FLAMINGO CLEANERS
WESTCHESTER COUNTY

NEW ROCHELLE, NEW YORK

SITE MANAGEMENT PLAN

NYSDEC Site Number: C360078

Prepared for:

V&V Capital LLC & Luigi Lleshaj

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Prepared by:

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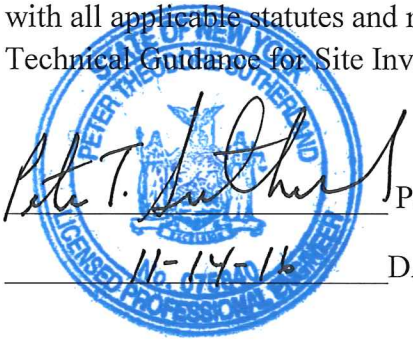
Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date

NOVEMBER 2016

CERTIFICATION STATEMENT

I, PETER T. SUTHERLAND, P.E., certify that I am currently a NYS registered professional engineer 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).



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List of Acronyms

AS	Air Sparging
ASP	Analytical Services Protocol
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CAMP	Community Air Monitoring Plan
C/D	Construction and Demolition
CFR	Code of Federal Regulation
CLP	Contract Laboratory Program
COC	Certificate of Completion
CO2	Carbon Dioxide
CP	Commissioner Policy
DER	Division of Environmental Remediation
EC	Engineering Control
ECL	Environmental Conservation Law
ELAP	Environmental Laboratory Approval Program
ERP	Environmental Restoration Program
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
RSO	Remedial System Optimization
SAC	State Assistance Contract
SCG	Standards, Criteria and Guidelines
SCO	Soil Cleanup Objective

SMP	Soil Management Plan
SOP	Standard Operating Procedures
SOW	Statement of Work
SPDES	State Pollutant Discharge Elimination System
SSD	Sub-slab Depressurization
SVE	Soil Vapor Extraction
SVI	Soil Vapor Intrusion
SVMS	Soil Vapor Mitigation System
TAL	Target Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristic Leachate Procedure
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
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:	C360078 - Flamingo Cleaners, 149 North Avenue, New Rochelle, NY 10801

Institutional Controls:	1. The property may be used for restricted residential, commercial or industrial use;	
	2. Environmental Easement	
	3. All ECs must be inspected at a frequency and in a manner defined in the SMP.	
Engineering Controls:	1. Cover system	
	2. Sub-slab Depressurization System	
Inspections:		Frequency
1. Cover inspection		Semi-annually
2. SSD system manometer		Monthly
3. SSD system operation		Semi-annually
Monitoring:		
1. Groundwater Monitoring		Semi-annually
Maintenance:		
1. SSD system maintenance		as needed
Reporting:		
1. Periodic Review Report		Annually

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

1.0 INTRODUCTION

1.1 General

This Site Management Plan (SMP) is a required element of the remedial program for the Flamingo Cleaners site (SITE) located in New Rochelle, New York (hereinafter referred to as the "Site"). See Figure 1. The Site is currently in the New York State (NYS) Brownfield Cleanup Program (BCP) Site No. C360078 which is administered by New York State Department of Environmental Conservation (NYSDEC).

JAMM North Avenue Corp. and 149-155 North Corp. entered into a Brownfield Cleanup Agreement (BCA on November 11, 2004 with the NYSDEC to remediate the site. The BCA was amended in order to transfer ownership of the property, and in turn amend the volunteers within the BCA to include V & V Capital, LLC, and Luigi Lleshaj on April 1, 2011. 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 Environmental Easement provided in Appendix I.

After completion of the remedial work, some contamination was left at this site, which is hereafter referred to as "remaining contamination". Institutional and Engineering Controls (ICs and ECs) have been incorporated into the site remedy to control exposure to remaining contamination to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC, and recorded with the Westchester County Clerk on June 27, 2016, 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 Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Environmental Easement and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the Environmental Easement, which is grounds for revocation of the Certificate of Completion (COC);
- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the BCA (Index #W3-1058-05-03; Site #C360078) 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 II of this SMP.

This SMP was prepared by Tectonic Engineering & Surveying Consultants P.C., on behalf of V & V Capital LLC, in accordance with the requirements of the NYSDEC's DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated May, 2010, and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the ICs and/or ECs that are required by the Environmental Easement for the site.

1.2 Revisions

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

1.3 Notifications

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

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

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

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

Table 1 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 II.

Table 1: Notifications*

Name	**Contact Information**
NYSDEC Project Manager: Kiera Thompson	(518) 402 – 9662, kiera.thompson@dec.ny.gov
NYSDEC Regional HW Engineer: Ed Moore	(845) 256 – 3137, edward.moore@dec.ny.gov
NYSDEC Site Control: Kelly Lewandowski	(518) 402 – 9553, 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 at 149 North Avenue, New Rochelle, Westchester County, New York and is identified as Section 1 Block 212 and Lot 80 on the Westchester County Tax Map (see Figure 2). The site is a 0.1223-acre area and is bounded by Clinton Place to the north, a six-story residential building (151 North Avenue) to the south, a one-story office building (2 Clinton Place) to the east, and North Avenue, which is lined with commercial and residential structures to the west (see Figure 3 – Site Layout Map). The boundaries of the site are more fully described in Appendix I –Environmental Easement. The owner(s) of the site parcel(s) at the time of issuance of this SMP is/are:

V & V Capital LLC
Luigi Lleshaj

2.2 Physical Setting

2.2.1 Land Use

The Site consists of the following: a ± 5280 ft^2 one-story brick building with a full basement that is subdivided into four approximately equal sized tenant spaces. The Site is zoned as NB, neighborhood business, and is currently utilized for commercial uses. Site occupants include a bar/lounge, a barber, a pizzeria and a convenience store.

The properties adjoining the Site and in the neighborhood surrounding the Site primarily include a mix of commercial and residential properties. The properties immediately south of the Site include residential properties; the properties immediately north of the Site include residential and institutional properties; the properties immediately

east of the Site include commercial properties; and the properties to the west of the Site include commercial and residential properties.

2.2.2 Geology

According to the Surficial Geologic Map (Lower Hudson Sheet) of New York, the surficial geology of the site has been classified as till (t). This classification consists of variably textured material (e.g. clay, silt-clay, boulder clay), which is usually poorly sorted diamict that has been deposited beneath glacial ice. It is relatively impermeable (loamy matrix) and has a variable clast content and thickness (1-50m).

According to the Bedrock Geologic Map (Lower Hudson Sheet) of New York, the bedrock underlying the site and vicinity has been classified as belonging to the Ordovician-aged Hartland Formation (Oht), which consists of basal amphibolite overlain by politic schists.

Based on a review of the Soil Survey of Westchester County, depth to bedrock is greater than 10 inches below the ground surface. Based upon a site review conducted by HRP Associates Inc. in October 2003, bedrock was anticipated to be greater than ten feet below the ground surface. During Tectonic Engineering's field investigation conducted on December 26, 2013 auger refusal was experienced at the top of the bedrock layer at approximately 5.5 feet below the elevation of the finished basement. There were no bedrock outcrops observed on the site.

Site specific boring logs and test pit logs are provided in Appendix III.

2.2.3 Hydrogeology

According to the Map of Potential Yield of Wells in Unconsolidated Aquifers in Upstate New York, Lower Hudson Sheet, no primary aquifers (water supplies for major municipal systems), principal aquifers (known to be productive but not intensely used as

sources for a water supply), or sole source aquifers (as defined by SWDA 42 USC 300h-3(e)) are located within one mile of the site. However, the site is located within an area of unknown potential. These areas are located within aquifers where little or no well data is available to determine well yield. According to the New York State Atlas of Community Water System Sources, no private or publicly owned community supply wells are located within one-half (0.5) mile of the site.

During a site investigation conducted by Tectonic in January 2014, it was determined that groundwater ranged in depth from 8.09 feet to 10.55 feet below ground surface. No on site wells or springs were noted during the numerous site visits.

Groundwater flow is controlled by many factors including aquifer type and characteristics, depth to bedrock, topography and water usage in the area. Generally, groundwater flows in the direction of the greatest topographic gradient. Based on a review of the site's topographic features, it appeared that the regional groundwater flow would be easterly toward Long Island Sound. Local groundwater flow would be northwest and southeast away from the site, as the site is on a local topographic high. However, during Tectonic's site investigation in January 2014, it was determined that groundwater contained within bedrock flows in a northwest direction, and the overburden groundwater flows south-southwest.

Groundwater contour maps are shown in Figures 4 & 5. Groundwater elevation data is provided in Table 2. Groundwater monitoring well construction logs are provided in Appendix IV.

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.

In October 2003, HRP Associates, Inc. completed a Phase I ESA of 149-155 North Avenue in the City of New Rochelle, Westchester County, New York, noting the following environmental conditions:

- Flamingo Cleaners has performed on-site dry cleaning operations from 1967 to 2006. Although no direct evidence of a release was noted during the site visit or the subsequent review, dry cleaners are considered "environmentally high risk" businesses. Little or no documentation was available regarding chemical usage or waste generation since Flamingo Cleaners start of operations.

In March, 2004, CA Rich Consultants, Inc. issued a Phase II ESA report for Flamingo Cleaners.

Eleven shallow soil borings (B-1 to B-11) were advanced through the basement floor, soil samples were collected and analyzed for volatile organic compounds (VOCs). Soil from the boring adjacent to the 275-gallon fuel oil ASTs were also analyzed for petroleum related semi-volatile organic compounds.

Analytical results showed soil from 0 to 1 foot below the basement floor in the area of the dry cleaning machine contained Perchloroethylene (PCE) at a concentrations of 950 ppb to 1,300,000 ppb. PCE concentrations decreased significantly to the west from posts supporting the dry cleaning machine. Concentrations to the east of the posts, generally remained above 1,000 ppb. Soil within the sump contained PCE at a concentration of 360,000 ppb.

Groundwater was encountered at 1 foot below the surface of the basement concrete slab during the driving of a well point. PCE concentrations in groundwater from the well point and sump were 250,000 ppb and 11,000 ppb, respectively.

An Indoor air quality investigation was undertaken in collection and chemical analysis of ambient air samples from the basements of the three (3) tenant spaces adjacent

to Flamingo Cleaners and one (1) sample of ambient air from the exterior of the building. No sampling was conducted in the Cleaner's basement space.'

The report concluded that the air quality within the basements of the three tenant spaces adjacent to Flamingo Cleaners has been impacted by levels of PCE in excess of NYSDOH's Ambient Air Guideline. PCE vapor in the basement immediately adjacent to Flamingo Cleaners was measured at a level (150 ppb) which requires action as set forth by NYSDOH.

In November 2006, CA Rich completed a Remedial Investigation (RI) Report. This report was prepared and submitted to the New York State Department of Environmental Conservation (NYSDEC) The report was finalized and resubmitted in June, 2010, and approved by the NYSDEC in September, 2010. The RI included the collection of soil samples from six (6) interior borings and three (3) exterior borings, the collection of groundwater from five (5) monitoring locations along the perimeter of the site, and the collection of sub-slab vapor and interior air samples from the four tenant spaces and their basements within the building. An investigation of existing floor drains and subsurface structures was also completed.

CA Rich concluded that impacted soils were generally limited to the area directly underlying the former dry cleaning machine. As such, they recommended that soil in the vicinity of the machine be excavated and disposed of off-site. The results of groundwater sampling and analysis showed PCE concentrations at levels exceeding NYSDEC standards. Specifically, MW-1 and MW-3, located at and adjacent to the dry cleaning machine, appeared to be most impacted by PCE. CA Rich recommended remedial measures be implemented to reduce groundwater contamination. Additionally, CA Rich suggested the installation and operation of an in-situ treatment system using chemical oxidation or air sparging. Lastly, the results of the soil vapor and indoor air investigation revealed the presence of volatile compounds, primarily PCE, at concentrations exceeding NYSDOH guidance levels. Soil vapor and indoor air quality was most impacted in the basement and first floor of Flamingo Cleaners space. As such, CA Rich recommended

the installation of an exhaust fan and closure of the basement sump as an interim remedial measure.

In September of 2008, CA Rich completed an Interim Remedial Measures (IRM) report of Flamingo Cleaners, 149 North Avenue, New Rochelle, New York. This report was prepared and submitted to the New York State Department of Environmental Conservation on behalf of JAMM North Avenue LLC.

On January 16 through 18, 2008, a Sub-slab depressurization system and 24-inch diameter sump in the dry cleaner basement was sealed with the use of a "Dranjer Trap." In an effort to assess the effectiveness of the SSD system and the temporary sump seal, a follow-up round of indoor air quality testing within the basement and tenant spaces. Samples were collected in 6-liter SUMMA canisters, including a duplicate in the former dry cleaning basement and an exterior background sample. The analytical results from the samples showed the SSD system was successful in reducing PCE and TCE concentrations within the building to below NYSDOH limits. As part of the operation, monitoring, and maintenance (OM&M) of the SSD system, indoor air quality testing will be performed for PCE and TCE on a quarterly basis for at least one year. After a year of monitoring indoor air quality, the need for continued OM&M will be re-evaluated.

In June of 2010, HRP Associates completed an Off-site Remedial Investigation (RI) report. The purpose of the off-site RI was to characterize off-site media potentially impacted by historic activities at the site. Off-site soil, groundwater, soil vapor and indoor air samples were collected and analyzed. Based on the off-site remedial investigation findings, HRP Associates concluded that the nature and extent of the off-site contamination did not pose a significant threat to human health and the environment. No further off-site investigation was warranted at the time of this report in conjunction with the on-site investigation of the site.

In December, 2011, Dorson Environmental Consultants, Inc. completed a Remedial Action Work Plan (RAWP) with the purpose to outline the remedial activities

to take place at the site, including the removal of impacted soil, the removal, replacement or sealing of the basement slab, and in-situ chemical oxidation (ISCO) treatment for the impacted groundwater. Following extensive remediation activities at the site, the VOC concentrations in the soil, air and groundwater would be reduced to an extent to conform with Track 4, Restricted residential levels to prevent exposure to future occupants and risk to the environment.

A summary of the actions required to remediate the Flamingo Cleaners site is included below. It should be noted that Dorson observed a contaminant of concern, a red petroleum based liquid located in the sump pump of the basement, while conducting a routine inspection of the site. This situation was outside of the scope of agreement with the client, but Dorson took certain measures to recover the product in order to keep the site stable.

- Gathered a waste classification sample for impacted soil/fill from all data collected to date. Reviewed data to determine a waste disposal facility that would receive the contaminated soil.

- Excavated all soils exceeding the Track 2 Restricted Use Soil Cleanup Objectives ("RUSCOS") from directly below the basement slab. However, based on site cover and EC/ICs in place a Track 4 Restricted-Residential Use Soil Cleanup Objectives was achieved. The Restricted-Residential use values listed in Part 375 Table 375-6.8(b) RUSCOs were used for this site. Approximately 60 tons of soil was removed from an area that is approximately 30 feet long by 20 feet wide with an average depth of 2 feet below the basement slab.

- Soil monitoring, via visual, olfactory, and PID monitoring occurred during all excavation work. Appropriate PPE was worn as per the site protocols set forth in the Health and Safety Plan (HASP).

- Once excavation activities were complete the collection of confirmation samples as per Draft DER-10 Technical Guidance for Site Investigation and Remediation ("DER-10") occurred to ensure all samples are below RUSCO.

- All Federal, State, and Local rules and regulations were adhered to with regards to the manifest transportation, handling, and offsite disposal of all materials removed from the site.

- A complete round of groundwater elevation data was completed for the purpose of achieving a better understanding of site hydraulic conditions.

- Ensured that all fill material was within the soil objectives stated in 6 New York Codes, Rules, and Regulations ("NYCRR") Part 375-6.7(d); and adhered to all relevant Federal, State, and local rules and regulations for manifest transportation and handling.

In November, 2013, Tectonic completed an addendum to the RAWP. This report outlines additional remedial activities that were to take place at the site. These activities included establishing baseline conditions at the site, collecting backfill verification samples, and performing in-situ chemical oxidation ("ISCO") treatment for the impacted groundwater.

A Backfill Verification Sampling & Analysis, and ISCO Performance Monitoring Report is currently in progress by Tectonic and will present the findings for the soil and groundwater sampling activities performed at the project site located at 149 North Avenue, in New Rochelle, New York, as detailed in Section 2.5 of this report. As required by the New York State Department of Environmental Conservation (NYSDEC) approved Remedial Action Work Plan and Remedial Action Work Plan Addendum for the Site, this report is intended to provide backfill verification at the site prior to the commencement of in-situ chemical oxidation (ISCO) treatment within the proposed treatment area at the subject Site and performance monitoring of the ISCO treatment.

The analytical results of the backfill verification sampling event indicated that the concentration of tetrachloroethene found in the soils within the basement sump pit was greater than the Part 375 Commercial Use Soil Cleanup Objectives (SCOs). Additionally, the analytical results revealed that the following Semi-volatile Organic Compounds (SVOCs) were found in concentrations greater than the Part 375 Commercial SCOs in an area near the western corner of Flamingo Cleaner's basement: 2-methylnaphthalene, naphthalene and phenanthrene.

Multiple sampling events were conducted in order to evaluate the effectiveness of the ISCO treatment. The analytical test results from the most recent sampling event, which occurred on October 20, 2015, indicate that concentrations of tetrachloroethene and its daughter products, cis-1,2-dichloroethene and trichloroethene, were found to be greater than the principal organic contaminant standard for groundwater (Class GA) of 5 µg/L. However, significant improvement in groundwater quality has been realized through the duration of the ISCO treatment. Prior to ISCO treatment, the groundwater concentration of tetrachloroethene was 48,000 µg/L. The most recent groundwater sampling event revealed that tetrachloroethene concentration in on-site groundwater has been reduced to 700 µg/L.

2.4 Remedial Action Objectives

The Remedial Action Objectives (RAOs) for the Site as listed in the Decision Document dated March, 2012 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 buildings at a site.

2.5 Remaining Contamination

2.5.1 Soil

CA RICH Consultants performed a round of soil sampling in March, 2006, in which soil samples were analyzed for concentrations of Volatile Organic Compounds, and found that concentrations of methylene chloride were found in exceedance of NYSDEC SCOs in

at least one of the soil samples collected. Results of this soil sampling activity are found in Table 3, included in the FER.

Excavation activities to remove impacted soil were completed by Dorson Environmental Management, Inc.(Dorson) in January 2013 and post excavation soil samples were collected and analyzed for the Contaminants of Concern as stipulated by NYSDEC. Analytical test results indicated that concentrations of tetrachloroethylene (PCE) were found in excess of NYSDEC SCOs in at least one of the soil samples collected. Results of this soil sampling activity are found in Table 4, included in the FER. Following removal of the impacted soils, Dorson oversaw the backfilling of the excavation and the pouring of a new concrete slab in February, 2013.

In August, 2014, Tectonic collected a round of backfill verification samples from the Site. The time delay that exists in between the placement of the backfill and the backfill verification sampling event is due to the sudden departure of Dorson from the project. Results from Tectonic's backfill verification sampling event found that the following contaminant classes and major compounds were found in at least one of the imported fill samples collected following initial remedial activities, which included replacing impacted soil with imported fill. The presence of these contaminants is likely a result of the imported fill coming in contact with the existing groundwater plume. The analytical test results of the backfill verification sampling are found in Table 6, included in the FER.

1. Volatile Organic Compounds (VOCs)

    a. Methylene Chloride (or dichloromethane)
    b. Tetrachloroethene (PCE or PERC)

2. Metals

    a. Aluminum
    b. Iron

3. Semi-volatile Organic Compounds (SVOCs)

    a. 2-methylnaphthalene
    b. Acenaphthene
    c. Fluorene
    d. Naphthalene
    e. Phenanthrene

4. Pesticides – A pesticide is any substance used to kill, repel or control certain forms of plant or animal life that are considered to be pests.

    a. 4,4-DDD
    b. 4,4-DDE
    c. 4,4-DDT
    d. Endrin

2.5.2 Groundwater

Figure 6 shows the location from which all samples of groundwater were collected from, as stipulated by the Remedial Action Work Plan and Remedial Action Work Plan Addendum. Table 2 details the results of all laboratory analyses that were completed for each of the groundwater sampling events.

At the request of the New York State Department of Environmental Conservation (NYSDEC), groundwater sampling focused on monitoring the levels of dry cleaning solvents and their degradation products. As such, remedial groundwater sample analysis was performed for Volatile Organic Compounds (VOCs). Each VOC compound in which the concentration exceeded TOGS 1.1.1 groundwater guidance values is listed below.

1. Volatile Organic Compounds (VOCs)

a. 1,2-Dichlorobenzene
b. Acetone
c. Bromomethane
d. Carbon Tetrachloride
e. Chloroethane
f. Chloroform
g. cis-1,2-Dichloroethene
h. Methylene Chloride (or dichloromethane)
i. Tetrachloroethene: Tetrachloroethene (PCE or PERC)
j. Trichloroethene (TCE)

In 2006, Flamingo Cleaners ceased on-site operations and removed the dry-cleaning machine and all associated cleaning chemicals and wastes from the premises. As such, there are no remaining source areas for contamination remaining on the property.

2.5.3 Soil Vapor

Prior to remediation, the results of vapor intrusion testing indicated the presence of chlorinated volatile organic compounds (CVOCs) (particularly PCE) in the sub-slab soil vapor as well as the indoor air within the basements and ground-floor areas of the Flamingo Cleaners and the neighboring tenant space at levels in exceedance of NYSDOH guidance values. Air quality and soil vapor impacts appeared to be most elevated within and below the Flamingo Cleaners location and decreases with increased distance away from the source. As described in detail in CA Rich's Interim Remedial Measures Report, dated September 2008, and summarized in Section 2.3 of this document, a SSD system was installed in January 2008 to mitigate sub-slab vapor intrusion into the basement spaces of the building on site.

The purpose of installing the SSD system was to mitigate the indoor air quality issues identified on Site during the Remedial Investigation as outlined in NYSDEC's letter dated July 7, 2006. The contaminants of concern that were negatively affecting air quality

are perchloroethene (PCE) and its degradation products. Based upon the results of an SSD pilot study conducted by CA Rich Environmental Specialists, there was sufficient horizontal communication to maintain a vacuum in the relatively small sub-slab vadose zone, making the installation of a SSD system feasible.

It is necessary to ensure the continued proper function of the SSD system in the future, as detailed in Section 4.3.1. The current tenant will check the manometer monthly and a formal inspection of the manometer will occur semi-annually in order to ensure the SSD system is still operating at proper capacity.

Figure 7 shows the location where all samples of soil vapor were collected. There were no exceedances of the SCGs after completion of the remedial action.

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

3.2 Institutional Controls

A series of ICs is required by the Decision Document to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination; and, (3) limit the use and development of the site to restricted residential, commercial, and industrial uses only. Adherence to these ICs on the site is required by the

Environmental Easement and will be implemented under this SMP. ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement. The IC boundaries are shown on Figure 1. These ICs are:

- The property may be used for : restricted residential, commercial and industrial use;
- All ECs must be operated and maintained as specified in this SMP;
- All ECs must be inspected at a frequency and in a manner defined in the SMP.
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Westchester County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department.
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP;
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP;
- Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement.
- The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries noted on Figure 1, and any potential impacts that are identified must be monitored or mitigated; and
- Vegetable gardens and farming on the site are prohibited;

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 the current building which will remain in use on the site. In the area of excavation, Dorson Environmental Management had clean fill material imported and put in place. The slab was replaced and finished with concrete once excavation and fill activities were completed. Figure 8 presents the location of the cover system. The Excavation Work Plan (EWP) provided in Appendix V outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection of this cover are provided in the Monitoring and Sampling Plan included in Section 4.0 of this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and associated Community Air Monitoring Plan (CAMP) prepared for the site and provided in Appendix VI.

3.3.2 Sub-slab Depressurization System

The SSD system consists of a roof-mounted Fantech HP-220 Radon Mitigation Fan and a network of 4”-diameter PVC pipes. This component of the overall system is a maintenance-free device; however, its continued operation will be verified each month by the tenant. Monthly monitoring will include checking the inline manometer. In addition, a condensate drain plug has been installed within a 5-foot long, 4”-diameter PVC trap located in the basement directly below the SSD fan. Any water within this trap will be drained on a monthly basis. The SSD system will be inspected semi-annually by a qualified professional to ensure that it is properly functioning. This inspection will include checking the in-line manometer and recording vacuum levels in each of the four sub-slab vapor wells.

Procedures for operating and maintaining the SSD system are documented in the Operation and Maintenance Plan (Section 5.0 of this SMP). An Operations and Maintenance Manual is included in Appendix X. Figures 7 and 8 show the location of the ECs for the site.

3.3.3 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.6 of NYSDEC DER-10.

3.3.3.1 - Cover (or Cap)

The concrete 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.

3.3.3.3 ISCO Groundwater Treatment

In-situ chemical oxidation (ISCO) is a technology used to treat chlorinated ethane compounds (a type of VOC) in soil and groundwater. Oxidation of dissolved tetrachloroethylene (PERC or PCE) using a pre-mixed persulfate-ferrous iron blend as the

oxidant will be conducted in the targeted treatment area. The treatment zone is approximately 1,675 ft^2 in size, including the basement area of the Flamingo Cleaners. Ten injection points were installed to a depth of 6 to 8 feet below the basement floor grade and approximately two feet above the confining layer. The location of the injection wells were placed in a grid in order to distribute the amendment evenly throughout the treatment zone. The injection of the oxidant resulted in free hydroxyl radicals and sulfoxyl radicals oxidizing the PCE in the capillary fringe zone and in the groundwater. This process oxidized the dissolved phase as well as any undissolved solvent adhering to soil particles to non-controlled chemicals and carbon dioxide. The two-step process, chemical oxidation and anaerobic biodegradation, effectively removed the dissolved chlorinated hydrocarbons in the treatment zone.

Prior to the commencement of the ISCO injections, an environmental geologist from Tectonic mobilized to the site on December 26, 2013 to collect soil and groundwater samples to establish background conditions.

Two rounds of ISCO injections were performed by INTEX Environmental Group, Inc. in August, 2014 and April, 2015. Full time field oversite was provided by a Geologist with current 40-hour OSHA HAZWOPER training from Tectonic during both of the injection events.

3.3.3.4 - Monitoring Wells associated with Monitored Natural Attenuation

Groundwater monitoring activities to assess natural attenuation will continue, as determined by the NYSDEC with consultation with NYSDOH, until residual groundwater concentrations are found to be consistently below ambient water quality standards, the site SCGs, or have become asymptotic at an acceptable level over an extended period. The groundwater samples to be analyzed to monitor natural attenuation will be collected from monitoring wells TEC-MW-1, TEC-MW-2 and Intex-MW-6 (see Figure 6). In the event that monitoring data indicates that monitoring for natural attenuation may no longer be required, a proposal to discontinue the system will be submitted by the remedial party.

Monitoring will continue until permission to discontinue is granted in writing by the NYSDEC. If groundwater contaminant levels become asymptotic at a level that is not acceptable to the NYSDEC, additional source removal, treatment and/or control measures will be evaluated.

4.0 MONITORING AND SAMPLING PLAN

4.1 General

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

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

- Sampling and analysis of all appropriate media (e.g., groundwater, indoor air, soil vapor, soils);
- Assessing compliance with applicable NYSDEC standards, criteria and guidance (SCGs), particularly groundwater standards and Part 375 SCOs for soil; and
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment;

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

- Sampling locations, protocol and frequency;
- Information on all designed monitoring systems;
- Analytical sampling program requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and

- Annual inspection and periodic certification.

Reporting requirements are provided in Section 7.0 of this SMP.

4.2 Site – wide Inspection

Site-wide inspections will be performed at a frequency defined in table 4.1. Modification to the frequency or duration of the inspections will require approval from the NYSDEC. Site-wide inspections will also be performed after all severe weather conditions that may affect ECs or monitoring devices. During these inspections, an inspection form will be completed as provided in Appendix VIII – Site Management Forms. The form will compile sufficient information to assess the following:

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

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

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

- If site records are complete and up to date

Reporting requirements are outlined in Section 7.0 of this plan.

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the site, verbal notice to the NYSDEC must be given by noon of the following day. In addition, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the IC/ECs implemented at the site by a qualified environmental professional, as determined by the NYSDEC. Written confirmation must be provided to the NYSDEC within 7 days of the event that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

4.3 Treatment System Monitoring and Sampling

4.3.1 Remedial System Monitoring

Monitoring of the SSD system will be performed on a routine basis, as identified in Table 4.1 Remedial System Monitoring Requirements and Schedule (see below). Modification to the frequency will require approval from the NYSDEC. A visual inspection of the complete system will be conducted during each monitoring event. Unscheduled inspections and/or sampling may take place when a suspected failure of the SSD system has been reported or an emergency occurs that is deemed likely to affect the operation of the system. SSD system components to be monitored include, but are not limited to, the components included in Table 4.1 below.

Table 4.1 – Remedial System Monitoring Requirements and Schedule

Remedial System Component	Analysis	Purpose	Monitoring Schedule
Site Cover System	Visual Inspection of Conditions	Cover System Integrity	Annually by qualified professional
Inspection of SSDS	Visual inspection of manometer	SSDS operations	Monthly by owner / operator.
Indoor Air Sampling	VOCs via EPA Method TO-15	SSDS performance	Annual basis during the heating system (November 1 through March 31) by qualified professional for the first year only
Groundwater ISCO Monitoring and Sampling	VOCs via EPA Method 8260	Groundwater remediation performance (long term monitoring for natural attenuation)	As necessary by qualified professional as determined via consultation with NYSDEC

A complete list of components to be inspected is provided in the Inspection Checklist, provided in Appendix VIII – Site Management Forms. If any equipment readings are not within their specified operation range, any equipment is observed to be malfunctioning or the system is not performing within specifications; maintenance and repair, as per the Operation and Maintenance Plan, is required immediately.

4.4 Post-Remediation Media Monitoring and Sampling

Samples shall be collected from the groundwater within the three (3) monitoring wells clarified by Figure 6 on a routine basis. Indoor air sampling will only be performed prior to any permanent change in SSD system use; please refer to Section 4.4.2 for detailed protocols. Sampling locations, required analytical parameters and schedule are provided in Table 4.2 – Remedial System Sampling Requirements and Schedule below. Modification to the frequency or sampling requirements will require approval from the NYSDEC.

Table 4.2 – Post Remediation Sampling Requirements and Schedule

Sampling Location	**Analytical Parameters**		**Schedule**
	VOCs (EPA Method 8260)	VOC (Method TO-15)	
Monitoring Well Network (see Figure 6)	X		semi-annually (to evaluate natural attenuation processes).
Indoor Air		X	As directed by NYSDEC, prior to any permanent change in SSD system use.

Detailed sample collection and analytical procedures and protocols are provided in Appendix IX – Field Activities Plan and Appendix VII – Quality Assurance Project Plan.

4.4.1 Groundwater Sampling

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

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

A total of three (3) on-site monitoring wells were installed at the site. Two (2) are located immediately adjacent to the treatment area, and one (1) is situated within the remediation area. These three (3) wells will continue to be utilized as part of the sampling plan to determine the effectiveness of the ISCO remedy (see Figure 6).

Table 4.3 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, three (3) on-site well is sampled to evaluate the effectiveness of the remedial system. These wells are situated on-site and have been selected to monitor the progress of natural attenuation. It should be noted that NYSDEC recently completed a round of sampling at the off-site wells which demonstrated that the contaminant plume is not migrating.

Table 4.3 – Monitoring Well Construction Details

Monitoring Well ID	Well Location	Well Diameter (inches)	Elevation (above mean sea level)			
			Casing	Surface	Screen Top	Screen Bottom
MW-1	on-site	1	91.4 ft.	89 ft.	86.5 ft.	84 ft.
MW-2	on-site	1	89.5 ft.	89 ft.	87.5 ft.	85 ft.
MW-6	On-site	Monitoring Well Log Pending				

Monitoring well construction logs are included in Appendix IV of this document. Figure 6 shows the location of the monitoring wells.

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

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

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

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

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

4.4.2 Soil Vapor Intrusion Sampling

Soil vapor intrusion sampling will be performed prior to dismantling or permanent shut down of the SSD system to assess the performance of the remedy. Modification to the frequency or sampling requirements will require approval from the NYSDEC.

The SSD system cannot be shut down until NYSDEC receives, and has had the opportunity to review and approve a written proposal to turn off the mitigation system. In the event of system shut down, a formal request to shut down the SSD system will be submitted to the NYSDEC. Following NYSDEC approval, the SSD system will be shut down for a period of thirty (30) days and will be immediately followed by a round of soil vapor sampling and subsequent restart of the system. Analytical test results from the soil vapor sampling event will then be submitted to the NYSDEC. The NYSDEC and NYSDOH will use this data to decide whether or not to grant permission to permanently shut down the SSD system.

The network of on-site soil vapor intrusion sample locations will be developed at the time of the proposed SSD system shut down and will include:

- A Figure showing all soil vapor intrusion sampling locations;
- A discussion of the depths of all soil vapor intrusion samples; and
- A Table of sample locations and analytical parameters analyzed

Tectonic intends to use the same sampling protocols and the same sampling locations that were used and developed by CA Rich, which are described in their Interim Remedial Measures Report, dated September 2008. Figure 7, attached, shows the sub-slab vapor sampling locations that will be used.

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 soil vapor intrusion sampling program are specified in Section 7.0 – Reporting Requirements.

4.4.3 Monitoring and Sampling Protocol

All sampling activities will be recorded in a field book or daily field report and associated sampling log as provided in Appendix VIII – Site Management Forms. Other observations (e.g., groundwater monitoring well integrity, etc.) will be noted on the sampling log. The sampling log will serve as the inspection form for the monitoring network. Additional detail regarding monitoring and sampling protocols are provided in the site-specific Field Activities Plan provided as Appendix IX of this document.

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 SSD system;
- Will be updated periodically to reflect changes in site conditions or the manner in which the SSD system is operated and maintained.

Further detail regarding the Operation and Maintenance of the SSD system is provided in Appendix X – 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 Remedial System (or other Engineering Control) Performance Criteria

5.3 Operation and Maintenance of Sub-slab Depressurization System

The following sections provide a description of the operations and maintenance of the SSD system. Cut-sheets for the SSD system are provided in Appendix X – Operations and Maintenance Manual.

Monitoring of the SSD system will be performed on a routine basis. Modification to the frequency will require approval from the NYSDEC. A visual inspection of the complete system will be conducted during each monitoring event. Unscheduled inspections and/or sampling may take place when a suspected failure of the SSD system has been reported or an emergency occurs that is deemed likely to affect the operation of the system.

SSD system components to be monitored include, but are not limited to the vacuum blower, general system piping and the Dranjer Trap.

5.3.1 System Start-Up and Testing

Once the SSD system was installed and operational, post-mitigation confirmation was conducted by CA Rich Consultants, Inc., as outlined below.

On February 5, 2008, CA Rich performed a follow-up round of indoor air quality testing within the basement and tenant spaces to determine the effectiveness of the SSD system. Testing was conducted over an 8-hour period using 6-liter SUMMA canisters. One sample was collected within each of the basements and one sample was collected within each of the tenant spaces. For quality control purposes, one duplicate sample was collected from within the former dry cleaner basement and one exterior background sample was collected. During purging and sampling, flow rates did not exceed 0.2 liters per minute. The canisters were submitted to a NYSDOH certified laboratory for analysis of VOCs (Halogenated) via TO14 (of TO15) methodology.

The results of the follow-up air testing revealed that the installation and operation of the SSD system had been successful in reducing the concentrations of PCE and TCE within the building below their respective NYSDOH limits of 100 $\mu g/m^3$ and 5 $\mu g/m^3$, respectively.

The system testing described above will be conducted if, in the course of the SSD 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

The SSD system will be inspected by the tenant on a monthly basis, and by a qualified professional on a semiannual basis, to ensure that it is functioning properly. A

discussion of the routine system operation and maintenance activities to be performed for the SSD system are explained above in Section 3.3.2.

5.3.3 System Monitoring Devices and Alarms

The SSD system has no warning devices to indicate that the system is not operating properly. Therefore, system monitoring will be limited to inspections performed as stipulated in Section 7.0 and Appendix X.

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 climatic 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 engineering controls to severe storms/weather events and associated flooding.

No formal vulnerability assessment has been performed at the time of the SMP. However, the site is not located within a 100-year or 500-year floodplain according to FEMA flood insurance maps. Based on the site's elevation and the no-use restriction of on-site groundwater, it is unlikely that the site will be vulnerable to damage caused by climate change. This will be reassessed periodically by reviewing publicly available information regarding the site's vulnerability to flooding. Potential damages that could be caused by high winds, electricity, or contamination release will be evaluated at a later date.

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).

- Site inspections have been limited to semiannual in order to reduce the amount of fossil fuels used during travel to/from the site.
- On-site waste is limited to less than two (2) gallons of purge fluid per sampling event.
- Electrical energy use by the SSD system is minimal (see cut-sheets provided in Appendix X).

6.2.1 Timing of Green Remediation Evaluations

For major remedial system components, green remediation evaluations and corresponding modifications will be undertaken as part of a formal Remedial System Optimization (RSO), or at any time that the Project Manager feels appropriate, e.g. during significant maintenance events or in conjunction with storm recovery activities.

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. Remedial Systems

Remedial 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 and use of reagents and consumables. Spent materials will be sent for recycling, as appropriate.

Remedial system types and associated parameters to be evaluated include, but are not limited to:

- Soil vapor extraction points
- Gas venting systems

6.2.3 Building Operations

Structures including buildings and sheds will be operated and maintained to provide for the most efficient operation of the remedy, while minimizing energy, waste generation and water consumption.

Components to be evaluated should include, but are not limited to:

- Heating/cooling systems and temperature set-points;
- Building skin, insulation and building use and occupancy;
- Ventilation;
- Lighting and plug loads; and
- Grounds and property management.

6.2.4 Frequency of System Checks, Sampling 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 and or collect samples and shipping samples to a laboratory for analyses 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 sampling frequencies;
- Reduced site visits and system checks;

6.2.5 Metrics and Reporting

As discussed in Section 7.0 and as shown in Appendix VIII – 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.

6.3 Remedial System Optimization

A Remedial Site Optimization (RSO) study will be conducted any time that the NYSDEC or the remedial party requests in writing that an in-depth evaluation of the remedy is needed. An RSO may be appropriate if any of the following occur:

- The remedial actions have not met or are not expected to meet RAOs in the time frame estimated in the Decision Document;
- The management and operation of the remedial system is exceeding the estimated costs;
- The remedial system is not performing as expected or as designed;
- Previously unidentified source material may be suspected;
- Plume shift has potentially occurred;
- Site conditions change due to development, change of use, change in groundwater use, etc.;
- There is an anticipated transfer of the site management to another remedial party or agency; and
- A new and applicable remedial technology becomes available.

An RSO will provide a critique of a site's conceptual model, give a summary of past performance, document current cleanup practices, summarize progress made toward the site's cleanup goals, gather additional performance or media specific data and

information and provide recommendations for improvements to enhance the ability of the present system to reach RAOs or to provide a basis for changing the remedial strategy.

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 VIII. These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including media sampling data and 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 7.1 and summarized in the Periodic Review Report.

Table 7.1: Schedule of Interim Monitoring/Inspection Reports

Task/Report	Reporting Frequency*
Inspection Report	Annually
Periodic Review Report	Annually, or as otherwise determined by the Department

* 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^{TM} database in accordance with the requirements found at this link http://www.dec.ny.gov/chemical/62440.html.

7.2 Periodic Review Report

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

- Identification, assessment and certification of all ECs/ICs required by the remedy for the site.
- Results of the required annual site inspections and severe condition inspections, if applicable.
- All applicable site management forms and other records generated for the site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted.
- A summary of any discharge monitoring data and/or information generated during the reporting period, with comments and conclusions.
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor, etc.), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances

highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends.

- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted in digital format as determined by the NYSDEC. Currently, data is 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.

- A site evaluation, which includes the following:

  – The compliance of the remedy with the requirements of the site-specific RAWP, ROD or Decision Document;

  – The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;

  – Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring and Sampling Plan for the media being monitored;

  – Recommendations regarding any necessary changes to the remedy and/or Monitoring and Sampling Plan; and

  – Trends in contaminant levels in the affected media will be evaluated to determine if the remedy continues to be effective in achieving remedial goals as specified by the Decision Document.

  – The overall performance and effectiveness of the remedy.

7.2.1 Certification of Institutional and Engineering Controls

Following the last inspection of the reporting period, a qualified environmental professional or Professional Engineer licensed to practice in New York State (depending on the need to evaluate engineering systems) will prepare, and include in the Periodic Review Report, the following certification as per the requirements of NYSDEC DER-10:

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

- *The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;*

- *The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;*

- *Nothing has occurred that would impair the ability of the control to protect the public health and environment;*

- *Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;*

- *Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;*

- *If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;*

- *Use of the site is compliant with the environmental easement;*

- *The engineering control systems are performing as designed and are effective;*

- *To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program and 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, Peter T. Sutherland, of 70 Pleasant Hill Road, Mountainville, New York, 10953, am certifying as Remedial Party's Designated Site Representative for the site."

- *No new information has come to my attention, including groundwater monitoring data from wells located at the site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of off-site contamination are no longer valid; and*

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

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

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

7.3 Corrective Measures Work Plan

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

7.4 Remedial Site Optimization Report

In the event that an RSO is to be performed (see Section 6.3, upon completion of an RSO, an RSO report must be submitted to the Department for approval. A general outline for the RSO report is provided in Appendix XII. The RSO report will document the research/ investigation and data gathering that was conducted, evaluate the results and facts obtained, present a revised conceptual site model and present recommendations. RSO recommendations are to be implemented upon approval from the NYSDEC. Additional work plans, design documents, HASPs etc., may still be required to implement the recommendations, based upon the actions that need to be taken. A final engineering report and update to the SMP may also be required.

The RSO report will be submitted, in electronic format, to the NYSDEC Central Office, Regional Office in which the site is located, Site Control and the NYSDOH Bureau of Environmental Exposure Investigation.

8.0 REFERENCES

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Cadwell, D.H. & others. 1986. Surficial Geologic Map of New York – Lower Hudson Sheet. New York State Museum – Geological Survey. Map and Chart Series # 40.

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CA Rich Consultants, Inc. September, 2008. Interim Remedial Measures Report of Flamingo Cleaners, 149 North Avenue, New Rochelle, New York.

Dorson Environmental Management, Inc. December, 2011. Alternatives Analysis Report / Remedial Action Work Plan of Flamingo Cleaners, 149 North Avenue, New Rochelle, New York.

Federal Emergency Management Agency Staff. Flood Insurance Rate Map (FIRM) for Westchester County, New York. Panel 342 of 426. Map Number 36119C0342F. Effective Date: September 28, 2007.

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HRP Associates, Inc. June, 2010. Off-site Remedial Investigation of Flamingo Cleaners, 149 North Avenue, New Rochelle, New York.

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).

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Custom Soil Resource Report for Westchester County, NY. Available online at http://websoilsurvey.nrcs.usda.gov/. Accessed [08/12/2015].

Tectonic Engineering & Surveying Consultants P.C. November, 2013. Remedial Action Work Plan Addendum for Flamingo Cleaners, 149 North Avenue, New Rochelle, New York.

APPENDIX I – ENVIRONMENTAL EASEMENT

Attached as a PDF.

