EXHIBIT K: DRAFT REMEDIAL INVESTIGATION WORK PLAN

LABELLA Associates, D.P.C.
Engineering
Architecture
Environmental
Planning

Remedial Investigation Work Plan:
Ellicott Station East

Location:

56-70 Ellicott Street
& one unaddressed parcel
Batavia, New York 14020

Prepared for:

Ellicott Station, LLC
One Batavia City Centre
Batavia, New York 14020

LaBella Project No. 2171218

August 2017

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300 State Street
Rochester, New York 14614

Table of Contents

1.0 Introduction 1
2.0 Site Description and History 1
2.1 Site Description and Surrounding Properties 1
2.2 Site History 1
3.0 Previous Investigations 2
4.0 Standards, Criteria and Guidelines 3
5.0 Objectives and Rationale 3
6.0 Remedial Investigation Scope 4
6.1 Remedial Investigation Tasks 5
6.2 Health and Safety and Community Air Monitoring 10
6.3 Investigation Derived Waste 10
6.4 Quality Assurance/Quality Control Plan 10
7.0 RI Schedule and Reporting – Deliverables 10

Figure, Tables, and Appendices

Figures

Figure 1 – Site Location Map
Figure 2 – Site Layout and Surrounding Area
Figure 3 – Phase II ESA Testing Locations and Results
Figure 4 – Areas of Concern
Figure 5 – Proposed Remedial Investigation Testing Locations
Figure 6 – Proposed Geophysical Survey Area

Tables

Table 1 – Detected Compounds in Soil from Phase II ESA, LaBella 2015

Appendix

Appendix 1 – Community Air Monitoring Plan
Appendix 2 – Health & Safety Plan
Appendix 3 – Quality Control Plan
Appendix 4 – Contact List
Appendix 5 – Field Logs
Appendix 6 – Site Concept Plan

CERTIFICATIONS

"I _____certify that I am currently a NYS registered professional engineer and that this Remedial Investigation Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10)."

_____	_____	_____
NYS Professional Engineer #	Date	Signature

1.0 Introduction

LaBella Associates, D.P.C. (LaBella) is pleased to submit this Remedial Investigation Work Plan (RIWP) to conduct a Remedial Investigation (RI) for Ellicott Station East located at 56-70 Ellicott Street and one (1) unaddressed parcel (SBL #84.015-1-4), City of Batavia, Genesee County, New York, herein after referred to as the "Site." A Site Location Map is included as Figure 1. A Brownfield Cleanup Program (BCP) Application has been submitted to the New York State Department of Environmental Conservation (NYSDEC) by LaBella on behalf of Ellicott Station, LLC.

A previous subsurface investigation at 56-70 Ellicott Street identified the presence of petroleum, chlorinated solvents, polyaromatic hydrocarbons (PAHs) and metals in soil. Several PAHs and mercury were detected above NYSDEC Unrestricted Use Soil Cleanup Objectives (SCOs). One (1) PAH was detected above the NYSDEC Commercial Use SCO. Implementation of this RI Work Plan will support existing information and fill in data gaps to identify the extent to which remediation is warranted. The activities in this RI Work Plan will be carried out in accordance with the NYSDEC Division of Environmental Remediation (DER)-10 (*Technical Guidance for Site Investigation and Remediation)* issued May 3, 2010.

The Site is part of the Batavia Opportunity Area (BOA). A BOA Nomination Study was conducted from 2012-2014 which developed a plan to revitalize 75 parcels totaling 366 acres of underutilized, vacant and abandoned properties within the City of Batavia. The Site is part of the Ellicott Station project and is planned to be developed with one (1) approximately 17,000 square foot (sq. ft.) one-story commercial building.

2.0 Site Description and History

2.1 Site Description and Surrounding Properties

The Site is comprised of two (2) tax parcels that comprise a total of approximately 0.81-acres of vacant commercial land and is improved with one (1) approximately 11,611-square foot vacant commercial building (Site Building). The Site is located at the southwestern corner of Ellicott Street and Jackson Street in a predominately urban area (refer to Figures 1 and 2). The Project Site is bounded by Ellicott Street to the north, Jackson Street to the east, and by vacant real property to the south and west. The Site and surrounding properties are currently zoned for commercial use.

A storm sewer known as the Grand Canal Sewer is located beneath a portion of the Site, east-southeast of the Site Building. The top of the sewer appears to be a brick arch covered with concrete. The sides of the sewer appear to be stone. The material constructing the bottom of the sewer is unknown. During test pitting, the top of sewer at the Site was located at approximately 2.5-ft. bgs. The sewer appears to be 4-ft wide and 3-ft high. The approximate inferred location of the storm sewer across the Site is shown on Figure 5.

2.2 Site History

The Site appears to have been historically utilized as a lumber and/or coal yard from at least 1884 to at least 1948; a railroad depot from 1896 to at least 1954; and, as an automobile repair facility from

approximately 1959 to present day. An oil house is depicted on the 1919, 1931 and 1948 Sanborn Fire Insurance Maps. The 1948 Sanborn Fire Insurance Map also depicts a gasoline filling station with four (4) USTs on the eastern-most portion of the Site. Figure 4 depicts the approximate locations of the apparent former oil house and USTs as well as some additional historical features of environmental significance. One (1) NYSDEC Spill listing (#9413666) identified for the Site indicated the presence of surficial staining associated with several 55-gallon drums and 30-gallon containers of waste oil. The spill file indicates the owner was to remove the drums. It is unknown if the drums were removed and as to the exact location of the staining. The spill was closed in July 1995.

3.0 Previous Investigations

The following previous environmental report was identified for the Site and is summarized below:

- *Phase II ESA, 56-70 Ellicott Street and Two Unaddressed Parcels at Ellicott Street* completed by LaBella, October 2014

It should be noted the Phase II ESA included two (2) other parcels which are not a part proposed for the BCP; as such, off-Site data is not included herein. Testing was not completed at the unaddressed parcel included in the BCP Site. A summary of the findings is included below; refer to the attached Figure 3 for testing locations and compounds detected above applicable guidance values at the Site.

Based on the review of historical mapping, LaBella completed the Phase II ESA for the Site. This investigation included the advancement of nine (9) soil borings and the laboratory analysis of three (3) soil samples at the Site for the below-listed parameters (refer to Figure 3). The soil samples were collected from depths ranging between 8 and 12-feet (ft) below ground surface (bgs).

- United States Environmental Protection Agency (USEPA) Target Compound List (TCL) and NYSDEC Commissioner Policy 51 (CP-51) list volatile organic compounds (VOCs);
- USEPA TCL semi-volatile organic compounds (SVOCs);
- Resource Conservation and Recovery Act (RCRA) metals;
- Polychlorinated biphenyls (PCBs); and,
- Pesticides

Contaminants identified at the Site include petroleum, chlorinated solvents, SVOCs, and metals in soil. Two (2) areas of petroleum impacts as indicated by elevated PID readings were identified. Elevated PID readings up to 580.1 parts per million (ppm) and strong petroleum odors were identified in SB-4 advanced in the northern portion of the Site. Strong to mild gasoline odors and PID readings up to 280.3 ppm were identified in SB-7B, advanced in the eastern portion of the Site proximate the former gasoline filling station. Borings surrounding SB-7B (SB-7 and SB-7A) encountered shallow refusal, between 1-ft and 3-ft bgs. Petroleum compounds were detected in soil samples SB-4 and SB-7B. The compounds detected do not exceed Unrestricted Use SCOs; however, shallow refusal and fill material encountered at SB-7 and SB-7A indicate the potential for USTs to be present in the eastern portion of the Site which previously operated as a gasoline filling station.

In addition to petroleum, trichloroethene (TCE) was detected in soil in SB-2 at 8-10 ft bgs. The concentration detected does not exceed Unrestricted Use SCOs; however, the source of the TCE in soil is unknown and groundwater samples were not collected from the Site. It should be noted that SB-2 was

advanced immediately to the west of the portion of the Site building which was previously utilized for automotive repair.

Two (2) heavy metals (lead and mercury) and several PAHs were detected in SB-2 at concentrations at or above Unrestricted Use SCOs. One (1) PAH, benzo(a)pyrene, was also identified in SB-2 at a concentration which exceeds SCOs for Commercial Use, which is the intended future use for the Site. Fill material was not noted in boring SB-02; as such, the source of heavy metals and PAHs is unknown. However, it should be noted that rail lines and coal storage were previously located in the western portion of the Site. Refer to Figure 3 for a summary of previous testing.

4.0 Standards, Criteria and Guidelines

This section identifies the Standards, Criteria and Guidelines (SCGs) for the Site. The SCGs identified are used in order to quantify the extent of contamination at the Site that requires remedial work based on the cleanup goal. The Site is planned to be redeveloped for commercial use and conceptual redevelopment plan call for the demolition of the current Site building. The SCGs to be utilized as part of the implementation of this RI Work Plan are identified below:

Soil SCGs: The following SCGs for soil were used in developing this RI Work Plan:

- New York Codes, Rules, and Regulations (NYCRR) Subpart 375-6 Remedial Program Soil Cleanup Objectives (RPSCOs) for the Protection of Groundwater;
- NYCRR Subpart 375-6 RPSCOs for Commercial Use; and
- NYSDEC Commissioner Policy (CP)-51 Soil Cleanup Levels.

Groundwater SCGs: The following SCGs for groundwater were used in developing this IRM Work Plan:

- NYSDEC Part 703 Groundwater Standards
- Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values

5.0 Objectives and Rationale

The purpose of this RI is to:

- Delineate the areal and vertical extent of contaminants in all media at or emanating from the Site;
- Determine surface and subsurface characteristics of the Site;
- Identify sources of contamination, the migration pathways, and actual or potential receptors of contaminants;
- Collect and evaluate all data necessary to evaluate actual and potential threats to public health and the environment; and,
- Collect the data necessary to evaluate any release to an environmental medium and develop remedial alternatives.

Specifically, based on available data, this currently includes evaluating for an on-Site source of VOC, SVOC, and metals impacts in soil, investigating the potential for orphan USTs related to a former gasoline filling station, identifying any impacts beneath the building footprint based on historical use for

automotive repair, and evaluating on-Site groundwater. The scope of work defined herein is based on previously gathered analytical data and information regarding historical operations conducted at the Site. The RI work will be completed in accordance with the NYSDEC's Division of Environmental Remediation (DER)-10 (*Technical Guidance for Site Investigation and Remediation)* issued May 3, 2010.

Potential Areas of Concern

Potential areas of concern (AOCs) have been identified based on the current data and historical information for the Site. The AOCs are summarized below:

- **AOC 1: Soil Impacts in SB-2—**Soil boring SB-2 was advanced immediately west of the portion of the Site building in which automotive repair operations were historically conducted. TCE was detected in soil in SB-2 at 8-10-ft. bgs. Although the concentration of TCE detected did not exceed Unrestricted Use SCOs, groundwater was not assessed during the investigation. The source of TCE in soil is unknown. Concentrations of several PAHs detected in soil in SB-2 at 8-10-ft, bgs exceed NYSDEC Unrestricted Use SCOs; one (1) of which exceeded NYSDEC Commercial Use SCOs. Fill material was not observed in this sample location; as such, the source of PAHs in soil is unknown. Mercury was also detected in soil in SB-2 at 8-10-ft above NYSDEC Unrestricted Use SCOs. Fill material was not observed in this sample location; as such, the source of mercury in soil is unknown.
- **AOC 2: Petroleum Impacts and Potential USTs** - Two (2) areas of petroleum impacts as indicated by elevated PID readings were identified. Elevated PID readings up to 580.1 parts per million (ppm) and strong petroleum odors were identified in SB-4 advanced in the northern portion of the Site. Strong to mild gasoline odors and PID readings up to 280.3 ppm were identified in SB-7B, advanced in the eastern portion of the Site proximate the former gasoline filling station. Borings surrounding SB-7B (SB-7 and SB-7A) encountered shallow refusal, between 1-ft and 3-ft bgs. Petroleum compounds were detected in soil samples SB-4 and SB-7B. The compounds detected do not exceed Unrestricted Use SCOs; however, shallow refusal and fill material encountered at SB-7 and SB-7A indicate the potential for USTs to be present in the eastern portion of the Site which previously operated as a gasoline filling station (refer to Figure 4).
- **AOC 3: Historical Environmental Features** – The western portion of the Site building was previously utilized as an automotive repair shop. Features such as pits, sumps, hydraulic lifts, etc. may be present within this area. In addition, an oil house associated with Site operations in the early 1900s was located in what is now the eastern footprint of the Site building. Access to the building interior was not available during the prior Phase II ESA and as such, investigation has not completed within the footprint of the building. Additional historical features which may have contributed to subsurface impacts at the Site include former railroad lines and a coal storage area, as depicted on Figure 4.

Refer to Figure 4 for locations of AOCs.

6.0 Remedial Investigation Scope

The proposed remedial investigation field activities to be completed as part of the work plan have been separated into tasks and are presented in this section. A list with contact information of the anticipated

personnel involved with the project is included in Appendix 4.

During all ground intrusive work conducted at the Site, air monitoring will be conducted in accordance with the NYSDOH Generic Community Air Monitoring Plan (CAMP). A copy of this plan is included as Appendix 1. LaBella's Health and Safety Plan (HASP) included as Appendix 2 will be followed during implementation of this work plan.

6.1 Remedial Investigation Tasks

Tasks proposed for completion of the RI are as follows. It should be noted that these tasks are presented in the order of completion with each task providing information to assist with and potentially refining subsequent tasks, with NYSDEC approval:

Task 1: Geophysical Survey- This task will be completed to evaluate the potential presence of USTs at the Site due to the former use of the Site as a gasoline filling station and for automotive repair. A secondary objective of this task will be to identify underground utilities to avoid during subsequent tasks.

Task 2: Test Pits- The purpose of this task is to evaluate anomalies identified, if any, during the geophysical survey. If anomalies are not identified during Task 1, test pits may be advanced across the Site to further characterize the subsurface.

Task 3: Overburden Soil Sampling- This task will be completed to further characterize subsurface soils at the Site.

Task 4: Overburden Groundwater Sampling– This task will be completed to characterize groundwater conditions at the Site.

Task 5: Groundwater Flow Direction Modeling– This task will be completed to understand groundwater flow direction at the Site.

Task 6: Fish and Wildlife Resource Impact Analysis (FWRIA) Part 1: Resource Characterization– Per DER-10 Section 3.10.1, a resource characterization will be completed to determine if a Fish and Wildlife Resource Impact Analysis is needed. If the results of the characterization indicate the need for further assessment, a FWRIA Part 2: Ecological Impact Assessment will be conducted in accordance with DEC-10 Section 3.10.2.

The Site is currently covered with a cap (i.e., asphalt pavement and buildings). Based on conceptual development plans (refer to Appendix 6), the entire Site is planned to be covered with asphalt and/or building as part of the redevelopment. Surface soil will be addressed during redevelopment to ensure a minimum of 1-ft. of cover material that meets Commercial Use criteria and/or a cap is established across the Site.

Hydraulic conductivity testing may be completed if during implementation of the RI it becomes apparent that hydraulic conductivity data may be useful for anticipated remedial technologies.

Due to the anticipated demolition of the Site Building to facilitate redevelopment of the Site, soil vapor will not be assessed during this investigation. The Site Building is vacant; as such, there is no on-Site threat to human health via soil vapor intrusion (SVI). SVI will be assessed for prior to occupancy of future Site Buildings.

Sampling procedures that require full-suite parameters will include the following analysis:

- USEPA Target Compound List (TCL) and NYSDEC Commissioner Policy (CP)-51 VOCs including tentatively identified compounds (TICs) using USEPA Method 8260;
- USEPA TCL and NYSDEC CP-51 SVOCs including TICs using USEPA Method 8270;
- Target Analyte List (TAL) metals using USEPA Methods 6010/7470/7471;
- Cyanide using USEPA Method 9012;
- PCBs using USEPA Method 8082; and
- Pesticides using USEPA Method 8081.

Quality assurance/ quality control (QA/QC) samples will be collected and analyzed (e.g., trip blank, blind duplicate, matrix spike/ matrix spike duplicate (MS/MSD)) as specified in the Quality Control Program (QCP). Samples will be delivered under chain of custody procedures to an Environmental Laboratory Accreditation Program (ELAP)-certified laboratory. The laboratory will provide NYSDEC Analytical Services Protocol (ASP) Category B Deliverables and NYSDEC EQUIS Electronic Data Deliverable (EDDs). Data Usability Summary Reports (DUSRs) will be completed by a third party validator for all RI and Phase II ESA data. Data tables developed for the RI Report will reflect any changes to the data made by the validator.

A Dig Safely New York stakeout will be conducted at the Site to locate any subsurface utilities prior to any subsurface assessment. In addition, utility drawings provided by the owner will be reviewed.

6.1.1 Task 1: Geophysical Survey

Due to the presence of four (4) USTs depicted on the 1948 Sanborn Fire Insurance Map, lack of UST documentation and shallow refusal and fill material observed in the eastern portion of the Site during the Phase II ESA, there is a potential that USTs exist at the Site. This task will also be completed to assess the potential presence of USTs across the entire Site due to the historical use for automotive repair.

This task will include completion of an EM-61 geophysical survey across all accessible areas of the Site (i.e., excluding the Site Building) to identify magnetic anomalies indicative of potential USTs, as depicted on Figure 6. The EM-61 is a high sensitivity resolution time domain electromagnetic (TDEM) metal detector that can detect both ferrous and nonferrous metallic objects, with an approximate investigation depth of 10-feet (ft.). A reference grid with 3-ft. spacing will be established in the areas of the survey. Results of the geophysical survey will determine test pit locations (refer to Task 2, section 6.1.2).

