Popular Hand Laundry

KINGS COUNTY

BROOKLYN, NEW YORK

SITE MANAGEMENT PLAN

NYSDEC Site Number: V00170

Prepared for:

88 Ingraham Realty Corp.

7700 Bella Verde Way

Delray Beach, FL 33446

Prepared by:

EnviroTrac Engineering PE PC

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Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date

SEPTEMBER 2017

EnviroTrac
Environmental Services

CERTIFICATION STATEMENT

I DALE KONAS certify that I am currently a NYS registered professional engineer as in defined in 6 NYCRR Part 375 and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

_____ P.E.

9/21/17 DATE

EnviroTrac

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KINGS COUNTY

BROOKLYN, NEW YORK

SITE MANAGEMENT PLAN

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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
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
ROD	Record of Decision
RP	Remedial Party
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
VCA	Voluntary Cleanup Agreement
VCP	Voluntary Cleanup Program

ES 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: V00170, Popular Hand Laundry, 88 Ingraham Street, Brooklyn, NY

Institutional Controls:

1. The property subject to this Declaration of Covenants and Restrictions is as shown on Figure 1.
2. Unless prior written approval by the New York State Department of Environmental Conservation (NYSDEC) or, if the NYSDEC shall no longer exist, any New York State agency or agencies subsequently created to protect the environment of the State and the health of the State's citizens, hereinafter referred to as "the Relevant Agency," is first obtained, where contamination remains at the property subject to the provisions of the Site Management Plan (SMP), there shall be no construction, use or occupancy of the property that results in the disturbance or excavation of the property which threatens the integrity of the engineering controls (ECs) or which results in unacceptable human exposure to contaminated soils.
3. The owner of the property shall not disturb, remove, or otherwise interfere with the installation, use, operation, and maintenance of the ECs required for the remedy, which are described in the SMP, unless in each instance the owner first obtains a written waiver of such prohibition from the NYSDEC or relevant agency.
4. The owner of the property shall prohibit the property from ever being used for purposes other than for Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) or Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv) without the express written waiver of such prohibition by the NYSDEC or relevant agency.
5. The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Kings 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 approval to do so from the NYSDEC.
6. The owner of the property shall provide access to and cooperate with the Responsible Party (RP) to allow the RP to arrange for a periodic certification, prepared and submitted by a professional engineer or environmental professional acceptable to the NYSDEC or relevant agency, which will certify that the institutional controls (ICs) and ECs put in place are unchanged from the previous certification, comply with the SMP, and have not been impaired.

7. The owner of the property and the RP shall continue in full force and effect any ICs and ECs required for the remedy and maintain such controls, unless the owner or the RP first obtains permission to discontinue such controls from the NYSDEC or relevant agency, in compliance with the approved SMP, which is incorporated and made enforceable hereto, subject to modifications as approved by the NYSDEC or relevant agency.
8. The Declaration is and shall be deemed a covenant that shall run with the land and shall be binding upon all future owners of the property, and shall provide that the owner and its successors and assigns consent to enforcement by the NYSDEC or relevant agency of the prohibitions and restrictions that the Voluntary Cleanup Agreement requires to be recorded, and hereby covenant not to contest the authority of the NYSDEC or relevant agency to seek enforcement.
9. Any deed of conveyance of the property, or any portion thereof, shall recite, unless the NYSDEC or relevant agency has consented to the termination of such covenants and restrictions that said conveyance is subject to the Declaration of Covenants and Restrictions.
10. A sub-slab depressurization system (SSDS) installed at the Site will be certified and inspected on an annual basis.

Engineering Controls:

1. Cover system
2. Sub-Slab depressurization system

Inspections:	Frequency:
1. Cover inspection	Annually
Monitoring:	
1. SSDS Wells (SV-5 and SV-6)	Annually
2. Groundwater Monitoring Wells (NW-2@20', NW-2@30', and MW-2) Annually in 2017 and 2018	Annually
Maintenance:	
1. SSDS Blower maintenance	Annually
Reporting:	
1. Periodic Review Report	Annually
2. Groundwater Monitoring Report	Annually

Further descriptions of the above requirements are provided in detail in the latter sections of this SMP.

1.0 INTRODUCTION

1.1 General

This Site Management Plan (SMP) is a required element of the remedial program for the Popular Hand Laundry, 88 Ingraham Street, located in Brooklyn, New York [hereinafter referred to as the "Site," (See Figure 1)]. The Site is currently in the New York State (NYS) Voluntary Cleanup Program (VCP), Site No. V00170 which is administered by New York State Department of Environmental Conservation (NYSDEC).

88 Ingraham Realty Corp., Popular Hand Laundry, and the Cleaners of Richmond Hill, Inc. entered into a Voluntary Cleanup Agreement (VCA) #W2-0813-98-06 on September 22, 1998 with the NYSDEC to remediate the Site. A figure showing the Site location and boundaries of this Site is provided in Figure 1. The boundaries of the Site are more fully described in the metes and bounds Site description that is part of the Declaration of Covenants and Restrictions document provided in Appendix C. The SMP will be implemented by 88 Ingraham Realty Corp.

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. A Declaration of Covenants and Restrictions document granted to the NYSDEC, and recorded with the Kings County Clerk, requires compliance with this SMP and all ECs and ICs placed on the Site.

This SMP was prepared to manage remaining contamination at the Site until the Declaration of Covenants and Restrictions document 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 Declaration of Covenants and Restrictions document 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 Declaration of Covenants and Restrictions document. Failure to properly implement the SMP is a violation of the Declaration of Covenants and Restrictions document, 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 VCA Site No. V00170 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. A list of contacts for persons involved with the Site is provided in Appendix A of this SMP.

This SMP was prepared by EnviroTrac PE PC, on behalf of 88 Ingraham Realty Corp., in accordance with the requirements of the NYSDEC's DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated May 3, 2010, and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the ICs and ECs that are required by the Declaration of Covenants and Restrictions 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 Declaration of Covenants and Restrictions 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 VCA, 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 (EWP).
- 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.

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 has been provided with a copy of the VCA, 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 on the following page 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 A.

Table 1: Notifications*

Name	**Contact Information**
Bryan Wong, Project Manager	(718) 482-4905 yukyin.wong@dec.ny.gov
Jane O'Connell, Chief, Superfund and Brownfield Cleanup Section, Division of Environmental Remediation	(718) 482-4599 Jane.oconnell@dec.ny.gov
Kelly Lewandowski NYSDEC Site Control	(518) 402-9581 kelly.lewandowski@dec.ny.gov

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

2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

2.1 Site Location and Description

The Site is located in Brooklyn, Kings County, New York and is identified as Section 10, Block 2998, and Lot 19 on the City of New York Tax Map (see Figure 1). The Site is an approximate 0.2-acre area of land and is bounded by Ingraham Street to the north, and commercial and industrial properties to the east, west, and south (see Figure 1– Site Plan). The boundaries of the Site are more fully described in Appendix C –Declaration of Covenants and Restrictions. The owner of the Site parcel at the time of issuance of this SMP is:

Bushwicked, LLC

2.2 Physical Setting

2.2.1 Land Use

The Site consists of the following: a two (2) story building with a partial basement and an attached garage. The Site is zoned M1-2 and is currently and mainly utilized for commercial uses. Site occupants include an antique furniture restoration business and an art gallery and work space, all operated by the Site owner.

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

2.2.2 Geology

The lithology beneath and surrounding the Site consists mainly of sand with some clay and silt and trace amounts of pebbles and fill material.

A hydrogeologic cross section is shown in Figure 2. Boring and monitoring well construction logs are provided in Appendix D.

2.2.3 Hydrogeology

Depth to groundwater ranges between approximately 11 and 12 feet below grade and generally flows to the north towards the English Kills. No private wells or public water supply wells are located within the vicinity of the Site. Drinking water is provided to the Site and surrounding properties by the municipal water supply. The regional groundwater flow direction is shown on Figure 3. Groundwater monitoring well construction logs are provided in Appendix D.

2.3 Investigation and Remedial History

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

Soil, groundwater, and soil gas remedial investigations have been conducted at the Site from 1996 to 2016. The following summarizes the results of the remedial investigations.

Site assessments and Voluntary Cleanup activities for the property have been conducted since December 1996. Dvirka and Bartilucci Consulting Engineers (D&B) Woodbury, New York, Miller Environmental Group Inc. (MEG) Calverton, New York, and Tyree Brothers Environmental Services, Inc., (Tyree) Farmingdale, New York were previously involved in Site assessment and remediation activities.

In December 1996, an assessment entitled “Voluntary Cleanup Site Assessment and Supplemental Site Assessment Report” was prepared by D&B. During that reporting period, one (1) air, five (5) soil, and four (4) groundwater samples were collected. The samples were analyzed for volatile organic compounds (VOCs) via Method 91-1, semi-

volatile organic compounds (SVOCs) via Method 91-2 and Target Analyte List (TAL) metals.

On request by NYSDOH, an Exposure Assessment was prepared by D&B in March 1997. It was found that the closest residential building was located approximately 150 feet south-southwest of the property. The closest dewatering activities relevant to exposure were: McKibbon Street and White Street [2,000 feet to the west and operating at three (3) gallons per minute].

In September 1998, a VCA was executed by the NYSDEC with 88 Ingraham Realty Corp. as the former Site Owner, and Popular Hand Laundry and Cleaners of Richmond Hill, Inc. as former Site Operator. On August 27, 2001, MEG collected groundwater samples via Geoprobe along the front of the building, traversing west to east.

By October 2001, a soil vapor extraction (SVE) / air sparge (AS) system had been installed by MEG. The remedial system consisted of the following equipment: Two (2) horse power (HP) SVE Blower, two (2) HP AS compressor, a two (2) inch diameter AS / monitoring well (MW) was installed to 35 feet below grade (20 feet of riser and 15 feet of screen), a two (2) inch diameter SVE well installed to 20 feet below grade (10 feet riser and 10 feet of screen), and a two (2) inch diameter monitoring well (MW-2) was installed to 25 feet below grade (10 feet of riser and 15 feet of screen). The SVE system was maintained by MEG until October 21, 2004. During this time, SVE system effluent air samples were collected and the results were reported to the NYSDOH. MEG also removed a 3,000-gallon heating oil tank from the garage on January 17, 2002.

A Work Plan for a soil gas survey was proposed by MEG on July 2, 2004 and submitted to the NYSDOH. Using direct push technology, soil gas samples were collected at four (4) locations and screened from grade to eight (8) feet below grade in October, 2004.

In 2005, Tyree was retained by 88 Ingraham Realty Corp. (former Site Owner under the terms of the VCA), to assume responsibility for environmental testing and design of remedial measures to resolve the issues related to subsurface contamination. On March 23,

2006 a meeting was held at the NYSDEC office in Long Island City, with Jane H. O'Connell (NYSDEC), Bryan Wong (NYSDEC), Roland Fisher (Tyree) and Hesna Aksehirli (Tyree). Stephanie Selmer (New York State Department of Health - NYSDOH) joined the meeting via conference call. The meeting addressed the shortcomings of the remedial system installed by former consultants. Subsequent remediation work by Tyree is the direct result of that meeting. The immediate objective of testing was to design an effective SVE/AS system that would serve two purposes: 1) remediation of subsurface contamination and 2) to create a zone of subsurface depressurization beneath the existing building, thereby minimizing the potential for vapor intrusion. Pilot test results by Tyree were used for remediation system design. The final objective of all work was to meet closure criteria for the Popular Hand Laundry under the NYS VCP.

Tyree visited the Site on June 1, 2005. During the Site visit, the existing remediation system was inspected and vapor concentrations were measured with a photoionization detector (PID) from points SG-1 through SG-4 (soil gas points installed previously by MEG). Groundwater samples were collected from the wells located in the front of the building. During the Tyree Site visit, the remediation system was operating. The AS system pressure gauge reading eight (8) pounds per square inch (psi); however, the SVE system vacuum gauge was not functioning. PID indicated no measurable VOCs at any of the air monitoring points.

Tyree conducted a comprehensive subsurface investigation on December 14 and 15, 2005. Six (6) sampling points were installed and eighteen (18) soil samples and six (6) water samples were collected. Three one (1) inch diameter permanent monitoring wells were installed inside the building: wells G1 and G3 which were installed to a depth of 30 feet (5 feet riser-25 feet screen) below grade, and well G2, which was installed to a depth of 40 feet below grade (5 feet of riser and 35 feet of screen). Due to height restrictions inside the building a small vehicle mounted Geoprobe was used to collect samples beneath the floor. Based on the results, the soil samples from grade to four (4) feet below grade exceeded NYSDEC's Unrestricted Use Soil Cleanup Objectives (UUSCOs) at G1 and B4. Contaminant levels of compounds in the soil in the remaining 16 soil samples were either

not detected in the samples or at levels below the NYSDEC UUSCOs. Laboratory analysis revealed that all soil samples obtained below the depth of four (4) feet met the NYSDEC UUSCOs. Groundwater samples exceeded NYSDEC Class GA Ambient Water Quality Standards (Groundwater Standards) at three (3) sampling locations.

Tyree prepared an Air Quality Investigation Report in August, 2006. The SVE/AS Pilot Test Work Plan was submitted for review in June, 2007 and revised in July, 2007. The Final SVE/AS System Design Report, which included the Operation, Monitoring and Maintenance (OM & M) Plan was submitted in September, 2008 and approved in April 2009. The SVE/AS system installation was completed in October, 2009. The SVE/AS began operating in May, 2010.

In June, 2015, EnviroTrac PE PC, (EnviroTrac) replaced Tyree as the environmental consultant for the property and continued the operation, maintenance, and monitoring of the SVE/AS system, groundwater monitoring, and quarterly Status Reports. On June 30, 2015, EnviroTrac, Campolo, Middleton & McCormick, LLP (counsel for 88 Ingraham Realty) met with the NYSDEC.

Based on SVE/AS system monitoring data, the AS system was shut down in early July, 2015 following the approval of the NYSDEC, to evaluate groundwater rebounding. The SVE system remained in operation to address potential vapor intrusion concerns. The Status Report dated October, 2015 by EnviroTrac concluded that concentrations in groundwater did not rebound with the AS system off. Furthermore, although SVE emissions indicate trace recoverable chlorinated compounds were present, the SVE operation would continue pending a vapor intrusion investigation. The groundwater monitoring results reported in the December 2015 Status Report show a continued decreasing trend of target VOCs in wells located within the building footprint.

EnviroTrac submitted a letter dated August 25, 2015 to the NYSDEC, illustrating why it was not likely that groundwater contamination across the street from the Site was originating from the Popular Hand Laundry Site. As a result, EnviroTrac requested that 88

Ingraham Realty not be held responsible for off-Site remediation. VOC concentrations detected in off-Site wells NW-1 and MW-3 appeared to reflect impacts from other sources.

At the request of the NYSDOH, the SVE system was shut down for a period of 90 days to allow the sub-slab environment to equilibrate; prior to the vapor intrusion investigation in February, 2016. The Work Plans for the vapor intrusion investigation and the SSDS Pilot Test were provided to the NYSDEC in the December, 2015 Status Report.

In February, 2016, the vapor intrusion investigation was completed and the results of the investigation showed that mitigation was required for the building at the Site.

On March 23, 2016, a phone conference occurred among EnviroTrac and Ms. Jane O'Connell and Mr. Bryan Wong of the NYSDEC. The NYSDEC in conjunction with the NYSDOH requested that vapor intrusion investigations be performed at three (3) adjacent property buildings. Access agreements were sent to these three properties in March, 2016. Two (2) of the adjoining property owners responded that they did not want to participate in the investigation and one (1) adjoining property owner did not respond at all. Based on the adjoining property owner's responses, the off-site vapor intrusion investigations are no longer required by the NYSDEC or the NYSDOH.

On March 30, 2016, the SSDS Pilot Test was performed by EnviroTrac and found to be a feasible remedy.

On June 17, 2016, the NYSDEC approved EnviroTrac's SSDS Design Plan. The SSDS Design Plan proposed to utilize the existing SVE wells within the building.

On August 8, 2016, EnviroTrac disconnected the SVE/AS system shed, removed the shed from the Site, and installed the SSDS and began operation. The SSDS installation will be written up in the Final Engineering Report. The operation and maintenance of the SSDS will be summarized in the SMP.

Soil

Several soil borings were advanced within the building in the vicinity of the former dry cleaning machine, washing machines, clothes dryers, air compressor, and within the

garage by previous consultants. Soil samples were generally collected during 1996 to 1997 by D&B and in 2005 by Tyree from grade to 12 feet below grade. The soil sample results indicated that tetrachloroethene (PCE) was detected above the NYSDEC Part 375 Subpart 375-6 Residential Use Soil Cleanup Objective (RUSCO) in shallow (0'-4' below grade) soil samples collected from behind the former dry cleaning machine [GP-2, 11,000 micrograms per kilogram (ug/kg)] and in the vicinity of a trough and washer machine area in the southern portion of the building (B4, 5,730 ug/kg). PCE was also detected above the NYSDEC Restricted-Residential Use Soil Cleanup Objective (RRUSCO) in a shallow (0'-4' below grade) soil sample collected from beneath the central portion of the garage (G1, 19,4000 ug/kg). Cis-1,2-dichloroethene (DCE) and vinyl chloride were also detected above the NYSDEC UUSCOs in the shallow (6'-7' below grade) soil sample collected from the basement near the sewer main exiting the building (S-1 9,500 ug/kg and 140 ug/kg, respectively). Soil samples collected from 8'-12' below grade did not exhibit target CVOCs concentrations above the NYSDEC UUSCOs. Table 2 summarizes the remaining soil sample exceedances above the NYSDEC UUSCOs collected during 1996-1997 and 2005. Figure 4 shows the historical soil sample target CVOC results above NYSDEC UUSCOs.

Groundwater

Several groundwater samples were collected within the building in the vicinity of the dry cleaning machine, washing machines, clothes dryers, along the southern interior perimeter of the building, within the garage, and also along the northern exterior perimeter of the building, in the sidewalk by previous consultants and EnviroTrac. Groundwater samples were generally collected from 16'-52' below grade from temporary points and routine sampling of the permanent groundwater monitoring wells at the Site began in 2009. The initial groundwater sample results indicated that PCE, trichloroethene (TCE), DCE, and vinyl chloride (VC) were detected in several groundwater samples above the NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 Class GA Ambient Water Quality Standards and Guidance Values (NYSDEC Groundwater Standards) from several locations within the building and downgradient from the building.

In August, 2015, EnviroTrac provided documentation that shows that there is evidence of an off-Site, upgradient source of PCE contamination that has the potential to impact the Site. 150 sites are included in the upgradient Newtown Creek Superfund investigations, and the closet property to the Site is the Cornish Knit Goods site, which is documented to have impacted groundwater with PCE.

From 2009 to 2015, permanent groundwater monitoring wells at and downgradient of the Site have been sampled and laboratory analyzed for target CVOCs. In 2015, EnviroTrac requested to reduce sampling to the monitoring wells in the sidewalk located along the south side of Ingraham Street due to poor well construction, Site access issues, and an overall decreasing trend in the concentration of target compound list (TCL) VOCs in the groundwater beneath the building. Groundwater samples collected from the on-Site wells within the building during 2015 show that CVOC concentrations have overall significantly decreased. Groundwater results collected from the off-Site wells along the south side of Ingraham Street in 2015 to 2016 show that the concentrations have also decreased overall. Table 3 summarizes the groundwater monitoring well sample target CVOC results collected from the interior wells within the building from 2009 to December, 2015. Table 4 summarizes the groundwater monitoring well sample target CVOC results collected from the exterior wells along the south side of Ingraham Street from 2005 to May, 2017. Figure 7 shows the groundwater sample target CVOC results above NYSDEC Groundwater Standards for the latest sampling event in May, 2017.

Soil Gas and Indoor Air

Soil gas samples collected from within the building at the Site by MEG in October, 2004 showed elevated levels of PCE, TCE, DCE, and VC in the areas around a former abandoned underground storage tank (UST) in the garage (SG-1 and SG-2), near the southeast interior corner of the building (SG-3), and in the basement at the northeast interior corner of the building (SG-4). An indoor air sample (Air-1) was also collected at this time. Methylene chloride exceeded its NYSDOH Indoor Air Guidance Value, however, this analyte is a known laboratory contaminant and was not likely present in the air within the building.

Soil gas wells (SS-1, SS-2, SS-3, and SS-4) were installed by Tyree within the building at the Site and sampled in June, 2006. The soil gas sample results showed elevated levels of several CVOCs. Two (2) indoor air samples and one (1) outdoor/ambient air sample were also collected in June, 2006. The indoor air results were compared to the NYSDOH Indoor Air Guidance Values. None of the results exceeded the NYSDOH Indoor Air Guidance Values.

Tyree later used soil gas wells SS-1 and SS-3 as vacuum monitoring points for the SVE system and labeled them VP-4 and VP-1, respectively. Additional vacuum monitoring points (VP-2 and VP-3) were installed by Tyree near the southeastern interior corner of the building near groundwater monitoring well G-2 and in the northern portion of the garage.

Based on SVE system monitoring data, it was determined that the SVE system had reached asymptotic levels. EnviroTrac proposed to shut down the SVE system and conduct a vapor intrusion investigation to determine if mitigation was required for the building at the Site. At the request of the NYSDOH, the SVE system was shut down for a period of 90 days to determine if contaminant concentrations in the soil gas would rebound. An additional vapor monitoring point, VP-5, was also installed by EnviroTrac in February, 2016 to the west of VP-4. Soil gas samples were collected from a depth of 0'-2' below the slab by EnviroTrac from VP-1, VP-2, VP-3, and VP-5. Five (5) indoor air samples (IA-1, IA-2, IA-3, IA-5, and a duplicate indoor air sample) were also collected in the vicinity of each vapor monitoring point. The results showed that PCE was detected in three (3) sub-slab soil vapor samples [VP-1 – 1,010 micrograms per cubic meter of air (ug/m3), VP-2 – 8.14 ug/m3, and VP-3 – 63.8 ug/m3] and two (2) indoor air samples (IA-1 – 10.70 ug/m3 and IA-2 – 16.10 ug/m3). TCE was detected in two (2) sub-slab soil vapor samples (VP-1 – 411 ug/m3 and VP-3 – 57 ug/m3) and one (1) indoor air sample (IA-1 – 7.52 ug/m3). PCE and TCE were not detected in the outdoor air sample OA-1. The indoor air results were compared to the NYSDOH Indoor Air Guidance Values. The indoor air result for TCE detected at IA-1 (7.52 ug/m3) slightly exceeded the NYSDOH Indoor Air Guidance Value of 5 ug/m3. The February, 2016 results were compared to the NYSDOH Matrices and it was determined that mitigation was required. A SSDS was recommended to be

installed at the Site to mitigate contaminant vapors and a pilot test was performed utilizing the existing SVE wells in March, 2016. Based on the results of the pilot test, the SSDS system design was approved by the NYSDEC. The SSDS was installed at the Site in August, 2016. As per the NYSDOH, indoor air samples were collected in May, 2017 to determine if the SSDS was operating properly and that there were no indoor air exceedances of the NYSDOH Indoor Air Guidance Values. Table 5 summarizes the soil gas sampling results from October, 2004, June, 2006, and February, 2016. Table 6 summarizes the indoor and outdoor/ambient air sampling results from October, 2004, June, 2006, February, 2016, and May, 2017. Figure 8 shows the historical and most recent soil gas well locations, sub-slab soil vapor sample locations, indoor air sample locations, and outdoor/ambient air locations with target CVOC results.

Previously Installed Soil Vapor Extraction/Air Sparge Systems

A SVE/AS remediation system, consisting of one (1) SVE well (SVE-1) and one (1) AS well (AS-1) located in the sidewalk to the north of the Site building, was previously installed and operated by MEG at the Site from 2001 to 2005. The controls for the system were installed in the partial basement of the building. Figure 4 shows the location of the MEG SVE/AS system. In 2005, Tyree demonstrated that the MEG SVE/AS system was designed insufficiently and replaced that system with a new SVE/AS system at the Site in 2008. The Tyree SVE/AS system consisted of two (2) SVE wells (SV-5 and SV-6) and two (2) AS wells (AS-3 and AS-4) that were installed beneath the building slab. The AS portion of the Tyree system operated from 2009 to August, 2015. The SVE portion of the Tyree system operated from 2009 to August, 2016. Figure 5 shows the Tyree SVE/AS system. Based on SVE/AS system monitoring data, EnviroTrac recommended that the AS portion of the system be shut down since groundwater contaminants had reached asymptotic levels. This request was approved by the NYSDEC and the AS system was shut down in May, 2015. A groundwater monitoring event performed in August, 2015 determined that groundwater contaminant levels remained steady following the shutdown of the AS portion of the system. The AS portion of the system was not turned back on. EnviroTrac demonstrated in early 2016 that the SVE portion of the system had reached

asymptotic levels and was no longer a useful or cost effective remedy for the Site. In August, 2016, the SVE portion of the system was shut down, a mitigation system was installed, and the SVE/AS remediation shed was disconnected and removed from the Site.

In August, 2016, the SVE system was shut down and replaced with a SSDS blower or fan that draw vapors from the existing SVE wells (SV-5 and SV-6) in the building. The SVE/AS system shed was then disconnected and removed from the Site.

2.4 Remedial Action Objectives

The Remedial Action Objectives (RAOs) for the Site as listed in the NYSDEC-approved Remedial Action Work Plan (RAWP) dated August, 1998 are as follows:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of, volatiles from contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

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.
- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into the building at a Site.

2.5 Remaining Contamination

2.5.1 Soil

Remaining soil contamination is located beneath the Site near the former dry cleaning machine, near a washer and trough in the southern portion of the building, in the central portion of the garage, and in the basement near the sewer piping. The soil sample results indicated that DCE and VC were detected above the NYSDEC UUSCOs in shallow (6'-7' below grade) soil and PCE was detected above the NYSDEC RUSCO near the washer machine and trough and RRUSCO within the central portion of the garage, both within the shallow soil (0'-4' below grade). All soil sample concentrations were detected below the NYSDEC Commercial Use Soil Cleanup Objectives. The soil contamination will remain in place to maintain the structural integrity of the building at the Site. Table 2 summarizes the remaining soil sample exceedances above the NYSDEC UUSCOs collected during 1996-1997 and 2005. Figure 4 shows the historical soil sample target CVOC results above NYSDEC UUSCOs.

2.5.2 Groundwater

Remaining groundwater contamination is present beneath the Site and downgradient of the Site along Ingraham Street. In June, 2015, EnviroTrac made the argument that contamination found in off-Site wells were likely attributable to an off-Site source of solvent groundwater contamination caused by other responsible parties located upgradient of the Site. The Status Report for the December, 2015 sampling requested that monitoring wells located within the building and off-Site along the northern portion of Ingraham Street should no longer be sampled due to poor well construction (small diameter size) for some of the wells, limited ability to gain access to the interior of the building, and an overall decrease in groundwater contamination levels when compared to previous groundwater monitoring events.

Based on the December, 2015 (last indoor groundwater sampling event), DCE is present in the wells SV-6 (20'), MW-6 (30'), G-2, AS-3, and AS-4 above the NYSDEC Groundwater Standard. DCE results range from 13 to 86 ug/l. The most recent groundwater sampling event performed for the wells located along the south side of Ingraham Street occurred in May, 2017 which shows an overall decrease in groundwater contamination levels for multi-level well NW-2 and MW-2 when compared to previous groundwater monitoring events. PCE, TCE, and VC were not detected in MW-2, however, DCE was detected at 5.4 ug/L. The concentrations of DCE, PCE, TCE, and VC detected in NW-2@20', NW-2@30', NW-2@40', and NW-2@50' in September, 2016 were detected above the NYSDEC Groundwater Standards, but were overall similar to the concentrations detected during the June, 2016 event. The concentrations of DCE, PCE, TCE, and VC detected in NW-2@20' in May, 2017 showed a slight increase, while the concentrations of DCE, PCE, TCE, and VC detected in NW-2@30' in May, 2017 showed a slight decrease. Table 3 summarizes the groundwater monitoring well sample target CVOC results collected from the interior wells within the building from 2009 to December, 2015. Table 4 summarizes the groundwater monitoring well sample target CVOC results collected from the exterior wells along the south side of Ingraham Street from 2005 to May, 2017. Figure 7 shows the groundwater sample target CVOC results above NYSDEC Groundwater Standards for the latest sampling event in September, 2016 and May, 2017.

2.5.3 Soil Vapor and Indoor Air

Remaining soil gas contamination is present beneath the building at the Site. Based on the soil vapor intrusion investigation results performed at the Site in February, 2016, mitigation is required for Site building due to the concentrations of PCE and TCE in the sub-slab soil vapor. In August, 2016, the previous SVE/AS system was disconnected and removed after reaching asymptotic levels for both soil and groundwater and replaced with a SSDS, which is the current operating mitigation system. As per the NYSDOH, indoor air samples were collected in May, 2017 to determine if the SSDS was operating properly and that there were no indoor air exceedances of the NYSDOH Indoor Air Guidance Values. Table 5 summarizes the soil gas sampling results from October, 2004, June, 2006, and February, 2016. Table 6 summarizes the indoor and outdoor/ambient air sampling results from October, 2004, June, 2006, February, 2016, and May, 2017. Figure 8 shows the historical and most recent soil gas well locations, sub-slab soil vapor sample locations, indoor air sample locations, and outdoor/ambient air locations with target CVOC results.

3.0 INSTITUTIONAL AND 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 Declaration of Covenants and Restrictions;
- 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 B) 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 approved Remedial Action Work Plan (RAWP) and Final SSDS Design to: (1) implement, maintain and monitor EC systems; (2) prevent

future exposure to remaining contamination; and, (3) limit the use and development of the Site to commercial or industrial uses only. Adherence to these ICs on the Site is required by the Declaration of Covenant and Restrictions and will be implemented under this SMP. ICs identified in the Declaration of Covenant and Restrictions may not be discontinued without an amendment to or extinguishment of the Declaration of Covenant and Restrictions. The IC boundaries are shown on Figure 9. These ICs are:

- The property subject to this Declaration of Covenants and Restrictions is as shown on Figure 9.
- Unless prior written approval by the NYSDEC or, if the NYSDEC shall no longer exist, any New York State agency or agencies subsequently created to protect the environment of the State and the health of the State's citizens, hereinafter referred to as "the Relevant Agency," is first obtained, where contamination remains at the property subject to the provisions of the SMP, there shall be no construction, use or occupancy of the property that results in the disturbance or excavation of the property which threatens the integrity of the ECs or which results in unacceptable human exposure to contaminated soils.
- The owner of the property shall not disturb, remove, or otherwise interfere with the installation, use, operation, and maintenance of the ECs required for the remedy, which are described in the SMP, unless in each instance the owner first obtains a written waiver of such prohibition from the NYSDEC or relevant agency.
- The owner of the property shall prohibit the property from ever being used for purposes other than for 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) without the express written waiver of such prohibition by the NYSDEC or relevant agency.

- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Kings 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 approval to do so from the NYSDEC.
- The owner of the property shall provide access to and cooperate with the responsible party to allow the responsible party to arrange for a periodic certification, prepared and submitted by a professional engineer or environmental professional acceptable to the NYSDEC or relevant agency, which will certify that the ICs and ECs put in place are unchanged from the previous certification, comply with the SMP, and have not been impaired.
- The owner of the property and the RP shall continue in full force and effect any ICs and ECs required for the remedy and maintain such controls, unless the owner or the RP first obtains permission to discontinue such controls from the NYSDEC or relevant agency, in compliance with the approved SMP, which is incorporated and made enforceable hereto, subject to modifications as approved by the NYSDEC or relevant agency.
- The Declaration is and shall be deemed a covenant that shall run with the land and shall be binding upon all future owners of the property, and shall provide that the owner and its successors and assigns consent to enforcement by the NYSDEC or relevant agency of the prohibitions and restrictions that the VCA requires to be recorded, and hereby covenant not to contest the authority of the NYSDEC or relevant agency to seek enforcement.
- Any deed of conveyance of the property, or any portion thereof, shall recite, unless the NYSDEC or relevant agency has consented to the termination of such covenants and restrictions that said conveyance is subject to the Declaration of Covenants and Restrictions.

- A sub-slab depressurization system (SSDS) installed at the Site will be certified and inspected on an annual basis.

3.3 Engineering Controls

3.3.1 Cover (or Cap)

Exposure to remaining contamination at the Site is prevented by a cover system placed over the Site. This cover system is comprised of a minimum of 12 inches of concrete building slabs. Figure 9 presents the location of the cover system. The EWP provided in Appendix B 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 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) (included in the EWP) prepared for the Site and provided in Appendices B and E.

3.3.2 Sub-Slab Depressurization System

The results of a soil vapor intrusion investigation performed in February, 2016 at the Site, showed that PCE and TCE present in the sub-slab soil gas were elevated and mitigation was required. A letter dated June 17, 2016 from the NYSDEC approved EnviroTrac's SSDS Design Plan dated June 16, 2016 and allowed the Tyree SVE/AS system to be disconnected, removed, and replaced with a SSDS. In August, 2016, the Tyree SVE/AS system shed was disconnected and removed from the Site and replaced with an SSDS blower/fan. The SSDS uses the two (2) existing SVE wells, SV-5 and SV-6, which are constructed of two (2) inch diameter schedule 40 PVC and consist of five (5) feet of riser pipe and 15 feet of 0.02-slotted screen, located beneath the concrete slab floor within the building. The SVE well piping, which exits the front or north side of the building redirected upward along the front exterior wall of the building and discharges approximately two (2) feet above the second story roof line. Figure 10 shows the

Engineering Controls for the Site, which include the SSDS Site Plan and SSDS Radius of Influence. The Final Engineering Report (FER) for the SSDS is provided under separate cover.

Procedures for operating and maintaining the SSDS are documented in the Operation and Maintenance Plan (Section 5.0 of this SMP). As built drawings, signed and sealed by a professional engineer, are included in Appendix G – SSDS Operations and Maintenance Manual. Figure 10 shows the location of the ECs (SSDS) for the Site.

3.3.3 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered complete 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.

3.3.3.1 - Cover (or Cap)

The composite 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 in perpetuity.

3.3.3.2 - Sub-Slab Depressurization (SSD) System

The active SSD system will not be discontinued unless prior written approval is granted by the NYSDEC and the NYSDOH. In the event that monitoring data indicates that the SSD system may no longer be required, a proposal to discontinue the SSD system will be submitted by the remedial party to the NYSDEC and NYSDOH.

4.0 MONITORING PLAN

4.1 General

This Monitoring Plan describes the measures for evaluating the overall performance and effectiveness of the remedy. This Monitoring Plan may only be revised with the approval of the NYSDEC.