APPENDIX II – LIST OF SITE CONTACTS

Name	Phone/Email Address
Site Owner: V & V Capital LLC	(646) 261 - 3468 albkos261@aol.com
Remedial Party: V & V Capital LLC	(646) 261 - 3468 albkos261@aol.com
Qualified Environmental Professional: Tectonic Engineering / Kristine Garbarino	(845) 534 – 5959 ext. 2316 KGarbarino@tectonicengineering.com
NYSDEC DER Project Manager: Kiera Thompson	(518) 402 - 9662 kiera.thompson@dec.ny.gov
NYSDEC Regional HW Engineer: Ed Moore	(845) 256 - 3137 edward.moore@dec.ny.gov
NYSDEC Site Control: Kelly Lewandowski	(518) 402 - 9553 Kelly.lewandowski@dec.ny.gov
Remedial Party Attorney: Kevin Ryan; Ryan Law Group LLC	(914) 833 - 8378 kgj@ryanlawgroup.com

APPENDIX III – SITE SPECIFIC BORING LOGS & TEST PIT LOGS

Attached as a PDF.

APPENDIX IV: GROUNDWATER MONITORING WELL CONSTRUCTION LOGS

Attached as a PDF.

APPENDIX V – EXCAVATION WORK PLAN (EWP)

5-1 NOTIFICATION

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

Table 1: Notifications*

Central Office NYSDEC Representative: Kiera Thompson	(518) 402 - 9662 kiera.thompson@dec.ny.gov
Regional Office NYSDEC Representative: Ed Moore	(845) 256 - 3137 edward.moore@dec.ny.gov
NYSDEC Site Control: Kelly Lewandowski	(518) 402 - 9553 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 VI 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.

5-2 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 5-6 of this Appendix.

5-3 SOIL STAGING METHODS

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

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

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

5-4 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.

5-5 MATERIALS TRANSPORT OFF-SITE

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

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

Truck transport routes must be submitted and approved by the NYSDEC prior to the transport of any materials off site. A map of the proposed truck route must be provided. All trucks loaded with site materials will exit the vicinity of the site using only these approved truck routes. The proposed route must take 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; and (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.

5-6 MATERIALS DISPOSAL OFF-SITE

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

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

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

The disposal facility can be preliminarily selected based on the existing data to determine the acceptance of the soil into the disposal facility. However, all facility

acceptance requirements must be met prior to hauling the material offsite. The facility will be chosen in compliance with all Federal, State, and local rules and regulations, and all required facility information will be reported to the NYSDEC PM before commencing disposal activities. All soil excavated from the site will be classified as contaminated regulated material and will be disposed of according to all applicable State, Federal and local regulations, including 6 NYCRR Part 360. Unregulated offsite management of materials from the site will be prohibited. Disposal of any materials that do not meet Track 1 Unrestricted Use SCOs is prohibited from being admitted to a New York State recycling facility (6 NYCRR Part 360-16 registration Facility). The contractor will provide the following documentation to fully demonstrate that the disposal of all materials is in compliance with all Federal, State and local laws:

- A letter from the contractor to the disposal facility stating the analytical testing results of the material to be admitted as well as a detailed description of the material to be disposed. This letter will state the generators location and contain the contact information for the contractor.

- A letter from the disposal facility stating its receipt of the above mentioned letter and confirmation of its ability to accept the material to be disposed.

The FER and IRM CCR describe in detail, the location of all material removed from the site during remedial activities, as well as all documentation associated with the acceptance of the material into the chosen facility. All hazardous waste excavated from the site was stored, transported, and disposed of according to all applicable Federal, State and local laws.

5-7 MATERIALS REUSE ON-SITE

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.

5-8 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.

Should any dewatering of the basement be required for future improvements, available soil data may be used if it is sufficient to estimate porosity and yield. Dewatering fluid shall not be disposed of into the sanitary sewer unless permitted to do so by Westchester County / New Rochelle.

5-9 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 decision document. The existing cover system is comprised of a minimum of 24 inches of clean soil, a concrete slab and the

existing concrete building. 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.

5-10 BACKFILL FROM OFF-SITE SOURCES

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

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

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

5-11 STORMWATER POLLUTION PREVENTION

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.

5-12 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.

5-13 OTHER NUISANCES

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

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

APPENDIX VI – HEALTH AND SAFETY PLAN

Attached as a PDF.

APPENDIX VII – QUALITY ASSURANCE PROJECT PLAN

QUALITY PROCEDURES

This section should be modified to cover additional types of sampling and analysis as required by NYSDEC.

This section describes the procedures for assessing accuracy, completeness and comparability of samples and data, including performance audits. Additionally, this section includes the preparation of daily and project summary quality control reports, and the manufacturer, catalog data and calibration records (if applicable) of all analytical equipment to be used on Site. Data validation and corrective actions are also discussed in this section.

Accuracy

The quality procedures for the determination of sample accuracy include the collection of trip blanks. Details are provided below.

Trip Blanks

Trip blanks prepared by the laboratory and consisting of ultrapure deionized water will be transported along with each sample delivery group to demonstrate that on site atmospheric conditions did not impact the sample containers in any detectable way and that cross-contamination did not occur during shipment of the sample containers. The blanks will be shipped within the sample pack coolers for use at the site. These blanks will be taken to the field during sampling activities and will be returned to the laboratory with sample shipment. They will serve as a QC check on container cleanliness, external contamination and the analytical method. The trip blank will be identified as such on the chain-of-custody form. One trip blank will be submitted for every day of sampling and analyzed for

VOCs only.

Data Completeness

The DQO for complete sampling is 100%. In the event that 100% sampling is not obtained, due to inaccessibility of sampling points or other field conditions, the effect of the uncollected data will be evaluated. Corrective actions will be implemented to resolve any data gaps found as a result of less than 100% data completeness.

Data Comparability

The methodologies used for the collection and analysis of samples as documented herein are expected to provide comparable data. The methods stipulated in the Field Sampling Plan were derived from the New York Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation (DER) – Technical Guidance for Site Investigation and Remediation (DER-10). Field conditions will be documented and considered when evaluating data to determine the effects of sample characteristics or analytical results. Whenever possible, the same sampling team will obtain all samples on the same day to reduce inconsistencies which may be cause by technique and time variables.

Field Inspections

Groundwater samples will be collected by qualified personnel under the direct supervision of a New York State QEP. No formal QA/QC inspections are anticipated at this time. If conditions or circumstances present themselves during the course of the field sampling, requiring formal QA/QC inspections, this document will be appended to provide for them.

Daily and Project Summary Quality Control Reports

Tectonic field staff will record field observations and other pertinent data on standard Daily Field Reports (DFRs). These field documents will be finalized for incorporation into the report(s), as needed, and as required as part of any applicable

permit to support the quality of the data represented. Tectonic's New York State QEP will review the DFRs and chain of custody records to ensure that the information recording is complete, accurate, and in compliance with project specifications, and the Field Sampling Plan. Any deviations will be noted and will be incorporated into the report.

On Site Analytical Equipment

On Site analytical equipment will generally be limited to a Heron Instruments dipper-T water level meter, a Geotech Geopump peristalitic pump, a YSI 6820 multi-parameter meter, and single use disposable equipment such as bailers and sampling jars.

The Heron Instruments dipper-T water level meter and Geotech Geopump peristalitic pump arrive calibrated from the factory. No additional calibration is necessary. The YSI 6820 multi-parameter meter is calibrated following the manufacturer's instructions between each sampling event.

Data Validation

All analytical test results submitted to NYSDEC as part of the remedial progress monitoring will be reported by the laboratory in NYS ASP B deliverables. All results will be sent to an independent third party data validator who will prepare a Data Usability Summary Report (DUSR) for submittal to NYSDEC.

Corrective Action

During daily field operations, field personnel will communicate with Tectonic's Project Manager and evaluate possible corrective actions required to improve field sample collection or handling procedures. Field personnel will immediately implement changes to field protocol when authorized. Any corrective actions will be documented in the field logbook and DFR.

The corrective action should not adversely affect the Project's DQOs or health and safety of Project personnel or the general public. The steps in the corrective action system are as follows:

- Identify the problem
- Assign personnel to investigate and determine the cause of the problem
- Determine corrective action to eliminate the problem
- Assign personnel responsible to implement the corrective action
- Implement the corrective action
- Evaluate the corrective action and verify that the problem is eliminated

APPENDIX VIII
SITE MANAGEMENT FORMS

Attached as a PDF.

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**

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APPENDIX IX – FIELD ACTIVITIES PLAN

Field activities will include semiannual inspection of the SSD system and semiannual sampling of the on-site groundwater. A description of the protocols for the SSD system inspection are included in Appendix X. A description of the groundwater field sampling activities in included in Appendix XII.

APPENDIX X
O&M MANUAL FOR SSD SYSTEM

The investigator shall implement an Operation and Maintenance (O&M) Program that consists of monthly inspections of the SSD system to verify the system's proper operation. The inspections can be reduced to annual after the first year, provided the initial inspections reveal no operational deficiencies.

The static pressure of the system suction points and the fan inlet shall be measured and recorded. If the static pressure deviates by more than ± 0.25 inches of water from its baseline value, then NYSDEC must be notified to determine if additional investigations are necessary. If the system needs to be modified, depressurization will be re-verified by a communication test and documented accordingly.

A Monitoring and Maintenance Report (MMR) will be prepared and submitted on an annual basis to the NYSDEC. The MMR will document the results of the O&M inspections. All information or data generated from these inspections shall be reported on the MMR.

Please refer to Appendix VIII: Site Management Forms for a copy of a blank MMR. Please see the attached PDF for manufacturer's specifications for the SSD system currently operating on site.

APPENDIX XI
RESPONSIBILITIES of
OWNER and REMEDIAL PARTY

Responsibilities

The responsibilities for implementing the Site Management Plan ("SMP") for the Flamingo Cleaners site (the "site"), number C360078, are divided between the site owner(s) and a Remedial Party, as defined below. The owner(s) is/are currently listed as:
V & V Capital LLC, PO Box 933, New City, NY 10956 (the "owner").

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:
V & V Capital LLC, PO Box 933, New City, NY 10956

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.

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 certify, in writing, that all Institutional Controls set forth in an Environmental Easement remain in place and continue to be complied with. The owner shall provide a written certification to the RP, upon the RP's request, in order to allow the RP to include the certification 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 Environmental Easement and shall submit, upon request by the NYSDEC, a written certification that the Environmental Easement 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) Until such time as the NYSDEC deems the vapor mitigation system unnecessary, the owner shall operate the system, pay for the utilities for the system's operation, and report any maintenance issues to the RP and the NYSDEC.

9) 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.

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 of any installed vapor intrusion mitigation systems associated with the site, as required in Section 2.5.3 or Appendix X (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.

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 XII – FIELD SAMPLING PLAN

This section shall be updated as necessary if any other media sampling and analysis is required.

Low flow technique for groundwater sample collection shall be utilized at this site. During purging, groundwater pH, temperature, conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP) will be recorded. The groundwater sample will be collected after stabilization of the field parameters. The sample will be analyzed for:

- Volatile Organic Compounds (VOCs) via EPA Method 8260

Trip blanks, to be analyzed for VOCs, will accompany all samples. The groundwater sample will be analyzed by a New York State Environmental Lab Accreditation Program (ELAP) - accredited laboratory. Analytical results will be reported via Category B deliverables.

TABLE 1
(See Report)

TABLE 2

Table 2 - Groundwater Characteristics

6922.01 Flamingo Cleaners, 9/25/2014

Well Identification	TEC-MW-1	TEC-MW-2	MW-3	MW-4	MW-5
Parameter					
Depth to Water - Feet	4.48	2.83	11.74	11.45	11.37
pH	6.66	5.67	3.57	6.77	5.74
Temperature - °C	19.6	19.07	17.65	16.78	18.28
Conductivity - mS/cm	1.178	8.041	30.24	0.123	0.615
Salinity - %	0.66	5.1	22.22	0.07	0.35
Dissolved Oxygen (DO) - %	40.9	58.2	45.2	89.6	49.7
Oxidation Reduction Potential (ORP)	-231.7	-158.3	621.4	197.6	192.5

Table 2 - Groundwater Characteristics

6922.01 Flamingo Cleaners, 11/6/2014

Well Identification	TEC-MW-1	TEC-MW-2	MW-3	MW-4	MW-5
Parameter					
Depth to Water - Feet	2.00	2.20	11.80	11.60	11.30
pH	9.15	8.46	-1.79	6.18	1.99
Temperature - °C	17.72	18.58	16.68	16.48	16.64
Conductivity - mS/cm	1.282	6.616	13.10	0.155	1.396
Salinity - %	0.75	4.18	9.13	0.09	0.84
Dissolved Oxygen (DO) - %	29.7	36.3	47.2	70.3	39.4
Oxidation Reduction Potential (ORP)	-97.8	-93.3	362.5	62.2	221.0

Table 2 - Groundwater Characteristics

6922.01 Flamingo Cleaners, 4/3/2015

Well Identification	TEC-MW-1	TEC-MW-2	MW-3	MW-4	MW-5
Parameter					
Depth to Water - Feet	NA	NA	NA	NA	5
pH	NA	NA	NA	NA	8.36
Temperature - °C	NA	NA	NA	NA	11.97
Conductivity - mS/cm	NA	NA	NA	NA	448
Salinity - %	NA	NA	NA	NA	NA
Dissolved Oxygen (DO) - %	NA	NA	NA	NA	235.7
Oxidation Reduction Potential (ORP)	NA	NA	NA	NA	147.8

Table 2 - Groundwater Characteristics

6922.01 Flamingo Cleaners, 5/5/2015

Well Identification	TEC-MW-1	TEC-MW-2	MW-3	MW-4	MW-5	INTEX-MW-6
Parameter						
Depth to Water - Feet	2.95	1.27	10.24	10.00	9.95	0.68
pH	4.32	3.83	1.80	3.51	NA	2.26
Temperature - °C	15.79	16.39	17.76	16.35	NA	14.76
Conductivity - mS/cm	1.446	4.044	0.141	0.280	NA	10.62
Salinity - %	0.89	2.61	0.08	0.16	NA	7.64
Dissolved Oxygen (DO) - %	19.2	25.7	126.1	78.8	NA	51.7
Oxidation Reduction Potential (ORP)	-150.8	-175.8	-22.8	-62.7	-51.1	340.0

Table 2 - Groundwater Characteristics

6922.01 Flamingo Cleaners, 7/30/2015

Well Identification	TEC-MW-1	TEC-MW-2	MW-3	MW-4	MW-5	INTEX-MW-6
Parameter						
Depth to Water - Feet	3.32	1.70	10.70	10.56	10.73	1.13
pH	5.94	5.70	5.27	5.67	5.67	5.94
Temperature - °C	20.11	20.88	20.19	23.63	21.40	21.04
Conductivity - mS/cm	1.238	4.984	2.711	0.260	1.339	5.239
Salinity - %	0.69	2.94	1.56	0.13	0.72	3.08
Dissolved Oxygen (DO) - %	39.2	52.8	54.0	104.1	97.9	183.3
Oxidation Reduction Potential (ORP)	-58.0	-47.2	52.9	-25.7	55.3	24.4

Table 2 - Groundwater Characteristics

6922.01 Flamingo Cleaners, 10/20/2015

Well Identification	TEC-MW-1	TEC-MW-2	MW-3	MW-4	MW-5	INTEX-MW-6
Parameter						
Depth to Water - Feet	3.43	1.90	10.65	10.44	10.39	1.22
pH	6.99	6.55	6.42	6.56	6.34	6.87
Temperature - °C	18.41	18.81	17.26	17.20	18.79	18.94
Conductivity - mS/cm	1.156	5.828	0.354	0.151	0.415	1.451
Salinity - %	0.66	3.63	0.20	0.08	0.23	0.83
Dissolved Oxygen (DO) - %	16.1	15.7	93.8	77.1	67.0	23.9
Oxidation Reduction Potential (ORP)	-172.0	-129.6	-51.9	-34.3	-66.0	-176.6

Qualifiers:

NA - Not Analyzed

FIGURE 1

Key:

Approximate BCP Site Boundary

NOTES

N

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Title	**Figure 1: Site Location Map**
Location	**149 North Ave. New Rochelle, NY**
Client	**V & V Capital LLC**
Source	**Google Maps**

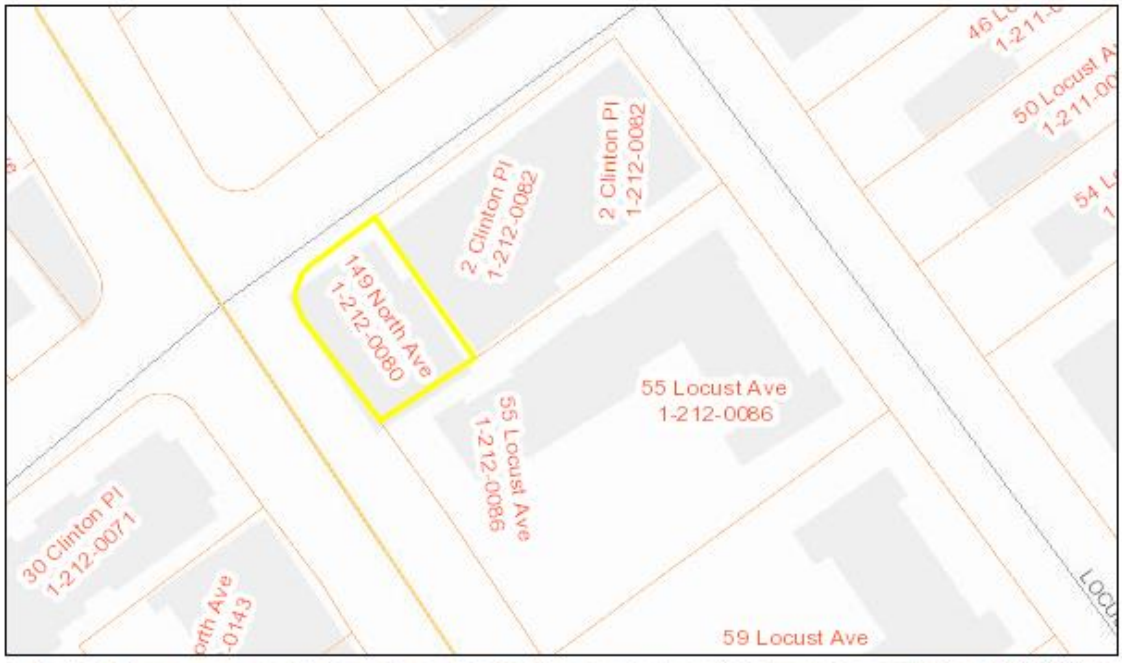
Date	**10/12/2015**	Work Order	Drawing No.	Rev.
Scale	**NTS**	**6922.01**	**Figure 1**	**0**

FIGURE 2

Tax Parcel Maps

Address: 149 North Ave

Print Key: 1-212-0080 **SBL:** Null



Disclaimer:

This tax parcel map is provided as a public service to Westchester County residents for general information and planning purposes only, and should not be relied upon as a sole informational source. The County of Westchester hereby disclaims any liability from the use of this GIS mapping system by any person or entity. Tax parcel boundaries represent approximate property line location and should NOT be interpreted as or used in lieu of a survey or property boundary description. Property descriptions must be obtained from surveys or deeds. For more information please contact the assessor's office of the municipality.

Key:

NOTES

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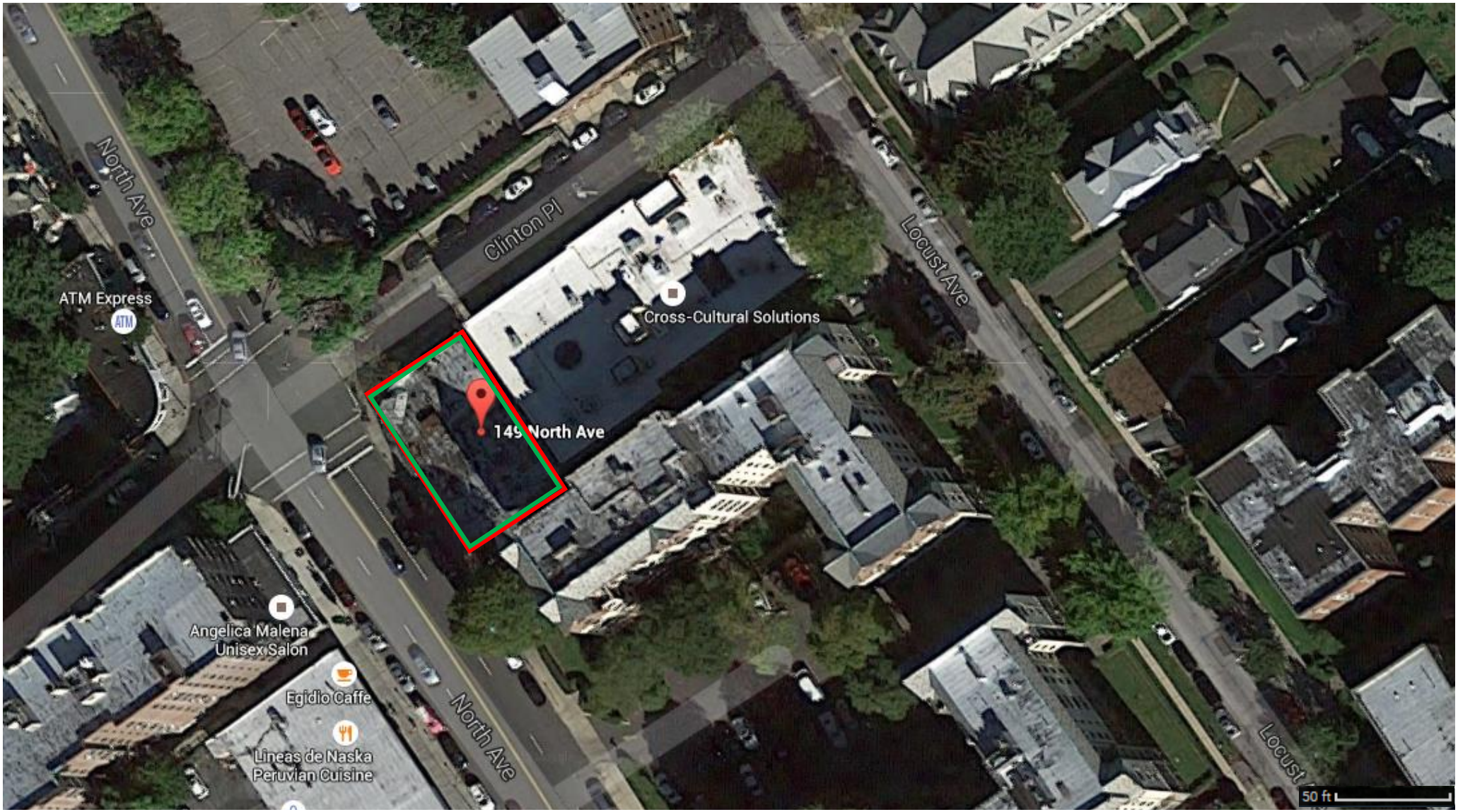
Title	**Figure 2: Westchester County Tax Map**
Location	**149 North Ave. New Rochelle, NY**
Client	**V & V Capital LLC**
Source	**Westchester County Government GIS Portal**

Date	Work Order	Drawing No.	Rev.
8/27/2015	**6922.01**	**Figure 1**	**0**
Scale **NTS**			

FIGURE 3



Key:

Approximate Tax Parcel Boudary

Approximate BCP Site Boundary

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Title	**Figure 3: Site Layout Map**
Location	**149 North Ave. New Rochelle, NY**
Client	**V & V Capital LLC**
Source	**Google Maps**

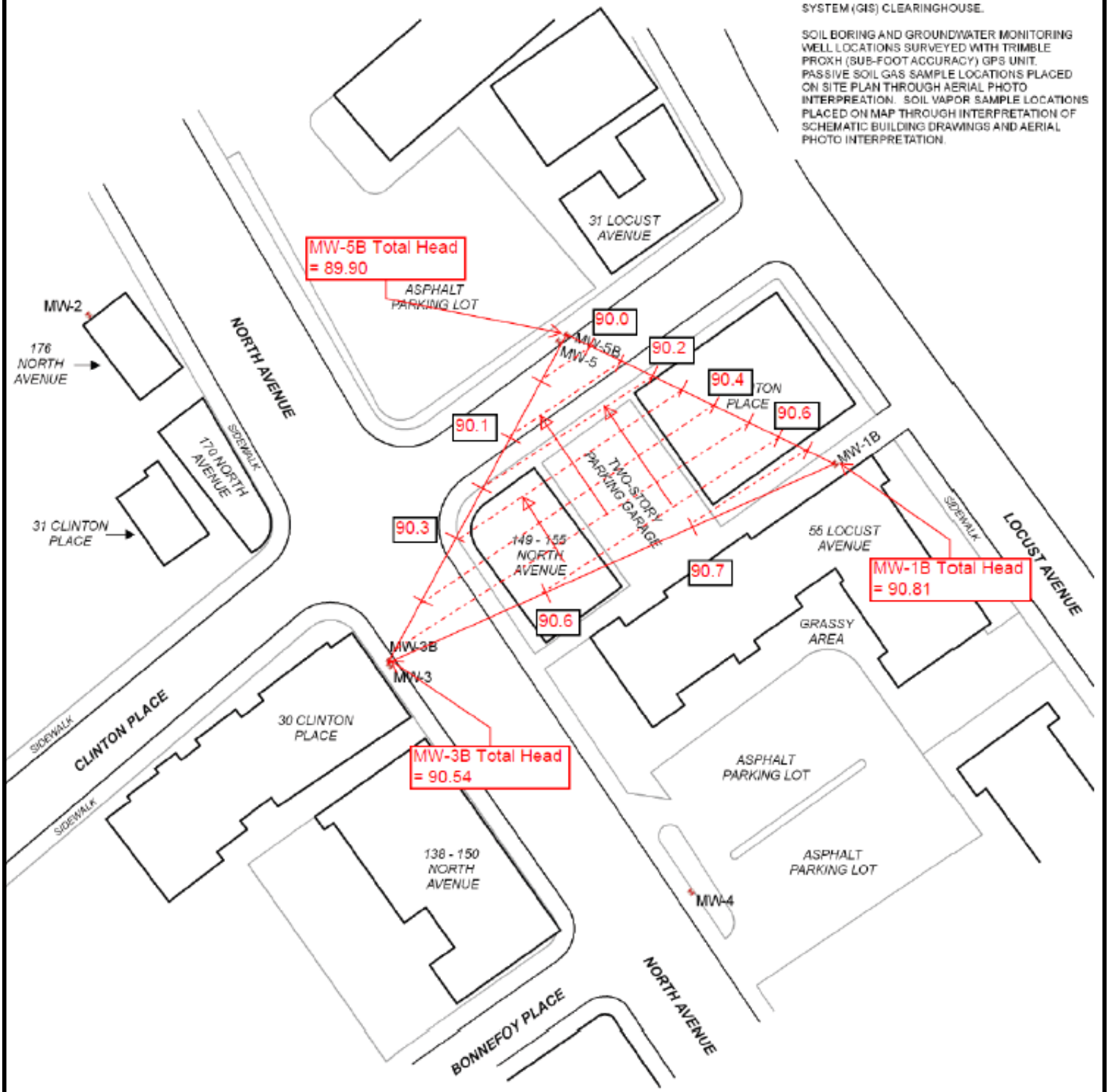
Date	Work Order	Drawing No.	Rev.
10/12/2015	**6922.01**	**Figure 3**	**0**
Scale: **As Noted**			

FIGURE 4

NOTE:

SITE PLAN DEVELOPED THROUGH AERIAL PHOTO INTERPRETATION OF NEW YORK STATE 2007 ORTHOPHOTO, ACCESSED FROM NEW YORK STATE GEOGRAPHIC INFORMATION SYSTEM (GIS) CLEARINGHOUSE.

SOIL BORING AND GROUNDWATER MONITORING WELL LOCATIONS SURVEYED WITH TRIMBLE PROXH (SUB-FOOT ACCURACY) GPS UNIT. PASSIVE SOIL GAS SAMPLE LOCATIONS PLACED ON SITE PLAN THROUGH AERIAL PHOTO INTERPREATION. SOIL VAPOR SAMPLE LOCATIONS PLACED ON MAP THROUGH INTERPRETATION OF SCHEMATIC BUILDING DRAWINGS AND AERIAL PHOTO INTERPRETATION.



Key:

- Roads
- Buildings
- Monitoring Wells
- Groundwater Flow Direction
- Groundwater Contour Line

NOTES

Well	Elevation (ft)	DTW (ft)	Total Head (ft)
MW-1B	100.57	9.76	90.81
MW-3B	99.72	9.18	90.54
MW-5B	100.45	10.55	89.9

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Title	**Figure 4: Bedrock Wells Groundwater Contour Map**
Location	**149 North Avenue, New Rochelle, NY**
Client	**V & V Capital LLC**
Source	**HRP Associates 2010 - Figure 5: Monitoring Wells**

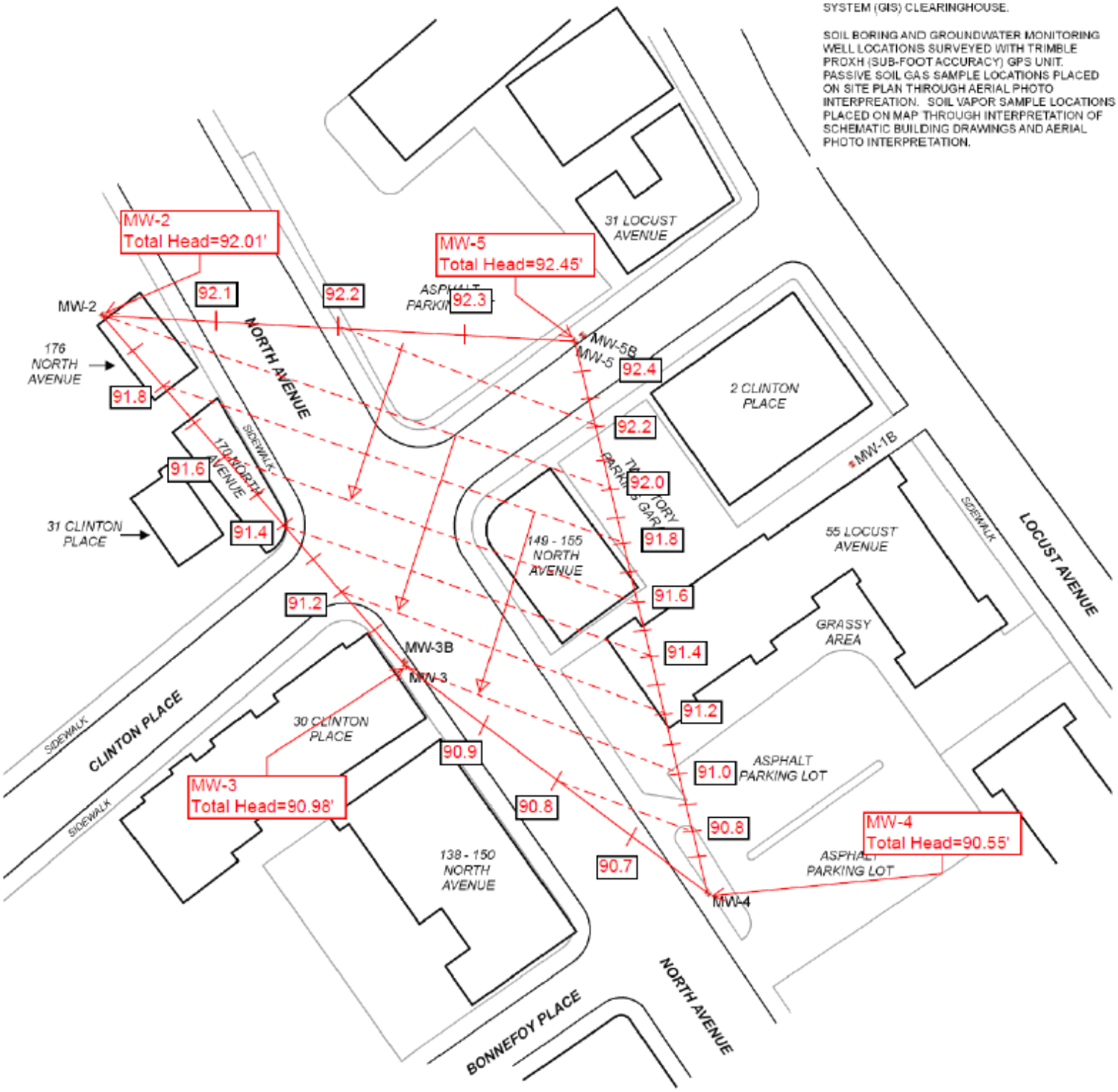
Date	Work Order	Drawing No.	Rev.
9/2/2015	6922.01	Figure 4	0
Scale: NTS			

FIGURE 5

NOTE:

SITE PLAN DEVELOPED THROUGH AERIAL PHOTO INTERPRETATION OF NEW YORK STATE 2007 ORTHOPHOTO, ACCESSED FROM NEW YORK STATE GEOGRAPHIC INFORMATION SYSTEM (GIS) CLEARINGHOUSE.

SOIL BORING AND GROUNDWATER MONITORING WELL LOCATIONS SURVEYED WITH TRIMBLE PROXH (SUB-FOOT ACCURACY) GPS UNIT. PASSIVE SOIL GAS SAMPLE LOCATIONS PLACED ON SITE PLAN THROUGH AERIAL PHOTO INTERPREATION. SOIL VAPOR SAMPLE LOCATIONS PLACED ON MAP THROUGH INTERPRETATION OF SCHEMATIC BUILDING DRAWINGS AND AERIAL PHOTO INTERPRETATION.



Key:

- Roads
- Buildings
- Monitoring Wells
- Groundwater Flow Direction
- Groundwater Contour Line

NOTES

Well	Elevation (ft)	DTW (ft)	Total Head (ft)
MW-2	101.09	9.08	92.01
MW-3	99.68	8.7	90.98
MW-4	98.64	8.09	90.55
MW-5	100.65	8.2	92.45

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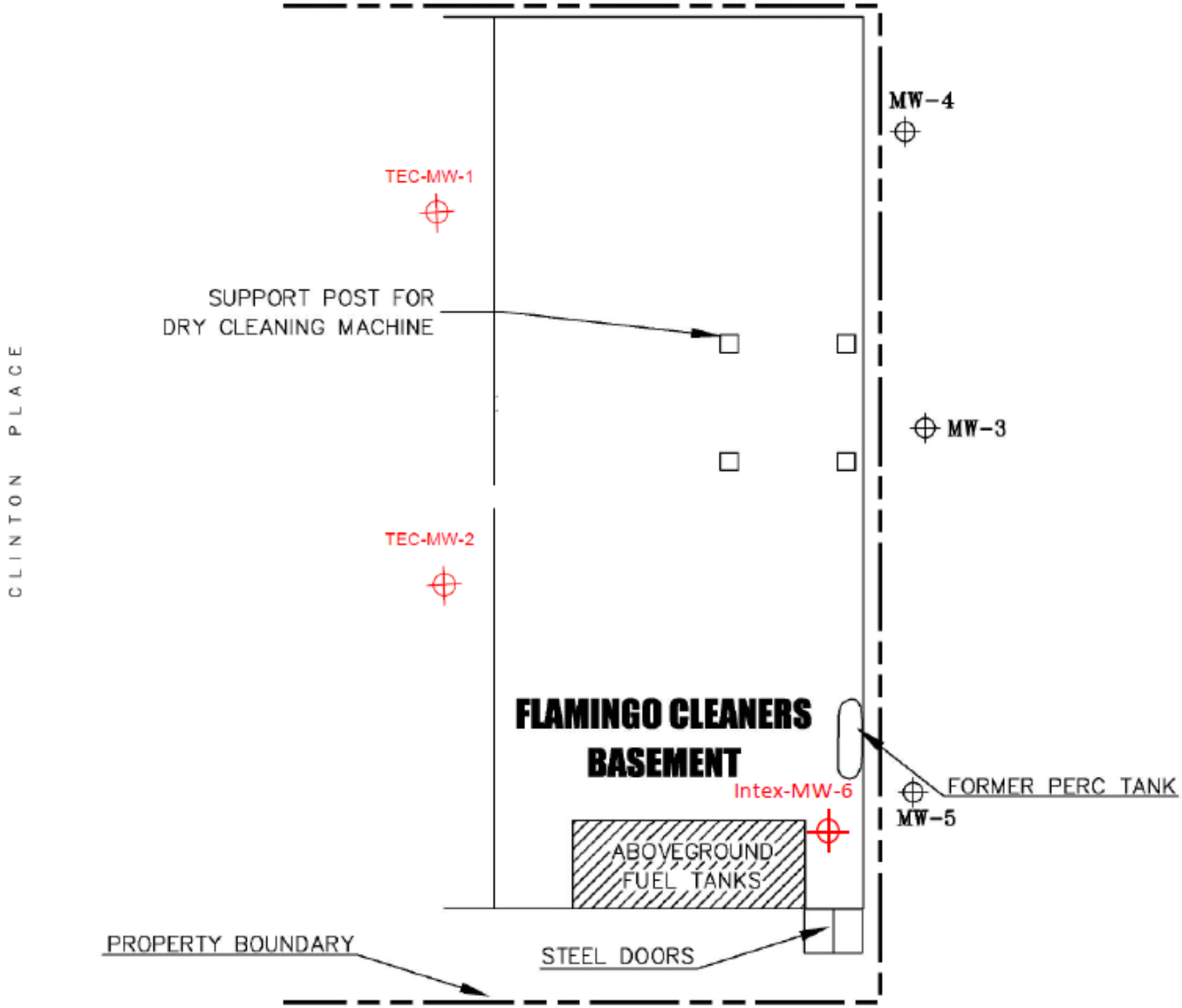
Title	**Figure 5: Overburden Wells Groundwater Contour Map**
Location	**149 North Avenue, New Rochelle, NY**
Client	**V & V Capital LLC**
Source	**HRP Associates 2010 - Figure 5: Monitoring Wells**

Date	Work Order	Drawing No.	Rev.
9/2/2015	**6922.01**	**Figure 5**	**0**
Scale: **NTS**			

FIGURE 6



Key:

On-site Monitoring Well Location

NOTES

The wells colored red are the wells in which groundwater samples will be collected from during groundwater performance monitoring events.

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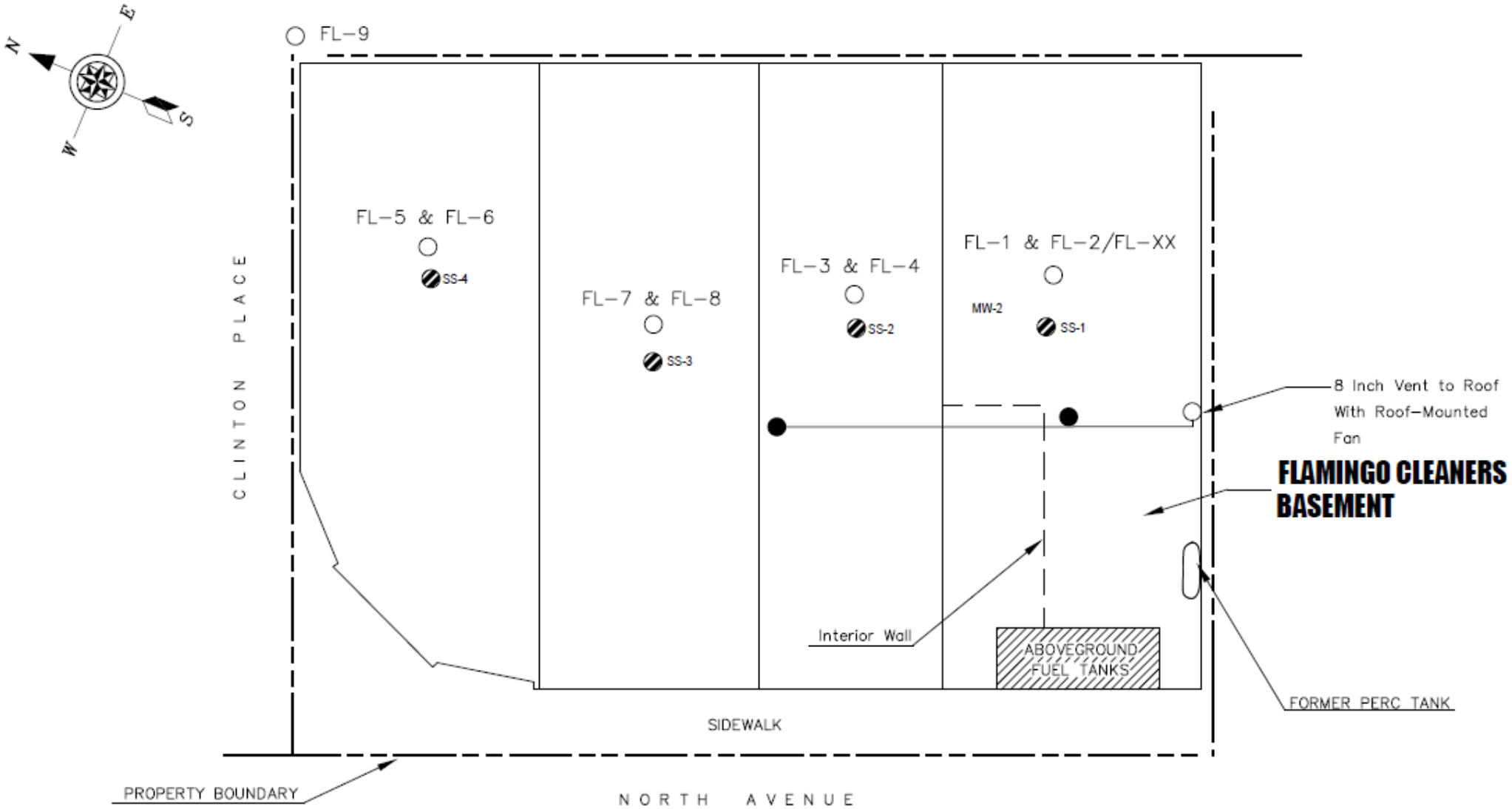
Title	**Figure 6: On-site Monitoring Well Locations**
Location	**149 North Avenue, New Rochelle, NY**
Client	**V & V Capital LLC**
Source	**CA Rich Consultants Figure 3**

Date	Work Order	Drawing No.	Rev.
9/2/2015	**6922.01**	**Figure 6**	**0**
Scale: **NTS**			

FIGURE 7



Key:

- Air Sampling Location and Designation
- SSD Vacuum Pit
- Sub Slab Vapor Well

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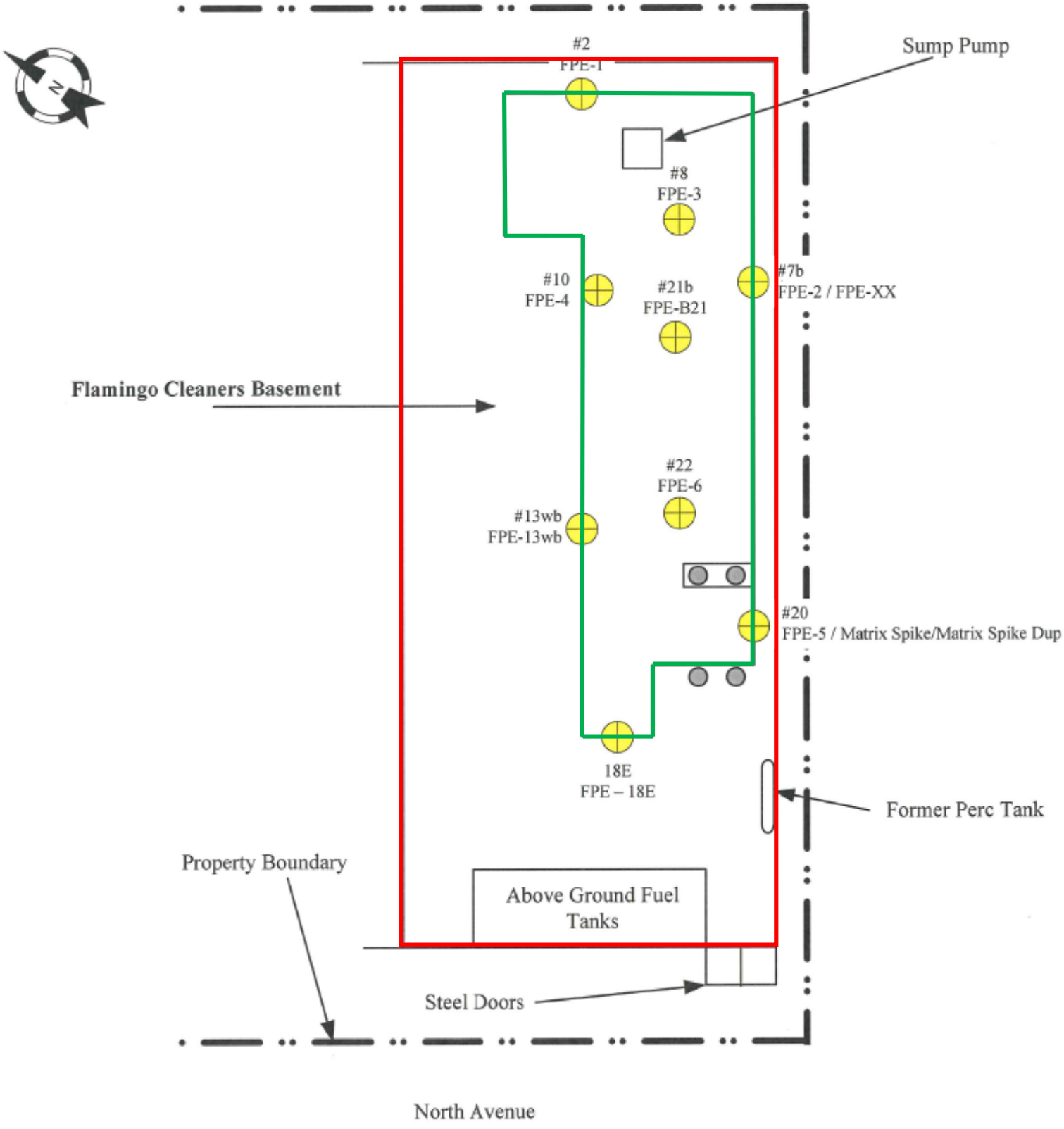
Title	**Figure 7: Sub-slab Vapor Sampling Locations**
Location	**149 North Ave. New Rochelle, NY**
Client	**V & V Capital LLC**
Source	**CA Rish Consultants Inc. SSD System Layout Drawing - 9/9/2008**

Date	Work Order	Drawing No.	Rev.
8/27/2015	**6922.01**	**Figure 7**	**0**
Scale: **NTS**			

FIGURE 8



Key:

- Soil Sampling Locations below SCOs
- Soil Sampling Locations exceeding SCOs
- Steel Beams
- Cover System Location
- Approximate Area of Impact from Excavation and Clean Fill Placement

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Title	**Figure 8: Location of the Cover System**
Location	**149 North Ave. New Rochelle, NY**
Client	**V & V Capital LLC**
Source	**Dorson Environmental Post Soil Excavation Samplig - February 2013**

Date	Work Order	Drawing No.	Rev.
8/28/2015			
Scale			
NTS	**6922.01**	**Figure 8**	**0**

APPENDIX I

ARISTOTLE BOURNAZOS, P.C.

