Site Management Plan

Main and East Balcom Street Site
BCP Site No. C915306
Buffalo, New York

December 2019 0239-016-001

Prepared For:

1665 Main Street Group, LLC

Prepared By:

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

In Association With:

TURNKEY ENVIRONMENTAL RESTORATION, LLC

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BROWNFIELD CLEANUP PROGRAM

SITE MANAGEMENT PLAN

MAIN & EAST BALCOM STREET SITE
SITE NUMBER: C915306
BUFFALO, NEW YORK

December 2019 0239-016-001

Prepared for:

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Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date

SITE MANAGEMENT PLAN
MAIN & EAST BALCOM STREET SITE

Certification Statement

I, Thomas H. Forbes, certify that I am currently a NYS registered professional engineer as defined in 6 NYCRR Part 375 and that this December 2019 Site Management Plan for the Main & East Balcom Street Site (C915306) was prepared in general accordance with the applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

_____ P.E.

12-17-19 DATE

SEAL:

SITE MANAGEMENT PLAN
MAIN & EAST BALCOM STREET SITE
BCP No. C915306

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SITE MANAGEMENT PLAN
MAIN &EAST BALCOM STREET SITE
BCP No. C915306

List of Acronyms

AS	Air Sparging
ASP	Analytical Services Protocol
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CAMP	Community Air Monitoring Plan
C/D	Construction and Demolition
CFR	Code of Federal Regulation
CLP	Contract Laboratory Program
COC	Certificate of Completion
CO2	Carbon Dioxide
CP	Commissioner Policy
DER	Division of Environmental Remediation
EC	Engineering Control
ECL	Environmental Conservation Law
ELAP	Environmental Laboratory Approval Program
ERP	Environmental Restoration Program
EWP	Excavation Work Plan
FOP	Field Operating Procedure
GHG	Green House Gas
GWE&T	Groundwater Extraction and Treatment
HASP	Health and Safety Plan
IC	Institutional Control
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCRR	New York Codes, Rules, and Regulations
O&M	Operations and Maintenance
OM&M	Operation, Maintenance and Monitoring
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PID	Photoionization Detector
PRP	Potentially Responsible Party
PRR	Periodic Review Report
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study

List of Acronyms

ROD	Record of Decision
RP	Remedial Party
RSO	Remedial System Optimization
SAC	State Assistance Contract
SCG	Standards, Criteria, and Guidelines
SCO	Soil Cleanup Objective
SMP	Soil Management Plan
SOP	Standard Operating Procedures
SOW	Statement of Work
SPDES	State Pollutant Discharge Elimination System
SSD	Sub-slab Depressurization
SVE	Soil Vapor Extraction
SVI	Soil Vapor Intrusion
SVMS	Soil Vapor Mitigation System
TAL	Target Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristic Leachate Procedure
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank

EXECUTIVE SUMMARY

The following provides a brief summary of the controls implemented for the Site, as well as the inspections, monitoring, maintenance and reporting activities required by this Site Management Plan:

Site Identification: Main & East Balcom Street Site – C915306

Institutional Controls:	1. The property may be used for restricted residential, commercial, and industrial use as described in 6 NYCRR Part 375-1.8(g), although land is subject to local zoning laws;
	2. All ECs must be inspected at a frequency and in a manner defined in the SMP.
	3. The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Erie County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department.
	4. Compliance with the Department approved Site Management Plan and Periodic Review Reporting is required.
	5. The remedial party or site owner is required to complete and submit a periodic certification of institutional and engineering controls to the Department in accordance with 6NYCRR Part 375-1.8(h)(3).
Engineering Controls:	1. A site cover has been placed over the site in all areas exceeding applicable SCOs. The cover is either a hardscape (asphalt and concrete, building) and/or a minimum of 24-inches of depth of material meeting the requirements as set forth in 6NYCRR Part 375-6.7(d) for restricted residential use.

Inspections:	Frequency
1. Cover Inspection	Annually
Monitoring:	
1. Groundwater Monitoring	Semi-Annually
Reporting:	
1. Groundwater Data	Annually
2. Cover System Site Inspection	Annually
3. Periodic Review Report	Annually

Further descriptions of the above requirements are provided in detail in the latter sections of this Site Management Plan.

1.0 INTRODUCTION

This Site Management Plan (SMP) is a required element of the remedial program for the Main & East Balcom Street Site located in Buffalo, New York (hereinafter referred to as the "Site"). The Site is currently in the New York State (NYS) Brownfield Cleanup Program (BCP) administered by New York State Department of Environmental Conservation (NYSDEC). The Site was remediated in accordance with Brownfield Cleanup Agreement (BCA) Index# C915306-08-16, which was executed on October 21, 2016. A BCA Amendment was submitted to the Department to detail the combination of the six (6) individual parcels into a single tax parcel for redevelopment purposes. The BCA amendment was approved August 28, 2017.

1.1 General

1665 Main Street Group, LLC entered into a Brownfield Cleanup Agreement (BCA) with the NYSDEC to investigate and remediate the Site. A figure showing the site location and boundaries of this site are provided in Figure 1 and Figure 2. The boundaries of the Site are more fully described in the metes and bounds site description that is part of the Environmental Easement provided in Appendix A.

After completion of the remedial work, some contamination was left at this Site, which is hereafter referred to as "remaining contamination." Institutional and Engineering Controls (ICs and ECs) have been incorporated into the Site remedy to control exposure to remaining contamination to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC, and recorded with the Erie County Clerk, requires compliance with this SMP and all ECs and ICs placed on the Site.

This SMP was prepared by Benchmark Environmental Engineering & Science, PLLC in association with Turnkey Environmental Restoration, LLC, to manage remaining contamination at the Site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Environmental Easement and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

It is important to note that:

- This SMP details the Site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the Environmental Easement, which is grounds for revocation of the Certificate of Completion (COC);
- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the BCA, (Index #C915306-08-16; Site #C915306) for the Site, and thereby subject to applicable penalties.

All reports associated with the Site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

This SMP was prepared by Benchmark Environmental Engineering & Science, PLLC, in association with Turnkey Environmental Restoration, LLC, on behalf of 1665 Main Street Group, LLC, in accordance with the requirements of the NYSDEC's DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated May 2010, and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the ICs and/or ECs that are required by the Environmental Easement for the Site.

1.2 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. Revisions will be necessary upon, but not limited to, the following occurring: a change in media monitoring requirements, upgrades to or shut-down of a remedial system, post-remedial removal of contaminated sediment or soil, or other significant change to the Site conditions. In accordance with the Environmental Easement for the Site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.3 Notifications

Notifications will be submitted by the property owner to the NYSDEC, as needed, in accordance with NYSDEC's DER – 10 for the following reasons:

- 60-day advance notice of any proposed changes in Site use that are required under the terms of the BCA, 6NYCRR Part 375 and/or Environmental Conservation Law.
- 7-day advance notice of any field activity associated with the remedial program.
- 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan.
- Notice within 48-hours of any damage or defect to the foundation, structures, or EC that reduces or has the potential to reduce the effectiveness of an EC, and likewise, any action to be taken to mitigate the damage or defect.
- Verbal notice by noon of the following day of any emergency, such as a fire; flood; or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the Site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

The owner of the Site parcel at the time of issuance of this SMP is:

1665 Main Street Group, LLC
617 Main Street, Suite 350
Buffalo, New York 14203

Any change in the ownership of the Site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser/Remedial Party has been provided with a copy of the BCA, and all approved work plans and reports, including this SMP.
- Within 15 days after the transfer of all or part of the Site, the new owner's name, contact representative, and contact information will be confirmed in writing to the NYSDEC.

Table 1 (below) includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of Site-related contact information is provided in Appendix C.

Table 1: Notifications*

Name	Contact Information
NYSDEC Project Manager Mr. David Locey	716-851-7220 david.locey@dec.ny.gov
NYSDEC Regional HW Engineer Mr. Chad Staniszewski, P.E.	716-851-7220 Chad.staniszewski@dec.ny.gov
NYSDEC Site Control Ms. Kelly Lewandowski, P.E.	518-402-9543 Kelly.lewandowski@dec.ny.gov
NYSDOH Public Health Specialist Ms. Renata Ockerby	518-402-7860 beei@health.ny.gov

* Note: Notifications are subject to change and will be updated as necessary.

2.0 SUMMARY OF PREVIOUS INVESTIGATION & REMEDIAL ACTIONS

2.1 Site Location and Description

The site is located in the City of Buffalo, Erie County, New York and is identified as S.B.L 100.24-4-14.1 on the Erie County Tax Map

The approximate 1-acre site is bounded by East Balcom Street to the north, commercial use (bus garage) to the south, residential and vacant use to the east, and Main Street to the west (see Figure 2). The boundaries of the Site are more fully described in Appendix A – Environmental Easement.

2.2 Physical Setting

2.2.1 Land Use

The Site is currently improved with a six (6) story building located along Main Street and East Balcom Street with the remainder of the site covered by asphalt parking, concrete and grass-landscaped areasThe Site is zoned mixed use commercial and residential and is currently in the process of redevelopment.

The properties adjoining the Site and, in the neighborhood surrounding the Site, are primarily commercial and residential properties. The properties immediately south, north, and west of the Site include commercial properties and the properties immediately east of the Site include residential properties.

2.2.2 Geology

The U.S. Department of Agriculture Soil Conservation Service soil survey map of Erie County characterized the general soil type at the Site as Urban Land (Ud) with level to gently sloping land with at least 60 percent of the soil surface covered by the existing building, asphalt, concrete, and other impervious structures typical of an urban environment. The presence of overburden fill material is widespread and common throughout the City of Buffalo.

The geology at the Site was investigated during the Remedial Investigation (RI). The shallow overburden is generally described as fill with varying amount of brick, block, concrete,

wood, cinders and ash, with sandy lean clay and fine sands. Fill ranged in depth from surface to eleven (11) feet below ground surface (fbgs). Site specific boring logs are provided in Appendix D.

Based on the bedrock geologic map of Erie County, the Site is situated over the Onondaga Formation of the Middle Devonian Series. The Onondaga Formation is comprised of a varying texture from coarse to very fine crystalline with a dark gray to tan color and chert and fossils within. The unit has an approximate thickness of 110 to 160 feet. Structurally, the bedrock formations strike in an east-west direction and exhibit a regional dip that approximates 40 feet per mile (0.4 degrees) toward the south and southwest. Bedrock was not encountered during RI drilling activities.

2.2.3 Hydrogeology

Based on the findings of the RI, perched and overburden water was encountered at depths ranging from 12 to 15 fbgs. In general, localized groundwater flow direction is estimated to flow north towards Scajaquada Creek. Figure 3 depicts the estimated groundwater isopotential map based on the water level measurements collected in August 2019 gauging event. Based on the collected well installation and water level measurements the estimated horizontal hydraulic gradient was calculated average of 0.0047 ft/ft.

A groundwater contour map, including groundwater elevation data, is shown on Figure 3. Groundwater monitoring well construction logs are provided in Appendix D.

2.3 Investigation History

The following narrative provides an investigation history timeline and a brief summary of the available project records to document key investigative milestones for the Site. Full titles for each of the reports referenced below are provided in Section 8.0 - References.

2.3.1 Phase I Environmental Site Assessment – January 2015

TurnKey completed a Phase I Environmental Site Assessment (ESA) for the Site, dated January 2015. TurnKey's review of historical sources revealed that the Site had a history of

residential and commercial uses/development. The following recognized environmental conditions (RECs) and other concerns were identified:

- A 1,000-gallon fuel oil aboveground storage tank (AST) was located in the basement boiler room of the existing building. Petroleum odors and staining were noted on the exterior and beneath the tank (petro-stained wood chips present surrounding the tank within concrete enclosure). Filling and vent lines were present in the basement.
- Suspect vent and filling pipes were located next to a man-door along E. Balcom Street. It should be noted that only two (2) lines were identified in the basement related to boiler AST, likely indicating additional tank(s) present on-Site.
- City of Buffalo Building Department and Fire Prevention office records indicated the presence of at least one (1) and potentially up to three (3) USTs, and at least one (1) fuel dispenser on-Site.
- The Site (American Household Storage Company) was identified as a RCRA generator of hazardous waste.
- Multiple NYSDEC Spill files are associated with the Site, including:
  - Spill No. 0802415, involving underground storage tanks (1655 Main St.), is classified as "closed" by the NYSDEC.
  - Spill No. 9702110, involving a diesel fuel release, is classified as "closed" by the NYSDEC.
  - Spill No. 9975698, involving a battery acid release, is classified as "closed" by the NYSDEC.

2.3.2 Limited Phase II Environmental Investigation Report – April 2015

TurnKey completed a Limited Phase II Environmental Investigation on the 1661 Main Street Site. Findings of the Limited Phase II investigation are detailed below:

- A total of seven (7) soil borings (SBs) were completed across the Site, including two (2), identified as SB-1 and SB-2, completed in the basement boiler room, and five (5), identified as SB-3 through SB-7 in the exterior parking lot along E. Balcom.
- Multiple SBs, designated collectively as SB-8, were advanced along the southeast portion of the E. Balcom parking lot, adjacent to the vent/fill lines. Boring refusal was encountered at approximately 2-3 fbgs at each location, likely indicating the

presence of an additional UST. Investigation activities were limited by the presence of a utility (natural gas) line, the existing building, and property boundaries.

- Field observations of apparent petroleum contamination, including elevated PID readings (390 ppm) and petroleum odors were noted in the basement SBs.
- Based on the presence of the fuel oil tank in the basement, suspect UST along E Balcom, and the presence of petroleum impacts the NYSDEC Spill hotline was notified and Spill No. 1500185 was issued for the Site.

2.3.3 Supplemental Phase II Environmental Investigation Report – January 2016

TurnKey completed a Supplemental Phase II Environmental Investigation on the Main & East Balcom Street Site. Findings of the Supplemental Phase II investigation are detailed below:

- One (1) 5,000-gallon UST was discovered in the East Balcom parking lot. Additional assessment of the tank was limited by the presence of subgrade utilities along the sides of the tank, the building, and the property boundary. Investigation of the former fuel pump was limited due to vehicle(s) restricting access.
- Field observations of apparent petroleum contamination, including elevated PID readings and petroleum odors were noted in the TP locations.
- Elevated metals, including arsenic, cadmium, chromium, lead, and mercury, some exceeding CSCOs, were detected across the Site. Elevated metals are likely associated with fill that was identified Site-wide from surface to 10 fbgs.
- Additional investigation and/or remediation will be required to address NYSDEC Spill No. 1500185.

2.3.4 BCP Remedial Investigation

A RI was completed at the Site in accordance with the approved RI-IRM-AA Work Plan (May 2017). The purpose of the RI was to more fully define the nature and extent of contamination on the BCP Site, and to collect data of sufficient quantity and quality to perform the remedial alternatives evaluation. On-Site field activities included surface and subsurface soil sampling, groundwater sampling, and sub-slab vapor/ambient air sampling (see Figure 4).

Based on the results of the previous investigations and the RI, it was determined that remediation of the Site was necessary. A RI/IRM/AAR was prepared to provide a summary of the investigations and complete an assessment of remedial alternatives beyond the Interim Remedial Measures (IRMs) capable of achieving the Remedial Action Objectives (RAOs) for the Site as identified in the approved Decisions Document (DD). Results of the RI are provided below.

Summary of RI Findings by Media

Near Surface Soil

- Select individual PAHs were detected above RRSCOs at one location (NS-4), with total PAHs of less than 100 ppm.
- Certain metals and PCBs were detected above USCOs, however, none of the concentrations exceeded RRSCOs.
- No pesticides or herbicides were detected above USOCs in the near-surface soil-fill samples.

Subsurface Soil

- No VOCs, SVOCs, PCBs, metals, pesticides or herbicides were detected above RRSCOs. Certain metals were detected above their respective USCOs.
- No analytical results above USCOs were detected from the deeper native soil samples.
- It should be noted that RI soil samples aimed to characterize different fill horizon than the previous investigations, which identified elevated PAHs and metals associated with on-Site fill material.
- Nuisance petroleum odors and elevated PID readings ranging from 56-105 ppm were detected in TP-14.

Groundwater

- No SVOCs, PCBs, or herbicides were detected above their respective GWQS. Certain naturally-occurring metals and two (2) pesticides were detected slightly above GWQS.

- Acetone, benzene and certain cVOCs were detected above their respective GWQS at MW-4, and one (1) cVOC slightly exceeded its GWQS at MW-5.
- Trichloroethene was detected above its respective GWQS at MW-3.
- It should be noted that no cVOCs were detected above USCOs in on-Site soils (RI and IRM) or above laboratory detection limits for SVI air sample results.

Indoor Air and Subslab Vapor

- Based on the preliminary SVI sampling results, the vast majority of detected air constituents were reported by the laboratory as non-detect or estimated values below the laboratory quantitation limit.
- Based on the NYSDOH SVI Guidance Matrices A-C comparisons, air results indicate "No Further Action (NFA)".
- A confirmatory SVI assessment will be completed once the existing building's basement and first-floor renovations are complete, in accordance with the NYSDOH guidance.

2.4 Remedial History

Based on the findings of the RI-IRM-AAR, as described above, remedial activities were completed in accordance with the Department approved Remedial Action Work Plan (August 2019). Details of the completed remedial activities are presented below, and more fully documented in the FER.

2.4.1 Exterior UST and Pump Island IRM Activities

2.4.1.1 Exterior UST Removal IRM Activities

UST removal IRM field activities were completed between July 17th and July 18th, 2017, and the associated UST petroleum impacted soil/fill removal was completed between October 24th and October 25th, 2017. The exterior UST IRM activities included:

- Excavation, cleaning and removal of one (1) 5,000-gallon steel UST and appurtenant lines.

- Approximately 239 gallons of non-hazardous residuals were transported off-Site by North American Industrial Services (NAIS) (9A-324) for disposal at American Recyclers located in Tonawanda, New York.
- After cleaning, the UST and appurtenant lines were transported off-Site by RE Lorenz (9A-799) for recycling as scrap at Niagara Metals, located in Lancaster, New York.
- Supplemental test pits were completed after removal of the UST to delineate the associated petroleum impacts. Approximately 264 tons of non-hazardous petroleum impacted soil/fill was excavated to a depth of 15-16 fbgs and transported off-Site by RE Lorenz (9A-799) for disposal at Waste Management's (WM) Chaffee Landfill, located in Chaffee, New York.
- Collection of seven (7) post-excavation confirmatory soil/fill samples from the UST Area, including six (6) sidewall samples and one (1) bottom sample. All post-excavation samples results are below USCOs (see Figure 5 and Table 2).
- After field screening and confirmatory post-excavation samples indicated that the remedial excavation was complete, the area was backfilled using NYSDEC pre-approved stone from a virgin-source quarry, in accordance with DER-10 requirements.
- A NYSDEC PBS Closure Form was prepared to register the tank as closed-removed. Documentation is provided in Appendix E.

2.4.1.2 Former Pump Island IRM Activities

On October 25th, 2017, an additional test pit, TP-19, was excavated southeast of the building loading dock to assess potential petroleum impacts related to a suspect former pump island. Petroleum-impacted soil-fill was identified at approximately 7-10 fbgs, with elevated PID readings (165-200 ppm), black stained soil and odors discovered. The former pump island IRM activities included:

- Approximately 90 tons of non-hazardous petroleum impacted soil/fill was excavated to a depth of approximately 12-15 fbgs and transported off-Site by RE Lorenz (9A-799) for disposal at WM's Chaffee Landfill.
- Collection of five (5) post-excavation confirmatory soil/fill samples from the former pump island area, including four (4) sidewall samples and one (1) bottom sample. All post-excavation samples results are below USCOs (see Figure 5 and Table 2).
- After field screening and confirmatory post-excavation samples indicated that the remedial excavation was complete, the area was backfilled using NYSDEC pre-

approved stone from a virgin-source quarry, in accordance with DER-10 requirements.

2.4.2 Basement AST IRM Activities

Basement AST IRM activities were completed between October 17th and October 20th, 2017. The basement AST IRM activities included:

- Cleaning and removal of (1) 1,000-gallon AST and appurtenant lines by NAIS.
- Approximately 330 gallons of non-hazardous AST cleaning residuals were transported off-Site by NAIS (9A-324) for disposal at American Recyclers located in Tonawanda, New York.
- After cleaning, the AST and appurtenant lines were transported off-Site by RE Lorenz (9A-799) for recycling as scrap at Niagara Metals, located in Lancaster, New York.
- After removal of the basement AST, five (5) soil borings were advanced in the vicinity of the former AST location to assess soil/fill beneath the concrete slab. Post-removal subslab confirmatory soil sample results were all below RRSCOs (see Figure 6 and Table 3).
- A NYSDEC PBS Closure Form was prepared to register the tank as closed-removed. Documentation is provided in Appendix E.

2.4.3 Supplemental Groundwater Assessment

To further assess low-level VOC contamination at MW-4 a supplemental groundwater assessment was completed in accordance with the approved RAWP. One (1) additional groundwater monitoring well, identified as MW-6, was installed upgradient of MW-4 (see Figure 3). After installation and development was complete, groundwater samples were collected and submitted to the laboratory for analysis of TCL plus CP-51 List VOCs.

No elevated VOC concentrations exceeding GWQS were detected in MW-6, with low-level detections slightly exceeding GWQS detected in MW-4 and MW-3R (see Table 1). Based on the groundwater elevation data collected during the supplemental assessment, indicating a flat to north east groundwater flow direction, it is likely that the low-level groundwater concentrations present at MW-4 is related to an offsite source (potential back hallowing from subgrade utilities along E. Balcom St.) and not an on-Site source.

2.4.4 TP-14 Petroleum Excavation Activities

Between August 12-20th, 2019, a total of 421 tons of petroleum impacted soil/fill was excavated and transported offsite by RE Lorenz (9A-799) for disposal at WM Chaffee Landfill, located in Chaffee New York.

Confirmatory post-excavation soil samples were collected from the sidewalls and bottom of the excavation with the majority of PID readings below 1 ppm, and one location of 7 ppm. All post-excavation results were below RRSCOs (see Table 4 and Figure 7).

2.4.5 TP-3 Metals Excavation Activities

Between August 20-23rd, 2019, a total of 1,229 tons of non-hazardous metals impacted soil/fill was excavated and transported offsite by RE Lorenz (9A-799) for disposal at WM's Chaffee Landfill, located in Chaffee New York.

Confirmatory post-excavation soil samples were collected from the sidewalls and bottom of the excavation. All post-excavation results were below RRSCOs (see Table 4 and Figure 7).

2.4.6 NS-4 Surface PAHs Excavation Activities

On August 27th, 2019, a total of 138 tons of non-hazardous PAH impacted soil/fill was excavated and transported offsite by RE Lorenz (9A-799) for disposal at WM's Chaffe Landfill, located in Chaffee New York

All post-excavation results were below RRSCOs (see Table 4 and Figure 7).

2.4.7 RA-1 – Black Stained Excavation Activities

During excavation activities for TP-3, an area of subgrade black staining not previously identified during investigation activities was encountered. In consultation with the Department, it was determined that the material would be excavated and disposed offsite. Samples of the black stained soil/fill were collected, and results detected elevated PAHs, and metals. A total of 115 tons of non-hazardous soil/fill was excavated and transported offsite by RE Lorenz (9A-799) for disposal at WM's Chaffee Landfill, located in Chaffee, New York.

All post-excavation results were below RRSCOs (see Table 5 and Figure 7).

2.4.8 Cover System Construction - Excavated Soil/Fill

During the construction of the cover system, including hardscape and soil cover areas, approximately 1,191 tons of shallow soil/fill required excavation and transportation offsite by RE Lorenz (9A-799) to WM's Chaffee Landfill to allow for construction of the hardscape cover elements and the 24-inch minimum approved soil-stone cover system areas.

On the Main Street area, approximately 316 tons of soil/fill were excavated and disposed for construction of the parking lot and concrete covered areas (8-12 inches depth per the civil design drawings); and 276 tons were removed for construction of the 24-inch minimum thickness soil cover system.

On the East Balcom area, approximately 475 tons of soil/fill were excavated and disposed for construction of the parking lot and concrete covered areas (8-12 inches depth per the design drawings); and 124 tons were removed for construction of the 24-inch minimum thickness soil cover system.

2.4.9 Excess On-Site Excavated Soil/Fill

Approximately 326 tons of non-hazardous soil/fill excavated during the redevelopment activities (subgrade utilities and site grading activities) that was not able to be reused on-Site beneath the cover system was excavated and transported offsite by RE Lorenz (9A-799) to WM's Chaffee Landfill.

2.4.10 Additional Offsite (23 E Balcom Parking Lot) Excavated Soil/Fill

Approximately 266 tons of non-hazardous soil/fill was excavated from the off-Site 23 E Balcom Street parcel during construction of the parking lot. Though not included in the BCP Site, the Volunteer elected to handle the fill material in the same manner as the on-Site material. Excess fill material was excavated and transported to WM Chaffee landfill for disposal.

2.5 Remedial Action Objectives

The Remedial Action Objectives (RAOs) for the Site as listed in the Decision Document dated October 19, 2018 are as follows:

Groundwater:

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.

Soil:

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

2.6 Remaining Contamination

The Main & East Balcom Street Site was remediated to address petroleum, metals, and PAH impacted soil/fill to achieve a Track 4 Restricted Residential Use Cleanup, which is consistent with the intended use of the Site.

Residual contamination remaining at the Site is summarized below. Figure 8 identifies soil/fill sample locations that exceed USCOs and RRSCOs after completion of the remedial measures.

2.6.1 Soil/Fill

Residual contamination remaining in on-Site soil/fill above USCOs and RRSCOs, includes certain PAHs and metals located beneath the NYSDEC approved cover system. Areas that are excavated and disturbed during redevelopment activities will have a minimum of 24-inches of approved cover material above a demarcation layer in accordance with 6NYCRR Part 375 (see Figure 10 and Figure 10A). Table 6 summarizes the remaining on-Site soil/fill sample locations with constituents above USCOs and RRSCOs. Potential

exposure to the remaining constituents above regulatory guidelines is mitigated due to the depth of the remaining contamination after the completion of the remedial excavation, depth to on-Site groundwater, and the placement of a cover system. Areas requiring additional excavation and disposal are summarized below.

2.6.2 Groundwater

RI and Supplemental results identified acetone, benzene and certain chlorinated VOCs, certain naturally occurring metals, and two pesticides detected above their respective GWQS (see Table 7).

Depth to water ranged from 11 to 17 fbgs in monitoring wells on-Site. Due to the depth of contamination and the placement of a cover system, potential exposure to the remaining contamination is highly unlikely.

Table 7 and Figure 9 summarize the results of all samples of groundwater that exceed the GWQS after completion of the remedial action.

2.6.3 Indoor Air and Subslab Vapor

Preliminary Soil Vapor Intrusion (SVI) sampling was completed within the existing building after completion of the IRMs described above. Co-located subslab and basement indoor air samples were collected proximate to the AST and UST locations, an indoor air sample was collected on the 1st floor, and an ambient outdoor air sample was collected. Based on comparison of the laboratory air results to the NYSDOH Matrices A-C, all results indicated "No Further Action (NFA)" (see Tables 8 and 8A).

A confirmatory SVI assessment will be completed once the existing building's basement and first-floor renovations are complete within the 2019-2020 heating season, in accordance with the NYSDOH guidelines.

3.0 INSTITUTIONAL & ENGINEERING CONTROL PLAN

3.1 General

Since remaining contamination exists at the site, Institutional Controls (ICs) and Engineering Controls (ECs) are required to protect human health and the environment. This IC/EC Plan describes the procedures for the implementation and management of all IC/ECs at the site. The IC/EC Plan is one component of the SMP and is subject to revision by the NYSDEC.

This plan provides:

- A description of all IC/ECs on the site;
- The basic implementation and intended role of each IC/EC;
- A description of the key components of the ICs set forth in the Environmental Easement;
- A description of the controls to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of IC/ECs, such as the implementation of the Excavation Work Plan (EWP) (as provided in Appendix F) for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the site; and
- Any other provisions necessary to identify or establish methods for implementing the IC/ECs required by the site remedy, as determined by the NYSDEC.

3.2 Institutional Controls

A series of ICs is required by the Decision Document to: (1) maintain and monitor the Site; (2) prevent future exposure to remaining contamination; and, (3) limit the use and development of the site to restricted residential uses only. Adherence to these ICs on the site is required by the Environmental Easement and will be implemented under this SMP. ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement. The boundaries of the Site are shown on Figure 2. These ICs are:

- Allows the use and development of the controlled property for restricted residential uses as defined by Part 375-1.8(g), although land use us subject to local zoning laws;
- Requires compliance with the Department approved SMP;
- Restricts the use of groundwater underlying the Site as a source of potable water, without necessary water quality treatment as determined by the NYSDOH or the Erie County DOH;
- Groundwater monitoring must be performed as defined in the SMP;
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;
- Operation maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP;
- Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement.

3.3 Engineering Controls

3.3.1 Cover System

Exposure to remaining contamination at the Main & East Balcom Street Site is prevented by a cover system placed over the site. This cover system is comprised of a minimum of 24-inches of DER-10 compliant soil/stone material over a demarcation layer and hardscape elements of the redevelopment, including asphalt, concrete-, and buildings. Figure 10 and 10A present the cover system layout and applicable cover system details. Construction drawings, prepared by others, related to the hardscape elements of the redevelopment are provided electronically in Appendix G for reference.

The Excavation Work Plan (EWP) provided in Appendix F outlines the procedures required to be implemented in the event the cover system is breached, penetrated, or temporarily removed, and any underlying remaining contamination is disturbed. Procedures

for the inspection of this cover are provided in the Monitoring and Sampling Plan included in Section 4.0 of this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and associated Community Air Monitoring Plan (CAMP) prepared for the site and provided in Appendix H.

3.3.2 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.4 of NYSDEC DER-10.

3.3.2.1 Cover System

The cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in accordance with this SMP.

4.0 MONITORING AND SAMPLING PLAN

4.1 General

This Monitoring and Sampling Plan describes the measures for evaluating the overall performance and effectiveness of the remedy. This Monitoring and Sampling Plan may only be revised with the approval of the NYSDEC. Details regarding the sampling procedures, data quality usability objectives, analytical methods, etc. for all samples collected as part of the Site management for the Site are included in the Quality Assurance Project Plan provided in Appendix I.

This Monitoring and Sampling Plan describes the methods to be used for:

- Monitoring the performance and effectiveness of the site cover;
- A schedule of monitoring and frequency of submittals to the Department.
- Sampling and analysis of groundwater;
- Assessing compliance with applicable NYSDEC standards, criteria and guidance (SCGs) particularly groundwater standards and soil vapor; and
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment;

To adequately address these issues, this Monitoring and Sampling Plan provides information on:

- Sampling locations, protocol and frequency;
- Analytical sampling program requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and
- Annual inspection and periodic certification

Reporting requirements are provided in Section 7.0 of this SMP.

4.2 Site-Wide Inspection

Site-wide inspections will be performed at a minimum of once per year (annually), or at a lesser frequency as approved by the Department. Modification to the frequency or duration of the inspections will require approval from the NYSDEC. Site-wide inspections will also be performed after all severe weather conditions that may affect ECs or monitoring devices. During these inspections, an inspection form will be completed as provided in Appendix J – Site Management Forms. The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection;
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection; and
- Confirm that site records are up to date.

Inspections of all remedial components installed at the site will be conducted. A comprehensive site-wide inspection will be conducted and documented according to the SMP schedule, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether ECs continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria; and
- If site records are complete and up to date; and

Reporting requirements are outlined in Section 7.0 of this plan.

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the site, verbal notice to the NYSDEC

must be given by noon of the following day. In addition, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the IC/ECs implemented at the site by a qualified environmental professional, as determined by the NYSDEC. Written confirmation must be provided to the NYSDEC within 7 days of the event that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

4.3 Post-Remediation Monitoring and Sampling

Samples shall be collected from the groundwater monitoring wells on a routine basis. Sampling locations, required analytical parameters and schedule are provided in Table 9 – Groundwater Sampling Requirements and Schedule below. Modification to the frequency or sampling requirements will require approval from the NYSDEC.

Table 9 – Groundwater Sampling Requirements and Schedule

Sampling Location	Schedule	
	VOCs (EPA Method 8260)	
MW-1	X	Semi-Annual
MW-2	X	
MW-3	X	
MW-4	X	
MW-5	X	
MW-6	X	

Detailed sample collection and analytical procedures and protocols are provided in Appendix I – Quality Assurance Project Plan.

4.3.1 Groundwater Sampling

Groundwater monitoring will be performed semi-annually to assess the performance of the remedy. Modification to the frequency or sampling requirements will require approval from the NYSDEC.

The network of monitoring wells has been installed to monitor on-site groundwater conditions at the site. The network of on-site wells has been designed based on the following criteria:

Six (6) groundwater monitoring wells identified as MW-1 through MW-6 have been installed on-Site to assess groundwater flow direction and groundwater quality. Wells have been developed and sampled in accordance with Benchmark-TurnKey and NYSDEC protocols.

Table 10 summarizes the wells identification number, as well as the purpose, location, depths, diameter and screened intervals of the wells. As part of the groundwater monitoring, 6 on-site wells are sampled to evaluate the effectiveness of the remedial system.

Table 10 – Monitoring Well Construction Details

Monitoring Well ID	Well Location	Coordinates (longitude/ latitude)	Well Diameter (inches)	Elevation[1]			
				Casing	Surface	Screen Top	Screen Bottom
MW-1	On-Site	42.9177° N, 78.8617° W	2	54.89	55.20	39.79	34.79
MW-2	On-Site	42.9179° N, 78.8615° W	2	55.68	56.01	39.22	34.22
MW-3R	On-Site	42.9179° N, 78.8605° W	2	57.22	57.64	41.92	36.92
MW-4	On-Site	42.9181° N, 78.8609° W	2	55.97	56.33	40.76	35.76
MW-5	On-Site	42.9177° N, 78.8608° W	2	57.70	58.15	42.40	37.40
MW-6	On-Site	42.9180° N, 78.8610° W	2	56.71	56.24	41.11	36.11

Note: All elevations are feet relative to the rim elevation 56.45 feet of the sanitary manhole located in the center of East Balcom Street, established by others.

Groundwater monitoring wells were completed with the advancement of a hollow stem auger to install 2-inch inside diameter PVC Sch 40 pipe to a target minimum of five (5) feet below the first encountered groundwater or a target maximum of 25 fbgs. Each well has a 5-foot flush-joint Sch 40 PVC, 0.010-inch machine slotted well screen and a silica sand filter pack (size #0) is installed from the base of each well to a minimum of two (2) feet above the top of the screen. A bentonite chip seal is installed to mitigate downhole contamination and the wells are finished with keyed-alike locks, a lockable J-plug, and a steel flush-mounted road box. Figure 3 illustrates the monitoring well network, groundwater depths, and calculated groundwater flow. Monitoring well construction logs are included in Appendix D of this document.

If biofouling or silt accumulation occurs in the on-site and/or off-site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced, if an event renders the wells unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC will be notified prior to any repair or decommissioning of any monitoring well for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent Periodic Review Report. Well decommissioning without replacement will be done only with the prior approval of the NYSDEC. Well abandonment will be performed in accordance with NYSDEC's guidance entitled "CP-43: Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be replaced in kind in the nearest available location, unless otherwise approved by the NYSDEC.

The sampling frequency may only be modified with the approval of the NYSDEC. This SMP will be modified to reflect changes in sampling plans approved by the NYSDEC.

Deliverables for the groundwater monitoring program are specified in Section 7.0 – Reporting Requirements.

4.3.2 Groundwater Monitoring and Sampling Protocol

All sampling activities will be recorded in a field book and/or associated sampling log as provided in Appendix J - Site Management Forms. Other observations (e.g., groundwater

monitoring well integrity, etc.) will be noted on the sampling log. The sampling log will serve as the inspection form for the monitoring network. Additional detail regarding monitoring and sampling protocols are provided in the site-specific QAPP as Appendix I of this document.

5.0 OPERATION & MAINTENANCE PLAN

5.1 General

The site remedy does not rely on any mechanical systems to protect public health and the environment. Therefore, the operation and maintenance of such components is not included in this SMP.

6.0 PERIODIC ASSESSMENTS/EVALUATIONS

6.1 Climate Change Vulnerability Assessment

Increases in both the severity and frequency of storms/weather events, an increase in sea level elevations along with accompanying flooding impacts, shifting precipitation patterns and wide temperature fluctuation, resulting from global climactic change and instability, have the potential to significantly impact the performance, effectiveness and protectiveness of a given site and associated remedial systems. Vulnerability assessments provide information so that the site and associated remedial systems are prepared for the impacts of the increasing frequency and intensity of severe storms/weather events and associated flooding.

The subject site is considered to have low vulnerability related to climatic conditions. There are no State or Federal wetlands or floodplains located on the Site. The site will not employ any remedial systems reliant upon electrical power; the site is serviced by municipal sewer system (storm and sanitary). As such, acute cover system erosion resultant in potential exposure to remaining contamination, a minimum of 24-inches below surface, is highly unlikely.

6.2 Green Remediation Evaluation

NYSDEC's DER-31 Green Remediation requires that green remediation concepts and techniques be considered during all stages of the remedial program including site management, with the goal of improving the sustainability of the cleanup and summarizing the net environmental benefit of any implemented green technology. This section of the SMP provides a summary of any green remediation evaluations to be completed for the site during site management, and as reported in the Periodic Review Report (PRR).

No mechanical engineering systems are included in the SMP. The only engineering control established for the Site is the cover system. Maintenance of the cover system is not anticipated to generate additional waste, use energy, produce emissions, require substantial water to promote vegetative cover growth, and/or affect any ecosystem (Site is located in a highly developed urban area in the City of Buffalo).

6.3 Remedial System Optimization

A Remedial Site Optimization (RSO) study will not be required as there are not active remedial systems. The only engineering control at the Site is the cover system.

7.0 REPORTING REQUIREMENTS

7.1 Site Management Reports

All site management inspection, maintenance, and monitoring events will be recorded on the appropriate site management forms provided in Appendix J. These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including media sampling data, generated for the Site during the reporting period will be provided in electronic format to the NYSDEC in accordance with the requirements of Table 11 and summarized in the Periodic Review Report.

Table 11: Schedule of Interim Monitoring/Inspection Reports

Task/Report	Reporting Frequency*
Site Inspection	**Annually**
Groundwater Sampling	**Semi-Annually**
Periodic Review Report	**Annually**

* The frequency of events will be conducted as specified until otherwise approved by the NYSDEC.

All interim monitoring/inspections reports will include, at a minimum:

- Date of event or reporting period;
- Name, company, and position of person(s) conducting monitoring/inspection activities;
- Description of the activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet);
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc.);

- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-identified format);
- Any observations, conclusions, or recommendations; and
- A determination as to whether contaminant conditions have changed since the last reporting event.

Routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting maintenance activities;
- Description of maintenance activities performed;
- Any modifications to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and,
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

Non-routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- Description of non-routine activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and

- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

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 this link

http://www.dec.ny.gov/chemical/62440.html.

7.2 Periodic Review Report

A Periodic Review Report (PRR) will be submitted to the Department beginning sixteen (16) months after the Certificate of Completion is issued. After submittal of the initial Periodic Review Report, the next PRR shall be submitted annually to the Department or at another frequency as may be required by the Department. The frequency will be reduced to triennially (every three years) thereafter upon Department approval. In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in Appendix A -Environmental Easement. The report will be prepared in accordance with NYSDEC's DER-10 and submitted within 30 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. The report will include:

- Identification, assessment, and certification of all ECs/ICs required by the remedy for the site.
- Results of the required annual site inspections and severe condition inspections, if applicable.
- All applicable site management forms and other records generated for the site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted.
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted in digital format as determined by the NYSDEC.
- A site evaluation, which includes the following:

- The compliance of the remedy with the requirements of the site-specific RAWP, ROD or Decision Document;
- The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;
- Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring and Sampling Plan for the media being monitored;
- Recommendations regarding any necessary changes to the remedy and/or Monitoring and Sampling Plan; and
- Trends in contaminant levels in the affected media will be evaluated to determine if the remedy continues to be effective in achieving remedial goals as specified by the Decision Document.
- The overall performance and effectiveness of the remedy.

