Remedial Investigation/ Alternatives Analysis/ Interim Remedial Measure (RI/AAR/IRM) Work Plan

Sonwil Distribution Site
Buffalo, New York

September 2007 0131-001-200

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TABLE OF CONTENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

1.0 INTRODUCTION

This document presents the proposed scope of work and implementation procedures for completion of a Remedial Investigation (RI), Alternatives Analysis Report (AAR) and Interim Remedial Measures (IRM) at the Sonwil Buffalo Lakeside Commerce Park site (Site), located at 99 Tifft Street, in the City of Buffalo, New York (see Figures 1 and 2). Sonwil Distribution (Sonwil) is planning to purchase the Site from the Buffalo Urban Development Corporation (BUDC) and plans to redevelop the Site as an office and distribution warehouse.

Sonwil has elected to pursue cleanup and redevelopment of the Site under the New York State Brownfield Cleanup Program (BCP), and has applied to the Brownfield Cleanup Program (BCP) with the intention to enter into a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC).

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

1.1 Background

The Sonwil BCP Site encompasses a portion of three sites as shown on Figures 1 and 2. These sites will be re-parceled into one approximate 45-acre parcel and purchased by Sonwil, and are described as follows:

- The former **Herbert F. Darling Site** is an approximate 75-acre site located at 99 Tifft Street, Buffalo, New York. The property, herein referred to as the Darling Site, is vacant undeveloped land and is generally covered with grass and brush vegetation as well as areas of slag and gravel. Several soil/fill piles and slag piles are located in the central portion of the site. The northern portion of the site is covered with wetland type vegetation and ponded water.

- The former **CSX (former Penn 200 Yard) Site** is an approximate 38-acre site located on Fuhrmann Boulevard, Buffalo, New York. The property, herein referred to as the CSX Site, is located in a vacant former railroad corridor and is generally covered with slag and gravel, which was apparently utilized as railroad ballast. The remainder of the Site is generally covered with vegetation.

- The former **Shenango Steel Mold Site** is an approximate 18-acre site located on Fuhrmann Boulevard, Buffalo, New York. The property, herein referred to as the Shenango Site, is listed on the NYSDEC Registry of Inactive

Hazardous Waste Sites as a Class 2 site. Class 2 sites are considered to be significant threats to public health or the environment and require action (it should be noted that the NYSDEC has indicated that this site has been petitioned for delisting). The site is currently vacant except for the remains of former manufacturing buildings. The facility manufactured cast iron ingots from approximately 1963 to 1982 by processing pig iron that was produced at the adjacent Hanna Furnace Property.

The Sonwil BCP Site has been segmented into five Areas of Concern (AOCs) for ease of discussion based upon historic activities conducted at the Site. The AOCs are identified as follows:

- AOC 1 – Site subsurface soils outside AOCs 4 and 5.
- AOC 2 – Site surface soils outside AOCs 4 and 5.
- AOC 3 – Site groundwater.
- AOC 4 – Former Shenango Mold Polychlorinated Biphenyl (PCB) Area.
- AOC 5 – Former Shenango Mold Groundwater Infiltration Area.

Redevelopment of the Sonwil property will be guided by a Redevelopment Plan presented as Figure 3. The Redevelopment Plan calls for the construction of two 300,000 square foot warehouses and office spaces with truck loading docks and parking areas. In addition, railroad spur(s) are planned to be constructed between the two planned structures as shown on Figure 3.

1.2 Project Objectives

For sites entering the BCP at the point of investigation, NYSDEC requires completion of a RI/AAR. The primary objectives of the RI/AAR 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 and determine appropriate actions to address potential significant risks.

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During site redevelopment, an IRM will be completed to address potentially impacted soil/fill materials that may be encountered. Adjacent sites (e.g., Buffalo Lakeside Commerce Park Brownfield Site, Shenango Steel and Mold NYSDEC Superfund Site, CertainTeed Brownfield Site, Cobey, LLC Brownfield Site) have encountered industrial fill materials and/or impacted soil and groundwater during investigation, remediation and/or site redevelopment activities. It is expected that similar environmental concerns will be encountered and addressed during Sonwil Distribution's remedial investigation and redevelopment. An IRM will quickly mitigate risks to public health and the environment attributable to contamination at the Site. The IRM will include removal of impacted soil/fill encountered during the RI or during Site redevelopment. A soil/fill management plan (SFMP) has been incorporated into this work plan to address impacted soil and groundwater (if encountered). Cleanup objectives employed during the IRM will be Part 375 restricted-commercial SCOs.

1.3 Purpose and Scope

This Remedial Investigation/Alternatives Analysis Report/Interim Remedial Measure (RI/AAR/IRM) Work Plan was prepared to accompany the BCP Application for the Sonwil Distribution site. Sonwil intends to investigate soil and groundwater at the subject property and redevelop the property under the New York State BCP. Accordingly, the RI/AAR/IRM Work Plan identifies the scope of planned Remedial Investigation and the means by which it will be completed, including sampling and reporting requirements, as well as identification and evaluation of remedial options for on-site soil/fill and/or groundwater.

This Work Plan proposes the following activities to delineate on-site surface and subsurface soil/fill and groundwater impacts at the Site:

- Analysis of representative surface and subsurface soil/fill samples from borings to establish concentrations of Constituents of Potential Concern (COPCs) within the soil/fill matrix.

- Visual/olfactory/PID characterization of surface and subsurface soil/fill.

- Installation of on-site upgradient and downgradient groundwater monitoring wells.

- Collection and analysis of groundwater samples and potentiometric data from newly installed monitoring wells.

The investigation will be geared toward collection of representative analytical data to characterize on-site source area soil/fill, soil/fill outside the areas of suspected impact, and groundwater quality. A detailed description of the scope of work follows. A summary of the soil/fill and groundwater data obtained during the RI and historical investigations on the Sonwil Site will be presented in the RI/AAR/IRM report.

1.4 Project Organization and Responsibilities

Sonwil Distribution has submitted the Sonwil BCP property for entrance into the BCP as a non-responsible party (volunteers) per ECL§27-1405. TurnKey Environmental Restoration, LLC in association with Benchmark Environmental Engineering & Science, PLLC shall manage the brownfield cleanup activities on behalf of Sonwil. The NYSDEC Division of Environmental Remediation shall monitor the activities to verify that the work is performed in accordance with the Brownfield Cleanup Agreement, the approved RI/AAR/IRM Work Plan, and NYSDEC DER-10 guidance (Ref. 1).

2.0 ENVIRONMENTAL CONDITIONS

2.1 Site Description

The Sonwil Buffalo Lakeside Commerce Park (Sonwil) Site is an approximate 45-acre parcel located at 99 Tifft Street in the City of Buffalo (the City), Erie County, New York. The Sonwil BCP Site is located in an underused and former heavy industrial area near the southern boundary of the City of Buffalo (see Figure 1). The Site is surrounded by current and former heavy industrial sites, NYSDEC Inactive Hazardous Waste Sites, NYSDEC Petroleum Spill Sites, and other Brownfield Cleanup Program Sites. The Sonwil BCP Site is comprised of the following: approximately 19.8 acres of the former Darling site, approximately 17.2 acres of the former CSX site, and approximately 7.7 acres of the former Shenango site.

The Site is currently owned by the Buffalo Urban Development Corporation. Sonwil Distribution intends to purchase the property and redevelop the Site as a commercial office and warehouse facility (see Figure 3). The project will include construction of two 300,000 square foot buildings. The Site will be serviced by a railroad siding that will be constructed and connected to the existing railroad corridor located to the east of the Site.

2.2 Environmental History

Benchmark prepared Phase I Environmental Site Assessment Reports (Refs. 2 and 4) in August 2006 and Phase II Environmental Site Investigation Reports (Refs. 3 and 5) in October 2006 for the Darling and CSX sites. Ecology and Environment Engineering prepared a Construction Certification Report for the Shenango site (Ref. 6) in September 2006. The following paragraphs summarize the environmental history of these sites as described in the above-referenced reports.

From approximately 1926 to 1986, the Darling site was used as a slag dumping area and apparent railroad corridor; the property has been vacant since 1995. Slag and other industrial fill materials used as rail ballasts contain highly variable and sometimes elevated concentrations of metals and semi-volatile organic compounds (SVOCs). Miscellaneous dumping was noted in various areas on-site. Materials observed included scrap automobile parts, household items, apparent asbestos house siding, and tires. Historic slag sampling conducted by the NYSDEC on the greater Darling parcel indicated that elevated arsenic,

barium and PCBs were noted within at least one slag sample on-site. Possible dumping or landfill activities were noted on the north and south adjacent parcels.

From approximately 1926 to 1986, the CSX site was operated as a rail yard; the property has been vacant since approximately 1995. The CSX property is located in a vacant former railroad corridor and is generally covered with slag and gravel, which was apparently used as railroad ballast. The remainder of the Site is generally covered with vegetation.

From 1962 to 1982, the Shenango Steel Mold facility produced ingot molds for the steel industry. In October 1993, the NYSDEC investigated an anonymous report of trespassers scrapping electrical transformers and disposing of the transformer oil at the abandoned Shenango Steel Mold site. Sampling and analysis of oil-soaked soils detected polychlorinated biphenyl (PCB) contamination at hazardous levels greater than 50 parts per million (>50ppm).

In April 1994, NYSDEC initiated a removal action at the Shenango site that consisted of excavating and disposing visually contaminated concrete debris, a small amount of soil, and waste drums and pails from the area. In 2001, a remedial investigation was conducted to determine the nature and extent of any remaining site contamination and the potential impact these contaminants posed to human health and the environment. The findings of the RI were that PCBs, hydraulic oil, and semi-volatile compounds (SVOCs) were present in the soils and demolition debris at the site. A state Superfund supplemental investigation was completed in 2004, which better defined the nature and extent of PCB and hydraulic oil contamination on-site. The PCB contamination was highest in the north-central section of the site, with concentrations up to 138 parts per million (ppm). Other contaminants found on-site include metals such as lead, iron, mercury, and zinc; polycyclic aromatic hydrocarbons (PAHs); and volatile organic compounds (VOCs), including toluene, ethyl benzene, and xylenes. Design drawings and specifications for the remedial cleanup were completed by NYSDEC in June 2005. In February 2006, approximately 3,997 tons of PCB-impacted soil and debris, and approximately 5,955 tons of LNAPL-impacted soil were removed from the site (it should be noted that the LNAPL area is outside the boundaries of the Sonwil site). In addition, approximately 974 tons of sand/fill from an infiltration basin used to re-introduce groundwater and surface water extracted from remedial excavations showed slightly elevated levels of metals contamination and was disposed off-site. Of

particular note, cleanup objectives of that remedial effort used 10 ppm in subsurface soil and the current commercial/industrial.

2.3 Constituents of Potential Concern (COPCs)

Based on the Site history and historical environmental investigations, the following environmental concerns have been identified on the Sonwil Site:

Former Darling Site

- There are elevated concentrations of metals in site groundwater. These findings are consistent with analytical data reviewed for the adjacent CSX site and the nearby Buffalo Lakeside Commerce Park Parcel 4 site, which is located south of the subject property.

- Elevated pH values ranging between 10.25 and 11.72 were noted in groundwater samples. These findings are consistent with data reviewed for the Buffalo Lakeside Commerce Park Parcel 4 site and the adjacent CSX site.

- Elevated concentrations of metals were noted in the slag pile sample. Of note, barium was detected above its restricted-commercial SCOs.

Former CSX Site

- There are elevated concentrations of metals in site groundwater. It appears that high turbidity positively biases groundwater concentrations. However, one filtered sample still exhibited metal concentrations for some parameters above applicable GWQS. These findings are consistent with analytical data reviewed for the Buffalo Lakeside Commerce Park Parcel 4 site, which is located adjacent to the subject property, and are attributable to the presence of slag/fill across the site.

- Elevated pH values of 11.02 and 11.47 were noted in site groundwater. These findings are also consistent with data reviewed for the adjacent Buffalo Lakeside Commerce Park Parcel 4 site.

Former Shenango Steel Mold Site

- Residual groundwater contamination may exist at the former Shenango Steel Mold site. Elevated concentrations of VOCs (toluene, ethylbenzene, and total xylenes), SVOCs (4-methylphenol), and metals (antimony, arsenic, iron, magnesium, manganese and sodium) were detected at concentrations above NYS Class GA GWQS at the time of the RI/FS. LNAPL and metals (iron, magnesium, manganese

and sodium) were detected at concentrations above Class GA GWQS at the time of the Supplement Site Investigation.

- Residual PCB contamination may exist at the former Shenango Steel Mold site since it was remediated to NYSDEC TAGM Recommended Soil Cleanup Objectives. Several post-excavation samples collected from the excavation walls or bottom during site remediation were reported above current NYSDEC Part 375 Soil Cleanup Objectives (SCOs) for commercial use (1 ppm) or protection of groundwater quality clean-up (3.2 ppm) for PCBs.

3.0 DATA OBJECTIVES

3.1 Acceptance or Performance Criteria

Acceptance or performance criteria specify the quality of data required to support decisions regarding remedial response activities. Acceptance or performance criteria are based on the data quality objectives. Specifically, the data quality and level of analytical documentation necessary for a given set of samples will vary depending on the intended use of the data.

As part of the RI process, remedial action objectives will be developed. Sampling data will be used to evaluate whether or not remedial alternatives can meet the objectives. The intended uses of these data dictate the data confidence levels. Two data confidence levels will be employed in the RI: screening level data and definitive level data. In general, screening level confidence will apply to field measurements, including photoionization detector (PID) measurements, groundwater elevation measurements, and field analyses (i.e., pH, temperature, specific conductivity, and turbidity). Definitive level confidence will apply to samples for chemical analysis.

The applicability of these levels of data will be further specified in the Quality Assurance Project Plan (QAPP). Sampling and analytical acceptance and performance criteria such as precision, accuracy, representativeness, comparability, completeness, and sensitivity, will also be defined in the QAPP.

3.2 Collection of Defensible Data

The RI scope of work is focused on providing defensible data to identify areas of the Site requiring remediation, define chemical constituent migration pathways, qualitatively assess human health and ecological risks, and perform the remedial alternatives evaluation. The investigation will also include the collection and analysis of groundwater samples to support remedial action objectives. Definitive level data quality will be required for chemical analysis of groundwater samples.

Field team personnel will collect environmental samples in accordance with the rationale and protocols described in the Field Sampling Plan (FSP) presented in the QAPP. 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 to meet the definitive-level data requirements, by a New York State

Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP)-certified laboratory. Analytical results will be evaluated by a third-party data validation expert in accordance with provisions described in the QAPP.

4.0 INVESTIGATION ACTIVITIES

Individual scopes of work, developed for environmental media to be addressed during the Remedial Investigation, are presented in the following sections. The proposed locations of the on-site RI activities are presented on Figures 5 and 6. A summary of the RI sampling and analytical program is presented as Table 1.

4.1 Soil/Fill Investigation

4.1.1 Underground Utility Clearance

Prior to any intrusive activity (e.g., Geoprobe®, drill rig), TurnKey will request a utility clearance from the Underground Facilities Protective Organization (or approved other), and underground utilities will be identified and clearly marked. TurnKey will also review historic plant engineering drawings (if available) for on-site utility locations prior to initiating fieldwork.

4.1.2 Boring Advancement

Forty-six soil borings are planned at the Site as illustrated in Figures 5 and 6. Approximately 11 borings will be advanced across the Site at the locations indicated on Figure 5 to allow for visual/olfactory/PID assessment of subsurface (AOC 1) and surface (AOC 2) conditions. As illustrated on Figure 6, a total of 15 soil borings will be advanced within the former PCB area (AOC 4) and an additional 12 soil borings will be advanced within the former groundwater infiltration area (AOC 5). Both AOC 4 and AOC 5 are located within the former Shenango Mold site (see Figure 6). Eight groundwater monitoring wells will be completed from soil borings, as described in Section 4.2.

In general, borings will be advanced using direct-push technology via a Geoprobe® drill rig to a depth of approximately 8 to 12 feet below ground surface (fbgs). Borehole depths may vary depending on the vertical and horizontal extents of the soil/fill horizon, depth to groundwater, or encountered impacts (i.e., free-product, elevated PID readings etc.). Each boring will be advanced using a 1.5-inch diameter, 4-foot core sampler with dedicated PVC sleeve. Recovered samples will be described in the field by qualified TurnKey personnel in accordance with ASTM D2488 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)," scanned for total volatile organic vapors with a calibrated MiniRae 2000 PID equipped with a 10.6 eV lamp (or equivalent),

and characterized for impacts via visual and/or olfactory observations. Excavated soil/fill and the breathing zone atmosphere will be field screened for the presence of VOCs using the 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 of VOCs. The methodology for field soil/fill screening using a PID is discussed below as well as included in the QAPP, presented under separate cover.

4.1.3 Surface Soil/Fill Sampling

As summarized on Table 1, a minimum of 11 surface (0.0 to 0.5 fbgs) soil/fill samples will be collected from the location of the soil borings for analysis of TCL SVOCs and TAL metals. At two soil boring locations, the surface soil/fill sample will also be analyzed for TCL PCBs and pesticides/herbicides for chemical characterization. The samples will be collected using a dedicated stainless steel hand trowel or stainless steel spoon, and transferred to laboratory supplied, precleaned sample containers.

4.1.4 Subsurface Soil/Fill Sampling

Nineteen Representative subsurface soil/fill samples from each boring location will be collected using dedicated sampling equipment. Samples will be transferred to laboratory supplied, precleaned sample containers for analysis of the parameters listed in Table 1 using USEPA SW-846 methodology.

Within AOC 1 and AOC 5, a second representative aliquot from each subsurface soil/fill location will be transferred to a sealable plastic bag for discrete headspace determination. In general, representative subsurface soil/fill samples will be collected, placed in a sealable plastic bag, and kept at or near room temperature (approximately 65-70°F) for a minimum of 15 minutes prior to PID measurement. Headspace determinations will be recorded on the appropriate field forms and Project Field Book. PID scan and/or headspace determination values greater than 20 parts per million (ppm) will require the collection of an additional sample for TCL VOCs + STARS analysis via USEPA SW-846 methodology. The chosen soil/fill samples will be transferred directly into a laboratory supplied, precleaned sample container for analysis of TCL VOCs.