6.1.2 Task 2: Test Pit Evaluation

Test pits will be advanced to classify magnetic anomalies identified during the geophysical survey, if any. If anomalies potentially indicative of a UST or other feature of environmental concern are not identified, test pits may not be advanced; however, additional test pits may be advanced at the Site to further characterize the subsurface. If USTs are encountered during test pit advancement, attempts will be made to uncover each UST and measure the length and diameter. In addition, attempts will be made to open the tank and gauge the contents.

Test pits and locations of USTs, if encountered, will be located using a GPS, and the test pits will be backfilled to grade. UST removal is not included in this Work Plan; rather, this would be completed under an Interim Remedial Measure or as part of the Final Remedy. Any samples collected from any USTs would be for waste characterization purposes only and; therefore, ASP Category B Deliverables would not be generated.

6.1.3 Task 3: Overburden Soil Sampling

It is anticipated up to twenty-three (23) overburden soil borings will be advanced using direct push methods. Approximate proposed soil boring locations are depicted on Figure 5. These locations may vary based on field conditions (e.g., utilities), building accessibility and/or field observations during drilling. Any significant modifications to this scope will be discussed with the NYSDEC.

The following methods will be followed to complete this task:

- Borings will be advanced with a Geoprobe direct push sampling system. The use of direct push technology allows for rapid sampling, observation, and characterization of relatively shallow overburden soils. The Geoprobe utilizes a 4 or 5-ft. Macrocore sampler, with disposable polyethylene sleeves. Soil cores will be retrieved in 4 or 5-ft. sections, and can be easily cut from the polyethylene sleeves for observation and sampling.
- Each boring implemented at the Site will be advanced until equipment refusal is encountered or to several feet into the water table. Interior boring locations will be biased towards former automotive repair operations (e.g., in-ground lifts).
- Drilling equipment will be decontaminated prior to use and between boring locations, using an Alconox and potable water solution. Refer to the QCP included as Appendix 3 for additional details regarding decontamination procedures.
- Soils from the borings will be continuously screened in the field for visible impairment, olfactory indications of impairment, and/or indication of detectable VOCs with a PID collectively referred to as "evidence of impairment." Field screening findings will be recorded on soil boring logs and included in the RI Report.
- Soil generated during soil sampling activities will be placed back into the boring it was generated from (if not being converted to a well) or containerized in 55-gallon drums, characterized, and disposed of off-Site in accordance with applicable regulations. Refer to the QCP included as Appendix 3 for additional details regarding the management of investigation-derived waste.
- It is currently anticipated the following laboratory analysis will be performed:
  - Three (3) soil samples for full-suite parameters.
  - Twelve (12) additional samples for TCL and CP-51 VOCs including TICS
  - Fourteen (14) additional samples for TCL and CP-51 SVOCs including TICS
  - Six (6) additional samples for TAL Metals
  - Three (3) additional samples for PCBs
- Samples will be biased towards evidence of impairment and evidence of fill material.

The proposed sampling parameters are shown on Figure 5; however, these may vary based on field observations (e.g., evidence of impairment and/or fill material). It should be noted full-suite soil samples were analyzed from SB-2, SB-4, and SB-7B during the Phase II ESA; as such, full-suite soil samples are not proposed from these locations.

This work plan assumes groundwater will be present in the overburden and; as such, bedrock drilling is not proposed at this time. If it is determined that bedrock drilling is warranted, an addendum to this work plan will be submitted.

Samples for VOC analysis will be completed via USEPA Method 5035. QA/QC samples will consist of one (1) blind duplicate and one (1) matrix spike/ matrix spike duplicate (MS/MSD) per twenty (20)

sample or one (1) per shipment.

6.1.4 Task 4: Overburden Groundwater Sampling

This task will involve the installation of at least nine (9) groundwater monitoring wells within soil borings advanced during Task 4. Additional monitoring wells may be installed based on field observations during drilling.

The following methods will be followed to complete this task:

- Subsequent to the completion of a borehole, a monitoring well will be installed. Anticipated monitoring well locations are shown on Figure 5; however, locations are subject to change based on field observations.
- Monitoring wells will constructed of up to 10-ft. of 1-inch diameter 0.010-in. slotted PVC well screen, finished with a PVC riser to the ground surface.
- Each well annulus will be filled with sand to approximately 2-ft. above the top of the screen, and filled with bentonite to the ground surface.
- Exterior monitoring wells will be completed with flush-mount curb boxes grouted in place. Interior wells will be cut to the floor surface and fitted with a PVC cap and will not be finished with a protective casing.

Groundwater Sampling

Groundwater sampling procedures are as follows:

- Newly installed wells will be developed until dry or until at least three (3) well volumes have been removed using a dedicated bailer or peristaltic pump. Static water levels will be measured immediately before and after development.
- Development water will be containerized in 55-gallon drums, characterized, and disposed of off-Site in accordance with applicable regulations. Refer to the QCP included as Appendix 3 for additional details regarding the management of investigation-derived waste.
- Following development, wells will be allowed to recharge for a minimum of one (1) week prior to sampling.
- Samples will be collected using low-flow techniques (i.e., peristaltic pump). Static water levels will be collected prior to purging and sampling any well.
- During sampling, the following parameters will be measured and recorded at five (5) minute intervals:
    - Water level drawdown (<0.3')
    - Temperature (+/- 3%)
    - pH (+/- 0.1 unit)
    - Dissolved oxygen (+/- 10%)
    - Specific conductance (+/- 3%)
    - Oxidation reduction potential (+/- 10 millivolts)
    - Turbidity (+/- 10%, <50 NTU for metals)
- Samples will be collected when the parameters have stabilized within the specified range for at least three (3) consecutive intervals.
- Groundwater samples from three (3) monitoring wells will be collected and analyzed for full-suite parameters. The remaining monitoring wells will be analyzed for TCL and CP-51 VOCs

and SVOCs only. Additional parameters may be selected based on the soil analytical results. Any alterations to the proposed parameters will be discussed with the NYSDEC prior to sampling.

- In the event of insufficient sample volume for full-suite parameters, samples from these wells will be analyzed for as many of the listed parameters as possible, in the below listed order:

    - USEPA TCL and NYSDEC CP-51 VOCs and TICs using USEPA Method 8260;
    - USEPA TCL and CP-51 SVOCs TICs using USEPA Method 8270;
    - USEPA TAL Metals using USEPA Methods 6010/7470/7471;
    - Total cyanide using USEPA Method 9012.
    - PCBs using USEPA Method 8082; and,
    - Pesticides using USEPA Method 8081;

The proposed sampling locations are shown on Figure 5; however, these may vary based on field conditions and soil analytical results. Any proposed changes will be discussed with the NYSDEC.

QA/QC samples will consist of one (1) blind duplicate and one (1) matrix spike/ matrix spike duplicate (MS/MSD) per twenty (20) sample or one (1) per shipment. The blind duplicate and MS/MSD will be collected from a location analyzed for full-suite parameters. In addition, one (1) trip blank per shipment of groundwater samples will be analyzed for TCL and CP-51 VOCs.

6.1.5 Task 5: Groundwater Flow Direction Modeling

This task will be completed to evaluate the direction of groundwater flow at the Site. All soil boring and monitoring well locations will be surveyed with a GPS or via a site-specific survey (e.g., for interior locations). Northing, easting, and elevation will be recorded for each location.

One (1) round of static water levels will be collected from each monitoring well during groundwater sampling in Task 5. Approximately four (4) months later, another round of static water levels will be recorded to determine if there is a change in groundwater flow direction seasonally. Groundwater elevations will be contoured using modeling software and contours will be included in the RI Report.

6.1.6 Task 6: Fish and Wildlife Resource Impact Analysis (FWRIA) Part 1: Resource Characterization

A Site characterization will be conducted to identify all fish and wildlife resources within 0.25 miles of the Site in accordance with DER-10 Section 3.10.1. If there are no resources identified, no further assessment will be conducted in regards to the FWRIA. If resources are identified, they will be depicted on a map to be included in the Remedial Investigation Report. In addition, contaminant migration pathways and contaminants of ecological concern will be identified, and conclusions will be made as to the potential adverse effects to fish and wildlife.

If the results of the characterization indicate the need for further assessment, a FWRIA Part 2: Ecological Impact Assessment will be conducted in accordance with DER-10 Section 3.10.2.

6.2 Health and Safety and Community Air Monitoring

LaBella's Health and Safety Plan (HASP) for this project is included as Appendix 2. The NYSDOH Generic CAMP and Fugitive Dust and Particulate Monitoring will be utilized for this RI and is included as Appendix 1.

6.3 Investigation Derived Waste

Waste materials anticipated to be generated during the implementation of this RI Work Plan include soil generated from soil borings and groundwater generated from development and sampling of the wells. These waste materials will be containerized in 55-gallon drums and stored at the Site for characterization and future disposal. Additional information regarding Investigation Derived Waste is included in the QCP included in Appendix 3.

6.4 Quality Assurance/Quality Control Plan

Activities completed at the Site will be managed under LaBella's QCP, which is included in Appendix 3. Laboratory QA/QC sampling will include analysis of one (1) MS/MSD and (1) blind duplicate sample for each matrix type (i.e., soil and groundwater) at a rate of one per 20 samples. The blind duplicate MS/MSD will be analyzed for the same parameters as that of the field samples. Additionally, one (1) trip blank will be analyzed for VOCs for each shipment of groundwater samples.

The samples will be delivered under Chain of Custody procedures to an ELAP-certified laboratory. The laboratory will provide a NYSDEC ASP Category B Deliverables data package for all samples except waste characterization. A DUSR will be completed for all ASP-B laboratory data packages per DER-10. The DUSRs will include the laboratory data summary pages showing corrections made by the data validator and each page will be initialed by the data validator. All data will also be submitted in the NYSDEC-approved EDD format.

7.0 RI Schedule and Reporting – Deliverables

The information and laboratory analytical data obtained during the RI will be included in a RI Report, completed in accordance with DER-10.

Implementation of the RI Work Plan will begin within 60 days after NYSDEC approval of this Work Plan. The field work is anticipated to require five (5) months to complete subsequent to the approval of the RI Work Plan. The RI Report will be submitted within 60 days of receipt of all validated data.

The above schedule assumes that an addendum to the RI Work Plan will not be required. If an RI Work Plan addendum is required, it will be submitted as the need is identified and it will include a revised schedule.

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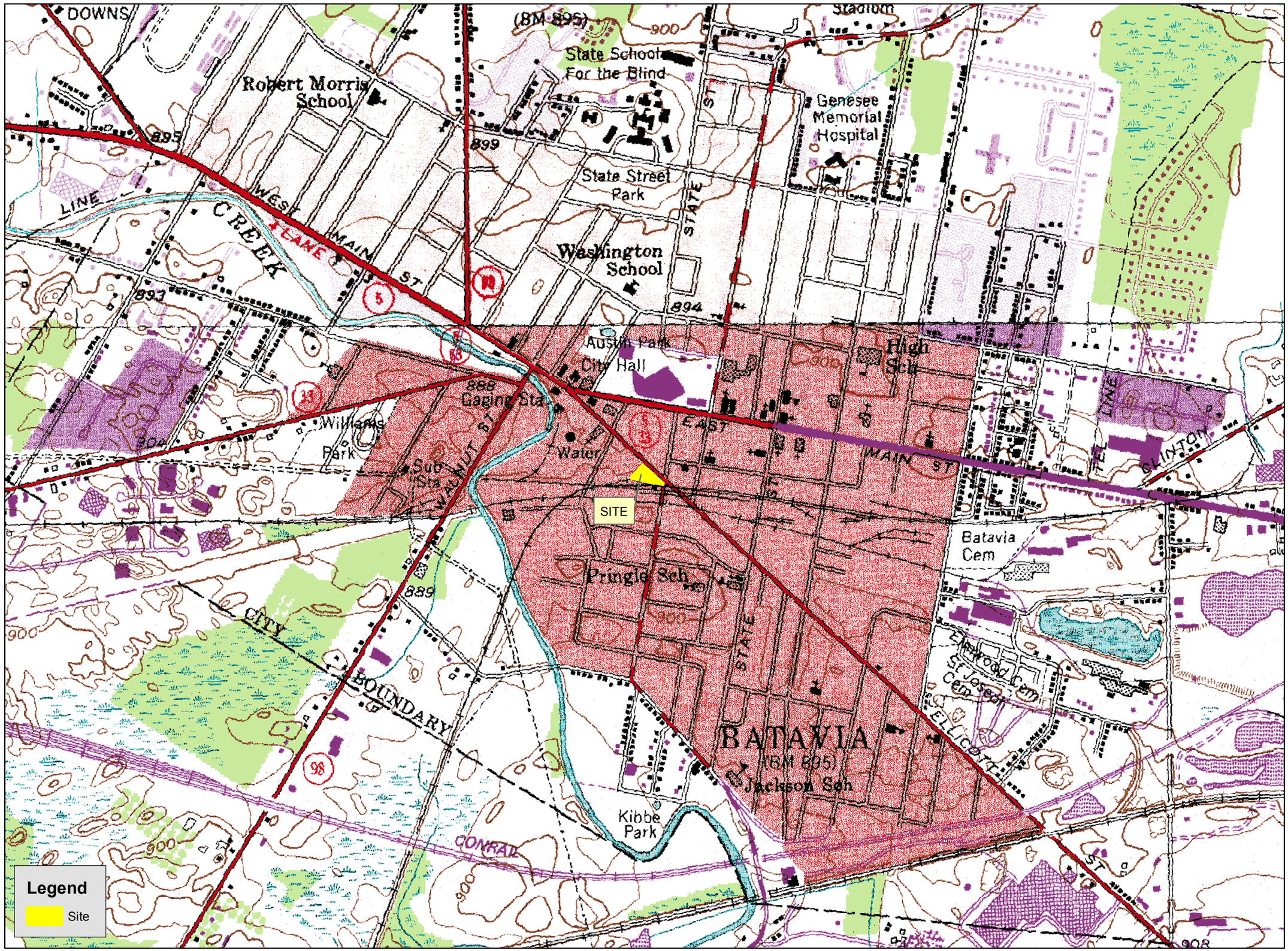
Figures



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Engineering
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0 500 1,000
Feet
1 inch = 1,000 feet

INTENDED TO PRINT AS: 11" X 17"

CLIENT:

ELLICOTT STATION, LLC

PROJECT:

REMEDIAL INVESTIGATION WORK PLAN

ELLICOTT STATION EAST
56-70 ELLICOTT STREET
BATAVIA, NY 14020

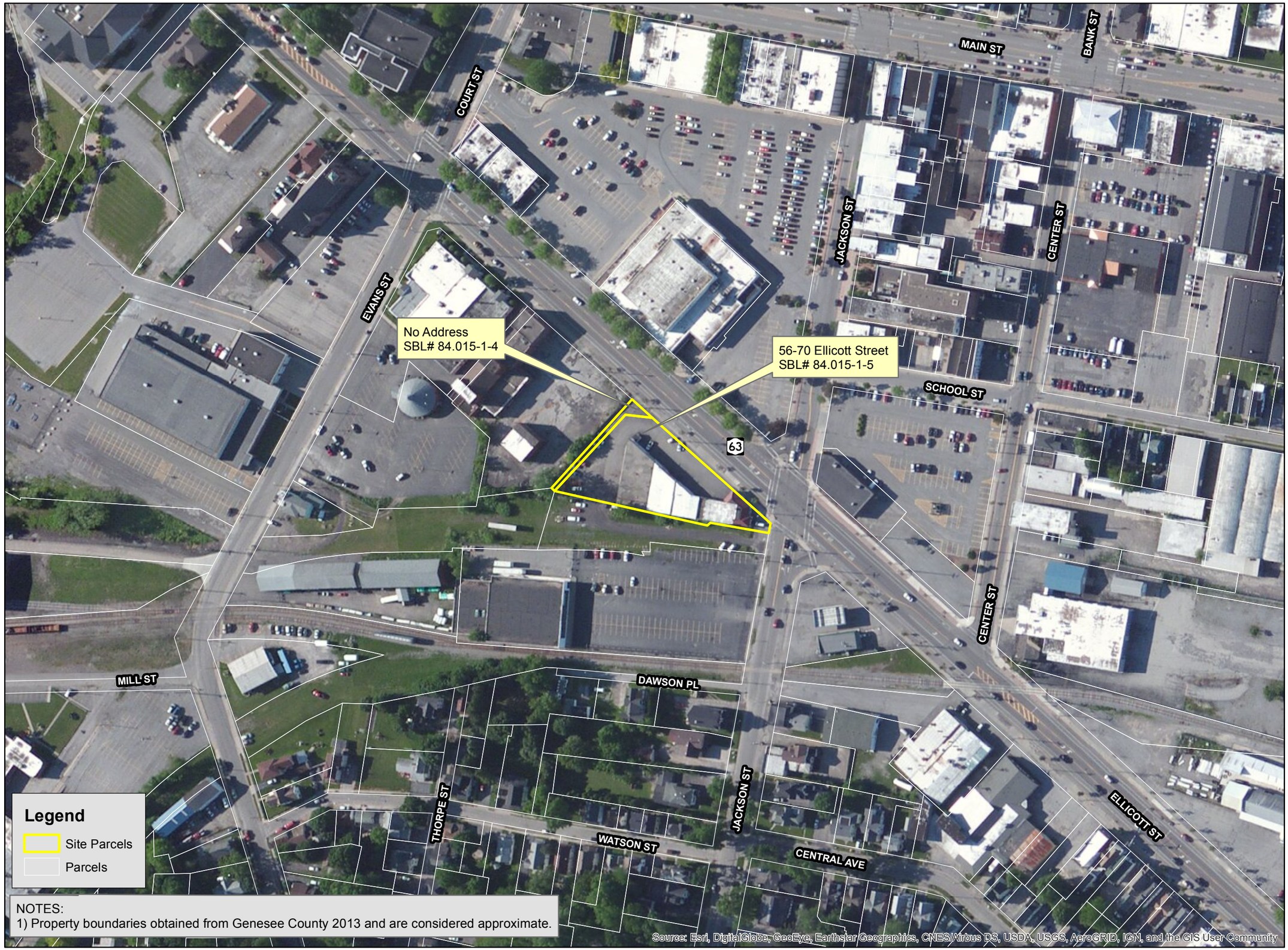
DRAWING NAME:

USGS TOPOGRAPHIC MAP

PROJECT/DRAWING NUMBER:

2171218

FIGURE 1



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Feet
1 inch = 150 feet

INTENDED TO PRINT AS: 11" X 17"

CLIENT:
ELLICOTT STATION, LLC

PROJECT:
REMEDIAL INVESTIGATION WORK PLAN

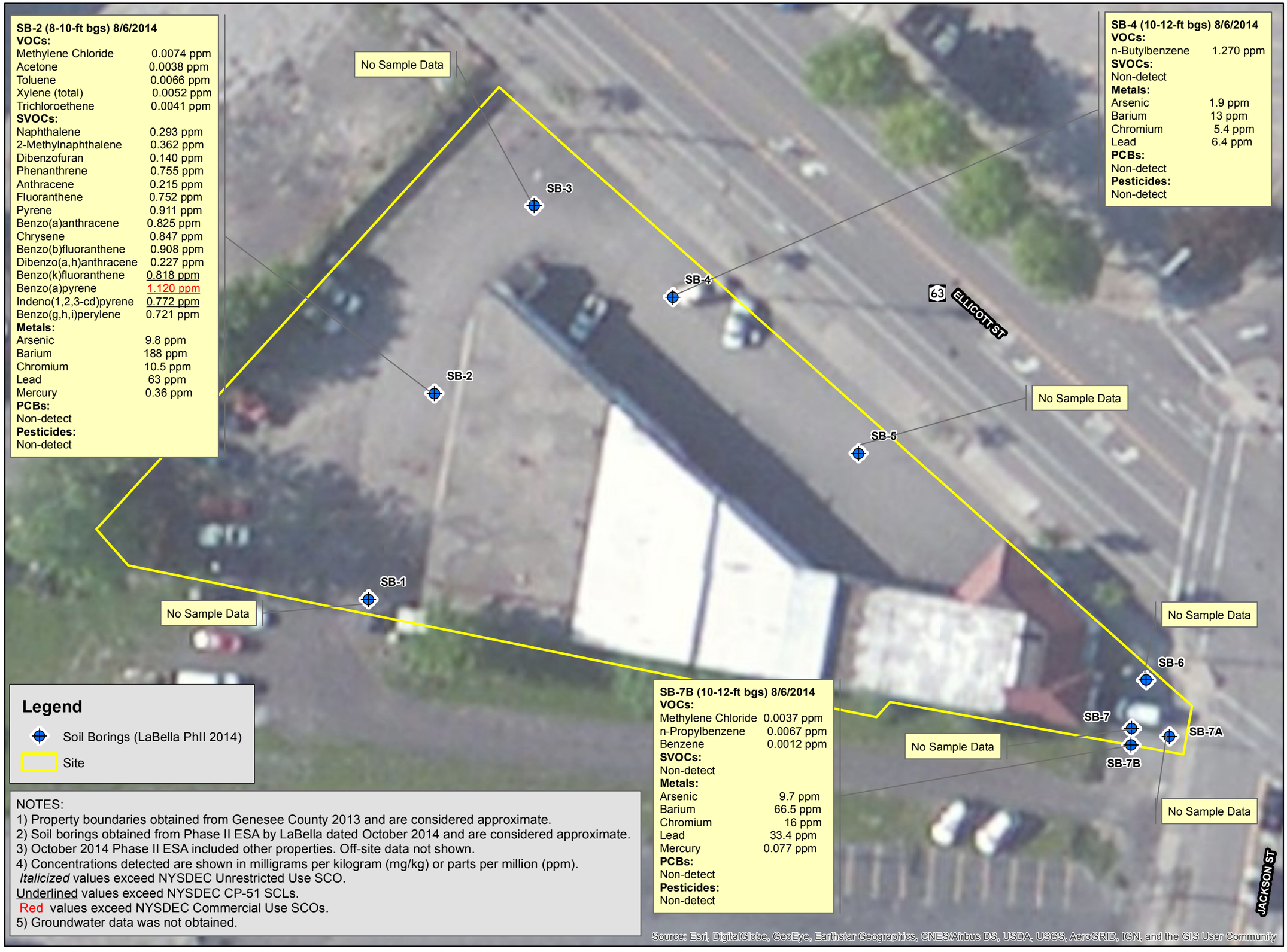
ELLICOTT STATION EAST
56-70 ELLICOTT STREET
BATAVIA, NY 14020

DRAWING NAME:
SITE LAYOUT & SURROUNDING AREA

PROJECT/DRAWING NUMBER:
2171218

FIGURE 2

I:\Ellicott Station, LLC\2171218 - 56-70 Ellicott St Brownfield Cleanup\Drawings\RIWP\Figure 2- Site.mxd



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CLIENT:
ELLICOTT STATION, LLC

PROJECT:
REMEDIAL INVESTIGATION WORK PLAN

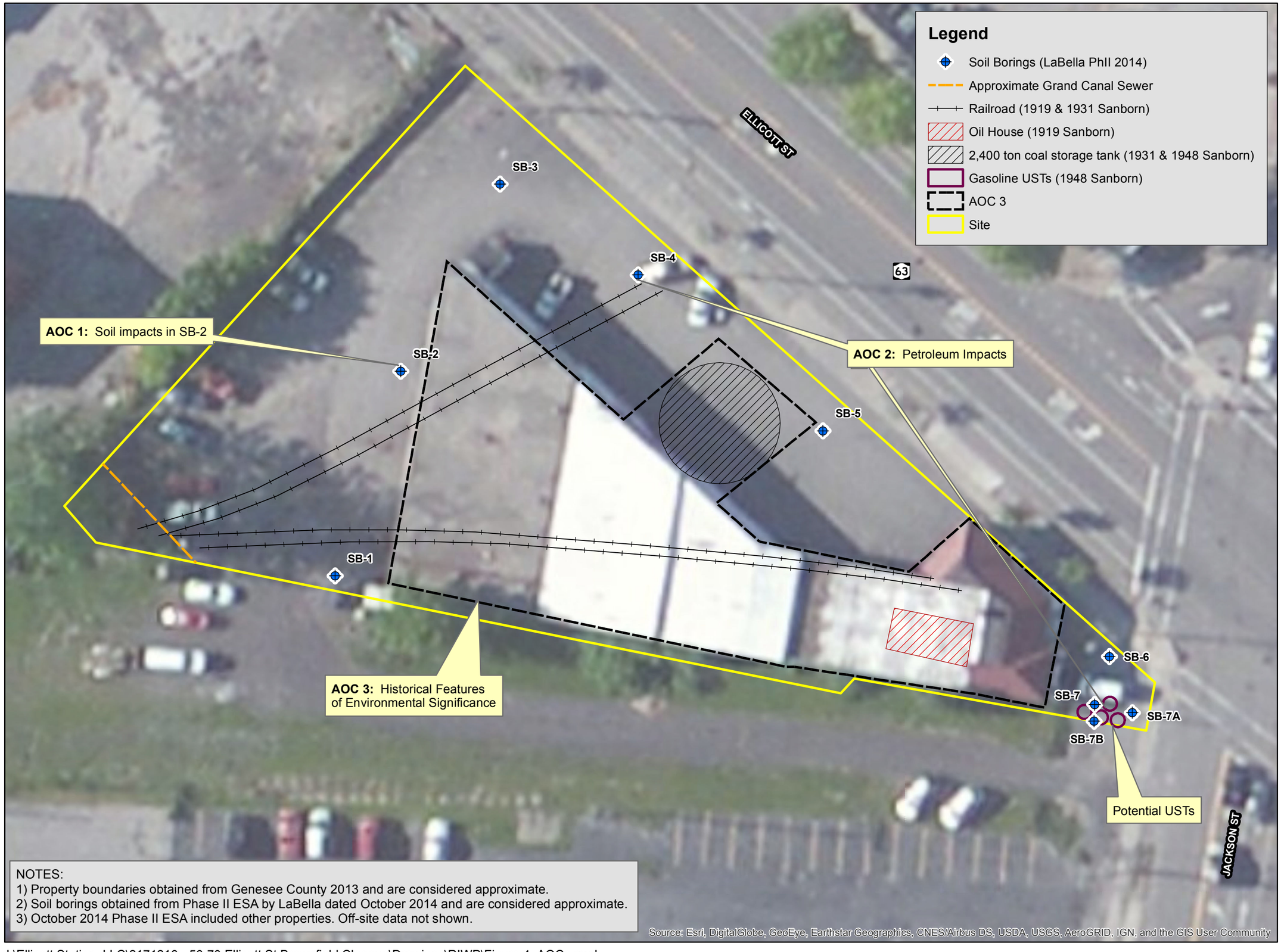
ELLICOTT STATION EAST
56-70 ELLICOTT STREET
BATAVIA, NY 14020

DRAWING NAME:
PREVIOUS TESTING AND RESULTS

PROJECT/DRAWING NUMBER:
2171218

FIGURE 3

I:\Ellicott Station, LLC\2171218 - 56-70 Ellicott St Brownfield Cleanup\Drawings\RIWP\Figure 3- Previous Testing.mxd



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ELLICOTT STATION, LLC

PROJECT:
REMEDIAL INVESTIGATION WORK PLAN

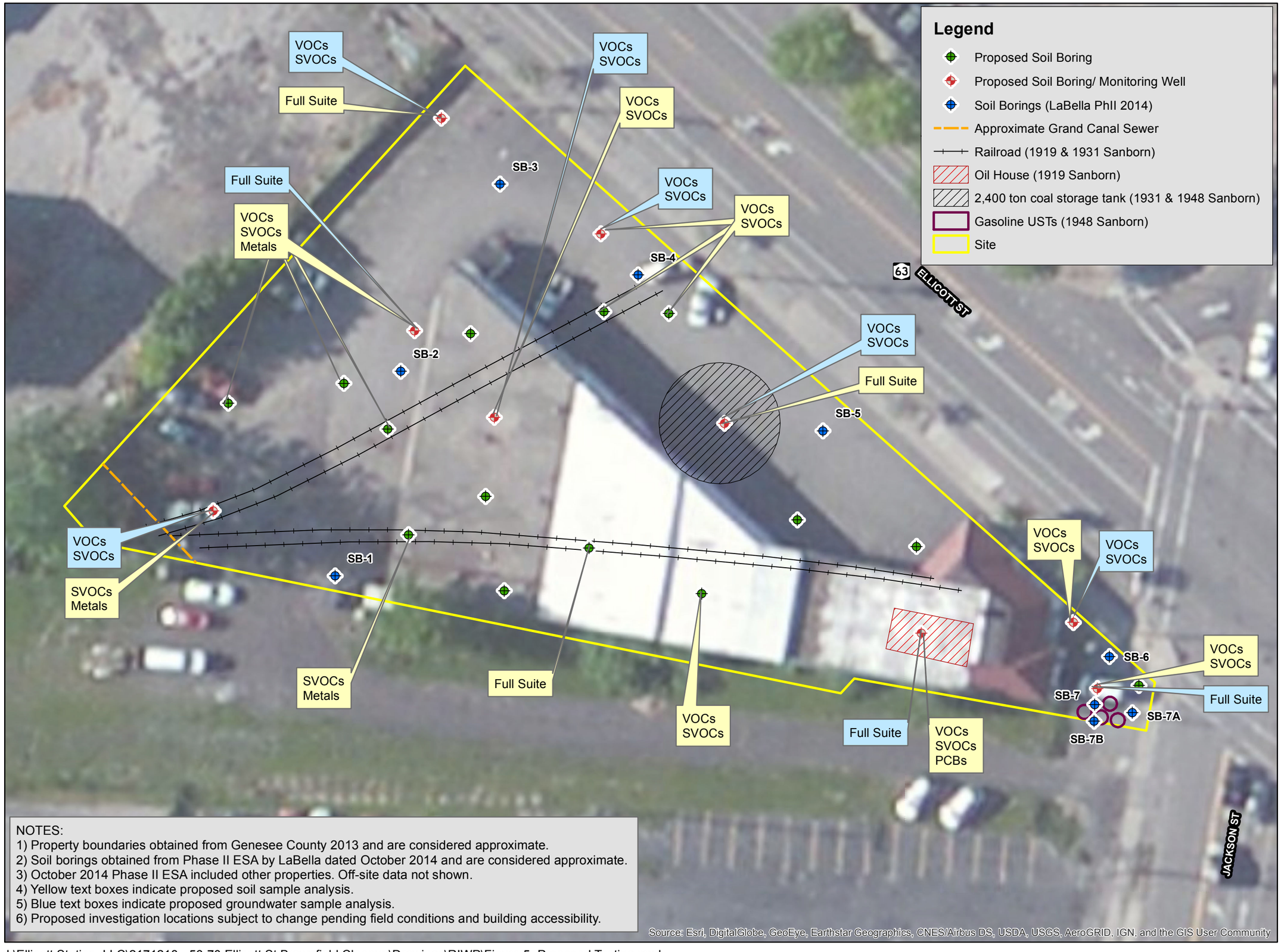
ELLICOTT STATION EAST
56-70 ELLICOTT STREET
BATAVIA, NY 14020

DRAWING NAME:
AREAS OF CONCERN

PROJECT/DRAWING NUMBER:
2171218

FIGURE 4

I:\Ellicott Station, LLC\2171218 - 56-70 Ellicott St Brownfield Cleanup\Drawings\RIWP\Figure 4- AOCs.mxd



NOTES:
1) Property boundaries obtained from Genesee County 2013 and are considered approximate.
2) Soil borings obtained from Phase II ESA by LaBella dated October 2014 and are considered approximate.
3) October 2014 Phase II ESA included other properties. Off-site data not shown.
4) Yellow text boxes indicate proposed soil sample analysis.
5) Blue text boxes indicate proposed groundwater sample analysis.
6) Proposed investigation locations subject to change pending field conditions and building accessibility.

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INTENDED TO PRINT AS: 11" X 17"

CLIENT:
ELLICOTT STATION, LLC

PROJECT:
REMEDIAL INVESTIGATION WORK PLAN

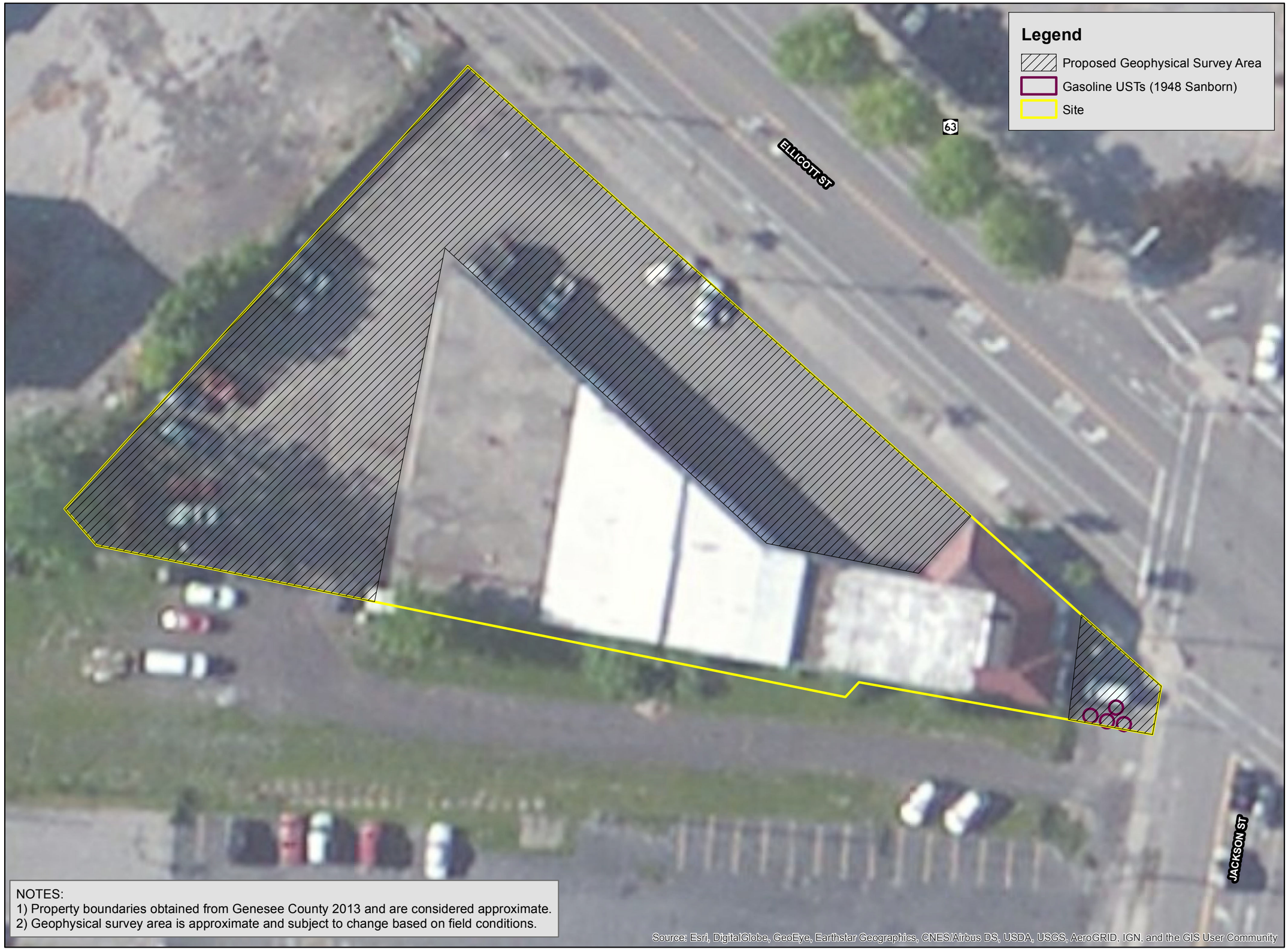
ELLICOTT STATION EAST
56-70 ELLICOTT STREET
BATAVIA, NY 14020

