Site Characterization Work Plan
Former Damshire Cleaners Site (4-01-059)
Albany, Albany County, 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 13211-2158
(315) 431-4610

December 2010
Revision: FINAL
EA Project No. 14368.46

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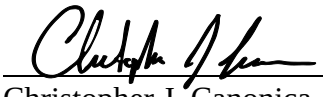

1 December 2010

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

Date

1 December 2010

Judith A. Graham, Project Manager
EA Science and Technology

Date

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1. INTRODUCTION

1.1 PROJECT BACKGROUND

The New York State Department of Environmental Conservation (NYSDEC) issued EA Engineering, P.C. and its affiliate EA Science and Technology (EA) a Work Assignment (WA) to perform a Site Characterization (SC) at the Former Damshire Cleaners site (NYSDEC Site No. 4-01-059). The site consists of a former commercial property located on 1205 Central Avenue, Albany, Albany County, New York (Figure 1). The investigation will be extended to offsite areas within public right-of-ways located along Rooney Street, Central Avenue, and Highland Avenue (Figure 2).

The WA will be conducted under the NYSDEC State Superfund Standby Contract (WA No. D004438-46). An initial step in the SC investigation is to prepare a 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 SC investigation:

- Work plan development and records review.
- Field investigation including soil, groundwater, and soil vapor investigation; and site survey.
- Field documentation and reporting.

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

1.2.1 Work Plan Development and Records Review

A site visit and kickoff meeting were conducted on 21 September 2010 with NYSDEC project managers to discuss the development of the SC Work Plan. Meeting attendees included representatives from the NYSDEC Division of Environmental Remediation (DER), NYSDOH, and EA. The site meeting was held to become familiar with the site and discuss proposed field work activities.

A records review of data provided by the NYSDEC will be completed prior to site investigation field activities.

1.2.2 Field Investigation

1.2.2.1 Phase I – Geoprobe Investigation

Because permission to access the subject site has not been received, the first phase of the SC investigation will include conducting a Geoprobe® investigation along the property boundaries in an attempt to collect enough data to meet inactive hazardous waste site listing criteria. Geoprobe soil and groundwater investigations will consist of soil borings, monitoring well installation, and soil and groundwater sampling at various locations within the public right-of-ways and on adjacent properties identified throughout the targeted area (Figure 3). The protocol for this effort will follow the NYSDEC *DER-10 Technical Guidance for Site Investigation and Remediation*[1].

1.2.2.2 Phase II – Membrane Interface Probe Survey, Soil, Groundwater, and Soil Vapor Investigation

A membrane interface probe (MIP) survey will be completed to delineate areas of impact and to help determine locations for soil borings and monitoring well locations. Soil and groundwater investigations will consist of soil borings, monitoring well installation, soil vapor point installation, and sampling at various locations throughout the targeted area. The protocol for this effort will follow the NYSDEC *DER-10 Technical Guidance for Site Investigation*[1] *and Remediation* and NYSDOH *Guidance for Evaluating Soil Vapor Intrusion*[2].

1.2.2.3 Site Survey

A site survey will be completed by a surveying professional to determine topographic information and locate building structures and site features for the preparation of a base map and groundwater contour map.

1.2.3 Field Documentation and Reporting

Field logbooks, soil boring logs, and groundwater sampling logs will be used during on-site work. A dedicated field logbook will be maintained by the site manager overseeing the site activities. In addition to the logbook, original sampling forms used during the field activities will be submitted to NYSDEC as part of the final report. Field activities will be photo documented.

Upon completion of the field activities, a SC report will be prepared in accordance with Section 3.13 of DER-10 and submitted to NYSDEC. The SC report will include a summary of field activities, laboratory analytical data, sampling location maps, groundwater contour maps and a summary and discussion of the findings of the investigation.

1. NYSDEC. 2010. *DER-10 Technical Guidance for Site Investigation and Remediation*. May.
2. NYSDOH. 2006. *Guidance for Evaluating Soil Vapor Intrusion*. October.

1.3 WORK PLAN ORGANIZATION

This Work Plan is organized into the following sections:

- ***Section 1***—Introduction
- ***Section 2***—Site Background
- ***Section 3***—Scope of Work
- ***Section 4***—Storage and Disposal of Waste
- ***Section 5***—Site Survey and Mapping
- ***Section 6***—Data Validation and Determination of Usability
- ***Section 7***—Quality Assurance Project Plan (QAPP)
- ***Section 8***—Health and Safety Plan (HASP).

Field forms are provided in Appendix A. The project-specific technical QAPP and HASP plans were developed for this investigation and are included as Appendixes B and C.

- The specific procedures for the collection, analysis, and evaluation of data that will be legally and scientifically defensible are presented in the QAPP Addendum (Appendix B). 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 HASP Addendum (Appendix C).

The Schedule 2.11, Minority and Women-Business Owned Enterprise utilization plan for this WA were submitted as a separate deliverable on 4 October 2010.

2. SITE BACKGROUND

2.1 SITE DESCRIPTION AND BACKGROUND

The site is a commercial drycleaners property formerly known as Damshire Cleaners located at 1205 Central Avenue, Albany, New York. The site consists of a vacant building on a 0.39 acre property located in a mixed residential and commercial area in the town of Colonie (Tax Map No.: 53.06-06-35.1). The site is bordered by Roessleville Presbyterian Church to the southeast, Greens Appliances to the northwest, residential areas to the northeast, and commercial areas (Hollywood Video) and residential areas to the southwest. Dry cleaning operations were previously conducted in the now vacant concrete block building. Spill No. 0107674 was assigned to the site in 2001 after fuel oil spill was reported by a fuel supplier. A subsequent investigation identified petroleum compounds and chlorinated volatile organic compounds (CVOCs) in samples collected at the site. The property was sold in September 2007 and limited site investigations completed by CT Male, the property owner's environmental consultant, identified chlorinated compounds related to dry cleaning operations and volatile organic compounds (VOCs) related to petroleum products in soil vapor samples collected beneath the building slab. It is suspected that chemical wastes were improperly disposed of onsite during the period when dry cleaning operations were active.

2.2 GEOLOGY AND HYDROGEOLOGY

A review of the geologic map of New York, Hudson Sheet published by the University of the State of New York, the State Education Department, dated 1970, indicates that bedrock in this area is made up of units of the Lorraine, Trenton, and Black River Groups including Utica Shale, Canajoharie Shale, and Normanskill Shale. These units consist of stratified units of sedimentary bedrock from the upper to middle Ordivican and can be up to 4,500-ft thick.

Soil boring logs generated during previous investigations conducted at the site indicate that the unconsolidated material consist of silty fine to meduim sand. Groundwater was encountered at approximately 12 ft below grade during the investigation conducted in 2001. Based on very limited groundwater elevation data available, it is assumed that groundwater follows topographic contours and flows northeast to southwest across the site. The subject property and surrounding area is serviced by municipal water supply and sanitary sewers.

2.3 SITE HISTORY/PREVIOUS INVESTIGATIONS

A limited soil boring and soil vapor sample investigation was completed by DW Solutions on behalf of the former property owner in October 2001 as a result of a reported fuel oil spill. As summarized in a brief letter report dated 29 October 2001, DW Solutions indicated that CVOC tetrachloroethene (TCE) was detected in soil samples collected onsite (0.039 parts per million [ppm] to 0.8 ppm). Vapor samples were collected using carbon tubes and were detected in concentrations below the method detection limits.

In January 2010, CT Male conducted limited soil vapor intrusion investigation on behalf of the current property owner. The result of the investigation indicated that soil vapors were impacted by VOCs and CVOCs at concentrations (up to 130,000 µg/m^3 PCE in sub slab soil vapor) indicating that further investigation was warranted. Based on the information in the report, the NYSDEC notified the owner that the site will be designated as a potential hazardous waste disposal site and indicated that the NYSDEC, as required by law, intends to investigate the site.

The SC investigation will be conducted at the Former Damshire Cleaners site to determine the source area of the known impacts and to evaluate the extent of CVOC impacts to soil, soil vapor, and groundwater at the site.

