Site Characterization Work Plan for Power City Warehouse Site (9-32-131) Niagara Falls, New York

Prepared for

New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233

Prepared by

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August 2007
Revision: FINAL
EA Project No. 14368.11

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29 August 2007

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29 August 2007

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1. INTRODUCTION

1.1 PROJECT BACKGROUND

The New York State Department of Environmental Conservation (NYSDEC) tasked EA Engineering, P.C. and its affiliate EA Science and Technology (EA) to perform a site characterization at the Power City Warehouse Site (NYSDEC Site No. 9-32-131). The area is located in the City of Niagara Falls, New York, east of the Niagara River (Figure 1).

The Work Assignment will be conducted under the NYSDEC State Superfund Standby Contract (Work Assignment No. D004438-11). The initial step in the site characterization is preparation of this Work Plan, which describes the anticipated work activities. The elements of this Work Plan were prepared in accordance with the most recent and applicable guidelines and requirements of the NYSDEC and the New York State Department of Health (NYSDOH).

1.2 DESCRIPTION OF WORK TASKS

The following tasks will be completed as part of the site characterization:

- Background review and preparation of work plans
- Field Investigation and documentation
- Reporting.

A brief summary of each activity is provided below, and further details of the field activities are provided in Section 3.

1.2.1 Background Review and Preparation of Work Plans (Task 1)

A site visit/scoping session was held at the Power City Warehouse on 26 June 2007, in conjunction with the development of this Work Plan. Meeting attendees included representatives from the NYSDEC Division of Environmental Remediation and EA. The site visit was performed in order to become familiar with the site and discuss proposed field work activities, which are presented in this Work Plan.

In addition to the site visit, a detailed records/background review was performed by EA to find further historical data that would provide information pertaining to former process and storage areas at the site, and about suspect contamination source areas. Field sampling locations will be based on the conceptual site model developed from this information. Historical data collected during the records/background review will also be used to develop a base map of the Site.

1.2.2 Field Investigation and Documentation (Task 2)

Field investigation activities will consist of soil and debris sampling at various locations beneath brick, tile and asphalt flooring and from sumps and floor/trench drains throughout the targeted area. Each sample will also be screened for organic soil vapors using a photo ionization detector (PID). The protocol for this effort will follow the NYSDEC Division of Environmental Remediation *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (December 2002).

1.2.3 Reporting (Task 3)

Field logbooks will be used during all onsite work. A dedicated field logbook will be maintained by the Site Manager overseeing the site activities. In addition to the logbook, any and all original sampling forms used during the field activities will be submitted to NYSDEC as part of the final report. Field and sampling procedures will be photo documented.

Upon completion of the field activities, a site characterization report will be prepared and submitted to NYSDEC and NYSDOH that includes a summary of field and laboratory analytical data and presents the locations of field samples.

1.3 WORK PLAN ORGANIZATION

This Work Plan is organized into the following sections:

- Section 1: Provides the overall approach and specific activities that will be performed during the site characterization at the Power City Warehouse site.

- Section 2: Provides a brief site description and history

- Section 3: Provides the data types and data uses to be obtained during the field activities; number, types, and locations of samples; rationale underlying the number and location of sampling points.

The following two project-specific technical plans were developed for this site characterization and are included as Appendixes A and B:

- The specific procedures for the collection, analysis, and evaluation of data that will be legally and scientifically defensible are presented in the Quality Assurance Project Plan (QAPP) Addendum (Appendix A). Sample forms to be completed during performance of field activities are provided in the QAPP Addendum Attachments.

- The site-specific hazards and levels of protective measures to be implemented in order to protect the safety and health of field personnel are detailed in the site Health and Safety Plan (HASP) Addendum (Appendix B).

The Project Management Work Plan for this Work Assignment (Schedule 2.11, Minority and Women-owned Business Enterprise utilization, Project Organization, and Schedule) was submitted as a separate deliverable on 12 July 2007.

2. SITE BACKGROUND

2.1 SITE LOCATION AND DESCRIPTION

The Power City Warehouse site is a former battery manufacturing facility located at 3123 Highland Ave. in the city of Niagara Falls, New York. After battery manufacturing ended in the mid-1970's, the site was used as an automotive body shop and a warehouse. The site has been vacant since the late 1980's. The site encompasses approximately 13 acres and is covered almost completely by warehouse buildings. The immediate area around the site is urban with industrial, residential, and light commercial use in the surrounding properties (Figure 2).

2.2 GEOLOGY AND HYDROGEOLOGY

The area is generally flat and underlain by glacio-laclustrine clay and silt and a thin layer of glacial till over Lockport Dolostone formation bedrock. Till overburden onsite is believed to be between 12.5 and 23.5 feet below the surface.

There is no significant groundwater aquifer within overburden soils. Groundwater flows northeast to southwest, towards the Niagara River, on top of the Dolostone bedrock formation.

3. FIELD ACTIVITIES

This section describes the data to be obtained during the field activities along with the number, types, and locations of samples. The field sampling protocols and quality assurance/quality control procedures are provided in the QAPP Addendum (Attachment A). Daily field reports will be completed for each day of field activities. A copy of the daily field report form is provided as an attachment to the QAPP Addendum.

3.1 RECORDS/BACKGROUND REVIEW

Prior to the development of this work plan, a detailed historical data and records review was completed for the Power City Warehouse site. A radius map report was obtained from Environmental Data Resources, Inc. (EDR), to supplement data provided by the NYSDEC Project Manager. A complete copy of the EDR database Report will be included with the Site Investigation Report.

The EDR report contained no listings of the subject site for any federal, state, or local government database listings.

3.1.1 Property Tax Files

EA contacted the City of Niagara Falls Assessor for property tax information pertaining to the 3123 Highland Avenue property. A review of property information cards on file within the City Assessor's Office indicated that initial construction of the Power City Warehouse commenced in 1910, with additional sections being completed in 1920, 1940, and 1955. Additional information regarding the property was not available at the time of the records review.

3.1.2 Building Department Files

EA contacted the City of Niagara Falls Building Department/Code Enforcement Office for historical information regarding code violations and building permits for the Power City Warehouse site. A temporary building permit for a tent to be constructed onsite was reviewed from 1979. Additional information regarding building permits and code violations at the Site was not available at the time of the records review.

3.1.3 Engineering Office Files

EA Contacted the City of Niagara Falls Office of the City Engineer for information regarding historical construction diagrams of the Power City Warehouse. EA obtained a copy of the layout of surface, roof, acid, and sewage drains of the Site, as constructed in 1910 on original sections of the onsite structure.

3.1.4 Planning and Environmental Department Files

EA contacted the City of Niagara Falls Planning and Environmental Department for information regarding the property at 3123 Highland Avenue. Mr. Alan Nausbaum provided a records review of information regarding City acquisition of the property through foreclosure, a record of previous sampling completed with United States Environmental Protection Agency (EPA) funding, and a series of applications and subsequent correspondence prepared by the City in an attempt to obtain federal and state grants for cleanup of the site. Additionally, Mr. Nausbaum provided a copy of the most recent site survey on record for the Power City Warehouse property.

3.1.5 Historical Use – Property and Adjoining Properties

The following discussions are presented for the purpose of compiling historical information on the activities that occurred on the subject site.

Based upon a review of historical information as included in the following sections, the subject site appears to have been developed with one large industrial structure in 1910, with a series of additions and building configuration changes taking place between the initial construction and 1955. This structure was utilized for battery manufacturing, including a lead foundry area, moulding room, paint room, assembly areas, and storage areas consisting of lead and oil storage. Railroad tracks historically ran along the south side of the building. Two underground oil tanks, were identified as being located in to the southeast of the structure, between the building and the railroad tracks. A power house was historically located on-site.

3.1.5.1 Historical Topographic Maps

Historic USGS topographic maps dated 1901, 1944, 1965, 1980, and 1995 were reviewed. The results of this review are included in the following table:

Date	Source	3123 Highland Avenue	Adjacent Properties
1901	USGS	The subject site appears to be undeveloped	Adjacent and downgradient properties appear to be undeveloped.
1944	USGS	The subject site appears to be developed with a large commercial/industrial structure with a railroad track running through the property.	North and South adjacent properties appear to be developed with industrial structures, while west adjacent properties appear to be developed with residential or small commercial structures, and the area to the east of the site remains undeveloped.
1965	USGS	The subject site appears to be undeveloped except for a railroad track running through the property. (note: for this year, municipal structures and large scale industrial site are the only structures shown on map)	Adjacent and downgradient properties appear to be undeveloped. (note: for this year, municipal structures and large scale industrial site are the only structures shown on map)

Date	Source	3123 Highland Avenue	Adjacent Properties
1980	USGS	The subject site appears to be undeveloped. (note: for this year, municipal structures and large scale industrial site are the only structures shown on map)	Adjacent and downgradient properties appear to be undeveloped. (note: for this year, municipal structures and large scale industrial site are the only structures shown on map)
1995	USGS	The subject site appears to be undeveloped. (note: for this year, municipal structures and large scale industrial site are the only structures shown on map)	Adjacent and downgradient properties appear to be undeveloped. (note: for this year, municipal structures and large scale industrial site are the only structures shown on map)

3.1.5.2 Aerial Photographs

Aerial photographs dated 1970, 1985, 1995, and 2003 were reviewed. Observations made from the reviewed aerial photographs are presented in the following table:

Date	Source	3123 Highland Avenue	Adjacent Properties
1970	USGS	Developed with current existing structure.	Adjacent properties same as development observed in 1985 aerial photograph.
1985	USGS	Developed with current existing structure.	North and south adjacent properties contain industrial structures; west adjacent contains residential structures; east adjacent properties undeveloped.
1995	USGS	Developed with current existing structure.	Adjacent properties same as current development.
2003	NYSGIS Clearinghouse	Developed with current existing structure.	Adjacent properties same as current development.