This Monitoring Plan describes the methods to be used for:

- 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 Plan provides information on:

- Annual inspection and periodic certification; and
- Annual groundwater monitoring for natural attenuation in 2017 and 2018.

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. Modification to the frequency or duration of the inspections will require approval from the NYSDEC. During these inspections, an inspection form will be completed as provided in Appendix F – 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; and
- Confirm that Site records are up to date.

Inspections of all system 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 Declaration of Covenants and Restrictions;
- 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.

4.3 System Monitoring

4.3.1 Mitigation System Monitoring

Monitoring of the SSDS will be performed on a routine basis, as identified in Table 7 - Mitigation System Monitoring Requirements and Schedule (see below). Modification to the frequency requirements will require approval from the NYSDEC. A visual inspection of the complete system will be conducted during each monitoring event. Unscheduled inspections may take place when a suspected failure of the SSDS has been reported that is deemed likely to affect the operation of the system. SSDS components to be monitored include, but are not limited to, the components included in Table 7 below.

Table 7 –SSD System Monitoring Schedule

System Component	Monitoring Schedule
SSDS Vacuum Blower	Annually
SSDS Extraction Wells (SV-5 and SV-6)	Annually
SSDS Alarms	Annually
Overall System Integrity	Annually

A complete list of components to be inspected is provided in the Inspection Checklist, provided in Appendix F - Site Management Forms. If any equipment is observed to be malfunctioning or maintenance and/or repair is required, all work will be performed as per the Operation and Maintenance Plan.

In the event of an issue or malfunctioning of the SSDS, such as the sounding of a SSDS alarm, EnviroTrac will be contacted and a Site visit will be scheduled to determine the issue and potential repair or maintenance required for the SSDS.

All monitoring activities will be recorded in a field book and associated log as provided in Appendix F - Site Management Forms. Other observations (e.g., SSDS piping integrity, alarm operation, etc.) will be noted on the log. The log will serve as the inspection form for the monitoring network.

4.4 Cover System Monitoring

The cover system (pavement and building slab) will be visually inspected on an annual basis for cracks, holes, and degradation, as these can have an impact on the operation of the mitigation system in place at the Site and could also allow vapors to infiltrate into the indoor air space within the building or surrounding outdoor air.

Any cracks, holes, or degradation will be addressed by either filling or replacement. Actions will be taken if possible the same day as the inspection or within the same week. The cover system inspections will be recorded in a field book. Any issues that require to

be addressed will be noted in the field book. Replacement of pavement or slab will be reported to the NYSDEC.

4.5 Groundwater Monitoring

Groundwater monitoring will be performed annually in 2017 and in 2018 to assess the performance of the remedy. Should groundwater monitoring well sample results remain consistent or decrease in concentration, then sampling will cease. Modification to the frequency or sampling requirements will require approval from the NYSDEC.

The network of monitoring wells was previously installed by other consultants to monitor on-Site conditions located beneath the slab of the building and immediately downgradient of the Site (Figure 7). The monitoring wells beneath the slab (MW-4, MW-5@20', MW-5@30', MW-6@20', MW-6@30', AS-3, AS-4, and G-2) are not required to be monitored and will be abandoned according to NYSDEC CP-43, Groundwater Monitoring Well Decommission Policy. The monitoring wells in the sidewalk, on the northern portion of Ingraham Street (NW-1 and MW-3), are not required to be monitored as per the NYSDEC, but will not be abandoned.

Table 8 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, two (2) downgradient wells will be sampled to evaluate the effectiveness of the previous remedial system.

Table 8 – Monitoring Well Construction Details

Monitoring Well ID	Well Location	Coordinates (longitude/ latitude)	Well Diameter (inches)	Elevation (above mean sea level)			
				Casing	Surface	Screen Top	Screen Bottom
MW-2	Downgradient	40°42'26.27" N, 73°55'48.37" W	2	NA	NA	NA	NA
NW-2@20'	Downgradient	40°42'26.28" N, 73°55'48.51" W	1.5	NA	NA	NA	NA
NW-2@30'							

NW-2@20' and NW-2@30' are part of a micro-monitoring well cluster that includes five (5) wells screened at the depths 5 to 10 feet, 15 to 20 feet, 25 to 30 feet, 35 to 40 feet, and 45 to 50 feet below grade. Each well is 1.5-inches in diameter and all of the wells are located beneath one (1) manhole cover. The monitoring well log for NW-2 is provided in Appendix D. MW-2 is screened at 15 to 25 feet below grade and is two (2) inches in diameter. Depth to water in monitoring wells NW-2 and MW-2 range from approximately 13 to 15 feet below grade.

Prior to sampling, the wells will be purged via US EPA Low Stress (Low-Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells, January 19, 2010, using a flow-controlled peristaltic pump. Purge water will be containerized and stored at the Site until it can be properly disposed off-Site. Stability parameters will be measured during purging. Once the final two (2) stability parameters are within 10% of each other, a groundwater sample will be collected. Groundwater samples will be collected into laboratory-supplied glassware, placed into an

ice-filled cooler and delivered to a NYSDOH Environmental Laboratory Approval Program (ELAP)-certified laboratory for the analysis of VOCs by US EPA Method 8260, chlorinated solvents list only. A chain of custody form will be completed to document sample possession. More detailed sampling procedures are provided in the Quality Assurance Project Plan (QAPP) provided in Appendix G.

If biofouling or silt accumulation occurs in the on-Site, downgradient 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.

4.6 Investigation Derived Waste (IDW)

IDW includes materials generated during the performance of the prescribed remedial actions that have been contaminated with contaminants of concern and require disposal. The anticipated IDW will include incidental personal protective equipment ("PPE") and well development purge water.

Contaminated PPE will be collected, double bagged, and properly disposed as appropriate.

Well purge water will be collected and containerized in properly labeled 55-gallon DOT-approved steel drums. IDW containers will be labeled and stored on-Site pending analytical waste characterization results required by the disposal facility.

The NYSDEC will be notified for approval regarding the proposed disposal facility prior to hauling any contaminated material off-Site. Following characterization through laboratory testing of chemical criteria specified by the NYSDEC approved off-Site facility permitted to accept the waste material (well development water) developed during the groundwater monitoring events will be properly hauled from the Site under manifest by a duly licensed sub-contractor and disposed at the facility.

5.0 OPERATION AND MAINTENANCE PLAN

5.1 General

This Operation and Maintenance Plan provides a brief description of the measures necessary to operate, monitor and maintain the mechanical components of the remedy selected for the Site. This Operation and Maintenance Plan:

- Includes the procedures necessary to allow individuals unfamiliar with the Site to operate and maintain the SSDS;
- Will be updated periodically to reflect changes in Site conditions or the manner in which the SSDS is operated and maintained.

Further detail regarding the Operation and Maintenance of the SSDS is provided in Appendix H - Operation and Maintenance Manual. A copy of this Operation and Maintenance Manual, along with the complete SMP, is maintained at the Site. This Operation and Maintenance Plan is not to be used as a stand-alone document, but as a component document of this SMP.

5.2 Sub-Slab Depressurization System Performance Criteria

Table 9 – SSD System Performance Criteria

SSD System Component	Monitoring Parameter	Operating Range	Monitoring Schedule
SSDS/SV Wells	Flow Rate	11.0 – 15.0 inches of water column	Annually
SSDS Vacuum Monitoring Points	Vacuum	0.02 inches of water column or greater	Annually

5.3 Operation and Maintenance of Sub-Slab Depressurization System

The following sections provide a description of the operations and maintenance of the SSDS. Cut-sheets and as-built drawings for SSDS are provided in Appendix G - Operations and Maintenance Manual.

5.3.1 System Start-Up and Testing

Pre-Startup

Prior to the safe and successful startup of the SSD system it is important to verify the following items.

- Verify that the electrical service connection is switched OFF at the system circuit breaker located in the electrical service distribution panel. Verify that the blower power switches are in the OFF position. Prior to any repairs or modifications to the system, the electrical service should be disconnected using the proper lock out/tag out procedures, and should only be conducted by qualified personnel.
- Verify that all components are installed correctly and are in good working order, including the blowers, piping, depressurization points, and all instrumentation. Any defects or damage should be repaired or replaced prior to the startup of the system.
- Verify that all electrical connections are properly and securely connected to the SSD system components. All electrical components should be clean and free of any damage or defects. Verify that the electrical connection is of the proper voltage and power requirement for the installed blowers.
- Verify that the system discharge stack is free of any debris that might cause any excessive back pressure on the system.
- Verify that the condensation bypass coupling tubing is free of any blockage that may have been caused by debris or ice.

System Startup

The following procedure should be followed during each startup of the SSD system and should be conducted only after the "Pre-startup" items have been completed.

- Verify that all of the steps outlined above in the "Pre-startup" section have been successfully completed.
- Plug in the blowers. Take note that the blower is operating correctly by noting if there is any excessive noise and that the inlet vacuum is within the normal operating range of the installed blower. Normal operating vacuum should range from 0 - 2.0 inches of water column which can be read using the liquid filled manometer located at the inlet of the blower. Note, if the blower is not operating correctly, unplug the blowers and make the proper repairs.
- Once the system is operating, take note of the operating vacuum at the extraction blower using the manometer. This reading will be used as a baseline to determine if the system is operating correctly in the future.

The system testing described above will be conducted if, in the course of the SSDS system lifetime, the system goes down or significant changes are made to the system and the system must be restarted.

5.3.2 Routine System Operation and Maintenance

During each maintenance event the following should be noted.

Blower/Fan

- The blower/fan is spinning correctly and free of any excess noise.
- The blower/fan is free of any damage or debris.
- The blower/fan is generating the proper amount of flow and vacuum. This can be determined by reading the installed liquid filled manometers and comparing these readings with the readings collected during system startup.

- The condensation bypass coupling is free of any debris that may have clogged the tubing.

Note: The blower/fan is designed to operate continuously without any routine maintenance or lubrication.

5.3.3 Non-Routine Operation and Maintenance

Miscellaneous

- Verify that the discharge stack located on the building roof is free of any debris.
- Verify that all piping, depressurization points, and any other components are clean and free of any damage that may have occurred.
- Verify that the system piping is clear of any condensation that may have accumulated during operation. In the event that condensation has collected, it can be cleared by shutting down the system and letting the condensation drain. The system has been designed to allow the water to drain back to the extraction points.
- In the event that any system degradation has been noted or the alarm warning device is sounding, the owner should contact the consultant retained by the RP for assistance and/or to schedule any system maintenance.

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5.3.4 System Monitoring Devices and Alarms

The SSD system has a warning device to indicate that the system is not operating properly. In the event that warning device is activated, applicable maintenance and repairs will be conducted, as specified in the Operation and Maintenance Plan, and the SSD system

will be restarted. Operational problems will be noted in the Periodic Review Report to be prepared for that reporting period.

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.

This section provides a summary of vulnerability assessments that will be conducted for the Site during periodic assessments, and briefly summarizes the vulnerability of the Site and/or ECs to severe storms/weather events and associated flooding.

- Flood Plain: the Site is located at an elevation of approximately 20 feet above mean sea level and is not associated with a flood plain, low-lying or low-groundwater recharge area;
- Site Drainage and Storm Water Management: the majority of the Site is paved or covered with the Site building. Stormwater drainage structures are present along the roadways to the north;
- Erosion: a majority of the Site is paved or covered with the Site building. Therefore, erosion is not expected to be an issue;
- High Wind: Based on inspection of the property and immediate surrounding area there is some susceptibility to damage from the wind itself or falling objects, such as trees or utility structures during periods of high wind;

- Electricity: Since there are mitigation systems on-Site, power loss and/or dips/surges in voltage during severe weather events, including lightning strikes, could be problematic; and
- Spill/Contaminant Release: The Site is currently used for industrial purposes. However, no liquids would be stored at the Site as part of the remedial remedy.

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).

- Waste Generation: no wastes are expected to be generated at the Site associated with the remedial action.
- Energy usage: an increase in energy usage at the Site will be associated with the operation of the SSDS.
- Emissions: emissions from the SSDS are expected to be below the NYSDEC air discharge standard of 0.5 pounds per year. An increase in fuel usage will be associated with performing annual Site visits.
- Water usage: no increase in water usage is expected to be used at the Site associated with the remedial action.
- Land and/or ecosystems: the Site will continue to be utilized for its current purpose with no expected changes in use. No open land or ecosystems will be impacted as part of the remedial action.

6.2.1 Timing of Green Remediation Evaluations

Modifications resulting from green remediation evaluations will be routinely implemented and scheduled to occur during planned/routine operation and maintenance activities. Reporting of these modifications will be presented in the PRR.

6.2.2. Mitigation Systems

Mitigation systems will be operated properly considering the current Site conditions to conserve materials and resources to the greatest extent possible. Consideration will be given to operating rates.

- SSDS extraction wells.

6.2.3 Frequency of System Checks, and Other Periodic Activities

Transportation to and from the Site and use of consumables in relation to visiting the Site in order to conduct system checks have direct and/or inherent energy costs. The schedule and/or means of these periodic activities have been prepared so that these tasks can be accomplished in a manner that does not impact remedy protectiveness but reduces expenditure of energy or resources.

Consideration shall be given to:

- Reduced monitoring frequencies;
- Reduced Site visits and system checks;
- Coordination/consolidation of activities to maximize foreman/labor time.

For the purposes of this remedy, multiple tasks will be scheduled at the Site where applicable to reduce Site visits.

6.2.4 Metrics and Reporting

As discussed in Section 7.0 and as shown in Appendix F – Site Management Forms, information on energy usage, solid waste generation, transportation and shipping, water usage and land use and ecosystems will be recorded to facilitate and document consistent implementation of green remediation during Site management and to identify corresponding benefits; a set of metrics has been developed.

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 F. These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, system maintenance reports, generated for the Site during the reporting period will be provided in electronic format to the NYSDEC in accordance with the requirements of Table 10 and summarized in the Periodic Review Report.

Table 10: Schedule of Interim Monitoring/Inspection Reports

Task/Report	Reporting Frequency*
Annual Certification for SSDS	Annually
Periodic Review Report	Annually
Groundwater Monitoring Reports	Annually for the years 2017 and 2018

* 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 or equivalent document is issued. After submittal of the initial PRR, the next PRR shall be submitted annually to the Department or at another frequency as may be required by the Department. In the event that the Site is subdivided into separate parcels with different ownership, a single PRR will be prepared that addresses the Site described in Appendix C –Declaration of Covenants and Restrictions. The report will be prepared in accordance with NYSDEC's DER-10 and submitted within 30 days of the end of each certification period. 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.
- 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.
- A summary of any monitoring data and/or information generated during the reporting period, with comments and conclusions.

- A Site evaluation, which includes the following:
  - The compliance of the remedy with the requirements of the Site-specific RAWP;
  - The operation and the effectiveness of all mitigation system units, etc., including identification of any needed repairs or modifications;
  - Any new conclusions or observations regarding Site contamination based on inspections;
  - Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and
  - The overall performance and effectiveness of the remedy.

- A performance summary for all mitigation systems at the Site during the calendar year, including information such as:
  - The number of days the system operated for the reporting period;
  - A description of breakdowns and/or repairs along with an explanation for any significant downtime;
  - A description of the resolution of performance problems;
  - Alarm conditions;
  - Trends in equipment failure;
  - Comments, conclusions, and recommendations based on data evaluation.

7.2.1 Certification of Institutional and Engineering Controls

Following the last inspection of the reporting period, a Professional Engineer licensed to practice in New York State 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;*
- *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 generally accepted engineering practices; and*
- *The information presented in this report is accurate and complete.*

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, Dale Konas, of EnviroTrac PE PC, am certifying as Remedial Party's Designated Site Representative: *I have been authorized and designated by the Remedial Party to sign this certification for the site."*

7.3 Groundwater Monitoring Report

A Groundwater Monitoring Report will be submitted to the Department one (1) month following the monitoring event. The first monitoring event occurred in May, 2017, and the next annual monitoring event will occur in January, 2018. The report will include:

- A description of groundwater monitoring procedures;
- Figures and tables of the groundwater monitoring results;
- A summary of the monitoring data and/or information generated during the reporting period, with comments and conclusions.

7.4 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 IC or EC, 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

6NYCRR Part 375, Environmental Remediation Programs. December 14, 2006.

NYSDEC DER-10 – "Technical Guidance for Site Investigation and Remediation".

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).

NYSDOH, October, 2006. Guidance for Evaluation Soil Vapor Intrusion in the State of New York.

EQASOP-GW 001 Region 1 Low Stress (Low-Flow) SOP, Revision No. 3, July 30, 1996, Revised January 19, 2010.

NYSDEC CP-43: Groundwater Monitoring Well Decommissioning Policy, November 3, 2009.

Tyree Brothers Environmental Services, Site Status and Proposed Work Report (Revised), May 2006

Tyree Brothers Environmental Services, Air Quality Investigation Report, August 2006

Tyree Brothers Environmental Services, SVE/AS Pilot Test Work Plan, June 2007, Rev. July 2007

Tyree Brothers Environmental Services, AS/SVE System Design Report, April 2008

Tyree Brothers Environmental Services, Final AS/SVE System Design, September 2008

Tyree Brothers Environmental Services, Geological Cross Sections and Sections, March 2009

FIGURES

north

THREE STORY
BRICK BUILDING

ONE STORY BRICK
BUILDING

SIDEWALK

INGRAHAM STREET

SIDEWALK

E-VAULT

F.H.

ONE STORY BRICK
BUILDING

TWO STORY
BUILDING

GARAGE
(1-STORY)

ONE STORY FRAME
AND CONCRETE
BUILDING

TWO STORY
BUILDING

PARKING AREA

LEGEND:

PROPERTY BOUNDARY

F.H. FIRE HYDRANT

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POPULAR HAND LAUNDRY
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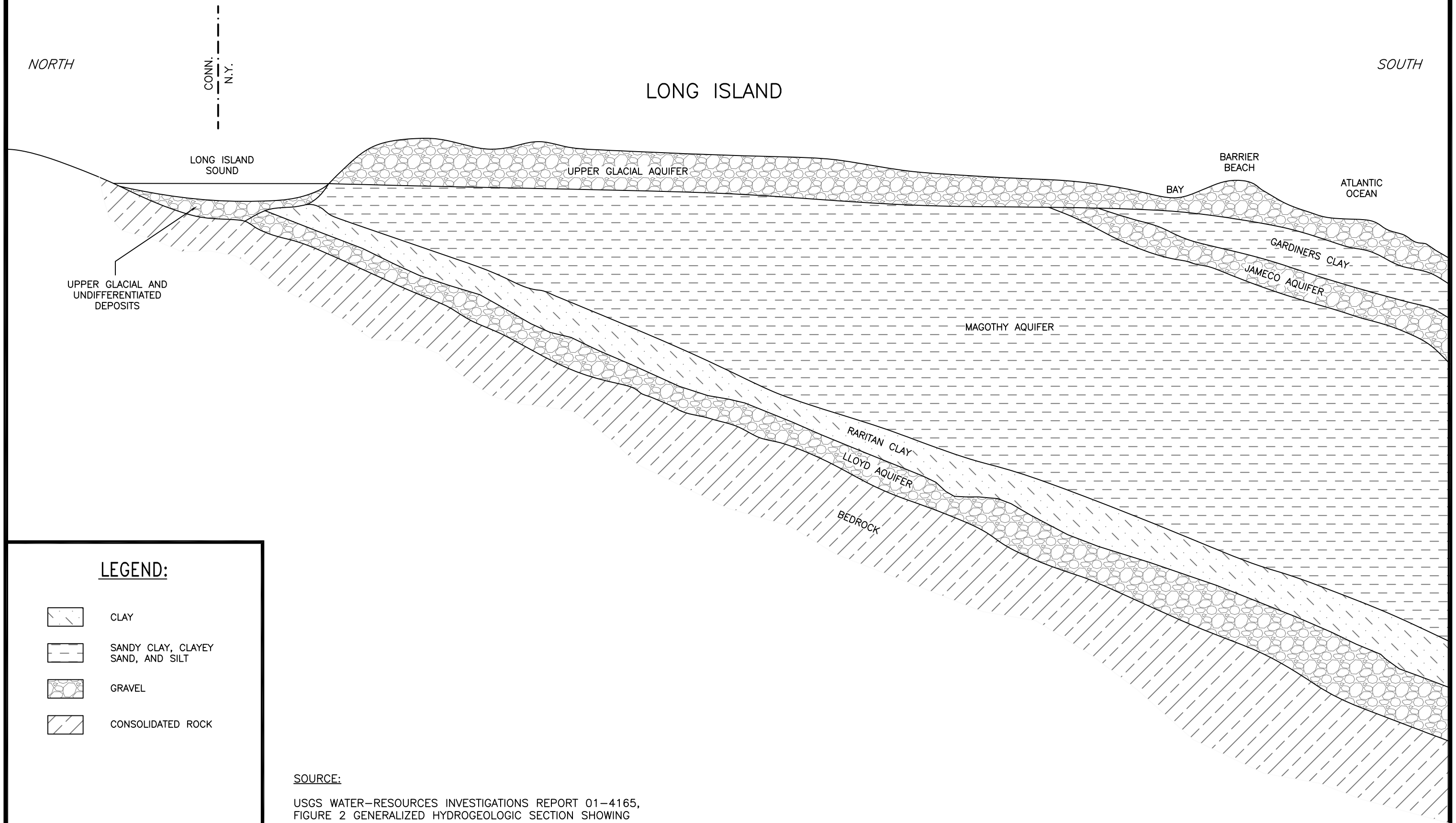
SITE PLAN

FIGURE #
1



LEGEND:

- CLAY
- SANDY CLAY, CLAYEY SAND, AND SILT
- GRAVEL
- CONSOLIDATED ROCK

SOURCE:

USGS WATER–RESOURCES INVESTIGATIONS REPORT 01–4165, FIGURE 2 GENERALIZED HYDROGEOLOGIC SECTION SHOWING MAJOR AQUIFERS AND CONFINING UNITS ON LONG ISLAND, N.Y.

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GENERALIZED HYDROGEOLOGIC CROSS–SECTION SHOWING LONG ISLAND AQUIFERS

FIGURE # 2

north

PARKING AREA

ONE STORY
BRICK BUILDING

SIDEWALK

MW-3

F.H.

INGRAHAM STREET

E-VAULT

SIDEWALK

NW-2

MW-2

NW-1

ONE STORY
BRICK BUILDING

G-2

AS-3

SV-6/MW-6

SV-5/MW-5

(2-STORY)

REGIONAL
GROUNDWATER
FLOW DIRECTION

AS-4

MW-4

GARAGE
(1-STORY)

PARKING AREA

LEGEND:

- PROPERTY BOUNDARY
- F.H. FIRE HYDRANT
- MONITORING WELL

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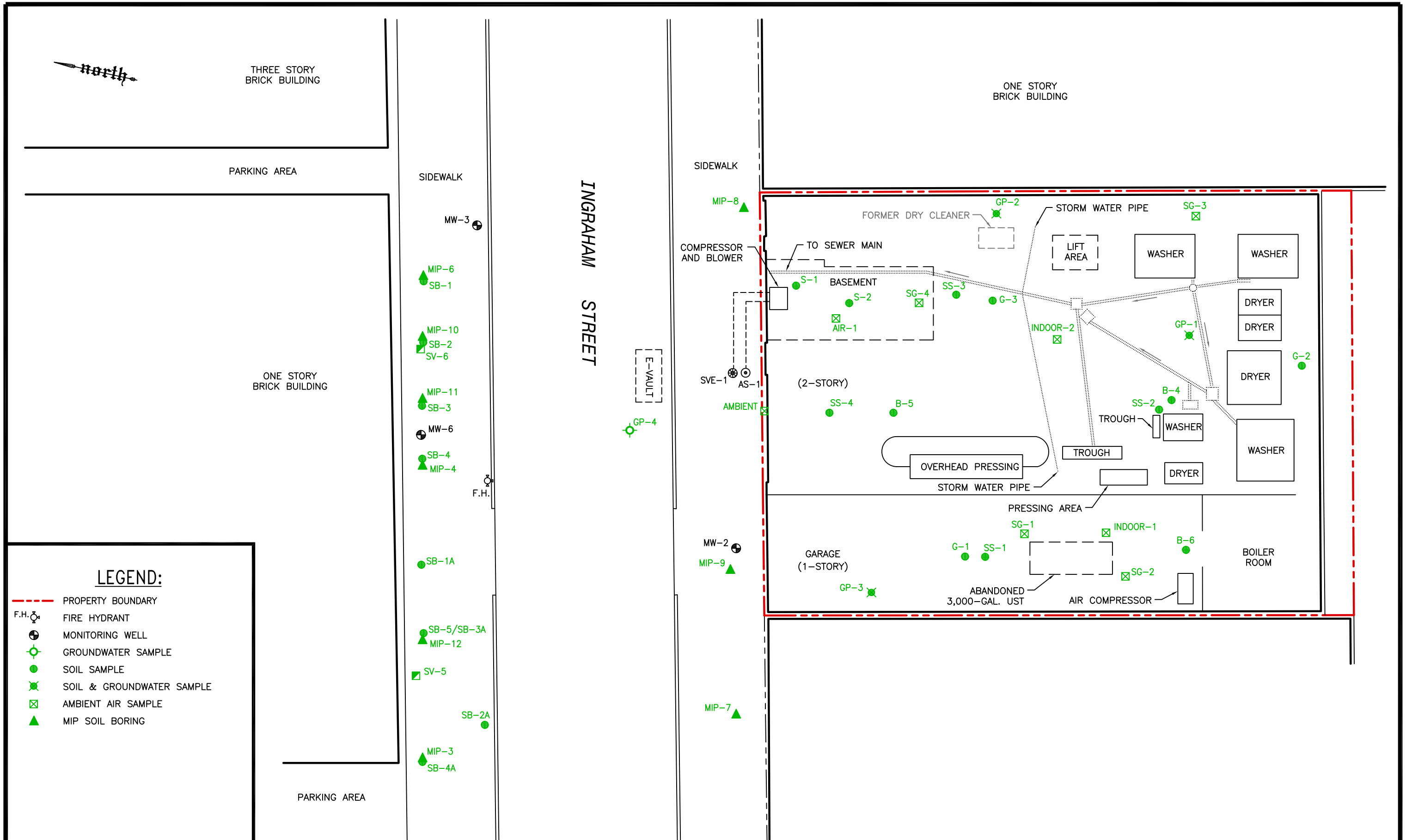
REGIONAL GROUNDWATER FLOW DIRECTION

FIGURE # 3



LEGEND:

- PROPERTY BOUNDARY
- F.H. FIRE HYDRANT
- MONITORING WELL
- GROUNDWATER SAMPLE
- SOIL SAMPLE
- SOIL & GROUNDWATER SAMPLE
- AMBIENT AIR SAMPLE
- MIP SOIL BORING

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POPULAR HAND LAUNDRY
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HISTORICAL SAMPLE LOCATIONS AND HISTORICAL SITE LAYOUT

FIGURE # 4

north

THREE STORY
BRICK BUILDING

PARKING AREA

ONE STORY
BRICK BUILDING

SIDEWALK

MW-3

F.H.

NW-1

PARKING AREA

INGRAHAM STREET

SIDEWALK

SVE/AS
REMEDIATION
SHED

OA-1

NW-2

E-VAULT

ONE STORY
BRICK BUILDING

VP-2/IA-2

G-2

VP-1/IA-1

AS-3

SV-6/MW-6

SV-5/MW-5

(2-STORY)

AS-4

MW-2

VP-4

MW-4

GARAGE
(1-STORY)

VP-5/IA-5/IA-5D

VP-3/IA-3

LEGEND:

- PROPERTY BOUNDARY
- F.H. FIRE HYDRANT
- MONITORING WELL
- GROUNDWATER SAMPLE
- VAPOR PROBE/INDOOR AIR/ OUTDOOR AIR SAMPLE

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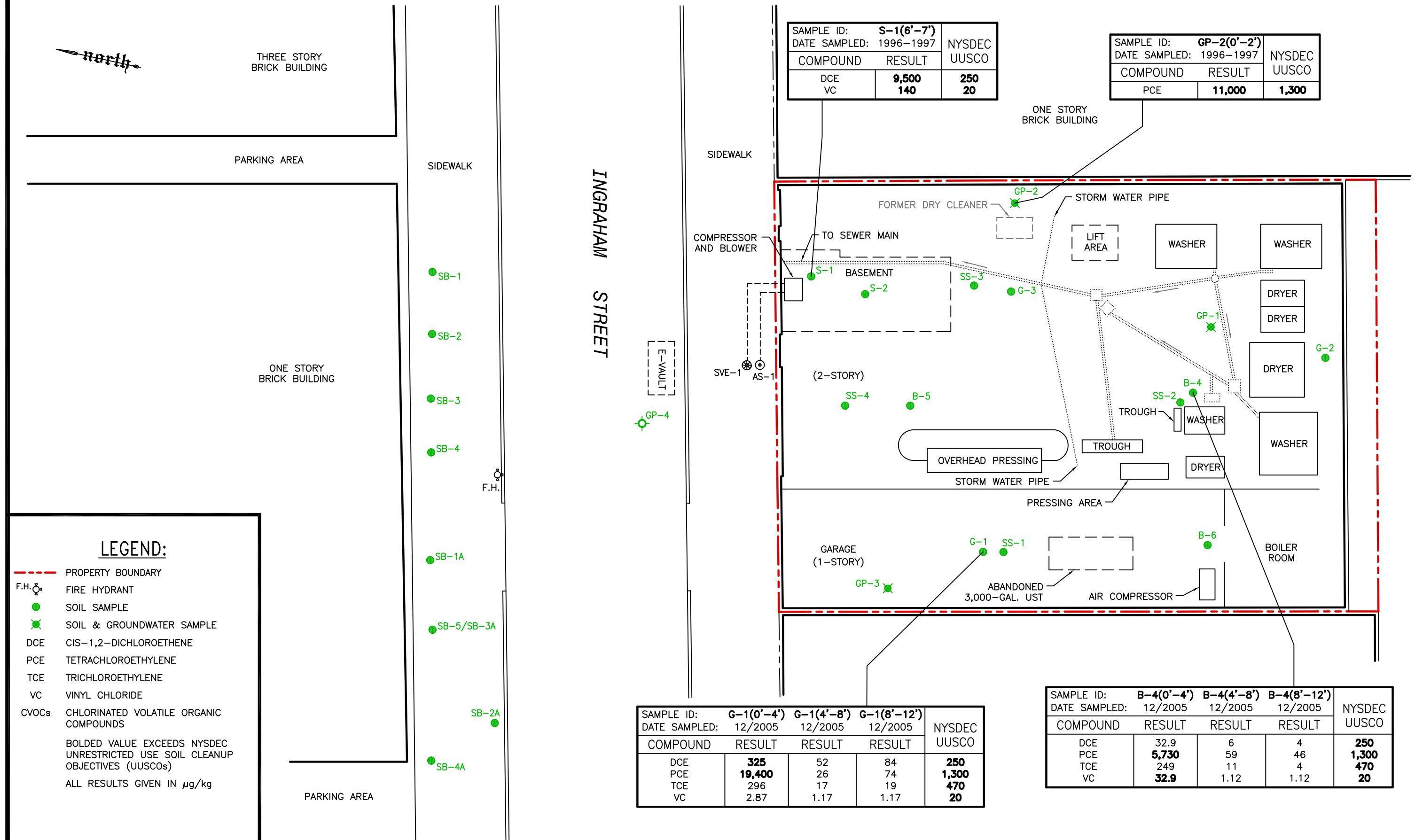
RECENT SAMPLE LOCATIONS

FIGURE #
5



LEGEND:

- PROPERTY BOUNDARY
- F.H. FIRE HYDRANT
- SOIL SAMPLE
- SOIL & GROUNDWATER SAMPLE
- DCE CIS-1,2-DICHLOROETHENE
- PCE TETRACHLOROETHYLENE
- TCE TRICHLOROETHYLENE
- VC VINYL CHLORIDE
- CVOCs CHLORINATED VOLATILE ORGANIC COMPOUNDS
- BOLDED VALUE EXCEEDS NYSDEC UNRESTRICTED USE SOIL CLEANUP OBJECTIVES (UUSCOs)
- ALL RESULTS GIVEN IN µg/kg

SAMPLE ID:	G-1(0'-4')	G-1(4'-8')	G-1(8'-12')	NYSDEC
DATE SAMPLED:	12/2005	12/2005	12/2005	UUSCO
COMPOUND	RESULT	RESULT	RESULT	
DCE	**325**	52	84	**250**
PCE	**19,400**	26	74	**1,300**
TCE	296	17	19	**470**
VC	2.87	1.17	1.17	**20**

SAMPLE ID:	B-4(0'-4')	B-4(4'-8')	B-4(8'-12')	NYSDEC
DATE SAMPLED:	12/2005	12/2005	12/2005	UUSCO
COMPOUND	RESULT	RESULT	RESULT	
DCE	32.9	6	4	**250**
PCE	**5,730**	59	46	**1,300**
TCE	249	11	4	**470**
VC	**32.9**	1.12	1.12	**20**

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POPULAR HAND LAUNDRY
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HISTORICAL SOIL SAMPLE TARGET CVOC RESULTS ABOVE NYSDEC UUSCOs

FIGURE # 6

north

WELL ID:	MW-3	NYSDEC GROUNDWATER STANDARDS
DATE SAMPLED:	12/3/2015	
COMPOUND	RESULT	
DCE	**250**	**5**

WELL ID:	NW-2(20')	NW-2(30')	NW-2(40')	NW-2(50')	NYSDEC GROUNDWATER STANDARDS
DATE SAMPLED:	9/7/2016	9/7/2016	9/7/2016	9/7/2016	
COMPOUND	RESULT	RESULT	RESULT	RESULT	
DCE	**120**	**190**	**25**	**20**	**5**
PCE	**210 D**	**430 D**	ND	ND	**5**
TCE	**130**	**250 D**	ND	ND	**5**
VC	**17**	**30**	**96**	ND	**2**
	5/10/2017	5/10/2017			
DCE	**199**	**137**			
PCE	**628**	**189**			
TCE	**331**	**154**			
VC	**26.1**	**5.8**			

WELL ID:	NW-1(20')	NW-1(30')	NW-1(40')	NW-1(50')	NYSDEC GROUNDWATER STANDARDS
DATE SAMPLED:	12/3/2015	12/3/2015	12/3/2015	12/3/2015	
COMPOUND	RESULT	RESULT	RESULT	RESULT	
DCE	**3,000**	**4,300**	**5,800**	**4,400**	**5**
PCE	**760**	**860**	**2,800**	**490**	**5**
TCE	**2,300**	**1,400**	**3,600**	**1,200**	**5**
VC	**2,500**	**1,600**	**2,600**	**1,900**	**2**

