

Remedial Investigation/ Alternatives Analysis Report Work Plan

*1501 College Avenue Site
Niagara Falls, New York*

September 2007
Revised December 2007

0140-001-103

Prepared For:

Santarosa Holdings, Inc.

Prepared By:



**WORK PLAN
FOR
REMEDIAL INVESTIGATION /
ALTERNATIVES ANALYSIS REPORT**

**1501 COLLEGE AVENUE SITE
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RI / AAR WORK PLAN
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1.0 INTRODUCTION

This document presents the proposed scope of work and implementation procedures for completion of Remedial Investigation/Alternatives Analysis Report (RI/AAR) at the former Union Carbide Co. site (Site), located at 1501 College Avenue in the City of Niagara Falls, New York (see Figures 1 and 2). Santarosa Holdings, Inc. plans to purchase and redevelop the Site as a tire recycling and crumb rubber manufacturing facility.

Santarosa Holdings, Inc. has elected to pursue cleanup and redevelopment of the Site under the New York State Brownfield Cleanup Program (BCP), and has submitted a BCP application to the New York State Department of Environmental Conservation (NYSDEC).

The RI/AAR will be completed by Benchmark Environmental Engineering & Science, PLLC (Benchmark) on behalf of Santarosa Holdings, Inc. The work will be completed in accordance with NYSDEC DER-10 guidelines (Ref. 1).

1.1 Background

The Site is a 13.0-acre portion of a parcel located on College Avenue, between Hyde Park and Highland Avenue. The Site was used for heavy industrial manufacturing from at least 1910 to the mid 1980s, and at one time was part of the larger former Union Carbide Co. manufacturing complex. Previous investigations of the adjoining site, which were also part of the same former Union Carbide Co. complex, have identified elevated semi-volatile organic compounds (SVOCs) and polychlorinated biphenyls (PCBs) as constituents of concern.

1.2 Remedial Investigation Project Objectives

For sites entering the BCP at the point of investigation, NYSDEC requires completion of a RI. The primary objectives of the RI are to:

- Collect additional soil/fill and groundwater samples, under appropriate quality assurance/quality control criteria, to better delineate the nature and extent of contamination.
- Determine if the concentrations of constituents of concern in site soil and/or groundwater pose potential unacceptable risks to human health and the environment.

- Provide the data needed to evaluate potential remedial measures (AAR) and determine appropriate actions to address potential significant risks.

2.0 SITE DESCRIPTION

2.1 General

The Site is currently an abandoned industrial site that is generally in poor condition and disrepair. Evidence of illegal dumping is obvious across the site; various debris piles, automobile parts, abandoned automobiles, abandoned tanker trucks, drums of unknown liquid and solid contents, sacks of unknown granular or solid materials, aboveground storage tanks (ASTs), and household debris are located throughout the interior and exterior the site. Apparent illegal scrapping of on-site materials and automobiles was also evident during the site inspection. Figure 3 depicts recognized environmental conditions noted on-Site.

The Site is bound by College Avenue to the north, with a private gated access road along the western property boundary, and industrial-use properties to the east and south. The Site neighbors include industrial/commercial buildings to the north, south, east, and west of the Site, with residential properties located approximately 500 feet to the southwest of the subject property.

2.2 Site Topography and Drainage

The Site is covered primarily by former industrial manufacturing buildings, with concrete and asphalt paved areas, former building foundations, and some overgrown vegetation areas. Precipitation (i.e., rain or melting snow) moves to on-site catch basins via overland flow. Surface and shallow groundwater flow are likely influenced by various cycles of development and filling, as well as utility lines and foundations.

2.3 Geology and Hydrogeology

2.3.1 Overburden

The U.S. Department of Agriculture Soil Conservation Service soil survey map of Erie County (Ref. 4) describes the general surficial soil type at the site as Canandaigua silt loam, with slopes ranging from 0 to 2%. The historical use of and former buildings on the

Site would indicate the presence of overburden fill material is widespread throughout the Site. The geology of the Site will be investigated as part of the RI activities.

2.3.2 Bedrock

The Niagara Falls region is underlain by Silurian and Devonian age stratified limestone, dolomite, and shale of marine origin (Ref. 8). The bedrock is virtually flat lying, with a gentle dip to the south of only about 30 to 40 feet per mile and exhibits only very gentle folding. The bedrock surface was deeply eroded by weathering and stream action prior to glaciation and by glacial scour during glaciation. The carbonate rocks and the shale are nearly impermeable as homogeneous rock; however, due to regional tectonic stresses the bedrock is vertically and horizontally fractured, providing openings for the storage and transmission of groundwater. Fracture permeability is enhanced in limestone and, to a lesser extent, in dolomite by dissolution of the rock by groundwater. A similar enhancement of permeability is produced by dissolution of interbedded gypsum in some rock units. Regional hydrogeology is discussed in more detail later in this section.

The primary bedrock type that forms the bedrock surface in the northern part of the Lake Erie-Niagara River Basin is the fine- to coarse-grained Lockport Dolomite; a white or grey, magnesium-rich sedimentary rock resembling limestone, but harder and more resistant. The Lockport extends into New York for 200 miles from Niagara County to Herkimer County. The Lockport is the lowermost carbonate-rock unit in the region, which overlies the Rochester Shale, a black to gray carbonaceous shale with minor calcareous beds and limestone layers. Gypsum is also present as nodules along some bedding-plane surfaces in the Lockport. The maximum thickness of the Lockport is approximately 150 feet. Near the base of the Lockport, the formation is divided into the Decew Dolomite Member and the overlying Gasport Limestone Member.

2.3.3 Hydrogeology

The Site is located in the Erie-Niagara River Basin. In the Erie-Niagara Basin, the major areas of groundwater are within coarser overburden deposits and limestone and shale bedrock. The main sources of groundwater within the bedrock are fractures and solution cavities. Regional groundwater appears to flow south and west towards the Niagara River, although localized variation does occur. Localized groundwater flow will be confirmed during the RI.

2.4 Climate

Western New York has a cold continental climate, with moisture from Lake Erie causing increased precipitation. Average annual precipitation is reportedly 40.5 inches and snowfall is 93.6 inches (Ref. 5) to the northern part of the watershed with over 150 inches per year falling on the southern portion of the watershed. Average monthly temperatures range from 24.5 degrees Fahrenheit in January to 70.8 degrees Fahrenheit in July (Ref. 5). The ground and lakes typically remain frozen from December to March. Winds are generally from the southwest (240 degrees) with a mean velocity of 10 miles per hour (Buffalo Airport, 1999).

2.5 Population and Land Use

The City of Niagara Falls, encompassing 14 square miles, has a population of 55,593 persons (2000 U.S. Census Bureau), a decrease of 10.3% from the 1990 U.S. Census. The population density in the City is 3,955.7 people per square mile. Niagara Falls is primarily zoned residential with commercial use mixed in along major roads. The Site is located in Census Tract 202, in an area of the City zoned commercial/vacant/residential and has a population density that is 2,514 people per square mile.

Properties adjacent to the Site include several commercial and vacant properties. The surrounding land-use is a mixed use, including commercial, residential, and vacant parcels.

2.6 Utilities and Groundwater Use

The subject property has access to major public and private utilities, including water (City of Niagara Falls Division of Water), sanitary and storm sewers (City of Niagara Falls), electric (National Grid), and natural gas (National Fuel Gas).

Groundwater at the Site is assigned Class “GA” by 6NYCRR Part 701.15. Currently, there are no deed restrictions on the use of groundwater at the Site; however, there are no groundwater supply wells on the property. Regionally, groundwater in the area has not been developed for industrial, agriculture, or public supply purposes. Municipal potable water service is provided on-site and off-site. Currently, there are no permanent groundwater monitoring wells on the Site.

2.7 Wetlands and Floodplains

Niagara County Intranet Mapping Service shows that there are no State or Federal wetlands or floodplains on the Site.

2.8 Previous Investigations

A summary of the investigations that have occurred at the Site, and at the adjacent Hazorb Site are presented below. Data from these investigations is presented in Appendix A.

2.8.1 September 2007– Phase I Environmental Site Assessment

In August 2007, Benchmark conducted a Phase I Environmental Site Assessment (ESA) of the subject property. Benchmark identified several areas of concern, which are described below (see Figure 3):

- The Site is currently an abandoned industrial site that is generally in poor condition and disrepair. Evidence of illegal dumping is obvious across the Site; various debris piles, automobile parts, abandoned automobiles, abandoned tanker trucks, drums of unknown liquid and solid contents, sacks of unknown granular or solid materials, aboveground storage tanks (ASTs), and household debris are located throughout the interior and exterior the Site. Apparent illegal scrapping of on-site materials and automobiles was also evident during the Site inspection.
- The Site is a portion of a former greater site operated by Union Carbide, which included the east adjacent site (i.e., former Hazorb site). Previous investigations and remediation of that site indicated that elevated SVOCs were present in soil/fill, sediment and debris piles above current NYSDEC Part 375 restricted-industrial soil cleanup objectives (SCOs). Furthermore, galbestos roofing/siding materials removed from the former Hazorb site contained hazardous concentrations of PCBs.
- Historical records indicated the presence of USTs on the property and the past use of the Site as a heavy industrial Site since at least 1910, as well as records indicating contamination on nearby properties.
- Regulatory search information indicating a historic petroleum spill on the property, and several adjacent and nearby properties that have documented releases or potential releases of hazardous material and/or petroleum products.

- The Site is surrounded by heavy industrial use properties or former heavy industrial use properties.

2.8.2 August 2007– Limited Preliminary Environmental Investigation

Benchmark conducted a limited Preliminary Environmental Investigation at the 1501 College Avenue Site in August 2007 (see Appendix A). The Limited Preliminary Environmental Investigation involved collecting four surface soil samples, one galbestos roof-covering sample, two debris pile samples, and one paint chip sample. The samples indicated that PAHs, metals, and PCBs are present on-site above the NYSDEC 375 restricted-industrial SCOs (see Table 2).

2.8.3 Hazorb Site

Benchmark reviewed the “Site Investigation and Remedial Alternatives Report for the Hazorb Site, Niagara Falls, New York,” prepared by URS Corporation for the City of Niagara Falls Department of Environmental Services, dated March 2001. That study was completed with funding by a United States Environmental Protection Agency (USEPA) Brownfield Assessment Grant for the former Hazorb site, located immediately east adjacent to the subject site. The former Hazorb Site and the subject site were once part of a greater parcel operated by Union Carbide and its predecessors.

Based on that report, elevated concentrations of semi-volatile organic compounds (SVOCs) in soil/fill, sediment and debris piles were present above current NYSDEC Part 375 restricted-industrial SCOs. Based on the similar historic operations at the Hazorb site and the subject site, it is possible that similar contaminants are present at the subject site.

Benchmark also reviewed a letter from the USEPA to Mr. Robert Marino, Director of the Bureau of Technical Support of the NYSDEC Division of Environmental Remediation dated November 2, 2003. According to that letter, the USEPA completed a removal action at the Hazorb site in 2003, which included “identification, stabilization, segregation, removal and disposal of all hazardous wastes found at the property.” That letter indicated that galbestos siding/roofing materials with high PCB levels (up to 56,000 ppm) were identified and transported off-site. The USEPA letter made note that galbestos material will continue to be deposited on the former Hazorb site as long as the [subject site] building remains.

2.8.4 Niagara Vest Update (USEPA)

In June of 2007, the US Environmental Protection Agency (EPA) - Removal Support Team 2 (RST2) conducted additional sampling for ACM and PCBs related to the previously conducted remedial action at the abutting former Hazorb site. An EPA subcontractor collected soil and galbestos samples along the north and south sides of College Avenue adjacent to the Site. Preliminary sample results show that ACMs and PCBs (Galbestos) are present in the vicinity of the Site at levels that exceed the NYSDEC Part 375 Restricted-Industrial SCOs.

2.9 Primary Constituents of Potential Concern (COPCs)

Based on findings to date, the Constituents of Potential Concern (COPCs) are presented below:

- ***Soil:*** SVOCs (PAHs), metals, polychlorinated biphenyls (PCBs)

3.0 REMEDIAL INVESTIGATION SCOPE OF WORK

The Remedial Investigation scope of work is focused on defining the nature and extent of contamination on-site, identifying the source of contamination, defining chemical constituent migration pathways, qualitatively assessing human health and ecological risks (if necessary), and obtaining data of sufficient quantity and quality to perform the remedial alternatives evaluation.

Field team personnel will collect environmental samples in accordance with the rationale and protocols described in the Field Sampling Plan (FSP) presented in the Quality Assurance Project Plan (QAPP), provided under separate cover. USEPA and NYSDEC-approved sample collection and handling techniques will be used. Samples for chemical analysis will be analyzed in accordance with USEPA SW-846 methodology with an equivalent Category B deliverable package to meet the definitive-level data requirements. Analytical results will be evaluated by a third-party data validation expert in accordance with provisions described in the QAPP.

3.1 Remedial Investigation Activities

The RI activities will include completion of test pits using a backhoe or similar equipment, completion of soil borings using a direct-push drill rig, installation of groundwater monitoring wells and sampling of various abandoned drums. Surface and subsurface soil samples will be collected across the Site from the test pits and/or soil borings. Groundwater samples will be collected from the newly installed monitoring wells. Additionally, samples of the roofing and siding material on the site building will be collected. These activities are described in greater detail below.

3.1.1 Site Preparation

Prior to, and concurrent with the remedial investigation, Santarosa Holdings, Inc. will be conducting certain site preparation activities. Site preparation activities will include: tree and vegetative brush clearing; waste tire sorting, stockpiling and removal; and, general debris removal (not including any soil/fill materials). These site preparation activities will be completed to clear the site of miscellaneous debris as an initial step in the site redevelopment and remedial investigation activities. Any suspect soil/fill materials or previously unknown

drums or tanks encountered will be left in place for future sampling and analysis to determine appropriate reuse and/or disposal of materials. No soil/fill materials will be displaced during site preparation activities.

3.1.2 Supplemental Soil Investigation

3.1.2.1 Test Pit Excavations

Excavation of approximately 10 test pits across the property will allow for visual/olfactory/PID assessment of subsurface conditions and to obtain subsurface soil/fill samples for chemical characterization. Test pits will be field located, but will be focused toward areas of observed potential impact (areas suggestive of fill, surface staining, former transformers and automobile debris).

In general, test pits will be excavated from ground surface to native soils or groundwater, whichever is encountered first, using a small excavator. Test pit dimensions (i.e., depths and lengths) may vary depending on the vertical and horizontal extent of the soil/fill horizon, depth to groundwater, or encountered impacts (i.e., free-product, elevated PID readings, etc.). Test pit walls and excavated soil/fill will be examined by qualified Benchmark personnel and classified in accordance with the USCS. Excavated soil/fill and the test pit atmosphere will be field screened for the presence of VOCs using a field PID as a procedure for ensuring the health and safety of personnel at the Site and to identify potentially impacted soil/fill samples for laboratory analysis. The methodology for field soil/fill screening using a PID is discussed below and in the QAPP, presented under separate cover. Field measurements and observations will be documented in the project notebook by the Benchmark field scientist.

It is estimated that the test pits will be completed over a 2-day period, with surface/near-surface (0-6") and subsurface (6" to native soil/bedrock) collected for analysis of USEPA Target Compound List (TCL) semi-volatile organic compounds (SVOCs), Target Analytes List (TAL) metals, and polychlorinated biphenyls (PCBs). Additionally, at three test pit locations, samples will be analyzed for TCL volatile organic compounds (VOCs), herbicides and pesticides for Site characterization purposes. No VOC samples will be analyzed in the absence of elevated PID reading (i.e., greater than 5 ppm). In areas of the site that are not covered by asphalt, concrete, debris/fill (i.e. the northwest corner of the site) surface soil samples will be collected from the 0-2" depth range.

Soil/fill samples will be collected from the center of the excavator bucket using dedicated stainless steel sampling tools. Representative soil/fill samples will be placed in pre-cleaned laboratory supplied sample bottles, cooled to 4°C in the field, and transported under chain-of-custody command to Test America (formerly STL), located in Amherst, New York, a New York State Department of Health (NYSDOH) ELAP-certified analytical laboratory. Please refer to Table 1 for a summary of the soil/fill sampling and analysis plan. Please refer to Figure 4- RI sample locations.

3.1.3 Suspect Underground Storage Tank (USTs) Investigation

Excavation of up to four test pits in the vicinity of the suspect USTs will investigate whether USTs are present as well subsurface conditions in the area of the suspect USTs. Excavated soil/fill and the test pit atmosphere will be field screened for the presence of VOCs using a field PID as a procedure for ensuring the health and safety of personnel at the Site and to identify potentially impacted soil/fill samples for laboratory analysis. Field measurements and observations will be documented in the project notebook by the Benchmark field scientist.

If USTs are encountered, up to four soil/fill samples will be collected and analyzed for TCL plus NYSDEC STARS List VOCs and SVOCs. Representative soil/fill samples will be placed in pre-cleaned laboratory supplied sample bottles, cooled to 4°C in the field, and transported under chain-of-custody command to Test America (formerly STL), located in Amherst, New York, a New York State Department of Health (NYSDOH) ELAP-certified analytical laboratory. Please refer to Table 1 for a summary of the soil/fill sampling and analysis plan. Please refer to Figure 4- RI sample locations.

3.1.4 Suspect Historic Transformers

The Phase I ESA performed on the Site identified suspect historic transformer pads, which may have contained PCB-laden oils. As such, surface sampling using either hand-held tools or a backhoe (if the areas are accessible with heavy equipment) will be conducted during the RI. Surface soil at up to three suspect transformer areas will be sampled for PCBs. Figure 4 shows areas of suspect transformer pads.

3.1.5 Drum/Container Sampling

The Phase I ESA performed on the Site identified numerous drums and ASTs, which contained unknown solid and liquid contents. As such, drums and AST sampling will be conducted during the RI for characterization purposes to determine proper handling and disposal of drums and ASTs and their contents.

If feasible, drums and other containers will be moved to a common staging area in a covered area of the building, preferably in a location that contains a competent concrete floor. Where several drums contain similar materials, composite samples will be collected across those drums/containers for representative analysis. The analytical protocol for drum sampling will largely be dictated by disposal facility requirements (the disposal facility has not yet been determined). In general, the solid materials will be analyzed for TCLP VOCs, TCLP metals, hazardous characterization (ignitability, reactivity, and pH), and total PCBs and liquid materials will be analyzed for TCLP VOCs, TCLP SVOCs, TCLP Metals, PCBs, and ignitability.

3.1.6 Roof and Siding Sampling

A previous study completed by Benchmark at the subject site identified elevated PCBs in galbestos roofing and siding material from the eastern portion of the building. As such, up to 10 additional roofing and siding material samples will be collected from the building to determine if elevated PCBs are present in roofing and siding materials in other areas of the site. Sample locations of the roofing and siding material will be determined in the field, with a bias toward weathered and/or damaged materials.

3.1.7 Supplemental Groundwater Investigation

Four groundwater monitoring wells will be installed on-site at the proposed locations shown on Figure 4. The new monitoring wells will provide groundwater flow information as well as groundwater quality information. Monitoring well installation, well development, and groundwater sample collection are discussed in the following sections.

3.1.7.1 Monitoring Well Installation

Four soil borings will be advanced to facilitate installation of four groundwater-monitoring wells, designated as BCP MW-1 through BCP MW-4 as shown on Figure 4. A

GeoProbe 6620 DT direct-push drill rig capable of advancing hollow-stem augers will be employed to install 2-inch inside diameter (ID) monitoring wells.

Each boring location will be advanced approximately 10 fbg into native soils or a minimum of 5 feet below the first encountered groundwater, whichever is greater, using hollow stem auger drilling methods. If groundwater is not encountered within 15 fbg, a monitoring well will not be installed at that location. Recovered soil samples will be described in the field by qualified Benchmark personnel using the Unified Soil Classification System (USCS), scanned for total volatile organic vapors with a calibrated PID equipped with a 10.6 eV lamp (or equivalent), and characterized for impacts via visual and/or olfactory observations. Based on the field observations, one subsurface soil sample from each soil boring/monitoring well location will be collected for analysis of TCL SVOCs, TAL metals, and PCBs. All non-dedicated drilling tools and equipment will be decontaminated between boring locations using potable tap water and a phosphate-free detergent (e.g., Alconox).

Subsequent to boring completion, a 2-inch ID diameter flush-joint Schedule 40 PVC monitoring well will be installed at the boring locations. Each well will be constructed with a 5-foot flush-joint Schedule 40 PVC, 0.010-inch machine slotted well screen. Each well screen and attached riser will be placed at the bottom of each borehole and a silica sand filter pack (size #0) will be installed from the base of the well to a maximum of 2 feet above the top of the screen. A bentonite chip seal will then be installed and allowed to hydrate sufficiently to mitigate the potential for downhole grout contamination. Cement/bentonite grout will be installed to approximately 1 fbg via pressure tremie-pipe procedures. The newly installed monitoring wells will be completed with keyed-alike locks, a lockable J-plug, and an 8-inch diameter steel flush mounted road box anchored within a 2-foot by 2-foot by 1-foot square concrete pad.

3.1.7.2 Well Development

Upon installation, but not within 24 hours, newly installed monitoring wells will be developed in accordance with Benchmark and NYSDEC protocols. Development of the monitoring wells will be accomplished with dedicated disposable polyethylene bailers via surge and purge methodology. Field parameters including pH, temperature, turbidity and specific conductance will be measured periodically (i.e., every well volume or as necessary) during development. Field measurements will continue until they became relatively stable. Stability will be defined as variation between measurements of approximately 10 percent or

less with no overall upward or downward trend in the measurements. A minimum of three well volumes will be evacuated from each monitoring well. Development water from the monitoring wells will be passed through a mobile granular-carbon treatment vessel, and discharged to ground.

3.1.7.3 Groundwater Sample Collection

Prior to sample collection, static water levels will be measured and recorded from all on-site monitoring wells. Following water level measurement, Benchmark personnel will purge and sample the monitoring wells using either a peristaltic pump with dedicated pump tubing following low-flow/minimal drawdown purge and sample collection procedures or using a dedicated polyethylene bailer. Prior to sample collection, groundwater will be evacuated from each well at a low-flow rate (typically less than 0.1 L/min). Field measurements for pH, specific conductance, temperature, turbidity, and water level as well as visual and olfactory field observations will be periodically recorded and monitored for stabilization. Purging will be considered complete when pH, specific conductivity and temperature stabilize and when turbidity measurements fall below 50 Nephelometric Turbidity Units (NTU), or become stable above 50 NTU. Stability is defined as variation between field measurements of 10 percent or less and no overall upward or downward trend in the measurements. Upon stabilization of field parameters, groundwater samples will be collected and analyzed as discussed below.

