. Symphyotrichum lateriflorum	5	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	85 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1. Vitis aestivalis	10	Y	FACU
2.			
3.			
4.			
	10 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is < 3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Scrub-shrub swamp

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # ___ **Direction of Photo** ___

Project Code: W8J23

SOIL

Sampling Point: A2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR2/1	97	10YR5/8	3	C	M	grl	
12-20	10YR4/1	95	10YR5/8	5	C	M	grl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes X No ___

Remarks:

Project Code: W8J23

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Lyndon Road Landfill – 80 Lyndon Road Town/County: Perinton/Monroe County Sampling Date: October 17, 2023

Applicant/Owner: Inventum Engineering State: New York Sampling Point: D3

Investigator(s): Scott Livingstone & Alex Molik Section, Township, Range: 154.03-1-26

Landform (hillslope, terrace, etc.): FILL PAD Local relief (concave, convex, none): CONVEX Slope (%): 2

Subregion (LRR or MLRA) LRRL Lat: 43.08976°N Long: -77.401044°W Datum: NAD83

Soil Map Unit Name: CANANDAIGUA SILT LOAM NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID: N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND SCRUB/SHRUB COMMUNITY / OLD FILL AREA

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season W ater Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): N/A

Water Table Present? Yes ____ No X Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): N/A

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W8J23

VEGETATION : Use scientific names of plants.

Sampling Point: D3

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Rhamnus Cathartica	25	Y	FAC
2. Fraxinus americana	15	Y	FACU
3. Lonicera tatarica	5	N	FACU
4.			
5.			
6.			
7.			
	45 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Rhamnus Cathartica	20	Y	FAC
2. Artemesia vulgaris	15	Y	UPL
3. Fragaria Virginiana	10	N	FACU
4. Solidago canadensis	10	N	FACU
5. Fraxinus americana	5	N	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1. Vitis aestivalis	15	Y	FACU
2.			
3.			
4.			
	15 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	45	x 3 =	135
FACU species	60	x 4 =	240
UPL species	15	x 5 =	75
Column Totals:	120 (A)		450 (B)

Prevalence Index = B/A = 3.75

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is < 3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Successional shrubland

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P3 **Direction of Photo** W

Project Code: W8J23

SOIL

Sampling Point: D3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR4/1	100					Vgrl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: HARD Fill

Depth (inches): 9"

Hydric Soil Present? Yes ____ No X

Remarks:

Project Code: W8J23

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Lyndon Road Landfill – 80 Lyndon Road Town/County: Perinton/Monroe County Sampling Date: October 17, 2023

Applicant/Owner: Inventum Engineering State: New York Sampling Point: D4

Investigator(s): Scott Livingstone & Alex Molik Section, Township, Range: 154.03-1-26

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): CONCAVE Slope (%): C1

Subregion (LRR or MLRA) LRRL Lat: 43.05124°N Long: -77.40130°W Datum: NAD83

Soil Map Unit Name: MUCK, SHALLOW NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	If yes, optional Wetland Site ID: W1

Remarks: (Explain alternative procedures here or in a separate report.)

• W1-1 → W1-73 (OPEN)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres on Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season W ater Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): N/A
Water Table Present?	Yes _____	No X	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): N/A

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W8J23

VEGETATION : Use scientific names of plants.

Sampling Point: D4

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides	10	Y	FAC
2. Salix nigra	5	Y	OBL
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15')			
1. Fraxinus pennsylvanica	20	Y	FACW
2. Rhamnus cathartica	5	Y	FAC
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	

Herb Stratum (Plot size: 5')			
1. Sparganium americanum	60	Y	OBL
2. Carex tribuloides	15	N	OBL
3. Solidago rugosa	10	N	FAC
4. Eutrochium maculatum	10	N	OBL
5. Symphyotrichum lateriflorum	5	N	FAC
6. Phragmites australis	5	N	FACW
7. Toxicodendron radicans	3	N	FAC
8.			
9.			
10.			
11.			
12.			
	108	= Total Cover	

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is < 3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Scrub-Shrub Swamp

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P5 **Direction of Photo** W

Project Code: W8J23

SOIL

Sampling Point: D4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-13	10YR 4/1	85	10YR 5/8	15	C	M	L	
13-20	10YR 5/1	80	10YR 5/8	20	C	M	L	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes X No ___

Remarks:

Project Code: W8J23

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Lyndon Road Landfill – 80 Lyndon Road Town/County: Perinton/Monroe County Sampling Date: October 17, 2023

Applicant/Owner: Inventum Engineering State: New York Sampling Point: D5

Investigator(s): Scott Livingstone & Alex Molik Section, Township, Range: 154.03-1-26

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): CONVEX Slope (%): 15

Subregion (LRR or MLRA) LRRL Lat: 43.09125°N Long: -77.40123°W Datum: NAD83

Soil Map Unit Name: MUCK, SHALLOW NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	If yes, optional Wetland Site ID: N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND WOODS

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): N/A
Water Table Present?	Yes _____	No X	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): N/A

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W8J23

VEGETATION : Use scientific names of plants.

