# REMEDIAL INVESTIGATION WORK PLAN

## BROWNFIELDS CLEANUP PROGRAM
## For
## Pierce Arrow Business Center
## 155-157 Chandler, Buffalo, New York 14207
## BCP # C915314


Prepared For:
**MOD-PAC CORP.**
1801 Elmwood, Buffalo, New York 14203
HEI Project No: e1601

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August 18, 2017

HAZARD EVALUATIONS

## TABLE OF CONTENTS

**Page**

## TABLE OF CONTENTS (Cont'd)

**FIGURES**



**TABLES**



**APPENDIX**

# 1.0 INTRODUCTION

## 1.1 Project Background

This Remedial Investigation (RI) presents the proposed scope of work (Work Plan) at MOD-PAC CORP (MOD-PAC) facility located in the City of Buffalo, New York (Site), as shown on Figure 1 and Figure 2. The Applicant, MOD-PAC CORP., has been accepted into the Brownfield Cleanup Program (BCP) as a Participant.

The RI will be completed by Hazard Evaluations, Inc. (HEI) on behalf of MOD-PAC CORP. The work will be completed in general accordance with New York State Department of Environmental Conservation (NYSDEC) DER-10 guidelines. The work plan provides details on the site investigation to be undertaken. The Site investigation will be focused on subsurface conditions beneath the existing building, as well as the southern portion of the Site proposed for future development as a sports field area.

## 1.2 Site Background

The MOD-PAC Site (Site) is addressed as 1801 Elmwood Avenue, located in the City of Buffalo, Erie County, New York. The Site most recently consisted of six contiguous parcels which have recently been combined into one parcel totaling approximately 20.03 acres of land. The Site is bounded to the south by railroad tracks and to the west by Elmwood Avenue. Commercial and residential properties are located immediately to the north. Industrial occupants and the recently constructed Nardin Academy Athletic Center is located to the east. The property is located within an urban area, utilized for industrial, commercial, and residential purposes.

The entire Site was originally developed in the early 1900s by American Radiator and utilized as such until the late 1950s. Since that time, the building has been utilized for various manufacturing purposes including warehousing, and box and product packaging. MOD-PAC has occupied a portion of the building since the 1950s and has been expanded since that time and currently occupies the entire facility. A railroad spur has historically traversed the Site, extending into the facility's courtyard. The southern portion of the Site was originally occupied by American Radiator until the 1950s, at which time the buildings were demolished. The southern area has remained vacant and unused since that time, currently identified as gravel parking and overgrown vegetation.

MOD-PAC manufactures cartons that are used to package a wide range of consumer products that includes the simplest to the most expensive: from foodstuffs such as dry food, cakes and biscuits, chocolate and confectionary, frozen food, and convenience food; to non-food products such as household products, medical, and pharmaceuticals. The packaging gets products safely and securely from the point of production to the point of sale and use. Without packaging, food and other goods would be lost due to handling damage, lack of hygiene and insufficient information on product use.

Consumer health and safety is a top priority for MOD-PAC. Its goal is to continually improve its operations; from raw material intake, through design for

compliance and manufacturing, to storage and delivery. Adopting industry best practices and rigorous work practices and quality procedures helps MOD-PAC to prevent health hazards or unacceptable changes in the characteristics of a food product that may result from excessive migration of components from the packaging material.

The southern portion of the Site is currently underutilized, underdeveloped property located in the City of Buffalo. The land has been vacant and over grown for over 25 years. Development has not occurred due to the significant presence of historical industrial fill throughout the area. The planned project is to design an inner-city youth sports center that helps meet the growing demand for facilities as identified in the Recreational Needs Assessment Study[1] conducted by the Buffalo Urban Development Corporation in January 2015. To that end MOD-PAC has formed a working relationship with Nardin Academy (Nardin) and has begun to develop alliances with other schools and neighborhood programs to facilitate developmental and competitive programming in a variety of indoor and outdoor sports.

The proposed complex will include one-to two-soccer fields, tennis courts, and possibly a softball diamond. Phase I of the project opened in October of 2016. Nardin completed construction of one of the only indoor soccer facilities in the City of Buffalo on the eastern adjoining facility. A 30,000 square foot indoor soccer and squash facility opened this year. The facility is open to the community and will serve the youth of Western New York. The new Sports Complex on the southern portion of the Site will support and complement the recently completed indoor facility. The Brownfield redevelopment project will repurpose the industrial land into an asset for the community.

## 1.3 Summary of Environmental Conditions

Hazard Evaluations, Inc. completed a limited Phase II investigation for Nardin Academy in October 2015 in order to assess if environmental factors that may impact the ability to develop the southern portion of the property as additional sports fields. The work included completion of 16 soil borings, 18 test pits and collection of soil and groundwater samples. An additional investigation was completed in December 2016 to assess if historical industrial fill and impacts were present throughout the Site limits. Twenty-six (26) additional soil borings, two hand augers, as well as additional analysis of soil and groundwater samples was completed. Appendix A includes the sample location figures and tables summarizing analytical data for the October 2015 and December 2016 investigation. A final report was not created for the December 2016 work.

The contamination at the Site is primarily due to fill which varies from 2 to 16 feet below ground surface. SVOCs (PAHs) and metals were encountered in the soil samples collected from the southern, underutilized portion of the Site at concentrations exceeding restricted residential soil cleanup objectives (RRSCO). The soils located in the western, eastern and northern portion currently occupied by the MOD-PAC facility

[1] Recreational Needs Assessment Study, South Buffalo Brownfield Opportunity Area" presented to: Buffalo Urban Development Corporation presented by Paradigm Economics, Wendel Companies, Spicer Group, dated January 2015.

contained SVOCs (PAHs) and metals in the soil samples at concentrations exceeding commercial soil cleanup objectives (CSCO).

Trichloroethylene (TCE) and its associated degradation products were found in the groundwater samples collected from to location in the central areas of the Site, slightly exceeding groundwater standards (GS) of typically 5 ppb, with a maximum concentration of TCE of 16 ppb; dichloroethylene (DCE) of 32 ppb and vinyl chloride (VC) of 42 ppb. Chlorinated solvents were not detected in estimated downgradient groundwater sample locations.

## 1.4 Site Conditions

Based on the soil borings and test pits completed, various fill materials were encountered at each location, generally extending to depth ranging from two feet below grade to up to 16 feet below grade, or the full depth drilled. The fill material appeared to be typical industrial fill, including foundry sand and/or sand intermixed with concrete, broken brick pieces, gravel, slag, flyash, and asphalt intermixed throughout. Miscellaneous debris was also found within the fill included metal strips, metal pieces, buried concrete slab, railroad siding, and apparent underground utilities raceways.

Naturally deposited cohesive silt and clay with lesser amounts of sand and gravel were generally encountered below the fill material. Groundwater was identified at a few locations and did not appear consistent throughout the Site. Depth to groundwater, where encountered, generally ranged from 2 to 9 feet below grade. Groundwater was not encountered within the silty clay.

The Site is generally flat, with the much of the industrial portion of the Site covered by buildings, asphalt driveway, and broken asphalt/gravel vacant parcel. The southern portion of the Site includes heavily wooded areas along with fill/debris piles throughout. Based on a review of the Site topographic conditions as depicted on the USGS 7.5 minute Topographic Quadrangle Map of Buffalo NE and Buffalo NW, New York, shallow regional groundwater is expected to flow in a southwesterly direction toward Scajaquada Creek located approximately 0.60 miles southwest and toward the Niagara River located approximately 1.50 miles west of the Site. The Site does not have state or federal wetlands within property limits, nor is the Site located within a flood plan. Figure 4, obtained from the Erie County GIS On-line Mapping System, depicts nearby wetlands and/or floodplains which include the floodplain along Scajaquada Creek, located approximately 0.60 miles south of the Site.

The Site is currently serviced by municipal utilities, including potable water, sanitary and storm sewers from the City of Buffalo, natural gas and electric. There are no known groundwater supply wells on-site and the surrounding area is serviced with potable water.

## 2.0 PROJECT OBJECTIVES

The Site has not been comprehensively characterized; therefore, MOD-PAC intends to further investigate the soil/fill and groundwater (if encountered) at the Site. Data collected during the RI will be used to identify potential health risks and to evaluate remedial alternatives. The objectives of the RI include the following:

- Define the nature and extent of on-site contamination in both soil and groundwater.
- Identify on-site source areas of contamination, if any.
- Collect data of sufficient quantity and quality to evaluate potential threats to the public health and environment.
- Collect data of sufficient quantity and quality to evaluate remedial alternatives.

### 2.1 Regulatory Criteria

NYSDEC has applicable standards, criteria and guidance (SCG) values that will be used for this project. These goals are applicable when considering remedial alternatives. For purposes of the RI the following SCG will be utilized:

- 6 NYCRR Part 375-3 Brownfield Cleanup Program dated December 14, 2006.
- NYSDEC Policy CP-51/Soil Cleanup Guidance dated October 21, 2010.
- NYSDEC "DER-10 Technical guidance for Investigation and Remediation", dated May 2010.
- NYSDEC Division of Water Technical and Operational Guidance Series (1.1.1) document "Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" dated June 1998, amended January 1999 Errata Sheet, April 2000 Addendum and June 2004 Addendum.
- State Department of Health (NYSDOH) "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" dated October 2006.

Soil and groundwater samples will be collected in general accordance with NYSDEC and United Sates Environmental Protection Agency (USEPA) sample collection and handling methodologies. Samples selected for laboratory analysis will be submitted to a NYSDOH Environmental Laboratory Accreditation Program (ELAP) Contract Laboratory Protocol (CLP) certified laboratory, with a Category B deliverables package. Additionally, a Data Usability Summary Report (DUSR) will be prepared by a third-party data validator.

Sampling data will be used to evaluate remedial alternatives to meet the objectives identified above. Two data confidence levels will be considered, including field screening data and analytical level data. Field screening will include photoionization detector (PID), groundwater elevation measurement, and field groundwater analyses (pH, temperature, specific conductivity, turbidity). Analytical level data will be associated with select soil and groundwater samples submitted for chemical analysis to an independent laboratory.

## 2.2 Project Organization

HEI/S&A will establish a project team for successful completion of the project. The project team has not been finalized and subcontractors will be determined. Once the team has been finalized, appropriate resumes and information will be provided to NYSDEC. The anticipated project team is listed below:

| Company | Name | Role |
|---|---|---|
| MOD-PAC CORP. | Daniel Keane | Property Owner/Occupant |
| Hazard Evaluations | Michele Wittman | Project Manager |
| C&S Companies | Timothy Hughes, PE | Project Engineer |
| C&S Companies | Victor O'Brien, PE | Civil Design |
| Hazard Evaluations | Mark Hanna, CHMM | Project Director/Environmental Health & Safety Manager |
| Hazard Evaluations | Eric Betzold | Project Geologist/Site Safety Officer |
| Alpha Analytical | Candace Fox | Analytical Laboratory Subcontractor |
| Trec Environmental | Keith Hambley | Geoprobe/Drilling Subcontractor |
| Data Validation Services | Judy Harry | Data Usability Subcontractor |

**Michele Wittman** – Michele will be the Project Manager for the work and will be responsible for completion of each task, including coordination and supervision of field activities, adherence to work plan, schedule and budget. Additionally, Ms. Wittman will be responsible for development of the work plan, coordination of subcontractors, field project oversight and report preparations.

# 3.0 INVESTIGATION SCOPE OF WORK

## 3.1 Introduction

The proposed RI scope of work will include investigation for potential site contaminants in the soil/fill and groundwater at the Site. The scope of work includes twenty-eight (28) exterior soil boring locations, fourteen (14) interior soil boring locations, twelve (12) test pits, installation of nine (9) monitoring wells, and four (4) sub-slab vapor and indoor air sample locations. Proposed sampling locations are included on Figure 5 and summary of proposed analytical testing is presented on Table 1.

### 3.1.1 Tree Removal

Significant tree growth is present in the southern portion of the Site. The tree area may limit the ability to complete appropriate investigation activities. Therefore, the trees and underbrush will be removed prior to start of the Site investigation work. The trees are expected to be chipped and disposed off-site.

## 3.2 Field Investigation Activities

Prior to intrusive activities, HEI and appropriate subcontractors will contact Dig Safely New York a minimum of three business days prior to the commencement of the field work. Investigative procedures are described below:

### 3.2.1 Surface Soil Investigation

Surface soil samples will not be collected at areas of the Site currently covered with a building. Additionally, the proposed development in the southern portion of the Site is expected to be various sports field, asphalt parking areas and roadways. Therefore, no areas of currently exposed surface soil area are anticipated to remain in place after remedial work and Site development. As a result, surface soil samples will not be collected.

### 3.2.2 Subsurface Soil Investigation

Subsurface soil sampling will be focused on the soil constituents located within the fill material. Twenty-five (25) exterior soil borings and fourteen (14) interior borings will be completed. Nine (9) of the exterior soil borings will be converted to groundwater wells. Proposed soil boring locations are shown on Figure 5.

Interior soil borings will be cored through the concrete floor and will be completed with a drill rig equipped with a concrete core barrel. A drill rig capable of advancing a borehole using direct push method via a Geoprobe drill rig will be used to advance the twenty (20) interior locations, as well as nineteen (19) of the exterior soil boring locations that will not be converted to monitoring wells. The drill rig will advance the 1.5-inch diameter, 4-foot long core sample liner to the desired depth and retrieve soil core samples at four foot intervals. The total depth of interior and exterior borings is anticipated to be approximately 12 to 16 feet below grade, bottom of fill material, or spoon refusal, whichever is encountered first.

The nine (9) soil borings which will be converted to monitoring well locations will be advanced using a direct-push drill rig capable of advancing hollow-stem augers for installing 2-inch monitoring wells which are expected to be completed to greater depths of up to 16 to 20 feet below grade. Additionally, two exterior locations will also be completed using a direct-push drill rig to a depth of 20 to 24 feet below grade to assess if the native clay extends to greater depths.

Discrete subsurface soil samples will be field screened in approximate two-foot depth intervals for VOCs with a calibrated organic vapor meter equipped with a photoionization detector (PID). Organic vapor meter results and soil descriptions will be recorded on the field soil boring logs.

Soil samples will be selected for analysis based in field screening results, visual and olfactory observations. During initial investigations, various fill materials were encountered at each location, generally extending to a depth ranging from two to 16 feet below grade, or the full depth drilled. Naturally deposited cohesive silt and clay was generally encountered below the fill materials. HEI will collect representative samples from each of the identified fill types, as well as the underlying native clay soils, for appropriate laboratory analysis.

The sample interval identified as the most impacted (i.e., highest PID reading, visual/olfactory evidence of odors, staining, or product) will be selected for analysis. Should fill material be encountered, a discrete sample will be collected from each type of fill soil. In the event that no impacts were identified, the native soils directly below the fill/native interface will be selected for analysis. Additionally, attempts will be made to collected soil samples at vertical variations within the native soil.

Subsurface soil samples will be selected for analysis for the following as shown on Table 1 and briefly summarized below:

- 30 samples for Target Compound List (TCL) VOCs
- 40 samples for TCL semi-volatile organic compounds (SVOCs)
- 40 samples for Target Analyte List (TAL) metals
- 12 samples for polychlorinated bi-phenyls (PCBs)
- 4 samples for pesticides and herbicides

Actual sample locations will be selected in the field based on utility locations, field observations, screening results, and engineering judgment. Subsurface soil samples will be collected using dedicated stainless steel sampling tools. Select representative soil samples will be place in pre-cleaned laboratory-provided sample bottles, labeled and cooled to 4$^{o}$C in the field, and transported under chain-of-custody to a NYSDOH ELAP certified analytical laboratory.

### 3.2.3 Monitoring Well Installation

Nine (9) soil boring locations will be converted to monitoring wells using a direct-push drill rig capable of advancing hollow-stem augers to allow for installation of 2-inch diameter wells. The wells will be utilized for measurement of groundwater depth and collection of groundwater samples. The nine proposed locations are included on Figure 5.

After completion of the soil borings to depths expected to range from 16 to 20 feet below grade, a 2-inch diameter, schedule 40 PVC monitoring well will be installed at each location. An approximate 10 foot length of 0.010-inch machine slotted well screen will be installed at each location attached to the riser. The well screen depth will be backfilled with silica sand filter pack (estimated at size #0) from the base to approximately 2 feet above the well screen. A bentonite seal will be placed above the sand and hydrated to limit potential for down-hole contamination. The top of the well riser will be flush with the ground surface and completed with a locking J-plug. The well will be finished with a flush-mounted road box.

Groundwater samples will be collected from each of the monitoring wells using low flow sampling techniques. The total depth of the wells is expected to range from 16 to 20 feet below grade.

### 3.2.4 Monitoring Well Development

After a minimum of 24-hours from installation, the monitoring wells will be developed using dedicated disposable polyethylene bailers via purge methodology. Field parameters, including pH, temperature, turbidity, and specific conductance will be measured periodically until they become relatively stable (approximately 10% fluctuation or less). A minimum of three well volumes will be removed from each monitoring well, unless dry well conditions are encountered. Development water will be containerized in 55-gallon drums and sampled for future off-site disposal.

### 3.2.5 Groundwater Sampling

Prior to sample collection, static groundwater levels will be measured at each of the monitoring wells. The wells will be purged and field measurements of pH, specific conductivity, temperature and turbidity will be recorded and monitored for stabilization prior to sampling. Groundwater samples will be collected using low flow sampling techniques. If insufficient groundwater, new dedicated disposable bailers may be used to collect the groundwater samples. Purge water will be containerized in 55-gallon drums and sampled for future off-site disposal.

The nine (9) groundwater samples will be analyzed for the following parameters as summarized on Table 1:

- Target Compound List (TCL) VOCs
- TCL semi-volatile organic compounds (SVOCs)
- Target Analyte List (TAL) metals (dissolved phase only)
- Polychlorinated bi-phenyls (PCBs)
- Pesticides (4 locations only)
- Herbicides (4 locations only)

Groundwater samples will be placed in pre-cleaned laboratory-provided sample bottles, labeled and preserved in accordance with USEPA SW-846 methodology, and transported under chain-of-custody to a NYSDOH ELAP certified analytical laboratory.

### 3.2.6 Test Pit Excavations

Test pit excavations will be completed in the southern portion of the Site, where historical industrial fill was identified during initial investigations. Twelve (12) test pits will be completed to further investigate former underground structures (suspect utilities raceways), as well as the evaluation of fill material. The proposed locations are included on Figure 5. Test pits will be completed with a tracked excavator capable of reaching a minimum of 15 feet below grade. The depth of the test pit will extend into the native clay, bottom of fill material, equipment refusal or groundwater, whichever is encountered first.

Soil samples will be selected for analytical analysis based in field screening results, visual and olfactory observations. HEI will collect representative samples from each of the identified fill types, as well as the underlying native clay soils, for appropriate laboratory analysis.

The sample interval identified as the most impacted (i.e., highest PID reading, visual/olfactory evidence of odors, staining, or product) will be selected for analysis. Should fill material be encountered, a discrete sample will be collected from each type of fill soil. In the event that no impacts were identified, the native soils directly below the fill/native interface will be selected for analysis. Additionally, attempt will be made to collected soil samples at vertical variations within the native soil.

Subsurface soil samples will be selected for analysis for the following as shown on Table 1 and briefly summarized below:

- 8 samples for Target Compound List (TCL) VOCs
- 15 samples for TCL semi-volatile organic compounds (SVOCs)
- 15 samples for Target Analyte List (TAL) metals
- 4 samples for polychlorinated bi-phenyls (PCBs)

Actual sample locations will be selected in the field based on utility locations, field observations, screening results, and engineering judgment. Subsurface soil samples will be collected using dedicated stainless steel sampling tools. Select representative soil samples will be place in pre-cleaned laboratory-provided sample bottles, labeled and cooled to 4$^{o}$C in the field, and transported under chain-of-custody to a NYSDOH ELAP certified analytical laboratory.

### 3.2.7 Field Specific Quality Assurance/Quality Control Sampling

Field-specific quality assurance/quality control samples will be collected and analyzed, as summarized on Table 1 to support third-party data usability assessment effort. Site-specific QA/QC samples will include blind duplicate, matrix spike/matrix spike duplicate, rinsate blank, and trip blank.

## 3.3 Investigation- Derived Waste Management

During the completion of soil borings, removed materials will be placed into the borehole. The excess soil cuttings that cannot be replaced into the borehole will be containerized in 55-gallon drums. Based on analytical testing results, the excess soil may be utilized on-site, or disposed off-site. Development/purge water generated during well development and/or sampling activities will be containerized in 55-gallon drums for testing and future off-site disposal.

## 3.4 Soil Vapor Intrusion Investigation

Due to the presence of TCE at limited soil and groundwater sampling locations, a soil vapor intrusion (SVI) investigation will be completed to assess the potential for soil vapor intrusion concerns within the Site facility. The SVI will be focused on the current Site facility. The SVI work will be in done in general accordance with NYSDOH Final document entitled "Guidance for Evaluating Soil Vapor Intrusion in the State of New York", dated October 2006.

### 3.4.1 Building Survey

An inspection of the existing on-site facility and product inventory will be conducted to assess the current conditions in proposed sampling areas and determine the likelihood of existing chemicals of concern that may be present that would influence the vapor test results. A PID will be used to monitor indoor air and scan vapors of individual containers that may be present. Any potential sources identified inside the facility will be removed prior to conducting the vapor test.

### 3.4.2 Site Preparation

In accordance with NYSDOH recommendations, the HVAC system should be activated.

### 3.4.3 Vapor Sampling

Three types of air samples will be collected, including sub-slab, ambient indoor air and ambient outdoor air samples, as follows:

**Sub-Slab:** HEI will install four (4) temporary sub-slab sampling points at locations as shown on Figure 5. Samples will be obtained through core-drilled holes into a competent portion of the concrete floor, away from cracks or drains. Clean, dedicated ¼-inch inside diameter polyethylene tubing will be placed into the hole and will not extend further than 2-inches into the sub-slab material. The corehole annulus will be sealed at the floor surface with modeling clay. Once it is determined that the sampling system is sealed, the sample probe and tube will be purged of one to three volumes, and sampling will be initiated.

The sub-slab soil gas sample will be collected using a 1-liter capacity Summa canister fitted with a laboratory calibrated flow regulation devise to allow the collection of the soil gas sample over an 8-hour sample collection time.

**Ambient Indoor Air:** An ambient indoor air sample will be collected concurrent with every sub-slab sample locations from approximately 3 to 4 feet above the slab floor. A total of 6 samples will be obtained. Samples will be collected over an 8-hour collection period.

**Ambient Outdoor Air:** One ambient outdoor sample will be collected at an upwind location from approximately 4 to 5 feet above the ground surface. A sample will be collected over an 8-hour collection period.

All sampling and purging flow rates will not exceed 0.2 liters per minute. Since the ambient outdoor air sample is dependent on wind flow direction, that sample location will be determined the day of the test.

### 3.4.4 Soil Vapor Sampling Leak Testing Procedures

Leak testing will be completed prior to collection of the sub-slab sample locations using a tracer gas. The tracer gas (i.e., helium) will be released at the ground surface immediately around the sub-slab sampling location prior to sample collection. The following procedure will be used:

- A helium meter will be used to monitor the presence of helium during purging and soil gas sample collection.
- A containment unit will be constructed to cover the sub-slab sampling system. In general, the containment will include a shroud set into bentonite to create a seal. The shroud will have a hole to allow for introduction of helium and a second to allow trapped air to escape.
- Prior to soil gas purging, helium will be introduced into the shroud and helium confirmed to be present.
- The helium meter will be connected in-line with the sub-slab sampling assembly to assess for presence of helium. Should the helium meter detect the presence of helium greater than 10 percent of the source concentration (measured under the shroud), then the sample location will not be utilized or sub-slab collection.

## 3.5 Site Mapping

A topographic base map will be prepared by a New York State-licensed surveyor. The surveyor will establish the horizontal location and vertical elevations. The map will include the RI investigation/sampling locations. Soil/fill boring locations will be field located and incorporated within the survey. Elevations of the ground surface and top of PVC riser will be measured for each monitoring well.

## 3.6 Personnel Decontamination

The degree of decontamination is a function of both the particular task and the physical environment in which it takes place. Decontamination procedures will remain flexible, thereby allowing the decontamination crew to respond appropriately to changing conditions at the Site. On-site sampling activities will be carried out in such a manner as to avoid gross contamination of site workers, personal protective equipment, machinery and equipment.

Between sampling locations (or sometimes between samples at one sampling location), and upon the completion of the daily field activities, site workers will proceed to the Contaminated Reduction Zone (CRZ) or mobile reduction zone area. Equipment (e.g., sampling tubes, shovels, tools, etc.) will be decontaminated in this area. Prior to leaving the Site for breaks, at the end of the work shift, or when PPE has been grossly contaminated, disposable boot covers, gloves, and suits will be removed and placed in a drum designated for the disposal of these materials. After removing PPE, each Site

worker will wash with soap and fresh water prior to donning new PPE or leaving the Site for the day. All wash water and rinse water will be collected and disposed of in accordance with appropriate regulations.

### 3.9 Decontamination of Equipment

Equipment decontamination efforts will be conducted in the CRZ or mobile reduction zone areas. Gross contamination will first be removed with plastic scrapers or other appropriate tools. The equipment will be decontaminated at a temporary equipment decontamination pad in the CRZ via hand washing or pressure washing. Downhole tools and augers can be hand washed or pressure washed.

The decontamination of the direct push drilling rig, excavator, or other heavy equipment will be undertaken as necessary. Initially, scraping of the equipment will remove heavily caked materials prior to washing. Washing will then be accomplished by pressure washing. Water generated during decontamination activities will be collected, stored and profiled for future off-site disposal.

### 3.10 Disposal of Contaminated Materials

Potentially contaminated materials (gloves, clothing, sample sleeves etc.) will be bagged and segregated for proper disposal. Investigation derived waste will be managed in accordance with NYSDEC guidance regulations. All fluids collected during groundwater sampling and decontamination will be containerized and managed appropriately subsequent to field activities and decontamination procedures.

### 3.11 Stormwater Management

Remedial activities may result in surface water flow off-site and into adjacent properties. Silt fencing will be the primary sediment control measure, if deemed necessary. Prior to extensive soil excavation or grading activities, silt fencing will be installed around the perimeter of the construction area. The positioning of the silt fencing will be adjusted as necessary as work proceeds or Site conditions change. Silt fences will be maintained as deemed necessary and will remain in place until construction activities in an area are completed.

## 4.0 REMEDIAL INVESTIGATION/INTERIM REMEDIAL MEASURES/ ALTERNATAIVES ANALYSIS REPORT

Upon completion of the RI tasks, a RI report will be generated in general requirements as identified in DER-10 Section 3.14. The report will include the following information.

- Background and Site information.
- Description of investigation areas.
- Identify and characterize the sources of contamination.
- Comparison with cleanup levels during the alternatives analysis report (AAR).

- Describe the amount, concentration, environmental fate and transport (if necessary), location and other significant characteristics of the contaminants present.
- Define hydraulic factors, as needed.
- Provide a qualitative human exposure assessment.
- Identify actual or potential adverse impacts to fish and wildlife resources

An independent data validation expert will complete a third-party data view of the analytical data generated during the RI work. A Data Usability Summary Report (DUSR) will be prepared, with appropriate data qualifiers added to the results.

The RI report will also include an alternatives analysis report to evaluate a remedial approach. The AAR will evaluate the need for further remedial activities.

Remedial action objectives will be evaluated and developed to assure the selected remedy is protective of human health and the environment under the proposed future Site usage. Proposed soil cleanup objectives will be based on proposed future usage. Should further remedial requirements be identified, a list of potentially applicable remedial technologies will be developed and evaluated. Criteria to be evaluated for the remedy and protectiveness to public health and the environment include:

- Overall protection of the public health and the environment
- Standards, criteria and guidance (SCG)
- Long-term effectiveness and permanence
- Reduction of toxicity, mobility or volume of contamination through treatment
- Short-term impact and effectiveness
- Implementability
- Cost effectiveness
- Land use

The results of the AAR will identify a remedial alternative to be recommended for the Site, which will include a discussion on the reasons for the selection. Community acceptance and comments will be evaluated within the alternative selection.

## 5.0 ADDITIONAL PROJECT DOCUMENTS

Various supporting documents have been prepared associated with the RI work plan and included in the appendix as listed below.

### 5.1 Quality Assurance Project Plan

The Quality Assurance Project Plan (QAPP) was generated in general accordance with Section 2.4 in DER-10. The QAPP describes the quality assurance/quality control (QA/QC) protocols and guidance associated with the RI Work Plan to ensure the suitability and verifiable data result from the sampling and analysis.

The QAPP also provides procedures to be used during sampling of various media, field activities, and analytical laboratory testing. The QAPP is included in Appendix B.