Upon arrival at each monitoring well, field personnel will visually inspect the monitoring well for defects and/or vandalism. Following location and inspection of each well, the static water level and total depth will be recorded and one standing well volume will be calculated.

Wells will be purged and sampled using a peristaltic pump and dedicated pump tubing following low-flow (minimal drawdown) purge and sample collection procedures in a manner similar to that described in the previous section. However, the pump will not require decontamination because all components are dedicated to each monitoring well.

Prior to and immediately following collection of groundwater samples, field measurements for pH, specific conductance, temperature, turbidity, dissolved oxygen and water level as well as visual and olfactory field observations will be recorded. All collected groundwater samples will be placed in pre-cleaned, pre-preserved laboratory provided

sample bottles, cooled to 4°C in the field, and transported under chain-of-custody command to STL for analysis.

3.1.7.4 Groundwater Sample Analyses

Groundwater samples will be analyzed for TCL VOCs, TCL SVOCs, TAL Metals, PCBs, herbicides, and pesticides in accordance with USEPA SW 846 methodology with equivalent NYSDEC Category B deliverables to allow for independent third-party data usability assessment.

3.1.8 Field Specific Quality Assurance/Quality Control Sampling

In addition to the soil/fill and groundwater samples described above, field-specific quality assurance/quality control (QA/QC) samples will be collected and analyzed to ensure the reliability of the generated data as described in the QAPP (provided under separate cover) and to support the required third-party data usability assessment effort. Site-specific QA/QC samples will include matrix spikes, matrix spike duplicates, blind duplicates, and trip blanks.

3.2 Investigation-Derived Waste Management

During installation of the monitoring wells, excess soil cuttings will be stockpiled on-site and covered with plastic or containerized in 55-gallon drums, and sampled to determine if they can be utilized on-site or require treatment or off-site disposal. Groundwater from well development and purging will be passed through a mobile granular-carbon treatment vessel and discharged to ground.

Drums, if used, will be labeled with regard to contents, origin, and date of generation using a paint stick marker on two sides and the top of each drum. The drums will be staged on-site pending soil analyses and remedial measures assessment.

3.3 Site Mapping

A Site map will be developed during the field investigation. All sample points and relevant Site features will be located on the map. Benchmark will employ a Trimble GeoXT handheld GPS unit to identify the locations of all soil borings and newly installed wells relative to State planar grid coordinates. Monitoring well elevations will be measured by Benchmark's surveyor. An isopotential map showing the general direction of groundwater

flow will be prepared based on water level measurements relative to USGS vertical datum.
Maps will be provided with the RI report.

4.0 QUALITY ASSURANCE/QUALITY CONTROL PROTOCOLS

A Quality Assurance Project Plan (QAPP) has been prepared as a stand-alone document for the RI activities. The QAPP dictates implementation of the investigation tasks delineated in this Work Plan. A Sampling and Analysis Plan (SAP) identifying methods for sample collection, decontamination, handling, and shipping, is provided as Section 4.0 to the QAPP. The RI project management methods, organizational structure, and schedule are also included in the QAPP.

The QAPP will assure the accuracy and precision of data collection during the Site characterization and data interpretation periods. The QAPP identifies procedures for sample collection to mitigate the potential for cross-contamination, as well as analytical requirements necessary to allow for independent data validation. The QAPP has been prepared in accordance with USEPA's Requirements for Quality Assurance Project Plans for Environmental Data Operations (Ref. 6); the EPA Region II CERCLA Quality Assurance Manual (Ref. 7), and NYSDEC's December 2002 draft DER-10 Technical Guidance for Site Investigation and Remediation (Ref. 1).

5.0 HEALTH AND SAFETY PROTOCOLS

Benchmark and our construction and operations arm, TurnKey Environmental Restoration, LLC (TurnKey) have prepared a Site-Specific Health and Safety Plan (HASP) for use by our employees in accordance with 40 CFR 300.150 of the NCP and 29 CFR 1910.120. The HASP, provided in Appendix B, includes the following site-specific information:

- A hazard assessment.
- Training requirements.
- Definition of exclusion, contaminant reduction, and other work zones.
- Monitoring procedures for site operations.
- Safety procedures.
- Personal protective clothing and equipment requirements for various field operations.
- Disposal and decontamination procedures.

The HASP also includes a contingency plan that addresses potential site-specific emergencies, and a Community Air Monitoring Plan that describes required particulate and vapor monitoring to protect the neighboring community during intrusive Site investigation and remediation activities.

Health and safety activities will be monitored throughout the field investigation. A member of the field team will be designated to serve as the on-site Health and Safety Officer throughout the field program. This person will report directly to the Project Manager and the Corporate Health and Safety Coordinator. The HASP will be subject to revision as necessary, based on new information that is discovered during the field investigation and/or remedial activities.

6.0 CITIZEN PARTICIPATION ACTIVITIES

NYSDEC will coordinate and lead community relations throughout the course of the project. Benchmark will support NYSDEC's community relations activities, as necessary. A Citizen Participation Plan will be prepared by Benchmark and submitted to NYSDEC under separate cover. The Citizen Participation Plan will follow NYSDEC's Citizen Participation Plans template for Brownfield Cleanup Program sites entering the BCP at the point of site investigation. A Citizen Participation Plan is included in Appendix C.

7.0 REPORTING AND SCHEDULE

Upon completion of the RI fieldwork, a comprehensive RI report will be completed summarizing the RI tasks completed as described below.

7.1 Remedial Investigation Reporting

The RI (section of the RI/AAR) report will include the following information and documentation, consistent with the NYSDEC's DER-10 Technical Guidance for Site Investigation and Remediation (Ref. 1).

- Introduction and background.
- A description of the site and the investigation areas.
- A description of the field procedures and methods used during the RI.
- A discussion of the nature and rationale for any significant variances from the scope of work described in this RI Work Plan.
- The data obtained during the RI and historical data considered by Benchmark to be of useable quality. This will include geochemical data, field measurements, etc.
- The results of an assessment of the achievement of RI acceptance/performance criteria as specified in the QAPP.
- Comparative criteria that may be used to calculate cleanup levels during the alternatives analysis report (AAR) process, such as NYSDEC Soil Cleanup Objectives and other pertinent regulatory standards or criteria.
- A discussion of contaminant fate and transport. This will provide a description of the hydrologic parameters of the Site, and an evaluation of the lateral and vertical movement of groundwater.
- Conclusions regarding the extent and character of environmental impact in the media being investigated.
- The conclusions of the qualitative human health and environmental risk assessments, including any recommendations for more detailed assessments, if applicable.

- Supporting materials for RI data. These will include boring logs, monitoring well construction diagrams, laboratory analytical reports, and similar information.

In addition, Benchmark will require third-party data review by a qualified, independent data validation expert. Specifically, a Data Usability Summary Report (DUSR) will be prepared, with appropriate data qualifiers added to the results. The DUSR will follow NYSDEC format per the NYSDEC's September 1997 DUSR guidelines and draft DER-10 guidance. The DUSR and any necessary qualifications to the data will be appended to the RI report.

7.2 Alternatives Analysis Report

An alternatives analysis report (AAR) will be developed to provide a forum for evaluating and selecting a recommended remedial approach. A list of remedial action objectives will be developed based on findings of the RI and the requirement for the selected remedial measures to be protective of human health and the environment under the proposed future use scenario. Proposed soil cleanup objectives (SCOs) for the property will also be presented based on the proposed future use of the Site. SCOs will be based on published standards, criteria, and guidance (SCGs) and other NYSDEC and NYSDOH-accepted values.

Based on the remedial action objectives and SCOs, volumes and areas of media potentially requiring remediation will be calculated. General response actions will then be delineated to address each of the Site problem areas. These response actions will form the foundation for the development and screening of applicable remedial alternatives against the following criteria as described in 6NYCRR 375-1.10:

- Overall Protection of Human Health and the Environment
- Compliance with Standards, Criteria, & Guidance (SCGs)
- Long-term Effectiveness & Permanence
- Reduction of Toxicity, Mobility, or Volume
- Short-term Effectiveness
- Implementability
- Cost

In addition, the criteria of community acceptance will be considered based on public comments on the AAR and proposed remedial action. Following the screening of alternatives, a comparative analysis will be performed against the above criteria. The comparative analysis will allow for better understanding of the relative advantages and disadvantages of each of the alternatives, and will facilitate identification of a recommended remedial approach.

7.3 Project Schedule

A tentative project schedule for the major tasks to be performed in support of the RI/AAR is presented in Figure 5.

8.0 REFERENCES

1. New York State Department of Environmental Conservation. *Draft DER-10; Technical Guidance for Site Investigation and Remediation*. December 2002.
2. URS Corporation. *Site Investigation and Remedial Alternatives Report for the Hazorb Site, Niagara Falls, New York*. March 2001
3. Benchmark Environmental Engineering & Science, PLLC. *Phase I Environmental Site Assessment Report, 1501 College Avenue, Niagara Falls, NY*. September 2007.
4. United States Department of Agriculture (USDA), Soil Conservation Service. *Soil Survey of Erie County, New York*. 1972.
5. National Oceanic & Atmospheric Administration (NOAA) Satellites and Information. Data Tables through 2000.
6. U.S. Environmental Protection Agency. *Requirements for Quality Assurance Project Plans for Environmental Data Operations (EPA QA/R-5)*. October 1998.
7. U.S. Environmental Protection Agency, Region II. *CERCLA Quality Assurance Manual, Revision I*. October 1989.
8. Bradford B. Van Diver. *Roadside Geology of New York*. 1985.

TABLES

TABLE 1

SAMPLING AND ANALYTICAL PROGRAM

REMEDIAL INVESTIGATION WORK PLAN

1501 College Avenue Site
Niagara Falls, New York

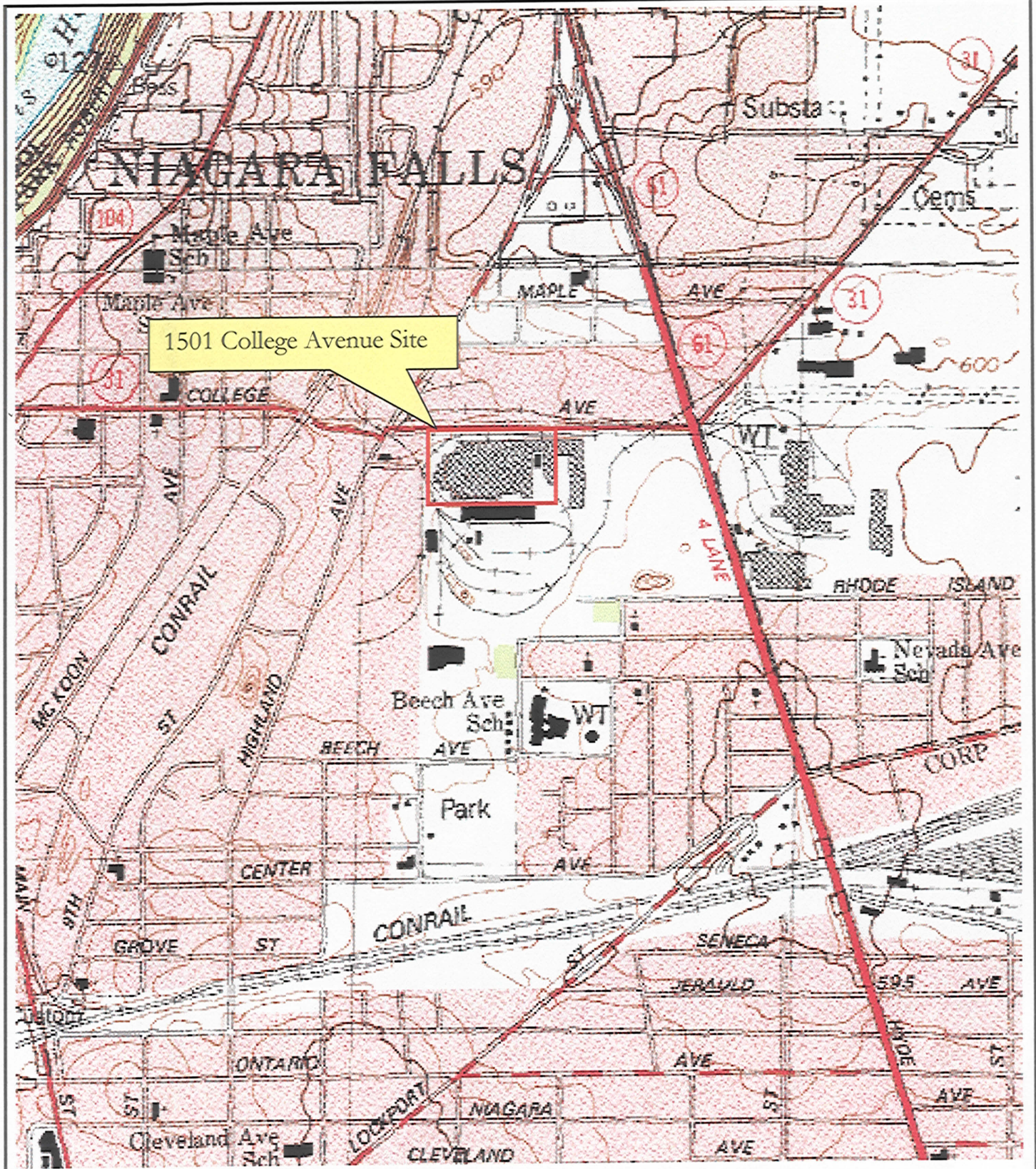
Matrix/Area	Parameter ¹	No. Samples	Estimated Number of QC Samples					Total
			Trip Blank ²	Matrix Spike ³	Matrix Spike Duplicate ³	Equipment Blank ⁴	Blind Duplicate ³	
Exterior Surface Soil/Fill ⁵	TCL + STARS VOCs	3	1	1	1		1	7
	TCL SVOCs	10		1	1		1	13
	TAL Metals	10		1	1		1	13
	PCBs	13		1	1		1	16
	Pesticides	3		1	1		1	6
	Herbicides	3		1	1		1	6
Exterior Subsurface Soil/Fill ⁵	TCL + STARS VOCs	3	1	1	1		1	7
	TCL SVOCs	10		1	1		1	13
	TAL Metals	10		1	1		1	13
	PCBs	10		1	1		1	13
	Pesticides	3		1	1		1	6
	Herbicides	3		1	1		1	6
Suspect UST Area	TCL + STARS List VOCs	4						4
	TCL + STARS List SVOCs	4						4
Galbestos Roofing	PCBs	10		1	1		1	13
Drum Characterization Sampling ⁶ (solids)	TCLP VOCs	15						15
	TCLP Metals	15						15
	Total PCBs	15						15
	Hazardous Characteristics							
	Ignitability	15						15
	Reactivity	15						15
	Corrosivity	15						15
Drum/Tank Characterization Sampling ⁶ (liquids)	Flashpoint	5						5
	Total PCBs	5						5
	RCRA Metals	5						5
	TCL VOCs	5						5
	TCL SVOCs	5						5
Groundwater	TCL + STARS VOCs	4	1	1	1		1	8
	TCL SVOCs	4		1	1		1	7
	TAL Metals	4		1	1		1	7
	PCBs	4		1	1		1	7
	Herbicides	4		1	1		1	7
	Pesticides	4		1	1		1	7
	Field Parameters: DO, pH, Turbidity, Conductance, Temperature	4						4

Notes:

- Analyses will be performed via USEPA SW-846 methodology w/ equivalent Category B deliverables package.
- Trip blanks will be submitted to the laboratory each day aqueous volatile organic samples are collected.
- Blind duplicate and MS/MSD samples will be collected at a frequency of 1 per 20 samples collected.
- Dedicated sampling equipment will be used for groundwater and soil/fill sample collection.
- Ten test-pits will be excavated, with one surface, and one sub-surface series of soil/fill samples being collected from each test-pit.
- Number of samples is estimated; similar materials will be composited, final number of samples will be determined in the field

FIGURES

FIGURE 1



726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

SITE LOCATION AND VICINITY MAP

REMEDIAL INVESTIGATION WORK PLAN

1501 COLLEGE AVENUE SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
SANTAROSA HOLDINGS, INC.

PROJECT NO.: 0140-001-103

DATE: SEPTEMBER 2007

DRAFTED BY:NTM

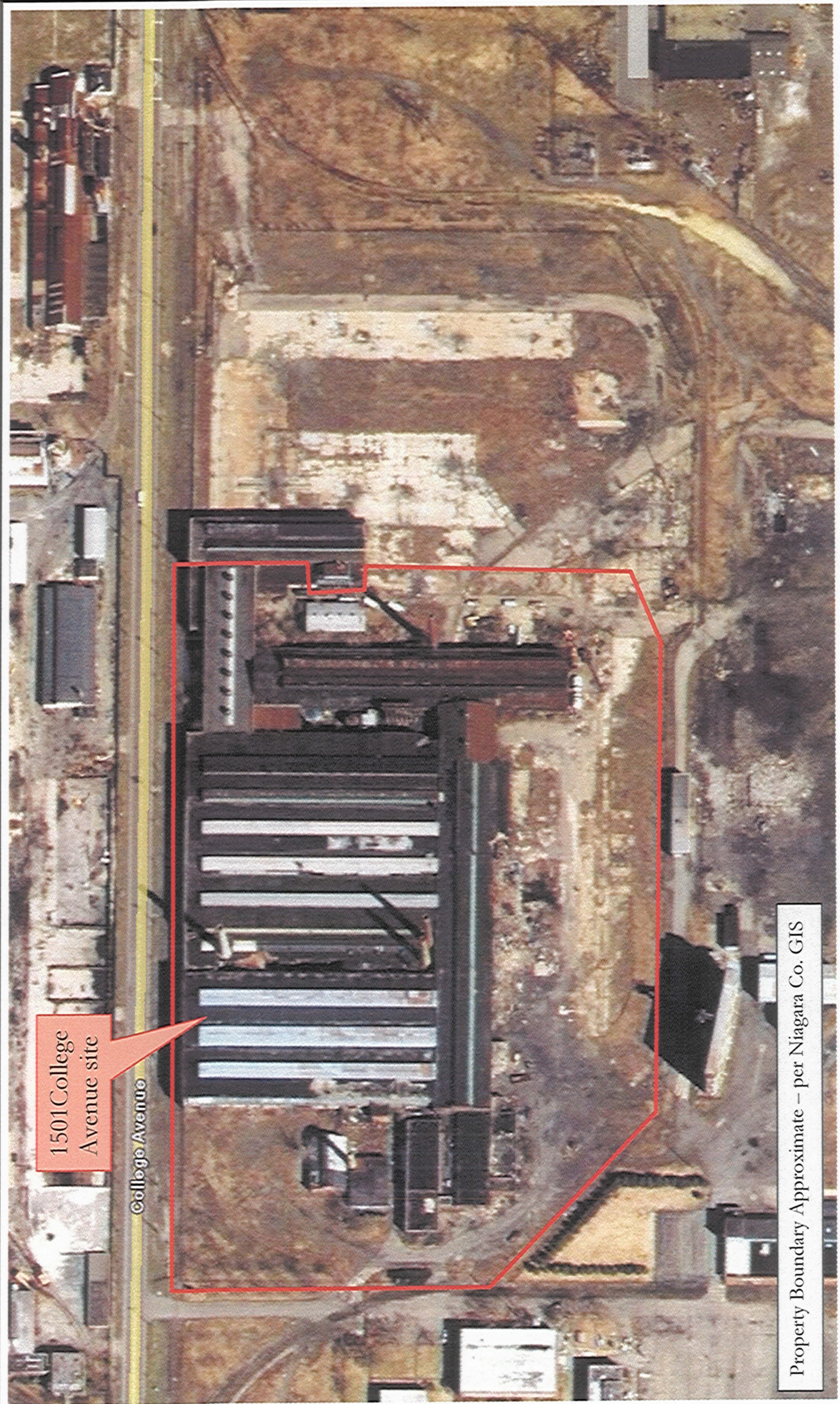


FIGURE 2

SITE PLAN MAP
 REMEDIAL INVESTIGATION WORK PLAN
 1501 COLLEGE AVENUE SITE
 NIAGARA FALLS, NEW YORK
 PREPARED FOR
SANTAROSA HOLDINGS, INC.