LEGEND:

----	PROPERTY BOUNDARY
F.H.	FIRE HYDRANT
⊕	MONITORING WELL
DCE	CIS-1,2-DICHLOROETHENE
PCE	TETRACHLOROETHYLENE
TCE	TRICHLOROETHYLENE
VC	VINYL CHLORIDE
S	RECOVERY OUTSIDE OF CONTROL LIMITS FOR THIS ANALYTE
D	RESULTS FOR DILUTION
ND	NOT DETECTED
CVOCs	CHLORINATED VOLATILE ORGANIC COMPOUNDS
	ALL RESULTS GIVEN IN µg/L

WELL ID:	SV-6	NYSDEC GROUNDWATER STANDARDS
DATE SAMPLED:	12/3/2015	
COMPOUND	RESULT	
DCE	**19**	**5**

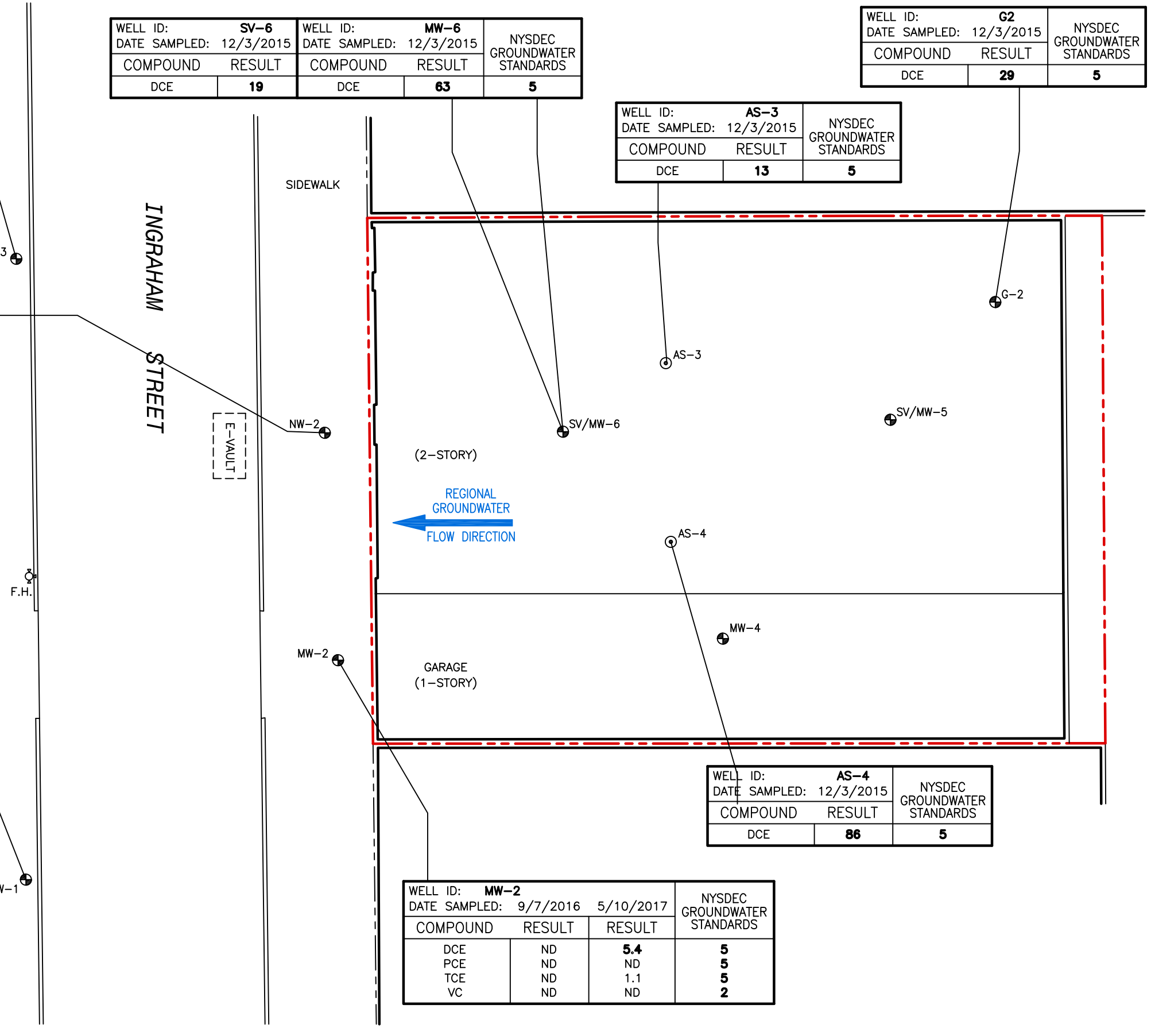
WELL ID:	MW-6	NYSDEC GROUNDWATER STANDARDS
DATE SAMPLED:	12/3/2015	
COMPOUND	RESULT	
DCE	**63**	**5**

WELL ID:	G2	NYSDEC GROUNDWATER STANDARDS
DATE SAMPLED:	12/3/2015	
COMPOUND	RESULT	
DCE	**29**	**5**

WELL ID:	AS-3	NYSDEC GROUNDWATER STANDARDS
DATE SAMPLED:	12/3/2015	
COMPOUND	RESULT	
DCE	**13**	**5**

WELL ID:	AS-4	NYSDEC GROUNDWATER STANDARDS
DATE SAMPLED:	12/3/2015	
COMPOUND	RESULT	
DCE	**86**	**5**

WELL ID:	MW-2		NYSDEC GROUNDWATER STANDARDS
DATE SAMPLED:	9/7/2016	5/10/2017	
COMPOUND	RESULT	RESULT	
DCE	ND	**5.4**	**5**
PCE	ND	ND	**5**
TCE	ND	1.1	**5**
VC	ND	ND	**2**



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GROUNDWATER SAMPLE RESULTS ABOVE NYSDEC GROUNDWATER STANDARDS

FIGURE # 7

north

SAMPLE ID:	SG-4(0'-8')
DATE SAMPLED:	10/21/2004
COMPOUND	RESULT
DCE	265
PCE	427
TCE	123
VC	0.87

SAMPLE ID:	SS-3
DATE SAMPLED:	6/22/2006
COMPOUND	RESULT
DCE	1,390
PCE	43,000
TCE	2,880

SAMPLE ID:	INDOOR-2
DATE SAMPLED:	6/22/2006
COMPOUND	RESULT
DCE	1.4
PCE	12
TCE	1

SAMPLE ID:	SG-3(0'-8')
DATE SAMPLED:	10/21/2004
COMPOUND	RESULT
DCE	14
PCE	5,358
TCE	81
VC	8.94

SAMPLE ID:	VP-2	IA-2	
DATE SAMPLED:	2/10/2016	2/10/2016	5/10/2017
COMPOUND	RESULT	COMPOUND	RESULT	RESULT
DCE	ND	DCE	ND	ND
PCE	8.14 D	PCE	16.1	ND
TCE	ND	TCE	ND	ND

SAMPLE ID:	OA-1	
DATE SAMPLED:	2/10/2016	5/10/2017
COMPOUND	RESULT	RESULT
DCE	ND	ND
PCE	ND	ND
TCE	ND	ND

SAMPLE ID:	VP-1
DATE SAMPLED:	2/10/2016
COMPOUND	RESULT
DCE	55.7 D
PCE	1,010 D
TCE	411 DcS

SAMPLE ID:	IA-1	
DATE SAMPLED:	2/10/2016	5/10/2017
COMPOUND	RESULT	RESULT
DCE	ND	ND
PCE	10.7	ND
TCE	7.52 cS	ND

SAMPLE ID:	AMBIENT
DATE SAMPLED:	6/22/2006
COMPOUND	RESULT
DCE	0.63 J
PCE	8
TCE	0.75 J

SAMPLE ID:	SS-4
DATE SAMPLED:	6/22/2006
COMPOUND	RESULT
PCE	1,270
TCE	44

SAMPLE ID:	SS-2
DATE SAMPLED:	6/22/2006
COMPOUND	RESULT
DCE	16,900
PCE	572,000
TCE	37,100

SAMPLE ID:	SS-1
DATE SAMPLED:	6/22/2006
COMPOUND	RESULT
DCE	28,200
PCE	75,300
TCE	45,200

SAMPLE ID:	SG-1(0'-8')
DATE SAMPLED:	10/21/2004
COMPOUND	RESULT
DCE	2,260
PCE	6,104
TCE	2,526
VC	46

SAMPLE ID:	SG-2(0'-8')
DATE SAMPLED:	10/21/2004
COMPOUND	RESULT
DCE	1,189
PCE	3,459
TCE	18.27
VC	28

SAMPLE ID:	VP-5	IA-5	
DATE SAMPLED:	2/10/2016	2/10/2016	5/10/2017
COMPOUND	RESULT	COMPOUND	RESULT	RESULT
DCE	ND	DCE	ND	ND
PCE	ND	PCE	ND	ND
TCE	ND	TCE	ND	ND

SAMPLE ID:	INDOOR-1
DATE SAMPLED:	6/22/2006
COMPOUND	RESULT
DCE	2
PCE	29
TCE	3

SAMPLE ID:	VP-3	IA-3	
DATE SAMPLED:	2/10/2016	2/10/2016	5/10/2017
COMPOUND	RESULT	COMPOUND	RESULT	RESULT
DCE	132 D	DCE	ND	ND
PCE	63.8 D	PCE	ND	ND
TCE	57 DcS	TCE	ND	ND

INGRAHAM ST.

SIDEWALK

E-VAULT

(2-STORY)

GARAGE (1-STORY)

SG-3 VP-2/IA-2 OA-1 SG-4 SS-3 AIR-1 VP-1/IA-1 INDOOR-2 AMBIENT SS-4 SS-2 VP-4 SG-1 INDOOR-1 SS-1 VP-5/IA-5/IA-5D SG-2 VP-3/IA-3

LEGEND:

- PROPERTY BOUNDARY
- SUB-SLAB SAMPLE
- VAPOR PROBE/INDOOR AIR/ OUTDOOR AIR SAMPLE
- AMBIENT AIR SAMPLE
- DCE CIS-1,2-DICHLOROETHENE
- PCE TETRACHLOROETHYLENE
- TCE TRICHLOROETHYLENE
- VC VINYL CHLORIDE
- J ESTIMATED VALUE
- c,S ESTIMATED VALUE
- D RESULTS FOR DILUTION
- ND NOT DETECTED
- CVOCs CHLORINATED VOLATILE ORGANIC COMPOUNDS

ALL RESULTS GIVEN IN µg/m3

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HISTORICAL AND RECENT SOIL VAPOR SAMPLE AND INDOOR/AMBIENT AIR RESULTS

FIGURE # 8

north

THREE STORY
BRICK BUILDING

ONE STORY BRICK
BUILDING

SIDEWALK

INGRAHAM STREET

E-VAULT

F.H.

SIDEWALK

ONE STORY BRICK
BUILDING

TWO STORY
BUILDING

GARAGE
(1-STORY)

ONE STORY FRAME
AND CONCRETE
BUILDING

TWO STORY
BUILDING

PARKING AREA

LEGEND:

PROPERTY BOUNDARY

F.H. FIRE HYDRANT

MONITORING WELL

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SCALE IN FEET

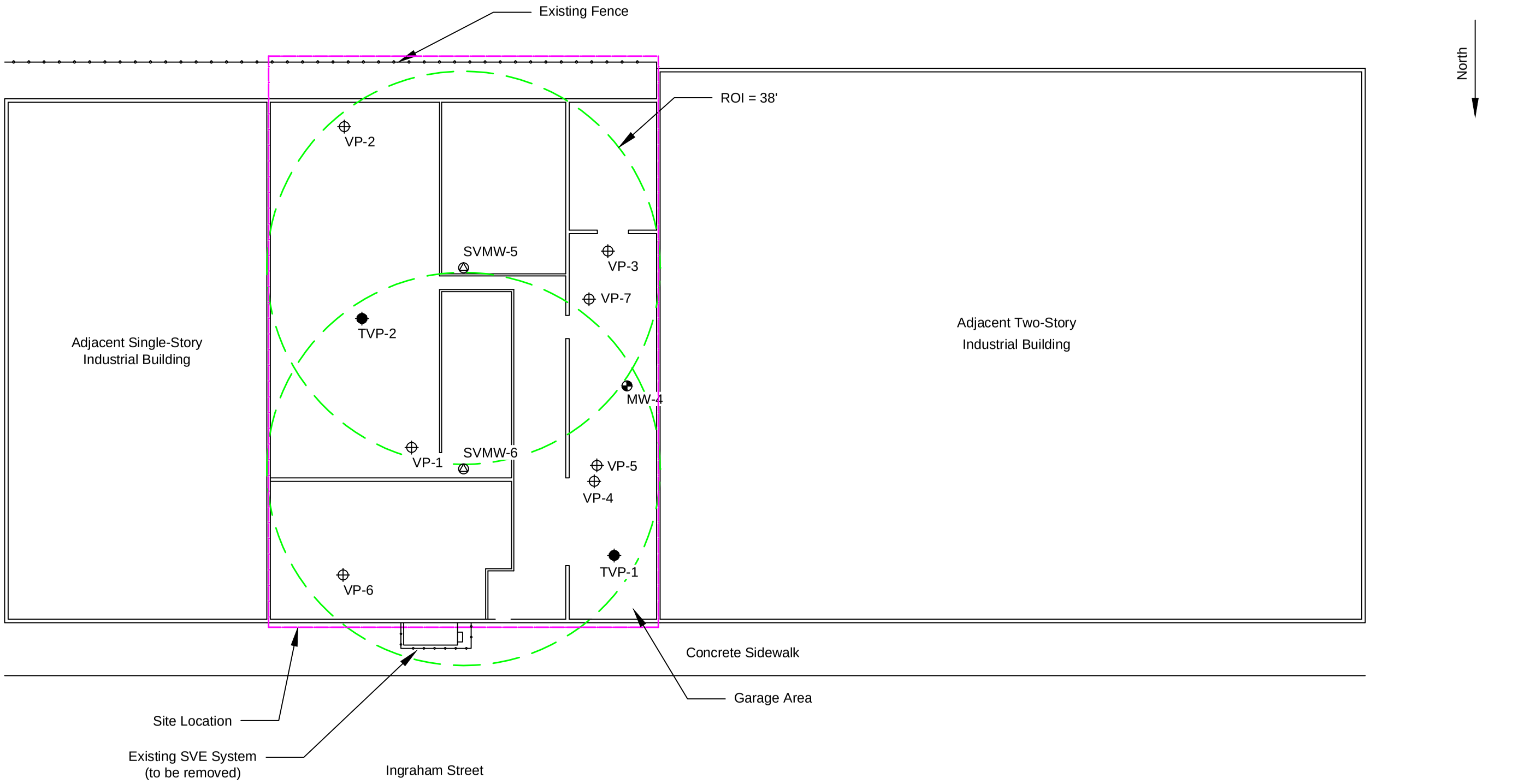
DATE: 8/31/2016

REVISED BY: BS

POPULAR HAND LAUNDRY
88 INGRAHAM STREET
BROOKLYN, NEW YORK

INSTITUTIONAL BOUNDARY CONTROLS

FIGURE #
9



SCALE:
0 5' 10' 15' 20'
SCALE IN FEET

LEGEND:
- Radius of Influence
- Existing Monitoring Well Location
- Existing Vapor Extraction Location
- Existing Vapor Point Location
- Temporary Vapor Point Location

DATE:	FIGURE:	DRAFTED BY:
5/25/16	10	NC/DK

MAP: Site Plan with SSDS Radius of Influence

SITE: Popular Hand Laundry
88 Ingraham Street
Brooklyn, NY 10452

EnviroTrac
Environmental Services
5 Old Dock Road
Yaphank, NY 11980
P: 631.924.3001 F: 631.924.5001

TABLES

Table 2
Remaining Soil Sample Exceedances Above NYSDEC UUSCOs
88 Ingraham Street
Brooklyn, New York
NYSDEC Site No. V00170

Sample ID	GP1 (0'-2')	GP2 (0'-2')	GP3 (0'-2')	GP3 (0'-2')	GP4 (0'-2')	S1 (6'-7')	S2 (0'-2')	NYSDEC UUSCO	NYSDEC Residential USCO	NYSDEC Restricted Residential USCO	NYSDEC Commercial USCO
Sample Date	1996-1997										
Sample Units	ug/kg										
Trichloroethene	ND	ND	ND	ND	ND	ND	20	470	10,000	21,000	200,000
Cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	**9,500**	35	250	59,000	100,000	500,000
Tetrachloroethene	ND	**11,000**	33	ND	ND	ND	140	1,300	5,500	19,000	150,000
Vinly Chloride	ND	ND	ND	ND	ND	**140**	ND	20	210	900	13,000

Sample ID	G1 (0'-4')	G1 (4'-8')	G1 (8'-12')	G2 (0'-4')	G2 (4'-8')	G2 (8'-12')	G3 (0'-4')	G3 (4'-8)	G3 (8'-12')	NYSDEC UUSCO	NYSDEC Residential USCO	NYSDEC Restricted Residential USCO	NYSDEC Commercial USCO
Sample Date	12/1/2005												
Sample Units	ug/kg												
Trichloroethene	296	17	19	1.04	1.08	1.11	10	4	51	470	10,000	21,000	200,000
Cis-1,2-Dichloroethene	**325**	52	84	1.19	1.24	1.07	9	5	84	250	59,000	100,000	500,000
Tetrachloroethene	**19,400**	26	74	10	3	2.11	170	39	137	1,300	5,500	19,000	150,000
Vinly Chloride	2.87	1.17	1.17	1.08	1.12	1.16	1.25	1.1	1.16	20	210	900	13,000

Sample ID	B4 (0'-4')	B4 (4'-8')	B4 (8'-12')	B5 (0'-4')	B5 (4'-8')	B5 (8'-12')	B6 (0'-4')	B6 (4'-8')	B6 (8'-12')	NYSDEC UUSCO	NYSDEC Residential USCO	NYSDEC Restricted Residential USCO	NYSDEC Commercial USCO
Sample Date	12/1/2005												
Sample Units	ug/kg												
Trichloroethene	249	11	4	2	2	5	18	29	2.68	470	10,000	21,000	200,000
Cis-1,2-Dichloroethene	32.9	6	4	1.17	1.24	1.19	71	33.3	3.08	250	59,000	100,000	500,000
Tetrachloroethene	**5,730**	59	46	15	22	33	36	23.2	5.07	1,300	5,500	19,000	150,000
Vinly Chloride	32.9	1.12	1.12	1.06	1.12	1.08	2.84	33.3	2.79	20	210	900	13,000

Notes:
Reported sample results were limited to target chlorinated volatile organic compounds (CVOCs).
ug/kg = micrograms per kilogram
ND = Not Detected
Bolded values indicate an exceedance of the New York State Department of Environmental Conservation (NYSDEC) Part 375 Subpart 375-6 Unrestricted Use Soil Cleanup Objective.
Yellow shaded values indicate an exceedance of the NYSDEC Part 375 Subpart 375-6 Residential Use Soil Cleanup Objective.
Orange shaded values indicate an exceedance of the NYSDEC Part 375 Subpart 375-6 Restricted-Residential Use Soil Cleanup Objective.

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TABLE 3

INTERIOR GROUND WATER SAMPLE RESULTS FOR TARGET CVOCs

Popular Hand Laundry - VCP No. V00170, 88 Ingraham Street, Brooklyn, NY

Well ID	Sampling Date	c-1,2-dichloroethene (ug/L)	Tetrachloroethene (ug/L)	Trichloroethene (ug/L)	Vinyl Chloride (ug/L)
MW-4	9/23/09	**154**	**5.21**	**11.2**	NS
	11/15/10	**239**	4.54	**14.0**	**18.6**
	2/25/11	**167**	ND	**8.61**	**2.48**
	11/3/11	**80.6**	**6.85**	**19.8**	**2.93**
	2/28/12	**64.3**	2.46	**13.7**	ND
	5/30/12	**129**	1.40	**18.5**	**4.60**
	8/16/12	**111**	1.80	**13.6**	**3.60**
	11/19/12	**84.6**	1.10	**8.40**	**3.00**
	2/26/13	**86.2**	1.10	**9.50**	**3.20**
	5/29/13	**77.1**	0.80	**12.4**	**2.80**
	9/13/13	**60.5**	0.78	**8.40**	**3.20**
	12/13/13	**54.8**	ND	**6.40**	**3.40**
	3/25/14	**65.3**	ND	4.80	**4.10**
	7/8/14	**47.1**	0.31	4.80	**3.20**
	9/11/14	**56.4**	0.37	**6.00**	**3.50**
	1/16/15	**48.6**	ND	4.80	**6.20**
	5/14/15	**58.0**	ND	**7.50**	**5.60**
	8/21/15	**75.5**	ND	**5.20**	**7.70**
	12/03/15	ND	ND	ND	ND
	6/24/16	NS	NS	NS	NS
	9/07/16	NS	NS	NS	NS
SV/MW-5 (20')	9/23/09	**268**	**55.1**	**8.28**	NS
	11/15/10	NS	NS	NS	NS
	2/25/11	**165**	**6.94**	**6.13**	ND
	11/3/11	**80.0**	**14.9**	4.39	ND
	2/29/12	**100**	4.46	3.21	ND
	5/30/12	**136**	**15.5**	**6.10**	**2.40**
	8/16/12	**151**	**17.1**	**7.20**	**3.00**
	11/19/12	**85.7**	**10.8**	4.40	1.10
	2/26/13	NS	NS	NS	NS
	5/29/13	NS	NS	NS	NS
	9/13/13	NS	NS	NS	NS
	12/13/13	NS	NS	NS	NS
	3/25/14	NS	NS	NS	NS
	7/8/14	NS	NS	NS	NS
	9/11/14	NS	NS	NS	NS
	1/16/15	NS	NS	NS	NS
	5/14/15	NS	NS	NS	NS
	8/21/15	4.40	3.10	ND	ND
	12/3/2015	ND	ND	ND	ND
	6/24/2016	NS	NS	NS	NS
	9/7/2016	NS	NS	NS	NS
AS-3	9/23/09	**221**	**8.46**	**33.1**	NA
	11/15/10	NS	NS	NS	NS
	2/24/11	2.56	0.60	ND	ND
	11/2/11	**43.6**	1.10	**6.54**	ND
	2/29/12	**55.2**	ND	**5.14**	ND
	5/30/12	**15.3**	0.81	2.40	ND
	8/16/12	**42.2**	2.50	2.30	**13.7**
	11/19/12	**32.4**	2.70	**7.40**	ND
	2/26/13	**62.3**	1.40	4.90	ND
	5/29/13	**21.3**	0.69	2.00	ND
	9/13/13	**45.8**	2.30	**8.10**	0.26
	12/13/13	**9.50**	ND	2.00	ND
	3/25/14	**22.5**	ND	2.17	ND
	7/8/14	**21.8**	1.70	3.90	ND
	9/11/14	**44.2**	0.97	**6.90**	ND
	1/16/15	**7.50**	ND	1.70	ND
	5/14/15	**9.10**	ND	1.90	ND
	8/21/15	**96.0**	**14.6**	**47.6**	1.20
	12/3/2015	**13**	ND	ND	ND
	6/24/2016	NS	NS	NS	NS
	9/7/2016	NS	NS	NS	NS
AS-4	9/23/09	**342**	**12.1**	**52.6**	NA
	11/15/10	NS	NS	NS	NS
	2/24/11	**257**	ND	3.27	**6.63**
	11/2/11	**84.0**	ND	1.65	1.58
	2/29/12	**158**	ND	4.70	**15.6**
	5/30/12	**218**	ND	3.10	**13.5**
	8/16/12	**238**	ND	2.30	**13.7**
	11/19/12	**195**	ND	1.70	**26.0**
	2/26/13	**265**	ND	2.10	**32.0**
	5/29/13	**246**	ND	2.80	**41.8**
	9/13/13	**215**	ND	1.40	**74.6**
	12/13/13	**185**	ND	1.10	**42.8**
	3/25/14	**282**	ND	1.53	**50.8**
	7/8/14	**234**	ND	1.10	**62.9**
	9/11/14	**239**	ND	1.50	**22.1**
	1/16/15	**190**	ND	1.40	**14.9**
	5/14/15	**290**	ND	**5.60**	**28.0**
	8/21/15	**329**	ND	5.00	**32.1**
	12/3/2015	**86**	ND	ND	ND
	6/24/2016	NS	NS	NS	NS
	9/7/2016	NS	NS	NS	NS
NYSDEC Groundwater Standards		**5**	**5**	**5**	**2**

Notes: ND = Not Detected

NS = Not sampled
D = Results for Dilution
S = Recovery outside of control limits for this analyte

Bolded values indcate an exceedance of the New York State Department of Environmental Conservation (NYSDEC) Class GA Ambient Water Quality Standard.

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TABLE 3

INTERIOR GROUND WATER SAMPLE RESULTS FOR TARGET CVOCs

Popular Hand Laundry - VCP No. V00170, 88 Ingraham Street, Brooklyn, NY

Well ID	Sampling Date	c-1,2-dichloroethene (ug/L)	Tetrachloroethene (ug/L)	Trichloroethene (ug/L)	Vinyl Chloride (ug/L)
SV/MW-5 (30')	9/23/09	ND	4.80	ND	NS
	11/15/10	**20.0**	**9.18**	**6.30**	**13.1**
	2/25/11	**8.89**	ND	0.75	**3.03**
	11/3/11	1.83	ND	ND	ND
	2/29/12	3.76	ND	ND	ND
	5/30/12	**10.3**	ND	ND	**3.70**
	8/16/12	**7.90**	ND	0.26	**3.40**
	11/19/12	**6.60**	ND	0.26	**2.60**
	2/26/13	**5.30**	ND	0.32	1.70
	5/29/13	**7.00**	ND	ND	1.90
	9/13/13	4.00	ND	ND	0.91
	12/13/13	**6.10**	ND	ND	**3.30**
	3/25/14	**8.05**	ND	ND	**4.20**
	7/8/14	4.90	ND	ND	**2.50**
	9/11/14	**7.20**	ND	ND	**2.80**
	1/16/15	**5.90**	ND	ND	**2.90**
	5/14/15	**6.00**	ND	ND	**2.80**
	8/21/15	ND	ND	ND	ND
	12/3/2015	ND	ND	ND	ND
	12/3/2015 Duplicate	ND	ND	ND	ND
	6/24/2016	NS	NS	NS	NS
	9/7/2016	NS	NS	NS	NS
SV/MW-6 (20')	9/23/09	**437**	**32.5**	**19.5**	NA
	11/15/10	**240**	**23.1**	**19.9**	**9.00**
	2/25/11	**130**	**5.15**	3.53	ND
	11/3/11	**82.6**	**6.41**	4.10	ND
	2/28/12	**58.6**	4.47	2.83	ND
	5/30/12	**99.2**	**14.2**	4.40	0.3
	8/16/12	**59.4**	**8.30**	2.50	0.6
	11/19/12	**55.9**	4.70	2.40	0.3
	2/26/13	**54.5**	1.70	1.70	0.3
	5/29/13	**26.4**	**5.50**	2.80	ND
	9/13/13	**44.7**	**5.00**	3.90	ND
	12/13/13	**28.3**	2.40	2.40	ND
	3/25/14	**25.0**	3.68	2.00	ND
	7/8/14	**12.4**	1.90	1.40	ND
	9/11/14	**17.2**	1.60	1.70	ND
	1/16/15	**17.2**	0.61	1.10	ND
	5/14/15	**11.0**	1.40	1.00	ND
	8/21/15	**20.4**	ND	ND	ND
	12/3/2015	**19**	ND	ND	ND
	6/24/2016	NS	NS	NS	NS
	9/7/2016	NS	NS	NS	NS
SVMW-6 (30')	9/23/09	**672**	**12.8**	**92.3**	NA
	11/15/10	**658**	**10.5**	**77.8**	**10.0**
	2/25/11	**475**	**164**	2.70	1.53
	11/3/11	**395**	3.08	**36.3**	1.35
	2/28/12	**412**	**7.98**	**63.7**	**9.50**
	5/30/12	**763**	**8.70**	**101**	**11.3**
	8/16/12	**734**	**8.00**	**97.2**	**12.6**
	11/19/12	**569**	4.70	**63.6**	**5.90**
	2/26/13	**664**	**8.40**	**87.1**	**19.7**
	5/29/13	**603**	**5.70**	**76.8**	**11.3**
	9/13/13	**641**	**5.20**	**75.6**	**13.9**
	12/13/13	**468**	**7.10**	**74.4**	**34.7**
	3/25/14	**390**	**8.88**	**83.3**	**9.90**
	7/8/14	**557**	**6.20**	**72.0**	**5.50**
	9/11/14	**653**	**6.30**	**79.6**	**6.80**
	1/16/15	**363**	2.50	**40.7**	**8.90**
	5/14/15	**340**	ND	**50.0**	ND
	8/21/15	**572**	**6.00**	**69.7**	**8.60**
	12/3/2015	**63**	ND	ND	ND
	6/24/2016	NS	NS	NS	NS
	9/7/2016	NS	NS	NS	NS
G-2	9/23/09	**57.9**	2.04	**9.70**	NA
	11/15/10	**62.9**	**8.32**	**13.0**	**12.3**
	2/25/11	**32.6**	0.73	**5.51**	ND
	11/2/11	**38.3**	ND	**6.68**	ND
	2/29/12	**27.4**	ND	**5.70**	ND
	5/30/12	**39.0**	1.30	**7.50**	ND
	8/16/12	**60.7**	1.60	**10.9**	0.70
	11/19/12	**62.5**	1.70	**12.3**	0.59
	2/26/13	**83.4**	2.00	**15.6**	1.10
	5/29/13	**61.3**	1.60	**13.1**	0.59
	9/13/13	**68.8**	1.60	**11.7**	0.61
	12/13/13	**86.3**	2.10	**13.0**	ND
	3/25/14	**104.0**	ND	**10.1**	0.78
	7/8/14	**38.3**	1.10	**7.20**	0.46
	9/11/14	**94.5**	1.60	**13.9**	0.56
	1/16/15	**66.9**	0.83	**8.00**	0.51
	5/14/15	**61.0**	1.40	**11.0**	ND
	8/21/15	**97.9**	2.90	**20.3**	ND
	12/3/2015	**29**	ND	ND	ND
	6/24/2016	NS	NS	NS	NS
	9/7/2016	NS	NS	NS	NS
NYSDEC Groundwater Standards		**5**	**5**	**5**	**2**

Notes: ND = Not Detected

NS = Not sampled
D = Results for Dilution
S = Recovery outside of control limits for this analyte

Bolded values indcate an exceedance of the New York State Department of Environmental Conservation (NYSDEC) Class GA Ambient Water Quality Standard.