3.1.5.3 Fire Insurance Maps

Sanborn Fire Insurance maps dated 1914, 1950, 1955, 1958, 1965, 1979 and 1985 were reviewed. Observations made from the reviewed Sanborn Fire Insurance maps are presented in the following table:

Date	Source	3123 Highland Avenue	Adjacent Properties
1914	EDR	Site is developed with a lead foundry, smedging shop, battery developing and assembly areas, machine shop, paint shop and storage areas. Oil house and power house located on-site, in addition to railroad tracks and (2) 15,000 underground oil tanks.	North adjacent property identified as battery formation, south adjacent properties contain undeveloped land, railroad track, and a carbon paper/business form production facility. East and West adjacent properties appear undeveloped.
1950	EDR	Site appears developed with similar improvements as 1914 Sanborn Fire Insurance Maps. Underground oil tanks no long present on site. Acid storage tanks located on-site.	Adjacent properties appear developed similar to 1914 Sanborn Fire Insurance Maps.

Date	Source	3123 Highland Avenue	Adjacent Properties
1955	EDR	Site appears developed with similar improvements as 1950 Sanborn Fire Insurance Maps.	Adjacent properties appear developed similar to 1950 Sanborn Fire Insurance Maps.
1958	EDR	Site appears developed with similar improvements as 1955 Sanborn Fire Insurance Maps.	Adjacent properties appear developed similar to 1955 Sanborn Fire Insurance Maps.
1965	EDR	Site appears developed with similar improvements as 1958 Sanborn Fire Insurance Maps.	Adjacent properties appear developed similar to 1958 Sanborn Fire Insurance Maps.
1979	EDR	Site appears developed with similar improvements as 1965 Sanborn Fire Insurance Maps.	Adjacent properties appear developed similar to 1965 Sanborn Fire Insurance Maps.
1985	EDR	Site appears developed with similar improvements as 1979 Sanborn Fire Insurance Maps.	Adjacent properties appear developed similar to 1979 Sanborn Fire Insurance Maps.

Based on the EDR report, information obtained from the City of Niagara Falls and the historical Sanborn fire insurance maps, a site conceptual model and proposed sampling locations were identified (Figure 3).

3.2 ENVIRONMENTAL SAMPLING

The following soil and sediment sampling methods will be performed at the site:

- Soil samples will be collected for target analyte list (TAL) metals analysis and semi-volatile organic compounds (SVOC) analysis. All soil samples will be collected from beneath the flooring using a hand auger or other form of stainless steel sampling device. If significantly elevated concentrations of lead or other metals are reported, toxicity characteristic leaching procedure (TCLP) metals will be analyzed using the second sample from that location. Each sample location will be screened for organic vapors with a PID. If any locations show elevated volatile organic compounds (VOC), an additional sample may be collected and submitted for VOC analysis, at the discretion of the NYSDEC project manager.

- Debris samples will be collected from sumps and floor/trench drains within the Power City Warehouse. All sumps and floor/trench drains within the buildings will be recorded, measured, and checked for soil and debris. Any soil or debris that is found will be sampled. Composite samples will be collected for continuous floor drains, and grab samples are to be collected for individual sumps. Estimates of total soil or debris located within the sumps and floor/trench drains will be recorded.

3.2.1 Soil and Debris Sampling Procedure

Soil samples will be collected from the soil interval of 0-12 in. below the flooring in accessible areas of the Power City Warehouse structures. Debris samples will be collected from sumps and

floor drains in accessible areas of the Power City Warehouse structures. Two composite samples will be collected at each sampling location. Up to 30 sampling locations will be derived and marked with pin flags on the building floors prior to initiating the soil and debris sampling. Determination of sampling locations will be based upon the review of historic information of the Power City Warehouse completed during preparation of this work plan and in conjunction with the NYSDEC Project Manager.

For interior sampling, sections of flooring within the structure will be removed using hand tools or an electric drill, and samples will be collected beneath the floor utilizing hand auger techniques or other appropriate sampling devices. Soil samples will be classified and logged according to the Unified Soil Classification System. All samples will be analyzed for TAL metals and SVOCs. Field screening using a PID and metals analysis results will be used when selecting soil samples for further laboratory analysis. A field record of each sampling location, classification, PID readings, and other field observations will be recorded on the soil sampling log form provided in the QAPP Addendum (Attachment A)
.
For debris sampling, all sumps and floor/trench drains within the buildings will be recorded, measured, and checked for soil and sediment. Any soil or debris that is found within the sumps and floor/trench drains will be sampled. Composite samples will be collected for continuous floor drains, and grab samples are to be collected for individual sumps. Estimates of total soil or debris located within the sumps and floor/trench drains will be recorded.

Up to 30 soil and/or debris samples will be collected from the predetermined sampling locations and submitted to Mitkem Corporation, Warwick, Rhode Island for analysis of TAL metals and SVOCs by EPA Methods 6010 and 8270C, respectively. Additional samples will be collected for analysis of RCRA TCLP Metals, with analysis to be determined based on TAL metals results and at the discretion of the NYSDEC project manager. If VOC analysis is necessary, analysis will be performed by EPA Method 8260B.

3.3 BASEMAP PREPARATION

EA will create a base map using historical data collected, U.S. Geological Survey imagery and ArcGIS. Buildings will be outlined on the imagery acquired. During the records and background search, the locations of specific process areas or materials storage historically located within the structures will be researched. All areas of concern and interior building features will be located and delineated using a tape measure on site. Such locations will be recorded for base map preparation. No formal survey will be performed. The site base map will be provided in ArcMap™ 9.2.

3.4 DECONTAMINATION PROCEDURES

All non-dedicated equipment and tools used to collect samples for chemical analysis will be decontaminated prior to and between each sample using an Alconox rinse and potable water rinse. Additional cleaning of the equipment with steam may be needed under some

circumstances. Decontamination fluids will be discharged to the ground surface unless a visible sheen or odor is detected either on the equipment or the fluids, at which point the decontamination water will be staged in an appropriate container and disposed of appropriately.

3.5 LABORATORY ANALYSIS AND REPORTING

Soil samples will be analyzed by an Environmental Lead Proficiency Analytical Testing-certified laboratory for TAL metals, SVOCs, and, when necessary, and VOCs by EPA Methods 6010, 8270C, and 8260B, respectively. If elevated metals concentrations are reported in any of the samples analyzed then the second sample from that location will be analyzed for TCLP metals, as directed by the NYSDEC project manager.

It is anticipated that preliminary analytical results for VOC and SVOC analysis will be available within 2 weeks of receipt at the laboratory, and final results will be provided within the standard turnaround time (i.e., 30 days). An accelerated turnaround time of one week will be requested for TAL Metals. Based upon these results and as directed by the NYSDEC project manager, samples may be analyzed for TCLP metals. All samples collected will be validated by a party independent of the laboratory that performed the analyses and the consultant that performed the field work. A usability analysis will be conducted by a qualified data validator and a Data Usability Summary Report will be submitted to NYSDEC.

4. STORAGE AND DISPOSAL OF WASTE

EA is responsible for the proper storage, handling, and disposal of investigative derived waste; including personal protective equipment and solids generated during the soil and debris sampling activities. All investigative derived waste requiring containment will be drummed and clearly labeled with their contents and origin. All investigative derived waste will be managed in accordance with NYSDEC Department of Remediation Technical and Administrative Guidance Memorandum 4032.

Accordingly, handling and disposal will be as follows:

- Soil and debris spoils from sampling operations that do not exhibit visible staining, sheen, or discernable odors will be disposed of onsite.

- Soil and debris spoils from sampling operations that exhibit visible staining, sheen or discernable odors will be staged onsite until an appropriate treatment/disposal procedure has been determined following completion of the feasibility study.

- Used protective clothing and equipment that is suspected to be contaminated with hazardous waste will be placed in plastic bags, packed in 55-gal ring-top drums, and transported to the drum staging area.

- Non-contaminated trash and debris will be placed in a trash dumpster and disposed of by a local garbage hauler.

- Non-contaminated protective clothing will be packed in plastic bags and placed in a trash dumpster for disposal by a local garbage hauler.