### 5.2 Health and Safety Plan

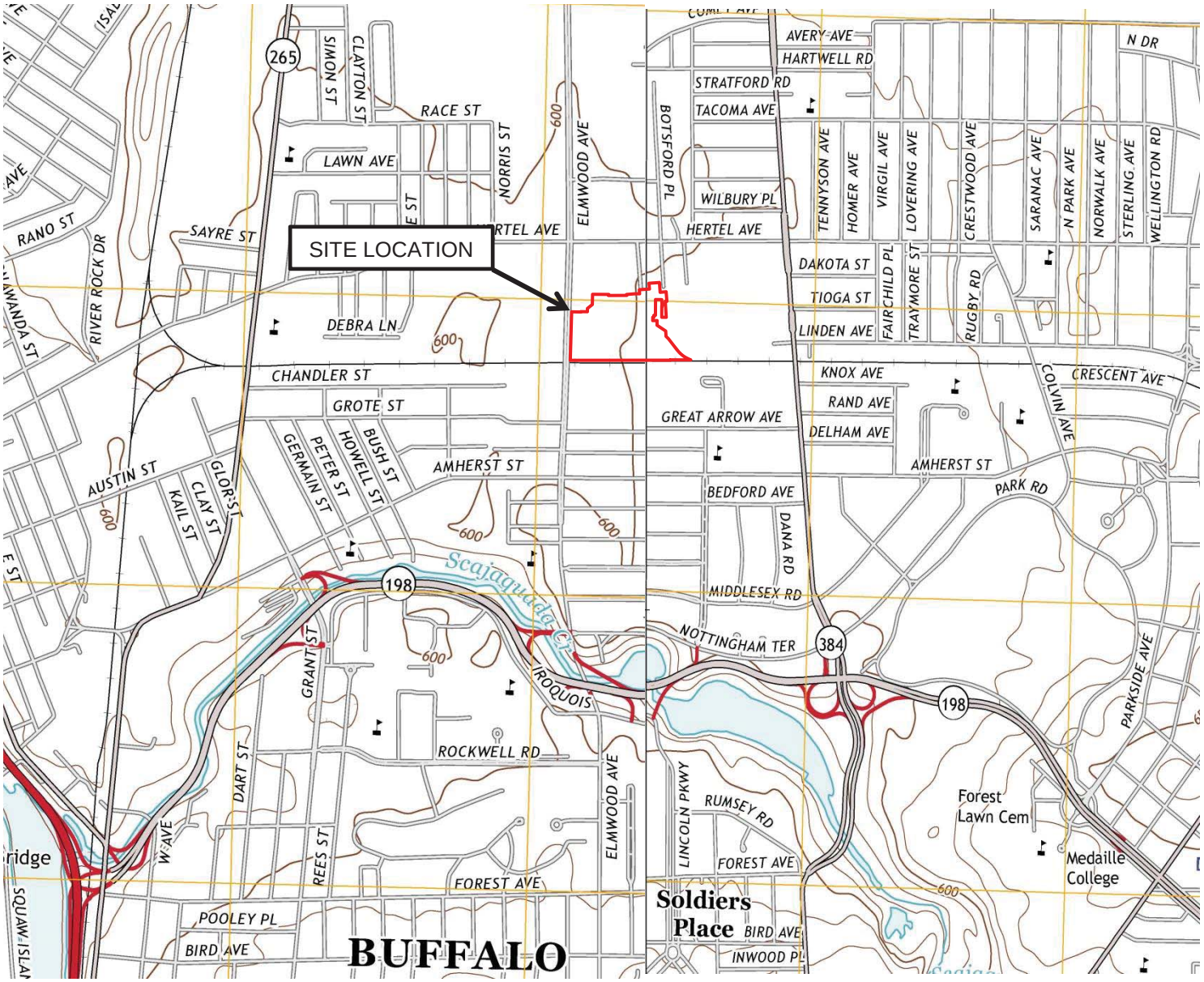
A Site-specific Health and Safety Plan (HASP) has been prepared for this project and included in Appendix C. The HASP will be enforced by HEI, and will apply to all Site visitors and subcontractors associated with the RI field activities. The HASP covers the on-Site investigation and interim remedial work. Subcontractors will be required to develop and implement their health and safety plan which reflects the requirements of this document.

The HASP will include a Community Air Monitoring Plan (CAMP) to describe particulate and volatile organic vapor monitoring to protect nearby community during the investigative activities.

## 6.0 PROJECT SCHEDULE

Figure 6 presents the tentative schedule for planned activities. A certificate of completion (COC) is anticipated by December 2018.