EnviroTrac

TABLE 3

INTERIOR GROUND WATER SAMPLE RESULTS FOR TARGET CVOCs

Popular Hand Laundry - VCP No. V00170, 88 Ingraham Street, Brooklyn, NY

Well ID	Sampling Date	c-1,2-dichloroethene (ug/L)	Tetrachloroethene (ug/L)	Trichloroethene (ug/L)	Vinyl Chloride (ug/L)
AS-3	9/23/09	**221**	**8.46**	**33.1**	NA
	11/15/10	NS	NS	NS	NS
	2/24/11	2.56	0.60	ND	ND
	11/2/11	**43.6**	1.10	**6.54**	ND
	2/29/12	**55.2**	ND	**5.14**	ND
	5/30/12	**15.3**	0.81	2.40	ND
	8/16/12	**42.2**	2.50	2.30	**13.7**
	11/19/12	**32.4**	2.70	**7.40**	ND
	2/26/13	**62.3**	1.40	4.90	ND
	5/29/13	**21.3**	0.69	2.00	ND
	9/13/13	**45.8**	2.30	**8.10**	0.26
	12/13/13	**9.50**	ND	2.00	ND
	3/25/14	**22.5**	ND	2.17	ND
	7/8/14	**21.8**	1.70	3.90	ND
	9/11/14	**44.2**	0.97	**6.90**	ND
	1/16/15	**7.50**	ND	1.70	ND
	5/14/15	**9.10**	ND	1.90	ND
	8/21/15	**96.0**	**14.6**	**47.6**	1.20
	12/3/2015	**13**	ND	ND	ND
	6/24/2016	NS	NS	NS	NS
	9/7/2016	NS	NS	NS	NS
AS-4	9/23/09	**342**	**12.1**	**52.6**	NA
	11/15/10	NS	NS	NS	NS
	2/24/11	**257**	ND	3.27	**6.63**
	11/2/11	**84.0**	ND	1.65	1.58
	2/29/12	**158**	ND	4.70	**15.6**
	5/30/12	**218**	ND	3.10	**13.5**
	8/16/12	**238**	ND	2.30	**13.7**
	11/19/12	**195**	ND	1.70	**26.0**
	2/26/13	**265**	ND	2.10	**32.0**
	5/29/13	**246**	ND	2.80	**41.8**
	9/13/13	**215**	ND	1.40	**74.6**
	12/13/13	**185**	ND	1.10	**42.8**
	3/25/14	**282**	ND	1.53	**50.8**
	7/8/14	**234**	ND	1.10	**62.9**
	9/11/14	**239**	ND	1.50	**22.1**
	1/16/15	**190**	ND	1.40	**14.9**
	5/14/15	**290**	ND	**5.60**	**28.0**
	8/21/15	**329**	ND	5.00	**32.1**
	12/3/2015	**86**	ND	ND	ND
	6/24/2016	NS	NS	NS	NS
	9/7/2016	NS	NS	NS	NS
NYSDEC Groundwater Standards		**5**	**5**	**5**	**2**
Notes:	ND = Not Detected	NS = Not sampled D = Results for Dilution S = Recovery outside of control limits for this analyte	**Bolded** values indcate an exceedance of the New York State Department of Environmental Conservation (NYSDEC) Class GA Ambient Water Quality Standard.		EnviroTrac

TABLE 4
EXTERIOR GROUNDWATER MONITORING WELL SAMPLE RESULTS FOR TARGET VOCs
Popular Hand Laundry, VCP 00170, 88 Ingraham Street, Brooklyn, New York

Well ID	Sampling Date	c-1,2-dichloroethene (ug/L)	Tetrachloroethene (ug/L)	Trichloroethene (ug/L)	Vinyl Chloride (ug/L)
MW-2	6/01/05	**14**	5	5	0.23
	9/28/09	NS	NS	NS	NS
	11/10/10	**83.9**	**182**	**67.6**	**50.1**
	2/28/11	**8.91**	2.17	2.46	ND
	11/3/11	**7.08**	ND	ND	ND
	2/28/12	4.81	ND	ND	ND
	5/29/12	**10.2**	ND	0.40	1.10
	8/16/12	**10.2**	ND	ND	ND
	11/20/12	**8.60**	ND	0.34	1.30
	2/21/12	**7.20**	ND	ND	ND
	5/30/13	**5.20**	ND	ND	0.61
	9/13/13	**6.90**	1.60	0.28	1.20
	12/12/13	**6.30**	ND	ND	1.00
	3/25/14	**6.72**	ND	ND	ND
	7/8/14	0.54	ND	ND	0.87
	9/11/14	0.55	ND	0.59	1.20
	1/15/15	4.30	ND	ND	ND
	5/14/15	4.10	ND	ND	ND
	8/21/15	**5.60**	ND	ND	ND
	12/03/15	ND	ND	ND	ND
	6/24/16	**12.0**	ND	ND	ND
	9/07/16	ND	ND	ND	ND
	5/10/17	**5.4**	ND	1.1	ND
MW-3	9/28/09	NS	NS	NS	NS
	11/11/10	**1,420**	**12.4**	**56.5**	**253**
	2/28/11	**1,030**	**9.54**	**43.4**	**187**
	11/3/11	**1,270**	**11.0**	**70.3**	**281**
	2/28/12	**1,160**	**5.70**	**31.2**	**334**
	5/29/12	**1,940**	**91.8**	**266**	**441**
	8/15/12	**2,440**	**68.3**	**215**	**531**
	11/20/12	**1,980**	**12.1**	**62.6**	**415**
	2/21/13	**1,630**	**18.2**	**58.0**	**355**
	5/30/13	**1,280**	**7.40**	**13.6**	**187**
	9/13/13	**1,140**	4.90	ND	**283**
	12/12/13	**926**	**9.30**	ND	**212**
	3/25/14	**648**	**10.3**	ND	**199**
	7/8/14	**706**	**7.80**	**8.10**	**107**
	9/11/14	**616**	**9.60**	1.40	**137**
	1/15/15	**375**	**11.6**	2.90	**152**
	5/14/15	**330**	ND	ND	**57**
	8/21/15	**570**	**7.90**	**6.50**	**104**
	12/03/15	**250**	ND	ND	ND
	6/24/16	NS	NS	NS	NS
	9/7/16	NS	NS	NS	NS
	5/10/17	NS	NS	NS	NS
NW-1 (20')	9/23/09	**962**	**60.1**	**68.0**	NA
	11/15/10	**5,480**	**607**	**746**	**6,000**
	2/28/11	**2,920**	**35.0**	**47.1**	**5,870**
	11/3/11	**65.7**	ND	**ND**	1.34
	2/28/12	**1,820**	**118**	**160**	**2,260**
	5/29/12	**6,040**	**367**	**871**	**4,000**
	8/15/12	**4,730**	**304**	**1,100**	**3,930**
	11/20/12	**4,440**	**233**	**1,160**	**3,450**
	2/21/13	**2,690**	**80.3**	**675**	**3,370**
	5/30/13	**2,900**	**377**	**1,200**	**1,950**
	9/13/13	**2,160**	**239**	**874**	**2,130**
	12/12/13	**3,960**	**463**	**1,680**	**3,920**
	3/28/14	**984**	**54**	**133**	**2,970**
	7/8/14	**530**	**31**	**67.9**	**812**
	9/11/14	**1,170**	**37**	**179**	**1,390**
	1/15/15	**1,480**	**80**	**380**	**1,560**
	5/15/15	**570**	**88**	**260**	**730**
	8/20/15	**2100**	**455**	**1270**	**1840**
	12/03/15	**3,000**	**760**	**2,300**	**2,500**
	6/24/2016	NS	NS	NS	NS
	9/7/2016	NS	NS	NS	NS
	5/10/17	NS	NS	NS	NS
NW-1 (30')	9/23/09	**4,140**	**200**	**333**	NA
	11/15/10	**8,870**	**1,190**	**1,230**	**6,160**
	2/28/11	**7,140**	**283**	**227**	**4,330**
	11/3/11	**2,140**	**203**	**248**	**2,510**
	2/28/12	**3,000**	**528**	**490**	**2,550**
	5/29/12	**7,870**	**790**	**1,000**	**4,240**
	8/15/12	**6,070**	**446**	**999**	**4,490**
	11/20/12	**6,460**	**489**	**975**	**3,340**
	2/21/13	**4,730**	**312**	**651**	**3,860**
	5/30/13	**4,220**	**370**	**1,020**	**2,350**
	9/13/13	**4,780**	**535**	**1,290**	**3,090**
	12/12/13	**6,460**	**837**	**1,550**	**3,720**
	3/28/14	**5,750**	**432**	**801**	**4,880**
	7/8/14	**2,420**	**284**	**491**	**1,240**
	9/11/14	**4,230**	**581**	**865**	**1,710**
	1/15/15	**3,790**	**491**	**721**	**1,910**
	5/15/15	**3,200**	**860**	**1,400**	**1,900**
	8/20/15	**4,500**	**1110**	**1,710**	**2,010**
	12/3/2015	**4,300**	**860**	**1,400**	**1,600**
	6/24/2016	NS	NS	NS	NS
	9/7/2016	NS	NS	NS	NS
	5/10/17	NS	NS	NS	NS
NYSDEC Groundwater Standards		**5**	**5**	**5**	**2**

Notes: ND = Not Detected

NS = Not sampled
D = Results for Dilution
S = Recovery outside of control limits for this analyte

Bolded values indcate an exceedance of the New York State Department of Environmental Conservation (NYSDEC) Class GA Ambient Water Quality Standard.

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TABLE 4

EXTERIOR GROUNDWATER MONITORING WELL SAMPLE RESULTS FOR TARGET VOCs

Popular Hand Laundry, VCP 00170, 88 Ingraham Street, Brooklyn, New York

Well ID	Sampling Date	c-1,2-dichloroethene (ug/L)	Tetrachloroethene (ug/L)	Trichloroetlene (ug/L)	Vinyl Chloride (ug/L)
NW-1 (40')	9/23/09	**11,000**	**1,240**	**1,200**	NA
	11/15/10	**10,000**	**1,910**	**1,050**	**4,700**
	2/28/11	**111**	**185**	**53.6**	**10.40**
	11/3/11	**3,200**	**260**	**330**	**2,840**
	2/28/12	**3,620**	**429**	**436**	**2,570**
	5/29/12	**7,510**	**535**	**667**	**3,740**
	8/15/12	**6,630**	**462**	**815**	**4,390**
	11/20/12	**5,430**	**572**	**1,200**	**3,430**
	2/21/13	**3,240**	**220**	**619**	**3,200**
	5/30/13	**3,720**	**433**	**1,210**	**2,390**
	9/13/13	**4,320**	**686**	**1,460**	**2,990**
	12/12/13	**5,780**	**987**	**1,770**	**3,780**
	3/28/14	**5,470**	**488**	**1,000**	**7,250**
	7/8/14	**1,810**	**281**	**440**	**1,080**
	9/11/14	**2,920**	**595**	**814**	**1,710**
	1/15/15	**2,830**	**466**	**744**	**1,880**
	5/15/15	**2,500**	**1,000**	**1,400**	**1,800**
	8/20/15	**4,110**	**1,760**	**2,230**	**2,140**
	12/3/2015	**5,800**	**2,800**	**3,600**	**2,600**
	6/24/16	NS	NS	NS	NS
	9/07/16	NS	NS	NS	NS
	5/10/17	NS	NS	NS	NS
NW-1 (50')	9/23/09	**6,670**	**53.7**	**122**	NA
	11/15/10	**180**	**25.6**	**15.8**	**51.0**
	2/28/11	**8,330**	**5.41**	**2.64**	**3,780**
	11/3/11	**3,400**	**332**	**297**	**3,000**
	2/28/12	**3,280**	**325**	**283**	**2,340**
	5/29/12	**8,910**	**506**	**513**	**4,690**
	8/15/12	**7,450**	**509**	**715**	**4,610**
	11/20/12	**6,420**	**489**	**708**	**3,120**
	2/21/13	**5,000**	**409**	**601**	**3,840**
	5/30/13	**4,770**	**351**	**742**	**2,250**
	9/13/13	**4,950**	**380**	**973**	**2,940**
	12/12/13	**5,780**	**475**	**1,010**	**3,850**
	3/28/14	**5,190**	**459**	**747**	**4,000**
	7/8/14	**2,730**	**358**	**568**	**1,330**
	9/11/14	**4,570**	**366**	**665**	**1,620**
	1/15/15	**5,560**	**366**	**657**	**2,350**
	5/15/15	**3,400**	**590**	**1,100**	**1,800**
	8/20/15	**4,430**	**683**	**1,260**	**1,890**
	12/3/2015	**4,400**	**490**	**1,200**	**1,900**
	6/24/16	NS	NS	NS	NS
	9/07/16	NS	NS	NS	NS
	5/10/17	NS	NS	NS	NS
NW-2 (20')	9/23/09	**28.7**	4.39	2.08	NA
	11/15/10	**60.3**	**25.6**	**17.6**	**16.4**
	2/24/11	**16.9**	**35.7**	**8.03**	1.02
	11/3/11	1.98	2.47	0.99	ND
	2/28/12	1.03	ND	ND	ND
	5/29/12	2.70	0.37	0.43	0.45
	8/15/12	**5.30**	0.48	0.76	1.00
	11/19/12	**8.10**	0.52	1.10	1.10
	2/21/13	**8.60**	ND	1.60	ND
	5/29/13	**9.00**	0.80	2.20	0.74
	9/13/13	**11.1**	1.00	2.80	0.99
	12/12/13	**18.9**	2.20	**6.20**	**2.20**
	3/25/14	**94.3**	**46.7**	**47.8**	**14.4**
	7/8/14	**101**	**112**	**92.1**	**16.2**
	9/11/14	**234**	**236**	**223**	**36.0**
	1/16/15	**251**	**290**	**251**	**50.6**
	5/14/15	**86**	**160**	**120**	**15.0**
	8/20/15	**284**	**418**	**316**	**46.7**
	12/3/2015	**60**	**37**	**64**	ND
	6/24/16	**120** ***S***	**200** ***D***	ND	**21**
	9/07/16	**120**	**210 D**	**130**	**17**
	5/10/17	**199**	**628**	**331**	**26.1**
NW-2 (30')	9/23/09	**42.6**	**2.89**	2.64	NA
	11/15/10	**113**	**219**	**58.9**	**52.1**
	2/24/11	**88.6**	**126**	**30.9**	**4.50**
	11/3/11	1.30	ND	ND	ND
	2/28/12	**5.20**	ND	ND	ND
	5/29/12	**10.5**	0.73	1.60	0.76
	8/15/12	**9.80**	0.62	1.70	1.30
	11/19/12	**11.5**	0.51	1.60	1.20
	2/21/13	**12.7**	ND	1.90	ND
	5/29/13	**14.6**	1.00	3.00	**1.10**
	9/13/13	**15.9**	0.86	3.40	1.40
	12/12/13	**18.7**	1.20	4.60	**2.10**
	3/25/14	**76.9**	**19.1**	**29.5**	**8.30**
	7/8/14	**135**	**128**	**117**	**23.0**
	9/11/14	**204**	**187**	**187**	**32.9**
	1/16/15	**262**	**301**	**261**	**59.7**
	5/14/15	**130**	**220**	**160**	**22.0**
	8/20/15	**244**	**187**	**223**	**24.2**
	12/3/2015	**88**	**17**	**86**	ND
	6/24/16	**170** ***S***	**110**	**130**	ND
	9/07/16	**190**	**430 D**	**250 D**	**30**
	5/10/17	**137**	**189**	**154**	**5.8**
NYSDEC Groundwater Standards		**5**	**5**	**5**	**2**

Notes: ND = Not Detected; NS = Not sampled; D = Results for Dilution; S = Recovery outside of control limits for this analyte

Bolded values indcate an exceedance of the New York State Department of Environmental Conservation (NYSDEC) Class GA Ambient Water Quality Standard.

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TABLE 4

EXTERIOR GROUNDWATER MONITORING WELL SAMPLE RESULTS FOR TARGET VOCs

Popular Hand Laundry, VCP 00170, 88 Ingraham Street, Brooklyn, New York

Well ID	Sampling Date	c-1,2-dichloroethene (ug/L)	Tetrachloroethene (ug/L)	Trichloroethene (ug/L)	Vinyl Chloride (ug/L)
NW-2 (40')	9/23/09	**56.1**	**6.49**	**5.50**	NA
	11/15/10	**195**	**263**	**82.2**	**77.8**
	2/24/11	**3,750**	**140**	**76.6**	**987**
	11/3/11	**1,840**	**128**	**205**	**2,710**
	2/28/12	**62.2**	ND	ND	**9.19**
	5/29/12	**173**	ND	0.51	**14.2**
	8/15/12	**185**	ND	0.48	**13.4**
	11/19/12	**131**	ND	ND	**32.9**
	2/21/13	**78.1**	ND	ND	**40.9**
	5/30/13	**93.1**	ND	ND	**9.20**
	9/13/13	**122**	ND	ND	**17.4**
	12/12/13	**141**	ND	ND	**37.1**
	3/25/14	**146**	ND	ND	**9.20**
	7/8/14	**1.7**	ND	ND	**8.70**
	9/11/14	**133**	ND	ND	**10.3**
	1/16/15	**143**	ND	0.34	**15.4**
	5/15/15	**120**	ND	ND	**5.5**
	8/21/15	**143**	ND	ND	ND
	12/3/2015	**160**	ND	ND	ND
	6/24/16	**32 *S***	**20**	ND	**93**
	9/07/16	**25**	ND	ND	**96**
	5/10/17	NS	NS	NS	NS
NW-2 (50')	9/23/09	**48.4**	3.06	2.49	NA
	11/15/10	**7,190**	**115**	**166**	**3,890**
	2/24/11	**659**	**219**	**130**	**90.7**
	11/3/11	**11.0**	ND	ND	ND
	2/28/12	**6.60**	ND	ND	ND
	5/29/12	**12.5**	ND	ND	ND
	8/15/12	**14.1**	ND	0.29	ND
	11/19/12	**17.0**	ND	0.41	ND
	2/21/13	**14.2**	ND	**ND**	ND
	5/30/13	**12.7**	ND	ND	ND
	9/13/13	**9.50**	ND	ND	ND
	12/12/13	**17.0**	ND	ND	ND
	3/25/14	**22.1**	ND	ND	ND
	7/8/14	**7.50**	ND	ND	ND
	9/11/14	**8.30**	ND	ND	ND
	1/16/15	**8.70**	ND	0.26	0.57
	5/15/15	**7.40**	ND	ND	ND
	8/20/15	ND	**14.2**	**8.70**	ND
	12/3/15	**14**	ND	ND	ND
	6/24/16	**24**	ND	ND	ND
	9/07/16	**20**	ND	ND	ND
	5/10/17	NS	NS	NS	NS
NYSDEC Groundwater Standards		5	5	5	2

Notes:

ND = Not Detected

NS = Not sampled
D = Results for Dilution
S = Recovery outside of control limits for this analyte

Bolded values indcate an exceedance of the New York State Department of Environmental Conservation (NYSDEC) Class GA Ambient Water Quality Standard.

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Table 5
Soil Gas Sample Results
Popular Hand Laundry
88 Ingraham Street
Brooklyn, New York
NYSDEC Site No. V00170

Sample ID	SG-1 (0'-8')	SG-2 (0'-8')	SG-3 (0'-8')	SG-4 (0'-8')
Sample Date	**10/21/2004**			
Sample Units	**ug/m3**			
Trichloroethene	2,526	18	81	123
cis-1,2-Dichloroethene	2,260	1,189	14	265
Tetrachloroethene	6,104	3,459	5,358	427
Vinyl Chloride	46	28	9	1

Compound	SS1	SS2	SS3	SS4
Sample Date	**6/22/2006**			
Sample Units	**ug/m3**			
1, 1-Dichloroethylene	858	112 J	ND	ND
trans-1, 2-Dichlorothylene	1,460	737	165	ND
cis-1,2-Dichlororethane	28,200	16,900	1,390	ND
1, 1, 1-Trichloroethane	2,010	ND	ND	8
Trichloroethene	45,200	37,100	2,880	44
Tetrachloroethene	75,300	572,000	43,000	1,270
Chloroform	400	874	77 J	39
Carbon Tetrachloride	ND	ND	ND	52

Sample ID	VP-1	VP-2	VP-3	VP-5
Sample Date	**2/10/2016**			
Sample Units	**ug/m3**			
Acetone	24.1 DS	93.8 DS	1,100 DS	176,000 DS*
Benzene	2.81 D	1.6 D	ND	ND
Chloroform	9.18 D	4.59 D	ND	ND
Chloromethane	ND	1.57 D	ND	ND
1,1-Dichloroethane	11 D	ND	27.5 D	ND
1,2-cis-Dichloroethene	55.7 D	ND	132 D	ND
1,2-trans-Dichloroethene	88.3 D	ND	24.6 D	ND
Dichlorodifluoromethane	2.18 D	8.31 D	ND	ND
Ethylbenzene	2.87 D	2.43 D	ND	ND
Methyl ethyl ketone	58.9 D	91.7 D	3,210 D	595,000 D*
Methyl isobutyl ketone	ND	3.93 D	ND	ND
Methylene Chloride	ND	3.57 D	ND	ND
Tetrachloroethene	1,010 D	8.14 D	63.8 D	ND
Toluene	14.4 D	17.5 D	ND	ND
1,1,1-Trichloroethane	ND	4.58 D	ND	ND
Trichloroethene	411 DcS	ND	57 DcS	ND
Trichlorofluoromethane	ND	5.62 D	ND	ND
1,2,4-Trimethylbenzene	ND	3.74 D	ND	ND
m&p-Xylenes	6.34 D	9.38 D	ND	ND
o-Xylenes	ND	3.56 D	ND	ND

Notes:
Only detected analytes are reported.
ug/m3 = micrograms per cubic meter of air
ND = Not Detected
D = Results for Dilution
c, S, J = Value estimated
* = Elevated levels due to use of PVC primer and glue during well installation.
Yellow shaded values indicate that mitigation is required as per the New York State Department of Health (NYSDOH) Matrices.

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Table 6
Indoor and Ambient Air Results
Popular Hand Laundry
88 Ingraham Street
Brooklyn, New York
NYSDEC Site No. V00170

Compound	Air-1	NYSDOH Indoor Air Guidance Value
Sample Date	**10/21/2004**	
Sample Units	**ug/m3**	
1, 1, 1-Trichloroethane	0.7 J	-
Tetrachloroethene	0.9	30
Toluene	0.6 J	-
Methylene Chloride	**880 E**	60

Compound	Indoor 1	Indoor 2	Ambient	NYSDOH Indoor Air Guidance Value
Sample Date	**6/22/2006**			
Sample Units	**ug/m3**			
cis-1,2-Dichlororethane	2	1.4	0.63 J	-
1, 1, 1-Trichloroethane	0.43 J	0.65 J	ND	-
Trichloroethene	**3**	1	0.75 J	2
Tetrachloroethene	29	12	8	30
Chloroform	ND	0.35 J	0.37 J	-
Chloromethane	1.2	1.1	1.1	-
Carbon Tetrachloride	0.57 J	0.6	1	-
Methylene Chloride	4	5	4	60

Sample ID	IA-1		IA-2		IA-3		IA-5		OA-1		NYSDOH Indoor Air Guidance Values
Sample Date	**2/10/2016**	**5/10/2017**	**2/10/2016**	**5/10/2017**	**2/10/2016**	**5/10/2017**	**2/10/2016**	**5/10/2017**	**2/10/2016**	**5/10/2017**	
Sample Units	**ug/m3**										
Acetone	660 DS	68.60	84 D	81.30	52.80	152.00	49.20	88.20	17.10	17.10	-
Benzene	1.98	0.35	1.73	0.37	1.60	0.38	1.57	0.36	1.15	1.15	-
Chloroform	2.98	ND	1.03	ND	ND	ND	ND	ND	0.98	0.98	-
Chloromethane	1.03	0.43	1.78	0.47	1.88	0.47	1.67	0.47	1.71	1.71	-
Dichlorodifluoromethane	7.12	0.40	4.10	0.41	4.01	0.41	4.10	0.40	4.50	4.50	-
Ethylbenzene	1.39	3.90	3.69	4.71	2.00	7.76	1.56	4.75	ND	ND	-
Isopropanol	ND	ND	66.60	ND	ND	ND	17.90	ND	ND	ND	-
Methyl ethyl ketone	2,240 D	9.60	14.00	11.80	3.57	23.70	3.19	14.90	1.86	1.86	-
Methyl isobutyl ketone	3.28	3.77	10.20	3.96	6.88	9.66	4.96	6.74	ND	ND	-
Methylene Chloride	10.90	4.41	28.50	5.94	18.30	10.90	15.90	10.10	26.50	27	60
Methyl tert butyl ether	0.90	ND	1.51	ND	1.73	ND	1.30	ND	2.13	2	-
Styrene	ND	2.57	1.41	3.59	1.15	4.76	1.02	4.98	ND	ND	-
Tetrachloroethene	10.70	ND	16.10	ND	ND	ND	ND	ND	ND	ND	30
Toluene	11.80	39.70	37.40	59.80	28.40	103.00	26.70	64.10	7.57	8	-
1,1,1-Trichloroethane	ND	2.40	ND	2.80	ND	6.75	ND	3.77	ND	ND	
Trichloroethene	**7.52 cS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	2
Trichlorofluoromethane	3.77	0.21	2.59	ND	2.64	0.20	2.47	0.21	2.75	2.75	-
1,2,4-Trimethylbenzene	ND	0.95	3.24	1.08	1.97	0.38	1.62	1.17	ND	ND	-
1,3,5-Trimethylbenzene	ND	0.31	1.43	0.34	ND	0.52	ND	0.37	ND	ND	-
m&p-Xylenes	4.78	15.40	13.50	18.20	7.08	27.70	5.99	18.10	2.17	2.17	-
o-Xylenes	1.78	4.31	5.21	5.08	2.13	8.12	1.95	5.12	ND	ND	-

Notes:
Only detected analytes are reported.
ug/m3 = micrograms per cubic meter of air
ND = Not Detected
c, S, J = Value estimated
E = Concentration exceeds instrument calibration limits. Value is estimated.
Bold values indicate an exceedance of the New York State Department of Health (NYSDOH) Indoor Air Guidance Value.
Yellow shaded values indicate that mitigation is required as per the NYSDOH Matrices.

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APPENDIX A – LIST OF SITE CONTACTS

Name	Phone/Email Address
Site Owner: Bushwicked, LLC, Mr. Martin Zimmerman	212-947-8143, mdmzny@earthlink.net
Remedial Party: 88 Ingraham Realty Corp., Mr. William Eisen	561-496-5200, we1058@msn.com
Qualified Environmental Professional: Mr. Joseph Byrnes, PG (EnviroTrac, PE, PC)	631-924-3001, joeb@envirotrac.com
NYSDEC DER Project Manager: Mr. Bryan Wong	718-482-4905, yukyin.wong@dec.ny.gov
NYSDEC Chief Superfund and Brownfield Cleanup Section, Division of Environmental Remediation: Ms. Jane O'Connell	718-482-4599, Jane.oconnell@dec.ny.gov
NYSDEC Site Control: Ms. Kelly A. Lewandowski	518-402-9569, Kelly.lewandowski@dec.ny.gov
On and off-Site access contacts such as tenants, adjacent property owners, etc.: UVR Studios (adjoining to the west) Ms. Ursula Von Rydingsvard	718-963-4319
Joyva Corp. (adjoining to the east) Mr. Sandy Weiner	718-497-0170
J&R Affliates (adjoining to north) Mr. Stanley Klein	516-902-3966
Remedial Party Attorney: Frederick Eisenbud, Esq.	631-738-9100 x317 FEisenbud@cmmllp.com

APPENDIX B – EXCAVATION WORK PLAN (EWP)

Under the existing and anticipated site use scenarios, additional excavation activities are not anticipated. However, should additional excavations become necessary, the excavation work plan below should be implemented.

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 B-1 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 A.

Table B-1: Notifications*

Bryan Wong	(718) 482-4905, yukyin.wong@dec.ny.gov
Jane O'Connell	718-482-4599, Jane.oconnell@dec.ny.gov
Kelly A. Lewandowski	518-402-9569, Kelly.lewandowski@dec.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 G 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 in Section B-6 and B-7, respectively, of this Appendix.

B-3 SOIL STAGING METHODS

Large scale excavations are not anticipated, however, should they become necessary 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.

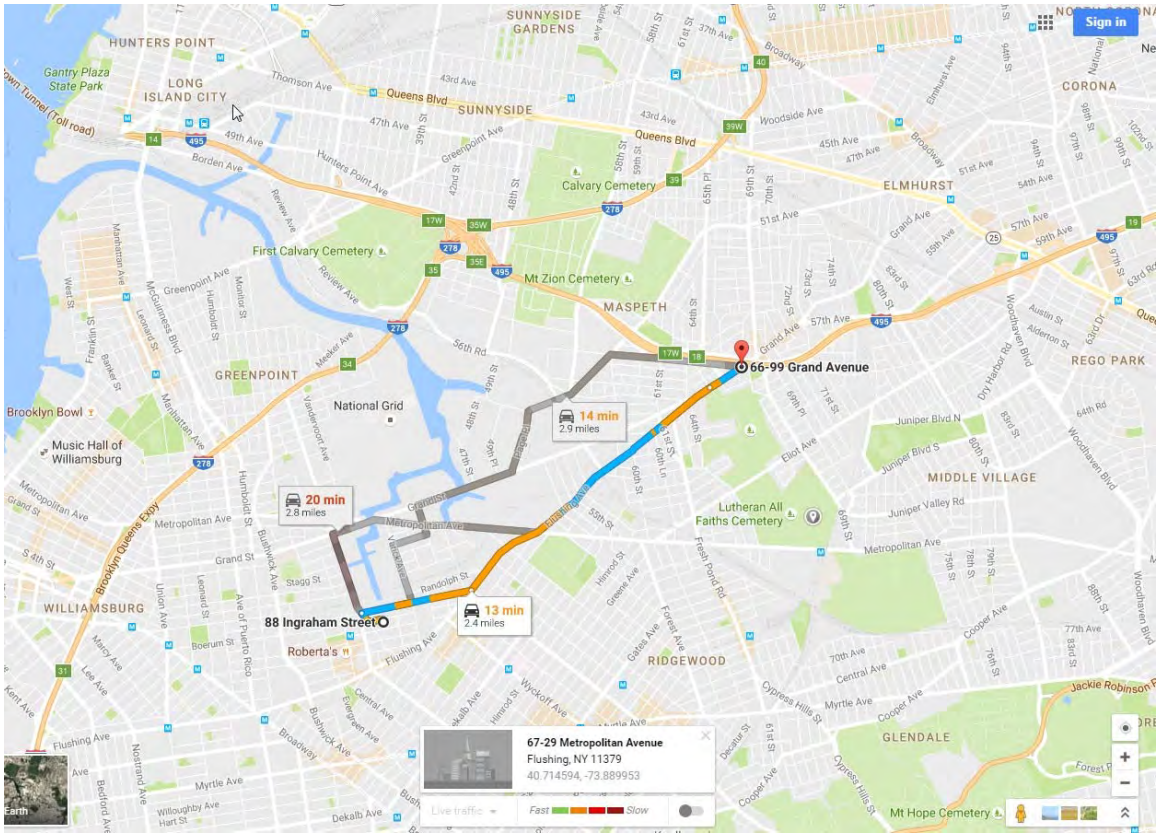
B-5 MATERIALS TRANSPORT OFF-SITE

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.

Based on the current and anticipated future use of the Site, any future materials generated requiring off-Site disposal will be minimal and will be disposed of utilizing labeled 55-gallon DOT drums. The drums would be removed and transported for proper disposal via a licensed waste hauler. Large scale excavations requiring bulk transport and disposal are not anticipated (i.e. demolition of the building).

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 are as follows: via Ingraham Street west towards Knickerbocker Avenue. Make a right onto Knickerbocker Avenue toward Johnson Avenue. Make a right onto Johnson Avenue towards Flushing Avenue. Make a left onto Flushing Avenue and continue onto Grand Avenue. Take the exit on the left for the Long Island Expressway. A map is provided below.


66-99 Grand Avenue
88 Ingraham Street
14 min
2.9 miles
20 min
2.8 miles
13 min
2.4 miles
67-29 Metropolitan Avenue
Flushing, NY 11379
40.714594, -73.889953
Live traffic
Fast
Slow
Sign in
HUNTERS POINT
LONG ISLAND CITY
SUNNYSIDE GARDENS
SUNNYSIDE
CORONA
ELMHURST
MASPETH
GREENPOINT
WILLIAMSBURG
RIDGEWOOD
MIDDLE VILLAGE
REGO PARK
GLENDALE
Calvary Cemetery
First Calvary Cemetery
Mt Zion Cemetery
Mt Hope Cemetery
National Grid
Brooklyn Bowl
Music Hall of Williamsburg
Lutheran All Faiths Cemetery
Roberta's
Gantry Plaza State Park
Brooklyn Queens Expy
Queens Blvd
Metropolitan Ave
Grand Ave
Flushing Ave
Myrtle Ave
Jackie Robinson P

EnviroTrac

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; (g) community input.

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

Under the existing and anticipated site use scenarios, additional excavation activities are not anticipated, however, the below provides for this scenario should it arise. Any groundwater generated at the Site will be disposed of 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 6 NYCRR Part 360-1.2. Material that does not meet Unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6 NYCRR Part 360-16 Registration Facility).

B-7 MATERIALS REUSE ON-SITE

Under the existing and anticipated site use scenarios, additional excavation activities are not anticipated. Any groundwater generated on-Site will be disposed of off-Site and the reuse of material on-Site is not anticipated.

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.

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 12 inches of clean soil, asphalt pavement, concrete covered sidewalks and concrete building, etc. The demarcation layer will be replaced 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 will be included in the subsequent Periodic Review Report and in an updated SMP.

B-10 BACKFILL FROM OFF-SITE SOURCES

Large scale excavations requiring the import and placement of backfill material from off-Site is not anticipated.

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 6 NYCRR 375-6.7(d). Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards are listed in Appendix 5 Allowable Constituent Levels for Imported Fill or Soil Subdivision 5.4(e) and area included as Attachment 1. 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

Under the current and future anticipated site use (industrial) large scale excavations or situations that would require a stormwater pollution prevention plan are not anticipated. In the unlikely circumstance that the facility is demolished or major excavation is required an appropriate stormwater pollution prevention plan which conforms to the requirement of the NYSDEC Division of Water guidelines and NYS regulations will be provided in advance to the NYSDEC.

The plan will include:

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 for a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the Site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

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

Should the need for excavations arise, a community air monitoring plan will be implemented. The location of air sampling stations will be based on the area of the excavation and prevailing wind conditions. These locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and at least two downwind monitoring stations.

Real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) will be conducted during implementation of the excavation activities to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses) from potential airborne contaminant releases as a

direct result of the remedial work activities. Based on the available site characterization testing results and the site setting, the likelihood of any adverse exposure to the community is very low.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) will be monitored at the downwind perimeter of the work area on a continuous basis during intrusive activities (i.e., soil excavation and stockpiling). Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below:

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

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the work area at temporary particulate monitoring stations during work activities; i.e., soil excavation and stockpiling.

The particulate monitoring will 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 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:

- 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 will be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work will 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.

Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

B-14 ODOR CONTROL PLAN

This odor control plan is capable of controlling emissions of nuisance odors off-site and on-site. Specific odor control methods to be used on a routine basis will include the implementation of the CAMP (Section B-13, above). 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

Large or extensive excavations generating dust are not anticipated at the Site. However, prior to the commencement of any such activities a task specific dust control plan will be developed and implemented in conjunction with the CAMP (see Section B-13, above).

Any task specific dust suppression plan developed 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, un-vegetated 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.

B-16 OTHER NUISANCES

Procedures to address other nuisances that may require control will be developed as needed based on the work scope and other pertinent site condition present at the time of the proposed excavation activities.

APPENDIX C

RESPONSIBILITIES of

REMEDIAL PARTY and OWNER

Responsibilities

The responsibility for implementing the Site Management Plan ("SMP") for the Popular Hand Laundry site (the "site"), number V00170, are carried by the Remedial Party ("RP"), as defined below. **Solely for the purposes of this document and based upon the facts related to a particular site and the remedial program being carried out,** the term Remedial Party ("RP") refers to any of the following: certificate of completion holder, volunteer, applicant, responsible party, and, in the event the New York State Department of Environmental Conservation ("NYSDEC") is carrying out remediation or site management, the NYSDEC and/or an agent acting on its behalf. The RP is listed as:

88 Ingraham Realty Corp.

7700 Bella Verde Way
Delray Beach, FL 33446

The current owner will allow the RP or RP's consultant access to the property and building to implement tasks listed in the SMP. The owner is listed as:

Bushwicked, LLC (the "owner")
88 Ingraham Street
Brooklyn, New York 11237
Phone: 212 947-8143

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.

Remedial Party Responsibilities

1) The RP must follow the SMP provisions regarding any construction and/or excavation it undertakes at the site.

2) The RP shall report to the NYSDEC all activities required for remediation, operation, maintenance, monitoring, and reporting. Such reporting includes, but is not limited to, periodic review reports and certifications, electronic data deliverables, corrective action work plans and reports, and updated SMPs.

3) Before accessing the site property to undertake a specific activity, the RP shall provide the owner advance notification that shall include an explanation of the work expected to be completed. The RP shall provide to (i) the owner, upon the owner's request, (ii) the NYSDEC, and (iii) other entities, if required by the SMP, a copy of any data generated during the site visit and/or any final report produced.

4) If the NYSDEC determines that an update of the SMP is necessary, the RP shall update the SMP and obtain final approval from the NYSDEC. Within 5 business days after NYSDEC approval, the RP shall submit a copy of the approved SMP to the owner(s).

5) The RP shall notify the NYSDEC and the owner of any changes in RP ownership and/or control and of any changes in the party/entity responsible for the operation, maintenance, and monitoring of and reporting with respect to any remedial system (Engineering Controls). The RP shall provide contact information for the new party/entity. Such activity constitutes a Change of Use pursuant to 375-1.11(d) and requires 60-days prior notice to the NYSDEC. A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html .

6) The RP shall notify the NYSDEC of any damage to or modification of the systems as required under Section 1.3 -Notifications of the SMP.

7) The RP is responsible for the proper maintenance and operation (such as cost of utilities to operate the system) of any installed vapor intrusion mitigation systems associated with the site, as required in Section 5.0 or Appendix H (Operation , Monitoring and Maintenance Manual) of the SMP.