7.2.1 Certification of Institutional and Engineering Controls

Following the last inspection of the reporting period, a qualified environmental professional will prepare, and include in the Periodic Review Report, the following certification as per the requirements of NYSDEC DER-10:

"*For each institutional or engineering control identified for the site, I certify that all of the following statements are true:*

- *The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;*
- *The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;*
- *Nothing has occurred that would impair the ability of the control to protect the public health and environment;*
- *Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;*
- *Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;*
- *If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;*

- *Use of the site is compliant with the environmental easement;*
- *The engineering control systems are performing as designed and are effective;*
- *To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program; and*
- *The information presented in this report is accurate and complete.*
- *No new information has come to my attention, including groundwater monitoring data from wells located at the site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of off-site contamination are no longer valid.*

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner/Remedial Party or Owner's/Remedial Party's Designated Site Representative] for the site."

In addition, every five years the following certification will be added:

- *The assumptions made in the qualitative exposure assessment remain valid.*

The signed certification will be included in the Periodic Review Report.

The Periodic Review Report will be submitted, in electronic format, to the NYSDEC Regional Office in which the site is located, and the NYSDOH Bureau of Environmental Exposure Investigation. The Periodic Review Report may need to be submitted in hard-copy format, as requested by the NYSDEC project manager.

7.3 Corrective Measures Work Plan

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a Corrective Measures Work Plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the Corrective Measures Work Plan until it has been approved by the NYSDEC.

8.0 REFERENCES

1. 6NYCRR Part 375, Environmental Remediation Programs. December 14, 2006.
2. NYSDEC DER-10 – "Technical Guidance for Site Investigation and Remediation."
3. NYSDEC, 1998. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. June 1998 (April 2000 addendum).
4. United States Department of Agriculture (USDA), Soil Conservation Service. *Soil Survey of Erie County, New York*. December 1986.
5. TurnKey Environmental Restoration, LLC. *Phase I Environmental Site Assessment, 1653-1661 Main Street and 17-21 East Balcom Street, Buffalo, New York*. January 2015.
6. TurnKey Environmental Restoration, LLC. *Limited Phase II Environmental Investigation Report, 1661 Main Street, Buffalo, New York*. April 2015.
7. TurnKey Environmental Restoration, LLC. *Supplemental Phase II Environmental Investigation Report, 1653-1661 Main Street and 17-21 East Balcom Street, Buffalo, New York*. January 2016.
8. Benchmark Environmental Engineering and Science, PLLC in association with TurnKey Environmental Restoration, LLC., Main and East Balcom Street Site, *Remedial Investigation – Interim Remedial Measures Work Plan, Buffalo, New York*. revised March 2017.
9. Benchmark Environmental Engineering and Science, PLLC in association with TurnKey Environmental Restoration, LLC., Main and East Balcom Street Site, *Remedial Investigation – Interim Remedial Measures – Alternatives Analysis Report, Buffalo, New York*. July 2018.
10. Benchmark Environmental Engineering and Science, PLLC in association with TurnKey Environmental Restoration, LLC., Main and East Balcom Street Site, *Remedial Action Work Plan, Buffalo, New York*. July 2019.

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ENVIRONMENTAL EASEMENT

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&
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APPENDIX E

PERMITS AND/OR PERMIT EQUIVALENT

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EXCAVATION WORK PLAN

APPENDIX G

CIVIL CONSTRUCTION DRAWINGS AND DETAILS

APPENDIX H

HEALTH & SAFETY PLAN (HASP)

APPENDIX I

QUALITY ASSURANCE PROJECT PLAN (QAPP)

APPENDIX J

QUALITY ASSURANCE PROJECT PLAN (QAPP)

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BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TURNKEY ENVIRONMENTAL RESTORATION, LLC

TABLE 2

SUMMARY OF UST & PUMP ISLAND IRM POST-EXCAVATION CONFIRMATORY SAMPLES
SITE MANAGEMENT PLAN

MAIN & EAST BALCOM STREET SITE (BCP SITE NO. C915306)
BUFFALO, NEW YORK

PARAMETER [1]	Unrestricted Use SCOs [2]	Restricted Residential Use SCOs [2]	SAMPLE LOCATION (DEPTH)												
			UST AREA							PUMP ISLAND AREA					
			BOTTOM-1 (15')	SW-1 (13-15')	SW-2 (7-9')	SW-3 (7-9')	SW-4 (7-9')	SW-5 (9-11')	SW-6 (7-9')	B-2 (13')	SW-1 (8-10')	SW-2 (8-10')	SW-3 (8-10')	SW-4 (8-10')
			10/24/2017							10/25/2017				
Volatile Organic Compounds (VOCs) - mg/Kg [3]														
1,2,4-Trimethylbenzene	**3.6**	**52**	0.012	0.0016 J	ND	ND	0.00083 J	0.001 J	0.0061 J+	ND	ND	ND	0.012	ND
1,3,5-Trimethylbenzene	**8.4**	**52**	0.00087 J	0.0006 J	ND	ND	0.00024 J	ND	0.001 J+	ND	ND	ND	0.0087	ND
Benzene	**0.06**	**4.8**	ND	ND	ND	ND	ND	0.00043 J	ND	ND	ND	ND	ND	ND
Ethylbenzene	**1**	**41**	0.0026	0.00029 J	ND	ND	0.00088 J	0.013	0.0039 J+	ND	ND	ND	0.0043	ND
Isopropylbenzene (Cumene)	**--**	**--**	0.00091 J	ND	ND	ND	0.00084 J	0.0034	0.007 J+	ND	ND	ND	0.003	ND
n-Butylbenzene	**12**	**100**	0.0021	0.001	ND	ND	0.0023	ND	0.028 J+	0.0044	0.014	ND	0.003	ND
n-Propylbenzene	**3.9**	**100**	0.003	0.0012	ND	ND	0.0012	0.002	0.025 J+	0.0012	0.0013	ND	0.0089	ND
p-Isopropyltoluene	**--**	**--**	0.0014	0.00081 J	ND	ND	0.0022	ND	0.017 J+	ND	0.0027	ND	0.0034	ND
sec-Butylbenzene	**11**	**100**	0.0011	0.00083 J	ND	0.00018 J	0.0047	ND	0.022 J+	0.002	0.0098	ND	0.0046	ND
tert-Butylbenzene	**5.9**	**100**	ND	ND	ND	ND	0.0003 J	ND	0.0014 J+	ND	ND	ND	0.00045 J	ND
Toluene	**0.7**	**100**	ND	ND	ND	0.00023 J	0.00057 J	0.00038 J	ND	0.00034 J	ND	ND	0.00024 J	ND
Total Xylenes	**0.26**	**100**	0.00276	0.00079 J	ND	ND	ND	0.0152	0.00174 J+	ND	ND	ND	0.00802	ND
Semi-Volatile Organic Compounds (SVOCs) - mg/Kg [3]														
Acenaphthene	**20**	**100**	ND	0.031 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	**100**	**100**	ND	0.063 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	**30**	**100**	ND	0.042 J	ND	ND	0.018 J	ND	ND	ND	ND	ND	ND	ND
Naphthalene	**12**	**100**	ND	0.068 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	**100**	**100**	ND	0.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	**100**	**100**	ND	0.041 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. Values per 6NYCRR Part 375 Soil Cleanup Objectives (SCOs).
3. Sample results were reported by the laboratory in ug/kg and converted to mg/kg for comparisons to SCOs

Definitions:

ND = Parameter not detected above laboratory detection limit.
"--" = No value available for the parameter. Or parameter not analysed for.
J = Estimated value; result is less than the sample quantitation limit but greater than zero.
J+ = The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased high.

Bold	= Result exceeds Unrestricted Use SCOs.
Bold	= Result exceeds Restricted Residential Use SCOs.

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TURNKEY ENVIRONMENTAL RESTORATION, LLC

TABLE 3

SUMMARY OF AST IRM POST-EXCAVATION CONFIRMATORY SAMPLES
SITE MANAGEMENT PLAN

MAIN & EAST BALCOM STREET SITE (BCP SITE NO. C915306)
BUFFALO, NEW YORK

PARAMETER [1]	Unrestricted Use SCOs [2]	Restricted Residential Use SCOs [2]	SAMPLE LOCATION (DEPTH)	
			FORMER BASEMENT AST AREA	
			BSB-1 (1-2')	BSB-2 (4-5')
			11/13/2017	
Volatile Organic Compounds (VOCs) - mg/Kg [3]				
1,2,4-Trimethylbenzene	**3.6**	**52**	**4.9**	**25**
1,3,5-Trimethylbenzene	**8.4**	**52**	1.5 J	6.2
Benzene	**0.06**	**4.8**	ND	**0.066 J**
Ethylbenzene	**1**	**41**	0.55	**2.9**
Isopropylbenzene (Cumene)	**--**	**--**	0.23 J	1.8
n-Butylbenzene	**12**	**100**	1.4	5.2
n-Propylbenzene	**3.9**	**100**	0.61	3
p-Isopropyltoluene	**--**	**--**	0.41	1.8
sec-Butylbenzene	**11**	**100**	0.38	1.7
tert-Butylbenzene	**5.9**	**100**	0.033 J	0.15 J
Toluene	**0.7**	**100**	ND	0.33
Total Xylenes	**0.26**	**100**	**1.639 J**	**10.7**
Semi-Volatile Organic Compounds (SVOCs) - mg/Kg [3]				
Acenaphthene	**20**	**100**	1.2	2.1
Anthracene	**100**	**100**	0.46 J	0.85 J
Fluorene	**30**	**100**	2.3	4.6
Naphthalene	**12**	**100**	8.4	**16**
Phenanthrene	**100**	**100**	5.3	10
Pyrene	**100**	**100**	0.13 J	0.28 J

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. Values per 6NYCRR Part 375 Soil Cleanup Objectives (SCOs).
3. Sample results were reported by the laboratory in ug/kg and converted to mg/kg for comparisons to SCOs

Definitions:

ND = Parameter not detected above laboratory detection limit.
J = Estimated value; result is less than the sample quantitation limit but greater than zero.

Bold	= Result exceeds Unrestricted Use SCOs.
Bold	= Result exceeds Restricted Residential Use SCOs.

TABLE 4
SUMMARY OF REMEDIAL ACTION POST-EXCAVATION CONFIRMATORY SAMPLE ANALYTICAL RESULTS

SITE MANAGEMENT PLAN
MAIN & EAST BALCOM STREET SITE
BCP SITE NO. C915306
BUFFALO, NEW YORK

PARAMETER [1]	Unrestricted Use SCOs [2]	Restricted Residential Use SCOs [2]	TP-14 AREA					
			SAMPLE LOCATION (DEPTH)					
			TP-14 SW-1 (9-11')	TP-14 SW-2 (9-11')	TP-14 SW-3 (9-11')	TP-14 SW-4 (9-11')	TP-14 BTM-1 (11')	TP-14 BTM-2 (6')
			8/12/2019					
Volatile Organic Compounds (VOCs) - mg/Kg [3]			D			D		
Acetone	**0.05**	**100**	ND	**0.099**	**0.084**	ND	**0.08**	**0.16**
Cyclohexane	**--**	**--**	0.096 J	ND	ND	ND	ND	ND
Ethylbenzene	**1**	**41**	0.39	0.00025 J	ND	0.15	ND	ND
Isopropylbenzene (Cumene)	**--**	**--**	ND	0.00019 J	ND	0.2	ND	ND
Methyl acetate	**--**	**--**	2.2	0.0074	0.0083	2.3	0.0059	0.073
Methyl tert butyl ether (MTBE)	**0.93**	**100**	ND	ND	0.00041 J	ND	0.00034 J	ND
Methylcyclohexane	**--**	**--**	1.4	ND	ND	0.54	ND	ND
Tetrachloroethene	**1.3**	**19**	ND	0.00042 J	0.0018	ND	0.0023	0.00093
Toluene	**0.7**	**100**	ND	ND	0.00071 J	ND	ND	ND
Total Xylenes	**0.26**	**100**	**2.52**	0.00186 J	ND	**0.9**	ND	ND

PARAMETER [1]	Unrestricted Use SCOs [2]	Restricted Residential Use SCOs [2]	TP-3 AREA									
			SAMPLE LOCATION (DEPTH)									
			TP-3 NW-1 (5-6')	TP-3 NW-2 (5-6')	TP-3 SW-1 (5-6')	TP-3 SW-2 (5-6')	TP-3 EW-1 (5-6')	TP-3 WW-1 (5-6')	TP-3 BTM-1 (6')	TP-3 BTM-2 (6')	TP-3 WEST-NW-1 (4-5')	TP-3 WEST-SW-1 (4-5')	TP-3 WEST-BTM-1 (5')
			8/22/2019		8/20/2019		8/22/2019	8/20/2019		8/22/2019	08/23/2019		
Metals - mg/Kg													
Arsenic	**13**	**16**	2.7	3.06	2.86	2.59	2.87	3.19	2.36	2.83	2.64	4.11	2.78
Barium	**350**	**400**	67.4	72	79.6	65.3 J	67.8	64.6 J	64.8	57.7	114	64.3	72
Cadmium	**2.5**	**4.3**	0.733	0.742	0.218 J	0.22 J	0.708	0.237 J	0.217 J	0.69 J	1.08	0.928	0.834 J
Chromium	**30**	**180**	10.4	10.6	11	11.2	9.77	10.7	10.6	9.55	19.2	15.4	11.8
Lead	**63**	**400**	9.17	9.74	10.2	9.66 J	9.47	11.6	10.4	9.93	8.72	12.9	11.2

PARAMETER [1]	Unrestricted Use SCOs [2]	Restricted Residential Use SCOs [2]	NS-4 AREA	
			SAMPLE LOCATION (DEPTH)	
			NS-4 BTM-1 (2')	NS-4 BTM-2 (2')
			8/27/2019	
Polycyclic Aromatic Hydrocarbons (PAHs) - mg/Kg [3]				
Acenaphthene	**20**	**100**	0.071 J	0.025 J
Acenaphthylene	**100**	**100**	0.11 J	0.071 J
Anthracene	**100**	**100**	0.23	0.079 J
Benzo(a)anthracene	**1**	**1**	0.62	0.26
Benzo(a)pyrene	**1**	**1**	0.49	0.24
Benzo(b)fluoranthene	**1**	**1**	0.68	0.32
Benzo(ghi)perylene	**100**	**100**	0.28	0.16
Benzo(k)fluoranthene	**0.8**	**3.9**	0.26	0.11
Chrysene	**1**	**3.9**	0.52	0.21
Dibenzo(a,h)anthracene	**0.33**	**0.33**	0.073 J	0.038 J
Fluoranthene	**100**	**100**	1.3	0.54
Fluorene	**30**	**100**	0.13 J	0.033 J
Indeno(1,2,3-cd)pyrene	**0.5**	**0.5**	0.31	0.17
Naphthalene	**12**	**100**	0.077 J	0.049 J
Phenanthrene	**100**	**100**	0.91	0.3
Pyrene	**100**	**100**	1	0.44

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. Values per 6NYCRR Part 375 Soil Cleanup Objectives (SCOs).
3. Sample results were reported by the laboratory in ug/kg and converted to mg/kg for comparisons to SCOs

Definitions:

ND = Parameter not detected above laboratory detection limit.
"--" = No value available for the parameter. Or parameter not analysed for.
J = Estimated value; result is less than the sample quantitation limit but greater than zero.
D = Concentration of analyte was quantified from diluted analysis.

Bold	= Result exceeds Unrestricted Use SCOs.
Bold	= Result exceeds Restricted-Residential SCOs.

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TURNKEY ENVIRONMENTAL RESTORATION, LLC

TABLE 5
SUMMARY OF RA-1 AREA ASSESSMENT & POST-EXCAVATION CONFIRMATORY SAMPLE ANALYTICAL RESULTS
SITE MANAGEMENT PLAN
MAIN & EAST BALCOM STREET SITE
BCP SITE NO. C915306
BUFFALO, NEW YORK

PARAMETER [1]	Unrestricted Use SCOs [2]	Restricted Residential Use SCOs [2]	SAMPLE LOCATION (DEPTH)	
			RA-1 (1.5-2.5')	RA-1-BTM [4] (2.5')
			8/15/2019	
Volatile Organic Compounds (VOCs) - mg/Kg [3]				
Methyl ethyl ketone (2-Butanone)	**0.12**	**100**	0.0018 J	--
Methyl tert butyl ether (MTBE)	**0.93**	**100**	0.0065 J	--
Semi-Volatile Organic Compounds (SVOCs) - mg/Kg [3]			D	
Acenaphthene	**20**	**100**	0.84	ND
Acenaphthylene	**100**	**100**	0.19 J	ND
Anthracene	**100**	**100**	2.6	ND
Benzo(a)anthracene	**1**	**1**	**4.2**	ND
Benzo(a)pyrene	**1**	**1**	**2.9**	ND
Benzo(b)fluoranthene	**1**	**1**	**3.8**	ND
Benzo(ghi)perylene	**100**	**100**	1.8	ND
Benzo(k)fluoranthene	**0.8**	**3.9**	**1.3**	ND
Chrysene	**1**	**3.9**	**3.2**	ND
Dibenzo(a,h)anthracene	**0.33**	**0.33**	**0.58 J**	ND
Fluoranthene	**100**	**100**	8.7	ND
Fluorene	**30**	**100**	1.3	ND
Indeno(1,2,3-cd)pyrene	**0.5**	**0.5**	**2.2**	ND
Naphthalene	**12**	**100**	1	ND
Phenanthrene	**100**	**100**	9.2	ND
Pyrene	**100**	**100**	6.8	ND
Metals - mg/Kg				
Arsenic	**13**	**16**	4.07	3.44
Barium	**350**	**400**	124	91.6
Cadmium	**2.5**	**4.3**	ND	ND
Chromium	**30**	**180**	7.43	18.1
Lead	**63**	**400**	**75.8**	15.2
Mercury	**0.18**	**0.81**	0.12	0.056 J
Selenium	**3.9**	**180**	1.23	ND
Silver	**2**	**180**	ND	ND
Polychlorinated biphenyls- mg/Kg [3]				
Total PCBs	**0.1**	**1**	ND	--

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. Values per 6NYCRR Part 375 Soil Cleanup Objectives (SCOs).
3. Sample results were reported by the laboratory in ug/kg and converted to mg/kg for comparisons to SCOs
4. Post-excavation confirmatory sample.

Definitions:

ND = Parameter not detected above laboratory detection limit.
"--" = No value available for the parameter. Or parameter not analysed for.
J = Estimated value; result is less than the sample quantitation limit but greater than zero.
D = Concentration of analyte was quantified from diluted analysis.

Bold	= Result exceeds Unrestricted Use SCOs.
Bold	= Result exceeds Restricted-Residential SCOs.

TABLE 6
SUMMARY OF REMAINING SOIL/FILL SAMPLE EXCEEDANCES ABOVE USCOs AND RRSCOs

SITE MANAGEMENT PLAN
MAIN & EAST BALCOM STREET SITE
BCP SITE NO. C915306
BUFFALO, NEW YORK

PARAMETER [1]	Unrestricted Use SCOs [2]	Restricted Residential Use SCOs [2]	SAMPLE LOCATION (DEPTH)																
			SB-1 (2-4')	TP-4 (1-4')	TP-9 (3-6')	TP-10 (10-12')	NS-1 (0'-2')	NS-2 (0'-2')	TP-12 (4.5'-6.5')	TP-15 (1.5'-3.5')	TP-16 (0-2)	BSB-1 (1-2')	BSB-2 (4-5')	TP-14 SW-1 (9-11')	TP-14 SW-2 (9-11')	TP-14 SW-3 (9-11')	TP-14 SW-4 (9-11')	TP-14 BTM-1 (11')	TP-14 BTM-2 (6')
			3/23/2015	12/10/2015			07/18/2017					11/13/2017		08/12/2019					
Volatile Organic Compounds (VOCs) - mg/Kg [3]												D	D	D			D		
1,2,4-Trimethylbenzene	**3.6**	**47**	--	--	--	ND	--	--	--	ND	--	**4.9**	**25**	--	--	--	--	--	--
1,3,5-Trimethylbenzene	**8.4**	**52**	--	--	--	ND	--	--	--	ND	--	1.5 J	6.2	--	--	--	--	--	--
Acetone	**0.05**	**100**	--	--	--	ND	--	--	--	ND	--	--	--	ND	**0.099**	**0.084**	ND	**0.08**	**0.16**
Benzene	**0.06**	**4.8**	--	--	--	ND	--	--	--	ND	--	ND	**0.066 J**	ND	ND	ND	ND	ND	ND
Cyclohexane	**--**	**--**	--	--	--	ND	--	--	--	ND	--	--	--	0.096 J	ND	ND	ND	ND	ND
Ethylbenzene	**1**	**41**	--	--	--	ND	--	--	--	ND	--	0.55	2.9	0.39	0.00025 J	ND	0.15	ND	ND
Isopropylbenzene (Cumene)	**--**	**--**	--	--	--	ND	--	--	--	ND	--	0.23 J	1.8	ND	0.00019 J	ND	0.2	ND	ND
Methyl acetate	**--**	**--**	--	--	--	ND	--	--	--	ND	--	--	--	2.2	0.0074	0.0083	2.3	0.0059	0.073
Methyl tert butyl ether (MTBE)	**0.93**	**100**	--	--	--	ND	--	--	--	ND	--	ND	ND	ND	ND	0.00041 J	ND	0.00034 J	ND
Methylcyclohexane	**--**	**--**	--	--	--	ND	--	--	--	ND	--	--	--	1.4	ND	ND	0.54	ND	ND
n-Butylbenzene	**12**	**--**	--	--	--	ND	--	--	--	ND	--	1.4	5.2	--	--	--	--	--	--
n-Propylbenzene	**3.9**	**100**	--	--	--	ND	--	--	--	ND	--	0.61	3	--	--	--	--	--	--
p-Isopropyltoluene	**--**	**--**	--	--	--	ND	--	--	--	ND	--	0.41	1.8	--	--	--	--	--	--
sec-Butylbenzene	**11**	**100**	--	--	--	ND	--	--	--	ND	--	0.38	1.7	--	--	--	--	--	--
tert-Butylbenzene	**5.9**	**100**	--	--	--	ND	--	--	--	ND	--	0.033 J	0.15 J	--	--	--	--	--	--
Tetrachloroethene	**1.3**	**19**	--	--	--	ND	--	--	--	ND	--	--	--	ND	0.00042 J	0.0018	ND	0.0023	0.00093
Toluene	**0.7**	**100**	--	--	--	ND	--	--	--	ND	--	ND	0.33	ND	ND	0.00071 J	ND	ND	ND
m&p-Xylene	**0.26**	**100**	--	--	--	ND	--	--	--	ND	--	**1.6**	**7.5**	**1.6**	0.0012 J	ND	**0.56**	ND	ND
o-Xylenes	**0.26**	**100**	--	--	--	ND	--	--	--	ND	--	0.039 J	**3.2**	**0.92**	0.00066 J	ND	**0.34**	ND	ND
Total Xylenes	**0.26**	**100**	--	--	--	ND	--	--	--	ND	--	**1.639 J**	**10.7**	**2.52**	0.00186 J	ND	**0.9**	ND	ND
Semi-Volatile Organic Compounds (SVOCs) - mg/Kg [3]												D	D						
2-Methylnaphthalene	**--**	**--**	ND	ND	ND	ND	0.037 J	ND	ND	ND	0.091 J	--	--	--	--	--	--	--	--
Acenaphthene	**20**	**100**	3	ND	0.16 J	1.1	0.045 J	0.027 J	0.03 J	ND	ND	1.2	2.1	--	--	--	--	--	--
Anthracene	**100**	**100**	1.4	ND	0.67 J	2.7	0.12	0.1 J	0.091 J	ND	ND	0.46 J	0.85 J	--	--	--	--	--	--
Benzo(a)anthracene	**1**	**1**	ND	**4.3 J**	**3.1**	**6.3**	0.43	0.49	0.28	0.084 J	0.18	ND	ND	--	--	--	--	--	--
Benzo(a)pyrene	**1**	**1**	ND	**4.6 J**	**2**	**5.1**	0.41	0.39	0.3	0.082 J	0.19	ND	ND	--	--	--	--	--	--
Benzo(b)fluoranthene	**1**	**1**	ND	**8.2 J**	**2.6 J**	**8.5**	0.56	0.59	0.44	0.11 J	0.25	ND	ND	--	--	--	--	--	--
Benzo(ghi)perylene	**100**	**100**	ND	3.8 J	1.5	4.2	0.28	0.22	0.23	0.055 J	0.16	ND	ND	--	--	--	--	--	--
Benzo(k)fluoranthene	**0.8**	**3.9**	ND	ND	**1.7 J**	ND	0.16	0.18	0.14	0.031 J	0.077 J	ND	ND	--	--	--	--	--	--
Bis(2-ethylhexyl) phthalate	**--**	**--**	ND	ND	0.5 J	ND	ND	ND	ND	ND	0.082 J	--	--	--	--	--	--	--	--
Carbazole	**--**	**--**	ND	ND	0.27 J	1.3	0.078 J	0.054 J	0.057 J	ND	0.025 J	--	--	--	--	--	--	--	--
Chrysene	**1**	**3.9**	ND	**4.8 J**	**3**	**5.7**	0.39	0.44	0.3	0.079 J	0.19	ND	ND	--	--	--	--	--	--
Dibenzo(a,h)anthracene	**0.33**	**0.33**	ND	ND	ND	ND	0.065 J	0.074 J	0.056 J	ND	0.042 J	ND	ND	--	--	--	--	--	--
Dibenzofuran	**7**	**59**	ND	ND	ND	0.82	0.024 J	ND	0.025 J	ND	0.029 J	--	--	--	--	--	--	--	--
Fluoranthene	**100**	**100**	ND	12	6.1	15	0.88	0.87	0.62	0.15	0.35	ND	ND	--	--	--	--	--	--
Fluorene	**30**	**100**	8.5	ND	ND	1.4 J	0.042 J	0.027 J	0.041 J	ND	0.019 J	2.3	4.6	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	**0.5**	**0.5**	ND	**3.3 J**	**1.2**	**3.7**	0.3	0.26	0.24	0.064 J	0.14 J	ND	ND	--	--	--	--	--	--
Naphthalene	**12**	**100**	**22**	ND	ND	ND	0.023 J	ND	0.039 J	ND	0.051 J	8.4	**16**	--	--	--	--	--	--
Phenanthrene	**100**	**100**	15	7.5 J	2.6	10	0.51	0.37	0.38	0.064 J	0.23	5.3	10	--	--	--	--	--	--
Pyrene	**100**	**100**	0.61	9.9	5.3	13	0.75	0.7	0.48	0.12	0.29	0.13 J	0.28 J	--	--	--	--	--	--
Total PAHs	**--**	**100**	50.5	58.4	29.9	76.7	5.0	4.7	3.7	0.8	2.2	17.79 J	33.8	--	--	--	--	--	--
Metals - mg/Kg																			
Aluminum	**--**	**--**	--	ND	ND	ND	7850	12300	7540	14400	14600	--	--	--	--	--	--	--	--
Antimony	**--**	**--**	--	ND	ND	ND	0.368 J	ND	1.32 J	ND	ND	--	--	--	--	--	--	--	--
Arsenic	**13**	**16**	--	3.3	**17**	7	5.49	5.47	8.15	3.93	2.21	--	--	--	--	--	--	--	--
Barium	**350**	**400**	--	204	77.1	103	119	96.8	64.7	108	103	--	--	--	--	--	--	--	--
Beryllium	**7.2**	**72**	--	ND	ND	ND	0.304 J	1.19	0.563	0.799	2.02	--	--	--	--	--	--	--	--
Cadmium	**2.5**	**4.3**	--	0.38	0.73	0.75	1.08	0.848 J	1.78	0.628 J	0.538 J	--	--	--	--	--	--	--	--
Calcium	**--**	**--**	--	ND	ND	ND	71400	60000	90300	52900	62400	--	--	--	--	--	--	--	--
Chromium	**30**	**180**	--	9.8	**65**	18.4	18.1	19.8	**31.5**	12.3	6.97	--	--	--	--	--	--	--	--
Cobalt	**--**	**--**	--	ND	ND	ND	5.76	4.73	4.57	4.49	2.2	--	--	--	--	--	--	--	--
Copper	**50**	**270**	--	ND	ND	ND	17.4	20.2	44.7	26.7	11.7	--	--	--	--	--	--	--	--
Iron	**--**	**--**	--	ND	ND	ND	14900	14900	25900	11700	10000	--	--	--	--	--	--	--	--
Lead	**63**	**400**	--	107	190	72	**87**	**64.6**	54.2	**111**	**68.6**	--	--	--	--	--	--	--	--
Magnesium	**--**	**--**	--	ND	ND	ND	9810	13700	34000	14600	12600	--	--	--	--	--	--	--	--
Manganese	**1600**	**2000**	--	ND	ND	ND	1180	1060	1020	717	876	--	--	--	--	--	--	--	--
Mercury	**0.18**	**0.81**	--	0.11	**0.21**	**0.24**	0.15	**0.25**	**0.25**	0.08	0.12	--	--	--	--	--	--	--	--
Nickel	**30**	**310**	--	ND	ND	ND	9.78	11.5	24.4	10.1	5.8	--	--	--	--	--	--	--	--
Potassium	**--**	**--**	--	ND	ND	ND	834	921	745	2200	1100	--	--	--	--	--	--	--	--
Selenium	**3.9**	**180**	--	ND	ND	ND	0.267 J	0.604 J	ND	ND	2.06	--	--	--	--	--	--	--	--
Silver	**2**	**180**	--	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--
Sodium	**--**	**--**	--	ND	ND	ND	296	798	520	1190	615	--	--	--	--	--	--	--	--
Thallium	**--**	**--**	--	ND	ND	ND	0.883 J	1.01 J	1.02 J	0.675 J	0.815 J	--	--	--	--	--	--	--	--
Vanadium	**--**	**--**	--	ND	ND	ND	22.3	20.9	20	21.9	8.12	--	--	--	--	--	--	--	--
Zinc	**109**	**10000**	--	ND	ND	ND	97.3	90.8	**148**	76.8	60.3	--	--	--	--	--	--	--	--

Notes:
1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. Values per 6NYCRR Part 375 Soil Cleanup Objectives (SCOs).
3. Sample results were reported by the laboratory in ug/kg and converted to mg/kg for comparisons to SCOs

Definitions:
ND = Parameter not detected above laboratory detection limit.
"--" = No value available for the parameter. Or parameter not analysed for.
J = Estimated value; result is less than the sample quantitation limit but greater than zero.
D = Concentration of analyte was quantified from diluted analysis.

Bold	= Result exceeds Unrestricted Use SCOs.
Bold	= Result exceeds Restricted-Residential SCOs.

TABLE 7

SUMMARY OF RI GROUNDWATER ANALYTICAL RESULTS
SITE MANAGEMENT PLAN

MAIN & EAST BALCOM STREET SITE (BCP SITE NO. C915306)
BUFFALO, NEW YORK

Parameters [1]	Class GA GWQS[2]	Sample Location											
		MW-1		MW-2	MW-3			MW-4			MW-5		MW-6
		10/23/17	6/27/19	10/23/17	11/16/17	2/11/18	6/27/19	11/16/17	2/11/18	6/27/19	2/11/18	6/27/19	6/27/19
Volatile Organic Compounds (VOCs) - ug/L													
1,1-Dichloroethene	**5**	ND	ND	ND	ND	ND	ND	0.27 J	ND	0.17 J	ND	ND	ND
2-Butanone	**50**	ND	ND	ND	**360 NJ**	ND	ND	ND	13	ND	ND	ND	ND
1,2-Dichloroethane	**0.6**	ND	ND	0.14 J	ND	ND	ND	0.18 J	0.16 J	ND	ND	ND	0.27 J
Acetone	**50**	5.2	ND	2 J	**51**	4.5 J	ND	3.1 J	**93**	ND	9	1.5 J	8
Benzene	**1**	ND	ND	0.53	ND	ND	ND	**3.4**	**1.9**	**1.3**	ND	ND	ND
Cyclohexane	**--**	ND	ND	ND	ND	ND	ND	0.64 J	0.29 J	1.2 J	ND	ND	ND
Methylcyclohexane	**--**	ND	ND	ND	ND	ND	ND	0.49 J	ND	0.4 J	ND	ND	ND
Cis-1,2-Dichloroethene	**5**	ND	ND	ND	2.5 J	ND	ND	**39**	**21**	4.2	**5.2**	ND	ND
Xylene (total)	**5**	ND	ND	0.88 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	**5**	ND	ND	ND	ND	ND	ND	**100**	**58**	**13**	ND	ND	ND
Trichloroethene	**5**	ND	ND	ND	**30**	**10**	**6.1**	**17**	**8**	**7.1**	ND	ND	2.5
Vinyl Chloride	**2**	ND	ND	ND	ND	ND	ND	**6.9**	**2.5**	0.48 J	0.5 J	ND	0.31 J
Semivolatile Organic Compounds (SVOCs) - ug/L													
3-Methylphenol/4-methylphenol*	**5**	2.9 J	--	ND	ND	--	--	ND	--	--	--	--	--
Fluoranthene	**50**	0.07 J	--	0.06 J	0.05 J	--	--	0.05 J	--	--	--	--	--
Fluorene	**50**	0.05 J	--	0.06 J	0.06 J	--	--	ND	--	--	--	--	--
Phenanthrene	**50**	0.12	--	0.37	0.42	--	--	0.22	--	--	--	--	--
Metals - ug/L [3]													
Aluminum	--	2260	--	2360	2400	--	--	971	--	--	--	--	--
Antimony	**3**	ND	--	ND	0.59 J	--	--	2.2 J	--	--	--	--	--
Arsenic	**25**	6.49	--	9.34	10.29	--	--	2.11	--	--	--	--	--
Barium	**1000**	59.18	--	62.7	100.9	--	--	65.02	--	--	--	--	--
Beryllium	**--**	0.12 J	--	0.13 J	0.16 J	--	--	ND	--	--	--	--	--
Cadmium	**5**	0.11 J	--	0.06 J	0.08 J	--	--	ND	--	--	--	--	--
Calcium	**--**	237000	--	109000	142000	--	--	236000	--	--	--	--	--
Chromium	**50**	3.24	--	3.81	4.2	--	--	1.85	--	--	--	--	--
Cobalt	**--**	2.67	--	2.48	2.38	--	--	1.58	--	--	--	--	--
Copper	**200**	5.61	--	6.18	4.49	--	--	2.74	--	--	--	--	--
Iron	**300**	**4620**	**--**	**4910**	**6090**	**--**	**--**	**3370**	**--**	**--**	--	**--**	--
Lead	**25**	4.62	--	7.79	14.91	--	--	3.71	--	--	--	--	--
Magnesium	**35000**	**126000**	**--**	**51000**	**105000**	**--**	**--**	**54900**	**--**	**--**	--	**--**	--
Manganese	**300**	158.8	--	148.7	268.8	--	--	171	--	--	--	--	--
Nickel	**100**	6.22	--	6	10.44	--	--	4.34	--	--	--	--	--
Potassium	**--**	6310	--	6440	4890	--	--	13600	--	--	--	--	--
Selenium	**10**	2.31 J	--	2.45 J	2.47 J	--	--	ND	--	--	--	--	--
Sodium	**20000**	**1000000**	**--**	**399000**	**78500**	**--**	**--**	**174000**	**--**	**--**	--	**--**	--
Vanadium	**--**	4.16 J	--	4.75 J	5.74	--	--	2.5 J	--	--	--	--	--
Zinc	**2000**	20.23	--	18.89	22.54	--	--	13.68	--	--	--	--	--
Pesticides and Herbicides - ug/L													
4,4'-DDD	**0.3**	ND	--	ND	0.012 J	--	--	0.02 J	--	--	--	--	--
Endrin	**ND**	ND	**--**	ND	**0.012 NJ**	**--**	**--**	ND	--	--	--	--	--
Heptachlor	**0.04**	**0.047**	--	0.039	ND	--	--	ND	--	--	--	--	--

Notes:

1. Only parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. Values per NYSDEC TOGS 1.1.1 Class GA Groundwater Quality Standards.
3. Sample results were reported by the laboratory in mg/L and converted to ug/L for comparisons to GWQSs

Qualifiers:

ND = Parameter not detected above laboratory detection limit.
"--" = Sample not analyzed for parameter or no GWQS available for the parameter.
J = Estimated Value - Below calibration range
NJ- = The detection is tentative in identification and estimated in value. Although there is presumptive evidence of the analyte, the result should be used with caution as a potential false positive and/or elevated quantitative value.
P = The dual column RPD's are above the acceptance criteria, the lower of the two results is reported.
I = The lower value for the two columns has been reported due to obvious interference.

BOLD = Result exceeds GWQS.

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TURNKEY ENVIRONMENTAL RESTORATION, LLC

TABLE 8

SUMMARY OF AIR SAMPLING ANALYTICAL RESULTS
SITE MANAGEMENT PLAN

MAIN & EAST BALCOM STREET SITE (BCP SITE NO. C915306)
BUFFALO, NEW YORK

Parameter [1]	Sample Location					
	SSV-1	AMBIENT-1	SSV-2	AMBIENT-2	AMBIENT-3	OUTDOOR-1
	2/12/2018					
Volatile Organics Compounds (VOCs) - ug/m^3						
1,1,2-Trichloro-1,2,2-Trifluloroethane	9.35	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	ND	1.34	3.22	1.17	ND	ND
1,3,5-Trimethylbenzene	ND	ND	1.38	ND	ND	ND
1,3-Butadiene	ND	ND	1.36	ND	ND	ND
2-Butanone	11.4 J	15.3	8.2	12.6	7.76	ND
Acetone	R	25.4	73.6 J+	19.8	17.9	2.42 J-
Benzene	92.3 J	0.639	19.6	ND	0.642	ND
Carbon disulfide	95.6 J	ND	10.7	ND	ND	ND
Chloroform	ND	ND	1.9	ND	ND	ND
Chloromethane	ND	0.793	ND	0.727	0.673	0.653
Cyclohexane	1560 J	ND	29.5	ND	ND	ND
Dichlorodifluoromethane	ND	1.94	0.999	2.21	1.58	1.54
Ethyl Alcohol	154	ND	28.5	ND	ND	ND
Ethylbenzene	ND	4.33	5.13	4.56	1.56	ND
Isopropyl alcohol	13.2 J	1.61	3.76	1.34	ND	ND
n-Heptane	225 J	0.877	30.1	0.857	ND	ND
n-Hexane	1160 J	1.19	51.5	1.09	1.02	ND
tert-Butyl alcohol	ND	6.43	1.7	5.52	2.89	ND
Tetrahydrofuran	ND	13.7	1.76	12.6	8.11	ND
Toluene	22.3	4.94	44.1	4.48	3.68	ND
o-Xylene	4.78	8.17	7.3	8.38	2.88	ND
p/m-Xylene	16	25.2	20.3	25.1	8.56	ND
Volatile Organics Compounds (VOCs) in SIM - ug/m^3						
Carbon tetrachloride [2]	ND	0.371	ND	0.365	0.359	0.315

Notes:

1. Only those parameters detected above the method detection limit, at a minimum of one location, are presented in this table.
2. Constituent monitored under NYSDOH Vapor/ Indoor Air Quality Standards - (Matricies A,B,C- Updated May 2017)

Definitions:

ND = Parameter not detected above laboratory detection limit.
"--" = No value available for the parameter. Or parameter not analysed for.
J = The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
J+ = The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased high.
J- = The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
R = The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control limits. The analyte may or may not be present.