LAND SURVEYORS - PLANNERS

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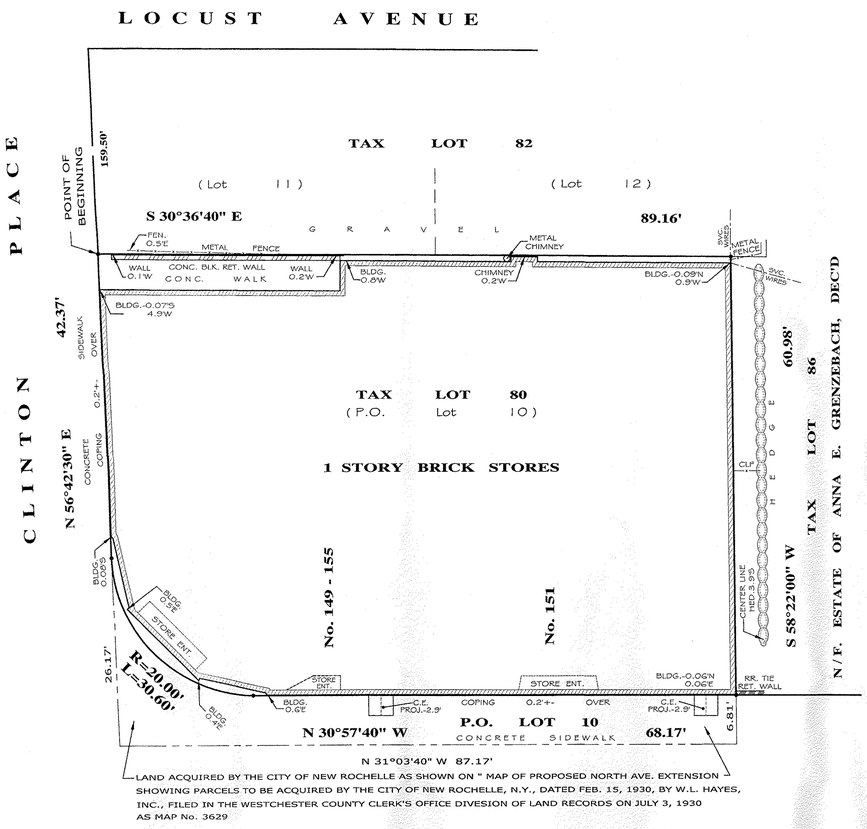

LEGEND
BLDG.- BUILDING
BLK.- BLOCK
CE - CELLAR ENTRANCE
CLF - CHAIN LINK FENCE
CONC. - CONCRETE
ENT.- ENTRANCE
RR - RAIL ROAD
SCV.- SERVICE

SURVEY

OF

TAX LOT 80, BLOCK 212, SECTION 1 ON THE OFFICIAL TAX ASSESSMENT MAPS OF THE CITY OF NEW ROCHELLE, WESTCHESTER COUNTY, NEW YORK

SAID PREMISES ALSO KNOWN AS A PORTION OF LOT No. 10 AS SHOWN ON " MAP OF PROPERTY BELONGING TO THE THE ESTATE OF JAMES A. GRENZEBACH, DECD. " SITUATE IN THE CITY OF NEW ROCHELLE, WESTCHESTER COUNTY NEW YORK. FILED IN THE WESTCHESTER COUNTY CLERKS OFFICE DIVISION OF LAND RECORDS ON JUNE 29, 1917 IN VOLUME 47 OF MAPS AT PAGE 38

Survey Completed: Dec. 29, 2003
Map drafted: Nov. 10, 2015 on scale of one inch to 10 feet.
Survey Updated: Nov. 3, 2015
Revised: Dec. 21, 2015

N.Y.S. Lic. 46553

STATE OF NEW YORK ARISTOTLE BOURNAZOS No. 046553 LICENSED LAND SURVEYOR

PROPERTY DESCRIPTION

ALL that certain plot, piece or parcel of land, with the buildings and improvements thereon erected, situate, lying and being in the City of New Rochelle, County of Westchester and State of New York, being the easterly portion of Lot No. 10 on " Map of property belonging to the Estate of James A. Grenzebach, deceased, filed in the Office of the Register of Westchester County, now County Clerk's Office of Westchester County, Division of Land Records June 29, 1917, in Volume 47 of Maps, at Page 38, more particularly bounded and described as follows:

BEGINNING at a point on the southeasterly side of Clinton Place, distant 159.50 feet southwesterly from the corner formed by the intersection of the southeasterly side of Clinton Place and the southwesterly side of Locust Avenue;

THENCE South 30 degrees 36 minutes 40 seconds East along the westerly side of Lots No. 11 and 12 on the Map above described, a distance of 89.16 feet to Land of the Estate of Anna E. Grenzebach, deceased;

Thence South 58 degrees 22 minutes 00 seconds West along the land of the Estate of Anna E. Grenzebach, deceased, a distance of 60.98 feet to North Avenue (as extended)

Thence Northerly along the Easterly side of North Avenue North 30 degrees 57 minutes 40 seconds West a distance of 68.17 feet;

Thence on a curve to the right with a radius of 20 feet, a distance of 30.60 feet to the the southerly side of Clinton Place;

Thence North 56 degrees 42 minutes 30 seconds East along the southerly side of Clinton Place, a distance of 42.37 feet to the point or place of beginning.
Contains = 5,328 sq. ft. = 0.1223 ac.
Said premises being known as 149–155 North Avenue, New Rochelle, N.Y.

"This property is subject to an environmental easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the New York Environmental Conservation Law. The engineering and institutional controls for this Easement are set forth in more detail in the Site Management Plan (SMP). A copy of the SMP must be obtained by any party with an interest in the property. The SMP can be obtained from NYS Department of Environmental Conservation, Division of Environmental Remediation, Site Control Section, 625 Broadway, Albany, NY 12233 or at derweb@dec.ny.gov "

ENVIRONMENTAL EASEMENT DESCRIPTION

ALL that certain plot, piece or parcel of land, with the buildings and improvements thereon erected, situate, lying and being in the City of New Rochelle, County of Westchester and State of New York, being the easterly portion of Lot No. 10 on " Map of property belonging to the Estate of James A. Grenzebach, deceased, filed in the Office of the Register of Westchester County, now County Clerk's Office of Westchester County, Division of Land Records June 29, 1917, in Volume 47 of Maps, at Page 38, more particularly bounded and described as follows:

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Thence Northerly along the Easterly side of North Avenue North 30 degrees 57 minutes 40 seconds West a distance of 68.17 feet;

Thence on a curve to the right with a radius of 20 feet, a distance of 30.60 feet to the the southerly side of Clinton Place;

Thence North 56 degrees 42 minutes 30 seconds East along the southerly side of Clinton Place, a distance of 42.37 feet to the point or place of beginning.
Contains = 5,328 sq. ft. = 0.1223 ac.
Said premises being known as 149–155 North Avenue, New Rochelle, N.Y.

" NO149AV "

C04-25

The Office of the Westchester County Clerk: This page is part of the instrument; the County Clerk will rely on the information provided on this page for purposes of indexing this instrument. To the best of submitter's knowledge, the information contained on this Recording and Endorsement Cover Page is consistent with the information contained in the attached document.

561793593EAS002C

Westchester County Recording & Endorsement Page

Submitter Information

Name:	Office of the Westchester County Clerk Customer Ser	Phone:	9149953111
Address 1:	110 Dr. Martin Luther King Jr. Blvd.	Fax:	
Address 2:		Email:	email@westchestergov.com
City/State/Zip:	White Plains NY 10601	Reference for Submitter:	V & V CAPITAL LLC 646-261-3468

Document Details

Control Number: **561793593** Document Type: **Easement (EAS)**

Package ID: 2016062700250001001 Document Page Count: **9** Total Page Count: **10**

Parties

☐ Additional Parties on Continuation page

1st PARTY		2nd PARTY	
1: V & V CAPITAL LLC	- Other	1: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL C	- Other
2:		2:	

Property

☐ Additional Properties on Continuation page

Street Address: 149-155 NORTH AVE Tax Designation: 1-212-80

City/Town: NEW ROCHELLE Village:

Cross- References

☐ Additional Cross-Refs on Continuation page

1: 2: 3: 4:

Supporting Documents

1: TP-584

Recording Fees

Statutory Recording Fee:	$40.00
Page Fee:	$50.00
Cross-Reference Fee:	$0.00
Mortgage Affidavit Filing Fee:	$0.00
RP-5217 Filing Fee:	$0.00
TP-584 Filing Fee:	$5.00
Total Recording Fees Paid:	**$95.00**

Transfer Taxes

Consideration:	$0.00
Transfer Tax:	$0.00
Mansion Tax:	$0.00
Transfer Tax Number:	14926

Mortgage Taxes

Document Date:

Mortgage Amount:

Basic:	$0.00
Westchester:	$0.00
Additional:	$0.00
MTA:	$0.00
Special:	$0.00
Yonkers:	$0.00
Total Mortgage Tax:	**$0.00**

Dwelling Type: Exempt: ☐

Serial #:

RECORDED IN THE OFFICE OF THE WESTCHESTER COUNTY CLERK

Recorded: 06/30/2016 at 02:55 PM

Control Number: **561793593**

Witness my hand and official seal

Timothy C.Idoni
Westchester County Clerk

Record and Return To

☐ Pick-up at County Clerk's office

V & V CAPITAL LLC
369 PHILLIPS HILL RD

NEW CITY, NY 10956

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

T.U

THIS INDENTURE made this 25th day of April, 2016, between Owner(s) V&V Capital, LLC, having an office at 149 North Avenue, New Rochelle, New York 10801, County of Westchester, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

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

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

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

WHEREAS, Grantor, is the owner of real property located at the address of 149-155 North Avenue in the City of New Rochelle, County of Westchester and State of New York, known and designated on the tax map of the County Clerk of Westchester as tax map parcel numbers: Section 1 Block 212 Lot 0080, being the same as that property conveyed to Grantor by deed dated June 14, 2011 and recorded in the Westchester County Clerk's Office in Instrument No. 511643328. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 0.1223 +/- acres, and is hereinafter more fully described in the Land Title Survey dated December 29, 2003, last revised December 21, 2015, prepared by Aristotle Bournazos, P.C., which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is

extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Index Number: W3-1058-05-03, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement").

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

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

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

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

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

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

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

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

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

(7) All future activities on the property that will disturb remaining

contaminated material must be conducted in accordance with the SMP;

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

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

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

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

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

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

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

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

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation

pursuant to Title 36 of Article 71 of the Environmental Conservation Law.

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

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

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

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

(i) are in-place;

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

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

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

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

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

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

(7) the information presented is accurate and complete.

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

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

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

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

5. Enforcement

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

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

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

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

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

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

Parties shall address correspondence to:

Site Number: C360078
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

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

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

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

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

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

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

Remainder of Page Intentionally Left Blank

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

T.U V&V Capital, LLC:

By: _____

T.U TUSH LLESHAJ (President)

Print Name: _____

Title: _____ Date: 3/7/2016

Grantor's Acknowledgment

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

On the 7 day of March, in the year 20 16, before me, the undersigned, personally appeared Tush Lleshaj, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Notary Public - State of New York

FERNANDO ANTONIO REMIGIO
Notary Public - State of New York
NO. 01RE6286311
Qualified in Rockland County
My Commission Expires Jul 22, 2017

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

By: _____
Robert W. Schick, Director
Division of Environmental Remediation

Grantee's Acknowledgment

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

On the 25TH day of APRIL, in the year 2016, before me, the undersigned, personally appeared Robert W. Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

PATRICK EUGENE FOSTER
NOTARY PUBLIC, STATE OF NEW YORK
QUALIFIED IN KINGS COUNTY
NO. 02FO6278032
COMMISSION EXPIRES 03/18/2017

SCHEDULE "A" PROPERTY DESCRIPTION

ALL that certain plot, piece or parcel of land, situate, lying and being in the City of New Rochelle, County of Westchester and State of New York, being the easterly portion of Lot No. 10 on "Map of Property belonging to the Estate of James A. Grenzebach, deceased" filed in the Office of the Register of Westchester County, now County Clerk's Office of Westchester County, Division of Land Records June 29, 1917, in Volume 47 of Maps, at Page 38, more particularly bounded and described as follows:

BEGINNING at a point on the southeasterly side of Clinton Place, distant 159.50 feet southwesterly from the corner formed by the intersection of the southeasterly side of Clinton Place and the southwesterly side of Locust Avenue;

THENCE South 30 degrees 36 minutes 40 seconds East along the westerly side of Lots No. 11 & 12 on the Map above described, a distance of 89.16 feet to land of the Estate of Anna E. Grenzebach, deceased;

THENCE South 58 degrees 22 minutes 00 seconds West along the land of the Estate of Anna E. Grenzebach, deceased, a distance of 60.98 feet to the North Avenue (as extended);

THENCE northerly along the easterly side of North Avenue 30 degrees 57 minutes 40 seconds West a distance of 68.17 feet;

THENCE on a curve to the right with radius of 20 feet, a distance of 30.60 feet to the southerly side of Clinton Place;

THENCE North 56 degrees 42 minutes 30 seconds East along the southerly side of Clinton Place, a distance of 42.38 feet to the point or place of BEGINNING.

Said area comprising approximately of .120 acres more or less.

APPENDIX II
(See Report)

APPENDIX III

CA RICH CONSULTANTS, INC.

Certified Groundwater and Environmental Specialists

17 Dupont Street, Plainview, New York 11803

BORING LOG

Project Name & Location **Flamingo Cleaners** **149 North Avenue, New Rochelle, New York**	Project Number	Date: May 31, 2006	
Drilling Company **Hydrotech**	Foreman	Sampler(s)	Sampler Hammer Drop
Drilling Equipment **Tractor Geoprobe**	Method **Direct Push**	Elevation & Datum	Completion Depth **6 Inches**
Bit Size(s)	Core Barrel(s) **5' MacroCore**	Geologist(s) **Jason Cooper**	Location: **B-12**

Sample Interval (inches)	Depth	Recovery	PID (ppm)	Sampling Time	SAMPLE DESCRIPTION	COMMENTS
0-6			0		Top 4 inches - Concrete slab 4 - 6 inches - Gravelly gray sand	Water table at approximately 5"

Page 1 Signature: *Jason Cooper* Date: 8/31/2006

CA RICH CONSULTANTS, INC.

Certified Groundwater and Environmental Specialists

17 Dupont Street, Plainview, New York 11803

BORING LOG

Project Name & Location **Flamingo Cleaners** **149 North Avenue, New Rochelle, New York**	Project Number	Date: May 31, 2006	
Drilling Company **Hydrotech**	Foreman	Sampler(s)	Sampler Hammer Drop
Drilling Equipment **Tractor Geoprobe**	Method **Direct Push**	Elevation & Datum	Completion Depth **6 Inches**
Bit Size(s)	Core Barrel(s) **5' MacroCore**	Geologist(s) **Jason Cooper**	Location: **B-13**

Sample Interval (inches)	Depth	Recovery	PID (ppm)	Sampling Time	SAMPLE DESCRIPTION	COMMENTS
0-6			0.5		Top 4 inches - Concrete slab 4 - 6 inches - Gravelly gray sand	Water table at approximately 5"

Signature: *Jason Cooper*

Date: 8/31/2006

CA RICH CONSULTANTS, INC.

Certified Groundwater and Environmental Specialists

17 Dupont Street, Plainview, New York 11803

BORING LOG

Project Name & Location **Flamingo Cleaners** **149 North Avenue, New Rochelle, New York**	Project Number	Date: May 31, 2006	
Drilling Company **Hydrotech**	Foreman	Sampler(s)	Sampler Hammer Drop
Drilling Equipment **Tractor Geoprobe**	Method **Direct Push**	Elevation & Datum	Completion Depth **12 Inches**
Bit Size(s)	Core Barrel(s) **5' MacroCore**	Geologist(s) **Jason Cooper**	Location: **B-14**

Sample Interval (inches)	Depth	Recovery	PID (ppm)	Sampling Time	SAMPLE DESCRIPTION	COMMENTS
6-12			1.0		Top 4 inches - Concrete slab 4 - 6 inches - Gravelly gray sand	Water table at approximately 6"

Page 1 Signature: *Jason Cooper* Date: 8/31/2006

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17 Dupont Street, Plainview, New York 11803

BORING LOG

Project Name & Location **Flamingo Cleaners** **149 North Avenue, New Rochelle, New York**	Project Number	Date: May 31, 2006	
Drilling Company **Hydrotech**	Foreman	Sampler(s)	Sampler Hammer Drop
Drilling Equipment **Tractor Geoprobe**	Method **Direct Push**	Elevation & Datum	Completion Depth **12 Inches**
Bit Size(s)	Core Barrel(s) **5' MacroCore**	Geologist(s) **Jason Cooper**	Location: **B-15**

Sample Interval (inches)	Depth	Recovery	PID (ppm)	Sampling Time	SAMPLE DESCRIPTION	COMMENTS
0-12			0.0		Top 4 inches - Concrete slab 4 - 12 inches - Very gravelly gray sand	Water table at approximately 5"

Page 1 Signature: *Jason Cooper* Date: 8/31/2006

CA RICH CONSULTANTS, INC.

Certified Groundwater and Environmental Specialists

17 Dupont Street, Plainview, New York 11803

BORING LOG

Project Name & Location **Flamingo Cleaners** **149 North Avenue, New Rochelle, New York**	Project Number	Date: May 31, 2006	
Drilling Company **Hydrotech**	Foreman	Sampler(s)	Sampler Hammer Drop
Drilling Equipment **Tractor Geoprobe**	Method **Direct Push**	Elevation & Datum	Completion Depth **12 Inches**
Bit Size(s)	Core Barrel(s) **5' MacroCore**	Geologist(s) **Jason Cooper**	Location: **B-16**

Sample Interval (inches)	Depth	Recovery	PID (ppm)	Sampling Time	SAMPLE DESCRIPTION	COMMENTS
6-12			1.0		Top 4 inches - Concrete slab 4 - 12 inches - Very gravelly gray sand	Water table at approximately 6"

Page 1 Signature: *Jason Cooper* Date: 8/31/2006

CA RICH CONSULTANTS, INC.

Certified Groundwater and Environmental Specialists

17 Dupont Street, Plainview, New York 11803

BORING LOG

Project Name & Location **Flamingo Cleaners** **149 North Avenue, New Rochelle, New York**	Project Number	Date: May 31, 2006	
Drilling Company **Hydrotech**	Foreman	Sampler(s)	Sampler Hammer Drop
Drilling Equipment **Tractor Geoprobe**	Method **Direct Push**	Elevation & Datum	Completion Depth **12 Inches**
Bit Size(s)	Core Barrel(s) **5' MacroCore**	Geologist(s) **Jason Cooper**	Location: **B-17**

Sample Interval (inches)	Depth	Recovery	PID (ppm)	Sampling Time	SAMPLE DESCRIPTION	COMMENTS
6-12			1.5		Top 4 inches - Concrete slab 4 - 12 inches - Very gravelly gray sand	Water table at approximately 6"

Page 1 Signature: *Jason Cooper* Date: 8/31/2006

CA RICH CONSULTANTS, INC.

Certified Groundwater and Environmental Specialists

17 Dupont Street, Plainview, New York 11803

BORING LOG

Project Name & Location **Flamingo Cleaners** **149 North Avenue, New Rochelle, New York**	Project Number	Date: May 31, 2006	
Drilling Company **Hydrotech**	Foreman	Sampler(s)	Sampler Hammer Drop
Drilling Equipment **Tractor Geoprobe**	Method **Direct Push**	Elevation & Datum	Completion Depth **17 Feet**
Bit Size(s)	Core Barrel(s) **5' MacroCore**	Geologist(s) **Jason Cooper**	Location: **B-18**

Sample Interval (feet)	Depth (feet)	Recovery (inches)	PID (ppm)	Sampling Time	SAMPLE DESCRIPTION	COMMENTS
	0-4	20	0.0		Brown silty sand	
	4-8	46	0.0		Top 8 inches - Brown silty sand Bottom 36 inches - Grayish brown silty sand	
8-10	8-12	46	0.0		Top 15 inches - Grayish brown silty sand Bottom 31 inches - Medium/fine grained brown and tan sand	
	12-16	46	0.1		Grayish brown silt/clay	
	16-17	20	0.0		Grayish brown silt/clay, weathered bedrock	

Signature: *Jason Cooper* Date: 8/31/2006

CA RICH CONSULTANTS, INC.

Certified Groundwater and Environmental Specialists

17 Dupont Street, Plainview, New York 11803

BORING LOG

Project Name & Location **Flamingo Cleaners** **149 North Avenue, New Rochelle, New York**		Project Number	Date: May 31, 2006
Drilling Company **Hydrotech**		Foreman	Sampler(s) / Sampler Hammer / Drop
Drilling Equipment **Tractor Geoprobe**		Method **Direct Push**	Elevation & Datum / Completion Depth **18 Feet**
Bit Size(s)		Core Barrel(s) **5' MacroCore**	Geologist(s) **Jason Cooper** / Location: **B-19**

Sample Interval (feet)	Depth (feet)	Recovery (inches)	PID (ppm)	Sampling Time	SAMPLE DESCRIPTION	COMMENTS
	0-4	46.0	0.0		Top 12 inches - Gray silty sand Bottom 36 inches - Tan silty sand	
	4-8	46.0	0.0		Top 8 inches - Grayish tan fine sand with little silt Bottom 38 inches - Light brown/tan silty sand	
8-10	8-12	46.0	0.0		Top 6 inches - Grayish tan silty sand Bottom 40 inches - Orangish brown medium grained sand with traces of silty sand.	
	12-16	46.0	0.0		Brown and tan silty sand 14 inches from top pieces of white rock fragments	
	16-18	28.0	0.0		Top 6 inches - Dark brown sandy silt Next 12 inches - Tan medium grained sand Bottom 10 inches - Dark brown silty sand, weathered bedrock @18'	

Signature: *Jason Cooper*

Date: 8/31/2006

CA RICH CONSULTANTS, INC.

Certified Groundwater and Environmental Specialists

17 Dupont Street, Plainview, New York 11803

BORING LOG

Project Name & Location **Flamingo Cleaners** **149 North Avenue, New Rochelle, New York**	Project Number	Date: June 1, 2006	
Drilling Company **Hydrotech**	Foreman	Sampler(s)	Sampler Hammer Drop
Drilling Equipment **Tractor Geoprobe**	Method **Direct Push**	Elevation & Datum	Completion Depth **18 Feet**
Bit Size(s)	Core Barrel(s) **5' MacroCore**	Geologist(s) **Jason Cooper**	Location: **B-20**

Sample Interval (feet)	Depth (feet)	Recovery (inches)	PID (ppm)	Sampling Time	SAMPLE DESCRIPTION	COMMENTS
	0-4	36.0	4.5		Top 18 inches - brown silty sand with organic material Bottom 18 inches - Light brown silty sand	
	4-8	38.0	0.0		Light brown silty medium to fine sand	
9-10	8-12	48.0	0.0		Light brown silty medium to fine sand	Groundwater at approximately 11 feet.
	12-16	48.0	0.0		Brown medium to coarse grain sand	
	16-18	24.0	0.0		Brown medium to coarse grain sand. Bedrock encountered at approximately 18 feet.	

Signature: *Jason Cooper*

Date: 8/31/2006

Project: Flamingo Cleaners RI **WAS #:** NEW9601.P2 **Contractor:**	**HRP ASSOCIATES, INC.** **ENGINEERING AND GEOLOGY** **DRILLING LOG**	**Rig Type:** **Hole #** SB-1 **Well #** MW-1B
Type: **I.D.:** **Location:** Alley North of 55 Locust Ave. **Date:** August 3-5, 2009		**Start:** **Finish:** **Driller:** GeoLogic NY, Inc. **HRP Rep:** MF & WS

Depth (0.5' intervals)	Macro-core Samples	Sample Interval	Recovery (ft)	Density or Consistency/ Moisture	Profile Change	Remarks (color, structure, grain size, staining, odor, PID)	PID (ppm)
1			Augered	Moist		Asphalt (2"). From 2" to 6.5'; brown sandy loam soil, moist, trace albite schist granules and pebbles, no stains or odors.	0
2							
3							
4							
5							
6							
7			Augered	Moist		Weathered bedrock (?); disintegrated quartz, mica, schist clasts.	-
8							
9							
10							
11			Roller Bit Drilled			Semi-competent rock	-
12							
13			3"	Wet		Coarse sand to granules of angular, schist fragments.	-
14			Roller Bit Drilled			Semi-competent to competent albite schist bedrock.	-
15							
16			Roller Bit Drilled			Competent albite schist bedrock.	-
17							
18							
19							
20			Core	-		Core Run # 1 (19.7'-24.7')	-

GROUNDWATER OBSERVATIONS				SAMPLE PENETRATION RESISTANCE 140 lb. Wt. Falling 30" on 2" O.D. Sampler		Proportions
Depth	Date	Casing/ Screen	Stability Time	Cohesionless Density	Cohesive Consistence	
				0 - 4 very loose	0 - 2 very soft	trace 0-10%
				5 - 9 loose	3 - 4 soft	little 10-20%
				10 - 29 med. dense	5 - 8 m/stiff	some 20-35%
				30 - 49 dense	9 - 15 stiff	and 30-50%
				50+ very dense	16 - 30 v/stiff	
					31+ hard	

Project: Flamingo Cleaners RI **WAS #:** NEW9601.P2 **Contractor:**	**HRP ASSOCIATES, INC.** **ENGINEERING AND GEOLOGY** **DRILLING LOG**	**Rig Type:** **Hole #** SB-1 **Well #** MW-1B
Type: **I.D.:** **Location:** Alley North of 55 Locust Ave. **Date:** August 3-5, 2009		**Start:** **Finish:** **Driller:** GeoLogic NY, Inc. **HRP Rep:** MF & WS

Depth (0.5' intervals)	Macro-core Samples	Sample Interval	Recovery (ft)	Density or Consistency/ Moisture	Profile Change	Remarks (color, structure, grain size, staining, odor, PID)	PID (ppm)
21							
22			Core (58.5")	-		Core Run # 1 (19.7'-24.7'); Competent, white to gray to black, albite mica schist, hard, unweathered crystalline rock; a few fractures; RQD = 95%.	-
23							
24							
25							
26			Core (59.0")	-		Core Run # 2 (24.7'-29.7'); Competent, salt and pepper colored, albite mica schist, trace quartz veins, unweathered crystalline rock; one fracture at 27.8'; greenish stain at 29'; RQD = 96.7%.	-
27							
28							
29							
30						Total well depth = 29.7 feet. Well is open borehole below the steel casing. Casing set from grade to 19.7 feet.	
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							

GROUNDWATER OBSERVATIONS				SAMPLE PENETRATION RESISTANCE 140 lb. Wt. Falling 30" on 2" O.D. Sampler		Proportions
Depth	Date	Casing/ Screen	Stability Time	Cohesionless Density	Cohesive Consistence	
				0 - 4 very loose	0 - 2 very soft	trace 0-10%
				5 - 9 loose	3 - 4 soft	little 10-20%
				10 - 29 med. dense	5 - 8 m/stiff	some 20-35%
				30 - 49 dense	9 - 15 stiff	and 30-50%
				50+ very dense	16 - 30 v/stiff	
					31+ hard	

Project: Flamingo Cleaners RI **WAS #:** NEW9601.P2 **Contractor:**	**HRP ASSOCIATES, INC.** **ENGINEERING AND GEOLOGY** **DRILLING LOG**	**Rig Type:** **Hole #** SB-2 **Well #** MW-2
Type: **I.D.:** **Location:** Driveway at 176 North Ave. **Date:** August 5, 2009		**Start:** **Finish:** **Driller:** GeoLogic NY, Inc. **HRP Rep:** MF & WS

Depth (6" intervals)	Macro-core Samples	Sample Interval	Recovery (ft)	Density or Consistency/ Moisture	Profile Change	Remarks (color, structure, grain size, staining, odor, PID)	PID (ppm)
1			0.25	3, 3, 2, 2 Moist		Asphalt chunks at surface; fine sand to silty loam, brown color, no stains or odors.	0
2							
3			0.75	2, 3, 2, 2 Moist		Brown fine sandy loam soil, trace tree roots, no stains or odors.	0
4							
5			1.5	2, 3, 2, 3 Moist		Argillaceous silty soil, gray to orangish color, no stains or odors.	0
6							
7			1.5	6, 7, 8, 12 Moist		Argillaceous silty soil, gray to orangish color, trace micas, no stains or odors.	0
8							
9			1.75	18, 23, 15, 10 Moist		Clay rich silt, gray to orange, trace micas (8'-9'). Sandy grussified schist, light brown, no stains or odors.	0
10	▼						
11			1	16, 9, 9, 8 Moist		Dark brown sandy weathered (grussified) schist, trace pebbles, no stains or odors.	0
12							
13			1	6, 6, 7, 10 Moist		Brown clay soil, grussified schist granules and pebbles, no stains or odors.	0
14							
15			0.5	29, 33, 13, 13 Wet		Brown clay soil, grussified schist granules and pebbles, no stains or odors.	0
16							
17			-	Augered		-	-
18						Set 2" PVC well in boring; screen from 7 to 17 feet bgs.	
19							
20						Overburden well MW-2.	

GROUNDWATER OBSERVATIONS			
Depth	Date	Casing/ Screen	Stability Time
10.2'			

SAMPLE PENETRATION RESISTANCE
140 lb. Wt. Falling 30" on 2" O.D. Sampler

Cohesionless Density	Cohesive Consistence
0 - 4 very loose	0 - 2 very soft
5 - 9 loose	3 - 4 soft
10 - 29 med. dense	5 - 8 m/stiff
30 - 49 dense	9 - 15 stiff
50+ very dense	16 - 30 v/stiff
	31+ hard

Proportions
trace 0-10%
little 10-20%
some 20-35%
and 30-50%

Project: Flamingo Cleaners RI **WAS #:** NEW9601.P2 **Contractor:**	**HRP ASSOCIATES, INC.** **ENGINEERING AND GEOLOGY** **DRILLING LOG**	**Rig Type:** **Hole #** **Well #** MW-3B
Type: **I.D.:** **Location:** Sidwalk at 154 North Ave. **Date:** August 10-12, 2009		**Start:** **Finish:** **Driller:** GeoLogic NY, Inc. **HRP Rep:** MF & WS

Depth (6" intervals)	Macro-core Samples	Sample Interval	Recovery (ft)	Density or Consistency/ Moisture	Profile Change	Remarks (color, structure, grain size, staining, odor, PID)	PID (ppm)
1			3"	17, 3 Dry		Pulverized concrete.	-
2							
3			6"	1, 1, 2, 1 Moist		Brown silty-clay soil, no stains or odors.	0
4							
5			3"	1, 1, 1, 4 Moist		Brown silty-clay soil, no stains or odors.	0
6							
7			1.5'	7, 17, 18,21 Moist		Silty-clay soil, trace schist granules and pebbles, trace grussified schist sand size grains, no stains or odors.	0
8							
9	▼			17, 40, 21, 21 Wet		Brown silty-clay soil, some grussified schist sand grains and pebbles, dense, no stains or odors.	0
10							
11			3"	42, 40, 18,6 Wet		Brown silty-clay soil and sand grains (grussified schist), no stains or odors.	0
12							
13			6"	0, 0, 4, 5 Wet		Very wet, light brown grussified schist sand grains, possible sanitary sewer stains (?), no odor.	0
14							
15			1.5'	19, 21, 25, 28 Wet		Brown, rusty colored medium sand, well sorted (grussified schist), trace micas, no stains or odors.	0
16							
17			2'	35, 30, 35, 50/0.4' Wet		Wet, brown rusty colored fine to medium grussified schist sand grains, dense silty-clay below, no stains or odors.	0
18							
19			2'	19, 19, 25, 27 Wet		Wet, brown rusty colored fine to medium grussified schist sand grains, dense silty-clay below, no stains or odors.	0
20							

GROUNDWATER OBSERVATIONS				SAMPLE PENETRATION RESISTANCE 140 lb. Wt. Falling 30" on 2" O.D. Sampler		Proportions
Depth	Date	Casing/ Screen	Stability Time	Cohesionless Density	Cohesive Consistence	
8.5'				0 - 4 very loose 5 - 9 loose 10 - 29 med. dense 30 - 49 dense 50+ very dense	0 - 2 very soft 3 - 4 soft 5 - 8 m/stiff 9 - 15 stiff 16 - 30 v/stiff 31+ hard	trace 0-10% little 10-20% some 20-35% and 30-50%

Project: Flamingo Cleaners RI **WAS #:** NEW9601.P2 **Contractor:**			**HRP ASSOCIATES, INC.** **ENGINEERING AND GEOLOGY** **DRILLING LOG**		**Rig Type:** **Hole #** SB-3 **Well #** MW-3B		
Type: **I.D.:** **Location:** Sidwalk at 154 North Ave. **Date:** August 10-12, 2009					**Start:** **Finish:** **Driller:** GeoLogic NY, Inc. **HRP Rep:** MF & WS		
Depth (6" intervals)	**Macro-core Samples**	**Sample Interval**	**Recovery (ft)**	**Density or Consistency/ Moisture**	**Profile Change**	**Remarks (color, structure, grain size, staining, odor, PID)**	**PID (ppm)**
21 22			2'	21, 31, 41, 50/0.4' Wet		Brown, rusty colored medium to coarse, well sorted, sand, some fines, very wet, no stains or odors.	0
23 24 25 26 27 28 29 30			Roller Bit Drilled			Semi-competent schist bedrock (?).	-
31 32 33 34 35 36			Roller Bit Drilled			Competent schist bedrock.	-
37 38 39 40			Core (39.5")	-		Core Run # 1 (36.0'-41.0'); Highly weathered, disintegrated (grussified) albite mica schist, salt and pepper colored, friable; RQD = 37.5%.	-

GROUNDWATER OBSERVATIONS				SAMPLE PENETRATION RESISTANCE 140 lb. Wt. Falling 30" on 2" O.D. Sampler		Proportions
Depth	Date	Casing/ Screen	Stability Time	Cohesionless Density	Cohesive Consistence	
				0 - 4 very loose 5 - 9 loose 10 - 29 med. dense 30 - 49 dense 50+ very dense	0 - 2 very soft 3 - 4 soft 5 - 8 m/stiff 9 - 15 stiff 16 - 30 v/stiff 31+ hard	trace 0-10% little 10-20% some 20-35% and 30-50%

Project: Flamingo Cleaners RI **WAS #:** NEW9601.P2 **Contractor:**	**HRP ASSOCIATES, INC.** **ENGINEERING AND GEOLOGY** **DRILLING LOG**	**Rig Type:** **Hole #** SB-3 **Well #** MW-3B
Type: **I.D.:** **Location:** Sidwalk at 154 North Ave. **Date:** August 10-12, 2009		**Start:** **Finish:** **Driller:** GeoLogic NY, Inc. **HRP Rep:** MF & WS

Depth (6" intervals)	Macro-core Samples	Sample Interval	Recovery (ft)	Density or Consistency/ Moisture	Profile Change	Remarks (color, structure, grain size, staining, odor, PID)	PID (ppm)
41			Core (39.5")	-		Core Run # 1 (36.0'-41.0').	-
42			Core (56.0")	-		Core Run # 2 (41.0'-46.0'); Highly weathered, disintegrated (grussified) albite mica schist to banded, foliated gniess, salt and pepper color, several fractures, small scale folds visible; RQD = 65.8%.	-
43							
44							
45							
46							
47						Total well depth = 46.0 feet. Installed a 2" PVC well inside boring, due to disintegrated nature of rock at depth. Casing set from grade to 36 feet.	
48							
49							
50							
51							
52							
53							
54							
55							
56							
57							
58							
59							
60							

GROUNDWATER OBSERVATIONS				SAMPLE PENETRATION RESISTANCE 140 lb. Wt. Falling 30" on 2" O.D. Sampler		Proportions
Depth	Date	Casing/ Screen	Stability Time	Cohesionless Density	Cohesive Consistence	
				0 - 4 very loose	0 - 2 very soft	trace 0-10%
				5 - 9 loose	3 - 4 soft	little 10-20%
				10 - 29 med. dense	5 - 8 m/stiff	some 20-35%
				30 - 49 dense	9 - 15 stiff	and 30-50%
				50+ very dense	16 - 30 v/stiff	
					31+ hard	

Project: Flamingo Cleaners RI **WAS #:** NEW9601.P2 **Contractor:**	**HRP ASSOCIATES, INC.** **ENGINEERING AND GEOLOGY** **DRILLING LOG**	**Rig Type:** **Hole #** **Well #** MW-3
Type: **I.D.:** **Location:** Sidwalk at 154 North Ave. **Date:** August 12, 2009		**Start:** **Finish:** **Driller:** GeoLogic NY, Inc. **HRP Rep:** MF & WS

Depth (6" intervals)	Macro-core Samples	Sample Interval	Recovery (ft)	Density or Consistency/ Moisture	Profile Change	Remarks (color, structure, grain size, staining, odor, PID)	PID (ppm)
1							
2							
3							
4							
5							
6							
7							
8							
9			Augered			Augered	-
10							
11							
12							
13							
14							
15							
16							
17							
18						Total well depth = 17 feet.	
19						Screened from 7 to 17 feet.	
20							

GROUNDWATER OBSERVATIONS				SAMPLE PENETRATION RESISTANCE 140 lb. Wt. Falling 30" on 2" O.D. Sampler		Proportions
Depth	Date	Casing/ Screen	Stability Time	Cohesionless Density	Cohesive Consistence	
				0 - 4 very loose	0 - 2 very soft	trace 0-10%
				5 - 9 loose	3 - 4 soft	little 10-20%
				10 - 29 med. dense	5 - 8 m/stiff	some 20-35%
				30 - 49 dense	9 - 15 stiff	and 30-50%
				50+ very dense	16 - 30 v/stiff	
					31+ hard	

Project: Flamingo Cleaners RI **WAS #:** NEW9601.P2 **Contractor:**	**HRP ASSOCIATES, INC.** **ENGINEERING AND GEOLOGY** **DRILLING LOG**	**Rig Type:** **Hole #** **Well #** MW-4
Type: **I.D.:** **Location:** Sidewalk, North Ave at 55 Locust **Date:** August 18, 2009		**Start:** **Finish:** **Driller:** GeoLogic NY, Inc. **HRP Rep:** DA & NG

Depth (6" intervals)	Macro-core Samples	Sample Interval	Recovery (ft)	Density or Consistency/ Moisture	Profile Change	Remarks (color, structure, grain size, staining, odor, PID)	PID (ppm)
1			0.2	3, 4, 2 Moist		Concrete (6"). Brown to black fine to coarse sand, trace silt and gravel, no stains or odors.	0
2							
3			1.8	5, 5, 8, 12 Moist		Brown fine sand and silt with dark brown includions of silt and medium to coarse sand, trace gravel, no stains or odors.	0
4							
5			1.8	6, 8, 12, 26 Moist			0
6							
7			0.1	50 over 0.4' Moist			0
8							
9			1.8	7, 8, 15, 16 Moist			0
10							
11			1.5	9, 17, 17, 24 Moist		Brown fine sand and silt, trace mica flakes, no stains or odors.	0
12	▼						
13			2	19, 24, 25, 32 Wet		Wet, brown fine sand and silt, trace medium to coarse sand and gravel, no stains or odors.	0
14							
15			Augered	-		Augered	-
16							
17							
18							
19				Screen from 18.3 to 8.3 feet.		Total well depth = 18.3 feet.	
20							

GROUNDWATER OBSERVATIONS			
Depth	Date	Casing/ Screen	Stability Time
12'			

SAMPLE PENETRATION RESISTANCE
140 lb. Wt. Falling 30" on 2" O.D. Sampler

Cohesionless Density	Cohesive Consistence
0 - 4 very loose	0 - 2 very soft
5 - 9 loose	3 - 4 soft
10 - 29 med. dense	5 - 8 m/stiff
30 - 49 dense	9 - 15 stiff
50+ very dense	16 - 30 v/stiff
	31+ hard

Proportions
trace 0-10%
little 10-20%
some 20-35%
and 30-50%

Project: Flamingo Cleaners RI **WAS #:** NEW9601.P2 **Contractor:**	**HRP ASSOCIATES, INC.** **ENGINEERING AND GEOLOGY** **DRILLING LOG**	**Rig Type:** **Hole #** **Well #** MW-5
Type: **I.D.:** **Location:** Landscaped area on Clinton Pl. **Date:** August 13, 2009		**Start:** **Finish:** **Driller:** GeoLogic NY, Inc. **HRP Rep:** DA & NG