8) Prior to a change in use that impacts the remedial system or requirements and/or responsibilities for implementing the SMP, the RP shall submit to the NYSDEC for approval an amended SMP.

9) Any change in use, change in ownership, change in site classification (*e.g.*, delisting), reduction or expansion of remediation, and other significant changes related to the site may result in a change in responsibilities and, therefore, necessitate an update to the SMP and/or updated legal documents. The RP shall contact the Department to discuss the need to update such documents.

Site Owner's Responsibilities:

1) The owner shall follow the provisions of the SMP as they relate to future construction and excavation at the site.

2) In accordance with a periodic time frame determined by the NYSDEC, the owner shall periodically allow the RP to certify, in writing, that all Institutional Controls set forth in a Declaration of Covenants and Restrictions remain in place and continue to be complied with. The owner shall provide access to the property and building so that the RP can provide certification to the NYSDEC that will be included in the site's Periodic Review Report (PRR) certification to the NYSDEC.

3) In the event the site is delisted, the owner remains bound by the Declaration of Covenants and Restrictions and shall submit, upon request by the NYSDEC, a written certification that the Declaration of Covenants and Restrictions is still in place and has been complied with.

4) The owner shall grant access to the site to the RP and the NYSDEC and its agents for the purposes of performing activities required under the SMP and assuring compliance with the SMP.

5) The owner is responsible for assuring the security of the remedial components located on its property to the best of its ability. In the event that damage to the remedial components or vandalism is evident, the owner shall notify the site's RP and the NYSDEC in accordance with the timeframes indicated in Section 1.3-Notifications.

6) In the event some action or inaction by the owner adversely impacts the site, the owner must notify the site's RP and the NYSDEC in accordance with the time frame indicated in Section 1.3 - Notifications and (ii) coordinate the performance of necessary corrective actions with the RP.

7) The owner must notify the RP and the NYSDEC of any change in ownership of the site property (identifying the tax map numbers in any correspondence) and provide contact information for the new owner of the site property. 6 NYCRR Part contains notification requirements applicable to any construction or activity changes and changes in ownership. Among the notification requirements is the following: Sixty days prior written notification must be made to the NYSDEC. Notification is to be submitted to the NYSDEC Division of Environmental Remediation's Site Control Section. Notification requirements for a change in use are detailed in Section 2.4 of the SMP. A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html.

8) The owner will not conduct any monitoring of the engineering controls on behalf of the RP. The RP remains ultimately responsible for maintaining the engineering controls.

9) Until such time as the NYSDEC deems the vapor mitigation system unnecessary, the owner shall allow the RP to operate the system, and report any maintenance issues to the RP and the NYSDEC.

10) In accordance with the tenant notification law, within 15 days of receipt, the owner must supply a copy of any vapor intrusion data, that is produced with respect to structures and that exceeds NYSDOH or OSHA guidelines on the site, whether produced by the NYSDEC, RP, or owner, to the tenants on the property. The owner must otherwise comply with the tenant and occupant notification provisions of Environmental Conservation Law Article 27, Title 24.

Change in RP ownership and/or control and/or site ownership does not affect the RP's obligations with respect to the site unless a legally binding document executed by the NYSDEC releases the RP of its obligations.

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

APPENDIX D – DECLARATION OF COVENANTS AND RESTRICTIONS

NYC DEPARTMENT OF FINANCE
OFFICE OF THE CITY REGISTER

This page is part of the instrument. The City Register will rely on the information provided by you on this page for purposes of indexing this instrument.The information on this page will control for indexing purposes in the event of any conflict with the rest of the document.

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RECORDING AND ENDORSEMENT COVER PAGE **PAGE 1 OF 5**

Document ID: 2016010500232001 Document Date: 11-16-2015 Preparation Date: 01-05-2016
Document Type: AGREEMENT
Document Page Count: 4

PRESENTER:
SUPERIOR DATA SERVICES
188 MONTAGUE STREET
STE 1000***HOLD FOR PICKUP SDS********
BROOKLYN, NY 11201
718-404-0214
JLICARI@SUPERIOR-DATA.COM

RETURN TO:
SUPERIOR DATA SERVICES
188 MONTAGUE STREET
STE 1000***HOLD FOR PICKUP SDS********
BROOKLYN, NY 11201
718-404-0214
JLICARI@SUPERIOR-DATA.COM

PROPERTY DATA

Borough	Block	Lot		Unit	Address
BROOKLYN	2998	19	Entire Lot		88 INGRAHAM ST

Property Type: COMMERCIAL REAL ESTATE

CROSS REFERENCE DATA

CRFN_____ *or* DocumentID_____ *or* _____ Year_____ Reel____ Page_____ *or* File Number_____

PARTIES

PARTY 1:
BUSHWICKED LLC
88 IMGRHAM STREET
BROOKLYN, NY 11237

PARTY 2:
POPULAR HAND LAUNDRY
88 IMGRHAM STREET
BROOKLYN, NY 11237

FEES AND TAXES

Mortgage :		
Mortgage Amount:	$	0.00
Taxable Mortgage Amount:	$	0.00
Exemption:		
TAXES: County (Basic):	$	0.00
City (Additional):	$	0.00
Spec (Additional):	$	0.00
TASF:	$	0.00
MTA:	$	0.00
NYCTA:	$	0.00
Additional MRT:	$	0.00
TOTAL:	$	0.00
Recording Fee:	$	57.00
Affidavit Fee:	$	0.00

Filing Fee:		
	$	0.00
NYC Real Property Transfer Tax:		
	$	0.00
NYS Real Estate Transfer Tax:		
	$	0.00

RECORDED OR FILED IN THE OFFICE OF THE CITY REGISTER OF THE CITY OF NEW YORK
Recorded/Filed 01-14-2016 09:38
City Register File No.(CRFN): **2016000013822**

City Register Official Signature

DECLARATION of COVENANTS and RESTRICTIONS

THIS COVENANT is made the 16th day of November 2015, by Bushwicked LLC, a limited liability corporation organized and existing under the laws of the State of New York and having an office for the transaction of business at 88 Ingraham Street, Brooklyn, New York 11237.

WHEREAS, Popular Hand Laundry (Site #V00170) is the subject of a Voluntary Cleanup Agreement executed by 88 Ingraham Realty Corp. and Popular Hand Laundry and Cleaners of Richmond Hill, Inc. as part of the New York State Department of Environmental Conservation's (the "Department's) Voluntary Cleanup Program, namely that parcel of real property located at the address of 88 Ingraham Street in the City of New York, County of Kings, State of New York, being the same as (or part of) that property conveyed to Bushwicked LLC by 88 Ingraham Realty Corp. by deed(s) dated January 28, 2005 and recorded on March 2, 2005 in the City Register of the City of New York in Instrument No. 2005020201743001, and being more particularly described in Schedule "A," attached to this declaration and made a part hereof, and hereinafter referred to as "the Property"; and

WHEREAS, the Department approved a remedy to eliminate or mitigate all significant threats to the environment presented by the contamination disposed at the Property and such remedy requires that the Property be subject to restrictive covenants.

NOW, THEREFORE, Bushwicked LLC, for itself and its successors and/or assigns, covenants that:

First, the Property subject to this Declaration of Covenants and Restrictions is as shown on a map attached to this declaration as Schedule "B" and made a part hereof.

Second, unless prior written approval by the Department or, if the Department shall no longer exist, any New York State agency or agencies subsequently created to protect the environment of the State and the health of the State's citizens, hereinafter referred to as "the Relevant Agency," is first obtained, where contamination remains at the Property subject to the provisions of the Site Management Plan ("SMP"), there shall be no construction, use or occupancy of the Property that results in the disturbance or excavation of the Property which threatens the integrity of the engineering controls or which results in unacceptable human exposure to contaminated soils. The SMP may be obtained from the New York State Department of Environmental Conservation, Division of Environmental Remediation, Site Control Section, 625 Broadway, Albany, NY 12233.

Third, the owner of the Property shall not disturb, remove, or otherwise interfere with the installation, use, operation, and maintenance of engineering controls required for the Remedy, which are described in the SMP, unless in each instance the owner first obtains a written waiver of such prohibition from the Department or Relevant Agency.

Fourth, the owner of the Property shall prohibit the Property from ever being used for purposes other than for 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) without the express written waiver of such prohibition by the Department or Relevant Agency.

Fifth, the use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Kings 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 approval to do so from the Department.

Sixth, the owner of the Property shall provide access to and cooperate with the responsible party to allow the responsible party to arrange for a periodic certification, prepared and submitted by a professional engineer or environmental professional acceptable to the Department or Relevant Agency, which will certify that the institutional and engineering controls put in place are unchanged from the previous certification, comply with the SMP, and have not been impaired.

Seventh, the owner of the Property shall continue in full force and effect any institutional and engineering controls required for the Remedy and maintain such controls, unless the owner first obtains permission to discontinue such controls from the Department or Relevant Agency, in compliance with the approved SMP, which is incorporated and made enforceable hereto, subject to modifications as approved by the Department or Relevant Agency.

Eighth, this Declaration is and shall be deemed a covenant that shall run with the land and shall be binding upon all future owners of the Property, and shall provide that the owner and its successors and assigns consent to enforcement by the Department or Relevant Agency of the prohibitions and restrictions that the Voluntary Cleanup Agreement requires to be recorded, and hereby covenant not to contest the authority of the Department or Relevant Agency to seek enforcement.

Ninth, any deed of conveyance of the Property, or any portion thereof, shall recite, unless the Department or Relevant Agency has consented to the termination of such covenants and restrictions, that said conveyance is subject to this Declaration of Covenants and Restrictions.

IN WITNESS WHEREOF, the undersigned has executed this instrument the day written below.

BUSHWICK LLC.

By: _____

Print Name: Martin Zimmerman

Title: managing member Date: 11/16/2015

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss.:
COUNTY OF Kings)

On the 16th day of November, in the year 2015, before me, the undersigned, personally appeared Martin Zimmerman, personally know 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.

SEAL

CELIA M MUENTES
NOTARY PUBLIC-STATE OF NEW YORK
No. 01MU6327733
Qualified In New York County
My Commission Expires July 13, 2019

Notary Public, State of New York

SCHEDULE "A"

All that certain plot, piece or parcel of land, situate, lying and being in the Borough of Brooklyn, County of Kings, City and State of New York, bounded and describe as follows:

BEGINNING at a point on the southerly side of Ingraham Street distant 300 feet westerly from the southwesterly corner of Ingraham Street and Porter Avenue;

RUNNING THENCE southerly parallel with Porter Avenue 100 feet;

THENCE westerly parallel with Ingraham Street 75 feet;

THENCE northerly parallel with Porter Avenue 100 feet to the Southerly side of Ingraham Street; and

THENCE easterly along the southerly side of Ingraham Street 75 feet to the point or place of BEGINNING.

INGRAHAM STREET

STEEL FACE CURB

CONCRETE SIDEWALK

POINT OF BEGINNING
STEP 1.0'N

ON LINE 75.00' ON LINE

300.00'

(PARALLEL WITH PORTER AVENUE)
100.00'

INDEPENDENT WALLS ALONG LINE

1 STORY BRICK & CONC. BLOCK WITH CELLAR

2 STORY BRICK WITH CELLAR No. 88

(PARALLEL WITH PORTER AVENUE)
100.00'

INDEPENDENT WALLS ALONG LINE

1 STORY MASONRY WITH CELLAR

HIGH 1 STORY BRICK WITH CELLAR

5.0'N 5.0'N

YARD

(PARALLEL WITH INGRAHAM STREET)
75.00' VACANT LOT

RECEIVED
DEC - 8 2015
NYS DEC REGION 2
ENVIRONMENTAL REMEDIATION

NOTES:
1. THIS SURVEY IS INTENDED TO BE USED FOR TITLE PURPOSES ONLY AND IS SUBJECT TO WHATEVER A MORE COMPLETE TITLE SEARCH MAY REVEAL.
2. NO GUARANTEE IS IMPLIED BY THIS MAP AS TO THE EXISTENCE OR NONEXISTENCE OF ANY EASEMENTS OF RECORD THAT WOULD EFFECT SUBJECT PROPERTY, UNLESS SURVEYOR HAS BEEN FURNISHED WITH A COMPLETE COPY OF TITLE REPORT.
3. IT IS NOT TO SCALE AND USING IT TO LOCATE AND DESIGN NEW CONSTRUCTION MAY RESULT IN PROBLEMS FOR WHICH THIS SURVEYOR WILL NOT BE LIABLE.
4. PROPERTY CORNER MONUMENTS WERE NOT PLACED AS PART OF THIS SURVEY.
5. IT IS A VIOLATION OF THE STATE EDUCATION LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY.
6. ARCHITECTS MUST ORDER A TOPOGRAPHICAL MAP SPECIFYING THEIR EXACT NEEDS.

CERTIFIED TO:

MARTIN ZIMMERMAN AND MELANIE ZIMMERMAN
OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY
LEX TERRAE, LTD.

DATE SURVEYED: NOVEMBER 10th, 2004

GERALD T. O'BUCKLEY
PROFESSIONAL LAND SURVEYORS
172-49 HENLEY ROAD
JAMAICA, N.Y. 11432-2742
TELEPHONE (718)658-7634
FAX (718)658-0048

TAX MAP	FILED MAP
SECTION	SECTION
BLOCK 2998	BLOCK
LOT 19	LOT

BOROUGH OF BROOKLYN
COUNTY OF KINGS
STATE OF NEW YORK

TITLE NO. KIN-235342-L

GERALD T. O'BUCKLEY, P.L.S.
NEW YORK LICENSE 039834

APPENDIX E – BORING AND MONITORING WELL AND CONSTRUCTION LOGS

Tyree Bros. Environmental Services, Inc.
208 Route 109
Farmingdale, New York 11735

Location: Popular Hand Laundry 38 Ingraham St Brooklyn	Drill Rig: Geoprobe Drill Method: Geoprobe Driller: Zebra Logged By: Sample Type: Continuous Date: 12/15/05 Weather:	Bore Hole/Well Data Diam. (in.): 2 1/2 Screen Lgth. (ft): -- Depth (ft): 15 Screen Intvl. (ft): -- Casing Diam. (in.): -- Screen Type: -- Casing Lgth. (ft): -- Screen Slot: -- Boring # SB4 DTW (ft):

Depth Below Grade	P.I.D. Readings (ppm)	~~Recovery~~ ~~Blow~~ Counts	Field Description of Soil:	Driller's Remarks:
0	6		SC - dark brown loosely packed	*sample taken 0-4ft*
5	10		SC - dark brown/Gray tightly packed	*sample taken 4-8ft*
10	6		CL - dark brown tightly packed	*sample taken 8-12ft*
15				
20				
25				
30				
35				
40				
45				
50				

Tyree Bros. Environmental Services, Inc.
208 Route 109
Farmingdale, New York 11735

Location: Popular Hand Laundry 88 Ingraham St Brooklyn	Drill Rig: Geoprobe Drill Method: Geoprobe Driller: Zebra Logged By: Sample Type: Continuous Date: 12/15/05 Weather:	Bore Hole/Well Data Diam. (in.): 2½ Screen Lgth. (ft): -- Depth (ft): 15 Screen Intvl. (ft): -- Casing Diam. (in.): -- Screen Type: -- Casing Lgth. (ft): -- Screen Slot: -- Boring # SB5 DTW (ft):

Depth Below Grade	P.I.D. Readings (ppm)	Recovery ~~Blow Counts~~	Field Description of Soil:	Driller's Remarks:
0	9	18"	SH - dark brown loosely packed with clay	*Sample taken 0-4ft*
5	4	20"	OL - dark brown tightly packed	*Sample taken 4-8ft*
10	N/D	9"	OL - same as above	*sample taken 8-12ft*
15				
20				
25				
30				
35				
40				
45				
50				

The Tyree Organization
208 Route 109
Farmingdale, New York 11735

Client: Popular Hand Laundry **Location:** 88 Ingraham St Brooklyn	**Drill Rig:** Geoprobe **Drill Method:** Geoprobe **Driller:** Zebra **Logged By:** **Sample Type:** ~~Macro Core~~ Continuous **Date:** 12/15/05 **Weather:**	**Bore Hole/Well Data** Diam. (in.): 2 1/2 Screen Lgth. (ft): Depth (ft): 15 Screen Intvl. (ft): Casing Diam. (in.): Screen Type: Casing Lgth. (ft): Screen Slot: Bore/Well Number: ~~SB~~ B6 DTW (ft):

Depth Below Grade	P.I.D. Readings (ppm)	Recovery ~~Blow Counts~~	Field Description of Soil:	Drillers Remarks:
0	157	14"	SM - loosely packed dark brown / Gray coarse/medium grained	*sample taken 0-4ft*
5	205	18"	SC - tightly packed dark brown/Gray	*Sample taken @ 4-8ft*
10	232	15"	OL - dark Gray tightly packed	odor present *Sample taken 8-12ft*
15				
20				
25				
30				
35				
40				
45				
50				

Tyree Bros. Environmental Services, Inc.
208 Route 109
Farmingdale, New York 11735

Location: Popular Hand Laundry 88 Ingrahm st Brooklyn	Drill Rig: Geoprobe Drill Method: Driller: Zebra Logged By: Sample Type: Continuous Date: Weather:	**Bore Hole/Well Data** Diam. (in.): 2½ Screen Lgth. (ft): 25 Depth (ft): 30 Screen Intvl. (ft): -- Casing Diam. (in.): 1 -- Screen Type: PVC Casing Lgth. (ft): 30 Screen Slot: -- Boring # G1 DTW (ft):

Depth Below Grade	P.I.D. Readings (ppm)	Recovery ~~Blow Counts~~	Field Description of Soil:	Driller's Remarks:
0–5	5	11"	SM-dark brown coarse grained loosely packed (1ft concrete)	*soil sample taken 0-4ft*
5–10	8	23"	SM-trace clay dark brown loosely packed	*soil sample taken 4-8ft*
10–15	57	18"	SC-dark brown tightly packed	*soil sample taken 8-12ft*
15–20		[illegible]		*groundwater sample taken 14-15ft*
20–30			Well set at 30'	*groundwater sample taken 24-28ft*
30				
35				
40				
45				
50				

Tyree Bros. Environmental Services, Inc.
208 Route 109
Farmingdale, New York 11735

Location: Poplar Hard Laundry 35 Ingraham St Brooklyn	Drill Rig: Geosearch Drill Method: Driller: Zebra Logged By: Sample Type: Continuous Date: 12/14/13 Weather:	Bore Hole/Well Data Diam. (in.): 2 1/2 Screen Lgth. (ft): 35 -- Depth (ft): 40 Screen Intvl. (ft): -- Casing Diam. (in.): 1 -- Screen Type: PVC Casing Lgth. (ft): 40 Screen Slot: -- Boring # G2 DTW (ft):

Depth Below Grade	P.I.D. Readings (ppm)	Recovery ~~Blow Counts~~	Field Description of Soil:	Driller's Remarks:
0	2	18"	SM - dark brown loosely packed coarse grained	*Soil sample taken 0-4ft*
5	3	20"	SC - dark brown tightly packed fine grained	*Soil sample taken 4-8ft*
10	N/D	16"	CL - light brown tightly packed fine grained	*Soil sample taken 8-12ft*
15				*groundwater sample taken 16-20ft*
20				
25				*groundwater sample taken 26-30ft*
30			well set to 40'	
35				*groundwater sample taken 36-40ft*
40				
45				
50				

Tyree Bros. Environmental Services, Inc.
208 Route 109
Farmingdale, New York 11735

Location: Popular Hand Laundry 88 Ingraham St. Brooklyn	Drill Rig: Geoprobe Drill Method: Geoprobe Driller: Zebra Logged By: Sample Type: Continuous Date: 12/15/05 Weather:	Bore Hole/Well Data Diam. (in.): 2 1/2 Screen Lgth. (ft): 35 Depth (ft): 40 38 Screen Intvl. (ft): -- Casing Diam. (in.): 1 -- Screen Type: PVC Casing Lgth. (ft): 40 -- Screen Slot: -- Boring # G3 DTW (ft):

Depth Below Grade	P.I.D. Readings (ppm)	~~Recovery Blow Counts~~	Field Description of Soil:	Driller's Remarks:
0	6	17"	SM - with clay dark brown loosely packed	*sample taken 0-4Ft*
5	7	23"	SC - tightly packed, dark brown	*sample taken 4-8Ft*
10	7	24"	CL - dark/medium brown tightly packed	*groundwater sample attempted no water obtained* (10-14Ft) *sample taken 8-12Ft*
15				*ground water sample taken 16-20Ft*
20				
25				* no groundwater obtained after 4 attempts *
30				
35				Hit refusal at 38' *no groundwater obtained at 36-38/40 Ft - all silt*
40				
45				
50				

AND BARTILUCCI

DRILLING CONTRACTOR	DRILLING LOG	BORING NUMBER GP-1 (soil)
Driller Chris Zebra	PROJECT NAME Popular Uniform	Sheet 1 of 1
Inspector Keith Rahins		Boring Location
Rig Type Geoprobe	PROJECT # 1447	
Drilling Method Remote Unit	Location/Address Brooklyn, New York 33 Ingraham Street	
Drive Hammer Weight		

GROUNDWATER OBSERVATIONS			
Water Level			
Time			
Date			
Casing Depth		-	

Weather Cloudy, cold 30°F

Date/Time Start 3/3/97

Date/Time Finish 3/3/97

Plot Plan

Sample Depth	Sample Number	SPT	PID/FID Reading	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
0-2	SS-1	-	2-3 ppm	(0-2') concrete 0-3"		
rec:	24"			Brown - Dark Brown fine - medium Sand, little silt, trace black color, some fine to medium gravel, dry - damp.		Fill material
				END OF Boring at 2 FT		

SPT = STANDARD PENETRATION TEST

Soil Stratigraphy Summary

AMO BARTILUCCI

DRILLING CONTRACTOR	DRILLING LOG	BORING NUMBER GP-2 (Soil)
Driller Zebra	PROJECT NAME Popular Uniform	Sheet 1 of 1
Inspector Keith Robiers		Boring Location
Rig Type Remote Unit	PROJECT # 1447	
Drilling Method Geoprobe	Location/Address 88 Ingraham Street Brooklyn New York	
Drive Hammer Weight —		

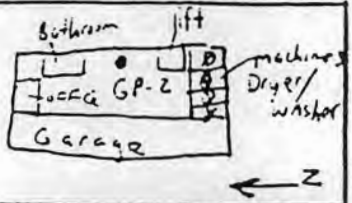
GROUNDWATER OBSERVATIONS			
Water Level			
Time			
Date			
Casing Depth		-	

Weather Light drizzle / snow 30°F

Date/Time Start 3/4/97

Date/Time Finish 3/4/97

Plot Plan



Sample Depth	Sample Number	SPT	PID/FID Reading	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
0-2	SS-1	-	2 ppm	(0-2') 0-2" concrete		
rec =	24"			(2"-24") Dark Brown sand, some gravel subangular, red brick fragments, little silt, concrete pieces, poorly sorted		Fill Material
				END OF Boring AT 2 Feet		

SPT = STANDARD PENETRATION TEST

Soil Stratigraphy Summary

AND
BARTILUCCI

DRILLING CONTRACTOR	DRILLING LOG	BORING NUMBER GP-3 (Sal)
Driller Zebra	PROJECT NAME Popular Uniform	Sheet 1 of 1
Inspector Keith Robins		Boring Location
Rig Type Remote Unit	PROJECT # 1447	
Drilling Method Geoprobe	Location/Address 88 INGRAHAM ST. Brooklyn, NY	
Drive Hammer Weight —		

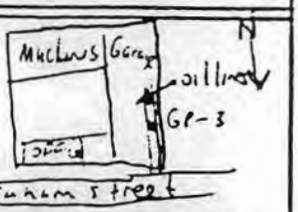
GROUNDWATER OBSERVATIONS			
Water Level			
Time			
Date			
Casing Depth		–	

Weather Cold, Cloudy 35°F

Date/Time Start 3/3/97

Date/Time Finish 3/3/97

Plot Plan



Sample Depth	Sample Number	SPT	PID/FID Reading	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
0-2	SS-1	–	7-5	(0-2') Dark Brown medium to course sands, trace amounts of fine gravel, very slight petrolevm odor. Soil has been backfilled around pipes. Due to replacing new pipes.		Collected between 2 underground oil pipes connected to boiler
rec=	24"					
				END of Boring AT 2FT		

SPT = STANDARD PENETRATION TEST

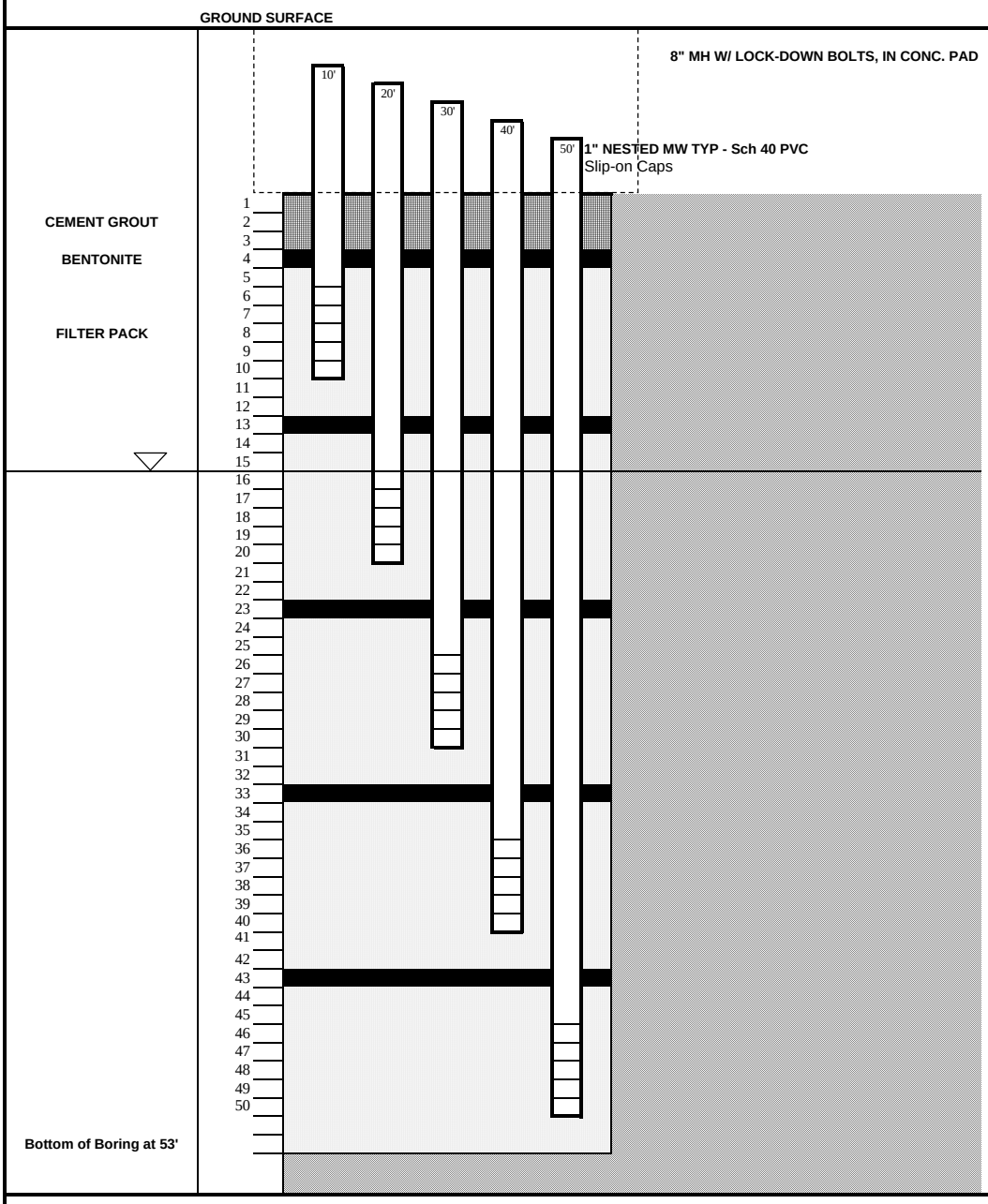
Soil Stratigraphy Summary

The Tyree Organization

PROPOSED NESTED WELL NW-2 DETAIL

Project Name & Location: **88 Ingraham Avenue, Brooklyn**	Project Number:	Date & Time: Date and Time Scheduled:	
Drilling Company: **Tyree Environmental Corp.**	Project Manager: **Robert Ott**	Sampler(s):	Sampler Hammer:
Drilling Equipment:	Method:	Elevation & Datum: **N/A**	Completion Depth: **50' - 53'**
Bit Size(s): **6.25"**	Core Barrel(s):	Special Instructions: **Each level except 10' to include dedicated 3/8" teflon sampling tube.**	

Description		Section	Notes



Screen | Concrete | Filter Pack | Bentonite Pellets | Native Soil

UNGER AND BARTOLUCCI

DRILLING CONTRACTOR	DRILLING LOG	BORING NUMBER
Driller: Zebra	PROJECT NAME: Popular Uniform	BORING NUMBER: S-1
Inspector: Keith Robins		Sheet: 1 of 1
Rig Type: Manual/Remote	PROJECT #: 1447	Boring Location:
Drilling Method: Manual soil probe	Location/Address: 38 Ingraham Street Brooklyn, NY	
Drive Hammer Weight: —		

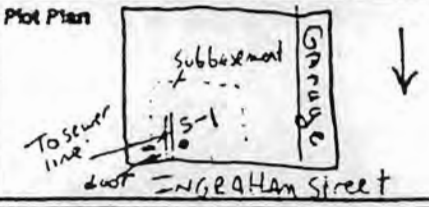
GROUNDWATER OBSERVATIONS			
Water Level			
Time			
Date			
Casing Depth		-	

Weather: Light drizzle / Snow

Date/Time Start: 3/4/97

Date/Time Finish: 3/4/97

Plot Plan



Sample Depth	Sample Number	SPT	PID/FID Reading	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
0-2	SS-1	—	2 ppm	(0-2) Brown sand coarse-medium, silt, cobbles, gravel, concrete.		Fill material
rec=	24"					
2-4	SS-2	—	2 ppm	(2-4) Brown cobbles, sand, gravel little silt		Fill material
rec=	24"					Glacial (Till)
4-6	SS-3	—	3-5 ppm	(4-6) Brown silt, little gray brown clay - moist		↓ (Lab sample)
rec=	24"					possible organics
6-8	SS-4	—	15-20 ppm	(6-8) Dark Brown-Gray silt some clay, black staining at (6-7)		wet at 10'
rec=	24"					
8-10	SS-5	—	1.5 ppm	(8-10) Gray-Green silt, clay		Glacial (Till)
rec=	24"					
10-12	SS-6	—	2.0 ppm	(10-12) Orange Brown dense clay, some silt, interbedded with small subrounded gravel, medium size cobbles. - damp-moist		
rec=	24"					
				END OF BORING AT 12'		

SPT = STANDARD PENETRATION TEST

Soil Stratigraphy Summary

AHO BARTILUCCI

DRILLING LOG

DRILLING CONTRACTOR Driller: Zebra Inspector: Keith Robins Rig Type: Geoprobe Soil Sampler Drilling Method: Manual Geoprobe Drive Hammer Weight:	PROJECT NAME: Popular Uniform PROJECT #: 1447 Location/Address: 38 Ingraham Street, Brooklyn New York	BORING NUMBER: S-2 Sheet 1 of 1 Boring Location: AREA OF Storage boxes in middle of basement Floor.

GROUNDWATER OBSERVATIONS

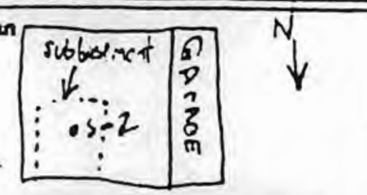
Water Level			
Time			
Date			
Casing Depth		–	

Weather: light drizzle / snow 30°F

Date/Time Start: 3/4/97

Date/Time Finish: 3/4/97

Plot Plan:



Sample Depth	Sample Number	SPT	PID/FID Reading	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
0-2	SS-1	–	0-1 ppm	(0-2') Brown - DK Brown sand course - medium qtz, silts, gravel. Some large cobbles. Trace amounts of Brown-Orange Sand. dry-damp moisture. poorly sorted.		Fill material Concrete (0-2")
rec =	24"		"			
				END OF BORING AT 2.0 Feet		

SPT = STANDARD PENETRATION TEST

Soil Stratigraphy Summary

APPENDIX F – HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN

Former Popular Hand Laundry
88 Ingraham Street
Brooklyn, New York

Prepared by:

EnviroTrac Ltd.
Corporate Health and Safety
Burlington, NJ

9/12/2016

TABLE OF CONTENTS

LIST OF APPENDICES

1.0 INTRODUCTION

William Eisen has retained EnviroTrac Ltd. (ET) to perform environmental services at the active spill sites listed in Appendix A and will be referred to hereafter as “the site”. This Health and Safety Plan (HASP) is written to summarize the health and safety hazards and procedures to help protect field personnel and the surrounding community. This plan was designed to reduce the potential for occupational illness or injury while performing general tasks at active and former dry cleaning facilities. This plan meets or exceeds the requirements of Occupational Safety and Health Administration (OSHA), 29 CFR 1910.120, for a site-specific health and safety plan and follows EnviroTrac’s Health and Safety Program.

The purpose of the HASP is to inform ET employees of the health and safety risks present at the facilities, and the proper methods of protecting themselves from those risks. Each worker must be fully aware of the risks associated with the work to be accomplished, and be dedicated to completing that work safely. Accordingly, project staff and approved ET subcontractors must follow the policies and procedures established in this HASP. All personnel assigned to or visitors to the worksite must sign the HASP Acknowledgment Agreement (Appendix B) to attest that he/she understands and agrees to abide by the provisions of this HASP. Anyone who cannot, or will not comply with this HASP will be excluded from on-site activities. Violations of this HASP, or any applicable federal, state, or local health and safety regulations are to be reported immediately to the Designated Health and Safety Officer or to ET’s Director of Health & Safety (DHS). This HASP will be reviewed by all site workers prior to conducting work at the site and will be readily available on site for reference, as necessary.

2.0 OBJECTIVES

The objective of this HASP is to protect on-site worker health and safety during field activities at each site as well as the welfare of the public, and the environment. The health and safety procedures in this plan have been established based on analysis of potential hazards on the site and the activities/tasks associated with the work in order to alleviate the risks associated with the work to be performed. These procedures been designed to meet the following objectives:

1. Provide for the identification, recognition, evaluation, and control of health, safety, and environmental hazards;
2. Develop site specific procedures so personnel are not exposed to avoidable risks, accidents, or injuries in the performance of their duties;
3. Establish site specific monitoring and personal protection requirements to address exposure issues from potentially hazardous substances; and
4. Identify the roles and responsibilities of on-site and support personnel for the project.