DRAWING NAME:
PROPOSED TESTING LOCATIONS

PROJECT/DRAWING NUMBER:
2171218

FIGURE 5

I:\Ellicott Station, LLC\2171218 - 56-70 Ellicott St Brownfield Cleanup\Drawings\RIWP\Figure 5- Proposed Testing.mxd



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ELLICOTT STATION, LLC

PROJECT:
REMEDIAL INVESTIGATION WORK PLAN

ELLICOTT STATION EAST
56-70 ELLICOTT STREET
BATAVIA, NY 14020

DRAWING NAME:
PROPOSED GEOPHYSICAL SURVEY AREA

PROJECT/DRAWING NUMBER:
2171218

FIGURE 6

I:\Ellicott Station, LLC\2171218 - 56-70 Ellicott St Brownfield Cleanup\Drawings\RIWP\Figure 6- Proposed Geophysical.mxd

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Rochester, New York 14614

Tables

56-70 Ellicott Street, Batavia, New York
Phase II Environmental Site Assessment
Table 1
Summary of Subsurface Soil Analytical Results
(Detected Compounds Only)

Sample ID	SB2	SB4	SB7B	Part 375 Unrestricted Use SCOs	Part 375 Commercial Use SCOs	CP-51 SCG
Depth	8-10 ft. bgs	10-12 ft. bgs	10-12 ft. bgs			
Sample Date	8/6/2014	8/6/2014	8/6/2014			
Volatile Organic Compounds (ug/kg)						
Methylene Chloride	7.4	ND	3.7	50	500,000	NL
Acetone	3.8	ND	ND	50	500,000	NL
Naphthalene	ND	ND	ND	NL	NL	12,000
n-Butylbenzene	ND	1,270	ND	12,000	NL	12,000
n-Propylbenzene	ND	ND	6.7	3,900	500,000	3,900
1,2,4-Trimethylbenzene	ND	ND	ND	3,600	190,000	3,600
Benzene	ND	ND	1.2	60	44,000	60
Toluene	6.6	ND	ND	700	500,000	700
Xylene (total)	5.2	ND	ND	260	500,000	260
Trichloroethene	4.1	ND	ND	470	200,000	NL
Semi-Volatile Organic Compounds (ug/kg)						
Naphthalene	293	ND	ND	12,000	500,000	12,000
2-Methylnaphthalene	362	ND	ND	NL	NL	NL
Acenaphthene	ND	ND	ND	20,000	500,000	20,000
Dibenzofuran	140	ND	ND	NL	NL	NL
Fluorene	ND	ND	ND	30,000	500,000	30,000
Phenanthrene	755	ND	ND	100,000	500,000	100,000
Anthracene	215	ND	ND	100,000	500,000	100,000
Carbazole	ND	ND	ND	NL	NL	NL
Fluoranthene	752	ND	ND	100,000	500,000	100,000
Pyrene	911	ND	ND	100,000	500,000	100,000
Benzo(a)anthracene	825	ND	ND	1,000	5,600	1,000
Chrysene	847	ND	ND	1,000	56,000	1,000
Benzo(b)fluoranthene	908	ND	ND	1,000	5,600	1,000
Dibenzo(a,h)anthracene	227	ND	ND	330	560	330
Benzo(k)fluoranthene	**818**	ND	ND	800	56,000	800
Benzo(a)pyrene	***1,120***	ND	ND	1,000	1,000	1,000
Indeno(1,2,3-cd)pyrene	**772**	ND	ND	500	5,600	500
Benzo(g,h,i)perylene	721	ND	ND	100,000	500,000	100,000
PCBs (ug/kg)						
No detections were identified.						
Pesticides (ug/kg)						
No detections were identified.						
Metals (mg/kg)						
Arsenic	9.8	1.9	9.7	13	16	NA
Barium	188	13	66.5	350	400	NA
Chormium	10.5	5.4	16	30	1,500	NA
Lead	63	6.4	33.4	63	1,000	NA
Mercury	0.36	<0.034	0.077	0.18	2.8	NA

NL=Not listed
NA=Not applicable
ND=Not Detected
ug/kg=micrograms per kilogram
mg/kg=milligrams per kilogram
Part 375 Soil Cleanup Objectives=NYSDEC, Division of Environmental Remediation, 6 NYCRR Part 375 Environmental Remediation Programs Subpart 375-6.8 (12/14/06)
CP-51 SCG=NYSDEC Commissioner Policy 51 Soil Cleanup Guidance (10/21/10)
Detected above Part 375 Unrestricted Use SCOs
Italics Detected above Part 375 Commercial Use SCOs
Bold Detected above CP-51 SCG
Off-Site Parcel Data not included

LaBella Associates, D.P.C.
300 State Street

Rochester, New York 14614

Appendix 1

Community Air Monitoring Plan

APPENDIX 1A

New York State Department of Health
Generic Community Air Monitoring Plan

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

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. 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.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for volatile organic compounds (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 NYSDEC/NYSDOH staff.

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

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

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. 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.

- 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.

- 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.

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

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

Particulate Monitoring, Response Levels, and Actions

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

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

- 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.

All readings must be recorded and be available for State (DEC and DOH) personnel to review.

LaBella Associates, D.P.C.
300 State Street

Rochester, New York 14614

Appendix 2

Health and Safety Plan

Site Health and Safety Plan
Ellicott Station East

Location:

56-70 Ellicott Street
& one unaddressed parcel
Batavia, New York 14020

Prepared For:

Ellicott Station, LLC
One Batavia City Centre
Batavia, New York 14020

LaBella Project No. 2171218

August 2017

TABLE OF CONTENTS

Page

1.0 Introduction 1

2.0 Responsibilities 1

3.0 Activities Covered 1

4.0 Work Area Access and Site Control 1

5.0 Potential Health and Safety Hazards 1

6.0 Work Zones 3

7.0 Decontamination Procedures 4

8.0 Personal Protective Equipment 4

9.0 Air Monitoring 4

10.0 Emergency Action Plan 5

11.0 Medical Surveillance 5

12.0 Employee Training 5

Table 1 Exposure Limits and Recognition Qualities

SITE HEALTH AND SAFETY PLAN

Project Title:	Ellicott Station East
Project Number:	2171218
Project Location (Site):	56-70 Ellicott Street & one unaddressed parcel, Batavia NY
Environmental Director:	Gregory Senecal, CHMM
Site Safety Manager:	Richard Rote, CIH
Site Contact:	Jennifer Gillen
Site Control Provided By:	LaBella Associates, D.P.C.
Project Manager:	Jennifer Gillen
Plan Review Date:	5/19/2017
Plan Approval Date:	5/19/2017
Plan Approved By:	_____ Mr. Richard Rote, CIH
Site Conditions:	0.758 acre vacant commercial property with one (1) 11,611-square foot building
Site Environmental Information Provided By:	• *Phase II Environmental Site Assessment, LaBella, October 2014*
Air Monitoring Provided By:	LaBella Associates, D.P.C.
Site Control Provided By:	Contractor(s) TBD

EMERGENCY CONTACTS

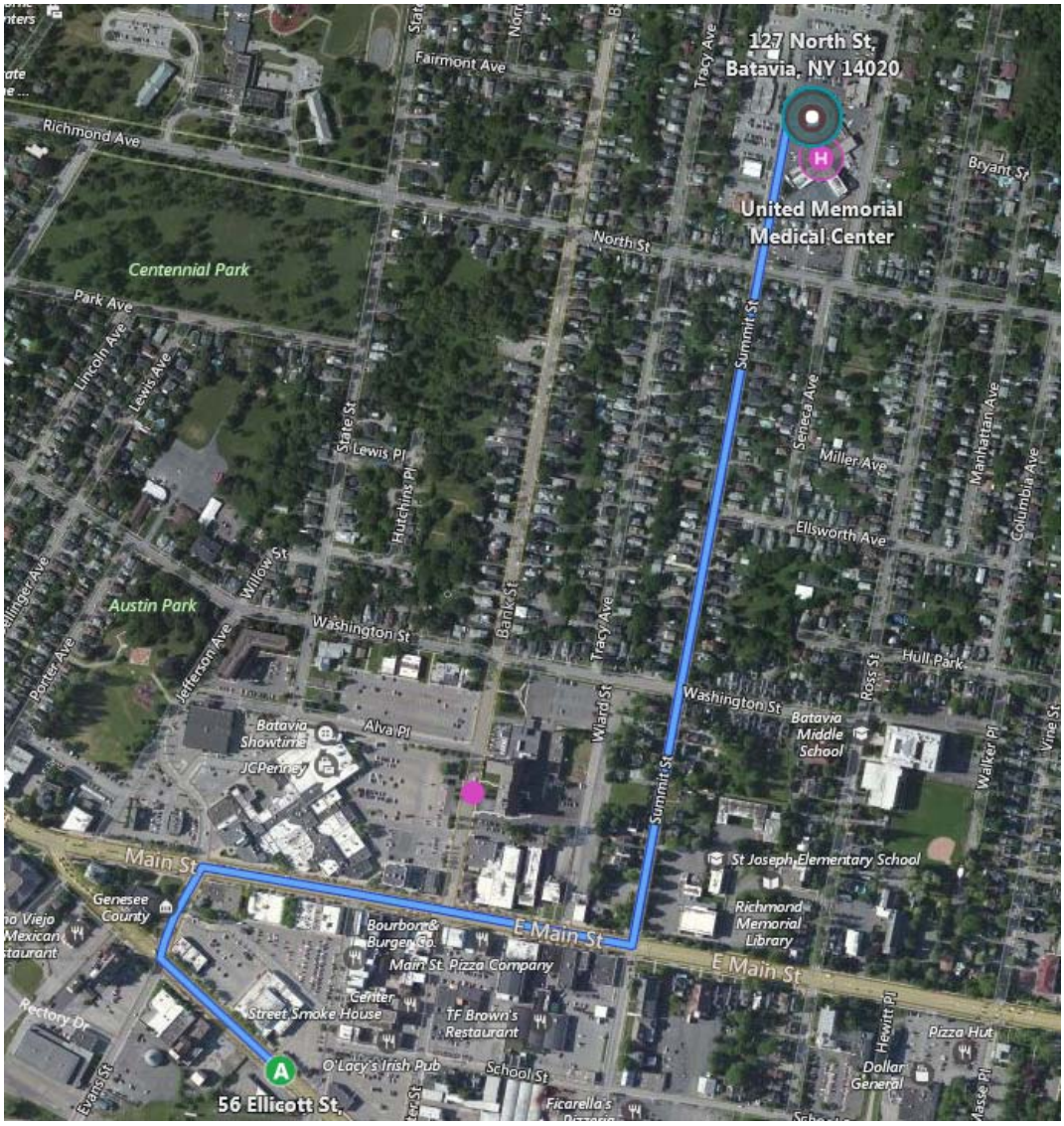
	Name	Phone Number
Ambulance:	As Per Emergency Service	911
Hospital Emergency:	United Memorial Medical Center	585-343-6030
Poison Control Center:	Finger Lakes Poison Control	585-273-4621
Police (local, state):	Batavia Police Department	911
Fire Department:	Batavia Fire Department	911
Site Contact:	Julie Pacatte, Ellicott Station LLC	585-345-6380
Agency Contact	NYSDEC Region 8	585-226-2466
Project Manager	Jennifer Gillen, LaBella	585-295-6648
Site Safety Manager:	Richard Rote, laBella	585-414-8891

MAP AND DIRECTIONS TO THE MEDICAL FACILITY
UNITED MEMORIAL MEDICAL CENTER

Address: 127 North Street, Batavia NY 14020

1. Turn right onto Ellicott Street (Route 63)
2. Turn right onto Court Street
3. Turn right onto Main Street
4. Turn left onto Summit Street
5. Turn right into medical center

Total Travel Estimate: 1.1- miles - about 5 minutes



1.0 Introduction

The purpose of this Health and Safety Plan (HASP) it to provide guidelines for responding to potential health and safety issues that may be encountered during the field activities relating to the implementation of Brownfield Cleanup Program (BCP) requirements at the property addressed as 56-70 Ellicott Street and one unaddressed parcel (SBL #84.015-1-4), City of Batavia, New York 14020 (Site). This HASP only reflects the policies of LaBella Associates D.P.C. The requirements of this HASP are applicable to all approved LaBella personnel at the work site. The provisions of the HASP were developed in general accordance with 29 CFR 1910 and 29 CFR 1926 and do not replace or supersede any regulatory requirements of the USEPA, NYSDEC, OSHA or and other regulatory body.

2.0 Responsibilities

This HASP presents guidelines to minimize the risk of injury to project personnel, and to provide rapid response in the event of injury. The HASP is applicable only to activities of approved LaBella personnel and their authorized visitors. The Project Manager shall implement the provisions of this HASP for the duration of the project. It is the responsibility of LaBella employees to follow the requirements of this HASP, and all applicable company safety procedures.

3.0 Activities Covered

The activities covered under this HASP are limited to the following:

- Management of environmental investigation
- Environmental Monitoring
- Collection of samples
- Management of excavated soil and fill.

4.0 Work Area Access and Site Control

The contractor(s) will have primary responsibility for work area access and site control.

5.0 Potential Health and Safety Hazards

This section lists some potential health and safety hazards that project personnel may encounter at the project site and some actions to be implemented by approved personnel to control and reduce the associated risk to health and safety. This is not intended to be a complete listing of any and all potential health and safety hazards. New or different hazards may be encountered as site environmental and site work conditions change. The suggested actions to be taken under this plan are not to be substituted for good judgment on the part of project personnel. At all times, the Site personnel has responsibility for site safety and his or her instructions must be followed.

5.1 Hazards Due to Heavy Machinery

Potential Hazard:
Heavy machinery including trucks, excavators, backhoes, etc will be in operation at the site. The presence of such equipment presents the danger of being struck or crushed. Use caution when working near heavy machinery.

Protective Action:
Make sure that operators are aware of your activities, and heed operator's instructions and warnings. Wear bright colored clothing and walk safe distances from heavy equipment. A hard hat, safety glasses and steel toe shoes are required.

5.2 Excavation Hazards

Potential Hazard:
Excavations and trenches can collapse, causing injury or death. Edges of excavations can be unstable and collapse. Toxic and asphyxiant gases can accumulate in confined spaces and trenches. Tasks that require working within the excavation will require air monitoring in the breathing zone (refer to Section 9.0).

Excavations left open create a fall hazard which can cause injury or death.

Protective Action:
Personnel must receive approval from the Project Manager to enter an excavation for any reason, and may require additional training. Subsequently, approved personnel are to receive authorization for entry from the Site personnel. Approved personnel are not to enter excavations over 4 feet in depth unless excavations are adequately sloped, shored or otherwise protected. Additional personal protective equipment may be required based on the air monitoring.

Personnel should exercise caution near all excavations at the site as it is expected that excavation sidewalls will be unstable.

Fencing and/or barriers accompanied by "no trespassing" signs should be placed around all excavations when left open for any period of time when work is not being conducted.

5.3 Cuts, Punctures and Other Injuries

Potential Hazard:
In any excavation or construction~~,~~ work site there is the potential for the presence of sharp or jagged edges on rock, metal materials, and other sharp objects. Serious cuts and punctures can result in loss of blood and infection.

Protective Action:
Serious injuries are to be reported immediately to the Project Manager. The Project Manager is responsible for making First Aid supplies available at the work site to treat minor injuries. Do not move seriously injured workers. All injuries requiring treatment are to be reported to the Project Manager.

5.4 Injury Due to Exposure of Chemical Hazards

Potential Hazards:
Volatile organic vapors from petroleum products, chlorinated solvents or other chemicals may be encountered during excavation activities at the project work site. Inhalation of high concentrations of organic vapors can cause headache, stupor, drowsiness, confusion and other health effects. Skin contact can cause irritation, chemical burn, or dermatitis.

Protective Action:
The presence of organic vapors may be detected by their odor and by monitoring instrumentation. Approved employees will not work in environments where hazardous concentrations of organic vapors are present. Air monitoring (refer to Section 9.0) of the work area will be performed at least every 60 minutes or more often using a Photoionization Detector (PID). Personnel are to leave the work area whenever PID measurements of ambient air exceed 25 ppm consistently for a 5 minute period. In the event that sustained total volatile organic compound (VOC) readings of 25 ppm is encountered personnel should upgrade personal protective equipment to Level C (refer to Section 8.0) and an Exclusion Zone should be established around the work area to limit and monitor access to this area (refer to Section 6.0).

5.5 Injuries Due to Extreme Hot or Cold Weather Conditions

Potential Hazards:
Extreme hot weather conditions can cause heat exhaustion, heat stress and heat stroke or extreme cold weather conditions can cause hypothermia.

Protective Action:
Precaution measures should be taken such as dress appropriately for the weather conditions and drink plenty of fluid. If personnel should suffer from any of the above conditions, proper techniques should be taken to cool down or heat up the body and taken to the nearest hospital if needed.

