BROWNFIELD CLEANUP PROGRAM

INTERIM REMEDIAL MEASURES WORK PLAN

MAIN AND HERTEL SITE

BUFFALO, NEW YORK
(SITE NO. C915318)

Revised November 2018 0463-018-001-002

Prepared for:

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Certification

I, Thomas H. Forbes, certify that I am currently a NYS registered professional engineer and that this Revised November 2018 Interim Remedial Measures (IRM) Work Plan for the Main and Hertel Site was prepared in accordance with applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

11-20-18

Date

IRM WORK PLAN

Main and Hertel Site
Buffalo, New York
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1.0 INTRODUCTION

This document presents the proposed scope of work and implementation procedures for completion of planned Interim Remedial Measures (IRMs) at the Main and Hertel Site (Site), located at 2929 and 2939 Main Street, Buffalo, New York (see Figures 1 and 2).

The Applicant, Main and Hertel LLC, acting as a Volunteer, has elected to pursue cleanup and redevelopment of the Site under the New York State Brownfield Cleanup Program (BCP) and has completed Remedial Investigation activities under the oversight of the New York State Department of Environmental Conservation (NYSDEC).

The planned redevelopment of the Site involves largely student residential housing, supporting commercial uses and potentially limited office space. One new structure is being built to replace Building 3 due to its dilapidated and contaminated condition and to refurbish two existing buildings. The IRMs will be completed by remediation contractors with engineering oversight from Benchmark Environmental Engineering & Science, PLLC (Benchmark) in association with TurnKey Environmental Restoration, LLC (TurnKey) (collectively, Benchmark-TurnKey), on behalf of the Applicant. The work will be completed in accordance with NYSDEC DER-10[1] guidelines.

1.1 Site Background

The two (2) parcels that form the 2929 & 2939 Main Street Site are located in the City of Buffalo at the east side of the corner of Main Street and Hertel Avenue. The 2929 Main Street parcel is approximately 0.5-acres and the 2939 Main Street parcel is approximately 4.4-acres. A summary of the primary structures and their status are as follows.

- Building 1 - This is a 2-story, approximately 4,300 square foot structure that was used as an office and is being used as the construction field office during the redevelopment project.
- Building 2 - This is a 2-story, approximately 15,900 square foot structure that was used previously as office space and a warehouse. This building will be renovated as part of Site redevelopment and has undergone asbestos-contained material (ACM) abatement.

[1] NYSDEC. DER-10/Technical Guidance for Site Investigation and Remediation. May 3, 2010.

- Building 3 - This is a 2/3-story, approximately 50,700 square feet structure that was most recently occupied by Keystone Corporation and used for an electroplating operation. The former wastewater treatment system, plating tanks, material storage, and other related operations were mostly contained on the 1st and 2nd floors. The small 3rd floor area is currently vacant. This building will be demolished as part of Site redevelopment.
- Building 4 - This was a 1-story, approximately 9,300 square foot structure that was used for storage of raw and finished products. This building was demolished in September 2018 and only the concrete slab on grade remains.
- Oil Pump House – This is a small, 1-story unused structure with pipes protruding from the ground. It is overgrown with vegetation and will be demolished as part of Site redevelopment.

The locations of the buildings on the Site are provided in Figure 3.

The property is currently vacant but was most recently occupied by the Keystone Corporation, an electroplating company which provides industrial metal finishing and metal plating products. Plating operations involved use of several metals and inorganic compounds, such as, cadmium, copper, nickel, gold, silver, tin, tin/lead solder plate, zinc, phosphate, manganese phosphate and zinc phosphate. Solvents were also used in the operations. The Keystone Corporation has been associated with the property since at least the 1990s. A previous plating company was associated with the property since at least the 1970s. Prior to its use for metal plating operations, past uses included auto/truck manufacturing, gasoline pump manufacturing, cereal manufacturing, dairy equipment manufacturing, paint manufacturing, auto repair and painting. Reportedly a lead-based-paint manufacturer was located on a portion of the property. Contaminants from these operations may include polycyclic aromatic hydrocarbons (PAHs), metals and volatile organic compounds (VOCs) including petroleum and chlorinated solvents as well as acids and bases. In addition, it appears that fill/soils have been placed across the Site at varied depths with very little, if any, native soils between the fill and bedrock. Various media including the fill/soil, groundwater, and soil vapor were investigated under the RI program for potential impacts from historic operations along with inherent impacts posed by the fill/soil materials.

1.2 Contemplated Use of the Site

The contemplated future use of the Site includes the construction of student housing with ancillary commercial and retail uses. As part of the new development, existing Buildings 3, 4, and the Oil Pump House will be demolished (demolition of Building 4 occurred in September 2018) and all existing building material along with foundations will be removed and properly disposed off-site in accordance with local, state, and federal regulations. Buildings 1 and 2 will be renovated for reuse.

1.3 Environmental Conditions/Past Investigations

Historical information indicates the following previous environmental investigation activities have been completed on the Site.

February 1990 – Phase II Preliminary Environmental Assessment Report – In December 1989 Hazard Evaluations, Inc. conducted a Phase II environmental investigation. The investigation included a physical inspection of both the interior and exterior of site buildings and an agency search with conditions noted in the report (similar to what would today be in a Phase 1 report). Following the physical inspection, a series of nine (9) test pits were installed at locations where impacted soils potentially exist based on the physical inspection previously conducted. Sample analysis was limited and mainly included Toxicity Characteristic Leaching Procedure (TCLP) and Total Petroleum Hydrocarbon (TPH) data. The test pit data indicated bedrock is very shallow across the site (3' to 5' bgs).

December 2014 – Phase I Environmental Site Assessment Report - In November 2014 Hazard Evaluations, Inc. conducted a Phase I Environmental Site Assessment on the 2929 and 2939 Main Street property. The Phase I ESA identified the following environmental issues:

- The subject property has been the location for various manufacturing or electroplating operations since 1910. These operations have used various hazardous materials and petroleum products and produced organic and inorganic chemical and petroleum wastes as well as metal wastes. Past

practices concerning operations and waste handling varied and are unknown for the most part.

- A previous Phase II ESA in 1990 confirmed petroleum and chemical impacts to soil. Although some very specific hot spot remediation was completed, the potential for soil and groundwater impacts were identified as possibly still being present.
- Potential releases from past operations including tin shop, paint manufacturing, and auto repair may have added to potential releases and impacts.
- Several underground storage tanks (USTs) and aboveground storage tanks (ASTs) were associated with the property and these may have impacted soils and groundwater.
- A pit/sump was located in the southeast corner of Building 3. This pit was reportedly associated with the use of degreasers including trichloroethene (TCE). This may have impacted soil and groundwater and may represent a vapor intrusion issue.
- The former oil pump house has several pipes protruding from the building/ground. These may represent either associated USTs or oil lines that fed through and were pumped from this location. Previous surface soil samples in this area indicated petroleum impacts.
- Several rail road spurs are located on the property (south and eastern portion). The Phase I ESA speculated that spills of petroleum or hazardous materials along these spurs may have occurred or may be present from rail ballasts.
- Debris and mounding was observed in the eastern and southeastern areas of the property. The Phase I ESA observed fill of unknown origin, brick, concrete, rusted/empty 55-gallon drums, 5-gallon containers, roofing shingles, tires, and wood.
- Transformers were located in the building 3 courtyard and on the roof of Building 4. No information concerning the polychlorinated biphenyl (PCB) content.

- Various pits and trenches are located with the electroplating operations and are used to transport various plating liquid waste to the wastewater treatment plant. These pits/trenches were excavated to bedrock.
- The precious metal room located on the second floor of Building 3 has a wood floor and extensive buildup of residue from general dripping during operations.
- Adjacent Monroe Muffler was historically a gasoline service station that contained multiple USTs.

January 2017 – Phase II Environmental Site Assessment Report - In December 2016, PEI/BE3 conducted a Phase II Environmental Site Assessment (ESA) on the subject Site. This investigation included the completion of subsurface soil borings and collection of near-surface and subsurface soil samples to further assess potential environmental impacts to the Site related to the historic Site use. The soil investigation included the advancement of a total of sixteen (16) borings advanced to a depth of between two and eight feet (2-8 feet) below ground surface (bgs) or until equipment refusal. Soils were field screened in each borehole using a photoionization detector (PID) and noted visual and/or olfactory field observations. To assess potential impacts across the Site, a total of ten (10) soil samples were collected for laboratory analysis from the 16 borings. Sample analysis included analysis for the Brownfield list of parameters - NYSDEC Part 375 brownfield list – metals, volatile and semi-volatile organic compounds (VOCs & SVOCs), pesticides and PCBs.

February 2018 – Remedial Investigation/Alternatives Analysis Report (RI/AAR) – The RI included the following tasks:

- Advanced a series of soil borings (9) and test pits (14) across the property in a semi grid pattern, focusing on areas where impacted soils were identified during the Phase II ESA. Collected and analyze a total of 27 soil samples (see Figure 2 in Appendix A);
- Installed and sampled six (6) groundwater bedrock wells to assess potential groundwater impacts from off-site and on-site sources by evaluating groundwater quality entering and leaving the Site;

- Conducted a vapor intrusion assessment in Building 2; and,
- Conducted a building environmental condition assessment in all four (4) on-site buildings.

Historic Investigations and RI Analytical results

The Phase II ESA completed in 1990 was limited with respect to the type of analysis and samples collected. The analytical data was limited and mainly included Toxicity Characteristic Leaching Procedure (TCLP) and Total Petroleum Hydrocarbon (TPH) results. Some of the TPH results in areas that had aboveground storage tanks were very high indicating petroleum impacts were present. There was also one area that had a high lead TCLP result. These areas were reportedly remediated.

The Phase II ESA completed by PEI/BE3 in January 2017 included the collection of a total of ten (10) soil samples for laboratory analysis from the 16 borings installed. Sample analysis included the Brownfield list of parameters - NYSDEC Part 375 brownfield list – metals, volatile and semi-volatile organic compounds (VOCs & SVOCs), pesticides and PCBs. Based on the soil sample analytical results (see Table 1 and Figure 3 in Appendix A), near-surface and subsurface soils are impacted by heavy metals, PAHs and PCBs. Multiple metals and PAHs were detected above Part 375 Residential and Restricted-Residential Soil Cleanup Objectives (SCO). Elevated PCBs were also detected in one sample above Part 375 Residential and Restricted-residential SCOs.

RI Investigations Summary

Fill/Soils Results Summary

The results of the RI soil/fill investigation indicated that SVOCs (primarily PAHs) and metal compounds were detected throughout Site soil/fill material at variable levels above Part 375 Restricted-Residential SCOs (RRSCOs). Additionally, the results indicated that VOCs were detected in concentrations below RRSCOs across the Site. PCB/Pesticides were also detected in concentrations below SCOs across the Site with the exception of one (1) pesticide compound, Dieldrin, which slightly

exceeded its Restricted-Residential SCO at TP-12 (see Tables 2 through 4 and Figure 2 of the RI Report in Appendix A).

Groundwater Results Summary

The groundwater analytical results indicated VOC-impacted groundwater is present on-Site above the NYSDEC groundwater quality standards. Solvent-related VOCs appear to be impacting groundwater in the northwestern portion of the Site (MW-1, MW-2 and MW-3) with an impact also indicated in MW-6 just east of Building 4. A few petroleum-related VOCs were detected in MW-4 at the southeast end of the Site and possibly associated with the former Oil Pump House. Groundwater contours indicate groundwater flows from southeast to the northwest across the Site (see Table 7 and 8 and Figure 6 in Appendix A).

The elevated number of solvent VOCs in MW-3 may be influenced by its location directly adjacent the process/plating operation building (Building 3) and the elevated concentrations of solvent VOCs in monitoring wells MW-1 and MW-2 are most likely influenced by the same operations because they are both downgradient of Building 3. The elevated petroleum-related benzene compound detected in MW-2 may be associated with the adjacent off-site auto repair operation. Auto repair and former gasoline service station operations also use solvents for cleaning and the solvent levels detected in this well could be influenced by the existing facility's operation as well.

Subsequent to the completion of the previously described groundwater sampling program at the facility, the NYSDEC issued new analytical requirements for groundwater samples. A second groundwater sampling program was conducted for the new required compounds, Per-polyfluoroalkyl substances (PFAS), and for 1,4-dioxane at lower laboratory detection limits. It was agreed by NYSDEC that only monitoring wells that indicated elevated solvent concentrations in the previous sampling round would be sampled for the additional compounds. This resulted in monitoring wells MW-1, MW-2, MW-3 and MW-6 being sampled. The results of the sampling are provided in Table 9 in Appendix A. The four (4) analytical sample

results for 1,4- dioxane did not exceed the newly established NYSDEC guideline for 1,4-dioxane and only one (1) sample location, MW-2, exceeded the combined PFAS + PFOS screening level of 0.07 ug/l.

Building 2 Sub-Slab Soil Vapor Results Summary

The sub-slab air analytical results (see Table 5 and Figure 4 in Appendix A) reveal that trichloroethene (TCE) was detected in the four (4) sub-slab samples at elevated concentrations that when applied to the Indoor Air Decision Matrices requires monitoring/mitigation to reduce TCE concentrations. It should be noted that TCE was detected in the outdoor air background sample but at a low concentration (0.32 ug/m^3). Results for the other seven (7) New York State Department of Health (NYSDOH) volatile chemicals assigned to the Indoor Air Decision Matrices indicated that "No Further Action" was required for these compounds.

Building Environmental Condition Assessment – 4 Buildings

The results of the asbestos containing materials (ACM) survey indicated the presence of ACM in the four (4) buildings. An inventory of light fixture ballast and bulbs (FLBs) indicated that many of the FLBs most likely contain PCBs primarily due to the age of the buildings and FLBs. A review of the X-Ray florescence (XRF) instrument results indicates that lead based paint (LBP) is present and shows deterioration on multiple interior and exterior building components in the buildings.

1.4 Project Objectives

An IRM will be completed to immediately address known environmental impacts to the Site soil/fill and hazardous building materials at the Site. An IRM will quickly mitigate risks to public health and the environment. Planned IRM activities include: Buildings remediation and demolition; excavation and off-site disposal of impacted soil/fill beneath Building 3 (if required); and excavation and off-site disposal of six (6) impacted hotspot soil/fill areas (BH-7E, BH-11, TP-10, TP_11, RI-5, and RI-6). The goal IRM activities is to achieve 6NYCRR Part 375 Restricted-Residential Soil Cleanup Objectives (RRSCOs) and/or established site-specific action levels (SSALs) which were approved by NYSDEC in an email dated June 7, 2018. The SSALs include:

- Arsenic- 30 mg/kg
- Total PAHs- 500 mg/kg

Details of IRM activities are included in Section 3.0.

1.5 Project Organization and Responsibilities

Main and Hertel LLC (Owner) is a Volunteer in the New York State BCP. The IRM will be completed by remedial construction specialty contractors under contract to the Owner with engineering oversight by Benchmark-TurnKey. The NYSDEC Division of Environmental Remediation will monitor the activities, in consultation with the NYSDOH, to verify that the work is performed in accordance with the BCA, the approved IRM Work Plan, 6NYCRR Part 375, and NYSDEC DER-10 guidance.

2.0 PRE-IRM TASKS

2.1 Underground Utilities Location

The remediation contractor will contact underground facilities protection organization (Dig Safely New York, UFPO) to locate utility lines within the work areas.

2.2 Mobilization and Site Preparation

The remediation contractor's field operations at the Site will commence with mobilizing field trailer(s), equipment and materials to the Site. If required, prior to remedial activities, the Site will be cleared of woody vegetation and any loose debris and construction and demolition (C&D) debris such as a concrete, bricks, and miscellaneous debris located on the surface of the property.

2.3 Temporary Facilities and Controls

Temporary facilities for use during the remedial work may include a construction field trailer and portable toilets. Temporary controls will be employed for protection against off-site migration of soil and safety hazards during construction, including safety fencing, dust suppression, and erosion control as further described below.

2.3.1 Access Controls

General Site access is provided by one (1) driveway along Main Street. Based on limited Site access, site security fencing has been installed along Main Street and the perimeter of the majority of the Site where fencing was not already present. Additional temporary safety construction fencing (i.e., 3-foot high orange plastic) may be placed around the perimeter of work area(s) to distinguish the work zone and discourage foot or motor traffic in these areas.

2.3.2 Dust Monitoring and Controls

A Community Air Monitoring Plan (CAMP), a component of the Health and Safety Plan (HASP) (see Appendix B) will be implemented during IRM work. If community air monitoring indicates the need for dust suppression or if dust is visually observed leaving the Site, the remediation contractor will apply a water spray across the excavation and surrounding areas as necessary to mitigate airborne dust formation and migration. Potable

water will either be obtained from a public hydrant or provided by the on-site water service, if available. Other dust suppression techniques that may be used to supplement the water spray include hauling materials in properly tarped containers or vehicles and restricting vehicle speeds on-site.

2.3.3 Erosion and Sedimentation Control

Erosion, storm water and sedimentation control will be managed during IRM activities in accordance with the Storm Water Pollution Prevention Plan (SWPPP) provided in Appendix C.

3.0 INTERIM REMEDIAL MEASURES

An IRM will be completed to expedite remedial activities to address known environmental concerns identified in the Site soil/fill and associated with the building materials within Building 3 which have been identified as hazardous materials. The planned IRMs include the following tasks:

- Building 3 abatement, remediation, demolition and proper disposal of building materials;
- Removal and proper disposal of Universal Waste streams;
- Upon removal of concrete building slabs, soil/fill beneath Building 3 will be investigated and, if warranted, impacted soil/fill with exceedances of applicable SCOs and/or SSALs will be removed and characterized for off-site disposal;
- Removal and landfill disposal of PCB-and arsenic-impacted soil/fill in the area of BH-7;
- Removal and landfill disposal of arsenic-impacted soil/fill in the areas of TP-10, RI-6, and BH-11;
- Removal and landfill disposal of SVOC-impacted (total concentrations greater than 500 mg/kg) soil/fill in areas of TP-11 and RI-5; and,
- Collection of post-excavation confirmatory samples.

3.1 Building Abatement, Remediation and Demolition

Buildings 3 and the Oil Pump House will be demolished by Regional Environmental Demolition, Inc. (RED) under contract to Buffalo Construction Consultants (BCC), as the general contractor, and all materials will be properly managed and disposed off-site in accordance with applicable regulations. Pre-demolition asbestos containing material (ACM) surveys have been completed and ACMs within the buildings have been removed accordance with 12 NYCRR Part 56 (Industrial Code Rule 56) and properly disposed, except for roofing materials in Building 3 which will be removed and disposed of under a Department of Labor Variance AVA 1, Controlled Demolition with non-friable ACM in-place. A demolition permit has been obtained from the City of Buffalo. The demolition

debris from Building 3 and the Oil Pump House will be properly transported off-site for disposal or taken to a permitted recycling facility (as discussed below).

3.1.1 Building Materials Sampling Plan

As requested by NYSDEC, building materials within Building 3, the former plating operation building, were sampled and analyzed in accordance with Attachment 5 of the Demolition Work Plan dated July 30, 2018, which NYSDEC has reviewed, approved, and is provided for reference in Appendix D. Attachment 5 of the Demolition Work Plan contains a memorandum prepared by BE3 Corp. dated August 28, 2018 that outlines the building sampling plan described below and includes recommended procedures for managing building materials during demolition activities. Additional samples were collected and analyzed to further delineate the finding of the initial sampling.

The analysis included toxicity characteristic leaching procedure (TCLP) VOCs, SVOCs, metals and total PCBs. The samples were collected by BE3 on September 4th, September 11th, September 19th, September 20th and October 4, 2018 to characterize the building materials within Building 3 as summarized on Table 1 and shown on Figures 4A and 4B. The analytical results from the building materials sampling are included in Appendix E.

The results of that building material testing indicate that the following building materials will require special handling and disposal.

Building Material	Location	Sample ID & Date	Concern
Wood Joists & Paint	Bldg 3, 2nd floor, wood joists/beams for roof	B3F2-WB 9/4/2018	Characteristic Hazardous for Lead
	Bldg 3, 2nd floor, floor and roof structure composite sample	Bldg 3 Wood 9/19/2018	
	Bldg 3, 2nd floor, paint scrapings from wood joists/beams for roof	B3F2-WB 9/20/2018	
	Bldg 3, Room 3, 2nd floor Roof Joists	Room 3, 2nd Floor Roof Joists/F 10/3/2018	
Concrete Floor	Bldg 3, 2nd floor, Room 2, concrete floor	B3F2-Fl2 9/4/2018	PCB impacted To be Delineated
Wood Floor	Bldg 3, 2nd floor, Room 3, wood floor composite sample	B3F2-Fl3 9/4/2018	PCB impacted
Wooden Door & Trim	Bldg 3, 1st floor, Room 1, wooden green door/trim to men's room	*B3F7-Wd 9/11/2018	Characteristic Hazardous for Lead
Concrete Floor	Bldg 3, Floor 1, Room 5 concrete floor	*B3F7-R5-F1 9/11/2018	Characteristic Hazardous for Cadmium To be Delineated

*Note: The laboratory misinterpreted the chain of custody and reported F1 as F7.

As identified above, two (2) areas will be further delineated to determine the extent of cadmium-impacted concrete (1st floor, Room 5, Sample ID: B3F7-R5-F1) and PCB-impacted concrete (2nd floor, Room 2, B3F2-Fl2) as shown on Figures 4A and 4B respectively, that will require special handling and disposal. In both instances, the waste

characterization samples that were collected from the floors were 5-point composite samples (5 locations were composited into 1 waste characterization sample), respectively. In the case of the cadmium-impacted composite sample, one (1) of the composite sample locations was collected from within a process pit in Room 5 (and may be the cause of the elevated levels of cadmium detected).

Benchmark proposes to recollect concrete from the vicinity of the initial five (5) locations that were used to create the composite samples within the two (2) rooms. These samples will be analyzed as discrete sample location (rather than composite) for cadmium (1st floor, Room 5) and PCBs (2nd floor, Room 2) and will be analyzed by the laboratory. Additional discrete concrete sample locations will also be collected from new locations within the two (2) rooms from areas between the initial locations (see Figure 5). These new sample locations will be sent to the laboratory and placed on hold, until the results of the initial discrete sample results are received. Samples at the laboratory will be released for analysis based on the results with the goal of delineating areas of the concrete floors within the two (2) rooms that will require special handling.

The analytical results of the discrete PCB samples will be used to delineate the extent of PCB-impacted concrete that can be recycled versus PCB-impacted concrete that will be sent to the landfill for disposal.

Regarding the cadmium-impacted floor, if an area can be delineated based on the discrete samples' analysis (significant difference in discrete total cadmium results), Benchmark will request that the laboratory generate additional waste characterization composite samples from sample locations believe to be "unimpacted" and not requiring special handling, and impacted locations that will require special handling. These samples will be analyzed for RCRA 8 metals via TCLP analysis to determine their characteristic.

The building materials identified in the table above and delineated areas (wood joists, concrete floors, painted trim, etc.) will be identified in the field by spray-painting them with a bright color to identify the materials that will require special handling. This procedure has been discussed with the landfill facilities and has been accepted.

Based on the sampling results, all other building materials, including brick, concrete block, concrete floors delineated to be acceptable, metal I-beams, and windows can be recycled or disposed as construction and demolition (C&D) debris. Disposal and/or recycling of the building materials will be done in accordance with local, state, and federal regulations.

3.1.2 Building Demolition

RED will demolish the buildings in accordance with their Demolition Work Plan dated July 30, 2018 (see Appendix D). The Work Plan indicates that if building materials are characterized as hazardous, as some have based on the sampling results, then a Community Air Monitoring Plan (CAMP) will be implemented during demolition. As such, Benchmark-TurnKey will implement typical BCP CAMP procedures and assist the demolition contractor during building material segregation and disposal. Because the roof material of Building 3 contains non-friable ACM that will be managed under a variance, AMD Environmental Consultants, Inc. (a subcontractor to the owner) will provide asbestos air monitoring as required by the variance.

CAMP and asbestos air monitoring data will be completed during Building 3 demolition and during building materials removal activities from the Site. CAMP and asbestos air monitoring data will be included in the IRM Construction Closeout documentation.

3.1.3 Demolition Materials Management/Disposal

The procedures outlined below will be followed in general accordance with the August 28, 2018 memorandum, as revised to reflect the data collected during the Building Material Sampling Plan. We note that the FLBs which may contain PCBs due to their age, have already been removed from the building and packaged for shipment by the demolition contractor, Regional Environmental Demolition Inc. (RED), and shipped off-site under manifest by Environmental Services Group of New York (ESG). A copy will be included in the IRM Closeout Report.

- Prior to building demolition, potential lead-based paint chips/flakes will be collected and containerized within each building. This material will be characterized and disposed at an approved facility.
- Buildings will be demolished in a controlled manner utilizing adequate dust control measures (e.g., misting systems, hoses, spray guns, etc.) and proper excavation equipment with attachments (e.g., buckets, shears, grapples, hammers, etc.).
- Using mechanical means, demolition debris will be separated into the following categories, containerized, and transported off-Site at the approved receiving facility:

  - Non-friable ACMs (roofing materials)
  - Contaminated Wood
  - Non-contaminated C&D Debris (windows, tile, drywall, etc.)
  - Non-contaminated brick
  - Non-contaminated concrete block

- The PCB-impacted concrete on the 2nd floor of Building 3 will be mechanically removed in-place. Concrete debris which may fall to the floor below will be contained on the 1st floor for proper disposal with the concrete material removed in-place.
- After building demolition debris is removed, but prior to removing the concrete building slabs-on-grade, potential lead-based paint chips/flakes and related suspect materials that are loose and accumulate on concrete slabs will be contained to prevent release to surface soil, sampled, characterized, and disposed at an approved facility.
- Building concrete slabs-on-grade will be demolished and transported off-Site to approved receiving facility under adequate dust suppression and environmental monitoring to control potential releases form impacted soil. Contaminated concrete floor areas will be segregated and property disposed. Non-contaminated concrete will be sent for recycling.

Three (3) transformers are present in the vicinity of Building 3 (see Figure 4A). National Grid terminated the power to the facility on October 27th and it was confirmed by Modern Electric Construction, Inc. on October 30th. The dielectric fluid present within the transformers were sampled on October 30th. The analytical results are included in Appendix G. Transformer #1 contained PCBs at a concentration of 72.1 mg/kg, Transformer #2 was non-detected for PCBs and Transformer #3 contained PCBs at a concentration of 0.607 mg/kg. Disposal of the transformers and their contents will be done in accordance with local, state, and federal regulations.

The following disposal and recycling facilities have been identified for the waste streams to be generated as part of the building demolition:

- Waste Management Chafee Landfill: non-recyclable construction and demolition debris, PCB-impacted concrete.

- Envirosafe Services of Ohio, Inc. (Oregon, OH): Hazardous lead impacted paint/wood, and hazardous cadmium-impacted concrete.
- Environmental Enterprises, Inc (Cincinnati, OH): PCB light ballasts.
- Swift River Associates: non-impacted concrete.
- Metalico, Inc.: recyclable metals.
- PCB-Contaminated Transformer fluid: to be determined. The Department will be notified of the disposal location once it is determined.

Waste and recyclable materials generated as part of the building demolition will be disposed of and/or recycled in accordance with local, state and federal regulations.

3.1.4 Soil/Fill Investigation Beneath Building 3

Upon the demolition and removal of Building 3 foundations/floor slabs as part of the Site re-development, the soil beneath the foundations will be assessed by Benchmark-TurnKey. Based upon the results of the RI, portions of the building foundations may be situated directly on or into bedrock. However, where soil exists, test pits will be excavated, and four (4) soil samples will be collected from beneath Building 3 and analyzed for TCL VOCs, TCL SVOCs, TAL metals and PCBs. The analytical results will determine whether soil/fill beneath the building requires remediation/removal. If required, soil/fill removal protocols are described in Section 3.3.2 below.

3.2 Soil/Fill Waste Characterization

Waste characterization samples from the six (6) hotspot areas and soil/fill beneath Buildings 3, if necessary, will be collected in accordance with the disposal facilities requirements. We have assumed two (2) waste characterization samples (for soil/fill volume up to 1,000 tons) will be collected from the areas to be addressed. Pre-characterization of the soil/fill will allow for direct loading and off-site transportation at the time of the impacted soil removal. Based on the results of the waste characterization sampling, impacted soil/fill will be managed according to all federal, state and local waste disposal regulations.

3.3 Removal of Impacted Soil/Fill

3.3.1 Hotspot Soil/Fill Areas

Soil/fill from the six (6) hotspots areas will be excavated and removed for proper landfill disposal. Remedial excavation work will be directed by an experienced Benchmark-TurnKey professional to remove impacted soil/fill material. A PID will be used to screen soil/fill materials for total volatile organics and visual/olfactory observations will assist to verify removal of impacted soil/fill; however, soil/fill in these areas are impacted with arsenic, PCBs, and/or SVOCs which are often not easily discernable based on field observations. The extents of the remedial excavation will continue until post-excavation confirmatory samples meet SSALs; the excavation has reached the property boundary; or, NYSDEC agrees that no further excavation is required. The individual hotspots are discussed below.

BH-7E – Arsenic and PCB impacted

An initial approximate 20-ft by 20-ft lateral area will be excavated to approximately 5 feet below ground surface, which is the anticipated depth to bedrock, and post-excavation samples will be collected as discussed in Section 3.5.

TP-10 – Arsenic impacted

An initial approximate 20-ft by 20-ft lateral area will be excavated to approximately 5 feet below ground surface, which is the anticipated depth to bedrock, and post-excavation samples will be collected as discussed in Section 3.5.

RI-6 – Arsenic impacted

An initial approximate 10-ft- by 10-ft lateral area will be excavated to 1.5 feet below ground surface and post-excavation samples will be collected as discussed in Section 3.5.

BH-11E – Arsenic impacted

An initial approximate 20-ft by 20-ft lateral area will be excavated to approximately 5 feet below ground surface, which is the anticipated depth to bedrock, and post-excavation samples will be collected as discussed in Section 3.5.

TP-11 – SVOC impacted

An initial approximate 20-ft by 20-ft lateral area will be excavated to approximately 6.5 feet below ground surface, which is the anticipated depth to bedrock, and post-excavation samples will be collected as discussed in Section 3.5.

RI-5 – SVOC impacted

An initial approximate 10-ft- by 10-ft lateral area will be excavated to 3 feet below ground surface and post-excavation samples will be collected as discussed in Section 3.5.

3.3.2 Potential Impacts Beneath Building 3

Based on historic use of Building 3, contaminated soil/fill may be present beneath the concrete slab of the buildings. Investigation data will be collected and reviewed to assess if there are contaminants present in soil/fill above SSALs and/or RRSCOs.

If contaminated soil/fill that requires removal is identified during investigation activities as described in Section 3.1.4, the contaminated material will be excavated and removed for proper landfill disposal. Remedial excavation work will be directed by an experienced Benchmark-TurnKey professional to remove impacted soil/fill material. A PID will be used to screen soil/fill materials for total volatile organics and visual/olfactory observations will assist to verify removal of impacted soil/fill; however, soil/fill in these areas may be impacted with metals and/or PAHs, which are often not easily discernable based on field observations. Therefore, an initial excavation with a lateral extent to be determined based on investigation data will be excavated to the top of bedrock, which is anticipated to be approximately 2 to 4 fbgs, and post-excavation samples collected. The lateral extents of the remedial excavation will continue until: post-excavation confirmatory samples meet SSALs and/or RRSCOs; the excavation has reached the property boundary; or, NYSDEC agrees that no further excavation is required.

3.4 Excavation Material Load-Out

Loaded vehicles leaving the Site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate local, state, federal and NYSDOT requirements. A truck wash will be operated on-site, as appropriate, and will be utilized for outbound trucks until the hotspot removal activities are complete. Truck wash waters will be collected and disposed of off-site in an appropriate manner.

Locations where vehicles enter or exit the Site will be inspected daily for evidence of off-site soil tracking. A street sweeper will be utilized, if necessary, to clean the entrance and/or street. Minor soil tracking that can be manually cleaned/removed will be done so.

Equipment used to perform the hotspot removal activities (e.g., excavator) will manually cleaned of any soil/fill or debris, including bucket and track/tires, prior to leaving the Site. If grossly impacted materials are encountered during excavation activities, evidence of gross impacts will be manually removed, in addition water/detergent rinse, if necessary, prior to leaving the excavation location in which gross impacts were identified.

3.5 Post-Excavation Confirmation Sampling

Post excavation confirmatory samples will be collected from the excavated areas, with bias toward material exhibiting evidence of visual and olfactory contamination, if any. Post-excavation confirmatory samples will be collected from sidewalls and bottoms of the excavation area in accordance with DER-10: a minimum of one (1) sample per 30 linear feet of excavation sidewall and one (1) sample per 900 square feet of bottom of excavation will be collected. Bottom samples will not be collected from excavations that extend to the top of bedrock. Samples from the excavations will be analyzed for:

- BH-7E: RCRA 8 Metals and PCBs
- TP-10, RI-6 and BH-11: RCRA 8 Metals
- TP-11 and RI-5: Part 375 list SVOCs
- Parameters to be determined based on data to be collected beneath Building 3.

Samples will be analyzed in accordance with USEPA Methodology with an equivalent Category B deliverables package to facilitate data evaluation by a third-party validation expert. Expedited turnaround times may be requested for the analytical results to minimize the time that the excavation(s) remains open and expedite the remedial process. QA/QC samples (one (1) duplicate and one (1) matrix spike/matrix spike duplicate will be collected from every 20 samples) will also be collected.

3.6 Excavation Backfill

Based on the current site grades, planned redevelopment, planned final grades, and planned Track 4 cleanup approach utilizing a soil cover system, the excavations will be backfilled with surrounding site soils. However, if imported materials are brought to the Site for use as backfill, such materials will be sampled and/or imported in accordance with DER-

10 soil import requirements and meet the allowable constituent levels for imported fill or soil provided in Appendix 5 of DER-10.

4.0 REMEDIAL ACTIVITIES SUPPORT DOCUMENTS

4.1 Health and Safety Protocols

Benchmark-TurnKey has prepared a Health and Safety Plan (HASP) in accordance with 40 CFR 300.150 of the NCP and 29 CFR 1910.120. The HASP, provided in Appendix B, includes the following Site-specific information:

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

The HASP also includes a contingency plan that addresses potential site-specific emergencies, and a Community Air Monitoring Plan as described below.

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

4.2 Community Air Monitoring

Real-time community air monitoring will be performed during IRM activities at the Site. A Community Air Monitoring Plan (CAMP) is included with Benchmark-TurnKey's HASP. Particulate and VOC monitoring will be performed along the downwind perimeter of the work area during building demolition, subgrade excavation, grading, and soil/fill handling activities in accordance with this plan. 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

DER-10 Appendix 1A (NYSDOH's Generic Community Air Monitoring Plan) and Appendix 1B (Fugitive Dust and Particulate Monitoring).

4.3 Citizen Participation Activities

NYSDEC will coordinate and lead community relations throughout the course of the project with support from the owner and Benchmark-TurnKey as requested. A Citizen Participation (CP) Plan has been approved by NYSDEC. The NYSDEC will issue project fact sheets to keep the public informed of remedial activities as warranted.

5.0 REPORTING

5.1 IRM Construction Completion Report

An IRM Construction Completion Report (IRM CCR) will be provided at the conclusion of IRM activities. The IRM CCR will include the following information, consistent with the NYSDEC's DER-10 Technical Guidance for Site Remediation:

- Introduction and background.
- A Site or area planimetric map showing the area(s) remediated, including significant site features.
- A Site map showing the lateral limits of any excavations.
- Tabular summaries of unit quantities of building material/universal wastes, including volume and dispositions of material removed and disposed soil.
- Tabular summaries of unit quantities including volume of soil excavated, disposition of excavated/disposed soil; and, origin and volume of imported soil.
- 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 SSALs. An explanation shall be provided for any results exceeding acceptance criteria.
- Transportation and disposal records of building materials and impacted soil removed from the Site.
- Copies of daily inspection reports and, if applicable, problem identification and corrective measure reports.
- CAMP and asbestos air monitoring data collected during the building demolition and IRM activities.
- Photo documentation of remedial activities.
- Text describing the IRM 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.

In addition, Benchmark-TurnKey will subcontract for third-party data review of post-excavation verification data 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 format will follow the NYSDEC's September 1997 DUSR

guidelines and draft DER-10 guidance. The DUSR and any necessary qualifications to the data will be included in the IRM documentation. The validated data will be reported in digital format as determined by the NYSDEC. Currently, data is to be supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at http://www.dec.ny.gov/chemical/62440.html**.**

6.0 PROJECT SCHEDULE

IRM activities will be initiated immediately upon approval of this Work Plan and are tentatively scheduled to begin in November 2018. It is anticipated that the IRM activities will be completed in approximately 6 weeks of initiation barring significant weather delays. The NYSDEC Project Manager will be notified at least seven days in advance of all field activities.

TABLES

TABLE 1
SUMMARY OF BUILDING 3 SAMPLE ANALYTICAL DATA
INTERIM REMEDIAL MEASURES WORK PLAN
MAIN and HERTEL SITE
BUFFALO, NEW YORK

SAMPLE ID	DATE	ANALYSIS	DESCRIPTION	IMPACTED
B3F2-Fl1	9/4/2018	PCBs, TCLP SVOCs, TCLP Mercury, TCLP RCRA Metals, TCLP VOCs	Building 3, Floor 2, Room 1, Wood Floor	No
B3F2-Fl2	9/4/2018	PCBs, TCLP SVOCs, TCLP Mercury, TCLP RCRA Metals, TCLP VOCs	Building 3, Floor 2, Room 2, Concrete Floor	Yes - PCBs: 3.06 mg/kg
B3F2-Fl3	9/4/2018	PCBs, TCLP SVOCs, TCLP Mercury, TCLP RCRA Metals, TCLP VOCs	Building 3, Floor 2, Room 3	Yes - PCBs: 1.32 mg/kg
B3F2-WB	9/4/2018	PCBs, TCLP SVOCs, TCLP Mercury, TCLP RCRA Metals, TCLP VOCs	Building 3, Floor 2, Wood Beams/Structure Composite	Yes - Lead: 133 mg/l
B3F2-WB	9/4/2018	Lead	Building 3, Floor 2, Paint Scraped off of Wood Beams/Structure Composite	Yes - Lead 22%
B3F2-Blk	9/4/2018	PCBs, TCLP SVOCs, TCLP Mercury, TCLP RCRA Metals, TCLP VOCs	Building 3, Floor 2, Block Composite	No
B3F2-Br	9/4/2018	PCBs, TCLP SVOCs, TCLP Mercury, TCLP RCRA Metals, TCLP VOCs	Building 3, Floor 2, Brick Composite	No
B3F7-Wd[1]	9/11/2018	PCBs, TCLP SVOCs, TCLP Mercury, TCLP RCRA Metals, TCLP VOCs	Building 3, Floor 1, Wood Composite	Yes - Lead: 7.9 mg/L
B3F7-Br[1]	9/11/2018	PCBs, TCLP SVOCs, TCLP Mercury, TCLP RCRA Metals, TCLP VOCs	Building 3, Floor 1, Brick Composite	No
B3F7-Blk[1]	9/11/2018	PCBs, TCLP SVOCs, TCLP Mercury, TCLP RCRA Metals, TCLP VOCs	Building 3, Floor 1, Block Composite	No
B3F7-R1-Fl[1]	9/11/2018	PCBs, TCLP SVOCs, TCLP Mercury, TCLP RCRA Metals, TCLP VOCs	Building 3 Floor 1, Room 1, Concrete Floor	No
B3F7-R2-Fl[1]	9/11/2018	PCBs, TCLP SVOCs, TCLP Mercury, TCLP RCRA Metals, TCLP VOCs	Building 3, Floor 1, Room 2, Concrete Floor, Wood Floor	No
B3F7-R3-Fl[1]	9/11/2018	PCBs, TCLP SVOCs, TCLP Mercury, TCLP RCRA Metals, TCLP VOCs	Building 3, Floor 1, Room 3, Concrete Floor	No
B3F7-R4-Fl[1]	9/11/2018	PCBs, TCLP SVOCs, TCLP Mercury, TCLP RCRA Metals, TCLP VOCs	Building 3, Floor 1, Room 4, Concrete Floor	No
B3F7-R5-Fl[1]	9/11/2018	PCBs, TCLP SVOCs, TCLP Mercury, TCLP RCRA Metals, TCLP VOCs	Building 3, Floor 1, Room 5, Concrete Floor	Yes - Cadmium: 3.36 mg/l
B3F7-R6-Fl[1]	9/11/2018	PCBs, TCLP SVOCs, TCLP Mercury, TCLP RCRA Metals, TCLP VOCs	Building 3, Floor 1, Room 6, Concrete Floor	No
Bldg 3 Wood	9/19/2018	Lead	Building 3, Floor 2, Composite Wood Structure, Floor and Roof Structure	Yes - Lead: 35.6 mg/l
Room 3 - 2nd Floor Joists/F	10/4/2018	Lead	Building 3, Floor 2, Room 3, Roof Joists	Yes - Lead: 87.8 mg/l
Room 1 - 2nd Floor Walls	10/4/2018	Lead	Building 3, Floor 2, Room 1, Walls	No
Room 5 - 1st Floor Joists	10/4/2018	Lead	Building 3, Room 5, 2nd floor Joists	No
Room 1 - 2nd Floor Columns	10/4/2018	Lead	Building 3, Floor 2, Room 1, Joists	No
Room 2 - 1st Floor Walls/C1	10/4/2018	Lead	Building 3, Floor 1, Room 2, Walls	No
Room 2 - 1st Floor Floor/C3	10/4/2018	Lead	Building 3, Floor 1, Room 2, Floor	No
Room 5 - 1st Floor Walls/A	10/4/2018	Lead	Building 3, Floor 1, Room 5, Walls	No
Room 3 - 2nd Floor Walls/D	10/4/2018	Lead	Building 3, Floor 2, Room 3, Walls (Office Panel Walls/Trim)	No
I - Windows	10/4/2018	Lead	Window Composite	No
Room 1 - 1st Floor Joists/B	10/4/2018	Lead	Building 3, Floor 1, Room 1, Joists	No
Room 1 - 2nd Floor Joists/G	10/4/2018	Lead	Building 3, Floor 2, Room 1, Joists	No
Room 4 - 1st Floor Roof/H	10/4/2018	Lead	Building 3, Floor 1, Room 4, Roof	No
Room 2 - 1st Floor Joists/C2	10/4/2018	Lead	Building 3, Floor 1, Room 2, Joists	No
Room 3 - 2nd Floor Walls/E	10/4/2018	Lead	Building 3, Floor 2, Room 3, Walls (White Office Walls/Trim)	No

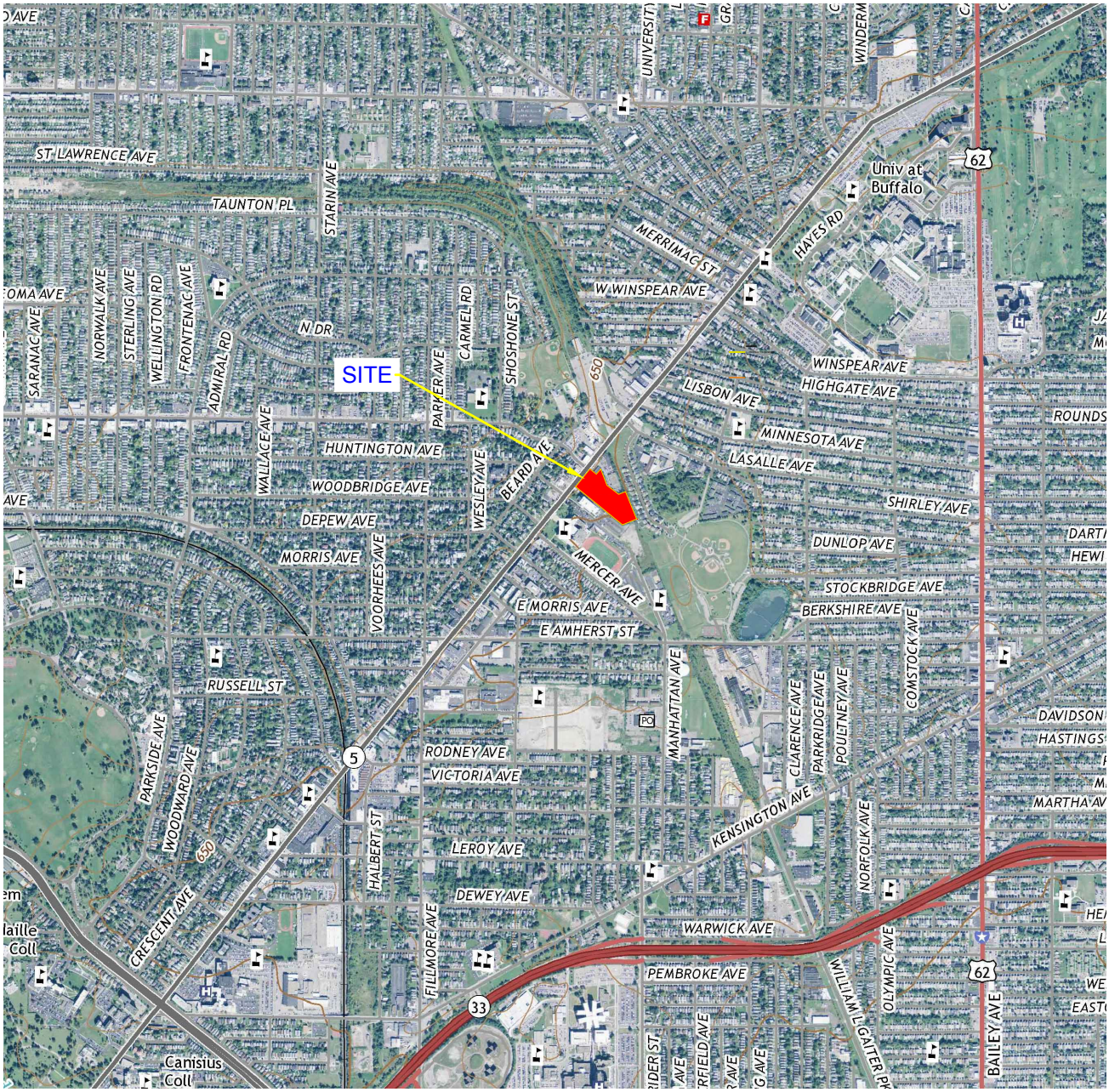
Notes:

1. Laboratory misinterpreted the chain of custody and reported F1 as F7.

FIGURES

F:\CAD\Benchmark\Main and Hertel\IRM\Figure 1; Site Location and Vicinity Map.dwg, DWG To PDF.pc3

FIGURE 1



2,000' 0' 2,000' 4,000'

SCALE: 1 INCH = 2,000 FEET
SCALE IN FEET
(approximate)

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TURNKEY ENVIRONMENTAL RESTORATION, LLC

2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218, (716) 856-0599

PROJECT NO.: 0463-018-001-002

DATE: OCTOBER 2018

DRAFTED BY: RFL

SITE LOCATION AND VICINITY MAP

IRM WORK PLAN

MAIN AND HERTEL SITE
BCP SITE NO. C915318
BUFFALO, NEW YORK

PREPARED FOR

MAIN AND HERTEL LLC

DATE: OCTOBER 2018
DRAFTED BY: RFL

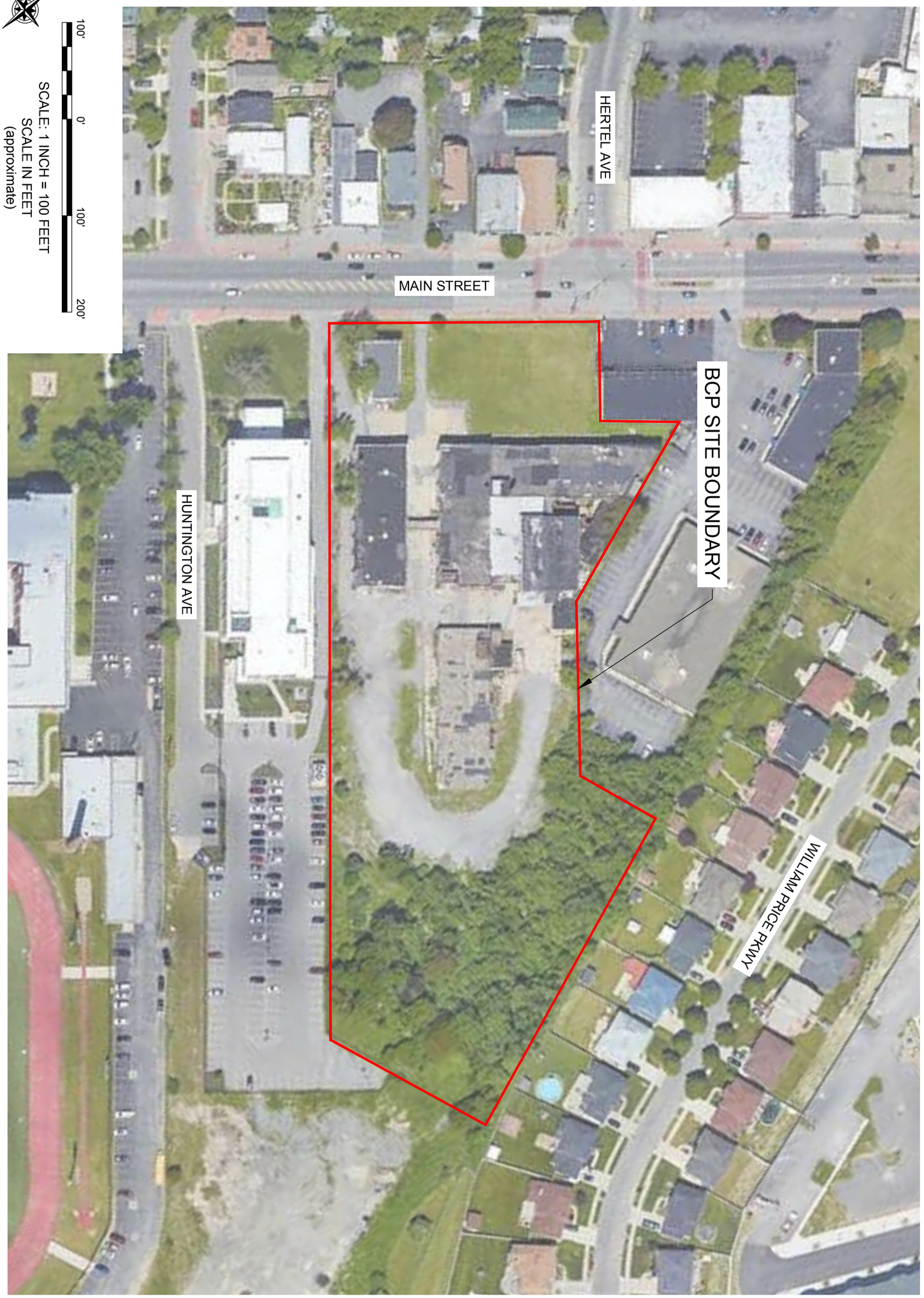


FIGURE 2

SITE PLAN (AERIAL)

IRM WORK PLAN

MAIN AND HERTEL SITE
BCP SITE NO. C915318
BUFFALO, NEW YORK

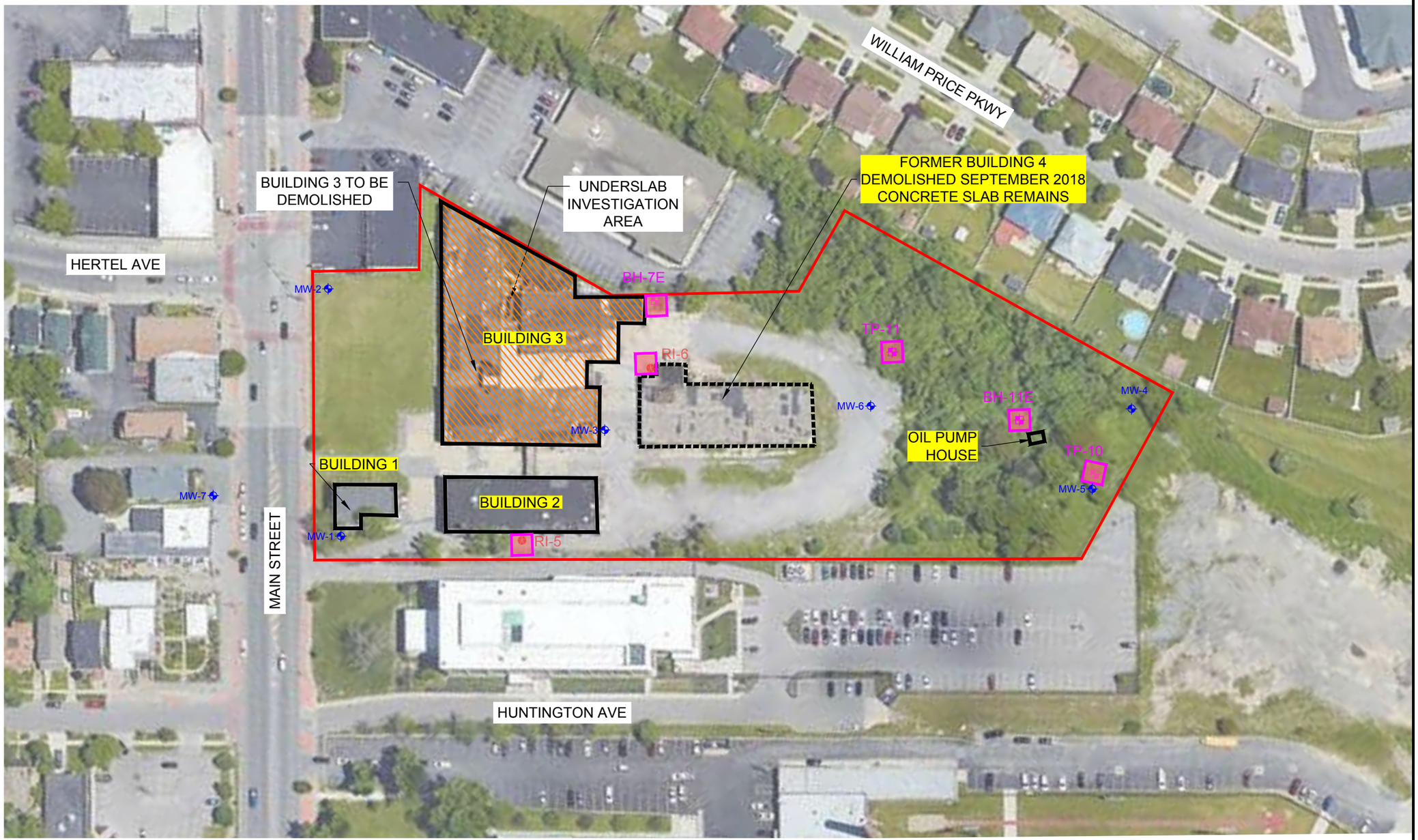
PREPARED FOR

MAIN AND HERTEL LLC

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
TURNKEY ENVIRONMENTAL RESTORATION, LLC
2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218, (716) 856-0599

JOB NO.: 0463-018-001-002

F:\CAD\Benchmark\Main and Hertel\IRM\Figure 3; IRM Areas.dwg, DWG To PDF.pc3



100' 0' 100' 200'

SCALE: 1 INCH = 100 FEET
SCALE IN FEET
(approximate)

LEGEND:

- BCP SITE BOUNDARY
- MW-1 MONITORING WELL
- RI-6 RI BORING
- BH-7E RI TEST PIT
- EXISTING BUILDING LOCATION
- FORMER BUILDING LOCATION
- PLANNED HOT SPOT EXCAVATION AREA EXTENT OF EXCAVATION TO BE FIELD DETERMINED
- PLANNED UNDERSLAB INVESTIGATION AREA

DATE: OCTOBER 2018
DRAFTED BY: RFL

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
TURNKEY ENVIRONMENTAL RESTORATION, LLC
2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218, (716) 856-0599

JOB NO.: 0463-018-001-002

INTERIM REMEDIAL MEASURES AREAS

IRM WORK PLAN

MAIN AND HERTEL SITE
BCP SITE NO. C915318
BUFFALO, NEW YORK

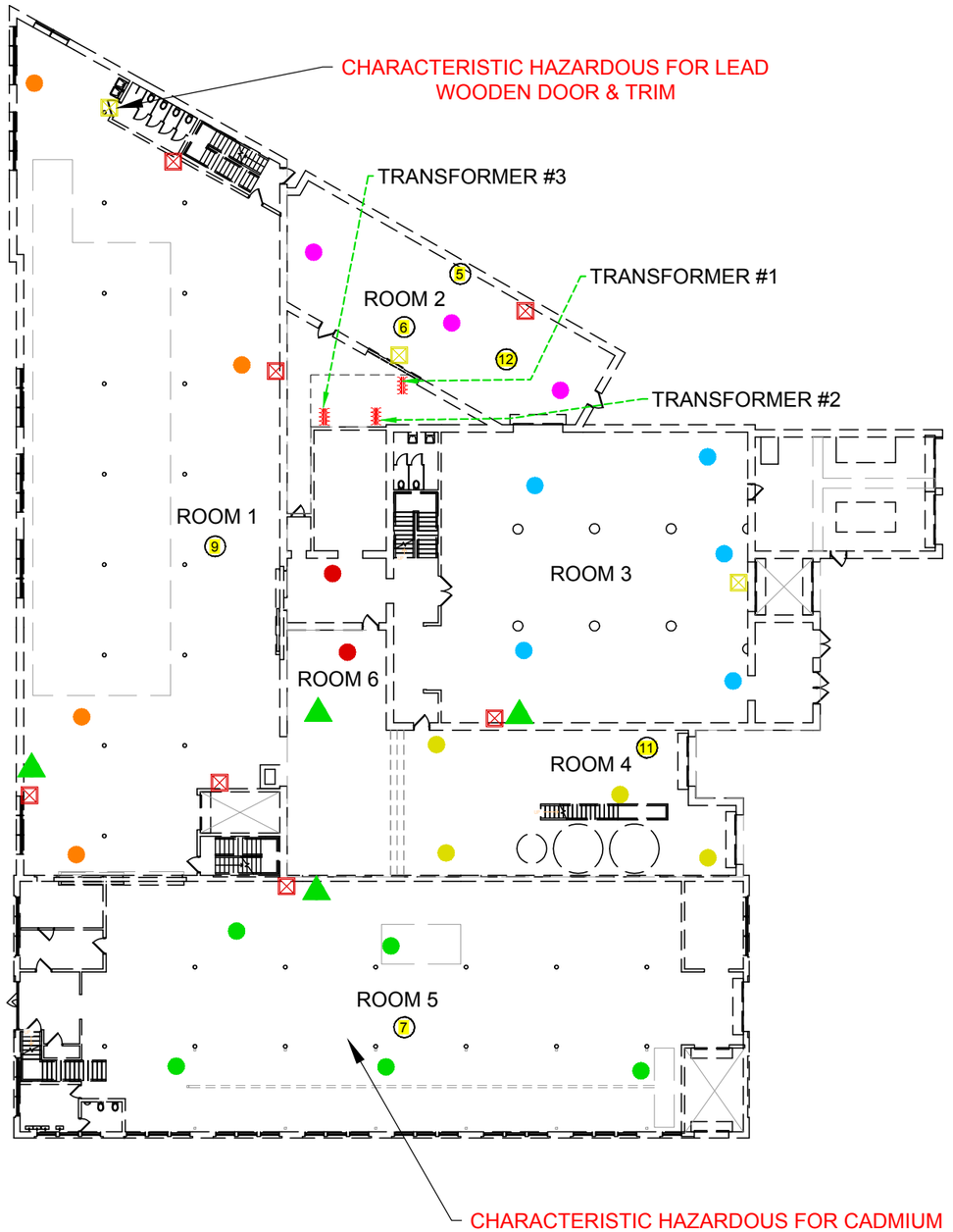
PREPARED FOR
MAIN AND HERTEL LLC

FIGURE 3

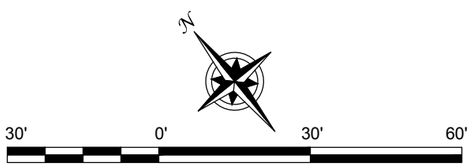
LEGEND (SEE NOTE 1 BELOW):

- B3F7-R1-FL: ROOM 1, CONCRETE FLOOR, COMPOSITE SAMPLE
- B3F7-R2-FL: ROOM 2, CONCRETE FLOOR, COMPOSITE SAMPLE
- B3F7-R3-FL: ROOM 3, CONCRETE FLOOR, COMPOSITE SAMPLE
- B3F7-R4-FL: ROOM 4, CONCRETE FLOOR, COMPOSITE SAMPLE
- B3F7-R5-FL: ROOM 5, CONCRETE FLOOR, COMPOSITE SAMPLE
- B3F7-R6-FL: ROOM 6, CONCRETE FLOOR, COMPOSITE SAMPLE
- B3F7-WB: WOOD COMPOSITE FROM 1st FLOOR
- B3F7-BLK: 1st FLOOR, BLOCK COMPOSITE
- B3F7-BR: 1st FLOOR, BRICK COMPOSITE
- INTERIOR BUILDING COLUMN
- (12) SEE TABLE BELOW FOR SAMPLE DESCRIPTION

NOTE:
1. B3F1 WAS MISREAD BY LAB AS B3F7. ALL RESULTS REFERRING TO B3F7 REPRESENT BUILDING 3 FLOOR 1.
2. SAMPLE DESIGNATED I-WINDOWS WAS COLLECTED FROM MULTIPLE WINDOWS WITHIN THE BUILDING.



Number	SAMPLE ID
5	Room 2 - 1st Floor Walls/C1
6	Room 2 - 1st Floor Floor/C3
7	Room 5 - 1st Floor Walls/A
9	Room 1 - 1st Floor Joists/B
11	Room 4 - 1st Floor Roof/H
12	Room 2 - 1st Floor Joists/C2



SCALE: 1 INCH = 30 FEET
SCALE IN FEET
(approximate)

DATE: OCTOBER 2018
DRAFTED BY: RFL

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
TURNKEY ENVIRONMENTAL RESTORATION, LLC
2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218, (716) 856-0599

JOB NO.: 0463-018-001

BUILDING MATERIAL SAMPLE LOCATIONS
BUILDING 3 FIRST FLOOR

IRM WORK PLAN

MAIN AND HERTEL SITE
BCP SITE NO. C915318
BUFFALO, NEW YORK

PREPARED FOR
MAIN AND HERTEL LLC

FIGURE 4A

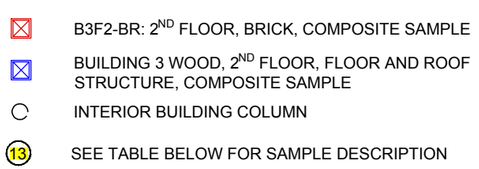
F:\CAD\BenchmarkMain and Hertel\IRM\Figure 4B; Bldg 3 Second Floor.dwg, DWG To PDF.pc3

LEGEND:

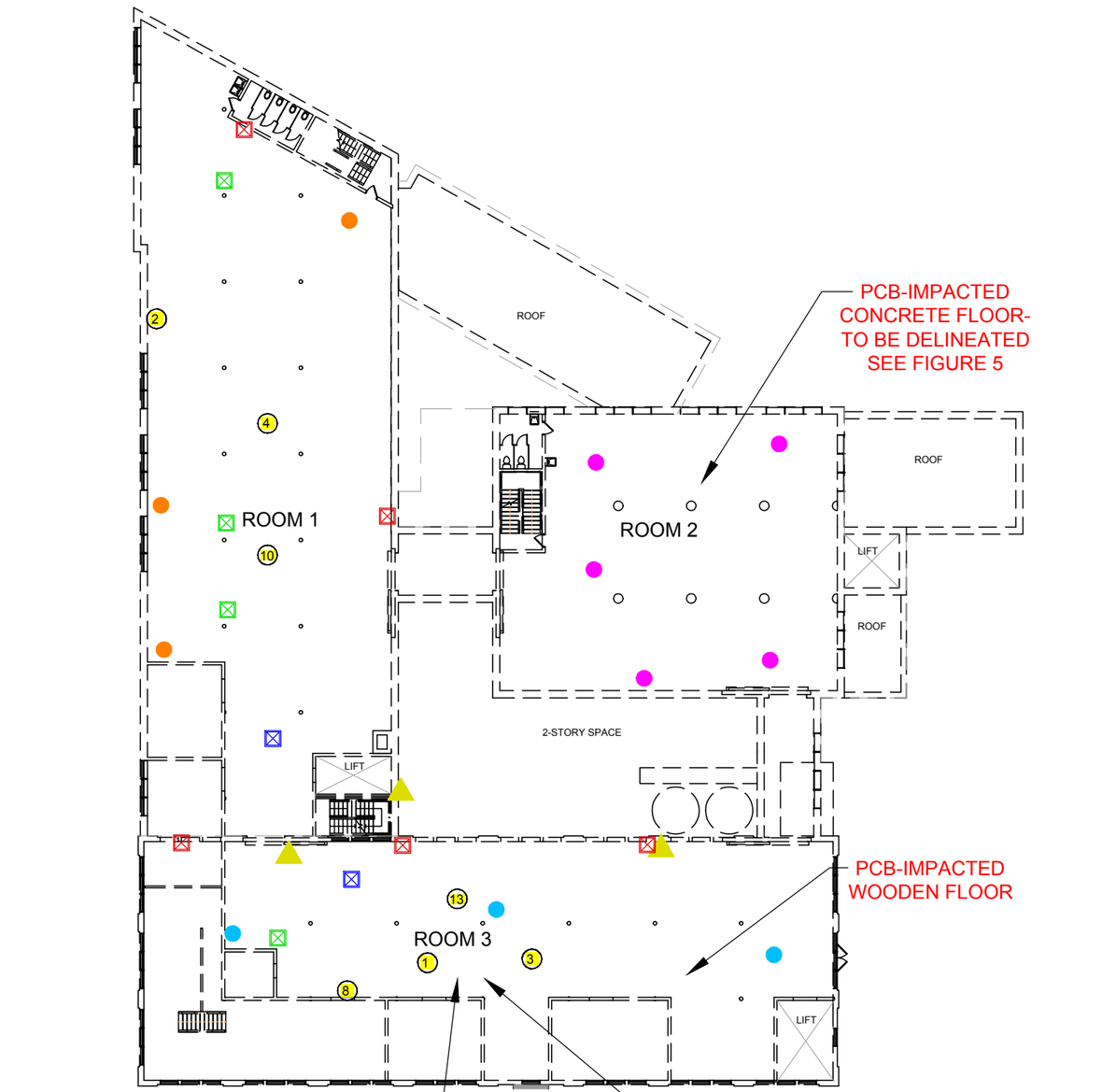
- B3F2-FL1: 2ND FLOOR, ROOM 1, WOOD FLOOR, COMPOSITE SAMPLE
- B3F2-FL2: 2ND FLOOR, ROOM 2, CONCRETE FLOOR, COMPOSITE SAMPLE
- B3F2-FL3: 2ND FLOOR, ROOM 3, WOOD FLOOR, COMPOSITE SAMPLE
- B3F2-WB: 2ND FLOOR, WOOD BEAMS/STRUCTURE COMPOSITE
- B3F2-BLK: 2ND FLOOR, CONCRETE BLOCK, COMPOSITE SAMPLE
- B3F2-BR: 2ND FLOOR, BRICK, COMPOSITE SAMPLE
- BUILDING 3 WOOD, 2ND FLOOR, FLOOR AND ROOF STRUCTURE, COMPOSITE SAMPLE
- INTERIOR BUILDING COLUMN
- (13) SEE TABLE BELOW FOR SAMPLE DESCRIPTION

NOTE:
1. SAMPLE DESIGNATED I-WINDOWS WAS COLLECTED FROM MULTIPLE WINDOWS WITHIN THE BUILDING.

Number	SAMPLE ID
1	Room 3 - 2nd Floor Joists/F
2	Room 1 - 2nd Floor Walls
3	Room 3 - 2nd Floor Joists
4	Room 1 - 2nd Floor Columns
8	Room 3 - 2nd Floor Walls/D
10	Room 1 - 2nd Floor Joists/G
13	Room 3 - 2nd Floor Walls/E



SCALE: 1 INCH = 30 FEET
SCALE IN FEET
(approximate)



DATE: OCTOBER 2018
DRAFTED BY: RFL

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2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218, (716) 856-0599

JOB NO.: 0463-018-001

BUILDING MATERIAL SAMPLE LOCATIONS BUILDING 3 SECOND FLOOR

IRM WORK PLAN

MAIN AND HERTEL SITE
BCP SITE NO. C915318
BUFFALO, NEW YORK

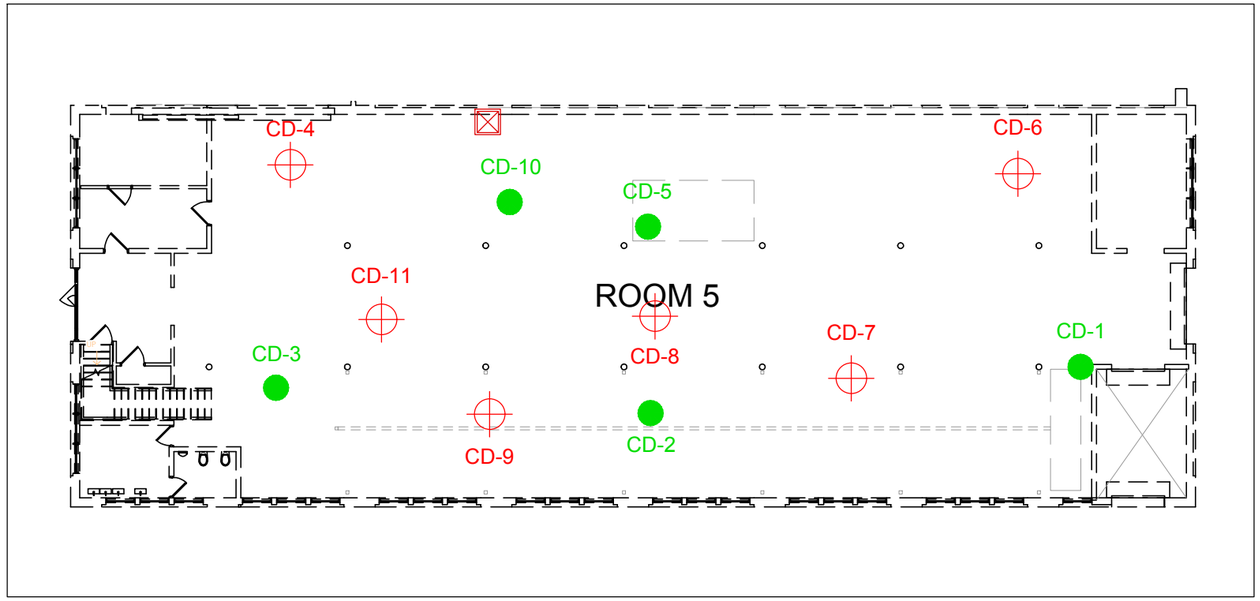
PREPARED FOR
MAIN AND HERTEL LLC

FIGURE 4B

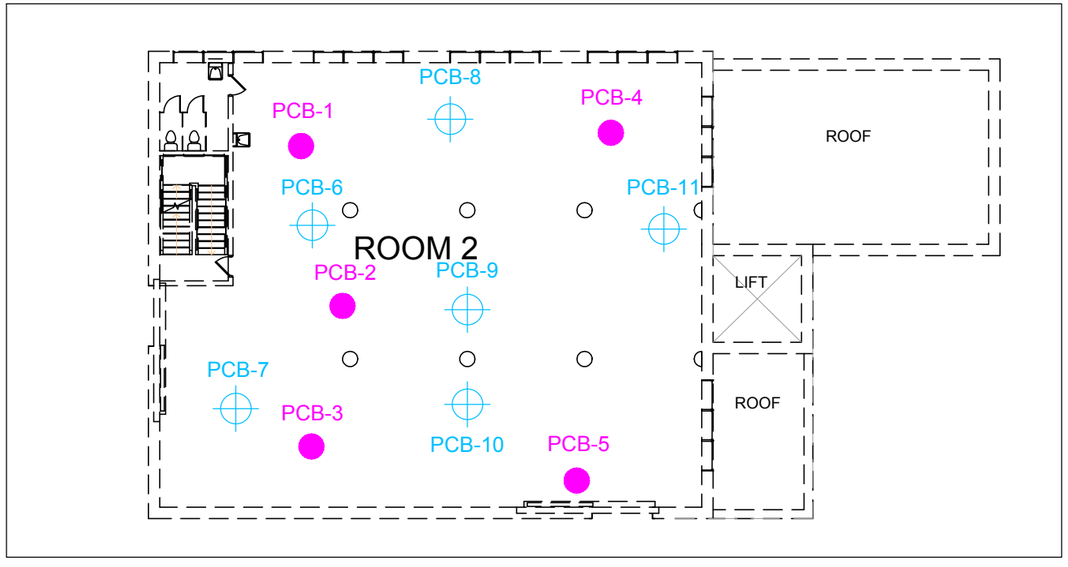
F:\CAD\Benchmark\Main and Hertel\IRM\Figure 5; Cd and PCB Delineation Rooms 5 and 2.dwg

LEGEND:

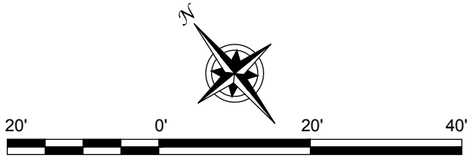
- B3F7-R2-FL: ROOM 2, CONCRETE FLOOR, COMPOSITE SAMPLE
- B3F7-R5-FL: ROOM 5, CONCRETE FLOOR, COMPOSITE SAMPLE
- INTERIOR BUILDING COLUMN
- CADMIUM DELINEATION LOCATION
- PCB DELINEATION LOCATION



BUILDING 3, FIRST FLOOR, ROOM 5
CADMIUM DELINEATION SAMPLE LOCATIONS



BUILDING 3, SECOND FLOOR, ROOM 2
PCB DELINEATION SAMPLE LOCATIONS



SCALE: 1 INCH = 20 FEET
SCALE IN FEET
(approximate)

DATE: NOVEMBER 2018
DRAFTED BY: RFL

CADMIUM- AND PCB-IMPACTED CONCRETE DELINEATION SAMPLE LOCATIONS

IRM WORK PLAN

MAIN AND HERTEL SITE
BCP SITE NO. C915318
BUFFALO, NEW YORK

PREPARED FOR
MAIN AND HERTEL LLC

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218, (716) 856-0599

TURNKEY ENVIRONMENTAL RESTORATION, LLC

JOB NO.: 0463-018-001

FIGURE 5

APPENDIX A

TABLES AND FIGURES FROM REMEDIAL INVESTIGATION

TABLE 1 - MAIN AND HERTEL - PHASE 2 BORING SOIL SAMPLE ANALTICAL RESULTS SUMMARY													
Sampling Program	**PHASE 2 SOIL BORING PROGRAM**												
Sample No.	**BH-1**	**BH-3**	**BH-6**	**BH-7**	**BH-9**	**BH-10**	**BH-11**	**BH-12**	**BH-13**	**BH-15**	**NYSDEC**	**NYSDEC**	**NYSDEC**
Sample Date	**12/20/2016**	**12/20/2016**	**12/20/2016**	**12/20/2016**	**12/20/2016**	**12/20/2016**	**12/20/2016**	**12/20/2016**	**12/20/2016**	**12/20/2016**	**PART 375**	**PART 375**	**PART 375**
Sample Depth Feet (bgs)	**0-2**	**0.5-2**	**0-2.5**	**2-4.5**	**0-2**	**2-4.5**	**2-4.0**	**0-7**	**0-5**	**2-4.0**	**Unrestricted**	**Residential**	**Res Residential**
Compounds	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**
Metals													
Arsenic	7.9	11.9	3.4	**46**	**22.9**	**15.5**	**35.9**	**17**	10.1	**17.1**	13	16	16
Barium	107	79.7	42.7	184	166	150	128	236	167	73.2	350	350	400
Beryllium	ND	0.65	0.26	0.95	0.7	0.58	0.59	0.87	0.7	0.81	7.2	14	72
Cadmium	0.63	0.75	ND	**31.1**	7.7	ND	2.9	0.59	**4.9**	1.7	2.5	2.5	4.3
Chromium	23.4	24.4	7	**321**	**88.4**	**353**	**33**	**31.5**	**50.5**	**90.5**	30	36	180
Copper	43.7	**88.8**	33.6	**693**	**238**	42	**61.5**	**67.1**	**387**	**137**	50	270	270
Lead	**72**	**80.1**	**86.7**	**487**	**480**	62.6	**138**	**165**	**588**	**84.4**	63	400	400
Manganese	830	548	221	1240	430	246	490	583	339	514	1600	2000	2000
Mercury	0.2	0.17	0.06	0.72	0.39	0.2	0.2	0.15	0.4	0.15	0.81	0.81	0.81
Nickel	26.9	**38.5**	9.4	**1050**	**82.5**	**56.4**	**33.1**	**42.7**	**210**	**870**	30	140	310
Silver	ND	ND	ND	**8.4**	ND	ND	ND	ND	**2.9**	ND	2	36	180
Zinc	134	119	96.9	666	1480	114	250	139	508	233	109	2200	10000
Volatiles													
Acetone	ND	ND	ND	ND	ND	0.012	ND	ND	ND	ND	0.05	100	100
Benzene	ND	ND	ND	0.0003	ND	ND	ND	ND	ND	ND	0.06	2.9	4.8
cis-1,2-Dichloroethene	ND	ND	0.001	0.0005	ND	ND	ND	ND	ND	ND	0.25	59	100
Methylene chloride	0.002	0.003	0.002	ND	0.003	ND	0.002	0.002	ND	ND	0.05	51	100
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	0.002	ND	ND	ND	ND	3.6	47	52
1,1,1-Trichloroethane	ND	0.0004	ND	ND	0.0003	ND	ND	ND	ND	ND	0.68	100	100
Trichloroethene	0.003	0.007	0.004	0.06	0.002	ND	0.001	0.0003	0.002	0.002	0.47	10	21
Xylene (total)	ND	ND	ND	0.0008	ND	0.0003	ND	ND	0.0002	ND	0.26	100	100
TICS	ND	ND	ND	ND	ND	0.29	ND	ND	ND	ND	NA	NA	NA
PCBs													
Aroclor 1254	ND	ND	0.12	**8.93**	ND	0.079	ND	ND	0.25	0.11	1	1	1
Pesticides													
4,4'-DDT	0.002	0.002	ND	ND	ND	ND	**0.071**	0.003	**0.028**	ND	0.0033	1.7	7.9
4,4'-DDE	0.001	0.002	ND	ND	ND	ND	**0.075**	0.003	**0.004**	ND	0.0033	1.8	8.9
4,4'-DDD	ND	ND	ND	ND	ND	ND	0.003	ND	ND	0.003	0.0033	2.6	13
delta-BHC	ND	ND	ND	ND	ND	ND	0.012	0.0004	ND	0.001	0.04	100	100
alpha-Chlordane	ND	ND	ND	ND	ND	ND	0.071	0.009	ND	ND	0.094	0.91	4.2
Dieldrin	ND	ND	ND	ND	ND	ND	0.039	0.002	ND	ND	0.005	0.039	0.2
Lindane	ND	ND	ND	ND	0.006	ND	ND	ND	ND	0.01	0.1	0.28	1.3000
SVOCs (PAHS)													
Chrysene	0.16	0.36	12.1	0.99	**6.57**	0.42	**1.01**	0.49	**1.18**	**10.9**	1	1	3.9
Phenol	ND	ND	ND	ND	0.087	ND	ND	ND	ND	0.09	0.33	100	100
Acenaphthene	ND	0.038	3.78	0.089	0.52	0.031	0.197	0.045	0.18	2.8	20	100	100
Acenaphthylene	ND	0.027	0.095	0.13	0.17	0.024	0.05	0.1	0.074	0.43	100	100	100
Anthracene	0.036	0.107	7.53	0.34	1.23	0.093	0.511	0.16	0.37	4	100	100	100
Benzo (a) anthracene	0.14	0.35	**13.8**	0.9	**6.49**	0.45	**1.01**	0.42	**1.04**	**10.4**	1	1	1
Benzo(a)pyrene	0.14	0.31	**10.9**	0.9	**4.83**	0.66	0.88	0.45	0.85	**8.94**	1	1	1
Benzo (b) fluoranthene	0.21	0.42	**13.4**	**1.34**	**8.22**	0.74	**1.12**	0.59	**1.3**	**11.9**	1	1	1
Benzo (g,h,i) perylene	0.089	0.18	5.72	0.78	2.71	0.52	0.5	0.32	0.48	4.2	100	100	100
Benzo (k) fluoranthene	0.073	0.17	**5.08**	0.44	**2.14**	0.27	0.44	0.22	0.4	**5.01**	0.8	1	3.9
Dibenzo(a,h)anthracene	ND	0.054	**1.59**	0.2	**1**	0.14	0.14	0.086	0.16	**2.25**	0.33	0.33	0.33
Fluoranthene	0.29	0.62	32.5	1.22	11.2	0.4	1.99	0.69	2.09	27.2	100	100	100
Fluorene	ND	0.43	3.2	0.11	0.4	0.19	0.2	0.048	0.16	1.98	30	100	100
Indeno (1,2,3-cd) pyrene	0.098	0.21	**6.43**	**0.88**	**3.35**	**0.58**	**0.59**	0.33	**0.57**	**6.1**	0.5	0.5	0.5
Naphthalene	0.017	0.34	2.98	0.25	0.69	0.056	0.16	0.07	0.44	1.71	12	100	100
Phenanthrene	0.19	0.55	29.9	1.25	5.64	0.24	1.89	0.55	1.85	20.8	100	100	100
Pyrene	0.27	0.65	27.8	1.86	11.3	0.48	2.01	0.73	1.76	21.1	100	100	100

ND - Non-Detect NA - Not Available

>/= to Residential/Restricted-Residential SCO and Unrestricted Use SCO

>Unrestricted Use SCO but <Residential/Restricted-Residential SCO

>Unrestricted Use & Residential SCO but <Restricted-Residential SCO

TABLE 2 - MAIN AND HERTEL SITE - RI BORING SOIL SAMPLE ANALTICAL RESULTS SUMMARY

Sampling Program	RI SOIL BORING SAMPLING PROGRAM											
Sample No.	RI-1 SURFACE	RI-1 3-4 FT	RI-2 SURFACE	RI-2 3-4.4 FT	RI-5 SURFACE	RI-5 2-3 FT	RI-5-Native	RI-6 SURFACE	RI-6 1.5-2 FT	NYSDEC	NYSDEC	NYSDEC
Sample Date	12/18/2017	12/18/2017	12/18/2017	12/18/2017	12/18/2017	12/18/2017	12/18/2017	12/18/2017	12/18/2017	PART 375	PART 375	PART 375
Sample Depth Feet (bgs)	SURFACE	3 - 4	SURFACE	3-4.4	4"-1'	2 - 3	3 - 4	SURFACE	1.5 - 2	Unrestricted	Residential	Res Residential
Compounds	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Metals												
Chrome, Hexavalent	ND	ND	ND	ND	ND	ND	ND	0.56	ND	1	22	110
Arsenic	9.75	3.49	7.70	4.76	0.690	5.12	6.24	**51.5**	**21.6**	13	16	16
Barium	131	44.4	64.4	51.4	141	71.1	89.0	82.0	38.4	350	350	400
Beryllium	0.476	0.518	0.511	0.568	2.68	0.808	0.808	0.362	1.01	7.2	14	72
Cadmium	1.36	0.203 J	0.371	ND	ND	0.471	0.248	**3.76**	0.787	2.5	2.5	4.3
Chromium	23.8	13.0 J	13.6	16.4	6.05	16.8	19.4	132	102	30	36	180
Copper	**98.5**	13.3	29.8	11.3	ND	31.0	19.8	**270**	31.7	50	270	270
Lead	**239**	12.9 J	**107**	11.7	7.42	**66.0**	13.9	**251**	35.3	63	400	400
Manganese	416	265	345	384	**2190**	319	495	753	308	1600	2000	2000
Nickel	24.6	11.5 J	15.2	19.1	3.03	19.5	25.5	**224**	**52.9**	30	140	310
Selenium	ND	ND	ND	ND	ND	0.705	0.679	ND	ND	3.9	36	180
Silver	**2.00**	0.519	0.528	1.30	ND	0.773	1.59	**6.57**	**2.29**	2	36	180
Zinc	**249**	74.2	96.5	63.1	ND	83.4	61.6	**222**	62.9	109	2200	10000
Mercury	0.170	0.0485	**0.346**	0.0725	ND	**0.314**	0.0894	**1.06**	**0.272**	0.18	0.81	0.81
Cyanide, Total	0.334	ND	1.15	ND	2.10	0.548	ND	3.86	0.392	27	27	27
Volatiles												
1,2,4-Trimethylbenzene	NA	ND	NA	ND	NA	ND	0.00245	NA	ND	3.6	47	52
2-Butanone	NA	ND	NA	0.0136	NA	ND	ND	NA	ND	0.12	100	100
Acetone	NA	ND	NA	0.0498	NA	ND	ND	NA	ND	0.05	100	100
m,p-Xylene	NA	ND	NA	ND	NA	0.0034	0.00263	NA	0.00783	0.26	100	100
Toluene	NA	0.00326	NA	0.00264	NA	0.00764	0.00645	NA	0.0187	0.7	100	100
Trichloroethene	NA	ND	NA	ND	NA	ND	ND	NA	0.00296	0.47	10	21
TICS	NA	0.011	NA	0.012	NA	ND	0.083	NA	ND	NA	NA	NA
PCBs												
Aroclor 1254	ND	ND	ND	ND	ND	ND	ND	0.0709 J	0.0187 J	0.1	1	1
Pesticides												
4,4-DDE	ND	ND	ND	ND	ND	ND	ND	**0.00853 J**	ND	0.0033	1.8	8.9
4,4-DDT	**0.0458 J**	ND	0.00213	ND	ND	ND	ND	**0.019**	0.00306 J	0.0033	1.7	7.9
Aldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.005	0.019	0.097
cis-Chlordane	ND	ND	ND	ND	ND	ND	ND	0.00312 J	ND	0.094	0.91	4.2
delta-BHC	ND	ND	ND	ND	ND	ND	ND	0.00262	ND	0.04	100	100
Dieldrin	**0.00803**	ND	0.00448 J	ND	ND	**0.00994**	ND	**0.00829 J**	ND	0.005	0.039	0.2
Endosulfan I	ND	ND	ND	ND	ND	ND	ND	0.00414 J	ND	2.4	4.8	24
Endosulfan II	0.0222 J	ND	ND	ND	ND	ND	ND	0.00981 J	0.00188 J	2.4	4.8	24
Endosulfan Sulfate	0.00951 J	ND	0.00898 J	ND	ND	0.00691 J	ND	ND	ND	2.4	4.8	24
Heptachlor	0.00471 J	ND	ND	ND	ND	ND	ND	ND	ND	0.042	0.42	2.1
2,4,5-TP (Silvex)	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.8	58	100
SVOCs												
Acenaphthene	ND	ND	ND	ND	ND	11.6	ND	ND	ND	20	100	100
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	0.156 J	ND	100	100	100
Anthracene	ND	ND	ND	ND	ND	30.5	0.351	0.255 J	ND	100	100	100
Benzo (a) anthracene	0.211 J	ND	0.573	ND	ND	**49.5**	0.494	0.761	ND	1	1	1
Benzo (a) pyrene	ND	ND	0.456	ND	ND	**38.7**	0.376	0.615	ND	1	1	1
Benzo (b) fluoranthene	0.176 J	ND	0.457	ND	ND	**40**	0.37	0.666	ND	1	1	1
Benzo (g,h,i) perylene	ND	ND	0.282 J	ND	ND	23.7	0.21 J	0.463	ND	100	100	100
Benzo (k) fluoranthene	ND	ND	0.361	ND	ND	**28**	0.276 J	0.494	ND	0.8	1	3.9
Chrysene	0.234 J	ND	0.625	ND	ND	**50.7**	0.465	0.802	ND	1	1	3.9
Dibenzofuran	ND	ND	ND	ND	ND	**14.9 J**	ND	ND	ND	7	14	59
Fluoranthene	0.477 J	ND	1.35	ND	ND	**139**	1.23	1.74	ND	100	100	100
Fluorene	ND	ND	ND	ND	ND	21.8	0.236	ND	ND	30	100	100
Indeno (1,2,3-cd) pyrene	ND	ND	0.31	ND	ND	**25.4**	0.247 J	0.498	ND	0.5	0.5	0.5
Naphthalene	ND	ND	ND	ND	ND	16	0.204 J	ND	ND	12	100	100
Phenanthrene	0.391 J	ND	0.905	ND	ND	**161**	1.57	1.12	ND	100	100	100
Pyrene	0.395 J	ND	1.1	ND	ND	**104**	0.908	1.32	ND	100	100	100
TICs	3.62 J	1.34 J	7.46 J	0.5 J	42.6 J	223 J	9.4 J	8.5 J	4.3 J	NA	NA	NA

ND - Non-Detect NA - Not Applicable All Data is Validated J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