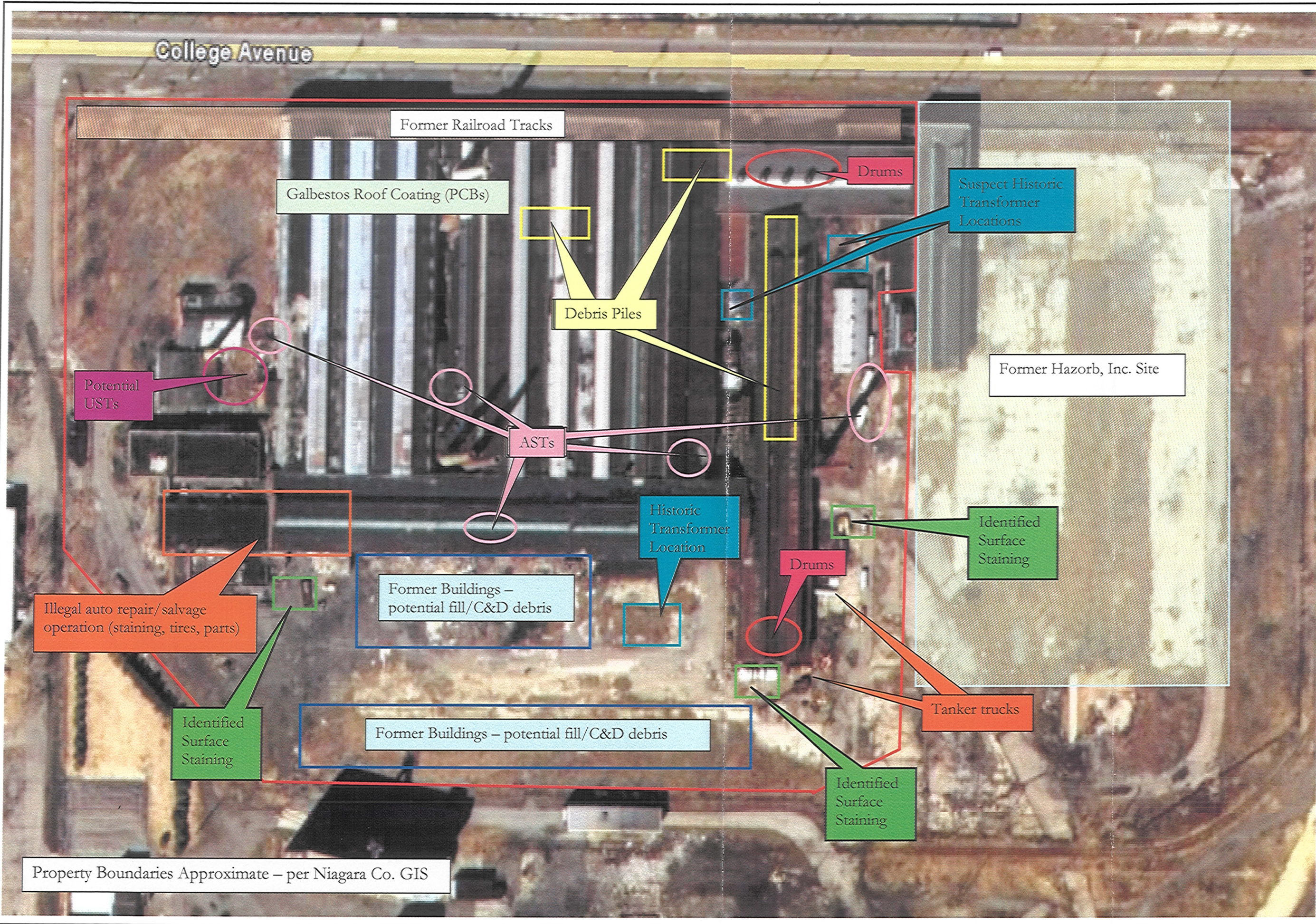
BENCHMARK
 ENVIRONMENTAL
 ENGINEERING &
 SCIENCE, PLLC
 726 EXCHANGE STREET
 SUITE 024
 BUFFALO, NEW YORK 14210
 (716) 856-0599

PROJECT NO.: 0140-001-103
 DATE: SEPTEMBER 2007
 DRAFTED BY: NTM

Property Boundary Approximate - per Niagara Co. GIS

1501 College Avenue site

College Avenue



DATE: SEPTEMBER 2007
DRAFTED BY: NTM

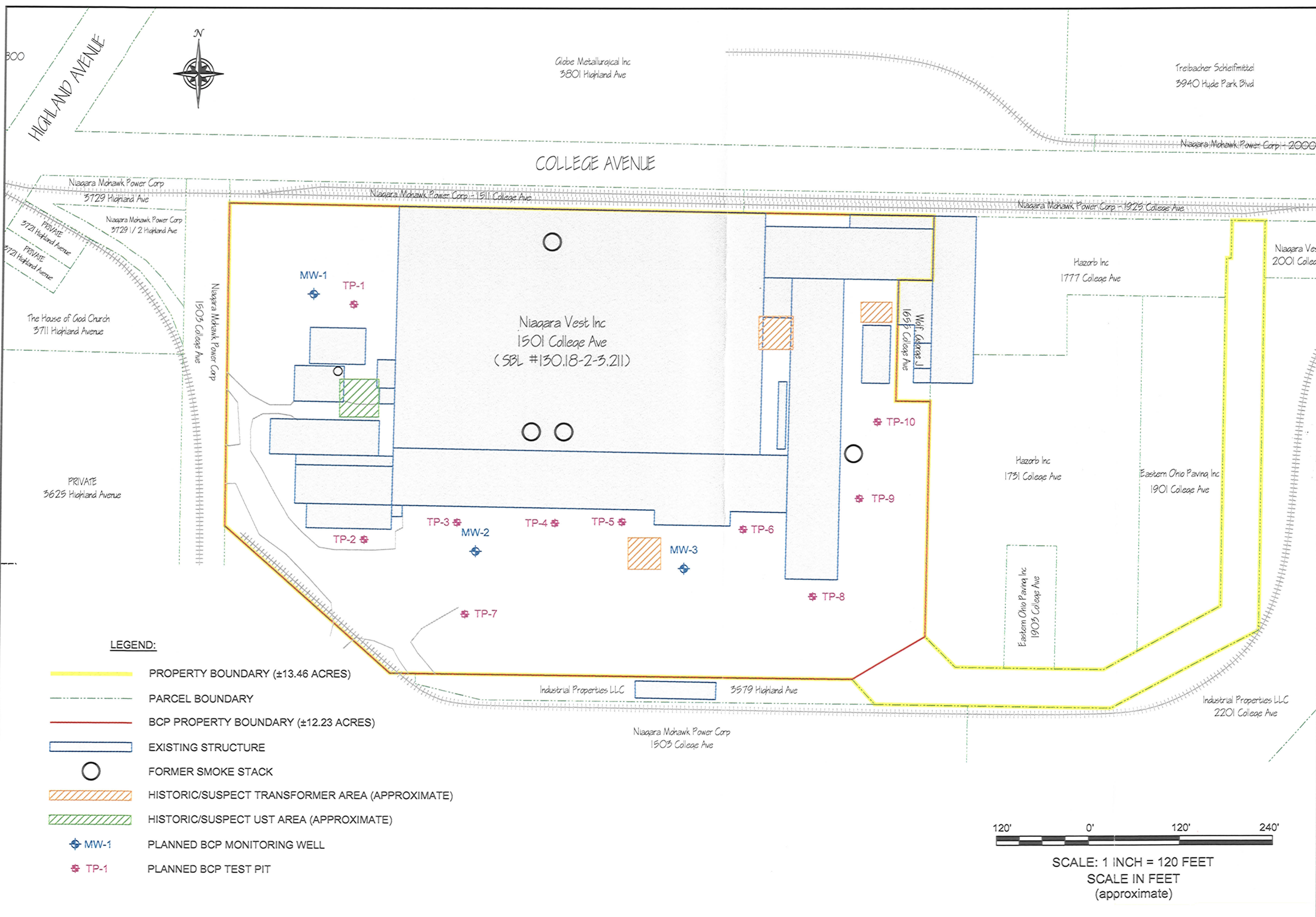
RECOGNIZED ENVIRONMENTAL CONDITIONS
REMEDIAL INVESTIGATION WORK PLAN

1501 COLLEGE AVENUE SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
SANTAROSA HOLDINGS, INC.

FIGURE 3

F:\CAD\Benchmark\Buffalo Fuel\collegesamp.dwg



DATE: SEPTEMBER 2007
DRAFTED BY: BCH

726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

JOB NO.: 0140-001-103

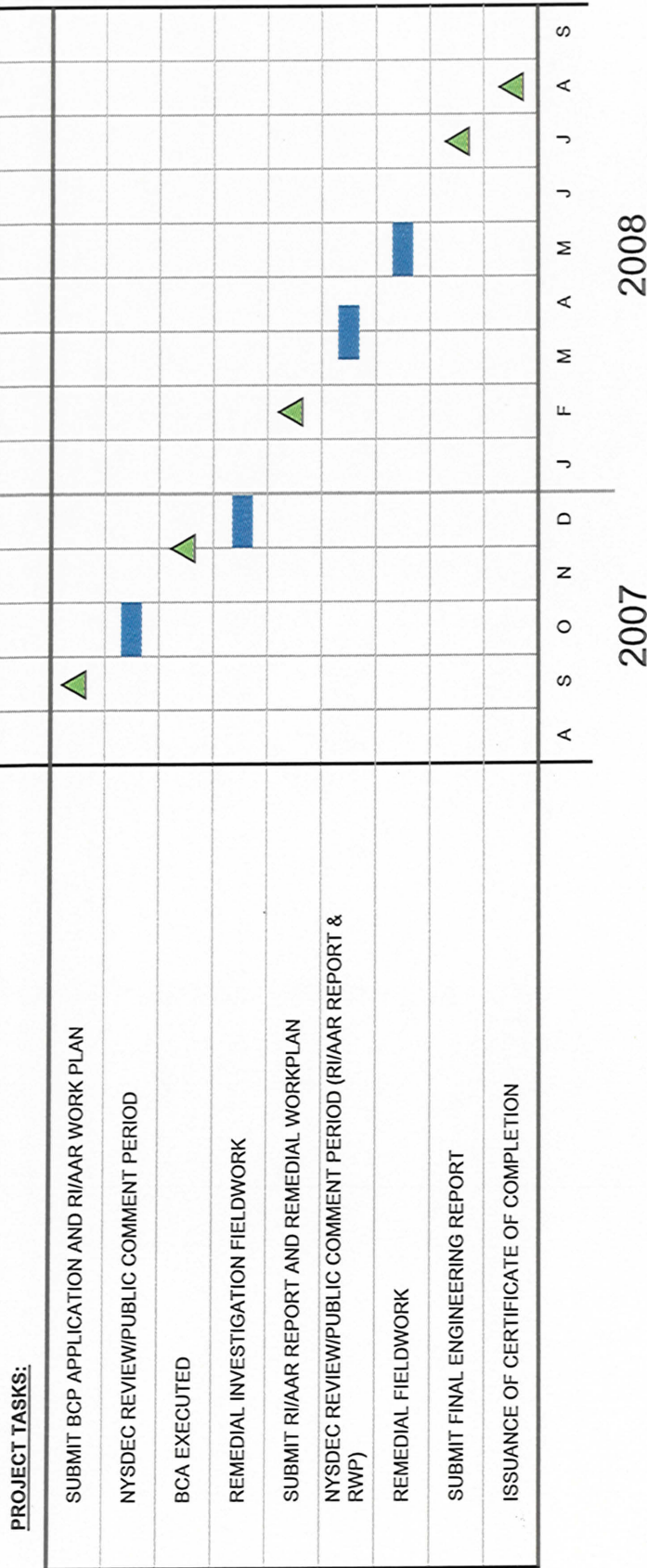
PROPOSED SAMPLE LOCATIONS

RI / AAR WORK PLAN
1501 COLLEGE AVENUE SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
SANTOROSA HOLDINGS, INC.

FIGURE 4

FIGURE 5



BENCHMARK
 ENVIRONMENTAL
 ENGINEERING &
 SCIENCE, PLLC
 728 EXCHANGE STREET
 SUITE 624
 BUFFALO, NEW YORK 14210
 (716) 868-0699

PROJECT NO.: 0140-001-103
 DATE: SEPTEMBER 2007
 DRAFTED BY: NTM

PROJECT SCHEDULE

1501 COLLEGE AVENUE SITE
 NIAGARA FALLS, NEW YORK
 PREPARED FOR
 SANTAROSA HOLDINGS, INC.

APPENDIX A

PREVIOUS INVESTIGATIONS

(ELECTRONIC COPIES PROVIDED ON THE ATTACHED CD ON THE FOLLOWING PAGE)

Phase I Environmental Site Assessment (ESA)
Benchmark (September 2007)

Limited Preliminary Environmental Investigation
Benchmark (September 2007)

Niagara Vest/Hazorb Site
USEPA (June 2007)

Site Investigation and Remedial Alternatives Report for the Hazorb Site
URS Corporation (March 2001)

USEPA letter to NYSDEC (November 2003)

APPENDIX A

PREVIOUS INVESTIGATIONS

APPENDIX B

SITE-SPECIFIC HEALTH AND SAFETY PLAN

**SITE HEALTH AND SAFETY PLAN
for
REMEDIAL INVESTIGATION
ACTIVITIES**

**1501 COLLEGE AVENUE SITE
NIAGARA FALLS, NEW YORK**

September 2007

0140-001-103

Prepared for:

Santarosa Holdings, Inc.
Niagara Falls, New York

1501 College Avenue Site
Health and Safety Plan for Remedial Investigation Activities

Plan Reviewed by (initial):

Corporate Health and Safety Director: Thomas H. Forbes

Project Manager: Michael Lesakowski

Designated Site Safety and Health Officer: Bryan C. Hann

Acknowledgement:

I acknowledge that I have reviewed the information contained in this site-specific Health and Safety Plan, and understand the hazards associated with performance of the field activities described herein. I agree to comply with the requirements of this plan.

NAME (PRINT)	SIGNATURE	DATE
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**1501 COLLEGE AVENUE SITE
HEALTH AND SAFETY PLAN FOR
REMEDIAL INVESTIGATION ACTIVITIES**

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**1501 COLLEGE AVENUE SITE
HEALTH AND SAFETY PLAN FOR
REMEDIAL INVESTIGATION ACTIVITIES**

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**1501 COLLEGE AVENUE SITE
HEALTH AND SAFETY PLAN FOR
REMEDIAL INVESTIGATION ACTIVITIES**

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Attachment 1	NYSDOH Generic Community Air Monitoring Plan
Attachment 2	Emergency Response Plan
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1.0 INTRODUCTION

1.1 General

In accordance with OSHA requirements contained in 29 CFR 1910.120 and USEPA Standard Operating Safety Guidelines, this Health and Safety Plan (HASP) describes the specific health and safety practices and procedures to be employed by Benchmark Environmental Engineering & Science, PLLC and TurnKey Environmental Restoration, LLC employees (referred to jointly hereafter as Benchmark) during investigation activities at 1501 College Avenue located in Niagara Falls, Niagara County, New York. This HASP presents information and procedures for Benchmark employees who will be involved with field activities, including the assignment of responsibilities, personnel protection requirements, work practices and emergency response procedures. It is not intended to cover the activities of other contractors or subcontractors on the Site; these firms will be required to develop and enforce their own HASP as discussed below. In order to ensure that proper coordination on such key issues as emergency notification and decontamination exists between Benchmark and other contractors or subcontractors, Benchmark will review all HASPs and coordinate procedures where appropriate.

This HASP presents information on known Site health and safety hazards obtained from available historical information for previously investigated areas of the Site, and identifies the equipment, materials, and procedures that will be used to eliminate or control these hazards. Environmental monitoring will be performed during the course of field activities to provide real-time data for on-going assessment of potential hazards. This HASP will be updated as new investigation data becomes available.

All Benchmark personnel involved with the field activities associated with the Site Investigation will be required to comply with this HASP and any field modifications as directed by the Site Safety and Health Officer.

1.2 Site Location and Description

The Site is a 13.0-acre portion of a parcel located on the College Avenue, between Hyde Park and Highland Avenue. The Site is currently an abandoned industrial site that is generally in poor condition and disrepair. The Site is covered primarily by former industrial manufacturing buildings, with concrete and asphalt paved areas, former building

foundations, and some overgrown vegetation areas. Previous investigations of the adjoining sites have identified elevated semi-volatile organic compounds (SVOCs) and polychlorinated biphenyls (PCBs) as constituents of concern.

1.3 Site History

The Site was used for heavy industrial manufacturing from at least 1910 to the mid 1980s, and at one time was part of the larger former Union Carbide Co. manufacturing complex. Santarosa Holdings, Inc. has elected to pursue cleanup and redevelopment of the Site under the New York State Brownfield Cleanup Program (BCP), and has submitted a BCP application to the New York State Department of Environmental Conservation (NYSDEC). Santarosa Holdings, Inc. plans to purchase and redevelop the Site.

1.4 Previous Investigations

Benchmark reviewed the “Site Investigation and Remedial Alternatives Report for the Hazorb Site, Niagara Falls, New York,” prepared by URS Corporation for the City of Niagara Falls Department of Environmental Services, dated March 2001 (Ref. 1). The former Hazorb Site and the subject site were once part of a greater parcel operated by Union Carbide and its predecessors. Based on that report, elevated concentrations of SVOCs in soil/fill, sediment, and debris piles were present above current NYSDEC Part 375 restricted-industrial soil cleanup objectives (SCOs). Based on the similar historic operations at the Hazorb site and the subject Site, it is possible that similar contaminants are present at the subject site.

Benchmark also reviewed a letter from the USEPA to Mr. Robert Marino, Director of the Bureau of Technical Support of the NYSDEC Division of Environmental Remediation dated November 2, 2003. According to that letter, the USEPA completed a removal action at the Hazorb site in 2003, which included “identification, stabilization, segregation, removal and disposal of all hazardous wastes found at the property.” That letter indicated that galbestos siding/roofing materials with high PCB levels (up to 56,000 ppm) were identified and transported off-site. The USEPA letter made note that galbestos material will continue to be deposited on-site as long as the [subject site] building remains.

In June of 2007, the US Environmental Protection Agency (EPA) Removal Support

Team 2 (RST2) conducted additional sampling for ACM and PCBs related to the previously conducted remedial action at the abutting former Hazorb site. An EPA subcontractor collected soil and galbestos samples along the north and south sides of College Avenue adjacent to the Site. Preliminary sample results show that ACM and PCBs (Galbestos) are present in the vicinity of the Site at levels that exceed the NYSDEC Part 375 Restricted-Industrial SCOs.

In August 2007, Benchmark Environmental Engineering & Science, PLLC (Benchmark) conducted a Phase I Environmental Site Assessment (ESA) of the subject property (Ref. 2). Benchmark identified several areas of concern, including: evidence of illegal dumping is obvious across the Site; that the Site is a portion of a former greater site operated by Union Carbide, which included the east adjacent former Hazorb site (described below); the historical presence of USTs on the property; a historic petroleum spill on the Site; and potential/documented releases of hazardous material and/or petroleum product on several adjacent and nearby properties.

Benchmark then conducted a limited Preliminary Environmental Investigation at the Site in August 2007 (Ref. 3), which involved collecting four surface soil samples, one galbestos roof covering sample, two debris pile samples, and one soil-paint chip sample. The samples indicated that polynuclear aromatic hydrocarbons (PAHs), metals (arsenic and lead), and PCBs are present above the NYSDEC Part 375 restricted-industrial SCOs.

1.5 Investigation Activities

Benchmark personnel will be on-site for Remedial Investigation activities including the following:

- Completion of approximately 10 test pits across the property for assessment of surface and subsurface conditions (i.e., visual/olfactory/PID) and to obtain soil/fill samples for chemical characterization.
- Drum and container sampling to determine proper disposal and whether source material possess environmental risks for the Site.
- Excavation of up to four test pits in the vicinity of the suspect USTs to allow for identification, and if USTs are encountered, assessment of subsurface conditions.

- Collection of up to three surface soil samples from suspect transformer areas.
- Collection of up to 10 roofing and siding material samples.
- Installation of up to four groundwater monitoring wells, well development, and groundwater sampling for chemical characterization.

2.0 ORGANIZATIONAL STRUCTURE

This chapter of the HASP describes the lines of authority, responsibility and communication as they pertain to health and safety functions at the Site. The purpose of this chapter is to identify the personnel who will impact the development and implementation of the HASP and to describe their roles and responsibilities. This chapter also identifies other contractors and subcontractors involved in work operations and establishes the lines of communication among them for health and safety matters. The organizational structure described in this chapter is consistent with the requirements of 29 CFR 1910.120(b)(2). This section will be reviewed by the Project Manager and updated as necessary to reflect the current organizational structure at this Site.

2.1 Roles and Responsibilities

All Benchmark personnel on the Site must comply with the minimum requirements of this HASP. The specific responsibilities and authority of management, safety and health, and other personnel on this Site are detailed in the following paragraphs.

2.1.1 Corporate Health and Safety Director

The Benchmark Corporate Health and Safety Director is **Mr. Thomas H. Forbes**. The Corporate Health and Safety Director is responsible for developing and implementing the Health and Safety program and policies for Benchmark Environmental Engineering & Science, PLLC and TurnKey Environmental Restoration, LLC, and consulting with corporate management to ensure adequate resources are available to properly implement these programs and policies. The Corporate Health and Safety Director coordinates Benchmark's Health and Safety training and medical monitoring programs, and assists project management and field staff in developing site-specific health and safety plans.

2.1.2 Project Manager

The Project Manager for this Site is **Mr. Michael Lesakowski**. The Project Manager has the responsibility and authority to direct all Benchmark work operations at the Site. The Project Manager coordinates safety and health functions with the Site Safety and Health

Officer, and bears ultimate responsibility for proper implementation of this HASP. He may delegate authority to expedite and facilitate any application of the program, including modifications to the overall project approach as necessary to circumvent unsafe work conditions. Specific duties of the Project Manager include:

- Preparing and coordinating the Site Work Plan.
- Providing Benchmark workers with work assignments and overseeing their performance.
- Coordinating health and safety efforts with the Site Safety and Health Officer (SSHO).
- Reviewing the emergency response coordination plan to assure its effectiveness.
- Serving as the primary liason with Site contractors and the property owner.

2.1.3 Site Safety and Health Officer

The Site Safety and Health Officer (SSHO) for this Site is **Mr. Bryan H. Hann**. The qualified alternate SSHO is **Mr. Richard L. Dubisz**. The SSHO reports to the Project Manager. The SSHO is on-site or readily accessible to the Site during all work operations and has the authority to halt work if unsafe conditions are detected. The specific responsibilities of the SSHO are:

- Managing the safety and health functions for Benchmark personnel on the Site.
- Serving as the point of contact for safety and health matters.
- Ensuring that Benchmark field personnel working on the Site have received proper training (per 29 CFR Part 1910.120(e)), that they have obtained medical clearance to wear respiratory protection (per 29 CFR Part 1910.134), and that they are properly trained in the selection, use and maintenance of personal protective equipment, including qualitative respirator fit testing.
- Performing or overseeing Site monitoring as required by the HASP.
- Assisting in the preparation and review of the HASP.

- Maintaining site-specific safety and health records as described in this HASP.
- Coordinating with the Project Manager, Site Workers and Contractor's SSHO as necessary for safety and health efforts.

2.1.4 Site Workers

Site workers are responsible for: complying with this HASP or a more stringent HASP, if appropriate (i.e. Contractor and Subcontractor's HASP); using proper PPE; reporting unsafe acts and conditions to the SSHO; and following the safety and health instructions of the Project Manager and SSHO.

2.1.5 Other Site Personnel

Other Site personnel who will have health and safety responsibilities in the work zone will include subcontractors and governmental agencies performing Site inspection work (viz. New York State Department of Environmental Conservation and/or its designated oversight contractor) who will be responsible for developing, implementing and enforcing a Health and Safety Plan equally stringent or more stringent than Benchmark's HASP. Benchmark assumes no responsibility for the health and safety of anyone outside its direct employ. During activities involving subcontractors, the subcontractor's HASP shall cover all non-Benchmark Site personnel. The subcontractor(s) shall assign a SSHO who will coordinate with Benchmark's SSHO as necessary to ensure effective lines of communication and consistency between contingency plans.

3.0 HAZARD EVALUATION

The possibility exists that workers will be exposed to hazardous substances during subsurface soil sampling, well development, and groundwater monitoring. The principal points of exposure would be through direct contact with impacted media or vapors during sample collection and handling activities. In addition, the use of large equipment will also present conditions for potential physical injury to workers. Adherence to the medical evaluations, worker training relative to chemical hazards, safe work practices, proper personal protection, environmental monitoring, establishment work zones and site control, appropriate decontamination procedures and contingency planning outlined herein will reduce the potential for chemical exposures and physical injuries.