3. SCOPE OF WORK

This section describes the data to be obtained during the field activities along with the number, types, and locations of samples. A Generic QAPP (EA 2006)[3] was developed for field activities performed under the NYSDEC Standby Contracts D004438 and D004441. The field sampling protocols and quality assurance/quality control procedures are provided in the site specific QAPP Addendum (Appendix B). Daily field reports will be completed for each day of field activities. A copy of the daily field report form is provided in Appendix A.

3.1 PHASE I – GEOPROBE INVESTIGATION

A total of eight soil borings will be installed using Geoprobe drilling technology 15 ft into groundwater (approximately 30 ft below ground surface [bgs]) at locations around the perimeter of the subject property and within public right-of-ways. Driller will be responsible for obtaining all utility clearances and permits required to do work on sidewalks and in right-of-ways.

Small diameter soil borings will be installed at each location identified on the sampling location map (Figure 3). Continuous soil sampling will be completed at each location using a macro-core sampler or similar device. Soil samples will be field screened using a photoionization detector (PID) (ppbRAE) for CVOCs. Soils exhibiting the highest PID results will be selected for laboratory analysis by United States Environmental Protection Agency (USEPA) Method 8260B. Up to two soil samples will be collected in each soil boring for analysis. Sample selection for analysis will be biased toward the most impacted soil samples. Each soil boring will be converted into 1-inch diameter monitoring wells.

Eight monitoring wells will be installed in the borings to approximately 30 ft bgs depending on groundwater elevations. The monitoring wells will be constructed of 1.0-in. polyvinyl chloride (PVC) casing and 10 ft of 0.010-slot screen. A sand pack will be installed around the screen up to 2 ft above the top of the screen. A 2-ft bentonite seal will be placed above the sand pack and the remaining annular space will be filled with bentonite to approximately 0.5 ft below the surface. Flush mounted steel covers and concrete pads of approximately 12-in. in diameter will be installed to protect each of the monitoring wells.

Groundwater samples will be collected from the small diameter monitoring wells using low flow sampling methodologies after the wells have been developed. Methods for developing and sampling the small diameter monitoring wells will be utilized as described in Sections 3.2.4 through 3.2.9 below. Two rounds of groundwater samples will be collected from each of the monitoring wells. The wells will be surveyed as described in Section 5.

Down hole equipment will be decontaminated following each boring location. Soil and groundwater generated during the investigation will be screened using a PID (ppbRAE). If soil

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

and water exhibit VOC impacts, they will be placed in separate drums and disposed of by a regulated facility as described in Section 4. If soils do not exhibit impacts they will be used to backfill the borings.

A brief summary report will be prepared that describes field activities completed at the site. The report will include a summary of analytical data, topographic and groundwater contour maps generated for the site, analytical reports, and an evaluation of the overall condition of soil and groundwater. This report will be submitted to the NYSDEC for review within 30 days of receipt of data validation reports.

3.2 PHASE II – MIP SURVEY, SOIL BORING AND GROUNDWATER MONITORING WELL INSTALLATION, SOIL VAPOR POINT INSTALLATION AND SAMPLING

3.2.1 MIP Survey

The MIP survey will be completed to collect real-time soil and groundwater analytical data. Data will be used to in delineate areas of CVOC impacts to soil and the potential source area onsite. The MIP survey is a subsurface monitoring technique that uses a membrane interface probe to measure total VOC content of soil vapors. Soil is heated until volatilization occurs. Vapors are carried to the analytical instruments by a carrier gas giving real-time measurements of total VOCs. Using an electron capture detector, the instrument measures electrical conductivity in total micro volts which is calibrated to parts per billion (ppb) of total VOCs. MIP/electron capture detector can measure CVOC concentrations below the water table down to approximately 250 ppb. Geoprobe drilling techniques will be used to collect analytical samples based on MIP survey data.

Approximately 14 MIP survey points will be installed to delineate a potential source area at the Former Damshire Cleaners site and the extent of potential impacts in soils and groundwater downgradient. Three survey points will be installed beneath the slab inside the building and immediately downgradient of the structure. Remaining survey points will be determined based on data collected in the field. Direct-push technologies will be used to install soil borings and small diameter monitoring wells in locations where larger drilling rigs cannot enter (buildings and under overhead utility lines).

EA will mark theses locations with flags and conduct a global positioning system site survey to be included in the site base map. EA will include a summary of the MIP investigation in the SC report summarizing each field activity and findings of the investigation.

3.2.2 Soil Boring Installation

Based on the MIP survey, approximately 12 soil borings will be installed approximately 15 ft into the groundwater table (approximately 30 ft bgs) at the site using direct-push, hollow-stem auger drilling methods or a combination of both depending on utilities and structures. Three of

the soil boring locations will be inside the building onsite which will only be accessible by a Geoprobe unit. Proposed soil boring locations are shown on Figure 3. Soil samples will be collected continuously from the surface to the total depth of the boreholes using split-spoon or core samplers. Soil samples will be characterized according to the Unified Soil Classification System. Soil boring logs will be generated at each location.

3.2.3 Soil Sampling Procedures

A PID (ppbRAE) will be used to screen soil samples from each sampling interval. Samples will be collected from the samplers using clean nitrile gloves and placed in sealed plastic bags labeled with boring number, sampling interval, and recovery data; and allowed to equilibrate before PID measurements are collected. If organic compounds are detected above and below the water table, then one soil sample from both above and below the water table will be collected from the interval with the highest PID measurement and sent for laboratory analysis of VOCs by USEPA Method 8260B. If VOCs are not detected in samples, soil samples will be collected from just above the water table for analysis. Soil samples selected for analysis will be transferred from sealed plastic bags to properly labeled laboratory containers using clean nitrile gloves. Soil sample containers will be placed in ice-filled coolers prepared for shipment. Samples will be shipped to the analytical laboratories within 24 hours. The samples will be labeled, handled, and packaged following the procedures described in the Generic QAPP and QAPP Addendum. Quality assurance/quality control samples will be collected at the frequency detailed in the Generic QAPP and QAPP Addendum Table 1. Soil cuttings generated during the investigation that exhibit impacts will be drummed and disposed of as described in Section 4.

3.2.4 Monitoring Well Installation

Approximately 12 monitoring wells will be installed in selected borings to approximately 30 ft bgs depending on groundwater elevations. The monitoring wells will be constructed of 1.5- to 2-in. polyvinyl chloride (PVC) casing and 10 ft of 0.010-slot screen. A sand pack will be installed around the screen up to 2 ft above the top of the screen. A 2-ft bentonite seal will be placed above the sand pack and the remaining annular space will be filled with bentonite to approximately 0.5 ft below the surface. Flush mounted steel covers and concrete pads of approximately 12-in. in diameter will be installed to protect each of the monitoring wells.

3.2.5 Monitoring Well Development

The newly installed monitoring wells will be developed no sooner than 24 hours following installation. The wells will be developed using surging and pumping techniques. Well development will be considered complete when temperature, conductivity, and pH have stabilized and a turbidity of less than 50 nephelometric turbidity units (NTUs) has been achieved. Development water will be handled and disposed of as detailed in Section 4.

3.2.6 Groundwater Sampling

Groundwater samples will be collected from each of the monitoring wells using low-flow sampling techniques. The groundwater samples will be collected using the procedures outlined in Section 3.2.9. Groundwater samples will be analyzed for VOCs by USEPA Method 8260B. Groundwater samples will be collected and analyzed in accordance with NYSDEC Analytical Services Protocol. Hampton Clarke Veritech, Inc. will complete the analysis of samples collected during the investigation.

Groundwater monitoring well sampling procedures will include water level measurements, well purging, field measurements, and sample collection at each monitoring well location. A copy of the purging and sampling log form used to record well purging, water quality measurements, and sampling flow rates is provided in Appendix A. The objective of the groundwater sampling protocol is to obtain samples that are representative of the aquifer in the well vicinity so that analytical results reflect the composition of the groundwater as accurately as possible.

Rapid and significant changes can occur in groundwater samples upon exposure to sunlight, temperature, and pressure changes at ground surface. Therefore, groundwater sampling will be conducted in a manner that will minimize interaction of the sample and the surface environment. The equipment and protocol for collecting groundwater samples by each method are described below.