Depth (6" intervals)	Macro-core Samples	Sample Interval	Recovery (ft)	Density or Consistency/ Moisture	Profile Change	Remarks (color, structure, grain size, staining, odor, PID)	PID (ppm)
1			0.25	7, 6, 3, 2 Moist		Black, organic rich top soil and angiosperm roots, trace pebbles, no stains or odors.	0
2							
3			1.5	3, 5, 7, 12 Moist		Top soil at top; below a moist silty-clay soil, oxidized weathering stains, chemical odor, trace wood fragments.	33.8
4							
5			1.5	5, 7, 9, 11 Moist to Wet		Gray stained, fine sandy soil at top 1'; below a brown fine sandy soil, oxidized, strong chemical odor.	58.6
6							
7			1.75	12, 17, 19, 19 Wet		Wet, gray stained, brown fine to medium sand, strong chemical odor, highly oxidized.	108
8							
9			1.5	10, 12, 16, 20 Moist to Wet		Gray stained, silty-sand soil, strong chemical odor (i.e. fuel oil), moist and densley packed, trace sand lenses.	168
10	▼						
11			1.5	15, 29, 35, 35 Wet		Wet, gray stained, densley packed silty to fine to medium sand, strong chemical odor.	61.2
12							
13			1.5	24, 34, 34, 38 Wet		Brown to gray silt and medium sand, densley packed, strong chemical odor, trace rock fragments.	0.5
14							
15			1.5	24, 49, 35, 25 Wet		Brown, medium grained sand, densley packed, some fines, no stains or odors.	0
16							
17			1.5	50 over 0.4' Wet		Brown to tan, medium to coarse sand, some qtz granules and pebbles, no stains or odors.	0
18							
19			1	24, 75 over 0.4' Wet		Rusty colored medium to coarse sand, trace granules + pebbles, no stains, possible odor (?).	16.3
20							

GROUNDWATER OBSERVATIONS				SAMPLE PENETRATION RESISTANCE 140 lb. Wt. Falling 30" on 2" O.D. Sampler		Proportions
Depth	Date	Casing/ Screen	Stability Time	Cohesionless Density	Cohesive Consistence	
10'				0 - 4 very loose 5 - 9 loose 10 - 29 med. dense 30 - 49 dense 50+ very dense	0 - 2 very soft 3 - 4 soft 5 - 8 m/stiff 9 - 15 stiff 16 - 30 v/stiff 31+ hard	trace 0-10% little 10-20% some 20-35% and 30-50%

Project: Flamingo Cleaners RI **WAS #:** NEW9601.P2 **Contractor:**	**HRP ASSOCIATES, INC.** **ENGINEERING AND GEOLOGY** **DRILLING LOG**	**Rig Type:** **Hole #** **Well #** MW-5
Type: **I.D.:** **Location:** Landscaped area on Clinton Pl. **Date:** August 13, 2009		**Start:** **Finish:** **Driller:** GeoLogic NY, Inc. **HRP Rep:** DA & NG

Depth (6" intervals)	Macro-core Samples	Sample Interval	Recovery (ft)	Density or Consistency/ Moisture	Profile Change	Remarks (color, structure, grain size, staining, odor, PID)	PID (ppm)
21			1.75	60, 65, 40, 45 Wet		Wet, brown to gray, densley packed medium to coarse sand, some pebbles, no stains, subtle odor.	0
22							
23			0	50 over 0.1' Wet		Cobble stuck in sampler, zero recovery.	-
24							
25			0.75	35, 70 over 0.2'		Wet, densley packed, rusty medium to coarse sand and granules of schist, trace micas, no stains or odors.	0
26							
27						Backfilled borehole with clearn coarse grained quartz sand to 17 feet bgs. Installed 2" PVC well from grade to 17 feet. Screen from 17 to 7 feet.	
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							

GROUNDWATER OBSERVATIONS				SAMPLE PENETRATION RESISTANCE 140 lb. Wt. Falling 30" on 2" O.D. Sampler		Proportions
Depth	Date	Casing/ Screen	Stability Time	Cohesionless Density	Cohesive Consistence	
				0 - 4 very loose 5 - 9 loose 10 - 29 med. dense 30 - 49 dense 50+ very dense	0 - 2 very soft 3 - 4 soft 5 - 8 m/stiff 9 - 15 stiff 16 - 30 v/stiff 31+ hard	trace 0-10% little 10-20% some 20-35% and 30-50%

Project: Flamingo Cleaners RI **WAS #:** NEW9601.P2 **Contractor:**	**HRP ASSOCIATES, INC.** **ENGINEERING AND GEOLOGY** **DRILLING LOG**	**Rig Type:** **Hole #** **Well #** MW-5B
Type: **I.D.:** **Location:** Landscaped area on Clinton Pl. **Date:** August 17-18, 2009		**Start:** **Finish:** **Driller:** GeoLogic NY, Inc. **HRP Rep:** DA & NG

Depth (6" intervals)	Macro-core Samples	Sample Interval	Recovery (ft)	Density or Consistency/ Moisture	Profile Change	Remarks (color, structure, grain size, staining, odor, PID)	PID (ppm)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10			Auguered			Auguered	-
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

GROUNDWATER OBSERVATIONS				SAMPLE PENETRATION RESISTANCE 140 lb. Wt. Falling 30" on 2" O.D. Sampler		Proportions
Depth	Date	Casing/ Screen	Stability Time	Cohesionless Density	Cohesive Consistence	
				0 - 4 very loose	0 - 2 very soft	trace 0-10%
				5 - 9 loose	3 - 4 soft	little 10-20%
				10 - 29 med. dense	5 - 8 m/stiff	some 20-35%
				30 - 49 dense	9 - 15 stiff	and 30-50%
				50+ very dense	16 - 30 v/stiff	
					31+ hard	

Project: Flamingo Cleaners RI **WAS #:** NEW9601.P2 **Contractor:**	**HRP ASSOCIATES, INC.** **ENGINEERING AND GEOLOGY** **DRILLING LOG**	**Rig Type:** **Hole #** **Well #** MW-5B
Type: **I.D.:** **Location:** Landscaped area on Clinton Pl. **Date:** August 17-18, 2009		**Start:** **Finish:** **Driller:** GeoLogic NY, Inc. **HRP Rep:** DA & NG

Depth (6" intervals)	Macro-core Samples	Sample Interval	Recovery (ft)	Density or Consistency/ Moisture	Profile Change	Remarks (color, structure, grain size, staining, odor, PID)	PID (ppm)
21			Augered			Augered	-
22							
23							
24			Roller Bit Drilled			Competent Rock	-
25			Core (59.0")			Core Run # 1 (24.0'-29.0'); Salt and pepper color, competent, gneiss, banded foliation and micro folding evident, garnet inclusions from 28 to 29 feet, fractures at 24'8", 25'8", 26'3", 27'2"; RQD = 95%.	-
26							
27							
28							
29							
30			Core (58.0")			Core Run # 2 (29.0'-34.0'); Salt and pepper color, competent, gneiss with garnet inclusions, banded foliation and micro folding evident, fracture at 32'8"; RQD = 95%.	-
31							
32							
33							
34							
35						Total well depth = 34 feet. Casing set from grade to 24 feet. Well is open borehole below casing.	
36							
37							
38							
39							
40							

GROUNDWATER OBSERVATIONS				SAMPLE PENETRATION RESISTANCE 140 lb. Wt. Falling 30" on 2" O.D. Sampler		Proportions
Depth	Date	Casing/ Screen	Stability Time	Cohesionless Density	Cohesive Consistence	
				0 - 4 very loose	0 - 2 very soft	trace 0-10%
				5 - 9 loose	3 - 4 soft	little 10-20%
				10 - 29 med. dense	5 - 8 m/stiff	some 20-35%
				30 - 49 dense	9 - 15 stiff	and 30-50%
				50+ very dense	16 - 30 v/stiff	
					31+ hard	

TECTONIC *ENGINEERING & SURVEYING CONSULTANTS P.C.*

PROJECT No. **6922.01**
PROJECT: **Flamingo Cleaners**
LOCATION: **New Rochelle, NY**

BORING No. TEC MW-1

SHEET No. 1 of 1

CLIENT: **Flamingo Cleaners**	GROUND WATER: DATE **12/26/13**	TIME **10:00 am**	DEPTH **1.59'**	INSPECTOR: **Sean Martin**
CONTRACTOR: **General Borings, Inc.**				DRILLER: **John Wyant**
METHOD OF ADVANCING BORING / DIA. / DEPTH				SURFACE ELEVATION: **---**
POWER AUGER: TO	MON. WELL ☒ YES ☐ NO			DATUM: **See Remarks**
ROT. DRILL: TO	SCREEN DEPTH: **2.36** TO **4.86'**			DATE START: **12/26/13**
CASING: TO	WEATHER: **Indoors** TEMP: **36° F**			DATE FINISH: **12/26/13**
DIAMOND CORE: TO	DEPTH TO ROCK: **5.5'**			UNCONFINED COMPRESS. STRENGTH (TONS/FT) 1 2 3 4 5
Slide Hammer 1.5" - 2.5" Sections	*CHANGES IN STRATA ARE INFERRED			

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT % (10 20 30 40 50); STANDARD PENETRATION (BLOWS/FT.) (10 20 30 40 50)

DEPTH (FT.)	N OR MIN./FT.	PENETRATION RESISTANCE (BL/6 IN.)	SAMPLE NUMBER	RECOV. LENGTH (IN.)	RQD (%)	MOISTURE	UNIFIED SOIL CLASS.	DESCRIPTION OF MATERIAL	LITHOLOGY*
0–0.5								6" Concrete	
1–3			S-1	12		M / W	SP	Gy-bwn m-f SAND, trace Silt no odors 5.0ppm on PID* ▼	dotted
3–5.5			S-2	24		W	SP	Bwn c-f SAND, trace Silt, no odors 6.0ppm on PID* 5.5' refusal, sample obtained @ 4.5' to 5.5'	dotted
6								End of Boring at 5.5'	

Depth scale: 1–25 ft.

REMARKS: *= 11.7 eV, No readings above background were recorded by the 10.6 eV P.I.D.

BORING LOG 6922-01.GPJ TECTONIC ENG.GDT 1/9/14

TECTONIC *ENGINEERING & SURVEYING CONSULTANTS P.C.*

PROJECT No. **6922.01**

PROJECT: **Flamingo Cleaners**

LOCATION: **New Rochelle, NY**

BORING No. TEC MW-2

SHEET No. 1 of 1

CLIENT: **Flamingo Cleaners**

CONTRACTOR: **General Borings, Inc.**

METHOD OF ADVANCING BORING	DIA.	DEPTH
POWER AUGER:		TO
ROT. DRILL:		TO
CASING:		TO
DIAMOND CORE:		TO

Slide Hammer 2.5" Sections

GROUND WATER	DATE	TIME	DEPTH
	12/26/13	**11:00 am**	**1.85'**

MON. WELL ☐ YES ☒ NO

SCREEN DEPTH: **---** TO **---**

WEATHER: **Indoors** TEMP: **35° F**

DEPTH TO ROCK: **5'**

*CHANGES IN STRATA ARE INFERRED

INSPECTOR: **Sean Martin**

DRILLER: **John Wyant**

SURFACE ELEVATION: **---**

DATUM: **See Remarks**

DATE START: **12/26/13**

DATE FINISH: **12/26/13**

UNCONFINED COMPRESS. STRENGTH (TONS/FT) ◓ 1 2 3 4 5

PLASTIC LIMIT % × — WATER CONTENT % ⊗ — LIQUID LIMIT % △ 10 20 30 40 50

STANDARD PENETRATION (BLOWS/FT.) ● 10 20 30 40 50

DEPTH (FT.)	N OR MIN./FT.	PENETRATION RESISTANCE (BL/6 IN.)	SAMPLES: SAMPLE NUMBER	RECOV.: LENGTH (IN.)	RECOV.: RQD (%)	MOISTURE	UNIFIED SOIL CLASS.	DESCRIPTION OF MATERIAL	LITHOLOGY*
1			S-1	20		M	SP	6" Concrete	
2						W		Gy-bwn m-f SAND, trace Silt, no odors, 4.0ppm on PID* ▼	
3			S-2	20		W	SP	Bwn c-f SAND, trace Silt, no odors; 6.0ppm on PID*	
4									
5								5' Refusal; sample obtained @ 4' - 5'	
6								End of Boring at 5'	
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									

DEPTH (FT.)

REMARKS: *= 11.7 eV, No readings above background were recorded by the 10.6 eV P.I.D.

BORING LOG 6922-01.GPJ TECTONIC ENG.GDT 1/9/14

TECTONIC

(800) 829-6531

W.O. No. 6922.01		Date: 8/19/2014
Project: Flamingo Cleaners		**TEST PIT**
Location: 149 North Ave, New Rochelle, NY		**B-1**
Client: Luigi Lleshaj	Depth to Seepage:	Inspector: Grey Hunter
Contractor:	Depth to Groundwater: 2'	Surface Elevation: 82.5 Feet
Equipment: 2 1/2" Dual Tube Macrocore	Depth to Bedrock: 5.5'	Datum:

Samples		Unified Soil Classification	DESCRIPTION OF MATERIAL	Strata Change (ft.)	Remarks
Sample No.	Moisture				
	M 2'	SP	Bwn C - M sand, trace silt (fill)		PID 253.9 No sheen, petroleum odor
	W			5'	
		SP	Bwn coarse to fine sand, some silt, little gravel		PID 842.7 No sheen, petroleum odor
			Refusal at 5.5'		

PARTICLE SIZE		PROPORTION (exclusive of boulders & cobbles)		PROPORTION (boulders & cobbles)	MOISTURE
Boulder: 10"(+)	Sand: No. 200 Sieve - 3/16"	trace: 0 - 10%	some: 20 - 35%	sparse: 0 - 10%	D: dry
Cobble: 3" - 10"	Silt/Clay: No. 200 Sieve (-)	little: 10 - 20%	and: 35 - 50%	few: 10 - 35%	M: moist
Gravel: 3/16" - 3"				many: 35 - 65%	W: wet

TECTONIC	W.O. No. 6922.01	Date: 8/19/2014
(800) 829-6531	Project: Flamingo Cleaners	**TEST PIT**
	Location: 149 North Ave, New Rochelle, NY	**B-2**

Client: Luigi Lleshaj	Depth to Seepage:	Inspector: Grey Hunter
Contractor:	Depth to Groundwater: 2"	Surface Elevation: 82.5 Feet
Equipment: 1 3/4" Rotor 2" Augur Bit	Depth to Bedrock: 6'	Datum:

Samples		Unified Soil Classification	DESCRIPTION OF MATERIAL	Strata Change (ft.)	Remarks
Sample No.	Moisture				
	M 1.1' W	SP	Bwn C to M sand, trace silt (fill)		PID 258.3 No sheen, petroleum odor
			Refusal at 6'		

PARTICLE SIZE	PROPORTION (exclusive of boulders & cobbles)	PROPORTION (boulders & cobbles)	MOISTURE
Boulder: 10"(+) Sand: No. 200 Sieve - 3/16"	trace: 0 - 10% some: 20 - 35%	sparse: 0 - 10%	D: dry
Cobble: 3" - 10" Silt/Clay: No. 200 Sieve (-)	little: 10 - 20% and: 35 - 50%	few: 10 - 35%	M: moist
Gravel: 3/16" - 3"		many: 35 - 65%	W: wet

TECTONIC

(800) 829-6531

W.O. No. 6922.01		Date: 8/19/2014
Project: Flamingo Cleaners		**TEST PIT**
Location: 149 North Ave, New Rochelle, NY		**B-3**

Client: Luigi Lleshaj	Depth to Seepage:	Inspector: Grey Hunter
Contractor:	Depth to Groundwater: 2"	Surface Elevation: 82.5 Feet
Equipment: 1 3/4" Rotor 2" Augur Bit	Depth to Bedrock: 6'	Datum:

Samples		Unified Soil Classification	DESCRIPTION OF MATERIAL	Strata Change (ft.)	Remarks
Sample No.	Moisture				
	M 2' W	SP	Bwn C - M sand, trace silt (fill)	5'	PID 272.3 Sheen present, petroleum odor
		SP	Bwn coarse to fine sand, some silt, little gravel		PID 70.2 No sheen, petroleum odor
			Refusal at 5.5'		

PARTICLE SIZE		PROPORTION (exclusive of boulders & cobbles)		PROPORTION (boulders & cobbles)	MOISTURE
Boulder: 10"(+)	Sand: No. 200 Sieve - 3/16"	trace: 0 - 10%	some: 20 - 35%	sparse: 0 - 10%	D: dry
Cobble: 3" - 10"	Silt/Clay: No. 200 Sieve (-)	little: 10 - 20%	and: 35 - 50%	few: 10 - 35%	M: moist
Gravel: 3/16" - 3"				many: 35 - 65%	W: wet

APPENDIX IV

MONITOR WELL CONSTRUCTION L O G

HRP Engineering, P.C.
1 Fairchild Square, Suite 110
Clifton Park, NY 12065
(518) 877-7101

PROJECT: Flamingo Cleaners RI/FS
WA #: D006130-02
LOCATION: 149 North Avenue, New Rochelle, NY
DRILLING CO.: GeoLogic NY, Inc.
DRILLED BY:
INSPECTED BY:

BORING NO. MW-1
PAGE 1 OF 1
DATE STARTED: Aug. 3 2009
DATE FINISHED: Aug. 5 2009
SURFACE ELEVATION: N/A
BOTTOM OF BORING ELEVATION:
GROUNDWATER REFERENCE ELEVATION:

GROUNDWATER OBSERVATIONS

DEPTH	Post-Development

CASING
TYPE: Steel
SIZE I.D.: 4"

SAMPLER
MF

DEPTH (FT.)	SAMPLING DEPTH (FT.) *FROM - TO*	SAMPLE DATA ID	RECOV. INCHES	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY *(DESCRIPTION OF MATERIALS)*	FIELD TEST DATA PID - 10.2 eV (ppm)
5'							**Brown, sandy loam soil, trace albite schist granules and pebbles, no stains or odors.**	0.0
10'							**Semi-competent, highly weathered bedrock, disintegrated quartz and mica schist.**	-
15'							**Roller bit drilled through rock; no available data.** **Variable resistance, semi-competent to competent rock;**	-
20'							**Competent, albite schist.**	-
25'							**Core Run # 1 (19.7'-24.7'); Competent, white to gray to black, albite mica schist, hard, unweathered crystalline rock; a few fractures; RQD = 95%.**	-
30'							**Core Run # 2 (24.7'-29.7'); Competent, salt and pepper colored, albite mica schist, trace quartz veins, unweathered crystalline rock; one fracture at 27.8'; greenish stain at 29'; RQD = 96.7%.**	-
35'								

WELL CONSTRUCTION DATA:

Well bottom set at 29.7' bgs
Borehole diameter 4.25"
Well Screen Interval _____' to _____' bgs (_____screen legth)
Well Screen Slot Size _____ Mateiral_____Diameter _____"
Sand Filter Pack Interval _____to _____ bgs
Sand Size_____ Quantity_____(bags, lbs, gallons)
Well Riser Interaval _____' to _____' bgs (_____riser length)
Well Riser Diameter_____Material_____
Bentonite Seal Above Fitler Pack _____to _____' bgs
Backfill Interval _____to _____' bgs
Backfill Material_____
Bentonite Top/Ground Surface Seal _____to _____' bgs
Finishing/Well Protector: Flush-Mounted - Standpipe (length of standpipe _____)
Surface Finishing notes:_____
Groundwater Reference Point Description: (Top of Riser, Standpipe, other)

GENERAL REMARKS:

1) ~_____ gallons of water was purged from following installation on _____2009
2) SAA = Same as Above / NA = Not Available
3) bgs = Below Ground Surface
4)Soil Boring_____was logged & sampled at this location on _____with by geoprobe

KEY:

Well	Filter Sand	Indication of where groundwater begins
	Bentonite	
	Grout	Roadbox
Strata	Soil	Well Casing
	Bedrock	Open Borehole

KEY TO BLOWS PER 6-INCHES:

Granular Soils (Gravel & Sand) Blows/ft	Density	Cohesive Soils (Silt & Clay) Blows/ft	Density
0-4	V. Loose	<2	V. Soft
4-10	Loose	2-4	Soft
10-30	M. Dense	4-8	M. Stiff
30-50	Dense	8-15	Stiff
>50	V. Dense	15-30	V. Stiff
		>50	Hard

PROPORTIONS OF SOIL:

And = 35 to 50%
Some = 20 to 35%
Little = 10 to 20%
Trace = 0 to 10%

MONITOR WELL CONSTRUCTION L O G

HRP Engineering, P.C.
1 Fairchild Square, Suite 110
Clifton Park, NY 12065
(518) 877-7101

PROJECT: Flamingo Cleaners RI/FS
WA #: D006130-02
LOCATION: 149 North Avenue, New Rochelle, NY
DRILLING CO.: GeoLogic NY, Inc.
DRILLED BY:
INSPECTED BY:

BORING NO. MW-2
PAGE 1 OF 1
DATE STARTED: Aug. 5 2009
DATE FINISHED: Aug. 5 2009
SURFACE ELEVATION: N/A
BOTTOM OF BORING ELEVATION:
GROUNDWATER REFERENCE ELEVATION:

GROUNDWATER OBSERVATIONS

DEPTH	Post-Development

CASING — **TYPE:** PVC; **SIZE I.D.:** 2"
SAMPLER — MF

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	RECOV. INCHES	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY (DESCRIPTION OF MATERIALS)	FIELD TEST DATA PID - 10.2 eV (ppm)
							Asphalt chunks at surface; fine sand to silty loam, brown color, no stains or odors.	0.0
							Brown fine sandy loam soil, trace tree roots, no stains or odors.	0.0
5'							**Argillaceous silty soil, gray to orangish color, no stains or odors.**	0.0
							Argillaceous silty soil, gray to orangish color, trace micas, no stains or odors.	0.0
10'							**Clay rich silt, gray to orange, trace micas (8'-9'). Sandy grussified schist, light brown, no stains or odors.**	0.0
							Dark brown sandy weathered (grussified) schist, trace pebbles, no stains or odors.	0.0
15'							**Brown clay soil, grussified schist granules and pebbles, no stains or odors.**	0.0
							Brown clay soil, grussified schist granules and pebbles, no stains or odors.	0.0
20'							**Augered, no data.**	-
25'								
30'								
35'								

WELL CONSTRUCTION DATA:

Well bottom set at 17.0 ' bgs
Borehole diameter 4.25 "
Well Screen Interval 7 ' to 17 ' bgs (10 screen legth)
Well Screen Slot Size _____ Mateiral _____ Diameter 2 "
Sand Filter Pack Interval 5 to 17 bgs
Sand Size _____ Quantity _____ (bags, lbs, gallons)
Well Riser Interaval 0 ' to 7 ' bgs (7 riser length)
Well Riser Diameter 2" Material PVC
Bentonite Seal Above Fitler Pack 3 to 5 ' bgs
Backfill Interval _____ to _____ ' bgs
Backfill Material _____
Bentonite Top/Ground Surface Seal _____ to _____ ' bgs
Finishing/Well Protector: Flush-Mounted - Standpipe (length of standpipe _____)
Surface Finishing notes: _____

Groundwater Reference Point Description: (Top of Riser, Standpipe, other)

GENERAL REMARKS:

1) ~_____ gallons of water was purged from following installation on _____2009
2) SAA = Same as Above / NA = Not Available
3) bgs = Below Ground Surface
4)Soil Boring _____ was logged & sampled at this location on _____ with by geoprobe

KEY:

Well		Filter Sand
		Bentonite
		Grout
Strata		Soil
		Bedrock

Indication of where groundwater begins
Roadbox
Well Riser
Well Screen

KEY TO BLOWS PER 6-INCHES:

Granular Soils (Gravel & Sand) Blows/ft	Density	Cohesive Soils (Silt & Clay) Blows/ft	Density
0-4	V. Loose	<2	V. Soft
4-10	Loose	2-4	Soft
10-30	M. Dense	4-8	M. Stiff
30-50	Dense	8-15	Stiff
>50	V. Dense	15-30	V. Stiff
		>50	Hard

PROPORTIONS OF SOIL:

And = 35 to 50%
Some = 20 to 35%
Little = 10 to 20%
Trace = 0 to 10%

HRP Engineering, P.C.
1 Fairchild Square, Suite 110
Clifton Park, NY 12065
(518) 877-7101

MONITOR WELL CONSTRUCTION L O G

PROJECT: Flamingo Cleaners RI/FS
WA #: D006130-02
LOCATION: 149 North Avenue, New Rochelle, NY
DRILLING CO.: GeoLogic NY, Inc.
DRILLED BY:
INSPECTED BY:

BORING NO. MW-3
PAGE 1 OF 1
DATE STARTED: Aug. 12 2009
DATE FINISHED: Aug. 12 2009
SURFACE ELEVATION: N/A
BOTTOM OF BORING ELEVATION:
GROUNDWATER REFERENCE ELEVATION:

GROUNDWATER OBSERVATIONS

DEPTH	Post-Development

CASING — **TYPE:** PVC; **SIZE I.D.:** 2"
SAMPLER — MF

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	RECOV. INCHES	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY (DESCRIPTION OF MATERIALS)	FIELD TEST DATA PID - 10.2 eV (ppm)
5'							Augered to 17' below grade, no data.	-
10'								
15'								
20'								
25'								
30'								
35'								

WELL CONSTRUCTION DATA:

Well bottom set at 17.0 ' bgs
Borehole diameter 4.25 "
Well Screen Interval 7 ' to 17 ' bgs (10 screen legth)
Well Screen Slot Size _____ Mateiral _____ Diameter 2 "
Sand Filter Pack Interval 5 to 17 bgs
Sand Size _____ Quantity _____ (bags, lbs, gallons)
Well Riser Interaval 0 ' to 7 ' bgs (7 riser length)
Well Riser Diameter 2" Material PVC
Bentonite Seal Above Fitler Pack 3 to 5 ' bgs
Backfill Interval _____ to _____ ' bgs
Backfill Material _____
Bentonite Top/Ground Surface Seal _____ to _____ ' bgs
Finishing/Well Protector: Flush-Mounted - Standpipe (length of standpipe _____)
Surface Finishing notes: _____
Groundwater Reference Point Description: (Top of Riser, Standpipe, other)

GENERAL REMARKS:

1) ~_____ gallons of water was purged from following installation on _____2009
2) SAA = Same as Above / NA = Not Available
3) bgs = Below Ground Surface
4)Soil Boring _____ was logged & sampled at this location on _____ with by geoprobe

KEY:

Well	Filter Sand
	Bentonite
	Grout
Strata	Soil
	Bedrock

Indication of where groundwater begins
Roadbox
Well Riser
Well Screen

KEY TO BLOWS PER 6-INCHES:

Granular Soils (Gravel & Sand) Blows/ft	Density	Cohesive Soils (Silt & Clay) Blows/ft	Density
0-4	V. Loose	<2	V. Soft
4-10	Loose	2-4	Soft
10-30	M. Dense	4-8	M. Stiff
30-50	Dense	8-15	Stiff
>50	V. Dense	15-30	V. Stiff
		>50	Hard

PROPORTIONS OF SOIL:

And = 35 to 50%
Some = 20 to 35%
Little = 10 to 20%
Trace = 0 to 10%

MONITOR WELL CONSTRUCTION L O G

HRP Engineering, P.C.
1 Fairchild Square, Suite 110
Clifton Park, NY 12065
(518) 877-7101

PROJECT: Flamingo Cleaners RI/FS
WA #: D006130-02
LOCATION: 149 North Avenue, New Rochelle, NY
DRILLING CO.: GeoLogic NY, Inc.
DRILLED BY:
INSPECTED BY:

BORING NO. MW-3B
PAGE 1 OF 1
DATE STARTED: Aug. 10 2009
DATE FINISHED: Aug. 12 2009
SURFACE ELEVATION: N/A
BOTTOM OF BORING ELEVATION:
GROUNDWATER REFERENCE ELEVATION:

GROUNDWATER OBSERVATIONS

DEPTH	Post-Development

CASING — **TYPE:** PVC; **SIZE I.D.:** 2"
SAMPLER — MF

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	RECOV. INCHES	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY (DESCRIPTION OF MATERIALS)	FIELD TEST DATA PID - 10.2 eV (ppm)
5'							**Pulverized concrete.**	-
							Brown silty-clay soil, no stains or odors.	0.0
							Brown silty-clay soil, no stains or odors.	0.0
10'							**Silty-clay soil, trace schist granules and pebbles, trace grussified schist sand size grains, no stains or odors.**	0.0
							Brown silty-clay soil, some grussified schist sand grains and pebbles, dense, no stains or odors.	0.0
15'							**Brown silty-clay soil and sand grains (grussified schist), no stains or odors.**	0.0
							Very wet, light brown grussified schist sand grains, possible sanitary sewer stains (?), no odor.	0.0
20'							**Brown, rusty colored medium sand, well sorted (grussified schist), trace micas, no stains or odors.**	0.0
							Wet, brown rusty colored fine to medium grussified schist sand grains, dense silty-clay below, no stains or odors.	0.0
25'							**Wet, brown rusty colored fine to medium grussified schist sand grains, dense silty-clay below, no stains or odors.**	0.0
							Brown, rusty colored medium to coarse, well sorted, sand, some fines, very wet, no stains or odors.	0.0
30'							**Semi-competent schist bedrock.**	-
35'							**Competent schist bedrock.**	-

WELL CONSTRUCTION DATA:

Well bottom set at 46 ' bgs
Borehole diameter 4.25 "
Well Screen Interval 36 ' to 46 ' bgs (10 screen legth)
Well Screen Slot Size _____ Mateiral _____ Diameter 2 "
Sand Filter Pack Interval _____ to _____ bgs
Sand Size _____ Quantity _____ (bags, lbs, gallons)
Well Riser Interaval 0 ' to 36 ' bgs (36 riser length)
Well Riser Diameter 2 Material PVC
Bentonite Seal Above Fitler Pack _____ to _____ ' bgs
Backfill Interval _____ to _____ ' bgs
Backfill Material _____
Bentonite Top/Ground Surface Seal _____ to _____ ' bgs
Finishing/Well Protector: Flush-Mounted - Standpipe (length of standpipe _____)
Surface Finishing notes: _____
Groundwater Reference Point Description: (Top of Riser, Standpipe, other)

GENERAL REMARKS:

1) ~_____ gallons of water was purged from following installation on _____2009
2) SAA = Same as Above / NA = Not Available
3) bgs = Below Ground Surface
4)Soil Boring _____ was logged & sampled at this location on _____ with by geoprobe

KEY:

Well	Filter Sand
	Bentonite
	Grout
Strata	Soil
	Bedrock

Indication of where groundwater begins
Roadbox
Well Casing/Riser
Well Screen

KEY TO BLOWS PER 6-INCHES:

Granular Soils (Gravel & Sand) Blows/ft	Density	Cohesive Soils (Silt & Clay) Blows/ft	Density
0-4	V. Loose	<2	V. Soft
4-10	Loose	2-4	Soft
10-30	M. Dense	4-8	M. Stiff
30-50	Dense	8-15	Stiff
>50	V. Dense	15-30	V. Stiff
		>50	Hard

PROPORTIONS OF SOIL:

And = 35 to 50%
Some = 20 to 35%
Little = 10 to 20%
Trace = 0 to 10%

MONITOR WELL CONSTRUCTION L O G

HRP Engineering, P.C.
1 Fairchild Square, Suite 110
Clifton Park, NY 12065
(518) 877-7101

PROJECT: Flamingo Cleaners RI/FS
WA #: D006130-02
LOCATION: 149 North Avenue, New Rochelle, NY
DRILLING CO.: GeoLogic NY, Inc.
DRILLED BY:
INSPECTED BY:

BORING NO. MW-3B
PAGE 1 OF 1
DATE STARTED: Aug. 10 2009
DATE FINISHED: Aug. 12 2009
SURFACE ELEVATION: N/A
BOTTOM OF BORING ELEVATION:
GROUNDWATER REFERENCE ELEVATION:

GROUNDWATER OBSERVATIONS

DEPTH	Post-Development

CASING TYPE: PVC
CASING SIZE I.D.: 2"
SAMPLER: MF

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	RECOV. INCHES	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY (DESCRIPTION OF MATERIALS)	FIELD TEST DATA PID - 10.2 eV (ppm)
							Competent schist bedrock.	-
40'							**Core Run # 1 (36.0'-41.0'); Highly weathered, disintegrated (grussified) albite mica schist, salt and pepper colored, friable; RQD = 37.5%.**	-
45'							**Core Run # 2 (41.0'-46.0'); Highly weathered, disintegrated (grussified) albite mica schist to banded, foliated gniess, salt and pepper color, several fractures, small scale folds visible; RQD = 65.8%.**	-
50'							**Installed a 2" PVC well inside boring, due to disintegrated nature of rock at depth.**	
55'								
60'								
65'								
70'								

WELL CONSTRUCTION DATA:

Well bottom set at __46__' bgs
Borehole diameter__4.25__"
Well Screen Interval __36__' to __46__' bgs (__10__screen legth)
Well Screen Slot Size _____ Mateiral_____Diameter __2__"
Sand Filter Pack Interval _____to _____ bgs
Sand Size_____ Quantity_____(bags, lbs, gallons)
Well Riser Interaval __0__' to __36__' bgs (__36__riser length)
Well Riser Diameter__2__Material__PVC__
Bentonite Seal Above Fitler Pack _____to _____' bgs
Backfill Interval _____to _____' bgs
Backfill Material_____
Bentonite Top/Ground Surface Seal _____to _____' bgs
Finishing/Well Protector: Flush-Mounted - Standpipe (length of standpipe _____)
Surface Finishing notes:_____
_____
Groundwater Reference Point Description: (Top of Riser, Standpipe, other)
_____

GENERAL REMARKS:

1) ~_____ gallons of water was purged from following installation on _____2009
2) SAA = Same as Above / NA = Not Available
3) bgs = Below Ground Surface
4)Soil Boring_____was logged & sampled at this location on _____with by geoprobe

KEY:

Well	Filter Sand
	Bentonite
	Grout
Strata	Soil
	Bedrock

Indication of where groundwater begins
Roadbox
Well Casing/Riser
Well Screen

KEY TO BLOWS PER 6-INCHES:

Granular Soils (Gravel & Sand) Blows/ft	Density	Cohesive Soils (Silt & Clay) Blows/ft	Density
0-4	V. Loose	<2	V. Soft
4-10	Loose	2-4	Soft
10-30	M. Dense	4-8	M. Stiff
30-50	Dense	8-15	Stiff
>50	V. Dense	15-30	V. Stiff
		>50	Hard

PROPORTIONS OF SOIL:

And = 35 to 50%
Some = 20 to 35%
Little = 10 to 20%
Trace = 0 to 10%

MONITOR WELL CONSTRUCTION L O G

HRP Engineering, P.C.
1 Fairchild Square, Suite 110
Clifton Park, NY 12065
(518) 877-7101

PROJECT: Flamingo Cleaners RI/FS
WA #: D006130-02
LOCATION: 149 North Avenue, New Rochelle, NY
DRILLING CO.: GeoLogic NY, Inc.
DRILLED BY:
INSPECTED BY:

BORING NO. MW-4
PAGE 1 OF 1
DATE STARTED: Aug. 18 2009
DATE FINISHED: Aug. 18 2009
SURFACE ELEVATION: N/A
BOTTOM OF BORING ELEVATION:
GROUNDWATER REFERENCE ELEVATION:

GROUNDWATER OBSERVATIONS

DEPTH	Post-Development

CASING
TYPE: PVC
SIZE I.D.: 2"

SAMPLER
NG

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	RECOV. INCHES	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY (DESCRIPTION OF MATERIALS)	FIELD TEST DATA PID - 10.2 eV (ppm)
							Concrete (6"). Brown to black fine to coarse sand, trace silt and gravel, no stains or odors.	0.0
								0.0
5'								0.0
							Brown fine sand and silt with dark brown includions of silt and medium to coarse sand, trace gravel, no stains or odors.	0.0
								0.0
10'								
							Brown fine sand and silt, trace mica flakes, no stains or odors.	0.0
							Wet, brown fine sand and silt, trace medium to coarse sand and gravel, no stains or odors.	0.0
15'								
							Augered, no data.	-
20'								
25'								
30'								
35'								

WELL CONSTRUCTION DATA:

Well bottom set at 18.3 ' bgs
Borehole diameter 4.25 "
Well Screen Interval 8.3 ' to 18.3 ' bgs (10 screen legth)
Well Screen Slot Size _____ Mateiral _____ Diameter 2 "
Sand Filter Pack Interval 6 to 18.3 bgs
Sand Size _____ Quantity _____ (bags, lbs, gallons)
Well Riser Interaval 0 ' to 8.3 ' bgs (8.3 riser length)
Well Riser Diameter 2 Material PVC
Bentonite Seal Above Fitler Pack 4 to 6 ' bgs
Backfill Interval _____ to _____ ' bgs
Backfill Material _____
Bentonite Top/Ground Surface Seal _____ to _____ ' bgs
Finishing/Well Protector: Flush-Mounted - Standpipe (length of standpipe _____)
Surface Finishing notes: _____
Groundwater Reference Point Description: (Top of Riser, Standpipe, other)

GENERAL REMARKS:

1) ~_____ gallons of water was purged from following installation on _____2009
2) SAA = Same as Above / NA = Not Available
3) bgs = Below Ground Surface
4)Soil Boring _____ was logged & sampled at this location on _____ with by geoprobe

KEY:

Well	Filter Sand
	Bentonite
	Grout
Strata	Soil
	Bedrock

Indication of where groundwater begins
Roadbox
Well Riser
Well Screen

KEY TO BLOWS PER 6-INCHES:

Granular Soils (Gravel & Sand) Blows/ft	Density	Cohesive Soils (Silt & Clay) Blows/ft	Density
0-4	V. Loose	<2	V. Soft
4-10	Loose	2-4	Soft
10-30	M. Dense	4-8	M. Stiff
30-50	Dense	8-15	Stiff
>50	V. Dense	15-30	V. Stiff
		>50	Hard

PROPORTIONS OF SOIL:

And = 35 to 50%
Some = 20 to 35%
Little = 10 to 20%
Trace = 0 to 10%

MONITOR WELL CONSTRUCTION L O G

HRP Engineering, P.C.
1 Fairchild Square, Suite 110
Clifton Park, NY 12065
(518) 877-7101

PROJECT: Flamingo Cleaners RI/FS
WA #: D006130-02
LOCATION: 149 North Avenue, New Rochelle, NY
DRILLING CO.: GeoLogic NY, Inc.
DRILLED BY:
INSPECTED BY:

BORING NO. MW-5
PAGE 1 OF 1
DATE STARTED: Aug 13. 2009
DATE FINISHED: Aug 13. 2009
SURFACE ELEVATION: N/A
BOTTOM OF BORING ELEVATION:
GROUNDWATER REFERENCE ELEVATION:

GROUNDWATER OBSERVATIONS

DEPTH	Post-Development

CASING — **TYPE:** PVC; **SIZE I.D.:** 2"
SAMPLER — MF

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	RECOV. INCHES	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY (DESCRIPTION OF MATERIALS)	FIELD TEST DATA PID - 10.2 eV (ppm)
							Black, organic rich top soil and angiosperm roots, trace pebbles, no stains or odors.	0.0
							Top soil at top; below a moist silty-clay soil, oxidized weathering stains, chemical odor, trace wood fragments.	33.8
5'							Gray stained, fine sandy soil at top 1'; below a brown fine sandy soil, oxidized, strong chemical odor.	58.6
							Wet, gray stained, brown fine to medium sand, strong chemical odor, highly oxidized.	108.0
10'							Gray stained, silty-sand soil, strong chemical odor (i.e. fuel oil), moist and densley packed, trace sand lenses.	168.0
							Wet, gray stained, densley packed silty to fine to medium sand, strong chemical odor.	61.2
15'							Brown to gray silt and medium sand, densley packed, strong chemical odor, trace rock fragments.	0.5
							Brown, medium grained sand, densley packed, some fines, no stains or odors.	0.0
20'							Brown to tan, medium to coarse sand, some qtz granules and pebbles, no stains or odors.	0.0
							Rusty colored medium to coarse sand, trace granules + pebbles, no stains, possible odor (?).	16.3
25'							Wet, brown to gray, densley packed medium to coarse sand, some pebbles, no stains, subtle odor.	0.0
							Cobble stuck in sampler, zero recovery.	-
							Wet, densley packed, rusty medium to coarse sand and granules of schist, trace micas, no stains or odors.	0.0
30'							Backfilled borehole with clearn coarse grained quartz sand to 17 feet bgs.	
35'								

WELL CONSTRUCTION DATA:

Well bottom set at 17.0 ' bgs
Borehole diameter 4.25 "
Well Screen Interval 7 ' to 17 ' bgs (10 screen legth)
Well Screen Slot Size _____ Mateiral _____ Diameter 2 "
Sand Filter Pack Interval 5 to 22 bgs
Sand Size _____ Quantity _____ (bags, lbs, gallons)
Well Riser Interaval 0 ' to 7 ' bgs (7 riser length)
Well Riser Diameter 2" Material PVC
Bentonite Seal Above Fitler Pack 3 to 5 ' bgs
Backfill Interval _____ to _____ ' bgs
Backfill Material _____
Bentonite Top/Ground Surface Seal _____ to _____ ' bgs
Finishing/Well Protector: Flush-Mounted - Standpipe (length of standpipe _____)
Surface Finishing notes: _____
Groundwater Reference Point Description: (Top of Riser, Standpipe, other)

GENERAL REMARKS:

1) ~_____ gallons of water was purged from following installation on _____2009
2) SAA = Same as Above / NA = Not Available
3) bgs = Below Ground Surface
4)Soil Boring _____ was logged & sampled at this location on _____ with by geoprobe

KEY:

Well	Filter Sand
	Bentonite
	Grout
Strata	Soil
	Bedrock

Indication of where groundwater begins
Roadbox
Well Riser
Well Screen

KEY TO BLOWS PER 6-INCHES:

Granular Soils (Gravel & Sand) Blows/ft	Density	Cohesive Soils (Silt & Clay) Blows/ft	Density
0-4	V. Loose	<2	V. Soft
4-10	Loose	2-4	Soft
10-30	M. Dense	4-8	M. Stiff
30-50	Dense	8-15	Stiff
>50	V. Dense	15-30	V. Stiff
		>50	Hard

PROPORTIONS OF SOIL:

And = 35 to 50%
Some = 20 to 35%
Little = 10 to 20%
Trace = 0 to 10%

MONITOR WELL CONSTRUCTION L O G

HRP Engineering, P.C.
1 Fairchild Square, Suite 110
Clifton Park, NY 12065
(518) 877-7101

PROJECT: Flamingo Cleaners RI/FS
WA #: D006130-02
LOCATION: 149 North Avenue, New Rochelle, NY
DRILLING CO.: GeoLogic NY, Inc.
DRILLED BY:
INSPECTED BY:

BORING NO. MW-5B
PAGE 1 OF 1
DATE STARTED: Aug. 17 2009
DATE FINISHED: Aug. 18 2009
SURFACE ELEVATION: N/A
BOTTOM OF BORING ELEVATION:
GROUNDWATER REFERENCE ELEVATION:

GROUNDWATER OBSERVATIONS

DEPTH	Post-Development

CASING	SAMPLER
TYPE: Steel	MF
SIZE I.D.: 4"	

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	RECOV. INCHES	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY (DESCRIPTION OF MATERIALS)	FIELD TEST DATA PID - 10.2 eV (ppm)
5'							**Augered, no data.**	-
10'								
15'								
20'								
25'							**Competent rock.**	-
30'							**Core Run # 1 (24.0'-29.0'); Salt and pepper color, competent, gneiss, banded foliation and micro folding evident, garnet inclusions from 28 to 29 feet, fractures at 24'8", 25'8", 26'3", 27'2"; RQD = 95%.**	-
35'							**Core Run # 2 (29.0'-34.0'); Salt and pepper color, competent, gneiss with garnet inclusions, banded foliation and micro folding evident, fracture at 32'8"; RQD = 95%.**	-

WELL CONSTRUCTION DATA:

Well bottom set at __34.0__' bgs
Borehole diameter__4.25__"
Well Screen Interval _____' to ____' bgs (____screen legth)
Well Screen Slot Size _____ Mateiral_____Diameter _____"
Sand Filter Pack Interval _____to _____ bgs
Sand Size_____ Quantity_____(bags, lbs, gallons)
Well Riser Interaval _____' to _____' bgs (_____riser length)
Well Riser Diameter_____Material_____
Bentonite Seal Above Fitler Pack _____to _____' bgs
Backfill Interval _____to _____' bgs
Backfill Material_____
Bentonite Top/Ground Surface Seal _____to _____' bgs
Finishing/Well Protector: Flush-Mounted - Standpipe (length of standpipe _____)
Surface Finishing notes:_____
_____
Groundwater Reference Point Description: (Top of Riser, Standpipe, other)
_____

GENERAL REMARKS:

1) ~_____ gallons of water was purged from following installation on _____2009
2) SAA = Same as Above / NA = Not Available
3) bgs = Below Ground Surface
4)Soil Boring_____was logged & sampled at this location on _____with by geoprobe

KEY:

Well
Strata

- Filter Sand
- Bentonite
- Grout
- Soil
- Bedrock
- Indication of where groundwater begins
- Roadbox
- Well Casing
- Open Borehole

KEY TO BLOWS PER 6-INCHES:

Granular Soils (Gravel & Sand) Blows/ft	Density	Cohesive Soils (Silt & Clay) Blows/ft	Density
0-4	V. Loose	<2	V. Soft
4-10	Loose	2-4	Soft
10-30	M. Dense	4-8	M. Stiff
30-50	Dense	8-15	Stiff
>50	V. Dense	15-30	V. Stiff
		>50	Hard

PROPORTIONS OF SOIL:

And = 35 to 50%
Some = 20 to 35%
Little = 10 to 20%
Trace = 0 to 10%

HRP Engineering, P.C.
1 Fairchild Square, Suite 110
Clifton Park, NY 12065
(518) 877-7101

MONITOR WELL CONSTRUCTION L O G

PROJECT: Flamingo Cleaners RI/FS
WA #: D006130-02
LOCATION: 149 North Avenue, New Rochelle, NY
DRILLING CO.: GeoLogic NY, Inc.
DRILLED BY: GeoLogic NY, Inc.
INSPECTED BY: HRP Engineering, P.C.