Bold

TABLE 8A

COMPARISON OF PRELIMINARY AIR SAMPLING RESULTS TO NYSDOH MATRICIES
SITE MANAGEMENT PLAN

MAIN & EAST BALCOM STREET SITE (BCP SITE NO. C915306)
BUFFALO, NEW YORK

Sample Location	Trichloroethene (TCE)		Carbon Tetrachloride		cis-1,2-Dichloroethene		1,1-Dichloroethene		Tetrachloroethene (PCE)		1,1,1 -Trichloroethane		Methylene Chloride		Vinyl Chloride	
	Lab Reported Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix A	Lab Reported Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix A	Lab Reported Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix A	Lab Reported Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix A	Lab Reported Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix B	Lab Reported Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix B	Lab Reported Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix B	Lab Reported Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix C
SSV-1	ND (< 5.37)	NFA	ND (< 6.29)	NFA	ND (< 3.96)	NFA	ND (< 4.05)	NFA	ND (< 6.78)	NFA	ND (< 5.46)	NFA	ND (< 8.69)	NFA	ND (< 2.56)	NFA
AMBIENT - 1	ND (< 0.107)		0.371		ND (< 0.079)		ND (< 0.079)		ND (< 0.136)		ND (< 0.109)		ND (< 1.74)		ND (< 0.051)	
SSV-2	ND (< 1.07)	NFA	ND (< 1.26)	NFA	ND (< 0.793)	NFA	ND (< 0.793)	NFA	ND (< 1.36)	NFA	ND (< 1.09)	NFA	ND (< 1.74)	NFA	ND (< 0.511)	NFA
AMBIENT - 2	ND (< 0.107)		0.365		ND (< 0.079)		ND (< 0.079)		ND (< 0.136)		ND (< 0.109)		ND (< 1.74)		ND (< 0.051)	
AMBIENT - 3	ND	NFA	0.359	NFA	ND	NFA	ND	NFA	ND	NFA	ND	NFA	ND	NFA	ND	NFA
Outdoor -1	ND		0.315		ND		ND		ND		ND		ND		ND	

Notes:

ND = Not Detect. Value in "()" is the detection limit reported by the laboratory.
NFA = No further action.
I, R = Take reasonable and practical actions to identify source(s) and reduce exposures.

= NYSDOH Matrix A Compounds
= NYSDOH Matrix B Compounds
= NYSDOH Matrix C Compounds

Analytes Assigned:
Trichloroethene (TCE), cis-1,2-Dichloroethene (c12-DCE), 1,1-Dichloroethene (11-DCE), Carbon Tetrachloride

SUB-SLAB VAPOR CONCENTRATION of COMPOUND (mcg/m^3)	INDOOR AIR CONCENTRATION of COMPOUND (mcg/m^3)		
	< 0.2	0.2 to < 1	1 and above
< 6	1. No further action	2. No Further Action	3. IDENTIFY SOURCE(S) and RESAMPLE or MITIGATE
6 to < 60	4. No further action	5. MONITOR	6. MITIGATE
60 and above	7. MITIGATE	8. MITIGATE	9. MITIGATE

Analytes Assigned:
Tetrachloroethene (PCE), 1,1,1-Trichloroethane (111-TCA), Methylene Chloride

SUB-SLAB VAPOR CONCENTRATION of COMPOUND (mcg/m^3)	INDOOR AIR CONCENTRATION of COMPOUND (mcg/m^3)		
	< 3	3 to < 10	10 and above
< 100	1. No further action	2. No Further Action	3. IDENTIFY SOURCE(S) and RESAMPLE or MITIGATE
100 to < 1,000	4. No further action	5. MONITOR	6. MITIGATE
1,000 and above	7. MITIGATE	8. MITIGATE	9. MITIGATE

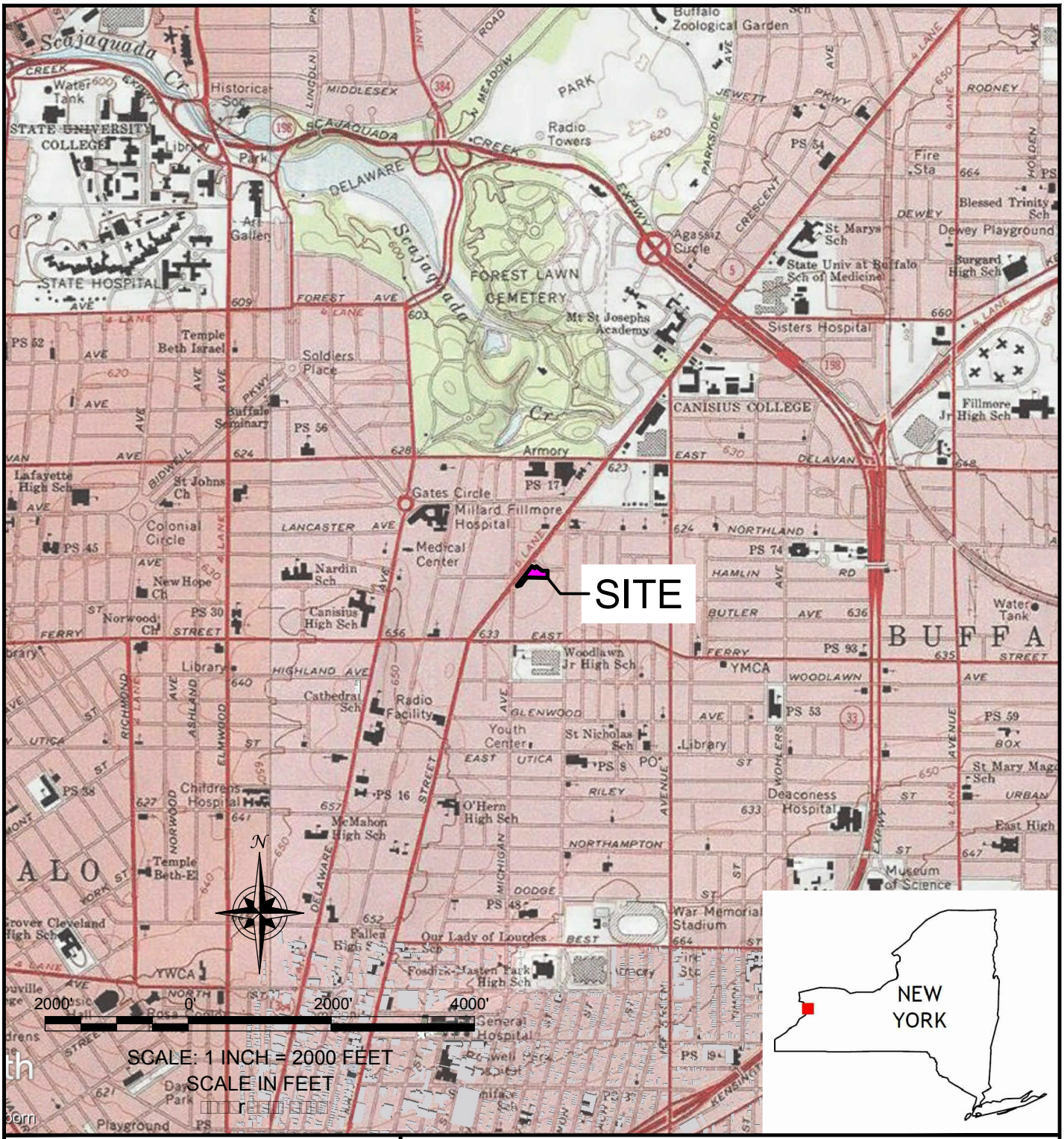
Analytes Assigned:
Vinyl Chloride

SUB-SLAB VAPOR CONCENTRATION of COMPOUND (mcg/m^3)	INDOOR AIR CONCENTRATION of COMPOUND (mcg/m^3)	
	< 0.2	0.2 and above
< 6	1. No further action	2. IDENTIFY SOURCE(S) and RESAMPLE or MITIGATE
6 to < 60	3. MONITOR	4. MITIGATE
60 and above	5. MITIGATE	6. MITIGATE

FIGURES

F:\CAD\TurnKey\Sinatra\1653-1661 Main Street Site\Site Management Plan\Figure 1 - Site Location and Vicinity Map.dwg

FIGURE 1



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

PROJECT NO.: B0239-016-001

DATE: JULY 2018

DRAFTED BY: CMS/CCB

SITE LOCATION AND VICINITY MAP

SITE MANAGEMENT PLAN

MAIN & EAST BALCOM STREET SITE
BCP SITE NO. C915306
BUFFALO, NEW YORK

PREPARED FOR

1665 MAIN STREET GROUP, LLC

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DATE: JULY 2019
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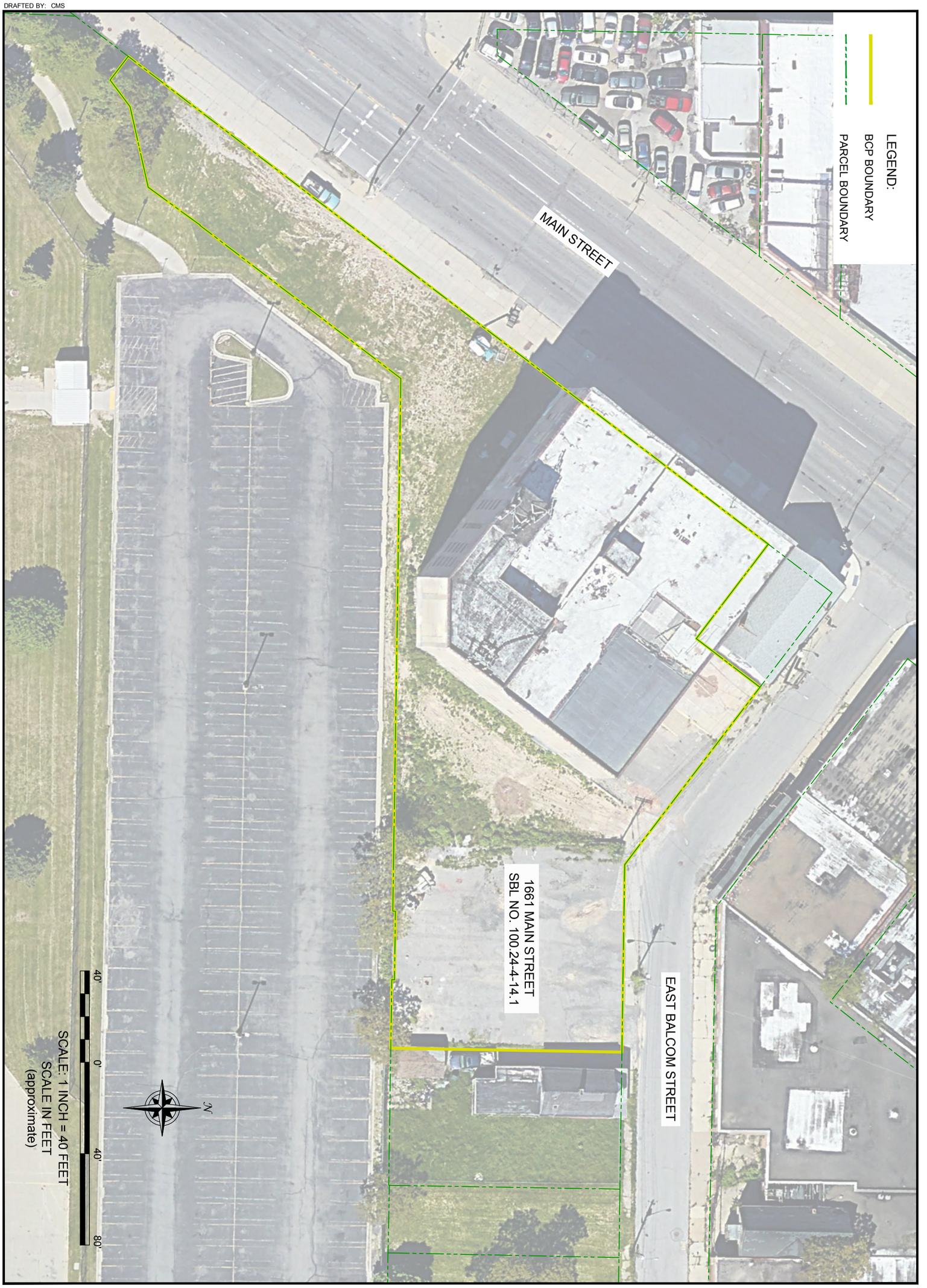

SITE PLAN (AERIAL)

SITE MANAGEMENT PLAN

MAIN & EAST BALCOM STREET SITE
BCP SITE NO. C915306
BUFFALO, NEW YORK

PREPARED FOR
1665 MAIN STREET GROUP, LLC

FIGURE 2

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

JOB NO.: 0239-016-001

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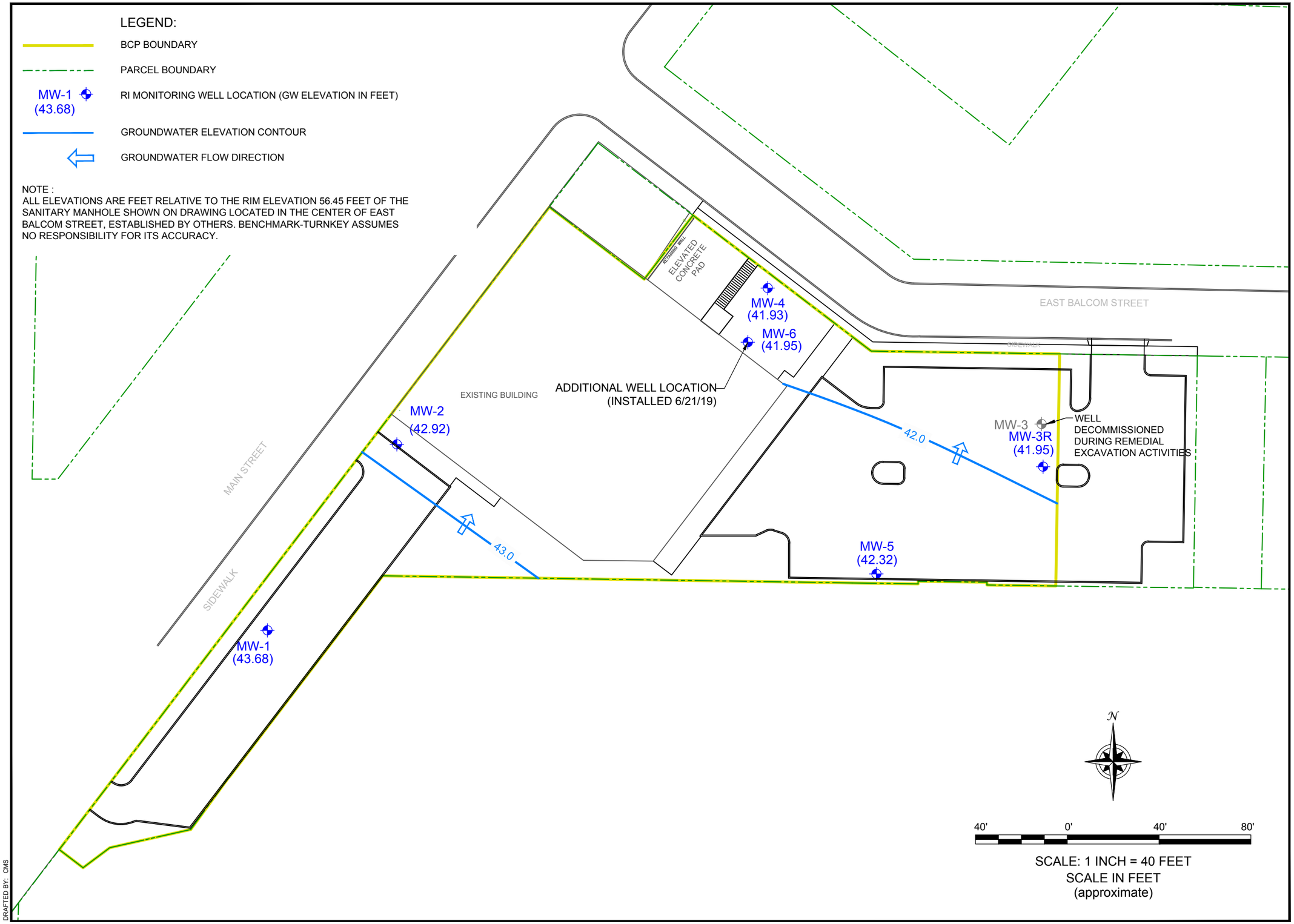
LEGEND:

- BCP BOUNDARY
- PARCEL BOUNDARY
- MW-1 (43.68) — RI MONITORING WELL LOCATION (GW ELEVATION IN FEET)
- GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION

NOTE :
ALL ELEVATIONS ARE FEET RELATIVE TO THE RIM ELEVATION 56.45 FEET OF THE SANITARY MANHOLE SHOWN ON DRAWING LOCATED IN THE CENTER OF EAST BALCOM STREET, ESTABLISHED BY OTHERS. BENCHMARK-TURNKEY ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.



SCALE: 1 INCH = 40 FEET
SCALE IN FEET
(approximate)

DATE: JULY 2019
DRAFTED BY: CMS

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TURNKEY ENVIRONMENTAL RESTORATION, LLC
2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218, (716) 856-0599

JOB NO.: 0239-016-001

GROUNDWATER NETWORK

SITE MANAGEMENT PLAN
MAIN & EAST BALCOM STREET SITE
BCP SITE NO. C915306
BUFFALO, NEW YORK
PREPARED FOR
1665 MAIN STREET GROUP, LLC

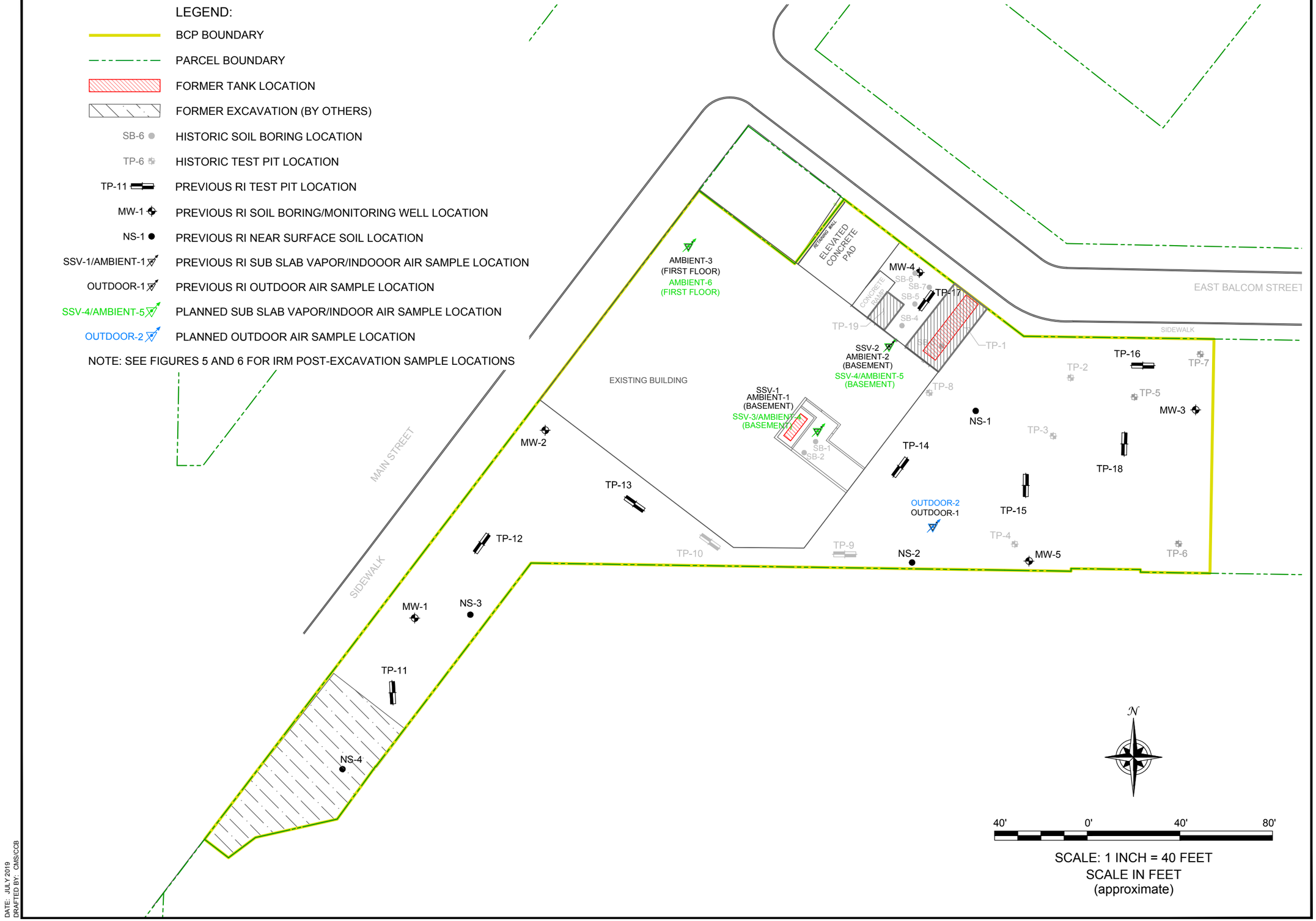
FIGURE 3

DISCLAIMER: *PROPERTY OF BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC. & TURNKEY ENVIRONMENTAL RESTORATION, LLC. IMPORTANT: THIS DRAWING PRINT IS LOANED FOR MUTUAL ASSISTANCE AND AS SUCH IS SUBJECT TO RECALL AT ANY TIME. INFORMATION CONTAINED HEREON IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF PARTIES OTHER THAN NECESSARY SUBCONTRACTORS & SUPPLIERS WITHOUT THE WRITTEN CONSENT OF BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC & TURNKEY ENVIRONMENTAL RESTORATION, LLC.*

LEGEND:

- BCP BOUNDARY
- PARCEL BOUNDARY
- FORMER TANK LOCATION
- FORMER EXCAVATION (BY OTHERS)
- SB-6 HISTORIC SOIL BORING LOCATION
- TP-6 HISTORIC TEST PIT LOCATION
- TP-11 PREVIOUS RI TEST PIT LOCATION
- MW-1 PREVIOUS RI SOIL BORING/MONITORING WELL LOCATION
- NS-1 PREVIOUS RI NEAR SURFACE SOIL LOCATION
- SSV-1/AMBIENT-1 PREVIOUS RI SUB SLAB VAPOR/INDOOR AIR SAMPLE LOCATION
- OUTDOOR-1 PREVIOUS RI OUTDOOR AIR SAMPLE LOCATION
- SSV-4/AMBIENT-5 PLANNED SUB SLAB VAPOR/INDOOR AIR SAMPLE LOCATION
- OUTDOOR-2 PLANNED OUTDOOR AIR SAMPLE LOCATION

NOTE: SEE FIGURES 5 AND 6 FOR IRM POST-EXCAVATION SAMPLE LOCATIONS



SCALE: 1 INCH = 40 FEET
SCALE IN FEET
(approximate)

DATE: JULY 2019
DRAFTED BY: CMS/CCB

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

TURNKEY ENVIRONMENTAL RESTORATION, LLC

JOB NO.: 0239-016-001

HISTORIC AND RI INVESTIGATION LOCATIONS

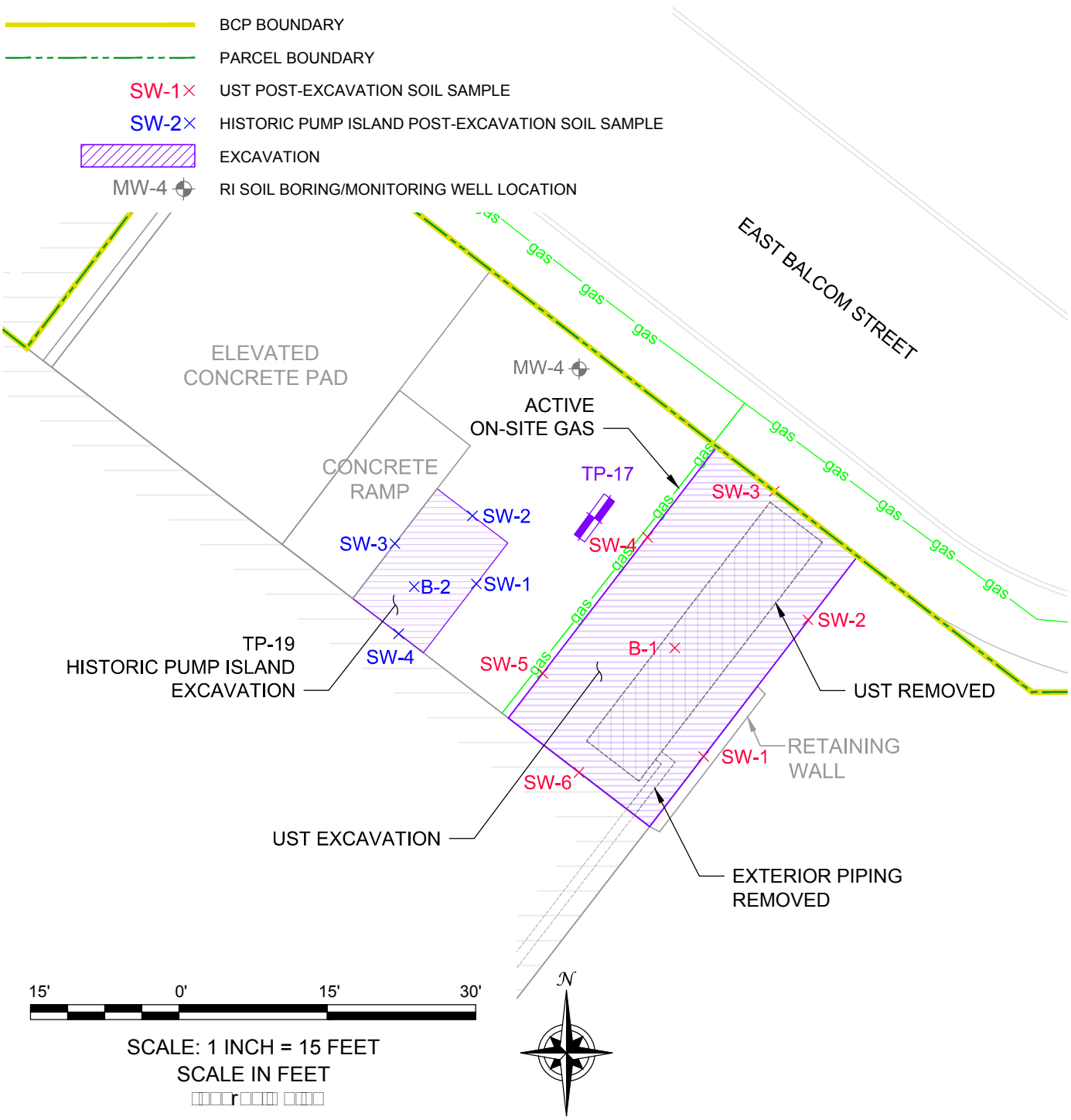
SITE MANAGEMENT PLAN
MAIN & EAST BALCOM STREET SITE
BCP SITE NO. C915306
BUFFALO, NEW YORK
PREPARED FOR
1665 MAIN STREET GROUP, LLC

FIGURE 4

DISCLAIMER: PROPERTY OF BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC. & TURNKEY ENVIRONMENTAL RESTORATION, LLC IMPORTANT: THIS DRAWING PRINT IS LOANED FOR MUTUAL ASSISTANCE AND AS SUCH IS SUBJECT TO RECALL AT ANY TIME. INFORMATION CONTAINED HEREON IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF PARTIES OTHER THAN NECESSARY SUBCONTRACTORS & SUPPLIERS WITHOUT THE WRITTEN CONSENT OF BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC & TURNKEY ENVIRONMENTAL RESTORATION, LLC.

F:\CAD\TurnKey\Sinatra\1653-1661 Main Street Site\Site Management Plan\Figure 5 - Exterior IRM Activities.dwg

FIGURE 5



BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TURNKEY ENVIRONMENTAL RESTORATION, LLC

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

PROJECT NO.: 0239-016-001

DATE: JULY 2019

DRAFTED BY: CMS/CCB

EXTERIOR IRM ACTIVITIES

SITE MANAGEMENT PLAN

MAIN & EAST BALCOM STREET SITE
BCP SITE NO. C915306
BUFFALO, NEW YORK

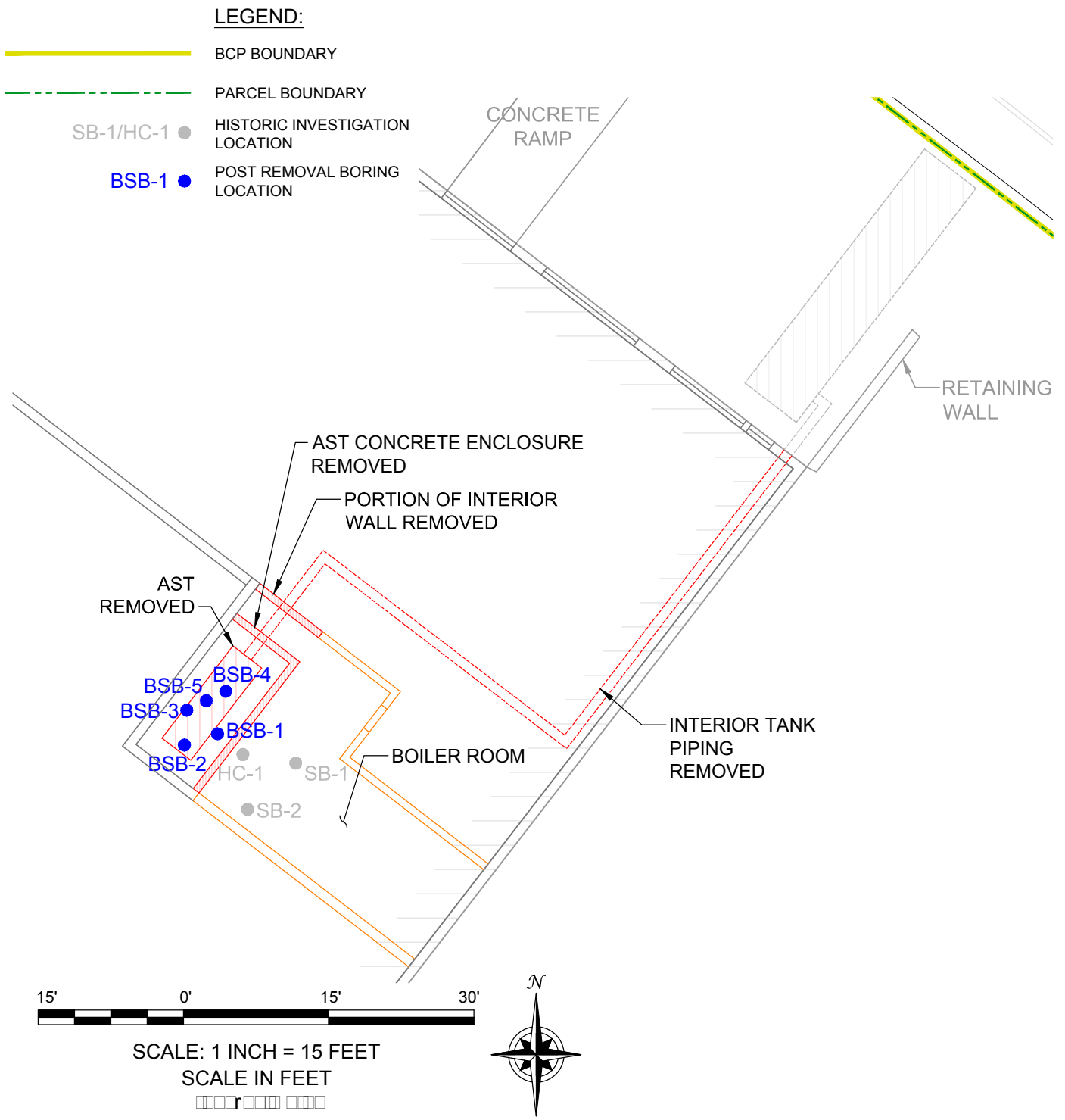
PREPARED FOR

1665 MAIN STREET GROUP, LLC

DISCLAIMER: ***PROPERTY OF BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC. & TURNKEY ENVIRONMENTAL RESTORATION, LLC*** *IMPORTANT: THIS DRAWING PRINT IS LOANED FOR MUTUAL ASSISTANCE AND AS SUCH IS SUBJECT TO RECALL AT ANY TIME. INFORMATION CONTAINED HEREON IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF PARTIES OTHER THAN NECESSARY SUBCONTRACTORS & SUPPLIERS WITHOUT THE WRITTEN CONSENT OF BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC & TURNKEY ENVIRONMENTAL RESTORATION, LLC.*

F:\CAD\TurnKey\Sinatra\1653-1661 Main Street Site\Site Management Plan\Figure 6 - Interior IRM Activities.dwg

FIGURE 6



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

PROJECT NO.: 0239-016-001

DATE: JULY 2019

DRAFTED BY: CMS/CCB

INTERIOR IRM ACTIVITIES

SITE MANAGEMENT PLAN

MAIN & EAST BALCOM STREET SITE
BCP SITE NO. C915306
BUFFALO, NEW YORK

PREPARED FOR

1665 MAIN STREET GROUP, LLC

DISCLAIMER: ***PROPERTY OF BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC. & TURNKEY ENVIRONMENTAL RESTORATION, LLC*** *IMPORTANT: THIS DRAWING PRINT IS LOANED FOR MUTUAL ASSISTANCE AND AS SUCH IS SUBJECT TO RECALL AT ANY TIME. INFORMATION CONTAINED HEREON IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF PARTIES OTHER THAN NECESSARY SUBCONTRACTORS & SUPPLIERS WITHOUT THE WRITTEN CONSENT OF BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC & TURNKEY ENVIRONMENTAL RESTORATION, LLC.*

LEGEND:

- BCP BOUNDARY
- PARCEL BOUNDARY
- REMEDIAL EXCAVATION AREA
- IRM EXCAVATION AREA
- TP-6 HISTORIC TEST PIT LOCATION
- TP-11 RI TEST PIT LOCATION
- MW-1 RI SOIL BORING/MONITORING WELL LOCATION
- NS-1 RI NEAR SURFACE SOIL LOCATION
- RA-1 RA PRE-EXCAVATION SAMPLE LOCATION
- TP-3 SW-1 RA POST EXCAVATION SAMPLE LOCATION
- MW-3R MONITORING WELL

EXCAVATION COMPLETED DURING IRM ACTIVITIES SEE FIGURE 5.

EAST BALCOM STREET

METALS IMPACTED SOIL/FILL TP-3 EXCAVATION AREA

RETAINING WALL

ELEVATED CONCRETE PAD

CONCRETE RAMP

SIDEWALK

EXISTING BUILDING

MAIN STREET

SIDEWALK

TP-3 NW-1, TP-3 NW-2, TP-3 BTM-1, TP-3 BTM-2, TP-3 EW-1, TP-3 WW-1, TP-3 WEST-NW-1, TP-3 WEST-BTM-1, TP-3 SW-1, TP-3 SW-2, TP-3 WEST-SW-1

WELL DECOMMISSIONED DURING REMEDIAL EXCAVATION ACTIVITIES

TP-14 BTM-2, TP-14 SW-3, TP-14 BTM-1, TP-14 SW-2, TP-14 SW-4, TP-14 SW-1

NUISANCE PETROLEUM TP-14/TP-8 EXCAVATION AREA

RA-1, RA-1-BTM

ADDITONAL REMEDIAL EXCAVATION AREA. BLACK STAINED SOILS OBSERVED IN THE FIELD.

NS-4 BTM-1, NS-4, NS-4 BTM-2

SURFACE EXCEEDANCE OF RRSCOs EXCAVATION AREA

N

40' 0' 40' 80'

SCALE: 1 INCH = 40 FEET
SCALE IN FEET
(approximate)

DATE: SEPTEMBER 2019
DRAFTED BY: CMS

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

JOB NO.: 0239-016-001

SEAL

REMEDIAL EXCAVATION AREAS & POST-EXCAVATION SAMPLE LOCATIONS

SITE MANAGEMENT PLAN

MAIN & EAST BALCOM STREET SITE
BCP SITE NO. C915306
BUFFALO, NEW YORK

PREPARED FOR

1665 MAIN STREET GROUP, LLC

FIGURE 7

DISCLAIMER:
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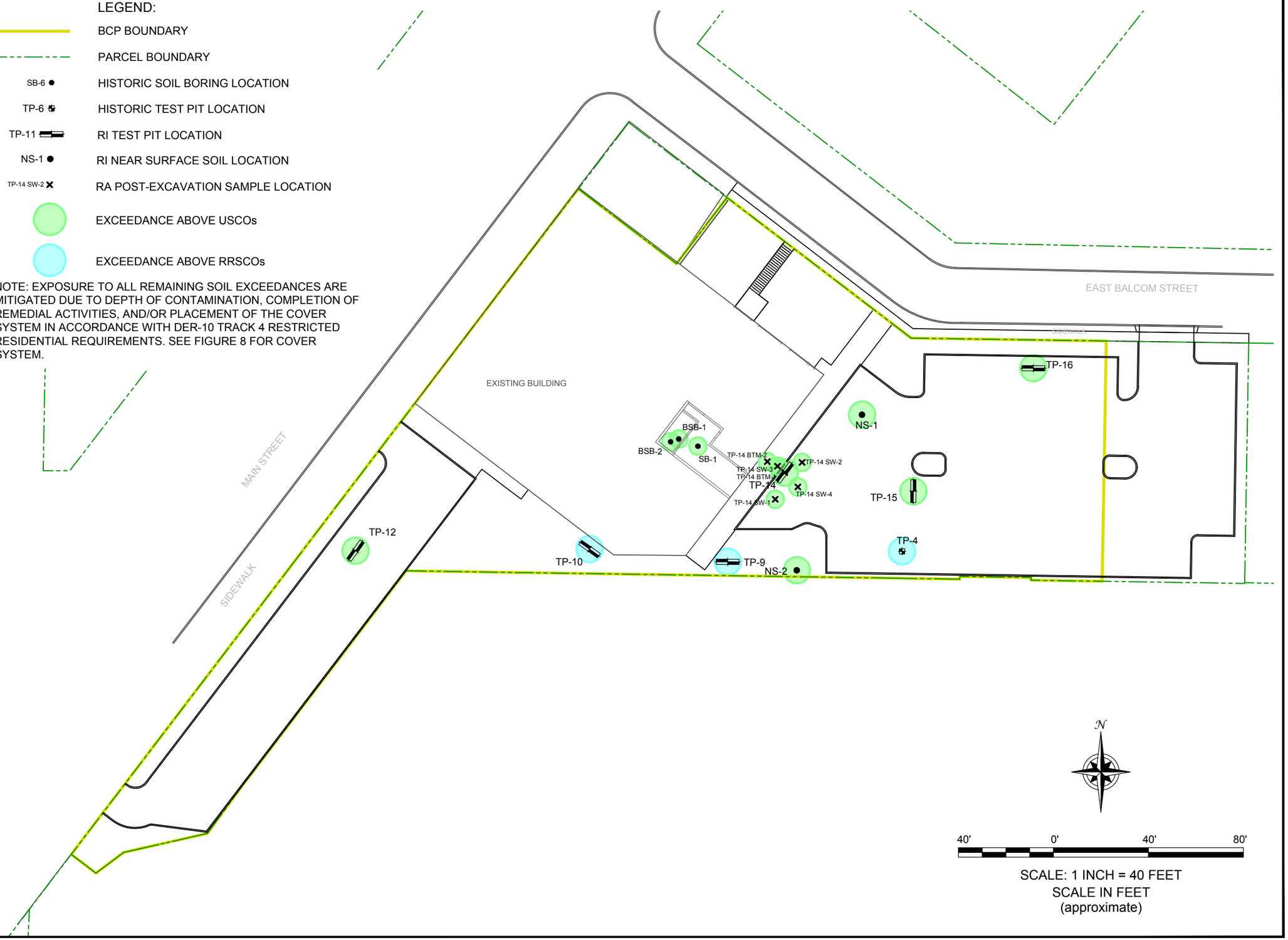
LEGEND:

- BCP BOUNDARY
- PARCEL BOUNDARY
- SB-6 ● HISTORIC SOIL BORING LOCATION
- TP-6 ✿ HISTORIC TEST PIT LOCATION
- TP-11 ▬ RI TEST PIT LOCATION
- NS-1 ● RI NEAR SURFACE SOIL LOCATION
- TP-14 SW-2 ✕ RA POST-EXCAVATION SAMPLE LOCATION
- EXCEEDANCE ABOVE USCOs
- EXCEEDANCE ABOVE RRSCOs

NOTE: EXPOSURE TO ALL REMAINING SOIL EXCEEDANCES ARE MITIGATED DUE TO DEPTH OF CONTAMINATION, COMPLETION OF REMEDIAL ACTIVITIES, AND/OR PLACEMENT OF THE COVER SYSTEM IN ACCORDANCE WITH DER-10 TRACK 4 RESTRICTED RESIDENTIAL REQUIREMENTS. SEE FIGURE 8 FOR COVER SYSTEM.