3.2.7 Purging and Sampling Equipment

Well purging and sampling will be performed using the following:

- Disposable Teflon bailers, grundfos submersible pump.
- Electronic water level measurement unit with accuracy of 0.01 ft.
- PID instrument (ppbRAE or similar) to monitor vapor concentrations during purging and sampling as required by the HASP.

3.2.8 Field Analytical Equipment

Field equipment to be used at the site will include a Horiba U-22 water quality meter (or similar) with a flow-through cell, which includes probes for measurement of pH, Eh, turbidity, dissolved oxygen, temperature, and conductivity. Additionally, a PID (ppbRAE) will be used to field screen soil samples and get a headspace reading on the well head during groundwater sampling. Each piece of equipment will be checked by the EA Site Manager to be in proper working order before its use and calibrated as required by the manufacturer. Prior to each use, field analytical equipment probe(s) will be decontaminated. After each use, the instrument will be checked and stored in an area shielded from weather conditions.

Instruments will be calibrated at the beginning of each day of groundwater sampling.

3.2.9 Groundwater Sampling Procedures

Groundwater samples will be analyzed by Hampton-Clark Veritech, an approved Environmental Laboratory Approval Program (ELAP)-certified laboratory for VOCs by USEPA Method 8260B in accordance with NYSDEC Analytical Services Protocol. The procedures listed below will be followed during monitoring well groundwater sampling:

- Wear appropriate personal protective equipment as specified in the HASP and the HASP Addendum. In addition, samplers will use new sampling gloves for the collection of each sample.

- Unlock and remove the well cap.

- Obtain PID readings and record them in the field logbook.

- Measure the static water level in the well with an electronic water level indicator. The water level indicator will be washed with Alconox detergent and water, then rinsed with deionized water between individual wells to prevent cross-contamination.

- Calculate the volume of water in the well.
- Purge using dedicated tubing and low flow pumping procedures. Purged water will be containerized separately from decontamination fluids.

- Allow field parameters of turbidity, pH, reduction-oxidation potential (Eh), dissolved oxygen, specific conductivity, and temperature to stabilize before sampling. Purging will be complete if the following conditions are met:

  — Turbidity is below 50 NTUs
  — Consecutive pH readings are ±0.2 pH units of each other
  — Consecutive water temperatures are ±0.5°C of each other
  — Consecutive measured specific conductance is ±10 percent of each other.

  If these parameters are not met after purging a volume equal to three times the volume of standing water in the well, the EA Project Manager will be contacted to determine the appropriate action(s).

- If the well goes dry before the required volumes are removed, the well may be sampled when it recovers (recovery period up to 24 hours). Obtain sample from well with a bailer suspended on new, clean nylon twine. The sampling will be performed with a new bailer dedicated to each individual well. Collect the sample aliquot for VOC analysis by lowering and raising the bailer slowly to avoid agitation and degassing, and then carefully pour directly into the appropriate sample bottles.

- Sample bottles containing appropriate preservative for the parameter to be analyzed will be obtained from the laboratory.

- Place analytical samples in cooler and chill to 4°C. Samples will be shipped to the analytical laboratories within 24 hours.

- Re-lock well cap.

- Fill out field logbook, sample log sheet, labels, custody seals, and chain-of-custody forms.

Groundwater samples will be placed in appropriate sample containers, sealed, and submitted to the laboratory for analysis. The samples will be labeled, handled, and packaged following the procedures described in Generic QAPP and QAPP Addendum. Quality assurance/quality control samples will be collected at the frequency detailed in the Generic QAPP and QAPP Addendum Table 1.

3.2.10 Soil Vapor Point Installation and Sampling

A total of four soil vapor points will be installed using Geoprobe macro-cores to an approximate depth of 12 ft bgs. Soil vapor points will be located in areas between the site and residential properties and active business, but may be relocated depending on analytical data collected during the MIP and soil boring investigation (Figure 3).

Soil Vapor Point Installation

Four temporary soil vapor points will be installed using Geoprobe® macro-cores to approximately 12 ft bgs, approximately 3 ft above the water table interface. Soil vapor samples will be collected from the soil vapor points using the procedures detailed in the following section. Soil vapor samples will be analyzed by ConTest, an ELAP-certified laboratory located in Longmeadow, Massachusetts, for VOCs using USEPA TO-15. A minimum reporting limit of 1 $\mu g/m^3$ will be achieved for VOC analytes.

Soil vapor point will be constructed in the same manner at each sampling location to minimize possible discrepancies. The following procedures will be followed when implementing soil vapor sampling techniques:

- Soil vapor points will be installed using direct-push (Macro-Core) technology.

- Porous backfill material (e.g., glass beads or coarse sand) will be used to create a sampling zone from 1- to 2-ft long.

- Soil vapor points will be fitted with inert tubing (e.g., Teflon-type®) of the appropriate size (typically from 1/8-in. to 0.25-in. diameter) and of laboratory- or food-grade quality to the surface.

- Soil vapor points will be sealed above the sampling zone with a granular bentonite slurry for a minimum distance of 3 ft to prevent outdoor air infiltration, and the remainder of the borehole will be backfilled with clean material.

- Place a summa canister adjacent to the sample tube. The appropriate size summa canister provided by ConTest laboratory, will include a vacuum gauge and flow controller. The canister will be certified clean in accordance with USEPA Method TO-15 and under a vacuum pressure of no more than -25 inches of mercury (in Hg). Flow controllers will be set for an 8-hour collection period.

- Record the serial number of the canister and associated regulator on the chain-of-custody (COC) form and field notebook/sample form. Assign sample identification on the canister identification tag and record this on COC and field notebook/sample form.

- Record the gauge pressure; the vacuum gauge pressure must read -25 in Hg or less, or the canister cannot be used.

- Record the start time on the COC form and in the field notebook/sample form, and take a digital photograph of canister setup and the surrounding area.

Soil Vapor Sampling Procedures

Soil vapor samples will be collected in the same manner at each location to minimize possible discrepancies. The following procedures will be strictly adhered to when sampling soil vapor:

- Shortly after the installation of temporary points, 2-3 volumes (i.e., the volume of the sample probe and tube) will be purged using a syringe prior to collecting the samples to ensure that representative samples are collected.

- Flow rates for both purging and collecting will not exceed 0.2 liters per minute to minimize outdoor air infiltration during sampling.

- Samples will be collected in accordance with NYSDOH guidance documents using an appropriate container, which meet the objectives of the sampling (e.g., investigation of areas where low or high concentrations of volatile chemicals are expected; to minimize losses of volatile chemicals that are susceptible to photodegradation), and meet the requirements of the sampling and analytical methods (e.g., low-flow rate; Summa® canisters, which are batch certified clean by the laboratory, using USEPA Method TO-15). The sample duration for these samples will be 8 hours.

- Sample size depends on the volume required to achieve minimum reporting limit requirements.

- A tracer gas (e.g., helium) will be used at each location before collecting soil vapor samples to verify that adequate installation and sampling techniques are being implemented (i.e., to verify infiltration of outdoor air is not occurring). The area where the soil vapor probe intersects the ground surface is covered with a plastic pail. The air within the pail is then enriched with helium to approximately 100 percent. An air sampling pump (set at 0.2 L per minute) then purges approximately 2 L of air from the soil vapor probe into a tedlar bag. The tedlar bag is then purged using a MGD-2002 Helium/Hyrogen Leak Detector and the ppbRAE. Once verified, continued use of the tracer gas may be reconsidered.

- During the sampling event, canisters and flow controller gauges will be monitored periodically to check the sample flow rate. In the event that a malfunction in sampling equipment is observed, the NYSDEC Project Manager shall be notified and appropriate action (i.e., changing canisters and restarting sampling) will be taken.

When soil vapor samples are collected, the following actions will be taken to document local conditions during sampling that may influence interpretation of the results:

- Sample location will be noted, including the site, area streets, neighboring commercial or industrial facilities (with estimated distance to the site), outdoor ambient air sample locations (if applicable), and compass orientation (north).

- Weather conditions (e.g., precipitation, outdoor temperature, barometric pressure, wind speed, and direction) will be noted for the previous 24-48 hours.