6.0 Work Zones

In the event that conditions warrant establishing various work zones (i.e., based on hazards - Section 5.4), the following work zones should be established:

Exclusion Zone (EZ):
The EZ will be established in the immediate vicinity and adjacent downwind direction of site activities that elevate breathing zone VOC concentrations to unacceptable levels based on field screening. These site activities include contaminated soil excavation and soil sampling activities. If access to the site is required to accommodate non-project related personnel then an EZ will be established by constructing a barrier around the work area (yellow caution tape and/or construction fencing). The EZ barrier shall encompass the work area and any equipment staging/soil staging areas necessary to perform the associated work. The contractor(s) will be responsible for establishing the EZ and limiting access to approved personnel. Depending on the condition for establishing the EZ, access to the EZ may require adequate PPE (e.g., Level C).

Contaminant Reduction Zone (CRZ):
The CRZ will be the area where personnel entering the EZ will don proper PPE prior to entering the EZ and the area where PPE may be removed. The CRZ will also be the area where decontamination of equipment and personnel will be conducted as necessary.

7.0 Decontamination Procedures

Upon leaving the work area, approved personnel shall decontaminate footwear as needed. Under normal work conditions, detailed personal decontamination procedures will not be necessary. Work clothing may become contaminated in the event of an unexpected splash or spill or contact with a contaminated substance. Minor splashes on clothing and footwear can be rinsed with clean water. Heavily

contaminated clothing should be removed if it cannot be rinsed with water. Personnel assigned to this project should be prepared with a change of clothing whenever on site.

Personnel will use the contractor's disposal container for disposal of PPE.

8.0 Personal Protective Equipment

Generally, site conditions at this work site require level of protection of Level D or modified Level D. However, air monitoring will be conducted to determine if up-grading to Level C PPE is required (refer to Section 9.0). Descriptions of the typical safety equipment associated with Level D and Level C are provided below:

Level D:
Hard hat, safety glasses, rubber nitrile sampling gloves, steel toe construction grade boots, etc.

Level C:
Level D PPE and full or ½-face respirator and tyvek suit (if necessary). [*Note: Organic vapor cartridges are to be changed after each 8-hours of use or more frequently.*]

9.0 Air Monitoring

According to 29 CFR 1910.120(h), air monitoring shall be used to identify and quantify airborne levels of hazardous substances and health hazards in order to determine the appropriate level of employee protection required for personnel working onsite. Air monitoring will consist at a minimum of the procedures described below. Site perimeter and community air monitoring and appropriate response actions will be implemented as described in the New York State Department of Health (NYSDOH) Generic Community Air Monitoring guidance.

The Air Monitor will utilize a photoionization Detector (PID) to screen the ambient air in the work areas for total Volatile Organic Compounds (VOCs) and a DustTrak tm Model 8520 aerosol monitor or equivalent for measuring particulates. Air monitoring of the work areas and EZ, if established, will be performed at least every 60 minutes or more often using a PID, and the DustTrak meter.

If sustained PID readings of greater than 25 ppm are recorded in the breathing zone in the work area or EZ, work should be temporarily ceased and personnel are to leave the work area until satisfactory readings are obtained, the source of vapors identified and addressed through corrective actions or approved personnel may re-enter the work areas wearing at a minimum a ½ face respirator with organic vapor cartridges for an 8-hour duration (i.e., upgrade to Level C PPE). Organic vapor cartridges are to be changed after each 8-hours of use or more frequently, if necessary.

If PID readings are sustained, in the work area, at levels above 50 ppm for a 5 minute average, work will be stopped immediately until safe levels of VOCs are encountered or additional PPE will be required (i.e., Level B).

If dust concentrations exceed the upwind concentration by 150 $\mu g/m^3$ (0.15 mg/m^3) consistently for a 10 minute period within the work area or at the downwind location, then LaBella personnel may not re-enter the work area until dust concentrations in the work area decrease below 150 $\mu g/m^3$ (0.15 mg/m^3), which may be accomplished by the construction manager implementing dust control or suppression measures.

10.0 Emergency Action Plan

In the event of an emergency, employees are to turn off and shut down all powered equipment and leave the work areas immediately. Employees are to walk or drive out of the Site as quickly as possible and wait at the assigned 'safe area'. Follow the instructions of the Site personnel.

Employees are not authorized or trained to provide rescue and medical efforts. Rescue and medical efforts will be provided by local authorities.

11.0 Medical Surveillance

Medical surveillance will be provided to all employees who are injured due to overexposure from an emergency incident involving hazardous substances at this site.

12.0 Employee Training

Personnel who are not familiar with this site plan will receive training on its entire content and organization before working at the Site.

Individuals involved with the investigation must be 40-hour OSHA HAZWOPER trained with current 8-hour refresher certification.

Table 1
Exposure Limits and Recognition Qualities

Compound	PEL-TWA (ppm)(b)(d)	TLV-TWA (ppm)(c)(d)	STEL (ppm)(b)	LEL (%)(e)	UEL (%)(f)	IDLH (ppm)(g)(d)	Odor	Odor Threshold (ppm)	Ionization Potential
Acetone	750	500	NA	2.15	13.2	20,000	Sweet	4.58	9.69
Anthracene	.2	.2	NA	NA	NA	NA	Faint aromatic	NA	NA
Benzene	1	0.5	5	1.3	7.9	3000	Pleasant	8.65	9.24
Benzo (a) pyrene (coal tar pitch volatiles)	0.2	0.1	NA	NA	NA	700	NA	NA	NA
Benzo (a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo (b) Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo (g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo (k) Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	NA	NA	NA	NA	NA	NA	NA	NA	10.88
Carbon Disulfide	20	1	NA	1.3	50	500	Odorless or strong garlic type	.096	10.07
Chlorobenzene	75	10	NA	1.3	9.6	2,400	Faint almond	0.741	9.07
Chloroform	50	2	NA	NA	NA	1,000	ethereal odor	11.7	11.42
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethylene	200	200	NA	9.7	12.8	400	Acrid	NA	9.65
1,2-Dichlorobenzene	50	25	NA	2.2	9.2		Pleasant		9.07
Ethyl Alcohol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	100	100	NA	1.0	6.7	2,000	Ether	2.3	8.76
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropyl Alcohol	400	200	500	2.0	12.7	2,000	Rubbing alcohol	3	10.10
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	500	50	NA	12	23	5,000	Chloroform-like	10.2	11.35
Naphthalene	10, Skin	10	NA	0.9	5.9	250	Moth Balls	0.3	8.12
n-propylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phosphoric Acid	1	1	3	NA	NA	10,000	NA	NA	NA
Polychlorinated Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium Hydroxide	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
p-Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethane	NA	NA	NA	NA	NA	NA	Sweet	NA	NA
Toluene	100	100	NA	0.9	9.5	2,000	Sweet	2.1	8.82
Trichloroethylene	100	50	NA	8	12.5	1,000	Chloroform	1.36	9.45
1,2,4-Trimethylbenzene	NA	25	NA	0.9	6.4	NA	Distinct	2.4	NA
1,3,5-Trimethylbenzene	NA	25	NA	NA	NA	NA	Distinct	2.4	NA
Vinyl Chloride	1	1	NA	NA	NA	NA	NA	NA	NA
Xylenes (o,m,p)	100	100	NA	1	7	1,000	Sweet	1.1	8.56
Metals									
Arsenic	0.01	0.2	NA	NA	NA	100, Ca	NA	NA	NA
Cadmium	0.2	0.5	NA	NA	NA	NA	NA	NA	NA
Calcium	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	1	0.5	NA	NA	NA	NA	NA	NA	NA
Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	0.05	0.15	NA	NA	NA	700	NA	NA	NA
Mercury	0.05	0.05	NA	NA	NA	28	NA	NA	NA
Selenium	0.2	0.02	NA	NA	NA	Unknown	NA	NA	NA

(a) Skin = Skin Absorption
(b) OSHA-PEL Permissible Exposure Limit (flame weighted average, 8-hour): NIOSH Guide, June 1990
(c) ACGIH – 8 hour time weighted average from Threshold Limit Values and Biological Exposure Indices for 2003.
(d) Metal compounds in mg/m3
(e) Lower Exposure Limit (%)
(f) Upper Exposure Limit (%)
(g) Immediately Dangerous to Life or Health Level: NIOSH Guide, June 1990.

Notes:
1. All values are given in parts per million (PPM) unless otherwise indicated.
2. Ca = Possible Human Carcinogen, no IDLH information.

LaBella Associates, D.P.C.
300 State Street

Rochester, New York 14614

Appendix 3

Quality Control Plan

LABELLA Associates, D.P.C.
Engineering
Architecture
Environmental
Planning

Quality Control Program (QCP)

Location:

56-70 Ellicott Street
& one unaddressed parcel
Batavia, New York 14020

Prepared For:

Ellicott Station, LLC
One Batavia City Centre
Batavia, New York 14020

LaBella Project No. 2171218

August 2017

Table of Contents

1.0 Introduction 1
1.1 Accuracy 1
1.2 Precision 1
1.3 Completeness 1
1.4 Representativeness 2
1.5 Comparability 2
2.0 Measurement of Data Quality 2
2.1 Accuracy 2
2.2 Precision 2
2.3 Completeness 3
2.4 Representativeness 3
2.5 Comparability 3
3.0 Quality Control Targets 4
4.0 Soil Boring Advancement & Monitoring Well Installation Procedures 4
4.1 Drilling Equipment and Techniques 4
4.1.1 Artificial Sand Pack 6
4.1.2 Bentonite Seal 6
4.1.3 Grout Mixture 6
4.1.4 Surface Protection 6
4.2 Surveying 7
4.3 Well Development 7
5.0 Geologic Logging and Sampling 7
6.0 Groundwater Sampling Procedures 8
7.0 Field Documentation 9
7.1 Daily Logs/ Field Notebook 9
7.2 Photographs 10
8.0 Investigation Derived Waste 10
9.0 Decontamination Procedures 11
10.0 Sample Containers 12
11.0 Sample Custody and Shipment 13
11.1 Sample Identification 13
11.2 Chain of Custody 14
11.3 Transfer of Custody and Shipment 15
11.4 Custody Seals 15
11.5 Sample Packaging 15
11.6 Sample Shipment 16
11.7 Laboratory Custody Procedures 16
12.0 Deliverables 16
13.0 Equipment Calibration 17
13.1 Photovac/MiniRae Photoionization Detector (PID) 18
13.2 Conductance, Temperature, and pH Tester 18
13.3 0_2/Explosimeter 18

Table of Contents (continued)

13.4 Nephelometer (Turbidity Meter) 19
14.0 Internal Quality Control Checks 19
14.1 Field Blanks 20
14.2 Duplicates 20

1.0 Introduction

LaBella's Quality Control Program (QCP) is an integral part of its approach to environmental investigations. By maintaining a rigorous QC program, our firm is able to provide accurate and reliable data. This QCP should be followed during implementation of environmental investigation and remediation projects and should serve as a basis for quality control methods to be implemented during field programs. Project-specific requirements may apply.

The QC program contains procedures which allow for the proper collection and evaluation of data and documents that QC procedures have been followed during field investigations. The QC program presents the methodology and measurement procedures used in collecting quality field data. This methodology includes the proper use of equipment, documentation of sample collection, and sample handling procedures.

Procedures used in the firm's QC program are compatible with federal, state, and local regulations, as well as, appropriate professional and technical standards.

This QC program includes the following:

- QC Objectives and Checks
- Field Equipment, Handling, and Calibration
- Sampling and Logging Techniques
- Sample Handling, Packaging, and Shipping
- Laboratory Requirements and Deliverables

It should be noted that project-specific work plans (e.g., Remedial Investigation Work Plans) may have project specific details that will differ from the procedures in this QC program. In such cases, the project-specific work plan should be followed (subsequent to regulatory approval).

The characteristics of major importance for the assessment of generated data are accuracy, precision, completeness, representativeness, and comparability. Application of these characteristics to specific projects is addressed later in this document. The characteristics are defined below.

1.1 Accuracy

Accuracy is the degree of agreement of a measurement or average of measurements with an accepted reference or "true" value and is a measure of bias in the system.

1.2 Precision

Precision is the degree of mutual agreement among individual measurements of a given parameter.

1.3 Completeness

Completeness is a measure of the amount of valid data obtained from a measurement system compared to the amount expected to be obtained under correct normal conditions.

1.4 Representativeness

Representativeness expresses the degree to which data accurately and precisely represents a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition

Careful choice and use of appropriate methods in the field will ensure that samples are representative. This is relatively easy with water or air samples since these components are homogeneously dispersed. In soil and sediment, contaminants are unlikely to be evenly distributed, and thus it is important for the sampler and analyst to exercise good judgment when removing a sample.

1.5 Comparability

Comparability expresses the confidence with which one data set can be compared to another. The data sets may be inter- or intra- laboratory.

2.0 Measurement of Data Quality

2.1 Accuracy

Accuracy of a particular analysis is measured by assessing its performance with "known" samples. These "knowns" take the form of EPA standard reference materials, or laboratory prepared solutions of target analytes spiked into a pure water or sample matrix. In the case of gas chromatography (GC) or GC/MS (mass spectrometry) analyses, solutions of surrogate compounds are used. These solutions can be spiked into every sample and are designed to mimic the behavior of target analytes without interfering with their determination.

In each case the recovery of the analyte is measured as a percentage, correcting for analytes known to be present in the original sample if necessary, as in the case of a matrix spike analysis. For EPA supplied known solutions, this recovery is compared to the published data that accompany the solution.

For the firm's prepared solutions, the recovery is compared to EPA-developed data or the firm’s historical data as available. For surrogate compounds, recoveries are compared to EPA CLP acceptable recovery tables.

If recoveries do not meet required criteria, then the analytical data for the batch (or, in the case of surrogate compounds, for the individual sample) are considered potentially inaccurate. The analyst or his supervisor must initiate an investigation of the cause of the problem and take corrective action. This can include recalibration of the instrument, reanalysis of the QC sample, reanalysis of the samples in the batch, or flagging the data as suspect if the problems cannot be resolved. For highly contaminated samples, recovery of the matrix spike may depend on sample homogeneity. As a rule, analyses are not corrected for recovery of matrix spike or surrogate compounds.

2.2 Precision

Precision of a particular analysis is measured by assessing its performance with duplicate or replicate samples. Duplicate samples are pairs of samples taken in the field and transported to the laboratory as distinct samples. Their identity as duplicates is typically not known to the laboratory. For most purposes, precision is determined by the analysis of replicate pairs (i.e., two samples prepared at the laboratory from

one original sample). Often in replicate analysis the sample chosen for replication does not contain target analytes so that quantitation of precision is impossible. For EPA CLP analyses, replicate pairs of spiked samples, known as matrix spike/matrix spike duplicate samples, are used for precision studies. This has the advantage that two real positive values for a target analyte can be compared.

Precision is calculated in terms of Relative Percent Difference (RPD).

- Where X_1 and X_2 represent the individual values found for the target analyte in the two replicate analyses or in the matrix spike/matrix spike duplicate analyses.
- RPDs must be compared to the method RPD for the analysis. The analyst or his supervisor must investigate the cause of RPDs outside stated acceptance limits. This may include a visual inspection of the sample for non-homogeneity, analysis of check samples, etc. Follow-up action may include sample reanalysis or flagging of the data as suspect if problems cannot be resolved.
- During the data review and validation process, field duplicate RPDs are assessed as a measure of the total variability of both field sampling and laboratory analysis.

2.3 Completeness

Completeness for each parameter is calculated as follows:

- The firm's target value for completeness for all parameters is 100%. A completeness value of 95% will be considered acceptable. Incomplete results will be reported to the site managers. In planning the field sample collection, the site manager will plan to collect field duplicates from identified critical areas. This procedure should assure 100% completeness for these areas.

2.4 Representativeness

The characteristic of representativeness is not quantifiable. Subjective factors to be taken into account are as follows:

- The degree of homogeneity of a site;
- The degree of homogeneity of a sample taken from one point in a site; and
- The available information on which a sampling plan is based.

To maximize representativeness of results, sampling techniques and sample locations will be carefully chosen so that they provide laboratory samples representative of the site and the specific area. Within the laboratory, precautions are taken to extract from the sample bottle an aliquot representative of the whole sample. This includes premixing the sample and discarding pebbles from soil samples.

2.5 Comparability

Comparability of laboratory tests is ensured by utilizing only New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP)- certified laboratories. This certification is the basis for demonstrating proficiency in testing requirements. Using ELAP certified laboratories will result in consistency amongst analytical data within a specific project and across projects.

3.0 Quality Control Targets

Target values for detection limit, percent spike recovery and percent "true" value of known check standards, and RPD of duplicates/replicates are included in the QCP, Analytical Procedures. Note that tabulated values are not always attainable. Instances may arise where high sample concentrations, non-homogeneity of samples, or matrix interferences preclude achievement of target detection limits or other quality control criteria. In such instances, the firm will report reasons for deviations from these detection limits or noncompliance with quality control criteria.

4.0 Soil Boring Advancement & Monitoring Well Installation Procedures

Soil and groundwater sampling shall be conducted in accordance with NYSDEC Division of Environmental Remediation (DER)-10 Technical Guidance for Site Investigation and Remediation dated May 3, 2010 and any Site-specific work plans.

Prior to drilling, all drill sites will be cleared with appropriate utility companies to avoid potential accidents relating to underground utilities. Utility drawings will be reviewed, if available.

4.1 Drilling Equipment and Techniques

Direct Push Geoprobe Advanced Borings:

Soil borings and monitoring wells will be advanced with a Geoprobe direct push sampling system. The use of direct push technology allows for rapid sampling, observation, and characterization of relatively shallow overburden soils. The Geoprobe utilizes a four to five-foot macrocore sampler, with disposable polyethylene sleeves. Soil cores will be retrieved in four or five-foot sections, and can be easily cut from the polyethylene sleeves for observation and sampling. The macrocore sampler will be decontaminated between boring locations using an alconox and water solution.

Prior to initiating drilling activities, the Macrocores, drive rods, and pertinent equipment, will be steam cleaned or washed with an alconox and water solution. This cleaning procedure will also be used between each boring. Throughout and after the cleaning processes, direct contact between the equipment and the ground surface will be avoided. Plastic sheeting and/or clean support structures (e.g., pallets, sawhorses) will be used.

Test borings will be advanced with 2-inch (or larger) inside diameter (ID) direct push Macrocore through overburden soils. Drilling fluids, other than potable water will not be allowed without special consideration and agreement from NYSDEC. The use of lubricants is also not allowed unless approved by the NYSDEC representative.

During the drilling, a properly calibrated photoionization detector (PID) will be used to screen soil cores retrieved from the Macrocores.

Direct Push Geoprobe advanced groundwater-monitoring wells typically utilize minimum 1.25-inch threaded flush joint PVC pipe with 0.010-in. slotted screen or pre-packed well screens. PVC piping used for risers and screens will conform to the requirements of ASTM-D 1785 Schedule 40 pipe.. All materials used to construct the wells will be NSF/ASTM approved. Solvent PVC glue shall not be used at

any time in the construction of the wells. The bottom of the screen shall be sealed with a treated cap or plug. No lead shot or lead wool is to be employed in sealing the bottom of the well or for sealant at any point in the well. Stainless steel wells or pre-packed PVC wells may be used if specified in the work plan and approved by the NYSDEC.

Hollow-Stem Auger Advanced Borings:

The drilling and installation of soil borings and monitoring wells will be performed using a rotary drill rig which will have sufficient capacity to perform 4 1/4-inch inside diameter (ID) hollow-stem auger drilling in the overburden, retrieve Macrocore or split-spoon samples, and perform necessary rock coring using NX, NQ, HQ or core barrel size as specified in the project-specific work plan. The borehole may be reamed up to 5 1/2-inch diameter prior to monitoring well installation as cased hole in the bedrock, or may be left as open bedrock hole, with regulatory concurrence. Equipment sizes and diameters may vary based on project-specific criteria. Any investigative derived waste generated during the advancement of soil borings and monitoring well installations will be containerized and characterized for proper disposal.

Prior to initiating drilling activities, the augers, rods, Macrocore, split spoons, and other pertinent equipment will be steam cleaned or washed with an alconox and water solution. This cleaning procedure will also be used between each boring. Steam cleaning activities will be performed in a designated on-site decontamination area. During and after the cleaning processes, direct contact between the equipment and the ground surface will be avoided. Plastic sheeting and/or clean support structures (e.g., pallets, sawhorses) will be used.
Test borings will be advanced with 4 1/4-inch (ID) hollow stem augers through overburden, and cored with a NX, NQ, HQ or core barrel size as specified in the project-specific work plan sized diamond core barrels in competent rock, driven by truck-, track-, or trailer-mounted drilling equipment. Alternative methods of drilling or equipment may be allowed or requested for project-specific criteria, but must be approved by the NYSDEC. Drilling fluids, other than water from a NYSDEC-approved source, will not be allowed without special consideration and agreement from NYSDEC. The use of lubricants is also not allowed unless approved by the NYSDEC representative.

During the drilling, a (PID) will be used to screen soils retrieved from the split spoons or Macrocores.

Where bedrock wells are required, test borings shall be advanced into rock with NX, NQ, HR (or similar) coring tools. Only water from an approved source shall be used in rock coring. The consultant shall monitor and record the petrology, core recovery, fractures, rate of advance, and water lost or produced in each test boring. The Rock Quality Determination (RQD) value shall be calculated for each 5-foot core. Each core shall be screened with a PID upon extraction. All core samples shall be retained and stored by the consultant in an approved wooden core box for a period of not less than one year.

The method selected may be percussion or rotary drilling. The method and equipment selected must be capable of penetrating the bedrock at each well location to a depth required by the work plan.

Bedrock well installation will involve construction of a rock socket in the weathered bedrock. The socket will be drilled into the top of rock (typically 1-ft. to 5-ft. into the top of rock) at each bedrock well location to allow a permanent steel casing to be grouted securely in place prior to completion of the well. The purpose for this is to provide a seal at the overburden/bedrock interface and into the upper bedrock surface, to prevent the entrance of overburden water into the bedrock. After the grout and casing have set up for a minimum of 12 hours, the remaining bedrock can be NX (or similar) cored through the steel casing to a depth determined by the project-specific work plan.

Bedrock wells will either be open coreholes in the rock or consist of threaded, flush-joint PVC piping. Construction will vary depending on the project and as such, specific construction of the wells will be detailed in the project-specific work plan. Bedrock wells which do utilized PVC piping for risers and screens will conform to the requirements of ASTM-D 1785 Schedule 40 pipe. All materials used to construct the wells will be NSF/ASTM approved.

Screen and riser sections shall be joined by flush-threaded coupling to form watertight unions that retain 100% of the strength of the casing. Solvent PVC glue shall not be used at any time in the construction of the wells. The bottom of the screen shall be sealed with a treated cap or plug. No lead shot or lead wool is to be employed in sealing the bottom of the well or for sealant at any point in the well.

4.1.1 Artificial Sand Pack

When utilized, granular backfill will be chemically and texturally clean, inert, siliceous, and of appropriate grain size for the screen slot size and the host environment The sand pack will be installed using a tremie pipe, when possible (i.e., a tremie pipe may not fit into smaller, 2-in. diameter boreholes). When utilized, the well screen and casing will be installed, and the sand pack placed around the screen and casing to a depth extending at least 2-ft.. A pre-packed well screen may be used if pre-approved by the NYSDEC.

An artificial sand pack will not be utilized in bedrock wells without screens (i.e., open borehole wells).

4.1.2 Bentonite Seal

A minimum 2-ft. thick seal will be placed directly on top of the sand pack, and care will be taken to avoid bridging. In the event that Site geology does not allow for a 2-ft. seal (e.g., only 1-ft. of space remains between the top of the sand pack and ground surface), the remaining space in the annulus will be filled with bentonite.

4.1.3 Grout Mixture

Upon completion of the bentonite seal, the well may be grouted with a non-shrinking cement grout (e.g., Volclay®) mix to be placed from the top of the bentonite seal to the ground surface. The cement grout shall consist of a mixture of Portland cement (ASTM C 150) and water, in the proportion of not more than 7 gallons of clean water per bag of cement (1 cubic foot or 94 pounds). Additionally, 3% by weight of bentonite powder may be added.

4.1.4 Surface Protection

At all times during the progress of the work, precautions shall be used to prevent tampering with or the entrance of foreign material into the well. Upon completion of the well, a suitable cap shall be installed to prevent material from entering the well. Where permanent wells are to be installed, the well riser shall be protected by a flush mounted road box set into a concrete pad or locking well cap for stick-up wells. A concrete pad, sloped away from the well, shall be constructed around the flush mount road box or stick-up casing at ground level.

Any well that is to be temporarily removed from service or left incomplete due to delay in construction shall be capped with a watertight cap.

4.2 Surveying

Coordinates and elevations will be established for each monitoring well and sampling location. Elevations to the closest 0.01 foot shall be used for the survey. These elevations shall be referenced to a regional, local, or project-specific datum. The location, identification, coordinates, and elevations of the wells will be plotted on maps with a scale large enough to show their location with reference to other structures at each site.

4.3 Well Development

After completion of the well, but not sooner than 24 hours after grouting is completed, development will be accomplished using pumping, bailing, or surge blocking. No dispersing agents, acids, disinfectants, or other additives will be used during development or introduced into the well at any other time. During development, water will be removed throughout the entire water column by periodically lowering and raising the pump intake (or bailer stopping point).

Development water will be either properly contained and treated as waste until the results of chemical analysis of samples are obtained or discharged on Site as determined by the Site-specific work plans and/or consultation with the NYSDEC representatives on Site.

The development process will continue until removal of a minimum of 110% of the water lost during drilling, three well volumes; whichever is greater, or as specified in the work plan. In the event that limited recharge does not allow for the recovery of all drilling water lost in the well or three (3) well volumes, the well will be allowed to stabilize to conditions deemed representative of groundwater conditions. Stabilization periods will vary by project but will be confirmed with the NYSDEC prior to sampling.

5.0 Geologic Logging and Sampling

At each investigative location, borings will be advanced through overburden using either a drill rig and hollow-stem auger or direct push technology (split spoons or Macrocore). Soils will be evaluated for visual and olfactory evidence of impairment (i.e., staining, odors, and elevated PID readings) by a qualified individual. Sampling devices will be decontaminated according to procedures outlined in the Decontamination section of this document. When utilized, split-spoon samplers will be driven into the soil using a minimum 140-pound safety hammer and allowed to free-fall 30-inches, in accordance with ASTM-D 1586-84 specifications. The number of blows required to drive the sampler each 6-inches of penetration will be recorded. When required, samples will be stored in the appropriate bottleware (refer to Section 10) until analysis or deemed unnecessary.

In the event that maximum design depth of investigation is reached and hydrogeologic conditions are not suitable for well installation, the maximum drilling depth may be revised.

Boulders and bedrock encountered during well installation may be cored by standard diamond-core drilling methods using an NX, NQ, HQ size core barrel or other if specified in the project-specific work plan. All rock cores recovered will be logged by a qualified individual, and stored in labeled wooden core boxes. The cores will be stored by the firm until the project is completed or for at least one year. Drilling logs will be prepared by a qualified individual who will be present during drilling operations. One copy of each field boring and well construction log and groundwater data, will typically be submitted as part of the investigation summary report (e.g., Remedial Investigation Report). The RQD value shall

be calculated for each 5-foot section. Information provided in the logs shall include, but not be limited to, the following:

- Date(s), test hole identification, and project identification;
- Name of individual developing the log;
- Name of driller and assistant(s);
- Drill, make and model, auger size;
- Identification of alternative drilling methods used and justification thereof (e.g., rotary drilling with a specific bit type to remove material from within the hollow stem augers);
- Standard penetration test (ASTM D-1586) blow counts;
- Field diagram of each monitoring well installed with the depth to bottom of well/ screen, top of screen, length of riser, depth of steel casing, depths of sand pack, bentonite seal, grout, type of well completion etc.;
- Depth of each change of stratum;
- Identification of the material of which each stratum is composed, according to the USCS system or standard rock nomenclature, as appropriate;
- Depth interval from which each sample was taken, sample identification, and sample time;
- Depth at which hole diameters (bit sizes) change;
- Depth at which groundwater is encountered;
- Drilling fluid and quantity of water lost during drilling;
- Depth or location of any loss of tools or equipment;
- Depths of any fractures, joints, faults, cavities, or weathered zones

6.0 Groundwater Sampling Procedures

The groundwater in all new monitoring wells will be allowed to stabilize for at least 24-hours following development prior to sampling. Water levels will be measured to within 0.01 feet prior to purging and sampling. Sampling of each well will typically be accomplished in one of two ways; active or passive.

Active Sampling:

Active sampling includes bailing or pumping. Purging will be completed prior to active sampling if specified in the project-specific work plan. During purging, the following will be recorded in field books or groundwater sampling logs:

- date
- purge start time
- weather conditions
- presence of NAPL, if any, and approximate thickness
- pump rate
- pH
- dissolved oxygen
- temperature
- conductivity
- redox
- turbidity
- depth of well
- depth to water
- purge end time

- volume of water purged

In general, wells will be purged until the pH, conductivity, temperature, dissolved oxygen, redox, and turbidity of the water being pumped from the well have stabilized with a turbidity goal of 50 NTU (may be lower for metals analysis).

Passive Sampling:

Groundwater samples will be collected via passive methods (i.e., no-purge) according to the following procedures and in the volumes specified in Table 10-1:

Samples will be collected via passive diffusion bag (PDB) samplers. PDB samplers are made of low-density polyethylene plastic tubing (typically 4 mil), filled with laboratory grade (ASTM Type II) deionized water and sealed at both ends.

- Pre-filled PDBs will not be stored for longer than 30 days and will be kept stored at room temperature in a sealed plastic bag until ready to use.
- PDBs filled in the field will be used immediately and not stored for future use.
- PDB samplers will only be used to collect groundwater samples which will be analyzed for VOCs.
- Mesh covers will be utilized for open rock holes as to not puncture the PDB and will be secured to the bag using zip-ties.
- PDB samplers will be deployed by hanging in the well at the depth(s) specified in the project-specific work plan. The PDB samplers will be deployed at least 14 days prior to sampling;
- When transferring water from the PDB to sample containers, care will be taken to avoid agitating the sample, since agitation promotes the loss of volatile constituents;
- Gloves will be changed between collection of each PDB and tools used to open the PDB will be decontaminated with an alconox and potable water solution between each PDB;
- Any volume not used will be treated as investigation derived waste;
- Any observable physical characteristics of the groundwater (e.g., color, sheen, odor, turbidity) at the time of sampling will be recorded; and
- Weather conditions (i.e., air temperature, sky condition, recent heavy rainfall, drought conditions) at the time of sampling will be recorded.

7.0 Field Documentation

7.1 Daily Logs/ Field Notebook

Daily logs are necessary to provide sufficient data and observations to enable participants to reconstruct events that occurred during the project and to refresh the memory of the field personnel if called upon to give testimony during legal proceedings. Daily logs may be kept in a project-specific notebook labelled with the project name/ number and contact information.

The daily log is the responsibility of the field personnel and will include:

- Name of person making entry;
- Start and end time of work;
- Names of team members on-site;

- Changes in required levels of personnel protection:
  - Level of protection originally used;
  - Changes in protection, if required; and
  - Reasons for changes.
- Air monitoring locations, start and end times, and equipment identification numbers;
- Summary of tasks completed;
- Summary of samples collected including location, matrix, etc.;
- Field observations and remarks;
- Weather conditions, wind direction, etc.;
- Any deviations from the work plan;
- Initials/ signature of person recording the information.

As with any data logbooks, no pages will be removed for any reason. If corrections are necessary, these must be made by drawing a single line through the original entry (so that the original entry can still be read) and writing the corrected entry alongside. The correction must be initialed and dated. Corrected errors may require a footnote explaining the correction.

Sample documents, forms, or field notebooks are not to be destroyed or thrown away, even if they are illegible or contain inaccuracies that require a replacement document. If an error is made on a document assigned to one individual, that individual may make corrections simply by crossing a line through the error and entering the corrected information. The incorrect information should not be obliterated. Any subsequent error discovered on a document should be corrected by the person who made the entry. All corrections must be initialed and dated.

7.2 Photographs

Photographs will be taken to document the work. Documentation of a photograph is crucial to its validity as a representation of an existing situation. Photographs should be documented with date, location, and description of the photograph.

8.0 Investigation Derived Waste

Purpose:

The purposes of these guidelines are to ensure the proper holding, storage, transportation, and disposal of materials that may contain hazardous wastes. Investigation-derived waste (IDW) included the following:

- Drill cuttings, drilling mud solids;
- Water produced during drilling;
- Well development and purge waters, unused PDB waters;
- Decontamination waters and associated solids;

Procedure:

1. Contain all investigation-derived wastes in Department of Transportation (DOT)-approved 55-gallon drums, roll-off boxes, or other containers suitable for the wastes.
2. Place different media in separate drums (i.e., do not combine solids and liquids). 3. To the

extent practicable, separate solids from drilling muds, decontamination waters, and similar liquids. Place solids within separate containers.

4. Transfer all waste containers to a staging area. Access to this area will be controlled. Waste containers must be transferred to the staging area as soon as practicable after the generating activity is complete.
5. Label all containers with regard to contents, origin, and date of generation. Use indelible ink for all labeling.
6. Collect samples for waste characterization purposes, use boring/well sample analytical data for characterization.
7. For wastes determined to be hazardous in character, be aware on accumulation time limitations. Coordinate the disposal of these wastes with the Owner and NYSDEC.
8. Dispose of investigation-derived wastes as follows;
    - Soil, water, and other environmental media for which analysis does not detect organic constituents, and for which inorganic constituents are at levels consistent with background, may be spread on-site (pending NYSDEC approval) or otherwise treated as a non-waste material.
    - Soils, water, and other environmental media in which organic compounds are detected or metals are present above background will be disposed as industrial waste or hazardous waste, as appropriate. Alternate disposition must be consistent with applicable State and Federal laws.
    - Personal protective equipment, disposable bailers, and similar equipment may be disposed as municipal waste, unless waste characterization results mandate disposal as industrial wastes
9. If waste is determined to be listed hazardous waste, it must be handled as hazardous waste as described above, unless a contained-in determination is accepted by the NYSDEC.

9.0 Decontamination Procedures

Sampling methods and equipment have been chosen to minimize decontamination requirements and to prevent the possibility of cross-contamination. Decontamination of equipment will be performed between discrete sampling locations. Equipment used to collect samples between composite sample locations will not require decontamination between collection of samples. All drilling equipment will be decontaminated after the completion of each drilling location. Special attention will be given to the drilling assembly and augers.

Split spoons and other non-disposable equipment will be decontaminated between each sampling location. The sampler will be cleaned prior to each use, by one of the following procedures:

- Initially cleaned of all foreign matter;
- Sanitized with a steam cleaner;

OR

- Initially cleaned of all foreign matter;
- Scrubbed with brushes in alconox solution;
- Triple rinsed; and

- Allowed to air dry.