BORING NO. MW-1B
PAGE 1 OF 1
DATE STARTED: Aug. 3 2009
DATE FINISHED: Aug. 5 2009
SURFACE ELEVATION: N/A
BOTTOM OF BORING ELEVATION: 29.70
GROUNDWATER REFERENCE ELEVATION:

GROUNDWATER OBSERVATIONS

DEPTH	Post-Development
	9.5 ft on 9/2/09

CASING
TYPE: Steel
SIZE I.D.: 4"

SAMPLER
MF- HRP

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	RECOV. INCHES	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY *(DESCRIPTION OF MATERIALS)*	FIELD TEST DATA PID - 10.2 eV (ppm)
5'							**Brown, sandy loam soil, trace albite schist granules and pebbles, no stains or odors.**	0.0
10'							**Semi-competent, highly weathered bedrock, disintegrated quartz and mica schist.**	-
15'							**Roller bit drilled through rock; no available data.** **Variable resistance, semi-competent to competent rock;**	-
20'							**Competent, albite schist.**	-
25'							**Core Run # 1 (19.7'-24.7'); Competent, white to gray to black, albite mica schist, hard, unweathered crystalline rock; a few fractures; RQD = 95%.**	-
30'							**Core Run # 2 (24.7'-29.7'); Competent, salt and pepper colored, albite mica schist, trace quartz veins, unweathered crystalline rock; one fracture at 27.8'; greenish stain at 29'; RQD = 96.7%.**	-
35'								

WELL CONSTRUCTION DATA:
Well bottom set at 29.7' bgs
Borehole diameter 4.25"
Open borehole Interval 20' to 30' bgs
Well Riser Interaval 0' to 20' bgs
Well Riser Diameter 4 inch, Steel
Bentonite Top/Ground Surface Seal 0 to 20' bgs
Finishing/Well Protector: Flush-Mounted
Groundwater Reference Point Description: Top of Riser

KEY:

Well	Filter Sand	Indication of where groundwater begins
	Bentonite	
	Grout	Roadbox
	Soil	
Strata	Bedrock	4" Steel Well Casing
	No data	Open Borehole

KEY TO BLOWS PER 6-INCHES:

Granular Soils *(Gravel & Sand)*

Blows/ft	Density
0-4	V. Loose
4-10	Loose
10-30	M. Dense
30-50	Dense
>50	V. Dense

Cohesive Soils *(Silt & Clay)*

Blows/ft	Density
<2	V. Soft
2-4	Soft
4-8	M. Stiff
8-15	Stiff
15-30	V. Stiff
>50	Hard

PROPORTIONS OF SOIL:

And = 35 to 50%
Some = 20 to 35%
Little = 10 to 20%
Trace = 0 to 10%

HRP Engineering, P.C.
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Clifton Park, NY 12065
(518) 877-7101

MONITOR WELL CONSTRUCTION L O G

PROJECT: Flamingo Cleaners RI/FS
WA #: D006130-02
LOCATION: 149 North Avenue, New Rochelle, NY
DRILLING CO.: GeoLogic NY, Inc.
DRILLED BY: GeoLogic NY, Inc.
INSPECTED BY: HRP Engineering, P.C.

BORING NO. MW-2
PAGE 1 OF 1
DATE STARTED: Aug. 5 2009
DATE FINISHED: Aug. 5 2009
SURFACE ELEVATION: N/A
BOTTOM OF BORING ELEVATION: 17.00
GROUNDWATER REFERENCE ELEVATION:

GROUNDWATER OBSERVATIONS

DEPTH	Post-Development
	9.89 ft. on 9/9/09

CASING
TYPE: PVC
SIZE I.D.: 2"

SAMPLER
MF- HRP

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	RECOV. INCHES	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY *(DESCRIPTION OF MATERIALS)*	FIELD TEST DATA PID - 10.2 eV (ppm)
							Asphalt chunks at surface; fine sand to silty loam, brown color, no stains or odors.	0.0
							Brown fine sandy loam soil, trace tree roots, no stains or odors.	0.0
5'							**Argillaceous silty soil, gray to orangish color, no stains or odors.**	0.0
							Argillaceous silty soil, gray to orangish color, trace micas, no stains or odors.	0.0
10'							**Clay rich silt, gray to orange, trace micas (8'-9'). Sandy grussified schist, light brown, no stains or odors.**	0.0
							Dark brown sandy weathered (grussified) schist, trace pebbles, no stains or odors.	0.0
15'							**Brown clay soil, grussified schist granules and pebbles, no stains or odors.**	0.0
							Brown clay soil, grussified schist granules and pebbles, no stains or odors.	0.0
20'							**Augered, no data.**	-
25'								
30'								
35'								

WELL CONSTRUCTION DATA:

Well bottom set at 17.0 ' bgs
Borehole diameter 4.25 "
Well Screen Interval 7 ' to 17 ' bgs (10 screen legth)
Well Screen Slot Size 2" diameter, PVC
Sand Filter Pack Interval 5 to 17 bgs
Well Riser Interaval 0 ' to 7 ' bgs (7 riser length)
Well Riser Diameter 2" Material PVC
Bentonite Seal Above Fitler Pack 3 to 5 ' bgs
Finishing/Well Protector: Flush-Mounted
Groundwater Reference Point Description: Top of Riser

KEY:

Well	Filter Sand
	Bentonite
	Grout
Strata	Soil
	Bedrock
	No data

Indication of where groundwater begins
Roadbox
Well Riser
Well Screen

KEY TO BLOWS PER 6-INCHES:

Granular Soils *(Gravel & Sand)*

Blows/ft	Density
0-4	V. Loose
4-10	Loose
10-30	M. Dense
30-50	Dense
>50	V. Dense

Cohesive Soils *(Silt & Clay)*

Blows/ft	Density
<2	V. Soft
2-4	Soft
4-8	M. Stiff
8-15	Stiff
15-30	V. Stiff
>50	Hard

PROPORTIONS OF SOIL:

And = 35 to 50%
Some = 20 to 35%
Little = 10 to 20%
Trace = 0 to 10%

HRP Engineering, P.C.
1 Fairchild Square, Suite 110
Clifton Park, NY 12065
(518) 877-7101

MONITOR WELL CONSTRUCTION L O G

PROJECT: Flamingo Cleaners RI/FS
WA #: D006130-02
LOCATION: 149 North Avenue, New Rochelle, NY
DRILLING CO.: GeoLogic NY, Inc.
DRILLED BY: GeoLogic NY, Inc.
INSPECTED BY: HRP Engineering, P.C.

BORING NO. MW-3
PAGE 1 OF 1
DATE STARTED: Aug. 12 2009
DATE FINISHED: Aug. 12 2009
SURFACE ELEVATION: N/A
BOTTOM OF BORING ELEVATION: 17.00
GROUNDWATER REFERENCE ELEVATION:

GROUNDWATER OBSERVATIONS

DEPTH	Post-Development
	8.6 ft on 9/2/09

CASING
TYPE: PVC
SIZE I.D.: 2"

SAMPLER
MF- HRP

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	RECOV. INCHES	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY *(DESCRIPTION OF MATERIALS)*	FIELD TEST DATA PID - 10.2 eV (ppm)
5'								
10'							**Augered to 17' below grade, no data.**	-
15'								
20'								
25'								
30'								
35'								

WELL CONSTRUCTION DATA:
Well bottom set at 17.0 ' bgs
Borehole diameter 4.25 "
Well Screen Interval 7 ' to 17 ' bgs (10 screen legth)
Well Screen Slot Size 2" diameter PVC
Sand Filter Pack Interval 5 to 17 bgs

Well Riser Interaval 0 ' to 7 ' bgs (7 riser length)
Well Riser Diameter 2" Material PVC
Bentonite Seal Above Fitler Pack 3 to 5 ' bgs
Finishing/Well Protector: Flush-Mounted
Groundwater Reference Point Description: Top of Riser

KEY:

Well		Filter Sand
		Bentonite
		Grout
Strata		Soil
		Bedrock
		No data

Indication of where groundwater begins
Roadbox
Well Riser
Well Screen

KEY TO BLOWS PER 6-INCHES:

Granular Soils *(Gravel & Sand)*

Blows/ft	Density
0-4	V. Loose
4-10	Loose
10-30	M. Dense
30-50	Dense
>50	V. Dense

Cohesive Soils *(Silt & Clay)*

Blows/ft	Density
<2	V. Soft
2-4	Soft
4-8	M. Stiff
8-15	Stiff
15-30	V. Stiff
>50	Hard

PROPORTIONS OF SOIL:

And = 35 to 50%
Some = 20 to 35%
Little = 10 to 20%
Trace = 0 to 10%

HRP Engineering, P.C.
1 Fairchild Square, Suite 110
Clifton Park, NY 12065
(518) 877-7101

MONITOR WELL CONSTRUCTION L O G

PROJECT: Flamingo Cleaners RI/FS
WA #: D006130-02
LOCATION: 149 North Avenue, New Rochelle, NY
DRILLING CO.: GeoLogic NY, Inc.
DRILLED BY: GeoLogic NY, Inc.
INSPECTED BY: HRP Engineering, P.C.

BORING NO. MW-3B
PAGE 1 OF 1
DATE STARTED: Aug. 10 2009
DATE FINISHED: Aug. 12 2009
SURFACE ELEVATION: N/A
BOTTOM OF BORING ELEVATION: 46
GROUNDWATER REFERENCE ELEVATION:

GROUNDWATER OBSERVATIONS

DEPTH	Post-Development
	9.24 ft on 9/9/09

CASING — **TYPE:** Steel outer casing and PVC interior casing
SAMPLER — MF- HRP
SIZE I.D.: 4" steel outer and 2" PVC inner

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	RECOV. INCHES	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY (DESCRIPTION OF MATERIALS)	FIELD TEST DATA PID - 10.2 eV (ppm)
							Pulverized concrete.	-
							Brown silty-clay soil, no stains or odors.	0.0
5'							Brown silty-clay soil, no stains or odors.	0.0
							Silty-clay soil, trace schist granules and pebbles, trace grussified schist sand size grains, no stains or odors.	0.0
10'							Brown silty-clay soil, some grussified schist sand grains and pebbles, dense, no stains or odors.	0.0
							Brown silty-clay soil and sand grains (grussified schist), no stains or odors.	0.0
15'							Very wet, light brown grussified schist sand grains, possible sanitary sewer stains, no odor.	0.0
							Brown, rusty colored medium sand, well sorted (grussified schist), trace micas, no stains or odors.	0.0
20'							Wet, brown rusty colored fine to medium grussified schist sand grains, dense silty-clay below, no stains or odors.	0.0
							Wet, brown rusty colored fine to medium grussified schist sand grains, dense silty-clay below, no stains or odors.	0.0
25'							Brown, rusty colored medium to coarse, well sorted, sand, some fines, very wet, no stains or odors.	0.0
30'							Semi-competent schist bedrock.	-
35'							Competent schist bedrock.	-
							Competent schist bedrock.	-
40'							Core Run # 1 (36.0'-41.0'); Highly weathered, disintegrated (grussified) albite mica schist, salt and pepper colored, friable; RQD = 37.5%.	-
45'							Core Run # 2 (41.0'-46.0'); Highly weathered, disintegrated (grussified) albite mica schist to banded, foliated gniess, salt and pepper color, several fractures, small scale folds visible; RQD = 65.8%.	-
50'							Installed a 2" PVC well inside boring, due to disintegrated nature of rock at depth.	

WELL CONSTRUCTION DATA:

Well bottom set at 46 ' bgs
Borehole diameter 4.25 "
Well Screen Interval 36 ' to 46 ' bgs (10 screen legth)
Well Screen Slot Size _____ Mateiral _____ Diameter 2 "
Well Riser Interaval 0 ' to 36 ' bgs (36 riser length)
Well Riser Diameter 2 Material PVC
Bentonite Seal Above Fitler Pack 0 to 36' bgs
Finishing/Well Protector: Flush-Mounted
Groundwater Reference Point Description: Top of Riser

KEY:

Well	Filter Sand
	Bentonite
	Grout
	Soil
Strata	Bedrock
	No data

Indication of where groundwater begins
Roadbox
Well Casing/Riser
Well Screen

KEY TO BLOWS PER 6-INCHES:

Granular Soils (Gravel & Sand) Blows/ft	Density	Cohesive Soils (Silt & Clay) Blows/ft	Density
0-4	V. Loose	<2	V. Soft
4-10	Loose	2-4	Soft
10-30	M. Dense	4-8	M. Stiff
30-50	Dense	8-15	Stiff
>50	V. Dense	15-30	V. Stiff
		>50	Hard

PROPORTIONS OF SOIL:

And = 35 to 50%
Some = 20 to 35%
Little = 10 to 20%
Trace = 0 to 10%

MONITOR WELL CONSTRUCTION L O G

HRP Engineering, P.C.
1 Fairchild Square, Suite 110
Clifton Park, NY 12065
(518) 877-7101

PROJECT: Flamingo Cleaners RI/FS
WA #: D006130-02
LOCATION: 149 North Avenue, New Rochelle, NY
DRILLING CO.: GeoLogic NY, Inc.
DRILLED BY: GeoLogic NY, Inc.
INSPECTED BY: HRP Engineering, P.C.

BORING NO. MW-4
PAGE 1 OF 1
DATE STARTED: Aug. 18 2009
DATE FINISHED: Aug. 18 2009
SURFACE ELEVATION: N/A
BOTTOM OF BORING ELEVATION: 18.30
GROUNDWATER REFERENCE ELEVATION:

GROUNDWATER OBSERVATIONS

DEPTH	Post-Development
	8.06 ft on 9/2/09

CASING
TYPE: PVC
SIZE I.D.: 2"

SAMPLER
MF- HRP

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	RECOV. INCHES	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY (DESCRIPTION OF MATERIALS)	FIELD TEST DATA PID - 10.2 eV (ppm)
5'							**Concrete (6"). Brown to black fine to coarse sand, trace silt and gravel, no stains or odors.**	0.0
								0.0
							Brown fine sand and silt with dark brown includions of silt and medium to coarse sand, trace gravel, no stains or odors.	0.0
10'								0.0
								0.0
15'							**Brown fine sand and silt, trace mica flakes, no stains or odors.**	0.0
							Wet, brown fine sand and silt, trace medium to coarse sand and gravel, no stains or odors.	0.0
20'							**Augered, no data.**	-
25'								
30'								
35'								

WELL CONSTRUCTION DATA:
Well bottom set at 18.3 ' bgs
Borehole diameter 4.25 "
Well Screen Interval 8.3 ' to 18.3 ' bgs (10 screen legth)
Well Screen Slot Size 2" diameter PVC
Sand Filter Pack Interval 6 to 18.3 bgs
Well Riser Interaval 0 ' to 8.3 ' bgs (8.3 riser length)
Well Riser Diameter 2 Material PVC
Bentonite Seal Above Fitler Pack 4 to 6 ' bgs
Finishing/Well Protector: Flush-Mounted
Groundwater Reference Point Description: Top of Riser

KEY:

Well	Filter Sand
	Bentonite
	Grout
Strata	Soil
	Bedrock
	No data

Indication of where groundwater begins
Roadbox
Well Riser
Well Screen

KEY TO BLOWS PER 6-INCHES:

Granular Soils *(Gravel & Sand)*

Blows/ft	Density
0-4	V. Loose
4-10	Loose
10-30	M. Dense
30-50	Dense
>50	V. Dense

Cohesive Soils *(Silt & Clay)*

Blows/ft	Density
<2	V. Soft
2-4	Soft
4-8	M. Stiff
8-15	Stiff
15-30	V. Stiff
>50	Hard

PROPORTIONS OF SOIL:

And = 35 to 50%
Some = 20 to 35%
Little = 10 to 20%
Trace = 0 to 10%

MONITOR WELL CONSTRUCTION L O G

HRP Engineering, P.C.
1 Fairchild Square, Suite 110
Clifton Park, NY 12065
(518) 877-7101

PROJECT: Flamingo Cleaners RI/FS
WA #: D006130-02
LOCATION: 149 North Avenue, New Rochelle, NY
DRILLING CO.: GeoLogic NY, Inc.
DRILLED BY: GeoLogic NY, Inc.
INSPECTED BY: HRP Engineering, P.C.

BORING NO. MW-5
PAGE 1 OF 1
DATE STARTED: Aug 13. 2009
DATE FINISHED: Aug 13. 2009
SURFACE ELEVATION: N/A
BOTTOM OF BORING ELEVATION: 17.00
GROUNDWATER REFERENCE ELEVATION:

GROUNDWATER OBSERVATIONS

DEPTH	Post-Development
	8.5 ft on 9/2/09

CASING
TYPE: PVC
SIZE I.D.: 2"

SAMPLER
MF- HRP

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	RECOV. INCHES	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY (DESCRIPTION OF MATERIALS)	FIELD TEST DATA PID - 10.2 eV (ppm)
							Black, organic rich top soil and angiosperm roots, trace pebbles, no stains or odors.	0.0
							Top soil at top; below a moist silty-clay soil, oxidized weathering stains, chemical odor, trace wood fragments.	33.8
5'							Gray stained, fine sandy soil at top 1'; below a brown fine sandy soil, oxidized, strong chemical odor.	58.6
							Wet, gray stained, brown fine to medium sand, strong chemical odor, highly oxidized.	108.0
10'							Gray stained, silty-sand soil, strong chemical odor (i.e. fuel oil), moist and densley packed, trace sand lenses.	168.0
							Wet, gray stained, densley packed silty to fine to medium sand, strong chemical odor.	61.2
15'							Brown to gray silt and medium sand, densley packed, strong chemical odor, trace rock fragments.	0.5
							Brown, medium grained sand, densley packed, some fines, no stains or odors.	0.0
20'							Brown to tan, medium to coarse sand, some qtz granules and pebbles, no stains or odors.	0.0
							Rusty colored medium to coarse sand, trace granules + pebbles, no stains, slight odor.	16.3
25'							Wet, brown to gray, densley packed medium to coarse sand, some pebbles, no stains, subtle odor.	0.0
							Cobble stuck in sampler, zero recovery.	-
30'							Wet, densley packed, rusty medium to coarse sand and granules of schist, trace micas, no stains or odors.	0.0
35'							Backfilled borehole with clearn coarse grained quartz sand to 17 feet bgs.	

WELL CONSTRUCTION DATA:
Well bottom set at 17.0 ' bgs
Borehole diameter 4.25 "
Well Screen Interval 7 ' to 17 ' bgs (10 screen legth)
Well Screen Slot Size 2" diameter PVC
Sand Filter Pack Interval 5 to 22 bgs
Well Riser Interaval 0 ' to 7 ' bgs (7 riser length)
Well Riser Diameter 2" Material PVC
Bentonite Seal Above Fitler Pack 3 to 5 ' bgs
Finishing/Well Protector: Flush-Mounted
Groundwater Reference Point Description: Top of Riser

KEY:

Well	Filter Sand	Indication of where groundwater begins
	Bentonite	
	Grout	Roadbox
Strata	Soil	
	Bedrock	Well Riser
	No data	
		Well Screen

KEY TO BLOWS PER 6-INCHES:

Granular Soils *(Gravel & Sand)*

Blows/ft	Density
0-4	V. Loose
4-10	Loose
10-30	M. Dense
30-50	Dense
>50	V. Dense

Cohesive Soils *(Silt & Clay)*

Blows/ft	Density
<2	V. Soft
2-4	Soft
4-8	M. Stiff
8-15	Stiff
15-30	V. Stiff
>50	Hard

PROPORTIONS OF SOIL:

And = 35 to 50%
Some = 20 to 35%
Little = 10 to 20%
Trace = 0 to 10%

GENERAL REMARKS:
1) ~_____ gallons of water was purged from following installation on _____2009
2) SAA = Same as Above / NA = Not Available
3) bgs = Below Ground Surface
4)Soil Boring_____was logged & sampled at this location on _____with by geoprobe

HRP Engineering, P.C.
1 Fairchild Square, Suite 110
Clifton Park, NY 12065
(518) 877-7101

MONITOR WELL CONSTRUCTION L O G

PROJECT: Flamingo Cleaners RI/FS
WA #: D006130-02
LOCATION: 149 North Avenue, New Rochelle, NY
DRILLING CO.: GeoLogic NY, Inc.
DRILLED BY: GeoLogic NY, Inc.
INSPECTED BY: HRP Engineering, P.C.

BORING NO. MW-5B
PAGE 1 OF 1
DATE STARTED: Aug. 17 2009
DATE FINISHED: Aug. 18 2009
SURFACE ELEVATION: N/A
BOTTOM OF BORING ELEVATION: 34.00
GROUNDWATER REFERENCE ELEVATION:

GROUNDWATER OBSERVATIONS

DEPTH	Post-Development
	10.4 ft on 9/2/09

CASING
TYPE: Steel
SIZE I.D.: 4"

SAMPLER
MF- HRP

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	RECOV. INCHES	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY *(DESCRIPTION OF MATERIALS)*	FIELD TEST DATA PID - 10.2 eV (ppm)
5'								-
10'					▼			
15'								
20'								
25'							**Competent rock.**	-
30'							**Core Run # 1 (24.0'-29.0'); Salt and pepper color, competent, gneiss, banded foliation and micro folding evident, garnet inclusions from 28 to 29 feet, fractures at 24'8", 25'8", 26'3", 27'2"; RQD = 95%.**	-
35'							**Core Run # 2 (29.0'-34.0'); Salt and pepper color, competent, gneiss with garnet inclusions, banded foliation and micro folding evident, fracture at 32'8"; RQD = 95%.**	-

WELL CONSTRUCTION DATA:
Well bottom set at 34.0 ' bgs
Borehole diameter 4.25 "
Open borehole 24' to 34' bgs
Well Riser Interaval 0' to 24' bgs
Well Riser 4 inches steel
Bentonite Seal Above Fitler Pack 0 to 24' bgs
Finishing/Well Protector: Flush-Mounted
Groundwater Reference Point Description: Top of Riser

KEY:

Well		Filter Sand
		Bentonite
		Grout
Strata		Soil
		Bedrock
		No data

▼ Indication of where groundwater begins
Roadbox
4" Steel Well Casing
Open Borehole

KEY TO BLOWS PER 6-INCHES:

Granular Soils *(Gravel & Sand)*

Blows/ft	Density
0-4	V. Loose
4-10	Loose
10-30	M. Dense
30-50	Dense
>50	V. Dense

Cohesive Soils *(Silt & Clay)*

Blows/ft	Density
<2	V. Soft
2-4	Soft
4-8	M. Stiff
8-15	Stiff
15-30	V. Stiff
>50	Hard

PROPORTIONS OF SOIL:

And = 35 to 50%
Some = 20 to 35%
Little = 10 to 20%
Trace = 0 to 10%

TECTONIC
Practical Solutions, Exceptional Service

MONITORING WELL INSTALLATION LOG

PROJECT: Flamingo Cleaners W.O. #: 6922.01 WELL #: TEC-MW-1 BORING # TEC-MW-1

LOCATION: New Rochelle, NY DATE INSTALLED: 12/26/13

CONTRACTOR: General Borings, Inc. TEC ENGINEER: Sean Martin

DIRECT MEASUREMENTS: CASING TO PVC: CASING TO GROUND:

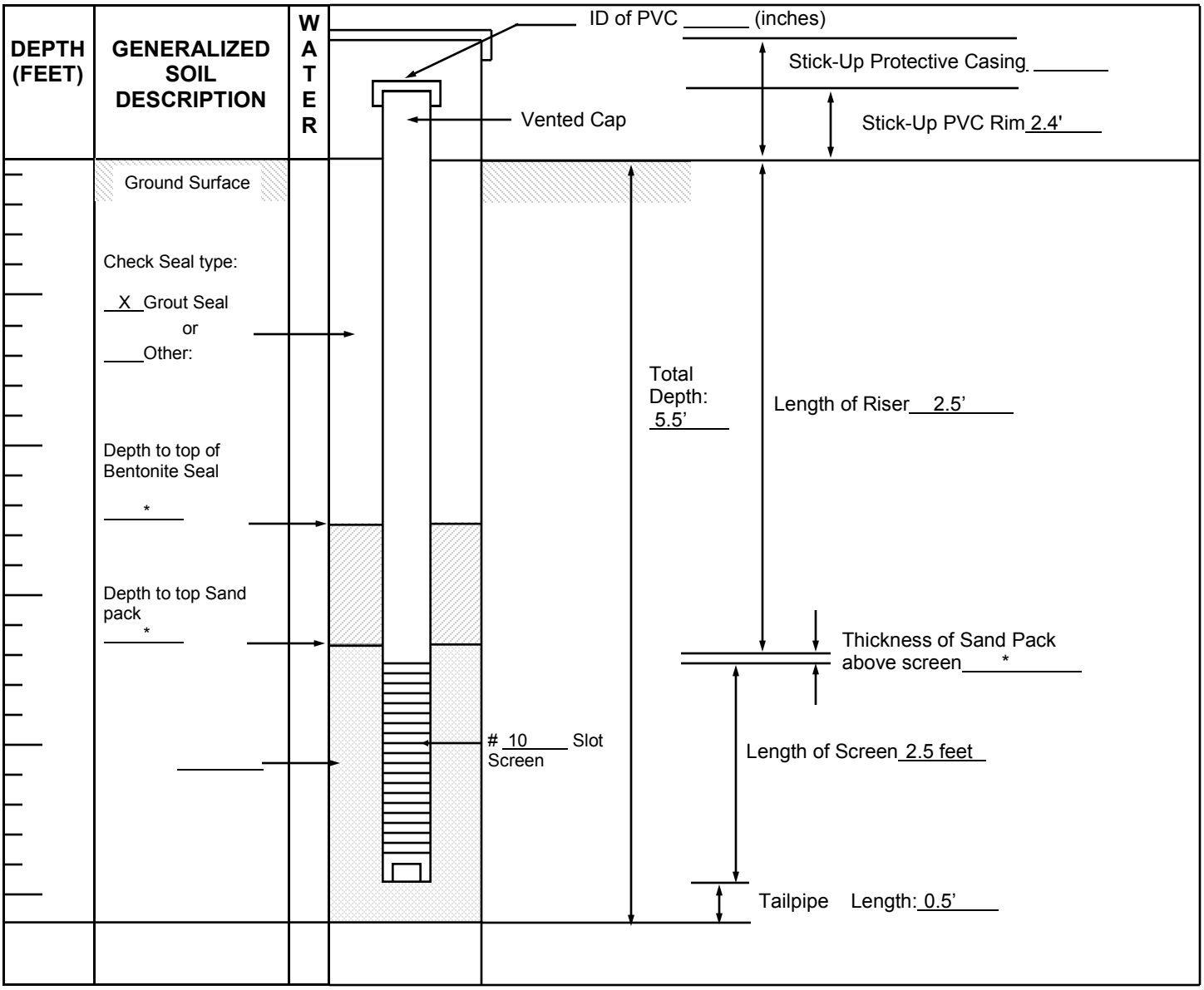
SURFACE ELEV.: PVC ELEV.: PROTECTIVE CASING:

GROUNDWATER: DATE: 12/26/13 TIME: 10:00 am DEPTH: 1.68 ELEV.:

DATE: TIME: DEPTH: ELEV.:

DEVELOPMENT: DATE: 12/26/13 RATE AND VOL. REMOVED: 1 well volume = 0.81 gallons

OBSERVATIONS: *No annular space in boring so sand pack not used. No annular space between Boring & metal casing so sand pack & bentonite not used



TECTONIC
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MONITORING WELL INSTALLATION LOG

PROJECT: Flamingo Cleaners W.O. #: 6922.01 WELL #: TEC-MW-2 BORING # TEC-MW-2

LOCATION: New Rochelle, NY DATE INSTALLED: 12/26/13

CONTRACTOR: General Borings, Inc. TEC ENGINEER: Sean Martin

DIRECT MEASUREMENTS: CASING TO PVC: 0 - 2.5' CASING TO GROUND: 0 - 2.5'

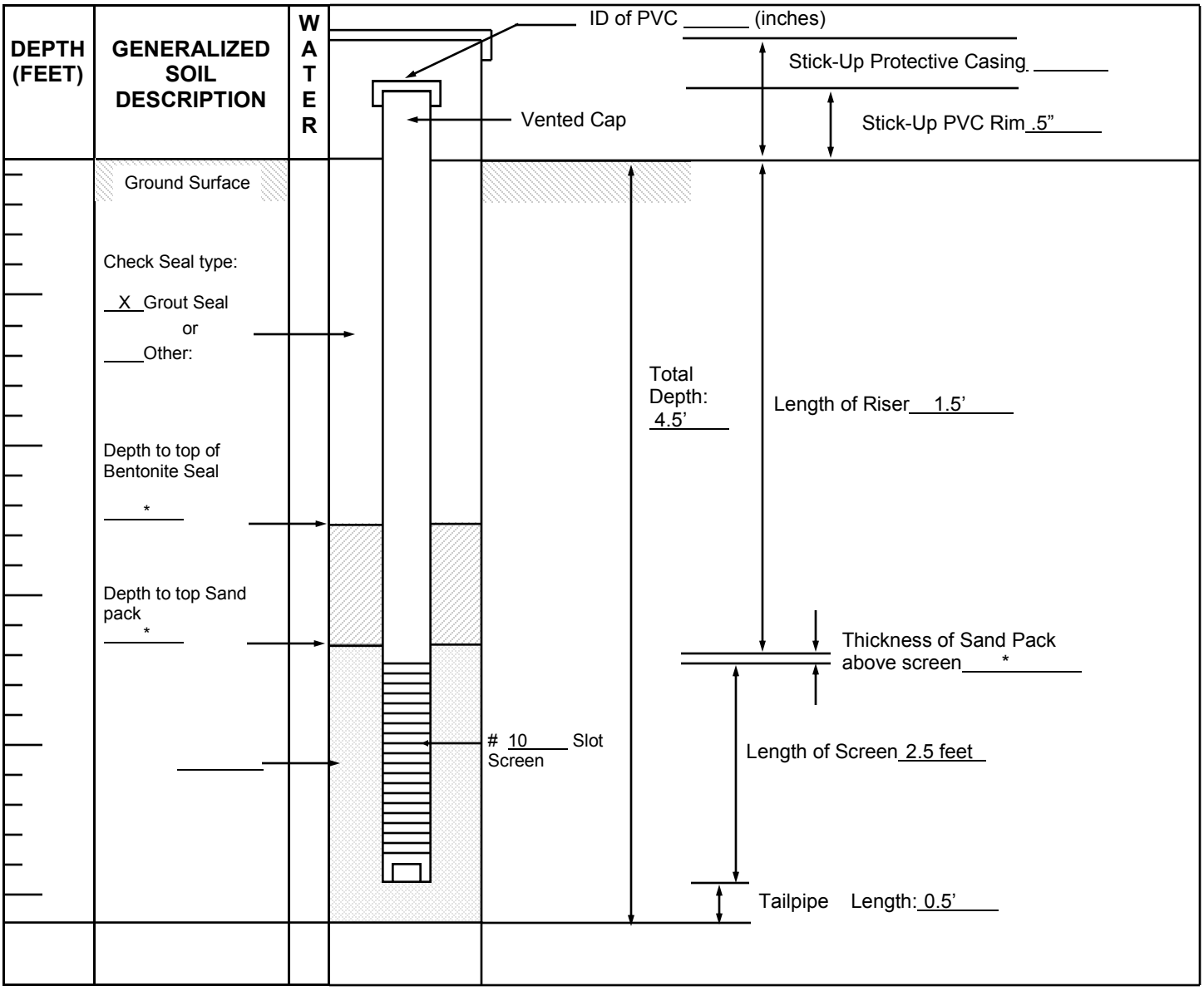
SURFACE ELEV.: _____ PVC ELEV.: _____ PROTECTIVE CASING: _____

GROUNDWATER: DATE: 12/26/13 TIME: 10:00 am DEPTH: 1.68 ELEV.: _____

DATE: _____ TIME: _____ DEPTH: _____ ELEV.: _____

DEVELOPMENT: DATE: 12/26/13 RATE AND VOL. REMOVED: 1 well volume = 0.52 gallons

OBSERVATIONS: *No annular space in boring so sand pack not used. No annular space between Boring & metal casing so sand pack & bentonite not used



APPENDIX V
(See Report)

APPENDIX VI

SITE SPECIFIC HEALTH AND SAFETY PLAN

SECTION 1: GENERAL INFORMATION AND DISCLAIMER		WO NUMBER:	[enter WO# here]
PROJECT NAME:	Former Flamingo Cleaners	CLIENT NAME:	[client name]
PROJECT LOCATION:	149 North Avenue, New Rochelle, New York	PROJECT MANAGER:	[manager]
PREPARED BY:	[enter name here]	PREPARATION DATE:	[date]

NOTE: This site specific Health and Safety Plan (HASP) has been prepared for the use of [contractor] and their subcontractors for work at the above referenced site / facility. The plan is written for the specific site / facility conditions, purposes, tasks, dates and personnel specified, and must be amended and reviewed by the Project Manager named in Section 4 if there is an apparent change in condition which otherwise differs from that which is noted in this plan. The plan is valid for 30 days after preparation. [Contractor] and its subcontractors are not responsible in any way or manner for the use of this plan by others. [Contractor] may provide a copy of this plan to Clients or others for informational purposes only, and in such cases may only be relied upon as may be specifically agreed to in writing by [contractor] and others.

[Contractor's] subcontractors and subconsultants shall be solely responsible for the health and safety of their employees and shall comply with all applicable laws and regulations. In accordance with 29 CFR 1910.120(b)(1)(iv) and (v), [Contractor] will inform [Contractor's] subcontractors and subconsultants of the site / facility emergency response procedures, and any potential fire, explosion, health, safety or other hazards by making this site specific Health and Safety Plan and site information provided by [contractor] during regular business hours. All [contractor's] subcontractors and subconsultants are responsible for: (1) developing their own Health and Safety Plan, including a written Hazard Communication Program and any other written hazard specific or safety programs required by federal, state and local laws and regulations, that details subcontractor tasks, potential or actual hazards identified as a result of a risk analysis of those tasks, and the engineering controls, work practices and personal protective equipment to be utilized to minimize or eliminate employee exposure to the hazard; (2) providing their own personal protective equipment; (3) providing documentation that their employees have been health and safety trained in accordance with applicable federal, state and local laws and regulations; (4) providing evidence of medical surveillance and medical approvals for their employees; and (5) designating their own site safety officer responsible for ensuring that their employees comply with their own Health and Safety plan and taking any other additional measures required by their site activities.

THIS SITE SPECIFIC HASP MUST BE REVIEWED AND APPROVED BY THE PROJECT MANAGER FOR ONE OR MORE OF THE FOLLOWING CONDITIONS: IF AN UPGRADE ABOVE OSHA LEVEL D PERSONAL PROTECTIVE EQUIPMENT (PPE) IS ANTICIPATED OR REQUIRED; A PERMIT REQUIRED CONFINED SPACE ENTRY OR ENTRY INTO AN EXCAVATION IS ANTICIPATED; SAMPLING OF UNKNOWN DRUMS AND/OR IN UNKNOWN CONDITIONS IS ANTICIPATED, OR IF THERE MAY BE RADIATION LEVELS GREATER THAN 0.5 mR (500µR)/HOUR.

SECTION 2: EMERGENCY INFORMATION

(A) LOCAL RESOURCES	**SERVICE NAME**	**TELEPHONE NUMBER**
EMERGENCY MEDICAL SERVICES	Montefiore Medical Center	911
HOSPITAL (Map attached)	Montefiore Medical Center	718.920.4321
FIRE DEPARTMENT	New Rochelle Fire Department	911 / (914) 633-7753
POLICE / SECURITY	New Rochelle Police Department	911 / (914) 654-2300
HAZMAT/ SPILL / OTHER RESPONSE	New York State Emergency Management - Region 1 Office	(631) 952-6322
POISON CONTROL CENTER	New York City Poison Control Center	(212) 689-9014 or 1-800-222-1222
NATIONAL RESPONSE CENTER		(800) 424 - 8800

(B) [CONTRACTOR] CORPORATE RESOURCES

[CONTRACTOR] 24 / 7 EMERGENCY / INCIDENT TELEPHONE NUMBERS

Project Manager	[name]	[phone number]
Human Resources Manager	[name]	[phone number]
[Contractor] Safety Coordinator	[name]	[phone number]

**** TO BE CONTACTED IN CASE OF EMERGENCY**

SECTION 3: PROJECT INFORMATION

(A) SITE / FACILITY INFORMATION:

SITE NAME: Former Flamingo Cleaners

ADDRESS: 149 North Avenue

TOWNSHIP/ COUNTY: New Rochelle, Westchester County, New York

SITE CLIENT CONTACT: [client contact]

PHONE NUMBER: [phone number]

SITE SAFETY CONTACT: [safety contact]

PHONE NUMBER: [phone number]

☐ FEDERAL ☐ STATE ☐ MUNICIPAL / REGIONAL ☒ PRIVATE

(B) TYPE OF PROJECT SITE (CHECK ALL THAT APPLY)

☒ HAZARDOUS (RCRA)	☐ UST / LUST	☐ INDUSTRIAL	☐ UNDEVELOPED
☐ HAZARDOUS (CERCLA / STATE)	☒ BROWNFIELD	☐ WTP / WWTP	☐ VACANT
☐ CONSTRUCTION	☐ CHEMICAL PLANT	☐ OTHER:	
☐ LANDFILL (NON-HAZARDOUS)	☐ UNKNOWN		

(C)

TYPE OF WORK	TYPE OF ACTIVITY	TYPES OF MATERIALS DISTURBED
☐ CONSTRUCTION MGMT	☐ AUDIT	☐ AIR
☐ ENVIRONMENTAL	☐ CONSTRUCTION	☐ FILL
☐ GEOTECHNICAL	☐ INVESTIGATION	☐ GROUND WATER
☐ HYDROGEOLOGY	☐ MONITORING	☐ SEDIMENT
☐ OTHER:	☐ PRE-JOB VISIT	☐ SURFACE SOIL
	☐ (SUB) CONTRACTOR OVERSIGHT	☐ SUBSURFACE SOIL
	☐ SURVEY	☐ SURFACE WATER
	☐ OTHER:	☐ OTHER:

DATE(S) OF FIELD ACTIVITIES: [date]

(D) [CONTRACTOR] FIELD TASKS

A) TASKS PERFORMED BY [CONTRACTOR] AND ITS SUBCONTRACTORS (List field tasks to be performed by [contractor's] personnel) **EDIT SECTION AS APPROPRIATE**

[fill in as appropriate]

1. [fill in as appropriate]
2.
3.
4.

B) TASKS PERFORMED BY OTHERS (List field tasks to be performed by client, subcontractors, or contractors): Bore hole drilling and monitoring well installation

1. [fill in as appropriate]
2.
3.

SECTION 4: PROJECT SAFETY ORGANIZATION, HEALTH AND SAFETY TRAINING, AND MEDICAL MONITORING
(in compliance with 29 CFR 1910.120(b)(2))

HEALTH AND SAFETY ROLES, RESPONSIBILITIES AND COORDINATION

MANAGING PRINCIPAL/ OWNER:	The Managing Principal / Owner is ultimately responsible for project performance. The Managing Principal/ Owner supports the Project Manager with appropriate resources. The Managing Principal / Owner is also responsible for all public, press and other news media request for information, and is the only person authorized to provide such information.
PROJECT MANAGER (PM):	The Project Manager (PM) has the responsibility and authority for executing the project in accordance with the scope of work and good engineering practice. The PM will supervise the allocation of resources and staff to implement specific aspects of this HASP and may delegate authority to expedite and facilitate any application of the program. The PM implements and executes an effective program of site-specific personnel protection and accident prevention. The PM also reviews and approves the HASPs in accordance with Section 1. The Project Manager reports to a Managing Principal.
PROJECT SUPERINTENDANT:	The Project Superintendant is a delegate of the PM and assigned all duties and responsibilities of the Site Safety Officer in his/her absence.
CORPORATE HEALTH & SAFETY:	[Contractor]'s Corporate Health and Safety Officer shall be responsible for [Contractor]'s programs and policies and confirm work is performed in accordance with the same as well as federal, state, and local requirements and codes.
SITE SAFETY OFFICER:	The Site Safety Officer (SSO) is responsible for interpreting and implementing the site health and safety provisions set out in this HASP, and will guide the efforts of field team personnel in their day-to-day compliance with this HASP. The SSO has the ability and authority to make necessary changes or additions to this HASP and provide technical assistance to field team personnel on problems relating to worksite safety. The SSO has the authority to correct safety-related deficiencies in materials or practice and to call a Project STOP in the most serious cases.
ALTERNATE SITE SAFETY OFFICER(S):	Alternate Site Safety Officer (ASSO) is assigned all duties and responsibilities of the Site Safety Officer in his/her absence. This position may not be applicable for all projects.
SITE RECORD KEEPER:	The Site Record keeper is responsible for the documentation of all related heath and safety data documentation, including but not limited to metrological data, instrument calibration, accident and injury reports, and air monitoring data. This position may not be applicable for all projects.
FIELD TEAM LEADER:	The Field Team Leader (FTL) is responsible for leading "on-site" activities of field team personnel, and to ensure field team personnel perform only those tasks that have been identified in this HASP. The FTL may also serve as the Site Record keeper.
FIELD TEAM PERSONNEL:	Field personnel have the following health and safety responsibilities: • Implement the procedures set forth in the HASP; • Take all reasonable precautions to prevent injury to themselves and their fellow employees; and • Perform only those tasks that they believe they can do safely in OSHA Level D PPE, and immediately report any possible need to upgrade from Level D and/or report any accidents and/or unsafe conditions in accordance with Section 1.