SCALE: 1 INCH = 40 FEET
SCALE IN FEET
(approximate)

DATE: SEPTEMBER 2019
DRAFTED BY: CMS

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

JOB NO.: 0239-016-001

REMAINING SOIL/FILL EXCEEDANCES ABOVE USCOs AND RRSCOs

SITE MANAGEMENT PLAN

MAIN & EAST BALCOM STREET SITE
BCP SITE NO. C915306
BUFFALO, NEW YORK

PREPARED FOR
1665 MAIN STREET GROUP, LLC

FIGURE 8

DISCLAIMER: PROPERTY OF BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC. & TURNKEY ENVIRONMENTAL RESTORATION, LLC IMPORTANT: THIS DRAWING PRINT IS LOANED FOR MUTUAL ASSISTANCE AND AS SUCH IS SUBJECT TO RECALL AT ANY TIME. INFORMATION CONTAINED HEREON IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF PARTIES OTHER THAN NECESSARY SUBCONTRACTORS & SUPPLIERS WITHOUT THE WRITTEN CONSENT OF BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC & TURNKEY ENVIRONMENTAL RESTORATION, LLC.

LEGEND:

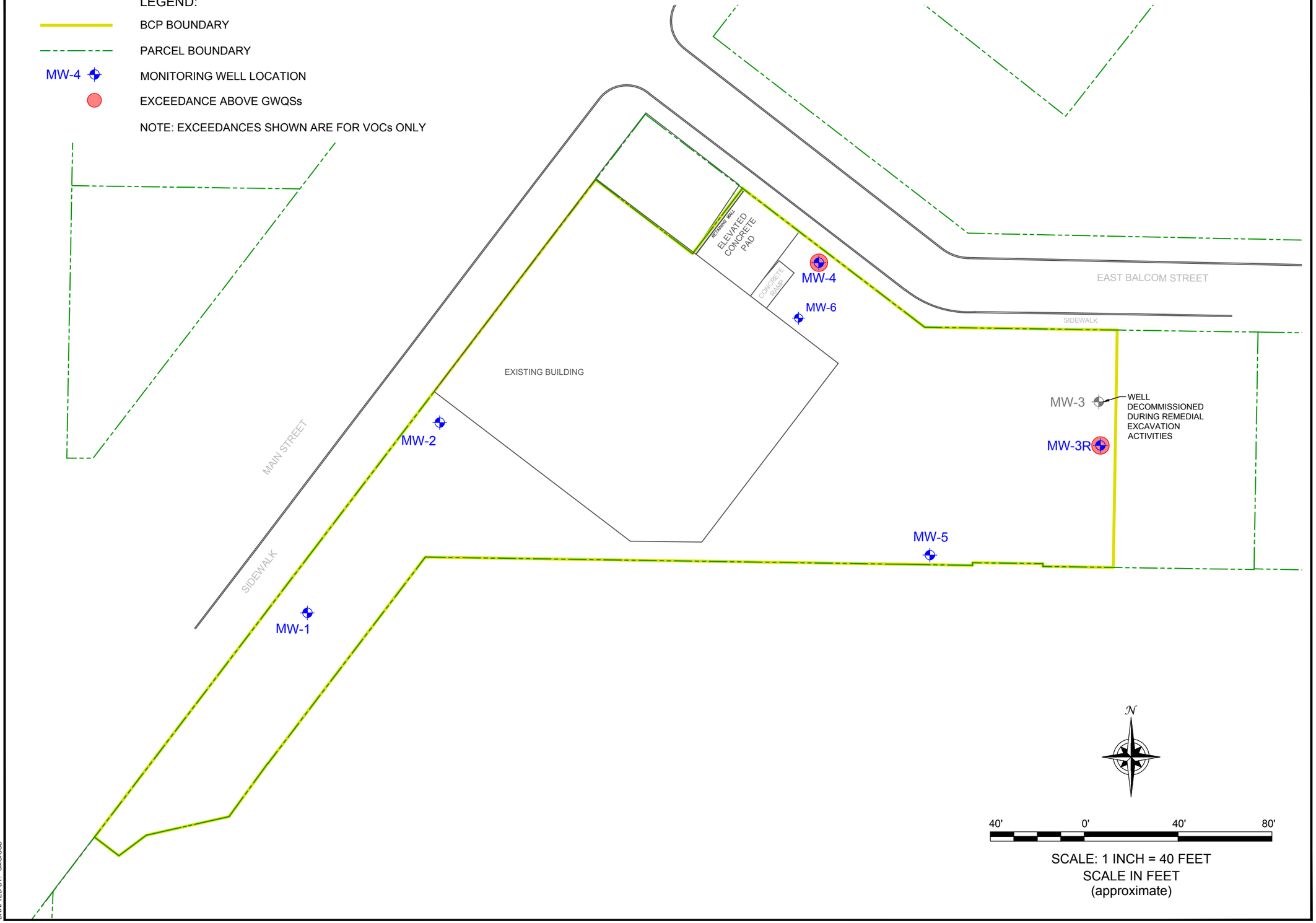
BCP BOUNDARY

PARCEL BOUNDARY

MW-4 MONITORING WELL LOCATION

EXCEEDANCE ABOVE GWQSs

NOTE: EXCEEDANCES SHOWN ARE FOR VOCs ONLY



SCALE: 1 INCH = 40 FEET
SCALE IN FEET
(approximate)

DATE: OCTOBER 2018
DRAFTED BY: CMS/CCB

REMAINING GROUNDWATER EXCEEDANCES ABOVE GWQSs

SITE MANAGEMENT PLAN

MAIN & EAST BALCOM STREET SITE
BCP SITE NO. C915306
BUFFALO, NEW YORK

PREPARED FOR

1665 MAIN STREET GROUP, LLC

FIGURE 9

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TURNKEY ENVIRONMENTAL RESTORATION, LLC

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

JOB NO.: 0239-016-001

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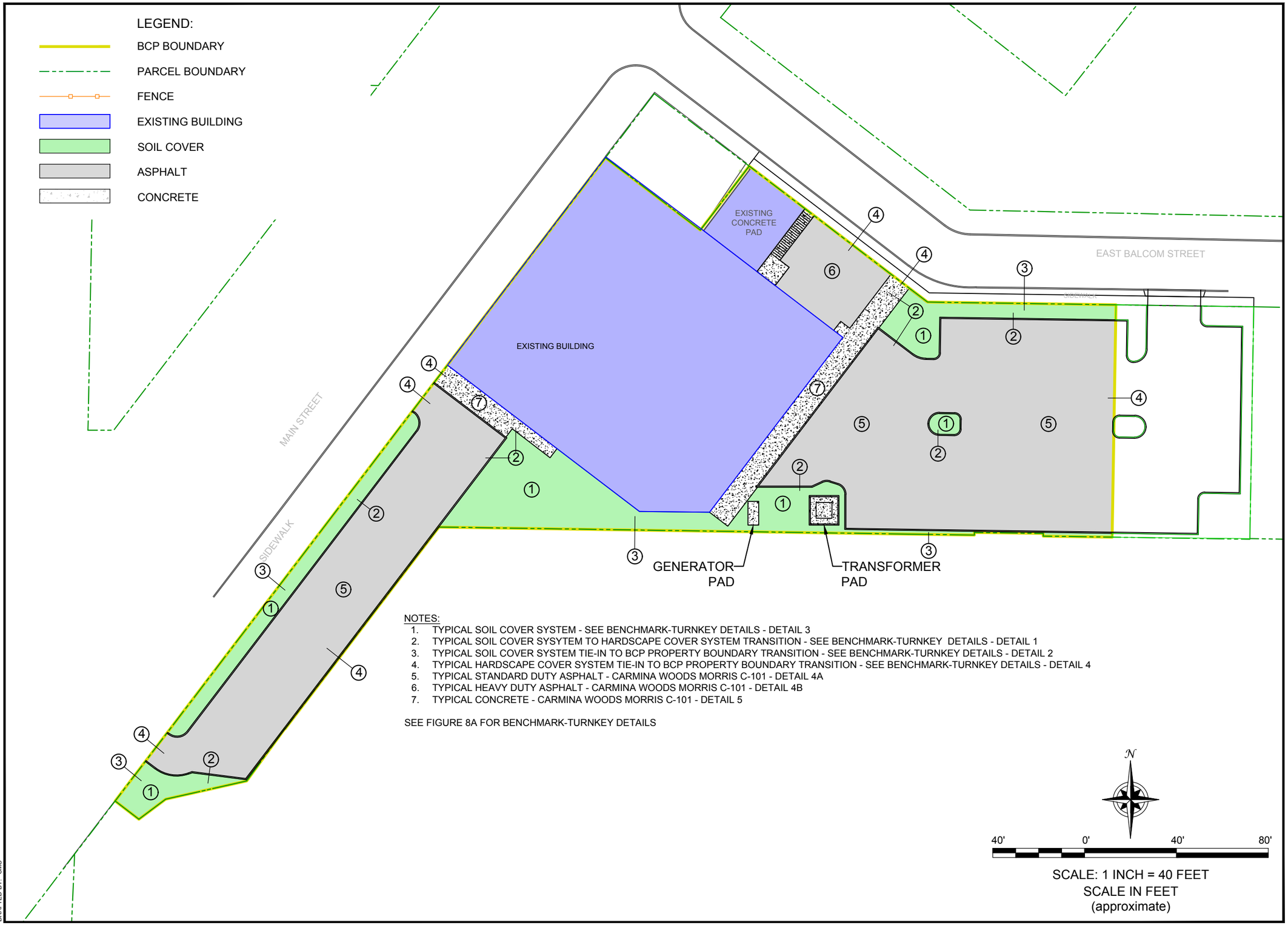
LEGEND:

- BCP BOUNDARY
- PARCEL BOUNDARY
- FENCE
- EXISTING BUILDING
- SOIL COVER
- ASPHALT
- CONCRETE



NOTES:

1. TYPICAL SOIL COVER SYSTEM - SEE BENCHMARK-TURNKEY DETAILS - DETAIL 3
2. TYPICAL SOIL COVER SYSYTEM TO HARDSCAPE COVER SYSTEM TRANSITION - SEE BENCHMARK-TURNKEY DETAILS - DETAIL 1
3. TYPICAL SOIL COVER SYSTEM TIE-IN TO BCP PROPERTY BOUNDARY TRANSITION - SEE BENCHMARK-TURNKEY DETAILS - DETAIL 2
4. TYPICAL HARDSCAPE COVER SYSTEM TIE-IN TO BCP PROPERTY BOUNDARY TRANSITION - SEE BENCHMARK-TURNKEY DETAILS - DETAIL 4
5. TYPICAL STANDARD DUTY ASPHALT - CARMINA WOODS MORRIS C-101 - DETAIL 4A
6. TYPICAL HEAVY DUTY ASPHALT - CARMINA WOODS MORRIS C-101 - DETAIL 4B
7. TYPICAL CONCRETE - CARMINA WOODS MORRIS C-101 - DETAIL 5

SEE FIGURE 8A FOR BENCHMARK-TURNKEY DETAILS

N

40' 0' 40' 80'

SCALE: 1 INCH = 40 FEET
SCALE IN FEET
(approximate)

DATE: SEPTEMBER 2019
DRAFTED BY: CMS

COVER SYSTEM LAYOUT

SITE MANAGEMENT PLAN
MAIN & EAST BALCOM STREET SITE
BCP SITE NO. C915306
BUFFALO, NEW YORK
PREPARED FOR
1665 MAIN STREET GROUP, LLC

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

JOB NO.: 0239-016-001

FIGURE 10

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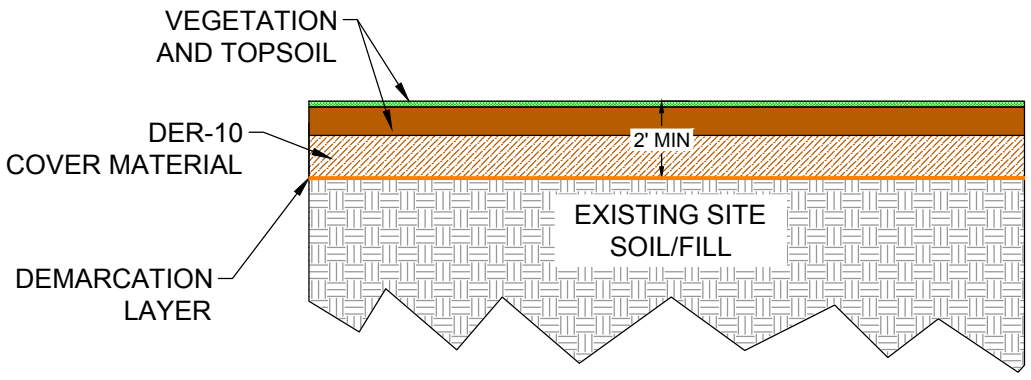
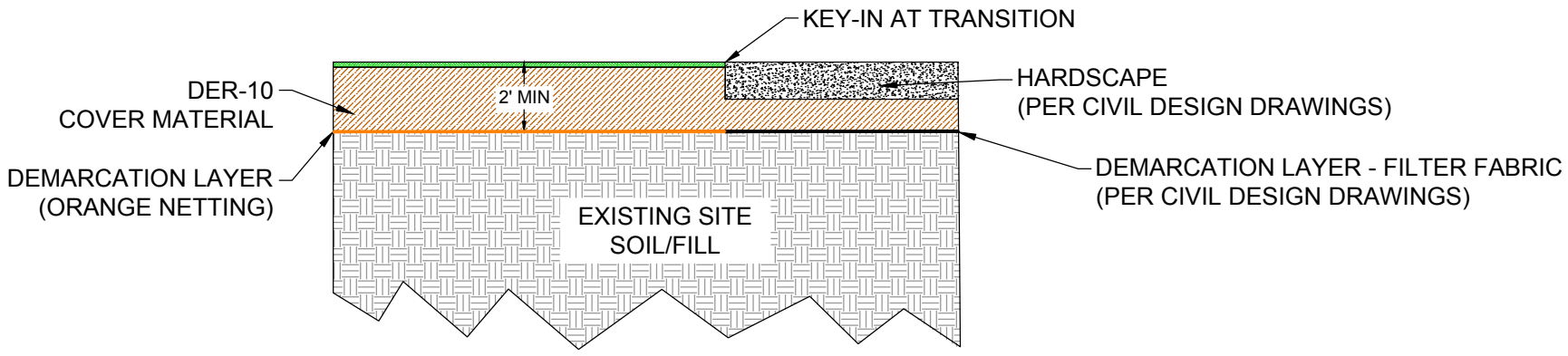
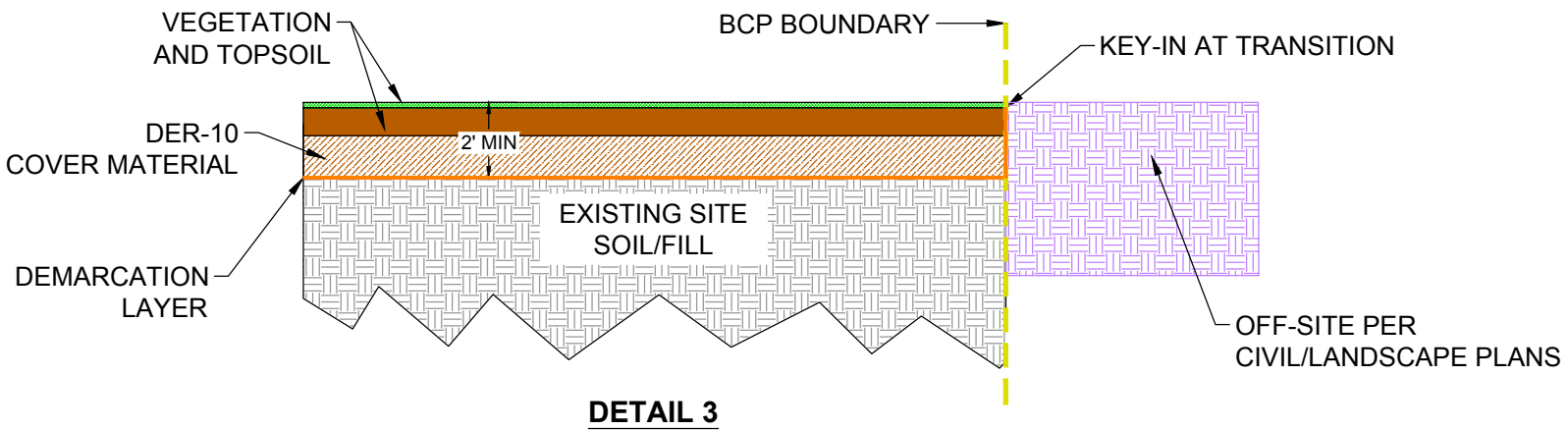
DATE: JULY 2019
DRAFTED BY: CMS



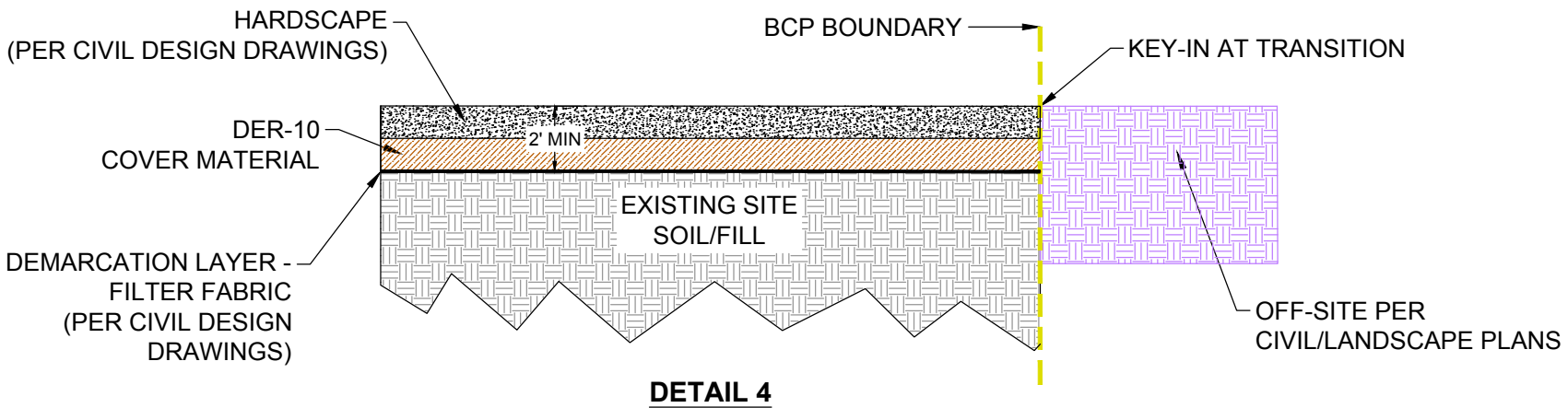
DETAIL 1
SOIL COVER



DETAIL 2
SOIL COVER SYSTEM TO HARDSCAPE COVER SYSTEM TRANSITION



DETAIL 3
SOIL COVER SYSTEM TIE-IN TO BCP SITE BOUNDARY TRANSITION



DETAIL 4
HARDSCAPE COVER SYSTEM TIE-IN TO BCP SITE BOUNDARY TRANSITION

NOTES:

1. TRANSITION FROM SOFTSCAPE TO HARDSCAPE AND/OR BCP BOUNDARY REQUIRES KEYING-IN TO PROVIDE A MINIMUM 2' DER-10 COVER MATERIAL AT TRANSITION POINT.
2. ALL COVER MATERIAL MUST BE DEMONSTRATED TO MEET IMPORT CRITERIA FOR RESTRICTED RESIDENTIAL USE PER APPENDIX 5 OF THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) APPENDIX 5 OF DER-10 TECHNICAL GUIDANCE FOR SITE INVESTIGATION AND REMEDIATION, MAY 2010. SOIL SAMPLING TO BE PERFORMED BY QUALIFIED ENVIRONMENTAL PROFESSIONAL (QEP) PER DER-10 AND ANALYZED BY A NEW YORK STATE DEPARTMENT OF HEALTH ELAP-CERTIFIED ENVIRONMENTAL TESTING LABORATORY. AN IMPORT REQUEST MUST BE PREPARED AND APPROVED BY THE NYSDEC BROWNFIELD CLEAN-UP PROGRAM (BCP) PROJECT MANAGER PRIOR TO IMPORT OF COVER MATERIAL TO THE SITE.
3. DEMARCATION LAYER SHALL BE COMPRISED OF NON-BIODEGRADABLE FABRIC NETTING OR PLASTIC FENCING.

FIGURE 10A

COVER SYSTEM TRANSITION DETAILS

SITE MANAGEMENT PLAN

MAIN & EAST BALCOM STREET SITE
BCP SITE NO. C915306
BUFFALO, NEW YORK

PREPARED FOR

1665 MAIN STREET GROUP, LLC

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

JOB NO.: 0239-016-001

DISCLAIMER: ***PROPERTY OF BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC. & TURNKEY ENVIRONMENTAL RESTORATION, LLC*** *IMPORTANT: THIS DRAWING PRINT IS LOANED FOR MUTUAL ASSISTANCE AND AS SUCH IS SUBJECT TO RECALL AT ANY TIME. INFORMATION CONTAINED HEREON IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF PARTIES OTHER THAN NECESSARY SUBCONTRACTORS & SUPPLIERS WITHOUT THE WRITTEN CONSENT OF BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC & TURNKEY ENVIRONMENTAL RESTORATION, LLC.*

APPENDIX A

ENVIRONMENTAL EASEMENT

MICHAEL P. KEARNS, ERIE COUNTY CLERK
REF:

DATE:10/24/2018
TIME:11:08:00 AM
RECEIPT: 18190467 - DUPLICATE -

PARALEGAL SERVICES OF BUFFALO
ACCOUNT #: 9273

DUPLICATE RECEIPT

ITEM - 01 785
RECD: 10/24/2018 11:15:31 AM
FILE: 2018213391 BK/PG D 11336/2759
Deed Sequence: TT2018006538
1665 MAIN ST GROUP LLC
PEOPLE OF THE STATE OF NEW YORK (THE)

Recording Fees	95.50
TP584	10.00

Subtotal 105.50

TOTAL DUE	$105.50
PAID TOTAL	$105.50
PAID ESCROW	$105.50

REC BY: Kim F
COUNTY RECORDER

D 11836 2759
FILED
OCT 24 2018
ERIE COUNTY
CLERK'S OFFICE

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 12th day of October, 2018, between Owner(s) 1665 Main Street Group, LLC, having an office at 617 Main Street, Suite 200, Buffalo, New York 14203, County of Erie, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee"), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 1661 Main Street in the City of Buffalo, County of Erie and State of New York, known and designated on the tax map of the County Clerk of Erie as tax map parcel numbers: Section 100.24 Block 4 Lot 14.1, being the same as that property conveyed to Grantor by deed dated April 1, 2016 and recorded in the Erie County Clerk's Office in Liber and Page 11294/1734. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 0.9929 +/- acres, and is hereinafter more fully described in the Land Title Survey dated May 11, 2016 and last revised August 21, 2018 prepared by Gregg C. Wittliff, L.L.S. of WM Schutt Associates, which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation

established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Order on Consent Index Number: C915306-08-16 as amended August 28, 2017, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement").

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Restricted Residential as described in 6 NYCRR Part 375-1.8(g)(2)(ii), Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Erie County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held

by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved by the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5) the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: C915306
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail

and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

11. Consistency with the SMP. To the extent there is any conflict or inconsistency between the terms of this Environmental Easement and the SMP, regarding matters specifically addressed by the SMP, the terms of the SMP will control.

Remainder of Page Intentionally Left Blank

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

1665 Main Street Group, LLC:

By: _____

Print Name: Nicholas A Sinatra

Title: Manager Date: 9/26/18

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF Erie)

On the 26 day of September, in the year 20 18, before me, the undersigned, personally appeared Nicholas A. Sinatra, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Jennifer Ann Velarde
Notary Public - State of New York

JENNIFER ANN VELARDE
Notary Public – State of New York
NO. 01VE6371453
Qualified in Erie County
My Commission Expires Feb 26. 2022

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: _____
Michael J. Ryan, Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 12th day of October, in the year 2018 before me, the undersigned, personally appeared Michael J. Ryan, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2022

SCHEDULE "A" PROPERTY DESCRIPTION

ALL THAT TRACT OR PARCEL OF LAND situate in the City of Buffalo, County of Erie and State of New York, being part of Lot 38, Township 11, Range 8 of the Holland Land Company's Survey, bounded and described as follows;

BEGININNG at a point on the southeast line of Main Street (99' wide) distant 36.70 feet measured (36.58' record) northeast of its intersection with the north line of Michigan Avenue (66' wide); thence northeasterly along the southeast line of Main Street, a distance of 352.23 feet to a point, said point being 35.05 feet southwest of East Balcom Street, as measured along the southeast line of Main Street; thence southeasterly along a line perpendicular to the southeast line of Main Street, a distance of 52.0 feet; thence northeasterly along a line parallel with the southeast line of Main Street, a distance of 35.05 feet to a point on the southwest line of East Balcom Street, said point being distant 52.0 feet southeast of the southeast line of Main Street; thence southeasterly along the southwest line of East Balcom Street, a measured distance of 97.64 feet to an angle point therein; thence easterly along the south line of East Balcom Street, a distance of 82.08 feet to a point, said point being 240.0 feet west of Masten Avenue (66' wide) as measured along the south line of East Balcom Street; thence southerly along a line parallel with the west line of Masten Avenue, a distance of 101.17 feet to a point on the north line of lands now or formerly conveyed to S.V.R. Watson, as recorded in the Erie County Clerk's Office in Liber 283 of deeds at page 397; thence westerly along the north line of said lands conveyed to Watson, a distance of 30.0 feet; thence northerly along a line parallel with the west line of Masten Avenue, a distance of 1.16 feet; thence westerly along a line parallel with the south line of East Balcom Street, a distance of 30.0 feet; thence southerly along a line parallel with the west line of Masten Avenue, a distance of 1.15 feet to a point on the north line of said lands conveyed to Watson; thence westerly along the north line of said lands conveyed to Watson, a distance of 233.22 feet to a point distant 39.79 feet southeast of the southeast line of Main Street, as measured perpendicular therefrom; thence southwesterly along a line parallel with the southeast line of Main Street and distant 39.79 feet therefrom, a distance of 110.49 feet; thence southeasterly along a line perpendicular to the southeast line of Main Street, a distance of 0.12 feet; thence southwesterly along a line a distance of 28.17 feet to a point distant 40.25 feet southeast of the southeast line of Main Street, as measured perpendicular therefrom; thence

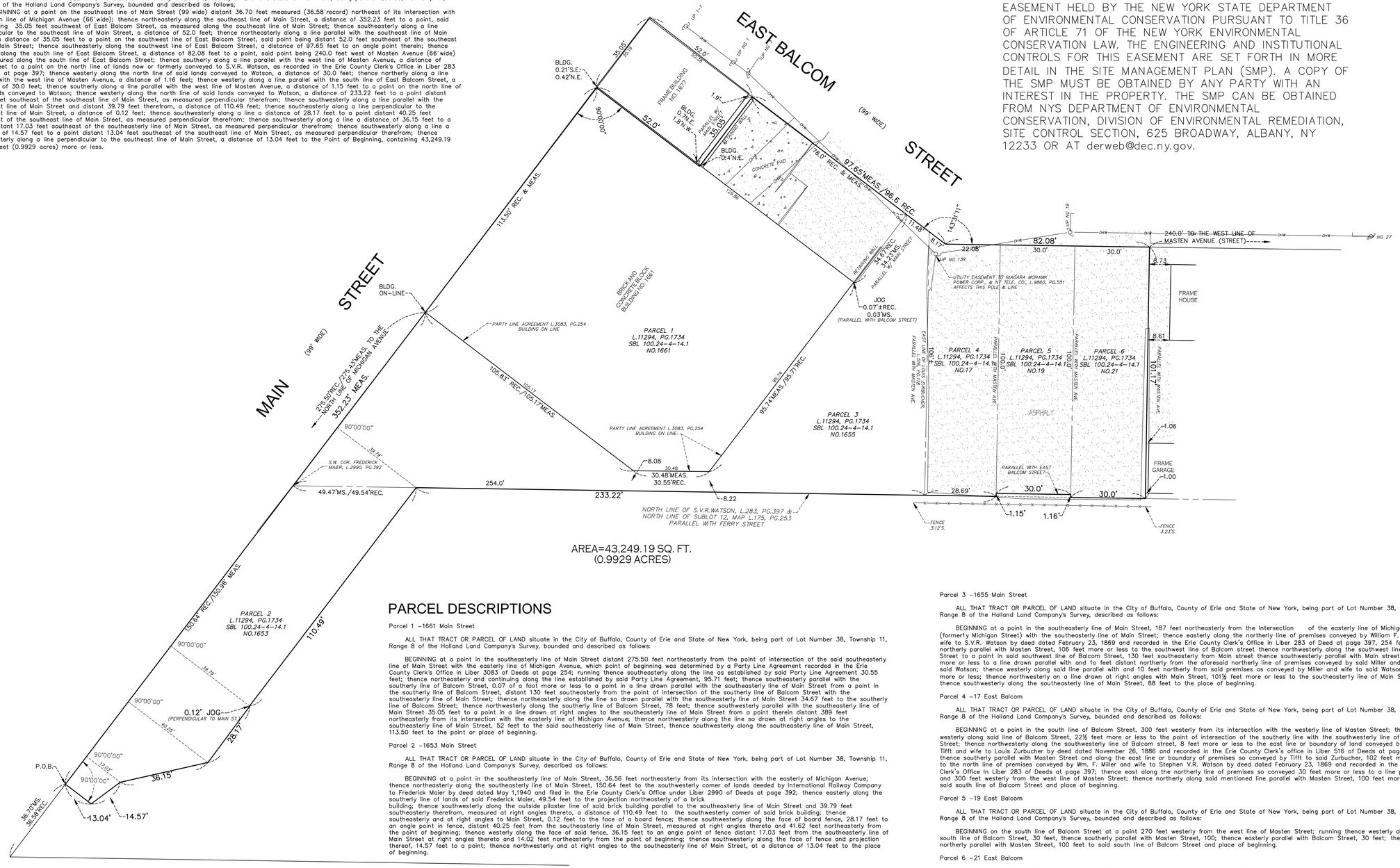
southwesterly along a line a distance of 36.15 feet to a point distant 17.03 feet southeast of the southeasterly line of Main Street, as measured perpendicular therefrom; thence southwesterly along a line a distance of 14.57 feet to a point distant 13.04 feet southeast of the southeast line of Main Street, as measured perpendicular therefrom; thence northwesterly along a line perpendicular to the southeast line of Main Street, a distance of 13.04 feet to the Point of Beginning, containing 43,249.19 square feet (0.9929 acres) more or less.

EASEMENT DESCRIPTION

ALL THAT TRACT OR PARCEL OF LAND situate in the City of Buffalo, County of Erie and State of New York, being part of Lot 38, Township 11, Range 8 of the Holland Land Company's Survey, bounded and described as follows:

BEGINNNG at a point on the southeast line of Main Street (99' wide) distant 36.70 feet measured (36.58'record) northeast of its intersection with the north line of Michigan Avenue (66' wide); thence northeasterly along the southeast line of Main Street, a distance of 352.23 feet to a point, said point being 35.05 feet southwest of East Balcom Street, as measured along the southeast line of Main Street; thence southeasterly along a line perpendicular to the southeast line of Main Street, a distance of 52.0 feet; thence northeasterly along a line parallel with the southeast line of Main Street, a distance of 35.05 feet to a point on the southwest line of East Balcom Street, said point being distant 52.0 feet southeast of the southeast line of Main Street; thence southeasterly along the southwest line of East Balcom Street, a distance of 97.65 feet to an angle point therein; thence easterly along the south line of East Balcom Street, a distance of 82.08 feet to a point, said point being 240.0 feet west of Masten Avenue (66' wide) as measured along the south line of East Balcom Street; thence southerly along a line parallel with the west line of Masten Avenue, a distance of 101.17 feet to a point on the north line of lands now or formerly conveyed to S.V.R. Watson, as recorded in the Erie County Clerk's Office in Liber 283 of deeds at page 397; thence westerly along the north line of said lands conveyed to Watson, a distance of 30.0 feet; thence northerly along a line parallel with the west line of Masten Avenue, a distance of 1.16 feet; thence westerly along a line parallel with the south line of East Balcom Street, a distance of 30.0 feet; thence southerly along a line parallel with the west line of Masten Avenue, a distance of 1.15 feet to a point on the north line of said lands conveyed to Watson; thence westerly along the north line of said lands conveyed to Watson, a distance of 233.22 feet to a point distant 39.79 feet southeast of the southeast line of Main Street, as measured perpendicular therefrom; thence southwesterly along a line parallel with the southeast line of Main Street and distant 39.79 feet therefrom, a distance of 110.49 feet; thence southeasterly along a line perpendicular to the southeast line of Main Street, a distance of 0.12 feet; thence southwesterly along a line a distance of 28.17 feet to a point distant 40.25 feet southeast of the southeast line of Main Street, as measured perpendicular therefrom; thence southwesterly along a line a distance of 36.15 feet to a point distant 17.03 feet southeast of the southeasterly line of Main Street, as measured perpendicular therefrom; thence southwesterly along a line a distance of 14.57 feet to a point distant 13.04 feet southeast of the southeast line of Main Street, as measured perpendicular therefrom; thence northwesterly along a line perpendicular to the southeast line of Main Street, a distance of 13.04 feet to the Point of Beginning, containing 43,249.19 square feet (0.9929 acres) more or less.

"THIS PROPERTY IS SUBJECT TO AN ENVIRONMENTAL EASEMENT HELD BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION PURSUANT TO TITLE 36 OF ARTICLE 71 OF THE NEW YORK ENVIRONMENTAL CONSERVATION LAW. THE ENGINEERING AND INSTITUTIONAL CONTROLS FOR THIS EASEMENT ARE SET FORTH IN MORE DETAIL IN THE SITE MANAGEMENT PLAN (SMP). A COPY OF THE SMP MUST BE OBTAINED BY ANY PARTY WITH AN INTEREST IN THE PROPERTY. THE SMP CAN BE OBTAINED FROM NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION, DIVISION OF ENVIRONMENTAL REMEDIATION, SITE CONTROL SECTION, 625 BROADWAY, ALBANY, NY 12233 OR AT derweb@dec.ny.gov.



AREA=43,249.19 SQ. FT.
(0.9929 ACRES)

PARCEL DESCRIPTIONS

Parcel 1 –1661 Main Street

ALL THAT TRACT OR PARCEL OF LAND situate in the City of Buffalo, County of Erie and State of New York, being part of Lot Number 38, Township 11, Range 8 of the Holland Land Company's Survey, bounded and described as follows:

BEGINNING at a point in the southeasterly line of Main Street distant 275.50 feet northeasterly from the point of intersection of the said southeasterly line of Main Street with the easterly line of Michigan Avenue, which point of beginning was determined by a Party Line Agreement recorded in the Erie County Clerk's Office in Liber 3083 of Deeds at page 254; running thence southeasterly along the line as established by said Party Line Agreement 30.55 feet; thence northeasterly and continuing along the line established by said Party Line Agreement, 95.71 feet; thence southeasterly parallel with the southerly line of Balcom Street, 0.07 of a foot more or less to a point in a line drawn parallel with the southeasterly line of Main Street from a point in the southerly line of Balcom Street, distant 130 feet southeasterly from the point of intersection of the southerly line of Balcom Street with the southeasterly line of Main Street; thence northeasterly along the line so drawn parallel with the southeasterly line of Main Street 34.67 feet to the southerly line of Balcom Street; thence northwesterly along the southerly line of Balcom Street, 78 feet; thence southwesterly parallel with the southeasterly line of Main Street 35.05 feet to a point in a line drawn at right angles to the southeasterly line of Main Street from a point therein distant 389 feet northeasterly from its intersection with the easterly line of Michigan Avenue; thence northwesterly along the line so drawn at right angles to the southeasterly line of Main Street, 52 feet to the said southeasterly line of Main Street, thence southwesterly along the southeasterly line of Main Street, 113.50 feet to the point or place of beginning.

Parcel 2 –1653 Main Street

ALL THAT TRACT OR PARCEL OF LAND situate in the City of Buffalo, County of Erie and State of New York, being part of Lot Number 38, Township 11, Range 8 of the Holland Land Company's Survey, described as follows:

BEGINNING at a point in the southeasterly line of Main Street, 36.56 feet northeasterly from its intersection with the easterly of Michigan Avenue; thence northeasterly along the southeasterly line of Main Street, 150.64 feet to the southwesterly corner of lands deeded by International Railway Company to Frederick Maier by deed dated May 1,1940 and filed in the Erie County Clerk's Office under Liber 2990 of Deeds at page 392; thence easterly along the southerly line of lands of said Frederick Maier, 49.54 feet to the projection northeasterly of a brick building; thence southwesterly along the outside pilaster line of said brick building parallel to the southeasterly line of Main Street and 39.79 feet southeasterly therefrom, measured at right angles thereto, a distance of 110.49 feet to the southwesterly corner of said brick building; thence southeasterly and at right angles to Main Street, 0.12 feet to the face of a board fence; thence southwesterly along the face of board fence, 28.17 feet to an angle point in fence, distant 40.25 feet from the southeasterly line of Main Street, measured at right angles thereto and 41.62 feet northeasterly from the point of beginning; thence westerly along the face of said fence, 36.15 feet to an angle point of fence distant 17.03 feet from the southeasterly line of Main Street at right angles thereto and 14.02 feet northeasterly from the point of beginning; thence southwesterly along the face of fence and projection thereof, 14.57 feet to a point; thence northwesterly and at right angles to the southeasterly line of Main Street, at a distance of 13.04 feet to the place of beginning.

Parcel 3 –1655 Main Street

ALL THAT TRACT OR PARCEL OF LAND situate in the City of Buffalo, County of Erie and State of New York, being part of Lot Number 38, Township 11, Range 8 of the Holland Land Company's Survey, described as follows:

BEGINNING at a point in the southeasterly line of Main Street, 187 feet northeasterly from the Intersection of the easterly line of Michigan Avenue (former1y Michigan Street) with the southeasterly line of Main Street; thence easterly along the northerly line of premises conveyed by William F. Miller and wife to S.V.R. Watson by deed dated February 23, 1869 and recorded in the Erie County Clerk's Office in Liber 283 of Deed at page 397, 254 feet; thence northerly parallel with Masten Street, 106 feet more or less to the southwest line of Balcom street thence northwesterly along the southwest line of Balcom Street to a point in said southwest line of Balcom Street, 130 feet southeasterly from Main street thence southwesterly parallel with Main street, 120 feet more or less to a line drawn parallel with and 1o feet distant northerly from the aforesaid northerly line of premises conveyed by said Miller and wife to said Watson; thence westerly along said line parallel with and 10 feet northerly from said premises as conveyed by Miller and wife to said Watson, 34.58 feet more or less; thence northwesterly on a line drawn at right angles with Main Street, 101½ feet more or less to the southeasterly line of Main Street; thence southwesterly along the southeasterly line of Main Street, 88 feet to the place of beginning.