>/= to Residential/Restricted-Residential SCO and Unrestricted Use SCO

>Unrestricted Use SCO but <Residential/Restricted-Residential SCO

>Unrestricted Use & Residential SCO but <Restricted-Residential SCO

TABLE 3 - MAIN AND HERTEL SITE - TEST PIT SOIL SAMPLE ANALTICAL RESULTS SUMMARY																
Sampling Program	RI SOIL TEST PIT SAMPLING PROGRAM															
Sample No.	**TP-5 SURFACE**	**TP-5 2-3 FT**	**TP-5 NATIVE**	**TP-6 SURFACE**	**TP-6 1-10 FT**	**TP-9 NATIVE**	**TP-10 SURFACE**	**TP-10 4.5 FT**	**TP-11 SURFACE**	**TP-11 2-3 FT**	**TP-12 SURFACE**	**TP-12 1-4.5 FT**	**NYSDEC**	**NYSDEC**	**NYSDEC**
Sample Date	**12/28/2017**	**12/28/2017**	**12/28/2017**	**12/28/2017**	**12/28/2017**	**12/28/2017**	**12/28/2017**	**12/28/2017**	**12/28/2017**	**12/28/2017**	**12/28/2017**	**12/28/2017**	**PART 375**	**PART 375**	**PART 375**
Sample Depth Feet (bgs)	**SURFACE**	**2 -3**	**4**	**SURFACE**	**1 - 10**	**4.5**	**SURFACE**	**4.5**	**SURFACE**	**2 - 3**	**SURFACE**	**1 - 4.5**	**Unrestricted**	**Residential**	**Res Residential**
Compounds	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**
Metals															
Arsenic	13.5	12.3	18.8	4.85	27.2	5.26	8.70	94.5	1.63	7.77	9.69	16.8	13	16	16
Barium	151	79.9	257	75.0	733	55.6	70.8	188	61.1	109	135	285	350	350	400
Beryllium	0.656	0.574	0.573	0.527	0.570	0.552	0.566	0.687	1.53	0.566	0.602	0.606	7.2	14	72
Cadmium	6.22	0.620	1.89	1.35	11.6	0.623	0.582	2.43	1.23	4.52	1.66	2.05	2.5	2.5	4.3
Chromium	49.2	13.0	34.5	26.2	117	12.9	15.6	144	12.6	21.8	37.9	33.0	30	36	180
Copper	203	45.4	161	29.9	1430	17.5	72.2	251	17.9	84.1	69.1	289	50	270	270
Lead	375	80.1	461	122	1010	21.9	82.4	314	57.4	190	271	1300	63	400	400
Manganese	594	92.5	401	361	907	906	344	278	1250	432	600	457	1600	2000	2000
Nickel	50.4	16.0	29.4	19.2	89.7	13.9	16.4	92.8	17.5	35.5	22.2	23.8	30	140	310
Selenium	1.19	1.28	ND	ND	2.05	ND	ND	ND	ND	1.12	1.66	1.37	3.9	36	180
Silver	0.389	ND	ND	ND	ND	ND	ND	0.617	ND	ND	ND	ND	2	36	180
Zinc	551	65.6	3310	167	1120	106	138	557	127	380	244	400	109	2200	10000
Mercury	8.25	0.0902	0.299	0.193	0.212	0.0665	0.105	0.0657	0.0627	1.06	0.246	0.347	0.18	0.81	0.81
Cyanide, Total	1.61	0.315	2.26	0.496	5.29	ND	ND	0.402	4.52	1.95	0.431	0.350	27	27	27
Volatiles															
Volatiles	NA	ND	ND	NA	ND	ND	NA	ND	NA	ND	NA	ND	NA	NA	NA
TICs	NA	ND	ND	NA	0.06	ND	NA	0.04	NA	ND	NA	0.05	NA	NA	NA
PCBs															
Aroclor 1254	0.0769	ND	0.0969	ND	ND	ND	ND	ND	ND	0.0381	ND	ND	0.1	1	1
Aroclor 1260	0.0563	ND	ND	ND	ND	ND	0.137	ND	0.0709	ND	ND	ND	0.1	1	1
Pesticides															
4,4-DDD	ND	ND	0.00673	0.0259	0.00611	ND	ND	ND	0.00253	ND	0.0906	0.106	0.0033	2.6	13
4,4-DDE	ND	ND	0.015	0.0542	0.0165	0.0027	0.00681	ND	0.00343	ND	0.121	0.361	0.0033	1.8	8.9
4,4-DDT	0.0368	0.00259	0.0159	0.0269	0.00835	ND	0.0205	0.00246	0.0056	0.012	ND	0.043	0.0033	1.7	7.9
cis-Chlordane	0.0498	ND	0.0174	0.0675	0.0305	ND	0.0369	0.00485	ND	ND	0.145	0.468	0.094	0.91	4.2
delta-BHC	ND	ND	0.00364	0.0155	0.00203	ND	ND	ND	ND	ND	ND	ND	0.04	0.97	100
Dieldrin	0.011	ND	0.0158	0.0198	0.00673	ND	0.00561	0.00565	0.00237	ND	0.757	ND	0.005	0.039	0.2
Endosulfan II	ND	ND	0.00662	ND	0.00331	ND	0.00752	ND	ND	ND	ND	ND	2.4	4.8	24
Endosulfan Sulfate	0.0385	ND	ND	0.0269	0.00445	ND	0.0305	0.00579	0.00484	0.0132	ND	ND	2.4	4.8	24
Endrin	ND	ND	ND	ND	ND	ND	0.00236	ND	ND	ND	ND	ND	0.014	2.2	11
SVOCs															
Acenaphthene	0.496	ND	0.518	ND	ND	ND	0.232	ND	ND	30.8	ND	ND	20	100	100
Acenaphthylene	0.473	ND	ND	ND	0.185	ND	ND	ND	ND	ND	ND	ND	100	100	100
Anthracene	1.49	ND	1.07	0.208	0.367	ND	0.615	ND	ND	53	ND	0.198	100	100	100
Benzo (a) anthracene	3.78	0.299	2.23	0.736	1.07	ND	2.25	ND	ND	81.3	0.508	0.693	1	1	1
Benzo (a) pyrene	3.1	0.246	1.85	0.704	0.886	ND	2.05	0.18	1.25	68.8	0.509	0.648	1	1	1
Benzo (b) fluoranthene	3.45	0.351	2.02	0.778	0.924	ND	2.23	0.209	0.99	70.2	0.568	0.743	1	1	1
Benzo (g,h,i) perylene	1.89	0.269	1.13	0.481	0.601	ND	1.32	0.203	1.62	42.4	0.386	0.483	100	100	100
Benzo (k) fluoranthene	2.35	0.218	1.16	0.552	0.732	ND	1.52	ND	ND	44.1	0.409	0.426	0.8	1	3.9
Chrysene	3.68	0.427	2.23	0.877	1.16	ND	2.48	0.201	0.839	79.1	0.617	0.784	1	1	3.9
Dibenz (a,h) anthracene	0.768	ND	0.448	ND	0.212	ND	0.481	ND	ND	16.9	ND	ND	0.33	0.33	0.33
Dibenzofuran	0.452	ND	0.287	ND	ND	ND	ND	ND	ND	32.5	ND	ND	7	14	59
Fluoranthene	6.95	0.539	4.83	1.96	2.19	ND	5.39	0.327	1.43	211	1.16	1.65	100	100	100
Fluorene	0.491	ND	0.446	ND	ND	ND	0.234	ND	ND	37.4	ND	ND	30	100	100
Indeno (1,2,3-cd) pyrene	2.02	0.28	1.24	0.542	0.634	ND	1.43	0.194	1.67	46.4	0.412	0.488	0.5	0.5	0.5
Naphthalene	1.02	ND	0.408	ND	ND	ND	ND	ND	ND	66.1	ND	ND	12	100	100
Phenanthrene	4.99	0.549	4.13	1.23	1.53	ND	3.16	0.216	0.855	273	0.578	1	100	100	100
Pyrene	5.81	0.554	4.14	1.51	1.75	ND	4.29	0.279	1.21	160	0.949	1.29	100	100	100
TICs	21.6	4.59	14.9	7.1	11.3	4.45	11.8	1.64	28.3	417	10.7	6.1	NA	NA	NA

ND - Non-Detect NA - Not Applicable

>/= to Residential/Restricted-Residential SCO and Unrestricted Use SCO

>Unrestricted Use SCO but <Residential/Restricted-Residential SCO

>Unrestricted Use & Residential SCO but <Restricted-Residential SCO

TABLE 4 - MAIN AND HERTEL SITE - MW SOIL SAMPLE ANALTICAL RESULTS SUMMARY									
Sampling Program	**RI SOIL MW SAMPLING PROGRAM**								
Sample No.	**MW-1 SURFACE**	**MW-1 2-3 FT**	**MW-4 SURFACE**	**MW-4 3FT**	**MW-5 SURFACE**	**MW-5 3-5 FT**	**NYSDEC**	**NYSDEC**	**NYSDEC**
Sample Date	**1/3/2018**	**1/3/2018**	**1/3/2018**	**1/3/2018**	**1/3/2018**	**1/3/2018**	**PART 375**	**PART 375**	**PART 375**
Sample Depth Feet (bgs)	**SURFACE**	**2 -3**	**SURFACE**	**3**	**SURFACE**	**3-5**	**Unrestricted**	**Residential**	**Res Residential**
Compounds	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**
Metals									
Arsenic	9.94	7.41	15.1	5.05	7.96	12.0	13	16	16
Barium	76.9	41.7	60.3	82.0	133	327	350	350	400
Beryllium	0.605	0.370	0.423	0.486	0.560	0.362	7.2	14	72
Cadmium	0.868	0.562	0.997	0.892	1.35	2.57	2.5	2.5	4.3
Chromium	19.5	11.4	38.1	22.6	23.0	74.3	30	36	180
Copper	94.8	54.2	71.5	40.5	109	433	50	270	270
Lead	217	64.4	229	67.1	217	208	63	400	400
Manganese	403	341	353	457	540	444	1600	2000	2000
Nickel	20.4	11.7	20.5	15.0	21.4	87.6	30	140	310
Selenium	1.43	ND	ND	0.802	1.45	ND	3.9	36	180
Silver	1.20	0.489	ND	ND	ND	ND	2	36	180
Zinc	159	55.7	150	112	316	1040	109	2200	10000
Mercury	0.593	0.197	0.119	0.0979	0.150	0.157	0.18	0.81	0.81
Cyanide, Total	ND	0.312	ND	1.19	ND	0.352	27	27	27
Volatiles									
Volatiles	NA	ND	NA	ND	NA	ND	NA	NA	NA
TICs	NA	ND	NA	0.032	NA	ND	NA	NA	NA
PCBs									
Aroclor 1260	ND	ND	0.162	0.0393	0.241	0.105	0.1	1	1
Aroclor 1262	0.0643	ND	ND	ND	ND	ND	0.1	1	1
Pesticides									
4,4-DDD	0.00524	ND	0.0155	ND	0.0194	0.0041	0.0033	2.6	13
4,4-DDE	0.0185	0.00358	0.0802	ND	ND	0.0147	0.0033	1.8	8.9
4,4-DDT	0.0168	0.00286	0.0613	0.0121	0.0531	0.0241	0.0033	1.7	7.9
cis-Chlordane	0.01	0.00228	0.0852	ND	ND	0.029	0.094	0.91	4.2
Dieldrin	0.00195	ND	0.0379	0.0277	0.0261	0.00551	0.04	0.039	100
Endosulfan II	0.00323	ND	ND	ND	ND	ND	0.005	4.8	0.2
Endosulfan Sulfate	0.00701	ND	0.082	0.03	ND	0.0208	2.4	4.8	24
Endrin	ND	ND	0.018	ND	0.0186	0.00208	2.4	2.2	24
SVOCs									
Acenaphthene	ND	ND	4.8	3	ND	0.71	20	100	100
Acenaphthylene	ND	ND	ND	ND	0.255	ND	100	100	100
Anthracene	0.184	ND	9.48	4.43	1.1	1.82	100	100	100
Benzo (a) anthracene	0.526	ND	29.8	8.46	2.26	3.83	1	1	1
Benzo (a) pyrene	0.467	ND	25.2	6.41	2	3.32	1	1	1
Benzo (b) fluoranthene	0.489	ND	27.8	6.05	2.52	3.27	1	1	1
Benzo (g,h,i) perylene	0.303	ND	14.7	3.4	1.32	2.19	100	100	100
Benzo (k) fluoranthene	0.399	ND	19.4	5.84	1.4	2.75	0.8	1	3.9
Chrysene	0.589	ND	31.1	7.95	2.5	3.77	1	1	3.9
Dibenz (a,h) anthracene	ND	ND	5.34	1.48	0.502	0.708	0.33	0.33	0.33
Dibenzofuran	ND	ND	ND	1.53	ND	0.429	7	14	59
Fluoranthene	1.27	0.19	73.8	19.7	5.17	9.52	100	100	100
Fluorene	ND	ND	4.68	2.67	0.282	0.746	30	100	100
Indeno (1,2,3-cd) pyrene	0.306	ND	15.7	4.26	1.34	2.15	0.5	0.5	0.5
Naphthalene	ND	ND	ND	1.2	ND	0.533	12	100	100
Phenanthrene	0.912	ND	52.9	17.4	2.88	7.18	100	100	100
Pyrene	0.996	ND	53.5	14.1	4.04	7.1	100	100	100
TICs	5.82	1.64	161	43.9	29	26.7	NA	NA	NA

ND - Non-Detect NA - Not Applicable

>/= to Residential/Restricted-Residential SCO and Unrestricted Use SCO

>Unrestricted Use SCO but <Residential/Restricted-Residential SCO

>Unrestricted Use & Residential SCO but <Restricted-Residential SCO

TABLE 5 - MAIN & HERTEL BUILDING 2 - SUB SLAB VAPOR & AMBIENT AIR ANALYTICAL RESULTS SUMMARY

Sample Number	SS-01	IA-01	SS-02	IA-01	SS-03	IA-02	SS-04	IA-02	OA-01	NYSDOH (1)	NYSDOH (1)
Sample Date	1/3/2018	1/3/2018	1/3/2018	1/3/2018	1/3/2018	1/3/2018	1/3/2018	1/3/2018	1/3/2018	Sub Slab Vapor Concentration	Indoor Air Concentration
Sample Location	Sub Slab	Indoor	Sub Slab	Indoor	Sub Slab	Indoor	Sub Slab	Indoor	Outdoor	Decision Matrix - Min Action Level	Min Action Level
Compounds	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3
VOCs EPA T0-15 (2)											
1,1,1-Trichloroethane	11	ND	7.0	ND	11	ND	9.5	ND	ND	**100**	**3**
1,1-Dichloroethene	0.44 J	ND	ND	ND	ND	ND	ND	ND	ND	**6**	**0.2**
1,2,4-Trimethylbenzene	0.59 J	ND	1.2	ND	0.64 J	ND	1.1	ND	ND	NA	NA
1,3,5-Trimethylbenzene	ND	ND	0.84	ND	ND	ND	ND	ND	ND	NA	NA
Acetone	7.8	8.6	16	8.6	18	8.4	20	8.4	8.5	NA	NA
Benzene	1.5	0.70	2.1	0.70	2.4	0.77	1.6	0.77	0.67	NA	NA
Bromodichloromethane	1.0	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA
Carbon disulfide	3.2	0.44 J	5.9	0.44 J	2.4	0.53	ND	0.53	ND	NA	NA
Carbon tetrachloride	ND	0.50	ND	0.50	2.7	0.50	ND	0.50	0.50	**6**	**0.2**
Chloroethane	0.40	ND	0.58	ND	0.50	ND	0.90	ND	ND	NA	NA
Chloroform	74	ND	20	ND	1.1	ND	ND	ND	ND	NA	NA
Chloromethane	0.23 J	0.87	0.52	0.87	0.56	0.78	0.87	0.78	0.81	NA	NA
cis-1,2-Dichloroethene	20	ND	9.9	ND	0.95	ND	ND	ND	ND	**6**	**0.2**
Cyclohexane	26	ND	4.1	ND	5.4	ND	5.4	ND	ND	NA	NA
Ethyl acetate	ND	ND	ND	ND	ND	ND	0.90	ND	ND	NA	NA
Freon 11	0.79 J	1.2	0.90	1.2	0.90	1.2	0.96	1.2	1.2	NA	NA
Freon 12	1.8	2.6	2.0	2.6	2.1	2.5	2.2	2.5	2.4	NA	NA
Heptane	16	ND	8.5	ND	5.7 J	ND	4.7	ND	ND	NA	NA
Hexane	19	0.49 J	7.1	0.49 J	7.0	0.63	6.4	0.63	ND	NA	NA
Isopropyl alcohol	2.7	6.2	4.0	6.2	3.9	2.3	ND	2.3	1.1	NA	NA
m&p-Xylene	ND	ND	1.7	ND	ND	ND	0.52 J	ND	ND	NA	NA
Methyl Ethyl Ketone	1.5	1.2	3.7	1.2	3.2	0.59 J	2.8	0.59 J	ND	NA	NA
Methylene chloride	7.0	1.0	8.7	1.0	17	1.1	9.4	1.1	0.73	**100**	**3**
o-Xylene	ND	ND	0.69	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	NA	NA
Tetrachloroethylene	ND	ND	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**100**	**3**
Toluene	2.7	1.6	4.9	1.6	4.0	2.4	5.3 J	2.4	0.83	NA	NA
Trichloroethene	**23**	**0.97**	**63**	**0.97**	**8.1**	**1.4**	**8.6**	**1.4**	0.32	**6**	**0.2**
Vinyl chloride	0.31 J	< 0.10	< 0.38	< 0.10	< 0.38	< 0.10	< 0.38	< 0.10	< 0.10	**6**	**0.2**

N/A - Not Applicable ND - Non-detect

Red values are above Air Guideline Derived by NYSDOH in Table 3.1 of NYSDOH Guidance titled "Evaluating Soil Vapor Intrusion in the State of New York", October 2006 (and subsequent updates).

J indicates an estimated value

(1) New York State Department of Health (NYSDOH), Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006 and subsequent updates (select matrix coumpounds).

(2) Compounds with detected concentrations

NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, May 2017 Decision Matrices Notes:

NO FURTHER ACTION:

Given that the compound was not detected in the indoor air sample and that the concentration detected in the sub -slab vapor sample is not expected to significantly affect indoor air quality, no additional actions are needed to address human exposures

IDENTIFY SOURCE(S) AND RESAMPLE OR MITIGATE:

The concentration detected in the indoor air sample is likely due to indoor and/or outdoor sources rather than soil vapor int rusion given the concentration detected in the sub-slab vapor sample.

Therefore, steps should be taken to identify potential source(s) and to reduce exposures accordingly (e.g., by keeping containers capped or by storing VOC-containing products in places where people do not spend much time, such as a garage or shed).

Resampling may be recommended to demonstrate the effectiveness of actions taken to reduce exposures.

MONITOR:

Monitoring, including sub-slab vapor, basement air, lowest occupied living space air, and outdoor air sampling, is needed to determine whether concen trations in the indoor air or sub-slab vapor have changed.

Monitoring may also be needed to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air-conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed.

The type and frequency of monitoring is determined on a site-specific and building-specific basis, taking into account applicable environmental data and building operating conditions.

Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MITIGATE:

Mitigation is needed to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system, and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building-specific basis, taking into account building construction and operating conditions.

Mitigation is considered a temporary measure implemented to address exposures related to soil vapor in trusion until contaminated environmental media are remediated.

TABLE 6 - MAIN & HERTEL RI LOCATION COORDINATES		
Sample Identification	**Coordinates-North American Datum 1983**	
	Latitude	**Longitude**
Boreholes		
RI-01	42.94581299	-78.83109916
RI-02	42.94557094	-78.83132759
RI-03	42.94522445	-78.83173512
RI-04	42.94498956	-78.83157115
RI-05	42.94476895	-78.8312339
RI-06	42.94494019	-78.8312264
RI-07	42.94502744	-78.83104505
RI-08	42.94515401	-78.83084264
RI-09	42.94507127	-78.83113081
Test Pits		
TP- 1	42.94413062	-78.82989107
TP- 2	42.94433419	-78.82994854
TP- 3	42.94434849	-78.83011513
TP- 4	42.94422419	-78.83022626
TP- 5	42.94426382	-78.82962807
TP- 6	42.94432126	-78.82986831
TP- 7	42.94451227	-78.82980189
TP- 8	42.94485758	-78.83014617
TP- 9	42.94503356	-78.83034457
TP- 10	42.94504888	-78.83008949
TP- 11	42.94456481	-78.83078284
TP- 12	42.94475828	-78.83042199
TP- 13	42.94487106	-78.83042832
TP- 14	42.94459834	-78.83020924
Monitoring Wells		
MW- 1	42.94527897	-78.83206184
MW- 2	42.94581151	-78.83154516
MW- 3	42.94507659	-78.83109739
MW- 4	42.94424236	-78.82960957
MW- 5	42.94412154	-78.82993412
MW- 6	42.94466699	-78.83018561
Vapor Probes		
VP- 1	42.945654	-78.831749
VP- 2	42.945020	-78.831719
VP- 3	42.94525	-78.830589
VP- 4	42.945022	-78.830017
VP- 5	42.944593	-78.829848

TABLE 7 - MAIN & HERTEL RI GROUNDWATER SAMPLE ANALYTICAL RESULTS SUMMARY

Sample Number	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	NYSDEC
Sample Date	1/25/2018	1/25/2018	1/25/2018	1/25/2018	1/25/2018	1/25/2018	TOGs 1.1.1. GA
Compounds	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Metals							
Barium	220	67.5	186	258	145	113	1000
Manganese	ND	81.6	18.1	12	29.4	ND	300
Nickel	ND	ND	20.1	ND	ND	ND	100
Cyanide, Total	7.9	ND	ND	ND	ND	ND	200
Zinc	ND	ND	ND	94	ND	ND	N/A
SVOCs							
TICs	ND	ND	ND	13.2	ND	ND	N/A
VOCs							
Acetone	9.21 J	11.5	ND	6.73 J	13.6	6.15 J	50
Benzene	ND	**2.06**	ND	ND	ND	ND	1
1,1-Dichloroethane	ND	**5.52**	**12.7**	ND	ND	ND	0.6
1,1-Dichloroethene	ND	1.01 J	**19.1**	ND	ND	ND	5
cis-1,2-Dichloroethene	**6.56**	**92.7**	**1500**	2.72	ND	**24.2**	5
trans-1,2-Dichloroethene	ND	2.51	**214**	ND	ND	2.15	5
1,1,1-Trichloroethane	ND	**18.7**	ND	ND	ND	ND	5
Trichloroethene	**19.0**	**111**	**59.6**	3.11	ND	ND	5
Vinyl chloride	ND	**8.27**	**151**	ND	ND	ND	2
1,2,4-Trimethylbenzene	ND	ND	ND	**14.0**	ND	ND	5
1,3,5-Trimethylbenzene	ND	ND	ND	2.60	ND	ND	5
Ethylbenzene	ND	ND	ND	2.96	ND	ND	5
m,p-Xylene	ND	ND	ND	**101**	ND	ND	5
n-Propylbenzene	ND	ND	ND	1.43	ND	ND	5
o-Xylene	ND	ND	ND	**15.7**	ND	ND	5
Toluene	ND	ND	ND	1.76	ND	ND	5
TICs	7.05 J	14.7 J	ND	12.4	11.1 J	8.61	N/A
Pesticides							
Pesticides	ND	ND	ND	ND	ND	ND	N/A
PCBs							
PCBs	ND	ND	ND	ND	ND	ND	N/A
Field Parameters							
Turbidity (NTU)	16.3	8.5	45	5.4	5	9.3	N/A
pH	7.17	7.12	7.35	7.09	7.2	7.13	N/A
Dissolved Oxygen	0	0	0	0	1.2	0	N/A
Temp (degrees C)	11.62	12.12	7.15	8.47	7.86	9.2	N/A
Conductivity	9.39	1.83	2.13	1.9	1.4	1.54	N/A

N/A - Not Applicable ND - Non-detect

TOGs 1.1.1 GA - Technical and Operational Guidance Series (1.1.1) Source of Drinking Water (Groundwater)

Exceeds TOGs GA Guidance Value

All Data is Validated J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

TABLE 8 - MAIN & HERTEL - GROUNDWATER ELEVATIONS			
Well Number	**T of C Elevation (ft) (1)**	**Water Level**	**Groundwater**
		1/25/2018	**Elevation**
MW - 1	**643.47**	20.95	622.52
MW - 2	**641.55**	20.45	621.1
MW - 3	**644.42**	8.16	636.26
MW - 4	**657.28**	13.93	643.35
MW - 5	**655.66**	11.59	644.07
MW - 6	**652.69**	11.65	641.04

(1) - Elevations are referenced to a benchmark from the City of Buffalo sewer map of Main Street (No. 5210) dated 1890.

TABLE 9 - MAIN & HERTEL - PFAS AND 1,4 DIOXANE IN GROUNDWATER ANALYTICAL RESULTS SUMMARY					
Sample Number	**MW-1**	**MW-2**	**MW-3**	**MW-6**	**NYSDEC**
Sample Date	**6/15/2018**	**6/15/2018**	**6/15/2018**	**6/15/2018**	**Criteria**
Compounds	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**
1,4 Dioxane by 8270D					
1,4 Dioxane	ND	ND	0.117	ND	**0.35**
Perfluorinated Alkyl Acids by Isotope Dilution EPA 537					
Perfluorobutanoic Acid (PFBA)	0.017	0.005	0.008	0.006	
Perfluoropentanoic Acid (PFPeA)	0.069	0.011	0.009	0.007	
Perfluorobutanesulfonic Acid (PFBS)	0.003	0.004	0.001 J	ND	
Perfluorohexanoic Acid (PFHxA)	0.035	0.008	0.006	0.005	
Perfluoroheptanoic Acid (PFHpA)	0.010	0.003	0.002	0.002	
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.003	0.002 J	0.001 J	
Perfluorooctanoic Acid (PFOA)	0.013	0.034	0.026	0.004	
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.002 J	ND	ND	
Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.001 J	ND	ND	
Perfluorononanoic Acid (PFNA)	0.003	0.004	0.002	ND	
Perfluorooctanesulfonic Acid (PFOS)	0.008 J	0.063	0.028	0.001 J	
Perfluorodecanoic Acid (PFDA)	0.00	0.0003 J	ND	ND	
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	ND	ND	ND	
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ND	ND	
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ND	ND	
Perfluorodecanesulfonic Acid (PFDS)	ND	ND	ND	ND	
Perfluorooctanesulfonamide (FOSA)	ND	ND	ND	ND	
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	0.001 J	ND	
Perfluorododecanoic Acid (PFDoA)	ND	ND	ND	ND	
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ND	ND	
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ND	ND	
Totals	**0.159**	**0.1383**	**0.085**	0.026	**0.07**

Shaded Value Exceeds NYSDEC Criteria

N/A - Not Applicable ND - Non-detect

TABLE 10 - MAIN & HERTEL - VAPOR PROBE DETECTED ANALYTICAL RESULTS SUMMARY							
Sample Number	**VP-1**	**VP-2**	**VP-3**	**VP-4**	**VP-5**	**NYSDOH (1)**	**NYSDOH (1)**
Sample Date	**6/15/2018**	**6/15/2018**	**6/15/2018**	**6/15/2018**	**6/15/2018**	**Sub Slab Vapor Concentration**	**Table 3.1**
Sample Location/Depth	**3'**	**4'**	**3.5**	**6'**	**5'**	**Decision Matrix - Min Action Level**	**Air Guideline Values**
Compounds	**ug/m3**	**ug/m3**	**ug/m3**	**ug/m3**	**ug/m3**	**ug/m3**	**ug/m3**
VOCs EPA T0-15 (2)							
1,1,1-Trichloroethane	ND	ND	8.0	ND	ND	**100**	
1,1-Dichloroethane	ND	ND	2.7	ND	ND		
1,1-Dichloroethene	ND	ND	ND	ND	ND	**6**	
1,2,4-Trimethylbenzene	23	9.3	8.6	5.6	4.6		
1,3,5-Trimethylbenzene	7.6	4.1	4.0	2.2	1.8		
2,2,4-trimethylpentane	8.8	7.5	3.1	5.0	6.0		
4-ethyltoluene	6.4	2.9	2.6	1.8	1.6		
Acetone	360	830	1000	250	250		
Benzene	200	260	270	55	40		
Carbon disulfide	5.7	11	1.4	3.9	5.0		
Carbon tetrachloride	ND	ND	ND	ND	ND	**6**	
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	**6**	
Cyclohexane	6.0	26	5.0	13	6.6		
Ethyl acetate	19	ND	ND	5.6	6.8		
Ethylbenzene	31	7.3	6.2	4.7	5.7		
Freon 11	1.6	1.5	1.5	1.5	2.6		
Freon 12	2.3	2.0	2.2	2.4	2.3		
Heptane	78	17	ND	10	6.6		
Hexane	19	32	9.5	13	7.4		
Isopropyl alcohol	62	ND	150	22	38		
m&p-Xylene	110	32	28	17	15		
Methyl Ethyl Ketone	27	21	21	11	8.6		
Methyl Isobutyl Ketone	3.5	ND	ND	ND	1.5		
Methylene chloride	7.0	3.9	2.2	2.7	4.1	**100**	**60**
o-Xylene	34	13	11	6.8	7.3		
Styrene	11	3.7	2.7	2.6	3.0		
Tetrachloroethylene	4.2	1.8	2.1	1.1	1.3	**100**	**100**
Tetrahydrofuran	32	25	21	16	12		
Toluene	330	160	83	62	56		
Trichloroethene	0.86	ND	4.8	1.4	ND	**6**	**5**
Vinyl chloride	ND	ND	ND	ND	ND	**6**	

N/A - Not Applicable ND - Non-detect

(1) New York State Department of Health (NYSDOH), Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006 and subsequent updates (select matrix coumpounds).

(2) Compounds with detected concentrations

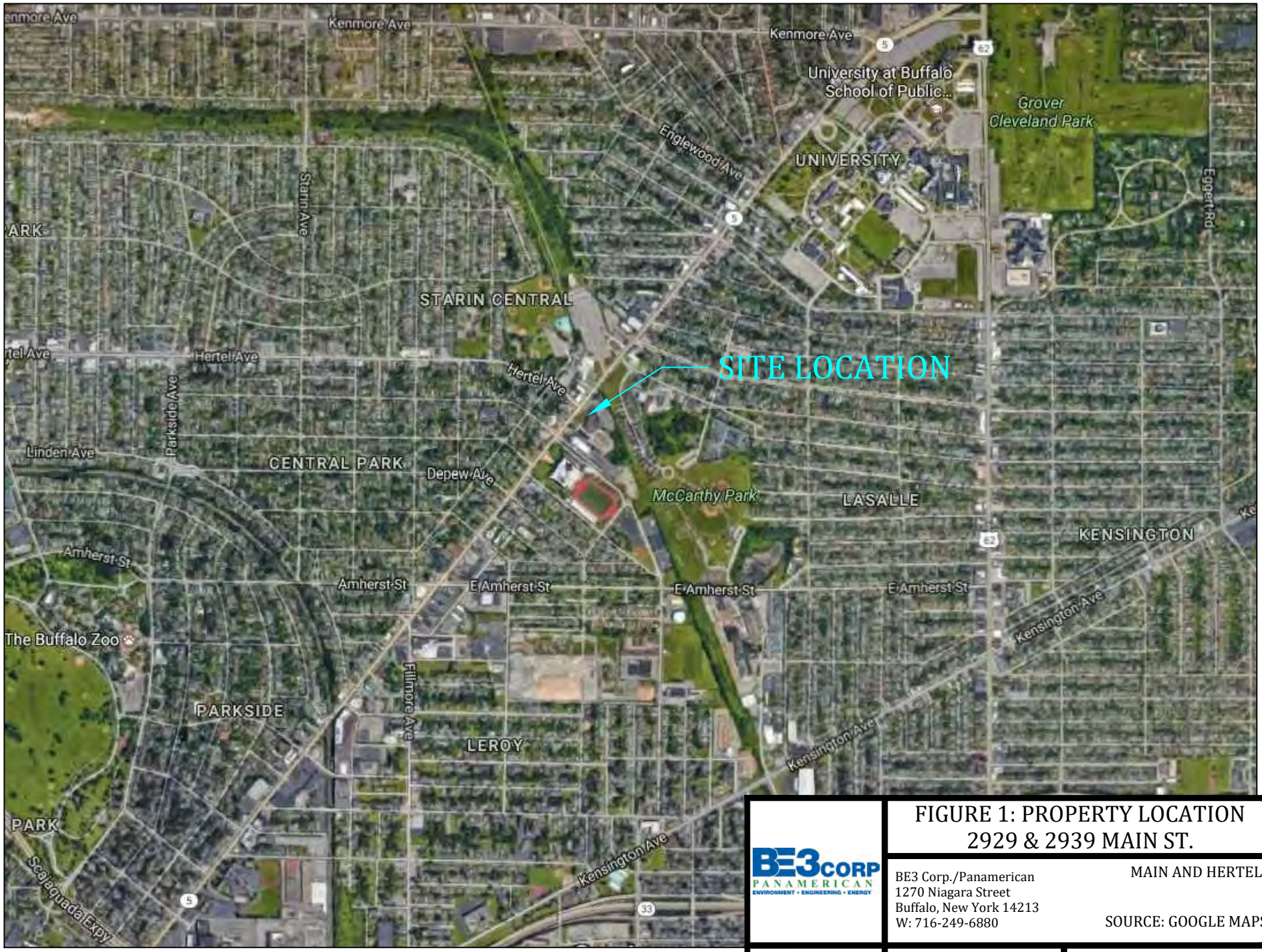


FIGURE 1: PROPERTY LOCATION
2929 & 2939 MAIN ST.

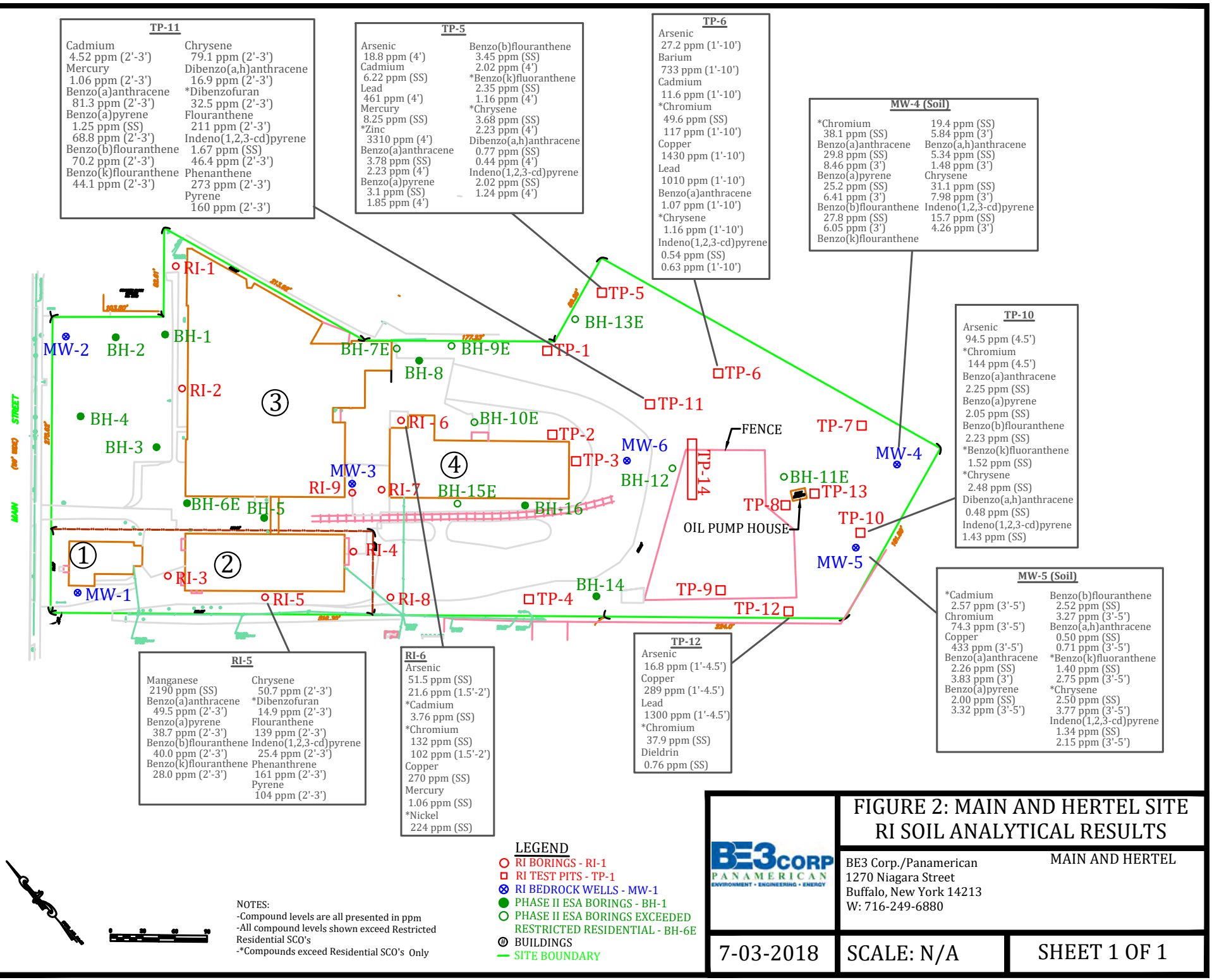
BE3 CORP PANAMERICAN
ENVIRONMENT • ENGINEERING • ENERGY

BE3 Corp./Panamerican
1270 Niagara Street
Buffalo, New York 14213
W: 716-249-6880

MAIN AND HERTEL

SOURCE: GOOGLE MAPS

02-07-2018	SCALE: N/A	SHEET 1 OF 3


TP-11
Cadmium
4.52 ppm (2'-3')
Mercury
1.06 ppm (2'-3')
Benzo(a)anthracene
81.3 ppm (2'-3')
Benzo(a)pyrene
1.25 ppm (SS)
68.8 ppm (2'-3')
Benzo(b)flouranthene
70.2 ppm (2'-3')
Benzo(k)flouranthene
44.1 ppm (2'-3')
Chrysene
79.1 ppm (2'-3')
Dibenzo(a,h)anthracene
16.9 ppm (2'-3')
*Dibenzofuran
32.5 ppm (2'-3')
Flouranthene
211 ppm (2'-3')
Indeno(1,2,3-cd)pyrene
1.67 ppm (SS)
46.4 ppm (2'-3')
Phenanthene
273 ppm (2'-3')
Pyrene
160 ppm (2'-3')
TP-5
Arsenic
18.8 ppm (4')
Cadmium
6.22 ppm (SS)
Lead
461 ppm (4')
Mercury
8.25 ppm (SS)
*Zinc
3310 ppm (4')
Benzo(a)anthracene
3.78 ppm (SS)
2.23 ppm (4')
Benzo(a)pyrene
3.1 ppm (SS)
1.85 ppm (4')
Benzo(b)flouranthene
3.45 ppm (SS)
2.02 ppm (4')
*Benzo(k)fluoranthene
2.35 ppm (SS)
1.16 ppm (4')
*Chrysene
3.68 ppm (SS)
2.23 ppm (4')
Dibenzo(a,h)anthracene
0.77 ppm (SS)
0.44 ppm (4')
Indeno(1,2,3-cd)pyrene
2.02 ppm (SS)
1.24 ppm (4')
TP-6
Arsenic
27.2 ppm (1'-10')
Barium
733 ppm (1'-10')
Cadmium
11.6 ppm (1'-10')
*Chromium
49.6 ppm (SS)
117 ppm (1'-10')
Copper
1430 ppm (1'-10')
Lead
1010 ppm (1'-10')
Benzo(a)anthracene
1.07 ppm (1'-10')
*Chrysene
1.16 ppm (1'-10')
Indeno(1,2,3-cd)pyrene
0.54 ppm (SS)
0.63 ppm (1'-10')
MW-4 (Soil)
*Chromium
38.1 ppm (SS)
Benzo(a)anthracene
29.8 ppm (SS)
8.46 ppm (3')
Benzo(a)pyrene
25.2 ppm (SS)
6.41 ppm (3')
Benzo(b)flouranthene
27.8 ppm (SS)
6.05 ppm (3')
Benzo(k)flouranthene
19.4 ppm (SS)
5.84 ppm (3')
Benzo(a,h)anthracene
5.34 ppm (SS)
1.48 ppm (3')
Chrysene
31.1 ppm (SS)
7.98 ppm (3')
Indeno(1,2,3-cd)pyrene
15.7 ppm (SS)
4.26 ppm (3')
TP-10
Arsenic
94.5 ppm (4.5')
*Chromium
144 ppm (4.5')
Benzo(a)anthracene
2.25 ppm (SS)
Benzo(a)pyrene
2.05 ppm (SS)
Benzo(b)flouranthene
2.23 ppm (SS)
*Benzo(k)fluoranthene
1.52 ppm (SS)
*Chrysene
2.48 ppm (SS)
Dibenzo(a,h)anthracene
0.48 ppm (SS)
Indeno(1,2,3-cd)pyrene
1.43 ppm (SS)
MW-5 (Soil)
*Cadmium
2.57 ppm (3'-5')
Chromium
74.3 ppm (3'-5')
Copper
433 ppm (3'-5')
Benzo(a)anthracene
2.26 ppm (SS)
3.83 ppm (3')
Benzo(a)pyrene
2.00 ppm (SS)
3.32 ppm (3'-5')
Benzo(b)flouranthene
2.52 ppm (SS)
3.27 ppm (3'-5')
Benzo(a,h)anthracene
0.50 ppm (SS)
0.71 ppm (3'-5')
*Benzo(k)fluoranthene
1.40 ppm (SS)
2.75 ppm (3'-5')
*Chrysene
2.50 ppm (SS)
3.77 ppm (3'-5')
Indeno(1,2,3-cd)pyrene
1.34 ppm (SS)
2.15 ppm (3'-5')
RI-5
Manganese
2190 ppm (SS)
Benzo(a)anthracene
49.5 ppm (2'-3')
Benzo(a)pyrene
38.7 ppm (2'-3')
Benzo(b)flouranthene
40.0 ppm (2'-3')
Benzo(k)flouranthene
28.0 ppm (2'-3')
Chrysene
50.7 ppm (2'-3')
*Dibenzofuran
14.9 ppm (2'-3')
Flouranthene
139 ppm (2'-3')
Indeno(1,2,3-cd)pyrene
25.4 ppm (2'-3')
Phenanthene
161 ppm (2'-3')
Pyrene
104 ppm (2'-3')
RI-6
Arsenic
51.5 ppm (SS)
21.6 ppm (1.5'-2')
*Cadmium
3.76 ppm (SS)
*Chromium
132 ppm (SS)
102 ppm (1.5'-2')
Copper
270 ppm (SS)
Mercury
1.06 ppm (SS)
*Nickel
224 ppm (SS)
TP-12
Arsenic
16.8 ppm (1'-4.5')
Copper
289 ppm (1'-4.5')
Lead
1300 ppm (1'-4.5')
*Chromium
37.9 ppm (SS)
Dieldrin
0.76 ppm (SS)
RI-1
RI-2
RI-3
RI-4
RI-5
RI-6
RI-7
RI-8
RI-9
MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
BH-1
BH-2
BH-3
BH-4
BH-5
BH-6E
BH-7E
BH-8
BH-9E
BH-10E
BH-11E
BH-12
BH-13E
BH-14
BH-15E
BH-16
TP-1
TP-2
TP-3
TP-4
TP-5
TP-6
TP-7
TP-8
TP-9
TP-10
TP-11
TP-12
TP-13
TP-14
FENCE
OIL PUMP HOUSE
MAIN STREET
①
②
③
④
LEGEND
RI BORINGS - RI-1
RI TEST PITS - TP-1
RI BEDROCK WELLS - MW-1
PHASE II ESA BORINGS - BH-1
PHASE II ESA BORINGS EXCEEDED RESTRICTED RESIDENTIAL - BH-6E
BUILDINGS
SITE BOUNDARY
NOTES:
-Compound levels are all presented in ppm
-All compound levels shown exceed Restricted Residential SCO's
-*Compounds exceed Residential SCO's Only
BE3 CORP PANAMERICAN
ENVIRONMENT • ENGINEERING • ENERGY
FIGURE 2: MAIN AND HERTEL SITE
RI SOIL ANALYTICAL RESULTS
BE3 Corp./Panamerican
1270 Niagara Street
Buffalo, New York 14213
W: 716-249-6880
MAIN AND HERTEL
7-03-2018
SCALE: N/A
SHEET 1 OF 1

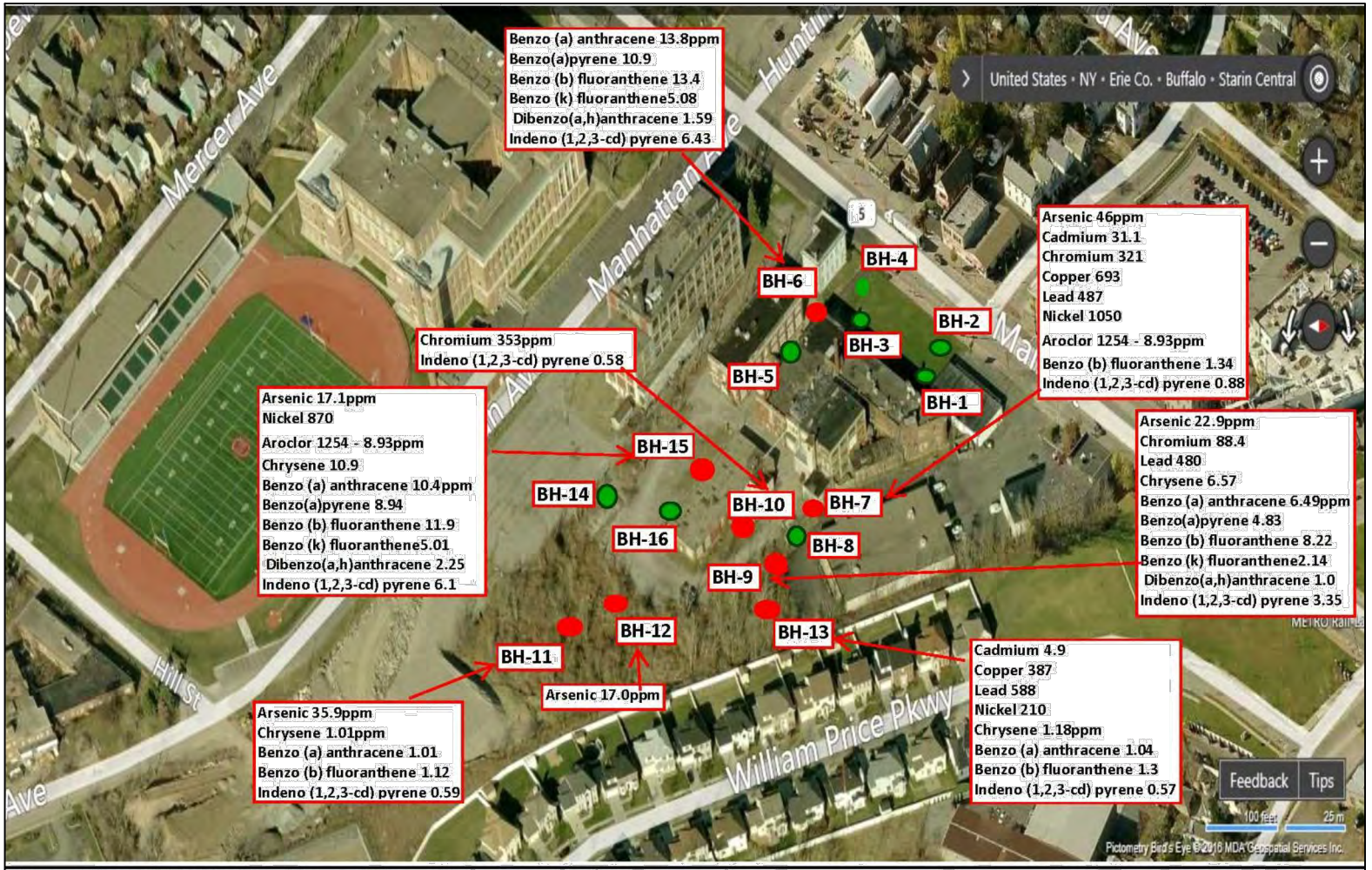


Figure: Phase II Boring Locations with results

Source: Bing Maps

Annotated Sample Results with concentrations above Residential/Restricted Residential. Samples Collected on 12-20-2016

Boreholes that had results in excess of residential/restricted residential NYSDEC Brownfields 375 SCOs.