Other sampling equipment including but not limited to low-flow sampling pumps, surface soil sampling trowel, water level meters, etc. will be decontaminated between sample location using an alconox solution. Consumables including gloves, tubing, bailers, string, etc. will be dedicated to one sample location and will not be reused.

10.0 Sample Containers

The containers required for sampling activities are pre-washed and ordered directly from a laboratory, which has the containers prepared in accordance with USEPA bottle washing procedures. The following tables detail sample volumes, containers, preservation and holding time for typical analytes.

Table 10-1
Groundwater Samples

Type of Analysis	Type and Size of Container	Number of Containers and Sample Volume (per sample)	Preservation	Holding Time Until Extraction/ Analysis
VOCs	40-ml glass vial with Teflon-backed septum	Two (2); fill completely, no headspace	Cool to 4° C (ice in cooler), Hydrochloric acid to pH <2	14 days
Semi-volatile Organic Compounds (SVOCs)	1,000-ml amber glass jar	One (1); fill completely	Cool to 4° C (ice in cooler)	7/40 days
Pesticides	1,000-ml amber glass jar	One (1); fill completely	Cool to 4° C (ice in cooler)	7/40 days
Polychlorinated biphenyls (PCBs)	1,000-ml amber glass jar	One (1); fill completely	Cool to 4° C (ice in cooler)	7/40 days
Metals	250-ml HDPE	One (1); fill completely	Cool to 4° C (ice in cooler) Nitric acid to pH <2	180 days (28 for mercury)
Cyanide	1,000-mL HDPE		Cool to 4° C (ice in cooler) Nitric acid to pH <2	14 days

Note:
All sample bottles will be prepared in accordance with USEPA bottle washing procedures.
Consult with laboratory as bottleware may vary by laboratory.
Holding time begins at the time of sample collection.

TABLE 10-2
Soil Samples

Type of Analysis	Type and Size of Container	Number of Containers and Sample Volume (per sample)	Preservation	Holding Time Until Extraction/ Analysis
VOCs	4-oz, glass jar with Teflon-lined cap	One (1), fill as completely as possible	Cool to 4° C (ice in cooler)	14 days
VOCs via EPA 5035	40 mL vials with sodium bisulfate, methanol, and/or DI water	Three (3), 5 grams each	Cool to 4° C (ice in cooler)	2 days
SVOCs	4-oz, glass jar with Teflon-lined cap	One (1), fill as completely as possible	Cool to 4° C (ice in cooler)	7/40 days
PCBs	4-oz, glass jar with Teflon-lined cap	One (1), fill as completely as possible	Cool to 4° C (ice in cooler)	7/40 days
Pesticides	4-oz, glass jar with Teflon-lined cap	One (1), fill as completely as possible	Cool to 4° C (ice in cooler)	14/40 days
Metals	4-oz. glass jar with Teflon-lined cap	One (1), fill as completely as possible	Cool to 4° C (ice in cooler)	180 days (28 for mercury)
Cyanide	4-oz, glass jar with Teflon-lined cap	One (1), fill as completely as possible	Cool to 4° C (ice in cooler)	14 days

Note:
All sample bottles will be prepared in accordance with USEPA bottle washing procedures.
Consult with laboratory as bottleware may vary by laboratory.
Holding time begins at the time of sample collection.

11.0 Sample Custody and Shipment

11.1 Sample Identification

All containers of samples collected from the project will be identified using the following format on a label or tag fixed to the sample container:

AA-BB-CC-DD-EE

AA: This set of initials indicates an abbreviation for the Site from which the sample was collected.
BB This set of initials represents the type of sample (e.g., SB for soil boring and MW for monitoring well)
CC: These initials identify the unique sample location number.
DD: These initials identify the sample start depth (if soil sample)
EE These initials identify the sample end depth (if soil sample)

Each sample will be labeled, chemically preserved (if required) and sealed immediately after collection. To minimize handling of sample containers, labels will be filled out prior to sample collection when possible. The sample label will be filled out using waterproof ink and will be firmly affixed to the sample containers. The sample label will give the following information:

- Date and time of collection
- Sample identification
- Analysis required
- Project name/number
- Preservation

Sample tags attached to or affixed around the sample container must be used to properly identify all samples collected in the field. The sample tags are to be placed on the bottles so as not to obscure any QC lot numbers on the bottles; sample information must be printed in a legible manner using waterproof ink. Field identification must be sufficient to enable cross-reference with the logbook. For chain-of-custody purposes, all QC samples are subject to exactly the same custodial procedures and documentation as "real" samples.

11.2 Chain of Custody

This section describes standard operating procedures for sample identification and chain-of-custody to be utilized for all field activities. The purpose of these procedures is to ensure that the quality of the samples is maintained during their collection, transportation, and storage through analysis. All chain-of-custody requirements comply with standard operating procedures indicated in USEPA sample handling protocol.

Sample identification documents must be carefully prepared so that sample identification and chain-of-custody can be maintained and sample disposition controlled. Sample identification documents include:

- Field notebooks;
- Sample label; and
- Chain-of-custody records.

The primary objective of the chain-of-custody procedures is to provide an accurate written or computerized record that can be used to trace the possession and handling of a sample from collection to completion of all required analyses. A sample is in custody if it is:

- In someone's physical possession;
- In someone's view;
- Locked up; or
- Kept in a secured area that is restricted to authorized personnel.

As few persons as possible should handle samples. Sample bottles will be obtained pre-cleaned from the a laboratory. Sample containers should only be opened immediately prior to sample collection. The sample collector is personally responsible for the care and custody of samples collected until they are transferred to another person or dispatched properly under chain-of-custody rules. The sample collector will record sample data in the field notebook and/or field logs.

The chain-of-custody record must be fully completed in duplicate, using black carbon paper where possible, by the field technician who has been designated by the project manager as responsible for sample shipment to the appropriate laboratory for analysis. In addition, if samples are known to require rapid turnaround in the laboratory because of project time constraints or analytical concerns (e.g., extraction time or sample retention period limitations, etc.), the person completing the chain-of-custody record should note these constraints on the chain of custody.

11.3 Transfer of Custody and Shipment

The coolers in which the samples are packed must be accompanied by a chain-of-custody record. When transferring samples, the individuals relinquishing and receiving them must sign, date, and note the time on the chain-of-custody record. This record documents sample custody transfer.

Shipping containers must be sealed with custody seals for shipment to the laboratory. The method of shipment, name of courier, and other pertinent information are entered on the chain-of-custody.

All shipments must be accompanied by the chain-of-custody record identifying their contents. The original record accompanies the shipment. The other copies are distributed appropriately to the site manager.

11.4 Custody Seals

Custody seals are preprinted adhesive-backed seals. Sample shipping containers (coolers, cardboard boxes, etc., as appropriate) are sealed in as many places as necessary to ensure security. Seals must be signed and dated before shipment. On receipt at the laboratory, the custodian must check (and certify, by completing the package receipt log and LABMIS entries) that seals on boxes and bottles are intact. Strapping tape should be placed over the seals to ensure that seals are not accidentally broken during shipment.

11.5 Sample Packaging

Samples must be packaged carefully to avoid breakage or contamination and must be shipped to the laboratory at proper temperatures. The following sample packaging requirements will be followed:

- Sample bottle lids must never be mixed. All sample lids must stay with the original containers.
- The label should not cover any bottle preparation QC lot numbers.
- All sample bottles are placed in a plastic bag and/or individual bubble wrap sleeves to minimize the potential for cross-contamination and breaking.
- Shipping coolers must be partially filled with packing materials and ice when required, to prevent the bottles from moving during shipment.
- The sample bottles must be placed in the cooler in such a way as to ensure that they do not directly come in contact with other samples. Ice will be added to the cooler to ensure that the samples reach the laboratory at temperatures no greater than 4°C.
- Any remaining space in the cooler should be filled with inert packing material. Under no circumstances should material such as sawdust, sand, etc., be used.
- A chain of custody record must be placed in a plastic bag inside the cooler. Custody seals must be affixed to the sample cooler.

11.6 Sample Shipment

Shipping containers are to be custody-sealed for shipment as appropriate. The container custody seal will consist of tape wrapped around the package and custody seals affixed in such a way that access to the container can be gained only by cutting the filament tape and breaking the seal. Chain of custody seals shall be placed on the container, signed, and dated prior to taping the container to ensure the chain of custody seals will not be destroyed during shipment. In addition, the coolers must also be labeled and placarded in accordance with DOT regulations if shipping medium and high hazard samples.

Field personnel will make arrangements for transportation of samples to the lab. The lab must be notified as early as possible regarding samples intended for Saturday delivery. The transportation and handling of samples must be accomplished in a manner that not only protects the integrity of the sample, but also prevents any detrimental effects due to the possible hazardous nature of samples. Regulations for packaging, marking, labeling, and shipping hazardous materials are promulgated by the United States DOT in the Code of Federal Regulation, 49 CFR 171 through 177. All samples will be delivered to the laboratory and analyzed within the holding times specified by the analytical method for that particular analyte.

All chain-of-custody requirements must comply with standard operating procedures in the USEPA sample handling protocol.

11.7 Laboratory Custody Procedures

A designated sample custodian accepts custody of the shipped samples and verifies that the sample identification number matches that on the chain-of-custody record and traffic reports, if required. Pertinent information as to shipment, pickup, and courier is entered on the chain of custody or attached forms.

12.0 Deliverables

This section will describe laboratory requirement and procedures to be followed for laboratory analysis. Samples collected in New York State will be analyzed by a New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP)-certified laboratory. When required, analyses will be conducted in accordance with the most current NYSDEC Analytical Services Protocol (ASP). For example, ASP Category B reports will be completed by the laboratory for samples representing the final delineation of the Remedial Investigation, confirmation samples, samples to determine closure of a system, and correlation samples taken using field testing technologies analyzed by an ELAP-certified laboratory to determine correlation to field results. Data Usability Summary Reports will be completed by a third party for samples requiring ASP Category B format reports. Electronic data deliverables (EDDs) will also be generated by the laboratory in EQUIS format for samples requiring ASP Category B format reports.

NYSDEC DER-10 DUSR requirements are as follows:

a) Background. The Data Usability Summary Report (DUSR) provides a thorough evaluation of analytical data with the primary objective to determine whether or not the data, as presented, meets the site/project specific criteria for data quality and data use.

    1. The development of the DUSR must be carried out by an experienced environmental

scientists, such as the project Quality Assurance Officer, who is fully capable of conducting a full data validation. The DUSR is developed from:

i. A DEC ASP Category B Data Deliverable; or
ii. The *USEPA Contract Laboratory Program National Functional Data Validation Standard Operating Procedures for Data Evaluation and Validation.*

2. The DUSR and the data deliverables package will be reviewed by DER staff. If full third party data validation is found to be necessary (e.g. pending litigation) this can be carried out at a later data on the same data package used for the development of the DUSR.

b) Personnel Requirements. The person preparing the DUSR must be pre-approved by DER. The person must submit their qualifications to DER documenting experience in analysis and data validation. Data validator qualifications are available on DEC's website identified in the table of contents.
c) Preparation of a DUSR. The DUSR is developed by reviewing and evaluating the analytical data package. In order for the DUSR to be acceptable, during the course of this review the following questions applicable to the analysis being reviewed must be answered in the affirmative.

1. Is the data package complete as defined under the requirements for the most current DEC ASP Category B or USEPA CLP data deliverables?
2. Have all holding times been met?
3. Do all the QC data; blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?
4. Have all of the data been generated using established and agreed upon analytical protocols?
5. Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?
6. Have the correct data qualifiers been used and are they consistent with the most current DEC ASP?
7. Have any quality control (QC) exceedances been specifically noted in the DUSR and have the corresponding QC summary sheets from the data package been attached to the DUSR?

d) Documenting the validation process in the DUSR. Once the data package has been reviewed and the above questions asked and answered the DUSR proceeds to describe the samples and the analytical parameters, including data deficiencies, analytical protocol deviations and quality control problems are identified and their effect on the data is discussed.

13.0 Equipment Calibration

All instruments and equipment used during sampling and analysis will be operated, calibrated, and maintained according to the manufacturer's guidelines and recommendations as well as criteria set forth in the applicable analytical methodology references. Operation, calibration, and maintenance will be performed by personnel properly trained in these procedures. Section 11 lists the major instruments to be used for sampling and analysis. In addition, brief descriptions of calibration procedures for major field

and laboratory instruments follow.

13.1 Photovac/MiniRae Photoionization Detector (PID)

Standard operating procedures for the PID require that routine maintenance and calibration be performed every six months. Field calibration will be performed on a daily basis. The packages used for calibration are non-toxic analyzed gas mixtures available in pressurized containers. All calibration procedures will follow the manufacturer recommendations.

13.2 Conductance, Temperature, and pH Tester

Temperature and conductance instruments are factory calibrated. Temperature accuracy can be checked against an NBS certified thermometer prior to field use if necessary. Conductance accuracy may be checked with a solution of known conductance and recalibration can be instituted, if necessary.

13.3 0_2/Explosimeter

The specific meter used at the time of work shall be calibrated in accordance with manufacturer recommendations. The model 260 O_2/ Explosimeter is described below.

The primary maintenance item of the Model 260 is the rechargeable 2.4 volt (V) nickel cadmium battery. The battery is recharged by removing the screw cap covering receptacle and connecting one end of the charging cable to the instrument and the other end to a 115V AC outlet.

The battery can also be recharged using a 12V DC source. An accessory battery charging cable is available, one end of which plugs into the Model 260 while the other end is fitted with an automobile cigarette lighter plug.

Recommended charging time is 16 hours.

Before the calibration of the combustible gas indicator can be checked, the Model 260 must be in operating condition. Calibration check-adjustment is made as follows:

1. Attach the flow control to the recommended calibration gas tank.
2. Connect the adapter-hose to the flow control.
3. Open flow control valve.
4. Connect the adapter-hose fitting to the inlet of the instrument; after about 15 seconds the LEL meter pointer should be stable and within the range specified on the calibration sheet accompanying the calibration equipment. If the meter pointer is not in the correct range, stop the flow; remove the right hand side cover. Turn on the flow and adjust the "S" control with a small screwdriver to obtain a reading as specified on the calibration sheet.
5. Disconnect the adapter-hose fitting from the instrument.
6. Close the flow control valve.
7. Remove the adapter-hose from the flow control.
8. Remove the flow control from the calibration gas tank.
9. Replace the side cover on the Model 260.

CAUTION: Calibration gas tank contents are under pressure. Use no oil, grease, or flammable solvents on the flow control or the calibration gas tank. Do not store calibration gas tank near heat or fire or in rooms used for habitation. Do not throw in fire, incinerate, or puncture. Keep out of reach of children. It is illegal and hazardous to refill this tank. Do not attach the calibration gas tank to any other apparatus than described above. Do not attach any gas tank other than MSA calibration tanks to the regulator.

13.4 Nephelometer (Turbidity Meter)

LaMotte 2020WE Turbidity Meter is calibrated before each use. The default units are set to NTU and the default calibration curve is formazin. A 0 NTU Standard (Code 1480) is included with the meter. To calibrate, rinse a clean tube three times with the blank. Fill the tube to the fill line with the blank. Insert the tube into the chamber, close the lid, and select "scan blank".

TABLE 13-4
List of Major Instruments
for Sampling and Analysis

- MSA 360 0_2 /Explosimeter
- Geotech Geopump II AC/DC Peristaltic Pump
- QED MP50 Controller and QED Sample Pro MicroPurge Bladder Pimp
- Horiba U-53 Multi-Parameter Water Quality Meter
- LaMotte 2020WE Turbidity Meter
- EM-31 Geomics Electromagnetic Induction Device
- Mini Rae Photoionization Detectors (3,000, ppbRAE, etc.)

14.0 Internal Quality Control Checks

QC data are necessary to determine precision and accuracy and to demonstrate the absence of interferences and/or contamination of field equipment. Field-based QC will comprise at least 10% of each data set generated and will consist of standards, replicates, spikes, and blanks. Field duplicates and field blanks will be analyzed by the laboratory as samples and will not necessarily be identified to the laboratory as duplicates or blanks. For each matrix, field duplicates will be provided at a rate of one per 10 samples collected or one per shipment, whichever is greater. Field blanks which may consist of trip, routine field, and/or rinsate blanks will be provided at a rate of one per 20 samples collected for each media, or one per shipment, whichever is greater. Frequency of QC data may vary from project to project; refer to the project-specific work plan for QC requirements.

Calculations will be performed for recoveries and standard deviations along with review of retention times, response factors, chromatograms, calibration, tuning, and all other QC information generated. All QC data, including split samples, will be documented in the site logbook and/or appropriate field logs. QC records will be retained and results reported with sample data.

14.1 Field Blanks

Various types of blanks are used to check the cleanliness of field handling methods. The following types of blanks may be used: the trip blank, the routine field blank, and the field equipment blank. They are analyzed in the laboratory as samples, and their purpose is to assess the sampling and transport procedures as possible sources of sample contamination. Field staff may add blanks if field circumstances are such that they consider normal procedures are not sufficient to prevent or control sample contamination, or at the direction of the project manager. Rigorous documentation of all blanks in the site logbooks is mandatory.