5. DATA VALIDATION/DETERMINATION OF USABILITY

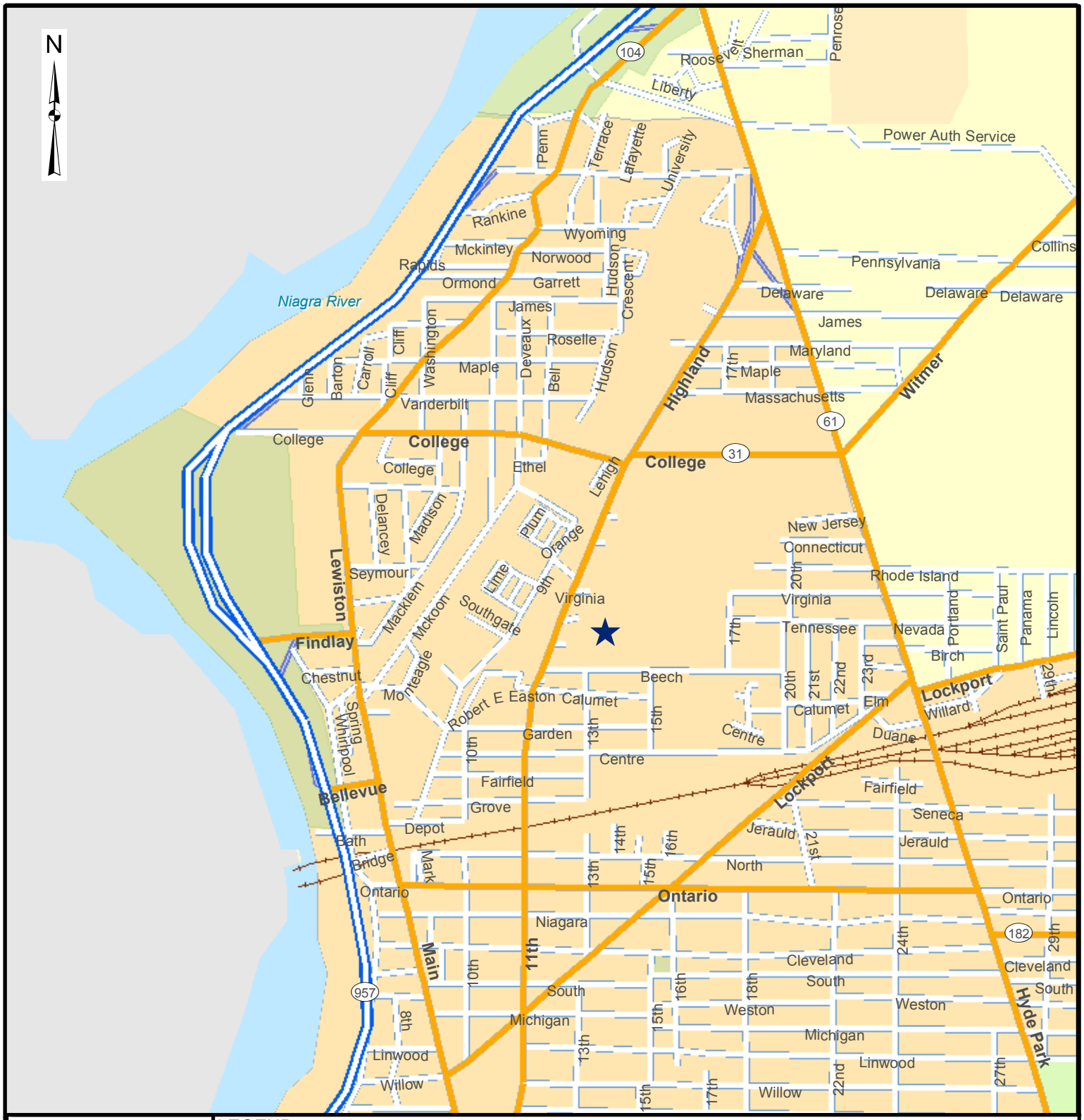
The collection and reporting of reliable data is a primary focus of the sampling and analytical activities. Laboratory and field data will be reviewed to determine the limitations, if any, of the data and to assure that the procedures are effective and that the data generated provide sufficient information to achieve the project objectives. A qualified independent third party will evaluate the analytical data according to NYSDEC Department of Environmental Remediation Data Usability Summary Report guidelines.

6. QUALITY ASSURANCE PROJECT PLAN

A Generic QAPP has been developed describing sampling, analysis, testing, and monitoring that could potentially be conducted during Work Assignments under the NYSDEC Standby Subcontracts D004438 and D004441. As previously stated, the Generic QAPP was submitted under separate cover on 11 August 2006 to the NYSDEC. An addendum to the Generic QAPP was developed to address site-specific quality assurance/quality control issues (Appendix A) for the proposed activities to complete the site characterization.

7. HEALTH AND SAFETY PLAN

A Generic HASP was developed for the Work Assignments conducted under the NYSDEC Standby Contracts D004438 and D004441. As previously stated, the Generic HASP was submitted under a separate cover on 11 August 2006 to the NYSDEC. An addendum to the Generic HASP was developed to address site-specific health and safety issues (Appendix B) for the proposed activities to complete the site characterization.



LEGEND

★ Site Location

0 0.1 0.2 0.4 0.6 0.8 Miles

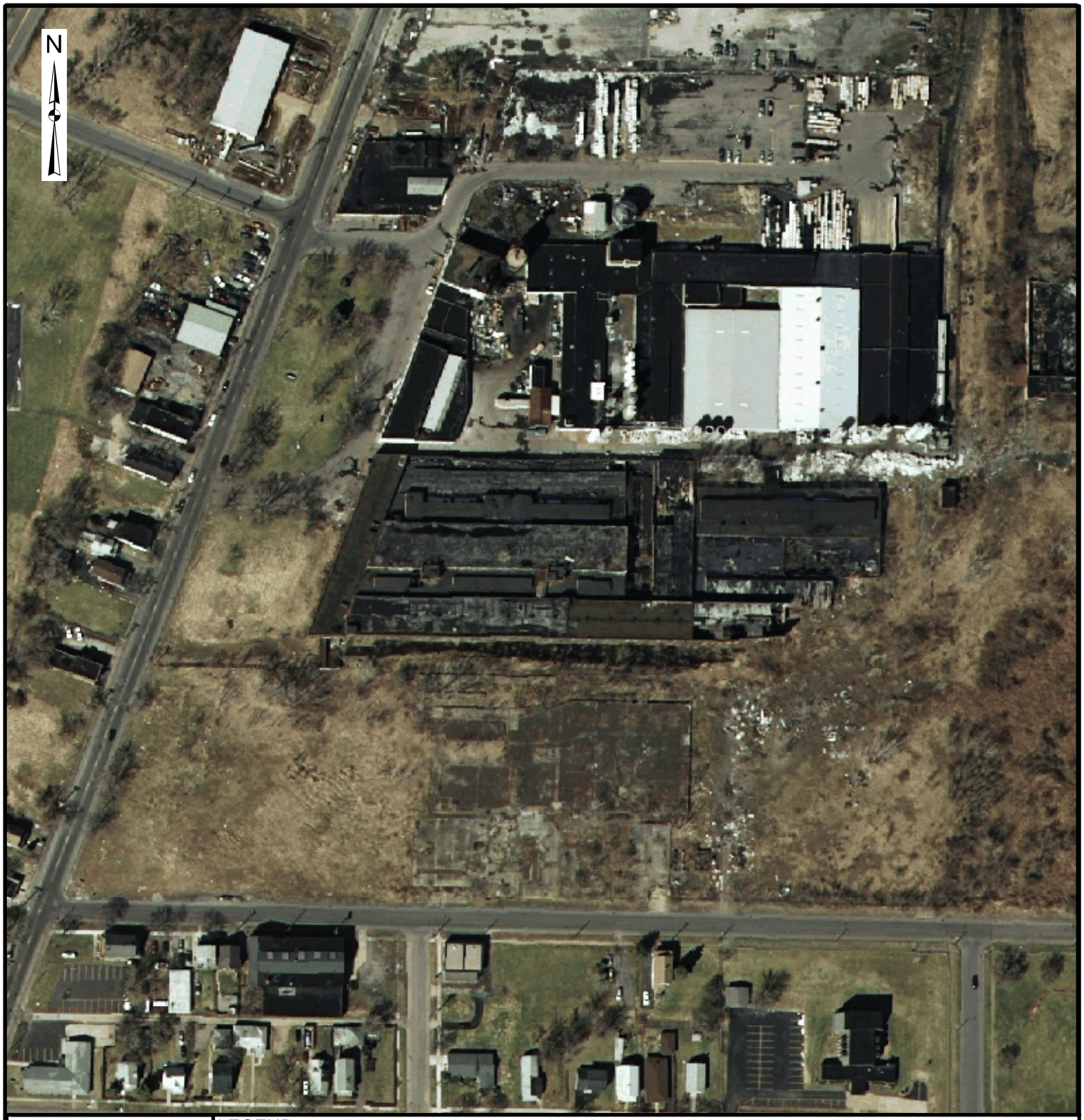
Source: NYSGIS Clearinghouse

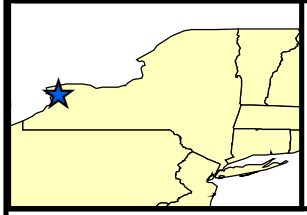
EA Engineering, Science, and Technology, Inc.

POWER CITY WAREHOUSE SITE (9-32-131)
SITE CHARACTERIZATION WORK PLAN
NIAGARA FALLS, NEW YORK

FIGURE 1
Site Location Map

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
RSC	CJS	DCC	DWE	AS SHOWN	JULY 2007	14368.11	GIS/PROJECTS/ FIGURE1.MXD





LEGEND

0 55 110 220 330 440 Feet

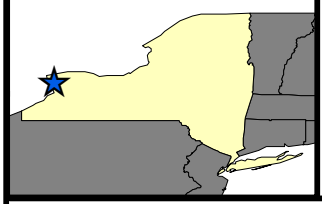
Source: NYSGIS Clearinghouse

EA Engineering, Science, and Technology, Inc.

POWER CITY WAREHOUSE SITE (9-32-131)
SITE CHARACTERIZATION WORK PLAN
NIAGARA FALLS, NEW YORK

FIGURE 2
Site Map

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
RSC	CJS	DCC	DWE	AS SHOWN	JULY 2007	14368.11	GIS/PROJECTS/ FIGURE1.MXD



Legend

- Building Outline
- Proposed Soil Sample Location
- Proposed Debris Sample Location

0 50 100 200 Feet

Source: USGS EROS 2005

EA Engineering, Science, and Technology, Inc.