Boreholes not sampled or with results less than residential/restricted residential NYSDEC Brownfields 375 SCOs

BE3 CORP PANAMERICAN
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Figure 3: Phase II Boring Locations With Results

BE3 Corp./Panamerican
1270 Niagara Street
Buffalo, New York 14213
W: 716-249-6880

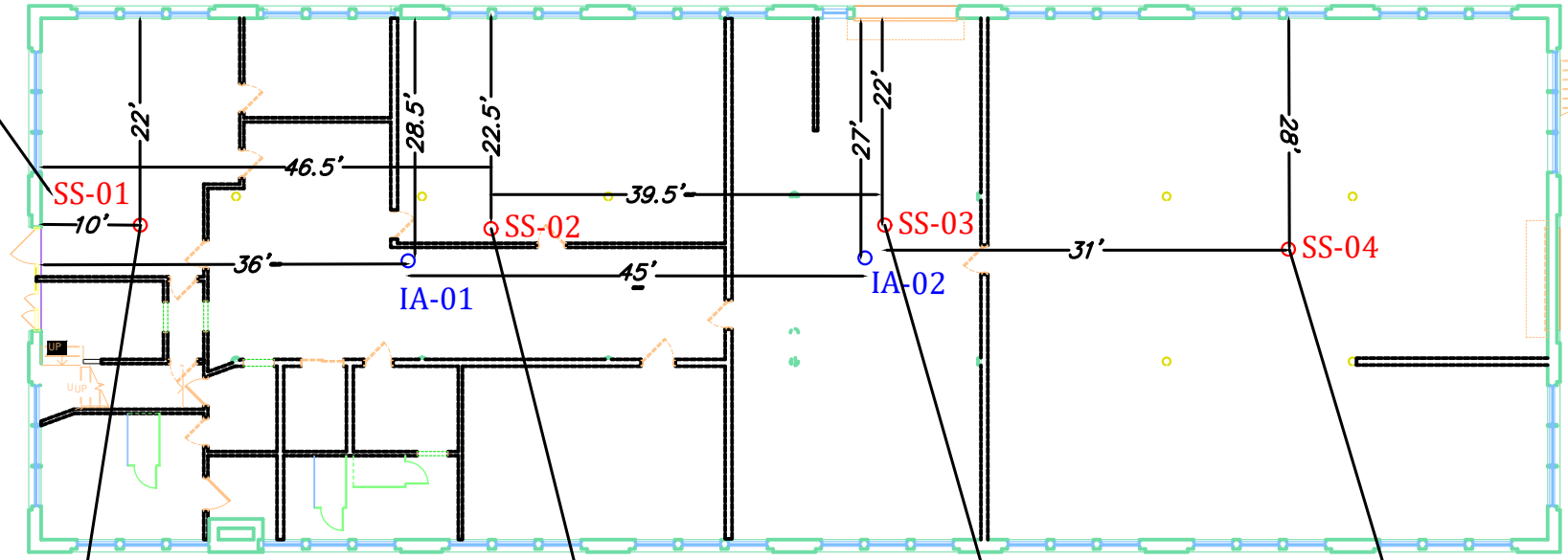
MAIN AND HERTEL

Source: Bing Maps

06-07-2017	SCALE: N/A	SHEET 3 OF 3

Building 2: Warehouse

SAMPLE TAKEN IN BASEMENT



OA-01

SAMPLE ID: SS-01 Trichloroethene 23 SAMPLE ID: IA-01 Trichloroethene 0.97 NYSDOH Guide Decision Matrix Results: MONITOR	SAMPLE ID: SS-02 Trichloroethene 63 SAMPLE ID: IA-01 Trichloroethene 0.97 NYSDOH Guide Decision Matrix Results: MITIGATE	SAMPLE ID: SS-03 Trichloroethene 8.1 SAMPLE ID: IA-02 Trichloroethene 1.4 NYSDOH Guide Decision Matrix Results: MITIGATE	SAMPLE ID: SS-04 Trichloroethene 8.6 SAMPLE ID: IA-02 Trichloroethene 1.4 NYSDOH Guide Decision Matrix Results: MITIGATE

LEGEND

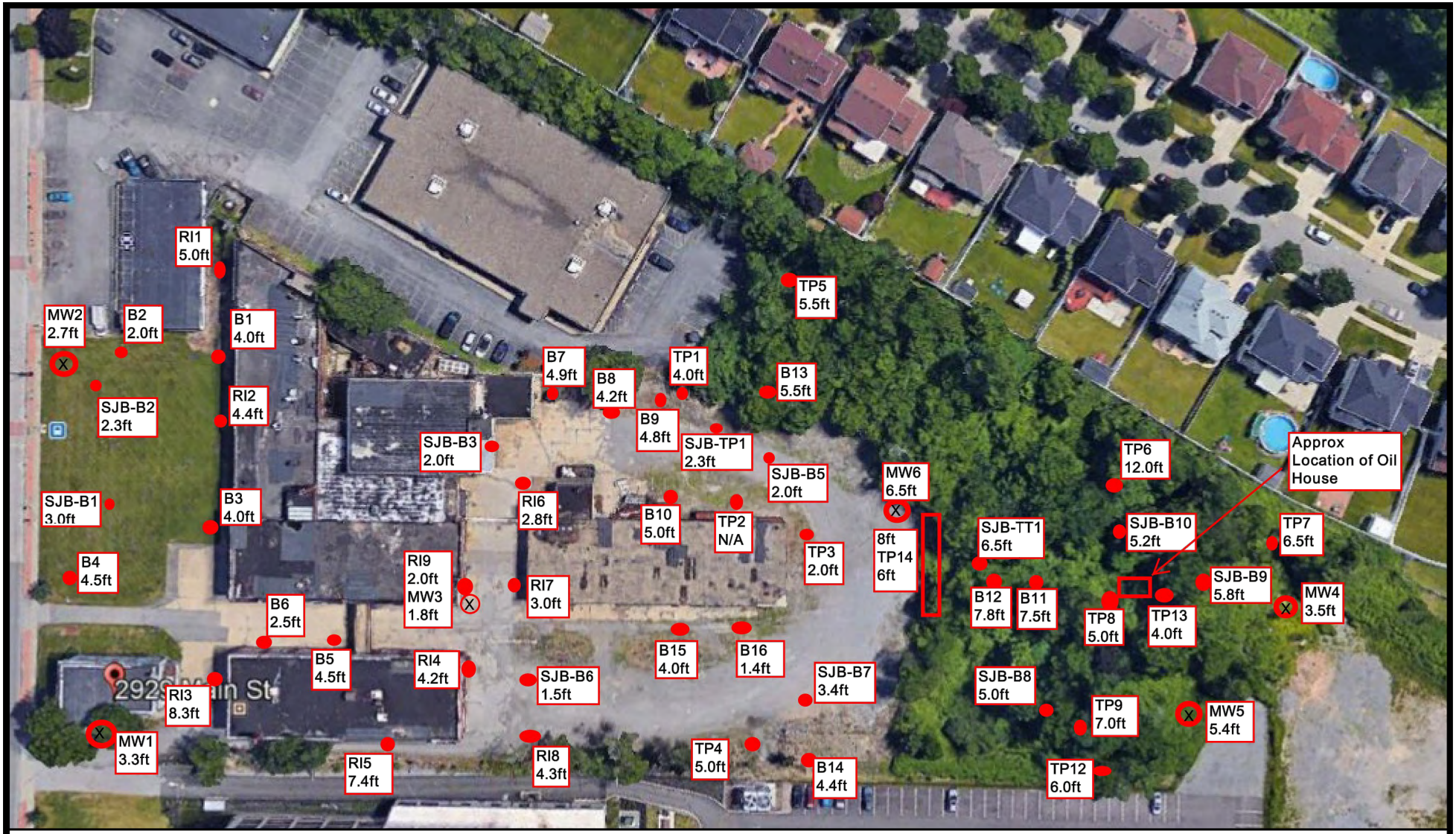
- VAPOR INTRUSION SUB-SLAB SAMPLE: SS-01
- IINDOOR AIR SAMPLE: IA-01
- OUTDOOR AIR SAMPLE: OA-01

FIGURE 4: MAIN AND HERTEL SITE
RI BUILDING 2 SUB-SLAB VAPOR RESULTS

MAIN AND HERTEL

BE3 Corp./Panamerican
1270 Niagara Street
Buffalo, New York 14213
W: 716-249-6880

1-17-2018 | SCALE: N/A | SHEET 1 OF 1



LEGEND

- ● PHASE II/RI BORINGS - B 1/RI 1
- □ RI TEST PITS - TP-1
- ⊗ MONITORING WELL BORING

FIGURE 5: MAIN AND HERTEL DEPTH TO BEDROCK

BE3 Corp/Panamerican
1270 Niagara Street
Buffalo, New York 14213
W: 716-249-6880

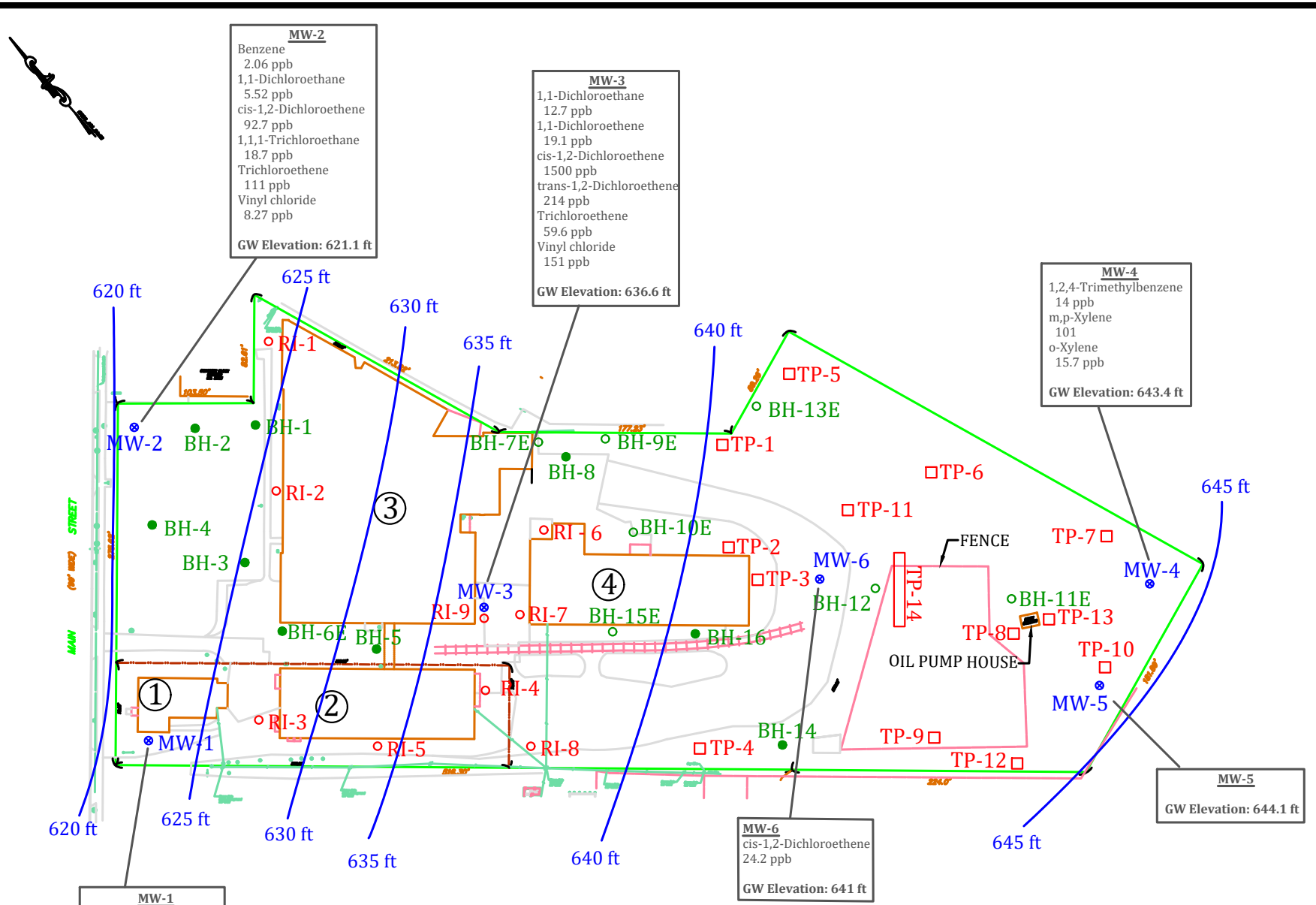
MAIN AND HERTEL

Source: Google Earth

2-08-2018

SCALE: N/A

SHEET 1 OF 1



NOTES:
-Compound levels are all presented in ppb
-Compund levels shown exceed TOGs GA Guidance Values

FIGURE 6: MAIN AND HERTEL SITE
RI GROUNDWATER ANALYTICAL RESULTS & CONTOURS

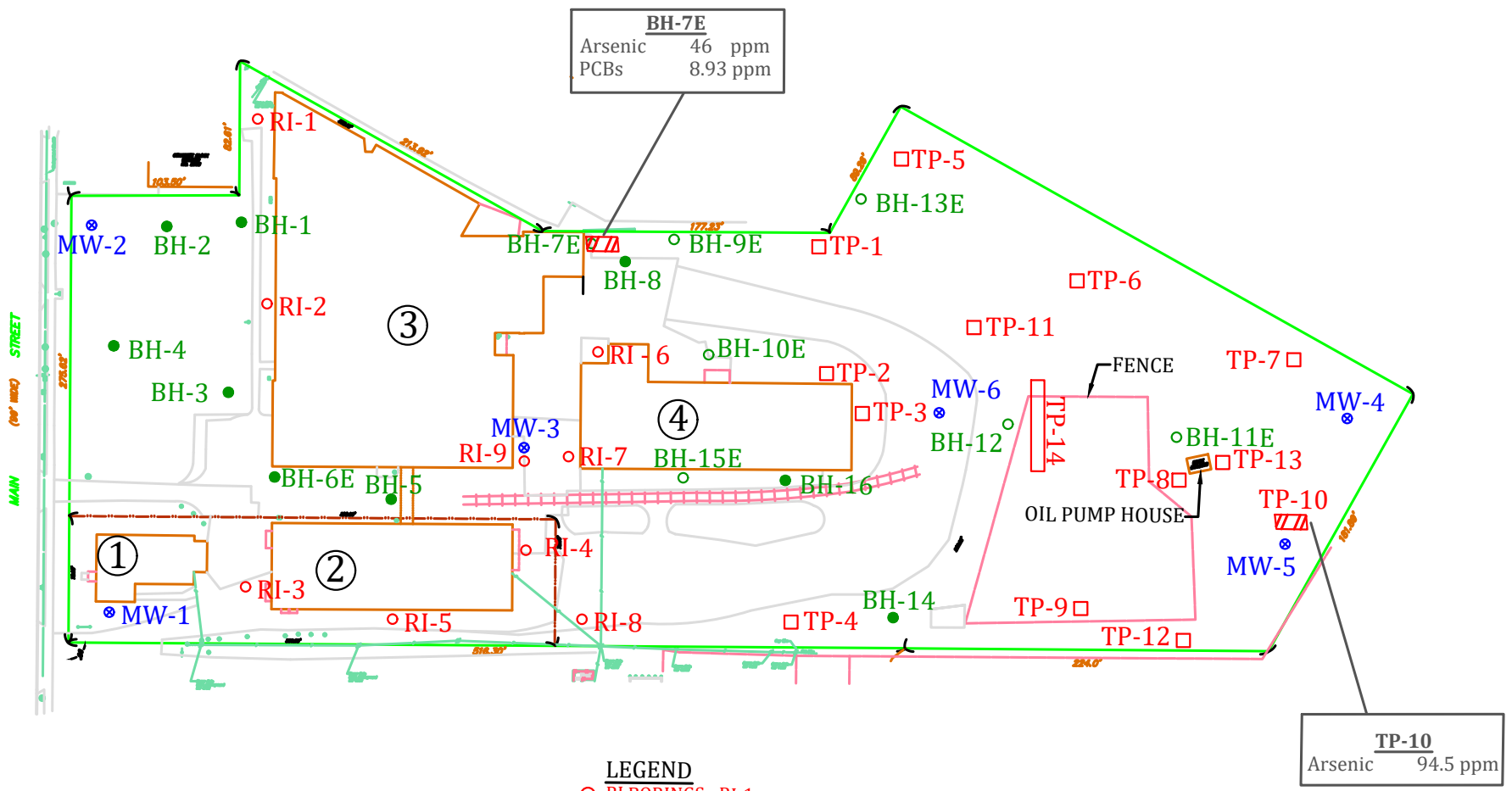
BE3 Corp./Panamerican
1270 Niagara Street
Buffalo, New York 14213
W: 716-249-6880

MAIN AND HERTEL

7-3-2018

SCALE: N/A

SHEET 1 OF 1



LEGEND

- RI BORINGS - RI-1
- RI TEST PITS - TP-1
- RI BEDROCK WELLS - MW-1
- PHASE II ESA BORINGS - BH-1
- PHASE II ESA BORINGS EXCEEDED RESTRICTED RESIDENTIAL - BH-6E
- BUILDINGS
- SSAL EXCEEDANCE EXCAVATION (20'x20' to 5'deep or bedrock)
- SITE BOUNDARY

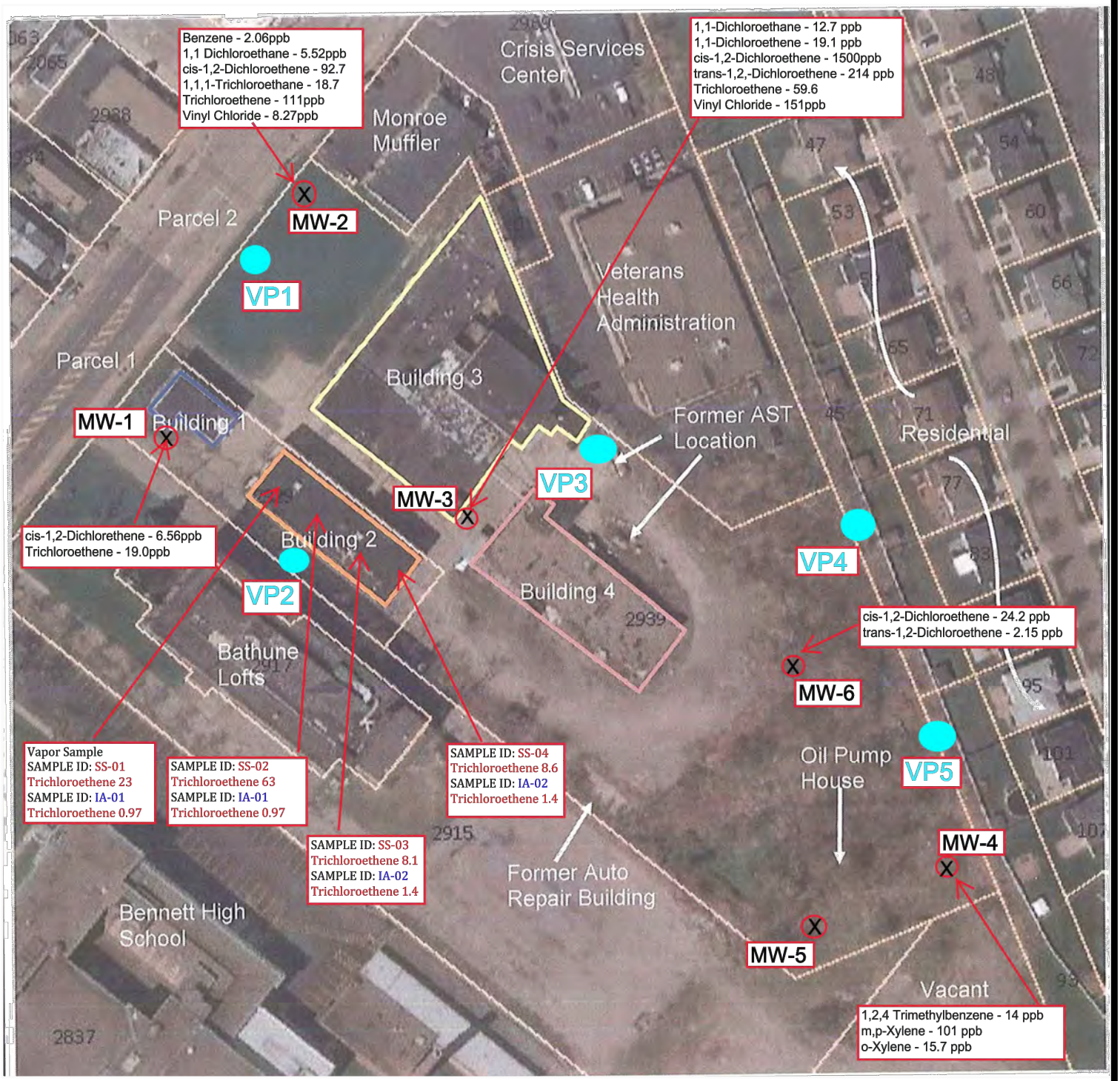
NOTES:
-Compound levels are all presented in ppm

FIGURE 7: MAIN AND HERTEL SITE
SITE SPECIFIC ACTION LEVEL (SSAL) LOCATIONS

BE3 Corp./Panamerican
1270 Niagara Street
Buffalo, New York 14213
W: 716-249-6880

MAIN AND HERTEL

7-03-2018 | SCALE: N/A | SHEET 1 OF 1



LEGEND

- VAPOR PROBE - VP-1
- MONITORING WELL - MW-1

FIGURE 8: MAIN AND HERTEL SITE VAPOR PROBE LOCATIONS

MAIN AND HERTEL

BE3 Corp./Panamerican
1270 Niagara Street
Buffalo, New York 14213
W: 716-249-6880

7-03-2018	SCALE: N/A	SHEET 1 OF 1

APPENDIX B

HEALTH & SAFETY PLAN

SITE HEALTH AND SAFETY PLAN
for
BROWNFIELD CLEANUP PROGRAM
IRM ACTIVITIES

MAIN AND HERTEL SITE
BUFFALO, NEW YORK
(SITE NO. C915318)

Revised November 2018 0463-018-001-002

Prepared for:

Main and Hertel LLC

MAIN AND HERTEL SITE
HEALTH AND SAFETY PLAN FOR IRM ACTIVITIES

ACKNOWLEDGEMENT

Plan Reviewed by (initial):

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

Project Manager: Christopher Boron, P.G.

Designated Site Safety and Health Officer: Christopher Boron, P.G.

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

MAIN AND HERTEL SITE
HEALTH AND SAFETY PLAN FOR RI ACTIVITIES

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MAIN AND HERTEL SITE
HEALTH AND SAFETY PLAN FOR RI ACTIVITIES

TABLE OF CONTENTS

MAIN AND HERTEL SITE
HEALTH AND SAFETY PLAN FOR RI ACTIVITIES

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LIST OF FIGURES

ATTACHMENTS

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 Benchmark Environmental Engineering & Science, PLLC and TurnKey Environmental Restoration, LLC employees (referred to jointly hereafter as "Benchmark-TurnKey") during Interim Remedial Measures (IRM) activities at the Main and Hertel Site located in the City of Buffalo, Erie County, New York. This HASP presents procedures for Benchmark-TurnKey employees who will be involved with 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. Benchmark-TurnKey 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

Two (2) parcels that form the 2929 & 2939 Main Street Site are in the City of Buffalo at the east side of the corner of Main Street and Hertel Avenue. The 2929 Main Street parcel is approximately 0.5-acres and the 2939 Main Street parcel is approximately 4.4-acres. A summary of the primary structures and their status are as follows.

- Building 1 - This is a 2-story, approximately 4,300 square foot structure that was used as an office and is being used as the construction field office during the redevelopment project.
- Building 2 - This is a 2-story, approximately 15,900 square foot structure that was used previously as office space and a warehouse. This building will be renovated as part of Site redevelopment and has undergone asbestos-contained material (ACM) abatement.

- Building 3 - This is a 2/3-story, approximately 50,700 square feet structure that was most recently occupied by Keystone Corporation and used for an electroplating operation. The former wastewater treatment system, plating tanks, material storage, and other related operations were mostly contained on the 1st and 2nd floors. The small 3rd floor area is currently vacant. This building will be demolished as part of Site redevelopment.
- Building 4 - This was a 1-story, approximately 9,300 square foot structure that was used for storage of raw and finished products. This building was demolished in September 2018 and only the concrete slab on grade remains.
- Oil Pump House – This is a small, 1-story unused structure with pipes protruding from the ground. It is overgrown with vegetation and will be demolished as part of Site redevelopment.

An aerial view of the Site is provided in Figure 2.

The property is currently vacant but most recently occupied by the Keystone Corporation which is an electroplating company. The Keystone Corporation provides industrial metal finishing and metal plating. Plating operations can include several compounds, such as, cadmium, copper, nickel, gold, silver, tin, tin/lead solder plate, zinc, phosphate, manganese phosphate and zinc phosphate. Solvents are also used in these operations. The Keystone Corporation has been associated with the property since at least the 1990s. A previous plating company was associated with the property since at least the 1970s. Prior to its use for metal plating operations, past uses of the property include auto/truck manufacturing, gasoline pump manufacturing, cereal manufacturing, dairy equipment manufacturing, paint manufacturing, auto repair and painting. Reportedly a lead-based-paint manufacturer was in a portion of the property. Contaminants from these operations may include polycyclic aromatic hydrocarbons (PAHs), metals and volatile organic compounds (VOCs) including petroleum and chlorinated solvents as well as acids and bases. In addition, it appears that fill/soils have been placed across the Site at varied depths with very little, if any, native soils between the fill and bedrock. Various media including the fill/soil, groundwater and soil vapor were investigated under the RI program

for potential impacts from historic facilities operations along with inherent impacts posed by the fill/soil materials.

1.3 Known and Suspected Environmental Conditions

Historical information indicates the following previous environmental investigation activities have been completed on the Site:

February 1990 – Phase II Preliminary Environmental Assessment Report – In December 1989 Hazard Evaluations, Inc. conducted a Phase II environmental investigation. The investigation included a physical inspection of both the interior and exterior of site buildings and an agency search with conditions noted in the report (similar to what would today be in a Phase 1 report). Following the physical inspection, a series of nine (9) test pits were installed at locations where impacted soils potentially exist based on the physical inspection previously conducted. The analytical data was limited and mainly included Toxicity Characteristic Leaching Procedure (TCLP) and Total Petroleum Hydrocarbon (TPH). The test pit data indicated bedrock is very shallow across the site (3' to 5' bgs).

December 2014 – Phase I Environmental Site Assessment Report - In November 2014 Hazard Evaluations, Inc. conducted a Phase I Environmental Site Assessment on the 2929 and 2939 Main Street property. The Phase I ESA identified the following environmental issues:

- The subject property has been the location for various manufacturing or electroplating operations since 1910. These operations have used various hazardous materials and petroleum products and produced organic and inorganic chemical and petroleum wastes as well as metal wastes. Past practices concerning operations and waste handling varied and are unknown for the most part.
- A previous Phase II ESA in 1990 confirmed petroleum and chemical impacts to soil and although some very specific hot spot remediation was completed, the potential for soil and groundwater impacts were identified as possibly still being present.

- Potential releases from past operations including tin shop, paint manufacturing, and auto repair may have added to potential releases and impacts.
- Several underground storage tanks (USTs) and aboveground storage tanks (ASTs) were associated with the property and these may have impacted soils and groundwater.
- A pit/sump was located in the southeast corner of Building 3. This pit was reportedly associated with the use of degreasers including trichloroethene (TCE). This may have impacted soil and groundwater and may represent a vapor intrusion issue.
- The former oil pump house has several pipes protruding from the building/ground. These may represent either associated USTs or oil lines that fed through and were pumped from this location. Previous surface soil samples in this area indicated petroleum impacts.
- Several rail road spurs are located on the property (south and eastern portion). The Phase I ESA speculated that spills of petroleum or hazardous materials along these spurs may have occurred or may be present from rail ballasts.
- Debris and mounding was observed in the eastern and southeastern areas of the property. The Phase I ESA observed fill of unknown origin, brick, concrete, rusted/empty 55-gallon drums, 5-gallon containers, roofing shingles, tires, and wood.
- Transformers were located in the building 3 courtyard and on the roof of Building 4. No information concerning the polychlorinated biphenyl (PCB) content.
- Various pits and trenches are located with the electroplating operations and are used to transport various plating liquid waste to the wastewater treatment plant. These pits/trenches were excavated to bedrock.
- The precious metal room located on the second floor of Building 3 has a wood floor and extensive buildup of residue from general dripping during operations.
- Adjacent Monroe Muffler was historically a gasoline service station that contained multiple USTs.

January 2017 – Phase II Environmental Site Assessment Report - In December 2016, PEI/BE3 conducted a Phase II Environmental Site Assessment (ESA) on the subject Site. This investigation included the completion of subsurface soil borings and collection of near-surface and subsurface soil samples to further assess potential environmental impacts to the Site related to the historic Site use. The soil investigation included the advancement of a total of sixteen (16) borings advanced to a depth of between two and eight feet (2-8 feet) below ground surface (bgs) or until equipment refusal. Soils were field screened in each borehole using a photoionization detector (PID) and noted visual and/or olfactory field observations. To assess potential impacts across the Site, a total of ten (10) soil samples were collected for laboratory analysis from the 16 borings. Sample analysis included analysis for the Brownfield list of parameters - NYSDEC Part 375 brownfield list – metals, volatile and semi-volatile organic compounds (VOCs & SVOCs), pesticides and PCBs.

February 2018 – Remedial Investigation/Alternatives Analysis Report (RI/AAR) – The RI included the following tasks:

- Advanced a series of soil borings (9) and test pits (14) across the property in a semi grid pattern, focusing on areas where impacted soils were identified during the Phase II ESA. Collected and analyze a total of 27 soil samples (see Figure 2 in Appendix A);
- Installed and sampled six (6) groundwater bedrock wells to assess potential groundwater impacts from off-site and on-site sources by evaluating groundwater quality entering and leaving the Site;
- Conducted a vapor intrusion assessment in Building 2; and,
- Conducted a building environmental condition assessment in all four (4) on-site buildings.

Historic Investigations and RI Analytical results

The Phase II ESA completed in 1990 was limited with respect to the type of analysis and samples collected. The analytical data was limited and mainly included Toxicity Characteristic Leaching Procedure (TCLP) and Total Petroleum Hydrocarbon (TPH)

results. Some of the TPH results in areas that had aboveground storage tanks were very high indicating petroleum impacts were present. There was also one area that had a high lead TCLP result. These areas were reportedly remediated.

The Phase II ESA completed by PEI/BE3 in January 2017 included the collection of a total of ten (10) soil samples for laboratory analysis from the 16 borings installed. Sample analysis included the Brownfield list of parameters - NYSDEC Part 375 brownfield list – metals, volatile and semi-volatile organic compounds (VOCs & SVOCs), pesticides and PCBs. Based on the soil sample analytical results (see Table 1 and Figure 3 in Appendix A), near-surface and subsurface soils are impacted by heavy metals, PAHs and PCBs. Multiple metals and PAHs were detected above Part 375 Residential and Restricted-Residential Soil Cleanup Objectives (SCO). Elevated PCBs were also detected in one sample above Part 375 Residential and Restricted-residential SCOs.

RI Investigations Summary

Fill/Soils Results Summary

The results of the RI soil/fill investigation indicated that SVOCs (primarily PAHs) and metal compounds were detected throughout Site soil/fill material at variable levels above Part 375 Restricted-Residential SCOs (RRSCOs). Additionally, the results indicated that VOCs were detected in concentrations below SCOs across the Site. PCB/Pesticides were also detected in concentrations below SCOs across the Site with the exception of one (1) pesticide compound, Dieldrin, which slightly exceeded its Restricted-Residential SCO at TP-12 (see Tables 2 through 4 and Figure 2 of the RI Report in Appendix A).

Groundwater Results Summary

The groundwater analytical results indicated VOC-impacted groundwater is present on-Site above the NYSDEC groundwater quality standards. Solvent-related VOCs appear to be impacting groundwater in the northwestern portion of the Site (MW-1, MW-2 and MW-3) with an impact also indicated in MW-6 just east of Building 4. A few petroleum-related VOCs were detected in MW-4 at the southeast end of the Site and possibly associated with the former Oil Pump House. Groundwater contours

indicate groundwater flows from southeast to the northwest across the Site (see Table 7 and 8 and Figure 6 in Appendix A).

The elevated number of solvent VOCs in MW-3 may be influenced by its location directly adjacent the process/plating operation building (Building 3) and the elevated concentrations of solvent VOCs in monitoring wells MW-1 and MW-2 are most likely influenced by the same operations because they are both downgradient of Building 3. The elevated petroleum-related benzene compound detected in MW-2 maybe associated with the off-site auto repair operation that is adjacent. Auto repair and former gasoline service station operations also use solvents for cleaning and the solvent levels detected in this well could be influenced by the existing facility's operation as well.

Subsequent to the completion of the previously described groundwater sampling program at the facility the NYSDEC issued new analytical requirements for groundwater samples. A second groundwater sampling program was conducted for the new required compounds Per-polyfluoroalkyl substances (PFAS) and for 1,4-dioxane at lower laboratory detection limits. It was agreed by NYSDEC that only monitoring wells that indicated elevated solvent concentrations in the previous sampling round would be sampled for the additional compounds. This resulted in monitoring wells MW-1, MW-2, MW-3 and MW-6 being sampled. The results of the sampling are provided in Table 9 in Appendix A. The four (4) analytical sample results for 1,4- dioxane did not exceed the newly established NYSDEC guideline for 1,4-dioxane and only one (1) sample location, MW-2, exceeded the combined PFAS + PFOS screening level of 0.07 ug/l.

<u>Building 2 Sub-Slab Soil Vapor Results Summary</u>

The sub-slab air analytical results (see Table 5 and Figure 4 in Appendix A) reveal that trichloroethene (TCE) was detected in the four (4) sub-slab samples at elevated concentrations that when applied to the Indoor Air Decision Matrices requires monitoring/mitigation to reduce TCE concentrations. It should be noted that TCE was detected in the outdoor air background sample but at a low concentration (0.32 ug/m^3). Results for the other seven (7) New York State Department of Health

(NYSDOH) volatile chemicals assigned to the Indoor Air Decision Matrices indicated that "No Further Action" was required for these compounds.

Building Environmental Condition Assessment – 4 Buildings

The results of the asbestos containing materials (ACM) survey indicated the presence of ACM in the four (4) buildings. An inventory of light fixture ballast and bulbs (FLBs) indicated that many of the FLBs most likely contain PCBs primarily due to the age of the buildings and FLBs. A review of the X-Ray florescence (XRF) instrument results indicates that lead based paint (LBP) is present and shows deterioration on multiple interior and exterior building components in the buildings.

1.4 Parameters of Interest

Based on the previous investigations, constituents of potential concern (COPCs) in soil and groundwater at the Site include:

- **Inorganic Compound –** The inorganic COPCs potentially present at elevated concentrations are arsenic, barium, cadmium, chromium, mercury and lead.

- **Volatile Organic Compounds (VOCs) –** VOCs present at elevated concentration include chlorinated-VOCs (cVOCs), such as cis-1,2-dichloroethene and trichloroethene, and benzene.

- **Semi-Volatile Organic Compounds (SVOCs) –** SVOCs present at elevated concentrations include polynuclear aromatic hydrocarbons (PAHs), which are byproducts of incomplete combustion and impurities in petroleum products. PAHs present at elevated levels in the soil/fill samples include: are benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene.

- **Polychlorinated Biphenyls (PCBs)** are synthetic organic chemicals widely used in transformers as insulating materials, and coolants. PCBs are present in the soil/fill and transformers present at the Site.

1.5 Overview of IRM Activities

Benchmark-TurnKey personnel will be on-site to observe and perform IRM activities. The field activities to be completed as part of the IRM are described below.

Interim Remedial Activities

1. Delineation of Cadmium and PCB-impacted concrete floors inside Building 3;
2. Observing building abatement, remediation, and demolition;
3. Observing removal and proper disposal of Universal Waste streams;
4. Upon removal of building slabs, soil/fill beneath Building 3 will be investigated and, if warranted, impacted soil/fill with exceedances of SSALs will be removed for off-site disposal;
5. Removal and landfill disposal of SVOC, PCB and/or arsenic-impacted soil/fill at six (6) previous investigation locations at the Site.
6. Collection of post-excavation confirmatory samples.

2.0 ORGANIZATIONAL STRUCTURE

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

2.1.1 Corporate Health and Safety Director

The Benchmark-TurnKey Corporate Health and Safety Director is ***Mr. Thomas H. Forbes, P.E.*** 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 Benchmark-TurnKey'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. Christopher Boron, P.G.*** The Project Manager has the responsibility and authority to direct all Benchmark-TurnKey work operations at the Site. The Project Manager coordinates safety and health functions with the Site Safety and Health Officer and bears ultimate responsibility for proper implementation

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

- Preparing and coordinating the Site work plan.
- Providing Benchmark-TurnKey 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. Christopher Boron, P.G.***. The qualified alternate SSHO is ***Mr. Nathan Munley.*** 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 Benchmark-TurnKey personnel on the Site.
- Serving as the point of contact for safety and health matters.
- Ensuring that Benchmark-TurnKey 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 contractors, who will be responsible for developing, implementing and enforcing a Health and Safety Plan equally stringent or more stringent than Benchmark-TurnKey's HASP. Benchmark-TurnKey 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 Benchmark-TurnKey's SSHO as necessary to ensure effective lines of communication and consistency between contingency plans.

In addition to Benchmark-TurnKey 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 soil, 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 potentially resulted in impacts to Site soils and groundwater. Visual and olfactory observations, as well as elevated PID readings, indicate a potential VOC impact to Site soil. In addition to VOCs, soil and groundwater may be impacted by SVOCs (PAHs) due to historic use of petroleum refining processes on the facility. Table 1 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.

- **Trichloroethene (TCE) (CAS #79-01-6)** was formally widely used in dry cleaning operations. It is toxic by inhalation and skin absorption. It is an irritant to the skin, eyes and mucous membranes. Symptoms of exposure may include headache, dizziness and nausea. Exposure may cause liver and kidney damage. TCE is a suspected human carcinogen.
- **1,1,1-Trichloroethane (CAS #71-55-6)** commonly found in building materials, cleaning products, paints, and metal degreasing agents. Inhaling high levels can cause you to become dizzy and lightheaded.

- **Cis-1,2-Dichloroethene (cis-1,2-DCE) (CAS #156-59-2)** is a breakdown product of PCE. Direct exposure is mostly by inhalation resulting in heart and

liver damage.

- **1,1-Dichloroethene (CAS #75-35-4)** used to make plastics, flame retardant coatings for fiber, and in piping, coating for steel pipes, and in adhesive applications. Inhaling high levels can affect the liver, kidney, and central nervous system.

- **1,1-Dichloroethane (CAS #75-34-3)** is a colorless oily liquid with a chloroform-like odor. Commonly used in limited amounts as a solvent for cleaning and degreasing, and in the manufacture of adhesives and synthetic fibers. Exposure routes include inhalation or drinking contaminated water if you are near industrial facilities or hazardous waste sites. May cause skin irritation, central nervous system depression, along with liver, kidney, and lung damage.

- **1,2,4-Trimethylbenzene (CAS #95-63-6)** is a common gasoline additive. Acute exposure predominantly results in skin irritation and inhalation causes chemical pneumonitis. Symptoms include headache, dizziness, fatigue, muscular weakness, drowsiness.

- **1,3,5-Trimethylbenzene (CAS #108-67-8)** is a colorless, odorless flammable liquid. The substance is irritating to the eyes, the skin and the respiratory tract. If this liquid is swallowed, aspiration into the lungs may result in chemical pneumonitis. The substance may cause effects on the central nervous system.

- **Vinyl Chloride (CAS #75-01-4)** is an intermediate in the production of chlorinated compounds. It is a biodegradation product of TCE and PCE. Inhalation exposure may result in damage to the liver, kidneys, lungs and other organs. In addition to liver cancer, exposure has also been linked to an increased risk of lung, brain, hematopoietic, and digestive tract cancers.

- **Benzene (CAS #71-43-2)** poisoning occurs most commonly through inhalation of the vapor, however, benzene can also penetrate the skin and poison in that way. Locally, benzene has a comparatively strong irritating effect, producing erythema and burning and, in more severe cases, edema and blistering. Exposure to high concentrations of the vapor (i.e., 3,000 ppm or higher) may result in acute poisoning characterized by the narcotic action of benzene on the central nervous system. In acute poisoning, symptoms include confusion, dizziness, tightening of the leg muscles, and pressure over the forehead. Chronic exposure to benzene (i.e., long-term exposure to concentrations of 100 ppm or less) may lead to damage of the blood-forming system. Benzene is very flammable when exposed

to heat or flame and can react vigorously with oxidizing materials.

- **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; and dibenzo(a,h)anthracene. The primary route of exposure to PAHs is through incidental ingestion and inhalation of contaminated particulates. PAHs are characterized by an organic odor, and exist as oily liquids in pure form. Acute exposure symptoms may include acne-type blemishes in areas of the skin exposed to sunlight.
- **Lead** can affect almost every organ and system in our bodies. The most sensitive is the central nervous system, particularly in children. Lead also damages kidneys and the immune system. The effects are the same whether it is breathed or swallowed. Lead may decrease reaction time, cause weakness in fingers, wrists or ankles and possibly affect memory. Lead may cause anemia.

- **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.

- **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 a natural inorganic element and is usually combined with one or more elements, such as oxygen, chloride or sulfur. The common forms of chromium are hexavalent (CR+6) and trivalent (CR+3). The hexavalent form is associated with significantly greater potential health impacts than the trivalent form. 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.

- **Polychlorinated Biphenyls (PCBs)**. PCBs can be absorbed into the body by inhalation of its aerosol, through the skin, and by ingestion. Repeated or prolonged contact with skin may cause dermatitis. PCBs may have effects on the liver. Animal tests show that that PCBs possibly cause toxic effects in human reproduction. In the food chain, bioaccumulation takes place, specifically in aquatic organisms. A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20°C.

With respect to the anticipated IRM activities discussed in Section 1.5, possible routes of exposure to the above-mentioned contaminants are presented in Table 2. 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

IRM field activities at the Main and Hertel Site, 2929 Main Street, Buffalo, New York, 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 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 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 Benchmark-TurnKey'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 Benchmark-TurnKey employees as stipulated under 29 CFR Part 1910.120(f). These exams include initial employment, annual and employment termination physicals for all Benchmark-TurnKey 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 Health Works, an occupational health care provider under contract with Benchmark-TurnKey. Health Works is located in Seneca Square Plaza, 1900 Ridge Road, West Seneca, New York 14224. The facility can be reached at (716) 823-5050 to schedule routine appointments or post-exposure examinations.