(A) ORGANIZATIONAL STRUCTURE

The following personnel are designated to carry out the stated project job functions on site. The purpose of this section is to identify the personnel who impact the development and implementation of the HASP and to describe their roles and responsibilities. This section also identifies subcontractors involved in work operations and establishes the lines of communication among them for safety and health matters. The Site Safety Officer (or a designated alternate) will be on-site during all site activities. (NOTE: One person may carry out more than one job function.)

MANAGING PRINCIPAL: [name]

PROJECT MANAGER: [name]

CORPORATE SAFETY OFFICER: [name]

SITE SAFETY OFFICER: [name]

SITE RECORDKEEPER: [name]

FIELD TEAM LEADER: [name]

FIELD TEAM PERSONNEL: [name]

The following subcontractors, subconsultants and/or governmental agencies have been informed by [Contractor] of emergency response procedures, and any potential fire, explosion, health, safety or other hazards of the site / facility by making this Environmental Health and Safety Plan and site information obtained by others available during regular business hours. Subcontractors and governmental agencies shall be solely responsible for the health and safety of their employees and shall comply with all applicable laws and regulations as described in Section 1 of this plan.

SUBCONTRACTOR(S): [subcontractor info]

SUBCONSULTANT(S): [subconsultant info]

FEDERAL AND STATE AGENCY REP(S):

OTHER AGENCY REP(S):

(B) HEALTH AND SAFETY TRAINING PROGRAM AND MEDICAL SURVEILLANCE
(in compliance with 29 CFR 1910.120(e) and 1910.120(f)

The following project staff participates in the [Contractor] Environmental Health and Safety Training and Medical Monitoring programs. The Environmental Health and Safety Training Program is designed to ensure that employees receive the training they need to work safely on potentially impacted environmental sites. The details of these programs can be found in the Corporate Health and Safety Policies and Written Programs.

(NOTE: At least one CPR/First Aid Trained person must be on-site during HAZWOPER and confined space entry (C.S.E.) activities.)

	HAZWOPER TRAINING:				OTHER TRAINING:							
NAME	INITIAL (DATE)	8HR (DATE)	MGR (DATE)	EXCAVATION (DATE)	C.S.E. (DATE)	CPR / First Aid (DATE)		MEDICAL (DATE)	FIT TEST (MAKE/TYPE/SIZE/DATE)			
[Fill in section as appropriate]												

All employees engaged in work at this site including managers and supervisors receive annual HAZWOPER refresher training consistent with the requirements of 29 CFR 1910.120(e) (8).

SECTION 5: JOB HAZARD ANALYSIS
(in compliance with 29 CFR 1910.120(b)(4)(ii)(A), and 1910.120(i))

The purpose of a Job Hazard Analysis (JHA) is to identify and quantify the health and safety hazards associated with each of [Contractor]'s site tasks and operations, and to evaluate the risks to workers. Using this information, appropriate control methods are selected to eliminate the identified risks if possible, or to effectively control them.

(A) ACTUAL OR POTENTIAL PHYSICAL HAZARDS – (Check all that apply to field activities)

- ☐ ANIMALS / PLANTS
- ☐ ASBESTOS / LEAD
- ☒ CHEMICAL EXPOSURE (See Section 5B/5C)
- ☐ CONFINED SPACE (See Section 12)
- ☐ DEMOLITION
- ☐ DRILLING
- ☐ DRUM HANDLING
- ☐ DUST, HARMFUL
- ☐ DUST, NUISANCE
- ☐ ELECTRICAL
- ☐ EXCAVATIONS (See Section 13)
- ☐ EXTREME COLD (See Section 10)
- ☐ FALL, >6' VERTICAL
- ☐ FALLING OBJECTS
- ☐ HEAT STRESS
- ☐ HEAVY EQUIPMENT
- ☐ HEAVY LIFTING
- ☐ HOT WORK
- ☐ HUNTING SEASON
- ☐ IMMERSION
- ☐ IONIZING RADIATION
- ☐ LIGHT RADIATION (i.e., Welding, High Intensity)
- ☐ LIMITED CONTACT
- ☐ MOVING PARTS (LO / TO)
- ☐ NOISE (> 85 dB)
- ☐ NON-IONIZING RADIATION
- ☐ OVERHEAD OBJECTS
- ☐ POWERED PLATFORMS
- ☐ POOR VISIBILITY
- ☐ ROLLING OBJECTS
- ☐ SCAFFOLDING
- ☐ SHARP OBJECTS
- ☐ STEEP / UNEVEN TERRAIN
- ☐ TRAFFIC (STRUCK BY)
- ☐ OTHER: _____

(B) PRESENCE OF HAZARDOUS MATERIALS STORED OR USED ON SITE

By Other(s) ☒ YES ☐ NO

By [Contractor] (See Section 11) ☐ YES ☒ NO

(CHECK ALL THAT APPLY)

- ☐ EXPLOSIVES
- ☐ COMPRESSED GASES
- ☐ FLAMMABLE / COMBUSTIBLE LIQUIDS
- ☐ FLAMMABLE / REACTIVE SOLIDS
- ☐ OXIDIZERS
- ☐ TOXIC / INFECTIOUS
- ☐ RADIOACTIVE
- ☐ CORROSIVE
- ☐ MISCELLANEOUS
- ☒ HAZARDOUS WASTE (Stored)
- ☐ OTHER

(C) CHEMICAL HAZARDS OF CONTAMINANTS INFORMATION

IDENTIFIED CONTAMINANTS - Primary known or suspected hazardous/toxic materials are identified herein. Additional identified contaminants, historical information, physical description, map of contamination and tabulated data (if available) is attached as applicable.

SUBSTANCES INVOLVED	CHARACTERISTICS	MEDIA	ESTIMATED CONCENTRATIONS	LOWEST PEL or TLV
Possible VOCs:				
Tetrachloroethene	TO/CR	SL/GW	TBD	See NIOSH Appendix C
Trichloroethylene	TO/CR	SL/GW	TBD	100 ppm (NIOSH)
Cis-1-2-dichlroethene	TO/CR	SL/GW	TBD	See NIOSH Appendix C
Trans-1-2-dichlroethene	TO/CR	SL/GW	TBD	See NIOSH Appendix C
Vinyl chloride	TO/CR	SL/GW	TBD	1 ppm (NIOSH)

Media types: GW (ground water), SW (surface water), WW (wastewater), AIR (air), SL (soil), SD (sediment), WL (waste, liquid), WS (waste, solid), WD (waste, sludge), WG (waste, gas), OT (other).

Characteristics: CA (corrosive, acid), CC (corrosive, caustic), IG (ignitable), EX (Explosive), RA (radioactive), VO (volatile), TO (toxic), RE (reactive), BIO (infectious), CR (carcinogen), UN (unknown), OT (other, describe)

DESCRIBE POTENTIAL FOR CONTACT WITH EACH MEDIA TYPE FOR EACH OF THE [CONTRACTOR] TASKS LISTED IN SEC 3 (D):

[CONTRACTOR] FIELD TASK	ROUTE OF EXPOSURE (INHAL/INGEST/CONTACT/ABSORB)	POTENTIAL FOR EXPOSURE (HIGH / MEDIUM / LOW)	METHOD OF CONTROL
1.	[fill in section as appropriate]		
2.			
3.			

The Site Safety Officer / Field Team Leader will brief the field team on symptoms and signs of overexposure to chemical hazards.

SECTION 6: SITE CONTROL MEASURES

(in compliance with 29 CFR 1910.120(b)(4)(ii)(F), and 1910.120(d))

(A) WORK ZONES – EXCAVATIONS, DRILLING OPERATIONS, AND HEAVY EQUIPMENT

The site control program is designed to reduce the spread of potentially hazardous substances from contaminated areas to clean areas, to identify and isolate contaminated areas of the site, to facilitate emergency evacuation and medical care and to prevent unauthorized entry to the site.

[name] has been designated to coordinate access control and security for [Contractor] operations on site. It is a [Contractor] corporate policy that [Contractor] personnel will not enter trench or excavated areas greater than four (4) feet in depth without appropriate Health & Safety approval. A safe perimeter has been established at the boundary of any excavation and/or a safe distance from excavators, drill rigs and other heavy construction equipment.

These boundaries are identified by: Caution Tape in 15 feet boundary around the work area. These boundaries are subject to change based on actual field conditions at the time of the subsurface investigation.

No unauthorized person should be within this area.

(B) WORK ZONES - CONTAMINATION

The prevailing wind conditions are N/A Interior Work A wind direction indicator is used to determine daily wind direction. The Command Post is located upwind from the Exclusion Zone or at a sufficient distance to prevent exposure should a release occur.

Control boundaries have been established and Exclusion Zone(s) (the contaminated area) have been identified. (Attach site map)

These boundaries are identified by: [fill in as appropriate]

No unauthorized person should be within this area.

SECTION 7: SAFETY PROCEDURES AND REQUIRED EQUIPMENT

Identify all procedures and equipment needed to eliminate or minimize exposure to hazards identified in Section 5.

- ☐ AIR MONITORING EQUIPMENT (See Section 9)
- ☒ BARRIER TAPE
- ☒ COMMUNICATIONS - ONSITE
- ☒ COMMUNICATIONS – OFFSITE (i.e., cell/digital phones if no other means)
- ☒ FIRST AID KIT / BBP KIT
- ☐ FLOTATION DEVICE (USCG)
- ☐ GFCI EXTENSION CORDS
- ☐ HARNESS(S) / LIFELINE(S)
- ☐ MSDSs - FACILITY / OTHERS
- ☒ PPE - PHYSICAL HAZARDS (See Section 15)
- ☒ PPE - CHEMICAL HAZARDS (See Section 15)
- ☐ RESPIRATORY PROTECTION

PROGRAM & EQUIPMENT (APR) (See Section 15)

- ☐ CONFINED SPACE PROGRAM & EQUIPMENT (See Section 12)
- ☐ EYE WASH
- ☐ EMERGENCY SHOWERS
- ☐ EMERGENCY AIR HORN
- ☐ FALL PROTECTION PROGRAM & EQUIPMENT
- ☐ INSECT / TICK REPELLANT
- ☐ HUNTING SEASON
- ☐ LADDER(S)
- ☐ LIGHTING - HAND HELD
- ☐ LIGHTING - FIXED / EMERGENCY
- ☐ RESPIRATORY PROTECTION PROGRAM & EQUIPMENT (SAR) (See Section 15)
- ☐ TRAFFIC CONES
- ☐ VENTILATION EQUIPMENT
- ☐ OTHER:

☐ FIRE EXTINGUISHER(S) - ABC

☐ LOCKOUT/TAGOUT PROGRAM & EQUIPMENT

☒ MSDSs or NIOSH – ATTACHED

SECTION 8: COMMUNICATIONS AND SAFE WORK PRACTICES

(A) COMMUNICATIONS - ONSITE

Whenever possible, communications between site personnel should be face-to-face. When verbal communications is not possible, radio communications shall be established.

In case of radio communications failure, or when respiratory protection is in use, the following hand signals will be used:

OK; I AM ALL RIGHT; I UNDERSTAND	THUMBS UP
NO; NEGATIVE	THUMBS DOWN
NEED ASSISTANCE	BOTH HANDS ON TOP OF HEAD
DANGER - NEED TO LEAVE AREA, NO QUESTIONS	GRIP PARTNERS WRIST WITH BOTH HANDS
HAVING DIFFICULTY BREATHING	HANDS TO THROAT

(B) COMMUNICATIONS - OFF SITE

If applicable, telephone communication to the Command Post should be established as soon as practical.

Telephone numbers that can be used to reach the command post are: [phone number] and [phone number]

(C) SAFE WORK PRACTICES

1. A "BUDDY SYSTEM" IN WHICH ANOTHER WORKER IS CLOSE ENOUGH TO RENDER IMMEDIATE AID WILL BE IN EFFECT. CLIENTS AND/OR CONTRACTORS MAY SERVE AS A "DESIGNATED BUDDY."
2. WHERE THE EYES OR BODY MAY BE EXPOSED TO CORROSIVE MATERIALS, SUITABLE FACILITIES FOR QUICK DRENCHING OR FLUSHING SHALL BE AVAILABLE FOR IMMEDIATE USE (SEE SECTION 7).
3. DO NOT KNEEL ON THE GROUND WHEN CHEMICAL PROTECTIVE CLOTHING IS BEING USED.
4. IF DRILLING EQUIPMENT IS INVOLVED, HAVE A CURRENT UTILITY SURVEY, AND KNOW WHERE THE 'KILL SWITCH' IS.
5. CONTACT WITH SAMPLES, EXCAVATED MATERIALS, OR OTHER CONTAMINATED MATERIALS MUST BE MINIMIZED. NO PERSONNEL WILL KNOWINGLY ALLOW THEMSELVES TO WORK IN FIELD CONDITIONS REQUIRING PPE ABOVE OR MORE STRINGENT THAN LEVEL D WITHOUT PRIOR AUTHORIZATION FROM THE PROJECT MANAGER.
6. ALL ELECTRICAL EQUIPMENT USED IN OUTSIDE LOCATIONS, WET AREAS OR NEAR WATER MUST BE PLUGGED INTO GROUND FAULT CIRCUIT INTERRUPTER (GFCI) PROTECTED OUTLETS (SEE SECTION 7).
7. IN THE EVENT OF TREACHEROUS WEATHER-RELATED WORKING CONDITIONS (I.E., THUNDERSTORM, LIMITED VISIBILITY, EXTREME COLD OR HEAT) FIELD TASKS WILL BE SUSPENDED UNTIL CONDITIONS IMPROVE OR APPROPRIATE PROTECTION FROM THE ELEMENTS IS PROVIDED.
8. SMOKING, EATING, CHEWING GUM OR TOBACCO, OR DRINKING ARE STRICTLY FORBIDDEN EXCEPT IN CLEAN OR DESIGNATED AREAS.
9. USE OF CONTACT LENSES NEAR CHEMICALS OR DURING USE OF RESPIRATORY PROTECTION IS PROHIBITED AT ALL TIMES.
10. GOOD HOUSEKEEPING PRACTICES ARE TO BE MAINTAINED.
11. SITE / FACILITY SPECIFIC SAFE WORK PRACTICES:

_____

SECTION 9: ENVIRONMENTAL MONITORING

☐ THIS SECTION NOT APPLICABLE TO SITE ACTIVITIES

(A) The following environmental monitoring instruments shall be used on site at the specified intervals and recorded in the site logbook. (NOTE: If monitoring period is "OTHER", monitoring schedule will be attached to this plan.)

EQUIPMENT	MONITORING PERIOD				ACTION LEVEL
☐ Combustible Gas Indicator	☐ Continuous	☐ Hourly	☐ x Day	☐ Other	
☐ O_2 Meter	☐ Continuous	☐ Hourly	☐ x Day	☐ Other	
☐ Toxics: ☐ CO ☐ H_2S	☐ Continuous	☐ Hourly	☐ x Day	☐ Other	
☐ Other: _____	☐ Continuous	☐ Hourly	☐ x Day	☐ Other	
☒ PID (Lamp 10.5 / 11.7 eV)	☒ Continuous	☐ Hourly	☐ x Day	☐ Other	1 ppm
☐ FID					
☐ Colorimetric tubes:					
_____	☐ Continuous	☐ Hourly	☐ x Day	☐ Other	
_____	☐ Continuous	☐ Hourly	☐ x Day	☐ Other	
☐ Radiation: ☐ □□ ☐ □ ☐ gamma	☐ Continuous	☐ Hourly	☐ x Day	☐ Other	
☐ Respirable Dust Meter	☐ Continuous	☐ Hourly	☐ x Day	☐ Other	
☐ Noise Meter	☐ Continuous	☐ Hourly	☐ x Day	☐ Other	
☐ Other:	☐ Continuous	☐ Hourly	☐ x Day	☐ Other	
_____	☐ Continuous	☐ Hourly	☐ x Day	☐ Other	
_____	☐ Continuous	☐ Hourly	☐ x Day	☐ Other	

(B) Monitoring equipment is calibrated according to manufacturers' instructions. Record calibration data and air concentrations in the Health and Safety on-site log book.

(C) Recommended Action Levels for Upgrade or Downgrade of Respiratory Protection, or Site Shutdown and Evacuation. These are average values. Consideration should be given to the potential for release of highly toxic compounds from the waste or from reaction by-products. Levels are for persistent (> 10 min) breathing zone measurements in non-confined spaces. No work shall be performed in field conditions requiring PPE above Level D without prior authorization from the Project Manager. **For unexpected conditions, stop all work immediately, leave the site and contact the Project Manager.**

<u>Particulate Dust</u>	
Up to 50% of TLV, or PEL or REL	Work may start / continue. Continue to monitor conditions.
Up to 100% of TLV, or PEL or REL	Work may continue, implement engineering controls and monitor.
Up to 25 times the TLV, or PEL or REL	Level C necessary for work to start / continue. Continuous monitoring.
Up to 500 times the TLV, or PEL or REL	Level B necessary for work to start / continue. Continuous monitoring.
Greater than 500 times the TLV, or PEL or REL	PROHIBITED WORK CONDITION.
Less than 19.5%	Level B necessary for work to start / continue. Consider toxicity potential.
19.5% to 23.5%	Work may start / continue. Investigate changes. Continuous monitoring.
Greater than 23.5%	PROHIBITED WORK CONDITION
<u>Oxygen Levels</u>	
Less than 19.5%	Level B necessary for work to start/continue. Consider toxicity potential.
19,5% to 23.5%	Work may start/continue. Investigate changes. Continuous monitoring.
Greater than 23.5%	PROHIBITED WORK CONDITION
<u>Flammability / Explosive Hazards</u>	
Less than 10% of LEL	Work may start / continue. Consider toxicity potential.
10% to 25% of LEL	Work may start / continue. Continuous monitoring.
Greater than 25% of LEL	PROHIBITED WORK CONDITION.
<u>Uncharacterized Airborne Organic Vapors or Gases</u>	
Background*	Work may start / continue. Continue to monitor conditions.
Up to 5 meter units (m.u. or "ppm") above background	Level C necessary for work to start / continue. Continuous monitoring. Use Colorimetric tubes to characterize vapors.
Up to 50 m.u. above background	Level B necessary for work to start / continue. Continuous monitoring.
Greater than 50 m.u.	PROHIBITED WORK CONDITION.

*** Off-site clean air measurement**

<u>Characterized Airborne Organic Vapors or Gases</u>**

Up to 50% of TLV, or PEL or REL	Work may start / continue. Continue to monitor conditions.
Up to 25 times the TLV, or PEL or REL	Level C necessary for work to start / continue. Continuous monitoring.
Up to 500 times the TLV, or PEL or REL	Level B necessary for work to start / continue. Continuous monitoring.
Greater than 500 times the TLV, or PEL or REL	PROHIBITED WORK CONDITION.

** **Use mixture calculations (% allowed = $\square C_N EL_N$) if more than one contaminant is present.**

Mercury Vapor

0.01 mg/m^3	Prevent skin contact. Work may continue. Continue to monitor conditions.
Up to 0.5 mg/m^3 (APF = 10)	Level C necessary for work to start / continue. Use any chemical cartridge respirator with cartridge(s) providing protection against the compound of concern or any supplied air respirator. Continuous monitoring.
Up to 1.25 mg/m^3 (APF = 25)	Level B necessary for work to start / continue. Use any supplied air respirator operated in a continuous flow mode or any powered, air purifying respirator with cartridge(s) providing protection against the compound of concern (canister). Continuous monitoring.
Up to 2.5 mg/m^3 (APF = 50)	Level A necessary for work to start / continue. Use any chemical cartridge respirator with a full face piece and cartridge(s) providing protection against the compound of concern. Or any air-purifying, full-facepiece respirator (gas mask) with a chin style, front or back-mounted canister providing protection against the compound of concern. Or any supplied-air respirator that has a tight-fitting facepiece and is operated in a continuous-flow mode or any supplied-air respirator with a full facepiece. Or any powered, air-purifying respirator with a tight-fitting facepiece and cartridge(s) providing protection against the compound of concern. Or any self-contained breathing apparatus with a full facepiece. Continuous monitoring.
Up to 10 mg/m^3	Level A necessary for work to start / continue. Use any supplied-air respirator operated in a pressure-demand or other positive pressure mode. Continuous monitoring.
Greater than 10 mg/m^3	PROHIBITED WORK CONDITION.

SECTION 10: PERSONAL MONITORING

(in compliance with 29 CFR 1910.120(b)(4)(ii)(E) and 1910.120(h))

☐ THIS SECTION NOT APPLICABLE TO SITE ACTIVITIES

(A) PERSONAL EXPOSURE SAMPLING (Consider if high levels of noise or high concentrations of lead, mercury or arsenic are present)

The following personal monitoring will be in effect on site: _____

_____

_____

A copy of personal monitoring results is to be sent to Corporate Health and Safety for inclusion in the Employee's Confidential Exposure Record File.

(B) HEAT / COLD STRESS MONITORING

The expected air temperature will be Approx. 40 ºF. If it is determined that heat stress or cold stress monitoring is required (mandatory for heavy exertion in PPE at temperatures over 70ºF, or at temperatures under 40ºF or wind chill equivalent), the following procedures shall be followed (describe procedures in effect, for heat stress i.e., monitoring body temperature, body weight, pulse rate; for cold stress i.e., appropriate clothing, shelter breaks):

Workers shall wear insulated outwear, gloves and boots to protect from exposure. At least two 15 minute breaks and one 30 minute break shall be taken in a sheltered (preferably warm location). During these breaks workers shall hydrate with warm liquids.

SECTION 11: HAZARD COMMUNICATION PROGRAM

☐ THIS SECTION NOT APPLICABLE TO SITE ACTIVITIES

If chemicals are introduced to the site by [Contractor] (e.g., decontamination liquids, preservatives, etc.), a copy of the Material Safety Data Sheets (MSDSs) of chemicals introduced by [Contractor] to the site is attached to this plan. The Site Safety Officer will review this information with all field personnel prior to the start of the project, and will inform other employers (e.g., Owner, Contractor and Subcontractors) the availability and location of this information. The comprehensive list of chemicals introduced by [Contractor] to this site is:

_____ _____

_____ _____

_____ _____

All chemicals being introduced to the site, hazardous/potentially hazardous samples prepared at the site, and/or any hazardous materials previously sent to the site, that will be stored at the site or will be transported from the site by common carrier, will be packaged, labeled and identified as hazardous materials in accordance with U.S. Department of Transportation (DOT) and/or International Air Transport Association (IATA) regulations by a trained HazMat employee.

(NOTE: At multi-employer sites, the Site Safety Officer will obtain information, if applicable; on hazardous chemicals other employers may produce or introduce to the job site to which [Contractor] employees may be exposed, including the location of their written hazard communication program(s), labeling program(s), and Material Safety Data Sheet(s).

SECTION 12: PERMIT REQUIRED CONFINED SPACES
(in compliance with 29 CFR 1910.120(b)(4)(ii)(I) and 1910.146)

☐ THIS SECTION NOT APPLICABLE TO SITE ACTIVITIES

If a permit-required confined space entry will be made on site, a copy of the [Contractor] Confined Space Entry Program and a completed [Contractor] Confined Space Pre-Entry Inspection Check List will be attached to this plan. A Confined Space Entry Permit must be completed and posted outside the confined space prior to entry, and the entry will follow the [Contractor] Confined Space Entry written program. Permits are to be saved and logged with project documentation.

SECTION 13: EXCAVATION SAFETY
(in compliance with 29 CFR 1926.651 and 1926.21(b))

☐ THIS SECTION NOT APPLICABLE TO SITE ACTIVITIES

Excavations being created in order to accomplish [Contractor] tasks or in progress during [Contractor] inspection of other activities or tasks, shall be shored or sloped or otherwise protected to prevent accidental collapse prior to entry, in accordance with Subpart F of 29 CFR 1926. Trenches shall be inspected daily by an OSHA competent person and trench protective measures shall be adjusted accordingly. It is [Contractor] policy that [Contractor] personnel will not enter trench greater than three and a half (3.5) feet deep or excavated areas without approval of the Project Manager and the OSHA site competent person.

SECTION 14: DECONTAMINATION PROCEDURES
(in compliance with 29 CFR 1910.120(b)(4)(ii)(G) and 1910.120(k))

☐ THIS SECTION NOT APPLICABLE TO SITE ACTIVITIES

The decontamination section of the HASP describes how personnel and equipment are decontaminated when they leave the Exclusion Zone and how residual waste from the decontamination process is disposed. These procedures minimize worker contact with contaminants and protect against the transfer of contaminants to clean areas of the site and off-site. Decontamination procedures on this site are designed for the level of PPE used.

Personal- Wear coveralls during work activities and remove before leaving site. If disposable, dispose in an air tight bin. If not disposable, remove and wash. Go to nearest shower facilities for cleaning either onsite or after leaving site.

Equipment- Prerinse-1) To remove and dislodge large particles of dust, soils and sediment, 2) Thoroughly wash equipment 3)-Final rinse of Equipment.

Visual examination and sampling are used to evaluate the effectiveness of decontamination procedures, in compliance with 29 CFR 1910.120(k)(2)(iv). Visual examination is used to ensure that procedures are implemented as described and that they appear to control the spread of contaminants under changing site conditions. Visual examination is also used to inspect for signs of residual contamination or permeation of PPE.

The following decontamination equipment is required:

☐ Decon Pad (Plastic Sheet) ☐ Dry Brushes ☐ Buckets ☐ Plastic Spray Bottles
☐ Trash Cans/Bags ☐ Wet Brushes ☐ Hose / Spray Other [other]

Pesticide-grade Acetone or Isopropanol (for organics) and 10% Nitric Acid solution (for metals) will be used as required, based upon anticipated contamination.

SECTION 15: PERSONAL PROTECTIVE EQUIPMENT
(in compliance with 29 CFR 1910.120(b)(4)(ii)(c) and 1910.120(g))

TASK *	PPE LEVEL	RESPIRATORS & CARTRIDGE[1]	USE ** (See Section 16)	CLOTHING	GLOVES	BOOTS	OTHER
1.		[fill in section as appropriate]					
2.							

3.								

* Same as Section 3D

**UP = Upgrade
CONT = Continuous

NOTE: PPE use will be in accordance with [Contractor]'s Health and Safety Policy and Written Programs

CODES:

RESPIRATORS[1]	CARTRIDGES[1]	CLOTHING	GLOVES[2]	BOOTS	OTHER
HF = Half Face APR	P = Particulate	N/S = No Special	Co = Cotton	SL = Leather Safety	HH = Hard Hat
FF = Full Face APR	OV = Organic Vapors	C = Coveralls	Le = Leather	H = Hip (Fireman)	G = Safety Glasses
ESCBA = Escape Bottle	AG = Acid Gas	T = Tyvek	L = Latex	O = Latex overboots	GP = Glare Protection
SAR = Airline	Mult = Multi-Gas/Vapor	Sx = Saranex	N = Nitrile		GI = Goggles - Impact
SCBA = SCBA	Other	PT = PE Tyvek	B = Butyl		GS = Goggles - Splash
			Neo = Neoprene		FS = Face Shield
			V = Viton		HP = Hearing Protection
			PVC = Polyvinyl Chloride		V = Reflective Safety Vest
			PVA = Polyvinyl Alcohol		
			Other:		

1 - List all that apply, i.e., FF w/ OV/AG/P

2 - Use same codes for clothing and boots of same material

Respiratory protection will be upgraded under the following conditions: Action level triggered during continuous monitoring during any phase of construction.

The following cartridge change out schedule is to be followed onsite (attach any calculations to plan):

Not Applicable

SECTION 16: EMERGENCY RESPONSE PLAN

(in compliance with 29 CFR 1910.120(l) and 1910.120(b)(4)(ii)(H)

The following standard emergency response procedures will be used by onsite personnel. The Site Safety Officer shall be notified of any onsite emergencies and be responsible for ensuring that the appropriate procedure are followed.

(A) EVACUATION

All work activities are suspended and the site is to be EVACUATED IMMEDIATELY, when there is a threat to life or health as determined by individual good judgment, i.e. fire, hazardous chemical spill, dangerous gas leak, severe weather (i.e., tornado); or when notified by other site / facility staff and local fire or police officials.

If an evacuation is called for, the emergency alarm system for weather-related, medical, fire and other evacuation emergencies is:

Verbal Communication

Evacuation from the Exclusion Zone should whenever possible occur through the decontamination line. In those situations where egress in this manner cannot occur, the following emergency escape routes have been designated (document on map if possible):

Not applicable at this time. To be modified as new field conditions are encountered.

Once evacuated off site, all staff should gather at Intersection of North Avenue & Bonnfoy Place which is a minimum of 250 feet away from the incident.

(B) FIRE OR EXPLOSION

Upon discovery of a fire or an explosion, the above-designated emergency signal shall be sounded and all personnel shall assemble at the decontamination line. The fire department is to be notified and all personnel moved to a safe distance (minimum 250') from the involved area.

If a person's clothing should catch fire, burning clothing may be extinguished by having the individual drop to the floor and roll. If necessary, physically restrain the person and roll them around on the floor to smother the flames. Use a fire blanket or extinguisher if one is readily available and you have been trained in its use. Call emergency medical services if not already done so.

If a person's clothing should become saturated with a chemical, douse the individual with water from the nearest safety shower if available. Consult the chemical Material Safety Data Sheets (MSDSs) for further information. Call emergency medical services if indicated by the MSDSs.

NEVER RE-ENTER THE SITE / FACILITY until the emergency has been declared over and permission to re-enter has been given by site / facility health and safety staff or local fire or police officials. If any staff is unaccounted for, notify an individual in charge.

(C) MEDICAL EMERGENCY

If you discover a medical emergency and are by yourself, CALL OUT FOR HELP. When someone arrives, tell them to call for help. If no one comes or you know you are alone, provide whatever care you can for 1 minute, then make the call yourself. (See Section 2)

Upon notification of an injury in the Exclusion Zone, the designated emergency signal shall be sounded. All site personnel shall assemble at the decontamination line. The SSO or alternate should evaluate the nature of the injury, and the affected person should be decontaminated to the extent possible prior to movement to the Support Zone. The onsite CPR/FA personnel shall initiate the

appropriate first aid, and contact should be made for an ambulance (and other emergency services as needed) and with the designated medical facility (if required). No persons shall reenter the Exclusion Zone until the cause of the injury or symptoms are determined.

The hospital is < 20 minutes from the site. Ambulance response time is 15 minutes. _____ of New Rochelle Fire Department was contacted on _____ and briefed on the situation, the potential hazards, and the substances involved. When IDLH conditions exist, arrangements should be made for onsite standby of emergency services.
A map for directions to the nearest hospital is attached to this plan. If not, the directions are: _____

(D) SAFETY EQUIPMENT FAILURE

If any other equipment (i.e., air monitoring) on site fails to operate properly, the FTL and/or SSO shall be notified to determine the effect of this failure on continuing operations on site. If the failure affects the safety of personnel or prevents completion of the Work Plan tasks, all personnel shall leave the work area until the situation is evaluated and appropriate actions taken.

(E) FOLLOW UP

In all situations, when an on site / facility emergency results in evacuation of the work area, or a "large spill" has occurred, staff shall not resume work until:

- The conditions resulting in the emergency have been corrected;
- The hazards reassessed by the SSO and Corporate Health and Safety;
- The HASP has been reviewed by the SSO and Corporate Health and Safety; and
- Site personnel have been briefed on any changes in the HASP by the SSO.

SECTION 17: SPILL CONTAINMENT / CONTROL

(in compliance with 29 CFR 1910.120(b)(4)(ii)(J) and (j)(1)(viii))

☐ THIS SECTION NOT APPLICABLE TO SITE ACTIVITIES

This section of the HASP describes the potential for hazardous substance spills at this site and procedures for controlling and containing such spills. The purpose of this section of the Plan is to ensure that spill containment planning is conducted and appropriate control measures are established, consistent with OSHA requirements in 29 CFR 1910.120(b)(4)(ii)(J) and (j)(1)(viii).

For most chemicals introduced to the worksite, or under direct control of [Contractor] personnel, spills of chemicals would be considered incidental and would be controlled in the immediate area of the spill. Such spills shall be handled utilizing precautions appropriate for the chemical characteristics specified in the MSDS for the chemical including spill control methods and selection and use of minimum personal protective equipment. For chemicals introduced to the worksite that would cause a ″large spill″ (greater than 55 gallons), a copy of the appropriate Emergency Response Guidebook (ERG) guide shall be attached to this plan, and a spill response contractor shall be identified in Section 2.

SECTION 18: SAFETY MEETINGS

As appropriate, the SSO will conduct periodic safety meetings, which will be mandatory for all [Contractor] project personnel, subcontractors and subconsultants. The meetings will provide a refresher for existing equipment and protocols, and will examine new site conditions as they are encountered.

SECTION 19: EMPLOYEE ACKNOWLEDGEMENTS

A) PLAN REVIEWED BY: DATE:

Project Manager, company	[name] _____	_____
Field Team Leader, company	[name] _____	_____
Site H&S Coordinator:	[name] _____	_____
Corporate / Management:	[name] _____	_____

B) ACKNOWLEDGEMENT BY OTHER PERSONNEL:

I acknowledge that I have read the information in this HASP, attached Material Safety Data Sheets (MSDSs), DOT Emergency Response Guides, and Health and Safety Programs. I understand the site / facility hazards as described and agree to comply with the contents of the plan.

EMPLOYEE NAME/COMPANY NAME	(Signature)	(Date)
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

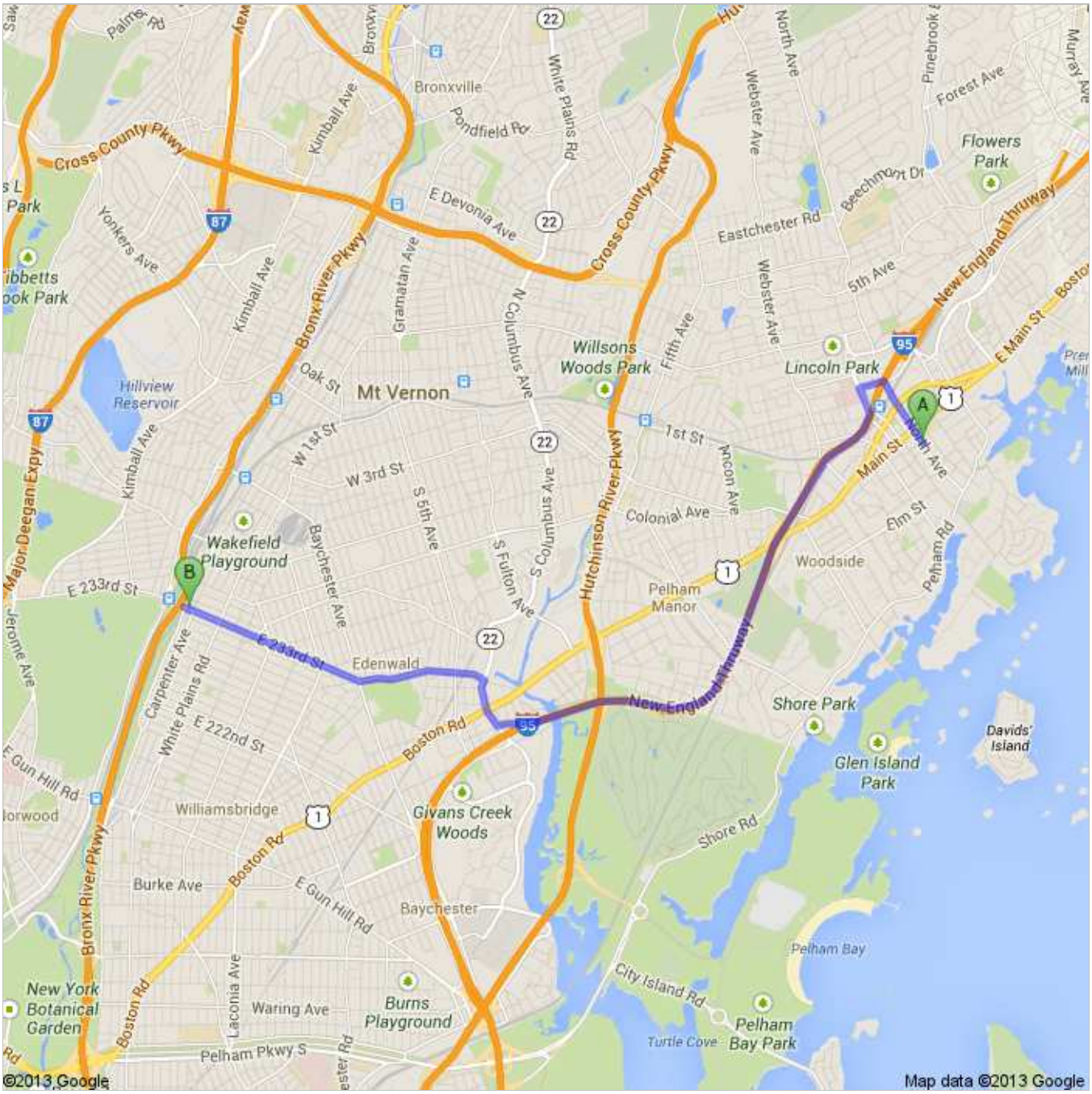
VISITOR (Print Name)/COMPANY	(Signature)	(Date)

ATTACHED DOCUMENTS:

☒ MSDS(s)	☐ Hazard Communication Written Program	☐ Confined Space Entry Written Program	☐ DOT ERG Guides
☐ Site Map	☐ Personal Protective Equipment Written Program	☐ Excavation Safety Guidelines	☐ Respiratory Protection Program
☒ Hospital Directions	☐ Emergency Action Plan	☐ Evacuation Routes	☐ Cartridge Change Out Calculations

Google

Directions to 600 E 233rd St, Bronx, NY 10466
6.1 mi – about **13 mins**
6922.01 Flamingo Cleaners HASP



149 North Ave, New Rochelle, NY 10801

	1. Head **northwest** on **North Ave** toward **Clinton Pl** About 2 mins	go 0.4 mi total 0.4 mi
	2. Turn left onto **Burling Ln**	go 0.1 mi total 0.6 mi
	3. Turn left onto **Norman Rockwell Blvd**	go 72 ft total 0.6 mi
	4. Take the ramp on the left onto **I-95 S** About 3 mins	go 3.1 mi total 3.7 mi
	5. Take exit **13** toward **Conner St/Baychester Ave**	go 0.2 mi total 3.9 mi
	6. Merge onto **Hollers Ave**	go 233 ft total 3.9 mi
	7. Turn right onto **Conner St**	go 0.1 mi total 4.0 mi
	8. Continue onto **Provost Ave**	go 0.2 mi total 4.2 mi
	9. Turn left onto **E 233rd St** About 2 mins	go 0.7 mi total 5.0 mi
	10. Turn right onto **Baychester Ave**	go 20 ft total 5.0 mi
	11. Take the 1st left onto **E 233rd St** About 3 mins	go 1.1 mi total 6.1 mi
	12. Make a U-turn at **Bronx Blvd** Destination will be on the right	go 240 ft total 6.1 mi

600 E 233rd St, Bronx, NY 10466

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

Appendix A - NIOSH Potential Occupational Carcinogens

New Policy

For the past 20 plus years, NIOSH has subscribed to a carcinogen policy that was published in 1976 by Edward J. Fairchild, II, Associate Director for Cincinnati Operations, which called for "no detectable exposure levels for proven carcinogenic substances" (Annals of the New York Academy of Sciences, 271:200-207, 1976). This was in response to a generic OSHA rulemaking on carcinogens. Because of advances in science and in approaches to risk assessment and risk management, NIOSH has adopted a more inclusive policy. NIOSH recommended exposure limits (RELs) will be based on risk evaluations using human or animal health effects data, and on an assessment of what levels can be feasibly achieved by engineering controls and measured by analytical techniques. To the extent feasible, NIOSH will project not only a no-effect exposure, but also exposure levels at which there may be residual risks. This policy applies to all workplace hazards, including carcinogens, and is responsive to Section 20(a)(3) of the Occupational Safety and Health Act of 1970, which charges NIOSH to ". . .describe exposure levels that are safe for various periods of employment, including but not limited to the exposure levels at which no employee will suffer impaired health or functional capacities or diminished life expectancy as a result of his work experience."

The effect of this new policy will be the development, whenever possible, of quantitative RELs that are based on human and/or animal data, as well as on the consideration of technological feasibility for controlling workplace exposures to the REL. Under the old policy, RELs for most carcinogens were non-quantitative values labeled "lowest feasible concentration (LFC)." [Note: There are a few exceptions to LFC RELs for carcinogens (e.g., RELs for asbestos, formaldehyde, benzene, and ethylene oxide are quantitative values based primarily on analytical limits of detection or technological feasibility). Also, in 1989, NIOSH adopted several quantitative RELs for carcinogens from OSHA's permissible exposure limit (PEL) update.]

Under the new policy, NIOSH will also recommend the complete range of respirators (as determined by the NIOSH Respirator Decision Logic) for carcinogens with quantitative RELs. In this way, respirators will be consistently recommended regardless of whether a substance is a carcinogen or a non-carcinogen.

Old Policy

In the past, NIOSH identified numerous substances that should be treated as potential occupational carcinogens even though OSHA might not have identified them as such. In determining their carcinogenicity, NIOSH used the OSHA classification outlined in 29 CFR 1990.103, which states in part:

> Potential occupational carcinogen means any substance, or combination or mixture of substances, which causes an increased incidence of benign and/or malignant neoplasms, or a substantial decrease in the latency period between exposure and onset of neoplasms in humans or in one or more experimental mammalian species as the result of any oral, respiratory or dermal exposure, or any other exposure which results in the induction of tumors at a site other than the site of administration. This definition also includes any substance which is metabolized into one or more potential occupational carcinogens by mammals.

When thresholds for carcinogens that would protect 100% of the population had not been identified, NIOSH usually recommended that occupational exposures to carcinogens be limited to the lowest feasible concentration. To ensure maximum protection from carcinogens through the use of respiratory protection, NIOSH also recommended that only the most reliable and protective respirators be used. These respirators include (1) a self-contained breathing apparatus (SCBA) that has a full facepiece and is operated in a positive-pressure mode, or (2) a supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary SCBA operated in a pressure-demand or other positive-pressure mode.

Recommendations to be Revised

The RELs and respirator recommendations for carcinogens listed in this edition of the *Pocket Guide* still reflect the old policy. Changes in the RELs and respirator recommendations that reflect the new policy will be included in future editions.

Page last reviewed: February 8, 2011
Page last updated: October 31, 2010
Content source: National Institute for Occupational Safety and Health (NIOSH) Education and Information Division

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Centers for Disease Control and Prevention 1600 Clifton Rd. Atlanta, GA 30333, USA
800-CDC-INFO (800-232-4636) TTY: (888) 232-6348 - Contact CDC–INFO

Appendix C - Supplementary Exposure Limits

Aldehydes (Low-Molecular-Weight)

Exposure to acetaldehyde has produced nasal tumors in rats and laryngeal tumors in hamsters, and exposure to malonaldehyde has produced thyroid gland and pancreatic islet cell tumors in rats. NIOSH therefore recommends that acetaldehyde and malonaldehyde be considered potential occupational carcinogens in conformance with the OSHA carcinogen policy.

Testing has not been completed to determine the carcinogenicity of acrolein, butyraldehyde (CAS#: 123-72-8), crotonaldehyde, glutaraldehyde, glyoxal (CAS#: 107-22-2), paraformaldehyde (CAS#: 30525-89-4), propiolaldehyde (CAS#: 624-67-9), propionaldehyde (CAS#: 123-38-6), and n-valeraldehyde, nine related low-molecular-weight-aldehydes.