POWER CITY WAREHOUSE SITE (9-32-131)
SITE CHARACTERIZATION WORK PLAN
NIAGARA FALLS, NEW YORK

FIGURE 3
Proposed Soil and Debris Sampling Locations

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
RSC	CJS	CJS	RSC	AS SHOWN	JULY 2007	14368.11	...GIS/PROJECTS/ PowerCity_Figure3.MXD

TABLE 1 SITE CHARACTERIZATION ANALYTICAL PROGRAM

	Sample Matrix	TAL Metals	SVOCs 8270	VOCs 8260B	TCLP Metals
Subsurface Soil and Sump/Drain Sediment Sampling					
No. of Samples	Soil & Sediment	30	30	10	30
Field Duplicate		2	2	1	---
Rinsate Blanks [(a)]		2	2	1	---
MS/MSD		4	4	2	---
Total No. of Analyses		**38**	**38**	**14**	**30**

[(a)] One rinsate blank per day of sampling with a field device that requires field decontamination.

NOTES: VOC = Volatile Organic Compounds
SVOC = Semivolatile Organic Compounds
TAL = Target Analyte List
TCLP = Toxicity Characteristic Leaching Procedure
MS/MSD= Matrix Spike/Matrix Spike Duplicate
Laboratory quality control samples will be collected at a rate of 1 per 20 samples, per matrix.

Appendix A

Quality Assurance Project Plan Addendum

Quality Assurance Project Plan Addendum
Power City Warehouse Site (9-32-131)
Niagara Falls, New York

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29 August 2007

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29 August 2007

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LIST OF TABLES

1. PURPOSE AND OBJECTIVES

1.1 PURPOSE

A Generic Quality Assurance Project Plan (QAPP) (EA 2006)[1] was developed for field activities performed under the New York State Department of Environmental Conservation (NYSDEC) Standby Contracts D004438 and D004441. This QAPP Addendum was prepared for the Work Plan associated with performance of the Site Characterization at the Power City Warehouse Site, located in the City of Niagara Falls, Niagara County, New York (NYSDEC Site No. 9-32-131). The principal purpose of this QAPP Addendum is to supplement the Generic QAPP with site-specific procedures for the collection, analysis, and evaluation of data that will be legally and scientifically defensible.

1.2 QUALITY ASSURANCE PROJECT PLAN OBJECTIVES

This QAPP Addendum provides site-specific information and standard operating procedures applicable to all work performed at the site that is not included in the Generic QAPP. The information includes definitions and generic goals for data quality and required types and quantities of quality assurance/quality control (QA/QC) samples. The procedures address sampling and decontamination protocols; field documentation; sample handling, custody, and shipping; instrument calibration and maintenance; auditing; data reduction, validation, and reporting; corrective action requirements; and QA reporting. The Work Plan contains a site description; and information on site field activities, such as sample locations, sampling procedures, analytical methods, and reporting limits.

1. EA Engineering, P.C. 2006. *Generic Quality Assurance Project Plan for Work Assignments under NYSDEC Contracts D004438 and D004441*. October.

2. PROJECT ORGANIZATION AND RESPONSIBILITIES

While all personnel involved in an investigation and the generation of data are implicitly a part of the overall project management and QA/QC program, certain members of the Project Team have specifically designated responsibilities. Project personnel responsibilities are summarized below.

2.1 EA ENGINEERING, P.C. AND ITS AFFILIATE EA SCIENCE AND TECHNOLOGY

EA Engineering, P.C. and its Affiliate EA Science and Technology (EA) will provide oversight, coordination, health and safety, field support, and evaluation of analytical data. Field support will be provided during soil sampling. EA also will be responsible for evaluation of analytical test results, which will be submitted to NYSDEC. The EA staff involved in this project are as follows:

- ***Tom Porter, EA Project QA/QC Officer—***The QA/QC Officer will provide guidance on technical matters and review technical documents relating to the project. He will assess the effectiveness of the QA/QC program and recommend modifications when applicable. Additionally, the QA/QC Officer may delegate technical guidance to specially trained individuals under his direction.

- ***Robert Casey, EA Project Manager***—The Project Manager provides overall coordination and preparation of the project within EA. This includes coordination with NYSDEC and New York State Department of Health, budget control, subcontractor performance, implementation of the Quality Assurance Project Plan, and allocation of resources and staffing to implement both the QA/QC program and the site Health and Safety Plan.

- ***David Eck, P.E., EA Project QA/QC Coordinator—***The Project QA/QC Coordinator is responsible for project-specific supervision and monitoring of the QA/QC program. He will ensure that field personnel are familiar with and adhere to proper sampling procedures, field measurement techniques, sample identification, and chain-of-custody procedures. He will coordinate with the analytical laboratory for the receipt of samples and reporting of analytical results, and will recommend actions to correct deficiencies in the analytical protocol or sampling. Additionally, he will prepare QA/QC reports for management review.

- ***David Crandall, EA Site Manager***—The Site Manager will serve as the onsite contact person for field investigations and tests. He will be responsible for coordinating the field activities; including inspecting and replacing equipment, preparing daily and interim reports, scheduling sampling, and coordinating shipment and receipt of samples and containers.

The Program Health and Safety Officer is also an integral part of the project implementation team.

- ***Peter Garger, EA Program Health and Safety Officer***—The Program Health and Safety Officer will be responsible for the development, final technical review, and approval of the Health and Safety Plan. In addition, he will provide authorization, if warranted, to modify personal protective equipment requirements based on field conditions. He will also provide final review of all health and safety monitoring records and personal protective equipment changes to ensure compliance with the provisions of the Health and Safety Plan.

2.2 LABORATORY

Laboratory analyses for this project will be performed by Mitkem Corporation in Warwick, Rhode Island under a subcontract agreement with EA. Environmental Data Services, Inc. will have sample analysis and review responsibilities on this project. The laboratory will have its own provisions for conducting an internal QA/QC review of the data before they are released to EA. The laboratory's contract supervisors will contact EA's Project Manager with any sample discrepancies or data concerns.

Hardcopy and electronic data deliverable formatted QA/QC reports will be filed by the analytical laboratory when data are submitted to EA. Corrective actions will be reported to the EA Project Manager along with the QA/QC report (Section 9 of the Generic QAPP). The laboratory may be contacted directly by EA or NYSDEC personnel to discuss QA concerns. EA will act as laboratory coordinator on this project, and all correspondence from the laboratory will be coordinated with EA's Project Manager.

3. SAMPLING RATIONALE, DESIGNATION, AND CONTAINERS

3.1 SAMPLING RATIONALE

The sampling rationale presented for each planned field activity is detailed in the Site Characterization Work Plan (EA 2007a)[2]. The rationale and frequency of the QC samples collected is discussed in the Generic QAPP. The site characterization laboratory program, illustrated in Table 1, includes the number of samples for each sample location, as well as QA/QC samples. The frequency of QA/QC samples are expressed as a percentage of the total number of samples collected for that matrix. The Generic QAPP also includes analytical methods and reporting limits.

3.2 SAMPLE DESIGNATION

Field samples collected from the site will be assigned a unique sample tracking number. Sample designation will be an alpha-numeric code, which will identify each sample by the site identification, matrix sampled, location number, sequential sample number (or depth of top-of-sample interval for excavation soil samples), and date of collection. Each sampling location will be identified with a two-digit number. Sequential sample numbers at each location for samples will begin with 01 and increase accordingly. The final portion of the sample tracking number will be the sample date.

The following terminology will be used for the sample identification:

- **Soil Samples**
  — SITE ID-SS-01 through xx

- **Debris Samples**
  — SITE ID-DS-01 through xx

3.3 SAMPLE CONTAINERS

Table 2 outlines the types of sample containers and preservatives required for sample collection. Please note that liquid waste samples, which exhibit an oily characteristic, do not require acid preservation.

3.4 DATA QUALITY CONTROL OBJECTIVES

Data Quality Control Objectives (DQOs) are qualitative and quantitative statements, which specify the quality of data required to support decisions. DQOs are developed to achieve the level of data quality required for anticipated data use. DQOs are implemented so that, for each

2. EA Engineering, P.C. 2007. Site Characterization *Work Plan for Power City Warehouse Site (Site No. 9-32-131) in Niagara Falls, New York*. July.

task, the data are legally and scientifically defensible. The development of DQOs for a specific site and measurement takes into account project needs; data uses, types, and needs; and data collection. These factors determine whether the quality and quantity of data are adequate for its end use. Sampling protocols have been developed, and sampling documentation and handling procedures have been identified to realize the required data quality.

DQOs are established prior to data collection and are not considered a separate deliverable. Rather, the DQO development process is integrated with the project planning process, and the results are incorporated into the QAPP for the site location. DQOs will be specified for each planned data collection activity. The DQO process results in an effective plan, which details the chosen sampling and analysis options, and the statements of confidence in decisions made during the corrective action process. Confidence statements are possible through the application of statistical techniques to the data.

3.5 FIELD INVESTIGATION DATA QUALITY OBJECTIVES

In order to permit calculation of precision and accuracy for the sampling media, blind field duplicate samples will be collected, analyzed, and evaluated.

Through the submission of field QC samples, the distinction can be made between laboratory problems, sampling technique considerations, sample matrix effects, and laboratory artifacts. To assure media sample quality, all sample collection will be performed in strict accordance with procedures set forth in this QAPP.