Following sample collection, the Geoprobe boreholes will be backfilled with the remaining soil cuttings and supplemented, as necessary, with bentonite powder.

Decontamination of non-disposable and non-dedicated sampling equipment as well as handling of investigative-derived waste (IDW) is discussed in Section 4.6 of this Work Plan.

4.2 Groundwater Investigation

Groundwater elevation maps completed during previous investigations (Refs. 2 and 4) indicate that groundwater flows west and south toward the Union Ship Canal. Groundwater gauging also indicates that the wetland areas on the former Darling site influence groundwater flow toward the northwest.

Historical groundwater elevation measurements taken from monitoring wells on the Site indicate that the first water bearing zone (i.e., water table) ranges from approximately 1.0 to 4.0 fbgs within the soil/fill unit. In order to supplement existing historic groundwater quality data, groundwater at the BCP Site will be sampled in accordance with this section of the Work Plan. No permanent monitoring wells currently exist on the Sonwil Site; however, if temporary useable wells are discovered during the RI, groundwater elevations will be measured during the sampling program. Monitoring wells located outside the BCP Site will only be incorporated as necessary to provide sufficient groundwater elevation information at the Site.

4.2.1 Monitoring Well Installation

Eight new monitoring wells, identified as MW-1 through MW-8, will be installed to further assess groundwater quality at the Site. The location of the new wells will be based on field observations recorded during the soil/fill investigation, but will be generally located as shown on Figure 5. It is anticipated that seven wells will be installed along the upgradient and downgradient perimeter of the Site, while one well will be installed at the approximate center of the Site.

Each boring location will be advanced into the unconsolidated overburden soil/fill to a depth of approximately 8 to 12 fbgs. Shallow overburden well borings will be advanced using a Geoprobe 6620DT drill rig equipped with 4.25-inch I.D. hollow stem augers (HSA) (or approved other). A 1.5-inch diameter, 4-foot core sampler with dedicated PVC sleeve will be advanced ahead of the auger string. Recovered samples will be described in the field by qualified TurnKey personnel in accordance with ASTM D2488 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)," scanned for total volatile organic vapors with a calibrated MiniRae 2000 PID equipped with a 10.6 eV lamp (or

equivalent), and characterized for impacts via visual and/or olfactory observations. In addition, PID scans will be supplemented with headspace determinations as previously described. All non-dedicated drilling tools and equipment will be decontaminated between boring locations using potable tap water and a phosphate-free detergent (i.e., Alconox).

Subsequent to boring completion, each monitoring well will be constructed of 2-inch I.D. flush-joint Schedule 40 PVC solid riser and machine slotted screen (0.010-inch slot size). The monitoring well screen will be approximately 5 feet in length. The well screen and attached riser will be placed within the borehole and the remainder of the sand pack will be installed within the borehole annulus to approximately 0.5 feet above the top of the well screen. A bentonite seal, approximately 2.0 feet thick, will be installed immediately above the filter sand layer. The bentonite seal will be constructed with 3/8-inch bentonite pellets or medium bentonite chips and allowed to hydrate sufficiently.

The top of the well riser pipe will extend approximately 3 feet above grade and will be fitted with a lockable J-plug and protected by a vented, 4-inch diameter protective steel casing. While taking care to not breach the bentonite chip seal, the steel casing will be installed to a depth of approximately 2 fbgs and anchored in a 2-foot by 2-foot concrete surface pad. Each steel protective casing will be fitted with a locking cap, keyed alike lock, and labeled with permanent markings for identification. The concrete surface pad will be placed around the protective steel casing to allow surface water to drain away from the well. Installation procedures, including field forms for monitoring well installation and drill rig decontamination requirements, are presented in the QAPP.

4.2.2 Well Development

Upon installation, but not within 24 hours, the newly installed monitoring wells will be developed in accordance with NYSDEC and TurnKey protocols. Prior to development, the static water level and well depth will be measured and recorded. Development will be accomplished using a bottom-discharging bailer (either polyethylene or PVC) via purge and surge methodologies. Development will be recorded on field forms and considered completed when the pH, specific conductivity and temperature have stabilized; and when the turbidity is below 50 Nephelometric Turbidity Units (NTU), or has stabilized above 50 NTU and a minimum of 3 well volumes have been removed. Stability is defined as variation between measurements of 10 percent or less and no overall upward or downward trend in the measurements. A minimum of three well volumes will be evacuated from each

monitoring well. Development water will be passed through a mobile granular-carbon treatment vessel, and discharged to ground no closer than 50 feet in any radial direction from the monitoring well.

All data collected during well development will be recorded on TurnKey's Groundwater Well Development and Purge Logs. Well development procedures, including the field forms, and calibration and maintenance of field instruments used to measure stability parameters will be performed and/or completed in accordance with TurnKey's Field Operating Procedures (FOPs) included in the QAPP.

4.2.3 Groundwater Elevation Measurements

Following installation, the locations and elevations of the newly installed monitoring wells will be surveyed against a fixed benchmark and located on the site plan. The top of the PVC casings will be referenced to existing site vertical datum to provide a reference point for groundwater elevation measurements (see Section 4.5). Approximately 72 hours or more following completion of Site well development activities, depth to groundwater will be measured in all newly installed monitoring wells from the top of each riser using an electric water level indicator to the nearest 0.01 feet. Depth to water measurements will be used to calculate the groundwater elevations for each location. Groundwater elevations will be used to prepare an isopotential map of the Site. This site-specific isopotential map will be used to determine the groundwater flow direction and hydraulic gradient at the Site.

4.2.4 Groundwater Sample Collection and Analysis

Prior to sampling the monitoring wells, static water levels will be measured and recorded as described in Section 4.2.3. Following water level measurement, TurnKey personnel will purge and sample each monitoring well in accordance with low-flow/minimal drawdown purge and sample collection procedures. 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 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. Once the

field parameters have stabilized, groundwater samples will be collected and analyzed for the parameters presented in Table 1. In the event that low-flow purging and sampling techniques cannot be accomplished, standard purging and sampling techniques will be implemented via a dedicated polyethylene disposable bailer.

Groundwater samples collected for VOC analysis will not be sampled directly through the peristaltic pump due to potential degassing (i.e., loss of VOCs) of the groundwater sample. Instead, upon collection of VOC samples, the pump will be turned off and the pressure on the flexible walled tubing within the pump head will be maintained in order to prevent water within the tubing from escaping. The tubing will be removed from the well and coiled as to prevent any contact with the ground surface. Upon removal of the tubing and prior to re-activating the pump, the pump flow direction will be reversed. Upon pump re-activation, the pumping rate will be slowly increased; positively displacing groundwater within the tubing allowing it to flow, without disturbance and degassing, into the appropriate VOC sample jars.

Prior to and immediately following collection of groundwater samples, field measurements for pH, specific conductance, temperature, turbidity, 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 an analytical laboratory for analysis as indicated in Table 1.

4.3 Field Specific Quality Assurance/Quality Control (QA/QC)

In addition to the soil/fill and groundwater samples described above, site-specific field quality assurance/quality control (QA/QC) samples will be collected and analyzed to support the required third-party data usability assessment effort. Site-specific QA/QC samples will include matrix spikes, matrix spike duplicates, and blind duplicates. Trip blanks will accompany the VOC samples only. Dedicated sampling equipment will be used to minimize field decontamination time and avoid the need for equipment blanks. QA/QC field sampling requirements are summarized in the QAPP. A brief summary of each is presented below:

- **Trip Blanks** – A sufficient number of trip blanks for VOC analysis will be prepared by the laboratory and delivered to the sampling team prior to a sampling

event. One sealed blank will be carried into the field per day along with the sample containers for each day that water matrix volatile organic samples are collected. Trip blanks will be transported and handled in the same manner as the actual samples. The results of the trip blank analysis will be reviewed to evaluate if the potential for sample contamination during transportation and handling exists. The trip blanks will be analyzed for "full list" VOCs (TCL plus STARS List) by USEPA Method 8260B and 8021.

- **Blind Duplicate** – One blind duplicate will be collected and analyzed per 20 samples collected for the parameters presented in Table 1 per matrix (i.e., groundwater, soil/fill, etc.). The location of the sample collection point will not be disclosed to the analytical laboratory, therefore the field sample containers will be returned to the laboratory identified only as the "blind duplicate". The well or sample location will be recorded in the Project Field Book and on the respective Water Sample Collection Log and the results will be compared to review analytical precision.

- **Matrix Spike/Matrix Spike Duplicate (MS/MSD)** – A sufficient volume of sample will be collected at one sample location per sampling event for MS/MSD analysis for the parameters presented in Table 1 per matrix (i.e., groundwater, soil/fill, etc.). The laboratory will report the results of the MS/MSD analysis, which will be reviewed for sampling and analysis precision and accuracy.

The laboratory will be required to furnish an equivalent Category B deliverables package to facilitate data evaluation and preparation of a DUSR by a third-party validation expert.

4.4 Documentation

All investigation field activities will be documented in the Project Field Book. This logbook will provide a record of activities conducted at the Site. All entries will be signed and dated at the end of each day of fieldwork by the Field Team Leader. The field logbook will include, at a minimum, the following: date and time of all entries, names of all personnel on site, weather conditions (temperature, precipitation, etc.), location of activity, and description of activity. Sampling activities will be logged and photographed as necessary to document the activities at the Site. TurnKey personnel will complete the following standard field forms:

- Chain of Custody Form
- Daily Drilling Report, (as necessary)

- Drilling Safety Checklist, (as necessary)
- Equipment Calibration Log
- Field Activity Daily Log (FADLs)
- Field Borehole/Geoprobe/Monitoring Well Installation Log, (as necessary)
- Groundwater Well Development Log
- Groundwater Well Inspection Form
- Groundwater Purge & Sample Collection Log – Low Flow
- Investigative-Derived Waste Container Log
- Photographic Log
- Real-Time Air Monitoring Log
- Sample Summary Collection Logs (groundwater and slag/fill)
- Tailgate Safety Meeting Form
- Test Pit Excavation Log
- Underground/Overhead Utility Checklist for Sampling
- Variance Log (as necessary)
- Water Level Monitoring Record
- Well Completion Detail: Stick-up (Monitoring Well)

Examples of the field forms are provided in the QAPP under separate cover.

4.5 Site Mapping & Survey

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

4.6 Decontamination & Investigation-Derived Waste (IDW)

Every attempt will be made to use dedicated sampling equipment; however, if non-dedicated equipment is required, the equipment will be decontaminated, at a minimum, with a non-phosphate detergent (i.e., Alconox®) and potable water mixture, rinsed with distilled water, and air-dried before each use in accordance with TurnKey's field operating procedures (included as an appendix to the QAPP). All decontaminated sampling equipment

will be kept in a clean environment prior to sample collection. Heavy equipment, such as an excavator and drilling tools, will be decontaminated via high-pressure steam cleaning on a temporary decontamination pad between grab sample locations and composite groups (i.e., borings, monitoring wells, etc.), as necessary.

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 used on-site or require treatment or off-site disposal. 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. Groundwater from well development and purging will be stored in drums or a portable tank.

Discarded personal protective equipment (PPE) (i.e., latex gloves, Tyvek, paper towels, etc.) and disposable sampling equipment (i.e., stainless steel spoons) will be placed in sealed plastic garbage bags and disposed of as municipal solid waste. If necessary, TurnKey field personnel will coordinate the on-site handling and temporary storage of IDW, including transportation and off-site disposal.

5.0 INTERIM REMEDIAL MEASURES

Subsequent to completion of the RI, impacted soil/fill encountered during excavation within the two proposed building footprints will be managed per the Soil/Fill Management Plan (SFMP) as discussed in Section 6.1 of this Work Plan. Groundwater and surface water encountered during IRM activities will be managed in accordance with Section 5.4 of this Work Plan (and Section 2.4 of the SFMP). Concurrent with Site redevelopment, additional IRM activities, if necessary, will be conducted outside of the planned building footprints. Based on previous investigation results, it is likely that excavation of PCB-impacted soil/fill will be required within AOC 4. Detailed soil/fill management procedures are described in the SFMP, included under separate cover, and are summarized below.

5.1 Excavation and Disposal

Excavation of impacted soil/fill will continue horizontally until visually impacted materials are removed to the satisfaction of TurnKey and the NYSDEC representative, but will not extend beyond the Site boundaries. All excavation work will be directed by an experienced TurnKey scientist to remove all impacted material. Lateral and vertical excavation will continue as described above until visually impacted soil/fill is removed, Part 375 restricted-commercial SCOs are met, or NYSDEC agrees that no further excavation is required.

Visually impacted soil/fill, olfactory evidence of contamination, or fill exhibiting elevated PID readings (i.e. >5 ppm) encountered during excavation will be placed on and covered with polyethylene sheeting, and sampled to determine proper off-site disposal. The stockpiled material will be managed to prevent infiltration of precipitation and wind erosion. The stockpiled impacted material will be characterized per the requirements of a permitted disposal facility and an appropriate disposal plan will be developed. Stockpiled impacted material will not remain on-site for more than 90 days.

5.2 Verification Sampling

Verification sampling will be performed on the sidewalls and bottom of the excavation after lateral excavation limits have been achieved and visibly impacted soil/fill has been removed. In general, one sidewall sample will be collected on each of the four sides of the excavation for each 30 linear feet of excavation sidewall and one bottom sample of the excavation will be collected for each 900-square feet of excavation bottom. The samples will

be collected by retrieving a discrete sample from across the excavation face. The backhoe bucket will be used to assist in sample collection and avoid the need for confined space entry.

All samples will be analyzed by a National Environmental Laboratory Accreditation Counsel (NELAC) approved analytical laboratory for NYSDEC TCL plus STARS List VOCs (if necessary based on PID readings), TCL SVOCs, TAL metals, and PCBs (only in AOC 4) in accordance with USEPA Methodology with an equivalent Category B deliverables package to facilitate data evaluation by a third-party validation expert. Two-business day turnaround will be requested for the analytical results to minimize the time that the excavation(s) remains open.

5.3 Excavation Backfill

Following NYSDEC concurrence that the excavation is complete, the resulting excavation will be backfilled with non-impacted site soil or clean imported fill material, as described in the SFMP. Backfill material will be placed into the excavation and compacted with the excavator/backhoe bucket in 2-foot lifts to match the existing grade of the Site and minimize settling. Alternatively, Sonwil Distribution's redevelopment plans may require that select backfill be placed in accordance with certain geotechnical requirements (e.g., 95% of a standard proctor test).

5.4 Groundwater and Surface Water Management

Historical groundwater elevation measurements taken from monitoring wells on the Site indicate that the first water bearing zone (i.e., water table) ranges from approximately 1.0 to 4.0 feet below grade within the soil/fill unit. Accordingly, groundwater management will likely be necessary as part of the construction and redevelopment effort. Groundwater and surface water run-in to foundation excavations will be treated on-site (if necessary) prior to discharge to the sanitary sewer with permission from the Buffalo Sewer Authority (BSA). Specifically, water will be stored in a portable tank and pumped through bag filter units, followed by treatment using GAC. Following completion of excavation work, settled solids remaining in the tank and spent filter bags will be containerized for off-site disposal. Spent GAC will be characterized and regenerated off-site, or disposed at a permitted treatment

storage and disposal facility (TSDF) in accordance with applicable federal and state regulations. The tank will be decontaminated via pressure washing.

6.0 INVESTIGATION SUPPORT DOCUMENTS

6.1 Soil/Fill Management Plan (SFMP)

The purpose of the Soil/Fill Management Plan (SFMP), prepared under separate cover as a stand-alone document, is to protect both the environment and human health during redevelopment and post-development maintenance activities of the Site, subsequent to completion of Brownfield cleanup activities. The SFMP will be modified/expanded as appropriate based on the results of the RI.

While an assessment of surface and subsurface soil/fill and groundwater at the Site will be performed during the RI, subsurface information is never 100 percent complete or accurate, especially on a large Site with a long and diverse manufacturing history. As such, it is not unreasonable to anticipate the possibility that some quantity of subsurface soil/fill contamination may be encountered after completion of the Brownfields cleanup. In particular, soil/fill contamination may be encountered during post-development activities such as utility maintenance.

Compliance with the SFMP is required to properly manage subsurface soil contamination. The SFMP was developed and incorporated into this Work Plan with the express purpose of addressing unknown subsurface contamination if and when encountered, thus maintaining the release and covenant not to sue by the NYSDEC. The SFMP also facilitates the transfer of responsibilities with property ownership, which is why the SFMP is a separate, stand alone document.

This SFMP provides protocols for the proper handling of Site soil/fill during development activities, including:

- Excavation, grading, sampling and handling of site soils.
- Acceptability of soils/fill from off-site sources for backfill or subgrade fill.
- Erosion and dust control measures.
- Access controls.
- Health and safety procedures for subsurface construction work and the protection of the surrounding community.
- Acceptability and placement of final soil and vegetative cover.
- Environmental easements.
- Program responsibilities.
- Notification and reporting requirements.

6.2 Site-Wide Health and Safety Plan (HASP)

A Health and Safety Plan (HASP) has been prepared in accordance with 40 CFR 300.150 of the NCP and 29 CFR 1910.120 for the Sonwil BCP Site. The HASP will be enforced in accordance with the requirements of 29 CFR 1910.120 and will cover all on-site investigation and IRM activities. TurnKey's HASP is provided for informational purposes in Appendix A. Each contractor working at the Site will be required to develop a HASP as or more stringent than TurnKey's HASP. Health and safety activities will be monitored throughout the RI and IRM. 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.

The HASP also includes a contingency plan that addresses potential site-specific emergencies, and a Community Air Monitoring Plan (CAMP) that describes required particulate and vapor monitoring to protect the neighboring community during intrusive site investigation/remediation activities. The HASP and CAMP will be modified/expanded as appropriate if significant site invasive activities are performed, such as those associated with a remedial alternative involving soil/fill excavation. The CAMP is consistent with the requirements for community air monitoring at remediation sites as established by the NYSDOH and NYSDEC. Accordingly, it follows procedures and practices outlined under NYSDOH's Generic Community Air Monitoring Plan (dated June 20, 2000) and NYSDEC Technical Assistance and Guidance Memorandum (TAGM) 4031: Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites.