- Any pertinent observations will be recorded, such as odors and readings from field instrumentation.

The field sampling team will maintain a sample log sheet summarizing the following:

- Sample identification
- Date and time of sample collection
- Sampling depth
- Identity of samplers
- Sampling methods and devices
- Purge volumes
- Volume of soil vapor extracted
- Canister and associated regulator identification
- Vacuum before and after samples collected
- Apparent moisture content (dry, moist, saturated, etc.) of the sampling zone

- Chain-of-custody protocols and records used to track samples.

Upon completion of the sampling, the sample tubing will be removed and the temporary soil vapor probe location will be backfilled with bentonite, marked with a stake/flag that will be labeled with the proper sample identification, and illustrated on the site map so it can be located by the surveyor. Borings performed in paved or concrete areas will be backfilled and refinished at the ground surface with concrete or cold patch.

3.3 DECONTAMINATION PROCEDURES

Non-dedicated equipment and tools used to collect samples for chemical analysis will be decontaminated prior to and between each sample interval 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 grassy surfaces unless they exhibit impacts. If decontamination fluids appear to be impacted they will be collected and stored in an appropriate container and disposed of appropriately. Contaminated materials will be contained and stored on site until disposed of by a regulated hauler (Environmental Products and Services of Vermont).

3.4 LABORATORY ANALYSIS AND REPORTING

Soil and groundwater samples will be analyzed by Hampton Clarke Veritech, an Environmental Lead Proficiency Analytical Testing (ELPAT) and ELAP-certified laboratory for full target compound list (TCL) of VOCs by USEPA Method 8260B.

It is anticipated that preliminary analytical results 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). The lab will provide hard copies of the analytical results and in electronic data deliverable format, which will be submitted to the NYSDEC with the final report. All samples collected will be validated by a third 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 (DUSR) will be submitted to NYSDEC. A DUSR will be provided within standard turnaround time of 30 days.

3.5 SITE CHARACTERIZATION REPORT

Upon completion of the field activities, a SC Report will be prepared and submitted to NYSDEC in accordance with DER-10. The report will include a summary of field and laboratory analytical data, site maps showing sampling locations and MIP surveys, groundwater contours and flow direction, isoconcentration contour maps of potential contamination plumes, and a discussion of the findings. A draft copy of the SI report will be submitted to the NYSDEC within 90 days of receiving the final analytical data. A final copy of the SI report will be submitted within 30 days of receipt of NYSDEC and NYSDOH comments.

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 and liquids generated during the soil boring installation activities. Drummed materials will be clearly labeled with their contents and origin. Investigative derived waste will be managed in accordance with NYSDEC DER-10 Section 3.3(e).

Accordingly, handling and disposal will be as follows:

- Liquids generated from contaminated equipment or a decontamination activity that exhibit visual staining, sheen, or discernable odors will be collected in drums or other containers at the point of generation. They will be stored in a temporary staging area. A regulated waste subcontractor will then remove the generated waste stream and dispose of them at an off-site location.

- Liquid generated during monitoring well sampling or a decontamination activity that exhibit visual staining, sheen, or discernable odors will be collected in drums or other containers. Drums will be moved to a central location for disposal as arranged by EA.

- Soil and rock spoils from drilling operations that exhibit visible staining, sheen, or discernable odors will be containerized in drums and placed in a central location to be picked up by the waste hauler.

- 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 to be picked up by the waste hauler.

- 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. SITE SURVEY

The site survey will be performed by survey professional and will include topographic information, monitoring wells and soil boring and soil vapor point locations, and site structures. A base map of the site and immediate vicinity will be developed using survey data. Relevant features of the site and adjacent areas, including street names, businesses, and other known features, will be identified on the base map.

6. DATA VALIDATION/DETERMINATION OF USABILITY

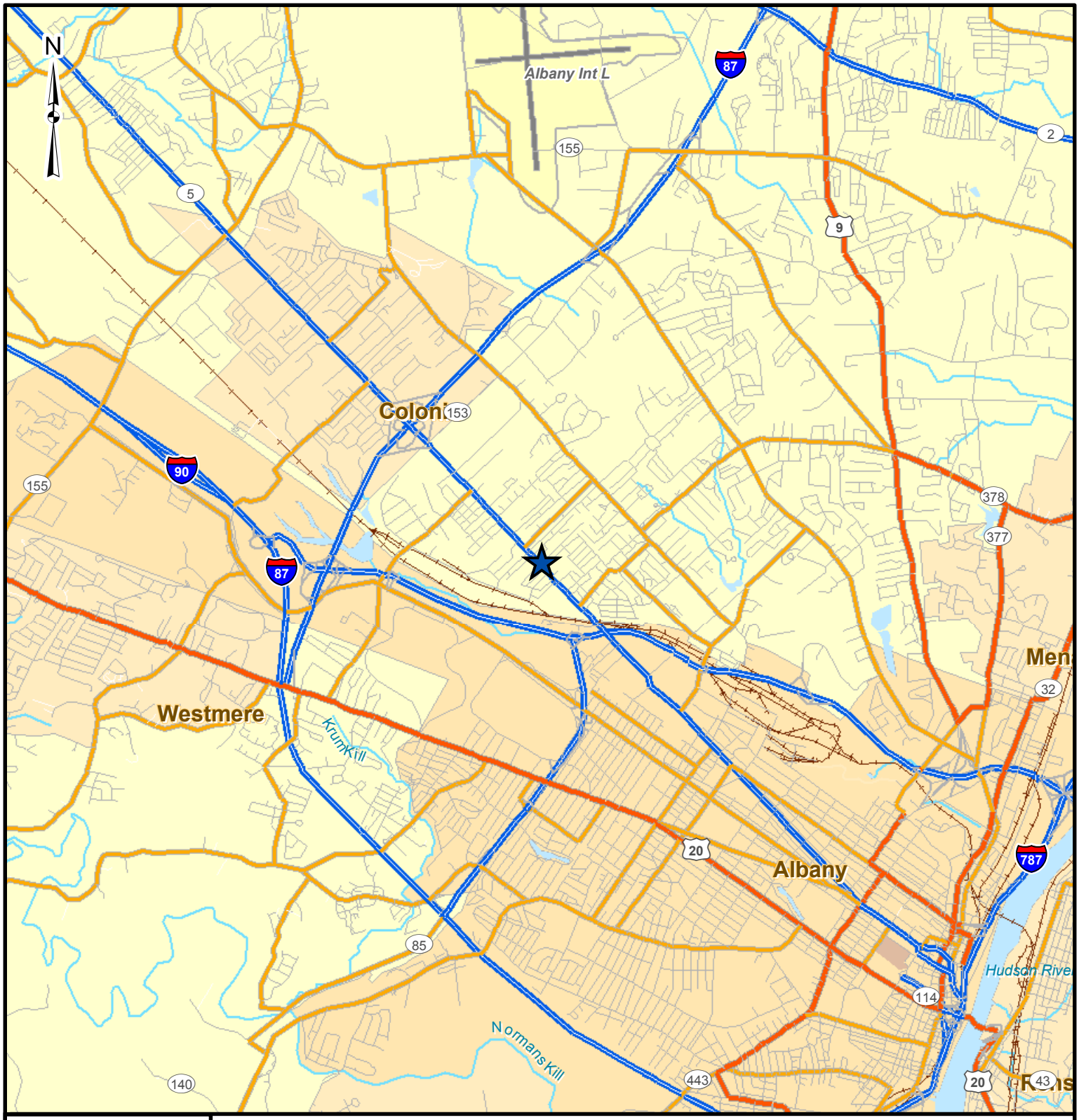
The collection and reporting of reliable data is a primary focus of the sampling and analytical activities. Laboratory and field data will be reviewed to determine the limitations, if any, of the data and to assure that the procedures are effective and that the data generated provide sufficient information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

7. QUALITY ASSURANCE PROJECT PLAN

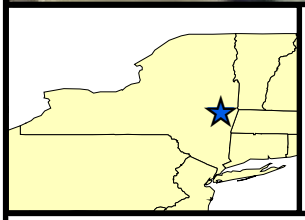
A Generic QAPP has been developed describing sampling, analysis, testing, and monitoring that could potentially be conducted during WA under the NYSDEC Standby Subcontracts D004438 and D004441. As previously stated, the Generic QAPP was submitted under separate cover on 20 June 2006 to the NYSDEC. An addendum to the Generic QAPP was developed to address site-specific quality assurance/quality control issues (Appendix B) for the proposed activities to complete the remedial investigation.