Precision will be calculated as relative percent difference if there are only two analytical points, and percent relative standard deviation if there are more than two analytical points. Blind field duplicate sample analyses will provide the means to assess precision.

Quality will be assured through the implementation of the structured and coherent QAPP, defining characterization, and pre-sampling location inventory. This QAPP has been designed so that the appropriate numbers of samples for each location of interest are obtained for analysis. While 100 percent quality is the goal, it must be recognized that unforeseen events may result in the generation of some data that may not be acceptable for use.

Currently published analytical methods have been identified for the analysis of the collected samples, so that the data generated remain comparable to any previous or future generated data. EA will use an analytical laboratory with a demonstrated proficiency in the analysis of similar samples using the referenced methods. In addition, samples will be collected using documented procedures to ensure consistency of effort and reproducibility, if necessary.

3.6 LABORATORY DATA QUALITY OBJECTIVES

The analytical laboratory will demonstrate analytical precision and accuracy by the analysis of various QC samples (i.e., laboratory duplicates, spike samples, matrix spike duplicates, and

laboratory control samples). Precision, as well as instrument stability, also will be demonstrated by comparison of calibration response factors from the initial calibration to that of the continuing calibrations. Precision will be presented as relative percent difference, relative standard deviation, or percent difference, whichever is appropriate for the number and type of QC samples analyzed. Laboratory accuracy will be evaluated by the addition of surrogate and matrix spike compounds, and will be presented as percent recovery. Laboratory blanks also can be used to demonstrate the accuracy of the analyses and possible effects from laboratory artifact contamination.

4. ANALYTICAL LABORATORY

The data collected during this investigation will be forwarded to NYSDEC for review.

All soil samples will be submitted to Mitkem Corporation in Warwick, Rhode Island. This laboratory is New York State Department of Health Environmental Laboratory Analytical Program (ELAP)-certified meeting specifications for documentation, data reduction, and reporting.

5. ANALYTICAL TEST PARAMETERS

This QAPP Addendum will require the analysis of soil samples using U.S. Environmental Protection Agency Methods 6010 and 8270B, respectively, for target analyte list metals and semi-volatile organic compounds. EPA Method 8260C may be used for volatile organic compunds at the discretion of the NYSDEC project manager. Resource conservation and recovery act toxicity characteristic leaching procedure metals may also be analyzed at the discretion of the NYSDEC project manager. Compound lists for each analytical method are included in the Generic QAPP.

6. ANALYTICAL DATA VALIDATION

The laboratory will review data prior to its release to EA. Objectives for review are in accordance with the QA/QC objectives stated in the Generic QAPP. The laboratory is required to evaluate its ability to meet these objectives. Outlying data will be flagged in accordance with laboratory standard operating procedures, and corrective action will be taken to rectify the problem.

In order to ensure the validity of analytical data generated by a project, it will be validated by Environmental Data Services, Inc. who is independent from the analysts and the project. The Generic QAPP addresses implementation of independent validation.

TABLE 1 SITE CHARACTERIZATION ANALYTICAL PROGRAM

	Sample Matrix	TAL Metals	SVOCs 8270	VOCs 8260B	TCLP Metals
Subsurface Soil and Sump/Drain Sediment Sampling					
No. of Samples	Soil & Sediment	30	30	10	30
Field Duplicate		2	2	1	---
Rinsate Blanks [(a)]		2	2	1	---
MS/MSD		4	4	2	---
Total No. of Analyses		**38**	**38**	**14**	**30**

[(a)] One rinsate blank per day of sampling with a field device that requires field decontamination.

NOTES: VOC = Volatile Organic Compounds
SVOC = Semivolatile Organic Compounds
TAL = Target Analyte List
TCLP = Toxicity Characteristic Leaching Procedure
MS/MSD= Matrix Spike/Matrix Spike Duplicate
Laboratory quality control samples will be collected at a rate of 1 per 20 samples, per matrix.

TABLE 2 SAMPLE CONTAINERS, PRESERVATION, AND HOLDING TIMES

Parameter	Matrix	Container Type/Size	Sample Volume	Preservation	Maximum Holding Time from Verifiable Time of Sample Receipt
Target Compound List volatile organic compounds	Soil and sediment	One wide-mouth glass jar with Teflon-lined cap	125 mL	Minimize headspace, cool 4°C	14 days
Target Compound List semi-volatile organic compounds	Soil and sediment	One wide-mouth glass jar with Teflon-lined cap	30 g	Cool 4°C	Extraction within 14 days, analysis within 40 days
Target Analyte List metals	Soil and sediment	One wide-mouth glass jar with Teflon-lined cap	10 g	Cool 4°C	180 days
Toxicity Characteristic Leaching Procedure metals	Soil and sediment	One wide-mouth glass jar with Teflon-lined cap	2 g	Cool 4°C	180 days

Attachment A

Field Forms

DAILY OBSERVATION REPORT **Day:_____ Date:_____**

NYSDEC

Temperature: (F) (am) (pm)

Wind Direction: (am) (pm)

Weather: (am)

(pm)

Project Name

NYSDEC Site #

Contract # Arrive at site (am)

Location, New York Leave site: (pm)

HEALTH & SAFETY:

Are there any changes to the Health & Safety Plan? Yes ( ) No ( )
(If yes, list the deviation under items for concern)

Are monitoring results at acceptable levels?

Soil	Yes ( )	n/a ( )	* No ( )
Waters	Yes ( )	n/a ( )	* No ( )
Air	Yes ( )	n/a ( )	* No ( )

- *If No, provide comments*

OTHER ITEMS:

Site Sketch Attached: Yes ( ) No ( )
Photos Taken: Yes ( ) No ( )

DESCRIPTION OF DAILY WORK PERFORMED:

PROJECT TOTALS:

SAMPLING (Soil/Water/Air)

Contractor Sample ID:	DEC Sample ID:	Description:

DAILY OBSERVATION REPORT Day:_____ Date:_____

CONTRACTOR/SUBCONTRACTOR EQUIPMENT AND PERSONNEL ON SITE:

(Name of contractor) personnel:

(Name of Subcontractor) personnel:

(Name of contractor) equipment:

(*Indicates active equipment)

Other Subcontractors:

VISITORS TO SITE:

1.

PROJECT SCHEDULE ISSUES:

PROJECT BUDGET ISSUES:

None.

ITEMS OF CONCERN:

COMMENTS:

ATTACHMENT(S) TO THIS REPORT:

SITE REPRESENTATIVE:

Name: (*signature*)
cc:

DAILY PHOTOLOG

EA Engineering P.C. and Its Affiliate,
EA Science and Technology

HTRW Soil Sample Log

Project:	***Site Location:***	***Date:***
Drilling Company:	***Driller:***	***Geologist:***
Size and Types of Drilling and Sampling Equipment:	***Hole ID:***	
Date Started:	***Date Completed:***	
Groundwater Encountered (ft bgs):	***Depth to Bedrock (ft bgs):***	
Total Depth of Hole (ft bgs):	***Disposition of Hole:***	
Floor Material:		

Depth	*PID Reading (ppm)*	*Description of Material*	*Samples Collected*	*Recovery*

Comments and Notes:

Appendix B

Health and Safety Plan Addendum

Health and Safety Plan Addendum
Power City Warehouse (9-32-131)
Niagara Falls, New York

Prepared for

New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233

Prepared by

EA Engineering, P.C., and Its Affiliate
EA Science and Technology
6712 Brooklawn Parkway, Suite 104
Syracuse, New York 13211
(315) 431-4610

August 2007
Revision: FINAL
EA Project No. 14368.11

Health and Safety Plan Addendum
Power City Warehouse (9-32-131)
Niagara Falls, New York

Prepared for

New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233

Prepared by

EA Engineering, P.C. and Its Affiliate
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6712 Brooklawn Parkway, Suite 104
Syracuse, New York 13211
(315) 431-4610

29 August 2007

Christopher J. Canonica, P.E., Program Manager — Date
EA Engineering, P.C.

29 August 2007

Robert S. Casey, Project Manager — Date
EA Engineering, P.C.

August 2007
Revision: FINAL
EA Project No.: 14368.11

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LIST OF FIGURES

1. INTRODUCTION

1.1 GENERAL

A Generic Health and Safety Plan (HASP) (EA 2006)[1] was developed for field activities performed under the New York State Department of Environmental Conservation (NYSDEC) Standby Contracts D004438 and D004441. This HASP Addendum is to supplement the Generic HASP with site-specific information to protect the health and safety of personnel while performing field activities to complete the Work Assignment for the Power City Warehouse site (NYSDEC Site No. 9-32-131) in the City of Niagara Falls, Niagara County, New York (Figure 1).

This HASP Addendum describes the safety organization, procedures, and protective equipment that have been established based on an analysis of potential physical, chemical, and biological hazards. Specific hazard control methodologies have been evaluated and selected to minimize the potential for accidents or injuries to occur. One copy of the Generic HASP and this HASP Addendum will be maintained for use during the scheduled field sampling effort. The copies will be made available for site use and employee review at all times.

This HASP Addendum addresses regulations and guidance practices set forth in the Occupational Safety and Health Administration (OSHA) Standards for Construction Industry, 29 Code of Federal Regulations (CFR) 1926, including 29 CFR 1926.65, *Hazardous Waste Operations and Emergency Response* and 29 CFR 1926.59, *Hazardous Communications*.