Parcel 4 –17 East Balcom

ALL THAT TRACT OR PARCEL OF LAND situate in the City of Buffalo, County of Erie and State of New York, being part of Lot Number 38, Township 11, Range 8 of the Holland Land Company's Survey, bounded and described as follows:

BEGINNING at a point in the south line of Balcom Street, 300 feet westerly from its intersection with the westerly line of Masten Street; thence westerly along said line of Balcom Street, 22½ feet more or less to the point of intersection of the southerly line with the southwesterly line of Balcom Street; thence northwesterly along the southwesterly line of Balcom street, 8 feet more or less to the east line or boundary of land conveyed by Wilson S. Tifft and wife to Louis Zurbucher by deed dated November 26, 1886 and recorded in the Erie County Clerk's office in Liber 516 of Deeds at page 118; thence southerly parallel with Masten Street and along the east line or boundary of premises so conveyed by Tifft to said Zurbucher, 102 feet more or less to the north line of premises conveyed by Wm. F. Miller and wife to Stephen V.R. Watson by deed dated February 23, 1869 and recorded in the Erie County Clerk's Office In Liber 283 of Deeds at page 397; thence east along the northerly line of premises so conveyed 30 feet more or less to a line parallel with and 300 feet westerly from the west line of Masten Street; thence northerly along said mentioned line parallel with Masten Street, 100 feet more or less to said south line of Balcom Street and place of beginning.

Parcel 5 –19 East Balcom

ALL THAT TRACT OR PARCEL OF LAND situate in the City of Buffalo, County of Erie and State of New York, being part of Lot Number 38, Township 11, Range 8 of the Holland Land Company's Survey, bounded and described as follows:

BEGINNING on the south line of Balcom Street at a point 270 feet westerly from the west line of Masten Street; running thence westerly along the south line of Balcom Street, 30 feet, thence southerly parallel with Masten Street, 100; thence easterly parallel with Balcom Street, 30 feet; thence northerly parallel with Masten Street, 100 feet to said south line of Balcom Street and place of beginning.

Parcel 6 –21 East Balcom

ALL THAT TRACT OR PARCEL OF LAND situate in the City of Buffalo, County of Erie and State of New York, being part of Lot Number 38, Township 11, Range 8 of the Holland Land Company's Survey, bounded and described as follows:

COMMENCING in the south line of Balcom Street at a point 240 feet westerly from the west line of Masten Street; thence westerly along said south line of Balcom Street, 30 feet; thence southerly parallel with Masten Street, 100 feet to the northerly line or boundary of land conveyed by William F. Miner and wife to Stephen V.R. Watson by Deed dated February 23,1869, recorded in the Erie County Clerk's Office in Liber 283 of Deeds at page 397; thence easterly along said northerly line of premises so conveyed by said Miller and wife to said Watson, 30 feet; thence northerly parallel with Masten Street, 100 feet to the south line of Balcom Street to the place of beginning.

LEGEND

FENCE (CHAINLINK)
FENCE (WOOD)
LOT LINE
PARCEL LINE
RIGHT OF WAY LINE

MEMBER OF NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS

MEMBER OF NIAGARA FRONTIER LAND SURVEYORS ASSOCIATION INC.

THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN UP-TO-DATE ABSTRACT OF TITLE AND IS SUBJECT TO ANY STATE OF FACTS THAT MAY BE REVEALED BY AN EXAMINATION OF SUCH.

0 20 30 40 60 80

SCALE: 1"=20'
GRAPHIC SCALE IN FEET

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION
1	01/11/2017	REVISED
2	07/31/2017	REVISED TAX PARCELS & DIMENSION

DESIGNED BY:
DRAWN BY: GCW
CHECKED BY: GCW
DATE: 05/11/2016

WARNING:
ALTERING THIS DOCUMENT IS IN VIOLATION OF SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW
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WM. SCHUTT & ASSOCIATES P.C.

ONLY COPIES FROM THE ORIGINAL OF THIS MAP BEARING THE LICENSED LAND SURVEYOR'S EMBOSSED SEAL SHALL BE CONSIDERED TO BE VALID TRUE COPIES

WM SCHUTT ASSOCIATES
37 CENTRAL AVE.
LANCASTER, NY 14086-2143
PH. 716-683-5961
FAX 716-683-0169
WWW.WMSCHUTT.COM

CITY OF BUFFALO
COUNTY OF ERIE, STATE OF NEW YORK
PART OF LOT 38, TOWNSHIP 11, RANGE 8
HOLLAND LAND COMPANY'S SURVEY

1665 MAIN STREET
NYSDEC ENVIROMENTAL EASEMENT SURVEY

THIS SHEET ISSUED JULY 18, 2017

BS-1

DRAWING SCALE: 1"=20'

WSA PROJECT NO. 15290

APPENDIX B

RESPONSIBILITIES OF OWNER &REMEDIAL PARTY

B-1: RESPONSIBILITIES

The owner and remedial party, and the associated responsibilities for implementing the Site Management Plan ("SMP") for the Main & East Balcom Street Site (the "Site"), number C915306, is:

1665 Main Street Group, LLC
617 Main Street, Suite 350
Buffalo, New York 14203

Nothing on this page shall supersede the provisions of an Environmental Easement, Consent Order, Consent Decree, agreement, or other legally binding document that affects rights and obligations relating to the site.

Future site owners and responsible parties (RPs) and their successors and assigns are required to carry out the activities set forth above.

APPENDIX C

LIST OF SITE CONTACTS

APPENDIX C – LIST OF SITE CONTACTS

Name	Phone/Email Address
Site Owner and Remedial Party: 1665 Main Street Group, LLC	716-220-8468 nick@sinatraandcompany.com
Qualified Environmental Professional: Thomas Forbes	716-856-0599 tforbes@benchmarkturnkey.com
Qualified Environmental Professional: Nathan Munley	716-856-0599 nmunley@benchmarkturnkey.com
Remedial Party Attorney: Mr. Craig Slater, Esq.	716-865-6760 cslater@cslater.com
NYSDEC DER Region 9 Project Manager: David Locey, P.E.	716-851-7220 David.locey@dec.ny.gov
NYSDEC Regional Haz. Waste Engineer: Chad Staniszewski	716-851-7220 Chad.staniszewski@dec.ny.gov
NYSDEC Site Control: Ms. Kelly Lewandowski	518-402-9553 Kelly.lewandowski@dec.ny.gov
NYSDOH: Renata Ockerby	518- 402-7860 BEEI@health.ny.gov

APPENDIX D

MONITORING WELL BORING
&
CONSTRUCTION LOGS

Project No: B0239-016-001

Borehole Number: BSB-1

Project: Main & East Balcom Street Site

A.K.A.:

Client: 1665 Main Street Group. LLC

Logged By: NAS

Site Location: Buffalo NY

Checked By: NTM

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 250 – 500)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Concrete***							
	-0.5								
	0.5	***Silty Sand*** Tannish brown, moist to wet (5'), mostly fine sand, few silt, medium dense, petroleum-like odors	1		1.5		75.0, 120.0, 125.0, 130.0	Sampled (1'-2')	
			2		2		100.0, 88.0, 56.0, 50.0		
5.0			3		2		30.0, 17.0		
	-8.0								
	8.0	End of Borehole							

Drilled By: Trec Environmental
Drill Rig Type: Geoprobe 420M
Drill Method: Direct Push with 4' Macro-core Sampler
Comments:
Drill Date(s): 11/13/2017

Hole Size: 3"
Stick-up: N/A
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: B0239-016-001

Borehole Number: BSB-2

Project: Main & East Balcom Street Site

A.K.A.:

Client: 1665 Main Street Group. LLC

Logged By: NAS

Site Location: Buffalo NY

Checked By: NTM

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 250 – 500)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Concrete***							
	-0.5								
	0.5	***Silty Sand*** Tannish brown with minor black staining, moist to wet (5'), mostly fine sand, few silt, medium dense, Petroleum-like odors	1		2		80.0, 104.0, 108.0	Sampled (1'-2')	
			2		3		140.0, 230.0		
5.0			3		2		170.0, 160.0, 128.0		
	-8.0						105.0		
	8.0	End of Borehole							

Drilled By: Trec Environmental
Drill Rig Type: Geoprobe 420M
Drill Method: Direct Push with 4' Macro-core Sampler
Comments:
Drill Date(s): 11/13/2017

Hole Size: 3"
Stick-up: N/A
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: B0239-016-001

Borehole Number: BSB-3

Project: Main & East Balcom Street Site

A.K.A.:

Client: 1665 Main Street Group. LLC

Logged By: NAS

Site Location: Buffalo NY

Checked By: NTM

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 250 – 500)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Concrete***							
	-0.5 / 0.5	***Silty Sand*** Tannish brown with minor black staining, moist, mostly fine sand, few silt, medium dense, Petroleum-like odors	1		1		80.0 – 115.0		
	-1.0 / 1.0	End of Borehole							

Drilled By: Trec Environmental
Drill Rig Type: Geoprobe 420M
Drill Method: Direct Push with 4' Macro-core Sampler
Comments:
Drill Date(s): 11/13/2017

Hole Size: 3"
Stick-up: N/A
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: B0239-016-001

Borehole Number: BSB-4

Project: Main & East Balcom Street Site

A.K.A.:

Client: 1665 Main Street Group. LLC

Logged By: NAS

Site Location: Buffalo NY

Checked By: NTM

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm 0 250 500	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Concrete***							
	-0.5 0.5	***Silty Sand*** Tannish brown with minor black staining, moist, mostly fine sand, few silt, medium dense, Petroleum-like odors	1		2		80.0 125.0 190.0		
	-2.0 2.0	End of Borehole							

Drilled By: Trec Environmental
Drill Rig Type: Geoprobe 420M
Drill Method: Direct Push with 4' Macro-core Sampler
Comments: Refusal at 2 Fbgs
Drill Date(s): 11/13/2017

Hole Size: 3"
Stick-up: N/A
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: B0239-016-001

Borehole Number: BSB-5

Project: Main & East Balcom Street Site

A.K.A.:

Client: 1665 Main Street Group. LLC

Logged By: NAS

Site Location: Buffalo NY

Checked By: NTM

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 250 – 500)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Concrete***							
	-0.5 / 0.5	***Silty Sand*** Tannish brown, moist, mostly fine sand, few silt, medium dense, Petroleum-like odors	1		2		72.0; 80.0; 160.0		
	-2.0 / 2.0	End of Borehole							

Drilled By: Trec Environmental
Drill Rig Type: Geoprobe 420M
Drill Method: Direct Push with 4' Macro-core Sampler
Comments: Refusal at 2 Fbgs
Drill Date(s): 11/13/2017

Hole Size: 3"
Stick-up: N/A
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: B0239-016-001

Borehole Number: MW-1

Project: Main & East Balcom Street Site

A.K.A.:

Client: 1665 Main Street Group. LLC

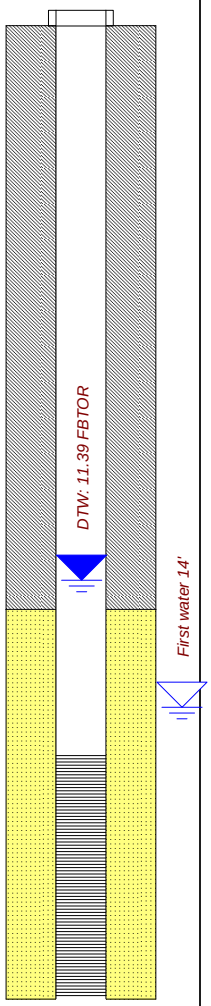
Logged By: NAS

Site Location: Buffalo NY

Checked By: NTM

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

Depth (ftbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs (ppm)	Lab Sample	Well Completion Details or Remarks
-1.0									
	0.0 / 0.0	Ground Surface							
	0.0	***Fill*** Brown, dry, mostly medium plasticity fines, few fine sand, little well sorted gravel, few brick, few cinders, firm, no odors	1		3		0.0		
4.0			2		4		0.0		
	-8.0 / 8.0	***Sandy Lean Clay*** Reddish brown, moist, mostly medium plasticity fines, little fine sand, trace subrounded gravel, stiff, massive, no odors	3		4		0.0		
9.0									
	-11.0 / 11.0	***Fine Sand*** Tannish brown, moist to wet (14'), mostly fine sand, few medium plasticity fines, medium dense, no odors	4		4		0.0		
14.0									
			5		4		0.0	Sampled (16'-19')	
19.0	-19.0 / 19.0	***Sandy Lean Clay*** Reddish brown, moist, mostly medium plasticity fines, little fine sand, trace subrounded gravel, stiff, massive, no odors							
	-20.0 / 20.0	End of Borehole							



Drilled By: Trec Environmental
Drill Rig Type: Track mounted Geoprobe 6620DT
Drill Method: Direct Push with 4' Macro-core Sampler
Comments:
Drill Date(s): 9/18/17

Hole Size: 3"
Stick-up: N/A
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: B0239-016-001

Borehole Number: MW-2

Project: Main & East Balcom Street Site

A.K.A.:

Client: 1665 Main Street Group. LLC

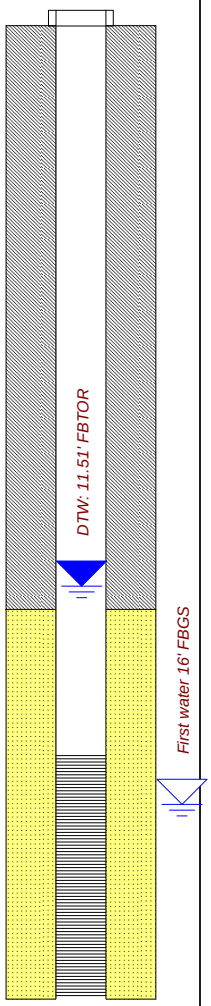
Logged By: NAS

Site Location: Buffalo NY

Checked By: NTM

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

Depth (ftbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 50 – 100)	Lab Sample	Well Completion Details or Remarks
-1.0									
	0.0	Ground Surface							
	0.0	***Fill*** Dark brown, moist, mostly medium plasticity fines, few fine sand, little well sorted gravel, few brick, few cinders, loose when disturbed, no odors	1		.5		0.0		
4.0			2		.5		0.0		
	-8.5 8.5	***Sandy Lean Clay*** Reddish brown, moist, mostly medium plasticity fines, little fine sand, trace subrounded gravel, stiff, massive, no odors	3		3		0.0		
9.0	-11.0 11.0	***Fine Sand*** Tannish brown, moist to wet (16), mostly fine sand, few medium plasticity fines, medium dense, no odors	4		4		0.0		
14.0			5		4		0.0	Sampled (18-20')	
19.0	-20.0 20.0	End of Borehole					0.0		



Drilled By: Trec Environmental
Drill Rig Type: Track mounted Geoprobe 6620DT
Drill Method: Direct Push with 4' Macro-core Sampler
Comments:
Drill Date(s): 9/18/17

Hole Size: 3"
Stick-up: N/A
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: B0239-016-001

Borehole Number: MW-3

Project: Main & East Balcom Street Site

A.K.A.:

Client: 1665 Main Street Group. LLC

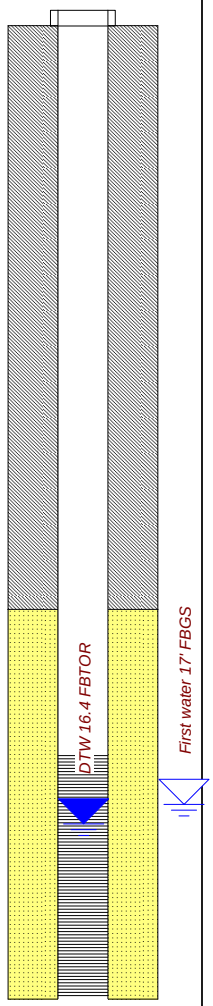
Logged By: NAS

Site Location: Buffalo NY

Checked By: NTM

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

Depth (ftbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 50 / 100)	Lab Sample	Well Completion Details or Remarks
-1.0	0.0	Ground Surface							
	0.0	***Fill*** Black/ tan, moist, mostly slag, asphalt, some subangular gravel, some well graded sand,few cinders , loose when disturbed, no odors	1		.5		0.0		
	-1.0 1.0	***Fill*** Tannish brown, moist, mostly medium plasticity fines, little fine sand,few subangular gravel, appears reworked, loose when distubed, no odors					0.0		
4.0			2		.5		0.0		
	-5.0 5.0	***Sandy Lean Clay*** Reddish brown, moist, mostly medium plasticity fines, little fine sand, trace subrounded gravel, stiff, massive, no odors					0.0		
9.0			3		3		0.0		
							0.0		
							0.0		
14.0			4		4		0.0		
							0.0		
							0.0		
	-17.0 17.0	***Fine Sand*** Tannish brown, moist to wet (17), mostly fine sand, few medium plasticity fines decreasing with depth, medium dense, no odors	5		4		0.0		
19.0							0.0	Sampled (18-20')	
	-20.0 20.0	End of Borehole							



Drilled By: Trec Environmental
Drill Rig Type: Track mounted Geoprobe 6620DT
Drill Method: Direct Push with 4' Macro-core Sampler
Comments:
Drill Date(s): 9/19/17

Hole Size: 3"
Stick-up: N/A
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: B0239-016-001

Borehole Number: MW-4

Project: Main & East Balcom Street Site

A.K.A.:

Client: 1665 Main Street Group. LLC

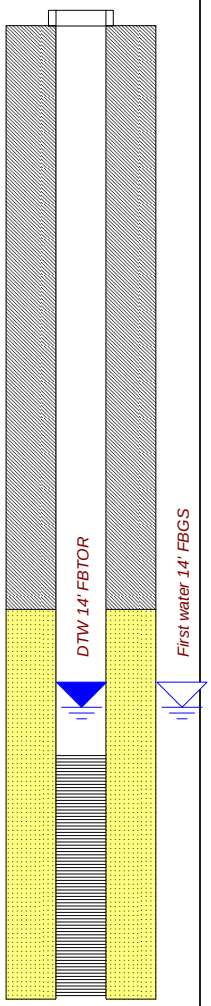
Logged By: NAS

Site Location: Buffalo NY

Checked By: NTM

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

Depth (ftbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm	Lab Sample	Well Completion Details or Remarks
-1.0	0.0	Ground Surface							
	0.0	***Fill*** Black/ tan, moist, mostly asphalt, some subangular gravel, some well graded sand,few cinders , loose when disturbed, no odors							
	-1.0 1.0	***Fill*** Tan, reddish brown, moist, mostly medium plasticity fines, little fine sand,few subangular gravel, few cinders, appears reworked, loose when distubed, no odors	1		3.5		0.0 0.0 0.0 0.0		
4.0	-5.0 5.0	***Sandy Lean Clay*** Reddish brown, moist, mostly medium plasticity fines, little fine sand, trace subrounded gravel, stiff, massive, no odors	2		4		0.0 0.0 0.0 0.0		
9.0			3		4		0.0 0.0 0.0 0.0		
14.0	-14.0 14.0	***Silty Fine Sand*** Tannish brown, moist to wet (14), mostly fine sand, few medium plasticity fines decreasing with depth, medium dense, no odors	4		4		0.0 0.0 0.0 0.0		
19.0	-20.0 20.0	End of Borehole	5		3		0.0 0.0 0.0 0.0	Sampled (18-20')	



Drilled By: Trec Environmental
Drill Rig Type: Track mounted Geoprobe 6620DT
Drill Method: Direct Push with 4' Macro-core Sampler
Comments:
Drill Date(s): 11/13/17

Hole Size: 3"
Stick-up: N/A
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: B0239-016-001

Borehole Number: MW-5

Project: Main & East Balcom Street Site

A.K.A.:

Client: 1665 Main Street Group. LLC

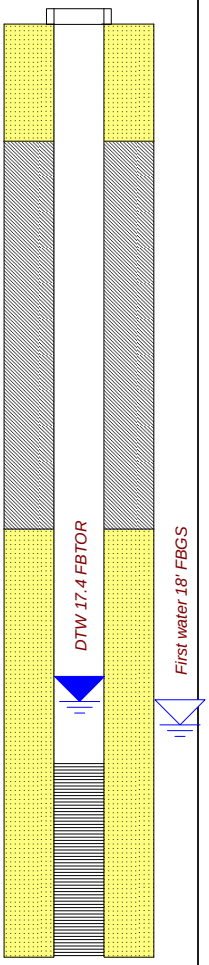
Logged By: NAS

Site Location: Buffalo NY

Checked By: NTM

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

Depth (ftbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 50 / 100)	Lab Sample	Well Completion Details or Remarks
	0.0	Ground Surface							
	0.0	***Fill*** Black/ tan, moist, mostly Well graded sand,some asphalt, some subrounded gravel, some well graded sand,few cinders , loose when disturbed, no odors	1		2		0.0		
	-1.5 / 1.5	***Fill*** Tannish brown, moist, mostly medium plasticity fines, little fine sand,few subangular gravel, appears reworked, loose when distubed, no odors					0.0		
4.0	-4.0 / 4.0	***Reworked Sandy Lean Clay*** Reddish brown, moist, mostly medium plasticity fines, little fine sand, trace subrounded gravel, no odors	2		4		0.0		
							0.0		
							0.0		
9.0	-10.0 / 10.0	***Sandy Lean Clay*** Reddish brown, moist, mostly medium plasticity fines, little fine sand, trace subrounded gravel, stiff, massive, no odors	3		4		0.0		
							0.0		
							0.0		
14.0			4		4		0.0		
							0.0		
							0.0		
	-17.0 / 17.0	***Fine Sand*** Grey, moist to wet (18), mostly fine sand, few medium plasticity fines decreasing with depth, medium dense, no odors	5		4		0.0		
19.0							0.0		
							0.0		
			6		4		0.0	Sampled (20-24')	
							0.0		
							0.0		
24.0	-24.0 / 24.0	End of Borehole							
29.0									



Drilled By: Trec Environmental
Drill Rig Type: Track mounted Geoprobe 6620DT
Drill Method: Direct Push with 4' Macro-core Sampler
Comments:
Drill Date(s): 2/8/2018

Hole Size: 3"
Stick-up: N/A
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: B0239-016-001

Borehole Number: MW-6

Project: Main & East Balcom Street Site

A.K.A.:

Client: 1665 Main Street Group. LLC

Logged By: NAS

Site Location: Buffalo NY

Checked By: NTM

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (ftbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 50 / 100)	Lab Sample	Well Completion Details or Remarks
-1.0	0.0 / 0.0	Ground Surface							
	-1.0 / 1.0	***Subangular gravel*** Grey, moist, mostly subanular gravel, loose when disturbed, no odors							
		Silty sand Dark brown, moist, mostly fine sand, some silt, medium dense, no odors	1		3		0.0		
4.0		***Sandy Lean Clay*** Reddish brown, moist, mostly medium plasticity fines, little fine sand, trace subrounded gravel, stiff, massive, no odors	2		4		0.0		
9.0	-10.0 / 10.0	***Silty Fine Sand*** Grey/ brown, moist to wet (12'), mostly fine sand, few medium plasticity fines decreasing with depth, medium dense, slight petroleum-like odors	3		3		0.0 / 5.0 / 5.0		
14.0			4		2		2.0 / 2.0 / 2.0 / 2.0		
19.0	-20.0 / 20.0	End of Borehole	5		4		0.0 / 0.0 / 0.0 / 0.0		DTW 12.7' FBTOR; First water 12' FBGS

Drilled By: Trec Environmental
Drill Rig Type: Track mounted Geoprobe 6620DT
Drill Method: Direct Push with 4' Macro-core Sampler
Comments:
Drill Date(s): 6/21/19

Hole Size: 3"
Stick-up: N/A
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0239-014-001

Borehole Number: SB-01

Project: Limited Phase II Environmental Site Investigation

A.K.A.:

Client: Sinatra Company Real Estate, LLC

Logged By: PWW

Site Location: 1653-1661 Main Street & 17-21 East Balcom Street

Checked By: NM

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 250 – 500)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0 / -0.5	***Concrete***							
	0.5	***Fine Sand*** Brown, moist, mostly fine sand, trace non-plastic fines, petroleum-like odors, loose when disturbed, massive	S-1	NA	1.5		36.0, 63.0, 149.0		
	-2.0 / 2.0	As above	S-2	NA	1.5		162.0, 153.0	Sampled (2-4')	
	-4.0 / 4.0	As above, moist to wet (4')	S-3	NA	2.0		142.0, 140.0		
5.0	-6.0 / 6.0	As above, wet	S-4	NA	2.0		139.0, 135.0		
	-8.0 / 8.0	End of Borehole							
10.0									
15.0									
20.0									

Drilled By: Trec Environmental Inc.
Drill Rig Type: Geoprobe 420m
Drill Method: Direct-push w/ 2' macrocore
Comments:
Drill Date(s): 3-23-15

Hole Size: 2"
Stick-up: NA
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0239-014-001

Borehole Number: SB-02

Project: Limited Phase II Environmental Site Investigation

A.K.A.:

Client: Sinatra Company Real Estate, LLC

Logged By: PWW

Site Location: 1653-1661 Main Street & 17-21 East Balcom Street

Checked By: NM

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 250 – 500)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Concrete***							
	-0.5 0.5	***Fine Sand*** Brown, moist, mostly fine sand, trace non-plastic fines, petroleum-like odors, loose when disturbed, massive	S-1	NA	1.5		86.0, 63.0, 190.0	Sampled (0-2')	
	-2.5		S-2	NA	1.0		140.0		
	2.5	End of Borehole							
5.0									
10.0									
15.0									
20.0									

Drilled By: Trec Environmental Inc.
Drill Rig Type: Geoprobe 420m
Drill Method: Direct-push w/ 2' macrocore
Comments:
Drill Date(s): 3-23-15

Hole Size: 2"
Stick-up: NA
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0239-014-001

Borehole Number: SB-03

Project: Limited Phase II Environmental Site Investigation

A.K.A.:

Client: Sinatra Company Real Estate, LLC

Logged By: PWW

Site Location: 1653-1661 Main Street & 17-21 East Balcom Street

Checked By: NM

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 12.5 / 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Asphalt***							
		Gravel Sub-base							
		Lean Clay Reddish brown, moist, mostly medium plasticity fines, little fine sand, stiff, massive	S-1	NA	3.1		0.0 0.0	Sampled (2-4')	
	-4.0 4.0	As above, moist to wet (4')							
5.0			S-2	NA	4.0		0.0 0.0		
	-8.0 8.0	As above, wet							
10.0			S-3	NA	4.0		0.0 0.0		
	-11.0 11.0	***Poorly Graded Fine Sand*** Grey, wet, poorly graded fine sand, loose when disturbed, massive							
	-12.0 12.0	End of Borehole							
15.0									
20.0									

Drilled By: Trec Environmental Inc.
Drill Rig Type: Geoprobe 540UD
Drill Method: Direct-push w/ 2' macrocore
Comments:
Drill Date(s): 3-23-15

Hole Size: 2"
Stick-up: NA
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0239-014-001

Borehole Number: SB-04

Project: Limited Phase II Environmental Site Investigation

A.K.A.:

Client: Sinatra Company Real Estate, LLC

Logged By: PWW

Site Location: 1653-1661 Main Street & 17-21 East Balcom Street

Checked By: NM

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 12.5 / 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Asphalt***							
		Gravel Sub-base							
		Lean Clay Reddish brown, moist, mostly medium plasticity fines, little fine sand, stiff, massive	S-1	NA	3.6		0.0		
	-4.0 4.0	As above, moist to wet (4')					0.0		
5.0			S-2	NA	4.0		0.0		
	-8.0 8.0	As above, wet					0.0		
10.0			S-3	NA	4.0		0.0		
	-11.0 11.0	***Poorly Graded Fine Sand*** Grey, wet, poorly graded fine sand, loose when disturbed, massive							
	-12.0 12.0	End of Borehole							
15.0									
20.0									

Drilled By: Trec Environmental Inc.
Drill Rig Type: Geoprobe 540UD
Drill Method: Direct-push w/ 2' macrocore
Comments:
Drill Date(s): 3-23-15

Hole Size: 2"
Stick-up: NA
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0239-014-001

Borehole Number: SB-05

Project: Limited Phase II Environmental Site Investigation

A.K.A.:

Client: Sinatra Company Real Estate, LLC

Logged By: PWW

Site Location: 1653-1661 Main Street & 17-21 East Balcom Street

Checked By: NM

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs (ppm)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Asphalt***							
		Gravel Sub-base							
		Lean Clay Reddish brown, moist, mostly medium plasticity fines, little fine sand, stiff, massive, no odors	S-1	NA	3.5		0.0, 1.3	Sampled (2-4')	
	-4.0 4.0	As above, moist to wet (4')							
5.0			S-2	NA	4.0		0.0, 0.0		
	-8.0 8.0	As above, wet							
10.0			S-3	NA	4.0		0.0, 0.0		
	-11.0 11.0	***Poorly Graded Fine Sand*** Grey, wet, poorly graded fine sand, loose when disturbed, massive							
	-12.0 12.0	End of Borehole							
15.0									
20.0									

Drilled By: Trec Environmental Inc.
Drill Rig Type: Geoprobe 540UD
Drill Method: Direct-push w/ 2' macrocore
Comments:
Drill Date(s): 3-23-15

Hole Size: 2"
Stick-up: NA
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0239-014-001

Borehole Number: SB-06

Project: Limited Phase II Environmental Site Investigation

A.K.A.:

Client: Sinatra Company Real Estate, LLC

Logged By: PWW

Site Location: 1653-1661 Main Street & 17-21 East Balcom Street

Checked By: NM

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs (ppm)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Asphalt***							
		Gravel Sub-base							
		Lean Clay Reddish brown, moist, mostly medium plasticity fines, little fine sand, stiff, massive, no odors	S-1	NA	3.5		0.0		
	-4.0 4.0	As above, moist to wet (4')					0.0		
5.0			S-2	NA	4.0		0.0		
	-8.0 8.0	As above, wet					0.0		
10.0			S-3	NA	4.0		0.0		
	-11.0 11.0	***Poorly Graded Fine Sand*** Grey, wet, poorly graded fine sand, loose when disturbed, massive							
	-12.0 12.0	End of Borehole							
15.0									
20.0									

Drilled By: Trec Environmental Inc.
Drill Rig Type: Geoprobe 540UD
Drill Method: Direct-push w/ 2' macrocore
Comments:
Drill Date(s): 3-23-15

Hole Size: 2"
Stick-up: NA
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0239-014-001

Borehole Number: SB-07

Project: Limited Phase II Environmental Site Investigation

A.K.A.:

Client: Sinatra Company Real Estate, LLC

Logged By: PWW

Site Location: 1653-1661 Main Street & 17-21 East Balcom Street

Checked By: NM

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs (ppm, 0 – 12.5 – 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Asphalt***							
		Gravel Sub-base							
		Lean Clay Reddish brown, moist, mostly medium plasticity fines, little fine sand, stiff, massive, no odors	S-1	NA	3.3		0.0		
	-4.0 4.0	As above, moist to wet (4')					0.0		
5.0			S-2	NA	4.0		0.0		
	-8.0 8.0	As above, wet					0.0		
10.0			S-3	NA	4.0		0.0		
	-11.0 11.0	***Poorly Graded Fine Sand*** Grey, wet, poorly graded fine sand, loose when disturbed, massive							
	-12.0 12.0	End of Borehole							
15.0									
20.0									

Drilled By: Trec Environmental Inc.
Drill Rig Type: Geoprobe 540UD
Drill Method: Direct-push w/ 2' macrocore
Comments:
Drill Date(s): 3-23-15

Hole Size: 2"
Stick-up: NA
Datum: Mean Sea Level

Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: B0239-016-001

Project: Main & East Balcom Street Site

Client: 1665 Main Street Group, LLC

Site Location: Buffalo, NY

Test Pit I.D.: TP-11

Logged By: CCB

Checked By:

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Topsoil/Overburden Fill*** Brown/grey, moist, loose when disturbed mostly low plasticity fines, some subrounded gravel, trace fine sand, no odors.		0.0		
	-1.5					
	1.5	***Clay*** Reddish brown, moist, mostly medium plasticity fines, few subrounded gravel, stiff, no odors.		0.0		
5.0				0.0	Sample Collected	
	-8.0			0.0		
	8.0	End of Test Pit				
10.0						

PID VOCs scale: 0 100 300 500 ppm

Excavated By: R.E. Lorenze, Inc.
Excavator Type: Case
Excavation Date(s): 7/18/2017
Comments:

Length: 10
Width: 2
Depth: 8

Depth to Water: None
Visual Impacts: None
Olfactory Observations: None

TEST PIT EXCAVATION LOG

Project No: B0239-016-001 | ***Test Pit I.D.:*** TP-12

Project: Main & East Balcom Street Site | ***Logged By:*** CCB

Client: 1665 Main Street Group, LLC | ***Checked By:***

Site Location: Buffalo, NY

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Topsoil*** Brown, moist, loose when disturbed, mostly low plasticity fines, some fine sand, no odors.		0.0		
	-1.5 / 1.5	***Fill*** Brown/black/grey, moist, loose when disturbed, mostly low to medium plasticity fines, few fine sand, few coarse gravel, trace brick, no odors.				
	-4.5 / 4.5	***Fill with Slag and Ash*** Black, moist, mostly non-plastic fines, some low plasticity fines, some slag, some coarse gravel, few wood, slight sewer odor.		0.3	Sample Collected	
	-6.5 / 6.5	***Fill*** Brown/black/grey, moist, loose when disturbed, mostly low to medium plasticity fines, few fine sand, few coarse gravel, trace brick, no odors.		0.0		
10.0		Building foundation observed at 11 fbgs.				
	-11.0 / 11.0	***Reworked Sandy Clay*** Brown/grey, moist, mostly medium plasticity fines, some fine sand, few subrounded gravel, few brick, no odors.				
	-12.0 / 12.0	***Sandy Clay*** Brown, moist to wet (12.5'), mostly medium plasticity fines, some fine sand, few subrounded gravel, no odors.		0.0		
	-13.0 / 13.0	End of Test Pit				
15.0						

Excavated By: R.E. Lorenze, Inc. | ***Length: 10*** | ***Depth to Water: None***

Excavator Type: Case | ***Width: 2*** | ***Visual Impacts: None***

Excavation Date(s): 7/18/2017 | ***Depth: 13*** | ***Olfactory Observations: Slight Sewer Odor***

Comments:

TEST PIT EXCAVATION LOG

Project No: B0239-016-001

Project: Main & East Balcom Street Site

Client: 1665 Main Street Group, LLC

Site Location: Buffalo, NY

Test Pit I.D.: TP-13

Logged By: CCB

Checked By:

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Topsoil/Overburden Fill*** Brown, moist, loose when disturbed mostly low plasticity fines, some subrounded gravel, trace fine sand, no odors.		0.0		
	-2.0					
	2.0	***Reworked Overburden Fill*** Reddish/brown, moist, mostly low to medium plasticity fines, some coarse gravel, no odors.		0.0		
	-4.0					
	4.0	***Fine Sand*** Brown, moist, loose, mostly non-plastic fines, few medium plasticity fines, few coarse gravel, no odors.		0.0	Sample Collected	
5.0						
	-9.0					
	9.0	***Sandy Clay*** Brown, wet (9.5) to moist, mostly medium plasticity fines, some fine sand, few subrounded gravel, trace silt stiff, no odors.		0.0		
10.0						
	-13.0					
	13.0	End of Test Pit		0.0		
15.0						

Excavated By: R.E. Lorenze, Inc.
Excavator Type: Case
Excavation Date(s): 7/18/2017
Comments:

Length: 15
Width: 2
Depth: 13

Depth to Water: None
Visual Impacts: None
Olfactory Observations: None

TEST PIT EXCAVATION LOG

Project No: B0239-016-001
Project: Main & East Balcom Street Site
Client: 1665 Main Street Group, LLC
Site Location: Buffalo, NY

Test Pit I.D.: TP-14
Logged By: CCB
Checked By:

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Topsoil*** Brown, moist, loose when disturbed, low plasticity fines, trace sand, no odors.		0.0		
	-1.0 1.0	***Fill*** Brown, moist, mostly low to medium plasticity fines, few fine sand, few coarse gravel, trace brick, stiff, no odors.		0.0		
5.0		Sanitary pipe observed at 5.5 fbgs				
	-8.0 8.0	***Grey Sandy Clay*** Grey, moist, mostly medium plasticity fines, little fine sand, stiff, slight petroleum-like odor.		56.0		
	-9.0 9.0	***Reddish Brown Sandy Clay*** Reddish brown, moist to wet (10.75'), mostly medium to high plasticity fines, little fine sand, few subrounded gravel, stiff, slight petroleum-like odor.		105.0	Sample Collected	
10.0	-11.0 11.0	End of Test Pit		0.0		

PID VOCs: 0 | 100 | 300 | 500 ppm

Excavated By: R.E. Lorenze, Inc.
Excavator Type: Case
Excavation Date(s): 7/18/2017
Comments:

Length: 10
Width: 2
Depth: 11

Depth to Water: 10.75 fbgs
Visual Impacts: Slight sheen on water
Olfactory Observations: Sllight Petroleum-like Odor

TEST PIT EXCAVATION LOG

Project No: B0239-016-001

Project: Main & East Balcom Street Site

Client: 1665 Main Street Group, LLC

Site Location: Buffalo, NY

Test Pit I.D.: TP-15

Logged By: CCB

Checked By:

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Asphalt and Gravel*** Black/grey, dry, no odors.				
		Overburden Fill Dark brown, moist, mostly low plasticity fines, some well sorted gravel, trace fine sand, no odors.		0.0		
	-1.5 1.5	***Reworked Overburden Fill*** Reddish orange and black, moist, mostly low to medium plasticity fines, some coarse gravel and slag, no odors.		0.0	Sample Collected	
	-3.5 3.5	***Clay*** Reddish brown, moist, mostly medium plasticity fines, few subrounded gravel, stiff, no odors.		0.0		
5.0				0.0		
10.0				0.0		
	-10.5 10.5	End of Test Pit				

PID VOCs: ppm, 0, 100, 300, 500

Excavated By: ***R.E. Lorenze, Inc.***
Excavator Type: ***Case***
Excavation Date(s): ***7/18/2017***
Comments:

Length: ***10***
Width: ***2***
Depth: ***10.5***

Depth to Water: ***None***
Visual Impacts: ***None***
Olfactory Observations: ***None***

TEST PIT EXCAVATION LOG

Project No: B0239-016-001

Project: Main & East Balcom Street Site

Client: 1665 Main Street Group, LLC

Site Location: Buffalo, NY

Test Pit I.D.: TP-16

Logged By: CCB

Checked By:

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Overburden Fill*** Grey/brown, moist, loose, ashy, mostly low plasticity fines, some subrounded gravel, trace fine sand, no odors.		0.0	Sample Collected	
	-2.0					
	2.0	***Clay*** Reddish brown, moist, mostly medium plasticity fines, few subrounded gravel, stiff, no odors.		0.0		
5.0						
	-6.5			0.0		
	6.5	End of Test Pit				

PID VOCs ppm: 0 100 300 500

Excavated By: R.E. Lorenze, Inc.
Excavator Type: Case
Excavation Date(s): 7/18/2017
Comments:

Length: 10
Width: 2
Depth: 6.5

Depth to Water: None
Visual Impacts: None
Olfactory Observations: None

TEST PIT EXCAVATION LOG

Project No: B0239-016-001

Project: Main & East Balcom Street Site

Client: 1665 Main Street Group, LLC

Site Location: Buffalo, NY

Test Pit I.D.: TP-18

Logged By: CCB

Checked By:

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0 / -0.3 / 0.3	***Asphalt and Gravel*** Black/grey, dry, no odors.				
		Fill Black/ dark brown, moist,very loose when disturbed, ashy mostly low plasticity fines, some brick, some wood, no odors. Likely basment fill from former residence.		0.0		
				0.0		
	-4.5 / 4.5	***Concrete Floor***				
5.0	-5.0 / 5.0	***Clay*** Brown, wet, mostly medium plasticity fines, trace subrounded gravel, no odors.		0.0		
	-6.0 / 6.0	***Clay*** Reddish brown, moist, mostly medium plasticity fines, few subrounded gravel, stiff, no odors.			Sample Collected	
	-9.0 / 9.0	End of Test Pit		0.0		
10.0						

Excavated By: R.E. Lorenze, Inc.
Excavator Type: Case
Excavation Date(s): 7/18/2017
Comments:

Length: 10
Width: 2
Depth: 9

Depth to Water: None
Visual Impacts: None
Olfactory Observations: None

APPENDIX E

PERMITS AND/OR PERMIT EQUIVALENT

New York State Department of Environmental Conservation
Division of Environmental Remediation

Petroleum Bulk Storage Application

Pursuant to the Environmental Conservation Law: Article 17, Title 10; and
Regulations 6 NYCRR Part 613 and 6 NYCRR Subpart 374-2
(Please Type or Print Clearly and Complete All Items for Sections A, B & C)

PBS Number: NA

Return Completed Form & Fees To:

Expiration Date:

Section A - Facility/Property Owner/Contact Information

Transaction Type: 3

1) Initial/New Facility
2) Change of Ownership
3) Tank Installation, Closing, or Repair
4) Information Correction
5) Renewal

FACILITY

Facility Name: Main and E. Balcom Street Site

Tax Map Info: Borough/Section:

Facility Address (Physical Address, No P.O. Boxes): 1661 Main Street

Block:

Facility Address (cont.):

Lot:

City: Buffalo | State: NY | ZIP Code: 14209

County: Erie | Township/City | Facility Phone Number:

Name of Class B (Daily On-Site) Operator: NA | Operator Authorization No.: NA

Name of Class A (Primary) Operator: NA | Operator Authorization No.: NA

TYPE OF PETROLEUM FACILITY (Check only one)

- ☐ 01=Storage Terminal/Petrol. Distributor
- ☐ 02=Retail Gasoline Sales
- ☐ 03=Other Retail Sales
- ☐ 04=Manufacturing
- ☐ 05=Utility
- ☐ 06=Trucking/Transportation/Fleet
- ☐ 07=Apartment/Office Building
- ☐ 08=School
- ☐ 09=Farm
- ☐ 10=Private Residence
- ☐ 11=Airline/Air Taxi/Airport
- ☐ 12=Chemical Distributor
- ☐ 13=Municipality
- ☐ 15=Railroad
- ☐ 25=Auto Service/Repair (No Gasoline Sales)
- ☐ 16=Nuclear Power Plant
- ☐ 26=Religious (Church, Synagogue, Mosque, Temple, etc.)
- ☐ 27=Hospital/Nursing Home/Health Care
- ☐ 28=Cemetery / Memorial
- ☐ 52=Marina
- ■ 99=Other (Specify): Remediation of BCP Site C915306

NOTE:

Fill in Property Owner information here……>>>

Indicate Tank Owner in Section C.