3.0 SITE CHARACTERIZATION

ET performs services under the provisions of the contract at active and former dry cleaners, the physical address of the site is provided in Appendix A.

4.0 WORK DESCRIPTION

ET performs the following activities at the facilities for the Former Popular Hand Laundry under the provisions of the contract at any given site:

Installation, Operations and Maintenance, and dismantling of remediation systems, including the Sub-slab depressurization systems.

5.0 PERSONNEL RESPONSIBILITIES

Responsibilities of Personal		
Position	**Job Description**	**Interactions**
Project Manager	Responsible for technical and administrative performance of the project. Supports Site Supervisor and is available to him/her at all times. Will visit the site periodically, or as necessary. Reports progress of project on a regular basis. Assigns key personnel, and identifies requests, secures, and monitors use of resources for project. Approves program expenditures and invoices.	Reports directly to President. Works closely with Site Supervisor.
Site Supervisor	Acts as point of contact for client and client's representative(s). Supervises all on-site personnel and subcontractors. Coordinates daily site-specific work efforts, and ensures all activities are in strict compliance with site-specific health and safety plan. Has authority to suspend all work that possesses any health and safety risk. Briefs subordinate technical personnel on task requirements. Identifies and resolves technical problems. Provides periodic review of project progress.	Reports directly to Project Manager.
Site Designated Health & Safety Officer (SHSO)	Assures compliance with HASP. Instructs site personnel in health and safety procedures through daily pre-work meetings. Performs any monitoring activities as required. Has authority to discontinue site operations if safety violations exist.	Reports directly to Project Manager. Works closely with Director, Health & Safety, and Site Supervisor.
Director, Health & Safety (DHS)	Develops, implements, and enforces the on-site safety program. Oversees all health and safety aspects of project, conducts periodic audits to ensure compliance. Available at all times to discuss project progress and health and safety related issues.	Reports directly to ET President. Works closely with Project Manager, Site Supervisor, and SHSO.

All site personnel and contract workers will have received the appropriate level of training necessary to perform applicable duties and comply with 29 CFR 1910.120 (aka: HazWOPER). For this project, training requirements are listed in SECTION 7 – PERSONNEL TRAINING of this HASP.

5.1 *Environmental Hazard Evaluation*

Potential routes that workers could be exposed include: inhalation, ingestion, dermal contact, and injection. The following control measures will be used alleviate exposure by routes of entry:

Control of Potential Exposure by Route of Entry	
Route of Entry	**Control of Potential Exposure**
INHALATION	Tasks associated with this project should not reasonably have a risk of exposure to inhalation hazards at or near published exposure limits and therefore, respiratory protection is not required during any task associated with this work. No air monitoring, personnel monitoring, or environmental monitoring is required for tasks associate with this work unless there is a change in scope of work or environmental conditions. If such change happens, the SHSO will stop work and the new conditions will be evaluated for potential inhalation hazards. Work will not proceed until the new conditions are assessed and workers health is addressed.
INGESTION	Tasks associated with this project have a risk of exposure to chemicals or hazardous substances that pose mild to moderate toxicity if ingested. To control exposure, the following precautions will be followed by all site workers and visitors: • Follow good hygiene practices - wash hands, face, and exposed skin with soap and water after work and prior to eating, drinking, smoking, or applying cosmetics or immediately after contact with chemicals or hazardous substances. Do not touch mouth, nose, or eyes with unwashed hands or with soiled gloves. • Chemical-resistant gloves (e.g., nitrile gloves) are to be worn during hands-on inspections, removing liquid or cleaning, handling chemicals or hazardous substances, or during other tasks that involve direct contact with chemicals or hazardous substances.
DERMAL CONTACT	Tasks associated with this project have a risk of exposure to chemicals or hazardous substances that pose mild to moderate toxicity through dermal contact, including contact with eyes. To control exposure, the following precautions will be followed by all site workers and visitors: • Follow good hygiene practices - wash hands, face, and exposed skin with soap and water after work and prior to eating, drinking, smoking, or applying cosmetics or immediately after contact with chemicals or hazardous substances. Do not touch mouth, nose, or eyes with unwashed hands or with soiled gloves. • Chemical-resistant gloves (i.e., nitrile gloves) are to be worn during hands-on inspections, removing liquid or cleaning, handling chemicals or hazardous substances, or during other tasks that could result in direct contact with chemicals or hazardous substances. • Safety glasses with side shields that comply with ANSI Z87.1 + requirements for high impact are to be worn at all times in the work zone. • Safety shoes/boots that comply with ANSI Z41 are to be worn when there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole. Otherwise, sturdy, enclosed work shoes are to be worn while performing tasks in the work zone. • Long pants are required to be worn at all times in the work zone. Sleeved shirts are to be worn if hazards at the work zone warrant the protection offered by long sleeves.
INJECTION	Tasks associated with this project have a risk of exposure to chemicals, hazardous substances, and biological hazards that pose mild to extreme toxicity through injection. Injection is the puncturing or abrasion of the skin allowing toxins to enter the body. To control exposure, the following precautions will be followed by all site workers and visitors:

	• Abrasive-resistant or cut-resistant gloves (i.e., leather, Kevlar, Mechanix, etc.) are to be worn while working with tools or manipulating objects that can cause cuts or abrasions to the hands. • Safety glasses with side shields that comply with ANSI Z87.1 + requirements for high impact are to be worn at all times in the work zone. • Long pants are required to be worn at all times in the work zone. Sleeved shirts are to be worn if hazards at the work zone warrant the protection offered by long sleeves. • Safety shoes/boots that comply with ANSI Z41 are to be worn when there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole. Otherwise, sturdy, enclosed work shoes are to be worn while performing tasks in the work zone. • Be aware of biting/stinging/poisonous insects, poisonous or thorny plants, and any animal in the work zone and take precautions to avoid contact or exposure with these hazards.

5.2 *General Hazard Evaluation*

A Job Safety Analysis (JSA) has been prepared for the tasks associated with work to be performed at the various worksites. The JSA covers the *Procedural Step/Activity*, the associated *Hazard*, and the *Contingencies/Control Measures* for each hazard. The JSAs are located in Appendix C and are required to be reviewed by ET employees and subcontractors, or visitors to the work zone during the Daily Tailgate Safety Meeting and documented on the Daily Tailgate Safety Meeting Log prior to conducting the work for the first time, monthly, or when the employee(s) has not performed the work on an on-going basis.

5.3 *Risk Characterization*

Precautions must be taken to prevent injuries and exposures to the following potential hazards. Refer to the table below for details.

Potential Hazards and Control	
Hazard	Action and Control
Exposure to Solvents (Refer to SDS Appendix G)	• Stand up-wind of solvents whenever possible. • Minimize contact time with solvents. • Avoid walking through discolored surface areas, puddles, leaning on drums, or contacting anything that is likely to be contaminated. • Do not eat, drink, smoke, and/or apply cosmetics or lip balm on-site. • Wear chemical resistant gloves when in contact with contaminated surfaces. • Safety glasses must be worn at all times when on site. • > A 200-ppm organic vapor in the breathing zone requires upgrade to Level C PPE, including respiratory protection. • > 750-ppm organic vapors, work will cease until levels subside or engineering controls are implemented. Contact SHSO for instructions. • If unknown materials are encountered. Contact SHSO for instructions.

Traffic	• Wear high-visibility apparel (i.e., safety vest) when vehicular hazards exists. • Use appropriate traffic control devices to define work zone. • Use vehicle to block work zone from on-coming traffic, when practical. • PPE for work zones: hardhat, safety glasses, safety vest, long pants, & safety boots.
Vault Entry **(Confined Space trained personnel only)**	• Permit Required Confined Spaces are to have signs stating such. • Only certified confined space entry personnel may enter vault. In addition, vault entry is only allowed with PM and SHSO approve. • Follow EnviroTrac's Confined Space Entry procedures. • Obtain confined space permit prior to entering any permit-required confined space. • Remove vault cover using proper lifting techniques. • Promote natural ventilation by opening the space to fresh air, or provide blower. • Conduct remote air monitoring prior to entry. • A Confined Space Attendant is required to remain at the opening of the confined space while the Entrant is inside.
Inclement Weather	• Review to local forecasts to prepare for work, update local forecast and weather advisories. • In the event of inclement weather, use 30/30 rule in the event of lightning/thunder • Take cover, indoors or in vehicle, not under trees or awnings. • Be aware of cold stress and heat stress and effects of precipitation.
Noise	• Wear hearing protective equipment (plugs or muffs) when drilling, saw cutting, jack hammering, hammering, sawing or during any activity with extreme noise. • Wear hearing protection anytime noise levels require you to raise your voice above normal conversation levels.
Fire Control	• Do not smoke or use open flames on-site. • Keep flammable liquids in closed containers and away from any possible source of ignition (electric service boxes, remediation enclosures, vehicle exhausts). • Keep site clean of debris. • Ensure fire extinguishers are fully charged and inspected and available. • Follow *Hot Works* procedures when using primary or secondary source ignition equipment.
Poisonous Plants (Poison ivy, oak, sumac)	• Avoid areas infested with poisonous plants. • Immediately wash affected areas if exposed with Ivy Wash or cold water and soap.
Ladders	• Make sure ladders are in good working order, inspect for cracks or corrosion. • Use ladders with secure safety feet. • Use 3-points of contact when going up or down a ladder. • Pitch ladders at a 4:1 Ratio. Use buddy system. • Secure ladders whenever possible. • Use non-conductive ladders near electrical wires. • Stay within working limits of ladder, at least 3-rungs from top and do not reach further than the center of the breast bone beyond the side rail.

6.0 SITE CONTROL

6.1 *Spill Containment and Control Procedures*

ET's work at active and former dry cleaner sites does not include the bulk storage of materials. Spills will be limited to consumer quantities of hazardous substances and fluids from motor vehicles. Spills on-site will be addressed by trained personnel using proper absorbent materials and disposed of according to regulations.

Follow the requirements listed for emergency response in the EnviroTrac Health & Safety Manual, section 6 – *Emergency Response Outside EnviroTrac Regional Offices.*

6.2 ***Fire Prevention***

1. Smoking is prohibited on site and in EnviroTrac vehicles.
2. In the event of fire, 1) notify all site occupants of fire and to evacuate area, 2) gather at established primary or secondary muster point, and 3) contact emergency services.
3. At least one (1) ABC/BC rated fire extinguisher (minimum 10 lbs) will be available on site and is to be used according to manufacturer's specifications and guidelines. Only trained personnel are to use an extinguisher and only on incipient fires.
4. Follow ET's Practice for *Hot Works* procedures when using primary or secondary source ignition equipment. A PID will be used to detect flammable atmospheres. If flammable atmospheres are detected at or above 10% of the LEL, work will stop and all sources of ignition will be contained until the source can be determined and eliminated.
5. Keep flammable liquids in closed containers and away from any possible source of ignition (electric service boxes, remediation enclosures, vehicle exhausts).
6. Keep site clean of debris.

6.3 ***Control of Hazardous Energy***

Follow the requirements listed for the Control of Hazardous Energy, including procedures for Lockout/Tagout, in the EnviroTrac Health & Safety Manual, section 27 – *Control of Hazardous Energy*.

6.4 ***Underground Facility Identification***

Prior to conducting any ground disturbance activities, including exaction, drilling, boring, hand auguring, etc, every attempt to is to be made to locate underground facilities. Contact local safe dig organizations with sufficient time to mark out underground utilities, use a private mark out company to locate underground facilities on site, and review applicable site drawings and consult site personnel for possible underground facilities not marked.

Prior to any ground disturbance operation, locations are to be pre-cleared using soft dig techniques to a minimum depth of 5 feet and at least 110% of the width of the augers/rods.

6.5 ***Emergency Notification***

In the event of a personal injury, motor vehicle accident, or other incident, the SHSO will follow EnviroTrac's Personal Injury Accident Procedures and/or Motor Vehicle Accident Procedures listed in Appendix E. Contact and emergency numbers are also located in Appendix E.

Directions to the nearest Hospital or medical facility will be located in Appendix H, the last appendix of the HASP, and is to include emergency contact information and phone numbers.

6.6 ***Traffic Control and Work Zone Protection***

Employees exposed to vehicular traffic on or near public roads will wear high-visibility attire. Traffic at the work zone is to be controlled using proper Work Zone Protection according to the requirements of the Manual on Uniform Traffic Control Devices (MUTCD) and ET Work Zone Protection Practice.

6.7 ***Site Illumination***

Work will be performed during normal working hours using natural lighting. If it is necessary to conduct work

outside normal working hours, artificial lighting will be set up in the work area to provide sufficient illumination. Flash lights are to be used for illumination as needed. Workers are not to perform tasks in the dark or insufficient lighting.

6.8 *Noise Control*

Follow the requirements listed for the noise control and hearing protection in the EnviroTrac Health & Safety Manual, section 20 – *Hearing Protection Program*.

6.9 *Assured Electrical Grounding*

All electrical equipment will use Ground Fault Circuit Interrupters (GFI/GFCI) for all connections to power. Electrical cords are to be inspected prior to use and not used if the insulation has been compromised or if wires are exposed, if the cord has been kinked, or if the grounding plug is missing.

6.10 *Lightning Safety Plan*

- Establish a location during Daily Tailgate Safety meeting where people will go in the event lightning or thunder storms are predicted or possible (hot and humid days).
- Use the 30/30 rule – suspend activities when "flash to bang" (lightning to thunder) is within 30 seconds (5 secs/mile) and resume work 30 minutes after the last strike.
- Follow the plan without exception.

6.11 *General Work Rules*

Prior to the start of work on-site (daily or by shift for multiple shifts), a Daily Tailgate Safety Meeting will be conducted by the Site Supervisor and/or the Site Safety and Health Officer (SSHO). The meeting will:

1. Establish schedule for work to be performed for that day/shift.
2. Designate worker responsibilities, allocated equipment, supplies, and materials.
3. Review hazards associated with each task to be performed and the controls to mitigate the hazards. Use hierarchy or controls: *Eliminate the Hazard, Control the Hazard, Protect Against the Hazard*. Review the requirement and responsibility to Stop Work.
4. Review the applicable requirements of this HASP.
5. Establish emergency procedures including: muster points, location of fire extinguisher, location of first aid supplies, site communication.
6. Document the meeting on the Daily Tailgate Safety Meeting Log – Appendix D.

To protect against the occurrence of accidents and dangerous situations, as well as to minimize the potential for emergency events, all on-site personnel shall:

1. Read and sign this HASP prior to beginning of all on-site activities. The HASP will be reviewed periodically by all personnel conducting field activities and by all visitors to the work zone.
2. Conduct field work only be during daylight hours unless supplemental lighting is provided.
3. Not eat, drink, or apply cosmetics/lip balm in the work zone
4. Do not smoke on site or in EnviroTrac vehicles.
5. Be knowledgeable in the use and location of first-aid equipment, including eye-wash provisions.
6. Maintain sufficient quantities of absorbent/spill collection materials to address a spill or release that may occur during work.

To minimize the possibility of injuries, the following general precautions will be taken:

1. All hand and power tools will be inspected prior to use and maintained in a safe condition.
2. Safety guards will be kept in place during use.
3. Power tools will be double-insulated and all electric cords will be properly grounded and equipped with GFI protective circuitry.
4. Walkways will be kept clear of equipment, supplies, excavated material, or other obstructions.
5. Employees will observe proper lifting techniques, and obey sensible lifting limits, and get assistance when required.
6. Employees exposed to vehicular traffic on or near public roads will wear high-visibility attire. Traffic at the work zone is to be controlled using proper Work Zone Protection according to the requirements of the Manual on Uniform Traffic Control Devices (MUTCD) and ET Work Zone Protection Practice.
7. Hard hats are to be worn, if required by the location or activity per ET's Hardhat Policy.
8. Safety glasses (ANSI Z-87 + certified) with side shields are to be worn at all times while on-site.
9. Proper work gloves will be provided and used, as required. Abrasion resistant gloves (i.e., leather or similar) and chemical resistant (i.e., nitrile) will be used as tasks require.
10. Safety boots (ANSI Z-41, ASTM F-2412, or ASTM F-2413 compliant) are to be worn, as required by the activity.

6.12 *Health and Safety Responsibilities*

All Project Personnel are responsible to:

1. Take all reasonable precautions to prevent injury to themselves, to their fellow employees, and to the public.
2. Implement the requirements of this HASP and report any deviations from the procedures listed or the conditions described.
3. Perform only those tasks that they believe can be done safely and immediately report any accidents, unsafe conditions, or near misses according to EnviroTrac's On-The-Job Accident Procedures and submit the completed EnviroTrac Incident Reporting Forms.
4. Stop Work whenever the risk associated with the work is not clearly understood, established, or controlled. Work will not commence until the conditions that caused the Stop Work intervention have been addressed, corrected, or resolved. Any and all workers on the site have the authority and responsibility to initiate a stop work intervention.

6.13 *Decontamination*

Follow the requirements listed for the decontamination of personnel and equipment in the EnviroTrac Health & Safety Manual, section 31 – *Decontamination.*

7.0 PERSONNEL TRAINING

Field team personnel associated with activities that have a potential for exposure to hazardous substances are required to participate in a health and safety training program that complies with the OSHA standard 29 CFR 1910.120 (aka: HazWOPER) and 1910.1200 (aka: HazCom). This program instructs employees on general health and safety principles and procedures, proper operation of monitoring instruments, and use of personnel protective equipment.

In addition, field team personnel must undergo site-specific training prior to the start-up of any given project or task. As activities change at a particular work site, related training must be provided as necessary. The site-specific training will address potential hazards and associated risks, site operating procedures, emergency response and site control methods to be employed. The following training is required to perform tasks at this site:

TRAINING REQUIREMENTS FOR SITE TASKS	
Task	**Training Required**
General site operations	• OSHA standard 29 CFR 1910.120 (aka: HazWOPER) • OSHA standard 29 CFR 1910.1200 (aka: HazCom) • American Petroleum Institute (API) WorkSafe training • First Aid/CPR (at least one (1) worker on-site must be certified in First Aid/CPR) • Requirements of ET's Health and Safety Program and this HASP
Well gauging and GW sampling **Air monitoring**	• OTJ training on collecting and packing samples, preparing CoC, and other required paperwork
Oversite of drilling operations	• OTJ training of drilling operations, regulatory, and client requirements
Remediation technologies	• OTJ training on particular requirements on set-up, operation, maintenance, and dismantling of remediation systems.

7.1 *Personal Protective Equipment*

Based on available data, it is anticipated that all field activities will be performed at **Level D protection**. Personal protection at Level D will consist of the following based on task performed:

PERSONAL PROTECTIVE EQUIPMENT BY TASK	
Task	**PPE**
All site Tasks	• Hard hats are to be worn, if required by the location or activity per to ET's Hardhat Policy. • Safety glasses with side shields (ANSI Z-87 + certified) are to be worn at all times while on-site. • Proper work gloves will be provided and used, as required. Abrasion resistant gloves (i.e., leather or similar) and chemical resistant (i.e., nitrile) will be used as tasks require. • Safety boots (ANSI Z-41, ASTM F-2412, or ASTM F-2413 compliant) are to be worn, as required by the activity. • Employees exposed to vehicular traffic on or near public roads will wear high-visibility attire including Class 2, Safety Vests. • Long pants and sleeved shirts will be worn while on site.

7.2 *First-Aid Supplies and Safety Equipment*

1. First-Aid supplies will be available to all personnel on site including an eyewash kit/station. All first aid supplies are to be periodically inspected for sufficient quantities and expiration date and restocked accordingly.
2. At least one (1) ABC/BC rated fire extinguisher (minimum 10 lbs) will be available on site and is to be used according to manufacturer's specifications and guidelines. Only trained personnel are to use an extinguisher and only on incipient fires.

7.3 *Heat Stress / Cold Stress Prevention*

Follow the requirements listed for heat stress and/or cold stress procedures, as climate conditions require, in the EnviroTrac Health & Safety Manual, section 25 – *Heat Stress / Cold Stress Policy*.

8.0 MEDICAL SURVEILLANCE

A medical surveillance program will be instituted for those employees who:

1. are or may be exposed to hazardous substances or health hazards at or above the established permissible exposure limit without regard to the use of respirators, for 30 days or more a year,
2. wear a respirator for 30 days or more a year or as required by 29 CFR 1910.134 (OSHA Respiratory Protection Standard),
3. are injured, become ill, or develop signs or symptoms due to possible overexposure involving hazardous substances or health hazards from an emergency response or hazardous waste operation, or
4. are members of HAZMAT teams.

Employees will be medially evaluated and qualified prior to being fit tested for a respirator or prior to being required to enter a confined space. Records will be retained according to legal requirements.

Employees exposed to noise thresholds equal or exceeding an 8-hour time-weighted average of 85 decibels will participate in an audiometric testing program.

All medical and monitoring records will be retained according to legal requirements and available to employees upon request to the Director of Health and Safety.

9.0 CONFINED SPACE ENTRY PROCEDURES

Follow the requirements listed for confined space entry in the EnviroTrac Health & Safety Manual, section 29 – *Confined Space Entry*.

APPENDIX A

List of Facilities

Former Popular Hand Laundry- 88 Ingraham Street, Brooklyn, NY

APPENDIX B

HASP AGREEMENT AND ACKNOWLEDGEMENT

Acknowledgement Agreement

HEALTH AND SAFETY PLAN REVIEW RECORD

I acknowledge that I have read and understood the contents of this Health and Safety Plan and Job Safety Analysis (JSA's) for the work and I agree to abide by all provisions as set forth.

If unidentified or new hazards not listed in this HASP or JSA's are indentified or if the scope of work changes, I will report these finding to the Site Safety Officer and work will stop and not re-start work until contingencies and/or control measures are in place to address the hazards.

NAME & SIGNATURE	CELL PHONE & DATE

Add additional sheets as necessary

APPENDIX C

JOB SAFETY ANALYSIS FOR TASK-BASED HAZARDS ON SITE

JOB SAFETY ANALYSIS

Task: _____

Date of Hazard Assessment: _____

Date of revision: _____

Person(s) conducting Hazard Assessment _____

Procedural Step / Activity List the tasks required to perform the activity in the sequence they are carried out.	**Hazard** Against each task list the hazards that could cause injury when the task is performed.	**Contingencies/Control Measures** List the control measures required to eliminate or minimize the risk of injury arising from the identified hazard.
Mobilization to and from site	Driving accidents	1) Verify vehicle operating condition against pre-trip check list. 2) Use defensive driving techniques (Smith System Driving Keys), avoid backing or back with caution, wear seatbelt. 3) Be aware of weather conditions and adjust driving accordingly. 4) Do not use cell phone or Nextel Direct Connect during driving, minimize other distractions, be aware of fatigue. 5) Ensure all tools, equipment, materials, supplies, containers, and personal effects are secure and stowed for transportation.
	Criminal Activity	1) Lock vehicle when unattended 2) Attempt to park vehicle in secure location
Loading/Unloading	Injuries while loading/off-loading equipment (office/site)	1) Use proper lifting techniques 2) Wear proper PPE (gloves, safety glasses, safety shoes/boots, etc.) 3) Be aware of ground and ensure sure footing 4) Look for potential slip/trip/fall hazards
	Hazardous Weather Conditions	1) Aware of potential slip/trip/fall hazards 2) Aware of high winds 3) Aware of possibility of lightning (if applicable institute Lightning Safety Plan)
	Poor Lighting Conditions	Use Supplemental Lighting
	Traffic	1) Wear High Visibility Apparel – safety vests, etc. 2) Park in area with lower traffic and use truck to block traffic from loading/unloading area, use flashers to alert traffic. 3) Use appropriate traffic control devises: cones, caution tape, barricades.
	Loads shifting around in Vehicle	Secure loads using straps or rope or in containers/toolbox, no bungee cords..
Biohazards (Be aware during <u>ALL</u> site tasks)	Animal Droppings	o not touch, sweep, or disturb w/o proper cleaning procedure and proper PPE.
	Mosquitoes, wasps, ticks, spiders (poisonous and biting), other biting insects	Use insect repellent on clothes, exposed skin, wear appropriate gloves, and if necessary, insect mesh netting designed to be used with a hard hat, and taped down to the shirt. If bitten, track progress of healing and seek medical attention, as appropriate.
	Poisonous Plants	Be aware of season and be able to recognize poisonous plants to avoid. Wearing long sleeves and long pants as appropriate. If contact,

Think before you act, remember - Safety First!!!

JOB SAFETY ANALYSIS

Task: _____

Procedural Step / Activity List the tasks required to perform the activity in the sequence they are carried out.	**Hazard** Against each task list the hazards that could cause injury when the task is performed.	**Contingencies/Control Measures** List the control measures required to eliminate or minimize the risk of injury arising from the identified hazard.
	Indigenous Animals	Be aware of environment and the wildlife found there, when walking though brush, be as loud as possible as a warning and to not startle any animals. Watch for: snakes, rodents, dogs/cats, bears, etc.
	Hypodermic Needles	Do not touch nor try to remove needles. Call supervisor for direction.
USE SPACE BELOW FOR ADDITIONAL SITE SPECIFIC RISKS AND CONDITIONS NOT COVERED ABOVE		

Add additional sheets, if necessary

Think before you act, remember - Safety First!!!

APPENDIX D

DAILY TAILGATE SAFETY MEETING LOG

Daily Tailgate Safety Meeting Log
(to be completed on site)

Site Name _____

Scope of Work _____

Weather _____

Safety Topics discussed _____

_____

_____

Employee Names:	Signatures

By signing, I acknowledge that I am knowledgeable of the scope of work being performed, the associated hazards, and will institute the controls or contingencies necessary to mitigate those hazards. Furthermore, I will stop work in the event there are new or unidentified hazards and will not commence until proper controls or contingencies are instituted to mitigate those hazards.

Signature of Site Safety Officer (or designee)_____ Date _____

Add additional sheets as necessary

APPENDIX E

INCIDENT REPORTING

- Personal Injury Accident Procedures
- Motor Vehicle Accident Procedures

Contact and emergency phone numbers for this project:

EnviroTrac Office	**800-586-1801//631-924-3001**
Tracy Wall – Project Manager (cell)	**631-905-4259**
Joe Byrnes- (cell)	**516-807-8976**
Local Fire Department	**911**
Local Police Department	**911**
Local Rescue Service (EMS)	**911**
National Response Center	**800-424-8802**
National Poison Control	**800-926-1253**
NYSDEC Emergency Spill Response	**1-800-457-7362**

INCIDENT AND NEAR MISS REPORTING FORM

1.Name of person(s) involved:	2. Title of person(s) involved:
3. Type: Personal Injury Motor Vehicle Accident Property Damage Stop Work Intervention Near Miss	
4. Date & Time of Incident: Date: _____ Time: _____ (indicate AM or PM)	5. Location (physical location and street address)
6. Client:	

7. Name of person completing form:		8.Title of person completing form:
9. ET reg office:	10. Contact phone number(s):	11. Witness name(s) & phone numbers:

12. Full Description of Incident: (if incident involves vehicle, provide identification information)

(Describe in detail: weather during the incident, physical attributes of the location, what was happening prior to the incident including procedures being followed, the actual incident, failure of equipment, results of the incident, description of vehicle or property involved, etc. Use additional sheets if necessary.)

INCIDENT AND NEAR MISS REPORTING FORM

1.Name of person(s) involved:	2. Title of person(s) involved:
3. Type: Personal Injury Motor Vehicle Accident Property Damage Stop Work Intervention Near Miss	
4. Date & Time of Incident: Date: _____ Time: _____ (indicate AM or PM)	5. Location (physical location and street address)
6. Client:	

13. List Personal Protective Equipment (PPE) used during the incident, if applicable:
14. Corrective Actions: (What should be done to prevent recurrence of this incident, i.e., employee training, modify procedures, different equipment, etc.?)
15. Miscellaneous information: (Provide any other information or recommendations which you feel are pertinent to this incident. Use this section to list any Police or government agency information, report numbers, contact information, etc.)

APPENDIX F

ENVIROTRAC'S INCIDENT REPORTING FORM

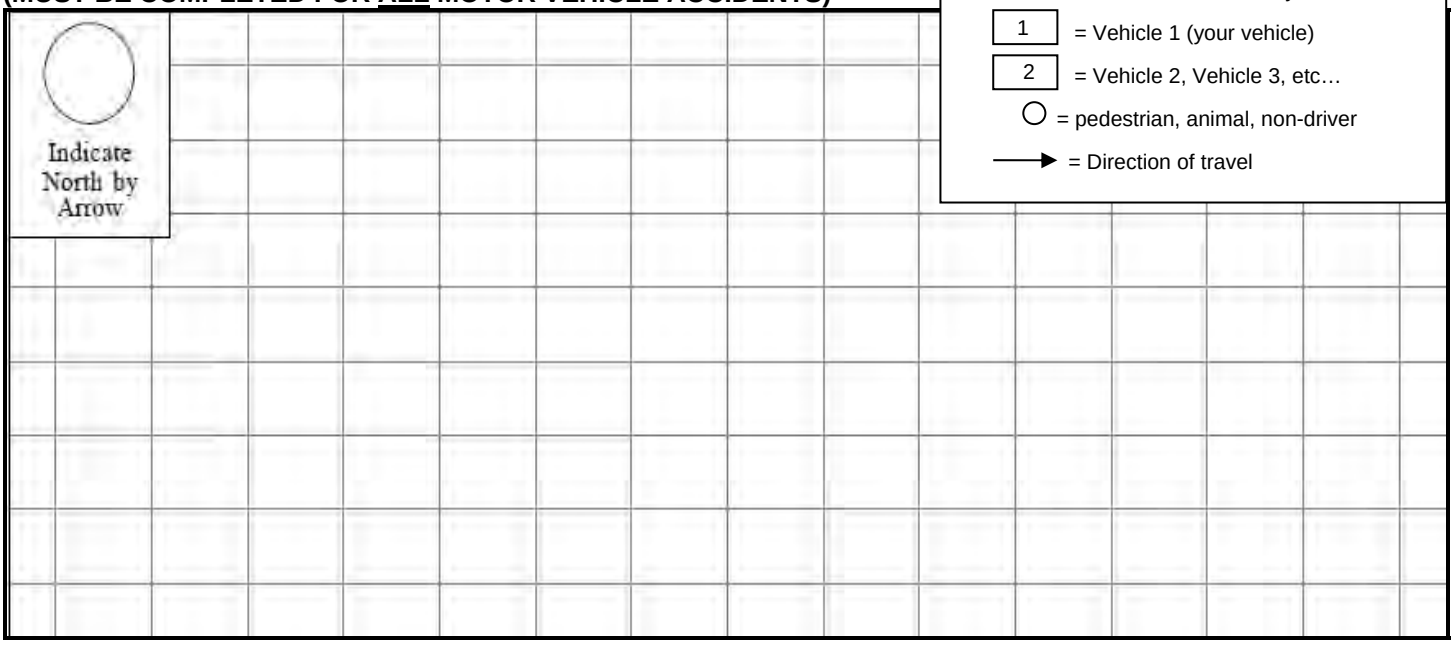
INCIDENT AND NEAR MISS REPORTING FORM

1.Name of person(s) involved:	2. Title of person(s) involved:
3. Type: Personal Injury Motor Vehicle Accident Property Damage Stop Work Intervention Near Miss	
4. Date & Time of Incident: Date: _____ Time: _____ (indicate AM or PM)	5. Location (physical location and street address)
6. Client:	

MOTOR VEHICLE INCIDENT DIAGRAM
(MUST BE COMPLETED FOR ALL MOTOR VEHICLE ACCIDENTS)

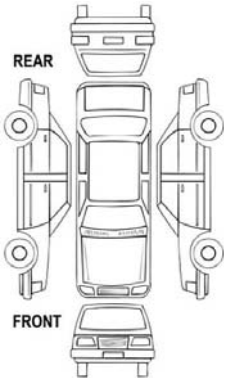
Draw a diagram of the roadway or streets where crash occurred, indicating vehicles involved and direction of travel. Use the follow symbols:

- 1 = Vehicle 1 (your vehicle)
- 2 = Vehicle 2, Vehicle 3, etc…
- ○ = pedestrian, animal, non-driver
- → = Direction of travel

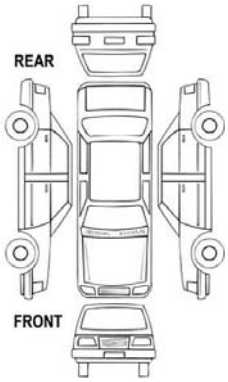


Indicate damage to vehicle(s):

Your Vehicle



Other Vehicle



INCIDENT AND NEAR MISS REPORTING FORM

1.Name of person(s) involved:	2. Title of person(s) involved:
3. Type: Personal Injury Motor Vehicle Accident Property Damage Stop Work Intervention Near Miss	
4. Date & Time of Incident: Date: _____ Time: _____ (indicate AM or PM)	5. Location (physical location and street address)
6. Client:	

MOTOR VEHICLE INCIDENT INFORMATION

Company Vehicle (vehicle 1):

Make / Model: _____

EnviroTrac Vehicle No.: _____

Other Vehicle (vehicle 2):

Make / Model /Yr _____

License Plate No: _____

Driver's Name: _____

Address: _____

Phone No: _____

Driver's License No. & ST: _____

Insurance Co / Policy No: _____

Other Vehicle (vehicle 3):

Make / Model /Yr _____

License Plate No: _____

Driver's Name: _____

Address: _____

Phone No: _____

Driver's License No. & ST: _____

Insurance Co / Policy No: _____

Include any other pertinent information:
(witness name & contact no., injured parties including medical treatment provided and where taken, Police Officer name and badge no., any else to assist in the investigation/claim)

APPENDIX G

Safety Data Sheets

No chemicals are going to be utilized at this site. Therefore, no Safety Data Sheets are included as part of this HASP.