8. 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 20 June 2006 to the NYSDEC. An addendum to the Generic HASP was developed to address site-specific health and safety issues (Appendix C) for the proposed activities to complete the remedial investigation.



EA® / NYSDEC	FORMER DAMPSHIRE CLEANERS SITE (401059) SITE CHARACTERIZATION WORK PLAN COLONIE, NEW YORK					FIGURE 1 Site Location	
PROJECT MGR: JAG	DESIGNED BY: DCC	CREATED BY: DCC	CHECKED BY: JAG	SCALE: AS SHOWN	DATE: OCTOBER 2010	PROJECT NO: 14368.46	FILE NO: GIS/PROJECTS/ FIGURE1.MXD



Legend

Approximate Property Boundary

Approximate Building Outline

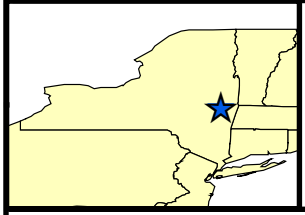
0 15 30 60 90 120 Feet

Source: NYSGIS Clearinghouse

FORMER DAMPSHIRE CLEANERS SITE (401059)
SITE CHARACTERIZATION WORK PLAN
COLONIE, NEW YORK

FIGURE 2
SITE MAP

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
JAG	DCC	DCC	JAG	AS SHOWN	OCTOBER 2010	14368.46	GIS/PROJECTS/ FIGURE2.MXD



Legend

- Approximate Property Boundary
- Approximate Building Outline
- Proposed Phase 1 Geoprobe/Microwell Locations
- Proposed Phase 2 MIP Survey Locations
- Proposed Phase 2 Soil Boring and Monitoring Well Locations
- Proposed Soil Vapor Sample Locations

0 15 30 60 90 120 Feet

Source: NYSGIS Clearinghouse

FORMER DAMPSHIRE CLEANERS SITE (401059)
SITE CHARACTERIZATION WORK PLAN
COLONIE, NEW YORK

FIGURE 3
Proposed Sampling Locations

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
JAG	DCC	DCC	JAG	AS SHOWN	OCTOBER 2010	14368.46	GIS/PROJECTS/ FIGURE3.MXD

Appendix A

Field Forms

FIELD BORING LOG FORM

EA Engineering, P.C.
EA Science and Technology

LOG OF SOIL BORING

Coordinates: _____
Surface Elevation: _____
Casing Below Surface: _____
Reference Elevation: _____
Reference Description: _____

Job. No.	Client: New York State Department of Environmental Conservation	Location:
Drilling Method:		Soil Boring Number:
Sampling Method:		Sheet 1 of
		Drilling Start / Finish
Water Lev.		
Time		

Blow Counts (140-lb)	Feet Drvn/Ft. Recvrd	Well Diagram	PID (ppm) HNu	Depth in Feet		USCS Log	Surface Conditions: Weather: Temperature:
				0			
				1			
				2			
				3			
				4			
				5			
				6			
				7			
				8			
				9			
				10			
				11			
				12			
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			

Logged by: _____ Date: _____

Drilling Contractor: _____ Driller: _____

EA Engineering P.C. and its Affiliate
EA Science and Technology

GROUNDWATER SAMPLING PURGE FORM

Well I.D.:	**EA Personnel:**	**Client:**
Location:	**Well Condition:**	**Weather:**
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**

Purge Date:	**Purge Time:**
Purge Method:	**Field Technician:**

Well Volume		
A. Well Depth (ft):	**D. Well Volume (ft):**	**Depth/Height of Top of PVC:**
B. Depth to Water (ft):	**E. Well Volume (gal) C*D):**	**Pump Type:**
C. Liquid Depth (ft) (A-B):	**F. Five Well Volumes (gal) (E3):**	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temperatur (oC)	Conductivity (uS/cm)	DO (ug/L)	Turbidity (ntu)

Total Quantity of Water Removed (gal): _____ **Sampling Time:** _____
Samplers: _____ **Split Sample With:** _____
Sampling Date: _____ **Sample Type:** _____

COMMENTS AND OBSERVATIONS: _____

Appendix B

Quality Assurance Project Plan Addendum

Quality Assurance Project Plan
for a Site Characterization
Former Damshire Cleaners (4-01-059)
Albany, 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

December 2010
Revision: FINAL
EA Project No. 14368.46

Quality Assurance Project Plan
for a Site Characterization
Former Damshire Cleaners (4-01-059)
Albany, 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

1 December 2010
Christopher J. Canonica, P.E., Program Manager — Date
EA Engineering, P.C.

1 December 2010
Judith A. Graham, Project Manager — Date
EA Science and Technology

December 2010
Revision: FINAL
Project No.: 14368.46

CONTENTS

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 Former Damshire Cleaners, located in Albany, Albany County, New York (NYSDEC Site No 4-01-059). 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 (QA)/quality control (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 subsurface 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 is 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.

- ***Judith A. Graham., 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 QAPP, and allocation of resources and staffing to implement both the QA/QC program and the site Health and Safety Plan.

- ***Scott L. Graham, P.G., 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.

- ***Jim Peterson, EA Site Manager***—The Site Manager will serve as the on-site 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 Hampton-Clarke Veritech located in Fairfield, New Jersey, and ConTest located in Longmeadow, Massachusetts under a subcontract agreement with EA. Environmental Data Validation, Inc will have sample analysis and review responsibilities on this project. The laboratories will have their own provisions for conducting an internal QA/QC review of the data before they are released to EA. The laboratories' 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 laboratories 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 laboratories 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 laboratories 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 Work Plan for a Site Characterization (EA 2008)[2]. The rationale and frequency of the QC samples collected is discussed in the Generic QAPP. The remedial investigation 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. For soil borings, the top depth of the sample interval will be used as the sample number. The final portion of the sample tracking number will be the sample date.

The following terminology will be used for the sample identification:

- **Groundwater Samples**
  Monitoring Wells
  — SITE ID-GW-MW-XX

- **Soil Samples**
  — SITE ID-SB-01 through 08 (for boring samples).

- **Air Samples**
  — SITE ID-SV-01 through 10 – (for soil vapor samples)

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.

2. EA Engineering, P.C. 2008. Work Plan for a Site Characterization Former Damshire Cleaners Site (Site No. 4-01-059), Albany, NY. October 2010.

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 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 their 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.

Sampling methods and analysis will be in accordance with NYSDEC Division of Environmental Remediation *DER-10 Technical Guidance for Site Investigation and Remediation*, May 2010 and shall be used to compare analytical criteria established by NYSDEC including New York Code of Rules and Regulations Part 375 Remedial Program Soil Cleanup Objectives and ambient water quality standards established in NYSDEC Division of Water Technical and Operational Guidance Series 1.1.1.

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, 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.

Groundwater and soil samples will be submitted to Hampton-Clarke Veritech located in Fairfield, New Jersey. ConTest Laboratory located in East Longmeadow, Massachusetts will analyze the air samples. Both laboratories are New York State Department of Health Environmental Laboratory Approval Program-certified meeting specifications for documentation, data reduction, and reporting.

5. ANALYTICAL TEST PARAMETERS

This QAPP Addendum will require the analysis of soil, air, and groundwater samples using U.S. Environmental Protection Agency Method 8260B/TO-15 for volatile organic compounds, respectively. Compound lists for each analytical method are included in the Generic QAPP.

6. ANALYTICAL DATA VALIDATION

The laboratory will review data prior to release from the facility. Objectives for review are in accordance with the QA/QC objectives stated in the Generic QAPP. The laboratories are required to evaluate their 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 Validation, 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	VOC USEPA Method 8260
No. of Samples	Aqueous	28
Field Duplicate		2
Trip Blank (a)		2
MS/MSD		4
Total No. of Analyses		36
No. of Samples	Soil	28
Field Duplicate		2
MS/MSD		4
Total No. of Analyses		34
No. of Samples	Air	4
Field Duplicate		0
Total No. of Analyses		4

(a) Trip Blanks are required for VOC sampling of aqueous media at a rate of one per sample shipment.