However, the limited studies to date indicate that these substances have chemical reactivity and mutagenicity similar to acetaldehyde and malonaldehyde. Therefore, NIOSH recommends that careful consideration should be given to reducing exposures to these nine related aldehydes.

Further information can be found in the "NIOSH Current Intelligence Bulletin 55: Carcinogenicity of Acetaldehyde and Malonaldehyde, and Mutagenicity of Related Low-Molecular-Weight Aldehydes" [DHHS (NIOSH) Publication No. 91-112.]

Asbestos

NIOSH considers asbestos to be a potential occupational carcinogen and recommends that exposures be reduced to the lowest feasible concentration. For asbestos fibers >5 micrometers in length, NIOSH recommends a REL of 100,000 fibers per cubic meter of air (100,000 fibers/m^3), which is equal to 0.1 fiber per cubic centimeter of air (0.1 fiber/cm^3), as determined by a 400-liter air sample collected over 100 minutes in accordance with NIOSH Analytical Method #7400. Airborne asbestos fibers are defined as those particles having (1) an aspect ratio of 3 to 1 or greater and (2) the mineralogic characteristics (that is, the crystal structure and elemental composition) of the asbestos minerals and their nonasbestiform analogs. The asbestos minerals are defined as chrysotile, crocidolite, amosite (cummingtonite-grunerite), anthophyllite, tremolite, and actinolite. In addition, airborne cleavage fragments from the nonasbestiform habits of the serpentine minerals antigorite and lizardite, and the amphibole minerals contained in the series cummingtonite-grunerite, tremolite-ferroactinolite, and glaucophane-riebeckite should also be counted as fibers provided they meet the criteria for a fiber when viewed microscopically.

As found in 29 CFR 1910.1001, the OSHA PEL for asbestos fibers (i.e., actinolite asbestos, amosite, anthophyllite asbestos, chrysotile, crocidolite, and tremolite asbestos) is an 8-hour TWA airborne concentration of 0.1 fiber (longer than 5 micrometers and having a length-to-diameter ratio of at least 3 to 1) per cubic centimeter of air (0.1 fiber/cm^3), as determined by the membrane filter method at approximately 400X magnification with phase contrast illumination. No worker should be exposed in excess of 1 fiber/cm^3 (excursion limit)as averaged over a sampling period of 30 minutes.

Asphalt Fumes

The recommendations provided below are from Health Effects of Occupational Exposure to Asphalt (/niosh/docs/2001-110/) .

Occupational exposure to asphalt fumes shall be controlled so that employees are not exposed to the airborne particulates at a concentration greater than 5 mg/m3, determined during any 15-minute period.

Data regarding the potential carcinogenicity of paving asphalt fumes in humans are limited, and no animal studies have examined the carcinogenic potential of either field- or laboratory-generated samples of paving asphalt fume condensates. NIOSH concludes that the collective data currently available from studies on paving asphalt provide insufficient evidence for an association between lung cancer and exposure to asphalt during paving.

The results from epidemiologic studies indicate that roofers are at an increased risk of lung cancer, but it is uncertain whether this increase can be attributed to asphalt and/or to other exposures such as coal tar or asbestos. Data from experimental studies in animals and cultured mammalian cells indicate that laboratory-generated roofing asphalt fume condensates are genotoxic and cause skin tumors in mice when applied dermally. Furthermore, a known carcinogen (Benzo(a)pyrene) was detected in field-generated roofing fumes. The collective health and exposure data provide sufficient evidence for NIOSH to conclude that roofing asphalt fumes are a potential occupational carcinogen.

The available data indicate that although not all asphalt-based paint formulations may exert genotoxicity, some are genotoxic and carcinogenic in animals. No published data examine the carcinogenic potential of asphalt-based paints in humans, but NIOSH concludes that asphalt-based paints are potential occupational carcinogens.

Benzidine-, o-Tolidine, and o-Dianisidine-based Dyes

In December 1980, OSHA and NIOSH jointly published the Health Hazard Alert: Benzidine-, o-Tolidine-, and o-Dianisidine-based Dyes (/niosh/81-106.html) .

In this Alert, OSHA and NIOSH concluded that benzidine and benzidine-based dyes were potential occupational carcinogens and recommended that worker exposure be reduced to the lowest feasible level.

OSHA and NIOSH further concluded that o-tolidine and o-dianisidine (and dyes based on them) may present a cancer risk to workers and should be handled with caution and exposure minimized.

Carbon Black

NIOSH considers "Carbon Black" to be the material consisting of more than 80% elemental carbon, in the form of near-spherical colloidal particles and coalesced particle aggregates of colloidal size, that is obtained by the partial combustion or thermal decomposition of hydrocarbons. The NIOSH REL (10-hour TWA) for carbon black is 3.5 mg/m3. Polycyclic aromatic hydrocarbons (PAHs), particulate polycyclic organic material (PPOM), and polynuclear aromatic hydrocarbons (PNAs) are terms frequently used to describe various petroleum-based substances that NIOSH considers to be potential occupational carcinogens. Since some of these aromatic hydrocarbons may be formed during the manufacture of carbon black (and become adsorbed on the carbon black), the NIOSH REL (10-hour TWA) for carbon black in the presence of PAHs is 0.1 mg PAHs/m3 (measured as the cyclohexane-extractable fraction). The OSHA PEL (8-hour TWA) for carbon black is 3.5 mg/m3.

Chloroethanes

NIOSH considers ethylene dichloride; hexachloroethane; 1,1,2,2-tetrachloroethane; and 1,1,2-trichloroethane; to be potential occupational carcinogens.

Additionally, NIOSH recommends that the other five chloroethane compounds:

- 1,1-Dichloroethane
- Ethyl chloride
- Methyl chloroform
- Pentachloroethane
- 1,1,1,2-Tetrachloroethane

be treated in the workplace with caution because of their structural similarity to the four chloroethanes shown to be carcinogenic in animals.

Chromic Acid and Chromates (as CrO_3), Chromium(II) and Chromium(III) Compounds (as Cr), and Chromium Metal (as Cr)

The NIOSH REL (8-hour TWA) is 0.0002 mg Cr(VI)/m3 for all hexavalent chromium [Cr(VI)] compounds. NIOSH considers all Cr(VI) compounds (including chromic acid, tert-butyl chromate, zinc chromate, and chromyl chloride) to be potential occupational carcinogens.

The NIOSH REL (8-hour TWA) is 0.5 mg Cr/m3 for chromium metal and chromium(II) and chromium(III) compounds.

The OSHA PEL is 0.005 mg CrO_3/m3 (8-hour TWA) for chromic acid and chromates (including tert-butyl chromate with a "skin" designation and zinc chromate); 0.5 mg Cr/m3 (8-hour TWA) for chromium(II) and chromium(III) compounds; and 1 mg Cr/m3 (8-hour TWA) for chromium metal and insoluble salts.

Coal Dust and Coal Mine Dust

The NIOSH REL (10-hour TWA) for respirable coal mine dust is 1 mg/m3, measured using a coal mine personal sampler unit (CPSU) as defined in 30 CFR 74.2. The REL is equivalent to 0.9 mg/m3 measured according to the ISO/CEN/ACGIH (International Standards Organization/ Comité Européen de Normalisation/American Conference of Governmental Industrial Hygienists) definition of respirable dust. The REL applies to respirable coal mine dust and respirable coal dust in occupations other than mining. NIOSH recommends a separate REL for crystalline silica. See NIOSH publication 95-106 (Criteria for a Recommended Standard - Occupational Exposure to Respirable Coal Mine Dust (/niosh/docs/95-106/)) for more detailed information.

Coal Tar Pitch Volatiles

NIOSH considers coal tar products (i.e., coal tar, coal tar pitch, or creosote) to be potential occupational carcinogens; the NIOSH REL (10-hour TWA) for coal tar products is 0.1 mg/m3 (cyclohexane-extractable fraction).

The OSHA PEL (8-hour TWA) for coal tar pitch volatiles is 0.2 mg/m3 (benzene-soluble fraction). OSHA defines "coal tar pitch volatiles" in 29 CFR 1910.1002 as the fused polycyclic hydrocarbons that volatilize from the distillation residues of coal, petroleum (excluding asphalt), wood, and other organic matter and includes substances such as anthracene, benzo(a)pyrene (BaP), phenanthrene, acridine, chrysene, pyrene, etc.

Coke Oven Emissions

The production of coke by the carbonization of bituminous coal leads to the release of chemically-complex emissions from coke ovens that include both gases and particulate matter of varying chemical composition.

The emissions include coal tar pitch volatiles (e.g., particulate polycyclic organic matter [PPOM], polycyclic aromatic hydrocarbons [PAHs], and polynuclear aromatic hydrocarbons [PNAs]), aromatic compounds (e.g., benzene and beta-naphthylamine), trace metals (e.g., arsenic, beryllium, cadmium, chromium, lead, and nickel), and gases (e.g., nitric oxides and sulfur dioxide).

Cotton Dust (raw)

NIOSH recommends reducing exposures to cotton dust to the lowest feasible concentration to reduce the prevalence and severity of byssinosis; the REL is <0.200 mg/m^3 (as lint-free cotton dust).

As found in OSHA Table Z-1 (29 CFR 1910.1000), the PEL for cotton dust (raw) is 1 mg/m^3 for the cotton waste processing operations of waste recycling (sorting, blending, cleaning, and willowing) and garnetting.

PELs for other sectors (as found in 29 CFR 1910.1043) are 0.200 mg/m^3 for yarn manufacturing and cotton washing operations, 0.500 mg/m^3 for textile mill waste house operations or for dust from "lower grade washed cotton" used during yarn manufacturing, and 0.750 mg/m^3 for textile slashing and weaving operations.

The OSHA standard in 29 CFR 1910.1043 does not apply to cotton harvesting, ginning, or the handling and processing of woven or knitted materials and washed cotton.

All PELs for cotton dust are mean concentrations of lint-free, respirable cotton dust collected by the vertical elutriator or an equivalent method and averaged over an 8-hour period.

Lead

NIOSH considers "Lead" to mean metallic lead, lead oxides, and lead salts (including organic salts such as lead soaps but excluding lead arsenate).

The NIOSH REL for lead (8-hour TWA) is 0.050 mg/m^3; air concentrations should be maintained so that worker blood lead remains less than 0.060 mg Pb/100 g of whole blood.

OSHA considers "Lead" to mean metallic lead, all inorganic lead compounds (lead oxides and lead salts), and a class of organic compounds called soaps; all other lead compounds are excluded from this definition.

The OSHA PEL (8-hour TWA) is 0.050 mg/m^3; other OSHA requirements can be found in 29 CFR 1910.1025. The OSHA PEL (8-hour TWA) for lead in "non-ferrous foundries with less than 20 employees" is 0.075 mg/m^3.

Mineral Dusts

The OSHA PELS for "mineral dusts" listed below are from Table Z-3 of 29 CFR 1910.1000. The OSHA PEL (8-hour TWA) for crystalline silica (as respirable quartz) is either 250 mppcf divided by the value "%SiO_2 + 5" or 10 mg/m^3 divided by the value "%SiO_2 + 2." The OSHA PEL (8-hour TWA) for crystalline silica (as total quartz) is 30 mg/m^3 divided by the value "%SiO_2 + 2." The OSHA PELs (8-hour TWAs) for cristobalite and tridymite are ½ the values calculated above using the count or mass formulae for quartz.

The OSHA PEL (8-hour TWA) for amorphous silica (including diatomaceous earth) is either 80

mg/m3 divided by the value "%SiO_2," or 20 mppcf.

The OSHA PELs (8-hour TWAs) for talc (not containing asbestos), mica, and soapstone are 20 mppcf. The OSHA PEL (8-hour TWA) for portland cement is 50 mppcf. The OSHA PEL (8-hour TWA) for graphite (natural) is 15 mppcf. The PELs for talc (not containing asbestos), mica, soapstone, and portland cement are applicable if the material contains less than 1% crystalline silica.

The OSHA PEL (8-hour TWA) for coal dust (as the respirable fraction) containing less than 5% SiO_2 is 2.4 mg/m3 divided by the value "%SiO_2 + 2." The OSHA PEL (8-hour TWA) for coal dust (as the respirable fraction) containing greater than or equal to 5% SiO_2 is 10 mg/m3 divided by the value "%SiO_2 + 2."

NIAX® Catalyst ESN

In May 1978, OSHA and NIOSH jointly published the Current Intelligence Bulletin (CIB) 26: NIAX® Catalyst ESN.

In this CIB, OSHA and NIOSH recommended that occupational exposure to NIAX® Catalyst ESN, its components, dimethylaminopropionitrile and bis(2-(dimethylamino)ethyl)ether, as well as formulations containing either component, be minimized.

Exposures should be limited to as few workers as possible, while minimizing workplace exposure concentrations with effective work practices and engineering controls.

Exposed workers should be carefully monitored for potential disorders of the nervous and genitourinary system. Although substitution is a possible control measure, alternatives to NIAX® Catalyst ESN or its components should be carefully evaluated with regard to possible adverse health effects.

Trichloroethylene

NIOSH considers trichloroethylene (TCE) to be a potential occupational carcinogen and recommends a REL of 2 ppm (as a 60-minute ceiling) during the usage of TCE as an anesthetic agent and 25 ppm (as a 10-hour TWA) during all other exposures.

Tungsten Carbide (Cemented)

"Cemented tungsten carbide" or "hard metal" refers to a mixture of tungsten carbide, cobalt, and sometimes metal oxides or carbides and other metals (including nickel).

When the cobalt (Co) content exceeds 2%, its contribution to the potential hazard is judged to exceed that of tungsten carbide.

Therefore, the NIOSH REL (10-hour TWA) for cemented tungsten carbide containing >2% Co is 0.05 mg Co/m3; the applicable OSHA PEL is 0.1 mg Co/m3 (8-hour TWA). Nickel (Ni) may sometimes be used as a binder rather than cobalt.

NIOSH considers cemented tungsten carbide containing nickel to be a potential occupational carcinogen and recommends a REL of 0.015 mg Ni/m3 (10-hour TWA).

The OSHA PEL for Insoluble Nickel (i.e., a 1 mg Ni/m3 8-hour TWA) applies to mixtures of tungsten carbide and nickel.

Page last reviewed: February 8, 2011

Page last updated: January 25, 2013
Content source: National Institute for Occupational Safety and Health (NIOSH) Education and Information Division

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Vinyl chloride

Synonyms & Trade Names Chloroethene, Chloroethylene, Ethylene monochloride, Monochloroethene, Monochloroethylene, VC, Vinyl chloride monomer (VCM)

CAS No. 75-01-4	**RTECS No.** KU9625000 (/niosh-rtecs/KU92DDA8.html)	**DOT ID & Guide** 1086 116P (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=116&poly=1) (http://www.cdc.gov/Other/disclaimer.html) (inhibited)
Formula CH_2=CHCl	**Conversion** 1 ppm = 2.56 mg/m3	**IDLH** Ca [N.D.] See: IDLH INDEX (/niosh/idlh/intridl4.html)
Exposure Limits **NIOSH REL** : Ca See Appendix A (nengapdxa.html) **OSHA PEL** : [1910.1017] TWA 1 ppm C 5 ppm [15-minute]		**Measurement Methods** **NIOSH** 1007 (/niosh/docs/2003-154/pdfs/1007.pdf) ; **OSHA** 4 (http://www.osha.gov/dts/sltc/methods/organic/org004/org004.html) (http://www.cdc.gov/Other/disclaimer.html) , 75 (http://www.osha.gov/dts/sltc/methods/organic/org075/org075.html) (http://www.cdc.gov/Other/disclaimer.html) See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless gas or liquid (below 7°F) with a pleasant odor at high concentrations. [Note: Shipped as a liquefied compressed gas.]

MW: 62.5	**BP:** 7°F	**FRZ:** -256°F	Sol(77°F): 0.1%	**VP:** 3.3 atm	**IP:** 9.99 eV
	Fl.P: NA (Gas)	**UEL:** 33.0%	**LEL:** 3.6%	**RGasD:** 2.21	

Flammable Gas

Incompatibilities & Reactivities Copper, oxidizers, aluminum, peroxides, iron, steel [Note: Polymerizes in air, sunlight, or heat unless stabilized by inhibitors such as phenol. Attacks iron & steel in presence of moisture.]

Exposure Routes inhalation, skin and/or eye contact (liquid)

Symptoms lassitude (weakness, exhaustion); abdominal pain, gastrointestinal bleeding; enlarged liver; pallor or cyanosis of extremities; liquid: frostbite; [potential occupational carcinogen]

Target Organs Liver, central nervous system, blood, respiratory system, lymphatic system

Cancer Site [liver cancer]

Personal Protection/Sanitation (See protection codes (protect.html))
Skin: Frostbite
Eyes: Frostbite
Wash skin: No recommendation
Remove: When wet (flammable)
Change: No recommendation
Provide: Frostbite wash

First Aid (See procedures (firstaid.html))
Eye: Frostbite
Skin: Frostbite
Breathing: Respiratory support

Respirator Recommendations
(See Appendix E) (nengapdxe.html)

NIOSH

At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted canister providing protection against the compound of concern
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0082 (/niosh/ipcsneng/neng0082.html) See MEDICAL TESTS: 0241 (/niosh/docs/2005-110/nmed0241.html)

Page last reviewed: April 4, 2011
Page last updated: November 18, 2010
Content source: National Institute for Occupational Safety and Health (NIOSH) Education and Information Division

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Trichloroethylene

Synonyms & Trade Names Ethylene trichloride, TCE, Trichloroethene, Trilene

CAS No. 79-01-6	**RTECS No.** KX4550000 (/niosh-rtecs/KX456D70.html)	**DOT ID & Guide** 1710 160 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=160) (http://www.cdc.gov/Other/disclaimer.html)
Formula $ClCH=CCl_2$	**Conversion** 1 ppm = 5.37 mg/m3	**IDLH** Ca [1000 ppm] See: 79016 (/niosh/idlh/79016.html)
Exposure Limits **NIOSH REL** : Ca See Appendix A (nengapdxa.html) See Appendix C (nengapdxc.html) **OSHA PEL** † (nengapdxg.html) : TWA 100 ppm C 200 ppm 300 ppm (5-minute maximum peak in any 2 hours)		**Measurement Methods** **NIOSH** 1022 (/niosh/docs/2003-154/pdfs/1022.pdf) , 3800 (/niosh/docs/2003-154/pdfs/3800.pdf) ; **OSHA** 1001 (http://www.osha.gov/dts/sltc/methods/mdt/mdt1001/1001.html) (http://www.cdc.gov/Other/disclaimer.html) See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless liquid (unless dyed blue) with a chloroform-like odor.

MW: 131.4	**BP:** 189°F	**FRZ:** -99°F	**Sol:** 0.1%	**VP:** 58 mmHg	**IP:** 9.45 eV
Sp.Gr: 1.46	**Fl.P:** ?	UEL(77°F): 10.5%	LEL(77°F): 8%		

Combustible Liquid, but burns with difficulty.

Incompatibilities & Reactivities Strong caustics & alkalis; chemically-active metals (such as barium, lithium, sodium, magnesium, titanium & beryllium)

Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms irritation eyes, skin; headache, visual disturbance, lassitude (weakness, exhaustion), dizziness, tremor, drowsiness, nausea, vomiting; dermatitis; cardiac arrhythmias, paresthesia; liver injury; [potential occupational carcinogen]

Target Organs Eyes, skin, respiratory system, heart, liver, kidneys, central nervous system

Cancer Site [in animals: liver & kidney cancer]

Personal Protection/Sanitation (See protection codes (protect.html))
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contaminated
Remove: When wet or contaminated
Change: No recommendation
Provide: Eyewash, Quick drench

First Aid (See procedures (firstaid.html))
Eye: Irrigate immediately
Skin: Soap wash promptly
Breathing: Respiratory support
Swallow: Medical attention immediately

Respirator Recommendations

NIOSH

At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0081 (/niosh/ipcsneng/neng0081.html) See MEDICAL TESTS: 0236 (/niosh/docs/2005-110/nmed0236.html)

Page last reviewed: April 4, 2011
Page last updated: November 18, 2010
Content source: National Institute for Occupational Safety and Health (NIOSH) Education and Information Division

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COMMUNITY AIR MONITORING PLAN

SECTION 1: GENERAL INFORMATION AND PURPOSE		WO NUMBER:	[WO #]
PROJECT NAME:	Former Flamingo Cleaners	CLIENT NAME:	[client]
PROJECT LOCATION:	149 North Avenue, New Rochelle, NY	CLIENT REPRESENTATIVE:	[name]
[CONTRACTOR] PROJECT MANAGER:	[name]	CLIENT PROJECT MANAGER:	[name]
PREPARED BY:	[name]	DATE:	[date]

This Community Air Monitoring Plan (CAMP) has been prepared by [Contractor] for the exclusive use of **V&V Capital, LLC ("V&V Capital" or the "Client"),** for work at the above referenced site / facility for the protection of the general public from respirable dust emissions associated with the site. The health and safety of the public and project personnel and the protection of the environment will take precedence over cost and schedule considerations for all project work. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community including on-site workers not directly involved with the subject work activities and the general public. Additionally, the CAMP helps to confirm that work activities did not potentially propagate respirable dust off-site through the air. The plan is written for the specific site / facility conditions, purposes, tasks, dates and personnel specified, and must be amended and reviewed by the [Contractor] Project Manager named above in Section 1 if there is an apparent change in condition which otherwise differs from that which is noted in this plan. V&V Capital, and its subcontractors, if any, is not responsible in any way or manner for the use of this plan by others.

V&V Capital's contractors and consultants shall be solely responsible for the health and safety of their employees and shall comply with all applicable laws and regulations. In accordance with 29 CFR 1910.120(b)(1)(iv) and (v), V&V Capital or its authorized representatives will inform all site contractors and consultants of the site / facility emergency response procedures, and any potential fire, explosion, health, safety or other hazards. All contractors and consultants are responsible for: (1) complying with the approved Construction Health and Safety Plan (CHASP); (2) providing their own personal protective equipment; (3) providing documentation that their employees have been health and safety trained in accordance with applicable federal, state and local laws and regulations; and (4); designating their own site safety officer responsible for ensuring that their employees comply with their own Health and Safety plan and taking any other additional measures required by their site activities. All site contractors are responsible for using all means and measures for minimizing and/or eliminating all possible air emissions from their site activities as required by state, federal and local regulations and codes.

The Client's representative will be kept appraised by the [Contractor] Project Manager of the air conditions that may adversely affect the health and safety of project personnel and the community as well as recommendations for correcting any deficiencies. V&V Capital or their designated field representative shall make any necessary recommendations to stop work activities, if such work activities might be causing, or be affected by, unacceptable environmental conditions or exposures to site workers and/or short term off-site impacts to the public resulting from dust/particulate generation.

SECTION 2: PROJECT INFORMATION

(A) SITE / FACILITY INFORMATION:		**(B) SITE / FACILITY CONTACT INFORMATION:**	
SITE NAME:	Flamingo Cleaners	SITE CLIENT CONTACT:	[name]
ADDRESS:	149 North Avenue	PHONE NUMBER:	[phone number]
TOWNSHIP/ COUNTY	New Rochelle	SITE SAFETY CONTACT:	[Designated Person]
	Westchester County, New York	PHONE NUMBER:	[phone number]

PROJECT DESCRIPTION:

[Enter Description]

SECTION 3: EXPOSURE ASSESSMENT

New York State Department of Health (NYSDOH) requires continuous monitoring for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells. Due to this requirement it has determined that there is the potential for exposure to the general public to respirable dust and Volatile Organic Compounds (VOCs) from the site. As such, particulate and VOCs shall be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis during ground intrusive activities.

Based on the review of the New York State Decision Document (DD) dated March 2012, New York State Department of Environmental Conservation (NYSDEC) has determined that there is the potential for exposure to the general public to airborne particulate contaminants from the site. The airborne contaminants include Tetrachloroethylene (PCE), Trichloroethene (TCE), Dichloroethylene, Vinyl Chloride, 1,1,1-Trichloroethane and aerosols (particulate matter). Additionally, cis-1,2-Dichloroethene was identified as an additional contaminant by the Soil and Groundwater Sampling Analysis Summary Report, prepared by Tectonic Engineering, dated February 2014. The aerosols could also be contaminated by the above mentioned contaminants. Monitoring points shall be situated at the perimeter of ground intrusive activities located in the basement of the subject property. Odor or dust complaints from any owner of an adjacent or nearby property shall be managed by the Contractor in a manner equivalent to an exceedance of an action level in the CAMP.

The levels of several contaminants in the soils are at or above their respective thresholds and the specified NYS clean up criteria. If proper dust control measures are implemented by the site contractors, then potential exposures to the general public should be minimal. Fugitive dust migration should be visually assessed during all work activities. To verify that dust mitigation measures are effective, real-time particulate monitoring will be performed continuously during the excavation of the existing fill on the site.

SECTION 4: FREQUENCY AND TYPES OF MONITORING

NYSDOH and NYSDEC regulations for a CAMP requires real-time air monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of the work area when certain activities are in progress at potentially contaminated sites. Air monitoring will be conducted by personnel trained in the use of the specific equipment provided, depending upon the nature of contamination and proximity of the general public and potentially exposed individuals.

Continuous real-time monitoring will be required at the onset of construction activities to establish background (baseline) VOC and particulate levels. Once background levels have been established, VOC and particulate levels will be monitored continuously using a datalogging OVM and datalogging particulate meters during demolition and ground disturbance activities at downwind locations.

Periodic air monitoring or continuous full-time air monitoring may be implemented by the Client Project Manager in accordance with appropriate regulatory agency requirements depending upon the nature of construction activities and proximity of the general public and potentially exposed individuals. Continuous monitoring will be required for all ground intrusive activities, placement of excavated materials in storage piles, and loading of transporting vehicles and shall be conducted upwind and downwind of the excavation area at the property perimeters for fugitive dust emissions. Periodic monitoring will be required during non-intrusive activities. Periodic air monitoring may be required to determine if contaminant and particulate levels have changed since the performance of the baseline survey as a result of a change in site / facility conditions including, but not limited to: work areas and activities, climate conditions, concentration levels and/or potential environmental contaminants present.

Air monitoring equipment will be appropriate to measure the types of respirable dust likely present. The equipment shall be calibrated according to manufacturer's instructions for the contaminant(s) of concern or for an appropriate surrogate. Particulate monitoring equipment will be capable of measuring particulate matter that is no less than 10 micrometers in size (PM-10). The particulate monitoring equipment will be equipped with an audible alarm to indicate an exceedance of the action level. The calibration data, air concentrations and particulate levels shall be recorded on a Daily Field Report (DFR). The equipment will be capable of providing real time monitoring, which should be compared to published thresholds to determine compliance with appropriate regulatory agency requirements.

SECTION 4: FREQUENCY AND TYPES OF MONITORING (CONTINUED)

Recommended Action Levels for Implementation of Additional Dust Control Measures, Site Shutdown and Evacuation. These are average values. Consideration should be given to the potential for release of higher levels from the ground or during unusual or extreme conditions. Levels are for persistent (> 15 min) measurements in non-confined spaces. No work shall be performed in field conditions requiring PPE above OSHA Level D without prior authorization from the Client Project Manager. **For unexpected conditions, stop all work immediately, leave the work area or site, and contact the Project Manager.**

Monitoring, Response Levels, and Actions for Ambient Air Concentrations of Total Organic Vapors at the Downwind Perimeter

> 5 parts per million (ppm) above background for 15-minute average	Work must be temporarily halted and monitoring continued.
> 5 ppm above background but < 25 ppm for 15-minute average	Work must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued.
> 25 ppm at the perimeter of the work area	**PROHIBITED WORK CONDITION**, All work must cease until corrective actions taken to abate emissions, and monitoring continued

Monitoring, Response Levels, and Actions for Ambient Air Concentrations of Particulates at the Upwind and Downwind Perimeter

Downwind PM-10 is 0.10 milligrams per cubic meter (mg/m^3) greater than background for 15-minute period or if airborne dust is observed leaving the work area.	Dust suppression measures must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 0.15 mg/m^3 and no visible dust is migrating from the work area.
Downwind PM-10 is > 0.15 mg/m^3 greater than background after implementation of dust suppression techniques.	Work must be halted and a re-evaluation of activities initiated. Work can resume if downwind PM-10 can be reduced < 0.15 mg/m^3 greater than background and dust suppression measures and engineering controls are successful in preventing visible dust migration.
Visible dust observed leaving site.	Work must be halted and a re-evaluation of activities initiated. Additional dust suppression measures must be employed. Work can resume once dust suppression measures and engineering controls are successful in preventing visible dust migration.

SECTION 5: DUST SUPPRESSION TECHNIQUES

Fugitive dust is particulate matter, generically termed to include a broad class of chemically and physically diverse substances that exist as discrete particles, liquid droplets or solids, over a wide range of sizes which may be propagated by air and contributes to air quality as a nuisance and threat to human health and the environment. NYSDOH and NYSDEC require that fugitive dust emissions from a project site be reduced to levels that are protective of human health and the environment. Several techniques have been shown to be effective for controlling the generation and migration of dust during site activities. Common techniques include:

- Applying potable water on site roads.
- Wetting equipment and excavation faces.
- Spraying water on buckets during excavation and dumping.
- Covering excavated areas and material after excavation activity ceases.
- Reducing the size of the excavation and/or number of excavations.

Experience has shown that utilizing the above-mentioned dust suppression techniques, within reason so as not to create excess water that would result in unacceptable wet conditions, the chance of exceeding the 0.15 mg/m^3 action level at the site is negligible. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

It is important that all site workers actively attempt to minimize dust generation and if an activity creates visible dust then the worker should notify their supervisor and/or the project superintendent. On extremely dry days periodic wetting of the work area(s) should be performed. If the dust suppression techniques being utilized at the site do not lower particulates to an acceptable level (that is, below 0.15 mg/m^3 and no visible dust), work must be suspended until appropriate corrective measures are approved to remedy the situation. Also, the evaluation of weather conditions will be necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, construction procedures may require significant modification, or as a last resort, construction activity may need to be suspended.

SECTION 6: CHEMICAL HAZARDS OF CONTAMINANTS INFORMATION

IDENTIFIED CONTAMINANTS - Primary known or suspected hazardous/toxic materials are identified in the Construction Health and Safety plan for the site including Material Safety and Data Sheets (MSDS) and include respirable dust.

SECTION 7: PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) required for safe work practices at this site / facility has been specified in the site specific Health and Safety Plan (HASP). Work shall be performed in the PPE as per the HASP.

SECTION 8: PERSONAL MONITORING

Personal exposure sampling, if required for safe work practices at this site / facility, has been specified in the site specific Health and Safety Plan (HASP).

SECTION 9: ENVIRONMENTAL SITE CONTROL MEASURES
(in compliance with 29 CFR 1910.120(b)(4)(ii)(F), and 1910.120(d))

The site control program is designed to reduce the spread of potentially hazardous substances from contaminated areas to clean areas, to identify and isolate contaminated areas of the site, to facilitate emergency evacuation and medical care and to prevent unauthorized entry to the site. The environmental site control measures are identified in the HASP and should be implemented per the HASP.

SECTION 10: EMERGENCY RESPONSE PLAN

The emergency response procedures outlined in the CHASP will be used by onsite personnel. The Site Safety Contact as identified in Section 1, shall be notified of any onsite emergencies and be responsible for ensuring that the appropriate procedures are followed.

(A) SAFETY EQUIPMENT FAILURE

If any equipment (i.e., air monitoring) on site fails to operate properly, the Client Project Manager shall be notified to determine the effect of this failure on continuing operations on site. If the failure affects the safety of personnel or prevents completion of the Work Plan tasks, all personnel shall leave the work area until the situation is evaluated and appropriate actions taken.

(B) FOLLOW UP

In all situations, when an on site / facility emergency results in evacuation of the work area, or a “large spill” or air emission has occurred, staff shall not resume work until:

- The conditions resulting in the emergency have been corrected;
- The hazards have been reassessed by the Client Project Manager;
- The CAMP has been reviewed by the Client Project Manager; and
- Site personnel have been briefed on any changes in the CAMP by the Client Project Manager or authorized representative.

SECTION 11: SAFETY MEETINGS

As appropriate, the Site Safety Contact or authorized representative will conduct periodic safety meetings in accordance with the CHASP, which will be mandatory for all NESCO project personnel, subcontractors and subconsultants. The meetings will provide a refresher for existing equipment and protocols, and will examine new site conditions as they are encountered.

ATTACHED DOCUMENTS:

☐ Site Map

☐ Equipment Literature

☐ Standard Operating Procedures (SOPs)

☒ Other:
National Institute for Occupational Health and Safety (NIOSH) Pocket Guide to Chemical Hazards for Tetrachloroethylene (PCE), Trichloroethene (TCE), Dichloroethylene, Vinyl Chloride, 1,1,1-Trichloroethane, cis-1,2-Dichloroethene, Silica (as respirable dust), and Appendix A – NIOSH Potential Occupational Carcinogens.

PLAN REVIEWED BY:	PRINT:	SIGNED:	DATE:
V&V Capital, LLC Project Manager:			
[Contractor] Project Manager:			
[Contractor] Field Team Leader:			
V&V Capital, LLC. Site Safety Officer:			

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Tetrachloroethylene

Synonyms & Trade Names Perchlorethylene, Perchloroethylene, Perk, Tetrachlorethylene

CAS No. 127-18-4	**RTECS No.** KX3850000 (/niosh-rtecs/KX3ABF10.html)	**DOT ID & Guide** 1897 160 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=160) (http://www.cdc.gov/Other/disclaimer.html)
Formula $Cl_2C=CCl_2$	**Conversion** 1 ppm = 6.78 mg/m3	**IDLH** Ca [150 ppm] See: 127184 (/niosh/idlh/127184.html)
Exposure Limits **NIOSH REL** : Ca Minimize workplace exposure concentrations. See Appendix A (nengapdxa.html) **OSHA PEL** † (nengapdxg.html) : TWA 100 ppm C 200 ppm (for 5 minutes in any 3-hour period), with a maximum peak of 300 ppm		**Measurement Methods** **NIOSH** 1003 (/niosh/docs/2003-154/pdfs/1003.pdf) ; **OSHA** 1001 (http://www.osha.gov/dts/sltc/methods/mdt/mdt1001/1001.html) (http://www.cdc.gov/Other/disclaimer.html) See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless liquid with a mild, chloroform-like odor.

MW: 165.8	**BP:** 250°F	**FRZ:** -2° F	**Sol:** 0.02%	**VP:** 14 mmHg	**IP:** 9.32 eV
Sp.Gr: 1.62	**Fl.P:** NA	**UEL:** NA	**LEL:** NA		

Noncombustible Liquid, but decomposes in a fire to hydrogen chloride and phosgene.

Incompatibilities & Reactivities Strong oxidizers; chemically-active metals such as lithium, beryllium & barium; caustic soda; sodium hydroxide; potash

Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms irritation eyes, skin, nose, throat, respiratory system; nausea; flush face, neck; dizziness, incoordination; headache, drowsiness; skin erythema (skin redness); liver damage; [potential occupational carcinogen]

Target Organs Eyes, skin, respiratory system, liver, kidneys, central nervous system

Cancer Site [in animals: liver tumors]

Personal Protection/Sanitation (See protection codes (protect.html))	**First Aid** (See procedures (firstaid.html)) **Eye:** Irrigate immediately

Skin: Prevent skin contact **Eyes:** Prevent eye contact **Wash skin:** When contaminated **Remove:** When wet or contaminated **Change:** No recommendation **Provide:** Eyewash, Quick drench	**Skin:** Soap wash promptly **Breathing:** Respiratory support **Swallow:** Medical attention immediately

Respirator Recommendations

NIOSH

At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0076 (/niosh/ipcsneng/neng0076.html) See MEDICAL TESTS: 0179 (/niosh/docs/2005-110/nmed0179.html)

Page last reviewed: April 4, 2011
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Trichloroethylene

Synonyms & Trade Names Ethylene trichloride, TCE, Trichloroethene, Trilene

CAS No. 79-01-6	**RTECS No.** KX4550000 (/niosh-rtecs/KX456D70.html)	**DOT ID & Guide** 1710 160 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=160) (http://www.cdc.gov/Other/disclaimer.html)
Formula $ClCH=CCl_2$	**Conversion** 1 ppm = 5.37 mg/m3	**IDLH** Ca [1000 ppm] See: 79016 (/niosh/idlh/79016.html)
Exposure Limits **NIOSH REL** : Ca See Appendix A (nengapdxa.html) See Appendix C (nengapdxc.html) **OSHA PEL** † (nengapdxg.html) : TWA 100 ppm C 200 ppm 300 ppm (5-minute maximum peak in any 2 hours)		**Measurement Methods** **NIOSH** 1022 (/niosh/docs/2003-154/pdfs/1022.pdf) , 3800 (/niosh/docs/2003-154/pdfs/3800.pdf) ; **OSHA** 1001 (http://www.osha.gov/dts/sltc/methods/mdt/mdt1001/1001.html) (http://www.cdc.gov/Other/disclaimer.html) See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless liquid (unless dyed blue) with a chloroform-like odor.

MW: 131.4	**BP:** 189°F	**FRZ:** -99° F	**Sol:** 0.1%	**VP:** 58 mmHg	**IP:** 9.45 eV
Sp.Gr: 1.46	**Fl.P:** ?	UEL(77° F): 10.5%	LEL(77° F): 8%		

Combustible Liquid, but burns with difficulty.

Incompatibilities & Reactivities Strong caustics & alkalis; chemically-active metals (such as barium, lithium, sodium, magnesium, titanium & beryllium)

Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms irritation eyes, skin; headache, visual disturbance, lassitude (weakness, exhaustion), dizziness, tremor, drowsiness, nausea, vomiting; dermatitis; cardiac arrhythmias, paresthesia; liver injury; [potential occupational carcinogen]

Target Organs Eyes, skin, respiratory system, heart, liver, kidneys, central nervous system

Cancer Site [in animals: liver & kidney cancer]

Personal Protection/Sanitation (See protection codes (protect.html)) **Skin:** Prevent skin contact	**First Aid** (See procedures (firstaid.html)) **Eye:** Irrigate immediately **Skin:** Soap wash promptly

Eyes: Prevent eye contact **Wash skin:** When contaminated **Remove:** When wet or contaminated **Change:** No recommendation **Provide:** Eyewash, Quick drench	**Breathing:** Respiratory support **Swallow:** Medical attention immediately

Respirator Recommendations

NIOSH

At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0081 (/niosh/ipcsneng/neng0081.html) See MEDICAL TESTS: 0236 (/niosh/docs/2005-110/nmed0236.html)

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Page last updated: November 18, 2010
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Vinylidene chloride

Synonyms & Trade Names 1,1-DCE; 1,1-Dichloroethene; 1,1-Dichloroethylene; VDC; Vinylidene chloride monomer; Vinylidene dichloride

CAS No. 75-35-4	**RTECS No.** KV9275000 (/niosh-rtecs/KV8D8678.html)	**DOT ID & Guide** 1303 130P (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=130&poly=1) (http://www.cdc.gov/Other/disclaimer.html) (inhibited)
Formula $CH_2=CCl_2$	**Conversion**	**IDLH** Ca [N.D.] See: IDLH INDEX (/niosh/idlh/intridl4.html)
Exposure Limits **NIOSH REL** : Ca See Appendix A (nengapdxa.html) **OSHA PEL** † (nengapdxg.html) : none		**Measurement Methods** **NIOSH** 1015 (/niosh/docs/2003-154/pdfs/1015.pdf) ; **OSHA** 19 (http://www.osha.gov/dts/sltc/methods/organic/org019/org019.html) (http://www.cdc.gov/Other/disclaimer.html) See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless liquid or gas (above 89°F) with a mild, sweet, chloroform-like odor.

MW: 96.9	**BP:** 89°F	**FRZ:** -189°F	**Sol:** 0.04%	**VP:** 500 mmHg	**IP:** 10.00 eV
Sp.Gr: 1.21	**Fl.P:** -2°F	**UEL:** 15.5%	**LEL:** 6.5%		

Class IA Flammable Liquid: Fl.P. below 73°F and BP below 100°F.

Incompatibilities & Reactivities Aluminum, sunlight, air, copper, heat [Note: Polymerization may occur if exposed to oxidizers, chlorosulfonic acid, nitric acid, or oleum. Inhibitors such as the monomethyl ether of hydroquinone are added to prevent polymerization.]

Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms irritation eyes, skin, throat; dizziness, headache, nausea, dyspnea (breathing difficulty); liver, kidney disturbance; pneumonitis; [potential occupational carcinogen]

Target Organs Eyes, skin, respiratory system, central nervous system, liver, kidneys

Cancer Site [in animals: liver & kidney tumors]

Personal Protection/Sanitation (See protection codes (protect.html)) **Skin:** Prevent skin contact **Eyes:** Prevent eye contact **Wash skin:** When contaminated	**First Aid** (See procedures (firstaid.html)) **Eye:** Irrigate immediately **Skin:** Soap flush immediately **Breathing:** Respiratory support **Swallow:** Medical attention immediately

Remove: When wet (flammable)
Change: No recommendation
Provide: Eyewash, Quick drench

Respirator Recommendations

NIOSH

At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0083 (/niosh/ipcsneng/neng0083.html)

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1,2-Dichloroethylene

Synonyms & Trade Names Acetylene dichloride, cis-Acetylene dichloride, trans-Acetylene dichloride, sym-Dichloroethylene

CAS No. 540-59-0	**RTECS No.** KV9360000 (/niosh-rtecs/KV8ED280.html)	**DOT ID & Guide** 1150 130P (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=130&poly=1) (http://www.cdc.gov/Other/disclaimer.html)
Formula ClCH=CHCl	**Conversion** 1 ppm = 3.97 mg/m3	**IDLH** 1000 ppm See: 540590 (/niosh/idlh/540590.html)
Exposure Limits **NIOSH REL** : TWA 200 ppm (790 mg/m3) **OSHA PEL** : TWA 200 ppm (790 mg/m3)		**Measurement Methods** **NIOSH** 1003 (/niosh/docs/2003-154/pdfs/1003.pdf) ; **OSHA** 7 (http://www.osha.gov/dts/sltc/methods/organic/org001/org001.html) (http://www.cdc.gov/Other/disclaimer.html) See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless liquid (usually a mixture of the cis & trans isomers) with a slightly acrid, chloroform-like odor.

MW: 97.0	**BP:** 118 -140°F	**FRZ:** -57 to -115°F	**Sol:** 0.4%	**VP:** 180-265 mmHg	**IP:** 9.65 eV
Sp.Gr (77°F): 1.27	**Fl.P:** 36 -39°F	**UEL:** 12.8%	**LEL:** 5.6%		

Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F.

Incompatibilities & Reactivities Strong oxidizers, strong alkalis, potassium hydroxide, copper [Note: Usually contains inhibitors to prevent polymerization.]