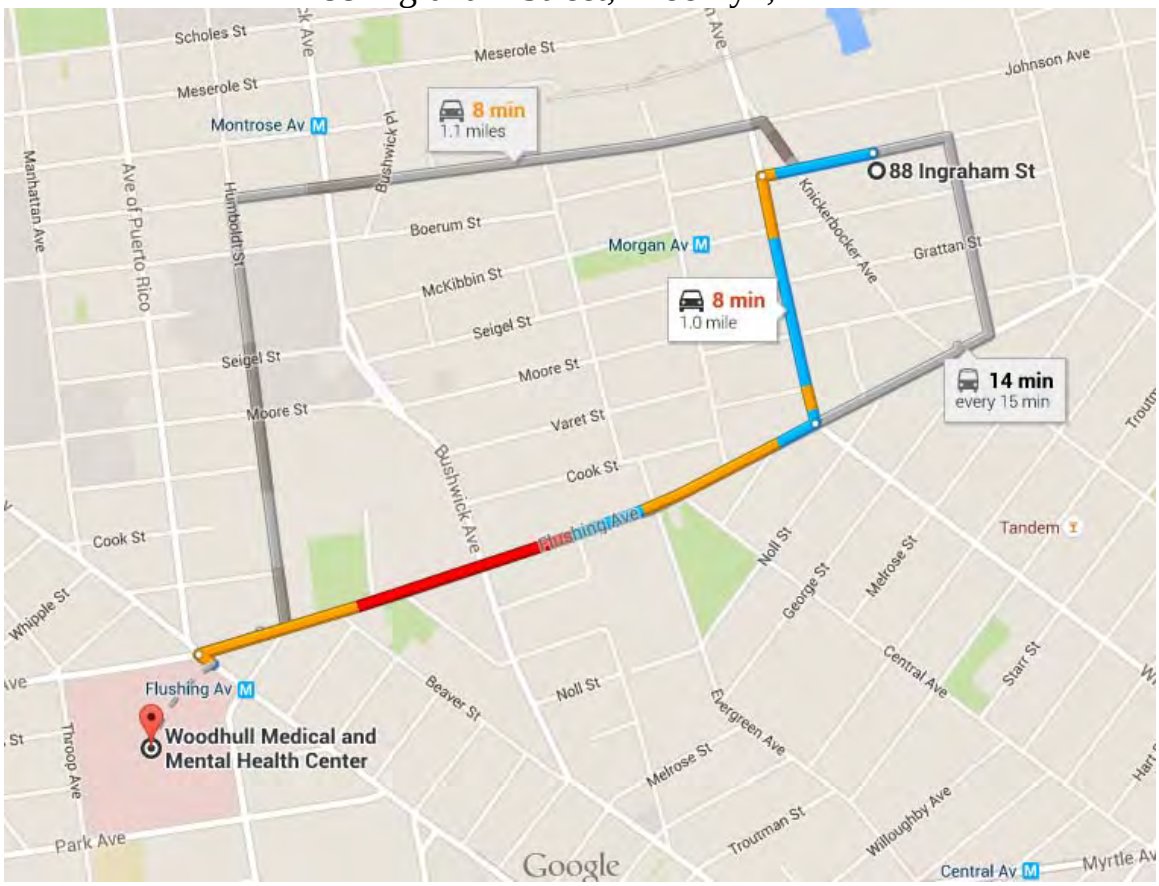
APPENDIX H

DIRECTIONS TO NEAREST HOSPITAL

Hospital Directions

Popular Hand Laundry

88 Ingraham Street, Brooklyn, NY



Hospital:
Woodhull Medical Center
760 Broadway
Brooklyn, New York 11206

Main Phone #: - (718) 963-8000
Emergency Room Phone #:

Distance: 1.0 miles
Estimated Time: 8 minutes

Directions:

1. Head **WEST** on Ingraham St toward Knickerbocker Ave
2. Turn LEFT at the 2nd cross street onto Morgan Ave
3. Turn RIGHT onto Flushing Ave
4. Turn LEFT onto Broadway
    a. Destination is on the right

APPENDIX G

SITE MANAGEMENT FORMS

Site Inspection Form

Popular Hand Laundry
88 Ingraham Street
Brooklyn, New York
NYSDEC VCP Number: V00170

Date: _____

Personnel: _____

Weather: _____

Reporting Period: _____

SSDS Well Integrity: _____

SSDS Piping Integrity: _____

Alarm Operation: _____

(Note if alarm is operating or needs replacement or repair)

Site Cover Condition: _____

(Note cracks, cuts, or holes in the cover)

Miscellaneous Site Conditions: _____

Site Inspection Form

Popular Hand Laundry
88 Ingraham Street
Brooklyn, New York
NYSDEC VCP Number: V00170

Date: _____

Personnel: _____

Weather: _____

Reporting Period: _____

SSDS Vacuum

Well ID	Vacuum ("H2O)	Acceptable	Repair Required?
SV-5			
SV-6			

(Note instrument used to measure flow rate)

Vacuum Monitoring Point Measurements *(Acceptable Measurement 0.02"H2O or greater)*

Well ID	Vacuum ("H2O)	Acceptable	Repair Required?
VP-1			
VP-3			
VP-5			
VP-6			
VP-7			

(Note instrument used to measure vacuum)

_____

_____

_____

_____

_____

_____

_____

EnviroTrac

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**

APPENDIX H

QUALITY ASSURANCE PROJECT PLAN

FORMER POPULAR HAND LAUNDRY
88 INGRAHAM STREET
BROOKLYN, NEW YORK
KINGS COUNTY, NEW YORK

Quality Assurance Project Plan

NYSDEC VCP Number: V00170

Prepared for:
88 Ingraham Realty Corp.
7700 Bella Verde Way
Deltray Beach, Florida 33446

Prepared by:
EnviroTrac Engineering PE PC
5 Old Dock Road, Yaphank, New York 11980
631-924-3001

APRIL 2017

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ATTACHMENTS

1.0 PURPOSE AND OBJECTIVES

1.1 Purpose

This Quality Assurance Project Plan (QAPP) has been prepared for site management plan (SMP) activities at the Former Popular Hand Laundry Site located at 88 Ingraham Street, Brooklyn, New York. The QAPP is intended to set Chemical Quality Assurance (CQA) guidelines of reliable data obtained by measurement activities, such that data generated are scientifically valid, defensible, comparable, and of known precision and accuracy.

This QAPP contains a detailed discussion of the chemical quality assurance protocols to be used by field and laboratory personnel, as well as project organization and responsibilities.

Analysis of media samples will be conducted by a laboratory certified in New York State to conduct work under the Environmental Laboratory Approval and Analytical Services Programs (ELAP/ASP) producing Category B deliverables.

This QAPP contains a detailed discussion of the quality assurance and quality control (QA/QC) protocols to be utilized by the consultant and laboratory personnel.

1.2 Definitions

The parameters that will be used to specify data quality objectives, and to evaluate the analytical system performance for all analytical samples are precision, accuracy, representativeness, completeness, and comparability (PARCC). Definitions of these and other key terms used in this QAPP are provided below

- ***Accuracy*** - the degree of agreement of a measurement with an accepted reference value. Accuracy is generally reported as a percent recovery, and calculated as: Accuracy = Measured Value/Accepted Value x 100

- ***Analyte*** - the chemical or property for which a sample is analyzed.
- ***Comparability*** - the expression of information in units and terms consistent with reporting conventions; the collection of data by equivalent means; or the generation of data by the same analytical method. Aqueous samples will be reported as ug/l.
- ***Completeness*** - the percentage of valid data obtained relative to that which would be expected under normal conditions. Data are judged valid if they meet the stated precision and accuracy goals.
- ***Duplicate*** - two separate samples taken from the same source by the same person at essentially the same time and under the same conditions that are placed into separate containers for independent analysis. Duplicate samples are intended to a s s e s s the effectiveness of equipment decontamination, the precision of sampling efforts, the impacts of ambient environmental conditions on sensitive analyses [e.g., volatile organics analysis (VOA)], and the potential for contaminants attributable to reagents or decontamination fluids. Identifying such potential sources of error is essential to the success of the sampling program and the validity of the environmental data. Each QC sample is described below. As a minimum, each set of ten or fewer field samples will include a trip blank, a duplicate, and one sample collected in a sufficient volume to allow the laboratory to perform a matrix spike.
- ***Field Blanks*** - field blanks (sometimes referred to as "equipment blanks" or "sampler blanks") are the final analyte-free water rinse from equipment decontamination in the field and are collected at least one during a sampling episode. If analytes pertinent to the project are found in the field blank, the results from the blanks will be used to qualify the levels of analytes in the samples. This qualification is made during data validation. The field blank is analyzed for the same analytes as the sample that has been collected with that equipment.

- ***Precision*** - a measure of the agreement among individual measurements of the sample property under prescribed similar conditions. Precision is generally reported as Relative Standard Deviation (RSD) or Relative Percent Difference (RPD).

  Relative standard deviation is used when three or more measurements are available and is calculated as:

  RSD = Standard Deviation/Arithmetic Mean x 100.

  Relative percent difference is used for duplicate measurements, calculated as:

  RPD = ((Value 1-Value 2)/Arithmetic Mean) x 100.

- ***Quality Assurance (QA)*** - all means taken in the field and inside the laboratory to make certain that all procedures and protocols use the same calibration and standardization procedures for reporting results; also, a program which integrates the quality planning, quality assessment, and quality improvements activities within an organization.
- ***Quality Control (QC)*** - all the means taken by an analyst to ensure that the total measurement system is calibrated correctly. It is achieved by using reference standards, duplicates, replicates, and sample spikes. In addition, the routine application of procedures designed to ensure that the data produced achieve known limits of precision and accuracy.
- ***Replicate*** - two aliquots taken from the same sample container and analyzed separately. Where replicates are impossible, as with volatile organics, duplicates must be taken.
- ***Representativeness*** - degree to which data represent a characteristic of a set of samples. The representativeness of the data is a function of the procedures and caution utilized in collecting and analyzing the samples. The representativeness can be documented by the relative percent difference between separately collected, but otherwise identical sample volumes.

- ***Trip Blanks*** - trip blanks are samples that originate from analyte-free water taken from the laboratory to the Site and returned to the laboratory with the volatile organic samples. One trip blank should accompany each cooler containing volatile organics; it will be stored at the laboratory with the samples, and analyzed with the sample set. Trip blanks are only analyzed for VOCs.

1.3 Data Quality Objectives

1.3.1 Overall Data Quality Objectives

Data Quality Objectives (DQO) are quantitative and qualitative statements specifying the quality of the environmental data necessary to support the decision-making process to guide the site characterization activities and any subsequent actions. DQO define the total uncertainty in the data that is acceptable for each specific activity conducted. This uncertainty includes both sampling error and analytical error. Ideally, the prospect of zero uncertainty is the objective; however, the very processes by which data are collected in the field and analyzed in the laboratory contribute to the uncertainty of the data. It is the overall objective to keep the total uncertainty to a minimal level such that it will not hinder the intended use of the data.

To achieve the project DQO, specific data quality parameters such as detection limits, criteria for accuracy and precision, sample representativeness, data comparability and data completeness must be specified. The overall objectives are established such that there is a high degree of confidence in the measurements.

The parameters that will be used to specify data quality objectives and to evaluate the analytical system performance for groundwater samples are PARCC: precision, accuracy, representativeness, completeness, and comparability.

1.3.2 Field Data Quality Objectives

To permit calculation of precision and accuracy for the samples, blind field duplicate, field blanks, trip blanks, and matrix spike/matrix spike duplicate (MS/MSD) samples will be collected, analyzed, and evaluated. Through the submission of field QC samples, the distinction can be made between laboratory problems, sampling technique considerations, sample matrix effects, and laboratory artifacts. To assure sample representativeness, all sample collection will be performed in strict accordance with the procedures set forth in this QAPP.

Precision will be calculated as RPD if there are only two analytical points and percent relative standard deviation (% RSD) if there are more than two analytical points. Blind field duplicate and MS/MSD sample analyses will provide the means to assess precision. The submission of field and trip blanks will provide a check with respect to accuracy and will monitor chemicals that may be introduced during sampling, preservation, handling, shipping, and/or the analytical process. In the event that the blanks are contaminated and/or poor precision is obtained, the associated data will be appropriately qualified.

Representativeness will be assured through the implementation of the SMP of which this QAPP is part. This plan has been designed so that the appropriate numbers of samples of groundwater at each location of interest are obtained for analysis.

Ideally, 100% completeness is the goal. However, it must be recognized that unforeseen issues may result in the generation of some data that may not be acceptable for use. Therefore, a completeness target of 90%, as determined by the total number of usable data points versus the total number of data points measured, will be the realistic goal of this program.

Comparability is defined as the extent to which data from one data set can be compared to similar data sets. Comparability between data sets is often questionable due to issues such as different analytical methods used or inter-laboratory differences. In order that the data generated as part of this project remain comparable to any previously generated data or data to be generated in the future, currently published analytical methods have been identified for the analysis of the collected samples. These methods will be performed by an analytical laboratory with a demonstrated proficiency in the analysis of similar samples by the referenced methods. In addition, samples will be collected using documented procedures to ensure consistency of effort and reproducibility if necessary.

1.3.3 Laboratory Data Quality Objectives

The analytical laboratory will demonstrate analytical precision and accuracy by the analysis of various QC samples (i.e., laboratory duplicates, spike samples, matrix spike duplicates, and laboratory control samples). Relevant precision and accuracy criteria for the analytical parameters related to the SMP are provided in Attachment 1 -Laboratory Reporting Limits and Standard QC Limits. Precision, as well as instrument stability, will also be demonstrated by comparison of calibration response factors from the initial calibration to that of the continuing calibrations. Laboratory accuracy will be evaluated by the addition of surrogate and matrix spike compounds, and will be presented as percent recovery (%R). Precision will be presented as RPD, % RSD, or percent difference (%D), whichever is appropriate for the number and type of QC samples analyzed. Lab blanks are also used to demonstrate accuracy of analyses and possible effects from laboratory artifact contamination.

2.0 QUALITY ASSURANCE/QUALITY CONTROL PROVISIONS

2.1 Equipment Decontamination

To minimize the possible occurrence of cross-contamination, dedicated disposable equipment will be used to collect samples at the Site whenever possible. All non-disposable sampling equipment will be cleaned before each use by washing with solutions in the following order:

1. Phosphate-free detergent wash;
2. Tap water rinse;
3. Air dry; and
4. Wrap in aluminum foil until use.

The tap water may be obtained from any municipal supply system. Sampling equipment will be decontaminated in an area covered by plastic near the sampling location. All spent liquids developed during the decontamination process will be collected for proper disposal in accordance with procedures provided in Section 3.0.

2.2 Field Calibration and Maintenance of Equipment

A maintenance, calibration, and operation program will be implemented to ensure that routine calibration and maintenance is performed on all field instruments. Team members are familiar with the field calibration, operation, and maintenance of the equipment, and will perform the prescribed field operating procedures outlined in the Operation and Field Manuals accompanying the respective instruments. They will keep records of all field instrument calibrations and field checks in the field log books.

If on-Site monitoring equipment should fail, the Project Manager will be contacted immediately. The Project Manager will either provide replacement equipment or have the malfunction repaired immediately.

Field equipment will be maintained through the use of a tracking system. Each piece of equipment will carry a tag which identifies the date of the most recent maintenance, and/or battery charge, and the condition. When equipment is damaged or in need of repair it will be immediately and appropriately flagged for the required maintenance to be performed. This process ensures that only operable and maintained equipment enters the field. Routine daily maintenance procedures conducted in the field will include:

- Removal of surface dirt and debris from exposed surfaces of the sampling equipment and measurement systems;
- Protection of equipment from adverse weather conditions;
- Daily inspections of sampling equipment and measurement systems for possible problems such as cracked or clogged lines or tubing or weak batteries;
- Daily checks of instrument calibration; and
- Charge battery packs for equipment that is not in use.

2.3 Sample Preparation, Transportation and Holding

Sample bottles will be labeled with the sample location, identification number, and date and time of sampling prior to being filled with sample. Once filled the sample containers will be immediately capped and placed into an iced cooler for transport to the laboratory to maintain a temperature of 4^0C.

Field Chain-of Custody records completed at the time of sample collection will accompany the samples inside the cooler for shipment to the laboratory. These record forms will be sealed in a plastic bag to protect them against moisture. Each cooler will be packed in a manner to prevent damage to sample containers. Temperature blanks will accompany the coolers from the laboratory to the Site and back to the laboratory. Sample coolers will be sealed with nylon strapping tape and the Field Team Leader (FTL) will sign and date a custody seal and place it on the cooler in such a way that any tampering during shipment will be detected.

All coolers will either be driven to or shipped by an overnight courier according to current US DOT regulations and as arranged by the Project Team. Upon receiving the samples, the Sample Custodian at the laboratory will inspect the condition of the samples, compare the information on the sample labels against the field Chain-of-Custody record, assign a laboratory control number, and log the control number into the computer sample inventory system. The Sample Custodian will then store the sample in a secure sample storage cooler maintained at 4°C and maintain custody until the sample is assigned to an analyst for analysis. Custody will be maintained until disposal of the analyzed samples.

The Sample Custodian at the laboratory will note any damaged sample vials, void space within the vials, or discrepancies between the sample label and information on the field Chain-of-Custody record when logging the sample. This information will also be communicated to the FTL or field personnel so proper action can be taken. The Chain-of-Custody form will be signed by both the relinquishing and receiving parties and the reason for transfer indicated each time the sample changes hands.

An internal Chain-of-Custody form will be used by the laboratory to document sample possession from laboratory Sample Custodian to Analysts and final disposition. All Chain-of-Custody information will be supplied with the data packages for inclusion in the document control file.

2.4 Record Keeping

One or more bound books will be maintained for the Site; each book will be consecutively numbered. All sample collection, handling and shipping information will be recorded in the field notebook. Accurate and detailed field notes will be maintained. Decontamination procedures will also be documented in the field notebook. The book(s) will remain with the Site evidence file. Copies will be made for the Project Manager and for the person who made the entries if requested. All entries in the Logbook will be made in ink. Logbook entries will include but not be limited to the following:

First Page:

- Site Name and number;
- Date and time started; and
- Personnel on Site.

Subsequent Pages:

- Detailed description of investigative activities including lithology, physical characteristics, sampling, on-Site meetings, and any problems encountered along with the duration of these activities;
- List of all samples obtained and sample appearance (referenced to field logs if necessary);
- List of personal protection used and documentation procedure; and
- All other pertinent daily activities.

Each New Event Will Contain:

- Date and time started;
- Weather;
- Personnel on-Site;
- Activity information; and
- Initials of note keeper.

*Note: When a mistake is made in the log, it will be crossed out with a single ink line and will be initialed and dated.

Special care will be taken in the description and documentation of sampling procedures. Sampling information to be documented in the field notebook and/or associated forms are as follows:

- Sample #;
- Date and time of sample collected;
- Source of sample;

- Location of sample - document with a Site sketch and/or written description of the sampling location so that accurate re-sampling can be conducted if necessary;
- Sampling equipment;
- Analysis and QA/QC required;
- Field instrument calibration including date of calibration, standards used; and their source, results of calibration and any corrective actions taken;
- Field data;
- Field observations - all significant observations will be documented;
- Sample condition;
- Site conditions;
- Sample shipping procedure, date, time, destination and if legal seals were attached to transport container(s); and
- Comments - Any observation or event that occurred that would be relevant to the site; for example: weather changes and effect on sampling, conversations with the client, public official or private citizen; and instrument calibration, equipment problems, and field changes.

2.5 Analytical Procedures

2.5.1 Aqueous Samples

Analysis of groundwater samples will be conducted by a laboratory certified in New York State to conduct work under the Environmental Laboratory Approval and Analytical Services Programs (ELAP/ASP). Groundwater samples will be analyzed for volatile organic compounds (VOCs), US Environmental Protection Agency (EPA) Method 8260, as specified in Attachment 1.

2.5.2 Laboratory Deliverables

Laboratory deliverables packages will follow the NYS ASP Category B format.

3.0 MANAGEMENT OF INVESTIGATION DERIVED WASTE

Investigation derived waste (IDW) generated during the implementation of the groundwater monitoring will include purge water generated during groundwater sampling activities.

The following procedures will be used to manage IDW.

3.1 Investigation Generated Water/Fluid Handling and Disposal.

All water/fluid resulting from well purging before sampling will be collected, handled, and discharged/disposed of pursuant to applicable guidance and regulations.

Water/fluid generated during the groundwater monitoring:

i. will be containerized upon production and will be subject to the following handling/disposal guidelines:
   (1) 6 NYCRR Part 364 will not apply to the transport of the containers from the point of generation to a temporary on-Site storage area;
   (2) the containers will be securely staged, pending appropriate disposal as set forth in subparagraph ii below; and
   (3) groundwater from several monitoring wells may be combined.

ii. may be stored on-Site in labeled containers in an area with secondary containment awaiting treatment and/or disposal, in accordance with applicable DEC waste management regulations (e.g., 6 NYCRR Parts 360, 364 and the 370 series) or other provisions approved by DER. The contents of the containers will be:

(1) properly treated or disposed of, when any of the following are observed:

(A) visual evidence of contamination, consisting of discoloration, sheens, or non-aqueous phase liquid (NAPL);

(B) olfactory evidence of contamination; or

(C) concentrations of contaminants above groundwater standards at levels of concern are known to be present in the monitoring wells, based on previous sampling of the groundwater; or

(2) if none of the conditions described in clause ii.(1) apply, the containerized water may be:

(A) recharged to unpaved ground into the same groundwater unit, within or directly adjacent to a source area in a manner which does not result in surface water runoff, with DER approval; and

(3) treatment of contaminated water/fluids will be at:

(A) a permitted off-Site facility;

iii. Sediment that settles out during monitoring well development or well purging, provided there is no NAPL present, will be handled and disposed in accordance with paragraphs 1 to 3 above, as appropriate for the location of the well.

4.0 QA/QC REQUIREMENTS FOR FIELD SAMPLES

In accordance with sampling and analysis requirements provided in DER-10, Chapter 2 Sampling, Analysis and Quality Assurance, testing for laboratory characterization of Site media will include provisions to serve as a check on the accuracy and integrity of results. This will entail the collection and analysis of various blanks, duplicates and spiked samples as described below.

Trip Blanks

The trip blank will be used to determine if any cross-contamination occurs between aqueous samples during shipment. The analytical laboratory will supply trip blanks as aliquots of distilled, deionized water that will be sealed in a sample bottle prior to initiation of each day of fieldwork. Glass vials (40 ml) with Teflon lined lids will be used for trip blanks. The sealed trip blank bottles will be placed in a cooler with the empty sample bottles and will be provided to the consultant by the laboratory personnel. Trip blanks are analyzed for VOCs as specified in Attachment 1.

Field Blanks

Field blanks will be collected to evaluate the cleanliness of aqueous sampling equipment, sample bottles, and the potential for cross-contamination of samples due to handling of equipment, sample bottles, and contaminants present in the air. Field blanks will be collected at a frequency of one per decontamination event for each type of sampling equipment.

Field blanks will be collected prior to the occurrence of any analytical field-sampling event by pouring deionized or potable water over a particular piece of sampling equipment and into a sample container. The analytical laboratory will provide field blank water and sample jars with preservatives for the collection of all field blanks. Glass jars will be used for organic blanks. The field blanks as well as the trip blanks will accompany field personnel to the sampling location. The field blanks will be analyzed for the same

analytes as the environmental samples being collected that day and will be shipped with the samples taken.

Field blanks will be taken in accordance with the procedure described below:

- Decontaminate sampler using the procedures specified in the QAPP;
- Pour distilled/deionized water over the sampling equipment and collect the water in the appropriate sample bottles;
- The sample will be immediately placed in a sample cooler and maintained at a temperature of 4°C until receipt by the laboratory; and
- Fill out sample log, labels, and COC forms, and record in field notebook.

Temperature Blanks

The temperature blank will be used to determine the temperature of the samples within the cooler upon arrival at the analytical laboratory. A laboratory-supplied temperature blank will be an aliquot of distilled, deionized water that will be sealed in a sample bottle. The sealed temperature blank bottles will be placed in a cooler with the empty sample bottles and will be delivered to the consultant by the laboratory personnel.

Blind Field Duplicate Samples

Blind field duplicate samples will be collected and analyzed to check laboratory reproducibility of analytical data. Blind field duplicate samples will be collected at a frequency of at least 5% (one out of every 20 samples) of the total number of samples collected to evaluate the precision and reproducibility of the analytical methods. All blind field duplicate samples will be submitted to the analytical laboratory as a normal sample, however will have a fictitious sample identification and fictitious time of sample collection. The blind field duplicate will be cross-referenced to document which actual sample it is a blind field duplicate of in the field notes and on the master sample log.

Matrix Spike/Matrix Spike Duplicate

Additional environmental sample volume will be collected for use as MS/MSD samples at a frequency of at least 5% (one out of every 20 samples) of the total number of samples collected per matrix to evaluate the precision and reproducibility of the analytical methods.

The field sampling quality assurance-sampling program are summarized in Table 4-1.

5.0 DATA MANAGEMENT AND REPORTING PLAN

5.1 Data Use and Management Objectives

Data Use Objectives

The typical data use objectives for this project are:

- Ascertaining if there is a threat to public health or the environment.

Data Management Objectives

The primary objective of proper data management is to ensure and document that all necessary work is conducted in accordance with the project goals and QAPP in an efficient and high quality manner thereby maximizing the confidence in the data in terms of precision, accuracy, representativeness, completeness, and comparability (PARCC). Data management procedures not only include field and laboratory documentation, but also include how the information is handled after the conclusion of field investigation and laboratory analyses area completed. - Data handling procedures include project file management, reporting, usability analysis and use of consistent formats for the presentation of the data.

Project File Specifications

The Project Manager will keep all project information in a central Project File maintained. The Project File will be assigned a unique project number that will be clearly displayed on all project file folders (including electronic files). Electronic files will be maintained in a similarly organized Project File. Both hard copy and electronic Project Files will contain, at a minimum copies or originals of the following key project information:

- All correspondence including letters, transmittals, telephone logs, memoranda, and emails;
- Meeting notes;
- Technical information such as analytical data; field survey results, field notes, field logbooks, and field management forms;
- Project calculations;
- Subcontractor agreements/contracts, and insurance certificates;
- Project-specific health and safety information/records;
- Access agreements;
- Project document output review/approval documentation; and
- Reports: Annual Groundwater Reports.

5.2 Reporting

Field Data

Field data will be recorded and reported by field personnel using appropriate field data documentation materials such as the field logbook, field management forms, and COC forms.

Good field management procedures include following proper chain of custody procedures to track a sample from collection through analysis, making regular and complete entries in the field logbook, and the consistent use and completion of field management forms. Proper completion of these forms and the field logbook are necessary to support the consequent actions that may result from the sample analysis. This documentation will support that the samples were collected and handled properly making the resultant data complete, comparable, and defensible.

5.2.1 Data Validation

Field data generated in accordance with the project-specific scope of work will primarily consist of data associated with groundwater sampling field parameters. This data will be assessed by review of the project documentation to check that the scope of work specified in this QAPP have been correctly implemented and that documentation exists for the specified field instrument calibrations. This documentation will be considered sufficient to provide that proper procedures have been followed during the field investigation.

DUSRs will be prepared to provide a thorough evaluation of analytical data with the primary objective to determine whether or not the data, as presented, meets the site/project specific criteria for data quality and data use. These reports will be prepared by a qualified party independent of the laboratory performing the analysis and independent from any direct involvement with the project for all samples when Category B data deliverables are provided. All of the laboratory testing that will be conducted during the implementation of the SMP will include Category B deliverables.

5.2.2 Electronic Deliverables

In accordance with DER-10 Section 1.15 electronic deliverables will be utilized to the greatest degree appropriate. The NYSDEC has implemented an Environmental Information Management System (EIMS). The EIMS uses the database software application EQuIS from EarthSoft® Inc. to manage environmental data. Pursuant to 6 NYCRR 375-1.11(a) all data submitted to the DER will be in the DEC-approved Electronic Data Deliverable (EDD) and new data will be submitted on a continuous basis immediately after data validation occurs but not to exceed 90 days after the data has been obtained.

5.3 Data Presentation Formats

Project data will be presented in consistent formats for all Groundwater Monitoring Reports. Specific formats will be tailored to best fit the needs of the data being presented but general specifications are described below.

Data Records

The data record will generally include one or more of the following:

- Unique sample or field measurement code;
- Sampling or field measurement location and sample or measurement type;
- Sampling or field measurement raw data;
- Laboratory analysis ID number;
- Property or component measured; and
- Result of analysis (e.g., concentration).

Tabular Displays

The following data will generally be presented in tabular displays:

- Unsorted (raw) data;
- Results for groundwater samples;
- Data reduction for statistical analysis; and
- Summary data.

6.0 PERFORMANCE AUDITS

6.1 Laboratory Audits

The NYSDOH ELAP CLP certified laboratories that have satisfactorily completed performance audits and performance evaluation samples will be used for all sample analysis. The results of the most recent performance audits and performance evaluations will be made available upon request. The consultant may perform a laboratory audit if warranted.

7.0 CORRECTIVE ACTIONS

The laboratory utilized for this project will meet the specifications for corrective action protocols typical for performing contract laboratory services. Laboratory corrective action may include instrumentation maintenance, methods modification, cross contamination/carry over issues, sample tracking practices, laboratory information management (LIMs), etc.

Prior to mobilization for the field investigation, a meeting may be scheduled by the consultant and the laboratory to discuss general corrective action approach and establish procedures to ensure good and timely communications among all parties during the investigation. New procedures will be put into effect as appropriate.

TABLES

Table 4-1
Analytical Methods/Quality Assurance Summary Table – Aqueous Samples
Former Popular Hand Laundry, 88 Ingraham Street, Brooklyn, NY

		Aqueous
Analytical Parameter		VOCs, chlorinated solvent list only
Number of Samples		3
Number of Duplicate Samples (1)		1
Number of Field Blanks (2)		1
Number of Trip Blanks (3)		1
Number of MS/MSD Pairs (4)		1
Analytical Method		SW-846 8260B
Sample Container		40 ml septum top, clear
Sample Preservation		Cool, 4°C, HCL to pH<2
Sample Holding Time		14 days

Note:
MS/MSD - Matrix Spike, Matrix Spike Duplicate.

EnviroTrac
Environmental Services

ATTACHMENT 1

Laboratory Reporting Limits & Standard QC Limits

EnviroTrac
Environmental Services

Matrix		Aqueous			
Analytical Group		VOCs			
Analytical Method		SW 846-8260C			
Analyte	CAS Number	Name of State/Territory/Tribal: Regulatory Standards/Criteria	Analytical Method Detection Limit	Laboratory Method Reporting Limit	Batch QC %RPD / %R
Methylene chloride	75-09-2	NYSDEC Division of Water TOGS 1.1.1: 5 ug/L	0.169	10	0 / 47-159
1,1-Dichloroethane	75-34-3	NYSDEC Division of Water TOGS 1.1.1: 5 ug/L	0.07	10	0 / 52-152
Chloroform	67-66-3	NYSDEC Division of Water TOGS 1.1.1: 7 ug/L	0.111	10	0 / 56-142
Carbon tetrachloride	56-23-5	NYSDEC Division of Water TOGS 1.1.1: 5 ug/L	0.467	10	0 / 19-134
1,2-Dichloropropane	78-87-5	NYSDEC Division of Water TOGS 1.1.1: 1 ug/L	0.095	10	0 / 40-152
Dibromochloromethane	124-48-1	NYSDEC Division of Water TOGS 1.1.1: 50 ug/L	0.174	10	0 / 50-133
1,1,2-Trichloroethane	79-00-5	NYSDEC Division of Water TOGS 1.1.1: 1 ug/L	0.104	10	0 / 62-138
Tetrachloroethene	127-18-4	NYSDEC Division of Water TOGS 1.1.1: 5 ug/L	0.384	10	0 / 46-124
Trichlorofluoromethane	75-69-4	NYSDEC Division of Water TOGS 1.1.1: 5 ug/L	0.141	10	0 / 10-144
1,2-Dichloroethane	107-06-2	NYSDEC Division of Water TOGS 1.1.1: 0.6 ug/L	0.087	10	0 / 48-133
1,1,1-Trichloroethane	71-55-6	NYSDEC Division of Water TOGS 1.1.1: 5 ug/L	0.06	10	0 / 24-129
Bromodichloromethane	75-27-4	NYSDEC Division of Water TOGS 1.1.1: 50 ug/L	0.063	10	0 / 55-138
trans-1,3-Dichloropropene	10061-02-6	NYSDEC Division of Water TOGS 1.1.1: 0.4 ug/L	0.144	10	0 / 61-126
cis-1,3-Dichloropropene	10061-01-5	NYSDEC Division of Water TOGS 1.1.1: 0.4 ug/L	0.105	10	0 / 66-126
1,1,2,2-Tetrachloroethane	79-34-5	NYSDEC Division of Water TOGS 1.1.1: 5 ug/L	0.12	10	0 / 46-164
Chloromethane	74-87-3	NYSDEC Division of Water TOGS 1.1.1: 5 ug/L	0.181	10	0 / 58-142
Vinyl chloride	75-01-4	NYSDEC Division of Water TOGS 1.1.1: 2 ug/L	0.119	10	0 / 61-127
Chloroethane	75-00-3	NYSDEC Division of Water TOGS 1.1.1: 5 ug/L	0.196	10	0 / 58-142
1,1-Dichloroethene	75-35-4	NYSDEC Division of Water TOGS 1.1.1: 0.7 ug/L	0.155	10	0 / 62-131
trans-1,2-Dichloroethene	156-60-5	NYSDEC Division of Water TOGS 1.1.1: 5 ug/L	0.075	10	0 / 64-133
Trichloroethene	79-01-6	NYSDEC Division of Water TOGS 1.1.1: 5 ug/L	0.08	10	0 / 43-150
cis-1,2-Dichloroethene	156-59-2	NYSDEC Division of Water TOGS 1.1.1: 5 ug/L	0.149	10	0 / 72-132
Bromochloromethane	74-97-5	NYSDEC Division of Water TOGS 1.1.1: 5 ug/L	0.074	10	0 / 50-200
1,2-Dibromo-3-chloropropane	96-12-8	NYSDEC Division of Water TOGS 1.1.1: 0.04 ug/L	0.178	10	0 / 33-137

Note:

As specified by Pace Analytical.

EnviroTrac
Environmental Services

APPENDIX I

O&M MANUAL (FOR EACH ACTIVE EC)

SUBSLAB DEPRESSURIZATION SYSTEM O&M MANUAL

Former Popular Hand Laundry
88 Ingraham Street
Brooklyn, New York

Report Date:

October 2016

Prepared for:

88 Ingraham Realty Corp.
7700 Bella Verde Way
Delray Beach, FL 33446

Prepared by:

EnviroTrac Ltd.
5 Old Dock Road
Yaphank, NY 11980
631-924-3001

A Full Service Environmental Consulting and Contracting Firm

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FIGURES:

APPENDIX A

- Extraction Blower Manufacturer Instructions/Information
- Vacuum Gauge Instructions
- Alarm Specification

SYSTEM DESCRIPTION

General Description

An active sub-slab depressurization system (SSDS) has been designed and installed in order to prevent indoor air intrusion of residual PCE concentrations at 88 Ingraham Street, Brooklyn, New York. Sub-slab dry cleaner related soil impacts were removed to the maximum extent possible with a soil vapor extraction (SVE) system.