6.3 Citizen Participation Plan

In accordance with NYSDEC's Brownfield Cleanup Program guidance, a Citizen Participation Plan (CP Plan) is required for the Sonwil BCP investigative activities. The CP Plan, included as Appendix B, meets the requirements of Attachment 2 of the NYSDEC Technical Administrative Guidance Memorandum (TAGM) DER-97-4058 and NYSDEC's Draft DER-10 guidance. TurnKey and the NYSDEC will coordinate and lead community relations throughout the course of the project.

6.4 Quality Assurance Project Plan (QAPP)

The Quality Assurance Project Plan (QAPP), prepared under separate cover as a stand-alone document, 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 of 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 assure compliance with USEPA SW-846 methodology. The QAPP has been prepared in accordance with USEPA's Requirements for Quality Assurance Project Plans for Environmental Data Operations (Ref. 7); the EPA Region II CERCLA Quality Assurance Manual (Ref. 8), and NYSDEC's December 2002 draft DER-10 Technical Guidance for Site Investigation and Remediation (Ref. 1).

7.0 REPORTING AND SCHEDULE

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

7.1 Remedial Investigation Reporting

The RI section of the RI/AAR/IRM 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, TurnKey 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 IRM Reporting

The Engineer will be on-site on a full-time basis during the IRM activities. Such documentation will include, at minimum, daily reports of IRM activities, community air monitoring results, photographs and sketches.

7.3.1 Construction Monitoring

Standard daily reporting procedures will include preparation of a daily report and, when appropriate, problem identification and corrective measures reports. Information that may be included on the daily report form includes:

- Processes and locations of construction under way.
- Equipment and personnel working in the area, including subcontractors.
- Number and type of truckloads of soil/fill removed from the site.
- A description of off-site materials received.
- Approximate verification sampling locations (sketches) and sample designations.

The completed reports will be available on-site and will be submitted to the NYSDEC as part of the Final Engineering Report. The NYSDEC will be promptly notified of problems requiring modifications to this Work Plan prior to proceeding or completion of the construction item.

Photo documentation of the IRM activities will be prepared by the Engineer throughout the duration of the project as necessary to convey typical work activities and whenever changed conditions or special circumstances arise.

7.3.2 IRM Construction Closeout

Details of the IRM construction will be included in the RI/AAR/IRM report submitted to the NYSDEC. At a minimum, the IRM section of the report will include:

- A Site or area planimetric map showing the parcel(s) remediated.

- A survey showing: the lateral limits of excavation, the grade before excavation, the grade when excavation is complete, and grade following backfill where soil/fill is excavated.

- Tabular summaries of unit quantities including: volume of soil/fill excavated; disposition of excavated soil/fill and collected ground/surface water; volume/type/source of backfill; and volume of ground/surface water pumped and treated.

- Planimetric map showing location of all verification and other sampling locations with sample identification labels/codes.

- Tabular comparison of verification and other sample analytical results to SCOs. An explanation shall be provided for all results exceeding acceptance criteria.

- Copies of daily inspection reports and, if applicable, problem identification and corrective measure reports.

- Text describing the excavation activities performed; a description of any deviations from the Work Plan and associated corrective measures taken; and other pertinent information necessary to document that the site activities were carried out in accordance with this Work Plan.

7.4 Project Schedule

The tentative project schedule for the major tasks to be performed in support of the RI/AAR/IRM is as follows:

- *November 2007* – Complete RI fieldwork.

- *November 2007 to April 2008* – Conduct IRM using soil/fill and groundwater management plan.

- *March to April 2008* – Excavation of PCB hot spots (concurrent with Site redevelopment).

- *May 2008* – Implement appropriate Institutional and Engineering Controls.

8.0 REFERENCES

1. New York State Department of Environmental Conservation. *Draft DER-10; Technical Guidance for Site Investigation and Remediation.* December 2002.

2. Benchmark Environmental Engineering and Science, PLLC, *Phase I Environmental Site Assessment Report, Herbert F. Darling Site, Buffalo, New York*, prepared for Buffalo Urban Development Corporation. August 2006.

3. Benchmark Environmental Engineering and Science, PLLC, *Phase II Environmental Site Investigation Report, Herbert F. Darling Site, Buffalo, New York*, prepared for Buffalo Urban Development Corporation. October 2006.

4. Benchmark Environmental Engineering and Science, PLLC, *Phase I Environmental Site Assessment Report, CSX (Former Penn 200 Yard) Site, Buffalo, New York*, prepared for Buffalo Urban Development Corporation. August 2006.

5. Benchmark Environmental Engineering and Science, PLLC, *Phase II Environmental Site Investigation Report, CSX (Former Penn 200 Yard) Site, Buffalo, New York*, prepared for Buffalo Urban Development Corporation. October 2006.

6. Ecology and Environment Engineering, P.C. *Construction Certification Report for the Shenango Steel Mold Site – Remedial Activity, City of Buffalo, Erie County, New York*. September 2006.

7. U.S. Environmental Protection Agency. *Requirements for Quality Assurance Project Plans for Environmental Data Operations (EPA QA/R-5)*. October 1998.

8. U.S. Environmental Protection Agency, Region II. *CERCLA Quality Assurance Manual, Revision I*. October 1989.

TABLES

TABLE 1

ANALYTICAL PROGRAM QUALITY ASSURANCE/ QUALITY CONTROL SUMMARY

RI/AAR/IRM Work Plan
Sonwil BCP Site
Buffalo, New York

Area of Concern	Matrix, Parameter [1] & Minimum No. of Samples							
	Soil					Groundwater		
	TCL VOCs+ STARS [2]	TCL SVOCs [3]	TAL Metals	TCL PCBs [5]	Pesticides/Herbicides	TCL VOCs+ STARS [2]	TCL SVOCs [3]	TAL Metals
AOC 1 *Site Subsurface Soil/Fill*	19	19	19	3	3			
AOC 2 *Site Surface Soil/Fill*	0	11	11	3	3			
AOC 3 *Site Groundwater*						8	8	8
AOC 4 *Former PCB Area (Shenango Mold)*	0	0	0	15	0			
AOC 5 *Former Groundwater Infiltration Area (Shenango Mold)*	12	12	12	12	0			
TOTALS:	31	42	42	33	6	8	8	8

QA/QC Sample	Estimated Number of QA/QC Samples							
	Soil					Groundwater		
Blind Duplicate [6]	2	3	3	2	1	1	1	1
Matrix Spike (MS) [6]	2	3	3	2	1	1	1	1
Matrix Spike Duplicate (MSD) [6]	2	3	3	2	1	1	1	1
Trip Blank [7]	0	0	0	0	0	1	0	0
Equipment Blank [8]	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

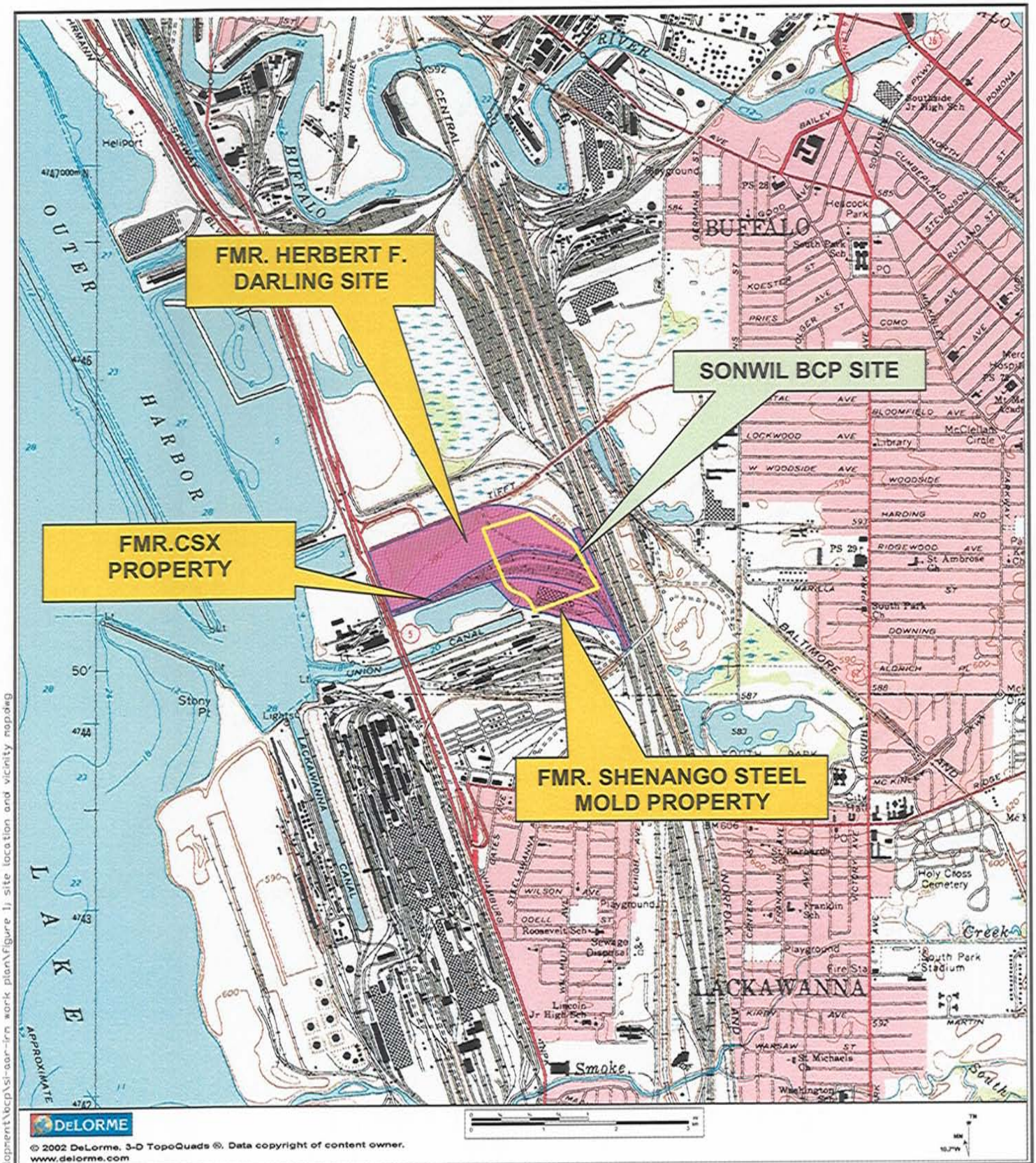
1. All analyses will be performed via SW-846 methodologies with Category B equivalent deliverables package.
2. If necessary based on PID readings, full TCL list VOCs via Method 8260B, plus the STARS List VOCs via Method 8021.
3. Full TCL list of SVOCs via Method 8270C, including base-neutrals and acid extractables.
4. Target Analyte List (TAL) Metals plus cyanide.
5. PCBs include the full TCL list of PCBs via Method 8082.
6. Blind duplicate and MS/MSD samples will be collected at a frequency of 1 per 20 samples collected.
7. Trip blanks will be submitted to the laboratory each day groundwater volatile organic samples are collected.
8. Equipment blanks collected daily if non-dedicated equipment is used; Work Plan calls for dedicated sampling equipment.

Acronyms:

MS = matrix spike
MSD = matrix spike duplicate
NA = Not Applicable
STARS = Spill Technology And Remediation Series; NYSDEC

FIGURES

FIGURE 1



TURNKEY ENVIRONMENTAL RESTORATION, LLC
726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-635

SITE LOCATION AND VICINITY MAP

RI/AAR/IRM WORK PLAN

BUFFALO LAKESIDE COMMERCE PARK
BUFFALO, NEW YORK

PREPARED FOR
SONWIL DISTRIBUTION

PROJECT NO.: 0131-001-100
DATE: AUGUST 2007
DRAFTED BY: BCH

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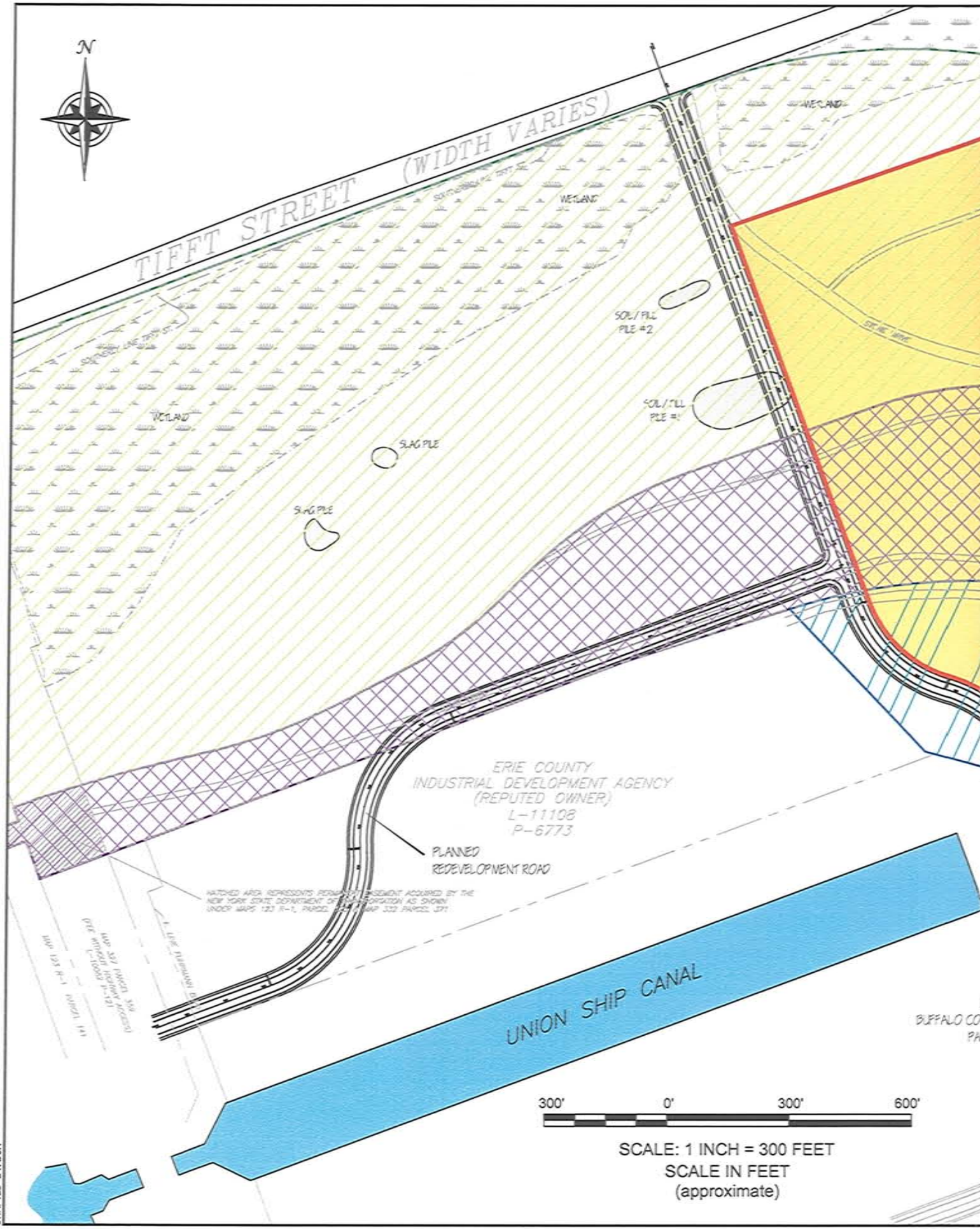

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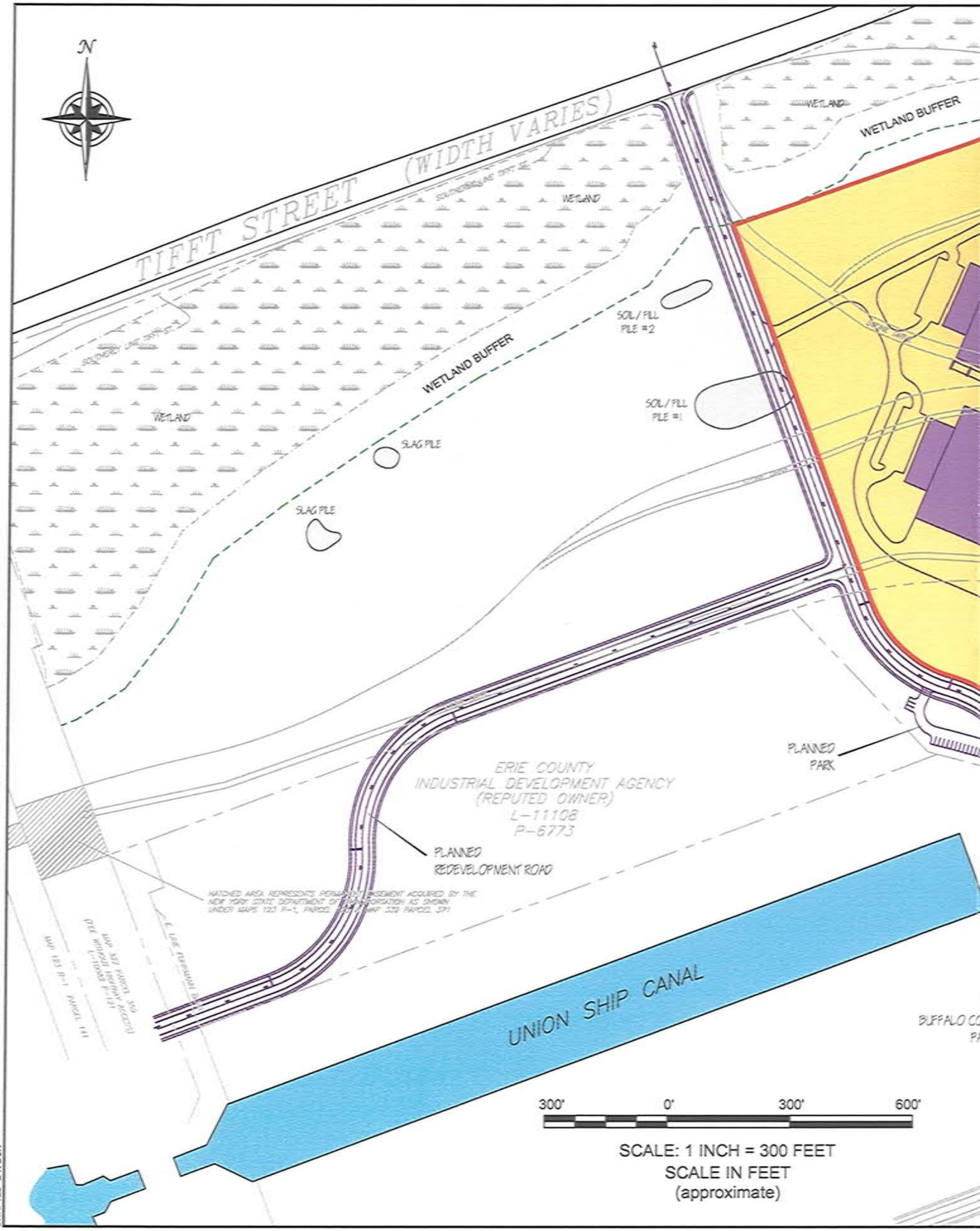