3.1 Chemical Hazards

Table 3-1 identifies known constituents of potential concern and ranges of concentrations, by media, observed during previous investigations. Based on this work, the constituents of potential concern include: SVOCs (PAHs), metals, and PCBs. Table 3-2 lists toxicity and exposure data for these constituents of potential concern. As additional data is obtained, Tables 3-1 and 3-2 will be updated accordingly. Brief descriptions of the toxicology of these materials and related health and safety guidance and criteria are provided below.

- **Arsenic** is a naturally occurring element and is usually found combined with one or more elements, such as oxygen or sulfur. Inhalation is a more important exposure route than ingestion. First phase exposure symptoms include nausea, vomiting, diarrhea and pain in the stomach. Prolonged contact is corrosive to the skin and mucus membranes. Arsenic is considered a Group A human carcinogen by the USEPA. Exposure via inhalation is associated with an increased risk of lung cancer. Exposure via the oral route is associated with an increased risk of skin cancer.
- **Lead** can affect almost every organ and system in our bodies. The most sensitive is the central nervous system, particularly in children. Lead also damages kidneys and the immune system. The effects are the same whether it is breathed or swallowed. Lead may decrease reaction time, cause weakness in fingers, wrists or ankles and possibly affect memory. Lead may cause anemia.
- **Polynuclear Aromatic Hydrocarbons (PAHs)** are formed as a result of the pyrolysis and incomplete combustion of organic matter such as fossil fuel. PAH

aerosols formed during the combustion process disperse throughout the atmosphere, resulting in the deposition of PAH condensate in soil, water and on vegetation. In addition, several products formed from petroleum processing operations (e.g., roofing materials and asphalt) also contain elevated levels of PAHs. Hence, these compounds are widely dispersed in the environment. PAHs are characterized by a molecular structure containing three or more fused, unsaturated carbon rings. Seven of the PAHs are classified by USEPA as probable human carcinogens (USEPA Class B2). These are: benzo(a)pyrene; benzo(a)anthracene; benzo(b)fluoranthene; benzo(k)fluoranthene; chrysene; dibenzo(a,h)anthracene; and indeno(1,2,3-cd)pyrene. The primary route of exposure to PAHs is through incidental ingestion and inhalation of contaminated particulates. PAHs are characterized by an organic odor, and exist as oily liquids in pure form. Acute exposure symptoms may include acne-type blemishes in areas of the skin exposed to sunlight.

- **Polychlorinated Biphenyls (PCBs)** are a series of compounds that were commonly used in transformer oil and are suspected carcinogens. PCBs may vary in form from oily liquids to white solids. Exposure may cause nausea, vomiting, weight loss, jaundice, edema and abdominal pain.

With respect to the anticipated activities defined in Section 1.4, possible routes of exposure to the above-mentioned contaminants are presented in Table 3-3. The use of proper respiratory equipment, as outlined in Section 7.0, will minimize the potential for exposure to airborne contamination. Further, exposure to contaminants through dermal and other routes will also be minimized through the use of protective clothing (Section 7.0), safe work practices (Section 6.0), and proper decontamination procedures (Section 12.0).

3.2 Physical Hazards

Remedial investigation activities at the Site may present the following physical hazards:

- The potential for physical injury during heavy equipment use, such as drill rigs.
- The potential for slip and fall injuries due to slippery terrain.

These hazards represent only some of the possible means of injury which may be present during investigation and sampling activities at the Site. Since it is impossible to list all potential sources of injury, it shall be the responsibility of each individual to exercise proper care and caution during all phases of the work.

4.0 TRAINING

4.1 Site Workers

All personnel performing site investigation activities (such as, but not limited to, equipment operators and general laborers) and who may be exposed to hazardous substances, health hazards, or safety hazards and their supervisors/managers responsible for the site shall receive training in accordance with 29 CFR 1910.120(e) before they are permitted to engage in operations in the exclusion zone or contaminant reduction zone. This training includes an initial 40-hour Hazardous Waste Site Worker Protection Course, an 8-hour Annual Refresher Course subsequent to the initial 40-hour training, and 3 days of actual field experience under the direct supervision of a trained, experienced supervisor. Additional site-specific training shall also be provided by the SSHO prior to the start of field activities. A description of topics to be covered by this training is provided below.

4.1.1 Initial and Refresher Training

Initial and refresher training is conducted by a qualified instructor as specified under OSHA 29 CFR 1910.120(e)(5), and is specifically designed to meet the requirements of OSHA 29 CFR 1910.120(e)(3) and 1910.120(e)(8). The training covers, as a minimum, the following topics:

- OSHA HAZWOPER regulations.
- Site safety and hazard recognition, including chemical and physical hazards.
- Medical monitoring requirements.
- Air monitoring, permissible exposure limits, and respiratory protection level classifications.
- Appropriate use of personal protective equipment (PPE), including chemical compatibility and respiratory equipment selection and use.
- Work practices to minimize risk.
- Work zones and Site control.

- Safe use of engineering controls and equipment.
- Decontamination procedures.
- Emergency response and escape.
- Confined space entry procedures.
- Heat and cold stress monitoring.
- Elements of a Health and Safety Plan.
- Spill containment.

Initial training also incorporates workshops for PPE and respiratory equipment use (Levels A, B and C), and respirator fit testing. Records and certification received from the course instructor documenting each employee's successful completion of the training identified above are maintained on file at Benchmark Environmental Engineering and Science, PLLC's Buffalo, NY office. Contractors and Subcontractors are required to provide similar documentation of training for all their personnel who will be involved in on-site work activities.

Any employee who has not been certified as having received health and safety training in conformance with 29 CFR 1910.120(e) is prohibited from working in the exclusion and contamination reduction zones, or to engage in any on-site work activities that may involve exposure to hazardous substances or wastes.

4.1.2 Site Training

Site workers are given a copy of the HASP and provided a site-specific briefing prior to the commencement of work to ensure that employees are familiar with the HASP and the information and requirements it contains. The site briefing shall be provided by the SSHO prior to initiating field activities and shall include:

- Names of personnel and alternates responsible for Site safety and health.
- Safety, health and other hazards present on the Site.

- The Site lay-out including work zones and places of refuge.
- The emergency communications system and emergency evacuation procedures.
- Use of PPE.
- Work practices by which the employee can minimize risks from hazards.
- Safe use of engineering controls and equipment on the Site.
- Medical surveillance, including recognition of symptoms and signs of over-exposure (see Section 5).
- Decontamination procedures (see Section 12).
- The Emergency Response Plan (see Attachment 2).
- Confined space entry procedures, if required (see Section 13).
- The spill containment program (see Section 9).
- Site control (see Section 11).

Supplemental health and safety briefings will also be conducted by the SSHO on an as-needed basis during the course of the work. Supplemental briefings are provided as necessary to notify employees of any changes to this HASP as a result of information gathered during on-going Site characterization and analysis. Conditions for which the SSHO may schedule additional briefings include, but are not limited to: a change in Site conditions (viz., based on monitoring results); changes in the work schedule/plan; newly discovered hazards; and safety incidents occurring during Site work.

4.2 Supervisor Training

On-site safety and health personnel who are directly responsible for or who supervise the safety and health of workers engaged in hazardous waste operations (i.e., SSHO) shall receive, in addition to the appropriate level of worker training described in Section 4.1, above, 8 additional hours of specialized supervisory training, in compliance with 29 CFR

1910.120(e)(4).

4.3 Emergency Response Training

Emergency response training is addressed in Attachment 2 of this HASP, Emergency Response Plan.

4.4 Site Visitors

Benchmark's SSHO will provide a site-specific briefing to all Site visitors and other non-Benchmark personnel who enter the Site beyond the Site entry point. The site-specific briefing will provide information about Site hazards, the Site lay-out including work zones and places of refuge, the emergency communications system and emergency evacuation procedures, and other pertinent safety and health requirements as appropriate.

Site visitors will not be permitted to enter the exclusion zone or contaminant reduction zones unless they have received the level of training required for Site workers as described in Section 4.1.

5.0 MEDICAL MONITORING

Medical monitoring examinations are provided to Benchmark employees as stipulated under 29 CFR Part 1910.120(f). These exams include initial employment and termination physicals for all Benchmark employees involved in hazardous waste Site field operations. Annual exams are provided for those employees who are engaged in hazardous waste site field operations for more than 30 days per year, or who meet other specific criteria listed in 29 CFR 1910.120(f). Post-exposure examinations are also provided for employees who may have been injured, received a health impairment, or developed signs or symptoms of over-exposure to hazardous substances or were accidentally exposed to substances at concentrations above the permissible exposure limits without necessary personal protective equipment. Such exams are performed as soon as possible following development of symptoms or the known exposure event.

Medical evaluations are performed by ADP Screening & Selection Services, an occupational health care provider under contract with TurnKey-Benchmark. ADP's local facility is Health Works WNY, Seneca Square Plaza, 1900 Ridge Road, West Seneca, New York 14224. The facility can be reached at (716) 823-5050 to schedule routine appointments or post-exposure examinations.

Medical evaluations are conducted according to the Benchmark-TurnKey Medical Monitoring Program and include an evaluation of the workers' ability to use respiratory protective equipment. The examinations include:

- Occupational/medical history review.
- Physical exam, including vital sign measurement.
- Spirometry testing.
- Eyesight testing.
- Audio testing (minimum baseline and exit, annual for employees routinely exposed to greater than 85db).
- EKG (for employees >40 yrs age or as medical conditions dictate).
- Chest X-ray (baseline and exit, and every 5 years).

- Blood biochemistry (including blood count, white cell differential count, serum multiplastic screening).
- Medical certification of physical requirements (viz., sight, musculoskeletal, cardiovascular) for safe job performance and to wear respiratory protection equipment.

The purpose of the medical evaluation is to determine an employee's fitness for duty on hazardous waste sites; and to establish baseline medical data.

In conformance with OSHA regulations, Benchmark will maintain and preserve medical records for a period of 30 years following termination of employment. Employees are provided a copy of the physician's post-exam report, and have access to their medical records and analyses.

6.0 SAFE WORK PRACTICES

All Benchmark employees shall conform to the following safe work practices during all on-site work activities conducted within the exclusion and contamination reduction zones:

- Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand-to-mouth contact is strictly prohibited.
- The hands and face must be thoroughly washed upon leaving the work area and prior to engaging in any activity indicated above.
- Respiratory protective equipment and clothing must be worn by all personnel entering the Site as required by the HASP or as modified by the Site Safety Officer. Excessive facial hair (i.e., beards, long mustaches or sideburns) that interferes with the satisfactory respirator-to-face seal is prohibited.
- Contact with surfaces/materials either suspected or known to be contaminated will be avoided to minimize the potential for transfer to personnel, cross contamination and need for decontamination.
- Due to possible contraindications, use of prescribed drugs should be reviewed with the Benchmark occupational physician.
- Alcoholic beverage and illegal drug intake are strictly forbidden during the work day.
- All personnel shall be familiar with standard operating safety procedures and additional instructions contained in this Health and Safety Plan.
- On-site personnel shall use the “buddy” system. No one may work alone (i.e., out of earshot or visual contact with other workers) in the exclusion zone.
- Personnel and equipment in the contaminated area shall be minimized, consistent with effective Site operations.
- All employees have the obligation to immediately report and if possible, correct unsafe work conditions.
- Use of contact lenses on-site will not be permitted. Spectacle kits for insertion

into full-face respirators will be provided for Benchmark employees, as requested and required.

The recommended specific safety practices for working around the subcontractor's equipment (e.g., drill rig, site truck.) are as follows:

- Although the subcontractors are responsible for their equipment and safe operation of the Site, Benchmark personnel are also responsible for their own safety.
- Subsurface work will not be initiated without first clearing underground utility services.
- Heavy equipment should not be operated within 20 feet of overhead wires. This distance may be increased if windy conditions are anticipated or if lines carry high voltage. The Site should also be sufficiently clear to ensure the project staff can move around the heavy machinery safely.
- Care should be taken to avoid overhead wires when moving heavy-equipment from location to location.
- Hard hats, safety boots and safety glasses should be worn at all times in the vicinity of heavy equipment. Hearing protection is also recommended.
- The work Site should be kept neat. This will prevent personnel from tripping and will allow for fast emergency exit from the Site.
- Proper lighting must be provided when working at night.
- Investigation activities should be discontinued during an electrical storm or severe weather conditions.
- The presence of combustible gases should be checked before igniting any open flame.
- Personnel shall stand upwind of any investigation activity when not immediately involved in sampling/logging/observing activities.
- Personnel will not approach the edge of an unsecured trench/excavation closer than 2 feet.

7.0 PERSONAL PROTECTIVE EQUIPMENT

7.1 Equipment Selection

Personal protective equipment (PPE) will be donned when work activities may result in exposure to physical or chemical hazards beyond acceptable limits, and when such exposure can be mitigated through appropriate PPE. The selection of PPE will be based on an evaluation of the performance characteristics of the PPE relative to the requirements and limitations of the Site, the task-specific conditions and duration, and the hazards and potential hazards identified at the Site.

Equipment designed to protect the body against contact with known or suspect chemical hazards are grouped into four categories according to the degree of protection afforded. These categories, designated A through D consistent with United States Environmental Protection Agency (USEPA) Level of Protection designation, are:

- **Level A:** Should be selected when the highest level of respiratory, skin and eye protection is needed.
- **Level B:** Should be selected when the highest level of respiratory protection is needed, but a lesser level of skin protection is required. Level B (or Level A) is also necessary for oxygen-deficient atmospheres.
- **Level C:** Should be selected when the types of airborne substances are known, the concentrations have been measured and the criteria for using air-purifying respirators are met. In atmospheres where no airborne contaminants are present, Level C provides dermal protection only.
- **Level D:** Should not be worn on any site with elevated respiratory or skin hazards. This is generally a work uniform providing minimal protection.

OSHA requires the use of certain PPE under conditions where an immediate danger to life and health (IDLH) may be present. Specifically, OSHA 29 CFR 1910.120(g)(3)(iii) requires use of a positive pressure self-contained breathing apparatus, or positive pressure air-line respirator equipped with an escape air supply when chemical exposure levels present a substantial possibility of immediate serious injury, illness or death, or impair the ability to escape. Similarly, OSHA 29 CFR 1910.120(g)(3)(iv) requires donning totally-encapsulating chemical protective suits (with a protection level equivalent to Level A protection) in

conditions where skin absorption of a hazardous substance may result in a substantial possibility of immediate serious illness, injury or death, or impair the ability to escape.

In situations where the types of chemicals, concentrations, and possibilities of contact are unknown, the appropriate level of protection must be selected based on professional experience and judgment until the hazards can be further characterized. The individual components of clothing and equipment must be assembled into a full protective ensemble to protect the worker from site-specific hazards, while at the same time minimizing hazards and drawbacks of the personal protective gear itself. Ensemble components are detailed below for levels A/B, C, and D protection.

7.2 Protection Ensembles

7.2.1 Level A/B Protection Ensemble

Level A/B ensembles include similar respiratory protection, however Level A provides a higher degree of dermal protection than Level B. Use of Level A over Level B is determined by: comparing the concentrations of identified substances in the air with skin toxicity data, and assessing the effect of the substance (by its measured air concentrations or splash potential) on the small area of the head and neck unprotected by Level B clothing.

The recommended PPE for level A/B is:

- Pressure-demand, full-face piece self-contained breathing apparatus (MSHA/-NIOSH approved) or pressure-demand supplied-air respirator with escape self-contained breathing apparatus (SCBA).
- Chemical-resistant clothing. For Level A, clothing consists of totally-encapsulating chemical resistant suit. Level B incorporates hooded one-or two-piece chemical splash suit.
- Inner and outer chemical resistant gloves.
- Chemical-resistant safety boots/shoes.
- Hardhat.

7.2.2 Level C Protection Ensemble

Level C protection is distinguished from Level B by the equipment used to protect

the respiratory system, assuming the same type of chemical-resistant clothing is used. The main selection criterion for Level C is that conditions permit wearing an air-purifying device. The device (when required) must be an air purifying respirator (MSHA/NIOSH approved) equipped with filter cartridges. Cartridges must be able to remove the substances encountered. Respiratory protection will be used only with proper fitting, training and the approval of a qualified individual. In addition, an air-purifying respirator can be used only if: oxygen content of the atmosphere is at least 19.5% in volume; substances are identified and concentrations measured; substances have adequate warning properties; the individual passes a qualitative fit-test for the mask; and an appropriate cartridge/canister is used, and its service limit concentration is not exceeded.

Recommended PPE for Level C conditions includes:

- Full-face piece, air-purifying respirator equipped with MSHA and NIOSH approved organic vapor/acid gas/dust/mist combination cartridges or as designated by the SSHO.
- Chemical-resistant clothing (hooded, one or two-piece chemical splash suit or disposable chemical-resistant one-piece suit).
- Inner and outer chemical-resistant gloves.
- Chemical-resistant safety boots/shoes.
- Hardhat.

An air monitoring program is part of all response operations when atmospheric contamination is known or suspected. It is particularly important that the air be monitored thoroughly when personnel are wearing air-purifying respirators. Continual surveillance using direct-reading instruments is needed to detect any changes in air quality necessitating a higher level of respiratory protection.

7.2.3 Level D Protection Ensemble

As indicated above, Level D protection is primarily a work uniform. It can be worn in areas where only boots can be contaminated, where there are no inhalable toxic substances and where the atmospheric contains at least 19.5% oxygen.

Recommended PPE for Level D includes:

- Coveralls
- Safety boots/shoes
- Safety glasses or chemical splash goggles
- Hardhat
- Optional gloves; escape mask; face shield

7.2.4 Recommended Level of Protection for Site Tasks

Based on current information regarding both the contaminants suspected to be present at the Site and the various tasks that are included in the investigation, the minimum required Levels of Protection for these tasks shall be as identified in Table 7-1.

8.0 EXPOSURE MONITORING

8.1 General

Based on the results of historic sample analysis and the nature of the proposed work activities at the Site, the possibility exists that particulates may be released to the air during intrusive sampling activities. Ambient breathing zone concentrations may at times, exceed the permissible exposure limits (PEL) established by OSHA for the individual compounds (see Table 3-2), in which case respiratory protection will be required. Respiratory and dermal protection may be modified (upgraded or downgraded) by the SSHO based upon real-time field monitoring data.

8.1.1 On-Site Work Zone Monitoring

Benchmark personnel will conduct routine, real-time air monitoring during all intrusive construction phases such as excavation, backfilling, drilling, etc. The work area will be monitored at regular intervals using a photo-ionization detector (PID), combustible gas meter and a particulate meter. Observed values will be recorded and maintained as part of the permanent field record.

Additional air monitoring measurements may be made by Benchmark personnel to verify field conditions during subcontractor oversight activities. Monitoring instruments will be protected from surface contamination during use. Additional monitoring instruments may be added if the situations or conditions change. Monitoring instruments will be calibrated in accordance with manufacturer's instructions before use.

8.1.2 Off-Site Community Monitoring

In addition to on-site monitoring within the work zone(s), monitoring at the downwind portion of the site perimeter will be conducted when any intrusive activities are performed outdoors of the facility. This will provide a real-time method for determination of substantial vapor and/or particulate releases to the surrounding community as a result of intrusive investigation work.

The monitoring will be performed at the downwind perimeter location at regular intervals and at a minimum of once per half hour during times when organic vapors,

explosive gases or particulates exceed established limits for five minutes or longer until such time as work zone concentrations decrease to below the perimeter monitoring action levels. If sustained concentrations of organic vapors, explosive gas, or particulates are detected in excess of the threshold values identified in Section 7.2.2 at the downwind perimeter location for a period of 5 minutes or longer, the actions identified in Section 7.2.2 shall be taken. Pertinent emergency response information including the telephone number and address of the Fire Department are included in Attachment 2 - Emergency Response Plan.

Ground intrusive activities are defined by NYSDOH Appendix 1A Generic Community Air Monitoring Plan (Ref. 2) and attached as Appendix C. Ground intrusive activities include soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells. Non-intrusive activities include the collection of soil and sediment samples or the collection of groundwater samples from existing wells. Continuous monitoring is required for ground intrusive activities and periodic monitoring is required for non-intrusive activities. Periodic monitoring consists of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring while bailing a well, and taking a reading before leaving a sampling location. This may be upgraded to continuous if the sampling location is in close proximity to individuals not involved in the Site activity (i.e., on a curb of a busy street). The action levels below will be used during periodic monitoring. This will provide a real-time method for determination of substantial vapor and/or particulate releases to the surrounding community because of Site investigation work.

8.2 Monitoring Action Levels

8.2.1 On-Site Work Zone Action Levels

The PID or other appropriate instrument(s) will be used as specified in this Health and Safety Plan. Methane gas will be monitored with the “combustible gas” option on the combustible gas meter or other appropriate instrument(s) in accordance with this plan. In addition, fugitive dust/particulate concentrations will be monitored using a real-time particulate monitor as specified in this plan. Readings obtained in the breathing zone may be interpreted (with regard to other site conditions) as follows for on-site Benchmark personnel:

- Total atmospheric concentrations of unidentified vapors or gases ranging from 0 to background on the PID) - Continue operations under Level D.
- Total atmospheric concentrations of unidentified vapors or gases yielding sustained readings above background to 5 ppm on the PID (vapors not suspected of containing high levels of chemicals toxic to the skin) - Continue operations under Level C.
- Total atmospheric concentrations of unidentified vapors or gases yielding sustained readings of 5 to 50 ppm above background on the PID - Continue operations under Level B, re-evaluate and alter (if possible) construction methods to achieve lower vapor concentrations.
- Total atmospheric concentrations of unidentified vapors or gases above 50 ppm on the PID - Discontinue operations and exit the work zone immediately.

The explosimeter will be used to monitor levels of both combustible gases and oxygen during construction activities. Action levels based on the instrument readings shall be as follows:

- Less than 10% LEL - Continue engineering operations with caution.
- 10-25% LEL - Continuous monitoring with extreme caution, determine source/cause of elevated reading.
- Greater than 25% LEL - Explosion hazard, evaluate source and leave the Work Zone.
- 19.5% - 21% oxygen - proceed with extreme caution; attempt to determine potential source of oxygen displacement.
- Less than 19.5% oxygen - leave work zone immediately.
- 21-25% oxygen - Continue engineering operations with caution.
- Greater than 25% oxygen - Fire hazard potential, leave Work Zone immediately.

The particulate monitor will be used to monitor respirable dust concentrations during all intrusive activities. Action levels based on the instrument readings shall be as follows:

- Less than 50 mg/m³ - Continue field operations.
- 50-150 mg/m³ - Don dust/particulate mask or equivalent
- Greater than 150 mg/m³ - Don dust/particulate mask or equivalent. Initiate engineering controls to reduce respirable dust concentration (viz., wetting of excavated soils or tools at discretion of Site Safety and Health Officer).

Readings with the combustible gas meter, particulate monitor and organic vapor analyzers will be recorded and documented in the Health and Safety Logbook. All instruments will be calibrated before use and the procedure will be documented in the Health and Safety Logbook.

8.2.2 Community Air Monitoring

In addition to the action levels prescribed in Section 8.2.1 for Benchmark personnel on-site, the following criteria shall also be adhered to for the protection of downwind receptors consistent with NYSDOH requirements (Appendix C):

o ORGANIC VAPOR PERIMETER MONITORING:

- If the sustained ambient air concentration of organic vapors at the downwind perimeter of the exclusion zone exceeds 5 ppm above background, work activities will be halted and monitoring continued. If the sustained organic vapor decreases below 5 ppm over background, work activities can resume but more frequent intervals of monitoring, as directed by the Site Health and Safety Officer, must be conducted.
- If the sustained ambient air concentration of organic vapors at the downwind perimeter of the exclusion zone are greater than 5 ppm over background but less than 25 ppm, activities can resume provided that: the organic vapor level 200 feet downwind of the working site or half the distance to the nearest off-site residential or commercial structure, whichever is less, is below 5 ppm over background; and more frequent intervals of monitoring, as directed by the Site Health and Safety Officer, are conducted.
- If the sustained organic vapor level is above 25 ppm at the perimeter of the exclusion zone, the Site Health and Safety Officer must be notified and work activities shut down. The Site Health and Safety Officer will determine when

re-entry of the exclusion zone is possible and will implement downwind air monitoring to ensure vapor emissions do not impact the nearest off-site residential or commercial structure at levels exceeding those specified in the *Organic Vapor Contingency Monitoring Plan* below. All readings will be recorded and will be available for New York State Department of Environmental Conservation (DEC) and Department of Health (DOH) personnel to review.

o **ORGANIC VAPOR CONTINGENCY MONITORING PLAN:**

- If the sustained organic vapor level is greater than 5 ppm over background 200 feet downwind from the work area or half the distance to the nearest off-site residential or commercial property, whichever is less, all work activities must be halted.
- If, following the cessation of the work activities or as the result of an emergency, sustained organic levels persist above 5 ppm above background 200 feet downwind or half the distance to the nearest off-site residential or commercial property from the work area, then the air quality must be monitored within 20 feet of the perimeter of the nearest off-site residential or commercial structure (20-foot zone).
- If efforts to abate the emission source are unsuccessful and if sustained organic vapor levels approach or exceed 5 ppm above background within the 20-foot zone for more than 30 minutes, or are sustained at levels greater than 10 ppm above background for longer than one minute, then the *Major Vapor Emission Response Plan* (see below) will automatically be placed into effect.

o **MAJOR VAPOR EMISSION RESPONSE PLAN:**

Upon activation, the following activities will be undertaken:

1. All Emergency Response Contacts as listed in this Health and Safety Plan and the Emergency Response Plan (Appendix A) will be advised.
2. The local police authorities will immediately be contacted by the Site Health and Safety Officer and advised of the situation.
3. Frequent air monitoring will be conducted at 30-minute intervals within the 20-foot zone. If two sustained successive readings below action levels are measured, air monitoring may be halted or modified by the Site Health and Safety Officer.

The following personnel are to be notified in the listed sequence in the event that a Major Vapor Emission Plan is activated:

Responsible Person	Contact	Phone Number
SSHO	Police	911
SSHO	State Emergency Response Hotline	(800) 457-7362

Additional emergency numbers are listed in the Emergency Response Plan included as Appendix A.

o **EXPLOSIVE VAPORS:**

- Sustained atmospheric concentrations of greater than 10% LEL in the work area - Initiate combustible gas monitoring at the downwind portion of the Site perimeter.
- Sustained atmospheric concentrations of greater than 10% LEL at the downwind Site perimeter – Halt work and contact local Fire Department.

o **AIRBORNE PARTICULATE COMMUNITY AIR MONITORING**

Respirable (PM-10) particulate monitoring will be performed on a continuous basis at the upwind and downwind perimeter of the exclusion zone. The monitoring will be performed using real-time monitoring equipment capable of measuring PM-10 and integrating over a period of 15-minutes for comparison to the airborne particulate action levels. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities. All readings will be recorded and will be available for NYSDEC and NYSDOH review. Readings will be interpreted as follows:

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (ug/m³) greater than the background (upwind perimeter) reading for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression provided that the downwind PM-10 particulate levels do not exceed 150 ug/m³ above the upwind level and that visible dust is not migrating from the work area.

- If, after implementation of dust suppression techniques downwind PM-10 levels are greater than 150 ug/m³ above the upwind level, work activities must be stopped and dust suppression controls re-evaluated. Work can resume provided that supplemental dust suppression measures and/or other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 ug/m³ of the upwind level and in preventing visible dust migration.

Pertinent emergency response information including the telephone number of the Fire Department is included in the Emergency Response Plan (Appendix A).

9.0 SPILL RELEASE/RESPONSE

This chapter of the HASP describes the potential for and procedures related to spills or releases of known or suspected petroleum and/or hazardous substances on the Site. The purpose of this Section of the HASP is to plan appropriate response, control, countermeasures and reporting, consistent with OSHA requirements in 29 CFR 1910.120(b)(4)(ii)(f) and (j)(1)(viii). The spill containment program addresses the following elements:

- Potential hazardous material spills and available controls.
- Initial notification and evaluation.
- Spill response.
- Post-spill evaluation.

9.1 Potential Spills and Available Controls

An evaluation was conducted to determine the potential for hazardous material and oil/petroleum spills at this Site. For the purpose of this evaluation, hazardous materials posing a significant spill potential are considered to be:

- CERCLA Hazardous Substances as identified in 40 CFR Part 302, where such materials pose the potential for release in excess of their corresponding Reportable Quantity (RQ).
- Extremely Hazardous Substances as identified in 40 CFR Part 355, Attachment 1, where such materials pose the potential for release in excess of their corresponding Reportable Quantity (RQ).
- Hazardous Chemicals as defined under Section 311(e) of the Emergency Planning and Community Right-To-Know Act of 1986, where such chemicals are present or will be stored in excess of 10,000 lbs.
- Toxic Chemicals as defined in 40 CFR Part 372, where such chemicals are present or will be stored in excess of 10,000 lbs.
- Chemicals regulated under 6NYCRR Part 597, where such materials pose the potential for release in excess of their corresponding Reportable Quantity (RQ).

Oil/petroleum products are considered to pose a significant spill potential whenever

the following situations occur:

- The potential for a “harmful quantity” of oil (including petroleum and non-petroleum-based fuels and lubricants) to reach navigable waters of the U.S. exists (40 CFR Part 112.4). Harmful quantities are considered by USEPA to be volumes of 1,000 gallons or more, or lesser quantities that either form a visible sheen on the water or violate applicable water quality standards.
- The potential for any amount of petroleum to reach any waters of NY State, including groundwater, exists. Petroleum, as defined by NY State in 6NYCRR Part 612, is a petroleum-based heat source, energy source, or engine lubricant/maintenance fluid.
- The potential for any release, to soil or water, of petroleum from a bulk storage facility regulated under 6NYCRR Part 612. A regulated petroleum storage facility is defined by NY State as a Site having stationary tank(s) and intra-facility piping, fixtures and related equipment with an aggregate storage volume of 1,100 gallons or greater.

The evaluation indicates that, based on Site history and the scope of work, a hazardous material spill is not likely to occur during investigation efforts. However, the procedures identified below will be followed in the event of an unanticipated release.

9.2 Initial Spill Notification and Evaluation

Any worker who discovers a hazardous substance or oil/petroleum spill will immediately notify the Project Manager and SSHO. The worker will, to the best of his/her ability, report the material involved, the location of the spill, the estimated quantity of material spilled, the direction/flow of the spill material, related fire/explosion incidents, if any, and any associated injuries. The Emergency Response Plan presented in Attachment 2 of this HASP will immediately be implemented if an emergency release has occurred.

Following initial report of a spill, the Project Manager will make an evaluation as to whether the release exceeds RQ levels. If an RQ level is exceeded, the Project Manager will notify the Site owner who will in turn notify NYSDEC at 1-800-457-7362 within 2 hours of spill discovery. The Project Manager will also determine what additional agencies are to be contacted regarding the release, and will follow-up with written reports as required by the applicable regulations.

9.3 Spill Response

For all spill situations, the following general response guidelines will apply:

- Only those personnel involved in overseeing or performing containment operations will be allowed within the spill area. If necessary, the area will be roped, ribboned or otherwise blocked off to prevent unauthorized access.
- Appropriate PPE, as specified by the SSHO, will be donned before entering the spill area.
- Ignition points will be extinguished/removed if fire or explosion hazards exist.
- Surrounding reactive materials will be removed.
- Drains or drainage in the spill area will be blocked to prevent inflow of spilled materials or applied materials.

For minor spills, the Benchmark will maintain a Spill Control and Containment Kit in the Field Office or other readily accessible storage location. The kit will consist of, at a minimum, a 50 lb. bag of “speedy dry” granular absorbent material, absorbent pads, shovels, empty 5-gallon pails and an empty open-top 55-gallon drum. Spilled materials will be absorbed, and shoveled into a 55-gallon drum for proper disposal (USEPA approval will be secured for on-site treatment of the impacted soils/absorbent materials, if applicable). Impacted soils will be hand-excavated to the point that no visible signs of contamination remains, and will be drummed with the absorbent.

In the event of a major release or a release that threatens surface water, a spill response contractor will be called to the Site. The response contractor may use heavy equipment (e.g., excavator, backhoe, etc.) to berm the soils surrounding the spill site or create diversion trenching to mitigate overland migration or release to navigable waters. Where feasible, pumps will be used to transfer free liquid to storage containers. Spill control/cleanup contractors in the Western New York area that may be contacted for assistance (in order of preference) include:

- The Environmental Service Group of NY, Inc.: (716) 695-6720

- Op-Tech: (716) 873-7680
- Environmental Products and Services, Inc.: (716) 447-4700

9.4 Post-Spill Evaluation

If a reportable quantity of hazardous material or oil/petroleum is spilled as determined by the Project Manager, a written report will be prepared as indicated in Section 9.2. The report will identify the root cause of the spill, type and amount of material released, date/time of release, response actions, agencies notified and/or involved in cleanup, and procedures to be implemented to avoid repeat incidents. In addition, all re-useable spill cleanup and containment materials will be decontaminated, and spill kit supplies/disposable items will be replenished.

10.0 HEAT/COLD STRESS MONITORING

Although most Site Investigation activities will occur in a climate controlled environment, measures will be taken to minimize heat/cold stress to Benchmark employees working outdoors. The Site Safety and Health Officer and/or his or her designee will be responsible for monitoring Benchmark field personnel for symptoms of heat/cold stress.

10.1 Heat Stress Monitoring

Personal protective equipment may place an employee at risk of developing heat stress, a common and potentially serious illnesses often encountered at construction, landfill, waste disposal, industrial or other unsheltered sites. The potential for heat stress is dependent on a number of factors, including environmental conditions, clothing, workload, physical conditioning and age. Personal protective equipment may severely reduce the body's normal ability to maintain temperature equilibrium (via evaporation and convection), and require increased energy expenditure due to its bulk and weight.

Proper training and preventive measures will mitigate the potential for serious illness. Heat stress prevention is particularly important because once a person suffers from heat stroke or heat exhaustion, that person may be predisposed to additional heat related illness. To avoid heat stress, the following steps should be taken:

- Adjust work schedules.
- Modify work/rest schedules according to monitoring requirements.
- Mandate work slowdowns as needed.
- Perform work during cooler hours of the day if possible or at night if adequate lighting can be provided.
- Provide shelter (air-conditioned, if possible) or shaded areas to protect personnel during rest periods.
- Maintain worker's body fluids at normal levels. This is necessary to ensure that the cardiovascular system functions adequately. Daily fluid intake must approximately equal the amount of water lost in sweat (i.e., eight fluid ounces must be ingested for approximately every 1 lb of weight lost). The normal thirst mechanism is not sensitive enough to ensure that enough water will be consumed

to replace lost perspiration. When heavy sweating occurs, workers should be encouraged to drink more.

- Train workers to recognize the symptoms of heat related illness.

Heat-Related Illness - Symptoms:

- Heat rash may result from continuous exposure to heat or humid air.
- Heat cramps are caused by heavy sweating with inadequate electrolyte replacement. Signs and symptoms include: muscle spasms; pain in the hands, feet and abdomen.
- Heat exhaustion occurs from increased stress on various body organs including inadequate blood circulation due to cardiovascular insufficiency or dehydration. Signs and symptoms include: pale, cool, moist skin; heavy sweating; dizziness; nausea; fainting.
- Heat stroke is the most serious form of heat stress. Temperature regulation fails and the body temperature rises to critical levels. Immediate action must be taken to cool the body before serious injury and death occur. Competent medical help must be obtained. Signs and symptoms are: red, hot, usually dry skin; lack of or reduced perspiration; nausea; dizziness and confusion; strong, rapid pulse; coma.

The monitoring of personnel wearing protective clothing should commence when the ambient temperature is 70 degrees Fahrenheit or above. For monitoring the body's recuperative ability to excess heat, one or more of the following techniques should be used as a screening mechanism.

- Heart rate may be measured by the radial pulse for 30 seconds as early as possible in the resting period. The rate at the beginning of the rest period should not exceed 100 beats per minute. If the rate is higher, the next work period should be shortened by 10 minutes (or 33%), while the length of the rest periods stay the same, If the pulse rate is 100 beats per minute at the beginning of the nest rest period, the following work cycle should be further shortened by 33%.
- Body temperature may be measured orally with a clinical thermometer as early as possible in the resting period. Oral temperature at the beginning of the rest period should not exceed 99.6 degrees Fahrenheit. If it does, the next work period should be shortened by 10 minutes (or 33%), while the length of the rest period

remains the same. However, if the oral temperature exceeds 99.6 degrees Fahrenheit at the beginning of the next period, the work cycle may be further shortened by 33%. Oral temperature should be measured at the end of the rest period to make sure that it has dropped below 99.6 degrees Fahrenheit. No Benchmark employee will be permitted to continue wearing semi-permeable or impermeable garments when his/her oral temperature exceeds 100.6 degrees Fahrenheit.

10.2 Cold Stress Monitoring

Exposure to cold conditions may result in frostbite or hypothermia, each of which progresses in stages as shown below.

- **Frostbite** occurs when body tissue (usually on the extremities) begins to freeze. The three states of frostbite are:
 - 1) **Frostnip** - This is the first stage of the freezing process. It is characterized by a whitened area of skin, along with a slight burning or painful sensation. Treatment consists of removing the victim from the cold conditions, removal of boots and gloves, soaking the injured part in warm water (102 to 108 degrees Fahrenheit) and drinking a warm beverage. Do not rub skin to generate friction/ heat.
 - 2) **Superficial Frostbite** - This is the second stage of the freezing process. It is characterized by a whitish gray area of tissue which will be firm to the touch but will yield little pain. The treatment is identical for Frostnip.
 - 3) **Deep Frostbite** - In this final stage of the freezing process the affected tissue will be cold, numb and hard and will yield little to no pain. Treatment is identical to that for Frostnip.
- **Hypothermia** is a serious cold stress condition occurring when the body loses heat at a rate faster than it is produced. If untreated, hypothermia may be fatal. The stages of hypothermia may not be clearly defined or visible at first, but generally include:
 - 1) Shivering
 - 2) Apathy (i.e., a change to an indifferent or uncaring mood)
 - 3) Unconsciousness
 - 4) Bodily freezing

Employees exhibiting signs of hypothermia should be treated by medical

professionals. Steps that can be taken while awaiting help include:

- 1) Remove the victim from the cold environment and remove wet or frozen clothing. (Do this carefully as frostbite may have started.)
- 2) Perform active re-warming with hot liquids for drinking (Note: do not give the victim any liquid containing alcohol or caffeine) and a warm water bath (102 to 108 degrees Fahrenheit).
- 3) Perform passive re-warming with a blanket or jacket wrapped around the victim.

In any potential cold stress situation, it is the responsibility of the Site Health and Safety Officer to encourage the following:

- Education of workers to recognize the symptoms of frostbite and hypothermia.
- Workers should dress warmly, with more layers of thin clothing as opposed to one thick layer.
- Personnel should remain active and keep moving.
- Personnel should be allowed to take shelter in a heated areas, as necessary.
- Personnel should drink warm liquids (no caffeine or alcohol if hypothermia has set in).
- For monitoring the body's recuperation from excess cold, oral temperature recordings should occur:
 - At the Site Safety Technicians discretion when suspicion is based on changes in a worker's performance or mental status.
 - At a workers request.
 - As a screening measure, two times per shift, under unusually hazardous conditions (e.g., wind chill less than 20 degrees Fahrenheit or wind chill less than 30 degrees Fahrenheit with precipitation).
 - As a screening measure whenever anyone worker on Site develops hypothermia.

Any person developing moderate hypothermia (a core body temperature of 92

degrees Fahrenheit) will not be allowed to return to work for 48 hours without the recommendation of a qualified medical doctor.

11.0 WORK ZONES AND SITE CONTROL

Work zones around the areas designated for investigation activities will be established by Benchmark on a daily basis and communicated to all employees and other Site users by the SSHO. It shall be the Site Safety and Health Officer's responsibility to ensure that all Site workers are aware of the work zone boundaries and to enforce proper procedures in each area. The zones will include:

- Exclusion Zone ("Hot Zone") - The area where contaminated materials may be exposed, excavated or handled and all areas where contaminated equipment or personnel may travel. The zone will be delineated by flagging tape. All personnel entering the Exclusion Zone must wear the prescribed level of personal protective equipment identified in Section 7.
- Contaminant Reduction Zone - The zone where decontamination of personnel and equipment takes place. Any potentially contaminated clothing, equipment and samples must remain in the Contaminant Reduction Zone until decontaminated.
- Support Zone - The part of the Site that is considered non-contaminated or "clean." Support equipment will be located in this zone, and personnel may wear normal work clothes within this zone.

In the absence of other task-specific work zone boundaries established by the SSHO, the following boundaries will apply to all investigation activities involving disruption or handling of Site soils, sediment or groundwater:

- Exclusion Zone: 50 foot radius from the outer limit of the sampling activity.
- Contaminant Reduction Zone: 100 foot radius from the outer limit of the sampling activity.
- Support Zone: Areas outside the Contaminant Reduction Zone.

Access of non-essential personnel to the Exclusion and Contaminant Reduction Zones will be strictly controlled by Benchmark. Only personnel who are essential to the completion of the task will be allowed access to these areas and only if they are wearing the prescribed level of protection. Entrance of all personnel must be approved by the SSHO.

The Contractor will maintain a Health and Safety Logbook containing the names of

workers and their level of protection. The zone boundaries may be changed by the SSHO as environmental conditions warrant, and to respond to the necessary changes in work locations on-site.

12.0 DECONTAMINATION

12.1 Decontamination for Benchmark Employees

The degree of decontamination required is a function of a particular task and the environment within which it occurs. The following decontamination procedure will remain flexible, thereby allowing the decontamination crew to respond appropriately to the changing environmental conditions which may arise at the Site. All Benchmark personnel on-site shall follow the procedure below.

Station 1 - Equipment Drop: Deposit visibly contaminated (if any) re-useable equipment used in the contamination reduction and exclusion zones (tools, containers, monitoring instruments, radios, clipboards, etc.) on plastic sheeting.

Station 2 - Boots and Gloves Wash and Rinse: Scrub outer boots and outer gloves. Deposit tape and gloves in waste disposal container.

Station 3 - Tape, Outer Boot and Glove Removal: Remove tape, outer boots and gloves. Deposit tape and gloves in waste disposal container.

Station 4 - Canister or Mask Change: If worker leaves exclusive zone to change canister (or mask), this is the last step in the decontamination procedure. Worker's canister is exchanged, new outer gloves and boot cover donned, and worker returns to duty.

Station 5 - Outer Garment/Face Piece Removal: Protective suit removed and deposited in separate container provided by Contractor. Face piece or goggles are removed if used. Avoid touching face with fingers. Face piece and/or goggles deposited on plastic sheet. Hard hat removed and placed on plastic sheet.

Station 6 - Inner Glove Removal: Inner gloves are the last personal protective equipment to be removed. Avoid touching the outside of the gloves with bare fingers. Dispose of these gloves in waste disposal container.

Following PPE removal, personnel shall wash hands, face and forearms with absorbent wipes. If field activities proceed for a duration of 6 consecutive months or longer, shower facilities will be provided for worker use in accordance with OSHA 29 CFR 1910.120(n).

12.2 Decontamination for Medical Emergencies

In the event of a minor, non-life threatening injury, personnel should follow the decontamination procedures as defined, and then administer first-aid.

In the event of a major injury or other serious medical concern (e.g., heat stroke), immediate first-aid is to be administered and the victim transported to the hospital in lieu of further decontamination efforts unless exposure to a Site contaminant would be considered “Immediately Dangerous to Life or Health.”

12.3 Decontamination of Field Equipment

Decontamination of heavy equipment will be conducted by the subcontractor in accordance with his approved Health and Safety Plan in the Contamination Reduction Zone. As a minimum, this will include manually removing heavy soil clods, followed by high pressure water and detergent or steam cleaning.

Decontamination of all tools used for sample collection purposes will be conducted by Benchmark personnel. It is expected that all tools will be constructed of nonporous, nonabsorbent materials (i.e., metal) which will aid in the decontamination effort. Any tool or part of a tool made of porous, absorbent material (i.e., wood) will be placed into suitable containers and prepared for disposal.

13.0 CONFINED SPACE ENTRY

OSHA 29 CFR 1910.146 identifies a confined space as a space which is large enough and so configured that an employee can physically enter and do assigned work, has limited or restricted means for entry and exit, and is not intended for continuous employee occupancy. Confined spaces include, but are not limited to, trenches, storage tanks, process vessels, pits, sewers, tunnels, underground utility vaults, pipelines, sumps, wells, and excavations.

Confined space entry by Benchmark employees is not anticipated to be necessary to complete the Site investigation activities identified in Section 1.4. In the event that the scope of work changes or confined space entry appears necessary, the Project Manager will be consulted to determine if feasible engineering alternatives to confined space entry can be implemented. If confined space entry by Benchmark employees cannot be avoided through reasonable engineering measures, task-specific confined space entry procedures will be developed and a confined-space entry permit will be issued through Benchmark's corporate Health and Safety Director. Benchmark employees shall not enter a confined space without these procedures and permits in place.

14.0 FIRE PREVENTION AND PROTECTION

14.1 General Approach

Recommended practices and standards of the National Fire Protection Association (NFPA) and other applicable regulations will be followed in the development and application of Project Fire Protection Programs. When required by regulatory authorities, the project management will prepare and submit a Fire Protection Plan for the approval of the contracting officers, authorized representative or other designated official. Essential considerations for the Fire Protection Plan will include:

- Proper Site preparation and safe storage of combustible and flammable materials.
- Availability of coordination with private and public fire authorities.
- Adequate job-site fire protection and inspections for fire prevention.
- Adequate indoctrination and training of employees.

14.2 Equipment and Requirements

Fire extinguishers will be provided by Benchmark and are required to be provided by the subcontractor on all heavy equipment brought on-site. Fire extinguishers will be inspected, serviced, and maintained in accordance with the manufacturer's instructions. As a minimum, all extinguishers shall be checked monthly and weighed semi-annually, and recharged if necessary. Recharge or replacement shall be mandatory immediately after each use.

14.3 Flammable and Combustible Substances

All storage, handling or use of flammable and combustible substances will be under the supervision of qualified persons. All tanks, containers and pumping equipment, whether portable or stationary, which are used for the storage and handling of flammable and combustible liquids, will meet the recommendations of the National Fire Protection Association.

14.4 Hot Work

If the scope of work necessitates welding or blow torch operation, the hot work

permit presented in Attachment 3 will be completed by the SSHO and reviewed/issued by the Project Manager.

15.0 EMERGENCY INFORMATION

In accordance with OSHA 29 CFR Part 1910, an Emergency Response Plan is attached to this HASP as Attachment 2.

16.0 REFERENCES

1. URS Corporation. *Site Investigation and Remedial Alternatives Report for the Hazorb Site Niagara Falls, New York*. March 2001
2. Benchmark Environmental Engineering & Science, PLLC. *Phase I Environmental Site Assessment Report. 1501 College Avenue, Niagara Falls, NY*. September 2007.
3. Benchmark Environmental Engineering & Science, PLLC. *Limited Preliminary Environmental Investigation. 1501 College Avenue, Niagara Falls, NY* August 2007.

TABLES

TABLE 1
CONSTITUENTS OF POTENTIAL CONCERN

1501 College Avenue Site
Buffalo Lakeside Commerce Park Site
Buffalo, New York

Parameter	CAS No.	Maximum Detected Concentration in Sample ¹ (mg/kg)
<i>Semi-Volatile Organic Compounds (SVOCs):</i> ²		
Benzo(a)anthracene	56-55-3	340
Benzo(b)fluoranthene	205-99-2	360
Benzo(k)fluoranthene	207-08-9	120
Benzo(a)pyrene	50-32-8	210
Chrysene	218-01-9	340
Dibenzo(a,h)anthracene	53-70-3	35
Indeno(1,2,3-cd)pyrene	193-39-5	96
<i>Inorganic Compounds:</i>		
Arsenic	7440-38-2	89
Lead ²	7439-92-1	6590
<i>Polychlorinated Byphenls (PCBs):</i>		
Aroclor 1268 ³	--	11000 B

Notes:

1. Concentration above Part 375 restricted-industrial SCOs.
2. Surface soil sample collected during Aug. 2007 Limited Preliminary Environmental Investigation.
3. Sample of paint chipped from steel column.

TABLE 2

TOXICITY DATA FOR CONSTITUENTS OF POTENTIAL CONCERN

1501 College Avenue Site
Buffalo, New York

Parameter	Synonyms	CAS No.	Code	Concentration Limits ¹		
				PEL	TLV	IDLH
Semi-volatile Organic Compounds (SVOCs) ²: ppm						
Benzo(a)anthracene	<i>none</i>	56-55-3	<i>none</i>	--	--	--
Benzo(b)fluoranthene	<i>none</i>	205-99-2	<i>none</i>	--	--	--
Benzo(k)fluoranthene	<i>none</i>	207-08-9	<i>none</i>	--	--	--
Benzo(a)pyrene	<i>none</i>	50-32-8	<i>none</i>	--	--	--
Chrysene	<i>none</i>	218-01-9	<i>none</i>	--	--	--
Dibenzo(a,h)anthracene	<i>none</i>	53-70-3	<i>none</i>	--	--	--
Indeno(1,2,3-cd)pyrene	<i>none</i>	193-39-5	<i>none</i>	--	--	--
Polychlorinated Biphenyls (PCBs) : ppm						
Aroclor 1268	Chlorodiphenyl, 68% chlorine	--	<i>none</i>	--	--	--
Inorganic Compounds: mg/m ²						
Arsenic	<i>none</i>	7440-38-2	Ca	0.01	0.01	5
Lead	<i>none</i>	7439-92-1	<i>none</i>	0.05	0.15	100

Notes:

1. Concentration limits as reported by NIOSH Pocket Guide to Chemical Hazards, February 2004 (NIOSH Publication No. 97-140, fourth printing with changes and updates).
2. "--" = concentration limit not available; exposure should be minimized to the extent feasible through appropriate engineering controls & PPE.

Explanation:

Ca = NIOSH considers constituent to be a potential occupational carcinogen.

C## = Ceiling Level equals the maximum exposure concentration allowable during the work day.

IDLH = Immediately Dangerous to Life or Health.

ND indicates that an IDLH has not as yet been determined.

TLV = Threshold Limit Value, est. by American Conference of Industrial Hygienists (ACGIH), equals the max. exposure conc. allowable for 8 hrs/day @ 40 hrs/week.

TLVs are the amounts of chemicals in the air that almost all healthy adult workers are predicted to be able to tolerate without adverse effects. There are three types.

TLV-TWA (TLV-Time-Weighted Average) which is averaged over the normal eight-hour day/forty-hour work week. (Most TLVs.)

TLV-STEL or Short Term Exposure Limits are 15 minute exposures that should not be exceeded for even an instant. It is not a stand alone value but is accompanied by the TLV-TWA. It indicates a higher exposure that can be tolerated for a short time without adverse effect as long as the total time weighted average is not exceeded.

TLV-C or Ceiling limits are the concentration that should not be exceeded during any part of the working exposure.

Unless the initials "STEL" or "C" appear in the Code column, the TLV value should be considered to be the eight-hour TLV-TWA.

PEL = Permissible Exposure Limit, established by OSHA, equals the maximum exposure concentration allowable for 8 hours per day @ 40 hours per week

TABLE 3

**POTENTIAL ROUTES OF EXPOSURE TO THE
CONSTITUENTS OF POTENTIAL CONCERN**

**1501 College Avenue Site
Niagara Falls, New York**

Activity ¹	Direct Contact with Soil	Inhalation of Vapors or Dust	Direct Contact with Groundwater
Remedial Investigation Tasks			
1. Test pit excavation & soil sampling.	x	x	
2. Drum and container sampling.		x	
3. Collection of roofing and siding material samples.		x	
4. Monitoring Well Installation and Groundwater Sampling	x	x	x

Notes:

1. Activity as described in Section 1.5 of the Health and Safety Plan.

TABLE 4

**REQUIRED LEVELS OF PROTECTION
FOR RI/IRM TASKS**

1501 College Avenue Site
Niagara Falls, New York

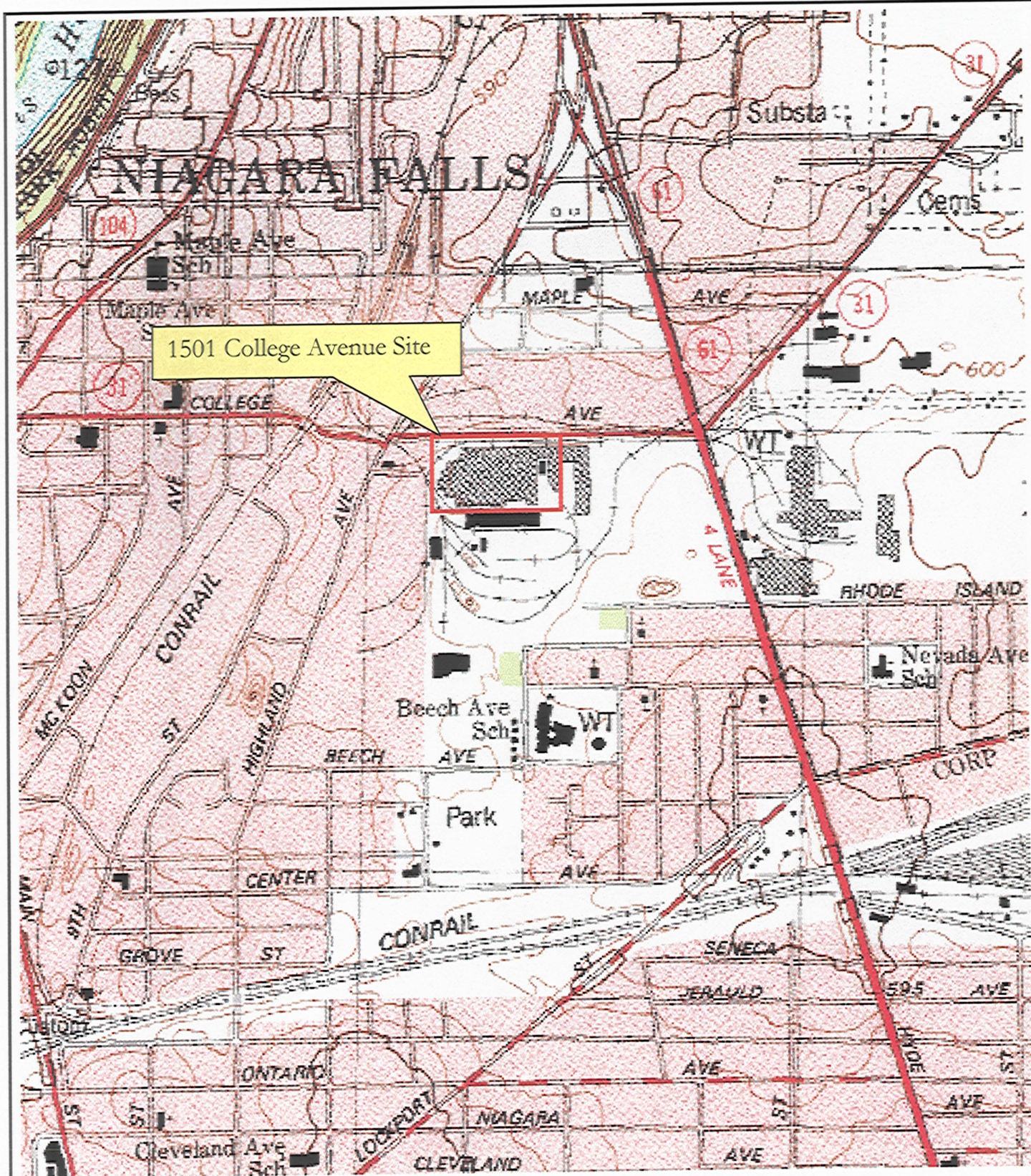
Activity	Respiratory Protection ¹	Clothing	Gloves ²	Boots ^{2,3}	Other Required PPE/Modifications ^{2,4}
Remedial Investigation Tasks					
1. Test pit excavation & soil sampling.	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	HH SGSS
2. Drum and container sampling.	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	SGSS
3. Collection of roofing and siding material samples.	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	HH SGSS
4. Monitoring Well Installation & Groundwater Sampling	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	SGSS

Notes:

- Respiratory equipment shall conform to guidelines presented in Section 7.0 of this HASP. The Level C requirement is an air-purifying respirator equipped with organic compound/acid gas/dust cartridge.
- HH = hardhat; L = Latex; L/N = latex inner glove, nitrile outer glove; N = Nitrile; S = Saranex; SG = safety glasses; SGSS = safety glasses with sideshields; STSS = steel toe safety shoes.
- Latex outer boot (or approved overboot) required whenever contact with contaminated materials may occur. SSHO may downgrade to STSS (steel-toed safety shoes) if contact will be limited to cover/replacement soils.
- Dust masks shall be donned as directed by the SSHO (site safety and health officer) or site safety technician whenever potentially contaminated airborne particulates (i.e., dust) are present in significant amounts in the breathing zone. Goggles may be substituted with safety glasses w/ side-shields whenever contact with contaminated liquids is not anticipated.

FIGURES

FIGURE 1



726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

SITE LOCATION AND VICINITY MAP

REMEDIAL INVESTIGATION WORK PLAN

1501 COLLEGE AVENUE SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
SANTAROSA HOLDINGS, INC.

PROJECT NO.: 0140-001-103

DATE: SEPTEMBER 2007

DRAFTED BY: NTM

ATTACHMENT 1

NYSDOH GENERIC COMMUNITY AIR MONITORING PLAN

APPENDIX 1A

New York State Department of Health Generic Community Air Monitoring Plan

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

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical-specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

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

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for volatile organic compounds (VOCs) and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate NYSDEC/NYSDOH staff.

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

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

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.
- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

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

Particulate Monitoring, Response Levels, and Actions

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

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed $150 \text{ mcg}/\text{m}^3$ above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than $150 \text{ mcg}/\text{m}^3$ above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within $150 \text{ mcg}/\text{m}^3$ of the upwind level and in preventing visible dust migration.

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

ATTACHMENT 2

EMERGENCY RESPONSE PLAN

**EMERGENCY RESPONSE PLAN
for
REMEDIAL INVESTIGATION
ACTIVITIES**

**at the
1501 COLLEGE AVENUE SITE
NIAGARA FALLS, NEW YORK**

September 2007

0140-001-103

Prepared for:

Santarosa Holdings, Inc.
Niagara Falls, New York

1501 COLLEGE AVENUE SITE
HEALTH AND SAFETY PLAN FOR RI ACTIVITIES
APPENDIX A: EMERGENCY RESPONSE PLAN

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Figure A-1 Hospital Route Map

1.0 GENERAL

This report presents the site-specific Emergency Response Plan (ERP) referenced in the Site Health and Safety Plan (HASP) prepared for Remedial Investigation (RI) activities at the 1501 College Avenue Site in Niagara Falls, New York. This appendix of the HASP describes potential emergencies that may occur at the Site; procedures for responding to those emergencies; roles and responsibilities during emergency response; and training all workers must receive in order to follow emergency procedures. This ERP also describes the provisions this Site has made to coordinate its emergency response planning with other contractors on-site and with off-site emergency response organizations.

This ERP is consistent with the requirements of 29 CFR 1910.120(l) and provides the following site-specific information:

- Pre-emergency planning.
- Personnel roles, lines of authority, and communication.
- Emergency recognition and prevention.
- Safe distances and places of refuge.
- Evacuation routes and procedures.
- Decontamination procedures.
- Emergency medical treatment and first aid.
- Emergency alerting and response procedures.
- Critique of response and follow-up.
- Emergency personal protective equipment (PPE) and equipment.

2.0 PRE-EMERGENCY PLANNING

This Site has been evaluated for potential emergency occurrences, based on Site hazards, the required work tasks, the site topography, and prevailing weather conditions. The results of that evaluation indicate the potential for the following site emergencies to occur at the locations indicated.

Type of Emergency:

1. Medical, due to physical injury
2. Fire, due to flammability of Kensol 61 product in subsurface

Source of Emergency:

1. Slip/trip/fall
2. Fire

Location of Source:

1. Non-specific

3.0 ON-SITE EMERGENCY RESPONSE EQUIPMENT

Emergency procedures may require specialized equipment to facilitate worker rescue, contamination control and reduction, or post-emergency clean up. Emergency response equipment available on the Site is listed below. The equipment inventory and storage locations are based on the potential emergencies described above. This equipment inventory is designed to meet on-site emergency response needs and any specialized equipment needs that off-site responders might require because of the hazards at this Site but not ordinarily stocked.

Any additional personal protective equipment (PPE) required and stocked for emergency response is also listed in below. During an emergency, the Emergency Response Coordinator (ERC) is responsible for specifying the level of PPE required for emergency response. At a minimum, PPE used by emergency responders will comply with Section 7.0, Personal Protective Equipment, of this HASP. Emergency response equipment is inspected at regular intervals and maintained in good working order. The equipment inventory is replenished as necessary to maintain response capabilities.

Emergency Equipment	Quantity	Location
First Aid Kit	1	Site Vehicle
Chemical Fire Extinguisher	2 (minimum)	All heavy equipment and Site Vehicle

Emergency PPE	Quantity	Location
Full-face respirator	1 for each worker	Site Vehicle
Chemical-resistant suits	4 (minimum)	Site Vehicle

4.0 EMERGENCY PLANNING MAPS

An area-specific map of the Site will be developed on a daily basis during performance of field activities. The map will be marked to identify critical on-site emergency planning information, including: emergency evacuation routes, a place of refuge, an assembly point, and the locations of key site emergency equipment. Site zone boundaries will be shown to alert responders to known areas of contamination. There are no major topographical features, however the direction of prevailing winds/weather conditions that could affect emergency response planning are also marked on the map. The map will be posted at site-designated place of refuge and inside the TurnKey personnel field vehicle.

5.0 EMERGENCY CONTACTS

The following identifies the emergency contacts for this ERP.

Emergency Telephone Numbers:

Project Manager: *Michael Lesakowski*
Work: (716) 856-0599
Mobile: (716) 818-3954

Corporate Health and Safety Director: *Thomas H. Forbes*
Work: (716) 856-0599
Mobile: (716) 864-1730

Site Safety and Health Officer (SSHO): *Bryan C. Harn*
Work: (716) 856-0635
Mobile: (716) 870-1165

Alternate SSHO: *Richard L. Dubisz*
Work: (716) 856-0635
Mobile: (716) 998-4334

NIAGARA FALLS MEMORIAL MEDICAL CENTER (ER):	(716) 278-4000
FIRE:	911
AMBULANCE:	911
BUFFALO POLICE:	911
STATE EMERGENCY RESPONSE HOTLINE:	(800) 457-7362
NATIONAL RESPONSE HOTLINE:	(800) 424-8802
NYSDOH:	(716) 847-4385
NYSDEC:	(716) 851-7220
NYSDEC 24-HOUR SPILL HOTLINE:	(800) 457-7252

The Site location is:

1501 College Avenue
Niagara Falls, New York 14305
Site Phone Number: (Insert Cell Phone or Field Trailer): _____

6.0 EMERGENCY ALERTING & EVACUATION

Internal emergency communication systems are used to alert workers to danger, convey safety information, and maintain site control. Any effective system can be employed. Two-way radio headsets or field telephones are often used when work teams are far from the command post. Hand signals and air-horn blasts are also commonly used. Every system must have a backup. It shall be the responsibility of each contractor's Site Health and Safety Officer to ensure an adequate method of internal communication is understood by all personnel entering the site. Unless all personnel are otherwise informed, the following signals shall be used.

- 1) Emergency signals by portable air horn, siren, or whistle: two short blasts, personal injury; continuous blast, emergency requiring site excavation.
- 2) Visual signals: hand gripping throat, out of air/cannot breathe; hands on top of head, need assistance; thumbs up, affirmative/ everything is OK; thumbs down, no/negative; grip partner's wrist or waist, leave area immediately.

If evacuation notice is given, site workers leave the worksite with their respective buddies, if possible, by way of the nearest exit. Emergency decontamination procedures detailed in Section 12.0 of the HASP are followed to the extent practical without compromising the safety and health of site personnel. The evacuation routes and assembly area will be determined by conditions at the time of the evacuation based on wind direction, the location of the hazard source, and other factors as determined by rehearsals and inputs from emergency response organizations. Wind direction indicators are located so that workers can determine a safe up wind or cross wind evacuation route and assembly area if not informed by the emergency response coordinator at the time the evacuation alarm sounds. Since work conditions and work zones within the site may be changing on daily basis, it shall be the responsibility of the construction Site Health and Safety Officer to review evacuation routes and procedures as necessary and to inform all TurnKey-Benchmark workers of any changes.

Personnel exiting the site will gather at a designated assembly point. To determine that everyone has successfully exited the site, personnel will be accounted for at the assembly

site. If any worker cannot be accounted for, notification is given to the SSHO (*Bryan Hann* or *Richard Dubisz*) so that appropriate action can be initiated. Contractors and subcontractors on this site have coordinated their emergency response plans to ensure that these plans are compatible and that source(s) of potential emergencies are recognized, alarm systems are clearly understood, and evacuation routes are accessible to all personnel relying upon them.

7.0 EXTREME WEATHER CONDITIONS

In the event of adverse weather conditions, the Site Safety and Health Officer in conjunction with the Contractor's SSHO will determine if engineering operations can continue without sacrificing the health and safety of site personnel. Items to be considered prior to determining if work should continue include but are not limited to:

- Potential for heat/cold stress.
- Weather-related construction hazards (e.g., flooding or wet conditions producing undermining of structures or sheeting, high wind threats, etc).
- Limited visibility.
- Potential for electrical storms.
- Limited site access/egress (e.g., due to heavy snow)

8.0 EMERGENCY MEDICAL TREATMENT & FIRST AID

Personnel Exposure:

The following general guidelines will be employed in instances where health impacts threaten to occur acute exposure is realized:

- Skin Contact: Use copious amounts of soap and water. Wash/rinse affected area for at least 15 minutes. Decontaminate and provide medical attention. Eyewash stations will be provided on site. If necessary, transport to Mercy Hospital.
- Inhalation: Move to fresh air and, if necessary, transport to Mercy Hospital.
- Ingestion: Decontaminate and transport to Mercy Hospital.

Personal Injury:

Minor first-aid will be applied on-site as deemed necessary. In the event of a life threatening injury, the individual should be transported to the Niagara Falls Memorial Medical Center via ambulance. The Site Health and Safety Officer will supply available chemical specific information to appropriate medical personnel as requested.

First aid kits will conform to Red Cross and other applicable good health standards, and shall consist of a weatherproof container with individually sealed packages for each type of item. First aid kits will be fully equipped before being sent out on each job and will be checked weekly by the SSHO to ensure that the expended items are replaced.

Directions to Niagara Falls Memorial Medical Center (see Figure A-1):

- Travel south on Highland Avenue, which becomes 11th Street.
- Make a slight left onto Portage Rd.
- Turn right onto Pine Ave. (62-A)
- Turn left onto 10th St.

The Niagara Falls Memorial Medical Center is located at 621 10th St., and is approximately 2 miles south of the Site.

9.0 EMERGENCY RESPONSE CRITIQUE & RECORD KEEPING

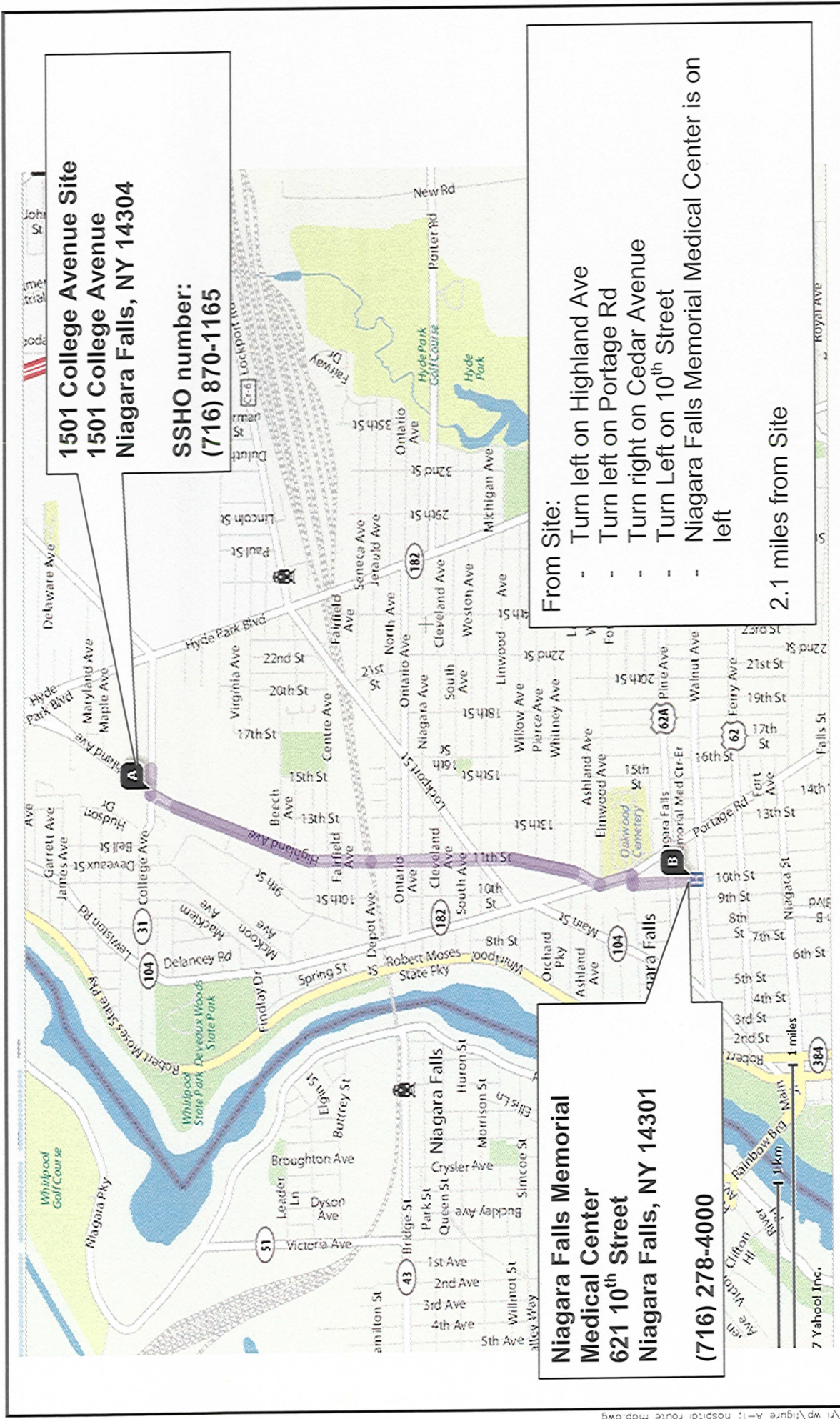
Following an emergency, the SSHO and Project Manager shall review the effectiveness of this Emergency Response Plan (ERP) in addressing notification, control and evacuation requirements. Updates and modifications to this ERP shall be made accordingly. It shall be the responsibility of each contractor to establish and assure adequate records of the following:

- Occupational injuries and illnesses.
- Accident investigations.
- Reports to insurance carrier or State compensation agencies.
- Reports required by the client.
- Records and reports required by local, state, federal and/or international agencies.
- Property or equipment damage.
- Third party injury or damage claims.
- Environmental testing logs.
- Explosive and hazardous substances inventories and records.
- Records of inspections and citations.
- Safety training.

10.0 EMERGENCY RESPONSE TRAINING

All persons who enter the worksite, including visitors, shall receive a site-specific briefing about anticipated emergency situations and the emergency procedures by the SSHO. Where this site relies on off-site organizations for emergency response, the training of personnel in those off-site organizations has been evaluated and is deemed adequate for response to this site.

FIGURES



1501 College Avenue Site
1501 College Avenue
Niagara Falls, NY 14304

SSHO number:
(716) 870-1165

Niagara Falls Memorial Medical Center
621 10th Street
Niagara Falls, NY 14301

(716) 278-4000

From Site:

- Turn left on Highland Ave
- Turn left on Portage Rd
- Turn right on Cedar Avenue
- Turn Left on 10th Street
- Niagara Falls Memorial Medical Center is on left

2.1 miles from Site

FIGURE A-1

HOSPITAL ROUTE MAP
 HASP

1501 COLLEGE AVENUE SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
SANTAROSA HOLDINGS, INC.

BENCHMARK
 ENVIRONMENTAL
 ENGINEERING &
 SCIENCE, PLLC

726 EXCHANGE STREET
 SUITE 624
 BUFFALO, NEW YORK 14210
 (716) 856-0599

PROJECT NO.: 0140-001-103
 DATE: SEPTEMBER 2007
 DRAFTED BY: NTM

ATTACHMENT 3

HOT WORK PERMIT FORM

PART 1 - INFORMATION

Issue Date:

Date Work to be Performed: Start:

Finish (permit terminated):

Performed By:

Work Area:

Object to be Worked On:

PART 2 - APPROVAL

(for 1, 2 or 3: mark Yes, No or NA)*

Will working be on or in:

Finish (permit terminated):

- | | | |
|--|-----|----|
| 1. Metal partition, wall, ceiling covered by combustible material? | yes | no |
| 2. Pipes, in contact with combustible material? | yes | no |
| 3. Explosive area? | yes | no |

* = If any of these conditions exist (marked "yes"), a permit will not be issued without being reviewed and approved by Thomas H. Forbes (Corporate Health and Safety Director). Required Signature below.

PART 3 - REQUIRED CONDITIONS**

(Check all conditions that must be met)

PROTECTIVE ACTION		PROTECTIVE EQUIPMENT	
<input type="checkbox"/>	Specific Risk Assessment Required	<input type="checkbox"/>	Goggles/visor/welding screen
<input type="checkbox"/>	Fire or spark barrier	<input type="checkbox"/>	Apron/fireproof clothing
<input type="checkbox"/>	Cover hot surfaces	<input type="checkbox"/>	Welding gloves/gauntlets/other:
<input type="checkbox"/>	Move movable fire hazards, specifically	<input type="checkbox"/>	Wellintons/Knee pads
<input type="checkbox"/>	Erect screen on barrier	<input type="checkbox"/>	Ear protection: Ear muffs/Ear plugs
<input type="checkbox"/>	Restrict Access	<input type="checkbox"/>	B.A.: SCBA/Long Breather
<input type="checkbox"/>	Wet the ground	<input type="checkbox"/>	Respirator: Type:
<input type="checkbox"/>	Ensure adequate ventilation	<input type="checkbox"/>	Cartridge:
<input type="checkbox"/>	Provide adequate supports	<input type="checkbox"/>	Local Exhaust Ventilation
<input type="checkbox"/>	Cover exposed drain/floor or wall cracks	<input type="checkbox"/>	Extinguisher/Fire blanket
<input type="checkbox"/>	Fire watch (must remain on duty during duration of permit)	<input type="checkbox"/>	Personal flammable gas monitor
<input type="checkbox"/>	Issue additional permit(s):		

Other precautions:

** Permit will not be issued until these conditions are met.

SIGNATURES

Originating Employee:

Date:

Project Manager:

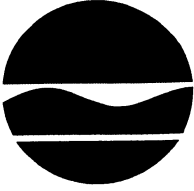
Date:

Part 2 Approval:
Attachment 3: Hot Work Permit

Date:

APPENDIX C

CITIZEN PARTICIPATION PLAN



New York State Department of Environmental Conservation

Brownfield Cleanup Program

Citizen Participation Plan for 1501 College Avenue Site Santarosa Holdings, Inc.

Site # TBD
1501 College Avenue
Niagara Falls, New York

September 2007

Contents

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* * * * *

Note: The information presented in this Citizen Participation Plan was current as of the date of its approval by the New York State Department of Environmental Conservation. Portions of this Citizen Participation Plan may be revised during the brownfield site’s remedial process.

Applicant: **Santarosa Holdings, Inc. (“Applicant”)**
Site Name: **1501 College Avenue Site (“Site”)**
Site Number: **TBD**
Site Address: **1501 College Avenue, Niagara Falls, NY 14305**
Site County: **Niagara**

1. What is New York’s Brownfield Cleanup Program?

New York’ Brownfield Cleanup Program (BCP) is designed to encourage the private sector to investigate, remediate (clean up) and redevelop brownfields. A brownfield is any real property where redevelopment or reuse may be complicated by the presence or potential presence of a contaminant. A brownfield typically is a former industrial or commercial property where operations may have resulted in environmental contamination. A brownfield can pose environmental, legal and financial burdens on a community. If the brownfield is not addressed, it can reduce property values in the area and affect economic development of nearby properties.

The BCP is administered by the New York State Department of Environmental Conservation (NYSDEC), which oversees Applicants that conduct brownfield site remedial activities.¹ An Applicant is a person whose request to participate in the BCP has been accepted by NYSDEC. The BCP contains investigation and remediation (cleanup) requirements, ensuring that cleanups protect public health and the environment. When NYSDEC certifies that these requirements have been met, the property can be reused or redeveloped for the intended use.

For more information about the BCP, go online at: www.dec.state.ny.us/website/der/bcp

2. Citizen Participation Plan Overview

This Citizen Participation (CP) Plan provides members of the affected and interested public with information about how NYSDEC will inform and involve them during the investigation and remediation of the site identified above. The public information and involvement program will be carried out with assistance, as appropriate, from the Applicant.

Appendix A contains a map identifying the location of the site.

¹ “Remedial activities, remedial action, and remediation” are defined as all activities or actions undertaken to eliminate, remove, treat, abate, control, manage, or monitor contaminants at or coming from a brownfield site.

Project Contacts

Appendix B identifies NYSDEC project contact(s) to whom the public should address questions or request information about the site's remedial program. The public's suggestions about this CP Plan and the CP program for the site are always welcome. Interested people are encouraged to share their ideas and suggestions with the project contacts at any time.

Document Repositories

The locations of the site's document repositories also are identified in Appendix B. The document repositories provide convenient access to important project documents for public review and comment.

Site Contact List

Appendix C contains the brownfield site contact list. This list has been developed to keep the community informed about, and involved in, the site's investigation and remediation process. The brownfield site contact list will be used periodically to distribute fact sheets that provide updates about the status of the project, including notifications of upcoming remedial activities at the site (such as fieldwork), as well as availability of project documents and announcements about public comment periods.

The brownfield site contact list includes, at a minimum:

- Chief executive officer and zoning chairperson of each county, city, town and village in which the site is located;
- Residents, owners, and occupants of the site and properties adjacent to the site;
- The public water supplier which services the area in which the site is located;
- Any person who has requested to be placed on the site contact list;
- The administrator of any school or day care facility located on or near the site for purposes of posting and/or dissemination of information at the facility; and
- Document repositories.

Where the site or adjacent real property contains multiple dwelling units, the Applicant will work with the Department to develop an alternative method for providing such notice in lieu of mailing to each individual. For example, the owner of such a property that contains multiple dwellings may be requested to prominently display fact sheets and notices required to be developed during the site's remedial process. This procedure would substitute for the mailing of

such notices and fact sheets, especially at locations where renters, tenants, and other residents may number in the hundreds or thousands, making the mailing of such notices impractical.

The brownfield site contact list will be reviewed periodically and updated as appropriate. Individuals and organizations will be added to the site contact list upon request. Such requests should be submitted to the NYSDEC project contact(s) identified in Appendix B. Other additions to the brownfield site contact list may be made on a site-specific basis at the discretion of the NYSDEC project manager, in consultation with other NYSDEC staff as appropriate.

CP Activities

Appendix D identifies the CP activities, at a minimum, that have been and will be conducted during the site's remedial program. The flowchart in Appendix E shows how these CP activities integrate with the site remedial process. The public is informed about these CP activities through fact sheets and notices developed at significant points in the site's remedial process.

- **Notices and fact sheets** help the interested and affected public to understand contamination issues related to a brownfield site, and the nature and progress of efforts to investigate and remediate a brownfield site.
- **Public forums, comment periods and contact with project managers** provide opportunities for the public to contribute information, opinions and perspectives that have potential to influence decisions about a brownfield site's investigation and remediation.

The public is encouraged to contact project staff anytime during the site's remedial process with questions, comments, or requests for information about the remedial program.

This CP Plan may be revised due to changes in major issues of public concern, identified in Section 6, or in the nature and scope of remedial activities. Modifications may include additions to the site contact list and changes in planned citizen participation activities.

3. Site Information

Site Description

The Site is a 13.0-acre portion of a parcel located at 1501 College Avenue, between Hyde Park and Highland Avenue, in the City of Niagara Falls, New York. The Site is currently an abandoned industrial site that is generally in poor condition and disrepair. The Site is covered

primarily by former industrial manufacturing buildings, with concrete and asphalt paved areas, former building foundations, and some overgrown vegetation areas. A site location map is included as Appendix A.

Site History

The Site was used for heavy industrial manufacturing from at least 1910 to the mid 1980s, and at one time was part of the larger former Union Carbide Co. manufacturing complex. Santarosa Holdings, Inc. plans to purchase the site and redevelop it as crumb rubber recycling facility.

Environmental History

A report titled "Site Investigation and Remedial Alternatives Report for the Hazorb Site, Niagara Falls, New York," was prepared by URS Corporation for the City of Niagara Falls Department of Environmental Services, dated March 2001. The former Hazorb Site and the subject site were once part of a greater parcel operated by Union Carbide and its predecessors. Based on that report, elevated concentrations of semi-volatile organic compounds (SVOCs) in soil/fill, sediment, and debris piles were present above current NYSDEC Part 375 restricted-industrial soil cleanup objectives (SCOs).

A letter from the USEPA to Mr. Robert Marino, Director of the Bureau of Technical Support of the NYSDEC Division of Environmental Remediation dated November 2, 2003 indicated that the USEPA completed a removal action at the Hazorb site in 2003, which included "identification, stabilization, segregation, removal and disposal of all hazardous wastes found at the property." That letter indicated that galbestos siding/roofing materials with high PCB levels (up to 56,000 ppm) were identified and transported off-site. The USEPA letter made note that galbestos material will continue to be deposited on the Hazorb site as long as the [subject site] building remains.

In June of 2007, the US Environmental Protection Agency (EPA) Removal Support Team 2 (RST2) conducted additional sampling for ACM and PCBs related to the previously conducted remedial action at the abutting former Hazorb site. An EPA subcontractor collected soil and galbestos samples along the north and south sides of College Avenue adjacent to the Site. Preliminary sample results show that ACM and PCBs are present in the vicinity of the Site at levels that exceed the NYSDEC Part 375 Restricted-Industrial SCOs.

In August 2007, Benchmark Environmental Engineering & Science, PLLC (Benchmark) conducted a Phase I Environmental Site Assessment (ESA) of the subject property. Benchmark identified several areas of concern, including: evidence of illegal dumping is obvious across the

Site; that the Site is a portion of a former greater site operated by Union Carbide, which included the east adjacent former Hazorb site (described below); the historical presence of USTs on the property; a historic petroleum spill on the Site; and potential/ documented releases of hazardous material and/or petroleum product on several adjacent and nearby properties.

Benchmark then conducted a limited Preliminary Environmental Investigation at the Site in August 2007, which involved collecting four surface soil samples, one galbestos roof covering sample, two debris pile samples, and one soil-paint chip sample. The samples indicated that polynuclear aromatic hydrocarbons (PAHs), metals, and polychlorinated biphenyls (PCBs) are present on-site above the NYSDEC Part 375 restricted-industrial soil cleanup objectives (SCOs).

4. Remedial Process

Note: See Appendix E for a flowchart of the brownfield site remedial process.

Application

The Applicant has applied for and been accepted into New York's Brownfield Cleanup Program as a Volunteer. This means that the Applicant was not responsible for the disposal or discharge of the contaminants or whose ownership or operation of the site took place after the discharge or disposal of contaminants. The Volunteer must fully characterize the nature and extent of contamination on-site, and must conduct a "qualitative exposure assessment," a process that characterizes the actual or potential exposures of people, fish and wildlife to contaminants on the site and to contamination that has migrated from the site.

The Applicant in its Application proposes that the site will be used for restricted purposes. To achieve this goal, the Applicant will conduct remedial activities at the site with oversight provided by NYSDEC. The Brownfield Cleanup Agreement executed by NYSDEC and the Applicant sets forth the responsibilities of each party in conducting a remedial program at the site.

Remedy Selection

If remediation is required, the Applicant will be able to develop a Remedial Work Plan. The Remedial Work Plan describes how the Applicant would address the contamination related to the site.

The public will have the opportunity to review and comment on the draft Remedial Work Plan. The site contact list will be sent a fact sheet that describes the draft Remedial Work Plan and

announces a 45-day public comment period. NYSDEC will factor this input into its decision to approve, reject or modify the draft Remedial Work Plan.

A public meeting may be held by NYSDEC about the proposed Remedial Work Plan if requested by the affected community and if significant substantive issues are raised about the draft Remedial Work Plan. Please note that in order to request a public meeting, the health, economic well-being, or enjoyment of the environment of those requesting the public meeting must be threatened or potentially threatened by the site. In addition, the request for the public meeting should be made within the first 30 days of the 45-day public comment period for the draft Remedial Work Plan. A public meeting also may be held at the discretion of the NYSDEC project manager in consultation with other NYSDEC staff as appropriate.

Construction

Approval of the Remedial Work Plan by NYSDEC will allow the Applicant to design and construct the alternative selected to remediate the site. The site contact list will receive notification before the start of site remediation. When the Applicant completes remedial activities, it will prepare a final engineering report that certifies that remediation requirements have been achieved or will be achieved within a specific time frame. NYSDEC will review the report to be certain that the remediation is protective of public health and the environment for the intended use of the site. The site contact list will receive a fact sheet that announces the completion of remedial activities and the review of the final engineering report.

Certificate of Completion and Site Management

Once NYSDEC approves the final engineering report, NYSDEC will issue the Applicant a Certificate of Completion. This Certificate states that remediation goals have been achieved, and relieves the Applicant from future remedial liability, subject to statutory conditions. The Certificate also includes a description of any institutional and engineering controls or monitoring required by the approved remedial work plan. If the Applicant uses institutional controls or engineering controls to achieve remedial objectives, the site contact list will receive a fact sheet that discusses such controls.

An institutional control is a non-physical restriction on use of the brownfield site, such as a deed restriction that would prevent or restrict certain uses of the remediated property. An institutional control may be used when the remedial action leaves some contamination that makes the site suitable for some, but not all uses.

An engineering control is a physical barrier or method to manage contamination, such as a cap or vapor barrier.

Site management will be conducted by the Applicant as required. NYSDEC will provide appropriate oversight. Site management involves the institutional and engineering controls required for the brownfield site. Examples include: operation of a water treatment plant, maintenance of a cap or cover, and monitoring of groundwater quality.

5. Citizen Participation Activities

CP activities that have already occurred and are planned during the investigation and remediation of the site under the BCP are identified in Appendix D: Identification of Citizen Participation Activities. These activities also are identified in the flowchart of the BCP process in Appendix E. NYSDEC will ensure that these CP activities are conducted, with appropriate assistance from the Applicant.

All CP activities are conducted to provide the public with significant information about site findings and planned remedial activities, and some activities announce comment periods and request public input about important draft documents such as the Proposed Remedial Work Plan.

All written materials developed for the public will be reviewed and approved by NYSDEC for clarity and accuracy before they are distributed. Notices and fact sheets can be combined at the discretion, and with the approval, of NYSDEC.

6. Major Issue of Public Concern

This section of the CP Plan identifies major issues of public concern, if any, that relate to the site. Additional major issues of public concern may be identified during the site's remedial process.

Local Residents

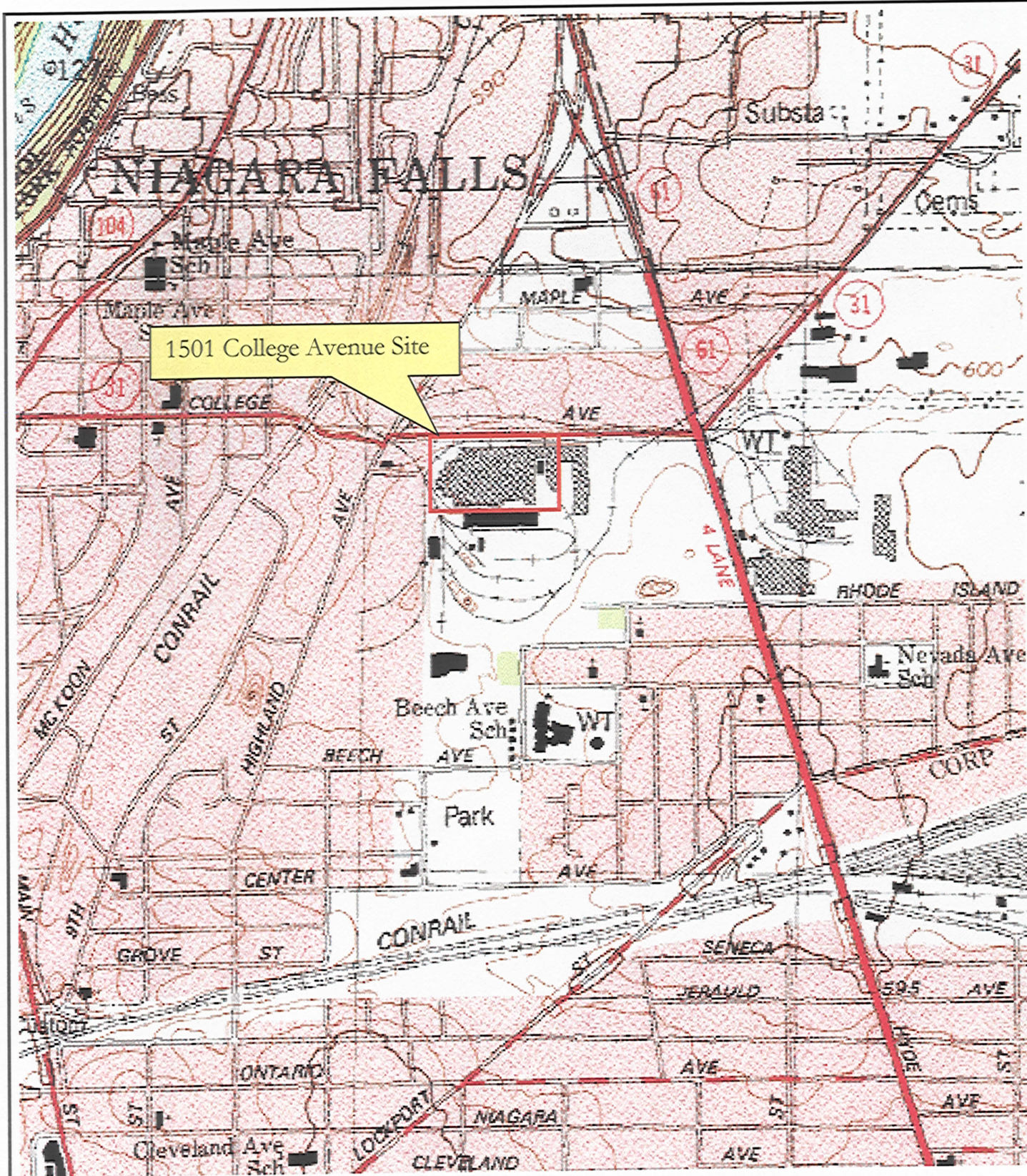
The Site Remediation will be carried out by professionals experienced in performing cleanup activities in densely populated areas. All work will be conducted under a Site-Wide Health and Safety Plan and Community Air Monitoring Program approved by the NYSDEC and NYSDOH. The Site Remediation will be conducted over a limited duration and during normal business hours. Soil excavations will be secured to eliminate the risk of injury. The Site Remediation will be performed with minimal equipment; hence, there will be no change in traffic patterns.