The following text describes the start up, testing and operation for the SSDS.

The SSDS uses the two (2) existing SVE wells, SV-5 and SV-6, which are constructed of two (2) inch diameter schedule 40 PVC and consist of five (5) feet of riser pipe and 15 feet of 0.02-slotted screen, located beneath the concrete slab floor within the building. The SVE well piping, which exits the front or north side of the building was piped upward and discharges approximately two (2) feet above the second story roof line. On the exterior wall of the building, a RadonAway Model HS2000E fan is attached in series to the riser piping that is vented to the rooftop via 4-inch diameter piping located away from any potential air intakes for the building. An as-built drawing of the SSD System can be seen in Figure 1.

Operating Principals

The extraction blower, when operated, is designed to induce a negative pressure via the installed depressurization pipes located beneath the building floor slab. This induced negative pressure causes any migrating soil vapors to follow the new pressure gradient toward the depressurization point(s) and to then be extracted through the system piping and to ultimately be safely discharged to the building exterior.

System Components

The major components of the SSD system consist of an extraction blower and depressurization piping below the concrete slab of the building at 88 Ingraham Street, Brooklyn, New York. The riser piping is equipped with a vacuum gauge used to monitor the applied sub-slab vacuum. An alarm warning device is connected to the riser piping and will sound when the fans are not operational. Manufacturer's manuals and cut sheet for each of the system major components can be seen in Appendix A.

OPERATING PROCEDURES

System Startup

Pre-Startup

Prior to the safe and successful startup of the SSD system it is important to verify the following items.

- Verify that the electrical service connection is switched **OFF** at the system circuit breaker located in the electrical service distribution panel. Verify that the blower power cord is unplugged from the dedicated blower power outlet. The outlet is located on the exterior wall of the building, adjacent to the SSDS blower. Prior to any repairs or modifications to the system, the electrical service should be disconnected using the proper lock out/tag out procedures, and should only be conducted by qualified personnel.

- Verify that all components are installed correctly and are in good working order, including the blowers, piping, depressurization points, and all instrumentation. Any defects or damage should be repaired or replaced prior to the startup of the system.

- Verify that all electrical connections are properly and securely connected to the SSD system components. All electrical components should be clean and free of any damage or defects. Verify that the electrical connection is of the proper voltage and power requirement for the installed blowers.

- Verify that the system discharge stack is free of any debris that might cause any excessive back pressure on the system.

System Startup

The following procedure should be followed during each startup of the SSD system and should be conducted only after the “Pre-startup” items have been completed.

1. Verify that all of the steps outlined above in the “Pre-startup” section have been successfully completed.

2. Verify that the electrical service connection is switched **ON** at the system circuit breaker located in the electrical service distribution panel.

3. Plug the blower into the electrical outlet. Take note that the blower is operating correctly by noting if there is any excessive noise and that the inlet vacuum is within the normal operating range of the installed blower. Normal operating vacuum should range from 0 - 15.0 “w.c. which can be read using the vacuum

gauges located at each extraction point. Note, if the blower is not operating correctly, unplug the blowers and make the proper repairs.

4. Once the system is operating, take note of the operating vacuum at the extraction blower using the vacuum gauge or hand held meter. This reading will be used as a baseline to determine if the system is operating correctly in the future.

System Shutdown

During the shutdown of the system the steps outlined below should be followed;

1. Unplug the blowers, the electrical outlet is located on the right side of the system. Verify that the motor has stopped. This can be confirmed by both sound and by checking that the vacuum gauges registers no vacuum in the pipe headers.

2. In the event that the system is being shut down for maintenance or repairs, this circuit breaker should be properly disconnected using the appropriate lock out / tag out procedures.

3. Verify that there is zero vacuum at the depressurization points using the installed vacuum gauges.

Maintenance

During each maintenance event the following should be noted.

<u>Blower</u>

- The blower is spinning correctly and free of any excess noise.

- The blower is free of any damage or debris.

- The blower is generating the proper amount of flow and vacuum. This can be determined by reading the installed liquid filled manometers and comparing these readings with the readings collected during system startup.

- Note: The blowers are designed to operate continuously without any routine maintenance or lubrication.

<u>Instrumentation (vacuum gauge)</u>

- Verify that the vacuum gauge is free of any damage and is properly connected to the system piping.

- Verify that vacuum gauge is registering an adequate amount of vacuum at each of the depressurization points and at each blower.

- Verify that the vacuum gauge contains the proper amount of fluid (red oil). If any of the meters require replacement additional units can be purchased through the manufacturer listed in Appendix A.

Miscellaneous

- Verify that the discharge stack located on the building roof is free of any debris.

- Verify that all piping, depressurization points, and any other components are clean and free of any damage that may have occurred.

- Verify that the system piping is clear of any condensation that may have accumulated during operation. In the event that condensation has collected, it can be cleared by shutting down the system and letting the condensation drain. The system has been designed to allow the water to drain back to the extraction points.

In the event that any system degradation has been noted or the alarm warning device is sounding, the owner should contact the Responsible Party's consultant for assistance and/or to schedule any system maintenance.

CONTACT INFORMATION

EnviroTrac PE PC
5 Old Dock Road
Yaphank, NY 11980
631-924-3001

EMERGENCY PROCEDURES

In the event of an emergency requiring the shut down of the system the following procedure should be followed.

1. Unplug the blower.

2. In the event that the blower power outlet cannot be reached or is inoperable, power may be disconnected directly using the circuit breaker located in the electrical distribution panel.

3. The owner should notify the Responsible Party or the Responsible Party's consultant.

CONTACT INFORMATION

EnviroTrac PE PC
5 Old Dock Road
Yaphank, NY 11980
631-924-3001

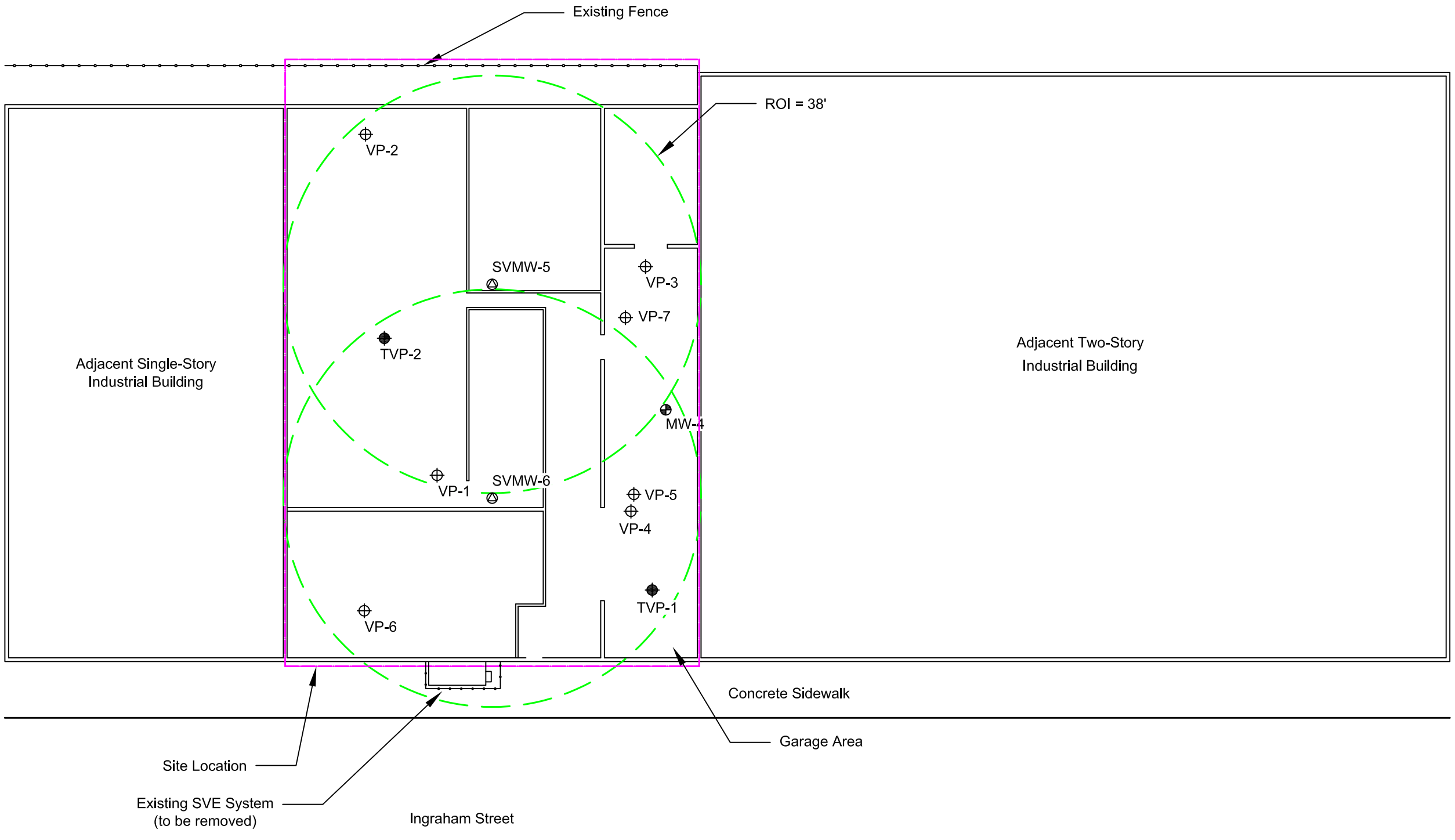
***IMPORTANT – IN THE EVENT OF A FIRE OR MEDICAL EMERGENCY, PERSONNEL SHOULD IMMEDIATELY CALL 911 FOR ASSISTANCE.**

WARRANTEES

- EnviroTrac Ltd warrantees all workmanship, construction, and operation of all equipment and materials for a period of one (1) year from the date of system completion. This warrantee does not cover any repairs of damage or component malfunctions that are not due to normal operation of the system or individual components.

- Additionally, the extraction blower is covered under the manufacturers warrantee for a period of one (1) year. Details of this warrantee can be seen in the blower literature provided in Appendix A.

FIGURES



LEGEND:
- Radius of Influence
- Existing Monitoring Well Location
- Existing Vapor Extraction Location
- Existing Vapor Point Location
- Temporary Vapor Point Location

SCALE: 0 5' 10' 15' 20' SCALE IN FEET

DATE:	FIGURE:	DRAFTED BY:
5/25/16	1	NC/DK

MAP: Site Plan with SSDS Radius of Influence

SITE: Popular Hand Laundry
88 Ingraham Street
Brooklyn, NY 10452

EnviroTrac
Environmental Services
5 Old Dock Road
Yaphank, NY 11980
P: 631.924.3001 F: 631.924.5001

APPENDIX A

INSTALLATION & OPERATING INSTRUCTIONS
Instruction P/N IN015 Rev E
FOR *CHECKPOINT IIa*™ P/N 28001-2 & 28001-3
RADON SYSTEM ALARM

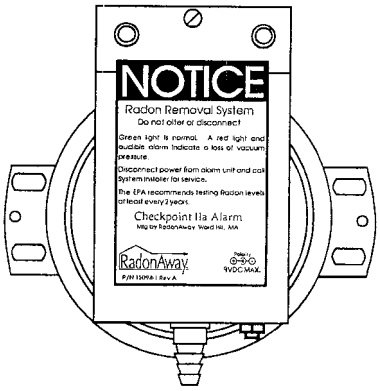
INSTALLATION INSTRUCTIONS
(WALL MOUNTING)

Select a suitable wall location near a vertical section of the suction pipe. The unit should be mounted about four or five feet above the floor and as close to the suction pipe as possible. Keep in mind that with the plug-in transformer provided, the unit must also be within six feet of a 120V receptacle. **NOTE: The Checkpoint IIa is calibrated for vertical mounting, horizontal mounting will affect switchpoint calibration.**

Drill two ¼" holes 4" apart horizontally where the unit is to be mounted.

Install the two ¼" wall anchors provided.

Hang the CHECKPOINT IIa from the two mouting holes located on the mounting bracket. Tighten the mounting screws so the unit fits snugly and securely against the wall.



Drill a 5/16" hole into the side of the vent pipe about 6" higher than the top of the unit.

Insert the vinyl tubing provided about 1" inside the suction pipe.

Cut a suitable length of vinyl tubing and attach it to the pressure switch connector on the CHECKPOINT IIa.

CALIBRATION AND OPERATION.

The CHECKPOINT IIa units are calibrated and sealed at the factory to alarm when the vacuum pressure falls below the factory setting and should not normally require field calibration. Factory Settings are:
28001-2 -.25" WC Vacuum
28001-3 -.10" WC Vacuum

To Verify Operation:

With the exhaust fan off or the pressure tubing disconnected and the CHECKPOINT IIa plugged in, both the red indicator light and the audible alarm should be on.

Turn the fan system on or connect the pressure tubing to the fan piping. The red light and the audible alarm should go off. The green light should come on.

Now turn the fan off. The red light and audible alarm should come on in about two or three seconds and the green light should go out.

WARRANTY INFORMATION

Subject to applicable consumer protection legislation, RadonAway warrants that the CHECKPOINT IIa will be free from defective material and workmanship for a period of (1) year from the date of purchase. Warranty is contingent on installation in accordance with the instructions provided. This warranty does not apply where repairs or alterations have been made or attempted by others; or the unit has been abused or misused. Warranty does not include damage in shipment unless the damage is due to the negligence of RadonAway. All other warranties, expressed or written, are not valid. To make a claim under these limited warranties, you must return the defective item to RadonAway with a copy of the purchase receipt. RadonAway is not responsible for installation or removal cost associated with this warranty. In no case is RadonAway liable beyond the repair or replacement of the defective product FOB RadonAway.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. THERE IS NO WARRANTY OF MERCHANTIBILITY. ALL OTHER WARRANTIES, EXPRESSED OR WRITTEN, ARE NOT VALID.

For service under these warranties, contact RadonAway for a Return Material Authorization (RMA) number and shipping information. **No returns can be accepted without an RMA.** If factory return is required, the customer assumes all shipping costs to and from factory.

Manufactured by:
RadonAway
Ward Hill, MA
(978)-521-3703

RadonAway®

The World's Leading
Radon Fan Manufacturer



HS Series

Installation & Operating Instructions

RadonAway
3 Saber Way | Ward Hill, MA 01835
www.radonaway.com

P/N IN007-REV K

10/15

RadonAway Ward Hill, MA.

HS Series Fan Installation & Operating Instructions

Please Read and Save These Instructions.

DO NOT CONNECT POWER SUPPLY UNTIL FAN IS COMPLETELY INSTALLED. MAKE SURE ELECTRICAL SERVICE TO FAN IS LOCKED IN "OFF" POSITION. DISCONNECT POWER BEFORE SERVICING FAN.

1. **WARNING!** Do not use fan in hazardous environments where fan electrical system could provide ignition to combustible or flammable materials.
2. **WARNING!** Do not use fan to pump explosive or corrosive gases.
   See Vapor Intrusion Application Note #AN001 for important information on VI applications. RadonAway.com/vapor-intrusion
3. **WARNING!** Check voltage at the fan to insure it corresponds with nameplate.
4. **WARNING!** Normal operation of this device may affect the combustion airflow needed for safe operation of fuel burning equipment. Check for possible backdraft conditions on all combustion devices after installation.
5. **NOTICE!** There are no user serviceable parts located inside the fan unit.
   Do NOT attempt to open. Return unit to the factory for service.
6. All wiring must be performed in accordance with the National Fire Protection Association's (NFPA)"National Electrical Code, Standard #70"-current edition for all commercial and industrial work, and state and local building codes. All wiring must be performed by a qualified and licensed electrician.
7. **WARNING!** In the event that the fan is immersed in water, return unit to factory for service before operating.
8. **WARNING!** Do not twist or torque fan inlet or outlet piping as Leakage may result.
9. **WARNING!** Do not leave fan unit installed on system piping without electrical power for more than 48 hours. Fan failure could result from this non-operational storage.
10. **WARNING!** TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

    a) Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.

    b) Before servicing or cleaning unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.

1.0 SYSTEM DESIGN CONSIDERATIONS

1.1 INTRODUCTION

The HS Series Fan is intended for use by trained, certified/licensed, professional Radon mitigators. The purpose of this instruction is to provide additional guidance for the most effective use of the HS Series Fan. This instruction should be considered as a supplement to EPA/Radon Industry standard practices, state and local building codes and state regulations. In the event of a conflict, those codes, practices and regulations take precedence over this instruction.

1.2 ENVIRONMENTALS

The HS Series Fan is designed to perform year-round in all but the harshest climates without additional concern for temperature or weather. For installations in an area of severe cold weather, please contact RadonAway for assistance. When not in operation, the HS Series Fan should be stored in an area where the temperature is never less than 32 degrees F. or more than 100 degrees F. The HS Series Fan is thermally protected such that it will shut off when the internal temperature is above 104 degrees F. Thus if the HS Series Fan is idle in an area where the ambient temperature exceeds this shut off, it will not restart until the internal temperature falls below 104 degrees F.

1.3 ACOUSTICS

The HS Series Fan, when installed properly, operates with little or no noticeable noise to the building occupants. There are, however, some considerations to be taken into account in the system design and installation. When installing the HS Series Fan above sleeping areas, select a location for mounting which is as far away as possible from those areas. Avoid mounting near doors, fold-down stairs or other uninsulated structures which may transmit sound. Insure a solid mounting for the HS Series Fan to avoid structure-borne vibration or noise.

The velocity of the outgoing air must also be considered in the overall system design. With small diameter piping, the "rushing" sound of the outlet air can be disturbing. The system design should incorporate a means to slow and quiet the outlet air. The use of the RadonAway Exhaust Muffler, p/n 24002, is strongly recommended.

1.4 GROUND WATER

Under no circumstances should water be allowed to be drawn into the inlet of the HS Series Fan as this may result in damage to the unit. The HS Series Fan should be mounted at least 5 feet above the slab penetration to minimize the risk of filling the HS Series Fan with water in installations with occasional high water tables.

In the event that a temporary high water table results in water at or above slab level, water will be drawn into the riser pipes thus blocking air flow to the HS Series Fan. The lack of cooling air will result in the HS Series Fan cycling on and off as the internal temperature rises above the thermal cutoff and falls upon shutoff. Should this condition arise, it is recommended that the HS Series Fan be disconnected until the water recedes allowing for return to normal operation.

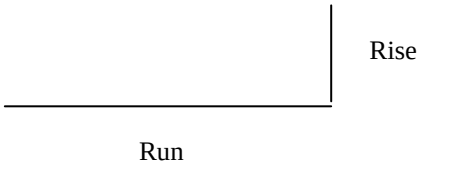
1.5 CONDENSATION & DRAINAGE

(WARNING!: Failure to provide adequate drainage for condensation can result in system failure and damage the HS Series Fan).

Condensation is formed in the piping of a mitigation system when the air in the piping is chilled below its dew point. This can occur at points where the system piping goes through unheated space such as an attic, garage or outside. The system design must provide a means for water to drain back to a slab hole to remove the condensation.

The use of small diameter piping in a system increases the speed at which the air moves. The speed of the air can pull water uphill and at sufficient velocity it can actually move water vertically up the side walls of the pipe. This has the potential of creating a problem in the negative pressure (inlet) side piping. For HS Series Fan inlet piping, the following table provides the minimum recommended pipe diameters as well as minimum pitch under several system conditions. Use this chart to size piping for a system.

Pipe Diam.	Minimum Rise per Foot of Run*		
	@ 25 CFM	@ 50 CFM	@ 100 CFM
4"	1/32 "	3/32 "	3/8 "
3"	1/8 "	3/8 "	1 1/2 "



*Typical operational flow rates:

HS3000, or HS5000	20 - 40 CFM
HS2000	50 - 90 CFM

All exhaust piping should be 2" PVC.

1.6 SYSTEM MONITOR AND LABEL

A properly designed system should incorporate a "System On" Indicator for affirmation of system operation. A Magnehelic pressure gauge is recommended for this purpose. The indicator should be mounted at least 5 feet above the slab penetration to minimize the risk of filling the gauge with water in installations with occasional high water tables. A System Label (P/N 15022) with instructions for contacting the installing contractor for service and also identifying the necessity for regular radon tests to be conducted by the building occupants, must be conspicuously placed where the occupants frequent and can see the label.

1.7 SLAB COVERAGE

The HS Series Fan can provide coverage of well over 1000 sq. ft. per slab penetration. This will, of course, depend on the sub-slab aggregate in any particular installation and the diagnostic results. In general, sand and gravel are much looser aggregates than dirt and clay. Additional suction points can be added as required. It is recommended that a small pit (2 to 10 gallons in size) be created below the slab at each suction hole.

1.8 ELECTRICAL WIRING

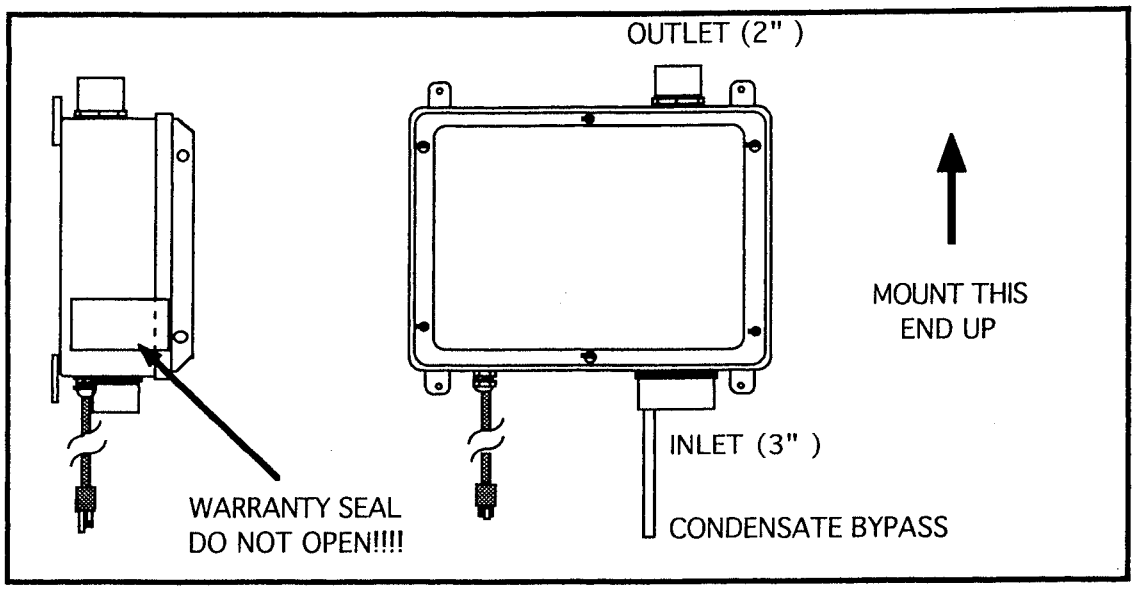
The HS Series Fan plugs into a standard 120V outlet. All wiring must be performed in accordance with the National Fire Protection Association's (NFPA)"National Electrical Code, Standard #70"-current edition for all commercial and industrial work, and state and local building codes. All wiring must be performed by a qualified and licensed electrician. Outdoor installations require the use of a U.L. listed watertight conduit. Ensure that all exterior electrical boxes are outdoor rated and properly caulked to prevent water penetration into the box. A means, such as a weep hole, is recommended to drain the box.

1.8a ELECTRICAL BOX (optional)

The optional Electrical Box (p/n 20003) provides a weather tight box with switch for outdoor hardwire connection. All wiring must be performed in accordance with the National Fire Protection Association's (NFPA)"National Electrical Code, Standard #70"-current edition for all commercial and industrial work, and state and local building codes. All wiring must be performed by a qualified and licensed electrician. Outdoor installations require the use of a U.L. listed watertight conduit. Ensure that all exterior electrical boxes are outdoor rated and properly caulked to prevent water penetration into the box. A means, such as a weep hole, is recommended to drain the box.

1.9 SPEED CONTROLS

Electronic speed controls can **NOT** be used on HS Series units.



2.0 INSTALLATION

2.1 MOUNTING

Mount the HS Series Fan to the wall studs, or similar structure, in the selected location with (4) 1/4" x 1 1/2" lag screws (not provided). Insure the HS Series Fan is both plumb and level.

2.2 DUCTING CONNECTIONS

Make final ducting connection to HS Series Fan with flexible couplings. Insure all connections are tight. Do not twist or torque inlet and outlet piping on HS Series Fan or leaks may result.

2.3 VENT MUFFLER INSTALLATION

Install the muffler assembly in the selected location in the outlet ducting. Solvent weld all connections. The muffler is normally installed above the roofline at the end of the vent pipe.

2.5 OPERATION CHECKS & ANNUAL SYSTEM MAINTENANCE

____ Make final operation checks by verifying all connections are tight and leak-free.

____ Insure the HS Series Fan and all ducting is secure and vibration-free.

____ Verify system vacuum pressure with Magnehelic. Insure vacuum pressure is within normal operating range and less than the maximum recommended as shown below:

HS2000	14" WC
HS3000	21" WC
HS5000	40" WC

(Above are based on sea-level operation, at higher altitudes reduce above by about 4% per 1000 Feet.) If these are exceeded, increase number of suction points.

____ Verify Radon levels by testing to EPA protocol.

PRODUCT SPECIFICATIONS

Model	Maximum Static Suction	Typical CFM vs Static Suction WC (Recommended Operating Range)						Power* Watts @ 115 VAC
		0"	10"	15"	20"	25"	35"	
HS2000	18"	110	72	40	-	-	-	150-270
HS3000	27"	40	33	30	23	18	-	105-195
HS5000	50"	53	47	42	38	34	24	180-320

*Power consumption varies with actual load conditions

Inlet: 3.0" PVC

Outlet: 2.0" PVC

Mounting: Brackets for vertical mount

Weight: Approximately 18 lbs.

Size: Approximately 15"W x 13"H x 8"D

Minimum recommended inlet ducting (greater diameter may always be used):

HS3000, HS5000 --- 2.0" PVC Pipe

HS2000 --- Main feeder line of 3.0" or greater PVC Pipe

Branch lines (if 3 or more) may be 2.0" PVC Pipe

Outlet ducting: 2.0" PVC

Storage temperature range: 32 - 100 degrees F.

Thermally protected

Locked rotor protection

Internal Condensate Bypass

IMPORTANT INSTRUCTIONS TO INSTALLER

Inspect the HS Series Fan for shipping damage within 15 days of receipt. Notify **RadonAway® of any damages immediately**. RadonAway® is not responsible for damages incurred during shipping. However, for your benefit, RadonAway® does insure shipments.

There are no user serviceable parts inside the fan. **Do not attempt to open.** Return unit to factory for service.

Install the HS Series Fan in accordance with all EPA standard practices, and state and local building codes and state regulations.

Provide a copy of this instruction or comparable radon system and testing information to the building occupants after completing system installation.

WARRANTY

RadonAway® warrants that the HS Series Fan (the "Fan") will be free from defects in materials and workmanship for a period of 90 days from the date of purchase (the "Warranty Term").

RadonAway® will replace any Fan which fails due to defects in materials or workmanship during the Warranty Term. The Fan must be returned (at Owner's cost) to the RadonAway® factory. Any Fan returned to the factory will be discarded unless the Owner provides specific instructions along with the Fan when it is returned regardless of whether or not the Fan is actually replaced under this warranty. Proof of purchase must be supplied upon request for service under this Warranty.

This Warranty is contingent on installation of the Fan in accordance with the instructions provided. This Warranty does not apply where any repairs or alterations have been made or attempted by others, or if the unit has been abused or misused. Warranty does not cover damage in shipment unless the damage is due to the negligence of RadonAway®.

1 YEAR EXTENDED WARRANTY WITH PROFESSIONAL INSTALLATION.

RadonAway® will extend the Warranty Term of the fan to one (1) year from date of purchase or fifteen (15) months from the date of manufacture, whichever is sooner, if the Fan is installed in a professionally designed and professionally installed active soil depressurization system or installed as a replacement fan in a professionally designed and professionally installed active soil depressurization system by a qualified installer. Proof of purchase and/or proof of professional installation may be required for service under this warranty. Outside the Continental United States and Canada the extended Warranty Term is limited to one (1) year from the date of manufacture.

RadonAway® is not responsible for installation, removal or delivery costs associated with this Warranty.

LIMITATION OF WARRANTY

EXCEPT AS STATED ABOVE, THE HS SERIES FANS ARE PROVIDED WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT SHALL RADONAWAY BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR RELATING TO, THE FAN OR THE PERFORMANCE THEREOF. RADONAWAY'S AGGREGATE LIABILITY HEREUNDER SHALL NOT IN ANY EVENT EXCEED THE AMOUNT OF THE PURCHASE PRICE OF SAID PRODUCT. THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY SHALL BE THE REPAIR OR REPLACEMENT OF THE PRODUCT, TO THE EXTENT THE SAME DOES NOT MEET WITH RADONAWAY'S WARRANTY AS PROVIDED ABOVE.

For service under this Warranty, contact RadonAway for a Return Material Authorization (RMA) number and shipping information. No returns can be accepted without an RMA. If factory return is required, the customer assumes all shipping costs, including insurance, to and from factory.

RadonAway® 3 Saber Way
Ward Hill, MA 01835 USA TEL (978) 521-3703
FAX (978) 521-3964
Email to: Returns@RadonAway.com

Record the following information for your records:

Serial No._____ Purchase Date_____

McMASTER-CARR. OVER 555,000 PRODUCTS
(609) 259-8900
(609) 259-3575 (fax)
nj.sales@mcmaster.com
Text 58926

Ultra-Low Vacuum Gauge

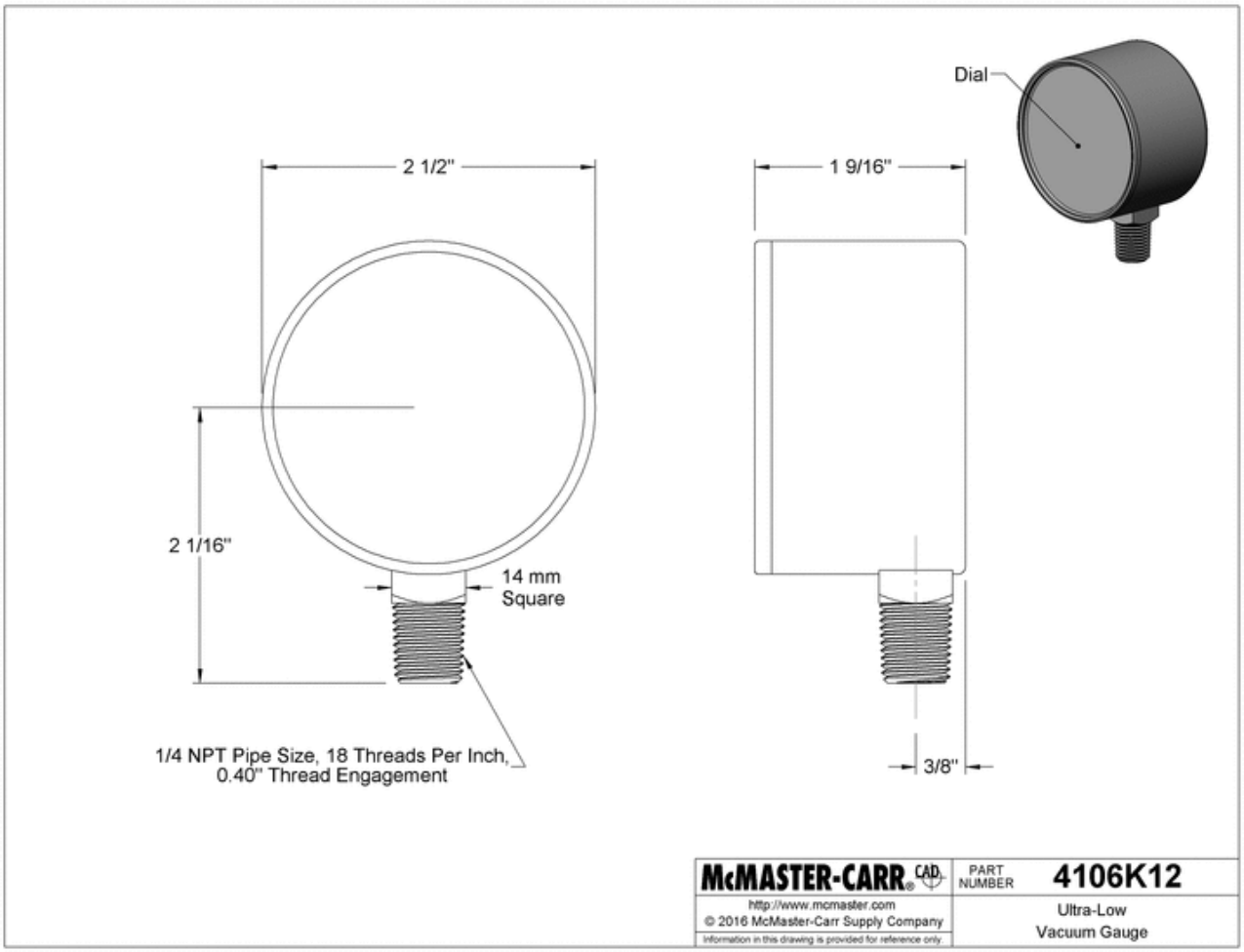
Steel Case, 2-1/2" Dial, 1/4 Male Bottom Connection

In stock
$62.08 Each
4106K1

For Use With	Air
Pipe Connection	NPT male
Connection Material	Brass
Accuracy	±1.5% full scale (not graded)
Case Material	Black-painted steel
Lens Material	Acrylic
Dial Size	2 1/2"
Pipe Size	1/4
Connection	Bottom
Graduation Marks	0.2 in. of H2O
Numeric Increments	3 in. of H2O
Vacuum Range	15" to 0 in. of h20
RoHS	Not Compliant

Accommodate applications with very low vacuum. Environment temperature range is -4° to 140° F and process temperature range is -4° to 176° F. Gauges with 2 1/2" dial have a black-painted steel case and acrylic lens.

Vacuum Range, in. of H20: 15" to 0



The information in this 3-D model is provided for reference only.

APPENDIX J

REMEDIAL SYSTEM OPTIMIZATION TABLE OF CONTENTS

REMEDIAL SYSTEM OPTIMIZATION FOR Popular Hand Laundry, 88 Ingraham Street, Brooklyn, New York

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