The following are provided as attachments:

- Attachment A: Worker Training and Physical Examination Record
- Attachment B: Health and Safety Plan Review Record
- Attachment C: Site Entry and Exit Log
- Attachment D: Accident Investigation Report
- Attachment E: Emergency Telephone Numbers and Hospital Directions
- Attachment F: Emergency Equipment Available Onsite
- Attachment G: Map to Hospital
- Attachment H: Personal Protective Equipment Activity Record.

NOTE: This site-specific HASP Addendum should be left open to display Attachment E (Emergency Telephone Numbers and Hospital Directions) and made available to all site personnel in a conspicuous location for the duration of field activities in the event of an emergency.

1. EA Engineering, P.C. 2006. *Generic Health and Safety Plan for Work Assignments under NYSDEC Contracts D004438 and D004441*. June.

1.2 SITE LOCATION

The Power City Warehouse site is surrounded by urban development with industrial, residential, and light commercial use nearby. The site is approximately 13 acres and is mainly covered by buildings.

1.3 POLICY STATEMENT

EA will take every reasonable step to provide a safe and healthy work environment and to eliminate or control hazards in order to minimize the possibility of injuries, illnesses, or accidents to site personnel. EA and EA subcontractor employees will be familiar with the Generic HASP and this HASP Addendum for each of the project activities they perform. Prior to entering the site, the Generic HASP and this HASP Addendum will be reviewed and an agreement to comply with the requirements will be signed by EA personnel, subcontractors, and visitors (Attachment B).

Operational changes that could affect the health and safety of the site personnel, community, or environment will not be made without approval from EA's Project Manager and Program Health and Safety Officer. This document will be periodically reviewed to ensure that it is current and technically correct. Any changes in site conditions and/or the scope of work will require a review and modification to the HASP Addendum. Such changes will be documented in the form of a revision to this addendum.

2. KEY PERSONNEL

The following table contains information on key project personnel:

Title	Name	Telephone No.
Officer-in-Charge	Richard Waterman	508-485-2982
Program Health and Safety Officer	Peter Garger, CIH	410-771-4950
Program Manager	Chris Canonica, P.E.	315-431-4610
Quality Assurance/Quality Control Officer	Tom Porter, P.G.	315-431-4610
Project Manager	Robert Casey	315-431-4610
Quality Assurance/Quality Control Coordinator	David Eck, P.E.	315-431-4610
Site Manager/Site Health and Safety Officer	David Crandall	315-431-4610
NYSDEC Project Manager	Jeff Konsella, P.E.	716-851-7220

3. SCOPE OF WORK

This HASP Addendum was developed to designate and define site-specific health and safety protocols applicable to project activities. It is to be implemented and followed during field activities at the Power City Warehouse site, Niagara Falls, New York. The scope of work covered by this HASP Addendum includes:

- Soil and Debris Sampling.

This activity is summarized below; additional detail is provided in the Site Characterization Work Plan submitted concurrently with this HASP Addendum.

3.1 SOIL AND DEBRIS SAMPLING

Soil samples will be collected from the soil interval of 0-12 inches below the flooring in accessible areas of the Power City Warehouse structures. Debris samples will be collected from sumps and floor drains in accessible areas of the Power City Warehouse structures. Up to 30 sampling locations will be derived and marked with paint on the building floors prior to initiating the soil and debris sampling. Determination of sampling locations will be based upon the review of historic information of the Power City Warehouse completed during preparation of this work plan.

Based on the field screening and field observations, up to 30 soil and/or debris samples will be collected from the predetermined sampling locations and submitted to Mitkem Corporation, Warwick, Rhode Island for analysis of target analyte list metals and semi-volatile organic compounds by EPA Methods 6010 and 8270C, respectively. If volatile organic compounds analysis is necessary, analysis will be performed by EPA Method 8260B at the discretion of the NYSDEC project manager.

3.2 STORAGE AND DISPOSAL OF WASTE

EA is responsible for the proper storage, handling, and disposal of investigative derived waste, including personal protective equipment and solids. Soil generated during sampling that exhibit visual staining, sheen, or discernable odors will be collected in drums or other containers at the point of generation. The drums will be stored in the staging area. A waste subcontractor will then remove the drums and dispose at an offsite location. All drummed materials will be clearly labeled with their contents and origin. All investigative derived waste will be managed in accordance with NYSDEC-Division of Environmental Remediation Technical and Administrative Guidance Memorandum 4032 (NYSDEC 1989)[2].

2. NYSDEC. 1989. Technical and Administrative Guidance Memorandum No. 4032, Disposal of Drill Cuttings. 21 November.

4. POTENTIAL HAZARD ANALYSIS

Based upon the above field activities, the following potential hazard conditions may be anticipated:

- Equipment can be energized due to contact with overhead or underground electrical lines, utilities impaired by excavation of communication or potable/wastewater lines, or a potential for fire or explosion may occur due to excavation of below ground propane/ natural gas lines. Personnel should be aware that although an area may be cleared, it does not mean that unanticipated hazards will not appear. Safe distances will be maintained from live electrical equipment as specified in Generic HASP. Workers should always be alert for unanticipated events such as snapping cables, digging into unmarked underground utilities, etc. Such occurrences should prompt involved individuals to halt work immediately and take appropriate corrective measures to gain control of the situation.

- Personnel may be injured during physical lifting and handling of heavy equipment, construction materials, or containers. Additionally, personnel may encounter slip, trip, and fall hazards associated with debris and materials. Precautionary measures should be taken in accordance with the Generic HASP and this HASP Addendum.

- Entry into a confined space in support of this project is forbidden. However, it is not anticipated that confined space entry will be required during the completion of the field activities.

- Field investigation activities intended to define potential sources of environmental contamination often require employees to be in direct proximity or contact with hazardous substances. Employees may be exposed through inhalation of toxic dusts, vapors, or gases. Normal dust particulates from surficial soil may have adsorbed or absorbed toxic solvents, petroleum compounds, or toxic metal salts or metal particulates. Ingestion of toxic materials contained in dusts or particulates can be ingested if eating, smoking, drinking, and gum chewing are permitted prior to personnel washing their hands and face or removing contaminated work clothing and personal protective equipment. Some chemicals may be absorbed directly through the skin. Personal protective equipment, properly designed for the chemicals of concern, will always be provided and worn when a potential for skin contact is present.

5. PERSONAL PROTECTIVE EQUIPMENT

Based upon currently available information, it is anticipated that Level D protection will be required for currently anticipated conditions and activities. If at any time the sustained level of total organic vapors in the worker breathing zone exceeds 5 parts per million (ppm) above background, site workers will evacuate the area and the condition will be brought to the attention of the site Health and Safety Officer. Efforts will then be undertaken to mitigate the source of the vapors. Once the sustained level of total organic vapors has decreased to below 5 ppm above background, site workers will be allowed to continue activities at the direction of the site Health and Safety Officer.

The personal protective equipment components for use during this project are detailed in the Generic HASP. The components of Level D personal protective equipment are summarized below.

5.1 LEVEL D PERSONAL PROTECTIVE EQUIPMENT

Level D will be worn for initial entry onsite and initially for all activities and will consist of the following:

- Coveralls or appropriate work clothing
- Steel-toe, steel-shank safety boots/shoes
- Hard hats (when overhead hazards are present or as required by the site Health and Safety Officer)
- Chemical resistant gloves (nitrile/neoprene) when contact with potentially contaminated soil is expected
- Safety glasses with side shields
- Hearing protectors (during operations producing excessive noise)
- Boot covers (optional unless in contact with potentially contaminated soil)
- Polycoated coveralls (when contact with contaminated soil is anticipated.

Insulated clothing, hats, etc. must be worn when temperatures or wind chill fall below 40°F.

6. SITE CONTROL AND SECURITY

Only authorized personnel will be permitted to conduct field activities. Authorized personnel include those who have completed hazardous waste operations initial training, as defined under OSHA Regulation 29 CFR 1910.120/29 CFR 1926.65, have completed their training or refresher training within the past 12 months, and have been certified by a physician as fit for hazardous waste operations.

6.1 SAFE WORK PRACTICES

Safe work practices that will be followed by site workers include, but are not limited to, the following rules:

- Working before or after daylight hours without special permission is prohibited.
- Do not enter restricted or posted areas without permission from the site Health and Safety Officer.
- Smoking is limited to designated areas.
- Possessing, using, purchasing, distributing, or having controlled substances in their system throughout the day or during meal breaks is prohibited.
- Consuming or possessing alcoholic beverages is prohibited.
- Good housekeeping – employees will be instructed about housekeeping throughout field activities.
- Sitting or kneeling in areas of obvious contamination is prohibited.
- Avoid overgrown vegetation and tall grass areas.