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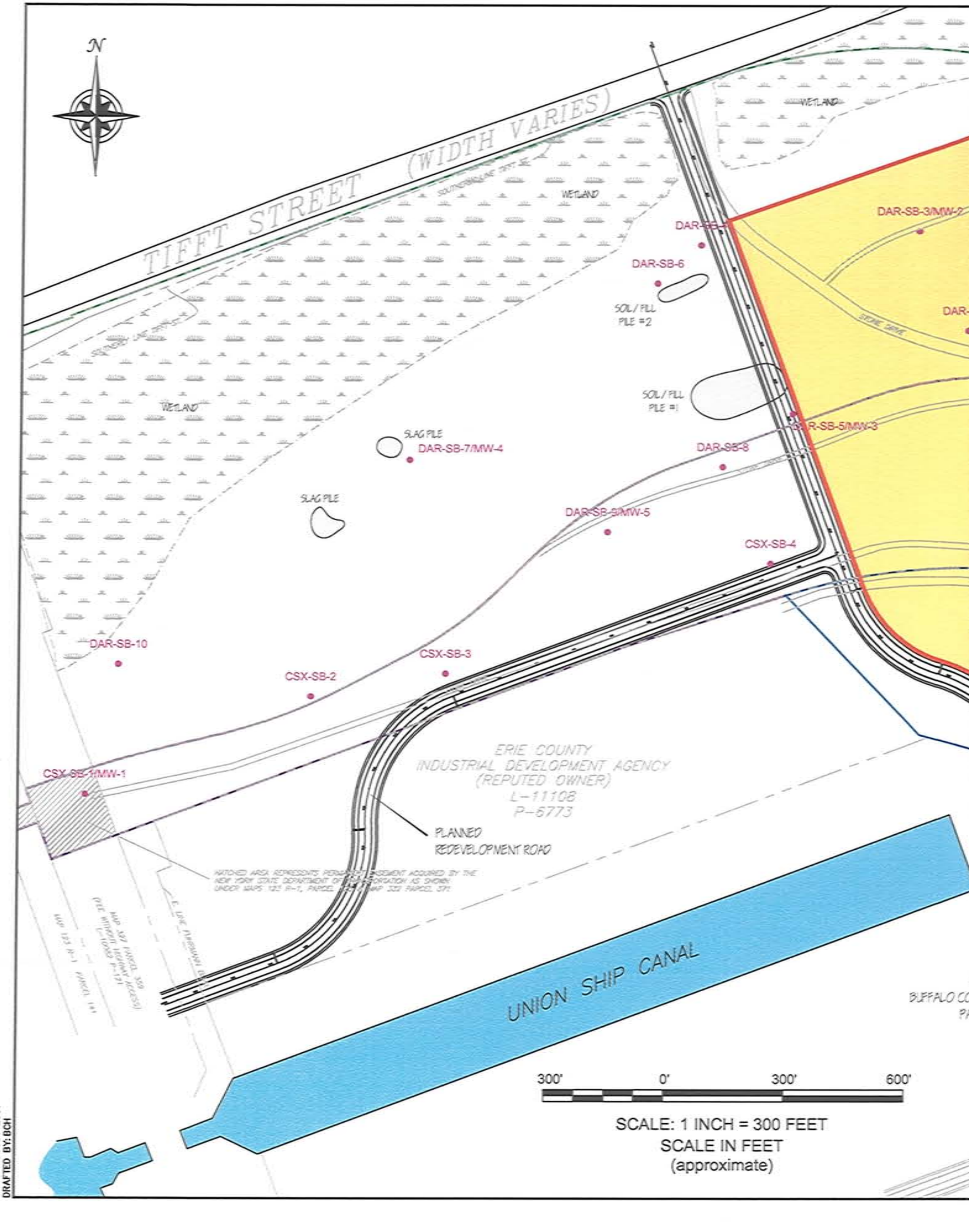

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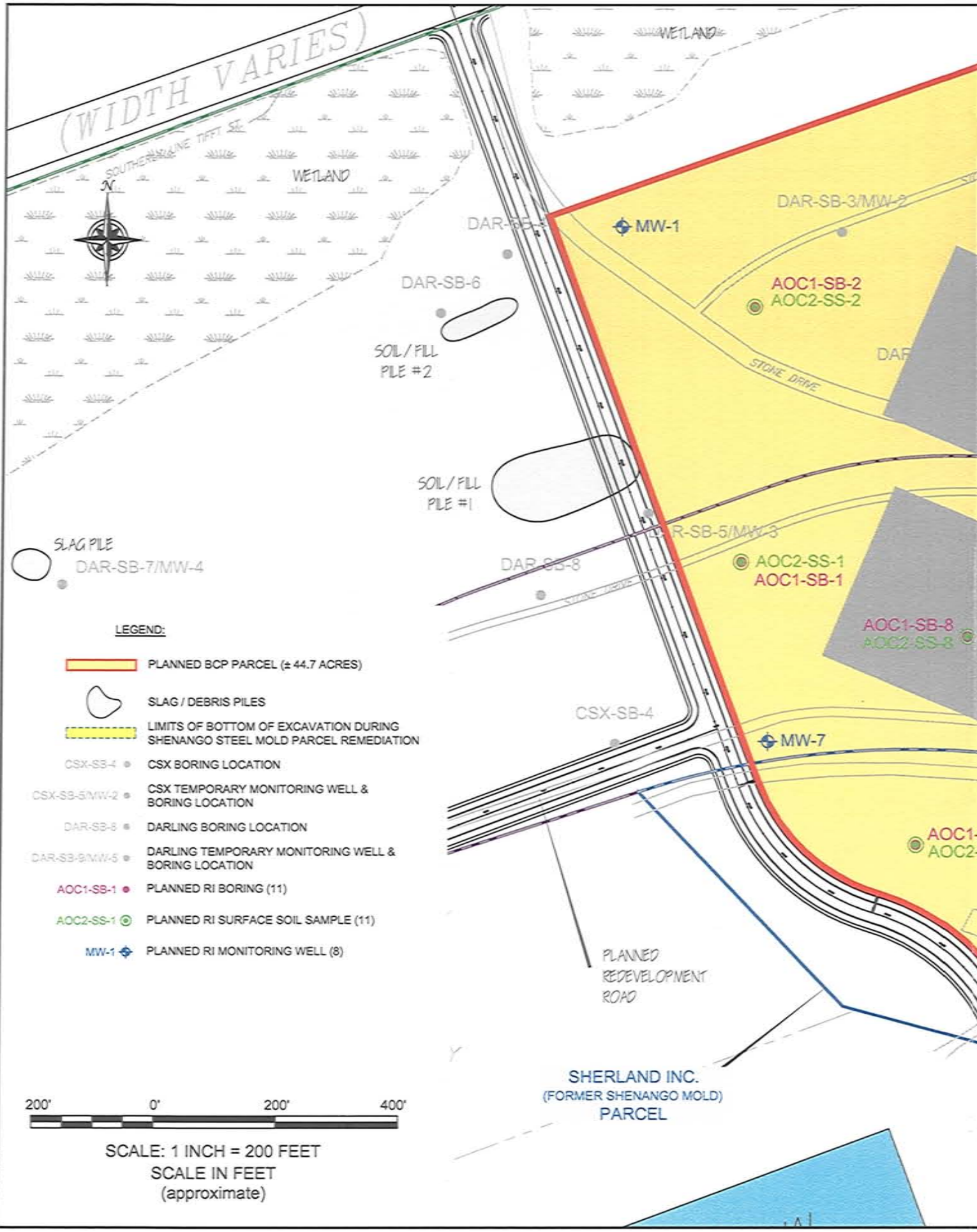

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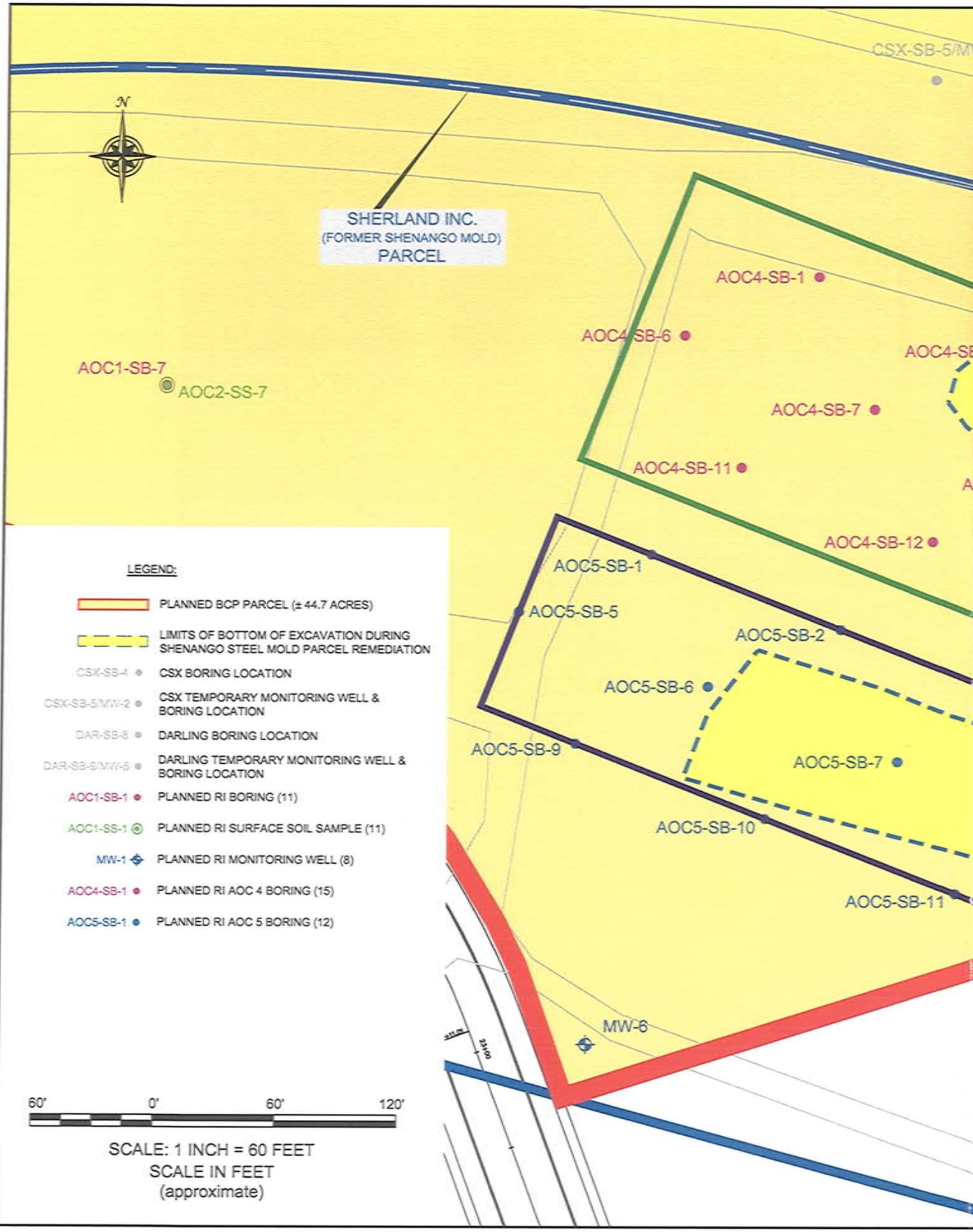


DATE: AUGUST 2007
DRAFTED BY: BGH

APPENDIX A

Site-Wide Health and Safety Plan

Health and Safety Plan for Remedial Investigation Activities and Interim Remedial Measures

Sonwil Distribution Center
Buffalo Lakeside Commerce Center Site

September 2007

0131-001-200

Prepared For:

SONWIL DISTRIBUTION CENTER
Buffalo, New York

Prepared By:

TurnKey Environmental Restoration, LLC

726 Exchange Street, Suite 624, Buffalo, New York | phone: (716) 856-0599 | fax: (716) 856-0583

SONWIL DISTRIBUTION SITE
HEALTH AND SAFETY PLAN FOR RI/IRM ACTIVITIES

ACKNOWLEDGEMENT

Plan Reviewed by (initial):

Corporate Health and Safety Director: Thomas H. Forbes, P.E.

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

SONWIL DISTRIBUTION SITE
HEALTH AND SAFETY PLAN FOR RI/IRM ACTIVITIES

TABLE OF CONTENTS

SONWIL DISTRIBUTION SITE
HEALTH AND SAFETY PLAN FOR RI/IRM ACTIVITIES

TABLE OF CONTENTS

SONWIL DISTRIBUTION SITE
HEALTH AND SAFETY PLAN FOR RI/IRM ACTIVITIES

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

1.0 INTRODUCTION

1.1 General

In accordance with OSHA requirements contained in 29 CFR 1910.120, this Health and Safety Plan (HASP) describes the specific health and safety practices and procedures to be employed by TurnKey Environmental Restoration, LLC and Benchmark Environmental Engineering & Science, PLLC employees (referred to jointly hereafter as "TurnKey-Benchmark") during Remedial Investigation (RI) and Interim Remedial Measures (IRM) activities at the Sonwil Distribution Center, Buffalo Lakeside Commerce Park Site, located in the City of Buffalo, New York.. This HASP presents procedures for TurnKey-Benchmark employees who will be involved with RI/IRM field activities; it does not cover the activities of other contractors, subcontractors or other individuals on the Site. These firms will be required to develop and enforce their own HASPs as discussed in Section 2.0. TurnKey-Benchmark accepts no responsibility for the health and safety of contractor, subcontractor or other personnel.

This HASP presents information on known Site health and safety hazards using available historical information, 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.

1.2 Background

The Sonwil BCP Site encompasses a portion of three sites as shown on Figures 1 and 2. These sites will be re-parceled into one approximate 45-acre parcel and purchased by Sonwil, and are described as follows:

- The former **Herbert F. Darling Site** is an approximate 75-acre site located at 99 Tifft Street, Buffalo, New York. The property, herein referred to as the Darling Site, is vacant undeveloped land and is generally covered with grass and brush vegetation as well as areas of slag and gravel. Several soil/fill piles and slag piles are located in the central portion of the site. The northern portion of the site is covered with wetland type vegetation and ponded water.

- The former **CSX (former Penn 200 Yard) Site** is an approximate 38-acre site located on Fuhrmann Boulevard, Buffalo, New York. The property, herein referred to as the CSX Site, is located in a vacant former railroad corridor and is generally covered with slag and gravel, which was apparently utilized as railroad ballast. The remainder of the Site is generally covered with vegetation.

- The former **Shenango Steel Mold Site** is an approximate 18-acre site located on Fuhrmann Boulevard, Buffalo, New York. The property, herein referred to as the Shenango Site, is listed on the NYSDEC Registry of Inactive Hazardous Waste Sites as a Class 2 site. Class 2 sites are considered to be significant threats to public health or the environment and require action (it should be noted that the NYSDEC has indicated that this site has been petitioned for delisting). The site is currently vacant except for the remains of former manufacturing buildings. The facility manufactured cast iron ingots from approximately 1963 to 1982 by processing pig iron that was produced at the adjacent Hanna Furnace Property.

Although the Sonwil purchase of these properties encompasses a large area, the discussions within this HASP only pertain to the BCP area identified on Figure 2.

1.3 Known and Suspected Environmental Conditions

Based on the Site history and historical environmental investigations, the following environmental concerns have been identified on the Sonwil Site:

<u>Former Darling Site</u>

- There are elevated concentrations of metals in site groundwater. These findings are consistent with analytical data reviewed for the adjacent CSX site and the nearby Buffalo Lakeside Commerce Park Parcel 4 site, which is located south of the subject property.

- Elevated pH values ranging between 10.25 and 11.72 were noted in groundwater samples. These findings are consistent with data reviewed for the Buffalo Lakeside Commerce Park Parcel 4 site and the adjacent CSX site.

- Elevated concentrations of metals were noted in the slag pile sample. Of note, barium was detected above its restricted-commercial SCOs.

Former CSX Site

- There are elevated concentrations of metals in site groundwater. It appears that high turbidity positively biases groundwater concentrations. However, one filtered sample still exhibited metal concentrations for some parameters above applicable GWQS. These findings are consistent with analytical data reviewed for the Buffalo Lakeside Commerce Park Parcel 4 site, which is located adjacent to the subject property, and are attributable to the presence of slag/fill across the site.

- Elevated pH values of 11.02 and 11.47 were noted in site groundwater. These findings are also consistent with data reviewed for the adjacent Buffalo Lakeside Commerce Park Parcel 4 site.

Former Shenango Steel Mold Site

- Residual groundwater contamination may exist at the former Shenango Steel Mold site. Elevated concentrations of VOCs (toluene, ethylbenzene, and total xylenes), SVOCs (4-methylphenol and 2-methylphenol), and metals (antimony, arsenic, iron, magnesium, manganese and sodium) were detected at concentrations above NYS Class GA GWQS at the time of the RI/FS. LNAPL and metals (iron, magnesium, manganese and sodium) were detected at concentrations above Class GA GWQS at the time of the Supplement Site Investigation.

- Residual PCB contamination may exist at the former Shenango Steel Mold site since it was remediated to NYSDEC TAGM Recommended Soil Cleanup Objectives. Several post-excavation samples collected from the excavation walls or bottom during site remediation were reported above current NYSDEC Part 375 Soil Cleanup Objectives (SCOs) for commercial use (1 ppm) or protection of groundwater quality clean-up (3.2 ppm) for PCBs.