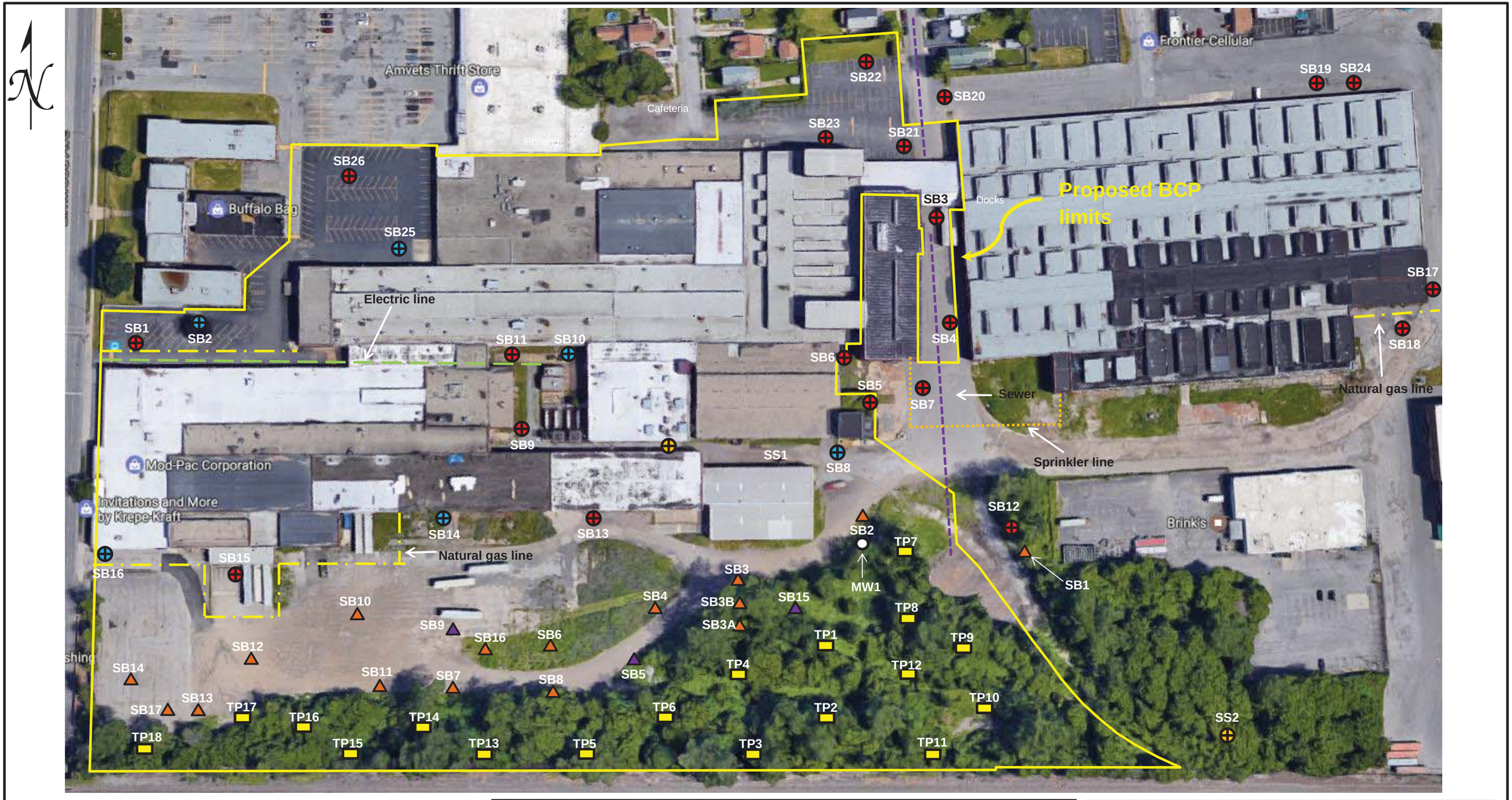
# FIGURES




THIS DRAWING IS FOR ILLUSTRATIVE AND INFORMATIONAL PURPOSES ONLY
AND WAS ADAPTED FROM USGS, BUFFALO NE & NW, NEW YORK 2013 QUADRANGLE.

| HAZARD EVALUATIONS, INC.<br>*Phase I/II Audits – Site Investigations – Facility Inspections* | | |
|---|---|---|
| **SITE LOCATION**<br>MOD-PAC CORP.<br>1801 ELMWOOD AVE.<br>BUFFALO, NEW YORK | | |
| DRAWN BY: LSH | SCALE: NOT TO SCALE | PROJECT: e1605 |
| CHECKED BY: EB | DATE: 07/2017 | FIGURE NO: 1 |


| HAZARD EVALUATIONS, INC.<br>*Phase I/II Audits – Site Investigations – Facility Inspections* | | |
|---|---|---|
| **Site Limits**<br>1801 ELMWOOD<br>BUFFALO, NEW YORK | | |
| **MOD-PAC CORP**<br>BUFFALO, NEW YORK | | |
| DRAWN BY: MMW | SCALE: not to scale | PROJECT: e1605 |
| CHECKED BY: | DATE: 07/17 | FIGURE NO: 2 |




**KEY**

- Soil Boring Locations (12/21-12/23/16)
- Soil Boring & Piezometer Locations (12/21-12/23/16)
- Surface Soil Locations (12/21-12/23/16)
- Soil Boring & Micro Well Locations (10/15-10/16/15)
- Soil Boring Locations (10/15-10/16/15)
- Test Pit Locations (10/15-10/16/15)
- MW1 – Existing Monitoring Well

**HAZARD EVALUATIONS, INC.**

*Phase I/II Audits – Site Investigations – Facility Inspections*

**Previous Sampling Locations**
**MOD-PAC CORP.**
1801 ELMWOOD AVENUE
BUFFALO, NEW YORK

| | | |
|---|---|---|
| DRAWN BY: LSH | SCALE: NOT TO SCALE | PROJECT: e1605 |
| CHECKED BY: MMW | DATE: 07/17 | FIGURE NO: 3 |