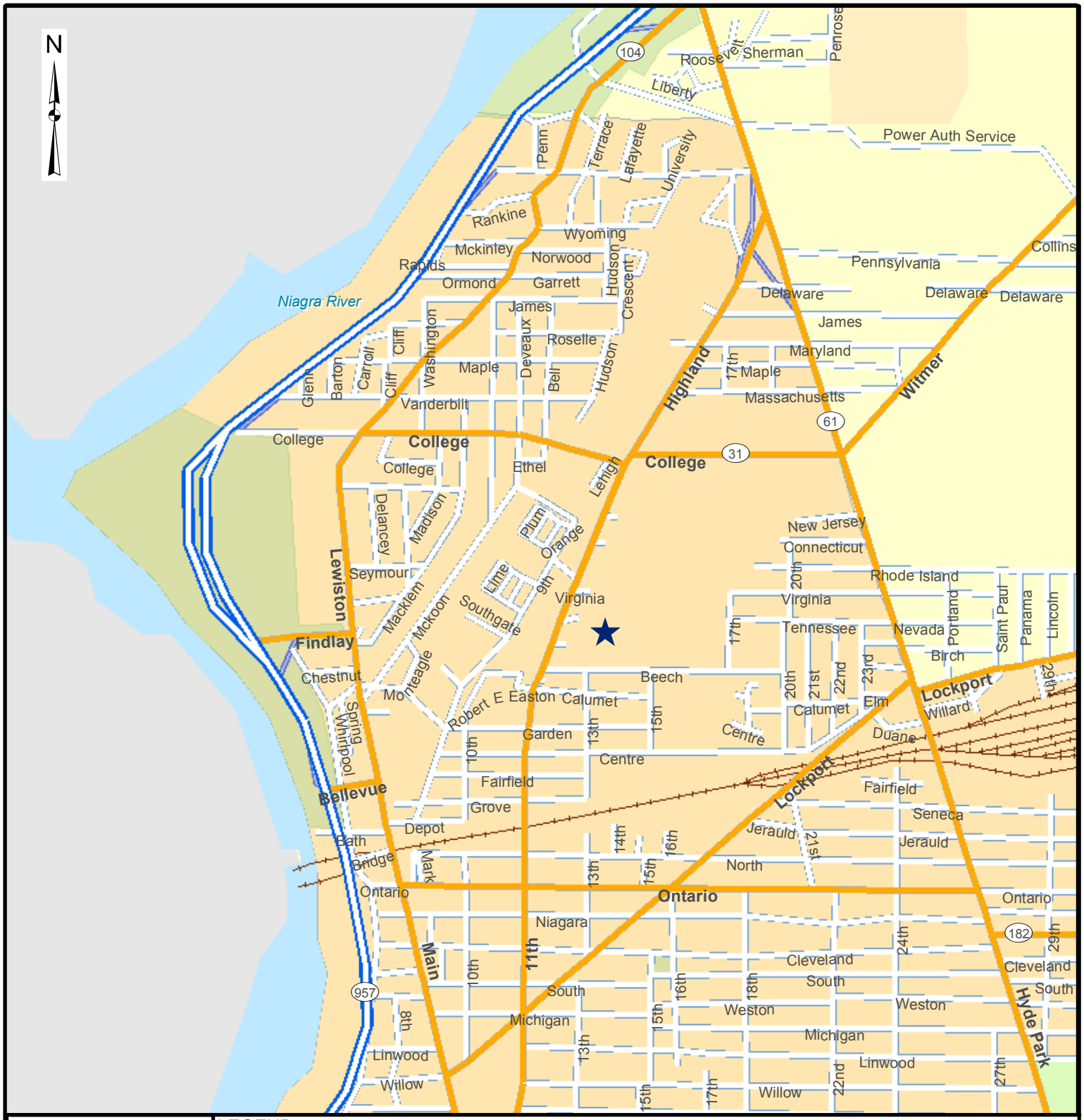
6.2 DAILY STARTUP AND SHUTDOWN PROCEDURES

The following protocols will be followed daily prior to start of work activities:

- The site Health and Safety Officer will review site conditions to determine if modification of work and safety plans is needed.
- Personnel will be briefed and updated on new safety procedures as appropriate.
- Safety equipment will be checked for proper function.

- The site Health and Safety Officer will ensure that the first aid kit is adequately stocked and readily available.

- The Contractor is responsible for the security of its own equipment. All onsite equipment and supplies will be locked and secure.



LEGEND

★ Site Location

0 0.1 0.2 0.4 0.6 0.8 Miles

Source: NYSGIS Clearinghouse

EA Engineering, Science, and Technology, Inc.

POWER CITY WAREHOUSE SITE (9-32-131)
SITE CHARACTERIZATION WORK PLAN
NIAGARA FALLS, NEW YORK

FIGURE 1
Site Location Map

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
RSC	CJS	DCC	DWE	AS SHOWN	JULY 2007	14368.11	GIS/PROJECTS/ FIGURE1.MXD

Attachment A

Worker Training and Physical Examination Record

ATTACHMENT A

WORKER TRAINING AND PHYSICAL EXAMINATION RECORD

SITE: Power City Warehouse, Niagara Falls, New York						
Name	OSHA 40-Hour Hazardous Waste Operations Training		OSHA Hazardous Waste Supervisor Training	CPR (date of expiration)	First Aid (date of expiration)	Date of Last Physical Examination
	Initial	Annual				
EA PERSONNEL						
Tom Porter	2/3/89	11/8/06	3/3/89	---	---	6/12/01
David Eck, P.E.	3/1/96	11/8/06	---	8/07	8/07	4/29/04
Robert Casey	11/1/01	6/12/06	---	5/7/06	5/1/05	10/26/04
David Crandall	3/10/06	---	---	4/18/08	4/18/09	3/20/07
Joe Von Uderitz	5/27/99	11/14/07	---	5/30/07	5/30/09	9/27/05
Richard Waterman	8/88	1998	2/94	3/04	3/05	---
SUBCONTRACTOR OR ADDITIONAL PERSONNEL						
---	---	---	---	---	---	---
---	---	---	---	---	---	---

NOTE: Prior to performing work at the site, this Health and Safety Plan must be reviewed and an agreement to comply with the requirements must be signed by all personnel, including contractors, subcontractors, and visitors. Contractors and subcontractors are ultimately responsible for ensuring that their own personnel are adequately protected. In signing this agreement, the contractors and subcontractors acknowledge their responsibility for the implementation of the Health and Safety Plan requirements. All personnel onsite shall be informed of the site emergency response procedures and any potential safety or health hazards of the operations.

Attachment B

Review Record

ATTACHMENT B

HEALTH AND SAFETY PLAN REVIEW RECORD

I have read the Health and Safety Plan for this site and have been briefed on the nature, level, and degree of exposure likely as a result of participation in this project. I agree to conform to all the requirements of this Plan.

SITE: Power City Warehouse, Niagara Falls, New York			
Name	Signature	Affiliation	Date

Attachment C

Site Entry and Exit Log

ATTACHMENT C

SITE ENTRY AND EXIT LOG

SITE: Power City Warehouse, Niagara Falls, New York				
Name	Date	Time of Entry	Time of Exit	Initials

Attachment D

Accident Investigation Report

ACCIDENT/LOSS REPORT

THIS REPORT MUST BE COMPLETED BY THE INJURED EMPLOYEE OR SUPERVISOR AND FAXED TO EA CORPORATE HUMAN RESOURCES WITHIN 24 HOURS OF ANY ACCIDENT. THE FAX NUMBER IS **(410) 771-1780**.

NOTE WHENEVER AN EMPLOYEE IS SENT FOR MEDICAL TREATMENT FOR A WORK RELATED INJURY OR ILLNESS, PAGE 4 OF THIS REPORT MUST ACCOMPANY THAT INDIVIDUAL TO ENSURE THAT ALL INVOICES/BILLS/CORRESPONDENCE ARE SENT TO HUMAN RESOURCES FOR TIMELY RESPONSE.

A. DEMOGRAPHIC INFORMATION:

NAME OF INJURED EMPLOYEE:_____
HOME ADDRESS:_____
HOME PHONE:_____ DATE OF BIRTH:_____
AGE:_____ SEX: M F
MARITAL STATUS:_____ NAME OF SPOUSE (if applicable)_____
SOCIAL SECURITY NUMBER:_____ DATE OF HIRE:_____
NUMBER OF DEPENDENTS:_____
EMPLOYEES JOB TITLE:_____
DEPT. REGULARLY EMPLOYED:_____
WAS THE EMPLOYEE INJURED ON THE JOB: Y N
PRIMARY LANGUAGE OF THE EMPLOYEE: _____

B. ACCIDENT/INCIDENT INFORMATION:

DATE OF ACCIDENT:_____ TIME OF ACCIDENT:_____
REPORTED TO WHOM: _____ NAME OF SUPERVISOR_____
EXACT LOCATION WHERE ACCIDENT OCCURRED (**including street, city, state and County**):
_____
_____

EXPLAIN WHAT HAPPENED (include what the employee was doing at the time of the accident and how the accident occurred): _____
_____
_____
_____

DESCRIBE THE INJURY AND THE SPECIFIC PART OF THE BODY AFFECTED (i.e., laceration, right hand, third finger):
_____
_____

OBJECT OR SUBSTANCE THAT DIRECTLY INJURED EMPLOYEE:_____
_____
NUMBER OF DAYS AND HOURS EMPLOYEE USUALLY WORKS PER WEEK:_____
IS THE EMPLOYEE EXPECTED TO LOSE AT LEAST ONE FULL DAY OF WORK?_____
DOES THE EMPLOYEE HAVE A PREVIOUS CLAIM? Y N if yes, STATUS Open Closed
WAS THE EMPLOYEE ASSIGNED TO RESTRICTED DUTY? _____

C. ACCIDENT INVESTIGATION INFORMATION

WAS SAFETY EQUIPMENT PROVIDED? Y N If yes, was it used? Y N
WAS AN UNSAFE ACT BEING FORMED ? Y N If yes, describe_____
WAS A MACHINE PART INVOLVED? Y N If yes, describe _____
WAS THE MACHINE PART DEFECTIVE? Y N If yes, in what way _____
WAS A 3RD PARTY RESPONSIBLE FOR THE ACCIDENT/INCIDENT? Y N
If yes, list Name, address and phone number_____
_____
WAS THE ACCIDENT/INCIDENT WITNESSED? Y N
If yes, list Name, address and phone number: _____
_____