A Remedial Investigation will be performed in support of the BCP to determine the nature and extent of impacts from these known and suspect environmental conditions on this parcel. Interim Remedial Measures will be conducted following the RI, concurrent with Site redevelopment.

1.4 Parameters of Interest

Based on the environmental investigation findings, constituents of potential concern (COPCs) at the Site include:

- **Volatile Organic Compounds (VOCs)** – VOCs present in groundwater at elevated concentration may include toluene, ethylbenzene, total xylenes. These VOCs are typically associated with storage and handling of petroleum products such as gasoline.

- **Semi-Volatile Organic Compounds (SVOCs) –** SVOCs present at elevated concentrations may include poly-aromatic hydrocarbons (PAHs), which are byproducts of incomplete combustion and impurities in petroleum products. Although PAHs are commonly found in urban soil environments, they may be present at the Site at concentrations that are elevated compared to typical "background" levels.

- **Inorganic Compounds** – Inorganic COPCs potentially present at elevated concentrations in Site soil/fill and groundwater include arsenic, barium, cadmium, chromium, lead, and mercury. Inorganic compounds potentially present in Site soil/fill include arsenic, barium, and lead. Several of these parameters are components of coke and slag.

- **PCBs (Polychlorinated Biphenyls)** – PCBs (specifically Aroclor 1260) were detected at elevated concentrations within the subsurface soil at the former Shenango Steel Mold site.

- **pH** – Elevated pH values were observed in groundwater at the former Darling and CSX sites.

1.5 Overview of RI/IRM Activities

TurnKey-Benchmark personnel will be on-site to observe and perform RI and IRM activities. The field activities to be completed as part of the RI and IRM are described below. Planned RI activities are more fully described in the RI/AAR/IRM Work Plan for the Site (Ref. 1).

Remedial Investigation Activities

1. **Soil/Fill Sampling:** TurnKey-Benchmark will advance a 46 soil borings, and collect a minimum of 11 surface and 46 subsurface soil/fill samples for the purpose of determining the nature and extent of potential COPC impacts.

2. **Monitoring Well Installation and Sampling:** TurnKey-Benchmark will observe the installation of eight groundwater monitoring wells on-site, develop the wells, and

collect groundwater samples for the purpose of determining the nature and extent of potential COPC impacts.

Potential IRM Activities

1. **Soil Excavation:** The remediation contractor would perform soil excavation activities and coordinate disposal of excavated soil.

2. **Backfilling:** The remediation contractor would coordinate and perform backfilling activities.

3. **Verification Sampling:** The remediation contractor would collect soil samples from the side-walls and bottom of the excavations using a backhoe to verify that cleanup objectives have been met.

4. **Groundwater and Surface Management:** The remediation contractor would direct groundwater/surface water collection during soil excavation activities and coordinate disposal of the collected water.

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 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 communications 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 Turnkey-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 TurnKey-Benchmark Corporate Health and Safety Director is *Mr. Thomas H. Forbes*. The Corporate Health and Safety Director 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 TurnKey-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 TurnKey-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 TurnKey-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 liaison 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 C. 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 Site work if unsafe conditions are detected. The specific responsibilities of the SSHO are:

- Managing the safety and health functions for TurnKey-Benchmark personnel on the Site.
- Serving as the point of contact for safety and health matters.
- Ensuring that TurnKey-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 will include the Drilling and Test Pit Contractors, who will be responsible for developing, implementing and enforcing a Health and Safety Plan equally stringent or more stringent than TurnKey-Benchmark's HASP. TurnKey-Benchmark assumes no responsibility for the health and safety of anyone outside its direct employ. Each Contractor's HASP shall cover all non-TurnKey/Benchmark Site personnel. Each Contractor shall assign a SSHO who will coordinate with TurnKey-Benchmark's SSHO as necessary to ensure effective lines of communication and consistency between contingency plans.

In addition to TurnKey-Benchmark and Contractor personnel, other individuals who may have responsibilities in the work zone include subcontractors and governmental agencies performing Site inspection work (i.e., the New York State Department of Environmental Conservation). The Contractor shall be responsible for ensuring that these individuals have received OSHA-required training (29 CFR 1910.120(e)), including initial, refresher and site-specific training, and shall be responsible for the safety and health of these individuals while they are on-site.

3.0 HAZARD EVALUATION

Due to the presence of certain contaminants at the Site, the possibility exists that workers will be exposed to hazardous substances during field activities. The principal points of exposure would be through direct contact with and incidental ingestion of fill/soils, and through the inhalation of contaminated particles or vapors. Other points of exposure may include direct contact with groundwater. In addition, the use of drilling and/or medium to large sized construction equipment (e.g., excavator) will also present conditions for potential physical injury to workers. Further, since work will be performed outdoors, the potential exists for heat/cold stress to impact workers, especially those wearing protective equipment and clothing. 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

As discussed in Section 1.3, historic activities have resulted in elevated concentrations of VOCs, SVOCs, inorganic compounds, and PCBs in Site soil/fill and groundwater. Table 1 identifies concentration ranges for COPCs detected during previous investigations at the Site. Table 2 lists exposure limits for airborne concentrations of the COPCs identified in Section 1.4 of this HASP. Brief descriptions of the toxicology of the prevalent COPCs and related health and safety guidance and criteria are provided below.

- **Arsenic (CAS # 7440-38-2)** 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.

- **Barium (CAS # 7440-39-3)** irritates the eyes, skin, and respiratory tract, and can be absorbed into the body by ingestion. Finely dispersed particles form explosive mixtures in air.

- **Cadmium (CAS # 7440-43-9)** is a natural element and is usually combined with one or more elements, such as oxygen, chloride or sulfur. Breathing high levels of cadmium severely damages the lungs and can cause death. Ingestion of high levels of cadmium severely irritates the stomach, leading to vomiting and diarrhea. Long term exposure to lower levels of cadmium leads to a buildup of this substance in the kidneys and possible kidney disease. Other potential long term effects are lung damage and fragile bones. Cadmium is suspected to be a human carcinogen.

- **Chromium (CAS # 7440-47-3)** is used in the production of stainless steel, chrome plated metals, and batteries. Two forms of chromium, hexavalent (CR+6) and trivalent (CR+3) are toxic. Hexavalent chromium is an irritant and corrosive to the skin and mucus membranes. Chromium is a potential occupational carcinogen. Acute exposures to dust may cause coughing, wheezing, headaches, pain and fever.

- **Ethylbenzene (CAS # 100-41-4)** is a component of automobile gasoline. Over-exposure may cause kidney, skin liver and/or respiratory disease. Signs of exposure may include dermatitis, irritation of the eyes and mucus membranes, headache. Narcosis and coma may result in more severe cases.

- **Lead (CAS # 7439-92-1)** 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.

- **Mercury (CAS # 7439-97-6)** is used in industrial applications for the production of caustic and chlorine, and in electrical control equipment and apparatus. Over-exposure to mercury may cause coughing, chest pains, bronchitis, pneumonia, indecision, headaches, fatigue and salivation. Mercury is a skin and eye irritant.

- **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.

- **Polycyclic 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. PAH's 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.

- **Toluene (CAS # 108-88-3)** is a common component of paint thinners and automobile fuel. Acute exposure predominantly results in central nervous system depression. Symptoms include headache, dizziness, fatigue, muscular weakness, drowsiness and coordination loss. Repeated exposures may cause removal of lipids from the skin, resulting in dry, fissured dermatitis.

- **Xylenes (o, m, and p) (CAS # 95-47-6, 108-38-3, and 106-42-3)** are colorless, flammable liquids present in paint thinners and fuels. Acute exposure may cause central nervous system depression, resulting in headache, dizziness, fatigue, muscular weakness, drowsiness, and coordination loss. Repeated exposures may also cause removal of lipids from the skin, producing dry, fissured dermatitis. Exposure of high concentrations of vapor may cause eye irritation and damage, as well as irritation of the mucus membranes.

With respect to the anticipated RI/IRM activities discussed in Section 1.5, possible routes of exposure to the above-mentioned contaminants are presented in Table 3. The use of proper respiratory equipment, as outlined in Section 7.0 of this HASP, will minimize the potential for exposure to airborne contamination. 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

RI/IRM field activities at the Sonwil Distribution Site may present the following physical hazards:

- The potential for physical injury during heavy construction equipment use, such

as backhoes, excavators and drilling equipment.

- The potential for heat/cold stress to employees during the summer/winter months (see Section 10.0).

- The potential for slip and fall injuries due to rough, uneven terrain and/or open excavations.

These hazards represent only some of the possible means of injury that may be present during RI/IRM operations 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 RI/IRM activities at the Site (such as, but not limited to, equipment operators, general laborers, and drillers) 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 TurnKey-Benchmark'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 as described in Chapter 5 of this HASP.
- Decontamination procedures as detailed in Chapter 12 of this HASP.
- The emergency response plan as detailed in Chapter 15 of this HASP.
- Confined space entry procedures, if required, as detailed in Chapter 13 of this HASP.
- The spill containment program as detailed in Chapter 9 of this HASP.
- Site control as detailed in Chapter 11 of this HASP.

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 ongoing Site characterization and analysis. Conditions for which the SSHO may schedule additional briefings include, but are not limited to: a change in Site conditions (e.g., 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 Appendix A of this HASP, Emergency Response Plan.

4.4 Site Visitors

Each Contractor's SSHO will provide a site-specific briefing to all Site visitors and other non-TurnKey/Benchmark personnel who enter the Site beyond the Site entry point. The site-specific briefing will provide information about Site hazards, the Site layout 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 TurnKey-Benchmark employees as stipulated under 29 CFR Part 1910.120(f). These exams include initial employment, annual and employment termination physicals for all TurnKey-Benchmark employees involved in hazardous waste site field operations. 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 TurnKey-Benchmark 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 (i.e., 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, TurnKey-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 TurnKey-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.
- Medicine and alcohol can synergize the effects of exposure to toxic chemicals. Due to possible contraindications, use of prescribed drugs should be reviewed with the TurnKey-Benchmark occupational physician. Alcoholic beverage and illegal drug intake are strictly forbidden during the workday.
- 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 TurnKey-Benchmark employees, as requested and required.

The recommended specific safety practices for working around the contractor's equipment (e.g., backhoes, bulldozers, excavators, drill rigs etc.) are as follows:

- Although the Contractor and subcontractors are responsible for their equipment and safe operation of the Site, TurnKey-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.
- Construction 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 construction operation 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 protection is the minimum level recommended on initial Site entries until the hazards have been further defined by on-site studies. 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 upon current information regarding both the contaminants suspected to be present at the Site and the various tasks that are included in the remedial activities, the minimum required Levels of Protection for these tasks shall be as identified in Table 4.

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 organic vapors and/or particulates may be released to the air during intrusive construction activities. Ambient breathing zone concentrations may at times, exceed the permissible exposure limits (PELs) established by OSHA for the individual compounds (see Table 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

TurnKey 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 TurnKey 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 Air Monitoring

In addition to on-site monitoring within the work zone(s), monitoring at the down-wind portion of the Site perimeter will be conducted. This will provide a real-time method for determination of substantial vapor and/or particulate releases to the surrounding community as a result of ground intrusive investigation work.

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 prior to 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 by TurnKey personnel to monitor organic vapor concentrations as specified in this HASP. Combustible gas will be monitored with the "combustible gas" option on the combustible gas meter or other appropriate instrument(s). In addition, fugitive dust/particulate concentrations will be monitored during major soil intrusion (viz., well/boring installation) using a real-time particulate monitor as specified in this plan. In the absence of such monitoring, appropriate respiratory protection for particulates shall be donned. Sustained readings obtained in the breathing zone may be interpreted (with regard to other Site conditions) as follows for TurnKey-Benchmark personnel:

- Total atmospheric concentrations of unidentified vapors or gases ranging from 0 to 1 ppm above background on the PID) - Continue operations under Level D (see Appendix A).
- Total atmospheric concentrations of unidentified vapors or gases yielding sustained readings from >1 ppm to 5 ppm above background on the PID (vapors not suspected of containing high levels of chemicals toxic to the skin) - Continue operations under Level C (see Appendix A).
- Total atmospheric concentrations of unidentified vapors or gases yielding

sustained readings of >5 ppm to 50 ppm above background on the PID - Continue operations under Level B (see Attachment 1), 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 RI/IRM 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 and during handling of Site soil/fill. Action levels based on the instrument readings shall be as follows:

- Less than 50 mg/m^3 - Continue field operations.
- 50-150 mg/m^3 - Don dust/particulate mask or equivalent
- Greater than 150 mg/m^3 - 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 Health and Safety Officer).

Readings with the organic vapor analyzer, combustible gas meter, and particulate monitor will be recorded and documented on the appropriate Project Field Forms. All instruments will be calibrated before use on a daily basis and the procedure will be documented on the appropriate Project Field Forms.

8.2.2 Community Air Monitoring Action Levels

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):

- 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.

- *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.

- *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.

- **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.

- **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/m^3) 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/m^3 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/m^3 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/m^3 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, counter-measures and reporting, consistent with OSHA requirements in 29 CFR 1910.120(b)(4)(ii)(J) 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, Appendix A, 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 that could 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 decommissioning records, a hazardous material spill and/or a petroleum product spill is not likely to occur during RI/IRM efforts.

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 H2 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 and NYSDEC at 1-800-457-7362 within 2 hours of spill discovery. The Project Manager will also determine what additional agencies (e.g., USEPA) 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 Contractor 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 (NYSDEC 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 include:

- The Environmental Service Group of NY, Inc.: (716) 695-6720
- Environmental Products and Services, Inc.: (716) 447-4700
- Op-Tech: (716) 873-7680

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

Since some of the work activities at the Site will be scheduled for both the summer and winter months, measures will be taken to minimize heat/cold stress to TurnKey-Benchmark employees. The Site Safety and Health Officer and/or his or her designee will be responsible for monitoring TurnKey-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 TurnKey-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) **Frost nip** - 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 Frost nip.

    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 Frost nip.

- **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 construction activities will be established on a daily basis and communicated to all employees and other Site users by the SSHO. It shall be each Contractor's 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.

- Contamination Reduction Zone - The zone where decontamination of personnel and equipment takes place. Any potentially contaminated clothing, equipment and samples must remain in the Contamination 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 and construction activities involving disruption or handling of Site soils or groundwater:

- Exclusion Zone: 50 foot radius from the outer limit of the sampling/construction activity.

- Contaminant Reduction Zone: 100 foot radius from the outer limit of the sampling/construction activity.

- Support Zone: Areas outside the Contaminant Reduction Zone.

Access of non-essential personnel to the Exclusion and Contamination Reduction Zones will be strictly controlled by the SSHO. 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 SSHO will maintain a Health and Safety Logbook containing the names of TurnKey-Benchmark 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 TurnKey-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 that may arise at the Site. All TurnKey-Benchmark personnel on-site shall follow the procedure below, or the Contractor's procedure (if applicable), whichever is more stringent.

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 Contractor in accordance with his approved Health and Safety Plan in the Contamination Reduction Zone. As a minimum, this will include manually removing heavy soil contamination, followed by steam cleaning on an impermeable pad.

Decontamination of all tools used for sample collection purposes will be conducted by TurnKey-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.

Decontamination of bailers, split-spoons, spatula knives, and other tools used for environmental sampling and examination shall be as follows:

- Disassemble the equipment
- Water wash to remove all visible foreign matter.
- Wash with detergent.
- Rinse all parts with distilled-deionized water.
- Allow to air dry.
- Wrap all parts in aluminum foil or polyethylene.

13.0 CONFINED SPACE ENTRY

OSHA 29 CFR 1910.146 identifies a confined space as a space that 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 TurnKey-Benchmark employees is not anticipated to be necessary to complete the RI/IRM activities identified in Section 2.0. 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 TurnKey-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 TurnKey-Benchmark's corporate Health and Safety Director. TurnKey-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 each Contractor and are required on all heavy equipment and in each field trailer. 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, 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 blowtorch operation, the hot work permit presented in Appendix B 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 Appendix A. The hospital route map is presented as Figure 3.

16.0 REFERENCES

1. Benchmark Environmental Engineering and Science, PLLC. 2007. *Remedial Investigation/ Alternatives Analysis Report/Interim Remedial Measures (RI/AAR/IRM) Work Plan, Sonwil Distribution Site, Buffalo, New York*, prepared for Sonwil Distribution. August.

2. New York State Department of Health. 2002. *Generic Community Air Monitoring Plan, Appendix 1A, Draft DER-10 Technical Guidance for Site Investigation and Remediation.* December.

TABLES

TABLE 1

CONSTITUENTS OF POTENTIAL CONCERN

Sonwil Distribution Center
Buffalo Lakeside Commerce Park Site
Buffalo, New York

Parameter	CAS No.	Maximum Detected Concentration[1]	
		Groundwater (ug/L)	Soil/Fill (mg/kg)
Volatile Organic Compounds (VOCs):			
Ethylbenzene	100-41-4	26	--
Toluene	108-88-3	15	--
Xylene, Total	1330-20-7	120	--
Semi-Volatile Organic Compounds (SVOCs):			
Benzo(a)anthracene	56-55-3	--	9.5
Benzo(a)pyrene	50-32-8	--	9.0
Dibenzo(a,h)anthracene	53-70-3	--	1.5 J
4-Methylphenol[2]	106-44-5	2 J	--
Inorganic Compounds:			
Arsenic	7440-38-2	220	53.9
Barium	7440-39-3	3200	657
Cadmium	7440-43-9	10	--
Chromium	7440-47-3	390	--
Lead	7439-92-1	9100	1150
Mercury	7439-97-6	12	--
Polychlorinated Byphenls (PCBs):			
Aroclor 1260	11096-82-5	--	6.1

Notes:
1. Above Part 375 restricted-commercial SCOs or NYSDEC GWQS/GV.
2. No SCO for this parameter.