Sampling Point: D5

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides	15	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15')			
1. Fraxinus americanum	20	Y	FACW
2. Rhamnus cathartica	20	Y	FAC
3. Lonicera tatarica	5	N	FACU
4.			
5.			
6.			
7.			
	45	= Total Cover	

Herb Stratum (Plot size: 5')			
1. Toxicodendron radicans	30	Y	FAC
2. Fraxinus americanum	10	Y	FACW
3. Echinochloa crus-galli	5	N	FAC
4. Fragaria Virginiana	5	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50	= Total Cover	

Woody Vine Stratum (Plot size: 30')			
1. Vitis riparia	15	Y	FACW
2.			
3.			
4.			
	15	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	70	x 3 =	210
FACU species	55	x 4 =	220
UPL species	0	x 5 =	0
Column Totals:	125 (A)		430 (B)

Prevalence Index = B/A = 3.44

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is < 3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Successional Shrubland

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P6 **Direction of Photo** E

Project Code: W8J23

SOIL

Sampling Point: D5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR5/2	100					L	
8-20	10YR5/4	85	10YR5/1	15	C	M	L	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes ____ No X

Remarks:

Project Code: W8J23

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Lyndon Road Landfill – 80 Lyndon Road Town/County: Perinton/Monroe County Sampling Date: October 17, 2023

Applicant/Owner: Inventum Engineering State: New York Sampling Point: D6

Investigator(s): Scott Livingstone & Alex Molik Section, Township, Range: 154.03-1-26

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): CONVEX Slope (%): 15

Subregion (LRR or MLRA) LRRL Lat: 43.089894°N Long: -77.600110°W Datum: NAD83

Soil Map Unit Name: MUCK, SHALLOW NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID: N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND WOODS/OLD LANDFILL

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W8J23

VEGETATION : Use scientific names of plants.

Sampling Point: D6

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides	35	Y	FAC
2. Platanus occidentalis	15	Y	FACW
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15')			
1. Fraxinus americana	20	Y	FACW
2. Rhamnus cathartica	5	N	FAC
3. Lonicera tatarica	5	N	FACU
4.			
5.			
6.			
7.			
	30	= Total Cover	

Herb Stratum (Plot size: 5')			
1. Fraxinus americana	25	Y	FACW
2. Toxicodendron radicans	20	Y	FAC
3. Agcratina altissima	15	Y	FACU
4. Rubus allegheniensis	5	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	65	= Total Cover	

Woody Vine Stratum (Plot size: 30')			
1. Toxicodendron radicans	15	Y	FAC
2.			
3.			
4.			
	15	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 28.6 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	75	x 3 =	225
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals:	160 (A)		535 (B)

Prevalence Index = B/A = 3.34

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is < 3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Northern Hardwood

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (include photo numbers here or on a separate sheet.)

Photo # P7 **Direction of Photo** N

Project Code: W8J23

SOIL

Sampling Point: D6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/2	100					L	Fill
6-20	10YR 4/2	70					grL	Mixed Fill
	10YR 6/3	30						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes _____ No X

Remarks:

Project Code: W8J23

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Lyndon Road Landfill – 80 Lyndon Road Town/County: Perinton/Monroe County Sampling Date: October 17, 2023

Applicant/Owner: Inventum Engineering State: New York Sampling Point: D7

Investigator(s): Scott Livingstone & Alex Molik Section, Township, Range: 154.03-1-26

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): CONCAVE Slope (%): 0

Subregion (LRR or MLRA) LRRL Lat: 43.089790°N Long: -77.39867°W Datum: NAD83

Soil Map Unit Name: MUCK, SHALLOW NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	If yes, optional Wetland Site ID: W1

Remarks: (Explain alternative procedures here or in a separate report.)

- W1-1 → W1-73 (OPEN)
- DEEP EMERGENT MARSH

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- __ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres on Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season W ater Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): N/A
Water Table Present?	Yes X	No _____	Depth (inches): Surface
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): Surface

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

X 12" INUNDATION TO EAST

Project Code: W8J23

VEGETATION : Use scientific names of plants.