OWNER

Facility (Property) Owner (from Deed): 1665 Main Street Group, LLC

Facility Owner Address (Street and/or P.O. Box): 617 Main Street, Suite 200

City: Buffalo | State: NY | ZIP Code: 14203

Federal Tax ID Number: | Owner Telephone Number: 716-220-8468

Type of Owner: (check only one)

- 1 ☐ Private Resident
- 2 ☐ State Government
- 3 ☐ Local Government
- 4 ☐ Federal Government
- 5 ■ Corporate/Commercial/Other

Emergency Contact Name: | Emergency Telephone Number:

I hereby certify, under penalty of law, that all of the information provided on this form is true and correct. False statements made herein may be punishable as a criminal offense and/or a civil violation in accordance with applicable state and federal law.

Name of Property Owner or Authorized Representative: Nick SInatra | Amount Enclosed: $ NA

Title: Authorized Member

Signature: | Date:

Official Use Only

Date Received: ____/____/____

Date Processed: ____/____/____

Amount Received: $_____

Reviewed By: _____

Rev. 10/03/15

CORRESPONDENCE

(Please keep this information up to date) Facility Contact Person Name: Cole Hatley

Contact Person Company Name: Sinatra Development

Address: 617 Main Street, Suite 200

Address (cont.):

City/State/ZIP Code: Buffalo, NY 14203

Tel. Number: 716-220-8468 | eMail Address: chatley@sinatraandcompany.com

For Overdue Registrations Only:

If you are submitting an application for an overdue registration, you may settle the violation by submitting the normal fee, any back fees due, and a penalty of $50 for every month the application is overdue. If you decline to settle, or make no choice, the case will be referred for enforcement which may result in higher penalties to resolve the violations. Please indicate your choice below:

- ☐ I agree to settle and have enclosed the proper fees and penalty amounts.
- ☐ I decline to settle and understand that higher penalties may result.

PBS Number:
NA

Section B - Tank Information

(Please use the key located on the last page to complete each item/column)

Registration Expiration Date:

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
Action	Tank Number	Tank Location	Status	Installation, Out of service or Permanent Closure Date (MM/DD/YYYY) **Application will be returned if blank**	Capacity (Gallons)	Product Stored (If Gasoline w/ethanol or Biodiesel, list %additive) %	Tank Type	Tank Internal Protection	Tank External Protection	Tank Secondary Containment	Tank Leak Detection	Tank Overfill Prevention	Tank Spill Prevention	Pumping/Dispensing Method	Piping Location	Piping Type	Piping External Protection	Piping Secondary Containment	Piping Leak Detection	Under Dispenser Containment (UDC) (Check box if present)
3	1	5	3	7/17/2017	5000	9999	01	00	00	00	00	00	00	00	02	01	00	00	00	☐
3	2	2	3	10/19/2017	1000	9999	01	00	00	00	00	00	00	00	01	01	00	00	00	☐
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Note: If you need to add tanks to your registration, write them in using blank lines above. Attach additional sheets as needed.
Blank Section B is available at http://www.dec.ny.gov/docs/remediation_hudson_pdf/pbsrenewal.pdf

APPENDIX F

EXCAVATION WORK PLAN

BROWNFIELD CLEANUP PROGRAM
SITE MANAGEMENT PLAN

APPENDIX F
EXCAVATION WORK PLAN

Main & East Balcom Street Site
NYSDEC SITE NUMBER: C915306
BUFFALO, NEW YORK

December 2019 0239-016-001

Prepared for:

1665 Main Street Group. LLC

617 Main Street, Suite 350

Buffalo, New York

Prepared By:

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

In Association With:

TURNKEY ENVIRONMENTAL RESTORATION, LLC

SITE MANAGEMENT PLAN
APPENDIX F: EXCAVATION PLAN
Main & East Balcom Street Site

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B-1: NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the site owner or their representative will notify the NYSDEC. Table 1 includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information.

Table 1: Notifications*

NYSDEC Project Manager – Region 9 Mr. David Locey	716-851-7220 David.locey@dec.ny.gov
NYSDEC Regional HW Engineer – Region 9 Mr. Chad Staniszewski, P.E.	716-851-7220 Chad.staniszewski@dec.ny.gov
NYSDEC Site Control Ms. Kelly Lewandowski, P.E.	518-402-9543 Kelly.lewandowski@dec.ny.gov
NYSDOH Public Health Specialist Ms. Renata Ockerby	518-402-7860 beei@health.ny.gov

* Note: Notifications are subject to change and will be updated as necessary.

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent of excavation, plans/drawings for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control;
- A summary of environmental conditions anticipated to be encountered in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this EWP;

- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120;
- A copy of the contractor's health and safety plan (HASP), in electronic format, if it differs from the HASP provided in Appendix H of this SMP;
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

B-2: SOIL SCREENING METHODS

Visual, olfactory and instrument-based (e.g. photoionization detector) soil screening will be performed by a qualified environmental professional during all excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed when invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal and material that requires testing to determine if the material can be reused on-site as soil beneath a cover or if the material can be used as cover soil. Further discussion of off-site disposal of materials and on-site reuse is provided below.

B-3: SOIL STAGING METHODS

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC.

B-4: MATERIALS EXCAVATION AND LOAD-OUT

A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and remedial party (if applicable) and its contractors are responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the site.

Loaded vehicles leaving the site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

A truck wash will be operated on-site, as appropriate. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the site until the activities performed under this section 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 shall be inspected daily for evidence of off-site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials.

B-5: MATERIALS TRANSPORT OFF-SITE

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

Truck transport routes shall be selected to involve the shortest commute through residential neighborhoods as feasible. All trucks loaded with site materials will exit the vicinity

of the site using only these approved truck routes. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport.

Trucks will be prohibited from stopping and idling in the neighborhood outside the project site.

Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development.

Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

B-6: MATERIALS DISPOSAL OFF-SITE

All material excavated and removed from the site will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of material from this site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of materials from this site will not occur without formal NYSDEC approval.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does not meet Unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

B-7: MATERIALS REUSE ON-SITE

'Reuse on-site' means reuse on-site of material that originates at the site and which does not leave the Site during the excavation. The criteria under which soil/fill originating on-Site may be used on-Site are presented below.

- **Excavated, Non-Impacted On-Site Soil/Fill:** Non-impacted soil/fill (i.e., soil/fill that does not exhibit visible evidence of contamination, and is not grossly contaminated (as described in Part 375), and does not exhibit PID readings that exceed 25 parts per million (ppm) that is excavated from the Site, may be used on-Site as subgrade backfill beneath the cover system without special handling. The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-Site.
- **Excavated, Potentially Impacted on-Site Soil/Fill:** Potentially impacted soil/fill (i.e., soils that exhibit field visual and/or olfactory evidence of contamination, or with elevated PID readings (above 25 ppm) may not be used on-Site unless tested and determined to meet the chemical criteria for Restricted Residential Use SCOs per 6NYCRR Part 375. Potentially impacted material will be segregated, as described above, and sampled to determine acceptance for reuse. The material reuse analyses will be discussed with the Department, and may include those constituents identified in 6NYCRR Part 375 for VOCs, SVOCs, metals, PCBs, pesticides and herbicides, in accordance with applicable USEPA SW846 analytical methodology.

The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-site. Contaminated on-site material, including historic fill and contaminated soil, that is acceptable for reuse on-site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines. No grossly-impacted materials shall be reused onsite; such materials must be disposed of offsite in accordance with applicable local, state, and federal regulations.

Any demolition material proposed for reuse on-site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-site will not be performed without prior NYSDEC approval. Organic matter (wood, roots,

stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-site.

B-8: FLUIDS MANAGEMENT

All liquids to be removed from the site, including but not limited to, excavation dewatering, decontamination waters and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge, and development fluids will not be recharged back to the land surface or subsurface of the site, and will be managed off-site, unless prior approval is obtained from NYSDEC.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream, or river) will be performed under a SPDES permit.

B-9: COVER SYSTEM RESTORATION

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the RAWP. The existing cover system is comprised of a minimum of 24-inches of clean soil/stone or hardscape, including asphalt pavement, concrete covered sidewalks and buildings. The demarcation layer, consisting of orange snow fencing or similar material will be placed to provide a visual reference to the top of the remaining contamination zone, the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in this SMP. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the remaining contamination. A figure showing the modified surface type will be included in the subsequent Periodic Review Report and in an updated SMP.

B-10: BACKFILL FROM OFF-SITE SOURCES

All materials proposed for import onto the site will be approved by the qualified environmental professional and will be in compliance with provisions in this SMP prior to receipt at the site. A Request to Import/Reuse Fill or Soil form, which can be found at **http://www.dec.ny.gov/regulations/67386.html**, will be prepared and submitted to the NYSDEC project manager allowing a minimum of 5 business days for review.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d).

The criteria under which off-site material may be used as backfill are presented below.

- **Off-Site Soil/Fill:** Off-Site soil/fill may be used as backfill provided that it originates from known sources having no evidence of disposal or releases of hazardous substances; hazardous, toxic or radioactive wastes; or petroleum, and is tested and meet all of the criteria in accordance with Appendix 5 of DER-10 for a Commercial Use Site. In addition, no off-Site materials meeting the definition of a solid waste as defined in 6 NYCRR, Part 360-1.2 (a) shall be used as backfill.
- **Other Off-Site Material:** Material other than soil may be imported as backfill, without chemical testing, provided it contains less than 10% (by weight) material that would pass through a size 80 sieve: 1) Rock or stone, consisting of virgin material from a permitted mine or quarry; 2) Recycled concrete, brick, or asphalt from a NYSDEC-registered or permitted C&D debris processing facility (as specified in Section 360-16.1 of 6 NYCRR Part 360) that conforms to Section 304 of the New York State Department of Transportation Standard Specifications Construction and Materials Volume 1 (2002). As stated in Section 360-16.4(b)(2), the facility may only accept recognizable, uncontaminated, non-pulverized C&D debris or C&D debris from other authorized C&D processing facilities. According to Section 360-16.2(c), "uncontaminated" means C&D debris that is not mixed or commingled with other solid waste at the point of generation, processing, or disposal, and that is not contaminated with spills of a petroleum product, hazardous waste, or industrial waste.

Off-Site borrow soils shall be tested to assure conformance with the criteria identified above. If an off-Site soil/fill borrow source is of unknown origin or originates from a commercial or urban site, then a tiered approach based on the volume of impacted soil/fill being excavated will be used to determine the frequency of characterization sampling in accordance with DER-10, Section 5.4 and Table 5.4(3)10.

Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC. Solid waste will not be imported onto the site.

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

B-11: STORMWATER POLLUTION PREVENTION

If future site activities include large excavation, details of storm water pollution prevention will be included in the applicable notification provided to the Department. If required by the Department as part of the planned future excavation activities, barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

B-12: EXCAVATION CONTINGENCY PLAN

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed in accordance with 6NYCRR Part 375 and consultation with the Department.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the Periodic Review Report.

B-13: COMMUNITY AIR MONITORING PLAN

The Community Air Monitoring Plan (CAMP) will follow the guidance provided in the New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan found in Appendix 1A of NYSDEC's DER-10 *Technical Guidance for Site Investigation and Remediation*. The CAMP for this Site is included as Attachment C of the HASP (see Appendix H). The CAMP will be implemented for all intrusive activities beneath the cover system performed at the site. The upwind and downwind monitoring locations required in the generic CAMP will be determined based on the prevailing wind direction at the start of work. Air sampling locations will be adjusted on a daily or more frequent basis based on actual wind directions and work locations. VOC monitoring will be performed using a PID or other equipment that is capable of calculating 15-minute running average concentrations. All air monitoring equipment will be calibrated at least daily. The 15-minute average concentration will be compared to the levels specified below.

Alternatively, the upwind monitoring location may be removed, as long as the background contribution is considered to be 0.0 ppm.

B-14: ODOR CONTROL PLAN

This odor control plan is capable of controlling emissions of nuisance odors off-site. Specific odor control methods to be used on a routine basis will include: limiting exposed face of the excavation area, reduction in work hours and/or specific work activities (e.g. load out of material), proof rolling excavation, and application of odor control agents (e.g. spray-foam).

If nuisance odors are identified at the site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the remedial party's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on- and off-site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled,

additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

B-15: DUST CONTROL PLAN

A dust suppression plan that addresses dust management during invasive on-site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved through the use of a dedicated on-site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.
- Covering or proof-rolling excavated areas and materials after excavation activity ceases.
- Reducing the excavation size and/or number of excavations

B-16: OTHER NUISANCES

A plan for rodent control will be developed and utilized by the contractor prior to and during site clearing and site grubbing, and during all remedial work.

A plan will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances.

APPENDIX G

CIVIL CONSTRUCTION DRAWINGS AND DETAILS

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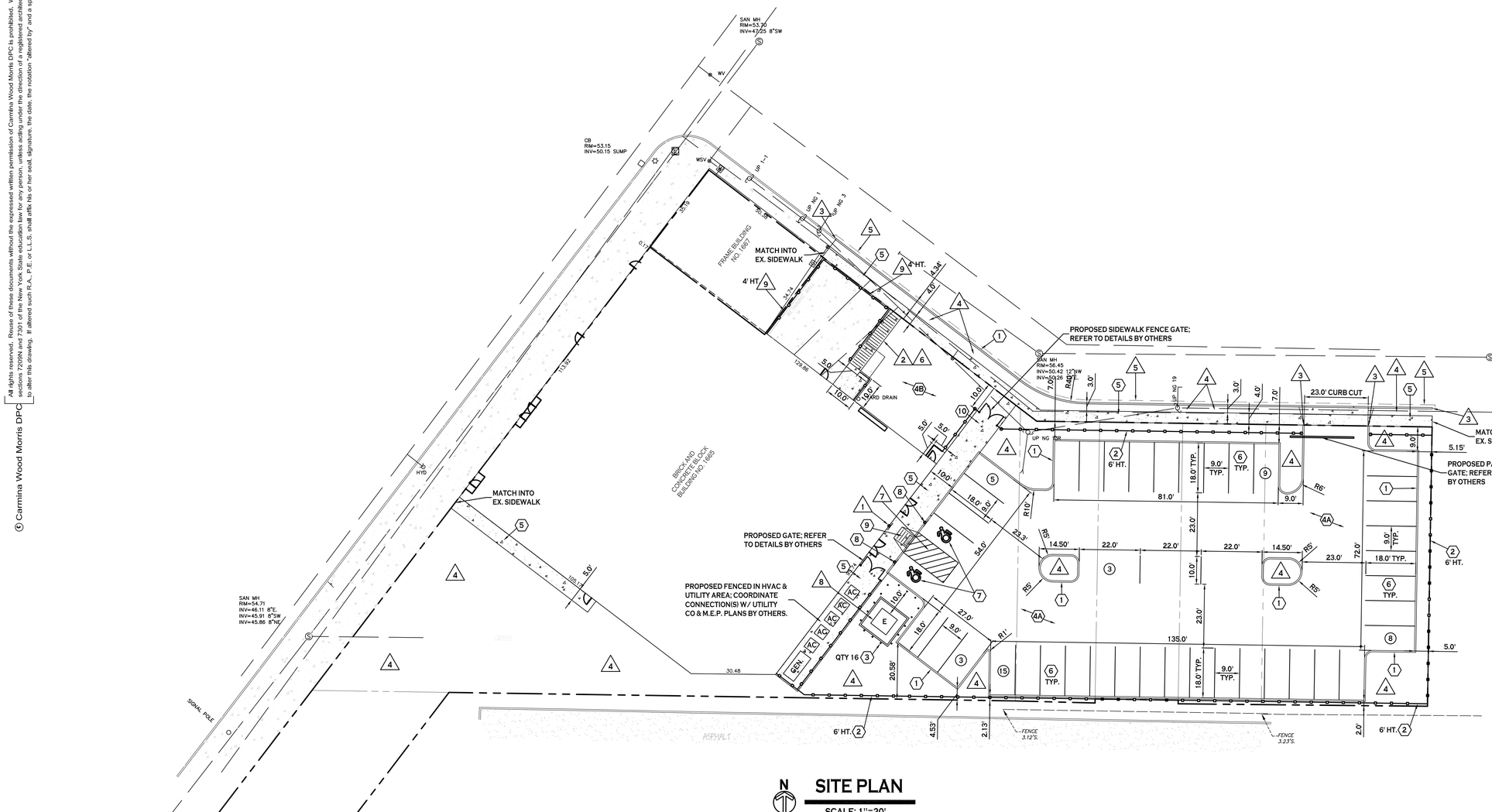
SITE DATA		
SITE AREA = 1.13 ACRES		
ZONED: N-2C & N-2E (MIXED - USE CENTER & MIXED - USE EDGE)		
BUILDING AREA: PROPOSED APARTMENTS WITHIN EX.14,520 G.S.F. BLDG		
GREENSPACE	REQUIRED	PROVIDED
INTERIOR OF PARKING AREA (10 PERCENT):	0.10 AC	0.10 AC
PARKING		
STALL SIZE (90°)	8'-6"x 18'	9'x18'
STALL SIZE (PARALLEL)	8'x20'	10'x22'
PARKING STALLS	N/A	43



SITE PLAN

SCALE: 1"=20'

NOTES:

1. ALL RADII SHALL BE 3'-0" UNLESS OTHERWISE NOTED.
2. ALL DISTURBED AREAS: SHALL HAVE 4" MIN. OF TOPSOIL AND SEED.
3. ALL DIMENSIONS FROM PROPERTY LINES SHALL BE MEASURED PERPENDICULAR TO THE PROPERTY LINE.
4. CENTER ENTRANCE SIDEWALKS ON DOOR OPENINGS.
5. BUILDING DIMENSIONS ARE APPROXIMATE, REFER TO ARCHITECTURAL DRAWINGS FOR LAYOUT DIMENSIONS.

GENERAL NOTES:

1. INSTALL ALL MATERIALS TO MANUFACTURER'S RECOMMENDATIONS AND BEST STANDARDS OF TRADE INVOLVED.
2. SUBSTITUTIONS SHALL BE MADE ONLY WITH OWNER'S APPROVAL AND BE OF EQUIVALENT QUALITY TO WHAT IS SPECIFIED.
3. WORK SHALL BE COMPLETED IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND OSHA SAFETY RULES AND REGULATIONS.
4. VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AT THE SITE. NOTIFY OWNER & ENGINEER OF DISCREPANCIES IN CONDITIONS SHOWN ON DRAWINGS PRIOR TO PROCEEDING WITH THE WORK.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ANY EXISTING STRUCTURES TO REMAIN AND ANY FINISH MATERIAL INSTALLED WHILE WORKING ON OTHER COMPONENTS.
6. CONTRACTOR SHALL KEEP JOB FREE OF DEBRIS AND MAKE FINAL CLEANUP TO SATISFACTION OF OWNER.
7. CONTRACTOR SHALL ASCERTAIN THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION SO THAT THIS WORK WILL NOT DISTURB EXISTING LINES AND/OR INSTALLATIONS. COORDINATE ALL WORK WITH THE APPLICABLE UTILITY COMPANIES.
8. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS NECESSARY TO PERFORM THE WORK.

SITE LEGEND

- PROPERTY LINE
- PROPOSED CURB
- PROPOSED SIDEWALK / CONCRETE PAD
- NUMBER OF PARKING SPACES (27)
- PROPOSED SIGN
- PROPOSED LIGHT POLE W/ SINGLE FIXTURE
- PROPOSED LIGHT POLE W/ DOUBLE FIXTURE
- PROPOSED WALL MOUNTED FIXTURE

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS, CARMINA WOOD MORRIS, D.P.C. ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

DETAIL LEGEND SEE SITE DETAIL SHEET

1. TYPE "A" CONCRETE CURB
2. CHAIN LINK FENCE
3. PIPE BOLLARD
4A. STANDARD DUTY ASPHALT
4B. HEAVY DUTY ASPHALT
5. CONCRETE SIDEWALK
6. 90° PARKING STALL
7. HANDICAPPED PAVEMENT MARKINGS
8. HANDICAPPED PARKING SIGN
9. SIDEWALK CURB RAMP

NOTE LEGEND

1. INSTALL "NO PARKING" SIGN, M.U.T.C.D. SIGN NO. P1-1C
2. SIDEWALK RAMP, SEE ARCHITECTURAL DRAWINGS
3. RUNOUT CURB IN 2' OR MATCH EXISTING CURB
4. LANDSCAPED AREA - SEE LANDSCAPE PLAN, IF NO PLANTINGS, INSTALL TOPSOIL & SEED
5. SAWCUT LINE, MATCH EXISTING EDGE OF PAVEMENT
6. RAMP SIDEWALK @ 1:12 MAX.
7. 4" WIDE YELLOW PAVEMENT STRIPES @ 2' O.C. & @ 45° TO PARKING LINES
8. TRANSFORMER PAD - SIZE, LOCATION, & BOLLARD LAYOUT TO BE COORDINATED WITH SERVICE PROVIDER
9. WROUGHT IRON TYPE DECORATIVE FENCE, 4' HT., COORDINATE WITH OWNER

20' 20 0 20 40Ft.

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REVISIONS:

No.	Description	Date

PROJECT NAME:

New Construction

MID CITY APARTMENTS

1661 Main Street | Buffalo | NY | 14209

Issued for Construction: xx.xx.xx
Municipality Submission:
Drawn by: JP
Scale: 1:10

DRAWING NAME:

Site Plan

DRAWING NO.

C-100

Project no.: 16.133

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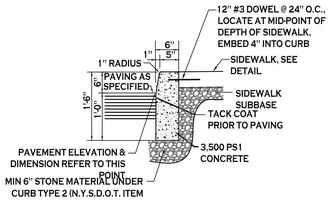
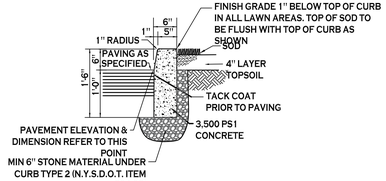


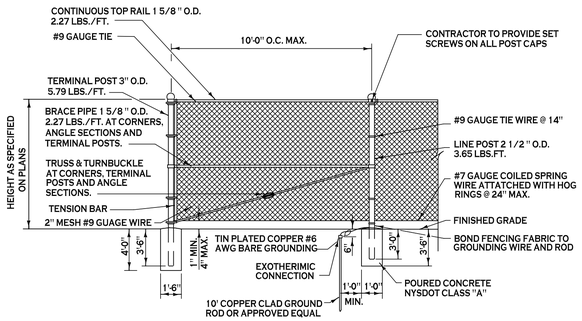
ABUTTING SIDEWALK



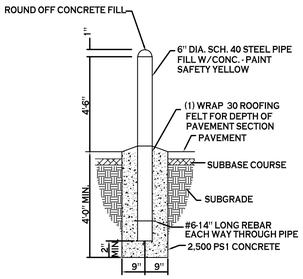
ABUTTING LANDSCAPE/GRASS

NOTES:
1. CONTROL JOINTS TO BE 2" DEEP AT 15'-0" O.C. - SEE SPECIFICATIONS FOR FURTHER JOINT REQUIREMENTS NYSDOT 702-0700.
2. WHERE THE CURB DROPS (IS FLUSH WITH ASPHALT) THE DEPTH OF CURB BELOW GRADE SHALL BE INCREASED TO 1'-6" AND OTHER DIMENSIONS ADJUSTED ACCORDINGLY.

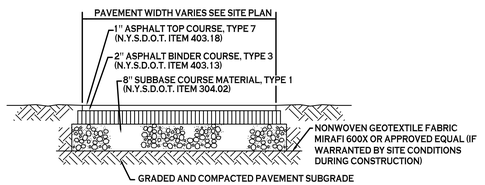
TYPE "A" CONCRETE CURB - 1



CHAIN LINK FENCE DETAIL - 2

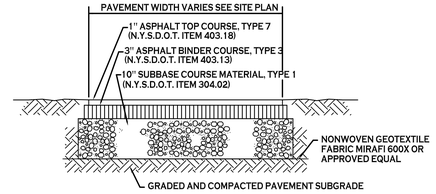


PIPE BOLLARD - 3



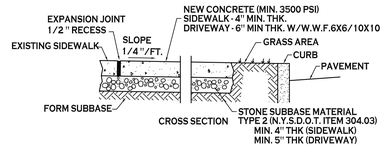
NOTE: CONSTRUCTION METHODS FOR ASPHALT PAVEMENT SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION 401-3. WITH SUBBASE CONSTRUCTION METHODS CONFORMING TO NYSDOT STANDARD SPECIFICATION 304-3.

STANDARD DUTY ASPHALT SECTION - 4A



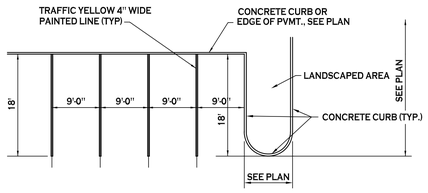
NOTE: CONSTRUCTION METHODS FOR ASPHALT PAVEMENT SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION 401-3. WITH SUBBASE CONSTRUCTION METHODS CONFORMING TO NYSDOT STANDARD SPECIFICATION 304-3.

HEAVY DUTY ASPHALT SECTION - 4B

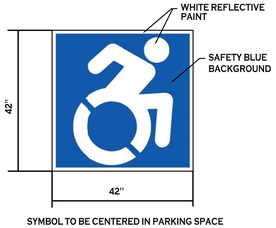


NOTES:
1. CONTROL JOINTS TO BE AT 5'-0" O.C., BOTH WAYS WHERE APPLICABLE. SEE SPECIFICATIONS FOR FURTHER JOINT REQUIREMENTS NYSDOT 702-0700.
2. CONCRETE SIDEWALK AND DRIVEWAY MATERIAL SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION 501 AND CONSTRUCTION METHODS SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION 608-3.
3. SUBBASE GRADE SHALL FOLLOW THE PROPOSED GRADE OF THE SIDEWALK AND SLOPE AWAY FROM BUILDING WHERE APPLICABLE. PROVIDE CONTINUOUS STONE PATH TO CURB UNDERDRAIN WHERE PROVIDED.
4. FULL DEPTH EXPANSION JOINTS SHALL BE INSTALLED EVERY 20' O.C., BOTHWAYS WHERE APPLICABLE. SEE SPECIFICATIONS FOR FURTHER JOINT REQUIREMENTS NYSDOT 702-0700.
5. SEE CURB DETAIL FOR DOWLING REQUIREMENTS WHERE ABUTTING CURB.
6. INSTALL 6" LONG #3 DOWELS @ 12" O.C. WHERE SIDEWALK ABUTS A BUILDING WALL AT AN ENTRANCE. THICKEN SIDEWALK TO 6" AT BUILDING WALL AND INSTALL DOWEL CENTERED IN THE 6" DEPTH. DOWELS AND THICKENING OF SIDEWALK SHALL EXTEND 18" EITHER SIDE OF ENTRANCE.
7. INSTALL 1/2" PREMOLDED EXPANSION JOINT WITH BACKER ROD & SEALANT WHERE SIDEWALK ABUTS BUILDING OR OTHER STRUCTURE.

CONCRETE SIDEWALK - 5

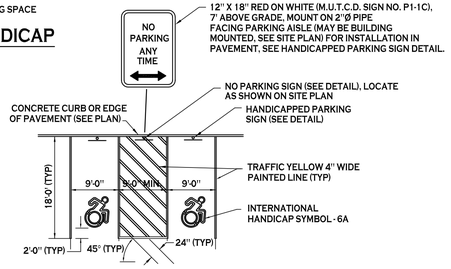


90° PARKING STALL LAYOUT - 6

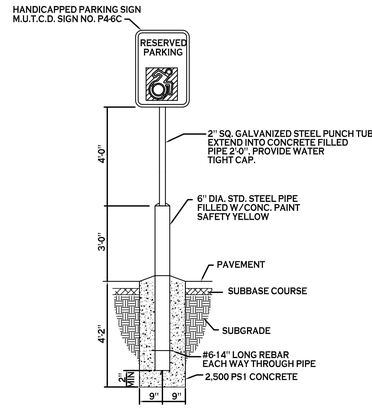


SYMBOL TO BE CENTERED IN PARKING SPACE

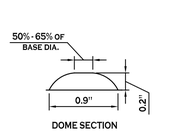
INTERNATIONAL HANDICAP SYMBOL - 7A



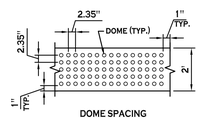
HANDICAPPED PAVEMENT MARKINGS & SIGNAGE - 7



HANDICAPPED PARKING SIGN - 8

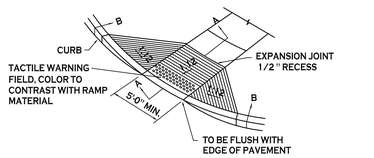


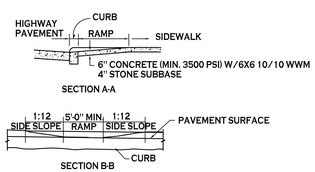
DOME SECTION



DOME SPACING

NOTE: TACTILE WARNING DEVICES SHALL BE PER ICC/ANSI A117.1-1998, SECTION 705.3.1.2 OR CURRENT UPDATE





SECTION A-A

SECTION B-B

SIDEWALK CURB RAMP - 9

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REVISIONS:

No.	Description	Date

PROJECT NAME:
New Construction
MID CITY APARTMENTS
1661 Main Street | Buffalo | NY | 14209

Issued for Construction: xx.xx.xx
Municipality Submission:
Drawn by: JP
Scale: As Shown

DRAWING NAME:
Site Details

DRAWING NO.
C-101
Project no.: 16.133

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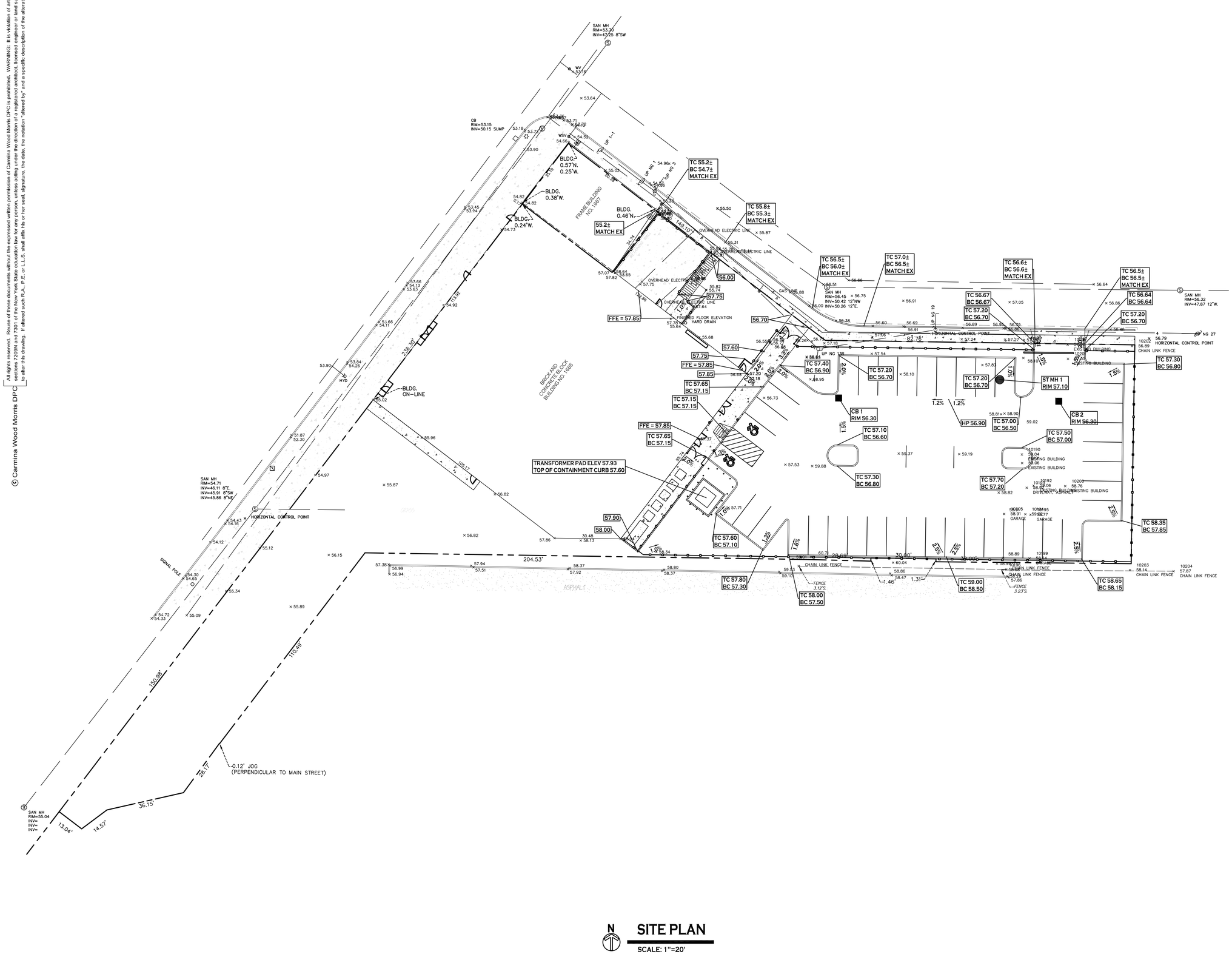

PROPOSED GRADING LEGEND

PROPOSED CONTOUR	101
PROPOSED SPOT ELEVATION	100.80
PROPOSED TOP/BOTTOM OF CURB ELEV.	TC 100.50 / BC 100.00
PROPOSED CATCH BASIN	CB
PAVEMENT/GROUND SLOPE	
PROPOSED YARD DRAIN	YD
PROPOSED MANHOLE	MH

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS. CARMINA WOOD MORRIS, D.P.C. ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

20' 20 0 20 40Ft.

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REVISIONS:

No.	Description	Date

PROJECT NAME:

New Construction

MID CITY APARTMENTS

1661 Main Street | Buffalo | NY | 14209

Issued for Construction: xx.xx.xx
Municipality Submission:
Drawn by: JP
Scale: 1:20

DRAWING NAME:

Grading Plan

DRAWING NO.

C-200

Project no.: 16.133

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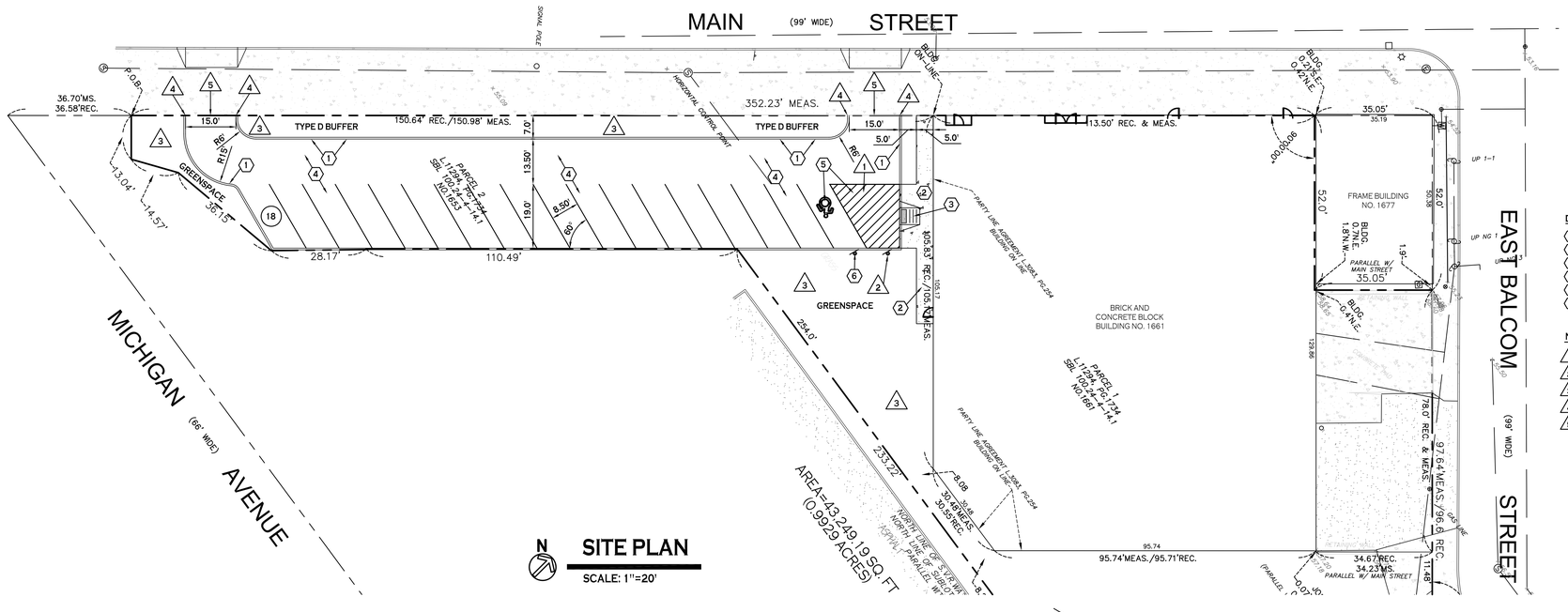

SITE PLAN

SCALE: 1"=20'

DETAIL LEGEND SEE SITE DETAIL SHEET

1. TYPE "A" CONCRETE CURB
2. CONCRETE SIDEWALK
3. SIDEWALK CURB RAMP
4. STANDARD DUTY ASPHALT
5. HANDICAPPED PAVEMENT MARKINGS
6. HANDICAPPED PARKING SIGN

NOTE LEGEND

1. 4" WIDE YELLOW PAVEMENT STRIPES @ 2' O.C. & @ 45° TO PARKING LINES
2. INSTALL "NO PARKING" SIGN, M.U.T.C.D. SIGN NO. P1-1C
3. LANDSCAPED AREA - SEE LANDSCAPE PLAN, IF NO PLANTINGS, INSTALL TOPSOIL & SEED
4. RUNOUT CURB IN 2' OR MATCH EXISTING CURB
5. MATCH INTO EXISTING SIDEWALK; SAWCUT AS NEEDED FOR SMOOTH TRANSITION

SITE LEGEND

- PROPERTY LINE
- PROPOSED CURB
- PROPOSED SIDEWALK / CONCRETE PAD
- NUMBER OF PARKING SPACES (27)
- PROPOSED SIGN

NOTES:

1. ALL RADII SHALL BE 3'-0" UNLESS OTHERWISE NOTED.
2. ALL DISTURBED AREAS: SHALL HAVE 4" MIN. OF TOPSOIL AND SEED.
3. ALL DIMENSIONS FROM PROPERTY LINES SHALL BE MEASURED PERPENDICULAR TO THE PROPERTY LINE.
4. CENTER ENTRANCE SIDEWALKS ON DOOR OPENINGS.
5. BUILDING DIMENSIONS ARE APPROXIMATE. REFER TO ARCHITECTURAL DRAWINGS FOR LAYOUT DIMENSIONS.
6. ALL HANDICAPPED RAMPS OR SIDEWALKS THAT ARE FLUSH SHALL HAVE ADA COMPLIANT TACTILE WARNING STRIPS WHERE ENTERING PARKING AREAS/DRIVEWAYS.