- **Routine Field Blanks** or bottle blanks are blank samples prepared in the field to access ambient field conditions. They will be prepared by filling empty sample containers with deionized water and any necessary preservatives. They will be handled like a sample and shipped to the laboratory for analysis.
- **Trip Blanks** are similar to routine field blanks with the exception that they are **not** exposed to field conditions. Their analytical results give the overall level of contamination from everything except ambient field conditions. For the RI/FS, one trip blank will be collected with every shipment of water samples for VOC analysis. Each trip blank will be prepared by filling a 40-ml vial with deionized water prior to the sampling trip, transported to the site, handled like a sample, and returned to the laboratory for analysis without being opened in the field. Trip blanks may be provided by the laboratory, shipped with the bottleware, and kept with the sampling containers until analysis.
- **Field Equipment Blanks** are blank samples (sometimes called transfer blanks or rinsate blanks) designed to demonstrate that sampling equipment has been properly prepared and cleaned before field use, and that cleaning procedures between samples are sufficient to minimize cross contamination. If a sampling team is familiar with a particular site, they may be able to predict which areas or samples are likely to have the highest concentration of contaminants. Unless other constraints apply, these samples should be taken last to avoid excessive contamination of sampling equipment.

14.2 Duplicates

Duplicate samples are collected to check the consistency of sampling and analysis procedures. The following types of duplicates may be collected.

- **Blind duplicate** samples consist of a set of two samples collected independently at a sampling location during a single sampling event. Blind duplicates are designed to assess the consistency of the overall sampling and analytical system. Blind duplicate samples should not be distinguishable by the person performing the analysis.
- **Matrix Spike and Matrix Spike Duplicates (MS/MSDs)** consist of a set of three samples collected independently at a sampling location during a single sampling event. These samples are for laboratory quality control checks.

LaBella Associates, D.P.C.
300 State Street

Rochester, New York 14614

Appendix 4

Contact List

Ellicott Station East
56-70 Ellicott Station & one unaddressed parcel, Batavia NY

Remedial Investigation Work Plan
Contact List Information

Environmental Professional: LaBella Associates, D.P.C.

Environmental Director	Gregory Senecal, CHMM*	Ph. 585-295-6243
Senior Environmental Engineer	Daniel Noll, P.E.*	Ph. 585-295-6611
Project Manager	Jennifer Gillen*	Ph. 585-295-6648
Environmental Engineer	Ann Aquilina	Ph. 585-295-6289
Environmental Engineer	Alex Brett	Ph. 585-295-2552
Geologist	Steven Rife	Ph. 585-295-9244
Geologist	John Lanz	Ph. 585-295-2560
LaBella Safety Director	Richard Rote, CIH*	Ph. 585-295-6241

Drilling Contractors: LaBella Environmental LLC

Remediation and Construction Manager	Dave Engert, CHMM*	Ph. 585-295-6630

* denotes LaBella's assumption that each of these individuals qualifies as a Qualified Environmental Professional as defined in NYSDEC Part 375-1.2(ak).

LaBella Associates, D.P.C.
300 State Street

Rochester, New York 14614

Appendix 5

Field Logs

LABELLA Associates, D.P.C.

300 PEARL STREET, BUFFALO, NY
ENVIRONMENTAL ENGINEERING CONSULTANT

PROJECT
56-70 and Two Unaddressed Parcels at Ellicott Street
Batavia, New York

BORING: **#1**
SHEET 1 OF 22
JOB: **214755**
CHKD BY: CK

CONTRACTOR:
DRILLER: LaBella Environmental, LLC
LABELLA REPRESENTATIVE: Chris Kibler

BORING LOCATION: #1
GROUND SURFACE ELEVATION
START DATE: 8/6/2014

TIME 10:30

TYPE OF DRILL RIG: Geoprobe 54 LT
AUGER SIZE AND TYPE:
OVERBURDEN SAMPING METHOD:

DRIVE SAMPLER TYPE:
INSIDE DIAMETR:
OTHER:

DEPTH	SAMPLE DEPTH	SAMPLE NO. AND RECOVERY	STRATA CHANGE	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0		15"		0-6" Asphalt 6-2' Black silty gravel (coarse, fine, sub-angular, loose, moist)	0	No odors or staining throughout entire boring.
2		15"		Black silty gravel (coarse, fine, sub-angular, loose, moist)	0	
4		20"		Grey clayey silt (medium plasticity, moist)	0	
6		20"		6-7' Grey clayey silt (medium plasticity, moist) 7-8' Brown silty sand (coarse, medium, fine, loose, moist)	0	
8		15"		Brown sand (medium, fine, loose, wet)	0	
10		15"		Brown gravelly sand (coarse, medium, fine, loose, wet)	0	

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELASPED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	Boring to 12 feet due to groundwater interface.
				12 Feet	10 Feet	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCURE DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

LABELLA Associates, D.P.C.

300 PEARL STREET, BUFFALO, NY
ENVIRONMENTAL ENGINEERING CONSULTANTS

PROJECT
56-70 and Two Unaddressed Parcels at Ellicott Street
Batavia, New York

BORING: **#2**
SHEET 2 OF 22
JOB: **214755**
CHKD BY: CK

CONTRACTOR:
DRILLER: LaBella Environmental, LLC
LABELLA REPRESENTATIVE: Chris Kibler

BORING LOCATION: #2
GROUND SURFACE ELEVATION
START DATE: 8/6/2014

TIME 13:00

TYPE OF DRILL RIG: Geoprobe 54 LT
AUGER SIZE AND TYPE:
OVERBURDEN SAMPING METHOD:

DRIVE SAMPLER TYPE:
INSIDE DIAMETR:
OTHER:

DEPTH	SAMPLE DEPTH	SAMPLE NO. AND RECOVERY	STRATA CHANGE	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0		0"		Fill (asphalt, brick)	0	No odors or staining throughout entire boring.
2		12"		2-3' Fill (asphalt, brick)	0	
				3-4' Black gravelly silt (high plasticity, moist)		
4		16"		4-5' Grey clayey silt (high plasticity, moist)	0	
				5-6' Brown sandy silt (high plasticity, moist)		
6		16"		Brown sandy silt (high plasticity, moist)	0	
8		18"		Brown-black silty sand (coarse, medium, fine, loose, wet)	0	
10		18"		Grey gravelly silt (high plasticity, wet)	0	

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELASPED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	Boring to 12 feet due to groundwater interface.
				12 feet	10 feet	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCURE DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

LABELLA Associates, D.P.C.

300 PEARL STREET, BUFFALO, NY
ENVIRONMENTAL ENGINEERING CONSULTANTS

PROJECT
56-70 and Two Unaddressed Parcels at Ellicott Street
Batavia, New York

BORING: **#3**
SHEET 3 OF 22
JOB: **214755**
CHKD BY: CK

CONTRACTOR:
DRILLER: LaBella Environmental, LLC
LABELLA REPRESENTATIVE: Chris Kibler

BORING LOCATION: #3
GROUND SURFACE ELEVATION
START DATE: 8/6/2014

TIME 13:15

TYPE OF DRILL RIG: Geoprobe 54 LT
AUGER SIZE AND TYPE:
OVERBURDEN SAMPING METHOD:

DRIVE SAMPLER TYPE:
INSIDE DIAMETR:
OTHER:

DEPTH	SAMPLE DEPTH	SAMPLE NO. AND RECOVERY	STRATA CHANGE	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0		0"		0-1' Asphalt 1-2' Fill (brick)	0	No odors or staining throughout entire boring.
2		0"		Fill (brick)	0	
4		24"		Grey-brown clayey silt (medium plasticity, moist)	0	
6		24"		Brown silty sand (medium, fine, loose, moist)	0	
8		18"		Brown silty sand (medium, fine, loose, moist)	0	
10		18"		Brown gravelly sand (coarse, medium, fine, loose, wet)	0	

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELASPED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	Boring to 12 feet due to groundwater interface.
				12 feet	10 feet	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCURE DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

LABELLA Associates, D.P.C.

300 PEARL STREET, BUFFALO, NY
ENVIRONMENTAL ENGINEERING CONSULTANTS

PROJECT
56-70 and Two Unaddressed Parcels at Ellicott Street
Batavia, New York

BORING: **#4**
SHEET 4 OF 22
JOB: **214755**
CHKD BY: CK

CONTRACTOR:
DRILLER: LaBella Environmental, LLC
LABELLA REPRESENTATIVE: Chris Kibler

BORING LOCATION: #4
GROUND SURFACE ELEVATION
START DATE: 8/6/2014

TIME 13:55

TYPE OF DRILL RIG: Geoprobe 54 LT
AUGER SIZE AND TYPE:
OVERBURDEN SAMPING METHOD:

DRIVE SAMPLER TYPE:
INSIDE DIAMETR:
OTHER:

DEPTH	SAMPLE DEPTH	SAMPLE NO. AND RECOVERY	STRATA CHANGE	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0		13"		0-6" Asphalt 6-2' Brown gravelly silt (medium plasticity, moist)	0	No odors or staining.
2		13"		Brown gravelly silt (medium plasticity, moist)	0	No odors or staining.
4		20"		Brown gravelly silt (medium plasticity, moist)	0	No odors or staining.
6		20"		Black-brown silty sand (coarse, medium, fine, loose, moist)	0	No odors or staining.
8		20"		Grey-brown gravelly silt (mediumm plasticity, moist)	0	No odors or staining.
10		20"		Grey-brown silty sand (medium, fine, loose, wet)	580.1	Strong petroleum odors.
12		9"		Grey-brown silty sand (medium, fine, loose, wet)	21.3	Slight petroleum odors.
14		9"		Grey-brown silty sand (medium, fine, loose, wet)	0	No odors or staining.

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELASPED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	Boring to 16 feet due to petroleum odors in boring.
				16 feet	10 feet	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCURE DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

LABELLA Associates, D.P.C.

300 PEARL STREET, BUFFALO, NY
ENVIRONMENTAL ENGINEERING CONSULTANTS

PROJECT
56-70 and Two Unaddressed Parcels at Ellicott Street
Batavia, New York

BORING: **#5**
SHEET 5 OF 22
JOB: **214755**
CHKD BY: CK

CONTRACTOR:
DRILLER: LaBella Environmental, LLC
LABELLA REPRESENTATIVE: Chris Kibler

BORING LOCATION: #5
GROUND SURFACE ELEVATION
START DATE: 8/6/2014

TIME 14:20

TYPE OF DRILL RIG: Geoprobe 54 LT
AUGER SIZE AND TYPE:
OVERBURDEN SAMPING METHOD:

DRIVE SAMPLER TYPE:
INSIDE DIAMETR:
OTHER:

DEPTH	SAMPLE DEPTH	SAMPLE NO. AND RECOVERY	STRATA CHANGE	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0		12"		0-1' Asphalt 1-2' Black-brown sandy silt (medium plasticity, moist)	0	No odors or staining throughout entire boring.
2		14"		Black-brown sandy silt (medium plasticity, moist)	0	
4		22"		Black-brown sandy silt (medium plasticity, moist)	0	
6		22"		Grey-brown clayey silt (medium plasticity, moist)	0	
8		12"		Brown silty sand (coarse, medium, fine, loose, moist)	0	
10		12"		Grey gravelly sand (coarse, medium, fine, loose, wet)	0	

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELASPED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	Boring to 12 feet due to groundwater interface.
				12 feet	10 feet	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCURE DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

LABELLA Associates, D.P.C.

300 PEARL STREET, BUFFALO, NY
ENVIRONMENTAL ENGINEERING CONSULTANTS

PROJECT
56-70 and Two Unaddressed Parcels at Ellicott Street
Batavia, New York

BORING: **#6**
SHEET 6 OF 22
JOB: **214755**
CHKD BY: CK

CONTRACTOR:
DRILLER: LaBella Environmental, LLC
LABELLA REPRESENTATIVE: Chris Kibler

BORING LOCATION: #6
GROUND SURFACE ELEVATION
START DATE: 8/6/2014

TIME 15:15

TYPE OF DRILL RIG: Geoprobe 54 LT
AUGER SIZE AND TYPE:
OVERBURDEN SAMPING METHOD:

DRIVE SAMPLER TYPE:
INSIDE DIAMETR:
OTHER:

DEPTH	SAMPLE DEPTH	SAMPLE NO. AND RECOVERY	STRATA CHANGE	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0		0"		Fill (asphalt, brick)	0	No odors or staining throughout entire boring.
2		0"		Fill (asphalt, brick)	0	
4		0"		Fill (asphalt, brick)	0	
6		0"		6-7' Fill (asphalt, brick)	0	

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELASPED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	Boring to 7 feet due to densely packed rock fragments.
				7 feet		

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCURE DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

LABELLA Associates, D.P.C.

300 PEARL STREET, BUFFALO, NY
ENVIRONMENTAL ENGINEERING CONSULTANTS

PROJECT
56-70 and Two Unaddressed Parcels at Ellicott Street
Batavia, New York

BORING: #7
SHEET 7 OF 22
JOB: 214755
CHKD BY: CK

CONTRACTOR:
DRILLER: LaBella Environmental, LLC
LABELLA REPRESENTATIVE: Chris Kibler

BORING LOCATION: #7
GROUND SURFACE ELEVATION
START DATE: 8/6/2014

TIME 15:30

TYPE OF DRILL RIG: Geoprobe 54 LT
AUGER SIZE AND TYPE:
OVERBURDEN SAMPING METHOD:

DRIVE SAMPLER TYPE:
INSIDE DIAMETR:
OTHER:

DEPTH	SAMPLE DEPTH	SAMPLE NO. AND RECOVERY	STRATA CHANGE	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0		12"		0-6" Asphalt 6-2' Brown sand (medium, fine, loose, moist)	0	No odors or staining throughout entire boring.
2		6"		2-3' Brown sand (medium, fine, loose, moist)	0	

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELASPED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	Boring refusal at 3 feet; possible underground storage tank.
				3 feet		Possible vent pipe and fill port proximate boring. Crowing in asphalt proximate boring.

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCURE DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

LABELLA Associates, D.P.C.

300 PEARL STREET, BUFFALO, NY
ENVIRONMENTAL ENGINEERING CONSULTANTS

PROJECT
56-70 and Two Unaddressed Parcels at Ellicott Street
Batavia, New York

BORING: **#7A**
SHEET 7A OF 22
JOB: **214755**
CHKD BY: CK

CONTRACTOR:
DRILLER: LaBella Environmental, LLC
LABELLA REPRESENTATIVE: Chris Kibler

BORING LOCATION: #7A
GROUND SURFACE ELEVATION
START DATE: 8/6/2014

TIME 15:40

TYPE OF DRILL RIG: Geoprobe 54 LT
AUGER SIZE AND TYPE:
OVERBURDEN SAMPING METHOD:

DRIVE SAMPLER TYPE:
INSIDE DIAMETR:
OTHER:

DEPTH	SAMPLE DEPTH	SAMPLE NO. AND RECOVERY	STRATA CHANGE	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0		6"		0-6" Asphalt 6-1' Brown sand (medium, fine, loose, moist)	0	No odors or staining throughout entire boring.

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELASPED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	Boring refusal at 1 foot; possible underground storage tank.
				1 foot		

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCURE DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

LABELLA Associates, D.P.C.

300 PEARL STREET, BUFFALO, NY
ENVIRONMENTAL ENGINEERING CONSULTANTS

PROJECT
56-70 and Two Unaddressed Parcels at Ellicott Street
Batavia, New York

BORING: **#7B**
SHEET 7B OF 22
JOB: **214755**
CHKD BY: CK

CONTRACTOR:
DRILLER: LaBella Environmental, LLC
LABELLA REPRESENTATIVE: Chris Kibler

BORING LOCATION: #7B
GROUND SURFACE ELEVATION
START DATE: 8/6/2014

TIME 15:50

TYPE OF DRILL RIG: Geoprobe 54 LT
AUGER SIZE AND TYPE:
OVERBURDEN SAMPING METHOD:

DRIVE SAMPLER TYPE:
INSIDE DIAMETR:
OTHER:

DEPTH	SAMPLE DEPTH	SAMPLE NO. AND RECOVERY	STRATA CHANGE	VISUAL CLASSIFICATION	PID FIELD SCREEN (PPM)	REMARKS
0		9"		0-6" Asphalt 6-2' Black gravelly silt (medium plasticity, moist)	0	No odors or staining.
2		9"		Black gravelly silt (medium plasticity, moist)	0	No odors or staining.
4		18"		Black gravelly silt (medium plasticity, moist)	0	No odors or staining.
6		18"		Grey clayey silt (low plasticity, moist)	0	No odors or staining.
8		13"		Grey clayey silt (medium plasticity, moist)	0	No odors or staining.
10		13"		Grey silty sand (medium, fine, loose, moist)	280.3 (10-11') and 0 (11-12')	Mild to strong gasoline odors (10-11'). No odors or staining (11-12').

WATER LEVEL DATA			DEPTH (FT)			NOTES:
DATE	TIME	ELASPED TIME	BOTTOM OF CASING	BOTTOM OF BORING	GROUNDWATER ENCOUNTERED	Boring to 12 feet due to groundwater interface.
				12 feet	10 feet	

GENERAL NOTES

1) STRATIFICATION LINES REPRESENT APPROXMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCURE DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

LaBella Associates, D.P.C.
300 State Street

Rochester, New York 14614

Appendix 6

Site Concept Plan

ELLICOTT ST

ELLICOTT ST

ELLICOTT ST

JACKSON ST

63

63

63

APPROX LOCATION
OF 6" WATER

APPROX LOCATION
OF 24"X30" STORM

12.5'

12.5'

12

12

18

14551SF

20

25

7800SF

7000SF

EX BLDG LINE

16855SF

N/F ZIGROSSI, RAYMOND

EX BLDG LINE

9

ASSUMED PROPERTY LINE

12

N/F DELLA PENNA

9

4

N/F SALVATION ARMY

N/F DELLA PENNA

N/F DELLA PENNA

ASSUMED PROPERTY LINE (TYP)

17

13

EVANS ST

ELLICOTT STATION

SITE CONCEPT PLAN

SCALE 1"=50'

0 25 50 Feet

savarino companies

TOTAL SPACES–150

REV 04.18.17 MARKED W/ UTILITIES 05/10/2017

MarksEngineering