Sampling Point: D7

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Platanus occidentalis	15	Y	FACW
2. Salix nigra	10	Y	OBL
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15')			
1. Fraxinus pennsylvanica	15	Y	FACW
2. Rosa multiflora	10	Y	FACU
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	

Herb Stratum (Plot size: 5')			
1. Saururus cernuus	30	Y	OBL
2. Lysimachia nummularia	20	Y	FACW
3. Phragmites australis	10	N	FACW
4. Pilea pumila	10	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	70	= Total Cover	

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is < 3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Deep Emergent Marsh

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P8 **Direction of Photo** E

Project Code: W8J23

SOIL

Sampling Point: D7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR4/1	95	10YR5/8	5	C	M	1	
6-20	10YR5/1	90	10YR5/8	10	C	M	1	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes X No ___

Remarks:

Project Code: W8J23

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Lyndon Road Landfill – 80 Lyndon Road Town/County: Perinton/Monroe County Sampling Date: October 17, 2023

Applicant/Owner: Inventum Engineering State: New York Sampling Point: D8

Investigator(s): Scott Livingstone & Alex Molik Section, Township, Range: 154.03-1-26

Landform (hillslope, terrace, etc.): LANDFILL Local relief (concave, convex, none): CONVEX Slope (%): 7

Subregion (LRR or MLRA) LRRL Lat: 43.08977°N Long: -77.39864°W Datum: NAD83

Soil Map Unit Name: MUCK, SHALLOW NW I classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	If yes, optional Wetland Site ID: N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND WOODS/FORMER LANDFILL

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season W ater Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): N/A
Water Table Present?	Yes _____	No X	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): N/A

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W8J23

VEGETATION : Use scientific names of plants.

Sampling Point: D8

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Rhamnus cathartica	25	Y	FAC
2. Rosa multiflora	25	Y	FACU
3. Fraxinus americanum	10	N	FACW
4.			
5.			
6.			
7.			
	60 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Ageratina altissima	30	Y	FACU
2. Vincetoxicum nigrum	20	Y	NI
3. Solidago canadensis	15	N	FACU
4. Fraxinus americanum	10	N	FACW
5. Fragaria virginiana	10	N	FACU
6. Rhamnus cathartica	5	N	FAC
7.			
8.			
9.			
10.			
11.			
12.			
	90 = Total Cover		

Woody Vine Stratum (Plot size: 30')			
1. Vitis aestivalis	10	Y	FACU
2.			
3.			
4.			
	10 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	40	x 3 =	120
FACU species	110	x 4 =	440
UPL species	0	x 5 =	0
Column Totals:	150 (A)		560 (B)

Prevalence Index = B/A = 3.73

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is < 3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Successional Shrubland

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P9 **Direction of Photo** W

Project Code: W8J23

SOIL

Sampling Point: DP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 4/4	100					gr sl	Fill
4-20	7.5YR 5/4	100					gr sl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes ____ No X

Remarks:

Project Code: W8J23

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Lyndon Road Landfill – 80 Lyndon Road Town/County: Perinton/Monroe County Sampling Date: October 17, 2023

Applicant/Owner: Inventum Engineering State: New York Sampling Point: D9

Investigator(s): Scott Livingstone & Alex Molik Section, Township, Range: 154.03-1-26

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): CONCAVE Slope (%): 0

Subregion (LRR or MLRA) LRRL Lat: 43.091810°N Long: -77.39862°W Datum: NAD83

Soil Map Unit Name: MUCK, SHALLOW NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	If yes, optional Wetland Site ID: W1

Remarks: (Explain alternative procedures here or in a separate report.)

- W1-1 -> W1-73 (OPEN)
- DEEP EMERGENT MARSH

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season W ater Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No _____	Depth (inches): 3-12+"
Water Table Present?	Yes X	No _____	Depth (inches): INUNDATED
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): Inundated

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W8J23

VEGETATION : Use scientific names of plants.

Sampling Point: D9

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix nigra	15	Y	OBL
2. Acer negundo	10	Y	FAC
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15')			
1. Fraxinus pennsylvanica	10	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	

Herb Stratum (Plot size: 5')			
1. Sparganium americanum	25	Y	OBL
2. Lysimachia nummularia	20	Y	FACW
3. Pilea pumila	10	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	55	= Total Cover	

Woody Vine Stratum (Plot size: 30')			
1. Vitis aestivalis	10	Y	FACU
2.			
3.			
4.			
	10	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is < 3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Deep Emergent Marsh

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P10 **Direction of Photo** E

Project Code: W8J23

SOIL

Sampling Point: D9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR2/1	100					MUCK	
4-20	10YR6/1	93	10YR5/6	7	C	M	L	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes X No ___

Remarks:

Project Code: W8J23

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Lyndon Road Landfill – 80 Lyndon Road Town/County: Perinton/Monroe County Sampling Date: October 17, 2023

Applicant/Owner: Inventum Engineering State: New York Sampling Point: D10

Investigator(s): Scott Livingstone & Alex Molik Section, Township, Range: 154.03-1-26

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): CONVEX Slope (%): 10

Subregion (LRR or MLRA) LRRL Lat: 43.09180°N Long: -77.39866°W Datum: NAD83

Soil Map Unit Name: CANANDAIGUA SILT LOAM NW I classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID: N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND WOODS / FORMER LANDFILL

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season W ater Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): N/A
Water Table Present?	Yes ____	No X	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): N/A

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W8J23

VEGETATION : Use scientific names of plants.

Sampling Point: D10

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Rosa multiflora	30	Y	FACU
2. Lonicera tatarica	25	Y	FACU
3. Fraxinus americanum	10	N	FACU
4.			
5.			
6.			
7.			
	65 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Ageratina altissima	25	Y	FACU
2. Toxicodendron radicans	10	N	FAC
3. Fragaria virginiana	10	N	FACU
4. Vincetoxicum nigrum	5	N	NI
5. Fraxinus americanum	5	N	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	65 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1. Vitis aestivalis	10	Y	FACU
2.			
3.			
4.			
	10 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	115	x 4 =	460
UPL species	0	x 5 =	0
Column Totals:	125 (A)		490 (B)

Prevalence Index = B/A = 3.92

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is < 3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Successional Shrubland

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P11 **Direction of Photo** W

Project Code: W8J23

SOIL

Sampling Point: D10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/2	100					Silt	Fill
5-20	10YR 4/2	100					Silt	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes _____ No X

Remarks:

Project Code: W8J23

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Lyndon Road Landfill – 80 Lyndon Road Town/County: Perinton/Monroe County Sampling Date: October 17, 2023

Applicant/Owner: Inventum Engineering State: New York Sampling Point: D11

Investigator(s): Scott Livingstone & Alex Molik Section, Township, Range: 154.03-1-26

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): CONVEX Slope (%): 10

Subregion (LRR or MLRA) LRRL Lat: 43.092218°N Long: -77.399649°W Datum: NAD83

Soil Map Unit Name: MUCK, SHALLOW NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	If yes, optional Wetland Site ID: N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND WOODS / LAND FILL

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres on Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): N/A
Water Table Present?	Yes _____	No X	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): N/A

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W8J23

VEGETATION : Use scientific names of plants. Sampling Point: D11

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides	10	Y	FAC
2. Robinia pseudoacacia	10	Y	FACU
3.			
4.			
5.			
6.			
7.			
	20	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15')			
1. Rhamnus cathartica	20	Y	FAC
2. Juglans nigra	10	Y	FACU
3. Rosa multiflora	10	Y	FACU
4. Lonicera tatarica	5	N	FACU
5.			
6.			
7.			
	45	= Total Cover	

Herb Stratum (Plot size: 5')			
1. Ageratina altissima	35	Y	FACU
2. Rhamnus cathartica	15	Y	FAC
3. Fragaria virginiana	10	N	FACU
4. Rosa multiflora	5	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	65	= Total Cover	

Woody Vine Stratum (Plot size: 30')			
1. Vitis cestivalis	15	Y	FACU
2.			
3.			
4.			
	15	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 37.5 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	45	x 3 =	135
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	145 (A)		535 (B)

Prevalence Index = B/A = 3.69

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is < 3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Successional shrubland

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P12 **Direction of Photo** SW

Project Code: W8J23

SOIL Sampling Point: D11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/1	100					l gr	F, 11
4-20	10YR 5/4	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes ____ No X

Remarks:

Project Code: W8J23

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Lyndon Road Landfill – 80 Lyndon Road Town/County: Perinton/Monroe County Sampling Date: October 17, 2023

Applicant/Owner: Inventum Engineering State: New York Sampling Point: DIZ

Investigator(s): Scott Livingstone & Alex Molik Section, Township, Range: 154.03-1-26

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): CONVEX Slope (%): 10

Subregion (LRR or MLRA) LRRL Lat: 43.091026°N Long: -77.59995°W Datum: NAD83

Soil Map Unit Name: CANANDAIGUA SILT LOAM NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID: N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND WOODS/LANDFILL

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): N/A
Water Table Present?	Yes ____	No X	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): N/A

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W8J23

VEGETATION : Use scientific names of plants. Sampling Point: D12

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	5 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Rhamnus Cathartica	30	Y	FAC
2. Juglans nigra	15	Y	FACU
3. Rosa multiflora	10	N	FACU
4.			
5.			
6.			
7.			
	55 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Artemesia vulgaris	45	Y	UPL
2. Ageratina altissima	20	Y	FACU
3. Rhamnus cathartica	10	N	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	75 = Total Cover		

Woody Vine Stratum (Plot size: 30')			
1. Vitis aestivalis	10	Y	FACU
2.			
3.			
4.			
	10 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	45	x 3 =	135
FACU species	55	x 4 =	220
UPL species	45	x 5 =	225
Column Totals:	145 (A)		580 (B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is < 3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Successional Shrubland

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P13 **Direction of Photo** E

Project Code: W8J23

SOIL Sampling Point: D12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/4	100					gr	Fill

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: HARD Fill

Depth (inches): 6"

Hydric Soil Present? Yes ____ No X

Remarks:

Project Code: W8J23

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Lyndon Road Landfill – 80 Lyndon Road Town/County: Perinton/Monroe County Sampling Date: October 17, 2023

Applicant/Owner: Inventum Engineering State: New York Sampling Point: D13

Investigator(s): Scott Livingstone & Alex Molik Section, Township, Range: 154.03-1-26

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): CONVEX Slope (%): 10

Subregion (LRR or MLRA) LRRL Lat: 43.09038° N Long: -77.400060° W Datum: NAD83

Soil Map Unit Name: MUCK, SHALLOW NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	If yes, optional Wetland Site ID: N/A
Wetland Hydrology Present?	Yes _____	No X	

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND WOODS/OLD LANDFILL

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): N/A

Water Table Present? Yes _____ No X Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): N/A

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W8J23

VEGETATION : Use scientific names of plants. Sampling Point: D13

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Rhamnus cathartica	40	Y	FAC
2. Juglans nigra	10	N	FACU
3. Fraxinus americanum	10	N	FACU
4.			
5.			
6.			
7.			
	60 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Artemesia vulgaris	45	Y	UPL
2. Ageratina altissima	15	N	FACU
3. Vincetoxicum nigrum	15	N	NI
4. Fragaria virginiana	10	N	FACU
5. Rhamnus cathartica	5	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 = Total Cover		

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	55	x 3 =	165
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	105 (A)		365 (B)

Prevalence Index = B/A = 3.48

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is < 3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Successional shrubland

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P14 **Direction of Photo** SE

Project Code: W8J23

SOIL Sampling Point: D13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR4/2	100						Fill
6-9	10YR5/6	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: HARD Fill

Depth (inches): 9+

Hydric Soil Present? Yes ____ No X

Remarks:

LYNDON ROAD LANDFILL

APPENDIX C - SITE PHOTOGRAPHS

Photo 1: Facing south. Depicts the successional old field community at data point D1. 10/17/23

Photo 2: Facing east. Depicts the scrub-shrub swamp community of W1 data point D2. 10/17/23

Photo 3: Facing west. Depicts the successional shrubland community at data point D3. 10/17/23

Photo 4: Facing southeast. Depicts Stream 1. 10/17/23

Photo 5: Facing west. Depicts the scrub-shrub swamp community of W1 at data point D4. 10/17/23

Photo 6: Facing east. Depicts the successional shrubland community of data point D5. 10/17/23

Photo 7: Facing north. Depicts the northern hardwood community at data point D6. 10/17/23

Photo 8: Facing east. Depicts the deep emergent marsh community of W1 at data point D7. 10/17/23

Photo 9: Facing west. Depicts the successional shrubland community at data point D8. 10/17/23

Photo 10: Facing east. Depicts the deep emergent marsh community of W1 at data point D9. 10/17/23

Photo 11: Facing west. Depicts successional shrubland community at data point D10. 10/17/23

Photo 12: Facing southwest. Depicts the successional shrubland community at data point D11. 10/17/23

Photo 13: Facing east. Depicts the successional shrubland community at data point D12. 10/17/23

Photo 14: Facing southeast. Depicts the successional shrubland community at data point D13. 10/17/23

LYNDON ROAD LANDFILL

APPENDIX D - REFERENCES

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