TABLE 2

TOXICITY DATA FOR CONSTITUENTS OF POTENTIAL CONCERN

Sonwil Distribution Center
Buffalo Lakeside Commerce Park Site
Buffalo, New York

Parameter	Synonyms	CAS No.	Code	Concentration Limits [1]		
				PEL	TLV	IDLH
Volatile Organic Compounds (VOCs): ppm						
Ethylbenzene	Ethylbenzol, Phenylethane	100-41-4	*none*	100	100	800
Toluene	Methyl benzene, Methyl benzol	108-88-3	C-300	200	50	500
Xylene, Total	o-, m-, p-isomers	1330-20-7	*none*	100	100	900
Semi-volatile Organic Compounds (SVOCs)[2]: ppm						
Benzo(a)anthracene	*none*	56-55-3	*none*	--	--	--
Benzo(a)pyrene	*none*	50-32-8	*none*	--	--	--
Dibenzo(a,h)anthracene	*none*	53-70-3	*none*	--	--	--
4-Methylphenol	p-Cresol	106-44-5	*none*	5	5	250
Polychorinated Biphenyls (PCBs): ppm						
Aroclor 1260	Chlorodiphenyl, 60% chlorine	11096-82-5	*none*	--	--	--
Inorganic Compounds: mg/m³						
Arsenic	*none*	7440-38-2	Ca	0.01	0.01	5
Barium	*none*	7440-39-3	*none*	--	0.5	--
Cadmium	*none*	7440-43-9	Ca	0.005	0.01	9
Chromium	*none*	7440-47-3	*none*	1	0.5	250
Lead	*none*	7439-92-1	*none*	0.05	0.15	100
Mercury	*none*	7439-97-6	C-0.1	0.1	0.05	10

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, established by American Conference of Industrial Hygienists (ACGIH), equals the maximum exposure concentration allowable for 8 hours/day @ 40 h

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.

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 maximium exposure conconcentration allowable for 8 hours per day @ 40 hours per week

TABLE 3

POTENTIAL ROUTES OF EXPOSURE TO THE
CONSTITUENTS OF POTENTIAL CONCERN

Sonwil Distribution Center
Buffalo Lakeside Commerce Park Site
Buffalo, New York

Activity [1]	Direct Contact with Soil/Fill	Inhalation of Vapors or Dust	Direct Contact with Groundwater
Remedial Investigation Tasks			
1. Soil/Fill Sampling	x	x	
2. Monitoring Well Installation and Groundwater Sampling	x	x	x
Interim Remedial Measures Tasks			
1. Soil Excavation	x	x	
2. Backfilling	x	x	
3. Verification Sampling	x	x	
4. Groundwater and Surface Water Management	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

Sonwil Distribution Center
Buffalo Lakeside Commerce Park Site
Buffalo, New York

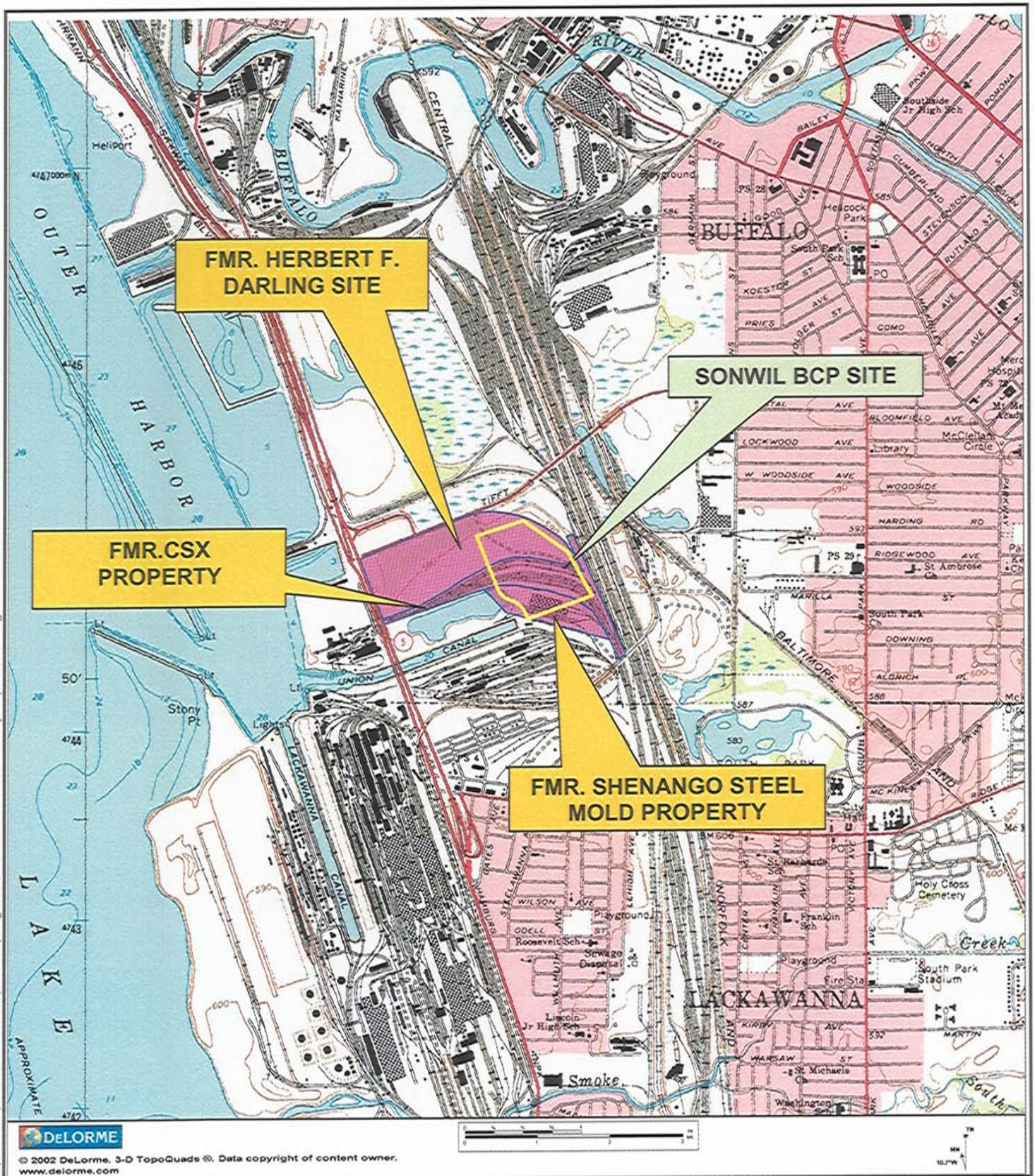
Activity	Respiratory Protection [1]	Clothing	Gloves [2]	Boots [2,3]	Other Required PPE/Modifications [2,4]
Remedial Investigation Tasks					
1. Soil/Fill Sampling	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L	outer: L inner: STSS	HH SGSS
2. Monitoring Well Installation/Groundwater Sampling	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L	outer: L inner: STSS	SGSS
Interim Remedial Measures Tasks					
1. Soil Excavation	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	HH SGSS
2. Backfilling	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	HH SGSS
3. Verification Sampling	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	HH SGSS
4. Groundwater and Surface Water Management	Level D (upgrade to Level C if necessary)	Poly-coated Tyvek or S	L/N	outer: L inner: STSS	HH SGSS

Notes:

1. Respiratory equipment shall conform to guidelines presented in Section 7.0 of this HASP. The Level C requirement is an air-purifying respirator equiped with organic compound/acid gas/dust cartridge.
2. 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.
3. 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.
4. 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



TURNKEY ENVIRONMENTAL RESTORATION, LLC
726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-635

SITE LOCATION AND VICINITY MAP

HASP

BUFFALO LAKESIDE COMMERCE PARK
BUFFALO, NEW YORK

PREPARED FOR
SONWIL DISTRIBUTION

PROJECT NO.: 0131-001-100
DATE: AUGUST 2007
DRAFTED BY: BCH

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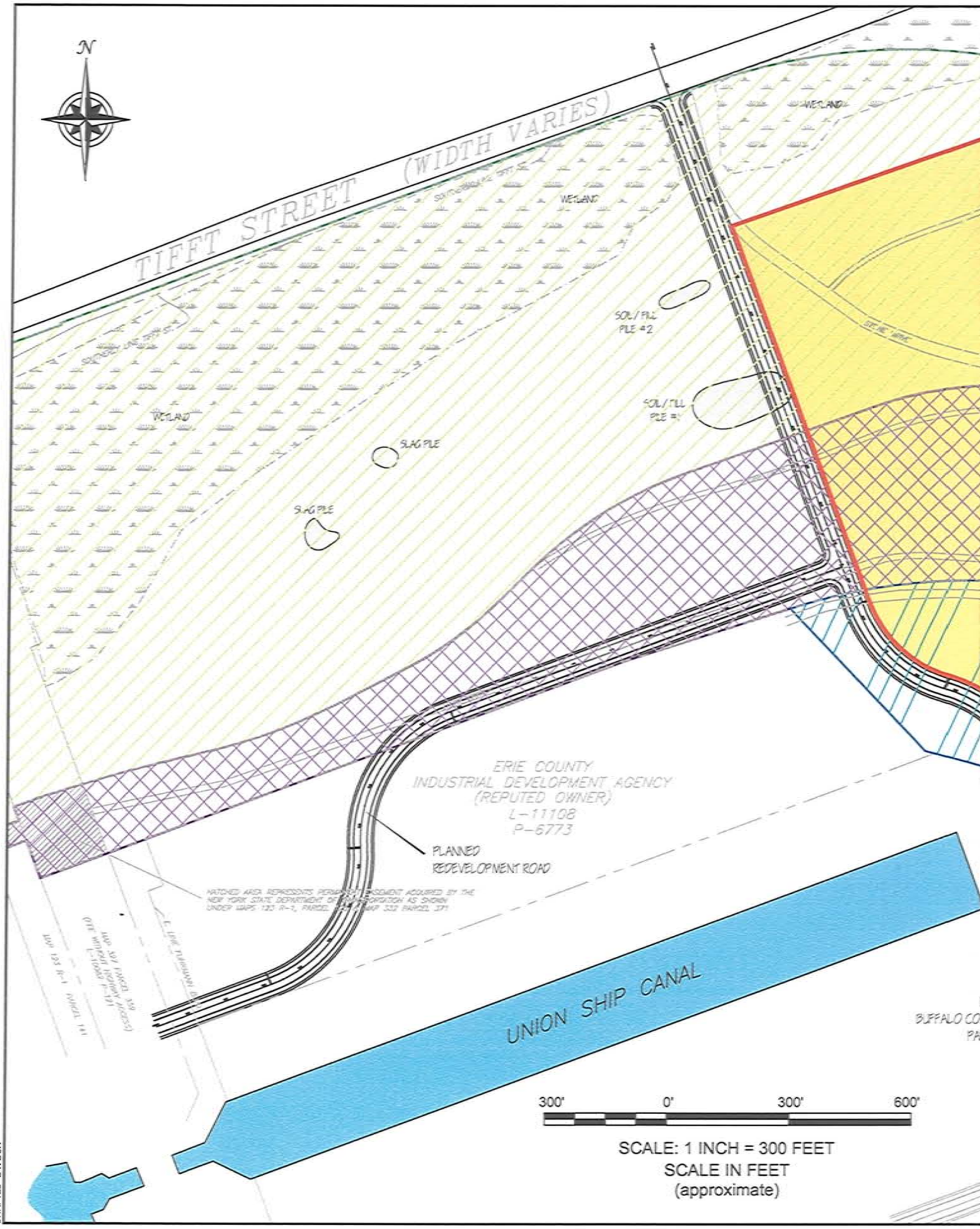

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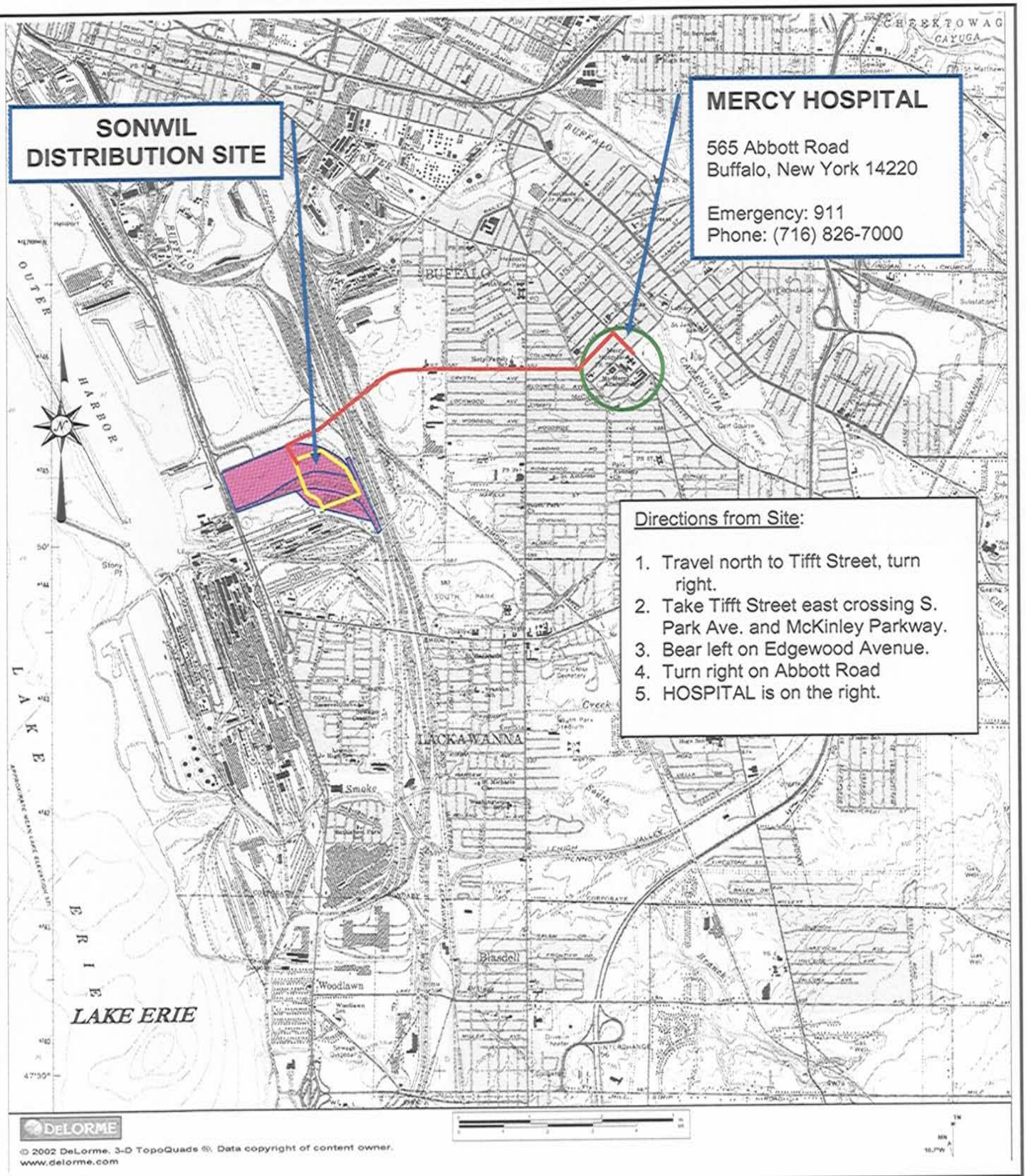
DATE: AUGUST 2007
DRAFTED BY: BCH

FIGURE 3



TurnKey Environmental Restoration, LLC
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(716) 856-0635

PROJECT NO.: 0131-001-200

DATE: AUGUST 2007

DRAFTED BY: BCH

HOSPITAL ROUTE MAP

HASP

BUFFALO LAKESIDE COMMERCE PARK
BUFFALO, NEW YORK

PREPARED FOR
SONWIL DISTRIBUTION

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APPENDIX A

EMERGENCY RESPONSE PLAN

EMERGENCY RESPONSE PLAN
for
BROWNFIELD CLEANUP PROGRAM
RI/IRM ACTIVITIES

at the
SONWIL DISTRIBUTION CENTER
BUFFALO LAKESIDE COMMERCE PARK SITE

BUFFALO, NEW YORK

August 2007

0131-001-200

Prepared for:

SONWIL DISTRIBUTION SITE
HEALTH AND SAFETY PLAN FOR RI ACTIVITIES
APPENDIX A: EMERGENCY RESPONSE PLAN

TABLE OF CONTENTS

LIST OF FIGURES

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 Sonwil Distribution Site – Buffalo Lakeside Commerce Park Site in Buffalo, 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. Hann*
Work: (716) 856-0635
Mobile: (716) 870-1165

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

MERCY HOSPITAL (ER):	(716) 826-7000
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:
Sonwil Distribution Center
Buffalo Lakeside Commerce Park Site
99 Tifft Street
Buffalo, New York 14203
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 Mercy Hospital 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 Mercy Hospital (see Figure A-1):

The following directions describe the best route to Mercy Hospital:

- Travel north to Tifft Street and turn right.
- Proceed east on Tifft Street crossing South Park Avenue and McKinley Parkway. Bear left on Edgewood Avenue.
- Turn right on Abbott Road and Mercy Hospital will be on right hand side. Follow signs to emergency room (ER).