D. PROVIDER INFORMATION

WAS FIRST AID GIVEN ON SITE? Y N
If yes, what type of medical treatment was given _____
PHYSICIAN INFORMATION (if medical attention was administered)
NAME:_____
ADDRESS (incl. City, state and zip):_____
PHONE:_____

HOSPITAL ADDRESS (incl. Name, address, city, state, zip code & phone)
_____
_____

WAS THE EMPLOYEE HOSPITALIZED? Y N If yes, on what date_____
WAS THE EMPLOYEE TREATED AS AN OUTPATIENT, RECEIVE EMERGENCY TREATMENT OR AMBULANCE SERVICE? _____

PLEASE ATTACH THE PHYSICIANS WRITTEN RETURN TO WORK SLIP

***NOTE* A PHYSICIANS RETURN TO WORK SLIP IS REQUIRED PRIOR TO ALLOWING THE WORKER TO RETURN TO WORK**

E. AUTOMOBILE ACCIDENT INFORMATION (complete if applicable)

AUTHORITY CONTACTED AND REPORT #_____
EA EMPLOYEE VEHICLE YEAR, MAKE AND MODEL_____

V.I.N._____ PLATE/TAG #_____
OWNER'S NAME AND ADDRESS:_____
_____
DRIVER'S NAME AND ADDRESS: _____
_____
RELATION TO INSURED:_____DRIVER'S LICENSE #_____
DESCRIBE DAMAGE TO YOUR PROPERTY:_____
_____
_____
DESCRIBE DAMAGE TO OTHER VEHICLE OR PROPERTY:_____
_____
_____
OTHER DRIVER'S NAME AND ADDRESS: _____
_____
OTHER DRIVER'S PHONE:_____
OTHER DRIVER'S INSURANCE COMPANY AND PHONE:_____
_____
LOCATION OF OTHER VEHICLE:_____
NAME, ADDRESS AND PHONE OF OTHER INJURED PARTIES:_____
_____
_____
WITNESSES

NAME:_____ PHONE:_____
ADDRESS:_____
STATEMENT:_____
_____
SIGNATURE: _____

NAME:_____ PHONE:_____
ADDRESS:_____
STATEMENT:_____
_____
SIGNATURE: _____

F. ACKNOWLEDGEMENT

NAME OF SUPERVISOR:_____
DATE OF THIS REPORT: _____ REPORT PREPARED BY:_____

I have read this report and the contents as to how the accident/loss occurred is accurate to the best of my knowledge.

Signature: _____ Date: _____
Injured Employee

I am seeking medical treatment for a work related injury/illness.

Please forward all bills/invoices/correspondence to:

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

11019 McCORMICK ROAD

HUNT VALLEY, MD 21031

ATTENTION: Michele Bailey
HUMAN RESOURCES

(410) 584-7000

INCIDENT REPORT

THIS REPORT IS TO BE COMPLETED WHEN A NEAR MISS OCCURS THAT COULD HAVE POTENTIALLY RESULTED IN SERIOUS PHYSICAL HARM. PLEASE FAX THIS FORM TO EA HUMAN RESOURCES DEPARTMENT AT **(410) 771-1780**.

EXPLAIN WHAT HAPPENED (include what the employee was doing at the time the near miss and how it occurred:) _____

REPORT PREPARED BY: _____ DATE:_____

Attachment E

Emergency Telephone Numbers and Hospital Directions

ATTACHMENT E

EMERGENCY TELEPHONE NUMBERS AND HOSPITAL DIRECTIONS

SITE: Power City Warehouse, Highland Avenue, Niagara Falls, New York	
Police: Niagara Falls Police Department	9-1-1
Fire: Niagara Falls Fire Department	9-1-1
Ambulance:	9-1-1
Hospital: Niagara Falls Memorial Medical Center, Niagara Falls, New York	(716) 278-4000
New York Regional Poison Control Center: 750 East Adams Street, Syracuse, NY	(315) 464-7078 800-222-1222
Directions to Niagara Falls Memorial Medical Center, 621 Tenth St., Niagara Falls, New York Starting on Highland Ave., go south toward Beech Ave. Turn slight left onto Portage Rd. Turn Right onto Pine Ave / Route 62A. Turn left onto Tenth St. and end at 621 Tenth St., **Niagara Falls Memorial Medical Center.** Total trip is 1.74 miles; travel time is approximately 5 minutes.	
Program Safety and Health Officer: ***Peter Garger, CIH***	(410) 771-4950
Program Manager: ***Christopher Canonica, P.E.***	(315) 431-4610
EA Project Manager ***Robert Casey***	(315) 431-4610
In case of spill, contact *Robert Casey*	(315) 431-4610
EA Medical Services EMR 4360 Chamblee Dunwoody Road, Suite 202 Atlanta, Georgia 30341 ***Contact: Dr. Elayne F. Theriault***	(800) 229-3674
Site Manager/Site Health and Safety Officer: ***David Crandall***	(315) 431-4610
In case of accident or exposure incident, contact Corporate Health and Safety Officer ***Peter Garger***	(410) 771-4950

Attachment F

Emergency Equipment Available Onsite

ATTACHMENT F

EMERGENCY EQUIPMENT AVAILABLE ONSITE

Type of Equipment	Location
Communications Equipment	
Mobile Telephone	In EA vehicle
Medical Support Equipment	
First Aid Kits	In EA vehicle
Eye Wash Station	In EA vehicle
Fire Fighting Equipment	
Fire Extinguishers	In EA vehicle

Attachment G

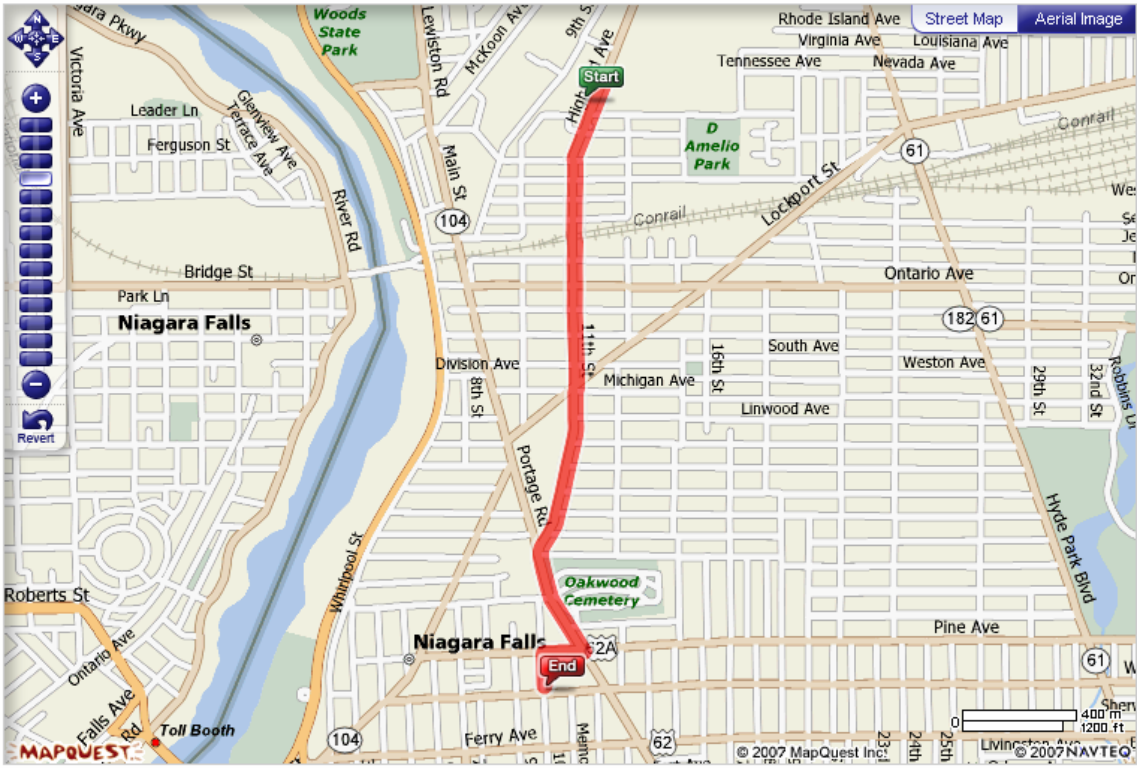
Map to Hospital

ATTACHMENT G

MAP TO HOSPITAL

Directions to Niagara Falls Memorial Medical Center:

Starting on Highland Ave., go south toward Beech Ave. Turn slight left onto Portage Rd. Turn Right onto Pine Ave / Route 62A. Turn left onto Tenth St. and end at 621 Tenth St., **Niagara Falls Memorial Medical Center.**
Total trip is 1.74 miles; travel time is approximately 5 minutes.



Attachment H

Personal Protective Equipment Activity Record

ATTACHMENT H

PERSONAL PROTECTIVE EQUIPMENT ACTIVITY RECORD

SITE: Power City Warehouse, Niagara Falls, New York		
Weather Condition:		Onsite Hours: From To
Changes in Personal Protective Equipment Levels[(a)]	Work Operations	Reasons for Change
Site Health and Safety Plan Violations	Corrective Action Specified	Corrective Action Taken (yes/no)
Observations and Comments:		
Completed by: _____ Site Health and Safety Officer		Date
(a) Only the Site Health and Safety Officer may change personal protective equipment levels, using only criteria specified in the Health and Safety Plan.		