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

- Occupational/medical history review.
- Physical exam, including vital sign measurement.
- Spirometry testing.
- Eyesight testing.
- Audio testing (minimum baseline and exit, annual for employees routinely exposed to greater than 85db).
- EKG (for employees >40 yrs age or as medical conditions dictate).
- Chest X-ray (baseline and exit, and every 5 years).
- Blood biochemistry (including blood count, white cell differential count, serum multiplastic screening).
- Medical certification of physical requirements (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, Benchmark-TurnKey will maintain and preserve medical records for a period of 30 years following termination of employment. Employees are provided a copy of the physician's post-exam report and have access to their medical records and analyses.

6.0 SAFE WORK PRACTICES

All Benchmark-TurnKey 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 Benchmark-TurnKey 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 Benchmark-TurnKey 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, Benchmark-TurnKey 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 3.

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 1), in which case respiratory protection will be required. Respiratory and dermal protection may be modified (upgraded or downgraded) by the SSHO based upon real-time field monitoring data.

8.1.1 On-Site Work Zone Monitoring

Benchmark-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 Benchmark-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 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 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.

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 Benchmark-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 Benchmark-TurnKey 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 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-TurnKey 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 for the 15-minute average, work activities will be temporarily 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 for the 15-minute average, 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 for the 15-minute average, 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 613, 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 613. 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 A 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 Benchmark-TurnKey employees. The Site Safety and Health Officer and/or his or her designee will be responsible for monitoring Benchmark-TurnKey field personnel for symptoms of heat/cold stress.

10.1 Heat Stress Monitoring

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

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

- Adjust work schedules.
- Modify work/rest schedules according to monitoring requirements.
- Mandate work slowdowns as needed.
- Perform work during cooler hours of the day if possible or at night if adequate lighting can be provided.
- Provide shelter (air-conditioned, if possible) or shaded areas to protect personnel during rest periods.
- Maintain worker's body fluids at normal levels. This is necessary to ensure that the cardiovascular system functions adequately. Daily fluid intake must approximately equal the amount of water lost in sweat (i.e., eight fluid ounces must be ingested for approximately every 1 lb of weight lost). The normal thirst

mechanism is not sensitive enough to ensure that enough water will be consumed to replace lost perspiration. When heavy sweating occurs, workers should be encouraged to drink more.

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

Heat-Related Illness - Symptoms:

- Heat rash may result from continuous exposure to heat or humid air.

- Heat cramps are caused by heavy sweating with inadequate electrolyte replacement. Signs and symptoms include: muscle spasms; pain in the hands, feet and abdomen.

- Heat exhaustion occurs from increased stress on various body organs including inadequate blood circulation due to cardiovascular insufficiency or dehydration. Signs and symptoms include: pale, cool, moist skin; heavy sweating; dizziness; nausea; fainting.

- Heat stroke is the most serious form of heat stress. Temperature regulation fails and the body temperature rises to critical levels. Immediate action must be taken to cool the body before serious injury and death occur. Competent medical help must be obtained. Signs and symptoms are: red, hot, usually dry skin; lack of or reduced perspiration; nausea; dizziness and confusion; strong, rapid pulse; coma.

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

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

- Body temperature may be measured orally with a clinical thermometer as early as possible in the resting period. Oral temperature at the beginning of the rest period

should not exceed 99.6 degrees Fahrenheit. If it does, the next work period should be shortened by 10 minutes (or 33%), while the length of the rest period remains the same. However, if the oral temperature exceeds 99.6 degrees Fahrenheit at the beginning of the next period, the work cycle may be further shortened by 33%. Oral temperature should be measured at the end of the rest period to make sure that it has dropped below 99.6 degrees Fahrenheit. No Benchmark-TurnKey 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 Benchmark-TurnKey workers and their level of protection. The zone boundaries may be changed by the SSHO as environmental conditions warrant, and to respond to the necessary changes in work locations on-site.

12.0 DECONTAMINATION

12.1 Decontamination for Benchmark-TurnKey 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 Benchmark-TurnKey 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 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 Benchmark-TurnKey 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 Benchmark-TurnKey employees is not anticipated to be necessary to complete the 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 Benchmark-TurnKey employees cannot be avoided through reasonable engineering measures, task-specific confined space entry procedures will be developed, and a confined-space entry permit will be issued through Benchmark-TurnKey's corporate Health and Safety Director. Benchmark-TurnKey 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 within Appendix A as Figure 1.

16.0 REFERENCES

1. 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

TOXICITY DATA FOR CONSTITUENTS OF POTENTIAL CONCERN

Main and Hertel Site
Buffalo, New York

Parameter	Synonyms	CAS No.	Code	Concentration Limits [1]		
				PEL	TLV	IDLH
Volatile Organic Compounds (VOCs): ppm						
Benzene	Benzol, Phenyl hydride	71-43-2	Ca	1	0.5	500
Ethylbenzene	Ethylbenzol, Phenylethane	100-41-4	*none*	100	100	800
1,1-Dichloroethene	1,1-DCE	75-35-4	*Ca*	none	5	ND
1,1-Dichloroethane	1,1-DCA	75-34-3	*none*	100	100	3000
cis 1,2-Dichloroethene	1,2-DCE (cis)	156-59-2	*none*	200	200	1000
1,2,4-Trimethylbenzene	Methylzylene	95-63-6	*none*	25	25	ND
1,3,5-Trimethylbenzene	Trimethyl benzene	108-67-8	*none*	25	25	ND
trichloroethene	TCE	79-01-6	*Ca*	100	50	1000
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						
Acenaphthene	*none*	83-32-9	*none*	--	--	--
Acenaphthylene	*none*	208-96-8	*none*	--	--	--
Anthracene	*none*	120-12-7	*none*	--	--	--
Benzo(a)anthracene	*none*	56-55-3	*none*	--	--	--
Benzo(a)pyrene	*none*	50-32-8	*none*	--	--	--
Benzo(b)fluoranthene	*none*	205-99-2	*none*	--	--	--
Benzo(ghi)perylene	*none*	191-24-2	*none*	--	--	--
Benzo(k)fluoranthene	*none*	207-08-9	*none*	--	--	--
Chrysene	*none*	218-01-9	*none*	--	--	--
Dibenzo(a,h)anthracene	*none*	53-70-3	*none*	--	--	--
Fluoranthene	*none*	206-44-0	*none*	--	--	--
Fluorene	*none*	86-73-7	*none*	--	--	--
Indeno(1,2,3-cd)pyrene	*none*	193-39-5	*none*	--	--	--
Naphthalene	Naphthalin, Tar camphor, White tar	91-20-3	*none*	10	10	250
Phenanthrene	*none*	85-01-8	*none*	--	--	--
Pyrene	*none*	129-00-0	*none*	--	--	--
Inorganic Compounds: mg/m [2]						
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
Polychlorinated Biphenyls: mg/m [2]						
Aroclor 1254	Chlorodiphenyl, 54% chlorine	11097-69-1	Ca	0.5	0.5	5
Aroclor 1260	Chlorodiphenyl, 60% chlorine	11096-82-5	*none*	--	--	--

Notes:

1. Concentration limits as reported by NIOSH Pocket Guide to Chemical Hazards, February 2004 (NIOSH Publication No. 97-140, fourth printing
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.

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 hours/week.

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

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

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

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

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

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

TABLE 2

POTENTIAL ROUTES OF EXPOSURE TO THE CONSTITUENTS OF POTENTIAL CONCERN

Main and Hertel Site
Buffalo, New York

Activity [1]	Direct Contact with Soil/Fill/Concrete	Inhalation of Vapors or Dust	Direct Contact with Groundwater/ Surface Water
Interim Remedial Measures (IRM) Tasks			
1. Delineation of Cadmium and PCB-impacted Concrete Floors	x	x	
2. Observing building abatement, remedation and demolition [2]		x	
3. Removal and proper diposal of Universal Waste	x		
4. Supplemental Investigation beneath Building 3 Concrete Floor Slab	x	x	x
5. Removal and disposal of PCB- and Arsenic-Impacted Soil/Fill	x	x	
6. Collection of Post-Excavation Confirmatory Samples	x	x	

Notes:

1. Activity as described in Section 1.5 of the Health and Safety Plan.
2. Observations will be made form outside the Exclusion Zone. Entrance to the exclusion zone will not be permitted until the abatement is complete and demoltion activites are stopped.

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TURNKEY ENVIRONMENTAL RESTORATION, LLC

TABLE 3

REQUIRED LEVELS OF PROTECTION FOR IRM TASKS

Main and Hertel Site
Buffalo, New York

Activity	Respiratory Protection [1]	Clothing	Gloves [2]	Boots [2, 3]	Other Required PPE/Modifications [2, 4]
Remedial Investigation Tasks					
1. Delineation of Cadmium and PCB-impacted Concrete Floors	Level C	Tyvek	L/N	outer: L inner: STSS	Full-Face, air-purifying Respirator, with Organic Vapor/Filter Cartridge Combo
2. Observing building abatement, remedation and demolition	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	SGSS
3. Removal and proper diposal of Universal Waste	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	SGSS
4. Supplemental Investigation beneath Building 3 Concrete Floor Slab	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	SGSS
5. Removal and disposal of SVOC, PCB, and Arsenic-Impacted Soil/Fill	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	SGSS
6. Collection of Post-Excavation Confirmatory Samples	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	SGSS

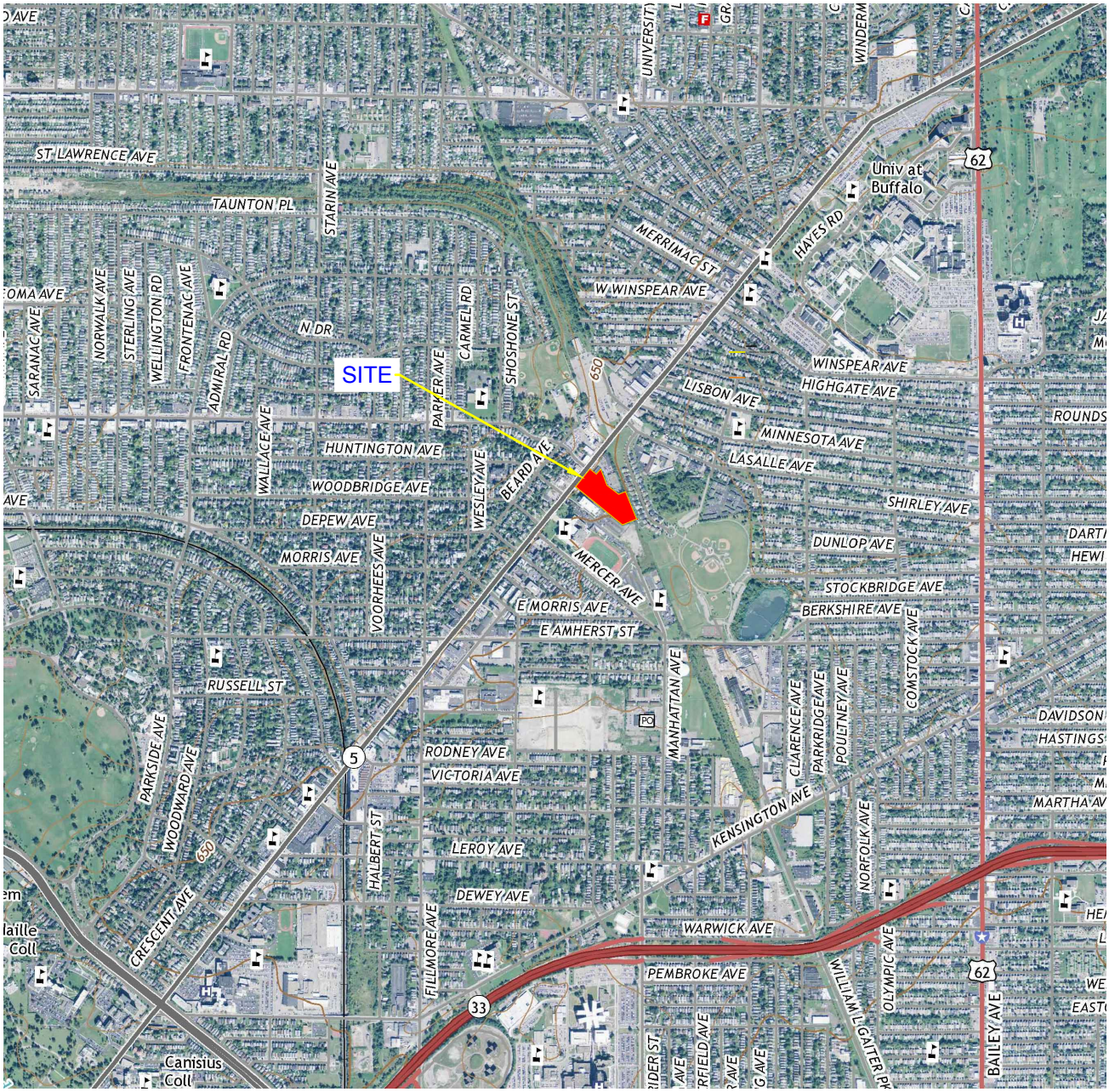
Notes:

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

F:\CAD\Benchmark\Main and Hertel\IRM\Figure 1; Site Location and Vicinity Map.dwg, DWG To PDF.pc3

FIGURE 1



2,000' 0' 2,000' 4,000'

SCALE: 1 INCH = 2,000 FEET
SCALE IN FEET
(approximate)

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TURNKEY ENVIRONMENTAL RESTORATION, LLC

2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218, (716) 856-0599

PROJECT NO.: 0463-018-001-002

DATE: OCTOBER 2018

DRAFTED BY: RFL

SITE LOCATION AND VICINITY MAP

IRM WORK PLAN

MAIN AND HERTEL SITE
BCP SITE NO. C915318
BUFFALO, NEW YORK

PREPARED FOR

MAIN AND HERTEL LLC

DATE: OCTOBER 2018
DRAFTED BY: RFL

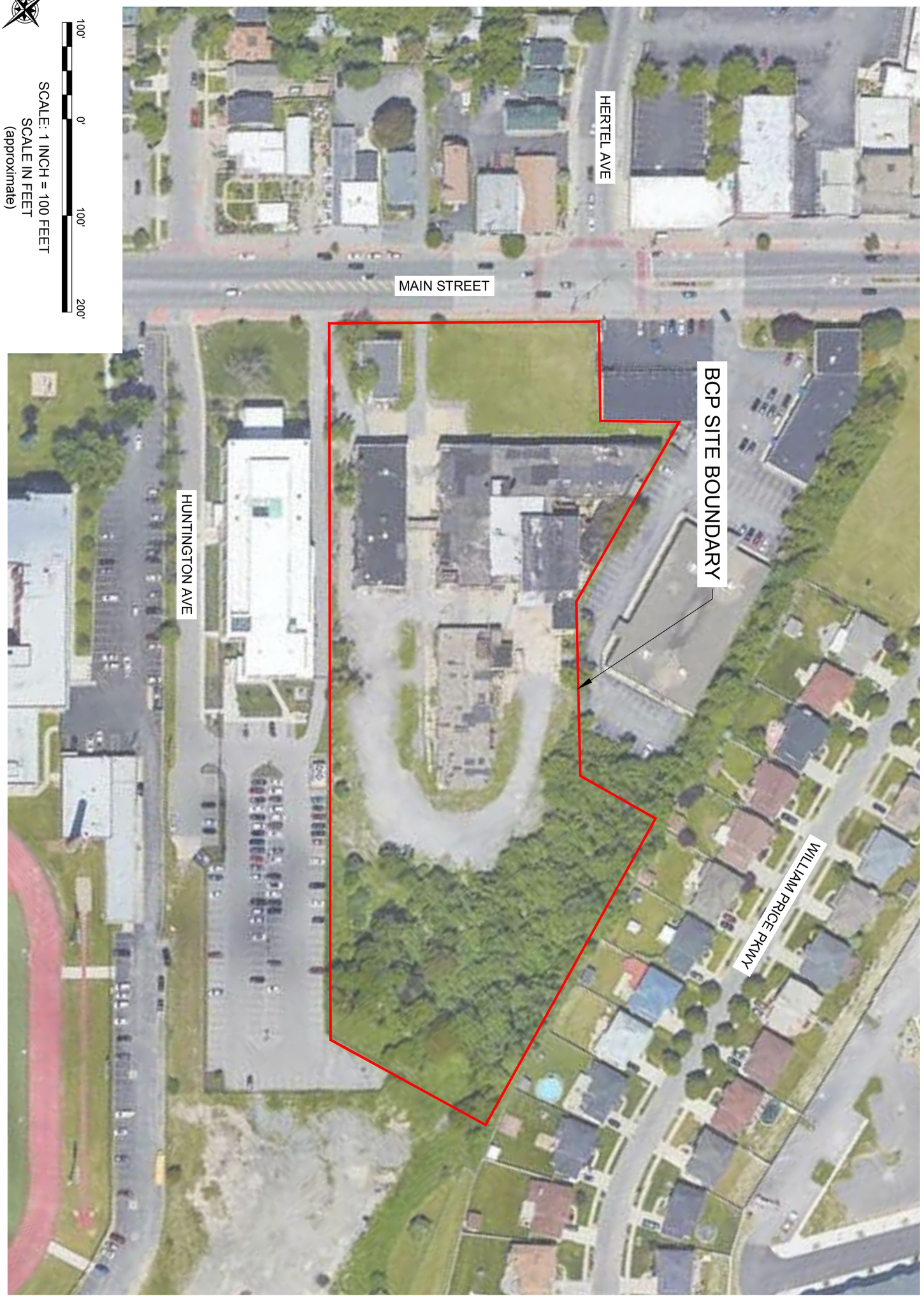


FIGURE 2

SITE PLAN (AERIAL)

IRM WORK PLAN

MAIN AND HERTEL SITE
BCP SITE NO. C915318
BUFFALO, NEW YORK

PREPARED FOR

MAIN AND HERTEL LLC

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
TURNKEY ENVIRONMENTAL RESTORATION, LLC
2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218, (716) 856-0599

JOB NO.: 0463-018-001-002

ATTACHMENT A

EMERGENCY RESPONSE PLAN

TURNKEY

EMERGENCY RESPONSE PLAN
for
BROWNFIELD CLEANUP PROGRAM
POST REMEDIAL ACTIVITIES

MAIN AND HERTEL SITE
BUFFALO, NEW YORK

Revised November 2018 0463-018-001-002

Prepared for:

Main and Hertel LLC

MAIN AND HERTEL SITE
HEALTH AND SAFETY PLAN FOR POST REMEDIAL 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 Interim Remedial Measures (IRM) activities at the Main and Hertel Site, 2929 Main Street 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

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 Benchmark-TurnKey personnel field vehicle.

5.0 EMERGENCY CONTACTS

The following identifies the emergency contacts for this ERP.

Emergency Telephone Numbers:

Project Manager: ***Christopher Boron, P.G.***
Work: (716) 856-0599
Mobile: (716) 864-2726

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

Site Safety and Health Officer (SSHO): ***Christopher Boron, P.G.***
Work: (716) 856-0599
Mobile: (716) 864-2726

Alternate SSHO: ***Nathan Munley***
Work: (716) 856-0599
Mobile: (716) 289-1072

SISTERS OF CHARITY HOSPITAL (ER):	(716) 862-1820
FIRE:	911
AMBULANCE:	911
OLEAN 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:
2929 Main Street
Buffalo, New York 14214
Site Phone Number: (Insert Cell Phone or Field Trailer): Cell Phone On-Site

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 (***Christopher Boron*** or ***Nathan Munley***) 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 Hospital.

- Ingestion: Decontaminate and transport to 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 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 Olean General Hospital (see Figure 1):

The following directions describe the best route from the Site to Cuba Memorial Hospital:

- Travel south along Main Street for 1.5 miles
- Turn left (east) into the Hospital entrance
- Sisters of Charity Hospital is located at 2157 Main Street, Buffalo, NY

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:

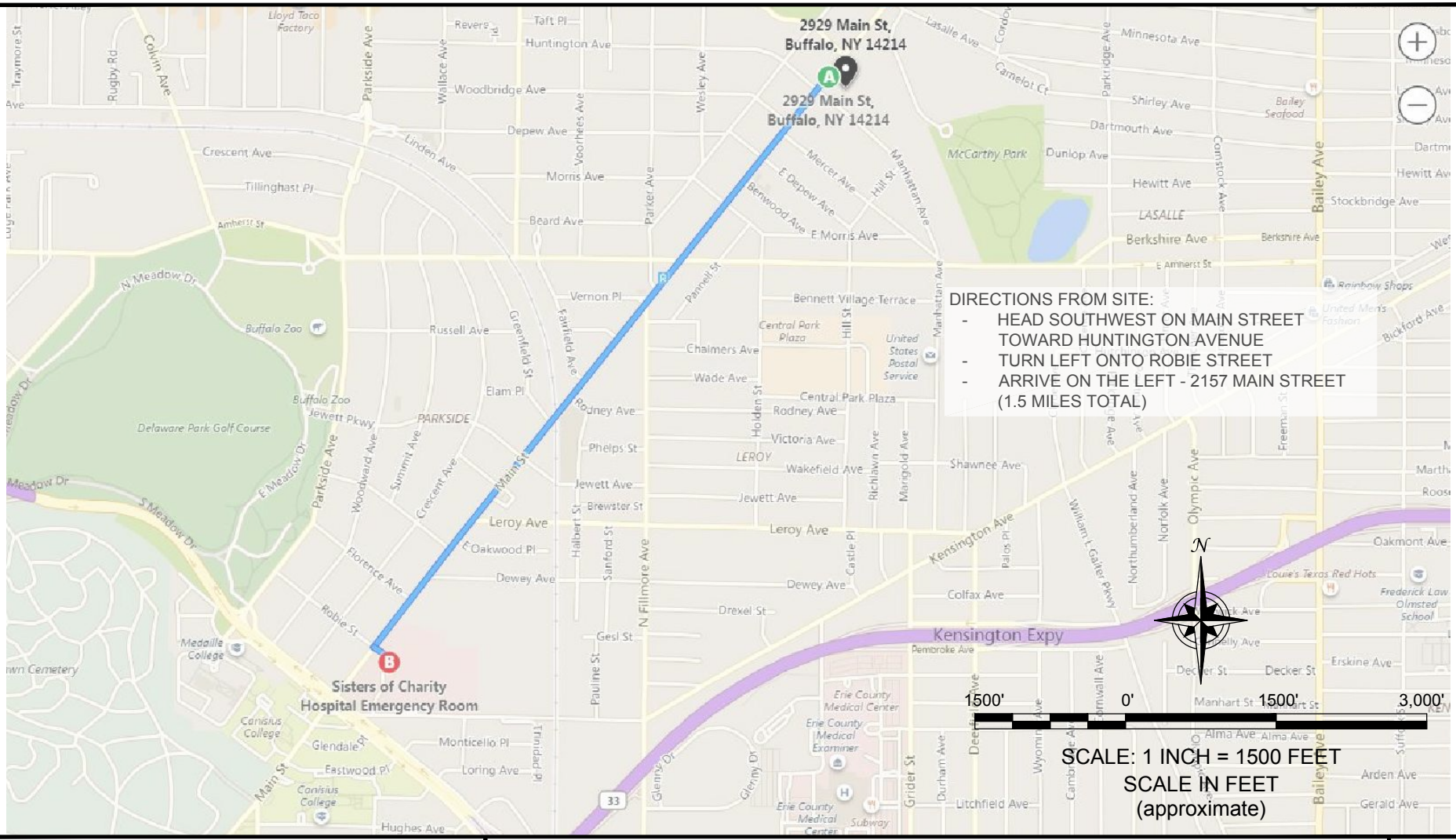
- Occupational injuries and illnesses.
- Accident investigations.
- Reports to insurance carrier or State compensation agencies.
- Reports required by the client.
- Records and reports required by local, state, federal and/or international agencies.
- Property or equipment damage.
- Third party injury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

F:\CAD\Benchmark\Main and Hertel\RM\HASP\Figure 1; Hospital Route Map.dwg, 10/26/2018 4:22:07 PM, DWG To PDF.pc3



BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC / TURNKEY ENVIRONMENTAL RESTORATION, LLC	**HOSPITAL ROUTE MAP**
2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218, (716) 856-0599	**EMERGENCY RESPONSE PLAN**
PROJECT NO.: 0463-018-001-002	**MAIN AND HERTEL SITE** BCP SITE NO. C915318 BUFFALO, NEW YORK
DATE: OCTOBER 2018	PREPARED FOR MAIN AND HERTEL LLC
DRAFTED BY: CCB	**FIGURE 1**

ATTACHMENT 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:

ATTACHMENT C

NYSDOH GENERIC COMMUNITY AIR MONITORING PLAN

Appendix C1
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

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 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 DEC/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, particularly if wind direction changes. 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.

1. 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.

2. 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.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) 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.

1. 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.

2. 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.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

Appendix C2
Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.

2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.

3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:

(a) Objects to be measured: Dust, mists or aerosols;
(b) Measurement Ranges: 0.001 to 400 mg/m3 (1 to 400,000 :ug/m3);
(c) Precision (2-sigma) at constant temperature: +/- 10 :g/m3 for one second averaging; and +/- 1.5 g/m3 for sixty second averaging;
(d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
(e) Resolution: 0.1% of reading or 1g/m3, whichever is larger;
(f) Particle Size Range of Maximum Response: 0.1-10;
(g) Total Number of Data Points in Memory: 10,000;
(h) Logged Data: Each data point with average concentration, time/date and data point number
(i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
(j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
(k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
(l) Operating Temperature: -10 to 50^{o} C (14 to 122^{o} F);
(m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.

5. The action level will be established at 150 ug/m3 (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m3, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m3 above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m3 continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM10 at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

(a) Applying water on haul roads;
(b) Wetting equipment and excavation faces;
(c) Spraying water on buckets during excavation and dumping;
(d) Hauling materials in properly tarped or watertight containers;
(e) Restricting vehicle speeds to 10 mph;
(f) Covering excavated areas and material after excavation activity ceases; and
(g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m3 action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.

APPENDIX C

STORMWATER POLLUTION PREVENTION PLAN

PROPOSED
5 STORY BUILDING

EXISTING
2 STORY BUILDING

EXISTING
2 STORY BUILDING

MAIN (99' WIDE)

STREET

SILT FENCE, TYP.

LANDSCAPE BUFFER REQUIRED

DETENTION SYSTEM 3
INV. 637.50
STONE 637.00

DETENTION SYSTEM 4
INV. 644.50
STONE 644.00

DETENTION SYSTEM 5
INV. 643.50
STONE 643.00

CB #1 (2x2)
RIM 642.16
INV. 639.00

CB #2 (2x2)
RIM 643.62
INV. 643.13

CB #3 (3x3)
RIM 642.70
INV. 639.00

CB #4 (2x2)
RIM 643.25
INV. 640.00

CB #5 (3x3)
RIM 646.90
INV. 644.50

CB #6 (2x2)
RIM 647.10
INV. 644.70

CB #7 (2x2)
RIM 651.07
INV. 648.50

CB #8 (3x3)
RIM 649.90
INV. 644.00

CB #9 (2x2)
RIM 650.80
INV. 648.30

CB #10 (2x2)
RIM 648.30
INV. 645.80

CB #11 (2x2)
RIM 644.90
INV. 642.20

CB #12 (2x2)
RIM 643.60
INV. 641.00

CB #13 (2x2)
RIM 643.34
INV. 640.84

CB #14 (2x2)
RIM 643.56
INV. 640.90

CB #15 (2x2)
RIM 640.75
INV. 638.00

ST MH #1
RIM 639.80

ST MH #2
RIM 651.30
INV. 644.00

ST MH #3
RIM 644.20
INV. 640.00

YD #1
RIM 641.80
INV. 639.80

YD #2
RIM 644.00
INV. 641.50

YD #3
RIM 644.00
INV. 641.50

TRENCH DRAIN
RIM 642.33
INV. 639.75

TRENCH DRAIN
RIM 642.50
INV. 637.50

ST MH #4
RIM 643.50
INV. 639.15

20 LF 36" WATERTIGHT HDPE - INV. 637.50

100 LF 48" WATERTIGHT HDPE - INV. 637.50

20 LF 36" WATERTIGHT HDPE - INV. 638.50

INV. 633.0±

103.50'

82.61'

177.22'

302.25'

275.62'

151.65'

224.0'

27 LF 8" SDR-35 PVC @ 7.4%

20 LF 8" HDPE @ 17.0%

28 LF 6" HDPE @ 6.2% WYE CONNECTION

6 LF 8" HDPE @ 1.0%

CONNECT FOUNDATION DRAIN 6" HDPE @ 1.0% MIN.

204 LF 8" HDPE @ 2.84%

8 LF 8" HDPE @ 10.0%

15 LF 12" HDPE @ 0.0%

110 LF 12" HDPE @ 1.35%

WYE CONNECTION
25 LF 8" HDPE @ 0.33%

TEE CONNECTION

228 LF 8" HDPE @ 1.33%

15 LF 8" HDPE @ 10.0%

65 LF 8" HDPE @ 0.77%

9 LF 8" HDPE @ 1.47%

TEE CONNECTION

14 LF - 8" HDPE @ 1.0% MIN.

INSERT A TEE CONNECTION

70 LF - 12" HDPE @ 0.0%

WYE CONNECTION TYP.
15 LF - 8" HDPE @ 1.3%

55 LF - 8" HDPE @ 7.27%

16 LF 6" SDR-35 PVC @ 12.9%

11 LF - 6" HDPE

110 LF 6" SDR-35 PVC @ 4.0%±

19 LF 6" HDPE @ 9.2%

78 LF 6" HDPE @ 2.40%

WYE CONNECTION TYP.

83 LF 8" HDPE @ 5.31%

4x3 ECCENTRIC REDUCER

8" HDPE WITH INSERT A TEE CONNECTION

30 LF 12" HDPE @ 2.2%

4x3 ECCENTRIC REDUCER

11 LF 8" MH #2
RIM643.50
INV. 639.15

120 LF 6" HDPE @ 1.0% MIN.

63 LF 12" HDPE @ 5.0%

70 LF - 12" HDPE @ 0.0%

WYE CONNECTION TYP.
15 LF - 8" HDPE @ 1.3%

DETENTION SYSTEM 4
INV. 644.50
STONE 644.00

CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.

2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).

3. THICKNESS - NOT LESS THAN SIX (6) INCHES.

4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.

5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.

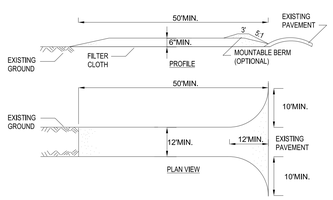
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.

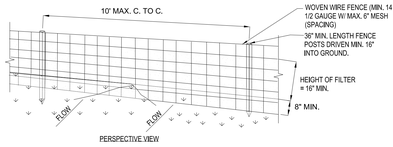
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACTED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.

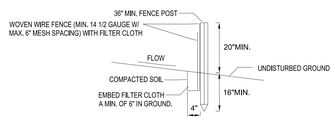
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

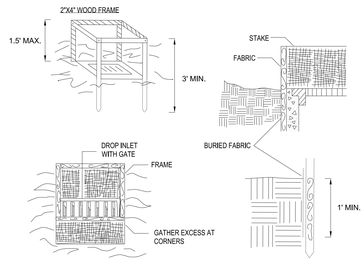
STABILIZED CONSTRUCTION ENTRANCE
N.T.S.







SILT FENCE
N.T.S.



CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN EOS OF 40-85, BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.

2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.

3. STAKE MATERIALS WILL BE STANDARD 2" x 4" WOOD OR EQUIVALENT, METAL WITH A MINIMUM LENGTH OF 3 FEET.

4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18 INCHES DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.

5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.

6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.

MAXIMUN DRAINAGE AREA 1 ACRE

FILTER FABRIC DROP INLET PROTECTION
N.T.S.

EROSION CONTROL NOTES:

THE FOLLOWING EROSION CONTROL PROCEDURE SHALL BE ADHERED TO BY THE CONTRACTOR:

1. INSTALL TEMPORARY SILT FENCE BARRIERS AS SHOWN ON THE PLAN AND AT ALL EXISTING STORMWATER CATCH BASINS WITHIN THE WORK AREA TO PREVENT SEDIMENT MIGRATION. ALL SILT FENCE BARRIERS SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS.

2. THE TOPSOIL SHALL BE STRIPPED AND STOCKPILED ON SITE FOR RE-USE AS DIRECTED BY THE OWNER. ALL LOCAL ORDINANCES REGARDING THE SALE AND/OR REMOVAL OF TOPSOIL FROM SITE MUST BE FOLLOWED.

3. ALL SILT FENCE BARRIERS SHALL BE REPLACED WHEREVER THEY BECOME CLOGGED OR INOPERABLE.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND REMOVAL OF TEMPORARY SEDIMENTATION CONTROLS.

5. THE CONTRACTOR MUST CONTROL DUST DURING CONSTRUCTION. DURING EARTHWORK OPERATIONS, WATER-SPREADING EQUIPMENT SHALL BE PROVIDED BY THE CONTRACTOR, AND WATER SPREAD AS NECESSARY AND AS DIRECTED BY THE OWNER IN ORDER TO CONTROL DUST.

6. DIRT OR DEBRIS LEFT ON LOCAL PUBLIC ROADS AS A RESULT OF THIS CONSTRUCTION PROJECT SHALL BE REMOVED AND ROAD SURFACES CLEANED BY THE CONTRACTOR ON A DAILY BASIS.

7. ALL DISTURBED AREAS (EXCEPT AREAS TO BE PAVED OR BUILT UPON) SHALL BE TOPSOILED TO A MINIMUM 4" DEPTH AND SEEDED IMMEDIATELY AFTER FINE GRADING TAKES PLACE AND AS SOON AS PHYSICALLY POSSIBLE.

8. THE CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE OF DOWNSTREAM STORM SEWERS, DITCHES, AND CULVERTS. SILT BUILDUP FOUND TO BE A RESULT OF THIS SITE CONSTRUCTION WORK SHALL BE REMOVED FROM DOWNSTREAM CULVERTS BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER OR THE TOWN.

9. IN ADDITION TO STORM WATER DISCHARGES, THE FOLLOWING NON-STORM WATER DISCHARGES MAY CONTRIBUTE TO THE RUNOFF FROM THE SITE:

- WATER FROM WATER SERVICE FLUSHINGS
- WATER USED TO WASH DOWN CONSTRUCTION VEHICLES (NO DETERGENTS)
- WATER USED FOR DUST CONTROL
- UNCONTAMINATED GROUNDWATER

THE ABOVE NON-STORM WATER FLOWS SHALL BE TREATED IN THE SAME MANNER AS STORM WATER FLOWS INDICATED HEREIN.

LEGEND

STORM SEWER	ST
MANHOLE	●
CATCH BASIN	■
YARD DRAIN	●YD
INLET PROTECTION	
SILT FENCE	
STABILIZED CONSTRUCTION ENTRANCE	

20 0 20 40Ft.
20

Architectural Resources
505 Franklin St
Buffalo, New York 14202
303 West 13th Street
New York, New York 10014
716-883-5566 716-883-5569 fax

Siracuse Engineers
808 Main Street
Buffalo, NY 14202
716-856-1894
716-852-2621 fax

EBS Engineering, PC
4050 Ridge Lea Road Suite C
Amherst, NY 14228
716-836-9600

C & S Engineers, Inc
141 Elm Street Suite 100
Buffalo, NY 14203
716-847-1630

Rails on Main
Blackfish Investments
2929 Main Street, Buffalo, New York

Seal
STATE OF NEW YORK
ERIC J. ZANER
LICENSED PROFESSIONAL ENGINEER
084047
7-13-18

Construction Documents
7.13.2018

Revisions

No.	Description	Date

SWPPP PLAN

A Jr Job No: 601.01
Client No:
Drawn by: Author
Sheet No:

C-107

APPENDIX D

DEMOLITION PLAN

Regional Environmental Demolition Inc.
6281 Wendt Drive
Niagara Falls New York 14304

DEMOLITION WORK PLAN

Contract No. 201
Rails on Main

2929 Main Street
Buffalo New York 14214

Prepared by:
Regional Environmental Demolition Inc.
6281 Wendt Drive
Niagara Falls New York 14304

7/30/18

Table of Contents

1. INTRODUCTION

Regional Environmental Demolition Inc. (RED) Work Plan for the work to be completed at the Rails on Main Project, Buffalo, New York. This Work Plan will be used in conjunction with all other Project Plans to ensure a safe working environment and adherence to rules and regulations pertaining to all site project work. This document provides a systemic approach to the Demolition of the Structures on Site, sequenced demolition, loading of waste materials.

** Revisions will be reviewed/distributed as attachments to the original plan.*

2. PROJECT NAME

Rails on Main.

3. PROJECT OVERVIEW

2929 Main Street renovations entails a large scope. For this Demolition Plan we will be focusing on 2 Buildings being Removal and 1 being renovated. Work will be performed along Fence line limits. 98% of the Project will be performed with Excavators and Skid Steers, but some work will be by manual labor to minimize the dust, and environmental disturbance.

The size and quantity of motorized equipment in all work areas will also be kept to a minimum to limit the amount of ground and environmental disturbance from the project as well.

4. PROJECT LOCATION

The project is in Erie County, at 2929 Main Street Buffalo New York. The project corridor is located entirely within the New York State Dept of Environmental Conservation Region 9 jurisdiction, and EPA Regional Office 2.

5. SAFETY

5.1 Safety Policy:

RED Inc. Environmental, Safety, and Health Policy is the health and safety of all personnel and the public is of primary importance. To this end, the safety of the workers, the public and the environment will have precedence over cost and schedule. The policy is based on a sincere desire to eliminate occupationally induced injuries and illnesses. The prevention of injuries and illnesses is of such consequences that it will be given precedence over operating productivity or schedule pressures to the greatest extent possible. RED Inc. will provide training, monitoring, personal protective equipment, and facilities required for personal

health and safety. RED Inc. fully implements and embrace the Integrated Safety Management System (ISMS) by: involving all workers in work planning, hazard identification and analysis, development of controls, task execution and encouraging feedback and suggestions.

RED Inc. pledges to commit its human and material resources to achieving and sustaining Zero Accident Performance and Zero unplanned discharges or releases with respect to the environment.

RED Inc. will make every effort to ensure that all personnel fully comply with our "Safety & Quality First" Policy. No person will be required to work in surroundings or under working conditions, which are unsafe or dangerous to his/her, health.

5.2 Integrated Safety Management – Work Control and Planning Process:

RED Inc. is dedicated to establishing a work culture that comprises the elements advocated in the principles of its Integrated Safety Management System (ISMS).

RED embraces the core function elements to successfully implement the Integrated Safety Management (ISM) guiding principles;

- Line Management Responsibility for Safety
- Clear Roles and Responsibilities
- Competence Commensurate with Responsibility
- Balanced Priorities
- Identification of Safety Standards and Requirements
- Hazard Control Tailored to Work Being Performed
- Operations Authorization
- Worker Involvement

RED Inc. and supporting subcontractors will implement the ISMS core values and principles and make Environmental Safety and Health (ES&H) issues that affect our workers, the public, and the environment our chief concern when planning and fulfilling project tasks.

The process will include Integrated Work & Safety Plan development and documentation to include;

- Site Specific Environmental Health and Safety Plan (SSHASP)
- Sequenced Job Safety Analysis (JSA) Plans to include specific Activity Hazard Analysis (AHA's) – Attached for review purposes.
- Pre- Task Planning Briefings performed daily with crews.

5.3 Competent Persons:

RED Inc. will provide Competent Persons, as needed, for evaluation and inspection of demolition, excavations, fall protection, scaffolding, ladders, hoisting and rigging, and abatement of hazardous materials as needed. The Competent Persons will meet the OSHA requirements for such work and will be responsible for approving all pertinent activities and

conducting inspections. A current list of these competent persons will be compiled prior to the start of onsite work and will be documented in the SSHASP.

6. SCHEDULE AND WORK SEQUENCE

6.1 *Schedule General:*

The second key component to successful execution will be the Schedule. The project involves a multitude of specialty and challenging tasks. The key challenge will be to define all tasks and then integrate them into a comprehensive and efficient schedule of operations. RED will overcome the challenge by managing the Schedule and avoiding disruptions to the Schedule by proactively planning the work, and then working the plan.

The Schedule (attached) illustrates the overall sequence of work and interface of the various facets of the project. This Schedule will be further defined, and more detailed critical path tasks will be added. The Schedule is used to help manage the work and communicate key activities to the entire crew and customer, so everyone involved understands the interrelated nature of all site tasks and can see and understand the overall big picture and goals of the project. Key critical milestones of the Schedule, and meeting the dates established are also integrated into the Safety Incentive Program. The reason for integrating Schedule with the Safety Incentive Program is because RED believes it is not simply good enough to say that you "Work Safe" and not accomplish tasks and goals. The overall premise is to meet the project objectives of performing the work in the desired timeframe in a Safe and Compliant manner.

Throughout the project RED will utilize the Schedule to track the progress and identify competing factors and items that may cause delays to the project. The Schedule is utilized as a tool to track progress and monitor Schedule adherence. The Schedule will be formally updated as needed.

Work Sequence: (8 - 10 Hour work day schedule)

Work Sequence	**Crew Size (Average)**
Mobilization: 2929 Main Street	3-4
Asbestos Abatement: Bld. 4 2929 Main Street	5-6
Site Preparation 2929 Main Street	3
Demolition: Bld. 4 2929 Main Street	4-5

Asbestos Abatement: Bld. 3 2929 Main Street	6-7
Demolition: Bld. 3 2929 Main Street	4-5
Asbestos Abatement: Bld. 2 2929 Main Street	7
Selective Demolition: Bld. 2929 Main Street	7-8
Concrete Removal: 2929 Main Street	2-3

6.2 ***Key Personnel – Clear Lake Decommissioning Demolition Project:***

Name:	Title:	Mobile Phone:
Enrico D. Liberale	Project Manager/Estimator	716-471-3134
Charles E. VanEpps	Site Superintendent/Lead Operator	716-949-8558
James Bryans	Job Foreman	716-990-6879

RED possesses a diverse group of dedicated demolition and environmental professionals with complementary skill sets and experiences can address any issue which may arise on the Rails on Main Project. Everyone on the RED Team is signatory to the RED philosophy that "Safety" is the most important facet of any job and all project managers and supervisors proactively embrace and practice the spirit and intent of the values expressed in the RED Health & Safety Plan (HASP).

6.3 ***Key Subcontractor Personnel ECMC Ramp Demolition Project:***

CEF Plumbing

6.4 ***RED Management and Field Team:***

RED's general approach is the Home Office staff provides "behind the scenes" support to the Site Management Team. The Home Office supports the Field Team with the functional aspects of project administration. Tasks typically performed by the Home Office are:

- Payroll & Employee Expense Processing
- Accounts Payable Function
- Compilation of Scrap Tickets & Revenue Collections
- Primary Maintenance & Heavy Equipment Overhauls
- Additional Site Support as Needed for Technical Permitting, Processing, Applications, Licenses, etc.

By performing the "functional tasks" off site, the Onsite Project Team can focus on the core tasks of performing a project safely and compliantly.

The Project Manager's duties are principally focused on the overall schedule and coordination of labor, materials, equipment and sequencing of work in line with permits, contract specifications and subcontractors.

The site superintendent is a field operations individual who directly oversees field activities for specific tasks performed.

The foremen are essentially task leaders. Typically, one project foreman will work with a crew which can range anywhere from one to seven persons. These specific work crews are assigned a specific task and work together in a safe manner to compliantly perform the work

6.5 *Equipment for Rails on Main Project:*

RED owns all the specialized equipment necessary to demolish the structures associated with the Demolition Project. Self-ownership of equipment is key to ensuring project completion in the desired timeframe. It also affords RED the ability to overstaff a project with equipment as a method of preplanning against breakdowns or unforeseen circumstances that could put the schedule in jeopardy.

The following is a listing of the **Primary types**, sizes and quantities of owned equipment that may be utilized on the Demolition Project at various times throughout the project duration:

- 2005 Komatsu PC400LC-7 Excavator with Shear
- 2011 Caterpillar 336 Excavator /Concrete Hammer
- 2007 Caterpillar 325 Excavator with Bucket/Thumb
- 2005 Caterpillar 321 Excavator with Bucket/Thumb
- 2011 Caterpillar D5M-LGP Dozer
- 2012 Caterpillar Skid Steer
- (2) Tri Axle Dump Trucks
- Pickup trucks with equipment trailers
- 1-Scissor Lift
- 4-Hepa-Filtered Vacuums
- 1-Decontamination Trailer
- 1-Dust Buster
- Waste Containers

All equipment mobilization notifications will be made well in advance of the estimated arrival date to allow adequate time for Owner inspection, if they choose to do so. The excavators will require some assembly onsite and will be assembled in accordance with manufacturer's specifications. Once assembled, the machines will be inspected and tested to ensure that they are in safe working condition and that all safety apparatuses are in place and functioning as designed. Equipment will be operated by competent, experienced, and properly trained employees.

7. ORGANIZATIONAL CHART

7.1 *Rails on Main Renovation Project Organization Chart:*

A Site-Specific Organization Chart has been established for the Renovation Project Management Team. This chart (attached) illustrates the personnel and specific staffing proposed as well as the primary subcontractors intended to be utilized for the project.

8. PERMITS AND NOTIFICATIONS

8.1 Notification/Permit Schedule:

RED anticipates the following permit, approvals, and filings will be required Renovation Project. The date, agency and brief requirement controls are listed for each.

8.2 Demolition Permits:

City of Buffalo Demolition Permits are required per Building.