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:

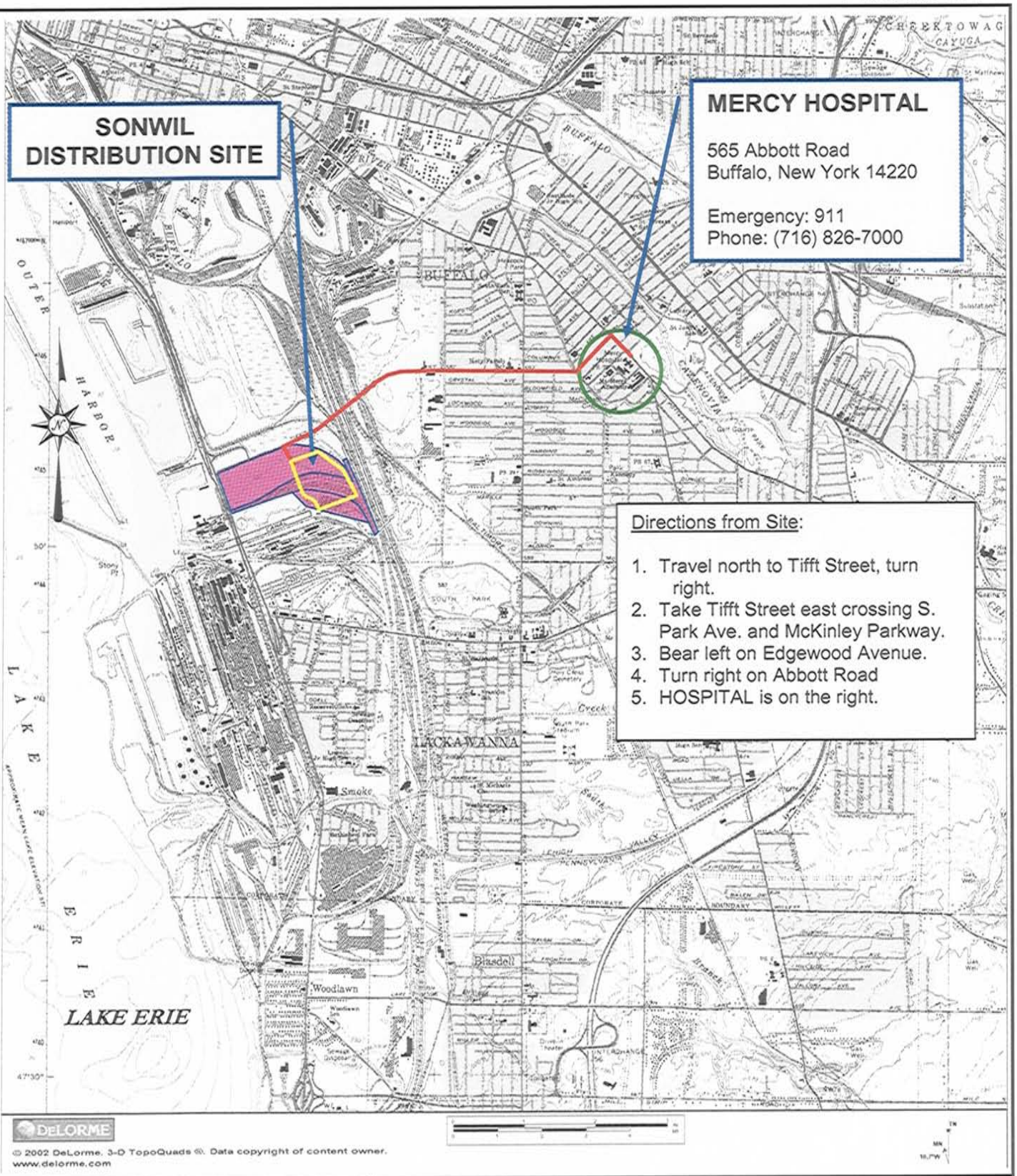
- Occupational injuries and illnesses.
- Accident investigations.
- Reports to insurance carrier or State compensation agencies.
- Reports required by the client.
- Records and reports required by local, state, federal and/or international agencies.
- Property or equipment damage.
- Third party injury 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

FIGURE A-1



TurnKey Environmental Restoration, LLC
726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0635

PROJECT NO.: 0131-001-200

DATE: AUGUST 2007

DRAFTED BY: BCH

HOSPITAL ROUTE MAP

EMERGENCY RESPONSE PLAN

BUFFALO LAKESIDE COMMERCE PARK
BUFFALO, NEW YORK

PREPARED FOR
SONWIL DISTRIBUTION

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APPENDIX B

HOT WORK PERMIT FORM

HOT WORK PERMIT

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

Other precautions:

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

SIGNATURES

Orginating Employee: Date:

Project Manager: Date:

Part 2 Approval: Date:

APPENDIX C

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 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

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

APPENDIX B

CITIZEN PARTICIPATION PLAN

New York State Department of Environmental Conservation

Brownfield Cleanup Program

Citizen Participation Plan
for
Sonwil Distribution Center
Buffalo Lakeside Commerce Park Site

Site # (TBD)
99 Tifft Street
Buffalo
Erie County, New York

September 2007

Contents

* * * * *

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: **Sonwil Distribution Center ("Applicant")**
Site Name: **Sonwil Buffalo Lakeside Commerce Park ("Site")**
Site Number: **TBD**
Site Address: **99 Tifft Street, Buffalo, NY 14203**
Site County: **Erie**

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 Sonwil Buffalo Lakeside Commerce Park Site is an approximate 45-acre parcel located at 99 Tifft Street in the City of Buffalo (the City), Erie County, New York. The Sonwil BCP Site is located in an underused and former heavy industrial area near the southern boundary of the City

of Buffalo. The Site is surrounded by current and former heavy industrial sites, NYSDEC Inactive Hazardous Waste Sites, NYSDEC Petroleum Spill Sites, and other Brownfield Cleanup Program Sites. A site location map is included as Appendix A.

The Sonwil BCP Site is comprised of a portion of the following three properties:

- Approximately 19.8 acres of the former Herbert F. Darling (Darling) site, which is vacant undeveloped land generally covered with grass and brush vegetation as well as areas of slag and gravel. Several soil/fill piles and slag piles are located in the central portion of the site.

- Approximately 17.2 acres of the former CSX site, which is located in a vacant former railroad corridor and is generally covered with slag and gravel (apparently used as railroad ballast). The remainder of the Site is generally covered with vegetation.

- Approximately 7.7 acres of the Shenango Steel Mold (Shenango) site, which is part of the former Hanna Furnace property located at 1750 Fuhrmann Boulevard (near Route 5) at the southern limit of the City of Buffalo. The property is currently unoccupied.

The Site is currently owned by the Buffalo Urban Development Corporation. Sonwil Distribution intends to purchase the property and redevelop the Site as a commercial office and warehouse facility. The project will include construction of two 300,000 square foot buildings. The Site will be serviced by a railroad siding that will be constructed and connected to the existing railroad corridor located to the east of the Site. The project will create over 100 new jobs in the City of Buffalo.

Site History

From approximately 1926 to 1986, the Darling site was used as a slag dumping area and apparent railroad corridor; the property has been vacant since 1995. Slag and other industrial fill materials used as rail ballasts contained highly variable and sometimes elevated concentrations of metals and semi-volatile organic compounds (SVOCs). Miscellaneous dumping was noted in various areas on-site. Materials observed included scrap automobile parts, household items, apparent asbestos house siding, and tires. Historic slag sampling conducted by the NYSDEC indicated that elevated arsenic, barium and PCBs were noted within at least one slag sample on-site. Possible dumping or landfill activities were noted on the north and south adjacent parcels.

From approximately 1926 to 1986, the CSX site was operated as a rail yard; the property has been vacant since 1995. The CSX property is located in a vacant former railroad corridor and is generally covered with slag and gravel, which was apparently used as railroad ballast. The

generally covered with slag and gravel, which was apparently used as railroad ballast. The remainder of the Site is generally covered with vegetation.

From 1962 to 1982, the Shenango Steel Mold facility produced ingot molds for the steel industry. In October 1993, the NYSDEC investigated an anonymous report of trespassers scrapping electrical transformers and disposing of the transformer oil at the abandoned Shenango Steel Mold site. Sampling and analysis of oil-soaked soils detected polychlorinated biphenyl (PCB) contamination at hazardous levels greater than 50 parts per million (>50ppm).

Environmental History

In April 1994, NYSDEC initiated a removal action at the Shenango site that consisted of excavating and disposing visually contaminated concrete debris, a small amount of soil, and waste drums and pails from the area. In 2001, a remedial investigation was conducted to determine the nature and extent of any remaining site contamination and the potential impact these contaminants posed to human health and the environment. The findings of the RI were that PCBs, hydraulic oil, and semi-volatile compounds (SVOCs) were present in the soils and demolition debris at the site. A state Superfund supplemental investigation was completed in 2004, which better defined the nature and extent of PCB and hydraulic oil contamination on-site. This investigation revealed significant soil and groundwater contamination. The PCB contamination was highest in the north-central section of the site, with concentrations up to 138 parts per million (ppm). Other contaminants found on-site include metals such as lead, iron, mercury, and zinc; polycyclic aromatic hydrocarbons (PAHs); and volatile organic compounds (VOCs), including toluene, ethyl benzene, and xylenes. Design drawings and specifications for the remedial cleanup were completed by NYSDEC in June 2005.

The following is an overall summary of current environmental conditions at the Sonwil BCP Site:

- Elevated concentrations of heavy metals in groundwater, including arsenic (220 ug/L), barium (3,200 ug/L), chromium (390 ug/L), mercury (12 ug/L) and lead (9,100 ug/L).

- Elevated pH of groundwater (up to 11.6) (depth to groundwater between 1 and 4 feet below ground surface).

- Residual PCB contamination related to former Shenango Steel Mold Site. The NYSDEC cleaned soil to TAGM # 4046 guidelines (10 ppm subsurface); however, residual PCB concentration exist above Part 375 unrestricted (0.1 ppm), and commercial and industrial SCOs (1 ppm).

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

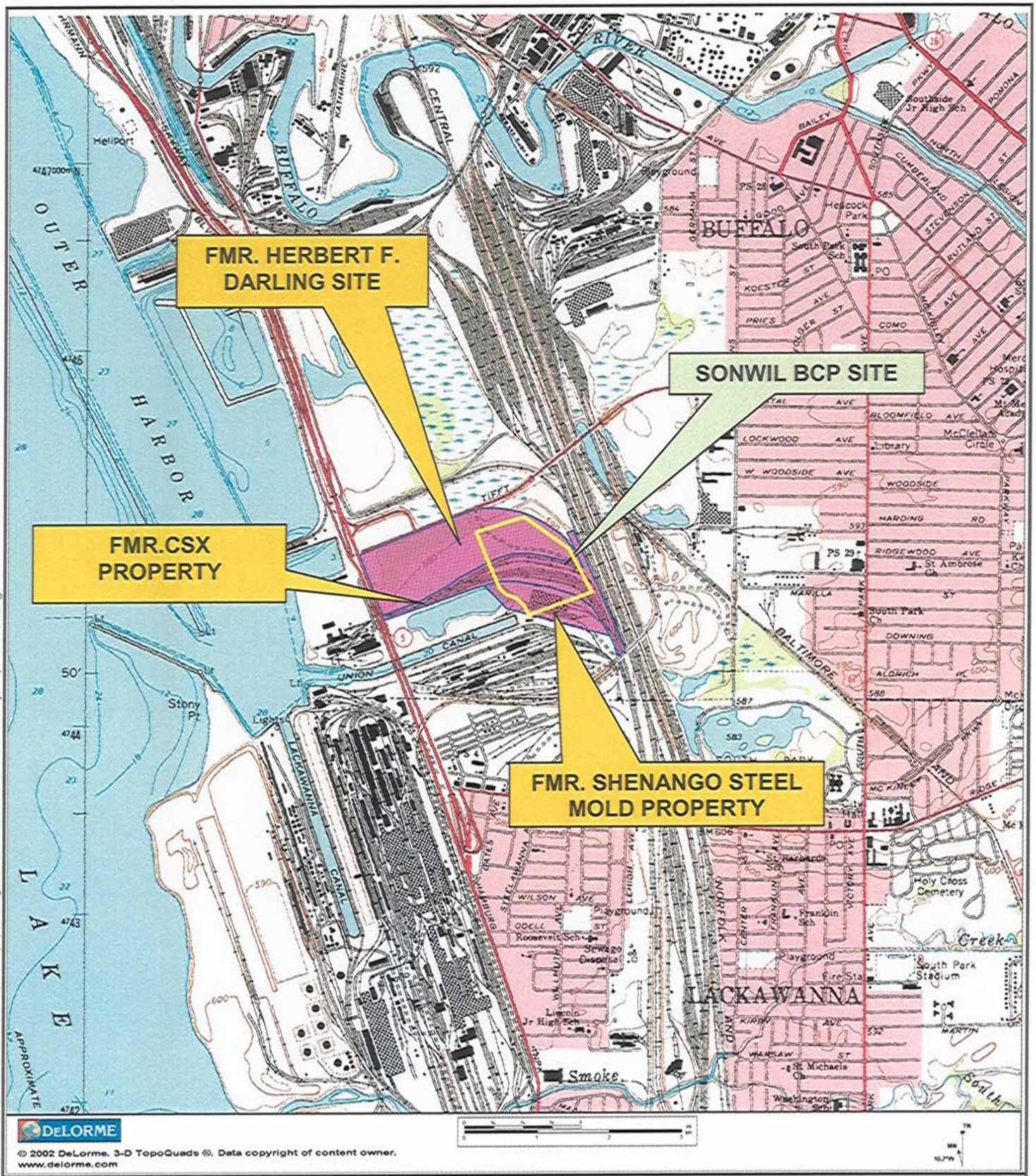
The Site Remediation will be carried out by professionals experienced in performing cleanup activities in densely populated areas. All work will be conducted under a Site-Wide Health and Safety Plan and Community Air Monitoring Program approved by the NYSDEC and NYSDOH. The Site Remediation will be conducted 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 Interim Remedial Measures will be completed concurrent with Site development such that the Sonwil Distribution Center is operational by May 1, 2008.

Appendix A – Site Location Map

FIGURE 1



TURNKEY ENVIRONMENTAL RESTORATION, LLC

726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-635

PROJECT NO.: 0131-001-100

DATE: AUGUST 2007

DRAFTED BY: BCH

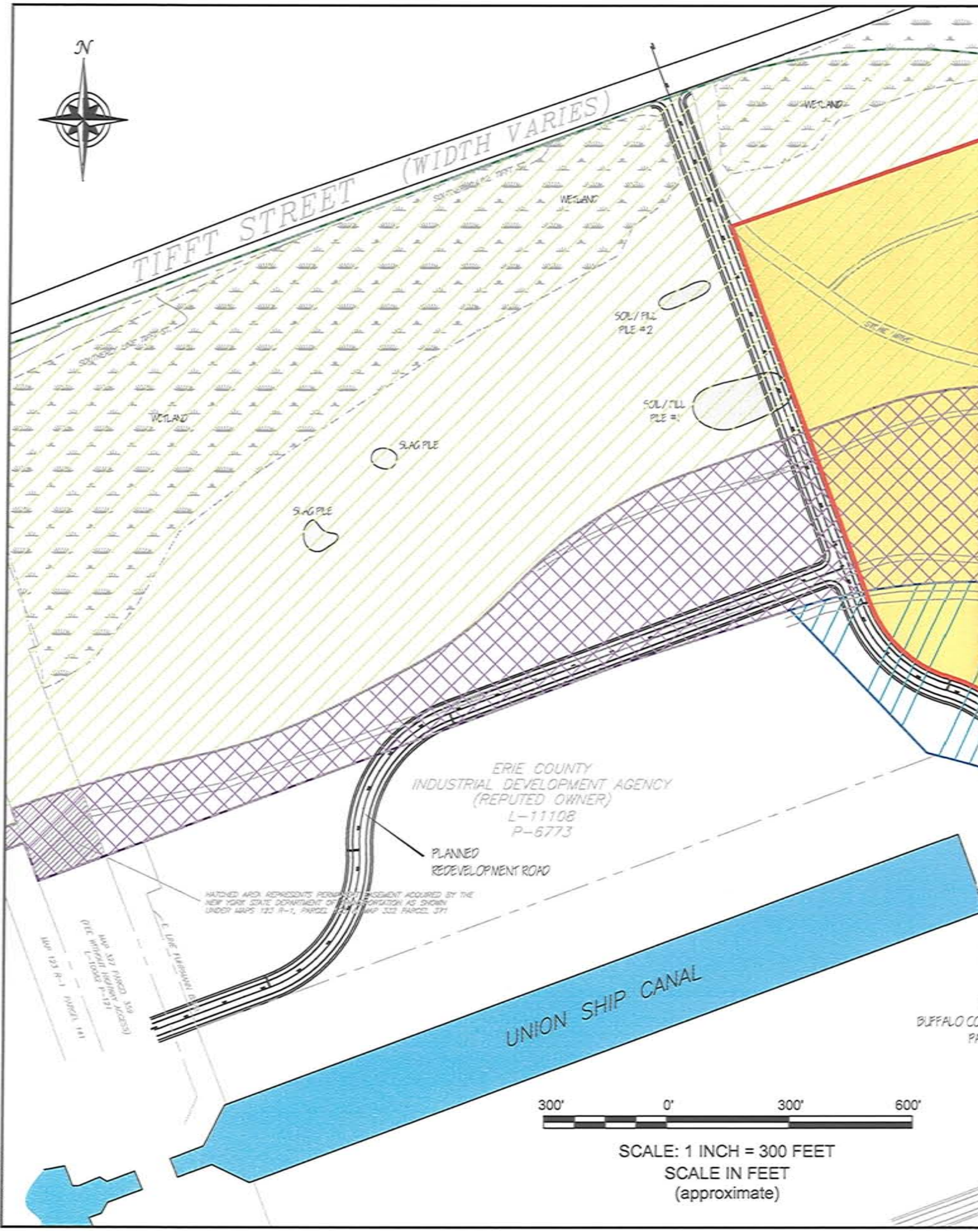
SITE LOCATION AND VICINITY MAP

CP PLAN

BUFFALO LAKESIDE COMMERCE PARK
BUFFALO, NEW YORK

PREPARED FOR
SONWIL DISTRIBUTION

FILEPATH=\\cad\turnkey\sonwil development\bcp\si-gar-irm work plan\cp plan\figure 1, site location and vicinity map (sonwil).dwg



DATE: AUGUST 2007
DRAFTED BY: BCH

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

Ms. Megan Gollwitzer
Citizen Participation Specialist
NYSDEC Region 9
270 Michigan Avenue
Buffalo, NY 14203
(716) 851-7220

New York State Department of Health (NYSDOH):

Mr. Cameron O'Conner
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:

Buffalo & Erie County Public Library
Dudley Branch
2010 South Park Ave
Buffalo, NY 14220
Attn: Claudia Yates, Branch Manager
Phone: (716) 823-1854
Hours: M, F, Sat. 10-6
T, Th 12-8
W, 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

Director Abby Snyder
NYSDEC, Region 9
270 Michigan Avenue
Buffalo, NY 14203

Mr. Martin Doster
NYSDEC, Region 9
270 Michigan Avenue
Buffalo, NY 14203

Mr. Stan Radon
NYSDEC, Region 9
270 Michigan Avenue
Buffalo, NY 14203

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

Mr. Cameron O'Connor
NYSDOH
584 Delaware Avenue
Buffalo, NY 14202

Senator Charles Schumer
U.S. Senate, Suite 660
130 South Elmwood Avenue
Buffalo, NY 14202