NOTE: VOC = Volatile organic compound.
USEPA = U.S. Environmental Protection Agency.
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 Size/Type	Sample Volume	Preservation	Maximum Holding Time from Verifiable Time of Sample Receipt
TCL VOCs	Water	Three 40 mL glass vials with Teflon-lined Septa	120 mL	No headspace, cool 4°C HCl	14 days
TCL VOCs	Soil	One 4 oz wide-mouth glass jar with Teflon-lined cap	Fill 4 oz jar with minimal headspace	None, cool 4°C	14 days
T0-15	Air	One 1-Liter canister	1-Liter		

NOTE: TCL = Target compound list.
VOC = Volatile organic compound.

Appendix C

Health and Safety Plan Addendum

Health and Safety Plan
For a Site Characterization Work Plan
Former Damshire Cleaners (4-01-059)
Albany, Albany County, 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

December 2010
Revision: FINAL
EA Project No. 14368.46

Health and Safety Plan
For a Site Characterization Work Plan
Former Damshire Cleaners (4-01-059)
Albany, Albany County, 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

1 December 2010

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

1 December 2010

Judith A. Graham, Project Manager — Date
EA Science and Technology

December 2010
Revision: FINAL
EA Project No.: 14368.46

CONTENTS

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 provides site-specific information to protect the health and safety of personnel while performing field activities to complete the Work Assignment for the Former Damshire Drycleaners site (NYSDEC Site No. 4-01-059), Albany, Albany County, New York (Figures 1 and 2).

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
- **Attachment I—**Field Forms.

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 site is a commercial drycleaners property formerly known as Damshire Cleaners located at 1205 Central Avenue, Albany, New York. The Former Damshire Cleaners site consists of a vacant building on a 0.39 acre property located in a mixed residential and commercial area in the town of Colonie (Tax Map No.: 53.06-06-35.1). The site is bordered by Roessleville Presbyterian Church to the southeast, Greens Appliances to the northwest, residential areas to the northeast, and commercial (Hollywood Video) and residential areas to the southwest.

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	Judith Graham	315-431-4610
Quality Assurance/Quality Control Coordinator	Scott L. Graham, C.P.G.	315-431-4610
Site Manager/Site Health and Safety Officer	Sarah Nelson	315-431-4610
NYSDEC Project Managers	Sheilla R. Paige Christopher O'Neill, P.E	518-357-2374 518-357-2045

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 Former Damshire Cleaners site in Albany, New York. The scope of work covered by this HASP Addendum includes:

- Geoprobe soil boring and temporary monitoring wells installation and sampling
- Membrane interface probe (MIP) investigation, soil boring, and micro-well installation
- Subsurface soil sampling and groundwater monitoring well installation
- Soil vapor sampling
- Groundwater sampling.

Each of these activities is summarized below; additional detail for each activity is provided in the Site Characterization Investigation Work Plan.

3.1 PHASE I - GEOPROBE INVESTIGATION

A total of eight soil borings will be installed using direct-push drilling technology 15 ft into groundwater (approximately 30 ft below ground surface [bgs]) at locations around the perimeter of the subject property and within public right-of-ways. Driller will be responsible for obtaining all utility clearances and all permits required to do work on sidewalks and in right-of-ways.

3.2 PHASE II – MEMBRANE INTERFACE PROBE SURVEY, SOIL BORING AND GROUNDWATER MONITORING WELL INSTALLATION, SOIL VAPOR POINT INSTALLATION, AND SAMPLING

3.2.1 MIP Survey

The MIP survey will be completed to collect real time soil and groundwater analytical data. Data will be used to delineate areas of chlorinated volatile organic compound (CVOC) impacts and the potential source area onsite. The MIP survey is a subsurface monitoring technique that uses a MIP to measure total volatile organic compound (VOC) content of soil vapors. Soil is heated until volatilization occurs. Vapors are carried to the analytical instruments by a carrier gas giving real time measurements of total VOCs. Using an electron capture detector, the instrument measures electrical conductivity in total micro volts which is calibrated to parts per billion (ppb) of total VOCs. MIP/electron capture detector can measure CVOC concentrations below the water table down to approximately 250 ppb. Geoprobe drilling techniques will be used to collect analytical samples based on MIP survey data.

Approximately 14 MIP survey points will be installed to delineate a potential source area at the Former Damshire Cleaners site, and the extent of potential impacts in soils and groundwater

downgradient. Three survey points will be installed beneath the slab inside the building and immediately downgradient of the structure. Remaining survey points will be determined based on data collected in the field. Geoprobe capabilities will be used to install soil borings and small diameter monitoring wells in locations where larger drilling rigs cannot enter (buildings and under overhead utility lines).

3.2.2 Soil Boring Installation

Based on the MIP survey, approximately 12 soil borings will be installed approximately 15 ft below the groundwater table using direct-push, hollow-stem auger drilling methods or a combination of both depending on utilities and structures. Three of the soil boring locations will be inside the building onsite which will only be accessible by a Geoprobe unit. Total depths of the borehole will be approximately 30 ft bgs. Proposed soil borings locations are shown on Figure 3. Soil samples will be collected continuously from the surface to the total depth of the boreholes using split-spoon or core samplers. Soil samples will be characterized according to the Unified Soil Classification System. Soil boring logs will be generated at each location.

3.2.3 Soil Sampling Procedures

A photoionization detector (PID) (ppbRAE) will be used to screen soil samples from each sampling interval. Samples will be collected from the samplers using clean nitrile gloves and placed in sealed plastic bags labeled with boring number, sampling interval, and recovery data and allowed to equilibrate before PID measurements are collected. If organic compounds are detected by the PID then one soil sample will be collected from the interval with the highest PID measurement and sent for laboratory analysis of VOCs by U.S. Environmental Protection Agency (USEPA) Method 8260B. If VOCs are not detected in samples, soil samples will be collected from just above the water table for analysis. Soil samples selected for analysis will be transferred from sealed plastic bags to properly labeled laboratory containers using clean nitrile gloves. Soil sample containers will be placed in ice-filled coolers prepared for shipment. Samples will be shipped to the analytical laboratories within 24 hours. The samples will be labeled, handled, and packaged following the procedures described in Generic Quality Assurance Project Plan (QAPP) and QAPP Addendum. Quality assurance/quality control samples will be collected at the frequency detailed in the Generic QAPP, QAPP Addendum, and Table 1. Soil cuttings generated during the investigation that exhibit impacts will be drummed and disposed of as described in Section 4.

3.2.4 Monitoring Well Installation

Approximately 12 monitoring wells will be installed in selected borings to approximately 30 ft bgs depending on groundwater elevations. The monitoring wells will be constructed of 1.5-2 in. polyvinyl chloride (PVC) casing and 10 ft of 0.010-slot screen. A sand pack will be installed around the screen up to 2 ft above the top of the screen. A 2-ft bentonite seal will be placed above the sand pack and the remaining annular space will be filled with bentonite to

approximately 0.5 ft below the surface. Flush mounted steel covers and concrete pads of approximately 12-in. diameter be installed to protect each of the monitoring wells.

3.2.5 Monitoring Well Development

The newly installed monitoring wells will be developed no sooner than 24 hours following installation. The wells will be developed using surging and pumping techniques. Well development will be considered complete when temperature, conductivity, and pH have stabilized and a turbidity of less than 50 nephelometric turbidity units (NTUs) has been achieved. Development water will be handled and disposed of as detailed in Section 4.

3.2.6 Groundwater Sampling

Groundwater samples will be collected from each of monitoring wells using low-flow sampling techniques. The groundwater samples will be collected using the procedures outlined in Section 3.2.9 of the QAPP. Groundwater samples will be analyzed for VOCs by USEPA Method 8260B. Groundwater samples will be collected and analyzed in accordance with NYSDEC Analytical Services Protocol. Hampton Clarke Veritech, Inc. will complete the analysis of samples collected during the investigation.

Groundwater monitoring well sampling procedures will include water level measurements, well purging, field measurements, and sample collection at each monitoring well location. A copy of the purging and sampling log form used to record well purging, water quality measurements, and sampling flow rates is provided in Appendix A. The objective of the groundwater sampling protocol is to obtain samples that are representative of the aquifer in the well vicinity so that analytical results reflect the composition of the groundwater as accurately as possible.

3.3 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 and liquids generated during the well drilling, well development, and well sampling activities. Liquids 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 a central location for pick up by regulated waste haulers. Drummed materials will be clearly labeled with their contents and origin. 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:

- The use of mechanical equipment such as drill rigs, powered augers, and hammer drills can create a potential for crushing and pinching hazards due to movement and positioning of the equipment; movement of lever arms and hydraulics; entanglement of clothing and appendages in exposed drives and augers; and impact of steel tools, masts, and cables should equipment rigging fail or other structural failures occur during hydraulic equipment operation and drilling mast extension and operation. Heavy equipment work must be conducted only by trained, experienced personnel. If possible, personnel must remain outside the turning radius of large, moving equipment. At a minimum, personnel must maintain visual contact with the equipment operator. When not operational, equipment must be set and locked so that it cannot be activated, released, dropped, etc.

- 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. Prior to commencement of invasive operations, a drilling/excavation permit will be obtained and the area will be inspected and flagged. 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 the 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.

- Work around large equipment often creates excessive noise. Noise can cause workers to be startled, annoyed, or distracted; can cause physical damage to the ear, pain, and temporary and/or permanent hearing loss; and can interfere with communication. If workers are subjected to noise exceeding an 8-hour time-weighted average sound level of 85 dBA, hearing protection will be selected with an appropriate noise reduction rating to comply with 29 CFR 1910.95 and to reduce noise below levels of concern.

- 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 excavations, manways, and construction debris and materials. Precautionary measures should be taken in accordance with the HASP.

- Field operations conducted during the winter months can impose excessive heat loss to personnel conducting strenuous activities during unseasonably cold weather days and can

impose cold-related illness symptoms during unseasonably cold weather days, or when wind chill is high. In addition, heavy rains, electrical storms, and high winds may create extremely dangerous situations for employees.

- 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. Air monitoring equipment will be used to monitor airborne organic vapors and particulates. Water collected during well development and groundwater sampling activities may also contain toxic vapors, liquids, and gases and be inhaled during normal operations, or may be splashed onto the skin or eyes. 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 or water is expected
- Safety glasses with side shields
- Hearing protectors (during drilling or other operations producing excessive noise)
- Boot covers (optional unless in contact with potentially contaminated soil or water)
- Polycoated coveralls (optional when contact with contaminated soil and water is anticipated, e.g., when surging/pumping wells and pressure-washing equipment).

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

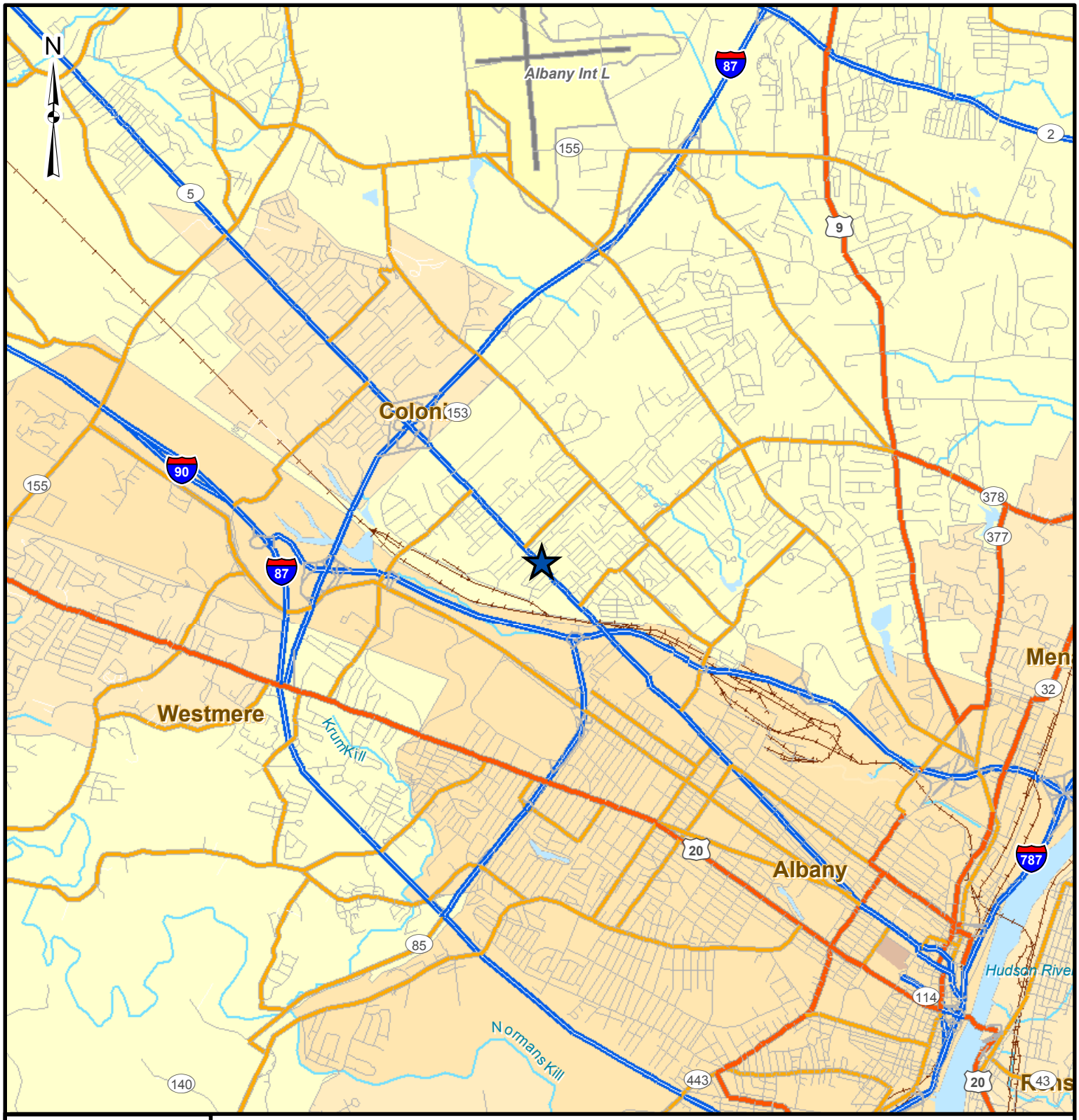
The following protocols will be followed daily prior to start of work activities:

- 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.

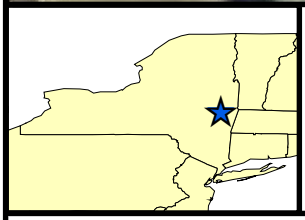
- Safety equipment will be checked for proper function.

- 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 on-site equipment and supplies will be locked and secure.



EA® / NYSDEC	FORMER DAMPSHIRE CLEANERS SITE (401059) SITE CHARACTERIZATION WORK PLAN COLONIE, NEW YORK					FIGURE 1 Site Location	
PROJECT MGR: JAG	DESIGNED BY: DCC	CREATED BY: DCC	CHECKED BY: JAG	SCALE: AS SHOWN	DATE: OCTOBER 2010	PROJECT NO: 14368.46	FILE NO: GIS/PROJECTS/ FIGURE1.MXD



Legend

Approximate Property Boundary

Approximate Building Outline

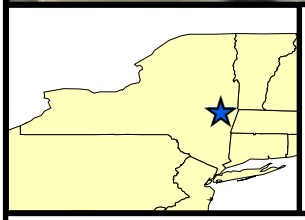
0 15 30 60 90 120 Feet

Source: NYSGIS Clearinghouse

FORMER DAMPSHIRE CLEANERS SITE (401059)
SITE CHARACTERIZATION WORK PLAN
COLONIE, NEW YORK

FIGURE 2
SITE MAP

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
JAG	DCC	DCC	JAG	AS SHOWN	OCTOBER 2010	14368.46	GIS/PROJECTS/ FIGURE2.MXD



Legend

- Approximate Property Boundary
- Approximate Building Outline
- Proposed Phase 1 Geoprobe Locations
- Proposed Phase 2 MIP Survey Locations
- Proposed Phase 2 Soil Boring and Monitoring Well Locations
- Proposed Soil Vapor Sample Locations

0 15 30 60 90 120 Feet

Source: NYSGIS Clearinghouse

FORMER DAMPSHIRE CLEANERS SITE (401059)
SITE CHARACTERIZATION WORK PLAN
COLONIE, NEW YORK

FIGURE 3
Proposed Sampling Locations

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
JAG	DCC	DCC	JAG	AS SHOWN	OCTOBER 2010	14368.46	GIS/PROJECTS/ FIGURE3.MXD

Attachment A

Worker Training and Physical Examination Record

ATTACHMENT A

WORKER TRAINING AND PHYSICAL EXAMINATION RECORD

SITE: Former Damshire Cleaners, Albany, 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	6/16/10	3/3/89	---	---	6/12/01
Judith A. Graham	4/13/93	6/16/10	7/21/09	12/10	12/10	7/17/09
Scott L. Graham	5/27/93	7/27/10	7/21/09	6/2009	6/2009	7/23/09
Christopher Canonica	10/28/94	7/27/10				
David Crandall	3/10/06	6/16/10	7/9/09	4/09	4/09	6/28/10

James Peterson	6/15/07	6/16/10		5/11	5/11	7/17/09
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: **Former Damshire Cleaners, Albany, New York**			
Name	Signature	Affiliation	Date

Attachment C

Site Entry and Exit Log

ATTACHMENT C

SITE ENTRY AND EXIT LOG

SITE: Former Damshire Cleaners, Albany, 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: Former Damshire Cleaners, Albany, NY.	
Police: Albany Police Department, 526 Central Ave, Albany, NY (518) 458-5628	9-1-1
Fire: West Albany Fire Department, 36 Osborne Road, Albany, NY (518) 459-6311	9-1-1
Ambulance: Albany Capitaland Ambulette. 22 Kraft Ave, Albany, NY (518) 438-1015	9-1-1
Hospital: Albany Medical Center Hospital	(518) 262-3125
Poison Control Center: American Association of Poison Control Centers	(800) 222-1222
Directions to Albany Medical Center Hospital, 43 New Scotland Ave, Albany, NY 12208 Start out going SOUTHEAST on NY-5E/CENTRAL AVE toward N ELMHURST AVE. (2.8 mi) Turn RIGHT on N LAKE AVE. (0.5 mi) Turn LEFT onto MADISON AVE US-20. (0.3 mi) Take the RIGHT onto NEW SCOTLAND AVE. (0.2 mi) End at Albany Medical Center Hospital - 43 New Scotland Ave, Albany, NY 13790 **Estimated Time: 11 minutes. Estimated Distance: 3.84 miles**	
Program Safety and Health Officer: ***Peter Garger, CIH***	(410) 771-4950
Program Manager: ***Christopher Canonica, P.E.***	(315) 431-4610
EA Project Manager ***Judith Graham***	(315) 431-4610
In case of spill, contact *Judy Graham*	(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: ***Sarah Nelson***	(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

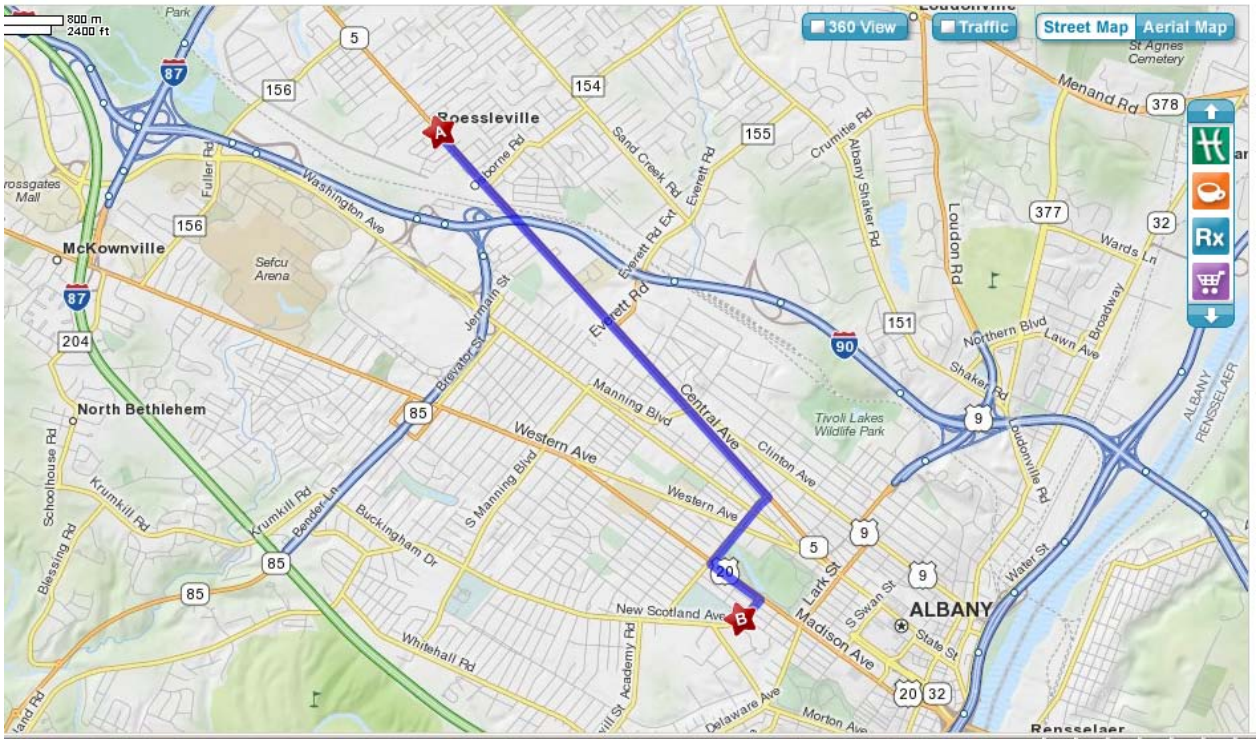
Map to Hospital

ATTACHMENT G
MAP TO HOSPITAL

Directions to Albany Medical Center Hospital, 43 New Scotland Ave, Albany, NY 12208

Start out going SOUTHEAST on NY-5E/CENTRAL AVE toward N ELMHURST AVE. (2.8 mi)
Turn RIGHT on N LAKE AVE. (0.5 mi)
Turn LEFT onto MADISON AVE US-20. (0.3 mi)
Take the RIGHT onto NEW SCOTLAND AVE. (0.2 mi)
End at Albany Medical Center Hospital - 43 New Scotland Ave, Albany, NY 13790

Estimated Time: 11 minutes. Estimated Distance: 3.84 miles



Attachment H

Personal Protective Equipment
Activity Record

ATTACHMENT H

PERSONAL PROTECTIVE EQUIPMENT ACTIVITY RECORD

SITE: Former Damshire Cleaners, Albany, 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.		

Attachment I

Field Forms

EA Engineering P.C. and its Affiliate
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.:	**EA Personnel:**	**Client:**
Location:	**Well Condition:**	**Weather:**
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**

Purge Date:	**Purge Time:**
Purge Method:	**Field Technician:**

Well Volume		
A. Well Depth (ft):	**D. Well Volume (ft):**	**Depth/Height of Top of PVC:**
B. Depth to Water (ft):	**E. Well Volume (gal) C*D):**	**Pump Type:**
C. Liquid Depth (ft) (A-B):	**F. Five Well Volumes (gal) (E3):**	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temperatur (oC)	Conductivity (uS/cm)	DO (ug/L)	Turbidity (ntu)

Total Quantity of Water Removed (gal): _____ **Sampling Time:** _____
Samplers: _____ **Split Sample With:** _____
Sampling Date: _____ **Sample Type:** _____

COMMENTS AND OBSERVATIONS: _____