8.3 Environmental Protection Agency (EPA) Notifications:

Environmental Protection Agency notifications will be sent (10 working days) for this project and follow the guidelines regulated and required by Environmental Protection Agency for asbestos abatement and demolition projects accordingly with start and ending times.

8.4 NYS Department of Labor – Industrial Code Rule 56 Notifications:

Start Date of Asbestos Notification is 8/3/18

8.5 Storm Water Pollution Prevention Plan (SWPPP):

General Contractors Responsibility

8.6 Utilities Protection Services (Dig Safe NY):

RED will call Dig Safe NY prior to starting demolition or underground work. RED will coordinate required protections with all agency and utility companies.

9. Scope of Work

9.1 Demoliton and Renovations

9.1.1 Site Protections and Erosion Control

Mobilization will include setting up work health and safety equipment. The work areas shall be posted with demolition warning signs as well. Only workers will be authorized to enter the work area. No unauthorized personnel will be allowed access to the demolition area without approval from the RED site supervisor. This is to ensure the safety of all other trades and visitors.

Demolition and related activities must follow the "General Sequence of Demolition –Rails on Main Demolition. All erosion and sediment control devices will be maintained in working order until the site is stabilized. All preventative and remedial maintenance work, including

clean out, repair, replacement, re-grading, re-seeding, or re-mulching, must be performed as indicated on plans. After final stabilization has been achieved temporary sediment and erosion controls will be removed.

9.1.2 Hazardous Material Abatement

Will occur after all power is cut to all Buildings.

9.1.3 Utility Abandonments

Regional Environmental Demolition Inc. will work hand and hand with General Contractor.

9.1.4 Demolition

RED Inc.'s competent person will oversee the Demolition process. All parts of the Demolition will be completed with wet methods in place to ensure dust suppression. RED will Demolish from the top portion of the buildings and work their way to the bottom, hauling of concrete and rebar will happen along with Demolition simultaneously.

9.1.5 Earthwork and Site Restoration

Upon completion of the Demolition, the site will be left according to plans and specifications. After final stabilization has been achieved temporary sediment and erosion controls will be removed.

10. Attachments

1. Resumes of Key Personnel
2. Schedule
3. Licenses
4. Lead Plan
5. Building Materials Sampling Plan

ATTACHMENT 1

Resumes of Key Personnel

CHARLES VANEPPS

3695 Pine Avenue, Niagara Falls, NY 14301 | C: 716-949-8558 | cvanepps@redwny.com

Executive Profile

President/Owner of Regional Environmental Demolition, Inc. since 2009
US Marine Corp Veteran
Lead Heavy Equipment Operator
OHSA Certified
Hazmat Certified
Asbestos Supervisor Certified
SWPP Certified

Skill Highlights

- Business Owner Since 2009
- Lead Heavy Equipment Operator on All Projects
- Over 20 years Experience
- Industrial, Commercial and Residential Demolition
- Business development
- Project management
- Leadership/communication skills
- Oversee All Field Communications

Professional Experience

Owner/Heavy Equipment Operator Jun 2009 to Current
Regional Environmental Demolition, Inc. — Niagara Falls, NY
Asbestos Abatement Supervisor with continuing education on all laws and regulations. Main Operating Engineer on all projects. Prepares competitive subcontractor bids. Educates staff on the quality standards throughout the construction process. Reviews and investigates Proposed Change Order Requests. Stays consistent with project schedules. Acts as the liaison with company safety representatives to promote awareness and understanding of safety protocols.

Heavy Equipment Operator/Supervisor Jun 2004 to Apr 2008
Empire Dispmantlement — Niagara Falls, NY
Managed/Supervised projects day to day operations to ensure safety, productivity and profit.
Heavy equipment operator

Operator/Supervisor May 1998 to Jun 2004
Mark Cerrone, Inc. — Niagara Falls, NY
Managed/Supervised projects day to day operations to ensure safety, productivity and profit.
Heavy equipment operator

Search and Rescue Mar 1994 to May 1998
United States Marine Corp

Education

High School Diploma 1993
Lewiston Porter High School — Lewiston, NY, United States

Website

- www.redwny.com

ENRICO D. **LIBERALE**

6676 Cloverleaf Court, Niagara Falls, NY 14304 | C: 716-471-3134 | rico@redwny.com

Executive Profile

Vice President/Owner of Regional Environmental Demolition, Inc. since 2009
OSHA Certification
HAZMAT Certification
Asbestos Certification
Mold Remediation/Abatement Certification

Skill Highlights

- Business Owner since 2009
- Manage all R.E.D.,Inc. Industrial, Commercial and Residential Demolition, Asbestos Abatement and Mold Projects
- Over 20 Experience
- Responsible for project management, estimating and negotiating
- Oversee all office and field staff
- Skilled in Project and Finance Management, Bidding, Tax Laws and Bonding

Professional Experience

Owner/ Office Manager **06/2009 to Current**
Regional Environmental Demolition, Inc. **Niagara Falls, NY**
Vice President of R.E.D., Inc.
Manages all personnel; Responsible for preparation of all bids/proposals; Efficient in reading blueprints; Knowledge of laws pertaining to Asbestos Abatement, Mold Remediation and Demolition; Reviews all Proposed Change Order Requests

Business Agent **05/2002 to 05/2009**
Laborer Local 91 **Niagara Falls, NY**
Secretary, Treasurer and Business Agent; Overseeing large scale projects; Acted as the liaison between laborers and general contractors.
Qualified competitive subcontractor bids prior to execution of contracts. Educated general contractor personnel on the quality standards throughout the construction process.

Laborer Foreman/Job Steward **06/1996 to 05/2002**
Laborers Local 91 **Niagara Falls, NY**
Mentored team members, providing guidance on proper techniques and safety. Assisted crews in erecting, repairing and the wrecking of buildings and bridges. Laborer on road construction, drainage and other various types of work.

Education

Bachelor of Science: Business Management **1996**
Buffalo State College Buffalo, NY, United States

Business Management **1995**
University Of Buffalo Buffalo, NY, United States

Associate of Applied Science: Political Sicience **1994**
Niagara County Community College Sanborn, NY, United States

JAMES BRYANS

6989 Nash Road, North Tonawanda, NY 14120 | C: 716-990-6879 | james@redwny.com

Profile

Asbestos Supervisor Certified
Hazmat Certified
Mold Abatement Certified
OSHA Certified
Heavy Equipment Operator

Highlights

- Over 9 years' experience in Asbestos Abatement and Demolition
- Heavy Equipment Operator
- Extensive knowledge of Demolition
- Project Management
- Exceptional Leadership and Communication skills
- Business owner of construction and remodeling company for over 18 years
- Exceptional problem solver
- Blueprint reading

Experience

Asbestos Abatement Supervisor — Oct 2009 to Current
Regional Environmental Demolition, Inc. - Niagara Falls, NY
Asbestos Abatement Supervisor with continuing education on all laws and regulations. Responsible for supervising and coordinating day to day abatement operations. First line of communication between subcontractors and owners. Heavy equipment operator when needed. Responsible for daily log books and safety meetings. Heavy equipment operator when needed.

Asbestos Abatement Supervisor — Oct 2008 to Oct 2009
National Vacuum - Niagara Falls, NY
Responsible for day to day asbestos abatement operations.

Service Technician — Apr 2007 to Jun 2008
Naples Lumber - Naples , FL
Evaluate problems on windows and doors. Order parts and materials. Responsible for the installation of parts/materials and invoicing customers/contractors.

Maintenance — Nov 2006 to Apr 2007
Lakeside Pavilion - Naples, FL
Repaired and maintained nursing home and grounds.

Owner/ Self Employed — Mar 1999 to Oct 2006
Bryans Home Improvement - North Tonawanda, NY
Home Construction, Remodeling and Repairs
Responsible for all aspects of self-owned small business

Owner/ Self Employed — Apr 1988 to May 1999
Great American Custom Builders - North Tonawanda , NY
Home Construction, Remodeling and Repairs
Responsible for all aspects of self-owned small business

ATTACHMENT 2

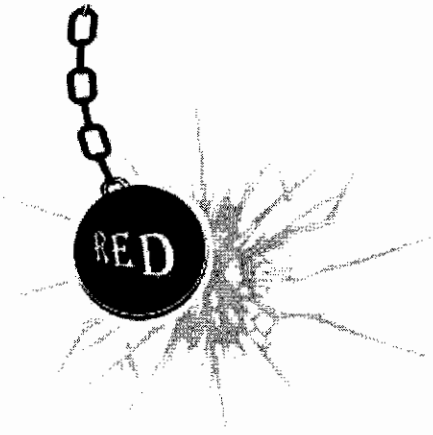
Schedule

REGIONAL
ENVIRONMENTAL DEMOLITION INC.
ASBESTOS ABATEMENT AND DEMOLITION SPECIALISTS

Rails on Main
2929 Main Street
Buffalo New York 14214

Asbestos Abatement and Demolition Schedule

7/30/18



Architect for the Project

Architectural Resources
505 Franklin Street
Buffalo New York 14202

CM for the Project

Buffalo Construction Consultants Inc.
6000 North Bailey Ave. Suite 2D
Buffalo New York 14226

Owner of the Project

Main and Hertal LLC.
C/O Metzger Inc.
4955 Chestnut Ridge Road
Orchard Park, New York 14127

Please be advised that the Project Schedule may change with weather conditions, field superintendent will make the call.

Asbestos Mobilization

8/4/18

Asbestos Abatement of Building 4

8/6/18-8/13/18

Asbestos Abatement of Building 3

8/14/18 – 8/24/18

Haz Waste Removal Bld. 4, 3 and 2

8/25/18 Depending on Transformers being cut off line.

Demolition of Building 4

8/14/18 – 8/17/18 Depending on Removal of Transformers on the Roof.

Demolition of Building 3

9/15/18 – 10/15/18 Depending on the Removal of Transformers

Asbestos Abatement of Building 2

8/25/18 – 9/15/18

Interior and Exterior Renovations of Building 2

9/17/18 – 10/23/18

Demobilization

10/25/18 -- 10/30/18

Any questions please contact our office. Enrico D. Liberale and Charles E. VanEpps will be handling this Project direct.

6281 Wendt Drive - Niagara Falls, New York 14304 – USA
Telephone: 716-284-3366 Mobile: 716-471-3134 Fax: 716-284-7331 E-mail rico@redwny.com

ATTACHMENT 3

Licenses

CITY OF BUFFALO

Department of Permit & Inspection Services

Office of Licenses

65 Niagara Sq Rm. 301
Buffalo, NY 14202
(716)851-4078

Byron W. Brown
Mayor

James Comerford
Commissioner

DEMOLITION GRADE 3

CHARLES VANEPPS
REGIONAL ENVIRONMENTAL DEMOLITION INC.
6281 WENDT DR
NIAGARA FALLS, NY 14304-1100

License Number
DM314-10027905

To perform demolition WITHOUT THE USE OF EXPLOSIVES, on any structure, no restrictions as to stories or height. Subject to All State and Federal laws and in accordance with Chapter 144, Section's 1-14 and all other applicable ordinances of the City of Buffalo in effect and hereafter adopted. THIS LICENSE IS VALID FOR ONLY DEMOLITION WORK; no other construction work may be performed with this license.

PARTNER: ENRICO LIBERALE

Note: In addition to the above referenced codes, 40 CFR 745 (titled "Lead-based Paint Poisoning Prevention in Certain Residential Structures"), a regulation issued and enforced by the Environmental Protection Agency, applies to certain activities in buildings that may contain lead-based paint, including renovations performed for compensation in "target housing" and "child occupied facilities", "abatement" of lead-based paint hazards and other "lead-based paint activities" (as those terms are defined in 40 CFR Part 745).

Date Expires: 09/30/2018

Director of Permit & Inspection Services

License holder is responsible for renewal of license within 30 days of expiration date.

THIS LICENSE IS NON-TRANSFERRABLE

New York State – Department of Labor
Division of Safety and Health
License and Certificate Unit
State Campus, Building 12
Albany, NY 12240

ASBESTOS HANDLING LICENSE

Regional Environmental Demolition, Inc.
6281 Wendt Drive
Niagara Falls, NY 14304

FILE NUMBER: 09-47176
LICENSE NUMBER: 47176
LICENSE CLASS: FULL
DATE OF ISSUE: 07/27/2017
EXPIRATION DATE: 08/31/2018

Duly Authorized Representative – Enrico Liberale

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Eileen M. Franko, Director
For the Commissioner of Labor

SH 432 (8/12)

CITY OF BUFFALO

Department of Permit & Inspection Services

Office of Licenses

65 Niagara Sq Rm. 301
Buffalo, NY 14202
(716)851-4078

Byron W. Brown
Mayor

James Comerford
Commissioner

SPECIALITY CONTRACTOR

CHARLES VANEEPS
REGIONAL ENVIRONMENTAL DEMOLITION INC.
6281 WENDT DR
NIAGARA FALLS, NY 14304

License Number
SPC11-556128

To perform construction work which involves the use of a specialized skill, trade, or craft on residential, commercial, or mixed structures as so designatedon license. ALL WORK PERFORMED MUST BE LIMITED TO THAT OF THE SPECIALIZED FIELD INDICATED ON LICENSE. Subject to all State and Federal laws and in accordance with Chapter 144, Sections 1-14 and all other applicable ordinances of the City of Buffalo in effect and hereafter adopted.

Type of Work: COMMERCIAL

THIS LICENSE ALLOWS FOR ONLY ASBESTOS REMOVAL

Note: In addition to the above-referenced codes, 40 CFR 745 (titled "Lead-based Paint Poisoning Prevention in Certain Residential Structures"), a regulation issued and enforced by the Environmental Protection Agency, applies to certain activities in buildings that may contain lead-based paint, including renovations performed for compensation in "target housing" and "child occupied facilities," "abatement" of lead-based paint hazards and other "lead-based paint activities" (as those terms are defined in 40 CFR Part 745).

Date Expires: 09/30/2018

Director of Permit & Inspection Services

License holder is responsible for renewal of license within 30 days of expiration date.

THIS LICENSE IS NON-TRANSFERRABLE

ATTACHMENT 4

Lead Plan

Lead Plan
For
2929 Main Street Demolition

Introduction:

The following guideline has been prepared to assure that employees of Regional Environmental Demolition who are working in the area of lead based paint emission, from blasting, cutting or otherwise causing lead based paint to be disturbed and lead to count to exceed the action level, are provided with the state of the art safety equipment and procedures.

Purpose:

This procedure is established requirements that are in compliance with OSHA's 29 CFR 1926.62 this program will provide the guidance for projects that involve the potential for exposure to lead.

Site Specific Project Work:

The project consists of the Demolition of 2 Buildings and the Interior Gut of a 3rd Building located at 2929 Main Street also known as The Rails on Main. Regional Environmental Demolition Inc. personal will strategically Demolish sections of the Buildings using 336 Cat Excavators and Dust Suppression Misters, to reduce the potential for lead exposure. The steel, ACM Debris and Masonary will then be removed by mechanical excavators for staging and disposal. The Building will be Demolished with Non-Friable ACM in Place, all debris associated with the ACM will be sent to a NYS Certified Landfill to accept such material.

Scope:

The lead program will cover the hazards associated with lead controlling those hazards, PPE, air monitoring, respiratory protection.

Specific Responsibilities

- Respiratory Protection Equipment
- Protective Clothing
- Training
- Medical Surveillance
- Air Sampling
- Work Procedures

Project Team:

NAME	*TITLE*	*PHONE #*
Enrico Liberale	Project Manager	(716) 471-3134
Charles VanEpps	Superintendent	(716) 949-8558
James Bryans	Foreman	(716) 990-6879
Mark Cotter	CIH	(716) 480-2125

Definitions:

Lead action Level – This is the level of airborne dust containing lead at or above 30 ug/m^3

Lead Containing Material – Paint containing lead in a percentage of greater than .8%

Employee Exposure Level – No employee blood lead level shall exceed 40 ug/dl any employee that exceeds that level will be removed from work area.

Site Specific Safety Equipment:

- Job site work trailer
- Hand wash station / soap
- Hepa-Vacuum
- Respirators / Wipes
- Disposable/re-useable coveralls
- Gloves
- Face Shields
- Signs
- Disposable Towels
- Air sampling equipment

I. RESPIRATORY PROTECTIVE EQUIPMENT

Respiratory protective equipment is selected by using the OSHA standard (29 CFR 1910.1025) to identify the type of Respiratory Protection Required, based on the lead exposure and OSHA 1926.62.

Selection of Respiratory Protection

Exposure Level	*Respiratory Selection*	*Outer Work Clothes*	*Change Area*	*Hand Wash Area*	*Showers*	*Biological Monitoring*
<30ug/mg/m^3	Recommend dust mist	Will wear outer suit	No	No	No	Yes
>30 but <50mg/m^3	½ face P-100	Will wear outer suit	No	No	No	Yes
>50 but <500mg/m^3	½ face P-100	Will wear outer suit	Yes	Yes	Yes	Yes

>500 but <2500mg/m³	Full Face PAPR P-100	Will wear outer suit	Yes	Yes	Yes	Yes

All employees who wear respiratory equipment shall comply with Regional Environmental Demolition Inc. Respiratory Program.

Regional Environmental Demolition has completed a Negative Exposure Assessment for similar work in September 2017. The work required the Demolition of lead containing paint. The results were below the OSHA exposure level. Regional Environmental Demolition will start their employees in ½ face respiratory protection for this project, and perform air monitoring for 2 days to confirm their previous results and work procedures.

II PROTECTIVE CLOTHING

All employees potentially exposed to lead above the permissible exposure limit (PEL) must use appropriate protective work clothing to include:

1. Employees shall wear coveralls (Tyvek or equivalent) or will be issued on a daily basis, a pair of washable coveralls.

2. Employees are required to wear steel toe boots

3. Employees will be issued a pair of impervious gloves (rubber or rubber/material combination).

4. Employees working in a high concentration of airborne dust will wear a head cover, such as a hood, under hard hats. Employees working in less dusty areas may wear hard hats only when approved by site supervisor.

5. Ear protective devices shall be provided in high noise areas and these units shall be used on a mandatory basis.

6. Other safety equipment, such as, high visible clothing, safety belts and lanyards, will be issued routinely as required.

7. All provisions of the company's Safety Manual must be adhered to.

All contaminated clothing will be disposed of in containers provided for this purpose.

All lead contaminated clothing will be carefully placed in containers with lids to prevent dispersion of lead into the atmosphere. Employees will be instructed in the proper handling of contaminated items.

III. JOB WORK PROCEDURE

Signs:

The following warning will be posted in each work area where lead levels exceed the permissible exposure level (PEL):

WARNING
LEAD WORK AREA
POISON
NO SMOKING OR EATING

These signs must be clearly visible at all times.

Job Site Trailer:

A job site trailer will be provided with a washing station for the employees so they can wash hands and face, prior to eating drinking or smoking. The trailer will provide a location to change clothes and store safety equipment.

Pre-Work Hold:

All employees shall comply with the medical examination section of this safety procedure prior to beginning any work in a lead environment. The foreman is responsible to assure that this section is complied with.

A pre-work safety meeting shall be conducted to assure that employees understand the safety requirements of this job. This safety meeting will advise employees of their responsibilities and compliance with the safety procedures. Documentation shall be required to verify attendance.

Work Procedure:

1. Employees will be issued safety equipment by the foreman or safety monitor, who assures that employees comply to the proper dress code of coveralls, gloves, hard hats, head covers as required, and foot covers.
2. Following issuance of all pertinent safety clothing, the employees will report for work.

3. Street clothing will be left in the clean area of the shack or trailer.

Lunch/.Break Procedure:

1. Employees will be vacuumed and/or brushed off prior to showering as they leave the

contaminated area for the area in which to take a break, smoke, or eat lunch. Blowing down with compressed air is not allowed.

2. Employees shall remove their respiratory equipment and gloves and place them in their respective storage areas (five [5] gallon covered bucket or in other designated storage areas).

3. Employees will not smoke, eat, drink or apply cosmetics in the lead-contaminated area. No food, beverage or tobacco products will be taken into the area. Food and beverage consumption will be allowed only in areas sufficiently distant from the work area to prevent contamination from the work operations. Employees must wash their hands and face prior to eating, drinking, or smoking Adequate washing facilities will be provided for employees.

4. Employees shall take their break or lunch and obtain their safety gear and then return to work.

End of Shift Procedure:

1. Employee will be vacuumed and/or brushed off as he leaves the work site or containment area by a co-worker or safety monitor.

2. Employees will go to their respective safety equipment storage area and after cleaning their gear, shall store it in the area and seal it.

3. Employees will dress in street clothes and leave the work site without entering a contaminated area.

IV. MEDICAL EXAMINATIONS

Employees shall be given the following blood lead level examinations as outlined whenever the action level is exceeded. (This level is found by monitoring with air samplers or using historical data from other work experience that is used as a comparative measuring device.)

The examinations are basically given on the following times frames:

1. Blood lead examinations are to be given to all employees who work or may work in an area where the lead level is above the action level for more than 30 days per year. (Action level is: 30 micrograms per cubic meter of air over an 8 hour exposure.)

2. This will be repeated every six months to any employee who is at or above the action level for a period of 30 days or longer per year.

All medical surveillance must be performed by or under the supervision of a licensed physician.

You must give the following to the examining physician:

- A copy of the lead regulations.
- A description of the employee's duties as related to exposure.
- A description of personal protective equipment used.
- All blood lead levels and all prior written medical opinions that we have on file for employees to be examined.
- Physicians must also be instructed to immediately send us test results including, but not limited to, the blood lead level tests, written results of medical evaluations, etc. We are required to keep this information on file for all employees exposed to lead.

Compliance with these requirements should protect most workers from the adverse effects of lead exposure, but only medical surveillance of employees exposed to lead can determine if employees are being properly protected against the hazards of lead.

Medical surveillance must be made available to all employees exposed to lead for more than 30 days a year. It is a requirement that every employee who is working in the area of abrasive blasting to remove a coating containing lead have his blood lead level tested at the beginning of the project, at the end of the project, and at least every six months.

Employees may have to be tested more frequently and may have to be removed from duties resulting in lead exposure:

- If a worker's blood lead level (PbB) exceeds 40 µg/100g, the monitoring frequency of blood lead level tests must be increased from every 6 months to at least every 2 months and not reduced until two consecutive blood lead level tests indicate a blood lead level below 40 µg/100g. Every time a blood lead level test is over 40 µg/100g, the employee must be notified in writing within five working days of receipt of the test results. The employee must also be informed that the standard requires temporary removal from duties resulting in lead exposure when blood lead level exceeds certain criteria.
- Employees removed because blood lead levels were too high must be given a monthly blood lead level test.
- Medical removal is to continue until two consecutive blood lead levels are 40 µg/100g or less.
- An employee must be removed from any work involving excessive lead exposure when: the purpose of this removal is to cease further lead absorption and allow the body to naturally excrete lead which

has previously been absorbed.

- A blood lead level of 60 µg/100g or greater is obtained and confirmed by a second follow-up blood lead level performed within two weeks after the employer receives the results of the first blood sampling test.

- The average of the previous three blood lead determinations or the average of all blood lead determinations conducted during the previous six months, whichever encompasses the longest time period, equals or exceeds 50 µg/100g, unless the last blood sample indicates a blood lead level at or below 40 µg/100g, in which case the employee need not be removed.

A zinc protoporphyrin (ZPP) test is a useful blood test which measures the effect of lead on the body. This test is not required but may be performed If recommended by the physician.

V. AIR SAMPLING

Personal Sampling Guidelines

Personal sampling involves taking Permissible Exposure Limit (PEL) samples, usually for a duration of 4 to 8 hours, and Short Term Exposure Limit (STEL) samples for a duration of 30 minutes. The supervisor should stay on-site during the time of sampling unless otherwise directed by his/her supervisor.

The contractor is required to sample 25% of his workers for each given day. The contractor will dictate on whom and how many samples will be taken each day. Personal air samples and pumps are handled somewhat differently than the stationary air pumps. The fully charged, calibrated, and running pump should be mounted on the worker at waist level with the tubing running up the back and over the workers shoulder to the cassette which is taped on the lapel. The worker wears the pump inside the work area while he works and must clean off the pump before returning it to the technician. When the pump is returned the technician should check the calibration and turn it off. If the personal pump is received from the worker at the end of the sampling period and it is no longer running the technician will ask the worker at what time the pump was stopped and this will be recorded as the stop time. If the worker does not know when the pump stopped the technician will not mark down a stop time and a volume will not be calculated. The sample will be analyzed and the results reported in fibers per millimeter squared.

Personnel	-Short Term Exposure Limit samples (30 minutes) -Permissible Exposure Limit samples (4-8 hours)

Flow Rates and Volumes

It is important that the technician exercise good judgment in setting pump rates. Very often, the longer the sample collection, the more representative will that sample be of the air around the work area. Since this will depend on the equipment available, the number of samples to be

collected, and the time allotted for the air sampling, the technician should exercise care in budgeting his time.

The table of rates and volumes located below was designed to comply with the applicable regulations and methods while still allowing the technician flexibility when sampling.

The following chart outlines sample flow rates and volumes that are desired

Type of Sample	Collection Rate (LPM)	Sample Volume (Liters)	Filter Type
Personal			
TWA	**0.5-2.5*	*400+*	*0.8um MCE 37mm*
STEL	**0.5-2.5*	*60-120 (30 Min)*	*0.8um MCE 37mm*

VI. DOCUMENTATION

Documentation of this procedure will be performed by the supervisor or designated person on the job. He/she will assure that all forms are signed and completed as outlined.

Documents include safety meeting rosters and safety equipment rosters. Medical records shall be maintained separately from employment files, with access on a need-to-know basis.

Records shall be maintained for a period of not less than 40 years or for 20 years plus duration of employment, whichever is longer.
Accurate records will be maintained of the following:

- The name, social security number, and job classification of employees monitored for lead.
- The type of respiratory protection worn by each employee exposed to lead.
- Medical records for all employees exposed to lead. These records shall include:
- A copy of the physician's written opinions.
- A copy of the medical examination results including medical and work history.
- Results of laboratory procedures performed.
- Blood lead level test result.
- An accurate record of dates an employee is removed from duties due

to lead exposure and the dates he returns to work.

- Any employee medical complaints related to exposure of lead.

- Results of any airborne exposure monitoring conducted on the jobsite.

VII. SAFETY MONITOR OR SAFETY WATCH RESPONSIBILITIES

Compliance to the lead work safety procedure is enforced and documented by the Safety Monitor. Additional responsibilities may be added as the job requires. Basic responsibilities are outlined below:

1. Prior to the start up of any lead work, a pre-work safety meeting shall be held with the crew. All safety procedures and regulations will be explained in detail in this meeting.

2. Supervisor issues safety equipment and reviews appropriate procedures for its use.

3. Safety Monitor provides air sampling equipment and interpretation of results

4. Safety Monitor assures that all employees have had their pre-work physical examination and that this record is maintained on file as part of the documentation.

5. Safety Monitor monitors the work site to assure that all safety procedures are being complied to and that all protective equipment is used in the proper manner.

6. Safety Monitor is responsible for seeing that all safety signs/barricades and warning devices are positioned prior to work beginning. (Note - all signs outlined in Standard are to be complied with.)

VIII. EMPLOYEE RESPONSIBILITIES

1. All employees will comply with the safety requirements outlined in this lead safety work procedure.

2. Employees will provide disposable towels on a daily basis.

3. When an employee takes a break from the job, he/she should be vacuumed off and then proceed to the wash facility where he/she will wash their hands and face prior to smoking, drinking or eating.

4. Employees will wear protective devices, including respirators, while working in areas which require them. They shall not remove the devices until they remove themselves from the areas of contamination.

5. Employees shall inspect their safety equipment daily and assure that it is in good condition prior to entering the work area. Anytime any safety equipment is in need of repair, it shall be brought to the attention of the supervisor for immediate action to be taken.

7. Anytime that the scope of the work changes, there is a possibility that additional safety requirements shall be required. In this case, an additional safety meeting may be held to discuss these changes/ additions to the responsibilities of the supervisor/hourly employee.

8. All persons entering a company controlled containment or area requiring this procedure, must observe all applicable portions of this procedure.

These procedures are a condition of employment for Apollo:

IX. TRAINING EQUIPMENT

A. Employees to be trained:
   a. Employees of the Company
   b. Contract Employees
   c. Sub-Contract Employees

B. How training is implemented:
   a. Classroom-Job Site
   b. Visual/Audible where applicable
   c. Hands on training with personal protective equipment

C. Frequency of training
   a. Annual Training
   b. Job Site Specific

D. Who conducts the training:
   a. Safety Personnel
   b. Supervisory Personnel
   c. Safety Consultant

E. Documentation of training:
   a. Meeting/training rosters
   b. Sample MSDS for training purposes

F. Hazard Communication / MSDS

   All employees must be aware that the HAZARD COMMUNICATION STANDARD REGULATION is available to read at any time..

   The HAZARD COMMUNICATION STANDARD IS KEPT:

   LOCATION: ***Job Site Trailer***
   A copy is also maintained in the Corporate Office

G. Whether the hazardous chemical is listed in the National Toxicology Program (NTP) Annual Report on Carcinogens (latest edition) or has been found to be potentially carcinogenic in the International Agency for Research on Cancer (IARC) Monographs (latest edition) or by OSHA.

H. Any generally applicable precautions for safe handling and use which are known by the manufacturer's importer or employer preparing the MSDS, including appropriate hygienic practices, protective measure during repair and maintenance of contaminated equipment, and

procedures for clean-up of spills and leaks.

I. Any generally applicable control measures which are known to the chemical manufacturer, importer or employer preparing the MSDS, such as, appropriate engineering controls, work practices, or personal protective equipment.

J. Emergency and first aid procedures.

K. The date of preparation of the material safety data sheet or the last change to it.

L. The name, address and telephone number of the chemical manufacturer, importer or other responsible party preparing or distributing the material safety data sheet, who can provide additional information on the hazardous chemical and appropriate emergency procedures, if necessary.

X. SAMPLE TRAINING AGENDA

Training will include the following:

- The OSHA standards regarding lead exposure and our LEAD PROTECTION PROGRAM. A copy of our Lead Protection Program will be posted on all jobsite bulletin boards. Copies will be made available for employees who want them.

- The specific nature of the operations which could result in exposure to lead above acceptable levels, i.e., torch cutting to remove a coating containing lead.

- The purpose, proper selection, fitting, use and limitations of respirators:
- The purpose and a description of the medical surveillance program and the medical removal protection program, including information concerning the adverse health effects associated with excessive exposure to lead (with particular attention to the adverse reproductive effects on both males and females).

- The work practices to be associated with the employee's job assignment.

- Health Hazard Data which includes the following:

- Ways in which lead enters the body:

  Lead can be absorbed into the body by inhalation (breathing) and ingestion (eating). When lead is scattered in the air as a dust, fume or mist, it can be inhaled and absorbed through the lungs and upper respiratory tract. Inhalation of airborne lead is generally the

most important source of occupational lead absorption. Lead can also be absorbed through the digestive system if lead gets into the mouth and is swallowed. If employees handle food, cigarettes, chewing tobacco, or make-up which have lead on them, or handle them with hands contaminated with lead, this will contribute to ingestion.

- Effects of overexposure to lead:

  Taken in large enough doses, lead can kill a person in a matter of days. This is highly unusual but not impossible. Lead adversely affects numerous body systems and causes forms of health impairment and disease which arise after periods of exposure as short as days or as long as several years. Chronic overexposure to lead may result in severe damage to blood forming, nervous, urinary, and reproductive systems. Some common symptoms of chronic over exposure include loss of appetite, metallic taste in the mouth, anxiety, constipation, nausea, decreased sex drive, impotence and sterility in men. Lead can raise the risk of birth defects. Lead exposure in women may result in decreased fertility.

Prevention of adverse health effects for most workers from exposure to lead throughout a working lifetime requires that worker blood lead (PbB) levels be maintained at or below 40 micrograms per one hundred grams of whole blood. The blood levels of workers who intend to have children should be maintained below 30 micrograms per one hundred grams of whole blood (µg/100g). Once blood lead levels climb above 40 µg/100g, the risk of disease increases.

Employees must play a key role in protecting their own health by learning above the lead hazards and their control, learning what the standard requires, following the standard where it governs their own actions.

Employees should immediately notify the Safety Superintendent of any signs and symptoms of health problems. They should also notify the Safety Supervisor if they have difficulty breathing during a respirator fit test or while wearing a respirator.

A. Briefly describe the Hazard Communication Standard, commonly referred to as the "Right to Know Law". Show employees a copy of the standard, CFR 1910.1200 and explain that they may see a copy and any related MSDS at any time for review.

B. Pass out a copy of the Material Safety Data Sheets so each employee may read through the sheet for himself, as you describe the points.

C. Point out that a copy of the Hazard Communication Standard and all Material Safety Data Sheets may be found:

   LOCATION:_____

D. Explain that an inventory list of chemicals is kept and that any time a new chemical is added, details about the chemical will be explained and a copy of the Material Safety Data Sheet will be maintained.

E. Discuss the labeling of chemicals in containers of 55 gallons or less. Explain what must be one the label, show sample label.

F. Discuss measures that an employee must take to protect himself from hazardous exposure or the effects of exposure.

   a. Example is the training program related to respiratory training (including respiratory protective equipment usage).
   b. Protective equipment including clothing.
   c. Point out the different noticeable signs of chemicals, such as odor, color, and such, that will aid them in identifying chemicals.
   d. Teach job safety procedures including where safety showers and eye wash stations are located, escape routes and audible warnings.

G. Explain which employees are to be trained:
   a. Employees of the Company
   b. Contractor employees
   c. Sub-contractor employees
   d. Frequent visitors to the work site/plant

H. Explain how training is conducted:
   a. Handout material where applicable
   b. Slides/Visual/Audio where applicable
   c. Hands on training

I. Explain the frequency of training:
   a. Annually on refresher basis
   b. Initially on all chemicals
   c. As new chemicals are introduced into the work place

J. Explain that training is conducted by:
   a. Foreman/Supervisor
   b. Safety Department

K. Documentation of training:
   All employees will sign the Hazard Communication Training Rosters

XI. SUB-CONTRACTOR

When a contract to perform work is let permitting contract employees on Company controlled premises, the Supervisor of the contractor's employees will be informed of any hazardous substances, chemicals, or materials in the areas in which they will be working. They will also be

informed of any precautionary measure that they may have to take to protect themselves in the event of a mishap or spill and of any protective clothing or respiratory equipment they must have available to protect their employees.

It is necessary to inform these contract personnel in written form and to have it acknowledged in writing. This documentation becomes a record of compliance and remains a part of the Company records.

Compliance Checklist

_____ Are all required warnings posted on your jobsite?

_____ Have you included the required lead training in your weekly safety meetings? Have you documented this training by having all who attend the safety meeting sign in?

_____ Do you have accurate records on all of your employees who are exposed to lead?

_____ Have you provided the physician who will examine your employees with all of the documents which you are required to furnish to him?

_____ Have all of your employees who require blood lead level tests had them?

_____ Have you provided to all employees who have had blood lead level tests written notice of their test results?

_____ Is air sampling going to be conducted or required

_____ Is all proper PPE and wash facilities available on-site

ATTACHMENT 5

Building Materials Sampling Plan

MEMORANDUM

Date: August 28, 2018

To: Andrew Zwack, NYSDEC; Stan Radon, NYSDEC

From: Jason M. Brydges, BE3

Subject: Main and Hertel BCP – **Building Material Sampling Plan**

Communications from NYSDEC to the Project Team at Main and Hertel have indicated that characterization of the building materials will need to be completed before anything is removed from the site or demolished (email dated 8-2-18) and a demolition plan will need to be completed outlining how the demolition material will be characterized prior to disposal (email dated 8-6-18). A subsequent conference call between the NYSDEC and Project Team occurred on 8-15-18 that further described the requirements for sampling building material resulting from the demolition and abatement of Buildings 3 and 4 on the Main and Hertel BCP Project. Finally, comments were received on initial submittal of the demolition work plans and have been incorporated into a single Demolition Work Plan submittal (email dated 8-23-18).

The current contractor has drafted a Demolition Work Plan and a Lead Plan for additional guidelines on lead-based paint control during demolition activities. This memorandum will be utilized in conjunction with these plans prior to and during demolition activities. Considering the information above and relevant/applicable State guidance, the following protocol describes the process to be followed to adequately characterize the structural material within Buildings 3 and 4:

Construction and Demolition (C&D) Debris – items such as wood, window, tile, roofing, drywall, and all ACM will be removed under a dust-controlled environment per OSHA standards and State Code Rule 56, placed into trailers with double lined polyethylene, and disposed at an approved facility (e.g., WM Chaffee, Casella Angelica, etc.). This waste will be managed under an Applicable Variance (AV – 56-11.5) - controlled demolition with asbestos in place.

Scrap Steel and Other Metals – metal items such as structural steel, conduit, rebar, piping, walkways, stairs, etc. will be separated from the other building materials (e.g., C&D debris, concrete, etc.) and placed into roll off containers (or similar) and recycled at an approved metals recycling facility.

Concrete, Wood and Brick – the floors and walls of Buildings 3 and 4 are constructed of concrete, concrete block, wood, and brick; and these items are the focus of this sampling plan because of potential impacts from past industrial processes and lead-based paint. Accordingly, the following sampling design will be established prior to demolition of these items:

1. Building 3 – first floor – 9 composite samples
    a. Concrete floors: 6 composite samples, 1 from each room
    b. Concrete block walls: 1 composite sample with each room represented in sample
    c. Brick walls: 1 composite sample with each room represented in sample
    d. Wood structure: 1 composite sample with each room represented in sample
2. Building 3 – second floor – 6 composite samples
    a. Concrete floors: 3 composite samples, 1 from each room

b. Concrete block walls: 1 composite sample with each room represented in sample
c. Brick walls: 1 composite sample with each room represented in sample
d. Wood structure: 1 composite sample with each room represented in sample

3. Building 4 – single room and single floor – 5 composite samples
    a. Concrete floor: 2 composite samples
    b. Concrete block walls: 1 composite sample
    c. Brick walls: 1 composite sample
    d. Wood structure: 1 composite sample

Each composite sample will consist of approximately 5-7 individual, discreet samples based upon approximately 900 SF of area represented in each discreet sample. Various process areas, stained surfaces, and process pits will be considered during selection of the discreet sample locations. Composite samples will be collected, packaged, and shipped to an approved laboratory using standard methodology, and the samples will be analyzed for full TCLP analyses as dictated by the selected receiving facility. After receipt of the laboratory data the building materials will be characterized, packaged, and removed off-Site.

The following notes are related to the building material sampling plan and will be followed during abatement and demolition activities:

1. Sampling of paint chips alone for TCLP analyses is not necessary as the hazardous materials inspection report has already concluded the presence of lead-based paint throughout buildings 3 and 4 that are scheduled for demolition. In addition, paint chips alone will not be a waste stream generated on this project. Lastly, the characterization of paint chips as incorporated with other building materials will be addressed during the sampling plan described above with “Concrete, Wood, and Brick” and below with bullet #6.
2. If analytical results from the sampling program indicate the presence of any hazardous waste, then this material will be disposed of in accordance with State and Federal regulations.
3. If waste from the demolition and abatement activities is characterized as hazardous, then the CAMP, as outlined in in previous BCP documentation, will be implemented during hazardous waste removal.
4. Building 3 and 4 “process pits” were cleared of all sediments and waste prior to the previous owner’s RCRA small quantity generator permit closure requirements at the property; therefore, no pit sediments and wastes are anticipated to be encountered during demolition and abatement activities.
5. All disposal documentation of waste removed from the Site during the BCP project will be provided to NYSDEC.
6. In addition to the details provided in the Demolition Work Plan and Lead Plan, the following waste management protocol (the order of which will be determined in the field based upon project conditions) will apply to abatement and demolition activities once friable ACM is removed and building sampling has been completed as described above:
    a. Prior to building demolition, potential lead-based paint chips/flakes will be collected and containerized within each building. After building demolition, this material will be combined with the material generated from bullet “c” below, characterized, and disposed at an approved facility.
    b. Buildings will be demolished in a controlled manner utilizing adequate dust control measures (e.g., misting systems, hoses, spray guns, etc.) and proper excavation equipment with attachments (e.g., buckets, shears, grapples, hammers, etc.).

c. Using mechanical means, demolition debris will be separated into four major categories (ACM non-friable, brick, concrete, and scrap metal), containerized, and transported off-Site at the approved receiving facility.
d. Prior to removing building concrete building slabs-on-grade, potential lead-based paint chips/flakes and related suspect materials that are loose and accumulate on concrete slabs will be contained to prevent release to surface soil, sampled, characterized, and disposed at an approved facility.
e. Building concrete slabs-on-grade will be demolished and transported off-Site to approved receiving facility under adequate dust suppression and environmental monitoring to control potential releases form impacted soil.

APPENDIX E

BUILDING MATERIAL SAMPLING LABORATORY REPORTS

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F2-Fl1		
Lab Sample ID:	184047-06	**Date Sampled:**	9/4/2018
Matrix:	Solid	**Date Received:**	9/5/2018

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.149	mg/Kg		9/11/2018 16:05
PCB-1221	< 0.149	mg/Kg		9/11/2018 16:05
PCB-1232	< 0.149	mg/Kg		9/11/2018 16:05
PCB-1242	< 0.149	mg/Kg		9/11/2018 16:05
PCB-1248	< 0.149	mg/Kg		9/11/2018 16:05
PCB-1254	< 0.149	mg/Kg		9/11/2018 16:05
PCB-1260	< 0.149	mg/Kg		9/11/2018 16:05
PCB-1262	< 0.149	mg/Kg		9/11/2018 16:05
PCB-1268	< 0.149	mg/Kg		9/11/2018 16:05

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl	**57.6**	23.4 - 108		9/11/2018 16:05
Tetrachloro-m-xylene	**42.0**	10 - 84		9/11/2018 16:05

Method Reference(s): EPA 8082A
EPA 3546

Preparation Date: 9/10/2018

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F2-Fl1		
Lab Sample ID:	184047-06A	**Date Sampled:**	9/4/2018
Matrix:	TCLP Extract	**Date Received:**	9/5/2018

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		9/9/2018 08:51
2,4,5-Trichlorophenol	< 80.0	ug/L	400000		9/9/2018 08:51
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		9/9/2018 08:51
2,4-Dinitrotoluene	< 40.0	ug/L	130		9/9/2018 08:51
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		9/9/2018 08:51
Hexachlorobenzene	< 40.0	ug/L	130		9/9/2018 08:51
Hexachlorobutadiene	< 40.0	ug/L	500		9/9/2018 08:51
Hexachloroethane	< 40.0	ug/L	3000		9/9/2018 08:51
Nitrobenzene	< 40.0	ug/L	2000		9/9/2018 08:51
Pentachlorophenol	< 80.0	ug/L	100000		9/9/2018 08:51
Pyridine	< 40.0	ug/L	5000		9/9/2018 08:51

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**59.0**	48.7 - 113		9/9/2018 08:51
2-Fluorobiphenyl	**51.4**	28.7 - 98.8		9/9/2018 08:51
2-Fluorophenol	**44.6**	10.5 - 105		9/9/2018 08:51
Nitrobenzene-d5	**52.1**	47.4 - 94.5		9/9/2018 08:51
Phenol-d5	**41.5**	10 - 101		9/9/2018 08:51
Terphenyl-d14	**55.3**	56.7 - 107	*	9/9/2018 08:51

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 9/10/2018
Data File: B31267.D

TCLP Mercury

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Mercury	**0.00461**	mg/L	0.2		9/12/2018 09:49

Method Reference(s): EPA 7470A
EPA 1311
Preparation Date: 9/11/2018
Data File: Hg180912A

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F2-Fl1
Lab Sample ID: 184047-06A **Date Sampled:** 9/4/2018
Matrix: TCLP Extract **Date Received:** 9/5/2018

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		9/11/2018 16:11
Barium	**1.47**	mg/L	100		9/11/2018 16:11
Cadmium	**0.219**	mg/L	1		9/11/2018 16:11
Chromium	**2.91**	mg/L	5		9/11/2018 16:11
Lead	< 0.500	mg/L	5		9/11/2018 16:11
Selenium	< 0.200	mg/L	1		9/11/2018 16:11
Silver	< 0.500	mg/L	5		9/11/2018 16:11

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 9/10/2018
Data File: 180911B

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		9/8/2018 05:05
1,2-Dichloroethane	< 20.0	ug/L	500		9/8/2018 05:05
2-Butanone	< 100	ug/L	200000		9/8/2018 05:05
Benzene	< 20.0	ug/L	500		9/8/2018 05:05
Carbon Tetrachloride	< 20.0	ug/L	500		9/8/2018 05:05
Chlorobenzene	< 20.0	ug/L	100000		9/8/2018 05:05
Chloroform	< 20.0	ug/L	6000		9/8/2018 05:05
Tetrachloroethene	< 20.0	ug/L	700		9/8/2018 05:05
Trichloroethene	< 20.0	ug/L	500		9/8/2018 05:05
Vinyl chloride	< 20.0	ug/L	200		9/8/2018 05:05

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F2-Fl1

Lab Sample ID: 184047-06A **Date Sampled:** 9/4/2018

Matrix: TCLP Extract **Date Received:** 9/5/2018

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	**116**	80.7 - 121		9/8/2018	05:05
4-Bromofluorobenzene	**87.3**	74.3 - 121		9/8/2018	05:05
Pentafluorobenzene	**93.3**	86.2 - 111		9/8/2018	05:05
Toluene-D8	**94.7**	86.2 - 112		9/8/2018	05:05

Method Reference(s): EPA 8260C
EPA 1311 / 5030C

Data File: x53932.D

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F2-Fl2		
Lab Sample ID:	184047-07	**Date Sampled:**	9/4/2018
Matrix:	Solid	**Date Received:**	9/5/2018

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.668	mg/Kg	M	9/11/2018 16:28
PCB-1221	< 0.668	mg/Kg		9/11/2018 16:28
PCB-1232	< 0.668	mg/Kg		9/11/2018 16:28
PCB-1242	< 0.668	mg/Kg		9/11/2018 16:28
PCB-1248	< 0.668	mg/Kg		9/11/2018 16:28
PCB-1254	**3.06**	mg/Kg		9/11/2018 16:28
PCB-1260	< 0.668	mg/Kg	M	9/11/2018 16:28
PCB-1262	< 0.668	mg/Kg		9/11/2018 16:28
PCB-1268	< 0.668	mg/Kg		9/11/2018 16:28

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl	**109**	23.4 - 108	*	9/11/2018 16:28
Tetrachloro-m-xylene	**57.4**	10 - 84		9/11/2018 16:28

Method Reference(s): EPA 8082A
EPA 3546

Preparation Date: 9/10/2018

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F2-Fl2		
Lab Sample ID:	184047-07A	**Date Sampled:**	9/4/2018
Matrix:	TCLP Extract	**Date Received:**	9/5/2018

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		9/14/2018 00:32
2,4,5-Trichlorophenol	< 80.0	ug/L	400000		9/14/2018 00:32
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		9/14/2018 00:32
2,4-Dinitrotoluene	< 40.0	ug/L	130		9/14/2018 00:32
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		9/14/2018 00:32
Hexachlorobenzene	< 40.0	ug/L	130		9/14/2018 00:32
Hexachlorobutadiene	< 40.0	ug/L	500		9/14/2018 00:32
Hexachloroethane	< 40.0	ug/L	3000		9/14/2018 00:32
Nitrobenzene	< 40.0	ug/L	2000		9/14/2018 00:32
Pentachlorophenol	< 80.0	ug/L	100000		9/14/2018 00:32
Pyridine	< 40.0	ug/L	5000		9/14/2018 00:32

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**67.0**	48.7 - 113		9/14/2018 00:32
2-Fluorobiphenyl	**50.3**	28.7 - 98.8		9/14/2018 00:32
2-Fluorophenol	**43.1**	10.5 - 105		9/14/2018 00:32
Nitrobenzene-d5	**48.1**	47.4 - 94.5		9/14/2018 00:32
Phenol-d5	**42.4**	10 - 101		9/14/2018 00:32
Terphenyl-d14	**70.5**	56.7 - 107		9/14/2018 00:32

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 9/11/2018
Data File: B31447.D

TCLP Mercury

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Mercury	**0.0467**	mg/L	0.2		9/12/2018 09:52

Method Reference(s): EPA 7470A
EPA 1311
Preparation Date: 9/11/2018
Data File: Hg180912A

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F2-Fl2
Lab Sample ID: 184047-07A **Date Sampled:** 9/4/2018
Matrix: TCLP Extract **Date Received:** 9/5/2018

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		9/11/2018 16:15
Barium	< 0.500	mg/L	100		9/11/2018 16:15
Cadmium	**0.611**	mg/L	1		9/11/2018 16:15
Chromium	< 0.500	mg/L	5		9/11/2018 16:15
Lead	< 0.500	mg/L	5		9/11/2018 16:15
Selenium	< 0.200	mg/L	1		9/11/2018 16:15
Silver	< 0.500	mg/L	5		9/11/2018 16:15

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 9/10/2018
Data File: 180911B

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		9/10/2018 22:21
1,2-Dichloroethane	< 20.0	ug/L	500		9/10/2018 22:21
2-Butanone	< 100	ug/L	200000		9/10/2018 22:21
Benzene	< 20.0	ug/L	500		9/10/2018 22:21
Carbon Tetrachloride	< 20.0	ug/L	500		9/10/2018 22:21
Chlorobenzene	< 20.0	ug/L	100000		9/10/2018 22:21
Chloroform	< 20.0	ug/L	6000		9/10/2018 22:21
Tetrachloroethene	< 20.0	ug/L	700		9/10/2018 22:21
Trichloroethene	< 20.0	ug/L	500		9/10/2018 22:21
Vinyl chloride	< 20.0	ug/L	200		9/10/2018 22:21

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F2-Fl2

Lab Sample ID: 184047-07A **Date Sampled:** 9/4/2018

Matrix: TCLP Extract **Date Received:** 9/5/2018

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**117**	80.7 - 121		9/10/2018 22:21
4-Bromofluorobenzene	**85.0**	74.3 - 121		9/10/2018 22:21
Pentafluorobenzene	**93.3**	86.2 - 111		9/10/2018 22:21
Toluene-D8	**95.1**	86.2 - 112		9/10/2018 22:21

Method Reference(s): EPA 8260C
EPA 1311 / 5030C

Data File: x53980.D

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F2-Fl3		
Lab Sample ID:	184047-08	**Date Sampled:**	9/4/2018
Matrix:	Solid	**Date Received:**	9/5/2018

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.305	mg/Kg		9/11/2018 17:38
PCB-1221	< 0.305	mg/Kg		9/11/2018 17:38
PCB-1232	< 0.305	mg/Kg		9/11/2018 17:38
PCB-1242	< 0.305	mg/Kg		9/11/2018 17:38
PCB-1248	< 0.305	mg/Kg		9/11/2018 17:38
PCB-1254	**1.32**	mg/Kg		9/11/2018 17:38
PCB-1260	< 0.305	mg/Kg		9/11/2018 17:38
PCB-1262	< 0.305	mg/Kg		9/11/2018 17:38
PCB-1268	< 0.305	mg/Kg		9/11/2018 17:38

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl	**86.9**	23.4 - 108		9/11/2018 17:38
Tetrachloro-m-xylene	**55.9**	10 - 84		9/11/2018 17:38

Method Reference(s): EPA 8082A
EPA 3546

Preparation Date: 9/10/2018

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F2-Fl3		
Lab Sample ID:	184047-08A	**Date Sampled:**	9/4/2018
Matrix:	TCLP Extract	**Date Received:**	9/5/2018

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		9/14/2018 01:01
2,4,5-Trichlorophenol	< 80.0	ug/L	400000		9/14/2018 01:01
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		9/14/2018 01:01
2,4-Dinitrotoluene	< 40.0	ug/L	130		9/14/2018 01:01
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		9/14/2018 01:01
Hexachlorobenzene	< 40.0	ug/L	130		9/14/2018 01:01
Hexachlorobutadiene	< 40.0	ug/L	500		9/14/2018 01:01
Hexachloroethane	< 40.0	ug/L	3000		9/14/2018 01:01
Nitrobenzene	< 40.0	ug/L	2000		9/14/2018 01:01
Pentachlorophenol	< 80.0	ug/L	100000		9/14/2018 01:01
Pyridine	< 40.0	ug/L	5000		9/14/2018 01:01

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**78.5**	48.7 - 113		9/14/2018 01:01
2-Fluorobiphenyl	**62.6**	28.7 - 98.8		9/14/2018 01:01
2-Fluorophenol	**49.2**	10.5 - 105		9/14/2018 01:01
Nitrobenzene-d5	**60.2**	47.4 - 94.5		9/14/2018 01:01
Phenol-d5	**48.6**	10 - 101		9/14/2018 01:01
Terphenyl-d14	**77.0**	56.7 - 107		9/14/2018 01:01

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 9/11/2018
Data File: B31448.D

TCLP Mercury

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Mercury	**0.00454**	mg/L	0.2		9/12/2018 10:01

Method Reference(s): EPA 7470A
EPA 1311
Preparation Date: 9/11/2018
Data File: Hg180912A

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F2-Fl3
Lab Sample ID: 184047-08A **Date Sampled:** 9/4/2018
Matrix: TCLP Extract **Date Received:** 9/5/2018

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		9/11/2018 16:29
Barium	< 0.500	mg/L	100		9/11/2018 16:29
Cadmium	**0.702**	mg/L	1		9/11/2018 16:29
Chromium	**1.87**	mg/L	5		9/11/2018 16:29
Lead	< 0.500	mg/L	5		9/11/2018 16:29
Selenium	< 0.200	mg/L	1		9/11/2018 16:29
Silver	< 0.500	mg/L	5		9/11/2018 16:29

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 9/10/2018
Data File: 180911B

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		9/10/2018 22:45
1,2-Dichloroethane	< 20.0	ug/L	500		9/10/2018 22:45
2-Butanone	< 100	ug/L	200000		9/10/2018 22:45
Benzene	< 20.0	ug/L	500		9/10/2018 22:45
Carbon Tetrachloride	< 20.0	ug/L	500		9/10/2018 22:45
Chlorobenzene	< 20.0	ug/L	100000		9/10/2018 22:45
Chloroform	< 20.0	ug/L	6000		9/10/2018 22:45
Tetrachloroethene	< 20.0	ug/L	700		9/10/2018 22:45
Trichloroethene	< 20.0	ug/L	500		9/10/2018 22:45
Vinyl chloride	< 20.0	ug/L	200		9/10/2018 22:45

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F2-Fl3

Lab Sample ID: 184047-08A **Date Sampled:** 9/4/2018

Matrix: TCLP Extract **Date Received:** 9/5/2018

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	**114**	80.7 - 121		9/10/2018	22:45
4-Bromofluorobenzene	**82.7**	74.3 - 121		9/10/2018	22:45
Pentafluorobenzene	**89.5**	86.2 - 111		9/10/2018	22:45
Toluene-D8	**93.0**	86.2 - 112		9/10/2018	22:45

Method Reference(s): EPA 8260C
EPA 1311 / 5030C

Data File: x53981.D

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F2-WB		
Lab Sample ID:	184047-09	**Date Sampled:**	9/4/2018
Matrix:	Solid	**Date Received:**	9/5/2018

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.166	mg/Kg		9/11/2018 18:01
PCB-1221	< 0.166	mg/Kg		9/11/2018 18:01
PCB-1232	< 0.166	mg/Kg		9/11/2018 18:01
PCB-1242	< 0.166	mg/Kg		9/11/2018 18:01
PCB-1248	< 0.166	mg/Kg		9/11/2018 18:01
PCB-1254	< 0.166	mg/Kg		9/11/2018 18:01
PCB-1260	< 0.166	mg/Kg		9/11/2018 18:01
PCB-1262	< 0.166	mg/Kg		9/11/2018 18:01
PCB-1268	< 0.166	mg/Kg		9/11/2018 18:01

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl	**69.3**	23.4 - 108		9/11/2018 18:01
Tetrachloro-m-xylene	**51.9**	10 - 84		9/11/2018 18:01

Method Reference(s): EPA 8082A
EPA 3546

Preparation Date: 9/10/2018

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F2-WB		
Lab Sample ID:	184047-09A	**Date Sampled:**	9/4/2018
Matrix:	TCLP Extract	**Date Received:**	9/5/2018

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		9/14/2018 01:30
2,4,5-Trichlorophenol	< 80.0	ug/L	400000		9/14/2018 01:30
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		9/14/2018 01:30
2,4-Dinitrotoluene	< 40.0	ug/L	130		9/14/2018 01:30
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		9/14/2018 01:30
Hexachlorobenzene	< 40.0	ug/L	130		9/14/2018 01:30
Hexachlorobutadiene	< 40.0	ug/L	500		9/14/2018 01:30
Hexachloroethane	< 40.0	ug/L	3000		9/14/2018 01:30
Nitrobenzene	< 40.0	ug/L	2000		9/14/2018 01:30
Pentachlorophenol	< 80.0	ug/L	100000		9/14/2018 01:30
Pyridine	< 40.0	ug/L	5000		9/14/2018 01:30

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**92.1**	48.7 - 113		9/14/2018 01:30
2-Fluorobiphenyl	**76.1**	28.7 - 98.8		9/14/2018 01:30
2-Fluorophenol	**69.0**	10.5 - 105		9/14/2018 01:30
Nitrobenzene-d5	**75.0**	47.4 - 94.5		9/14/2018 01:30
Phenol-d5	**65.3**	10 - 101		9/14/2018 01:30
Terphenyl-d14	**86.8**	56.7 - 107		9/14/2018 01:30

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 9/11/2018
Data File: B31449.D

TCLP Mercury

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Mercury	**0.00227**	mg/L	0.2		9/12/2018 10:03

Method Reference(s): EPA 7470A
EPA 1311
Preparation Date: 9/11/2018
Data File: Hg180912A

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F2-WB
Lab Sample ID: 184047-09A **Date Sampled:** 9/4/2018
Matrix: TCLP Extract **Date Received:** 9/5/2018

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		9/11/2018 16:34
Barium	< 0.500	mg/L	100		9/11/2018 16:34
Cadmium	**0.0565**	mg/L	1		9/11/2018 16:34
Chromium	< 0.500	mg/L	5		9/11/2018 16:34
Lead	**133**	mg/L	5		9/11/2018 16:34
Selenium	< 0.200	mg/L	1		9/11/2018 16:34
Silver	< 0.500	mg/L	5		9/11/2018 16:34

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 9/10/2018
Data File: 180911B

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		9/10/2018 23:08
1,2-Dichloroethane	< 20.0	ug/L	500		9/10/2018 23:08
2-Butanone	< 100	ug/L	200000		9/10/2018 23:08
Benzene	< 20.0	ug/L	500		9/10/2018 23:08
Carbon Tetrachloride	< 20.0	ug/L	500		9/10/2018 23:08
Chlorobenzene	< 20.0	ug/L	100000		9/10/2018 23:08
Chloroform	< 20.0	ug/L	6000		9/10/2018 23:08
Tetrachloroethene	< 20.0	ug/L	700		9/10/2018 23:08
Trichloroethene	< 20.0	ug/L	500		9/10/2018 23:08
Vinyl chloride	< 20.0	ug/L	200		9/10/2018 23:08

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F2-WB

Lab Sample ID: 184047-09A **Date Sampled:** 9/4/2018

Matrix: TCLP Extract **Date Received:** 9/5/2018

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	**117**	80.7 - 121		9/10/2018	23:08
4-Bromofluorobenzene	**90.1**	74.3 - 121		9/10/2018	23:08
Pentafluorobenzene	**89.7**	86.2 - 111		9/10/2018	23:08
Toluene-D8	**93.8**	86.2 - 112		9/10/2018	23:08

Method Reference(s): EPA 8260C
EPA 1311 / 5030C

Data File: x53982.D

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F2-Blk		
Lab Sample ID:	184047-10	**Date Sampled:**	9/4/2018
Matrix:	Solid	**Date Received:**	9/5/2018

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.162	mg/Kg		9/11/2018 01:30
PCB-1221	< 0.162	mg/Kg		9/11/2018 01:30
PCB-1232	< 0.162	mg/Kg		9/11/2018 01:30
PCB-1242	< 0.162	mg/Kg		9/11/2018 01:30
PCB-1248	< 0.162	mg/Kg		9/11/2018 01:30
PCB-1254	< 0.162	mg/Kg		9/11/2018 01:30
PCB-1260	< 0.162	mg/Kg		9/11/2018 01:30
PCB-1262	< 0.162	mg/Kg		9/11/2018 01:30
PCB-1268	< 0.162	mg/Kg		9/11/2018 01:30

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl	**90.2**	23.4 - 108		9/11/2018 01:30
Tetrachloro-m-xylene	**59.0**	10 - 84		9/11/2018 01:30

Method Reference(s): EPA 8082A
EPA 3546

Preparation Date: 9/10/2018

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F2-Blk		
Lab Sample ID:	184047-10A	**Date Sampled:**	9/4/2018
Matrix:	TCLP Extract	**Date Received:**	9/5/2018

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		9/14/2018 02:00
2,4,5-Trichlorophenol	< 80.0	ug/L	400000		9/14/2018 02:00
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		9/14/2018 02:00
2,4-Dinitrotoluene	< 40.0	ug/L	130		9/14/2018 02:00
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		9/14/2018 02:00
Hexachlorobenzene	< 40.0	ug/L	130		9/14/2018 02:00
Hexachlorobutadiene	< 40.0	ug/L	500		9/14/2018 02:00
Hexachloroethane	< 40.0	ug/L	3000		9/14/2018 02:00
Nitrobenzene	< 40.0	ug/L	2000		9/14/2018 02:00
Pentachlorophenol	< 80.0	ug/L	100000		9/14/2018 02:00
Pyridine	< 40.0	ug/L	5000		9/14/2018 02:00

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**85.3**	48.7 - 113		9/14/2018 02:00
2-Fluorobiphenyl	**72.2**	28.7 - 98.8		9/14/2018 02:00
2-Fluorophenol	**68.1**	10.5 - 105		9/14/2018 02:00
Nitrobenzene-d5	**73.6**	47.4 - 94.5		9/14/2018 02:00
Phenol-d5	**64.5**	10 - 101		9/14/2018 02:00
Terphenyl-d14	**82.7**	56.7 - 107		9/14/2018 02:00

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 9/11/2018
Data File: B31450.D

TCLP Mercury

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Mercury	**0.00216**	mg/L	0.2		9/12/2018 10:06

Method Reference(s): EPA 7470A
EPA 1311
Preparation Date: 9/11/2018
Data File: Hg180912A

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F2-Blk
Lab Sample ID: 184047-10A **Date Sampled:** 9/4/2018
Matrix: TCLP Extract **Date Received:** 9/5/2018

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		9/11/2018 16:38
Barium	< 0.500	mg/L	100		9/11/2018 16:38
Cadmium	< 0.0250	mg/L	1		9/11/2018 16:38
Chromium	< 0.500	mg/L	5		9/11/2018 16:38
Lead	< 0.500	mg/L	5		9/11/2018 16:38
Selenium	< 0.200	mg/L	1		9/11/2018 16:38
Silver	< 0.500	mg/L	5		9/11/2018 16:38

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 9/10/2018
Data File: 180911B

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		9/10/2018 23:31
1,2-Dichloroethane	< 20.0	ug/L	500		9/10/2018 23:31
2-Butanone	< 100	ug/L	200000		9/10/2018 23:31
Benzene	< 20.0	ug/L	500		9/10/2018 23:31
Carbon Tetrachloride	< 20.0	ug/L	500		9/10/2018 23:31
Chlorobenzene	< 20.0	ug/L	100000		9/10/2018 23:31
Chloroform	< 20.0	ug/L	6000		9/10/2018 23:31
Tetrachloroethene	< 20.0	ug/L	700		9/10/2018 23:31
Trichloroethene	< 20.0	ug/L	500		9/10/2018 23:31
Vinyl chloride	< 20.0	ug/L	200		9/10/2018 23:31

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F2-Blk

Lab Sample ID: 184047-10A **Date Sampled:** 9/4/2018

Matrix: TCLP Extract **Date Received:** 9/5/2018

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**117**	80.7 - 121		9/10/2018 23:31
4-Bromofluorobenzene	**86.2**	74.3 - 121		9/10/2018 23:31
Pentafluorobenzene	**89.8**	86.2 - 111		9/10/2018 23:31
Toluene-D8	**93.7**	86.2 - 112		9/10/2018 23:31

Method Reference(s): EPA 8260C
EPA 1311 / 5030C

Data File: x53983.D

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F2-Br		
Lab Sample ID:	184047-11	**Date Sampled:**	9/4/2018
Matrix:	Solid	**Date Received:**	9/5/2018

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.156	mg/Kg		9/11/2018 01:53
PCB-1221	< 0.156	mg/Kg		9/11/2018 01:53
PCB-1232	< 0.156	mg/Kg		9/11/2018 01:53
PCB-1242	< 0.156	mg/Kg		9/11/2018 01:53
PCB-1248	< 0.156	mg/Kg		9/11/2018 01:53
PCB-1254	< 0.156	mg/Kg		9/11/2018 01:53
PCB-1260	< 0.156	mg/Kg		9/11/2018 01:53
PCB-1262	< 0.156	mg/Kg		9/11/2018 01:53
PCB-1268	< 0.156	mg/Kg		9/11/2018 01:53

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl	**93.9**	23.4 - 108		9/11/2018 01:53
Tetrachloro-m-xylene	**60.2**	10 - 84		9/11/2018 01:53

Method Reference(s): EPA 8082A
EPA 3546

Preparation Date: 9/10/2018

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F2-Br		
Lab Sample ID:	184047-11A	**Date Sampled:**	9/4/2018
Matrix:	TCLP Extract	**Date Received:**	9/5/2018

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		9/14/2018 02:29
2,4,5-Trichlorophenol	< 80.0	ug/L	400000		9/14/2018 02:29
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		9/14/2018 02:29
2,4-Dinitrotoluene	< 40.0	ug/L	130		9/14/2018 02:29
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		9/14/2018 02:29
Hexachlorobenzene	< 40.0	ug/L	130		9/14/2018 02:29
Hexachlorobutadiene	< 40.0	ug/L	500		9/14/2018 02:29
Hexachloroethane	< 40.0	ug/L	3000		9/14/2018 02:29
Nitrobenzene	< 40.0	ug/L	2000		9/14/2018 02:29
Pentachlorophenol	< 80.0	ug/L	100000		9/14/2018 02:29
Pyridine	< 40.0	ug/L	5000		9/14/2018 02:29

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**89.6**	48.7 - 113		9/14/2018 02:29
2-Fluorobiphenyl	**71.8**	28.7 - 98.8		9/14/2018 02:29
2-Fluorophenol	**68.8**	10.5 - 105		9/14/2018 02:29
Nitrobenzene-d5	**71.8**	47.4 - 94.5		9/14/2018 02:29
Phenol-d5	**62.5**	10 - 101		9/14/2018 02:29
Terphenyl-d14	**87.0**	56.7 - 107		9/14/2018 02:29

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 9/11/2018
Data File: B31451.D

TCLP Mercury

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Mercury	< 0.00200	mg/L	0.2		9/12/2018 10:09

Method Reference(s): EPA 7470A
EPA 1311
Preparation Date: 9/11/2018
Data File: Hg180912A

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F2-Br
Lab Sample ID: 184047-11A **Date Sampled:** 9/4/2018
Matrix: TCLP Extract **Date Received:** 9/5/2018

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		9/11/2018 16:42
Barium	< 0.500	mg/L	100		9/11/2018 16:42
Cadmium	< 0.0250	mg/L	1		9/11/2018 16:42
Chromium	< 0.500	mg/L	5		9/11/2018 16:42
Lead	< 0.500	mg/L	5		9/11/2018 16:42
Selenium	< 0.200	mg/L	1		9/11/2018 16:42
Silver	< 0.500	mg/L	5		9/11/2018 16:42

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 9/10/2018
Data File: 180911B

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		9/10/2018 23:55
1,2-Dichloroethane	< 20.0	ug/L	500		9/10/2018 23:55
2-Butanone	< 100	ug/L	200000		9/10/2018 23:55
Benzene	< 20.0	ug/L	500		9/10/2018 23:55
Carbon Tetrachloride	< 20.0	ug/L	500		9/10/2018 23:55
Chlorobenzene	< 20.0	ug/L	100000		9/10/2018 23:55
Chloroform	< 20.0	ug/L	6000		9/10/2018 23:55
Tetrachloroethene	< 20.0	ug/L	700		9/10/2018 23:55
Trichloroethene	< 20.0	ug/L	500		9/10/2018 23:55
Vinyl chloride	< 20.0	ug/L	200		9/10/2018 23:55

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184047

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F2-Br

Lab Sample ID: 184047-11A **Date Sampled:** 9/4/2018

Matrix: TCLP Extract **Date Received:** 9/5/2018

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	**122**	80.7 - 121	*	9/10/2018	23:55
4-Bromofluorobenzene	**79.6**	74.3 - 121		9/10/2018	23:55
Pentafluorobenzene	**90.2**	86.2 - 111		9/10/2018	23:55
Toluene-D8	**94.2**	86.2 - 112		9/10/2018	23:55

Method Reference(s): EPA 8260C
EPA 1311 / 5030C

Data File: x53984.D

Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.
"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
"(1)" = Indicates data from primary column used for QC calculation.
"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.
"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.

GENERAL TERMS AND CONDITIONS
LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, tern or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

Warranty. Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

Scope and Compensation. LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB wi use LAB default method for all tests unless specified otherwise on the Work Order.
Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

Prices. Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

Limitations of Liability. In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.
LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

Hazard Disclosure. Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

Sample Handling. Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

Legal Responsibility. LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

Assignment. LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

Force Majeure. LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

Law. This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

PARADIGM ENVIRONMENTAL SERVICES, INC.

CHAIN OF CUSTODY

REPORT TO:		INVOICE TO:		
CLIENT:	BE3 Corp / Panamerican	CLIENT:	Same	LAB PROJECT ID: 184047
ADDRESS:	1270 Niagara St	ADDRESS:		
CITY:	Buffalo STATE: NY ZIP 14213	CITY: STATE: ZIP:		Quotation #:
PHONE:	716 249 6880	PHONE:		Email: abrennen@ pgorton@ jbrydges@ BE3Corp.com
ATTN:	abrennen@be3corp.com	ATTN:	pgorton@be3corp.com	

PROJECT REFERENCE

Main + Hertel

Matrix Codes:

AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

REQUESTED ANALYSIS

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	TCLP	TCLP VOC	TCLP SVOC	TCLP Metals	PCB	REMARKS	PARADIGM LAB SAMPLE NUMBER
9/4/18		X		B4 - F1 W	SD	1	X	X	X	X	X	A for TCLP extract.	01A
				B4 - F1 E				X	X	X	X	GP 9/6/18	02A
				B4 - Br				X	X	X	X		03A
				B4 - Blk				X	X	X	X		04A
				B4 - CC				X	X	X	X		05A
				B3F2 - F1 1				X	X	X	X		06A
				B3F2 - F1 2				X	X	X	X		07A
				B3F2 - F1 3				X	X	X	X		08A
				B3F2 - WB				X	X	X	X		09A
				B3F2 - Blk				X	X	X	X		10A
				B3F2 - Br				X	X	X	X		11A

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
9/5/18 pwe 9/12 Standard 5 day per 24hr QP	X	None Required	X	None Required	
10 day		Batch QC		Basic EDD	X
Rush 3 day		Category A		NYSDEC EDD	
Rush 2 day		Category B			
Rush 1 day					
Other please indicate date needed:		Other please indicate package needed:		Other EDD please indicate EDD needed :	

Alex Brennen — Sampled By — 9/4/18 Date/Time

Relinquished By — 9/5/18 Date/Time

Received By — 9/6/18 Date/Time

Received @ Lab By — 9/5/18 9/6 9/5/18 13:39 Date/Time

Total Cost:

P.I.F.

5°C iced 9/5/18 12:41

By signing this form, client agrees to Paradigm Terms and Conditions (reverse).

See additional page for sample conditions.

Chain of Custody Supplement

Client: BE3 **Completed by:** Glenn Pezzulo

Lab Project ID: 184047 **Date:** 9/10/18

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	*NELAC compliance with the sample condition requirements upon receipt* Yes	No	N/A	
Container Type	X			
Comments				
Transferred to method-compliant container			X	
Headspace (<1 mL)			X	
Comments				
Preservation			X	
Comments				
Chlorine Absent (<0.10 ppm per test strip)			X	
Comments				
Holding Time	X			
Comments				
Temperature	X		X	metals
Comments	5°C iced			
Sufficient Sample Quantity	X			
Comments				

PARADIGM

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report For

BE3

For Lab Project ID

184202

Referencing

Main & Hertel

Prepared

Tuesday, September 18, 2018

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F7-Wd
Lab Sample ID: 184202-01 **Date Sampled:** 9/11/2018
Matrix: Solid **Date Received:** 9/12/2018

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.157	mg/Kg		9/13/2018 20:28
PCB-1221	< 0.157	mg/Kg		9/13/2018 20:28
PCB-1232	< 0.157	mg/Kg		9/13/2018 20:28
PCB-1242	< 0.157	mg/Kg		9/13/2018 20:28
PCB-1248	< 0.157	mg/Kg		9/13/2018 20:28
PCB-1254	< 0.157	mg/Kg		9/13/2018 20:28
PCB-1260	< 0.157	mg/Kg		9/13/2018 20:28
PCB-1262	< 0.157	mg/Kg		9/13/2018 20:28
PCB-1268	< 0.157	mg/Kg		9/13/2018 20:28

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl	**73.3**	23.4 - 108		9/13/2018 20:28
Tetrachloro-m-xylene	**60.6**	10 - 84		9/13/2018 20:28

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 9/13/2018

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F7-Wd		
Lab Sample ID:	184202-01A	**Date Sampled:**	9/11/2018
Matrix:	TCLP Extract	**Date Received:**	9/12/2018

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		9/16/2018 08:25
2,4,5-Trichlorophenol	< 80.0	ug/L	400000		9/16/2018 08:25
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		9/16/2018 08:25
2,4-Dinitrotoluene	< 40.0	ug/L	130		9/16/2018 08:25
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		9/16/2018 08:25
Hexachlorobenzene	< 40.0	ug/L	130		9/16/2018 08:25
Hexachlorobutadiene	< 40.0	ug/L	500		9/16/2018 08:25
Hexachloroethane	< 40.0	ug/L	3000		9/16/2018 08:25
Nitrobenzene	< 40.0	ug/L	2000		9/16/2018 08:25
Pentachlorophenol	< 80.0	ug/L	100000		9/16/2018 08:25
Pyridine	< 40.0	ug/L	5000		9/16/2018 08:25

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**79.3**	48.7 - 113		9/16/2018 08:25
2-Fluorobiphenyl	**59.8**	28.7 - 98.8		9/16/2018 08:25
2-Fluorophenol	**64.9**	10.5 - 105		9/16/2018 08:25
Nitrobenzene-d5	**68.3**	47.4 - 94.5		9/16/2018 08:25
Phenol-d5	**62.8**	10 - 101		9/16/2018 08:25
Terphenyl-d14	**83.4**	56.7 - 107		9/16/2018 08:25

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 9/14/2018
Data File: B31560.D

TCLP Mercury

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Mercury	< 0.00200	mg/L	0.2		9/18/2018 09:45

Method Reference(s): EPA 7470A
EPA 1311
Preparation Date: 9/17/2018
Data File: Hg180918A

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F7-Wd
Lab Sample ID: 184202-01A **Date Sampled:** 9/11/2018
Matrix: TCLP Extract **Date Received:** 9/12/2018

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		9/18/2018 09:54
Barium	**0.535**	mg/L	100		9/18/2018 09:54
Cadmium	**0.411**	mg/L	1		9/18/2018 09:54
Chromium	**0.607**	mg/L	5		9/18/2018 09:54
Lead	**7.90**	mg/L	5		9/18/2018 09:54
Selenium	< 0.200	mg/L	1		9/18/2018 09:54
Silver	< 0.500	mg/L	5		9/18/2018 09:54

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 9/17/2018
Data File: 180918A

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700	D	9/15/2018 00:15
1,2-Dichloroethane	< 20.0	ug/L	500	D	9/15/2018 00:15
2-Butanone	< 100	ug/L	200000		9/15/2018 00:15
Benzene	< 20.0	ug/L	500	D	9/15/2018 00:15
Carbon Tetrachloride	< 20.0	ug/L	500	MD	9/15/2018 00:15
Chlorobenzene	< 20.0	ug/L	100000	D	9/15/2018 00:15
Chloroform	< 20.0	ug/L	6000	D	9/15/2018 00:15
Tetrachloroethene	< 20.0	ug/L	700	D	9/15/2018 00:15
Trichloroethene	< 20.0	ug/L	500	D	9/15/2018 00:15
Vinyl chloride	< 20.0	ug/L	200		9/15/2018 00:15

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F7-Wd

Lab Sample ID: 184202-01A **Date Sampled:** 9/11/2018

Matrix: TCLP Extract **Date Received:** 9/12/2018

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	**118**	80.7 - 121		9/15/2018	00:15
4-Bromofluorobenzene	**90.1**	74.3 - 121		9/15/2018	00:15
Pentafluorobenzene	**96.2**	86.2 - 111		9/15/2018	00:15
Toluene-D8	**97.6**	86.2 - 112		9/15/2018	00:15

Method Reference(s): EPA 8260C
EPA 1311 / 5030C

Data File: x54205.D

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F7-Br
Lab Sample ID: 184202-02 **Date Sampled:** 9/11/2018
Matrix: Solid **Date Received:** 9/12/2018

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.167	mg/Kg		9/14/2018 16:50
PCB-1221	< 0.167	mg/Kg		9/14/2018 16:50
PCB-1232	< 0.167	mg/Kg		9/14/2018 16:50
PCB-1242	< 0.167	mg/Kg		9/14/2018 16:50
PCB-1248	< 0.167	mg/Kg		9/14/2018 16:50
PCB-1254	< 0.167	mg/Kg		9/14/2018 16:50
PCB-1260	< 0.167	mg/Kg		9/14/2018 16:50
PCB-1262	< 0.167	mg/Kg		9/14/2018 16:50
PCB-1268	< 0.167	mg/Kg		9/14/2018 16:50

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl	**49.8**	23.4 - 108		9/14/2018 16:50
Tetrachloro-m-xylene	**40.5**	10 - 84		9/14/2018 16:50

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 9/13/2018

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F7-Br		
Lab Sample ID:	184202-02A	**Date Sampled:**	9/11/2018
Matrix:	TCLP Extract	**Date Received:**	9/12/2018

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		9/16/2018 08:54
2,4,5-Trichlorophenol	< 80.0	ug/L	400000		9/16/2018 08:54
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		9/16/2018 08:54
2,4-Dinitrotoluene	< 40.0	ug/L	130		9/16/2018 08:54
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		9/16/2018 08:54
Hexachlorobenzene	< 40.0	ug/L	130		9/16/2018 08:54
Hexachlorobutadiene	< 40.0	ug/L	500		9/16/2018 08:54
Hexachloroethane	< 40.0	ug/L	3000		9/16/2018 08:54
Nitrobenzene	< 40.0	ug/L	2000		9/16/2018 08:54
Pentachlorophenol	< 80.0	ug/L	100000		9/16/2018 08:54
Pyridine	< 40.0	ug/L	5000		9/16/2018 08:54

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**91.5**	48.7 - 113		9/16/2018 08:54
2-Fluorobiphenyl	**70.9**	28.7 - 98.8		9/16/2018 08:54
2-Fluorophenol	**70.3**	10.5 - 105		9/16/2018 08:54
Nitrobenzene-d5	**75.6**	47.4 - 94.5		9/16/2018 08:54
Phenol-d5	**64.2**	10 - 101		9/16/2018 08:54
Terphenyl-d14	**87.9**	56.7 - 107		9/16/2018 08:54

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 9/14/2018
Data File: B31561.D

TCLP Mercury

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Mercury	< 0.00200	mg/L	0.2		9/18/2018 09:48

Method Reference(s): EPA 7470A
EPA 1311
Preparation Date: 9/17/2018
Data File: Hg180918A

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F7-Br
Lab Sample ID: 184202-02A **Date Sampled:** 9/11/2018
Matrix: TCLP Extract **Date Received:** 9/12/2018

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		9/18/2018 09:58
Barium	< 0.500	mg/L	100		9/18/2018 09:58
Cadmium	< 0.0250	mg/L	1		9/18/2018 09:58
Chromium	< 0.500	mg/L	5		9/18/2018 09:58
Lead	< 0.500	mg/L	5		9/18/2018 09:58
Selenium	< 0.200	mg/L	1		9/18/2018 09:58
Silver	< 0.500	mg/L	5		9/18/2018 09:58

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 9/17/2018
Data File: 180918A

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		9/15/2018 01:25
1,2-Dichloroethane	< 20.0	ug/L	500		9/15/2018 01:25
2-Butanone	< 100	ug/L	200000		9/15/2018 01:25
Benzene	< 20.0	ug/L	500		9/15/2018 01:25
Carbon Tetrachloride	< 20.0	ug/L	500		9/15/2018 01:25
Chlorobenzene	< 20.0	ug/L	100000		9/15/2018 01:25
Chloroform	< 20.0	ug/L	6000		9/15/2018 01:25
Tetrachloroethene	< 20.0	ug/L	700		9/15/2018 01:25
Trichloroethene	< 20.0	ug/L	500		9/15/2018 01:25
Vinyl chloride	< 20.0	ug/L	200		9/15/2018 01:25

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F7-Br

Lab Sample ID: 184202-02A **Date Sampled:** 9/11/2018

Matrix: TCLP Extract **Date Received:** 9/12/2018

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	**111**	80.7 - 121		9/15/2018	01:25
4-Bromofluorobenzene	**87.0**	74.3 - 121		9/15/2018	01:25
Pentafluorobenzene	**96.8**	86.2 - 111		9/15/2018	01:25
Toluene-D8	**97.3**	86.2 - 112		9/15/2018	01:25

Method Reference(s): EPA 8260C
EPA 1311 / 5030C

Data File: x54208.D

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F7-Blk		
Lab Sample ID:	184202-03	**Date Sampled:**	9/11/2018
Matrix:	Solid	**Date Received:**	9/12/2018

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.154	mg/Kg		9/13/2018 21:14
PCB-1221	< 0.154	mg/Kg		9/13/2018 21:14
PCB-1232	< 0.154	mg/Kg		9/13/2018 21:14
PCB-1242	< 0.154	mg/Kg		9/13/2018 21:14
PCB-1248	< 0.154	mg/Kg		9/13/2018 21:14
PCB-1254	< 0.154	mg/Kg		9/13/2018 21:14
PCB-1260	< 0.154	mg/Kg		9/13/2018 21:14
PCB-1262	< 0.154	mg/Kg		9/13/2018 21:14
PCB-1268	< 0.154	mg/Kg		9/13/2018 21:14

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl	**114**	23.4 - 108	*	9/13/2018 21:14
Tetrachloro-m-xylene	**85.3**	10 - 84	*	9/13/2018 21:14

Method Reference(s): EPA 8082A
EPA 3546

Preparation Date: 9/13/2018

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F7-Blk		
Lab Sample ID:	184202-03A	**Date Sampled:**	9/11/2018
Matrix:	TCLP Extract	**Date Received:**	9/12/2018

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		9/16/2018 09:23
2,4,5-Trichlorophenol	< 80.0	ug/L	400000		9/16/2018 09:23
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		9/16/2018 09:23
2,4-Dinitrotoluene	< 40.0	ug/L	130		9/16/2018 09:23
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		9/16/2018 09:23
Hexachlorobenzene	< 40.0	ug/L	130		9/16/2018 09:23
Hexachlorobutadiene	< 40.0	ug/L	500		9/16/2018 09:23
Hexachloroethane	< 40.0	ug/L	3000		9/16/2018 09:23
Nitrobenzene	< 40.0	ug/L	2000		9/16/2018 09:23
Pentachlorophenol	< 80.0	ug/L	100000		9/16/2018 09:23
Pyridine	< 40.0	ug/L	5000		9/16/2018 09:23

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**95.4**	48.7 - 113		9/16/2018 09:23
2-Fluorobiphenyl	**66.1**	28.7 - 98.8		9/16/2018 09:23
2-Fluorophenol	**66.1**	10.5 - 105		9/16/2018 09:23
Nitrobenzene-d5	**71.7**	47.4 - 94.5		9/16/2018 09:23
Phenol-d5	**63.8**	10 - 101		9/16/2018 09:23
Terphenyl-d14	**87.7**	56.7 - 107		9/16/2018 09:23

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 9/14/2018
Data File: B31562.D

TCLP Mercury

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Mercury	< 0.00200	mg/L	0.2		9/18/2018 09:51

Method Reference(s): EPA 7470A
EPA 1311
Preparation Date: 9/17/2018
Data File: Hg180918A

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F7-Blk
Lab Sample ID: 184202-03A **Date Sampled:** 9/11/2018
Matrix: TCLP Extract **Date Received:** 9/12/2018

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		9/18/2018 10:03
Barium	< 0.500	mg/L	100		9/18/2018 10:03
Cadmium	< 0.0250	mg/L	1		9/18/2018 10:03
Chromium	< 0.500	mg/L	5		9/18/2018 10:03
Lead	< 0.500	mg/L	5		9/18/2018 10:03
Selenium	< 0.200	mg/L	1		9/18/2018 10:03
Silver	< 0.500	mg/L	5		9/18/2018 10:03

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 9/17/2018
Data File: 180918A

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		9/15/2018 01:49
1,2-Dichloroethane	< 20.0	ug/L	500		9/15/2018 01:49
2-Butanone	< 100	ug/L	200000		9/15/2018 01:49
Benzene	< 20.0	ug/L	500		9/15/2018 01:49
Carbon Tetrachloride	< 20.0	ug/L	500		9/15/2018 01:49
Chlorobenzene	< 20.0	ug/L	100000		9/15/2018 01:49
Chloroform	< 20.0	ug/L	6000		9/15/2018 01:49
Tetrachloroethene	< 20.0	ug/L	700		9/15/2018 01:49
Trichloroethene	< 20.0	ug/L	500		9/15/2018 01:49
Vinyl chloride	< 20.0	ug/L	200		9/15/2018 01:49

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F7-Blk

Lab Sample ID: 184202-03A **Date Sampled:** 9/11/2018

Matrix: TCLP Extract **Date Received:** 9/12/2018

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	**118**	80.7 - 121		9/15/2018	01:49
4-Bromofluorobenzene	**88.4**	74.3 - 121		9/15/2018	01:49
Pentafluorobenzene	**95.7**	86.2 - 111		9/15/2018	01:49
Toluene-D8	**98.9**	86.2 - 112		9/15/2018	01:49

Method Reference(s): EPA 8260C
EPA 1311 / 5030C

Data File: x54209.D

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F7-R1-Fl		
Lab Sample ID:	184202-04	**Date Sampled:**	9/11/2018
Matrix:	Solid	**Date Received:**	9/12/2018

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.156	mg/Kg		9/13/2018 21:37
PCB-1221	< 0.156	mg/Kg		9/13/2018 21:37
PCB-1232	< 0.156	mg/Kg		9/13/2018 21:37
PCB-1242	< 0.156	mg/Kg		9/13/2018 21:37
PCB-1248	< 0.156	mg/Kg		9/13/2018 21:37
PCB-1254	**0.220**	mg/Kg		9/13/2018 21:37
PCB-1260	< 0.156	mg/Kg		9/13/2018 21:37
PCB-1262	< 0.156	mg/Kg		9/13/2018 21:37
PCB-1268	< 0.156	mg/Kg		9/13/2018 21:37

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl	**71.9**	23.4 - 108		9/13/2018 21:37
Tetrachloro-m-xylene	**78.0**	10 - 84		9/13/2018 21:37

Method Reference(s): EPA 8082A
EPA 3546

Preparation Date: 9/13/2018

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F7-R1-Fl		
Lab Sample ID:	184202-04A	**Date Sampled:**	9/11/2018
Matrix:	TCLP Extract	**Date Received:**	9/12/2018

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		9/16/2018 09:52
2,4,5-Trichlorophenol	< 80.0	ug/L	400000		9/16/2018 09:52
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		9/16/2018 09:52
2,4-Dinitrotoluene	< 40.0	ug/L	130		9/16/2018 09:52
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		9/16/2018 09:52
Hexachlorobenzene	< 40.0	ug/L	130		9/16/2018 09:52
Hexachlorobutadiene	< 40.0	ug/L	500		9/16/2018 09:52
Hexachloroethane	< 40.0	ug/L	3000		9/16/2018 09:52
Nitrobenzene	< 40.0	ug/L	2000		9/16/2018 09:52
Pentachlorophenol	< 80.0	ug/L	100000		9/16/2018 09:52
Pyridine	< 40.0	ug/L	5000		9/16/2018 09:52

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**77.9**	48.7 - 113		9/16/2018 09:52
2-Fluorobiphenyl	**79.7**	28.7 - 98.8		9/16/2018 09:52
2-Fluorophenol	**69.5**	10.5 - 105		9/16/2018 09:52
Nitrobenzene-d5	**75.9**	47.4 - 94.5		9/16/2018 09:52
Phenol-d5	**63.6**	10 - 101		9/16/2018 09:52
Terphenyl-d14	**87.0**	56.7 - 107		9/16/2018 09:52

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 9/14/2018
Data File: B31563.D

TCLP Mercury

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Mercury	< 0.00200	mg/L	0.2		9/18/2018 09:53

Method Reference(s): EPA 7470A
EPA 1311
Preparation Date: 9/17/2018
Data File: Hg180918A

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F7-R1-Fl
Lab Sample ID: 184202-04A **Date Sampled:** 9/11/2018
Matrix: TCLP Extract **Date Received:** 9/12/2018

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		9/18/2018 10:07
Barium	< 0.500	mg/L	100		9/18/2018 10:07
Cadmium	**0.0615**	mg/L	1		9/18/2018 10:07
Chromium	< 0.500	mg/L	5		9/18/2018 10:07
Lead	< 0.500	mg/L	5		9/18/2018 10:07
Selenium	< 0.200	mg/L	1		9/18/2018 10:07
Silver	< 0.500	mg/L	5		9/18/2018 10:07

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 9/17/2018
Data File: 180918A

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		9/15/2018 02:12
1,2-Dichloroethane	< 20.0	ug/L	500		9/15/2018 02:12
2-Butanone	< 100	ug/L	200000		9/15/2018 02:12
Benzene	< 20.0	ug/L	500		9/15/2018 02:12
Carbon Tetrachloride	< 20.0	ug/L	500		9/15/2018 02:12
Chlorobenzene	< 20.0	ug/L	100000		9/15/2018 02:12
Chloroform	< 20.0	ug/L	6000		9/15/2018 02:12
Tetrachloroethene	< 20.0	ug/L	700		9/15/2018 02:12
Trichloroethene	< 20.0	ug/L	500		9/15/2018 02:12
Vinyl chloride	< 20.0	ug/L	200		9/15/2018 02:12

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F7-R1-Fl

Lab Sample ID: 184202-04A **Date Sampled:** 9/11/2018

Matrix: TCLP Extract **Date Received:** 9/12/2018

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	**115**	80.7 - 121		9/15/2018	02:12
4-Bromofluorobenzene	**82.3**	74.3 - 121		9/15/2018	02:12
Pentafluorobenzene	**95.2**	86.2 - 111		9/15/2018	02:12
Toluene-D8	**94.6**	86.2 - 112		9/15/2018	02:12

Method Reference(s): EPA 8260C
EPA 1311 / 5030C

Data File: x54210.D

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F7-R2-Fl		
Lab Sample ID:	184202-05	**Date Sampled:**	9/11/2018
Matrix:	Solid	**Date Received:**	9/12/2018

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.161	mg/Kg		9/13/2018 22:01
PCB-1221	< 0.161	mg/Kg		9/13/2018 22:01
PCB-1232	< 0.161	mg/Kg		9/13/2018 22:01
PCB-1242	< 0.161	mg/Kg		9/13/2018 22:01
PCB-1248	< 0.161	mg/Kg		9/13/2018 22:01
PCB-1254	**0.630**	mg/Kg		9/13/2018 22:01
PCB-1260	< 0.161	mg/Kg		9/13/2018 22:01
PCB-1262	< 0.161	mg/Kg		9/13/2018 22:01
PCB-1268	< 0.161	mg/Kg		9/13/2018 22:01

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl	**57.2**	23.4 - 108		9/13/2018 22:01
Tetrachloro-m-xylene	**45.9**	10 - 84		9/13/2018 22:01

Method Reference(s): EPA 8082A
EPA 3546

Preparation Date: 9/13/2018

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F7-R2-Fl		
Lab Sample ID:	184202-05A	**Date Sampled:**	9/11/2018
Matrix:	TCLP Extract	**Date Received:**	9/12/2018

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		9/16/2018 10:21
2,4,5-Trichlorophenol	< 80.0	ug/L	400000		9/16/2018 10:21
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		9/16/2018 10:21
2,4-Dinitrotoluene	< 40.0	ug/L	130		9/16/2018 10:21
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		9/16/2018 10:21
Hexachlorobenzene	< 40.0	ug/L	130		9/16/2018 10:21
Hexachlorobutadiene	< 40.0	ug/L	500		9/16/2018 10:21
Hexachloroethane	< 40.0	ug/L	3000		9/16/2018 10:21
Nitrobenzene	< 40.0	ug/L	2000		9/16/2018 10:21
Pentachlorophenol	< 80.0	ug/L	100000		9/16/2018 10:21
Pyridine	< 40.0	ug/L	5000		9/16/2018 10:21

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**94.2**	48.7 - 113		9/16/2018 10:21
2-Fluorobiphenyl	**73.2**	28.7 - 98.8		9/16/2018 10:21
2-Fluorophenol	**67.1**	10.5 - 105		9/16/2018 10:21
Nitrobenzene-d5	**69.2**	47.4 - 94.5		9/16/2018 10:21
Phenol-d5	**64.0**	10 - 101		9/16/2018 10:21
Terphenyl-d14	**85.3**	56.7 - 107		9/16/2018 10:21

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 9/14/2018
Data File: B31564.D

TCLP Mercury

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Mercury	< 0.00200	mg/L	0.2		9/18/2018 09:56

Method Reference(s): EPA 7470A
EPA 1311
Preparation Date: 9/17/2018
Data File: Hg180918A

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F7-R2-Fl
Lab Sample ID: 184202-05A **Date Sampled:** 9/11/2018
Matrix: TCLP Extract **Date Received:** 9/12/2018

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		9/18/2018 10:11
Barium	< 0.500	mg/L	100		9/18/2018 10:11
Cadmium	**0.158**	mg/L	1		9/18/2018 10:11
Chromium	< 0.500	mg/L	5		9/18/2018 10:11
Lead	< 0.500	mg/L	5		9/18/2018 10:11
Selenium	< 0.200	mg/L	1		9/18/2018 10:11
Silver	< 0.500	mg/L	5		9/18/2018 10:11

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 9/17/2018
Data File: 180918A

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		9/15/2018 02:35
1,2-Dichloroethane	< 20.0	ug/L	500		9/15/2018 02:35
2-Butanone	< 100	ug/L	200000		9/15/2018 02:35
Benzene	< 20.0	ug/L	500		9/15/2018 02:35
Carbon Tetrachloride	< 20.0	ug/L	500		9/15/2018 02:35
Chlorobenzene	< 20.0	ug/L	100000		9/15/2018 02:35
Chloroform	< 20.0	ug/L	6000		9/15/2018 02:35
Tetrachloroethene	< 20.0	ug/L	700		9/15/2018 02:35
Trichloroethene	< 20.0	ug/L	500		9/15/2018 02:35
Vinyl chloride	< 20.0	ug/L	200		9/15/2018 02:35

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F7-R2-Fl

Lab Sample ID: 184202-05A **Date Sampled:** 9/11/2018

Matrix: TCLP Extract **Date Received:** 9/12/2018

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	**114**	80.7 - 121		9/15/2018	02:35
4-Bromofluorobenzene	**86.7**	74.3 - 121		9/15/2018	02:35
Pentafluorobenzene	**94.1**	86.2 - 111		9/15/2018	02:35
Toluene-D8	**95.5**	86.2 - 112		9/15/2018	02:35

Method Reference(s): EPA 8260C
EPA 1311 / 5030C

Data File: x54211.D

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F7-R3-Fl		
Lab Sample ID:	184202-06	**Date Sampled:**	9/11/2018
Matrix:	Solid	**Date Received:**	9/12/2018

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.144	mg/Kg		9/13/2018 22:24
PCB-1221	< 0.144	mg/Kg		9/13/2018 22:24
PCB-1232	< 0.144	mg/Kg		9/13/2018 22:24
PCB-1242	< 0.144	mg/Kg		9/13/2018 22:24
PCB-1248	< 0.144	mg/Kg		9/13/2018 22:24
PCB-1254	< 0.144	mg/Kg		9/13/2018 22:24
PCB-1260	< 0.144	mg/Kg		9/13/2018 22:24
PCB-1262	< 0.144	mg/Kg		9/13/2018 22:24
PCB-1268	< 0.144	mg/Kg		9/13/2018 22:24

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl	**74.2**	23.4 - 108		9/13/2018 22:24
Tetrachloro-m-xylene	**40.4**	10 - 84		9/13/2018 22:24

Method Reference(s): EPA 8082A
EPA 3546

Preparation Date: 9/13/2018

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F7-R3-Fl		
Lab Sample ID:	184202-06A	**Date Sampled:**	9/11/2018
Matrix:	TCLP Extract	**Date Received:**	9/12/2018

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		9/16/2018 10:51
2,4,5-Trichlorophenol	< 80.0	ug/L	400000		9/16/2018 10:51
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		9/16/2018 10:51
2,4-Dinitrotoluene	< 40.0	ug/L	130		9/16/2018 10:51
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		9/16/2018 10:51
Hexachlorobenzene	< 40.0	ug/L	130		9/16/2018 10:51
Hexachlorobutadiene	< 40.0	ug/L	500		9/16/2018 10:51
Hexachloroethane	< 40.0	ug/L	3000		9/16/2018 10:51
Nitrobenzene	< 40.0	ug/L	2000		9/16/2018 10:51
Pentachlorophenol	< 80.0	ug/L	100000		9/16/2018 10:51
Pyridine	< 40.0	ug/L	5000		9/16/2018 10:51

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**85.2**	48.7 - 113		9/16/2018 10:51
2-Fluorobiphenyl	**68.5**	28.7 - 98.8		9/16/2018 10:51
2-Fluorophenol	**68.8**	10.5 - 105		9/16/2018 10:51
Nitrobenzene-d5	**76.6**	47.4 - 94.5		9/16/2018 10:51
Phenol-d5	**62.9**	10 - 101		9/16/2018 10:51
Terphenyl-d14	**83.0**	56.7 - 107		9/16/2018 10:51

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 9/14/2018
Data File: B31565.D

TCLP Mercury

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Mercury	< 0.00200	mg/L	0.2		9/18/2018 10:05

Method Reference(s): EPA 7470A
EPA 1311
Preparation Date: 9/17/2018
Data File: Hg180918A

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F7-R3-Fl
Lab Sample ID: 184202-06A **Date Sampled:** 9/11/2018
Matrix: TCLP Extract **Date Received:** 9/12/2018

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		9/18/2018 10:16
Barium	< 0.500	mg/L	100		9/18/2018 10:16
Cadmium	< 0.0250	mg/L	1		9/18/2018 10:16
Chromium	< 0.500	mg/L	5		9/18/2018 10:16
Lead	< 0.500	mg/L	5		9/18/2018 10:16
Selenium	< 0.200	mg/L	1		9/18/2018 10:16
Silver	< 0.500	mg/L	5		9/18/2018 10:16

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 9/17/2018
Data File: 180918A

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		9/15/2018 02:59
1,2-Dichloroethane	< 20.0	ug/L	500		9/15/2018 02:59
2-Butanone	< 100	ug/L	200000		9/15/2018 02:59
Benzene	< 20.0	ug/L	500		9/15/2018 02:59
Carbon Tetrachloride	< 20.0	ug/L	500		9/15/2018 02:59
Chlorobenzene	< 20.0	ug/L	100000		9/15/2018 02:59
Chloroform	< 20.0	ug/L	6000		9/15/2018 02:59
Tetrachloroethene	< 20.0	ug/L	700		9/15/2018 02:59
Trichloroethene	< 20.0	ug/L	500		9/15/2018 02:59
Vinyl chloride	< 20.0	ug/L	200		9/15/2018 02:59

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F7-R3-Fl

Lab Sample ID: 184202-06A **Date Sampled:** 9/11/2018

Matrix: TCLP Extract **Date Received:** 9/12/2018

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	**115**	80.7 - 121		9/15/2018	02:59
4-Bromofluorobenzene	**82.6**	74.3 - 121		9/15/2018	02:59
Pentafluorobenzene	**92.7**	86.2 - 111		9/15/2018	02:59
Toluene-D8	**94.3**	86.2 - 112		9/15/2018	02:59

Method Reference(s): EPA 8260C
EPA 1311 / 5030C

Data File: x54212.D

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F7-R4-Fl
Lab Sample ID: 184202-07 **Date Sampled:** 9/11/2018
Matrix: Solid **Date Received:** 9/12/2018

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.166	mg/Kg		9/13/2018 22:47
PCB-1221	< 0.166	mg/Kg		9/13/2018 22:47
PCB-1232	< 0.166	mg/Kg		9/13/2018 22:47
PCB-1242	< 0.166	mg/Kg		9/13/2018 22:47
PCB-1248	< 0.166	mg/Kg		9/13/2018 22:47
PCB-1254	< 0.166	mg/Kg		9/13/2018 22:47
PCB-1260	< 0.166	mg/Kg		9/13/2018 22:47
PCB-1262	< 0.166	mg/Kg		9/13/2018 22:47
PCB-1268	< 0.166	mg/Kg		9/13/2018 22:47

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl	**74.6**	23.4 - 108		9/13/2018 22:47
Tetrachloro-m-xylene	**46.7**	10 - 84		9/13/2018 22:47

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 9/13/2018

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F7-R4-Fl		
Lab Sample ID:	184202-07A	**Date Sampled:**	9/11/2018
Matrix:	TCLP Extract	**Date Received:**	9/12/2018

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		9/16/2018 11:20
2,4,5-Trichlorophenol	< 80.0	ug/L	400000		9/16/2018 11:20
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		9/16/2018 11:20
2,4-Dinitrotoluene	< 40.0	ug/L	130		9/16/2018 11:20
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		9/16/2018 11:20
Hexachlorobenzene	< 40.0	ug/L	130		9/16/2018 11:20
Hexachlorobutadiene	< 40.0	ug/L	500		9/16/2018 11:20
Hexachloroethane	< 40.0	ug/L	3000		9/16/2018 11:20
Nitrobenzene	< 40.0	ug/L	2000		9/16/2018 11:20
Pentachlorophenol	< 80.0	ug/L	100000		9/16/2018 11:20
Pyridine	< 40.0	ug/L	5000		9/16/2018 11:20

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**94.4**	48.7 - 113		9/16/2018 11:20
2-Fluorobiphenyl	**81.7**	28.7 - 98.8		9/16/2018 11:20
2-Fluorophenol	**76.5**	10.5 - 105		9/16/2018 11:20
Nitrobenzene-d5	**75.4**	47.4 - 94.5		9/16/2018 11:20
Phenol-d5	**68.6**	10 - 101		9/16/2018 11:20
Terphenyl-d14	**83.0**	56.7 - 107		9/16/2018 11:20

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 9/14/2018
Data File: B31566.D

TCLP Mercury

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Mercury	< 0.00200	mg/L	0.2		9/18/2018 10:07

Method Reference(s): EPA 7470A
EPA 1311
Preparation Date: 9/17/2018
Data File: Hg180918A

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F7-R4-Fl
Lab Sample ID: 184202-07A **Date Sampled:** 9/11/2018
Matrix: TCLP Extract **Date Received:** 9/12/2018

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		9/18/2018 10:20
Barium	< 0.500	mg/L	100		9/18/2018 10:20
Cadmium	< 0.0250	mg/L	1		9/18/2018 10:20
Chromium	< 0.500	mg/L	5		9/18/2018 10:20
Lead	< 0.500	mg/L	5		9/18/2018 10:20
Selenium	< 0.200	mg/L	1		9/18/2018 10:20
Silver	< 0.500	mg/L	5		9/18/2018 10:20

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 9/17/2018
Data File: 180918A

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		9/15/2018 03:22
1,2-Dichloroethane	< 20.0	ug/L	500		9/15/2018 03:22
2-Butanone	< 100	ug/L	200000		9/15/2018 03:22
Benzene	< 20.0	ug/L	500		9/15/2018 03:22
Carbon Tetrachloride	< 20.0	ug/L	500		9/15/2018 03:22
Chlorobenzene	< 20.0	ug/L	100000		9/15/2018 03:22
Chloroform	< 20.0	ug/L	6000		9/15/2018 03:22
Tetrachloroethene	< 20.0	ug/L	700		9/15/2018 03:22
Trichloroethene	< 20.0	ug/L	500		9/15/2018 03:22
Vinyl chloride	< 20.0	ug/L	200		9/15/2018 03:22

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F7-R4-Fl

Lab Sample ID: 184202-07A **Date Sampled:** 9/11/2018

Matrix: TCLP Extract **Date Received:** 9/12/2018

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	**126**	80.7 - 121	*	9/15/2018	03:22
4-Bromofluorobenzene	**84.5**	74.3 - 121		9/15/2018	03:22
Pentafluorobenzene	**97.9**	86.2 - 111		9/15/2018	03:22
Toluene-D8	**97.6**	86.2 - 112		9/15/2018	03:22

Method Reference(s): EPA 8260C
EPA 1311 / 5030C

Data File: x54213.D

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F7-R5-Fl
Lab Sample ID: 184202-08 **Date Sampled:** 9/11/2018
Matrix: Solid **Date Received:** 9/12/2018

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.147	mg/Kg		9/13/2018 23:10
PCB-1221	< 0.147	mg/Kg		9/13/2018 23:10
PCB-1232	< 0.147	mg/Kg		9/13/2018 23:10
PCB-1242	< 0.147	mg/Kg		9/13/2018 23:10
PCB-1248	< 0.147	mg/Kg		9/13/2018 23:10
PCB-1254	< 0.147	mg/Kg		9/13/2018 23:10
PCB-1260	< 0.147	mg/Kg		9/13/2018 23:10
PCB-1262	< 0.147	mg/Kg		9/13/2018 23:10
PCB-1268	< 0.147	mg/Kg		9/13/2018 23:10

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl	**65.0**	23.4 - 108		9/13/2018 23:10
Tetrachloro-m-xylene	**65.8**	10 - 84		9/13/2018 23:10

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 9/13/2018

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F7-R5-Fl		
Lab Sample ID:	184202-08A	**Date Sampled:**	9/11/2018
Matrix:	TCLP Extract	**Date Received:**	9/12/2018

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		9/17/2018 21:37
2,4,5-Trichlorophenol	< 80.0	ug/L	400000		9/17/2018 21:37
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		9/17/2018 21:37
2,4-Dinitrotoluene	< 40.0	ug/L	130		9/17/2018 21:37
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		9/17/2018 21:37
Hexachlorobenzene	< 40.0	ug/L	130		9/17/2018 21:37
Hexachlorobutadiene	< 40.0	ug/L	500		9/17/2018 21:37
Hexachloroethane	< 40.0	ug/L	3000		9/17/2018 21:37
Nitrobenzene	< 40.0	ug/L	2000		9/17/2018 21:37
Pentachlorophenol	< 80.0	ug/L	100000		9/17/2018 21:37
Pyridine	< 40.0	ug/L	5000		9/17/2018 21:37

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**98.9**	48.7 - 113		9/17/2018 21:37
2-Fluorobiphenyl	**87.7**	28.7 - 98.8		9/17/2018 21:37
2-Fluorophenol	**83.3**	10.5 - 105		9/17/2018 21:37
Nitrobenzene-d5	**83.5**	47.4 - 94.5		9/17/2018 21:37
Phenol-d5	**69.0**	10 - 101		9/17/2018 21:37
Terphenyl-d14	**103**	56.7 - 107		9/17/2018 21:37

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 9/17/2018
Data File: B31604.D

TCLP Mercury

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Mercury	< 0.00200	mg/L	0.2		9/18/2018 10:10

Method Reference(s): EPA 7470A
EPA 1311
Preparation Date: 9/17/2018
Data File: Hg180918A

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F7-R5-Fl
Lab Sample ID: 184202-08A **Date Sampled:** 9/11/2018
Matrix: TCLP Extract **Date Received:** 9/12/2018

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		9/18/2018 10:33
Barium	< 0.500	mg/L	100		9/18/2018 10:33
Cadmium	**3.36**	mg/L	1		9/18/2018 10:33
Chromium	< 0.500	mg/L	5		9/18/2018 10:33
Lead	< 0.500	mg/L	5		9/18/2018 10:33
Selenium	< 0.200	mg/L	1		9/18/2018 10:33
Silver	< 0.500	mg/L	5		9/18/2018 10:33

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 9/17/2018
Data File: 180918A

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		9/17/2018 16:30
1,2-Dichloroethane	< 20.0	ug/L	500		9/17/2018 16:30
2-Butanone	< 100	ug/L	200000		9/17/2018 16:30
Benzene	< 20.0	ug/L	500		9/17/2018 16:30
Carbon Tetrachloride	< 20.0	ug/L	500		9/17/2018 16:30
Chlorobenzene	< 20.0	ug/L	100000		9/17/2018 16:30
Chloroform	< 20.0	ug/L	6000		9/17/2018 16:30
Tetrachloroethene	< 20.0	ug/L	700		9/17/2018 16:30
Trichloroethene	< 20.0	ug/L	500		9/17/2018 16:30
Vinyl chloride	< 20.0	ug/L	200		9/17/2018 16:30

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F7-R5-Fl

Lab Sample ID: 184202-08A **Date Sampled:** 9/11/2018

Matrix: TCLP Extract **Date Received:** 9/12/2018

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	**120**	80.7 - 121		9/17/2018	16:30
4-Bromofluorobenzene	**83.4**	74.3 - 121		9/17/2018	16:30
Pentafluorobenzene	**89.8**	86.2 - 111		9/17/2018	16:30
Toluene-D8	**94.2**	86.2 - 112		9/17/2018	16:30

Method Reference(s): EPA 8260C
EPA 1311 / 5030C

Data File: x54228.D

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F7-R6-Fl		
Lab Sample ID:	184202-09	**Date Sampled:**	9/11/2018
Matrix:	Solid	**Date Received:**	9/12/2018

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.154	mg/Kg		9/13/2018 23:33
PCB-1221	< 0.154	mg/Kg		9/13/2018 23:33
PCB-1232	< 0.154	mg/Kg		9/13/2018 23:33
PCB-1242	< 0.154	mg/Kg		9/13/2018 23:33
PCB-1248	< 0.154	mg/Kg		9/13/2018 23:33
PCB-1254	< 0.154	mg/Kg		9/13/2018 23:33
PCB-1260	< 0.154	mg/Kg		9/13/2018 23:33
PCB-1262	< 0.154	mg/Kg		9/13/2018 23:33
PCB-1268	< 0.154	mg/Kg		9/13/2018 23:33

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl	**84.5**	23.4 - 108		9/13/2018 23:33
Tetrachloro-m-xylene	**47.6**	10 - 84		9/13/2018 23:33

Method Reference(s): EPA 8082A
EPA 3546

Preparation Date: 9/13/2018

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F7-R6-Fl		
Lab Sample ID:	184202-09A	**Date Sampled:**	9/11/2018
Matrix:	TCLP Extract	**Date Received:**	9/12/2018

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		9/17/2018 22:07
2,4,5-Trichlorophenol	< 80.0	ug/L	400000		9/17/2018 22:07
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		9/17/2018 22:07
2,4-Dinitrotoluene	< 40.0	ug/L	130		9/17/2018 22:07
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		9/17/2018 22:07
Hexachlorobenzene	< 40.0	ug/L	130		9/17/2018 22:07
Hexachlorobutadiene	< 40.0	ug/L	500		9/17/2018 22:07
Hexachloroethane	< 40.0	ug/L	3000		9/17/2018 22:07
Nitrobenzene	< 40.0	ug/L	2000		9/17/2018 22:07
Pentachlorophenol	< 80.0	ug/L	100000		9/17/2018 22:07
Pyridine	< 40.0	ug/L	5000		9/17/2018 22:07

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**85.7**	48.7 - 113		9/17/2018 22:07
2-Fluorobiphenyl	**70.3**	28.7 - 98.8		9/17/2018 22:07
2-Fluorophenol	**101**	10.5 - 105		9/17/2018 22:07
Nitrobenzene-d5	**87.8**	47.4 - 94.5		9/17/2018 22:07
Phenol-d5	**94.4**	10 - 101		9/17/2018 22:07
Terphenyl-d14	**81.9**	56.7 - 107		9/17/2018 22:07

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 9/17/2018
Data File: B31605.D

TCLP Mercury

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Mercury	< 0.00200	mg/L	0.2		9/18/2018 10:13

Method Reference(s): EPA 7470A
EPA 1311
Preparation Date: 9/17/2018
Data File: Hg180918A

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F7-R6-Fl
Lab Sample ID: 184202-09A **Date Sampled:** 9/11/2018
Matrix: TCLP Extract **Date Received:** 9/12/2018

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		9/18/2018 08:59
Barium	< 0.500	mg/L	100		9/18/2018 08:59
Cadmium	< 0.0250	mg/L	1		9/18/2018 08:59
Chromium	< 0.500	mg/L	5		9/18/2018 08:59
Lead	< 0.500	mg/L	5		9/18/2018 08:59
Selenium	< 0.200	mg/L	1		9/18/2018 08:59
Silver	< 0.500	mg/L	5		9/18/2018 08:59

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 9/17/2018
Data File: 180918A

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		9/17/2018 16:54
1,2-Dichloroethane	< 20.0	ug/L	500		9/17/2018 16:54
2-Butanone	< 100	ug/L	200000		9/17/2018 16:54
Benzene	< 20.0	ug/L	500		9/17/2018 16:54
Carbon Tetrachloride	< 20.0	ug/L	500		9/17/2018 16:54
Chlorobenzene	< 20.0	ug/L	100000		9/17/2018 16:54
Chloroform	< 20.0	ug/L	6000		9/17/2018 16:54
Tetrachloroethene	< 20.0	ug/L	700		9/17/2018 16:54
Trichloroethene	< 20.0	ug/L	500		9/17/2018 16:54
Vinyl chloride	< 20.0	ug/L	200		9/17/2018 16:54

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184202

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier: B3F7-R6-Fl

Lab Sample ID: 184202-09A **Date Sampled:** 9/11/2018

Matrix: TCLP Extract **Date Received:** 9/12/2018

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	**129**	80.7 - 121	*	9/17/2018	16:54
4-Bromofluorobenzene	**86.0**	74.3 - 121		9/17/2018	16:54
Pentafluorobenzene	**91.4**	86.2 - 111		9/17/2018	16:54
Toluene-D8	**94.2**	86.2 - 112		9/17/2018	16:54

Method Reference(s): EPA 8260C
EPA 1311 / 5030C

Data File: x54229.D

Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.
"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
"(1)" = Indicates data from primary column used for QC calculation.
"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.
"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.

GENERAL TERMS AND CONDITIONS
LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, tern or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

Warranty. Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

Scope and Compensation. LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB wi use LAB default method for all tests unless specified otherwise on the Work Order.
Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

Prices. Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

Limitations of Liability. In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.
LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

Hazard Disclosure. Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

Sample Handling. Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

Legal Responsibility. LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

Assignment. LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

Force Majeure. LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

Law. This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

PARADIGM ENVIRONMENTAL SERVICES, INC
179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

REPORT TO:		INVOICE TO:		LAB PROJECT ID
CLIENT:	BE3 Corp/Panamerican	CLIENT:	Same	184202
ADDRESS:	1270 Niagara St	ADDRESS:		Quotation #:
CITY:	Buffalo STATE: NY ZIP 14092	CITY: STATE: ZIP:		Email: Alex Brennan abrennan@be3corp.com
PHONE:	716-249-6880	PHONE:		Jason Brydges
ATTN:	jbrydges@be3corp.com	ATTN:	pgorton@be3corp.com	

PROJECT REFERENCE: Main + Hertel

Matrix Codes:
AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

REQUESTED ANALYSIS

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	Full TCLP	TCLP VOA	TCLP SVOA	TCLP Metal	PCB	CPL 4/2/18 12:23	REMARKS	PARADIGM LAB SAMPLE NUMBER
9/11/18		X	-	B3F1 - Wd	SD	1	X	X	X	X	X		OL 10W VOA 1 per 9/12/18 AB gp	01A
				B3F1 - Br										02A
				B3F1 - Blk										03A
				B3F1 - R1 - FI										04A
				B3F1 - R2 - FI										05A
				B3F1 - R3 - FI										06A
				B3F1 - R4 - FI										07A
				B3F1 - R5 - FI										08A
				B3F1 - R6 - FI										09A

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	X	None Required	☐	None Required	☐
10 day	☐	Batch QC	☐	Basic EDD	X
Rush 3 day	☐	Category A	☐	NYSDEC EDD	☐
Rush 2 day	☐	Category B	☐		
Rush 1 day	☐				
Other please indicate date needed:	☐	Other please indicate package needed:	☐	Other EDD please indicate EDD needed :	☐

Alex Brennan — Sampled By — 9/11/18 1230 — Date/Time

Relinquished By — 9/11/18 — Date/Time

James Steiner — Received By — 9/11/18 3:25 — Date/Time

Received @ Lab By — 9/12/18 14:17 — Date/Time

18°C 9/12/18 11:26

Total Cost:

P.I.F.

By signing this form, client agrees to Paradigm Terms and Conditions (reverse).

See additional page for sample conditions.

Chain of Custody Supplement

Client: BE3 **Completed by:** Glenn Pezzulo

Lab Project ID: 184202 **Date:** 9/12/18

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt: Yes	No	N/A
Container Type	X		
Comments			
Transferred to method-compliant container			X
Headspace (<1 mL)			X
Comments			
Preservation			X
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature		X	X metals
Comments	18°C		
Sufficient Sample Quantity	X	X 01-TCLP	
Comments		OK to proceed per client	

PARADIGM

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report For

BE3

For Lab Project ID

184336

Referencing

Main & Hertel

Prepared

Thursday, September 20, 2018

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184336

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	B3F2-WB		
Lab Sample ID:	184336-01	**Date Sampled:**	9/4/2018
Matrix:	Paint	**Date Received:**	9/5/2018

Lead

Analyte	Result	Units	Qualifier	Date Analyzed
Lead	**22.0**	%		9/18/2018 19:02

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 9/17/2018
Data File: 180918C

Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

Each page of this document is part of a multipage report. This document may not be reproduced except in its entirety, without the prior consent of Paradigm Environmental Services, Inc.

All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.
"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
"(1)" = Indicates data from primary column used for QC calculation.
"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.
"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.

GENERAL TERMS AND CONDITIONS
LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, tern or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

Warranty. Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

Scope and Compensation. LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB wi use LAB default method for all tests unless specified otherwise on the Work Order.
Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

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LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

Hazard Disclosure. Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

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Legal Responsibility. LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

Assignment. LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

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Law. This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

Relog 184336 1 of 2

PARADIGM ENVIRONMENTAL SERVICES, INC.

REPORT TO:		INVOICE TO:		LAB PROJECT ID
CLIENT:	BE3 Corp / Panamerican	CLIENT:	Same	184047
ADDRESS:	1270 Niagara St	ADDRESS:		Quotation #:
CITY: Buffalo	STATE: NY ZIP 14213	CITY:	STATE: ZIP:	
PHONE:	716 249 6880	PHONE:		Email: abrennen@ pgorton@ jbrydges@ BE3Corp.com
ATTN:	abrennen@be3corp.com	ATTN:	pgorton@be3corp.com	

PROJECT REFERENCE

Main + Hertel

Matrix Codes:

AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

REQUESTED ANALYSIS

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	TCLP	TCLP VOC	TCLP SVOC	TCLP Metals	PCB	REMARKS	PARADIGM LAB SAMPLE NUMBER
9/4/18		X		B4 - F1 W	SD	1	X	X	X	X	X	A for TCLP extract.	01A
				B4 - F1 E				X	X	X	X	GP 9/6/18	02A
				B4 - Br				X	X	X	X		03A
				B4 - Blk				X	X	X	X		04A
				B4 - CC				X	X	X	X		05A
				B3F2 - F1 1				X	X	X	X		06A
				B3F2 - F1 2				X	X	X	X		07A
				B3F2 - F1 3				X	X	X	X		08A
				B3F2 - WB				X	X	X	X	per JB test paint scraped from sample for lead SJ 9/20/18	09A
				B3F2 - Blk				X	X	X	X		10A
				B3F2 - Br									11A

01

Turnaround Time		Report Supplements		
Availability contingent upon lab approval; additional fees may apply.				
9/5/18 Due 9/12 Standard 5 day per JH/GP	X	None Required	X	None Required
10 day		Batch QC		Basic EDD
Rush 3 day		Category A		NYSDEC EDD
Rush 2 day		Category B		
Rush 1 day				
Other please indicate date needed:		Other please indicate package needed:		Other EDD please indicate EDD needed :

Alex Brennen — Sampled By — 9/4/18 Date/Time

Relinquished By — 9/5/18 Date/Time

Received By — 9/6/18 Date/Time

Received @ Lab By — 9/5/18 13:39 Date/Time (GP 9/5/18)

Total Cost:

P.I.F.

5°C iced 9/5/18 12:41

By signing this form, client agrees to Paradigm Terms and Conditions (reverse).

See additional page for sample conditions.

Chain of Custody Supplement

Client: BE3 **Completed by:** Glenn Pezzulo

Lab Project ID: 184047 **Date:** 9/10/18

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt: Yes	No	N/A	
Container Type	X			
Comments				
Transferred to method-compliant container			X	
Headspace (<1 mL)			X	
Comments				
Preservation			X	
Comments				
Chlorine Absent (<0.10 ppm per test strip)			X	
Comments				
Holding Time	X			
Comments				
Temperature	X		X	metals
Comments	5°C iced			
Sufficient Sample Quantity	X			
Comments				

PARADIGM

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report For

BE3

For Lab Project ID

184337

Referencing

Main & Hertel

Prepared

Friday, September 21, 2018

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184337

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	Bldg 3 Wood		
Lab Sample ID:	184337-01	**Date Sampled:**	9/19/2018
Matrix:	TCLP Extract	**Date Received:**	9/20/2018

TCLP Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Lead	**35.6**	mg/L	5		9/21/2018 13:14

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 9/21/2018
Data File: 180921A

Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

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Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
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"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.
"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
"(1)" = Indicates data from primary column used for QC calculation.
"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.
"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.

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LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

Hazard Disclosure. Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

Sample Handling. Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

Legal Responsibility. LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

Assignment. LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

Force Majeure. LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

Law. This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

1 of 2

CHAIN OF CUSTODY

PARADIGM ENVIRONMENTAL SERVICES, INC

REPORT TO:		INVOICE TO:		LAB PROJECT ID
CLIENT:	BE3	CLIENT:		184337
ADDRESS:	1270 NIAGARA ST	ADDRESS:		
CITY:	BUFFALO STATE: NY ZIP: 14213	CITY:	SAME STATE: ZIP:	Quotation #:
PHONE:	716 830 8636	PHONE:		Email:
ATTN:	Jason Bergges	ATTN:		

PROJECT REFERENCE

MAIN + HERTEL

Matrix Codes:

AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

REQUESTED ANALYSIS

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	X TCLP LEAD	REMARKS	PARADIGM LAB SAMPLE NUMBER
9-19-18	10:30 AM	✓		BLDG 3 WOOD	SD	1	X		01

Turnaround Time		Report Supplements		
Availability contingent upon lab approval; additional fees may apply.				
Standard 5 day	☐	None Required	☐	None Required ☐
10 day	☐	Batch QC	☐	Basic EDD ☐
Rush 3 day	☐	Category A	☐	NYSDEC EDD ☐
Rush 2 day	☒	Category B	☐	
Rush 1 day	☐			
Other	☐	Other	☐	Other EDD ☐
please indicate date needed:		please indicate package needed:		please indicate EDD needed :
AS Quick AS Possible				

Vinny Sowdy	9-19-18	Total Cost:
Sampled By	Date/Time	
	9-19-18	
Relinquished By	Date/Time	
	9-19-18 1:30 pm	
Received By	Date/Time	P.I.F.
	9/20/18 13:19	
Received @ Lab By	Date/Time	

6°C iced 9/20/18 13:16

By signing this form, client agrees to Paradigm Terms and Conditions (reverse).

See additional page for sample conditions.

Chain of Custody Supplement

Client: BE3 **Completed by:** Glenn Pezzulo

Lab Project ID: 184337 **Date:** 9/20/18

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt: Yes	No	N/A
Container Type	X		
Comments			
Transferred to method-compliant container			X
Headspace (<1 mL)			X
Comments			
Preservation			X
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature			X
Comments	6°C iced		
Sufficient Sample Quantity	X		
Comments			

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184630

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	Room 1 - 2nd Floor Walls		
Lab Sample ID:	184630-01	**Date Sampled:**	10/3/2018
Matrix:	TCLP Extract	**Date Received:**	10/8/2018

TCLP Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Lead	< 0.500	mg/L	5		10/9/2018 13:33

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 10/9/2018
Data File: 181009A

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

Report Prepared Tuesday, October 9, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184630

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	Room 5 - 1st Floor Joists		
Lab Sample ID:	184630-02	**Date Sampled:**	10/3/2018
Matrix:	TCLP Extract	**Date Received:**	10/8/2018

TCLP Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Lead	< 0.500	mg/L	5		10/9/2018 13:37

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 10/9/2018
Data File: 181009A

Report Prepared Tuesday, October 9, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184630

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	Room 1 - 2nd Floor Columns		
Lab Sample ID:	184630-03	**Date Sampled:**	10/3/2018
Matrix:	TCLP Extract	**Date Received:**	10/8/2018

TCLP Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Lead	< 0.500	mg/L	5		10/9/2018 13:41

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 10/9/2018
Data File: 181009A

Report Prepared Tuesday, October 9, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184630

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	Room 2 - 1st Floor Walls / C1		
Lab Sample ID:	184630-04	**Date Sampled:**	10/4/2018
Matrix:	TCLP Extract	**Date Received:**	10/8/2018

TCLP Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Lead	< 0.500	mg/L	5		10/9/2018 13:46

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 10/9/2018
Data File: 181009A

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Report Prepared Tuesday, October 9, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184630

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	Room 2 - 1st Floor Floor / C3		
Lab Sample ID:	184630-05	**Date Sampled:**	10/4/2018
Matrix:	TCLP Extract	**Date Received:**	10/8/2018

TCLP Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Lead	< 0.500	mg/L	5		10/9/2018 13:50

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 10/9/2018
Data File: 181009A

Report Prepared Tuesday, October 9, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184630

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	Room 5 - 1st Floor Walls / A		
Lab Sample ID:	184630-06	**Date Sampled:**	10/4/2018
Matrix:	TCLP Extract	**Date Received:**	10/8/2018

TCLP Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Lead	**0.355**	mg/L	5	J	10/9/2018 13:54

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 10/9/2018
Data File: 181009A

Report Prepared Tuesday, October 9, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184630

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	Room 3 - 2nd Floor Walls / D		
Lab Sample ID:	184630-07	**Date Sampled:**	10/4/2018
Matrix:	TCLP Extract	**Date Received:**	10/8/2018

TCLP Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Lead	< 0.500	mg/L	5		10/9/2018 13:59

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 10/9/2018
Data File: 181009A

Report Prepared Tuesday, October 9, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184630

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	I - Windows		
Lab Sample ID:	184630-08	**Date Sampled:**	10/4/2018
Matrix:	TCLP Extract	**Date Received:**	10/8/2018

TCLP Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Lead	**1.56**	mg/L	5		10/9/2018 14:11

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 10/9/2018
Data File: 181009A

Report Prepared Tuesday, October 9, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184630

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	Room 1 - 1st Floor Joists / B		
Lab Sample ID:	184630-09	**Date Sampled:**	10/4/2018
Matrix:	TCLP Extract	**Date Received:**	10/8/2018

TCLP Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Lead	< 0.500	mg/L	5		10/9/2018 14:16

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 10/9/2018
Data File: 181009A

Report Prepared Tuesday, October 9, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184630

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	Room 1 - 2nd Floor Joists / G		
Lab Sample ID:	184630-10	**Date Sampled:**	10/4/2018
Matrix:	TCLP Extract	**Date Received:**	10/8/2018

TCLP Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Lead	< 0.500	mg/L	5		10/9/2018 14:20

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 10/9/2018
Data File: 181009A

Report Prepared Tuesday, October 9, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184630

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	Room 4 - 1st Floor Roof / H		
Lab Sample ID:	184630-11	**Date Sampled:**	10/4/2018
Matrix:	TCLP Extract	**Date Received:**	10/8/2018

TCLP Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Lead	< 0.500	mg/L	5		10/9/2018 14:24

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 10/9/2018
Data File: 181009A

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Report Prepared Tuesday, October 9, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184630

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	Room 2 - 1st Floor Joists / C2		
Lab Sample ID:	184630-12	**Date Sampled:**	10/4/2018
Matrix:	TCLP Extract	**Date Received:**	10/8/2018

TCLP Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Lead	< 0.500	mg/L	5		10/9/2018 14:29

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 10/9/2018
Data File: 181009A

Report Prepared Tuesday, October 9, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184630

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	Room 3 - 2nd Floor Walls / E		
Lab Sample ID:	184630-13	**Date Sampled:**	10/4/2018
Matrix:	TCLP Extract	**Date Received:**	10/8/2018

TCLP Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Lead	< 0.500	mg/L	5		10/9/2018 14:33

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 10/9/2018
Data File: 181009A

Report Prepared Tuesday, October 9, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 184630

Client: **BE3**

Project Reference: Main & Hertel

Sample Identifier:	Room 3 - 2nd Floor Joists / F		
Lab Sample ID:	184630-14	**Date Sampled:**	10/4/2018
Matrix:	TCLP Extract	**Date Received:**	10/8/2018

TCLP Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Lead	**87.8**	mg/L	5	M	10/9/2018 14:37

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 10/9/2018
Data File: 181009A

Report Prepared Tuesday, October 9, 2018

Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

Each page of this document is part of a multipage report. This document may not be reproduced except in its entirety, without the prior consent of Paradigm Environmental Services, Inc.

All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.
"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
"(1)" = Indicates data from primary column used for QC calculation.
"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.
"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.

GENERAL TERMS AND CONDITIONS
LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, term or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

Warranty. Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

Scope and Compensation. LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB wi use LAB default method for all tests unless specified otherwise on the Work Order.
Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

Prices. Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

Limitations of Liability. In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.
LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

Hazard Disclosure. Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

Sample Handling. Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on the final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

Legal Responsibility. LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

Assignment. LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

Force Majeure. LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

Law. This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

1 of 3

CHAIN OF CUSTODY

PARADIGM ENVIRONMENTAL SERVICES, INC

REPORT TO:		INVOICE TO:		
CLIENT:	BE3	CLIENT:		LAB PROJECT ID: 184630
ADDRESS:	1270 NIAGARA ST	ADDRESS:		
CITY: BUFFALO STATE: NY ZIP: 14213		CITY: SAME STATE: ZIP:		Quotation #:
PHONE:	716 830 8636	PHONE:		Email:
ATTN:	JASON BRYDGES	ATTN:		

PROJECT REFERENCE: Main + Hertel

Matrix Codes:
AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

per JB GP 10/8/18

REQUESTED ANALYSIS

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	TCLP LEAD	REMARKS	PARADIGM LAB SAMPLE NUMBER
10-3-18			X	Room 1 - 2nd Floor Walls	SD	1	X		01
10-3-18				Room 5 - 1st Floor Joists					02
10-3-18				Room 1 - 2nd Floor Columns					03
10-4-18				Room 2 - 1st Floor Walls / C1					04
				Room 2 - 1st Floor Floor / C3					05
				Room 5 - 1st Floor Walls / A					06
				Room 3 - 2nd Floor Walls / D					07
				I - Windows					08
				Room 1 - 1st Floor Joists / B				OK/low vol - JH - JD	09
				Room 1 - 2nd Floor Joists / G				10/8/18 1455	10

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	☐	None Required	☐	None Required	☐
10 day	☐	Batch QC	☐	Basic EDD	☐
Rush 3 day	☐	Category A	☐	NYSDEC EDD	☐
Rush 2 day	☐	Category B	☒		
Rush 1 day	☒				
Other OR ASAP.	☐	Other	☐	Other EDD	☐
please indicate date needed:		please indicate package needed:		please indicate EDD needed :	

Vinny Sawdy	10-4-18 / 10-3-18	Total Cost:
Sampled By	Date/Time	
ERIC WENDLING	10-4-18	
Relinquished By	Date/Time	
James Steiner / Jason Brydges	10/5/18 405 / 10-5-18	
Received By	Date/Time	P.I.F.
JR	10/8/18 15:02	
Received @ Lab By	Date/Time	

14 °C iced 10/8/18 14:47. No Custody Seal GP 10/8/18

By signing this form, client agrees to Paradigm Terms and Conditions (reverse).

See additional page for sample conditions.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

2 of 3

CHAIN OF CUSTODY

PARADIGM ENVIRONMENTAL SERVICES, INC

REPORT TO:				INVOICE TO:				LAB PROJECT ID
CLIENT:	BE3			CLIENT:				184630
ADDRESS:	1270 NIAGARA ST			ADDRESS:				Quotation #:
CITY:	BUFFALO	STATE: NY	ZIP 14213	CITY:	SAME	STATE:	ZIP:	Email:
PHONE:	716 830 8636			PHONE:				
ATTN:	JASON BRIDGES			ATTN:				

PROJECT REFERENCE

Matrix Codes:
AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

REQUESTED ANALYSIS

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	TCLP LEAD										REMARKS	PARADIGM LAB SAMPLE NUMBER
10-4-18			X	ROOM 4 - 1ST FLOOR ROOF / H	SD	1	X											11
				ROOM 2 - 1ST FLOOR JOISTS / C2														12
				ROOM 3 - 2ND FLOOR WALLS / E														13
				ROOM 3 - 2ND FLOOR JOISTS / F														14

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	☐	None Required	☐	None Required	☐
10 day	☐	Batch QC	☐	Basic EDD	☐
Rush 3 day	☐	Category A	☐	NYSDEC EDD	☐
Rush 2 day	☐	Category B	☒		
Rush 1 day	☒				
Other ORASAP	☐	Other	☐	Other EDD	☐
please indicate date needed:		please indicate package needed:		please indicate EDD needed :	

Sampled By: VINNY SOWDY	Date/Time: 10-4-18	Total Cost:
Relinquished By: ERIC WENDLING	Date/Time: 10-4-18	
Received By: James Stevens / JASON BRIDGES	Date/Time: 10-5-18 405 / 10-5-18	P.I.F.
Received @ Lab By:	Date/Time: 10/8/18 15:02	

By signing this form, client agrees to Paradigm Terms and Conditions (reverse).

See additional page for sample conditions.

Chain of Custody Supplement

Client: BE3 **Completed by:** Glenn Pezzulo

Lab Project ID: 184630 **Date:** 10/8/18

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	*NELAC compliance with the sample condition requirements upon receipt* Yes	No	N/A
Container Type	X		
Comments			
Transferred to method-compliant container			X
Headspace (<1 mL)			X
Comments			
Preservation			X
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature			X
Comments	14°C iced 10/8/18 15:02		
Sufficient Sample Quantity		X	
Comments	ok to proceed per JH.		