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

Appendix C – Brownfield Site Contact List

Senator William Stachowski
58th District, N.Y.S. Senate
2030 Clinton Street
Buffalo, NY 14206

Congressman Brian Higgins
Larkin Building, Suite 601
726 Exchange Street
Buffalo, NY 14210

Assemblyman Jack Quinn Jr
146th Assembly District
3812 South Park Avenue
Blasdell, NY 14219

Assemblyman Mark J.F. Schroeder
145th Assembly District
2019 Seneca Street
Buffalo, NY 14210

<u>Erie County Contacts</u>

Commissioner Anthony Billittier
Erie Co. Health Dept., Rm 931
95 Franklin Street
Buffalo, NY 14202

Mr. Peter Camaratta
Erie County Industrial Development Agency
275 Oak Street
Buffalo, NY 14203

Honorable Joel Giambra
Erie County Executive
95 Franklin Street
Buffalo, NY 14202

Appendix C – Brownfield Site Contact List

Commissioner Andrew Eszak
Erie Co. Environment & Plan.
95 Franklin Street
Buffalo, NY 14202

Mr. Paul Kranz
Erie Co. Environment & Plan.
95 Franklin Street
Buffalo, NY 14202

Mr. Christopher S. Pawenski
Erie County Department of Environment and Planning
Rath County Office Building
95 Franklin Street, Room 1056
Buffalo, NY 14202

Daniel Kozub
Erie County Legislator – District 1
609 Ridge Road
Lackawanna, New York 14218

City of Buffalo

Mayor Byron W. Brown
City Hall
Buffalo, NY 14202

Supplier of Potable Water

Erie County Water Authority
350 Ellicott Square Building
295 Main Street
Buffalo, NY 14203

Appendix C – Brownfield Site Contact List

Local News Media

The Buffalo News
1 News Plaza
Buffalo, NY 14240

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

WKBW-TV
7 Broadcast Plaza
Buffalo, NY 14202

News Director
WGRZ TV Channel 2
259 Delaware Avenue
Buffalo, NY 14202

News Director
WIVB TV Channel 4
2077 Elmwood Avenue
Buffalo, NY 14207

News Director
Time Warner
795 Indian Church Road
West Seneca, NY 14224

News Director
WB 49
699 Hertel Avenue, Suite 100
Buffalo, NY 14207

Appendix C – Brownfield Site Contact List

Mark Scott, News Director
WBFO 88.7/WOLN 91.3
3435 Main Street
Buffalo, NY 14214-3001

News Director
Infinity Radio
14 Lafayette Square # 1300
Buffalo, NY 14203-1913

News Director
Citadel Communications
50 James E Casey Dr
Buffalo, NY 14206-2367

Jim Ranney, News Director
WNED 94.5/970 AM
PO Box 1263
Buffalo, NY 14240-1263

Annemarie Franczyk
Business First of Buffalo, Inc.
465 Main Street
Buffalo, NY 14203-1793

Editor
Challenger
1303 Fillmore Avenue
Buffalo, NY 14211-1205

Editor
Pennysavers
49 E Main Street
Springville, NY 14141-1245

Appendix C – Brownfield Site Contact List

Editor
South Buffalo News
2703 S Park Avenue
Buffalo, NY 14218-1511

Editor
ARTVOICE
810 Main Street
Buffalo, NY 14202

Nearby School

South Park High School
155 Southside Pkwy
Buffalo, NY 14304
Attn: Ms. Patricia Thomas
Phone: (716) 828-4828

St Hyacinth Head Start
257 Ridge Rd
Lackawanna, NY 14218
Attn: Sue Fumanti, Director
Phone: (716) 822-2402

RESIDENTS ON AND/OR ADJACENT TO THE SITE

See attached tables.

Adjacent and Nearby Property Owners

Property Address		Owner 1	Mailing Address				
No.	Street	Name	No.	Street	City	State	Zip
5	City Line	ECIDA	714	Ridge Rd	Lackawanna	NY	14218
7	City Line	NYSDOT			Albany	NY	14220
9	City Line	Tomasello Contracting	2	North Steelawanna	Lackawanna	NY	14218
4	Buffalo RR South	City of Buffalo	2501	City Hall	Buffalo	NY	14202
2441	South Park	City of Buffalo	511	City Hall	Buffalo	NY	14202
91	Tifft St	Niagara Mohawk Power Corp	300	Erie Blvd West - Bldg	Syracuse	NY	13202
94	Tifft St	Niagara Mohawk Power Corp	300	Erie Blvd West - Bldg	Syracuse	NY	13202
199	Tifft St	Niagara Mohawk Power Corp	300	Erie Blvd West - Bldg	Syracuse	NY	13202
400	Tifft St	Niagara Frontier	181	Ellicott St	Buffalo	NY	14203
401	Tifft St	Niagara Frontier	181	Ellicott St	Buffalo	NY	14203
410	Tifft St	City of Buffalo	2501	City Hall	Buffalo	NY	14202
420	Tifft St	City of Buffalo	2501	City Hall	Buffalo	NY	14202
558	Tifft St	Republic Steel Corp		P.O. Box 6778	Cleveland	OH	44101
627	Tifft St	Fox, LLC		P.O. Box 209	Model City	NY	14107
637	Tifft St	Skyway Auto Parts, Inc.	637	Tifft St	Buffalo	NY	14220
665	Tifft St	Fox, LLC		P.O. Box 209	Model City	NY	14107
667	Tifft St	Process Welding	667	Tifft St	Buffalo	NY	14220
106	Abby	Adrian Realty Co	500	Water St	Jacksonville	FL	32202
193	Abby	Hopkins Tifft Realty Corp	110	Hopkins	Buffalo	NY	14220
302	Abby	City Buffalo Perfecting	2501	City Hall	Buffalo	NY	14202
38	Hopkins	Republic Steel Corp		P.O. Box 6778	Cleveland	OH	44101
40	Hopkins	Mazurek, Henry Jr.	541	Girdle Rd	East Aurora	NY	14052
42	Hopkins	Mazurek, Henry Jr.	541	Girdle Rd	East Aurora	NY	14052
88	Hopkins	Pravia Holding Corp	88	Hopkins	Buffalo	NY	14220
90	Hopkins	City of Buffalo	90	Hopkins	Buffalo	NY	14220
110	Hopkins	Niagara Cold Drawn Corp	110	Hopkins	Buffalo	NY	14220
180	Hopkins	Buzzard Corp	4	International Dr	Rye Brook	NY	10573

Adjacent and Nearby Property Owners

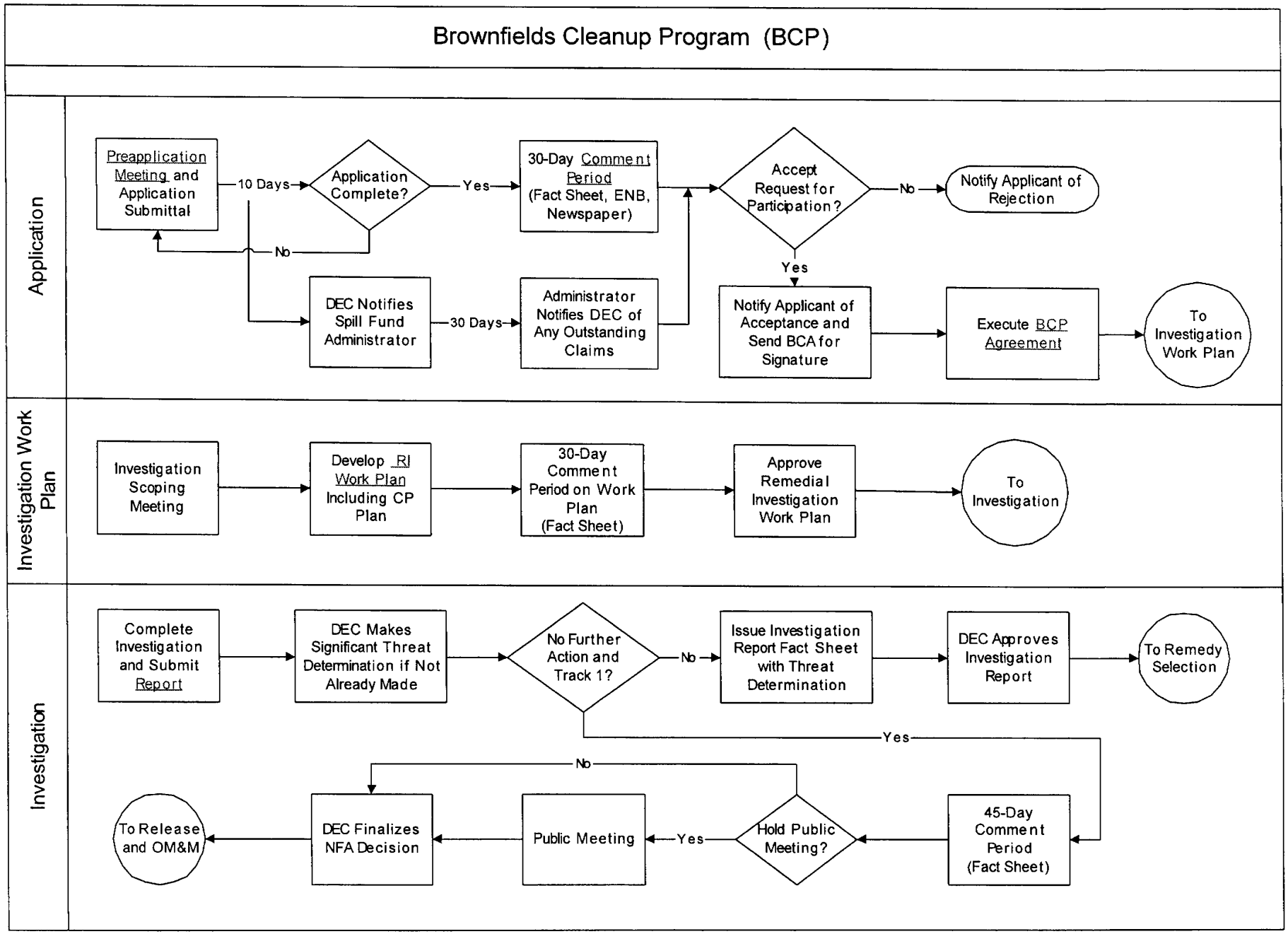
Property Address		Owner 1	Mailing Address				
No.	Street	Name	No.	Street	City	State	Zip
242	Hopkins	LaFarge Corporation	2255	Bailey Ave	Buffalo	NY	14211
248	Hopkins	LaFarge Corporation	2255	Bailey Ave	Buffalo	NY	14211
250	Hopkins	Fox, LLC		P.O. Box 209	Model City	NY	14107
264	Hopkins	Fox, LLC		P.O. Box 209	Model City	NY	14107
266	Hopkins	Fox, LLC		P.O. Box 209	Model City	NY	14107
268	Hopkins	Process Welding	667	Tifft St	Buffalo	NY	14220
346	Hopkins	Jakubik, Bernard A	1862	South Park Ave	Buffalo	NY	14220
2	Fuhrmann	City Buffalo Perfecting	323	City Hall	Buffalo	NY	14202
3	Fuhrmann	Con-Rail		P.O. Box 8499	Philadelphia	PA	19103
4	Fuhrmann	City of Buffalo	323	City Hall	Buffalo	NY	14202
1484	Fuhrmann	Niagara Frontier	181	Ellicott St	Buffalo	NY	14203
1515	Fuhrmann	South End Marina Corp	1515	Fuhrmann	Buffalo	NY	14203
1699	Fuhrmann	Niagara Frontier	181	Ellicott St	Buffalo	NY	14203
1751	Fuhrmann	St Lawrence Cement Co	3	Columbia Circle	Albany	NY	12203
1755	Fuhrmann	The People of the	1755	Fuhrmann	Buffalo	NY	14203
1775	Fuhrmann	St Lawrence Cement Co	3	Columbia Circle	Albany	NY	12203
1825	Fuhrmann	Gateway Trade Center Inc	2544	Clinton St	West Seneca	NY	14224
47	Marilla	LTV Steel Company Inc		P.O. Box 6778	Cleveland	OH	44101
50	Marilla	LTV Steel Company Inc		P.O. Box 6778	Cleveland	OH	44101
105	Marilla	Republic Steel Corp		P.O. Box 6778	Cleveland	OH	44101
107	Marilla	Republic Steel Corp		P.O. Box 6778	Cleveland	OH	44101
109	Marilla	Republic Steel Corp		P.O. Box 6778	Cleveland	OH	44101
226	Marilla	Republic Steel Corp		P.O. Box 6778	Cleveland	OH	44101
228	Marilla	City of Buffalo	228	Marilla	Buffalo	NY	14220
230	Marilla	Republic Steel Corp		P.O. Box 6778	Cleveland	OH	44101

Appendix D – Identification of Citizen Participation Activities

Required Citizen Participation (CP) Activities:	CP Activities Occur at this Point:
Application Process:	
• 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	At time of preparation of application to participate in BCP. 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.
After Execution of Brownfield Site Cleanup Agreement:	
• Prepare Citizen Participation (CP) plan	Draft CP Plan must be submitted within 20 days of entering Brownfield Site Cleanup Agreement. CP Plan must be approved by NYSDEC before distribution
After Remedial Investigation (RI) Work Plan Received:	
• Mail fact sheet to BSCL about proposed RI activities and announcing 30-day public comment period on draft RI Work Plan	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.
After RI Completion:	
• Mail fact sheet to BSCL describing results of RI	Before NYSDEC approves RI Report
After Remedial Work Plan (RWP) Received:	
• 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)	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.
After Approval of RWP:	
• Mail fact sheet to BSCL summarizing upcoming remedial construction	Before the start of remedial construction.
After Remedial Action Completed:	
• Mail fact sheet to BSCL announcing that remedial construction has been completed • Mail fact sheet to BSCL announcing issuance of Certificate of Completion (COC)	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.

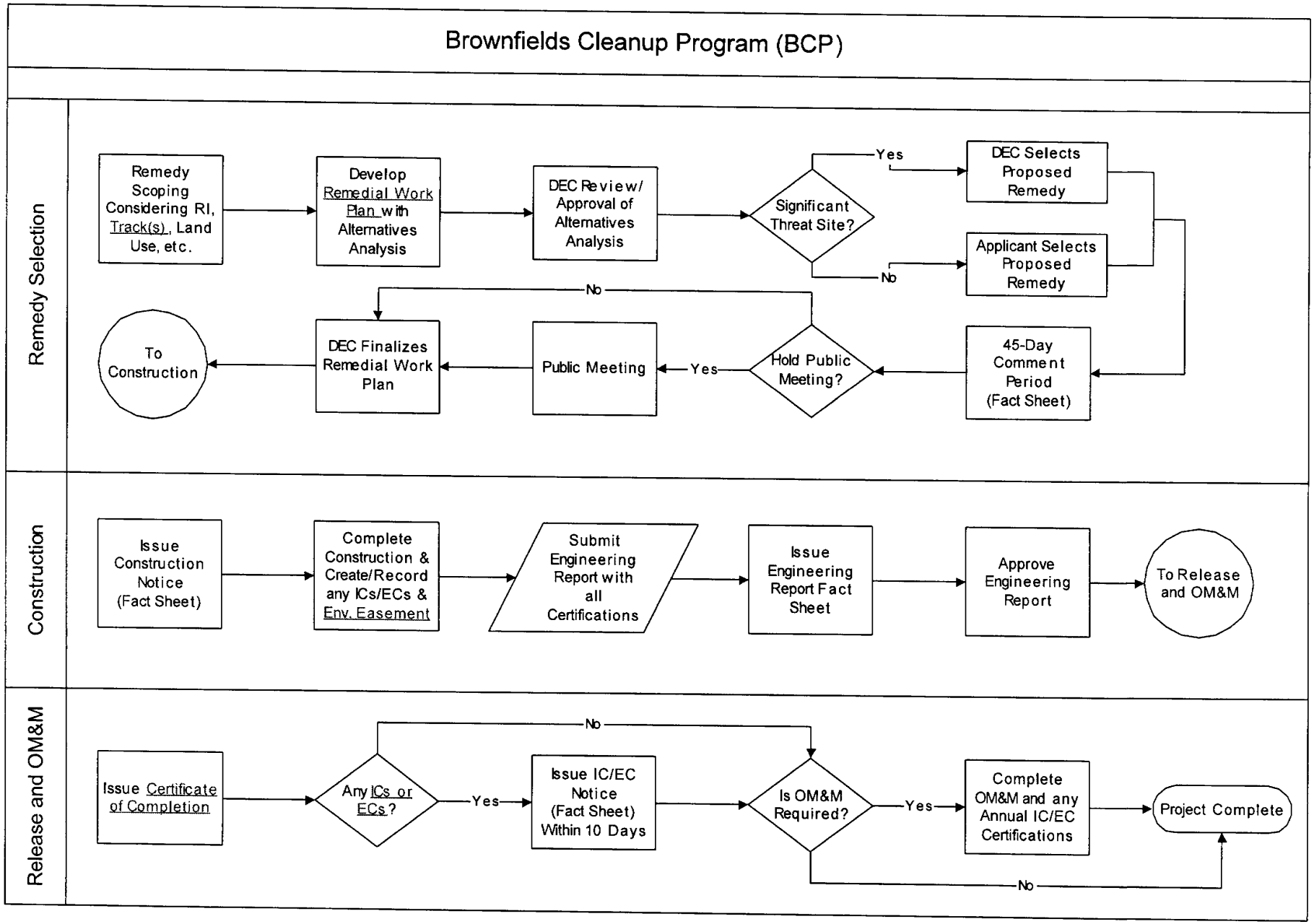
Appendix E – Brownfield Cleanup Program Process

Brownfields Cleanup Program (BCP)



Underlined Topics are Links to Fact Sheets

11/20/03



Underlined Topics are Links to Fact Sheets

11/20/03

APPENDIX C

PREVIOUS STUDIES

(PROVIDED ELECTRONICALLY)