GENERAL NOTES:

1. INSTALL ALL MATERIALS TO MANUFACTURER'S RECOMMENDATIONS AND BEST STANDARDS OF TRADE INVOLVED.
2. SUBSTITUTIONS SHALL BE MADE ONLY WITH OWNER'S APPROVAL AND BE OF EQUIVALENT QUALITY TO WHAT IS SPECIFIED.
3. WORK SHALL BE COMPLETED IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND OSHA SAFETY RULES AND REGULATIONS.
4. VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AT THE SITE. NOTIFY OWNER & ENGINEER OF DISCREPANCIES IN CONDITIONS SHOWN ON DRAWINGS PRIOR TO PROCEEDING WITH THE WORK.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ANY EXISTING STRUCTURES TO REMAIN AND ANY FINISH MATERIAL INSTALLED WHILE WORKING ON OTHER COMPONENTS.
6. CONTRACTOR SHALL KEEP JOB FREE OF DEBRIS AND MAKE FINAL CLEANUP TO SATISFACTION OF OWNER.
7. CONTRACTOR SHALL ASCERTAIN THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION SO THAT THIS WORK WILL NOT DISTURB EXISTING LINES AND/OR INSTALLATIONS. COORDINATE ALL WORK WITH THE APPLICABLE UTILITY COMPANIES.
8. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS NECESSARY TO PERFORM THE WORK.

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS, CARMINA WOOD MORRIS, D.P.C. ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

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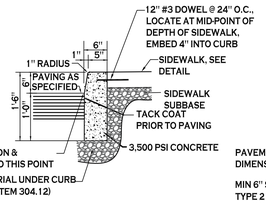
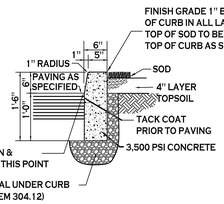


ABUTTING SIDEWALK

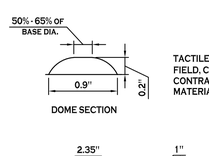


ABUTTING LANDSCAPE/GRASS

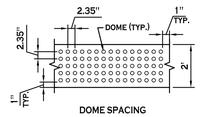
NOTES:

1. CONTROL JOINTS TO BE 2" DEEP AT 15'-0" O.C. - SEE SPECIFICATIONS FOR FURTHER JOINT REQUIREMENTS NYSDOT 702-0700.
2. WHERE THE CURB DROPS (IS FLUSH WITH ASPHALT) THE DEPTH OF CURB BELOW GRADE SHALL BE INCREASED TO 1'-6" AND OTHER DIMENSIONS ADJUSTED ACCORDINGLY.

TYPE "A" CONCRETE CURB - 1

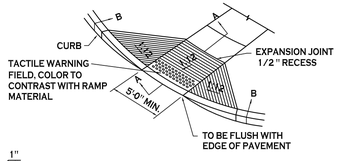


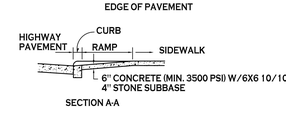
DOME SECTION



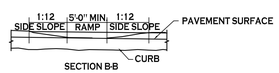
DOME SPACING

NOTE: TACTILE WARNING DEVICES SHALL BE PER ICC/ANSI A117.1-1998, SECTION 705.3.1.2 OR CURRENT UPDATE



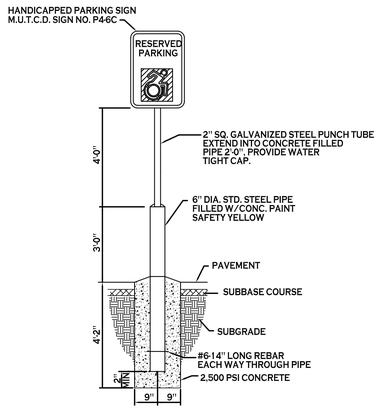


SECTION A-A

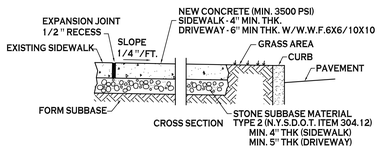


SECTION B-B

SIDEWALK CURB RAMP - 3



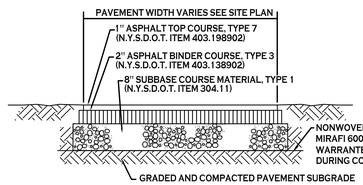
HANDICAPPED PARKING SIGN - 6



NOTES:

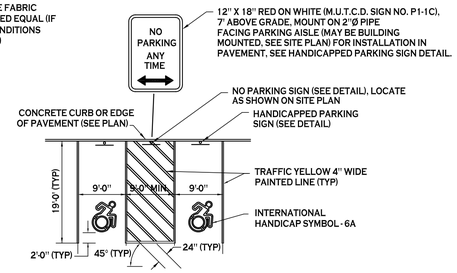
1. CONTROL JOINTS TO BE AT 5'-0" O.C., BOTH WAYS WHERE APPLICABLE. SEE SPECIFICATIONS FOR FURTHER JOINT REQUIREMENTS NYSDOT 702-0700.
2. CONCRETE SIDEWALK AND DRIVEWAY MATERIAL SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION 501 AND CONSTRUCTION METHODS SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION 608-3.
3. SUBBASE GRADE SHALL FOLLOW THE PROPOSED GRADE OF THE SIDEWALK AND SLOPE AWAY FROM BUILDING WHERE APPLICABLE, PROVIDE CONTINUOUS STONE PATH TO CURB UNDERDRAIN WHERE PROVIDED.
4. FULL DEPTH EXPANSION JOINTS SHALL BE INSTALLED EVERY 20' O.C., BOTHWAYS WHERE APPLICABLE. SEE SPECIFICATIONS FOR FURTHER JOINT REQUIREMENTS NYSDOT 702-0700.
5. SEE CURB DETAIL FOR DOWLING REQUIREMENTS WHERE ABUTTING CURB.
6. INSTALL 6" LONG #3 DOWELS @ 12" O.C. WHERE SIDEWALK ABUTS A BUILDING WALL AT AN ENTRANCE, THICKEN SIDEWALK TO 6" AT BUILDING WALL AND INSTALL DOWEL CENTERED IN THE 6" DEPTH. DOWELS AND THICKENING OF SIDEWALK SHALL EXTEND 18" EITHER SIDE OF ENTRANCE.
7. INSTALL 1/2" PREMOLDED EXPANSION JOINT WITH BACKER ROD & SEALANT WHERE SIDEWALK ABUTS BUILDING OR OTHER STRUCTURE.

CONCRETE SIDEWALK - 2

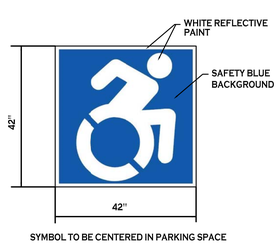


NOTE: CONSTRUCTION METHODS FOR ASPHALT PAVEMENT SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION 401-3, WITH SUBBASE CONSTRUCTION METHODS CONFORMING TO NYSDOT STANDARD SPECIFICATION 304-3.

STANDARD DUTY ASPHALT SECTION - 4



HANDICAPPED PAVEMENT MARKINGS & SIGNAGE - 5



SYMBOL TO BE CENTERED IN PARKING SPACE

INTERNATIONAL HANDICAP SYMBOL - 5

Carmina Wood Morris DPC
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P 716.842.3165
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REVISIONS:

No.	Description	Date

PROJECT NAME:

New Construction

MID CITY APARTMENTS

1661 Main Street | Buffalo | NY | 14209

Issued for Construction:	xx.xx.xx
Municipality Submission:	6/2019
Drawn by:	jlp
Scale:	1:20

DRAWING NAME:

Site Plan

DRAWING NO.

C-100

Project no.: 16.133

APPENDIX H

HEALTH & SAFETY PLAN (HASP)

SITE HEALTH AND SAFETY PLAN
for
BROWNFIELD CLEANUP PROGRAM
SITE MANAGEMENT PLAN

MAIN & EAST BALCOM STREET SITE
BCP SITE NO. C915306
BUFFALO, NEW YORK

July 2019 0239-016-001

Prepared for:

1665 MAIN STREET GROUP, LLC

Prepared by:

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

In Association With:

TURNKEY
ENVIRONMENTAL
RESTORATION, LLC

MAIN & EAST BALCOM STREET SITE
HEALTH AND SAFETY PLAN FOR SITE MANAGEMENT ACTIVITIES

ACKNOWLEDGEMENT

Plan Reviewed by (initial):

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

Project Manager: Nathan Munley

Designated Site Safety and Health Officer: Nathan Munley

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

BENCHMARK TURNKEY

MAIN & EAST BALCOM STREET SITE
HEALTH AND SAFETY PLAN FOR SITE MANAGEMENT ACTIVITIES

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MAIN & EAST BALCOM STREET SITE
HEALTH AND SAFETY PLAN FOR SITE MANAGEMENT ACTIVITIES

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MAIN & EAST BALCOM STREET SITE
HEALTH AND SAFETY PLAN FOR SITE MANAGEMENT ACTIVITIES

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

The Site consists of a 0.99-acre parcel, located along Main Street and East Balcom Street, in the City of Buffalo, Erie County, New York. The Site is currently improved with a single six (6) story commercial building along Main Street and East Balcom Street. The eastern portion of the Site, along East Balcom Street, and the southern portion of the Site, along Main Street, are both currently vacant, consisting of asphalt, concrete, gravel, and vegetated areas.

It should be noted that on April 1, 2016, 1665 Main Street Group, LLC combined the six (6) adjoining parcels (1653, 1655, 1661 Main Street and 17, 19 and 21 East Balcom Street) into a single tax parcel for redevelopment purposes. The newly combined parcel is identified as 1661 Main Street. Erie County Real Estate only revises tax maps and issue S.B.L. numbers bi-annually, and at the time of application and work plan preparation, the

newly combined 1661 Main Street parcel has not been assigned a new SBL identifier by Erie County. When Erie County issues a new SBL identifier for the combined 1661 Main Street parcel, a copy of the SBL and revised tax map will be provided to the Department.

The Site has a long history of being utilized for various residential, commercial, and industrial purposes since at least 1915, including, but not limited to, automobile service and filling station(s), a fireproofing company, chemical storage and distribution, trucking operations and warehousing and storage.

Previous environmental investigations completed at the Site have revealed evidence of environmental contamination related to the former uses of the Site. Elevated photoionization detector (PID) readings and elevated levels of semi-volatile organic compounds (SVOCs) and metals have been detected on Site at concentrations exceeding regulatory guidelines.

According to municipal records, multiple underground storage tanks (USTs) and fuel dispensers have been installed on several of the former parcels (1653-1655 Main Street and 1661 Main Street). The current building (1661 Main Street) was identified on the RCRA list of generators of hazardous waste. Additional hazardous/regulated materials and/or wastes associated with automobile service activities were likely used, stored and/or generated on-Site. Multiple NYSDEC Spills records are associated with the Site, including a currently open spill file No. 1500185.

1.3 Known and Suspected Environmental Conditions

Previous investigations have shown that the former uses of the site as a filling station, an oil company, fireproofing and storage, chemical storage and distribution, and warehousing have impacted the Site, which will require remediation prior to redevelopment. The findings of the previous investigations included:

- Historic Site use as an automobile service and filling station, including up to six (6) gasoline USTs were formerly located on Site since at least 1935.
- Historic use as an oil company, fireproofing and storage, chemical storage and distribution, and warehousing from at least 1916.
- Gasoline station and automotive repair operations were identified in connection with adjacent properties.

- A 1,000-gallon fuel oil aboveground storage tank (AST) is located in the basement boiler room of the existing building, with petroleum odors and staining noted on the exterior of the tank as well as beneath it.
- An additional approximate 4,500-gallon UST was discovered in the 1661 Main Street parcel, East Balcom parking lot.
- Three (3) vent and filling pipes are located next to man-door along E. Balcom Street, associated with the UST and basement AST.
- Hazardous/regulated materials are stored and utilized on-site.
- Black staining was observed to the concrete ground surface within the interior loading/unloading area, wood surfaces proximate to the northernmost elevator pulley system/motor, and on an inactive motor room noted on the seventh floor.
- The Site (American Household Storage Company) was identified as a RCRA generator of hazardous waste.
- Multiple NYSDEC Spill files are associated with the Site.
- Elevated petroleum VOCs, SVOCs, and metals, some exceeding Commercial Use SCOs were detected in on-Site soil/fill.
- Elevated photoionization detector (PID) readings for volatile organic compounds (VOCs) were detected in multiple locations across the site, with readings as high as 390 ppm being detected.

The RA will be performed in support of the BCP to address known environmental impacts related to past uses of the Site. Impacted soil will be removed and impacted groundwater (if encountered) will be extracted and treated during the RA.

1.4 Parameters of Interest

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

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

- **Volatile Organic Compounds (VOCs)** – VOCs present at elevated concentration may include petroleum-related VOCs, such as 1,2,4-trimethylbenzene, benzene, ethylbenzene, and xylenes.

- **Semi-Volatile Organic Compounds (SVOCs) –** SVOCs present at elevated concentrations may include polycyclic aromatic hydrocarbons (PAHs), which are byproducts of incomplete combustion and impurities in petroleum products.

1.5 Overview of RA Activities

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

Remedial Action Activities

- **Supplemental Groundwater Assessment;**
- **Confirmatory building Soil Vapor Intrusion (SVI) sampling;**
- **Excavation and offsite disposal of soil/fill exceeding RRSCOs,** including in the vicinity of TP-3, TP-14, NS-4, and excess redevelopment spoils that are non-suitable for reuse;
- **Collection of post-excavation confirmatory samples,** in accordance with DER-10;
- **Construction of Cover System,** including demarcation layer underlying DER-10 acceptable backfill in areas without hardscape (building, asphalt and concrete) to address remaining contamination above RRSCOs;
- **Implementation of the Site Management Plan (SMP)**. The SMP includes:
    - **Institutional Controls and Engineering Controls (IC/EC)** Engineering controls include any physical barrier or method employed to actively or passively contain, stabilize, or monitor contaminants; restrict the movement of contaminants; or eliminate potential exposure pathways to contaminants. Institutional controls at the site will include groundwater use restrictions and land use restrictions of the Site to Restricted Residential use;
    - **Excavation Work Plan** to assure that future intrusive activities and soil/fill handling at the Site are completed in a safe and environmentally responsible manner;
    - **Site Monitoring Plan** that includes: provisions for a Site-wide inspection program to assure that the IC/ECs have not been altered and remain effective; and,
    - **Environmental Easement** filed with Erie County.

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 establish 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. Nathan Munley.*** 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 SSHO for this Site is ***Mr. Nathan Munley***. The qualified alternate SSHO is ***Mr. Christopher Boron.*** 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 the Excavation Contractor, 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-Benchmark/TurnKey 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, groundwater, and subslab vapors. 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) and metals due to historic use as an automobile service and filling station, an oil company, fireproofing and storage, chemical distribution and storage, and warehousing. 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.

- **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.

- **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.

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

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

- **Polycyclic Aromatic Hydrocarbons (PAHs)** are formed as a result of the pyrolysis and incomplete combustion of organic matter such as fossil fuel. PAH aerosols formed during the combustion process disperse throughout the atmosphere, resulting in the deposition of PAH condensate in soil, water and on vegetation. In addition, several products formed from petroleum processing operations (e.g., roofing materials and asphalt) also contain elevated levels of PAHs. Hence, these compounds are widely dispersed in the environment. PAHs are characterized by a molecular structure containing three or more fused, unsaturated carbon rings. Seven of the PAHs are classified by USEPA as probable human carcinogens (USEPA Class B2). These are: benzo(a)pyrene; benzo(a)anthracene; benzo(b)fluoranthene; benzo(k)fluoranthene; chrysene; dibenzo(a,h)anthracene; and indeno(1,2,3-cd)pyrene. The primary route of exposure to PAHs is through incidental ingestion and inhalation of contaminated particulates. 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.

- **Arsenic (CAS #7440-38-2)** is a naturally occurring element and is usually found combined with one or more elements, such as oxygen or sulfur. Inhalation is a more important exposure route than ingestion. First phase exposure symptoms

include nausea, vomiting, diarrhea and pain in the stomach. Prolonged contact is corrosive to the skin and mucus membranes. Arsenic is considered a Group A human carcinogen by the USEPA. Exposure via inhalation is associated with an increased risk of lung cancer. Exposure via the oral route is associated with an increased risk of skin cancer.

- **Barium (CAS #7440-39-3)** is a silver white metal, produced by the reduction of barium oxide. Local effects and symptoms of exposure to barium compounds, such as the hydroxide or carbonate, may include irritation of the eyes, throat, nose and skin. Systemic effects from ingestion include increased muscle contractility, reduction of heart rate/potential arrest, intestinal peristalsis, vascular constriction, and bladder contraction.

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

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

- **Lead (CAS #7439-92-1)** can affect almost every organ and system in our bodies. The most sensitive is the central nervous system, particularly in children. Lead also damages kidneys and the immune system. The effects are the same whether it is breathed or swallowed. Lead may decrease reaction time, cause weakness in fingers, wrists, or ankles, and possibly affect memory. Lead may cause anemia.

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

With respect to the anticipated RA 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

RA field activities at the Main & East Balcom Street Site may present the following physical hazards:

- The potential for physical injury during heavy construction equipment use, such as backhoes, excavators and drilling equipment.
- The potential for heat/cold stress to employees during the summer/winter months (see Section 10.0).
- The potential for slip and fall injuries due to rough, uneven terrain and/or open excavations.

These hazards represent only some of the possible means of injury that may be present during RA 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 RA 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 Attachment 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- Benchmark/TurnKey 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

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 exist 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 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 in the 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.

- 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.

- 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, 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 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 from the field equipment 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 with continued monitoring.
  - 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, but in no case less than 20 feet, 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.

o **ORGANIC VAPOR CONTINGENCY MONITORING PLAN:**

- If the sustained organic vapor level is greater than 5 ppm over background 200 feet downwind from the work area or half the distance to the nearest off-site residential or commercial property, whichever is less, all work activities must be halted.

- If, following the cessation of the work activities or as the result of an emergency, sustained organic levels persist above 5 ppm above background 200 feet downwind or half the distance to the nearest off-site residential or commercial property from the work area, then the air quality must be monitored within 20 feet of the perimeter of the nearest off-site residential or commercial structure (20-foot zone).

- If efforts to abate the emission source are unsuccessful and if sustained organic vapor levels approach or exceed 5 ppm above background within the 20-foot zone for more than 30 minutes, or are sustained at levels greater than 10 ppm above background for longer than one minute, then the ***Major Vapor Emission Response Plan*** (see below) will automatically be placed into effect.

o **MAJOR VAPOR EMISSION RESPONSE PLAN:**

Upon activation, the following activities will be undertaken:

1. All Emergency Response Contacts as listed in this Health and Safety Plan and the Emergency Response Plan (Appendix A) will be advised.

2. The local police authorities will immediately be contacted by the Site Health and Safety Officer and advised of the situation.

3. Frequent air monitoring will be conducted at 30-minute intervals within the 20-foot zone. If two sustained successive readings below action levels are measured, air monitoring may be halted or modified by the Site Health and Safety Officer.

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

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

Additional emergency numbers are listed in the Emergency Response Plan included as Attachment 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 (Attachment A).

9.0 SPILL RELEASE/RESPONSE

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

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

9.1 Potential Spills and Available Controls

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

- CERCLA Hazardous Substances as identified in 40 CFR Part 302, where such materials pose the potential for release in excess of their corresponding Reportable Quantity (RQ).

- Extremely Hazardous Substances as identified in 40 CFR Part 355, Appendix A, where such materials pose the potential for release in excess of their corresponding Reportable Quantity (RQ).

- Hazardous Chemicals as defined under Section 311(e) of the Emergency Planning and Community Right-To-Know Act of 1986, where such chemicals are present or will be stored in excess of 10,000 lbs.

- Toxic Chemicals as defined in 40 CFR Part 372, where such chemicals are present or will be stored in excess of 10,000 lbs.

- Chemicals regulated under 6NYCRR Part 597, where such materials pose the potential for release in excess of their corresponding Reportable Quantity (RQ).

Oil/petroleum products are considered to pose a significant spill potential whenever the following situations occur:

- The potential for a "harmful quantity" of oil (including petroleum and non-petroleum-based fuels and lubricants) to reach navigable waters of the U.S. exists (40 CFR Part 112.4). Harmful quantities are considered by USEPA to be volumes that could form a visible sheen on the water or violate applicable water quality standards.

- The potential for any amount of petroleum to reach any waters of NY State, including groundwater, exists. Petroleum, as defined by NY State in 6NYCRR Part 612, is a petroleum-based heat source, energy source, or engine lubricant/maintenance fluid.

- The potential for any release, to soil or water, of petroleum from a bulk storage facility regulated under 6NYCRR Part 612. A regulated petroleum storage facility is defined by NY State as a site having stationary tank(s) and intra-facility piping, fixtures and related equipment with an aggregate storage volume of 1,100 gallons or greater.

The evaluation indicates that, based on Site history and decommissioning records, a hazardous material spill and/or a petroleum product spill is not likely to occur during RA 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:

- Green Environmental Specialists, Inc.: (716) 298-5297
  (800) 275-8256
- Environmental Products and Services, Inc.: (716) 447-4700
- The Environmental Service Group of NY, Inc.: (716) 695-6720

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 area, 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 worker's 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. Flagging tape will delineate the zone. 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

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

Benchmark-TurnKey personnel will conduct decontamination of all tools used for sample collection purposes. 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 RA 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 Attachment A. The hospital route map is presented within Attachment A as Figure 1.

16.0 REFERENCES

1. New York State Department of Environmental Conservation. *DER-10; Technical Guidance for Site Investigation and Remediation.* May 2010.

TABLES

TABLE 1

TOXICITY DATA FOR CONSTITUENTS OF POTENTIAL CONCERN

Main & East Balcom Street Site
BCP Site No. C915306
Buffalo, New York

Parameter	Synonyms	CAS No.	Code	Concentration Limits [1]		
				PEL	TLV	IDLH
Volatile Organic Compounds (VOCs): ppm						
1,2,4-Trimethylbenzene	Pseudocumene	95-63-6	*none*	25	25	--
1,3,5-Trimethylbenzene	Mesitylene	108-67-8	*none*	25	25	--
Ethylbenzene	Ethylbenzol, Phenylethane	100-41-4	*none*	100	100	800
Isopropylbenzene	Cumene	98-82-8	*none*	50	50	900
n-Propylbenzene	Isocumene	103-65-1	*none*	50	50	--
Xylene, Total	o-, m-, p-isomers	1330-20-7	*none*	100	100	900
Semi-volatile Organic Compounds (SVOCs) [2] : ppm						
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(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	0.5	50
Cadmium	*none*	7440-43-9	*Ca*	0.005	0.01	9
Chromium	*none*	7440-47-3	*none*	1	0.5	250
Copper	*none*	7440-50-8	*none*	0.1	0.2	200
Lead	*none*	7439-92-1	*none*	0.05	0.15	100
Mercury	*none*	7439-97-6	C-0.1	0.1	0.05	10
Selenium	*none*	7782-49-2	*none*	0.2	0.2	1
Silver	*none*	7440-28-0	*none*	0.01	0.1	10
Zinc	*none*	7440-66-6	*none*	--	--	--

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

Explanation:
Ca = NIOSH considers constituent to be a potential occupational carcinogen.
C-## = Ceiling Level equals the maximum exposure concentration allowable during the work day.
IDLH = Immediately Dangerous to Life or Health.
ND indicates that an IDLH has not as yet been determined.
TLV = Threshold Limit Value, established by American Conference of Industrial Hygienists (ACGIH), equals the maximum exposure concentration allowable for 8 hours/day @ 40 ho
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-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

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TURNKEY ENVIRONMENTAL RESTORATION, LLC

TABLE 2

POTENTIAL ROUTES OF EXPOSURE TO THE CONSTITUENTS OF POTENTIAL CONCERN
Main & East Balcom Street Site
BCP Site No. C915306
Buffalo, New York

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

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

TABLE 3

REQUIRED LEVELS OF PROTECTION
FOR SITE MANAGEMENT PLAN
Main & East Balcom Street Site
BCP Site No. C915306
Buffalo, New York

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

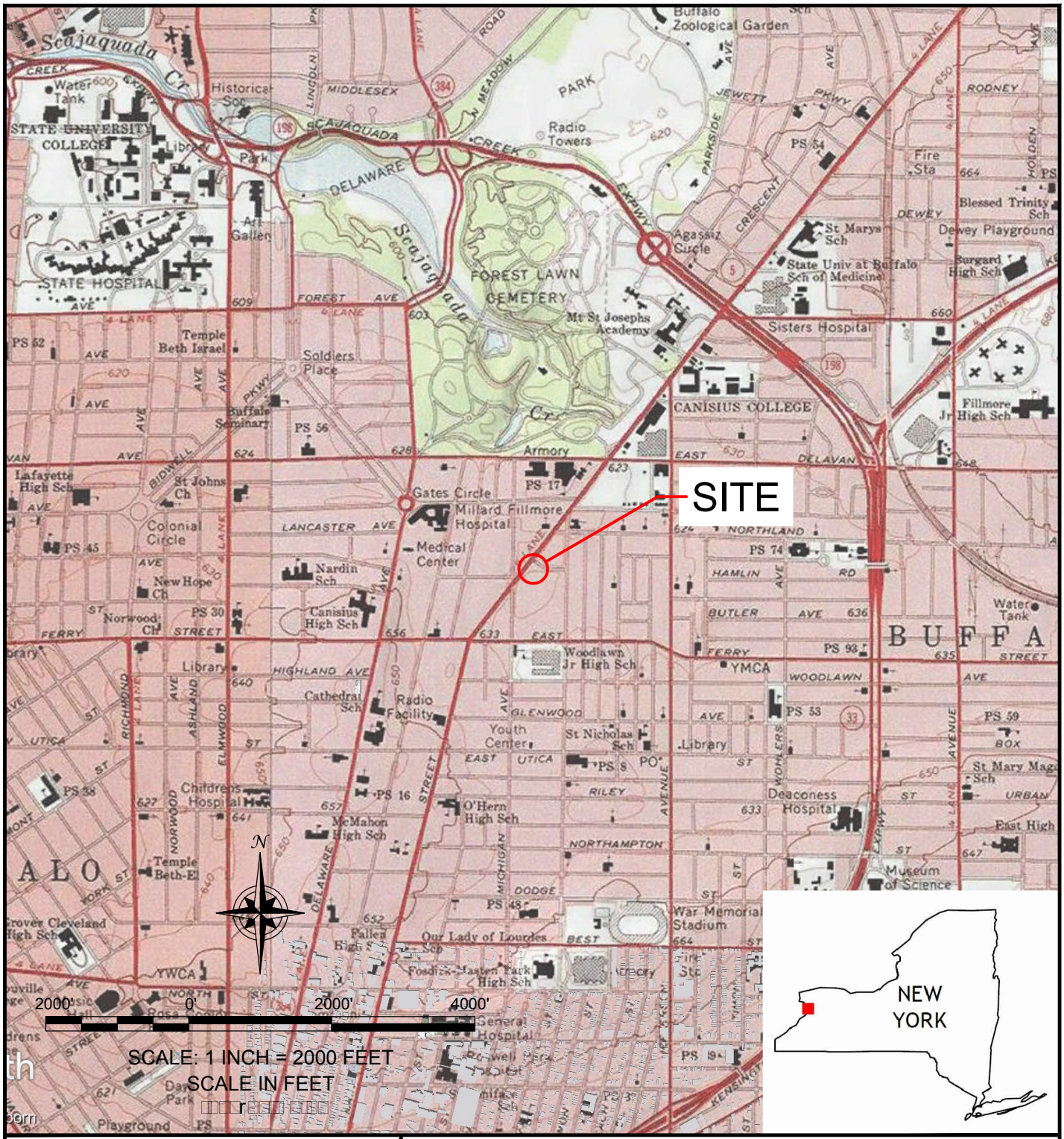
Notes:

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

FIGURES

F:\CAD\TurnKey\Sinatra\1653-1661 Main Street Site\RAWP\HASP\Figure 1 - Site Location and Vicinity Map.dwg

FIGURE 1



BENCHMARK
ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TURNKEY
ENVIRONMENTAL RESTORATION, LLC

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

PROJECT NO.: B0239-016-001

DATE: JULY 2019

DRAFTED BY: CMS/CCB

SITE LOCATION AND VICINITY MAP

SITE HEALTH AND SAFETY PLAN

MAIN & EAST BALCOM STREET SITE
BCP SITE NO. C915306
BUFFALO, NEW YORK

PREPARED FOR

1665 MAIN STREET GROUP, LLC

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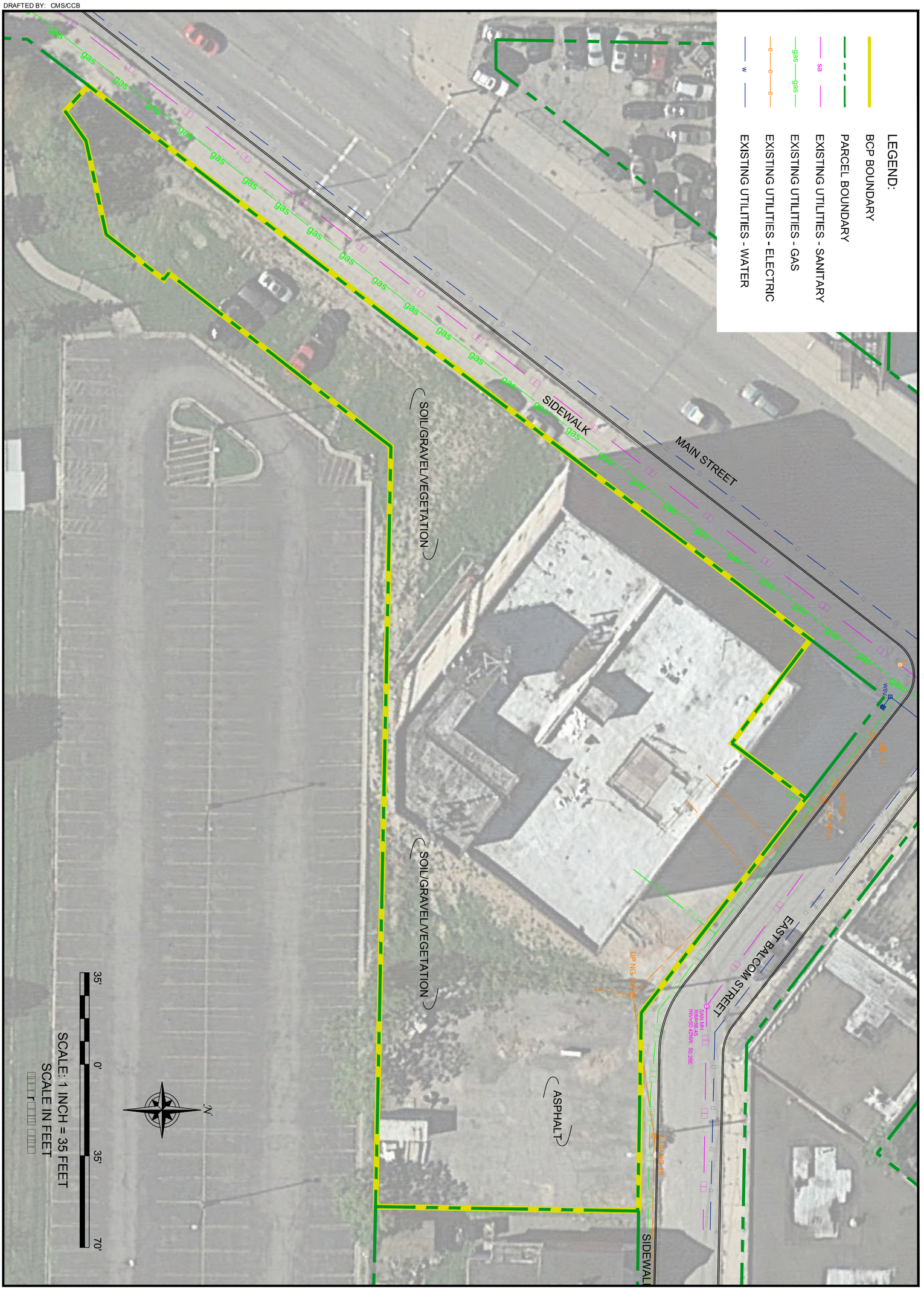
F:\CAD\TurnKey\Sinatra\1653-1661 Main Street Site\RAWP\HASP\Figure 2 - Site Plan_Aerial.dwg

DATE: JULY 2019
DRAFTED BY: CMS/CCB



SITE PLAN (AERIAL)

FIGURE 2

SITE HELATH AND SAFETY PLAN

MAIN & EAST BALCOM STREET SITE
BCP SITE NO. C915306
BUFFALO, NEW YORK

PREPARED FOR
1665 MAIN STREET GROUP, LLC

BENCHMARK
ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

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

JOB NO.: 0239-016-001

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ATTACHMENT A

EMERGENCY RESPONSE PLAN

BENCHMARK TURNKEY

EMERGENCY RESPONSE PLAN
for
BROWNFIELD CLEANUP PROGRAM SITE MANAGEMENT PLAN

BCP SITE NO. C915306
MAIN & EAST BALCOM STREET SITE
BUFFALO, NEW YORK

July 2019 0239-016-001

Prepared for:

1665 MAIN STREET GROUP, LLC

MAIN & EAST BALCOM STREET SITE
HEALTH AND SAFETY PLAN FOR RI/IRM ACTIVITIES
APPENDIX A: EMERGENCY RESPONSE PLAN

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Figure 1 Hospital Route Map

1.0 GENERAL

This report presents the site-specific Emergency Response Plan (ERP) referenced in the Site Health and Safety Plan (HASP) prepared for The Site Management Plan (SMP) for the Main & East Balcom Street Site in Buffalo, New York. This attachment 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

Location of Source:

1. Non-specific

3.0 ON-SITE EMERGENCY RESPONSE EQUIPMENT

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

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

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

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

4.0 EMERGENCY PLANNING MAPS

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

5.0 EMERGENCY CONTACTS

The following identifies the emergency contacts for this ERP.

Emergency Telephone Numbers:

Project Manager: ***Nathan Munley***
Work: (716) 856-0599
Mobile: (716) 289-1072

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

Site Safety and Health Officer (SSHO): ***Nathan Munley***
Work: (716) 856-0599
Mobile: (716) 289-1072

Alternate SSHO: ***Christopher Boron***
Work: (716) 856-0599
Mobile: (716) 864-2726

BUFFALO GENERAL HOSPITAL (ER):	(716) 748-2100
FIRE:	911
AMBULANCE:	911
BUFFALO POLICE:	911
STATE EMERGENCY RESPONSE HOTLINE:	(800) 457-7362
NATIONAL RESPONSE HOTLINE:	(800) 424-8802
NYSDOH:	(716) 847-4385
NYSDEC:	(716) 851-7220
NYSDEC 24-HOUR SPILL HOTLINE:	(800) 457-7252

The Site location is:

1661 Main Street
Buffalo, New York 14209
Site Phone Number: Benchmark-TurnKey Staff Cell Phones to be used

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 all personnel entering the site understand an adequate method of internal communication. 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 Benchmark-TurnKey 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 (***Nathan Munley or Christopher Boron***) 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 Buffalo General 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 Buffalo General Hospital (see Figure 1):

The following directions describe the best route from the Site to Buffalo General Hospital:

- Travel southwest on Main Street toward Harvard Place
- Turn left onto Michigan Avenue
- Turn right onto High Street
- Hospital on the right (100 High Street)
  (1.4 miles)

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.

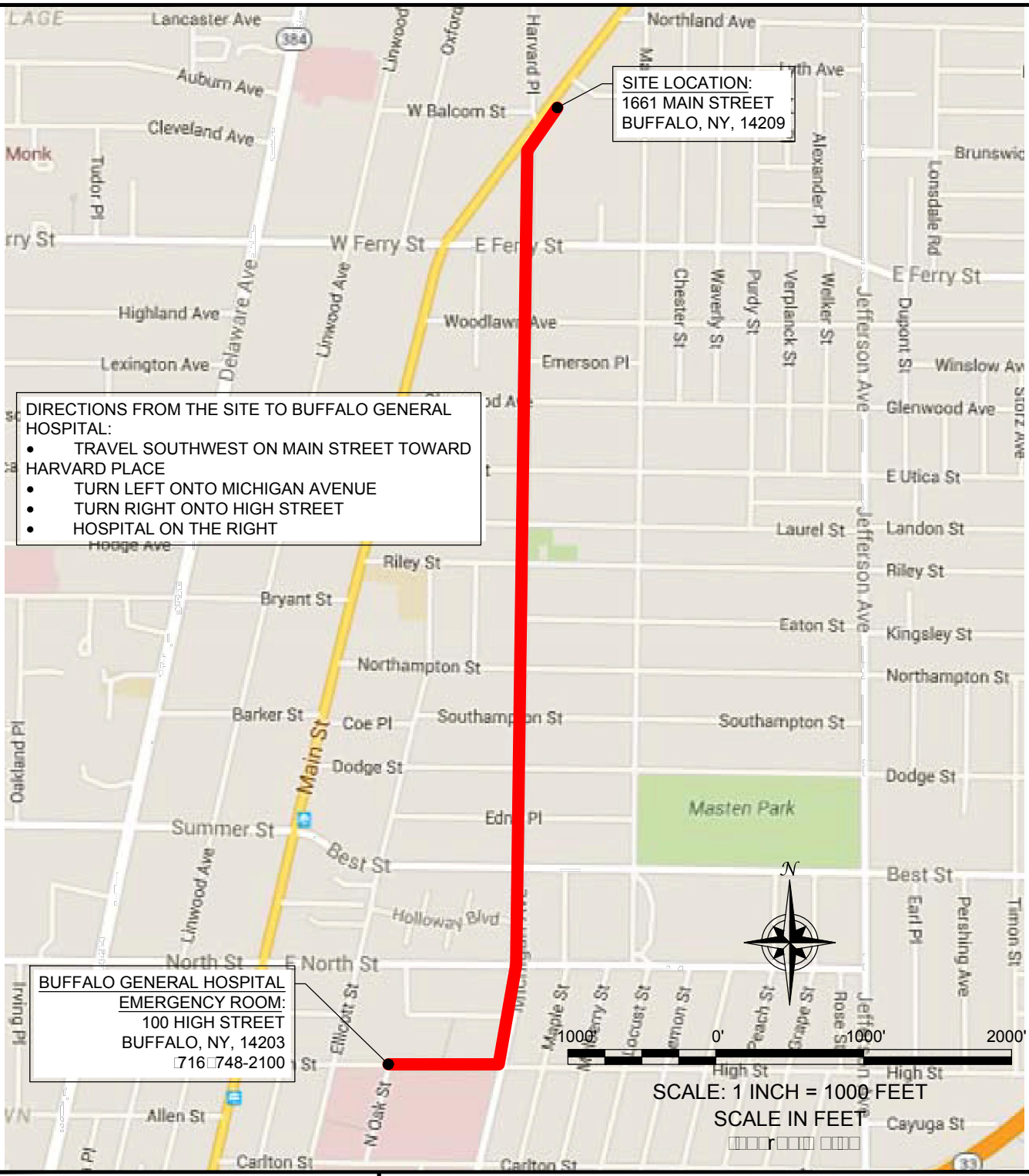
10.0 EMERGENCY RESPONSE TRAINING

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.