Exposure Routes inhalation, ingestion, skin and/or eye contact

Symptoms irritation eyes, respiratory system; central nervous system depression

Target Organs Eyes, respiratory system, central nervous system

Personal Protection/Sanitation (See protection codes (protect.html)) **Skin:** Prevent skin contact **Eyes:** Prevent eye contact **Wash skin:** When contaminated **Remove:** When wet (flammable) **Change:** No recommendation	**First Aid** (See procedures (firstaid.html)) **Eye:** Irrigate immediately **Skin:** Soap wash promptly **Breathing:** Respiratory support **Swallow:** Medical attention immediately

Respirator Recommendations

NIOSH/OSHA

Up to 1000 ppm:
(APF = 25) Any supplied-air respirator operated in a continuous-flow mode£
(APF = 25) Any powered, air-purifying respirator with organic vapor cartridge(s)£
(APF = 50) Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s)
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister
(APF = 50) Any self-contained breathing apparatus with a full facepiece
(APF = 50) Any supplied-air respirator with a full facepiece

Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0436 (/niosh/ipcsneng/neng0436.html)

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Page last updated: November 18, 2010
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Vinyl chloride

Synonyms & Trade Names Chloroethene, Chloroethylene, Ethylene monochloride, Monochloroethene, Monochloroethylene, VC, Vinyl chloride monomer (VCM)

CAS No. 75-01-4	**RTECS No.** KU9625000 (/niosh-rtecs/KU92DDA8.html)	**DOT ID & Guide** 1086 116P (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=116&poly=1) (http://www.cdc.gov/Other/disclaimer.html) (inhibited)
Formula CH_2=CHCl	**Conversion** 1 ppm = 2.56 mg/m3	**IDLH** Ca [N.D.] See: IDLH INDEX (/niosh/idlh/intridl4.html)
Exposure Limits **NIOSH REL** : Ca See Appendix A (nengapdxa.html) **OSHA PEL** : [1910.1017] TWA 1 ppm C 5 ppm [15-minute]		**Measurement Methods** **NIOSH** 1007 (/niosh/docs/2003-154/pdfs/1007.pdf) ; **OSHA** 4 (http://www.osha.gov/dts/sltc/methods/organic/org004/org004.html) (http://www.cdc.gov/Other/disclaimer.html) , 75 (http://www.osha.gov/dts/sltc/methods/organic/org075/org075.html) (http://www.cdc.gov/Other/disclaimer.html) See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless gas or liquid (below 7°F) with a pleasant odor at high concentrations. [Note: Shipped as a liquefied compressed gas.]

MW: 62.5	**BP:** 7°F	**FRZ:** -256°F	Sol(77° F): 0.1%	**VP:** 3.3 atm	**IP:** 9.99 eV
	Fl.P: NA (Gas)	**UEL:** 33.0%	**LEL:** 3.6%	**RGasD:** 2.21	

Flammable Gas

Incompatibilities & Reactivities Copper, oxidizers, aluminum, peroxides, iron, steel [Note: Polymerizes in air, sunlight, or heat unless stabilized by inhibitors such as phenol. Attacks iron & steel in presence of moisture.]

Exposure Routes inhalation, skin and/or eye contact (liquid)

Symptoms lassitude (weakness, exhaustion); abdominal pain, gastrointestinal bleeding; enlarged liver; pallor or cyanosis of extremities; liquid: frostbite; [potential occupational carcinogen]

Target Organs Liver, central nervous system, blood, respiratory system, lymphatic system

Cancer Site [liver cancer]

Personal Protection/Sanitation (See protection codes (protect.html)) **Skin:** Frostbite **Eyes:** Frostbite **Wash skin:** No recommendation	**First Aid** (See procedures (firstaid.html)) **Eye:** Frostbite **Skin:** Frostbite **Breathing:** Respiratory support

Remove: When wet (flammable)
Change: No recommendation
Provide: Frostbite wash

Respirator Recommendations
(See Appendix E) (nengapdxe.html)

NIOSH

At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted canister providing protection against the compound of concern
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0082 (/niosh/ipcsneng/neng0082.html)
See MEDICAL TESTS: 0241 (/niosh/docs/2005-110/nmed0241.html)

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Page last updated: November 18, 2010
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Methyl chloroform

Synonyms & Trade Names Chlorothene; 1,1,1-Trichloroethane; 1,1,1-Trichloroethane (stabilized)

CAS No. 71-55-6	**RTECS No.** KJ2975000 (/niosh-rtecs/KJ2D6518.html)	**DOT ID & Guide** 2831 160 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=160) (http://www.cdc.gov/Other/disclaimer.html)
Formula CH_3CCl_3	**Conversion** 1 ppm = 5.46 mg/m3	**IDLH** 700 ppm See: 71556 (/niosh/idlh/71556.html)
Exposure Limits **NIOSH REL** : C 350 ppm (1900 mg/m3) [15-minute] See Appendix C (nengapdxc.html) (Chloroethanes) **OSHA PEL** † (nengapdxg.html) : TWA 350 ppm (1900 mg/m3)		**Measurement Methods** **NIOSH** 1003 (/niosh/docs/2003-154/pdfs/1003.pdf) See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless liquid with a mild, chloroform-like odor.

MW: 133.4	**BP:** 165°F	**FRZ:** -23° F	**Sol:** 0.4%	**VP:** 100 mmHg	**IP:** 11.00 eV
Sp.Gr: 1.34	**Fl.P:** ?	**UEL:** 12.5%	**LEL:** 7.5%		

Combustible Liquid, but burns with difficulty.

Incompatibilities & Reactivities Strong caustics; strong oxidizers; chemically-active metals such as zinc, aluminum, magnesium powders, sodium & potassium; water [Note: Reacts slowly with water to form hydrochloric acid.]

Exposure Routes inhalation, ingestion, skin and/or eye contact

Symptoms irritation eyes, skin; headache, lassitude (weakness, exhaustion), central nervous system depression, poor equilibrium; dermatitis; cardiac arrhythmias; liver damage

Target Organs Eyes, skin, central nervous system, cardiovascular system, liver

Personal Protection/Sanitation (See protection codes (protect.html))
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contaminated
Remove: When wet or contaminated
Change: No recommendation

First Aid (See procedures (firstaid.html))
Eye: Irrigate immediately
Skin: Soap wash promptly
Breathing: Respiratory support
Swallow: Medical attention immediately

Respirator Recommendations
NIOSH/OSHA

Up to 700 ppm:
(APF = 10) Any supplied-air respirator*
(APF = 50) Any self-contained breathing apparatus with a full facepiece

Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0079 (/niosh/ipcsneng/neng0079.html) See MEDICAL TESTS: 0141 (/niosh/docs/2005-110/nmed0141.html)

Page last reviewed: April 4, 2011
Page last updated: November 18, 2010
Content source: National Institute for Occupational Safety and Health (NIOSH) Education and Information Division

Centers for Disease Control and Prevention 1600 Clifton Rd. Atlanta, GA 30333, USA
800-CDC-INFO (800-232-4636) TTY: (888) 232-6348 - Contact CDC–INFO

Silica, crystalline (as respirable dust)

Synonyms & Trade Names Cristobalite, Quartz, Tridymite, Tripoli

CAS No. 14808-60-7	RTECS No. VV7330000 (/niosh-rtecs/VV6FD8Do.html)	DOT ID & Guide
Formula SiO_2	**Conversion**	**IDLH** Ca [25 mg/m3 (cristobalite, tridymite); 50 mg/m3 (quartz, tripoli)] See: 14808607 (/niosh/idlh/14808607.html)

Exposure Limits

NIOSH REL : Ca TWA 0.05 mg/m3 See Appendix A (nengapdxa.html)

OSHA PEL † (nengapdxg.html) : See Appendix C (nengapdxc.html) (Mineral Dusts)

Measurement Methods

NIOSH 7500 (/niosh/docs/2003-154/pdfs/7500.pdf), 7601 (/niosh/docs/2003-154/pdfs/7601.pdf), 7602 (/niosh/docs/2003-154/pdfs/7602.pdf);

OSHA ID142 (http://www.osha.gov/dts/sltc/methods/inorganic/id142/id142.html) (http://www.cdc.gov/Other/disclaimer.html)

See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless, odorless solid. [Note: A component of many mineral dusts.]

MW: 60.1	BP: 4046°F	MLT: 3110°F	Sol: Insoluble	VP: 0 mmHg (approx)	IP: NA
Sp.Gr: 2.66	Fl.P: NA	UEL: ?	LEL: ?		

Noncombustible solid

Incompatibilities & Reactivities Powerful oxidizers: fluorine, chlorine trifluoride, manganese trioxide, oxygen difluoride, hydrogen peroxide, etc.; acetylene; ammonia

Exposure Routes inhalation, skin and/or eye contact

Symptoms Cough, dyspnea (breathing difficulty), wheezing; decreased pulmonary function, progressive resp symptoms (silicosis); irritation eyes; [potential occupational carcinogen]

Target Organs Eyes, respiratory system

Cancer Site [in animals: lung cancer]

Personal Protection/Sanitation (See protection codes (protect.html))
Skin: No recommendation
Eyes: No recommendation
Wash skin: No recommendation
Remove: No recommendation
Change: No recommendation

First Aid (See procedures (firstaid.html))
Eye: Irrigate immediately

Breathing: Fresh air

Respirator Recommendations

NIOSH

Up to 0.5 mg/m3:
(APF = 10) Any particulate respirator equipped with an N95, R95, or P95 filter (including N95, R95, and P95 filtering facepieces) except quarter-mask respirators. The following filters may also be used: N99, R99, P99, N100, R100, P100.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.

Up to 1.25 mg/m3:
(APF = 25) Any powered, air-purifying respirator with a high-efficiency particulate filter.
(APF = 25) Any supplied-air respirator operated in a continuous-flow mode

Up to 2.5 mg/m3:
(APF = 50) Any air-purifying, full-facepiece respirator with an N100, R100, or P100 filter.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
(APF = 50) Any powered, air-purifying respirator with a tight-fitting facepiece and a high-efficiency particulate filter

Up to 25 mg/m3:
(APF = 1000) Any supplied-air respirator operated in a pressure-demand or other positive-pressure mode

Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator with an N100, R100, or P100 filter.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0808 (/niosh/ipcsneng/neng0808.html)

Page last reviewed: April 4, 2011
Page last updated: November 18, 2010
Content source: National Institute for Occupational Safety and Health (NIOSH) Education and Information Division

Centers for Disease Control and Prevention 1600 Clifton Rd. Atlanta, GA 30333, USA

Appendix A - NIOSH Potential Occupational Carcinogens

New Policy

For the past 20 plus years, NIOSH has subscribed to a carcinogen policy that was published in 1976 by Edward J. Fairchild, II, Associate Director for Cincinnati Operations, which called for "no detectable exposure levels for proven carcinogenic substances" (Annals of the New York Academy of Sciences, 271:200-207, 1976). This was in response to a generic OSHA rulemaking on carcinogens. Because of advances in science and in approaches to risk assessment and risk management, NIOSH has adopted a more inclusive policy. NIOSH recommended exposure limits (RELs) will be based on risk evaluations using human or animal health effects data, and on an assessment of what levels can be feasibly achieved by engineering controls and measured by analytical techniques. To the extent feasible, NIOSH will project not only a no-effect exposure, but also exposure levels at which there may be residual risks. This policy applies to all workplace hazards, including carcinogens, and is responsive to Section 20(a)(3) of the Occupational Safety and Health Act of 1970, which charges NIOSH to ". . .describe exposure levels that are safe for various periods of employment, including but not limited to the exposure levels at which no employee will suffer impaired health or functional capacities or diminished life expectancy as a result of his work experience."

The effect of this new policy will be the development, whenever possible, of quantitative RELs that are based on human and/or animal data, as well as on the consideration of technological feasibility for controlling workplace exposures to the REL. Under the old policy, RELs for most carcinogens were non-quantitative values labeled "lowest feasible concentration (LFC)." [Note: There are a few exceptions to LFC RELs for carcinogens (e.g., RELs for asbestos, formaldehyde, benzene, and ethylene oxide are quantitative values based primarily on analytical limits of detection or technological feasibility). Also, in 1989, NIOSH adopted several quantitative RELs for carcinogens from OSHA's permissible exposure limit (PEL) update.]

Under the new policy, NIOSH will also recommend the complete range of respirators (as determined by the NIOSH Respirator Decision Logic) for carcinogens with quantitative RELs. In this way, respirators will be consistently recommended regardless of whether a substance is a carcinogen or a non-carcinogen.

Old Policy

In the past, NIOSH identified numerous substances that should be treated as potential occupational carcinogens even though OSHA might not have identified them as such. In determining their carcinogenicity, NIOSH used the OSHA classification outlined in 29 CFR

1990.103, which states in part:

> Potential occupational carcinogen means any substance, or combination or mixture of substances, which causes an increased incidence of benign and/or malignant neoplasms, or a substantial decrease in the latency period between exposure and onset of neoplasms in humans or in one or more experimental mammalian species as the result of any oral, respiratory or dermal exposure, or any other exposure which results in the induction of tumors at a site other than the site of administration. This definition also includes any substance which is metabolized into one or more potential occupational carcinogens by mammals.

When thresholds for carcinogens that would protect 100% of the population had not been identified, NIOSH usually recommended that occupational exposures to carcinogens be limited to the lowest feasible concentration. To ensure maximum protection from carcinogens through the use of respiratory protection, NIOSH also recommended that only the most reliable and protective respirators be used. These respirators include (1) a self-contained breathing apparatus (SCBA) that has a full facepiece and is operated in a positive-pressure mode, or (2) a supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary SCBA operated in a pressure-demand or other positive-pressure mode.

Recommendations to be Revised

The RELs and respirator recommendations for carcinogens listed in this edition of the *Pocket Guide* still reflect the old policy. Changes in the RELs and respirator recommendations that reflect the new policy will be included in future editions.

Page last reviewed: February 8, 2011
Page last updated: October 31, 2010
Content source: National Institute for Occupational Safety and Health (NIOSH) Education and Information Division

Centers for Disease Control and Prevention 1600 Clifton Rd. Atlanta, GA 30333, USA
800-CDC-INFO (800-232-4636) TTY: (888) 232-6348 - Contact CDC–INFO

APPENDIX VII
(See Report)

APPENDIX VIII

Former Flamingo
Cleaners
SSD System Inspection Checklist

Address inspected: _____

Person(s) interviewed: _____

Date of inspection: _____

Inspector(s): _____

Make and Model of Fan _____

Date System Installed _____

System Pressures	SSP1	SSP2	SSP3	SSP4	FAN
Observed Vacuum Pressure					
Commissioned Vacuum					
Difference					

Note: SSP – Sub-slab Point

1.0 System Installation and Interior Piping Requirements

1.1 Are all manifold and suction point piping solid, rigid pipe not less than 3" inside diameter?

Yes **No** **Unknown / NA**

1.2 Are all pipe interior joints and connections in mitigation systems sealed permanently? (Exceptions include installation of fans and sump covers)

Yes **No** **Unknown / NA**

1.3 Does the system piping avoid attachment to or support existing pipes, ducts, conduits or any kind of equipment?

Yes **No** **Unknown / NA**

1.4 Does the system piping avoid blocking windows and doors or access to installed equipment?

Yes **No** **Unknown / NA**

1.5 Are supports for system piping installed at least every six (6) feet on horizontal runs?

Yes **No** **Unknown / NA**

1.6 Are vertical runs secured above or below the points of penetration through floors, ceilings and roofs, or at least every eight (8) feet on runs that do not penetrate floors, ceilings or roofs?

Yes **No** **Unknown / NA**

1.7 Are suction point pipes supported and secured in a permanent manner that prevents their downward movement to the bottom of suction pits or sump pits, or into the soil beneath a soil-gas-retarder membrane?

Yes **No** **Unknown / NA**

1.8 Are horizontal runs in system piping sloped to ensure that water from rain or condensation drains downward into the ground beneath the slab or soil-gas-retarder membrane?

Yes **No** **Unknown / NA**

1.9 Does the system piping pass the smoke stick check (no leaks)?

Yes **No** **Unknown / NA**

2.0 General Sealing Requirements

2.1 Are openings around the suction point piping penetrations of the slab properly sealed using methods and materials that are permanent/durable and pass the smoke stick check?

Yes **No** **Unknown / NA**

2.2 Are accessible openings around utility penetrations of the foundation walls and slab, test holes, wells and other openings in slabs properly sealed using methods and materials that are permanent/durable and pass the smoke stick check?

Yes **No** **Unknown / NA**

2.3 Are openings / cracks sealed where the slab meets the foundation wall (if appropriate)?

Yes **No** **Unknown / NA**

2.4 At the point where vent pipe exits the building, is urethane caulk or equivalent material used, and when the joint is greater than ½ inch in width, is a foam backer rod or other comparable filler material inserted into the joint before the application of the sealant (principally from the outside)?

Yes **No** **Unknown / NA**

2.5 When installing baseboard-type suction systems, are all baseboard sealed to walls and floors with adhesives also designed and recommended for such installations?

Yes **No** **Unknown / NA**

2.6 Are all utility and other penetrations through a soil-gas-retarder membrane sealed?

Yes **No** **Unknown / NA**

2.7 Did all cracks or openings in the slab or wall pass the smoke test? If not, identify the location of failed cracks or openings in the **Notes & Comments Section.**

Yes **No** **Unknown / NA**

3.0 Electrical Requirements

3.1 Is the plugged cord used to supply power to the fan no more than six (6) feet in length?

Yes **No** **Unknown / NA**

3.2 Does the plugged cord avoid penetrating a wall or being sealed within a wall?

Yes **No** **Unknown / NA**

3.3 Is the power supply to the fan hard-wired with an electrical disconnect within line of sight and four (4) feet of the fan?

Yes **No** **Unknown / NA**

3.4 Does the power supply have a seal to determine if access has occurred?

Yes **No** **Unknown / NA**

3.5 Is the electrical service panel labeled to indicate the circuit breaker powering the SSD system fan?

Yes **No** **Unknown / NA**

4.0 Membrane Depressurization Requirements

4.1 Is a sub-membrane depressurization system part of the mitigation system?

Yes **No** **Unknown / NA**

4.2 If yes, did the sub-membrane depressurization system pass the smoke test?

Yes **No** **Unknown / NA**

5.0 Sump Pit Requirements

5.1 Is there a sump pit in the basement?

Yes **No** **Unknown / NA**

5.2 If yes:

5.2.1 Is the sump pit installed with an impermeable cover and sealed with O-ring or silicone caulking?

Yes **No** **Unknown / NA**

5.2.2 Is the sump pit cover designed to facilitate removal for sump pit maintenance?

Yes **No** **Unknown / NA**

5.2.3 Is there a mitigation system designed to draw soil-gas from the sump pit?

Yes **No** **Unknown / NA**

6.0 Monitors and Labeling Requirements

6.1 Does each suction point have a mechanism to measure vacuum?

Yes **No** **Unknown / NA**

6.2 Is the mechanical mitigation system's monitor, such as manometer type pressure gauges, clearly marked to indicate the initial pressure readings?

Yes **No** **Unknown / NA**

6.3 Is the current vacuum reading within ¼ inch water of the initial reading for low vacuum fans and within 5% of the commissioned vacuum for high vacuum fans?

Yes **No** **Unknown / NA**

6.4 Is a system description label placed on the mitigation system of other prominent location?

Yes **No** **Unknown / NA**

6.5 Is the label legible from a distance of at least three feet and does it display the following information: Purpose of the system ("Vapor Intrusion Mitigation"), name, address, and phone number of the contact person?

Yes **No** **Unknown / NA**

6.6 Does the mitigation system prevent backdrafting of combustion products into the structure?

Yes **No** **Unknown / NA**

6.7 Were the vacuum readings in the system stable during the backdraft test?

Yes **No** **Unknown / NA**

6.8 Does the mitigation system include an audible alarm to inform occupants of a system malfunction?

Yes **No** **Unknown / NA**

6.9 Is the audible alarm operational?

Yes **No** **Unknown / NA**

7.0 System Vent Discharge Point Requirements

7.1 Is the vent pipe vertical and upward, outside the structure, at least ten (10) feet above ground level, and above the edge of the roof? **(Requirement A)**

Yes **No** **Unknown / NA**

7.2 Is the discharge of the vent pipe ten (10) feet or more away from any window, door, or other opening into conditioned or otherwise occupiable spaces of the structure, if the vapor discharge point is not at least two (2) feet above the top of such openings? **(Requirement B)**

Yes **No** **Unknown / NA**

7.3 Is the discharge of the vent pipe ten (10) feet or more away from any opening into the conditioned or other occupiable spaces of an adjacent building? Chimney flues shall be considered openings. **(Requirement C)**

Yes **No** **Unknown / NA**

7.4 For vent stack pipes that penetrate the roof, is the point of discharge at least twelve (12) inches above the surface of the roof? **(Requirement D)**

Yes **No** **Unknown / NA**

7.5 For vent stack pipes attached to or penetrating the sides of the buildings, is the point of discharge vertical and a minimum of twelve (12) inches above the surface of the roof?

Yes **No** **Unknown / NA**

7.6 Does the horizontal run of vent stack pipe penetrate the gable end walls? **(Requirement E)**

Yes **No** **Unknown / NA**

7.7 If yes, does the piping outside the structure routed to a vertical position so that the discharge points meet the requirements of **A, B, C and D**?

Yes **No** **Unknown / NA**

7.8 Do points of discharge that are not in a direct line of sight from openings into conditioned or otherwise occupiable space because of intervening objects, such as dormers, chimneys, windows around the corner, etc. to meet the separation requirements of **A, B, C, D and E**?

Yes **No** **Unknown / NA**

7.9 Is the outside vent piping fastened to the structure of the building with hangers, strapping or other supports that will secure it adequately (every 8 feet)?

Yes **No** **Unknown / NA**

7.10 Is vent stack piping's ID at least as large as the largest used in the manifold piping? Manifold piping to which two or more suction points are connected shall be at least 4 inch ID. (3x4 inch aluminum downspout is an acceptable deviation).

Yes **No** **Unknown / NA**

7.11 If system piping is installed on the exterior of a building, is piping sealed from the outside at point of entry to the building?

Yes **No** **Unknown / NA**

8.0 Fan Installation Requirements

8.1 Is the fan installed in a configuration that avoids condensation buildup in the fan housing?

Yes **No** **Unknown / NA**

8.2 Is the fan mounted on the exterior of the buildings rated for outdoor use or installed in a weather proof protective housing?

Yes **No** **Unknown / NA**

8.3 Is the fan mounted and secured in a manner that minimizes transfer of vibration to the structural framing of the building?

Yes **No** **Unknown / NA**

8.4 Does the system operate without noise or vibration above normal conditions?

Yes **No** **Unknown / NA**

9.0 Design Drawing and As-Built Drawing Requirements

9.1 Was the system installed as per the design drawings submitted to the municipality?

Yes **No** **Unknown / NA**

10.0 Notes & Comments

11.0 Required Corrective Actions

TECTONIC

DAILY FIELD REPORT

W.O.NO.:	PAGE 1 OF
REPORT NO.:	DATE:
PUNCH LIST: YES ☐ NO ☐	

☐ 70 Pleasant Hill Road, Mountainville, NY 10953, P: 845-534-5959 F: 845-534-5999

☐ 36 British American Blvd , Suite 101, Latham, NY 12110, Phone: 518-783-1630 Fax: 518-783-1544

☐ 1279 Route 300 Newburgh, NY 12550, Phone- 845-567-6656 Fax- 845-567-8703, Structural Fax- 845-567-8705

☐ 1344 Silas Deane Highway, Suite 500, Rocky Hill, CT 06067, Phone: 860-563-2341 Fax: 860-257-4882

☐ 29-16 40th Ave, Long Island City, NY 11101, Phone- 718-391-9200 Fax- 718-391-0607

☐ 280 Little Britain Rd, Newburgh NY 12550, Phone- 845-563-9081 Fax- 845-563-9085

☐ 8607 Mayland Drive, Richmond, VA 23294, Phone- 804-217-8504 Fax- 804-270-0593

CLIENT:		PROJECT NAME:
TECTONIC PROJECT MANAGER:	TECTONIC FIELD REPRESENTATIVE:	LOCATION:
GENERAL CONTRACTOR:	GENERAL CONTRACTOR'S REPRESENTATIVE:	OWNER:

SPECIALTY CONTRACTOR: ☐ EARTH ☐ CONCRETE ☐ STEEL ☐ OTHER

CONTRACTOR'S EQUIPMENT OBSERVED IN USE:

PLANS AND SPECIFICATIONS
BY
DATE

SHOP DRAWINGS
TYPE
APP. BY

VISITORS:	REPRESENTING:	ARR.	DPT.

WEATHER: TEMP. (°F)

SAMPLES: ☐ TYPE: _____ QTY: _____

PHOTOS: ☐ TYPE: _____ QTY: _____

CONSTRUCTION ACTIVITIES: **INDICATE ACTIVITIES MONITORED**

FORMS ATTACHED:
☐ **SOIL COMPACTION** ☐ **PRE-POUR INSPECTION** ☐ **STRUCTURAL STEEL**
☐ **NON-CONFORMANCE REPORT** ☐ **CONCRETE INSPECTION** ☐ **OTHER:** _____

FOLLOW-UP FROM PRIOR R ☐ YES ☐ NO DATE OF PRIOR REPORT: _____

NON-CONFORMANCE CORRECTED:

WHAT, IN PARTICULAR, SHOULD BE OBSERVED, CHECKED, OR TESTED DURING THE NEXT VISIT?

NOTICE

The field representative is on the site solely to observe operations of the contractor identified, observe conformance with contract documents, and report those operations to the client. The presence and activities of the field representative do not relieve the contractor's obligation to meet contractual requirements. The contractor retains sole responsibility for site safety and the methods and sequences of construction.

☐ THIS DFR IS PRELIMINARY

This preliminary report is provided solely as evidence that field observation was performed. Observation and/or conclusions and/or recommendations conveyed in the final report may vary from and shall take precedence over those indicated in a preliminary report.

FIELD REPRESENTATIVE: DATE:

REVIEWED BY: DATE:

☐ THIS DFR IS FINAL

A final report is the instrument of service. Any conclusions drawn from this report should be discussed with and evaluated by the owner's engineer.

APPENDIX IX
(See Report)

APPENDIX X
(See Report)

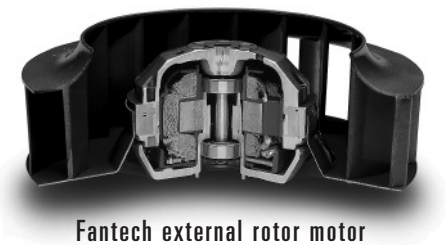
Fantech

HP SERIES

FANS FOR RADON APPLICATIONS
WITH IMPROVED UV RESISTANCE!

TRUST THE INDUSTRY STANDARD.
HERE'S WHY:

Don't put your reputation at stake by installing a fan you know won't perform like a Fantech! For nearly twenty years, Fantech has manufactured quality ventilation equipment for Radon applications. Fantech is the fan Radon contractors have turned to in over 1,000,000 successful Radon installations worldwide.



Fantech external rotor motor

FANTECH HP SERIES FANS MEET THE CHALLENGES OF RADON APPLICATIONS:

HOUSING
- UV resistant, UL Listed durable plastic
- UL Listed for use in commercial applications
- Factory sealed to prevent leakage
- Watertight electrical terminal box
- Approved for mounting in wet locations - i.e. Outdoors

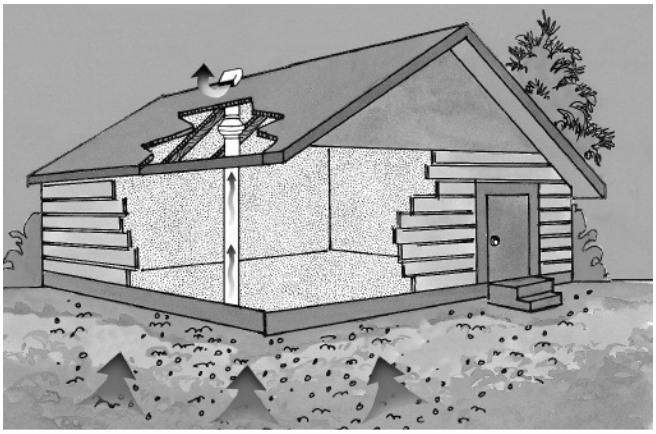
MOTOR
- Totally enclosed for protection
- High efficiency EBM motorized impeller
- Automatic reset thermal overload protection
- Average life expectancy of 7-10 years under continuous load conditions

RELIABILITY
- Five Year Full Factory Warranty
- Over 1,000,000 successful radon installations worldwide

Fantech

HP Series Fans are Specially Designed with Higher Pressure Capabilities for Radon Mitigation Applications

MOST RADON MITIGATORS WHO PREVIOUSLY USED THE FANTECH FR SERIES FANS HAVE SWITCHED TO THE NEW HP SERIES.



PERFORMANCE DATA

Fan Model	Volts	Wattage Range	Max. Amps	CFM vs. Static Pressure in Inches W.G.								Max. Ps
				0"	0.5"	0.75"	1.0"	1.25"	1.5"	1.75"	2.0"	
HP2133	115	14 - 20	0.17	134	68	19	-	-	-	-	-	0.84
HP2190	115	60 - 85	0.78	163	126	104	81	58	35	15	-	1.93
HP175	115	44 - 65	0.57	151	112	91	70	40	12	-	-	1.66
HP190	115	60 - 85	0.78	157	123	106	89	67	45	18	1	2.01
HP220	115	85 - 152	1.30	344	260	226	193	166	137	102	58	2.46

HVI MEMBER™

PERFORMANCE CURVES

Fantech provides you with independently tested performance specifications.

The performance curves shown in this brochure are representative of the actual test results recorded at Texas Engineering Experiment Station/Energy Systems Lab, a recognized testing authority for HVI. Testing was done in accordance with AMCA Standard 210-85 and HVI 916 Test Procedures. Performance graphs show air flow vs. static pressure.

Use of HP Series fans in low resistance applications such as bathroom venting will result in elevated sound levels. We suggest FR Series or other Fantech fans for such applications.

HP FEATURES INCLUDE

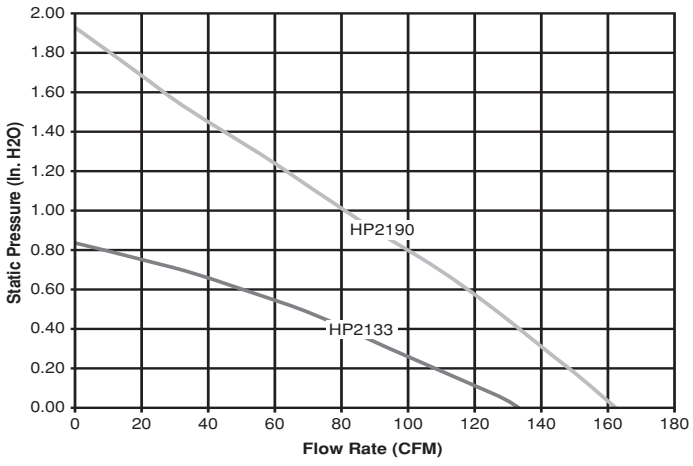
- Improved UV resistant housings approved for commercial applications.
- UL Approved for Wet Locations (Outdoors)
- Sealed housings and wiring boxes to prevent Radon leakage or water penetration
- Energy efficient permanent split capacitor motors
- External wiring box
- Full Five Year Factory Warranty

c UL us

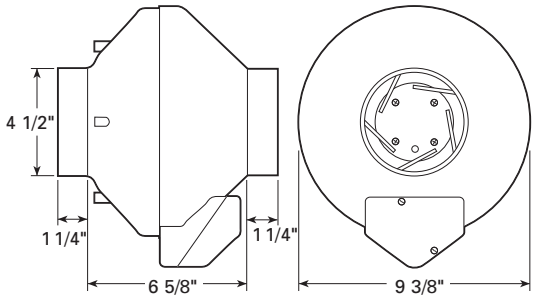
NOTE:

Installations that will result in condensate forming in the outlet ducting should have a condensate bypass installed to route the condensate outside of the fan housing. Conditions that are likely to produce condensate include but are not limited to: outdoor installations in cold climates, long lengths of outlet ducting, high moisture content in soil and thin wall or aluminum outlet ducting. Failure to install a proper condensate bypass may void any warranty claims.

HP2133 & HP2190 RADON MITIGATION FANS



Tested with 4" ID duct and standard couplings.

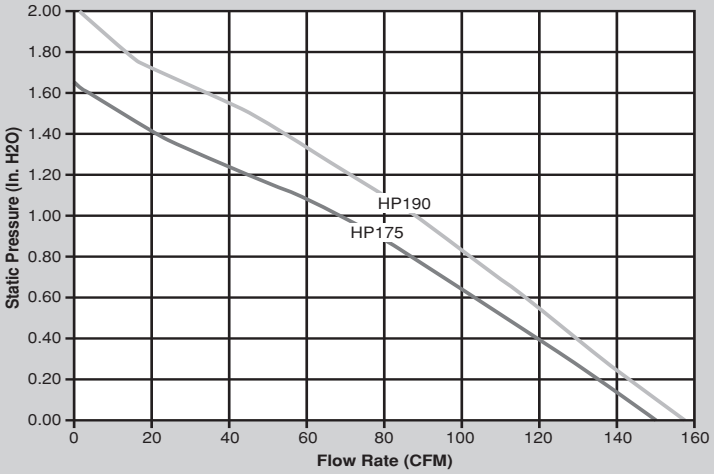


HP2133 – For applications where lower pressure and flow are needed. Record low power consumption of 14-20 watts! Often used where there is good sub slab communication and lower Radon levels.

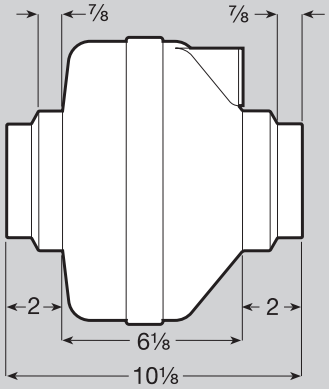
HP2190 – Performance like the HP190 but in a smaller housing. Performance suitable for the majority of installations.

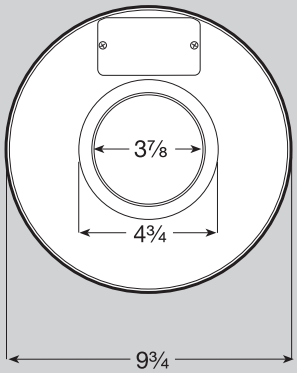
Fans are attached to PVC pipe using flexible couplings.
For 4" PVC pipe use Indiana Seals #156-44, Pipeconx PCX 56-44 or equivalent.
For 3" PVC pipe use Indiana Seals #156-43, Pipeconx PCX 56-43 or equivalent.

HP175 & HP190 RADON MITIGATION FANS



Tested with 4" ID duct and standard couplings.



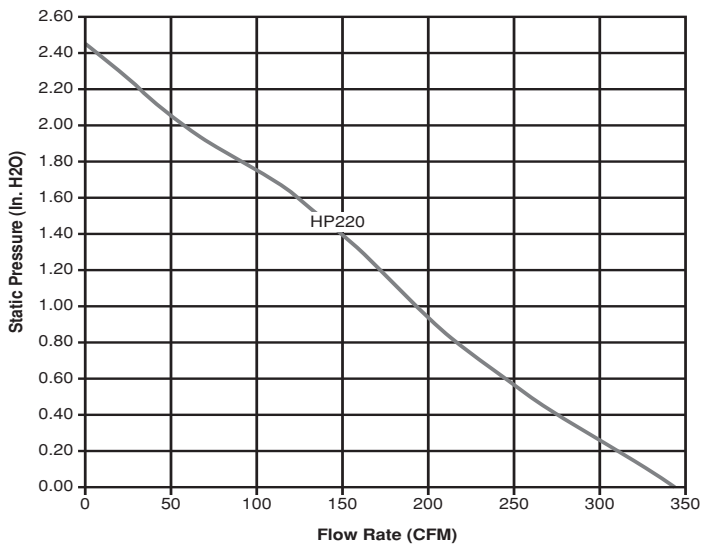


HP175 – The economical choice where slightly less air flow is needed. Often used where there is good sub slab communication and lower Radon levels.

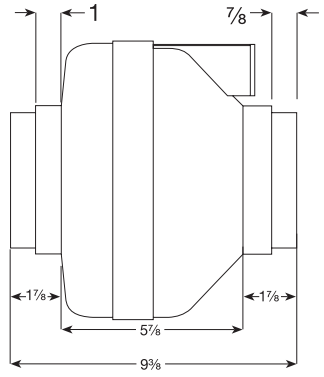
HP190 – The standard for Radon Mitigation. Ideally tailored performance curve for a vast majority of your mitigations.

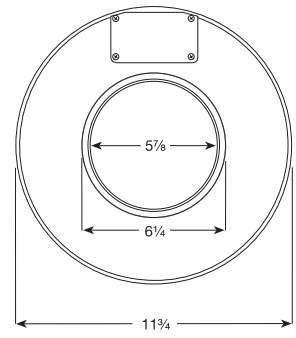
Fans are attached to PVC pipe using flexible couplings.
For 4" PVC pipe use Indiana Seals #151-44, Pipeconx PCX 51-44 or equivalent.
For 3" PVC pipe use Indiana Seals #156-43, Pipeconx PCX 56-43 or equivalent.

HP220 RADON MITIGATION FAN



Tested with 6" ID duct and standard couplings.





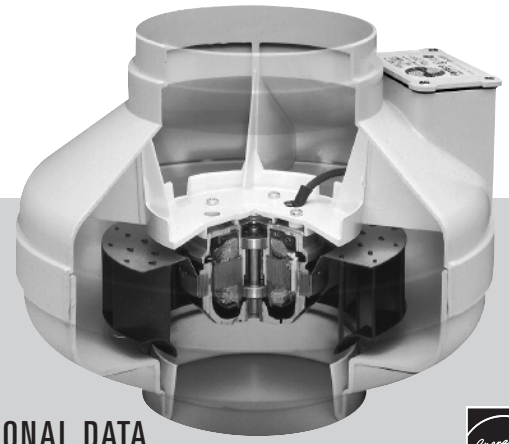
HP 220 – Excellent choice for systems with elevated radon levels, poor communication, multiple suction points and large subslab footprint. Replaces FR 175.

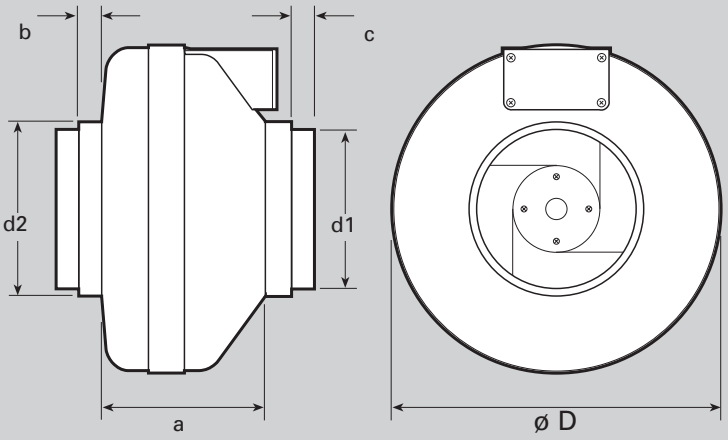
Fans are attached to PVC pipe using flexible couplings.
For 4" PVC pipe use Indiana Seals #156-64, Pipeconx PCX 56-64 or equivalent.
For 3" PVC pipe use Indiana Seals #156-63, Pipeconx PCX 56-63 or equivalent.

Fantech

FR SERIES

THE ORIGINAL MITIGATOR





DIMENSIONAL DATA

model	øD	d1	d2	a	b	c
FR100	9 1/2	3 7/8	4 7/8	6 1/8	7/8	7/8
FR110	9 1/2	3 7/8	4 7/8	6 1/8	7/8	7/8
FR125	9 1/2	–	4 7/8	6 1/8	7/8	–
FR140	11 3/4	5 7/8	6 1/4	5 7/8	1	7/8
FR150	11 3/4	5 7/8	6 1/4	5 7/8	1	7/8
FR160	11 3/4	5 7/8	6 1/4	6 3/8	1	7/8
FR200	13 1/4	7 7/8	9 7/8	6 1/4	1 1/2	1 1/2
FR225	13 1/4	7 7/8	9 7/8	6 1/4	1 1/2	1 1/2
FR250	13 1/4	–	9 7/8	6 1/4	–	1 1/2

All dimensions in inches

PERFORMANCE DATA

Fan Model	Energy Star	RPM	Volts	Rated Watts	Wattage Range	Max. Amps	CFM vs. Static Pressure in Inches W.G.							Max. Ps	Duct Dia.
							0"	.2"	.4"	.6"	.8"	1.0"	1.5"		
FR100	✓	2950	120	21.2	13 - 22	0.18	137	110	83	60	21	-	-	0.90"	4"
FR125	✓	2950	115	18	15 - 18	0.18	148	120	88	47	-	-	-	0.79"	5"
FR150	✓	2750	120	71	54 - 72	0.67	263	230	198	167	136	106	17	1.58"	6"
FR160	-	2750	115	129	103 - 130	1.14	289	260	233	206	179	154	89	2.32"	6"
FR200	✓	2750	115	122	106 - 128	1.11	408	360	308	259	213	173	72	2.14"	8"
FR225	✓	3100	115	137	111 - 152	1.35	429	400	366	332	297	260	168	2.48"	8"
FR250*	-	2850	115	241	146 - 248	2.40	649	600	553	506	454	403	294	2.58"	10"

FR Series performance is shown with ducted outlet. Per HVI's Certified Ratings Program, charted air flow performance has been derated by a factor based on actual test results and the certified rate at .2 inches WG.
** Also available with 8" duct connection. Model FR 250-8. Special Order.*

NOTE:

Installations that will result in condensate forming in the outlet ducting should have a condensate bypass installed to route the condensate outside of the fan housing. Conditions that are likely to produce condensate include but are not limited to: outdoor installations in cold climates, long lengths of outlet ducting, high moisture content in soil and thin wall or aluminum outlet ducting. Failure to install a proper condensate bypass may void any warranty claims.

FIVE YEAR WARRANTY

DURING ENTIRE WARRANTY PERIOD:

FANTECH will replace any fan which has a factory defect in workmanship or material. Product may need to be returned to the Fantech factory, together with a copy of the bill of sale and identified with RMA number.

FOR FACTORY RETURN YOU MUST:

- Have a Return Materials Authorization (RMA) number. This may be obtained by calling FANTECH either in the USA at 1.800.747.1762 or in CANADA at 1.800.565.3548. Please have bill of sale available.
- The RMA number must be clearly written on the outside of the carton, or the carton will be refused.
- All parts and/or product will be repaired/replaced and shipped back to buyer; no credit will be issued.

OR

The Distributor may place an order for the warranty fan and is invoiced.
The Distributor will receive a credit equal to the invoice only after product is returned prepaid and verified to be defective.

FANTECH WARRANTY TERMS DO NOT PROVIDE FOR REPLACEMENT WITHOUT CHARGE PRIOR TO INSPECTION FOR A DEFECT. REPLACEMENTS ISSUED IN ADVANCE OF DEFECT INSPECTION ARE INVOICED, AND CREDIT IS PENDING INSPECTION OF RETURNED MATERIAL. DEFECTIVE MATERIAL RETURNED BY END USERS SHOULD NOT BE REPLACED BY THE DISTRIBUTOR WITHOUT CHARGE TO THE END USER, AS CREDIT TO DISTRIBUTOR'S ACCOUNT WILL BE PENDING INSPECTION AND VERIFICATION OF ACTUAL DEFECT BY FANTECH.

THE FOLLOWING WARRANTIES DO NOT APPLY:

- Damages from shipping, either concealed or visible. Claim must be filed with freight company.
- Damages resulting from improper wiring or installation.
- Damages or failure caused by acts of God, or resulting from improper consumer procedures, such as:

1. Improper maintenance
2. Misuse, abuse, abnormal use, or accident, and
3. Incorrect electrical voltage or current.

- Removal or any alteration made on the FANTECH label control number or date of manufacture.
- Any other warranty, expressed, implied or written, and to any consequential or incidental damages, loss or property, revenues, or profit, or costs of removal, installation or reinstallation, for any breach of warranty.

WARRANTY VALIDATION

- The user must keep a copy of the bill of sale to verify purchase date.
- These warranties give you specific legal rights, and are subject to an applicable consumer protection legislation. You may have additional rights which vary from state to state.

DISTRIBUTED BY:

Fantech

United States 10048 Industrial Blvd. • Lenexa, KS 66215 • 1.800.747.1762 • www.fantech.net
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Item #: 411741
Rev Date: 021010

APPENDIX XI
(See Report)

APPENDIX XII
(See Report)