Stakeholders

The sequencing of events is important to the timely redevelopment of the Site. The remedial work must be completed by the end of April 2008.

Appendix A – Site Location Maps

FIGURE 1



726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

SITE LOCATION AND VICINITY MAP

REMEDIAL INVESTIGATION WORK PLAN

1501 COLLEGE AVENUE SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
SANTAROSA HOLDINGS, INC.

PROJECT NO.: 0140-001-103

DATE: SEPTEMBER 2007

DRAFTED BY:NTM

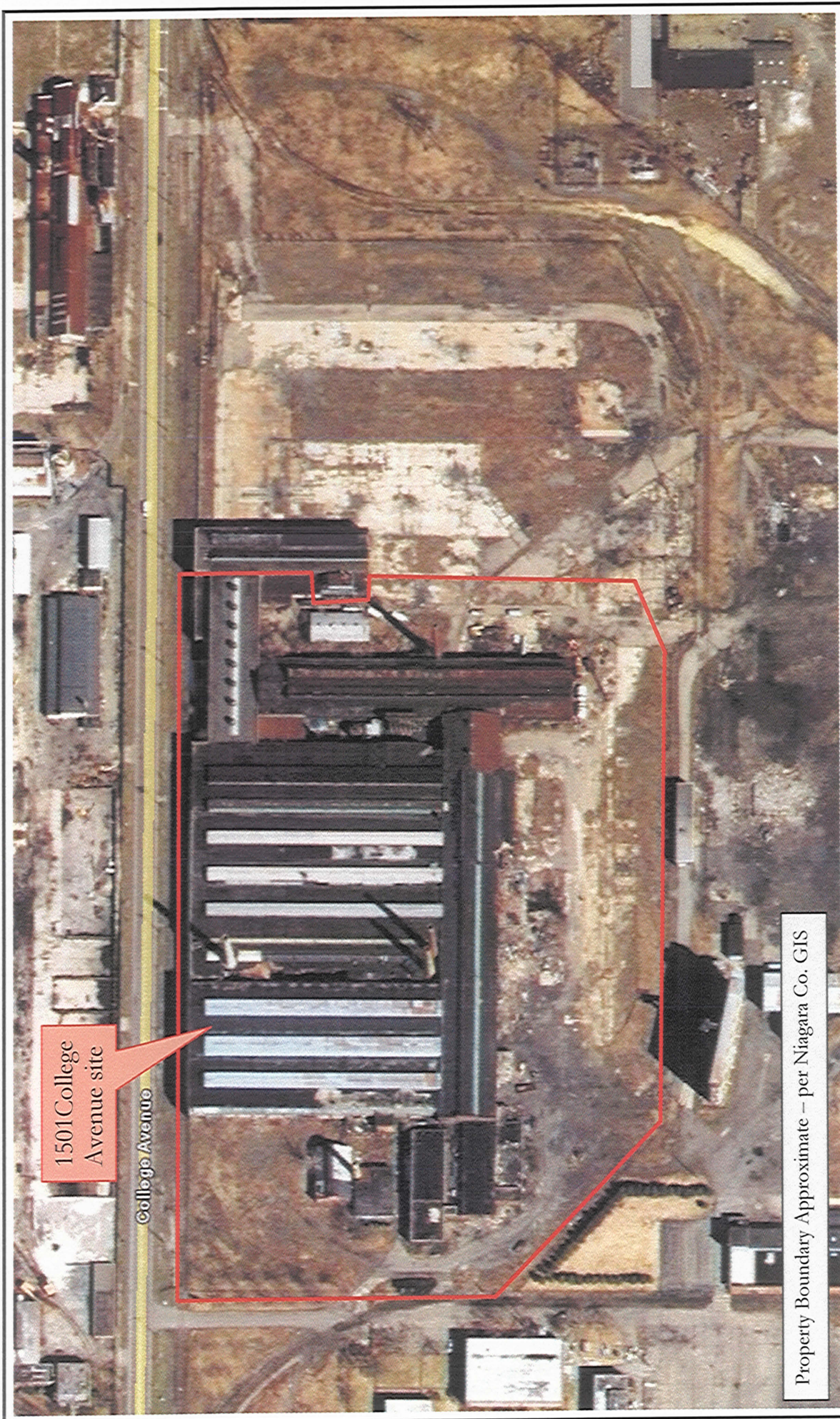


FIGURE 2

SITE PLAN MAP
 REMEDIAL INVESTIGATION WORK PLAN
 1501 COLLEGE AVENUE SITE
 NIAGARA FALLS, NEW YORK

PREPARED FOR
SANTAROSA HOLDINGS, INC.

1501 College Avenue site

College Avenue

Property Boundary Approximate – per Niagara Co. GIS



726 EXCHANGE STREET
 SUITE 624
 BUFFALO, NEW YORK 14210
 (716) 858-0599

PROJECT NO.: 0140-001-103

DATE: SEPTEMBER 2007

DRAFTED BY: NTM

Appendix B – Project Contacts and Document Repositories

Project Contacts

For information about the site’s remedial program, the public may contact the following NYSDEC project contacts:

Mr. Jeffrey Konsella
Project Manager
NYSDEC Region 9
Division of Environmental Remediation
270 Michigan Avenue
Buffalo, NY 14203
(716) 851-7220

Mr. Mark Baetzhold
Citizen Participation Specialist
NYSDEC Region 9
270 Michigan Avenue
Buffalo, NY 14203
(716) 851-7220

New York State Department of Health (NYSDOH):

Mr. Matt Forcucci
Project Manager
NYSDOH
584 Delaware Avenue
Buffalo, New York 14202
(716) 847-4501

Document Repositories

The document repositories identified below have been established to provide the public with convenient access to important project documents:

Niagara Falls Public Library
Earl W. Brydges Building
1425 Main Street
Niagara Falls, NY 14305
Attn: Ms. Betty Babanoury, Director
Phone: (716) 286-4881
Hours: M-W 9:00-9:00
T-S 9:00-5:00
Sun. (closed)

NYSDEC Region 9 Office
270 Michigan Avenue
Buffalo, NY 14203
Attn: Ms. Megan Gollwitzer
Phone: (716) 851-7220
Hours: M-F 8:30-4:45
(Call for appointment)

Appendix C – Brownfield Site Contact List

New York State Contacts:

Regional Director
NYSDEC, Region 9
270 Michigan Avenue
Buffalo, NY 14203

Mr. Gregory Sutton
NYSDEC, Region 9
270 Michigan Avenue
Buffalo, NY 14203

Ms. Megan Gollwitzer
NYSDEC, Region 9
270 Michigan Ave.
Buffalo, N.Y 14203

Mr. Jeff Konsella
NYSDEC, Region 9
270 Michigan Avenue
Buffalo, NY 14203

Mr. Daniel David
NYSDEC, Region 9
270 Michigan Avenue
Buffalo, NY 14203

Mr. Lawrence Ennist
NYSDEC
625 Broadway
Albany, NY 12233

Ms. Meaghan Boice-Green
NYSDEC, Region 9
270 Michigan Avenue
Buffalo, NY 14203

Senator Hillary Rodham-Clinton
U.S. Senate
726 Exchange Street, Suite 511
Buffalo, NY 14210

Senator Charles Schumer
U.S. Senate, Suite 660
130 So. Elmwood Ave
Buffalo, NY 14202

Senator George Maziarz
62nd District
2578 Niagara Falls Blvd., Suite 600
Wheatfield, NY 14304

Congressman Brian Higgins
Larkin Building
726 Exchange Street, Suite 610
Buffalo, NY 14210

Assemblywoman Francine Delmonte
138th District
1700 Pine Ave.
Niagara Falls, NY 14301

Representative Louise Slaughter
NY 28th District
1910 Pine Ave.
Niagara Falls, NY 14301

Mr. Michael Basile
WNY Public Information Office
186 Exchange St.
Buffalo, NY 14204

Appendix C – Brownfield Site Contact List

Niagara County Contacts

Public Health Director
Ms. Paulette M. Kline
Niagara County Department of Health
5467 Upper Mtn. Road Suite 100
Lockport NY 14094-1894

Chairman William L. Ross
Niagara County Legislature
175 Hawley Street
Lockport NY 14094-2740

Mayor Vince Anello
Niagara Falls
745 Main Street
Niagara Falls, NY 14302

Mr. Daniel Bristol
Niagara Falls City Admin.
4010 Barton Street
Niagara Falls, NY 14305

Ms. Carol Antonucci
Niagara Falls City Clerk
745 Main Street
Niagara Falls, NY 14302

Mr. Kevin O'Brien
Niagara Falls City Engineer
745 Main Street
Niagara Falls, NY 14302

Mr. Bruno Walker
Niagara Falls Deputy Director
745 Main Street
Niagara Falls, NY 14302

Mr. Richard Roll
Niagara Falls Water Board
1200 Buffalo Ave., P.O. Box 69
Niagara Falls, NY 14302-0069

Mr. Michael Shanley
Niag. Co. Emergency Planning
Niagara & Hawley Street
Lockport, NY 14094

Mr. James Devald, P.E.
Niagara Co. Health Dept.
5467 Upper Mountain Road
Lockport, NY 14094

Clerk Michael Carney
Niagara Co. Legislature
175 Hawley Street
Lockport, NY 14094

Mr. Wayne Jagow
Niagara County Clerk
Courthouse
Lockport, NY 14094

Mr. Paul Dickey
Niagara County Health Dept.
5467 Upper Mountain Rd.
Lockport, NY 14094-1899

Beverly Snell
Niagara County Municipal Clerk
8942 Ridge Rd.
Gasport, NY 14067

Appendix C – Brownfield Site Contact List

Niagara County Contacts (cont.):

James Hoffman, Co-Chair
Niagara County EMC
8737 Lake Rd.
Baker, NY 14102

David E. Wertman, MPA
Commissioner
Niagara Co. Health Dept.
5467 Upper Mountain Rd.
Lockport, NY 14094

Mr. Samuel M. Ferraro
Executive Director
Niagara Co. Ind. Development Agency
6311 Inducon Corporate Drive
Sanborn, NY 14132

Mr. Dennis F. Virtuoso
Niagara County Legislature – District 4
2703 Independence Ave.
Niagara Falls NY 14301

Mr. Ronald C. Johnston
Administrative Director
Niagara Co. Water Authority
5450 Ernest Rd., PO Box 315
Lockport, NY 14094

Joanne Ellsworth
Niagara Co. EMC
59 Park Ave.
Lockport, NY 14094

Amy Fisk
Environmental Planner
Niagara County Center for Economic
Development
6311 Inducon Corporate Drive
Sanborn, NY 14132

Mr. Alan Nusbaum
City of Niagara Falls - Dept. of
Planning/Environmental Services
745 Main Street
Niagara Falls, NY 14302

Supplier of Potable Water:

Niagara County Water District
PO Box 315
Lockport NY 14905-0315

Appendix C – Brownfield Site Contact List

Local News Media:

ATTN: Jay Bonfatti
The Buffalo News
1 News Plaza
Buffalo, NY 14240

WKBW-TV
7 Broadcast Plaza
Buffalo, NY 14202

WBEN News Radio 930
Entercom Radio of Buffalo
500 Corporate Pkwy, Suite 200
Buffalo, NY 14226

ATTN: Environmental News Desk
WGRZ TV - CH. 2
259 Delaware Avenue
Buffalo, NY 14202

ATTN: Environmental News Desk
WIVB - CH. 4
2077 Elmwood Avenue
Buffalo, NY 14207

ATTN: Michael Desmond
WNED, Environmental News Desk
PO 1263, Horizons Plaza
Buffalo, NY 14240

ATTN: Tracey Drury
Business First
465 Main Street
Buffalo, NY 14203-1793

ATTN: Aaron Besecker
The Niagara Gazette
310 Niagara Street
Niagara Falls, NY 14302

ATTN: Mike Hudson, Editor
Niagara Falls Reporter
1625 Buffalo Ave
Niagara Falls, NY 14303

ATTN: News Director
WLVL 1340
PO Box 477
Lockport, NY 14095-0477

ATTN: Environmental News Desk
WJYE
1700 Rand Building
Buffalo, NY 14203

Appendix C – Brownfield Site Contact List

Nearby Schools:

Mr. Carmen Grant, Superint.
Sixty Sixth Street School
630 66th Street
Niagara Falls, NY 14304

Mr. Carmen Grant, Superint.
Niagara Middle School
6431 Girard Ave.
Niagara Falls, NY 14304

Gaskill Middle School
910 Hyde Park Blvd.
Niagara Falls NY 14301

Other Interested Groups:

Mr. Brian Smith
Citizens Campaign-Environment
3144 Main Street
Buffalo, NY 14214

WNY Director
Citizens' Env. Coalition
543 Franklin St., Rm. 2
Buffalo, NY 14202-1109

Mr. William Hilts, Sr.
Environmental Council
5115 Baer Road
Sanborn, NY 14132

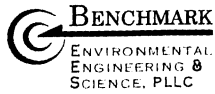
Chairwoman Jane Jontz
Sierra Club, Niagara Group
62 Lincoln Road
Snyder, NY 14226

Mr. Michael Podd
4827 Rogers Rd.
Hamburg, NY 14075

Mr. Willie Dunn, Executive Director
Highland Community Revitalization Committee, Inc.
1750 Tennessee Avenue
Niagara Falls, New York 14305

RESIDENTS ON AND/OR ADJACENT TO THE SITE

See attached table.



AREA PROPERTY OWNERS

Santarosa Holdings, Inc.
1501 College Avenue Site
Citizen Participation Plan

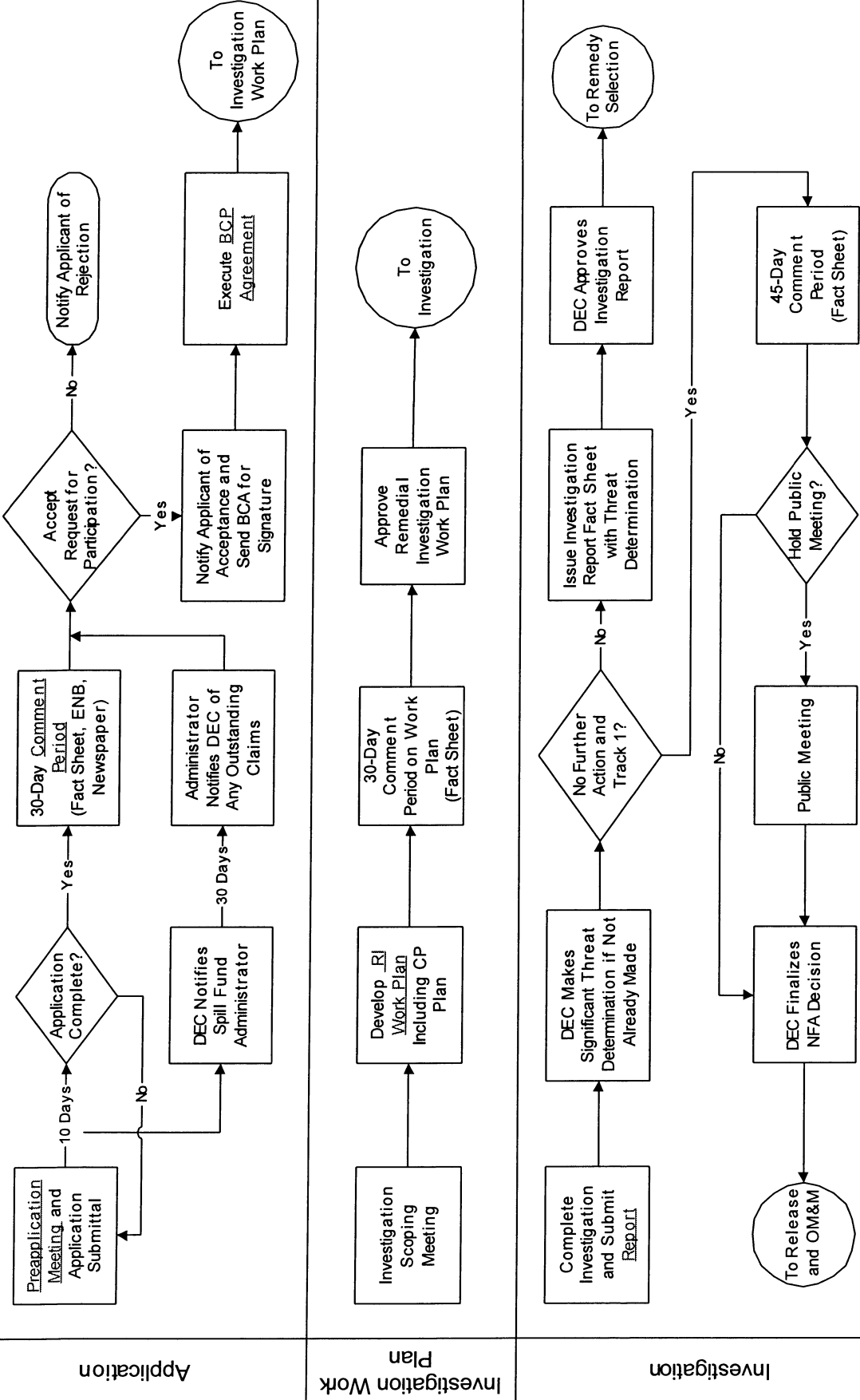
Adjacent Property Address		Owner Name and Mailing Address
No.	Street	
3801	Highland Ave.	Globe Metallurgical, Inc. 3801 Highland Ave. Niagara Falls, NY 14305
3711	Highland Ave.	Church of God 3711 Highland Ave. Niagara Falls, NY 14305
3625	Highland Ave.	Dalacu, Nicholas P 3625 Highland Ave. Niagara Falls, NY 14305
1503 & 1511	Highland Ave.	Niagara Mohawk Power Corp. (Right-of-Way)
2201	College Ave.	Industrial Properties, LLC 2201 College Ave. Niagara Falls, NY 14305
2001	College Ave.	Lolay, Patricia 2001 College Ave. Niagara Falls, NY 14305
1901 & 1903	College Ave.	Eastern Ohio Paving, Inc. 1901 College Avenue Niagara Falls, NY 14305
1731 & 1777	College Ave.	Hazorb, Inc. 1731 College Ave. Niagara Falls, NY 14305
1655	College Ave.	Wolf, George 1655 College Avenue Niagara Falls, NY 14305

Appendix D – Identification of Citizen Participation Activities

Required Citizen Participation (CP) Activities:	CP Activities Occur at this Point:
Application Process:	
<ul style="list-style-type: none"> • Prepare brownfield site contact list (BSCL) • Establish document repositories • Publish notice in Environmental Notice Bulletin (ENB) announcing receipt of application and 30-day comment period • Publish above ENB content in local newspaper • Mail above ENB content to BSCL 	<p>At time of preparation of application to participate in BCP.</p> <p>When NYSDEC determines that BCP application is complete. The 30-day comment period begins on date of publication of notice in ENB. End date of comment period is as stated in ENB notice. Therefore, ENB notice, newspaper notice and notice to the BSCL should be provided to the public at the same time.</p>
After Execution of Brownfield Site Cleanup Agreement:	
<ul style="list-style-type: none"> • Prepare Citizen Participation (CP) plan 	<p>Draft CP Plan must be submitted within 20 days of entering Brownfield Site Cleanup Agreement. CP Plan must be approved by NYSDEC before distribution</p>
After Remedial Investigation (RI) Work Plan Received:	
<ul style="list-style-type: none"> • Mail fact sheet to BSCL about proposed RI activities and announcing 30-day public comment period on draft RI Work Plan 	<p>Before NYSDEC approves RI Work Plan. If RI Work Plan is submitted with application, comment periods will be combined and public notice will include fact sheet. 30-day comment period begins/ ends as per dates identified in fact sheet.</p>
After RI Completion:	
<ul style="list-style-type: none"> • Mail fact sheet to BSCL describing results of RI 	<p>Before NYSDEC approves RI Report</p>
After Remedial Work Plan (RWP) Received:	
<ul style="list-style-type: none"> • Mail fact sheet to BSCL about proposed RWP and announcing 45-day comment period • Public meeting by NYSDEC about proposed RWP (if requested by affected community or at discretion of NYSDEC project manager in consultation with other NYSDEC staff as appropriate) 	<p>Before NYSDEC approves RWP. 45-day comment period begins/ends as per dates identified in fact sheet. Public meeting would be held within the 45-day comment period.</p>
After Approval of RWP:	
<ul style="list-style-type: none"> • Mail fact sheet to BSCL summarizing upcoming remedial construction 	<p>Before the start of remedial construction.</p>
After Remedial Action Completed:	
<ul style="list-style-type: none"> • Mail fact sheet to BSCL announcing that remedial construction has been completed • Mail fact sheet to BSCL announcing issuance of Certificate of Completion (COC) 	<p>At the time NYSDEC approves Final Engineering Report. These two fact sheets should be combined when possible if there is not a delay in issuance of COC.</p>

Appendix E – Brownfield Cleanup Program Process

Brownfields Cleanup Program (BCP)



Brownfields Cleanup Program (BCP)