FIGURE

F:\CAD\TurnKey\Sinatra\1653-1661 Main Street Site\RAWP\ERP\Figure 1; Hospital Route.dwg

FIGURE1



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PROJECT NO.: 0239-016-001

DATE: JULY 2019

DRAFTED BY: CMS/CCB

HOSPITAL ROUTE MAP

EMERGENCY RESPONSE PLAN

BCP SITE NO. C915306
MAIN & EAST BALCOM STREET SITE
BUFFALO, NEW YORK

PREPARED FOR

1665 MAIN STREET GROUP, LLC

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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

BENCHMARK TURNKEY

Appendix 1A
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 1B
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 I

QUALITY ASSURANCE PROJECT PLAN (QAPP)

QUALITY ASSURANCE PROJECT PLAN
For BCP ACTIVITIES

MAIN & EAST BALCOM STREET SITE
BUFFALO, NEW YORK
BCP SITE NO. C915306

July 2019 0239-016-001

Prepared for:

1665 Main Street Group, LLC

QUALITY ASSURANCE PROJECT PLAN (QAPP)
MAIN & EAST BALCOM STREET SITE

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1.0 INTRODUCTION

This Quality Assurance Project Plan (QAPP) is an appendix to the Site Management Plan (SMP), which is required as an element of the remedial program at the Main and East Balcom Street Site (hereinafter referred to as the "Site") under the New York State (NYS) Brownfield Cleanup Program (BCP), administered by New York State Department of Environmental Conservation (NYSDEC). The site was remediated in accordance with Brownfield Cleanup Agreement (BCA) Index# C915306-08-16, which was executed in October 21, 2016.

1.1 Site Location and Description

The Site consists of one (1) parcel totaling 1.0- acres, located in the City of Buffalo, Erie County, New York and are identified on the Erie County Tax Map as:

- **1661 Main Street, S.B.L. #100.24-4-14.1**

The Site is currently improved with a six (6) story commercial building at the corner of Main Street and East Balcom Street which is in the process of redevelopment. The eastern portion of the Site, along East Balcom Street, and the southern portion of the Site, along Main Street consist of asphalt, concrete, gravel, and vegetated areas.

1.2 Site Environmental History

Portions of the Site have a long history of being utilized for warehouse-storage and trucking, filling station(s) and retail (donut manufacturer), and residential.

Previous environmental investigations completed at the Site have revealed evidence of environmental contamination related to the former uses of the Site. Elevated photoionization detector (PID) readings and elevated levels of semi-volatile organic compounds (SVOCs) and metals have been detected on Site at concentrations exceeding regulatory guidelines. Details of the previous investigations are presented in Section 1.2 below.

According to municipal records, multiple underground storage tanks (USTs) and fuel dispensers have been installed on several of the former parcels (1653-1655 Main Street and

1661 Main Street). The current building (1661 Main Street) was identified on the RCRA list of generators of hazardous waste. Additional hazardous/regulated materials and/or wastes associated with automobile service activities were likely used, stored and/or generated on-Site. Multiple NYSDEC Spills records are associated with the Site, including a currently open spill file No. 1500185.

1.3 Scope of the QAPP

This QAPP was prepared to provide quality assurance (QA) guidelines to be implemented post-remedial activities. The QAPP will assure the accuracy and precision of data collection during post-remedial Site characterization and data interpretation. The QAPP identifies procedures for sample collection to mitigate the potential for cross-contamination, as well as analytical requirements necessary to allow for independent data validation. The QAPP has been prepared in accordance with USEPA's Requirements for Quality Assurance Project Plans for Environmental Data Operations; the EPA Region II CERCLA Quality Assurance Manual, and NYSDEC's DER-10 Technical Guidance for Site Investigation and Remediation (May 2010).This document may be modified for subsequent phases of investigative work, as necessary.

The QAPP provides:

- A means to communicate to the persons executing the various activities exactly what is to be done, by whom, and when;
- A culmination to the planning process that ensures that the program includes provisions for obtaining quality data (e.g., suitable methods of field operations);
- A document that can be used by the Project Manager's and QA Officer to assess if the activities planned are being implemented and their importance for accomplishing the goal of quality data;
- A plan to document and track project data and results; and,
- Detailed descriptions of the data documentation materials and procedures, project files, and tabular and graphical reports.

The QAPP is primarily concerned with the quality assurance and quality control aspects of the procedures involved in the collection, preservation, packaging, and transportation of samples; field testing; record keeping; data management; chain-of-custody procedures; laboratory analyses; and other necessary matters to assure that the investigation activities, once completed, will yield data whose integrity can be defended.

QA refers to the conduct of all planned and systematic actions necessary to perform satisfactorily all task-specific activities and to provide information and data confidence as a result of such activities. The QA for task-specific activities includes the development of procedures, auditing, monitoring and surveillance of the performance.

QC refers to the activity performed to determine if the work activities conform to the requirements. This includes activities such as inspections of the work activities in the field (e.g., verification that the items and materials installed conform to applicable codes and design specifications). QA is an overview monitoring of the performance of QC activities through audits rather than first time inspections.

2.0 PROJECT ORGANIZATION AND RESPONSIBILITY

The principal organizations involved in verifying achievement of data collection goals for the Main & East Balcom Street Site include: the New York State Department of Environmental Conservation (NYSDEC), New York State Department of Health (NYSDOH), 1665 Main Street Group, LLC (Volunteer), Benchmark Environmental Engineering and Science, PLLC (Benchmark), in association with TurnKey Environmental Restoration, LLC (TurnKey) (Volunteer's Consultant), subcontractor(s), the independent environmental laboratory, and the independent third party data validator. Roles, responsibilities, and required qualifications of these organizations are discussed in the following subsections. Resumes are included in Appendix A.

2.1 NYSDEC and NYSDOH

It is the responsibility of the NYSDEC, in conjunction with the New York State Department of Health (NYSDOH), to review the project documents for completeness and conformance with the site-specific cleanup objectives and to make a decision to accept or reject these documents based on this review. The NYSDEC also has the responsibility and authority to review and approve all QA documentation collected during brownfield cleanup construction and to confirm that the QA Plan was followed.

2.2 Property Owner

1665 Main Street Group, LLC (Owner), or holder of the certificate of completion (COC) will be responsible for complying with the QA requirements as specified herein and for monitoring and controlling the quality of the Brownfield cleanup activities either directly or through their designated environmental consultant and/or legal counsel. The Owner will also have the authority to select Contractor(s) to assist them in fulfilling these responsibilities. The Owner is responsible for implementing the project, and has the authority to commit the resources necessary to meet project objectives and requirements.

2.3 Project Manager

The Project Manager has the responsibility for ensuring that the project meets the overall project objectives, reports directly to the Owner, coordinates with the NYSDEC/NYSDOH Project Coordinators, and is responsible for technical and project oversight. The PM will:

- Define project objectives and develop a detailed work plan schedule.
- Establish project policy and procedures to address the specific needs of the project as a whole, as well as the objectives of each task.
- Acquire and apply technical and corporate resources as needed to assure performance within budget and schedule constraints.
- Develop and meet ongoing project and/or task staffing requirements, including mechanisms to review and evaluate each task product.
- Review the work performed on each task to assure its quality, responsiveness, and timeliness.
- Review and analyze overall task performance with respect to planned requirements and authorizations.
- Review and approve all deliverables before their submission to NYSDEC.
- Develop and meet ongoing project and/or task staffing requirements, including mechanisms to review and evaluate each task product.
- Ultimately be responsible for the preparation and quality of interim and final reports.
- Represent the project team at meetings.

2.4 Field Team Leader:

The Field Team Leader (FTL) has the responsibility for implementation of specific project tasks identified at the Site, and is responsible for the supervision of project field personnel, subconsultants, and subcontractors. The FTL reports directly to the Project Manager. The FTL will:

- Define daily develop work activities.
- Orient field staff concerning the project's special considerations.

- Monitor and direct subcontractor personnel.
- Review the work performed on each task to ensure its quality, responsiveness, and timeliness.
- Assure that field activities, including sample collection and handling, are carried out in accordance with this QAPP.

2.5 Quality Assurance (QA) Officer

The QA Officer will have direct access to corporate executive staff as necessary, to resolve any QA dispute, and is responsible for auditing the implementation of the QA program in conformance with the demands of specific investigations and policies, and NYSDEC requirements. Specific functions and duties include:

- Performing QA audits on various phases of the field operations.
- Reviewing and approving QA plans and procedures.
- Providing QA technical assistance to project staff.
- Reporting on the adequacy, status, and effectiveness of the QA program on a regular basis to the Project Manager for technical operations.
- Responsible for assuring third party data review of all sample results from the analytical laboratory.

2.6 Laboratory Responsibilities

Any environmental laboratory used for sample analysis for this Site must be an independent, NYSDOH Environmental Laboratory Approval Program (ELAP)-certified facility approved to perform the analyses prescribed herein.

- *Laboratory Director:*

  The Laboratory Director is a technical advisor and is responsible for summarizing and reporting overall unit performance. Responsibilities of the Laboratory Director include:

- Provide technical, operational, and administrative leadership.
- Allocation and management of personnel and equipment resources.
- Quality performance of the facility.
- Certification and accreditation activities.
- Blind and reference sample analysis.

- *Quality Assurance Manager (QA Manager):*

  The QA Manager has the overall responsibility for data after it leaves the laboratory. The QA Manager will be independent of the laboratory but will communicate data issues through the Laboratory Director. In addition, the QA Manager will:

  - Oversee laboratory QA.
  - Oversee QA/QC documentation.
  - Conduct detailed data review.
  - Determine whether to implement laboratory corrective actions, if required.
  - Define appropriate laboratory QA procedures.
  - Prepare laboratory SOPs.

3.0 QUALITY ASSURANCE OBJECTIVES FOR MEASUREMENT DATA

The overall objectives and criteria for assuring quality for this effort are discussed below. This QAPP addresses how the acquisition and handling of samples and the review and reporting of data will be documented. The objectives of this QAPP are to address the following:

- The procedures to be used to collect, preserve, package, and transport groundwater samples.
- Field data collection.
- Record keeping.
- Data management.
- Chain-of-custody procedures.
- Precision, accuracy, completeness, representativeness, for sample analysis and data management under EPA analytical methods.

3.1 Level of QC Effort for Sample Parameters

Field blank, method blank, trip blank, field duplicate, laboratory duplicate, laboratory control, standard reference materials (SRM) and matrix spike samples will be analyzed to assess the quality of the data resulting from the field sampling and analytical programs. QC samples are discussed below.

- Field and trip blanks consisting of distilled water will be submitted to the analytical laboratories to provide the means to assess the quality of the data resulting from the field-sampling program. Field (equipment) blank samples are analyzed to check for procedural chemical constituents at the facility that may cause sample contamination. Trip blanks are used to assess the potential for contamination of samples due to contaminant migration during sample shipment and storage.
- Method blank samples are generated within the laboratory and used to assess contamination resulting from laboratory procedures.

- Duplicate samples are analyzed to check for sampling and analytical reproducibility.

- MS/MSD and MS/Duplicate samples provide information about the effect of the sample matrix on the digestion and measurement methodology. Depending on site-specific circumstances, one MS/MSD or MS/Duplicate should be collected for every 20 or fewer investigative samples to be analyzed for organic and inorganic chemicals of a given matrix.

The general level of QC effort will be one field (blind) duplicate and one field blank (when non-dedicated equipment is used) for every 20 or fewer investigative samples of a given matrix. Additional sample volume will also be provided to the laboratory to allow one site-specific MS/MSD or MS/Duplicate for every 20 or fewer investigative samples of a given matrix. One trip blank consisting of distilled, deionized water will be included along with each sample delivery group of aqueous VOC samples.

4.0 SAMPLE CUSTODY PROCEDURES

Sample custody is controlled and maintained through the chain-of-custody procedures. Chain of custody is the means by which the possession and handling of samples will be tracked from the source (field) to their final disposition, the laboratory. A sample is considered to be in a person's custody if it is in the person's possession or it is in the person's view after being in his or her possession or it was in that person's possession and that person has locked it in a vehicle or room. Sample containers will be cleaned and preserved at the laboratory before shipment to the Site.

4.1 Field Custody Procedures

Sample custody is controlled and maintained through the chain-of-custody procedures. Chain of custody is the means by which the possession and handling of samples will be tracked from the source (field) to their final disposition, the laboratory. A sample is considered to be in a person's custody if it is in the person's possession or it is in the person's view after being in his or her possession or it was in that person's possession and that person has locked it in a vehicle or room. Sample containers will be cleaned and preserved at the laboratory before shipment to the Site.

4.1.1 Sample Storage

Samples are stored in secure limited-access areas. Walk-in coolers or refrigerators are maintained at 4°C, ± 2°C, or as required by the applicable regulatory program. The temperatures of all refrigerated storage areas are monitored and recorded a minimum of once per day. Deviations of temperature from the applicable range require corrective action, including moving samples to another storage location if necessary. Sample parameter lists, holding times and sample container requirements are summarized on Table 1.

4.1.2 Sample Custody

Sample custody is defined by this document as when any of the following occur:

- It is in someone's actual possession.
- It is in someone's view after being in his or her physical possession.

- It was in someone's possession and then locked, sealed, or secured in a manner that prevents unsuspected tampering.

- It is placed in a designated and secured area.

Samples are removed from storage areas by the sample custodian or analysts and transported to secure laboratory areas for analysis. Access to the laboratory and sample storage areas is restricted to laboratory personnel and escorted visitors only; all areas of the laboratory are therefore considered secure. If required by the applicable regulatory program, internal chain-of-custody is documented in a log by the person moving the samples between laboratory and storage areas.

Laboratory documentation used to establish COC and sample identification may include the following:

- Field COC forms or other paperwork that arrives with the sample.

- The laboratory COC.

- Sample labels or tags are attached to each sample container.

- Sample custody seals.

- Sample preparation logs (i.e., extraction and digestion information) recorded in hardbound laboratory books that are filled out in legible handwriting, and signed and dated by the chemist.

- Sample analysis logs (e.g., metals, GC/MS, etc.) information recorded in hardbound laboratory books that are filled out in legible handwriting, and signed and dated by the chemist.

- Sample storage log (same as the laboratory COC).

- Sample disposition log, which documents sample disposal by a contracted waste disposal company.

4.1.3 Sample Tracking

All samples are maintained in the appropriate coolers prior to and after analysis. The analysts remove and return their samples as needed. Samples that require internal COC are relinquished to the analysts by the sample custodians. The analyst and sample custodian must sign the original COC relinquishing custody of the samples from the sample custodian to the analyst. When the samples are returned, the analyst will sign the original COC returning sample custody to the sample custodian. Sample extracts are relinquished to the instrumentation analysts by the preparatory analysts. Each preparation department tracks internal COC through their logbooks/spreadsheets.

Any change in the sample during the time of custody will be noted on the COC (e.g., sample breakage or depletion).

5.0 CALIBRATION PROCEDURES AND FREQUENCY

This section describes the calibration procedures and the frequency at which these procedures will be performed for both field and laboratory instruments.

5.1 Field Instrument Calibration

Quantitative field data to be obtained during groundwater sampling include pH, turbidity, specific conductance, temperature, dissolved oxygen and depth to groundwater. Quantitative water level measurements will be obtained with an electronic sounder or steel tape, which require no calibration. Quantitative field data to be obtained during soil sampling include screening for the presence of volatile organic constituents using a photoionization detector (PID).

5.2 Preventative Maintenance

Each piece of field equipment is checked according to its routine maintenance schedule and before field activities begin. Field equipment that may be used at the Site includes:

- Photoionization detector (PID)
- Water quality meters (includes pH, turbidity, temperature, Eh, and specific conductance)
- Electric water level indicator

Field personnel will report all equipment maintenance and/or replacement needs to the Project QA Officer and will record the information on the daily field record.

6.0 DATA VALIDATION AND REPORTING

All data generated through field activities, or by the laboratory operation shall be reduced and validated (as required in the SMP) before reported.

6.1 Data Usability Evaluation

If requested by the NYSDEC, data evaluation will be performed by a third party data validator using the most current methods and quality control criteria from the USEPA's Contract Laboratory Program (CLP) *National Functional Guidelines for Organic Data Review*, and Contract Laboratory Program*, National Functional Guidelines for Inorganic Data Review.*

6.1.1 Procedures Used to Evaluate Field Data Usability

The performance of all field activities, calibration checks on all field instruments at the beginning of each day of use, manual checks of field calculations, checking for transcription errors and review of field log books is the responsibility of the Field Team Leader.

6.1.2 Procedures Used to Evaluate Laboratory Data Usability

Data evaluation will be performed by the third party data validator using the most current methods and quality control criteria from the USEPA's Contract Laboratory Program (CLP) *National Functional Guidelines for Organic Data Review*, and Contract Laboratory Program*, National Functional Guidelines for Inorganic Data Review.* The data review guidance will be used only to the extent that it is applicable to the SW-846 methods; SW-846 methodologies will be followed primarily and given preference over CLP when differences occur. Also, results of blanks, surrogate spikes, MS/MSDs, and laboratory control samples will be reviewed/evaluated by the data validator. All sample analytical data for each sample matrix shall be evaluated. The third party data validation expert will also evaluate the overall completeness of the data package. Completeness checks will be administered on all data to determine whether deliverables specified in this QAPP are present. The reviewer will determine whether all required items are present and request copies of missing deliverables.

6.2 Data Reporting

6.2.1 Field Data Reporting

All field documents will be accounted for when they are completed. Accountable documents include items such as field notebooks, sample logs, field data records, photographs, data packages, computer disks, and reports.

6.2.2 Laboratory Data Reporting

Analytical data will be summarized in tabular format with such information as sample identification, sample matrix description, parameters analyzed and their corresponding detected concentrations, and the detection limit. Analytical results will be incorporated into reports as data tables, maps showing sampling locations and analytical results, and supporting text.

7.0 CORRECTIVE ACTION

Corrective action is the process of identifying, recommending, approving, and implementing measures to counter unacceptable procedures or out of quality control performance that can affect data quality. Corrective action can occur during field activities, laboratory analyses, data validation, and data assessment. All corrective action proposed and implemented should be documented in the regular quality assurance reports to management. Corrective action should be implemented only after approval by the Project Manager, or his/her designee. If immediate corrective action is required, approvals secured by telephone from the Project Manager should be documented in an additional memorandum.

7.1 Field Corrective Action

If errors in field procedures are discovered during the observation or review of field activities by the Project QA Officer or his/her designee, corrective action will be initiated. Nonconformance to the QA/QC requirements of the field operating procedures will be identified by field audits or immediately by project staff who know or suspect that a procedure is not being performed in accordance with the requirements. The Project QA Officer or his designee will be informed immediately upon discovery of all deficiencies. Timely action will be taken if corrective action is necessary.

Corrective action in the field may be needed when the sample network is changed (i.e., more/less samples, sampling locations other than those specified in the Work Plan, etc.) or when sampling procedures and/or field analytical procedures require modification due to unexpected conditions. In general, the Project Manager and QA Officer may identify the need for corrective action. The Project Manager will approve the corrective measure that will be implemented by the field team. It will be the responsibility of the Project Manager to ensure that corrective action has been implemented.

If the corrective action will supplement the existing sampling using existing and approved procedures in the QAPP, corrective action approved by the Project Manager will be documented. If the corrective actions result in less samples (or analytical fractions), alternate locations, etc., which may result in non-achievement of project QA objectives, it will be necessary that all levels of project management, including the NYSDEC Project Coordinator, concur with the proposed action.

Corrective actions will be implemented and documented in the project field record book. No staff member will initiate corrective action without prior communication of findings through the proper channels. If corrective actions are insufficient, work may be stopped by the NYSDEC Project Coordinator.

If at any time a corrective action issue is identified which directly impacts project data quality objectives, the NYSDEC Project Coordinator will be notified immediately.

7.2 Laboratory Corrective Action

Corrective actions may be initiated if the quality assurance goals are not achieved. The initial step in a corrective action is to instruct the analytical laboratory to examine its procedures to assess whether analytical or computational errors caused the anomalous result. If no error in laboratory procedures or sample collection and handling procedures can be identified, then the Project Manager will assess whether reanalysis or resampling is required or whether any protocol should be modified for future sampling events.

7.3 Data Validation & Assessment Corrective Action

The need for corrective action may be identified during the data validation or assessment processes. Potential types of corrective action may include resampling by the field team, or reinjection/reanalysis of samples by the laboratory.

These actions are dependent upon the ability to mobilize the field team, whether the data to be collected is necessary to meet the QA objectives (e.g., the holding time for samples is not exceeded, etc.). If the data validator identifies a corrective action situation, the Project Manager will be responsible for approving the corrective action implementation. All required corrective actions will be documented by the laboratory Quality Assurance Coordinator.

TABLES

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TURNKEY ENVIRONMENTAL RESTORATION, LLC

TABLE 1

SAMPLE CONTAINER, VOLUME, PRESERVATION & HOLDING TIME REQUIREMENTS
MAIN & EAST BALCOM STREET SITE
BCP SITE NO. C915306
BUFFALO, NEW YORK

Matrix	Parameter [1]	Method [1]	Container Type	Minimum Volume	Preservation (Cool to 2-4 °C for all samples)	Holding Time from Sample Date
Soil	TCL + CP-51 VOCs	8260B	EnCore/WMG	5 gm / 4 oz.	Cool to 2-4 °C, Zero Headspace	48 - hours / 14 days
	TCL SVOCs	8270C	WMG	16 oz.	Cool to 2-4 °C	14 days extrac./40 days
	TAL Metals [2]	6010	WMG	4 oz.	Cool to 2-4 °C	6 months/Hg 28 days
	Pesticides	8081	WMG	8oz	Cool to 2-4 °C	14 days extrac./40 days
	Herbicides	8151	WMG	8oz	Cool to 2-4 °C	14 days extrac./40 days
	PCBs	8082	WMG	4 oz.	Cool to 2-4 °C	14 days extrac./40 days
	PFAS	modified 537	HDPE/Polypropylene	4-8 oz.	Cool to 2-4 °C	14 days extrac./40 days
Groundwater	TCL + CP-51 VOCs	8260B	glass vial	3 - 4 oz.	HCl to pH<2, Zero Headspace, Cool to 2-4 °C	14 days
	TCL SVOCs	8270C	amber glass	1000 ml	Cool to 2-4 °C	7 days extrac/40 days
	TAL Metals [2]	6010	plastic	600 ml	HNO_3 to pH<2, Cool to 2-4 °C	6 months/Hg 28 days
	Pesticides	8081B	amber glass	1000 ml	Cool to 2-4 °C	14 days extrac./40 days
	Herbicides	8151A	amber glass	1000 ml	Cool to 2-4 °C	14 days extrac./40 days
	PCBs	8082	amber glass	1000 ml	Cool to 2-4 °C	7 days extrac/40 days
	PFAS	modified 537	HDPE/Polypropylene	2 - 500 mL	Trizma, Cool to 2-4 °C	14 days
	1,4-Dioxane	8270 SIM	amber glass	2 - 500 mL	Cool to 2-4 °C	7 days extrac/40 days
Air/Soil Vapor	TCL VOCs	TO-15	Summa Cannister	6 liters	None	Analyze within 14 days of sample date of collection

References:
1. Test Methods for Evaluating Solid Wastes, USEPA SW-846, Update III, 1991.

Notes:
1. EPA-approved methods published in Reference 1 above may be used.
2. Mercury sampling in soil/groundwater via EPA methods 7471/7470 respectively.

Acronyms:
VOCs = Volatile Organic Compounds
SVOCs = Semi-Volatile Organic Compounds
TCL = Target Compound List
TAL = Target Analyte List
PCBs = Polychlorinated Biphenyls

APPENDIX J

SITE MANAGEMENT FORMS

New York State Department of Environmental Conservation
Division of Environmental Remediation, 11th Floor
625 Broadway, Albany, New York 12233-7011
Phone: (518) 402-9553 **Fax:** (518) 402-9577
Website: www.dec.ny.gov

45-Day Reminder Notice: Site Management Periodic Review

,

September 29, 2009
Site Name:
Site No.:
Site Address:
, NY

Dear :

This is a reminder that as part of the last phase of a site's remedial program (i.e., "Site Management" (SM)), a progress report for your site is to be submitted by you, the site owner or Remedial Party, to the New York State Department of Environmental Conservation (Department) by . This report, now referred to as the Periodic Review Report (PRR) documents the implementation of and compliance with the Site Management requirements for this site. SM is a concept defined in regulation (6 NYCRR 375-1.2(at)). A suggested outline for the PRR is enclosed. If the site is comprised of multiple properties or parcels, then you as the owner or Remedial Party must arrange to submit one PRR for all parcels that comprise the site.

Depending on the age of the remedial program for your site, the document(s) governing SM for your site will be different. Previously, SM requirements were contained in separate documents with specific titles (e.g., Operation, Maintenance, and Monitoring Plan or Soil Management Plan) and are now being incorporated into one comprehensive "Site Management Plan" (SMP). A SMP may contain one or all of the following elements as applicable to the site; a plan to maintain institutional and/or engineering controls ("IC/EC Plan"), a plan for monitoring the performance and effectiveness of the selected remedy ("Monitoring Plan"), and/or a plan for the operation and maintenance of the selected remedy ("O&M Plan"). Additionally, the requirements for SM are normally stated in the decision document (e.g., Record of Decision) and/or the legal agreement directing the remediation of the site (e.g., order on consent, voluntary agreement, etc.).

When you submit the PRR (by the due date above), please sign and include the enclosed forms documenting that all SM requirements are being met. If there is some reason you cannot certify that all SM requirements are being met, you should indicate this and include a statement of explanation in the PRR with a schedule for addressing the problem(s). The Periodic Review process will not be considered complete until all necessary corrective measures are completed and any required controls are certified. Instructions for completing the certifications are enclosed.

Enclosures

ec: , Project Manager
, Bureau Director
Hazardous Waste Remediation Engineer, Region
Gary Litwin, DOH

cc:

Enclosure
Periodic Review Report (PRR) General Guidance

I. Introduction: (½-page or less)

A. Provide a brief summary of site, nature and extent of contamination, and remedial history.

B. Effectiveness of the Remedial Program - Provide overall conclusions regarding;
   1. progress made during the reporting period toward meeting the remedial objectives for the site
   2. the ultimate ability of the remedial program to achieve the remedial objectives for the site.

C. Compliance
   1. Identify any areas of non-compliance regarding the major elements of the Site Management Plan (SMP, i.e., the Institutional/Engineering Control (IC/EC) Plan, the Monitoring Plan, and the Operation & Maintenance (O&M) Plan).
   2. Propose steps to be taken and a schedule to correct any areas of non-compliance.

D. Recommendations
   1. recommend whether any changes to the SMP are needed
   2. recommend any changes to the frequency for submittal of PRRs (increase, decrease)
   3. recommend whether the requirements for discontinuing site management have been met.

II. Site Overview (one page or less)

A. Describe the site location, boundaries (figure), significant features, surrounding area, and the nature and extent of contamination prior to site remediation.

B. Describe the chronology of the main features of the remedial program for the site, the components of the selected remedy, cleanup goals, site closure criteria, and any significant changes to the selected remedy and site that have been made since remedy selection.

III. Evaluate Remedy Performance, Effectiveness, and Protectiveness

A. Using tables, graphs, charts and bulleted text to the extent practicable, describe the effectiveness of the remedy in achieving the remedial goals for the site. Base findings, recommendations, and conclusions on objective data. Evaluations should be presented simply and concisely.

IV. IC/EC Plan Compliance Report (if applicable)

A. IC/EC Requirements and Compliance
   1. Describe each control, its objective, and how performance of the control is evaluated.
   2. Summarize the status of each goal (whether it is fully in place and its effectiveness).
   3. Corrective Measures: describe steps proposed to address any deficiencies in ICECs.
   4. Conclusions and recommendations for changes.

B. IC/EC Certification
   1. The certification must be complete (even if there are IC/EC deficiencies), and certified by the appropriate party as set forth in a Department-approved certification form(s).

V. **Monitoring Plan Compliance Report (if applicable)**

A. Components of the Monitoring Plan (tabular presentations preferred) - Describe the requirements of the monitoring plan by media (i.e., soil, groundwater, sediment, etc.) and by any remedial technologies being used at the site.

B. Summary of Monitoring Completed During Reporting Period - Describe the monitoring tasks actually completed during this PRR reporting period. Tables and/or figures should be used to show all data.

C. Comparisons with Remedial Objectives - Compare the results of all monitoring with the remedial objectives for the site. Include trend analyses where possible.

D. Monitoring Deficiencies - Describe any ways in which monitoring did not fully comply with the monitoring plan.

E. Conclusions and Recommendations for Changes - Provide overall conclusions regarding the monitoring completed and the resulting evaluations regarding remedial effectiveness.

VI. **Operation & Maintenance (O&M) Plan Compliance Report (if applicable)**

A. Components of O&M Plan - Describe the requirements of the O&M plan including required activities, frequencies, recordkeeping, etc.

B. Summary of O&M Completed During Reporting Period - Describe the O&M tasks actually completed during this PRR reporting period.

C. Evaluation of Remedial Systems - Based upon the results of the O&M activities completed, evaluated the ability of each component of the remedy subject to O&M requirements to perform as designed/expected.

D. O&M Deficiencies - Identify any deficiencies in complying with the O&M plan during this PRR reporting period.

E. Conclusions and Recommendations for Improvements - Provide an overall conclusion regarding O&M for the site and identify problems, their severity, and any suggested improvements requiring changes in the O&M Plan.

VII. **Overall PRR Conclusions and Recommendations**

A. Compliance with SMP - For each component of the SMP (i.e., IC/EC, monitoring, O&M), summarize;

1. whether all requirements of each plan were met during the reporting period
2. any requirements not met such as new completed exposure pathways resulting in unacceptable risk
3. proposed plans and a schedule for coming into full compliance.

B. Performance and Effectiveness of the Remedy - Based upon your evaluation of the components of the SMP, form conclusions about the performance of each component and the ability of the remedy to achieve the remedial objectives for the site.

C. Future PRR Submittals

1. Recommend, with supporting justification, whether the frequency of the submittal of PRRs should be changed (either increased or decreased).
2. If the requirements for site closure have been achieved, contact the Department's Project Manager for the site to determine what, if any, additional documentation is needed to support a decision to discontinue site management.

VIII. **Additional Guidance**

A. Additional guidance regarding the preparation and submittal of an acceptable PRR can be obtained from the Department's Project Manager for the site.

WHERE to mail the signed Certification Form by :

New York State Department of Environmental Conservation

Attn: , Project Manager

Please note that extra postage may be required.

Enclosure 1

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No.

Site Name

Site Address: Zip Code:
City/Town:
County:
Allowable Use(s) (if applicable, does not address local zoning):
Site Acreage:
Owner:
, , NY

Reporting Period: to

Verification of Site Details **Box 2**

	YES	NO
1. Is the information in Box 1 correct?	☐	☐
If NO, are changes handwritten above or included on a separate sheet?	☐	
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☐
If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	
3. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☐
If YES, is documentation (or evidence that documentation has been previously submitted) included with this certification?	☐	
4. If use of the site is restricted, is the current use of the site consistent with those restrictions?	☐	☐
If NO, is an explanation included with this certification?	☐	
5. For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid?	☐	☐
If YES, is the new information or evidence that new information has been previously submitted included with this Certification?	☐	
6. For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), are the assumptions in the Qualitative Exposure Assessment still valid (must be certified every five years)?	☐	☐
If NO, are changes in the assessment included with this certification?	☐	

SITE NO. Box 3

Description of Institutional Controls

Box 4

Description of Engineering Controls

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☐	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☐	☐

3. If this site has an Operation and Maintenance (O&M) Plan (or equivalent as required in the Decision Document);

   I certify by checking "YES" below that the O&M Plan Requirements (or equivalent as required in the Decision Document) are being met.

YES	NO
☐	☐

4. If this site has a Monitoring Plan (or equivalent as required in the remedy selection document);

   I certify by checking "YES" below that the requirements of the Monitoring Plan (or equivalent as required in the Decision Document) is being met.

YES	NO
☐	☐

IC CERTIFICATIONS
SITE NO.

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 2 and/or 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I _____ at _____,
print name print business address

am certifying as _____(Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

_____ _____
Signature of Owner or Remedial Party Rendering Certification Date

IC/EC CERTIFICATIONS

Box 7

QUALIFIED ENVIRONMENTAL PROFESSIONAL (QEP) SIGNATURE

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I _____ at _____,
print name print business address

am certifying as a Qualified Environmental Professional for the _____

(Owner or Remedial Party) for the Site named in the Site Details Section of this form.

_____ _____ _____
Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification Stamp (if Required) Date

Enclosure 2

Certification Instructions

I. Verification of Site Details (Box 1 and Box 2):

Answer the six questions in the Verification of Site Details Section. Questions 5 and 6 only refer to sites in the Brownfield Cleanup Program. The Owner and/or Qualified Environmental Professional (QEP) may include handwritten changes and/or other supporting documentation, as necessary.

II. Certification of Institutional / Engineering Controls (Boxes 3, 4, and 5)

1. Review the listed IC/ECs, confirming that all existing controls are listed, and that all existing controls are still applicable. If there is a control that is no longer applicable the Owner / Remedial Party is to petition the Department requesting approval to remove the control.

2. In Box 5, complete certifications for all Plan components, as applicable, by checking the corresponding checkbox.

3. If you cannot certify "YES" for each Control and/or certify the other SM Plan components that are applicable, continue to complete the remainder of this **Certification** form. Attach supporting documentation that explains why the **Certification** cannot be rendered, as well as a statement of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is completed.

   If the Department concurs with the explanation, the proposed corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Department's Project Manager. Once the corrective measures are complete, a new Periodic Review Report (with IC/EC Certification) is to be submitted within 45 days to the Department. If the Department has any questions or concerns regarding the PRR and/or completion of the IC/EC Certification, the Project Manager will contact you.

III. IC/EC Certification by Signature (Box 6 and Box 7):

If you certified "YES" for each Control, please complete and sign the IC/EC Certifications page. Where the only control is an Institutional Control on the use of the property the certification statement in Box 6 shall be completed and may be made by the property owner. Where the site has Institutional and Engineering Controls, the certification statement in Box 7 must be completed by a Professional Engineer or Qualified Environmental Professional (see table below).

Table 1. Signature Requirements for Control Certification Page

Type of Control	Example of IC/EC	Required Signatures
EC which does not include a treatment system or engineered caps.	Fence, Clean Soil Cover, Individual House Water Treatment System, Vapor Mitigation System	A site or property owner or remedial party, and a QEP. (P.E. license not required)
EC that includes treatment system or an engineered cap.	Pump & Treat System providing hydraulic control of a plume, Part 360 Cap.	A site or property owner or remedial party, and a QEP with a P.E. license.

Summary of Green Remediation Metrics for Site Management

Site Name: _____ Site Code: _____
Address: _____ City: _____
State: _____ Zip Code: _____ County: _____

Initial Report Period (Start Date of period covered by the Initial Report submittal)
Start Date: _____

Current Reporting Period
Reporting Period From: _____ To: _____

Contact Information
Preparer's Name: _____ Phone No.: _____
Preparer's Affiliation: _____

I. Energy Usage: Quantify the amount of energy used directly on-site and the portion of that derived from renewable energy sources.

	Current Reporting Period	**Total to Date**
Fuel Type 1 (e.g. natural gas (cf))		
Fuel Type 2 (e.g. fuel oil, propane (gals))		
Electricity (kWh)		
Of that Electric usage, provide quantity:		
Derived from renewable sources (e.g. solar, wind)		
Other energy sources (e.g. geothermal, solar thermal (Btu))		

Provide a description of all energy usage reduction programs for the site in the space provided on Page 3.

II. Solid Waste Generation: Quantify the management of solid waste generated on-site.

	Current Reporting Period (tons)	**Total to Date (tons)**
Total waste generated on-site		
OM&M generated waste		
Of that total amount, provide quantity:		
Transported off-site to landfills		
Transported off-site to other disposal facilities		
Transported off-site for recycling/reuse		
Reused on-site		

Provide a description of any implemented waste reduction programs for the site in the space provided on Page 3.

III. Transportation/Shipping: Quantify the distances travelled for delivery of supplies, shipping of laboratory samples, and the removal of waste.

	Current Reporting Period (miles)	**Total to Date (miles)**
Standby Engineer/Contractor		
Laboratory Courier/Delivery Service		
Waste Removal/Hauling		

Provide a description of all mileage reduction programs for the site in the space provided on Page 3. Include specifically any local vendor/services utilized that are within 50 miles of the site.

IV. Water Usage: Quantify the volume of water used on-site from various sources.

	Current Reporting Period (gallons)	**Total to Date (gallons)**
Total quantity of water used on-site		
Of that total amount, provide quantity:		
Public potable water supply usage		
Surface water usage		
On-site groundwater usage		
Collected or diverted storm water usage		

Provide a description of any implemented water consumption reduction programs for the site in the space provided on Page 3.

V. Land Use and Ecosystems: Quantify the amount of land and/or ecosystems disturbed and the area of land and/or ecosystems restored to a pre-development condition (i.e. Green Infrastructure).

	Current Reporting Period (acres)	**Total to Date (acres)**
Land disturbed		
Land restored		

Provide a description of any implemented land restoration/green infrastructure programs for the site in the space provided on Page 3.

Description of green remediation programs reported above (Attach additional sheets if needed)
Energy Usage:
Waste Generation:
Transportation/Shipping:
Water usage:
Land Use and Ecosystems:
Other:

CERTIFICATION BY CONTRACTOR

I, _____ (**Name**) do hereby certify that I am _____ (**Title**) of the Company/Corporation herein referenced and contractor for the work described in the foregoing application for payment. According to my knowledge and belief, all items and amounts shown on the face of this application for payment are correct, all work has been performed and/or materials supplied, the foregoing is a true and correct statement of the contract account up to and including that last day of the period covered by this application.

_____

Date **Contractor**

Annual Site Inspection Checklist

Main & East Balcom Street Site
BCP Site No. C915306

Inspector's Initials_____ Inspection Date:_____
Site Use:_____
General Site Conditions:_____

Cover Inspection			
Hardscape Areas	Yes	No	Notes
Asphalt			
Concrete			
Interior Basement Slab			
Soil Cover Area			
Grass Cover			
Landscaping			
Stone (Electrical Areas)			
Groundwater Monitoring Network			
	Yes	No	Notes
Roadbox Covers			
Well Condition			

Additional Comments:_____

Signature:_____ Company:_____ Date:_____

GROUNDWATER FIELD FORM

Project Name: Date:

Location: Project No.: Field Team:

Well No.			Diameter (inches):			Sample Date / Time:			
Product Depth (fbTOR):			Water Column (ft):			DTW when sampled:			
DTW (static) (fbTOR):			One Well Volume (gal):			Purpose: ☐ Development ☐ Sample ☐ Purge & Sample			
Total Depth (fbTOR):			Total Volume Purged (gal):			Purge Method:			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
	0 Initial								
	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
Sample Information:									
	S1								
	S2								

Well No.			Diameter (inches):			Sample Date / Time:			
Product Depth (fbTOR):			Water Column (ft):			DTW when sampled:			
DTW (static) (fbTOR):			One Well Volume (gal):			Purpose: ☐ Development ☐ Sample ☐ Purge & Sample			
Total Depth (fbTOR):			Total Volume Purged (gal):			Purge Method:			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
	0 Initial								
	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
Sample Information:									
	S1								
	S2								

REMARKS:

Note: All water level measurements are in feet, distance from top of riser.

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

PREPARED BY: