SITE MANAGEMENT PLAN

New Paltz Plaza VCP Site
Town of New Paltz
Ulster County, New York

NYSDEC Site No. V00087 & HW356021

Prepared for:

New Paltz Plaza Properties, LP
New Paltz Plaza, Inc.
257 Mamaroneck Avenue
Newburgh, New York 10605

July 6, 2011

ALPHA GEOSCIENCE

NEW PALTZ PLAZA VCP SITE
New Paltz (T), Ulster County, New York

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NYSDEC Site No. V00087 & HW356021

Prepared for:

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July 6, 2011

Revisions to Final Approved Site Management Plan:

Revision #	Submitted Date	Summary of Revision	DEC Approval Date

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1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM

1.1 Introduction

Alpha Geoscience (Alpha) has prepared this Site Management Plan (SMP) on behalf of New Paltz Plaza Properties, LP and New Paltz Plaza Inc. (collectively "Volunteer") for the Voluntary Cleanup Program (VCP) Site No. V00087 ("the VCP Site" or "the Site"). The Site has been investigated and remediated under the New York State Department of Environmental Conservation's (NYSDEC) VCP. Under the VCP, the Volunteer, as an Innocent Owner, elected to address groundwater and soil contamination beyond the boundary of the former Revonak Dry Cleaners, inactive hazardous waste disposal Site No. 356021 (former Revonak Dry Cleaners). Thus, the VCP Site is a portion of the New Paltz Plaza Shopping Center property including the former Revonak Dry Cleaners.

The former Revonak Dry Cleaners is the source of the contamination associated with the Site. New Paltz Plaza Associates ("Prior Owner") entered into Consent Order No. W3-0667-93-11, Site No. 356021, with the New York State Department of Environmental Conservation (NYSDEC) on February 24, 1995, which required the prior owner to conduct a remedial investigation (RI) and any necessary remedial actions. The prior owner initiated the RI, but did not conduct any interim remedial measures (IRMs), before transferring ownership to the Volunteer. The Volunteer entered into a Voluntary Cleanup Agreement (VCA) for investigation (No. W3-0782-96-12, Site No. V00087) and completed the RI. The Volunteer entered into a second VCA (No. W3-0782-97-10, Site No. V00087) on December 17, 1997 to conduct IRMs and to remediate the Site. The work was performed with the approval and oversight of the NYSDEC.

1.1.1 General

The Volunteer entered into both VCAs with NYSDEC to investigate and remediate the VCP Site located in the Town of New Paltz, Ulster County, New York. A map showing the location of the VCP Site is provided in Figure 1. A map showing the boundaries of the VCP Site and the former

Revonak Dry Cleaners is provided in Figure 2. A metes and bounds description of the Site is attached as Appendix A to this plan.

After completion of the several IRM(s), which are described in the Final Engineering Report (FER) and within this SMP, some contamination was left in the subsurface at this Site. The remaining contamination is referred to as "residual contamination" in this SMP. This SMP was prepared to manage the residual contamination in perpetuity or until extinguishment of the Deed Restriction, and if managed according to the requirements in this SMP, is intended to keep the Site safe for ongoing commercial use. The first IRM on the Site began in December 1997, and subsequent IRMs were completed in June 2007. All reports associated with the Site can be viewed by contacting the NYSDEC Office in New Paltz, or its successor agency managing environmental issues in New York State, if any.

This SMP was prepared by Alpha on behalf of the Volunteer, in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, dated May 3, 2010, and the guidelines provided by NYSDEC. This SMP addresses the means for implementing the Institutional Controls (ICs) and Engineering Controls (ECs) that are included in the Declaration of Covenants and Restrictions.

1.1.2 Purpose

The Site contains residual contamination after completion of the remedial actions. Engineering Controls have been incorporated into the Site remedy to provide proper management of remaining contamination in the future to ensure protection of public health and the environment. A Deed Restriction placed on New Paltz Plaza VCP Site is recorded with the Ulster County Clerk (Appendix A). The restriction provides an enforceable legal instrument to ensure compliance with this SMP and all ECs and ICs. The ICs place restrictions on Site use, and mandate operation, maintenance, monitoring, and reporting measures for all ECs and ICs. This SMP specifies the methods necessary to ensure compliance with all ECs and ICs required by the Deed Restriction for residual

contamination. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Deed Restriction and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

This SMP provides a detailed description of all procedures required to manage residual contamination at the Site, including:

(1) implementation and management of all Engineering and Institutional Controls;

(2) groundwater monitoring;

(3) contingency plan for additional remedial actions;

(4) operation, monitoring and maintenance of all sub-slab depressurization systems;

(5) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports; and

(6) defining criteria for termination of sub-slab depressurization systems or decommissioning of groundwater monitoring wells.

To address these needs, this SMP includes three plans:

(1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs, which includes a reporting plan for the submittal of data, information, recommendations, and certifications to NYSDEC;

(2) a Monitoring Plan for implementation of Site Monitoring; and

(3) an Operation and Maintenance Plan for implementation of remedial collection, containment, treatment, and recovery systems.

Failure to comply with this SMP is a violation of, 6NYCRR Part 375 and VCA (Index No. W3-0782-97-10; Site No. V00087), and thereby subject to applicable penalties. At the time this SMP was prepared, the SMP and all site documents related to Remedial Investigation and IRM(s) were maintained at the NYSDEC Office in Albany.

1.1.3 Revisions

Revisions to this plan must be proposed in writing to the NYSDEC's project manager. In accordance with the VCA (Index No. W3-0782-97-10) for this 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.

1.2 Site Background

1.2.1 Site Location and Description

New Paltz Plaza is located approximately 0.3 miles west of the New York State Thruway on Route 299 (Main Street) in New Paltz, Ulster County, New York (Figure 1). The New Paltz Plaza lies within an area of commercial business within the Town of New Paltz. Several commercial establishments are present south of the plaza. A medical office building and the New York State Thruway are located east of the plaza. Residential portions of the Village of New Paltz are present to the west, and an apartment complex is located adjacent to the plaza to the north. The Plaza consists of single story concrete block buildings and adjacent asphalt covered parking areas. Most of the area beyond the site buildings is paved asphalt parking, access roads and delivery areas for the plaza.

Figure 3 is a map showing the location of the site monitoring wells on the eastern portion of the site where volatile organic compounds (VOCs) associated with the former Revonak dry cleaners were detected in soil and ground water. This area has been the focus of investigation, remediation, and monitoring associated with the former Revonak dry cleaners. The Revonak dry cleaner was located in the space currently occupied by Royal Cleaners.

Overhead utility service runs along the eastern and northern boundary of the Plaza property, with overhead connections to the Plaza. The Plaza is served by municipal water lines, which are located

under the asphalt pavement on the east and north sides of the Plaza. The sewer is located under the asphalt pavement generally on the east and north sides of the Plaza, with connections to the individual Plaza tenants.

1.2.2 Site History

The property was developed for commercial use in the late 1960s and has been used as a commercial shopping plaza since that time. The property is zoned for commercial use by the Town of New Paltz and development on the property is consistent with the zoning and long-term use of the property as a commercial shopping plaza. There are no plans to use the site for purposes other than the current use.

From 1968 to 1993 two dry cleaners operated at the Site; Franchise Laundry & Dry Cleaning Corporation and Revonak Cleaners, Inc. The equipment and operational procedures (1980's and before) used by the business led to the release of an unknown quantity of the dry cleaning solvent tetrachloroethene (PCE). In 1991, a groundwater monitoring program began after the discovery of a leaking underground petroleum storage tank and associated piping which serviced another tenant of the shopping center. This groundwater monitoring led to the discovery of PCE and trichloroethene (TCE), which was attributed to the Revonak Dry Cleaners. The current dry cleaner (under new ownership) is operating with modern equipment in accordance with applicable regulations.

1.2.3 Site Geology

Numerous soil borings, geoprobe borings, and monitoring wells have been installed to obtain subsurface information. Additionally, there have been numerous test pits excavated for both investigation and remedial purposes. The remediation program conducted in December 1997 consisted of removing impacted soil from an excavation measuring approximately 60 feet by 25 feet. Most of the excavation extended to bedrock and allowed detailed inspection of subsurface conditions.

The soil at the site consists of man-emplaced fill overlying natural soil. The thickness of the fill ranges from approximately 5 to 8 feet and consists of various layers of silty clay, clayey silt, and fine sand. The different soil types comprising the fill occur in separate layers and lenses. The underlying natural soil consists of glacial till comprised of dense to very dense, clayey silt to silt, with varying percentages of sand and gravel.

Bedrock consists of medium crystalline limestone interbedded with a slightly calcareous to non-calcareous shale. The depth to bedrock is relatively shallow and ranges from approximately 8 feet (BR-2) to 27 feet (BR-4) below surface. The surface of the bedrock slopes gently toward the northern end of the site. The relatively slow ground water recharge to bedrock wells at the site indicates that the bedrock has a relatively low permeability.

1.2.4 Site Hydrogeology

The permeability of most of the soil at the site is generally low, as evidenced by the relatively slow seepage of ground water into test pits and the December 1997 remedial excavation, and the moderate to slow recharge to monitoring wells. Ground water seepage was observed from lenses of sandy soil in the remedial excavation, suggesting that preferential flow paths are likely present through the coarse-grained fill materials. The natural glacial till underlying the fill possess a very low permeability as evidenced by the high density, relatively fine-grained matrix, and low moisture content.

Hydraulic conductivity values were measured in wells MW-2, MW-9, and MW-10 in February 2005. These wells are completed in the relatively coarser-grained materials encountered at each location. Most of the material in the vicinity of well MW-2 is sandy fill placed after the December 1997 remedial excavation was completed. Ground water flow velocities calculated from hydraulic conductivity values indicate that the ground water flow rate in the natural soil ranges from approximately 33 to 105 feet per year using average values for hydraulic gradient and porosity.

Ground water measurements, completed by Alpha since January 1998, indicate that the direction of ground water flow in both the overburden and bedrock is north to northwest. Figures 4 and 5 are ground water contour maps for water levels measured on March 7, 2008 and are consistent with ground water flow direction for all dates measured since monitoring began in January 1998.

Measurement and calculation of the vertical hydraulic gradients at the overburden and bedrock well pairs indicate that the overburden and bedrock are hydraulically connected and that the bedrock has a substantially lower hydraulic conductivity than the overburden. The direction of the vertical hydraulic gradient measured at the three well pairs has varied with time and location. This variation appears to be primarily associated with ground water levels that fluctuate more rapidly in the overburden than in the bedrock due to the higher hydraulic conductivity of the overburden.

1.2.5 Ground Water Use

The Plaza is served by the Town of New Paltz Water Department, which obtains its water from the Village of New Paltz water system. The Village water system is supplied by surface water reservoirs more than five miles from the site. Measurements of ground water levels on site since 1998 confirm that the ground water flow direction is to the north to northwest. The nearest interpreted downgradient discharge point for ground water from the site is the unnamed tributary to the Wallkill River, approximately 1500 feet (0.3 mi) north to northwest of the site where the stream crosses Old Mill Road (Figure 5).

The only residences that are located downgradient in the flow path of ground water derived from the site are the apartment complex immediately north of the site, the residences on Old Mill Road, and the residence located at 101 Henry W. Dubois Road. The Town of New Paltz confirmed that residents at the apartment complex and at numbers 1, 2, 3, 4, 5, 9, 10, 12, 13 and 15 Old Mill Road and 101 Henry Dubois Road are served by public water. The residences on Old Mill Road north of the unnamed tributary to the Wallkill River (numbers 25, 26, and 27) appear to have private wells. The Town of New Paltz confirmed that these residents are not supplied with water by the Town.

Ground water from the site is expected to eventually discharge to the stream at Old Mill Road before it would reach wells on the north side of the stream.

The NYSDEC and New York State Department of Health (NYSDOH) investigated the location of off-site wells and collected samples from selected wells for laboratory analysis of VOCs in 2000. No tetrachloroethylene (PCE) or related compounds were detected in the samples collected by the NYSDOH. Groundwater sampling was conducted by a NYSDEC contractor from off-site, downgradient wells in 2009. No site-related groundwater contamination of concern was identified at the off-site well locations.

The results of the off-site well survey indicate that there are no ground water users between the site and the location where ground water in the unconsolidated materials likely discharges to the unnamed tributary to the Wallkill River. The result of NYSDOH's and NYSDEC's sampling, and the absence of ground water users downgradient of the site, confirm that there is no off site migration or human exposure to contaminants in the ground water.

1.3 Summary of Remedial Investigation Findings

A site investigation was conducted from 1991 through 1996 and included a historical review, a floor drain investigation, a soil gas survey, soil borings and sampling, ground water sampling, a sewer survey, a test pit investigation, and a geoprobe investigation. The initial investigation was conducted to address a leaking underground petroleum storage tank which serviced another tenant of the Shopping Plaza. This investigation lead to the discovery of PCE and TCE that was attributed to the Revonak Dry Cleaners. A NYSDEC-approved remedial plan (dated October 27, 1997) was implemented in December 1997.

1.3.1 Groundwater

On-site groundwater samples were collected from 15 shallow wells and 7 bedrock wells (Figure 3) installed as part of the various remedial activities completed at the Sites, with sampling events beginning in 1991, and continuing and expanded over the past 19 years.

Groundwater monitoring wells are situated within the Shopping Center and at select off-Site locations to the north and northwest behind the Shopping Center. The current groundwater quality, as documented in the 2009 Off-Site Investigation Report and the 2008 Annual Groundwater and Soil Vapor Report, is shown in Table 2. Figure 2 shows the 2009 groundwater concentrations for the VOCs identified in Table 2. MW-2 had the highest concentrations of PCE and vinyl chloride in 2008 at 480 parts per billion (ppb) and 300 ppb, respectively, but these concentrations decreased to 5.3 ppb and 11 ppb, respectively, in 2009. Groundwater contamination identified during the RI was addressed by an IRM which consisted of two hydrogen release compound (HRC) injection events in November 2003 and September 2006.

Groundwater sampling was conducted during the NYSDEC's off-Site RI in 2009. No site-related groundwater contamination of concern was identified beyond the boundaries of the Site during the off-Site RI. The groundwater evaluation extended approximately ½ mile downgradient from the Site, including a deep bedrock wells. The private wells in this area were sampled, and analysis found no Site-related contamination. Therefore, no remediation of groundwater was necessary beyond the boundaries of the Site.

1.3.2 Soils

The Sites are covered mostly by paved areas and concrete slabs. There are limited green spaces and/or surface soil along the back and beyond the Site, and within the paved parking areas. No Site-related surface soil contamination of concern was identified during the RI. Therefore, there was no need to consider remedial alternatives for surface soil.

A total of 17 test pits were installed between 1995 and 1997 to assess the presence of a source area(s) behind the dry cleaner. Subsurface soil samples were collected from depths of 1 to 12 feet below ground surface. Analysis of pre-disposal soil samples revealed concentrations of PCE as high as 54 parts per million (ppm), TCE at 1.6 ppm, toluene at 36.7 ppm, ethylbenzene at 6 ppm and xylenes at 14 ppm. An IRM was implemented by the Volunteer for this contaminated soil. A total of 223 tons of contaminated soil were removed and properly disposed of off-Site. Post-excavation confirmation samples were collected after either a physical barrier to further excavation was encountered (e.g., buried utilities, building foundations), or field screening indicated limits of the contamination had been reached. A total of 58 post-excavation confirmation samples were collected in 1997, as part of the IRM. The post-excavation data is presented in Table 3.

Subsurface soil contamination identified during the RI of the Sites was addressed during the IRM described in Section 1.4.1. This IRM for soil excavation was limited to areas accessible at that time. No excavations have since been completed beneath the Shopping Center. Data from three soil borings (samples taken at approximately 0-4 and 4-8 feet from beneath the former dry cleaners) yielded no contaminant concentrations above SCGs.

Soil samples were monitored for any soil vapors being during the installation of the off-Site groundwater monitoring wells by the NYSDEC. Grab samples were assessed for visual or olfactory contamination. None of the soil samples appeared to be contaminated with solvents or petroleum that would require laboratory analysis based on field screening and visual observation, thus the off-Site RI focused on groundwater and soil vapor.

1.3.3 Soil Vapor Intrusion

The potential for soil vapor intrusion resulting from the presence of soil or groundwater contamination was evaluated by sampling soil vapor, sub-slab soil vapor under structures, and indoor air inside structures. A full suite of samples were collected at the Site to evaluate whether soil vapor intrusion into buildings was occurring

Soil vapor samples were collected at two soil vapor points, SV-1 and SV-2, located on the northern, downgradient boundary of the Site. Each of these soil vapor points was sampled during six sampling events, starting after the last HRC injection (2006). These points were also sampled as part of the 2009 off site investigation conducted by the NYSDEC. Concentrations in the past for PCE and TCE, have been as high as 4,000 micrograms per cubic meter (ug/m^3) and 476 ug/m^3, respectively. Based on the concentrations detected, the soil vapor contamination identified during the RI has decreased considerably, indicating that the contaminant source was addressed during the IRM. Nonetheless, sub-slab vapor mitigation systems were installed at multiple tenant locations within the shopping center, as described in Section 2.2.1.1, as a precautionary measure to address the potential for soil vapor intrusion. The NYSDEC indicated that soil vapor points SV-1 and SV-2 may be decommissioned and removed from the annual sampling regime in a letter dated April 27, 2010.

The 2009 off-Site sampling program conducted by the NYSDEC included 10 sub-slab points, 10 indoor air samples and 1 outside ambient air sample. The results are summarized on Table 4. Based on the concentration detected, and in comparison with the NYSDOH Soil Vapor Intrusion Guidance, no off-Site structures warrant continued monitoring or mitigation.

1.4 Summary of Remedial Actions

The implemented remedies for the Revonak dry cleaner site include soil and ground water removal actions, injections of hydrogen releasing compounds (HRC), phytoremediation, and the installation and operation of two sub-slab depressurization (SSD) systems. Ground water monitoring has been,

and will continue to be, performed to assess the effectiveness of the implemented remedies. These completed remedial actions and ongoing activities were incorporated in the NYSDEC's March 2010 ROD, which stipulated a "No Further Action" with continued operation of engineering controls, ground water monitoring, a contingency plan, and institutional controls.

1.4.1 Soil and Ground Water Removal

In 1997 and 1998, 223 tons of PCE-contaminated soil and 10,000 gallons of contaminated ground water were removed from the area behind the dry cleaners. The excavation area is shown on Figure 3. The results are summarized in this SMP in Section 1.3.2.

1.4.2 Hydrogen Releasing Compound Injection

Hydrogen Releasing Compounds (HRC) injection was performed in November 2003 and substantially reduced the ground water contaminant concentrations. NYSDEC approved a plan for expanded site remediation using HRCs in January 2006 and the plan was implemented in September 2006. The HRC injection areas are shown on Figure 3.

1.4.3 Phytoremediation

Phytoremediation was implemented by planting multiple rows of hybrid poplar trees to form a barrier at the downgradient (northern) portion of the site. Sixty trees were planted in the spring of 2007 in the vacant, unpaved land between the plaza buildings and the northern site property boundary. Figure 6 is a map showing the area where the trees were planted. Phytoremediation was implemented at the downgradient portion of the property to intercept and remediate VOCs in ground water. Removal of ground water from the subsurface by the tree roots reduces the volume of water and should retard ground water migration.

1.4.4 Sub-Slab Depressurization Systems

A sub-slab depressurization (SSD) system was installed in June 2005 as required by the NYSDEC and NYSDOH. The system installed under the older portion of the plaza, not including the cinema, consists of eight separate trunk lines attached to individual fans. The separate systems were necessary because of foundation footings that prevent a continuous pressure field from being created from a single system. The separate systems have the advantage that all other systems continue to operate in the event of a malfunction or maintenance for any one system.

The purpose of SSD system is to eliminate the potential for soil vapor intrusion into site buildings. The SSD system was designed by Alpine Environmental Services, Inc (AES) and installed after receiving comments on the system design from the NYSDOH. A Sub-slab Depressurization System Installation Report was submitted to the NYSDEC and NYSDOH in August 2005. The report documents the conditions encountered beneath the foundation slab, and contains as-built drawings, results of diagnostic testing, post-installation testing, and the data collected to confirm the pressure field extension beneath the foundation slab. The soil vapor samples collected immediately before and after the start of the SSD system exhibited a dramatic decrease in PCE concentrations during the first few hours of operation, from 14,000 to 51 ppbv.

A second SSD system was installed beneath the new grocery store (currently Stop & Shop) during its construction in the spring and summer of 2006. The SSD system beneath the grocery store was designed and installed by Langan Engineering, the store's engineering consultant, and was approved by the NYSDEC/NYSDOH.

1.4.5 Ground Water Monitoring

The ground water monitoring well network consists of wells MW-1, MW-2, MW-3, MW-4, MW-6, MW-7, MW-9, MW-10, MW-11 MW-12, BR-1, BR-2, and BR-4. Table 4 provides a summary of pertinent monitoring well details. Annual ground water sampling was performed by Alpha

Geoscience on March 7, 2008 from wells MW-2, MW-6, MW-9, MW-10, MW-11, MW-12, and soil vapor samples were collected from SV-1 and SV-2, in accordance with the ground water monitoring portion of the NYSDEC-approved Expanded HRC Injection Plan. Soil vapor and ground water samples also were collected by NYSDEC's contractor in June 2009 as part of an offsite remedial investigation.

The ground water sampling and analytical data collected to date have defined the area of impact and documented improvements in the ground water quality. The highest concentrations of VOCs were historically detected in well MW-2. VOC concentrations in this well have been reduced from 31,750 parts per billion (ppb) in 1996 to 5.3 ppb in the sample collected in June 2009. Concentrations of VOCs in other site wells also have decreased significantly as a result of implemented remedial measures and are expected to continue to decrease.

1.4.6 Summary of Remedial Measure Results

The ground water analytical results indicate that the HRC have successfully established reducing conditions in the subsurface that are necessary for dechlorination. A decrease in the concentration of total VOCs is evident in many of the wells as a direct result of the HRC remediation. Decreases in VOCs were observed in the ground water samples collected by the NYSDEC contractor in June 2009. Increases in total VOCs or degradation compounds are apparent in a few wells and is evidence of the continuing dechlorination process. The HRC are expected to maintain the reducing conditions for a period of several years after injection thereby allowing the attenuation processes of diffusion, dechlorination, and dispersion to continue to positively affect the ground water quality. Improvements in the ground water quality are expected due to remedial actions and continued natural attenuation. Phytoremediation has been implemented to remove residual VOCs at the downgradient property boundary. The sub-slab depressurization system prevents potential intrusion of the vapors into the buildings and vents to the atmosphere in an acceptable manner that avoids human exposure. These remedies have achieved the remedial objective of minimizing or eliminating exposure pathways and/or significant risks to the public (if any) or the environment under the

conditions of the contemplated use of the site (i.e. Restricted Commercial; shopping center).

An engineering analysis of the selected remedies (report dated April 2008) indicated that the soil removal action, injection of HRCs, phytoremediation, operation of the sub-slab depressurization system, and ground water monitoring have, and will continue to meet the remedial action objective of protecting the public health and the environment for the conditions of the contemplated restricted commercial use of the site as a shopping center.

2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN

Engineering Controls and Institutional Controls (EC/ICs) are required as a precaution to protect human health and the environment because residual contamination exists beneath the site. This Engineering and Institutional Control Plan describes the procedures for the implementation and management of all EC/ICs at the site. The EC/IC Plan is one component of the SMP and is subject to revision by NYSDEC.

2.1 Purpose

This plan provides:

- A description of all EC/ICs on the site;
- The basic implementation and intended role of each EC/IC;
- A description of the key components of the ICs set forth in the March 2010 Record of Decision (ROD);
- A description of the features to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of EC/ICs, such as the implementation of the Excavation Work Plan 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 EC/ICs required by the site remedy, as determined by the NYSDEC.

2.2 Engineering Controls

2.2.1 Engineering Control Systems

2.2.1.1 Sub-Slab Depressurization (SSD) System(s)

Procedures for operating and maintaining the nine sub-slab depressurization (SSD) systems in New Paltz Plaza are documented in the Appendix B of this SMP. Procedures for monitoring these systems are also included in the Appendix B of this SMP. The SSD system monitoring addresses severe condition inspections in the event that a severe condition occurs that may affect controls at the site.

2.2.1.2 Criteria for Completion of Remediation/Termination of Remedial Systems

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

The active SSD systems will not be discontinued unless prior written approval is granted by the NYSDEC. In the event that monitoring data indicate that the SSD system(s) is no longer required, a proposal to discontinue the SSD system will be submitted by the property owner to the NYSDEC and NYSDOH. If Stop & Shop vacates the occupied grocery building, the owner shall take responsibility for the operation and maintenance of the SSD system(s) in that structure.

2.3 Institutional Controls

A series of Institutional Controls is required by the March 2010 ROD to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the site to commercial use only. Adherence to these Institutional Controls on the site is required by the March 2010 ROD and will be implemented under this Site Management Plan. These Institutional Controls are:

- Compliance with the March 2010 ROD and this SMP by the Grantor and the Grantor's successors and assignees;
- All Engineering Controls must be operated and maintained as specified in this SMP;
- All Engineering Controls on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP.
- Ground water monitoring must be performed as defined in this SMP unless altered, suspended or terminated by agreement with the NYSDEC;
- Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in this SMP;

The site has a series of Institutional Controls in the form of site restrictions. Adherence to these Institutional Controls is required by the March 2010 ROD. Site restrictions that apply to the Controlled Property are:

- Imposition of an institutional control in the form of a deed restriction on the VCP site (Figure 2), including the former Revonak Dry Cleaners Site and excluding the diner and its parking area.
- The Site (as described in Appendix A) will be used for "commercial use" or "industrial use", as defined in NYCRR Part 375 1.8 (g) (2). The Site may not be used

for a higher level of use, such as "unrestricted use", "residential use", or "unrestricted residential use" without additional remediation and amendment of the March 2010 ROD, as approved by the NYSDEC;

- All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDEC, NYSDOH or Ulster County Department of Health.
- The potential for vapor intrusion must be evaluated for any buildings developed in the New Paltz Plaza shopping center, and any potential impacts that are identified must be monitored or mitigated;
- Vegetable gardens and farming on the property are prohibited; and
- The Volunteer, future site owners, or the owner's representative will submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.

3.0 ONGOING SITE INSPECTION AND MONITORING

The objective of the ongoing site monitoring is to document the environmental conditions following the remedial measures that were completed and described in the April 2008 Final Engineering Report. Site monitoring will be performed annually to confirm the operation of the SSD system, document ground water quality, and evaluate the status of the phytoremediation area. The monitoring data described below will be reported annually to the NYSDEC and NYSDOH.

3.1 Sub-Slab Depressurization System

The SSD system will be inspected annually, consistent with the requirements of the New York State Department of Health's "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" (October 2006). The NYSDEC will be notified if any substantial changes in the SSD system or the building occur that might affect the performance of the system. The SSD system in the Stop & Shop store is inspected separately from the other ("Plaza") systems.

Plaza Systems

No maintenance is required for the vapor extraction points and SSD suction points. The trunk lines, exhaust pipes and fans will be inspected annually to assure integrity and proper functioning. Leaks or cracks identified during inspection will be repaired and documented. System components outside the building also will be inspected to verify proper functioning and to confirm that air intakes have not been located near the vent pipes since the previous inspection.

Each trunk line is fitted with a magnehelic gage (pressure gage) to allow direct reading of the system pressure. The system pressure will be observed and recorded for each trunk line to assure that the system continues to operate effectively. A pressure sensor with a status indicator light alarm is installed near each fan. The alarm is set to sound if the pressure in the system decreases below the set point. The building maintenance staff is responsible for responding to system alarms and

notifying the owner if repairs are needed. The response action for system alarms is to contact the owner and arrange for service. The manufacturer's recommendations for routine operation and maintenance of system components, as applicable, are included in the system installation report (Appendix B).

The SSD systems were inspected on December 30, 2010 by Alpine Environmental Services, the company that installed the systems. The inspection included observation of exposed system piping, caulk seals at the suction points, fan units, alarms, system pressure, and magnehelic gages on the eight separate systems for indications of maintenance or repair. The inspected systems were found to be in good working condition and operating within an acceptable pressure range, with the following exceptions where corrective measures were taken to restore proper operation:

- System #3 (Dry Cleaner) – the system pressure dropped to the "not acceptable" range. The fan was replaced on January 10, 2011 to correct the issue. The pressure range was re-set for the new fan.
- System #4 (Peter Harris) – The system fan failed in December 2010 and a new fan was installed on December 30, 2010. The pressure range was re-set for the new fan.
- System #8 (Former Hair Salon) – The power cord for the alarm was missing and was replaced. The alarm was relocated above the suspended ceiling to avoid unauthorized tampering. The alarm was tested and performed as designed.

A copy of the most recent inspection report is provided in Appendix B.

Stop & Shop System

The February 2, 2010 SSD system update report prepared by Langan Engineering on behalf of Stop & Shop is provided in Appendix B. The report recommends continued operation of the system and continued monitoring to evaluate the status of the system.

Stop & Shop is expected to continue to have Langan Engineering provide inspection, monitoring, and maintenance services for its SSDS. Inspection of the Stop & Shop system and the remainder of the plaza SSD systems will be coordinated to occur within the approximate same timeframe. Langan will prepare a separate inspection report for Stop & Shop that will be summarized in and appended to the certified Periodic Review Report.

3.2 Ground Water Monitoring

Ground water samples were last collected in June 2009 by a NYSDEC contractor as part of the offsite RI investigation. Sampling is scheduled to be performed annually in August in accordance with the schedule in the NYSDEC-approved Expanded HRC Injection Plan. An annual sampling frequency is reasonable and sufficient to monitor ground water quality, based on the extent of historical monitoring data. Section 6.2 of the March 2010 Record of Decision (ROD) issued by the NYSDEC states that the elements of the selected environmental remedy for the site include continued monitoring of ground water. The next ground water sampling event will occur in June 2011.

Samples will be collected annually from wells MW-1, MW-2, MW-3, MW-4, MW-6, MW-7, MW-9, MW-10, MW-11, MW-12, BR-1, BR-2, and BR-4 until such time as the NYSDEC approves discontinued monitoring of individual wells or all wells, based on analytical results. Water levels will be measured in all accessible monitoring wells during each sampling event to evaluate the ground water flow direction.

The wells will be purged in accordance with accepted practices before sampling to ensure that representative samples are collected. Ground water samples will be collected using standard methods and sampling procedures and conditions will be documented. Samples will be delivered under chain of custody to a NYSDOH-certified analytical laboratory for analysis of VOCs by EPA Method 8260.

Groundwater monitoring activities to assess natural attenuation will continue, as determined by NYSDEC, until residual groundwater concentrations are consistently found to be below NYSDEC standards or have become asymptotic at an acceptable level over an extended period. 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 (e.g., additional HRC injection) and/or control measures will be evaluated.

3.3 Phytoremediation

The hybrid poplar trees planted in 2007 in the phytoremediation area require no maintenance once the trees are established. A small percentage of tree mortality occurred during the first few years of tree growth but is not expected to affect the functionality or purpose of the phytoremediation barrier. The stand of poplar trees was inspected annually in the early spring for the three years (2008, 2009, and 2010) after the initial planting to evaluate the density and health of the trees.

3.4 Quality Assurance/Quality Control

Quality assurance/quality control for ground water quality sampling will include collecting a blind field replicate sample ("REP") and analyzing a transport blank ("TB"). The field replicate and transport blank samples will accompany the ground water samples and be submitted to the laboratory for analysis of VOCs by EPA Method 8260.

The blind replicate sample will be a second set of laboratory-supplied glass vials filled with a sample selected from one of the three sampled wells. The blind replicate sample will be labeled "REP" with no sampling time or well identification indicated on the sample label or the chain of custody form. The identity of the replicate sample will be indicated on the ground water sampling form. The purpose of the replicate sample will be to assure that sampling procedures have not introduced a

statistical bias and to check the reproducibility of the laboratory analytical results.

The transport blank will be a glass vial filled with laboratory-certified, analyte-free water. The transport blank will accompany the sampling vials from the laboratory to the site and back to the laboratory. The transport blank will be identified as "TB" on the chain of custody, with no sampling date or time indicated. The transport blank will provide a control sample to monitor environmental conditions during sampling and transport of ground water samples.

3.5 Health and Safety

A site-specific Health and Safety Plan should be prepared for environmental work at the site performed pursuant to OSHA 1910.120. An example of an OSHA "Hazwoper" health and safety plan in provided in Appendix C. Environmental personnel performing ground water monitoring should have completed 40-hour "Hazwoper" training in accordance with their employer's Corporate Health and Safety Manual and policies.

4.0 ANNUAL REPORTING

A Periodic Review Report will be submitted to the NYSDEC annually, beginning eighteen months after the date the satisfactory completion letter is issued. 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 as described in Section 1.0. The report will be prepared in accordance with NYSDEC DER-10 and submitted within 45 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 inspection forms and other records generated for the site during the reporting period in electronic format;
- 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), 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 electronically in a NYSDEC-approved format;
- A site evaluation, which includes the following:
    - The compliance of the remedy with the requirements of the site-specific March 2010 Record of Decision;
    - 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 Plan for the media being monitored;
    - Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and
    - The overall performance and effectiveness of the remedy.
- A performance summary for all SSD systems at the site during the calendar year, including information such as:
    - A description of breakdowns and/or repairs along with an explanation for any significant downtime;

- Results and observation of detailed system inspection;
- Confirmation of the pressure field extension if dictated by a decrease in vacuum pressure;
- A description of the resolution of performance problems; and
- Comments, conclusions, and recommendations based on the inspection.

The Periodic Review Report will be submitted, in hard-copy format, to the NYSDEC Central Office and the NYSDEC Region 3 Office in New Paltz, NY, where the site is located. The report also will be submitted in electronic format to NYSDEC Central Office, Region 3 Office and the NYSDOH Bureau of Environmental Exposure Investigation.

5.0 CORRECTIVE MEASURES 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 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 plan until it is approved by the NYSDEC.

6.0 CERTIFICATION OF ENGINEERING AND INSTITUTIONAL CONTROLS

After the last inspection of the reporting period, a qualified environmental professional (QEP) or Professional Engineer (PE) licensed to practice in New York State will prepare certification that meets the specifications of NYSDEC's DER-10, *Technical Guidance for Site Investigation and Remediation*. The certification will be included in a Periodic Review Report and will read as follows, unless later modified by the NYSDEC.

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 NYSDEC 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 deed restriction;
- 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, [name], of [business address], am certifying as [Owner or Owner's Designated Site Representative] (and if the site consists of multiple properties): [I have been authorized and designated by all site owners to sign this certification] for the site.

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

Every five years the following certification will be added:

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

7.0 TERMINTATION OF MONITORING

The inspection and monitoring activities described herein will be continued until such time as written approval is received from the agencies that one or more of the site monitoring activities may be discontinued. According to DER-10 (NYSDEC, May 3, 2010), paragraph 6.4(a), "[a] remedial process is considered completed when effectiveness monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document."

The active SSD systems will not be discontinued unless prior written approval is granted by the NYSDEC. An evaluation of the VOC concentration in the sub-slab soil gas will be performed in

accordance with the procedures and methods in the NYSDOH "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" (October 2006). Sampling locations should include, but not necessarily be limited to, the locations of previous sub-slab soil gas samples. In the event that monitoring data indicates that the SSD system(s) is no longer required, a proposal to discontinue the SSD system will be submitted by the property owner to the NYSDEC and NYSDOH. If at any time Stop & Shop vacates the occupied grocery building, the owner shall take responsibility for the operation and maintenance of the SSD system(s) in that structure.

The annual report will evaluate the concentration of VOCs in the ground water relative to New York State Ground Water Standards. The owner may petition the NYSDEC to discontinue ground water monitoring based on data that demonstrates that the ground water quality meets the New York State Ground Water Standards or does not constitute a potential threat to human health and the environment.

8.0 EXCAVATON WORK PLAN

The Site has been remediated for its current commercial use. Any future intrusive work that is approximately one foot or more below pavement or concrete slabs or that encounters or disturbs the remaining contamination, especially on the eastern portion of the Site directly behind the former Revonak Dry Cleaners and beneath the L-shaped plaza foundation and utility bedding, will be performed in compliance with an Excavation Work Plan (EWP). A sample EWP is attached as Appendix D to this SMP. An EWP will not be necessary for routine paving or repaving activities that do not penetrate greater than one foot into natural soil. 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 Community Air Monitoring Plan (CAMP) prepared for the New Paltz Plaza shopping center. A sample HASP is attached as Appendix C to this SMP that is in current compliance with DER-10, and 29 CFR 1910, 29 CFR 1926, and all other applicable Federal, State and local regulations. A Community Air Monitoring Plan is provided in Appendix E.

The details of an EWP depend on the location and the specific work to be performed. A specific EWP must be prepared and submitted for NYSDEC approval before excavating proceeds. Based on future changes to State and Federal health and safety requirements, and specific methods employed by future contractors, the HASP and CAMP will be updated and re-submitted with the notification provided in Section 1.0 of the EWP. Any intrusive construction work will be performed in compliance with the EWP, HASP, and CAMP and will be included in the periodic inspection and certification reports submitted under the Periodic Review Report (See Section 4.0 Annual Reporting).

The site owner and associated parties preparing the remedial documents submitted to the State and parties performing this work are responsible for the safe performance of all intrusive work, the structural integrity of excavations, the proper disposal of excavation soil and water, the control of runoff from open excavations into remaining contamination, and the integrity of structures that may be affected by excavations (such as building foundations and bridge footings). The site owner will ensure that site development activities will not interfere with, or otherwise impair or compromise, the engineering controls described in this SMP.

9.0 EMERGENCY TELEPHONE NUMBERS

In the event of any environmentally related situation or unplanned occurrence requiring assistance, the Owner or Owner's representative(s) should contact the appropriate party from the contact list below. For emergencies, appropriate emergency response personnel should be contacted. These emergency contact lists must be maintained and displayed in an easily accessible location at the site.

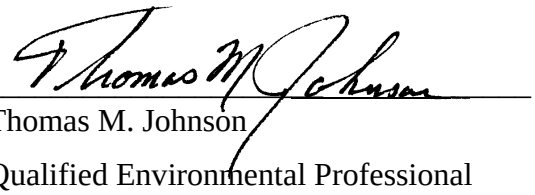
Emergency Contact Numbers

Medical, Fire, and Police:	911
One Call Center:	(800) 272-4480 (3-day notice required for utility markout)
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362
NYSDEC Region 3 Office	(845) 256-3137

* Note: Contact numbers subject to change and should be updated as necessary

10.0 CERTIFICATION

I certify 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 (DER10) and that all activities described herein were performed in accordance with the applicable DER approved work plan(s) and any DER approved modifications.



Thomas M. Johnson
Qualified Environmental Professional

July 6,2011
Date

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APPENDIX B

Sub-Slab Venting System Installation and Inspection Reports

TABLES

TABLE 1

Summary of Monitoring Well Construction Information
Ground Water Monitoring Program
Revonak Dry Cleaners (NYSDEC Site No. 356021)

Well ID	Installation Date	Top of Casing Elev. (ft.)	Well Materials	Boring Depth (ft.)	Monitoring Interval* (ft.)	Depth to Bedrock (ft.)
MW-1	1991	97.90	4-inch PVC	15.0	3.0 - 15.0	> 15.0
MW-2	1991	97.31	4-inch PVC	13.0	2.0 - 13.0	> 13.0
MW-3	1991	97.62	4-inch PVC	15.0	3.0 - 15.0	13.5
MW-4	1991	95.70	4-inch PVC	15.0	3.0 - 15.0	~10
MW-6	1/9/1998	96.90	2-inch PVC	7.7	2.6 - 7.7	> 7.7
MW-7	1/7/1998	94.95	2-inch PVC	10.0	2.5 - 10.0	> 10.0
MW-8 (destroyed)	1/7/1998	92.40	2-inch PVC	11.5	3.8 - 11.5	>11.5
MW-9	1/7/1998	92.04	2-inch PVC	11.9	3.0 - 11.9	>11.9
MW-10	10/26/2001	91.50	2-inch PVC	15.0	3.0 - 15.0	>15.0
MW-11	8/21/2006	92.52	2-inch PVC	16.2	5.2 - 16.2	>16.2
MW-12	8/22/2006	91.54	2-inch PVC	17.3	4.0 - 17.3	>17.3
BR-1	1/8/1998	96.78	4-inch Steel	20.0	10.1 - 20.0	9.0
BR-2	1/8/1998	94.95	4-inch Steel	19.5	9.2 - 19.5	8.0
BR-4	10/25/2001	91.37	2-inch PVC	40.0	28.0 - 40.0	27.0

Notes:
* - Monitoring interval is the sand pack interval or the open bedrock interval, as applicable

TABLE 2
Summary of Ground Water Analytical Results
September 2008 to June 2009

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
VOCs			
Tetrachloroethene	ND – 480	5	14 of 24
Trichloroethene	ND – 42	5	13 of 24
cis-1,2-Dichloroethene	ND – 930	5	17 of 24
Vinyl chloride	ND – 300	2	6 of 24
Acetone	ND - 94	50	1 of 24

a – ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water

b – SCG: Standard Criteria or Guidance – Ambient Water Quality Standardsand Guidance Values (TOGs 1.1.1), 6 NYCRR Part 703, Surface water and Groundwater Quality Standards, and Part 5 of the New York State Sanitary Code (10 NYCRR Part 5).

ND: non-detect

TABLE 3
Summary of Post-Excavation Soil Analytical Results
December 1997

Detected Constituents	Concentration Range Detected (ppm[a])	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Commercial [Protection of GW] SCG[c] (ppm)	Frequency Exceeding Restricted SCG
VOCs					
Tetrachloroethene	ND - .597	1.3	0 of 58	150[1.3]	0 of 58
Trichloroethene	ND - .116	0.47	0 of 58	200[0.47]	0 of 58
Toluene	ND - .085	0.7	0 of 58	500[0.7]	0 of 58
Ethylbenzene	ND - .98	1	0 of 58	390[1.0]	0 of 58
Xylene (mixed)	ND – 1.043	0.26	1 of 58	500[1.6]	0 of 58

a – ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;

b – SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives

c – SCG: Part 375-6.8(b), Restricted Commercial Soil Cleanup Objectives and Protection of Groundwater (GW) in brackets.

ND: non-detect

TABLE 4
Summary of Indoor Air Analytical Results
March 2009

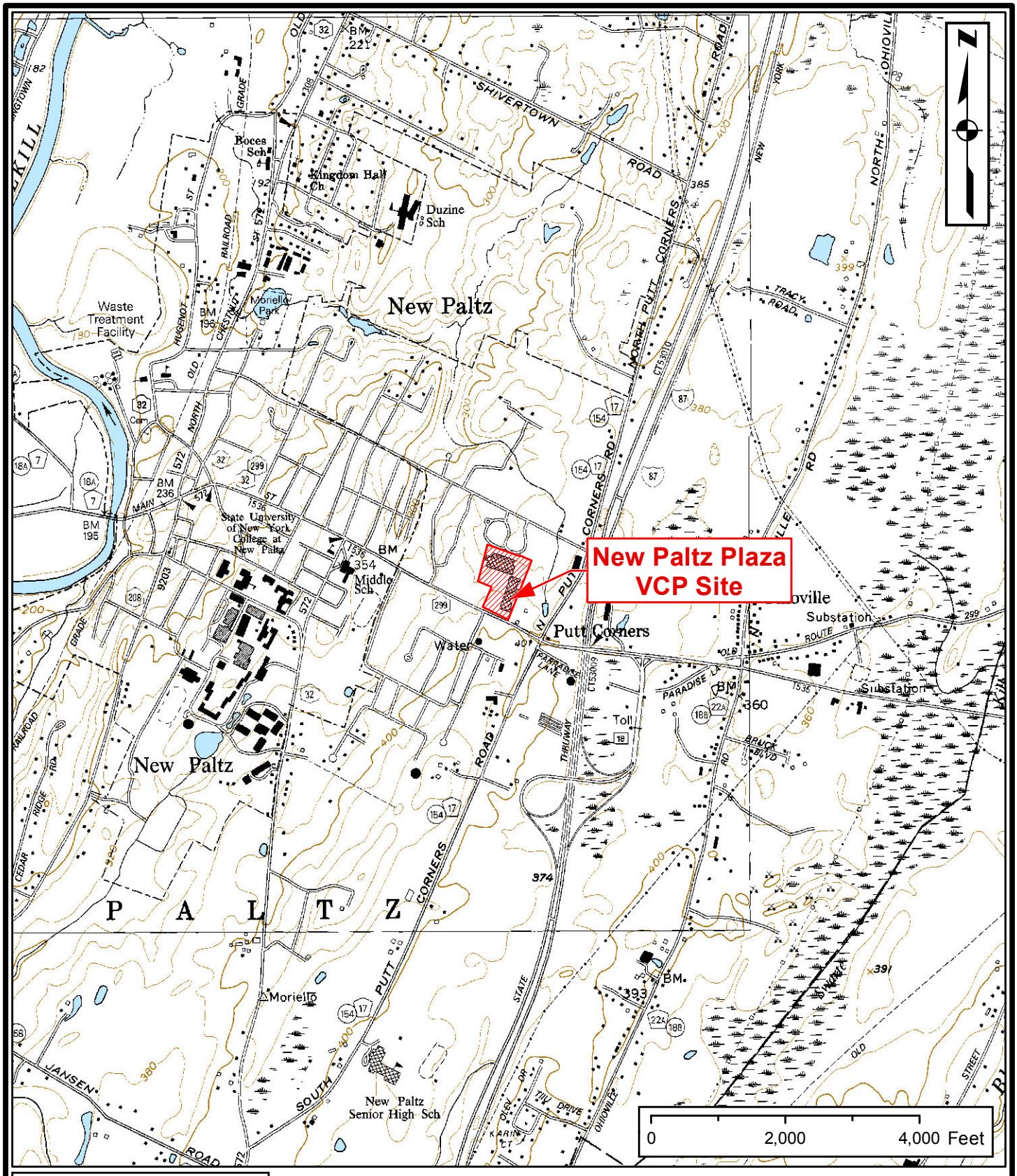
Detected Constituents	Concentration Range Detected (ug/m^3)[a]	SCG (Indoor Air)[b] (ug/m^3)	Frequency Exceeding SCG
VOCs			
Tetrachloroethene	ND - 0.9	100	0 of 10
Trichloroethene	MD – 0.6	5	0 of 10

a – ug/m^3: microgram per cubic meter

b – SCG: Standards, criteria, and guidance values; New York State Department of Health "Guidance for Evaluating Soil Vapor Intrusion in the State of New York," October 2006. The indoor air data for PCE and TCE was provided from Table 3.1 Air guideline values derived by the NYSDOH.

ND: non-detect

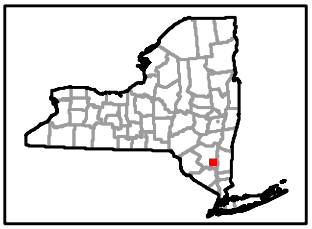
FIGURES



LEGEND

New Paltz Plaza VCP Site (approx.)

Source:
-NYSDOT 7.5-minute topographic map (Clintondale and Rosendale Quadrangles)
-Elevations are shown in feet above mean sea level.
-Contour interval is 20 feet.



ALPHA GEOSCIENCE
Proj. No. 95141

FIGURE 1
Site Location Map

New Paltz Plaza &
Revonak Dry Cleaners
Town of New Paltz
Ulster County, New York

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LEGEND

- New Paltz Plaza VCP Site Boundary (approx.) (NYS VCP Site No. V00087)
- Former Revonak Dry Cleaners (NYS SSF Site No. 356021)
- Building Unit with Sub-Slab Depressurization System (Depressurized zones extend beyond designated buildings)
- Generalized Ground Water Flow Direction

Source:
-Basemap - Ulster County 12-inch resolution natural color orthoimagery (2009), NYS Office of Cyber Security & Critical Infrastructure Coordination.

ALPHA GEOSCIENCE
Proj. No. 95141

FIGURE 2
Site Map

New Paltz Plaza &
Revonak Dry Cleaners
Town of New Paltz
Ulster County, New York

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LEGEND

- MW-1 MONITORING WELL
- BR-1 BEDROCK MONITORING WELL
- MW-6 OVERBURDEN MONITORING WELL
- SV-1 SOIL VAPOR MONITORING WELL
- RETENTION BASIN

Remediation Areas Key

- 2006 HRC Injection Area
- 1998 Soil & Ground Water Removal Area
- 2003 HRC Injection Area

Approximate

Stop & Shop

New Paltz Plaza
Two-Story Block Building

Former Revonak Cleaners

concrete

Cooler

2003 HRC Injection Area

MW-1
MW-2
MW-3
MW-4
MW-6
BR-1
MW-7
BR-2
MW-8 (Destroyed)
MW-9
MW-10
BR-4
MW-11
SV-1
SV-2
MW-12

Edge of Pavement

Property Boundary

0 20' 40' 80'

Scale: 1"=40 ft.

Source: "Survey prepared for New Paltz Plaza Associates" Dated 4/17/86 by John H. Dippel and "Groundwater Contour Map" dated 9/91 by Environmental Products & Services, Inc.

ALPHA GEOSCIENCE

FIGURE 3
Monitoring Well Locations and Remediation Areas

PROJECT 95141 NEW PALTZ, NY

Z:\projects\1995\95141-npplaza\Figures & Drawings\SMPFig 3 Well location Map.cvx

LEGEND

MW-1 MONITORING WELL

BR-1 BEDROCK MONITORING WELL

MW-6 OVERBURDEN MONITORING WELL

SV-1 SOIL VAPOR MONITORING WELL

RETENTION BASIN

85 OVERBURDEN GROUND WATER CONTOUR

Approximate

Stop & Shop

New Paltz Plaza
Two-Story Block Building

Former
Revonak
Cleaners

concrete

Cooler

MW-6
93.79

BR-1

MW-2
94.54

MW-3
95.17

MW-4
94.33

BR-2

MW-7
93.91

MW-1
96.78

MW-11
83.25

SV-1

MW-10
84.42

BR-4

SV-2

MW-12
84.16

MW-9
90.02

MW-8
(Destroyed)

Edge of Pavement

96 95 94 93 92 91 90 89 88 87 86 85 84

Property Boundary

0 20' 40' 80'

Scale: 1"=40 ft.

Source: "Survey prepared for New Paltz Plaza Associates" Dated 4/17/86 by John H. Dippel and "Groundwater Contour Map" dated 9/91 by Environmental Products & Services, Inc.

ALPHA GEOSCIENCE

FIGURE 4
OVERBURDEN GROUND WATER CONTOUR MAP
MARCH 7, 2008

PROJECT 95141 NEW PALTZ, NY

95141\Figures\GW Contours\03-07-08 Over.cvx

LEGEND

MW-1 MONITORING WELL

BR-1 BEDROCK MONITORING WELL

MW-6 OVERBURDEN MONITORING WELL

SV-1 SOIL VAPOR MONITORING WELL

RETENTION BASIN

—85— BEDROCK GROUND WATER CONTOUR

Approximate

Stop & Shop

New Paltz Plaza
Two-Story Block Building

Former
Revonak
Cleaners

concrete

Cooler

MW-1
MW-2
MW-3
MW-4
MW-6
BR-1
94.85
MW-7
BR-2
94.25
MW-8
MW-9
MW-10
BR-4
80.47
MW-11
MW-12
SV-1
SV-2

81
82
83
84
85
86
87
88
89
90
91
92
93
94

Edge of Pavement

Property Boundary

0 20' 40' 80'

Scale: 1"=40 ft.

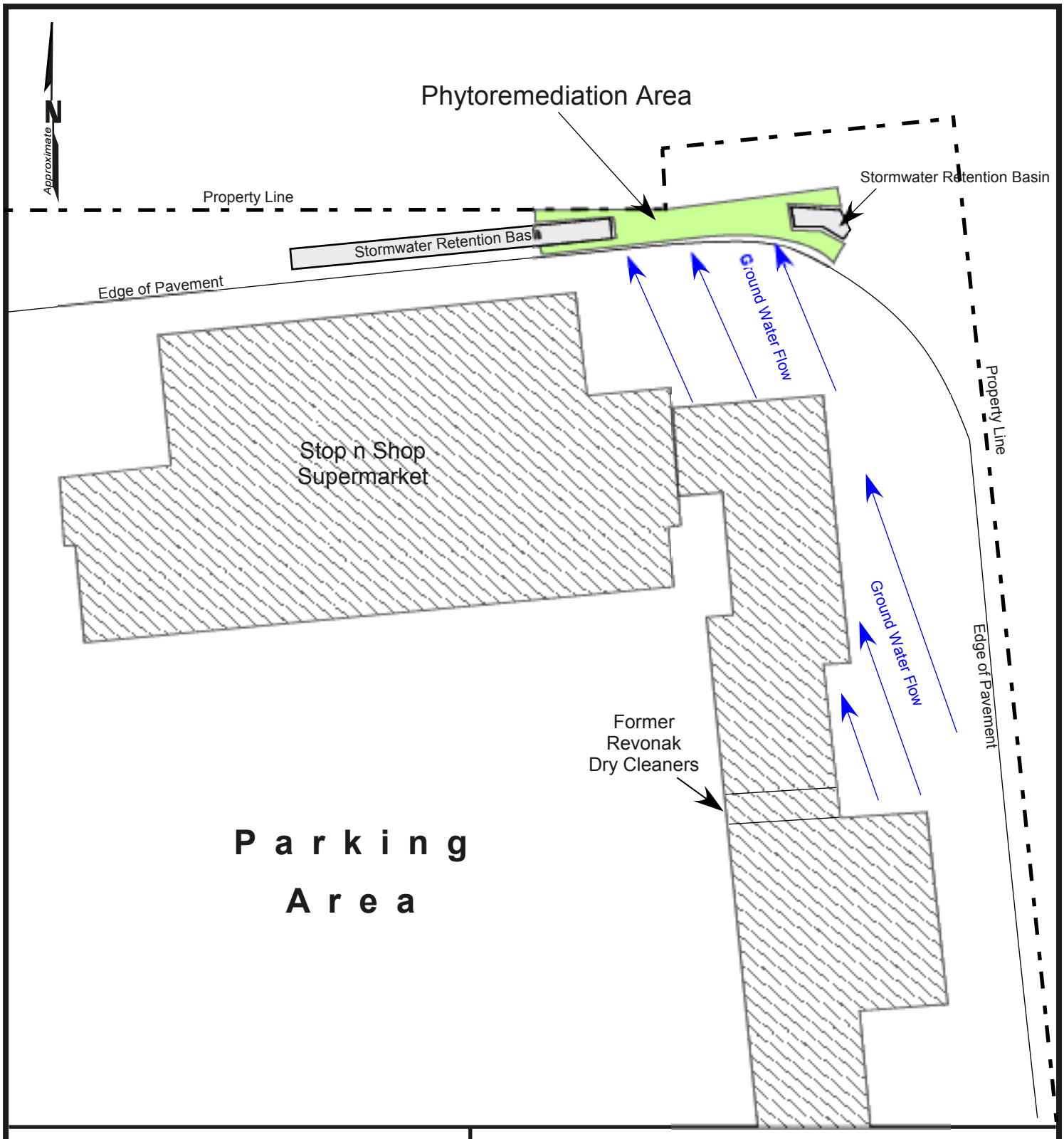
Source: "Survey prepared for New Paltz Plaza Associates" Dated 4/17/86 by John H. Dippel and "Groundwater Contour Map" dated 9/91 by Environmental Products & Services, Inc.

ALPHA GEOSCIENCE

FIGURE 5
BEDROCK GROUND WATER CONTOUR MAP
MARCH 7, 2008

PROJECT 95141 NEW PALTZ, NY

95141/Figures/GW Contours/03-07-08 Bdrk.cvx



0 50' 100' 200'

Scale: 1" = 100 ft.

ALPHA GEOSCIENCE

FIGURE 6
Map of Phytoremediation Area

Revonak Dry Cleaners

Proj. No. 95141

New Paltz, NY

95141/Figures/Fig. 8 Phytorem. Area

APPENDIX A

New Paltz Plaza VCP Site Metes and Bounds Description

New Paltz Plaza VCP Site Metes and Bounds Description

BEGINNING at a point on the northerly side of Route 299 (Main Street) at the southeasterly corner of Franchise Realty Interstate Corporation as recorded in Liber 1396 of Deeds at page 64 and the southwesterly corner of the herein described parcel, thence along the easterly line of Franchise Realty Interstate Corporation in part and along the lands now or formerly of Colucci as recorded in Liber 1618 of Deeds at page 124 in part and along the lands now or formerly of New Paltz Housing Associates as recorded in Liber 1449 of Deeds at page 656 in part;

(1) North 08 36 40 East 980.46 feet to a point, thence along the lands now or formerly of Meadowbrook II Associates as recorded in Liber 1498 of Deeds at page 580 the next three (3) courses and distances:

(2) South 63 26 00 East 580.93 feet to a point, thence;

(3) North 20 54 40 East 44.20 feet to an iron rod previously found, thence;

(4) South 69 05 20 East 210.00 feet to an iron rod found, thence along the lands now or formerly of Lent as recorded in Liber 2203 of Deeds at page 271;

(5) South 20 54 35 West 1,001.40 feet to the aforesaid northerly side of Route 299 (Main Street), thence along the northerly side of Route 299 the next two (2) courses and distances;

(6) North 63 27 20 West 308.77 feet to a point, thence;

(7) North 63 35 20 West 273.24 feet to the point of beginning.

CONTAINING AN AREA OF 14.9658 acres, more or less. Bearing conform to Grid North as established by J.H. Dippel., L.L.S.

SUBJECT to Easement II recorded in Liber 1450 of Deeds at page 1113, bounded described as follows:

BEGINNING at a point, said point being North 69 05 20 West 210.00 feet and South 20 54 40 West 44.20 feet from the

southeasterly corner of Lands formerly of New Paltz Housing Associates, now or formerly of lands of Meadowbrook II Associates, as recorded in Liber 1498 of Deeds at page 580 and running thence through the above described 14.9658 acre parcel:

(1) South 20 54 40 West 80.53 feet to a point, thence;

(2) North 69 05 20 West 20.00 feet to a point, thence;
(3) North 20 54 40 East 82.52 feet to the southerly line of the aforesaid lands of Meadowbrook II Associates, thence along the southerly line of Meadowbrook II Associates;

(4) South 63 26 00 East 20.10 feet to the point of beginning.

AFFECTING an area of 1,630 square feet or 0.0374 acres, more or less.

SUBJECT to Easement III recorded in Liber 1450 of Deeds at page 1113 bounded and described as follows:

BEGINNING at the northwesterly corner of the above described 14.9658 acre parcel, thence along the southerly line of the lands now or formerly of Meadowbrook II Associates as recorded in Liber 1498 of Deeds at page 580;

(1) South 63 26 00 East 254.93 feet to a point, thence through the above described 14.9658 acre parcel the next three (3) courses and distances:

(2) North 82 03 55 West 192.53 feet to a point, thence;

(3) South 08 36 40 West 90.00 feet to a point, thence;

(4) North 81 23 20 West 50.00 feet to a point, thence along the lands now or formerly of New Paltz Housing Associates as recorded in Liber 1449 of Deeds at page 656;

(5) North 08 36 40 East 170.86 feet to the point of beginning.

AFFECTING an area of 0.3297 acres, more or less.

TOGETHER with an Easement VIII recorded in Liber 1450 of Deeds at page 1123, bounded and described as follows:

BEGINNING at an iron rod found on the southerly line of the lands now or formerly of Meadowbrook II Associates as recorded in Liber 1498 of Deeds at page 580, said iron rod being distant North 69 05 20 West 210.00 feet from an iron rod found on the westerly line of the lands now or formerly of Lent as recorded in Liber 703 of Deeds at page 255 and running thence through lands of Meadowbrook II Associates the next three (3) courses and distances:

(1) North 20 54 40 East 210.00 feet to a point, thence;

(2) South 69 05 20 East 30.00 feet to a point, thence;

(3) South 20 54 40 West 210.00 feet to a point, thence along the northerly line of the above described 14.9658 acre parcel:

(4) North 69 05 20 West 30.00 feet to the point of beginning.

AFFECTING an area of 0.1446 acres.

TOGETHER with Sewer Line easement described in Liber 1450 of Deeds at page 1139 and drainage easement described in Liber 1213 of Deeds at page 1131.

SUBJECT to Utility easement and right of way as recorded in Liber 1214 of Deeds at page 855.

SUBJECT to an easement for the installation, maintenance, and operation of underground gas facilities as recorded in Liber 2552 of Deeds at page 258.

SURVEY as per deed, monumentation found and physical evidence. Refer to Liber 2545 of Deeds page 60. Subject to whatever facts a complete search of title may show. Subject to any easements granted for public utilities. Subject to rights of the public in and to any public highways shown hereon. Note that underground cables, pipes and/or drains were not located by field survey, nor shown hereon.

APPENDIX B

Sub-Slab Venting System Installation and Inspection Reports

Plaza Sub-Slab Venting Inspection and Layout

Alpine Environmental Services, Inc.

January 19, 2011

Operations and Maintenance
Sub-Slab Vapor Mitigation System
New Paltz Plaza, Route 299, New Paltz, New York

Alpine Environmental Services, Inc (ALPINE), performed an inspection of the Sub Slab Vapor Mitigation system installed in 2005 at the above-mentioned site. The inspection was performed on December 30, 2010 and consisted of the following:

- Inspect the exposed system piping for any breach or damage.

- Inspect the caulk seal at each of the suction points (a breach in the seal should produce an air leak noise). If breech is observed, caulk with polyurethane caulk.

- Disconnect power from the fan unit and verify the system alarm sounds when the static system pressure falls below the alarm set point.

- Observe the static system pressure in each system on the magnehelic manometer. Record the system pressure in the chart provided. Compare the static system pressure to the acceptable static pressure range. Verify static pressure is within the acceptable range.

Results of the inspection were as follows:

- System #1, Liquor Store (Former Baxter Pharmacy): System seals were inspected. System pressure in the “acceptable” range. The alarm was tested and performed as designed.

- System #2, Laundromat: System seals were inspected. System seals were inspected. System pressure in the “acceptable” range. The alarm was tested and performed as designed.

- System #3, Dry Cleaner: System seals were inspected. System pressure dropped by 88% into the “not acceptable” range. Fan replaced on January 10, 2011. Following fan replacement, system seals were inspected and the

alarm was tested and performed as designed. The “acceptable” pressure range was re-set to the newly installed fan.

- System #4, Peter Harris: System fan failed in December 2010. A new fan was installed on December 30, 2010. Following the new fan installation, system seals were inspected and the alarm was tested and performed as designed. The “acceptable” pressure range was re-set to the newly installed fan.

- System #5, PDQ Print: System seals were inspected. The alarm was tested and performed as designed. System pressure was in the “acceptable” range.

- System #6, Jewelry Store: System seals were inspected. The alarm was tested and performed as designed. System pressure was in the “acceptable” range.

- System #7, Bagel Shop: System seals were inspected. The alarm was tested and performed as designed. System pressure was in the “acceptable” range.

- System #8, Dollar Store (Former Hair Salon): System seals were inspected. The alarm was missing the power cord. The power cord was replaced and the alarm was moved above the suspended ceiling to minimize tampering. The alarm was tested and performed as designed. System pressure was in the “acceptable” range.

Sincerely,
ALPINE ENVIRONMENTAL SERVICES, INC.

Mark W. Schnitzer, PE
Environmental Engineer

Enc. Chart of system pressure readings and inspection observations

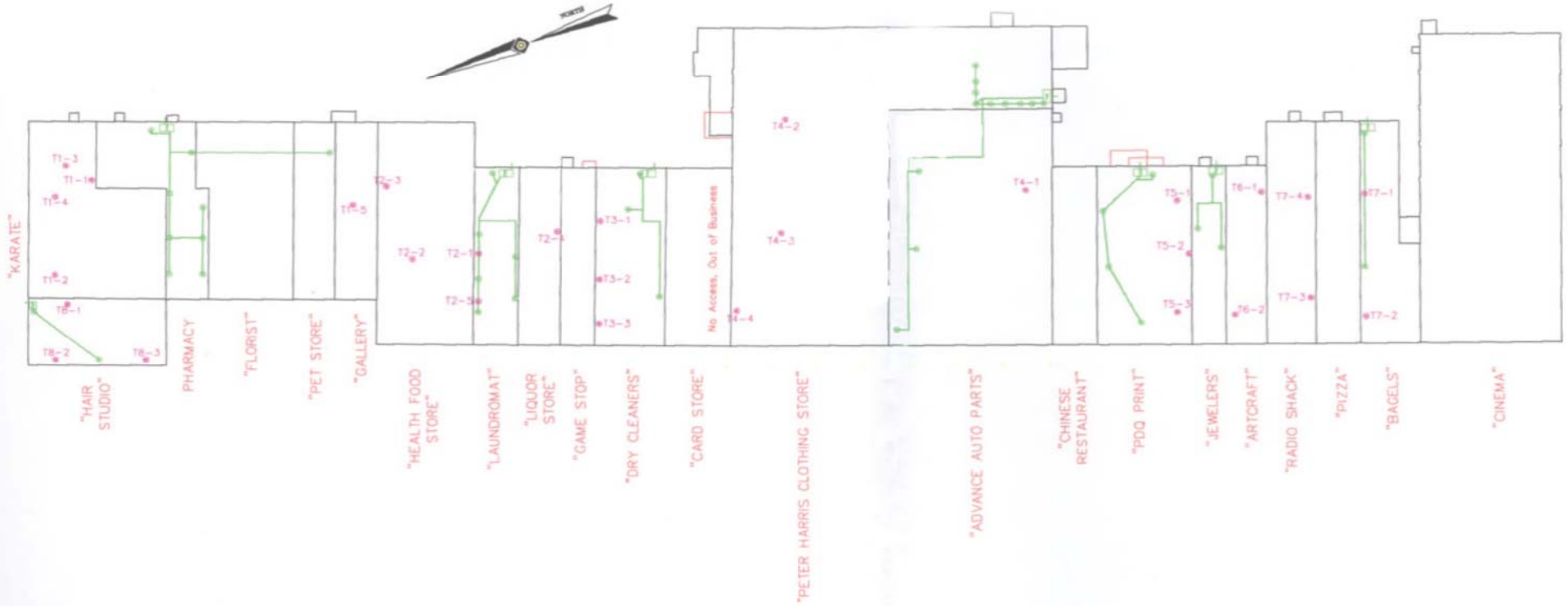
New Paltz - Kempner Corporation
Stop & Shop Plaza

System	Fan	Store	Pressure 2005	2008 Inspection 03/17/2008 Pressure	Alarm		2009 Inspection 10/21/2009 Pressure	Alarm		2010 Inspection 12/30/2010 Pressure	Alarm	
System 1	HS5000	Liquor Store (former pharmacy)	18	20	working		22	working		22	working	
System 2	HS5000	Laundromat	5	N/A	working	a	N/A	working	a	5	working	
System 3	HS5000	Dry Cleaner	34	24	working	d	27	working		22	working	a
System 4	HS5000	Peter Harris	29	20	working		45	working	d	45	working	b
System 5	HS5000	PDQ Print	33	39	working		37	working		27	working	
System 6	HS5000	Jewelry Store	30	N/A	N/A	b	30	working		30	working	
System 7	HS5000	Bagel Shop	40	40	working		40	working	b	40	working	
System 8	GP501	Dollar Store (former hair salon)	0.5	0.6	working	c	0.6	working		0.6	working	c

2008
a.) office locked no access to pressure gauge
b.) closed
c.) alarm was unplugged
d.) fan replaced 05/19/2008, pressure was 19"wc.

2009
a.) office locked no access to pressure gauge
b.) low pressure 10"wc, fan replaced on 11/24/2009
d.) fan replaced 01/19/2009, fan failed . New pressure 45"wc.

2010
a.) low pressure 4"wc, new fan installed 01/10/2011
b.) new fan installed 12/30/2010, fan failed
c.) alarm power cord missing, replaced cord, moved alarm above ceiling tile to avoid tampering.



Alpine Environmental Services, Inc.
1146 Central Avenue
Albany, New York 12205
PH: (518) 453-0146; FX: (518) 453-0175
Email: aesinc@nycap.rr.com

KEY:
- Test Point
- Suction Point
- Fan
- Horizontal Pipe Run

Stop N Shop Sub-Slab Inspection and Layout

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

2 February 2010

Matthew S. Hubicki
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 11th Floor
New York, NY 12233-7014

RE: Sub-Slab Ventilation System Update
Stop & Shop at New Paltz Plaza Site (ID#V000873)
271 Main Street (State Route 299)
New Paltz, New York 12561
Langan Project No. 007618220

Dear Mr. Hubicki:

This letter provides an update regarding the ongoing operation of the sub-slab ventilation (SSV) system installed at the Stop & Shop in New Paltz, New York. The SSV system has been operating since December 2006, and confirmatory air sampling of the SSV blower exhaust has been conducted semi-annually, beginning in January 2007. Results of the 2009 confirmatory air sampling events are discussed below.

On 27 April 2009, six Summa canister air samples were collected during SSV operation consisting of: ambient air, blower exhaust, two vacuum monitoring ports (Ports 3 and 6), Port 3 duplicate, and a trip blank. On 10 September 2009, six Summa canister air samples were collected during SSV operation, consisting of: ambient air, blower exhaust, two vacuum monitoring ports (Ports 3 and 6), Port 6 duplicate, and a trip blank. Analytical results from the April and September 2009 air sampling are included in Table 1. The table presents only the data for tetrachloroethylene (PCE) and its breakdown products as these are the site-specific contaminants of concern. The analytical results are compared to background concentrations of VOCs in air from a NYSDOH air quality study referenced in the "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" (NYSDOH 2006).

Photo-ionization detector (PID) readings were collected during the monthly SVV system checks for each of the sampling ports located in the front of the Stop & Shop Supermarket as well as each of the blower exhaust manifold ports in the rear of the building. These readings are summarized in Table 2. PID readings exceeding 4,381 ppm have been observed at the front monitoring ports, indicating that elevated levels of volatile organic contaminants are present in the subsurface. In contrast, PID readings collected from the SSV system exhaust were consistently at background or below. The results indicate that the SSV system is drawing in a significant amount of make-up air and lowering contaminant concentrations sub-slab. A significant amount of variability can be seen in this data and can be attributed to weather fluctuations (i.e., rising and falling barometric pressures, rain events, and windy conditions). In

particular, elevated PID readings were observed on 31 August 2009 when rising barometric pressures quickly gave way to very windy conditions with a rapidly falling barometric pressure.

The April 2009 air sampling data indicates that only one contaminant of concern (tetrachloroethylene) was detected in samples collected from the blower exhaust and the vacuum monitoring port 6; however no exceedances were noted above the NYSDOH 2006 air background levels.

The September 2009 air sampling data indicates that two contaminants of concern (tetrachloroethylene and trichloroethylene) were detected in samples collected from the blower exhaust and the vacuum monitoring ports 3 and 6. No exceedances above the NYSDOH 2006 air background levels were noted.

The results indicate the presence of PCE and TCE in the exhaust from the SSV system for the first time since its construction and activation in January 2007. Based on this finding coupled with the high PID readings observations, Langan recommends the continued operation of the SSV blower. Langan will continue conducting semi-annual air sampling to evaluate the status of the SSV system and future requirements for continued system operation.

If you have any questions or concerns in connection with the SSV system, please contact us at 201-794-6900.

Sincerely,
Langan Engineering and Environmental Services, Inc.

Marshall E. King, P.E.
Assistant Project Engineer

Steven A. Ciambruschini, P.G., L.E.P.
Senior Associate

MK:kn
Enclosures

cc: Michael J. Ryan, P.E., NYSDEC
Edward Moore, P.E., NYSDEC
Fay S. Navratil, NYSDOH
Rosalie Rusinko, Esq, NYSDEC
Melissa Mintz, Shop & Shop
Paul Zorn, Stop & Shop
Jeff Morgan, Stop & Shop
Janet O'Connor, Sherin and Lodgen, LLP
Ani Ajemian, Sherin & Lodgen, LLLP
Joseph P Salvetti, Norfolk Ram

TABLE 1
Subslab Ventilation System
Air Sampling Analytical Results Summary
Stop and Shop
New Paltz, New York

January 2007 Confirmatory Air Sampling

Sample ID	Air Background Databases		AMBIENT AIR		EXHAUST		EXHAUST DUP		TRIP BLANK	
Langan Sample Number	NYSDOH 1997: Control	NYSDOH 1997: Control	#001		#002		#003		#004	
Lab ID	Home Database for	Home Database for	J50827-1		J50827-2		J50827-3		J50827-4	
Date	Outdoor Air 75th	Indoor Air 75th	1/5/2007		1/5/2007		1/5/2007		1/5/2007	
	Percentile (ug/m³)[1]	Percentile (ug/m³)[1]								
GC/MS Volatiles (TO-15)			ug/m3 Q ppbv Q		ug/m3 Q ppbv Q		ug/m3 Q ppbv Q		ug/m3 Q ppbv Q	
Chloroethane	1	1	<0.53	<0.20	<0.53	<0.20	<0.53	<0.20	<0.53	<0.20
1,1-Dichloroethylene	1	1	<0.79	<0.20	<0.79	<0.20	<0.79	<0.20	<0.79	<0.20
1,2-Dichloroethane	10	10	<0.81	<0.20	<0.81	<0.20	<0.81	<0.20	<0.81	<0.20
trans-1,2-Dichloroethylene	10	10	<0.79	<0.20	<0.79	<0.20	<0.79	<0.20	<0.79	<0.20
cis-1,2-Dichloroethylene	10	10	<0.79	<0.20	<0.79	<0.20	<0.79	<0.20	<0.79	<0.20
Tetrachloroethylene	6.8	10	0.62 J	0.092 J	2.9 J	0.43 J	2.8 J	0.42 J	<1.4	<0.20
Trichloroethylene	5.4	5.4	<1.1	<0.20	0.81 J	0.15 J	0.75 J	0.14 J	<1.1	<0.20
Vinyl chloride	1	1	<0.51	<0.20	<0.51	<0.20	<0.51	<0.20	<0.51	<0.20

July 2007 Confirmatory Air Sampling

Sample ID	Air Background Databases		AMBIENT AIR		EXHAUST		EXHAUST DUP		TRIP BLANK	
Langan Sample Number	NYSDOH 1997: Control	NYSDOH 1997: Control	#005		#006		#007		#008	
Lab ID	Home Database for	Home Database for	J67477-1		J67477-2		J67477-3		J67477-4	
Date	Outdoor Air 75th	Indoor Air 75th	7/27/2007		7/27/2007		7/27/2007		7/27/2007	
	Percentile (ug/m³)[1]	Percentile (ug/m³)[1]								
GC/MS Volatiles (TO-15)			ug/m3 Q ppbv Q		ug/m3 Q ppbv Q		ug/m3 Q ppbv Q		ug/m3 Q ppbv Q	
Chloroethane	1	1	<0.53	<0.20	<4.2	<1.6	<4.2	<1.6	<0.53	<0.20
1,1-Dichloroethylene	1	1	<0.79	<0.20	<6.3	<1.6	<6.3	<1.6	<0.79	<0.20
1,2-Dichloroethane	10	10	<0.81	<0.20	<6.5	<1.6	<6.5	<1.6	<0.81	<0.20
trans-1,2-Dichloroethylene	10	10	<0.79	<0.20	<6.3	<1.6	<6.3	<1.6	<0.79	<0.20
cis-1,2-Dichloroethylene	10	10	<0.79	<0.20	<6.3	<1.6	<6.3	<1.6	<0.79	<0.20
Tetrachloroethylene	6.8	10	<1.4	<0.20	<11	<1.6	<11	<1.6	<1.4	<0.20
Trichloroethylene	5.4	5.4	<1.1	<0.20	<8.6	<1.6	<8.6	<1.6	<1.1	<0.20
Vinyl chloride	1	1	<0.51	<0.20	<4.1	<1.6	<4.1	<1.6	<0.51	<0.20

January 2008 Confirmatory Air Sampling

Sample ID	Air Background Databases		AMBIENT AIR		EXHAUST #1		PORT 6		PORT 3		TRIP BLANK	
Langan Sample Number	NYSDOH 1997: Control	NYSDOH 1997: Control	#009		#010		#011		#012		#013	
Lab ID	Home Database for	Home Database for	J82098-1		J82098-2		J82098-3		J82098-4		J82098-5	
Date	Outdoor Air 75th	Indoor Air 75th	1/24/2008		1/24/2008		1/24/2008		1/24/2008		1/24/2008	
	Percentile (ug/m³)[1]	Percentile (ug/m³)[1]										
GC/MS Volatiles (TO-15)			ug/m3 Q ppbv Q		ug/m3 Q ppbv Q		ug/m3 Q ppbv Q		ug/m3 Q ppbv Q		ug/m3 Q ppbv Q	
Chloroethane	1	1	<0.53	<0.20	<4.2	<1.6	<4.2	<1.6	<4.2	<1.6	<0.53	<0.20
1,1-Dichloroethylene	1	1	<0.79	<0.20	<6.3	<1.6	<6.3	<1.6	<6.3	<1.6	<0.79	<0.20
1,2-Dichloroethane	10	10	<0.81	<0.20	<6.5	<1.6	<6.5	<1.6	<6.5	<1.6	<0.81	<0.20
trans-1,2-Dichloroethylene	10	10	<0.79	<0.20	<6.3	<1.6	<6.3	<1.6	<6.3	<1.6	<0.79	<0.20
cis-1,2-Dichloroethylene	10	10	<0.79	<0.20	<6.3	<1.6	<6.3	<1.6	<6.3	<1.6	<0.79	<0.20
Tetrachloroethylene	6.8	10	<1.4	<0.20	<11	<1.6	<11	<1.6	<11	<1.6	<1.4	<0.20
Trichloroethylene	5.4	5.4	<1.1	<0.20	<8.6	<1.6	<8.6	<1.6	<8.6	<1.6	<1.1	<0.20
Vinyl chloride	1	1	<0.51	<0.20	<4.1	<1.6	<4.1	<1.6	<4.1	<1.6	<0.51	<0.20

July 2008 Confirmatory Air Sampling

Sample ID	Air Background Databases		AMBIENT AIR		EXHAUST		EXHAUST DUP		PORT 6		PORT 3		TRIP BLANK	
Langan Sample Number	NYSDOH 1997: Control	NYSDOH 1997: Control	#0014		#0015		#0016		#0017		#0018		#0019	
Lab ID	Home Database for	Home Database for	J95731-1		J95731-2		J95731-3		J95731-4		J95731-5		J95731-6	
Date	Outdoor Air 75th	Indoor Air 75th	7/15/2008		7/15/2008		7/15/2008		7/15/2008		7/15/2008		7/15/2008	
	Percentile (ug/m³)[1]	Percentile (ug/m³)[1]												
GC/MS Volatiles (TO-15)			ug/m3 Q ppbv Q		ug/m3 Q ppbv Q		ug/m3 Q ppbv Q		ug/m3 Q ppbv Q		ug/m3 Q ppbv Q		ug/m3 Q ppbv Q	
Chloroethane	1	1	<0.53	<0.20	<4.2	<1.6	<4.2	<1.6	<4.2	<1.6	<4.2	<1.6	<0.53	<0.20
1,1-Dichloroethylene	1	1	<0.79	<0.20	<6.3	<1.6	<6.3	<1.6	<6.3	<1.6	<6.3	<1.6	<0.79	<0.20
1,2-Dichloroethane	10	10	<0.81	<0.20	<6.5	<1.6	<6.5	<1.6	<6.5	<1.6	<6.5	<1.6	<0.81	<0.20
trans-1,2-Dichloroethylene	10	10	<0.79	<0.20	<6.3	<1.6	<6.3	<1.6	<6.3	<1.6	<6.3	<1.6	<0.79	<0.20
cis-1,2-Dichloroethylene	10	10	<0.79	<0.20	<6.3	<1.6	<6.3	<1.6	<6.3	<1.6	<6.3	<1.6	<0.79	<0.20
Tetrachloroethylene	6.8	10	<1.4	<0.20	<11	<1.6	<11	<1.6	<11	<1.6	<11	<1.6	<1.4	<0.20
Trichloroethylene	5.4	5.4	<1.1	<0.20	<8.6	<1.6	<8.6	<1.6	<8.6	<1.6	<8.6	<1.6	<1.1	<0.20
Vinyl chloride	1	1	<0.51	<0.20	<4.1	<1.6	<4.1	<1.6	<4.1	<1.6	<4.1	<1.6	<0.51	<0.20

April 2009 Confirmatory Air Sampling

Sample ID	Air Background Databases		AMBIENT AIR		EXHAUST		PORT 6		PORT 3		PORT 3 DUP		TRIP BLANK	
Langan Sample Number	NYSDOH 1997: Control	NYSDOH 1997: Control	#0020		#0021		#0022		#0023		#0024		#0025	
Lab ID	Home Database for	Home Database for	JA17369-1		JA17369-2		JA17369-4		JA17369-3		JA17369-5		JA17369-6	
Data	Outdoor Air 75th	Indoor Air 75th	4/27/2009		4/27/2009		4/27/2009		4/27/2009		4/27/2009		4/27/2009	
	Percentile (ug/m³)[1]	Percentile (ug/m³)[1]												
GC/MS Volatiles (TO-15)			ug/m3 Q ppbv Q		ug/m3 Q ppbv Q		ug/m3 Q ppbv Q		ug/m3 Q ppbv Q		ug/m3 Q ppbv Q		ug/m3 Q ppbv Q	
Chloroethane	1	1	<0.53	<0.20	<2.1	<0.80	<2.1	<0.8	<2.1	<0.8	<2.1	<0.8	<0.53	<0.2
1,1-Dichloroethylene	1	1	<0.79	<0.20	<3.2	<0.80	<3.2	<0.8	<3.2	<0.8	<3.2	<0.8	<0.79	<0.2
1,2-Dichloroethane	10	10	<0.81	<0.20	<3.2	<0.80	<3.2	<0.8	<3.2	<0.8	<3.2	<0.8	<0.81	<0.2
trans-1,2-Dichloroethylene	10	10	<0.79	<0.20	<3.2	<0.80	<3.2	<0.8	<3.2	<0.8	<3.2	<0.8	<0.79	<0.2
cis-1,2-Dichloroethylene	10	10	<0.79	<0.20	<3.2	<0.80	<3.2	<0.8	<3.2	<0.8	<3.2	<0.8	<0.79	<0.2
Tetrachloroethylene	6.8	10	<0.27	<0.04	3.1	0.46	6.2	0.92	<1.1	<0.16	<1.1	<0.16	<0.27	<0.04
Trichloroethylene	5.4	5.4	<0.21	<0.04	<0.86	<0.16	<0.86	<0.16	<0.86	<0.16	<0.86	<0.16	<0.21	<0.04
Vinyl chloride	1	1	<0.51	<0.20	<2	<0.80	<2	<0.8	<2	<0.8	<2	<0.8	<0.51	<0.2

September 2009 Confirmatory Air Sampling

Sample ID	Air Background Databases		AMBIENT AIR		EXHAUST		PORT 6		PORT 6 DUP		PORT 3		TRIP BLANK	
Langan Sample Number	NYSDOH 1997: Control	NYSDOH 1997: Control	#0026		#0027		#0028		#0029		#0030		#0031	
Lab ID	Home Database for	Home Database for	JA27662-1		JA27662-2		JA27662-3		JA27662-5		JA27662-4		JA27662-6	
Date	Outdoor Air 75th	Indoor Air 75th	9/10/2009		9/10/2009		9/10/2009		9/10/2009		9/10/2009		9/10/2009	
	Percentile (ug/m³)[1]	Percentile (ug/m³)[1]												
GC/MS Volatiles (TO-15)			ug/m3 Q ppbv Q		ug/m3 Q ppbv Q		ug/m3 Q ppbv Q		ug/m3 Q ppbv Q		ug/m3 Q ppbv Q		ug/m3 Q ppbv Q	
Chloroethane	1	1	<0.53	<0.20	<2.1	<0.80	<2.1	<0.8	<2.1	<0.8	<2.1	<0.8	<0.53	<0.2
1,1-Dichloroethylene	1	1	<0.79	<0.20	<3.2	<0.80	<3.2	<0.8	<3.2	<0.8	<3.2	<0.8	<0.79	<0.2
1,2-Dichloroethane	10	10	<0.81	<0.20	<3.2	<0.80	<3.2	<0.8	<3.2	<0.8	<3.2	<0.8	<0.81	<0.2
trans-1,2-Dichloroethylene	10	10	<0.79	<0.20	<3.2	<0.80	<3.2	<0.8	<3.2	<0.8	<3.2	<0.8	<0.79	<0.2
cis-1,2-Dichloroethylene	10	10	<0.79	<0.20	<3.2	<0.80	<3.2	<0.8	<3.2	<0.8	<3.2	<0.8	<0.79	<0.2
Tetrachloroethylene	6.8	10	<0.27	<0.040	3.5	0.52	6.5	0.96	6.7	0.99	2.6	0.39	<0.27	<0.04
Trichloroethylene	5.4	5.4	<0.21	<0.040	1.2	0.23	1.2	0.22	1.2	0.22	1.5	0.27	<0.21	<0.04
Vinyl chloride	1	1	<0.51	<0.20	<2	<0.80	<2	<0.8	<2	<0.8	<2	<0.8	<0.51	<0.2

Notes

1. New York State Department of Health. 1997. "Background Indoor/Outdoor Air Levels of Volatile Organic Compounds in Homes Sampled by the New York State Department of Health, 1989 - 1996." Bureau of Toxic Substance Assessment, Troy, NY.

2. The sub slab venting (SSV) system has operated continuously since 18 December 2006. Initial confirmatory air sampling was conducted on 16 January 2007 and additional air sampling is conducted semi-annually.

Abbreviations

Q: Qualifier

U: The compound was not detected at the indicated concentration.

J: Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero. The concentration given is an approximate value.

RL: reporting limit

MDL: method detection limit

ug/m³: micrograms per cubic meter

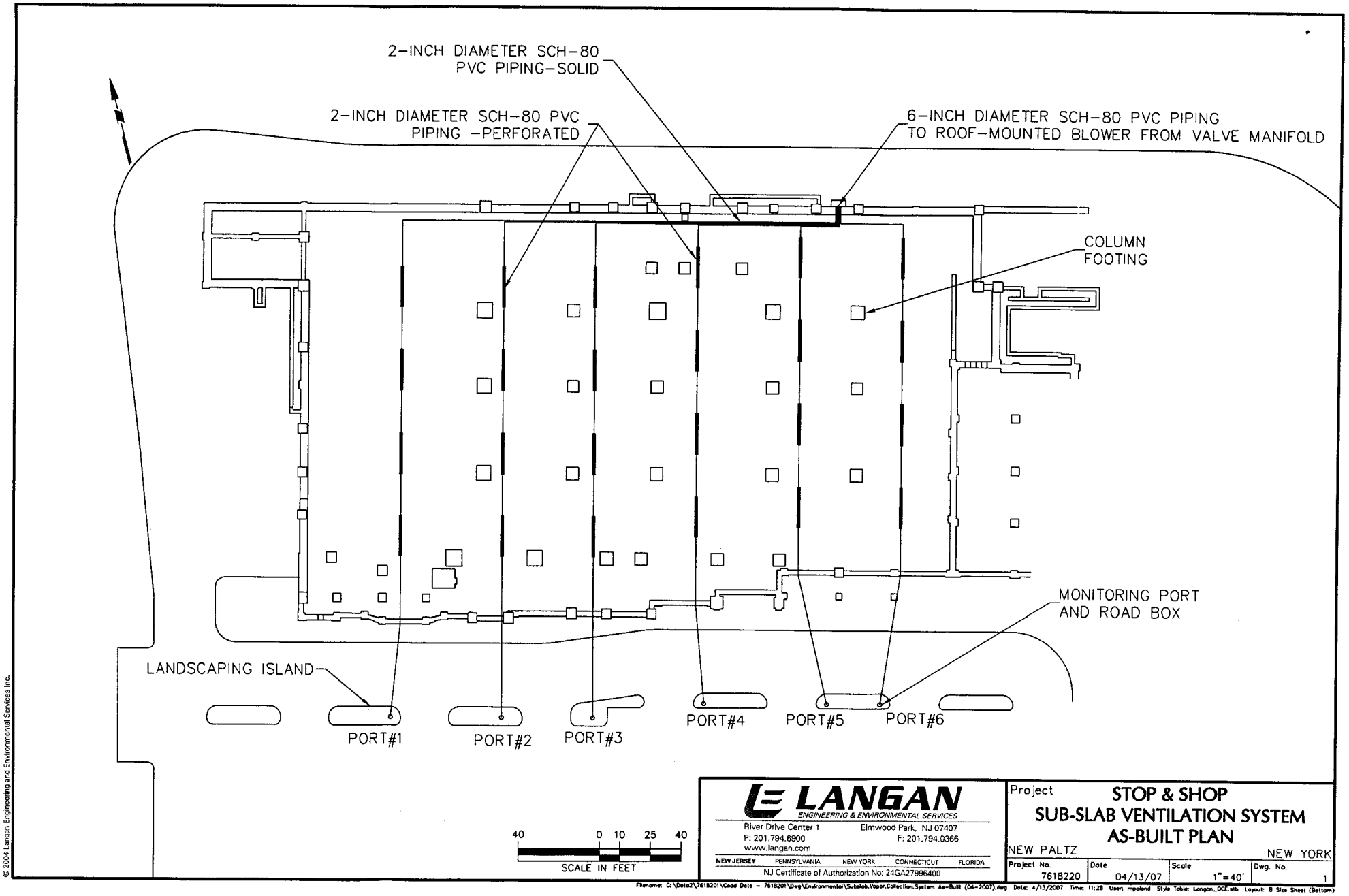
ppbv: parts per billion by volume

TABLE 2
Subslab Ventilation System
PID Readings Summary
Stop and Shop
New Paltz, New York

PID Readings Collected at the Exhaust and Front Monitoring Ports

	PID Reading (ppm)					
Date	**3/17/2009**	**4/27/2009**	**5/13/2009**	**6/12/2009**	**8/31/2009**	**9/10/2009**
Port 1	247	260	253	26	775	21
Port 2	0	17	3	0	98	1
Port 3	202	884	1224	315	4381	24
Port 4	17	18	26	267	237	2
Port 5	412	2252	1119	149	761	1
Port 6	8	22.8	122	0	2117	0
Blower Exhaust	0	0	0	0	0	0

Note
Measurements were made using a Thermo 580B OVM PID analyzer with 11.8 eV lamp



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Project
STOP & SHOP
SUB-SLAB VENTILATION SYSTEM
AS-BUILT PLAN

NEW PALTZ NEW YORK

Project No.	Date	Scale	Dwg. No.
7618220	04/13/07	1"=40'	1

Filename: G:\Data2\7618201\Cadd Data - 7618201\Dwg\Environmental\Subslab.Vapor.Collection.System As-Built (04-2007).dwg Date: 4/13/2007 Time: 11:28 User: mpoland Style Table: Langan_OCE.stb Layout: B Size Sheet (Bottom)

APPENDIX C

Example Health and Safety Plan

(The following Generic Health and Safety Plan is an example of the type of plan that would be prepared to guide work performed at the site pursuant to the requirements of OSHA 1910.120).

GENERIC FIELD HEALTH AND SAFETY PLAN

CLIENT:

SITE NAME:

PROJECT/TASK ID#:

SITE ADDRESS:

DATE:

PLAN EXPIRATION DATE:

HASP APPROVALS:

PROJECT MANAGER	_____	_____	_____
	Name	Signature	Date
IH REVIEW	_____	_____	_____
	Name	Signature	Date
HEALTH AND SAFETY MANAGER	_____	_____	_____
	Name	Signature	Date

SECTION 1.0

GENERAL INFORMATION

1.1 INTRODUCTION

This Health and Safety Plan (HASP) addresses those activities associated with the scope of work stated in the HASP and will be implemented by the Site Safety Officer (SSO) during site work. Compliance with this HASP is required of all persons and third parties who enter this site. Assistance in implementing this plan can be obtained from the Site Safety Officer and Project Manager, and/or the Health and Safety Manager (HSM). The content of the HASP may change or undergo revision based upon additional information made available to health and safety (H&S) personnel, monitoring results or changes in the scope of work. Any changes proposed must be reviewed by H&S staff and are subject to approval by the HSM and Project Manager.

This HASP has been written for the use of Alpha Geoscience and its employees. It may also be used as a guidance document by properly trained and experienced Alpha Geoscience subcontractors. However, Alpha Geoscience does not guarantee the health or safety of any person entering this site, and all subcontractors and third parties are responsible for the health and safety of their own employees.

Due to the potentially hazardous nature of this site and the activity occurring thereon, it is not possible to discover, evaluate, and provide protection for all possible hazards which may be encountered. Strict adherence to the health and safety guidelines set forth herein will reduce, but not eliminate, the potential for injury at this site. The health and safety guidelines in this HASP were prepared specifically for this site and should not be used on any other site without prior research by trained health and safety specialists.

Alpha Geoscience claims no responsibility for the use of this HASP by unauthorized persons. The HASP is written for the specific site conditions, purpose, dates, and personnel specified and must be amended if these conditions change.

1.2 KEY PERSONNEL

TABLE 1-1

PERSONNEL RESPONSIBILITIES AND QUALIFICATIONS

TITLE/NAME	GENERAL DESCRIPTION	SPECIFIC RESPONSIBILITIES	REQUIRED TRAINING AND MEDICAL SURVEILLANCE
Project Manger _____ (NAME) _____	Reports to upper-level management. Has authority to direct response operations. Assumes total control over site activities.	Prepares and organizes the background review of the job at hand, the Work Plan, the Health and Safety Plan, and the field team. Obtains permission for site access and coordinates activities with appropriate officials. Ensures that the work plan is completed and on schedule. Briefs the field teams on their specific assignments. Uses the Site Safety Officer to ensure that safety and health requirements are met. Prepares the final report and support files on the response activities. Serves as the liaison with public officials.	40-hr. Hazardous Waste Training including 8-hr. update (29 CFR 1910.120). 8-hr. Manger/Supervisor Hazardous Waste Training (29 CFR 1910.120). Respirator use training (if on-site work). Initial site specific (if on-site). Daily site specific "Tailgate". Special Medical surveillance participant if (on-site work).
Site Safety Officer/ Alternate Site Safety Officer _____ (NAME) _____	Advises the Field Supervisor on all aspects of health and safety on-site. Recommends stopping work if any operations threaten worker or public health or safety.	Coordinates safety and health program activities. Conducts Tailgate Safety Meetings and completes all documentation forms required by the HASP. Monitors site personnel for signs of stress, such as cold	40-hr. Hazardous Waste Training including 8-hr. update (29 CFR 1910.120). Respirator use training Initial HASP review Daily review of site conditions

		exposure, heat stress and fatigue. Monitors on-site hazards and conditions. Participates in preparation of and implements the HASP. Ensures that protective clothing and equipment are properly stored and maintained. Knows emergency procedures, evacuation routes, and the telephone numbers of the ambulance, local hospital, poison control center, fire and police department. Notifies, when necessary, local public emergency officials. Coordinates emergency medical care.	Special Medical surveillance participant

Field Personnel _____ (NAME) _____	Responsible for field team operations and safety Reports to Project Manager	Manages field operations. Executes the Work Plan and schedule. Enforces safety procedures. Coordinates with the Site Safety Officer in determining protection level. Enforces site control. Documents field activities and sample collection. Serves as liaison with public officials. Complies with Health and	40-hr. Hazardous Waste Training including 8-hr. update (29 CFR 1910.120). Respirator use training. Initial site specific Daily site specific "Tailgate" Special Medical surveillance participant

		Safety Plan. Notifies the Site Safety Officer or Project Manager of unsafe conditions	

1.3 AUTHORIZED ALPHA GEOSCIENCE SITE PERSONNEL

Personnel authorized to enter the subject site while operations are being conducted must be approved by the HSM. Authorization requires confirmation of conformance with OSHA 20 CFR 1910.120 training and medical examination requirements and/or other applicable regulations and review/sign-off of this HASP. All personnel must comply with facility safety requirements, as applicable.

TABLE 1-2

Name	Alpha Geoscience Staff Training Summary						
	40-hr. Haz-woper	8-hr. Haz-woper	8-hr. Super/ Mgr	CPR	First Aid	BBP	Other

1.4 SIGNATURE AND ACKNOWLEDGEMENT
SITE NAME:_____

All Alpha Geoscience personnel, and their subcontractors, working at or visiting the site (beyond the Support Zone) must acknowledge by signing below that the contents of this HASP have been reviewed with them. All personnel acknowledge that they participate in a medical surveillance program and have been trained in accordance with 20 CFR 1910.120 (OSHA's Hazardous Waste Operations and Emergency Response standard). Each person agrees that he/she has read and understands this HASP and agrees to comply with it.

Name	Signature	Date	Company
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

1.5 MEDICAL SURVEILLANCE

Alpha Geoscience personnel, and subcontractors, working at the site will participate in a medical surveillance program which meets the requirements of 29 CFR 1910.120. Alpha's medical surveillance program is outlined in the Corporate Policy Manual, Medical Surveillance Program.

Employees working at hazardous waste sites are provided with annual and termination medical examinations to ensure that they are medically fit to perform work and wear personal protective equipment. The scope of the medical exams includes a physical examination, audiometric testing, pulmonary function testing, visual testing, blood testing and urinalysis. The results of the examinations are confidential. Employees are provided with medical certificates and employees and their supervisors are informed of any restrictions or limitations.

Employees requesting access to their medical records should contact the Health and Safety Manager.

SECTION 2.0

PROJECT INFORMATION

2.1 SITE DESCRIPTION (site features; current site status; site contamination)

See Attachment 1 for Site Map(s) (identify evacuation routes, problem areas, structures, buildings, pits, impoundments).

2.2 BACKGROUND INFORMATION (historical, continued operations, adjacent site contamination)

2.3 PURPOSE OF SITE WORK

2.4 SCOPE OF WORK (By job task in order to execution)

1.

2.

3.

4.

5.

2.5 SCHEDULED DATES OF SITE WORK

SECTION 3.0

HEALTH AND SAFETY RISK ANALYSIS

3.1 HAZARD ANALYSIS

Non-chemical hazards may be associated with:

1.

2.

3.

Chemical hazards may be associated with:

1.

2.

3.

4.

5.

The overall hazard is:

___ Low

___ Moderate

___ High

3.2 NON-CHEMICAL HAZARD SUMMARY

See Table 3-1 for summary assessment of non-chemical hazards

3.3 SITE CONTAMINANT SOURCE(S) AND DATA

See Table 3-2 for list of known/probable contaminants and/or applicable analytical data reports.

3.4 CHEMICAL HAZARD SUMMARY

See Table 3-3 for summary assessment of chemical hazards.

TABLE 3-1

ASSESSMENT OF NON-CHEMICAL HAZARDS
(Hazard mitigation is discussed in Section 5 for each "Yes" response)

Non-Chemical Hazard	Yes	No	Task No.(s)	Non-Chemical Hazard	Yes	No	Task No.(s)
1. Electrical (overhead lines)				16. Shoring			
2. Electrical (underground lines)				17. Biologic			
3. Gas/Water lines				18. Holes/Ditches			
4. Drilling Equipment				19. Steep Grades			
5. Excavation Equipment				20. Slippery Surfaces			
6. Machinery				21. Uneven Terrain			
7. Heat Exposure				22. Unstable Surfaces			
8. Cold Exposure				23. Elevated Surfaces (scaffolding)			
9. Oxygen Deficiency				24. Poor Lighting			
10. Confined Spaces				25. Vehicle Traffic			
11. Noise				26. Insects/vermin			
12. Ionizing Radiation				27. Poisonous Plants			
13. Non-ionizing Radiation				28. Water Bodies			
14. Fire				29. Unstable Soil Conditions			
15. Explosive Atmospheres				30.			

TABLE 3-2

KNOWN AND/OR PROBABLE CONTAMINANTS*

Contaminant	Source of Contamination	Sample Location	Sample Type	Concentration Range

* Source of data:

Date of sampling:

TABLE 3-3

ASSESSMENT OF CHEMICAL HAZARDS

Task No.(s)	Chemical Name (or class)	PEL/TLV (ppm)	Other Pertinent Limits (Specify)	Potential Exposure Pathways	Acute Health Effects	Chronic Health Effects
	Benzene	1/10 (0.1)	STEL = 5 ppm TLV-STEL = 0.3	Inhalation; Dermal; Ingestion	Eye, skin & respiratory irritation; CNS depression	Leukemia; Dermatitis
	1,2-Dichloroethane (ethylene dichloride)	1/10 ppm	STEL = 2 ppm C = 2000 ppm	Inhalation; Dermal; Ingestion	Eye, skin & respiratory irritation; CNS depression	Liver & kidney damage; dermatitis; suspected human carcinogen
	Ethylbenzene	100/100 ppm	STEL = 125 ppm	Inhalation; Dermal; Ingestion	Eye, skin & respiratory irritation; CNS depression	Dermatitis
	Perchloroethylene (tetrachloroethylene ; tetrachloroethene; or PCE)	25/50 ppm	C = 300 ppm TLV-STEL = 200 ppm	Inhalation; Dermal; Ingestion	Eye, skin & respiratory irritation; CNS depression; skin burns	Liver damage; peripheral neuropathy; suspected human carcinogen
	Toluene	100/100 (50) ppm	STEL = 150 ppm C = 500 ppm	Inhalation; Dermal; Ingestion	Eye, skin & respiratory irritation; CNS depression	Possible liver & kidney damage; dermatitis
	1,1,2-Trichloroethane	10/10 ppm	None cited	Inhalation; Dermal; Ingestion	Eye, skin & respiratory irritation; CNS depression	Possible liver & kidney damage; suspected human carcinogen; dermatitis
	Trichloroethylene (TCE)	25/50 ppm	STEL = 200 ppm C = 300 ppm	Inhalation; Dermal; Ingestion	Eye, skin & respiratory irritation; CNS depression	Possible liver, kidney, cardiovascular & GI injury; suspected human carcinogen
	Vinyl chloride	1/5 ppm	None cited	Inhalation; Dermal; Ingestion	CNS depression	Liver cancer; Reynauds syndrome; vascular disturbances
	Xylene	100/100 ppm	STEL = 150 ppm C = 300 ppm	Inhalation; Dermal; Ingestion	Eye, skin & respiratory irritation; CNS depression	Possible liver & kidney damage; dermatitis

PEL	OSHA Permissible Exposure Limit; represents the maximum allowable 8-hr. time weighted average (TWA) exposure concentration.
TLV	ACGIH Threshold Limit Value; represents the maximum recommended 8-hr. TWA exposure concentration.
STEL	OSHA Short-term Exposure Limit; represents the maximum allowable 15 minute TWA exposure concentration.
TLV-STEL	ACGIH Short-term Exposure Limit; represents the maximum recommended 15 minute TWA exposure concentration.
C	OSHA Ceiling Limit; represents the maximum exposure concentration above which an employee shall not be exposed during any period without respiratory protection.
IDLH	Immediately Dangerous to Life and Health; represents the concentration at which one could be exposed for 30 minutes without experiencing escape-impairing or irreversible health effects.
TPH	Total Petroleum Hydrocarbons
VOC	Volatile Organic Compounds
( )	ACGIH TLV Intended Change

SECTION 4.0

HEALTH AND SAFETY FIELD IMPLEMENTATION

4.1 PERSONAL PROTECTIVE EQUIPMENT (PPE) REQUIREMENTS

PPE may be upgraded or downgraded by the site industrial hygienist, HSM, or qualified Site Safety Officer based upon site conditions and air monitoring results. Reference to required PPE will be by Level of Protection (A-D). A summarized description of PPE by level of protection is indicated below:

LEVEL A: Should be worn when the highest level of respiratory, skin and eye protection is needed.

LEVEL B: Should be worn when the highest level of respiratory protection is needed, but a lesser level of skin protection. Level B is the primary level of choice when encountering unknown environments.

LEVEL C: Should be worn when the criteria for using air-purifying respirators are met and a lesser level of skin protection is needed.

LEVEL D: Should be worn only as a work uniform and not in any area with respiratory or skin hazards. It provides minimal protection against chemical hazards.

See Table 4-1 for specific PPE Requirements.

4.2 MONITORING EQUIPMENT REQUIREMENTS

Monitoring is conducted by the Site Safety Officer or designee. Conduct contaminant source monitoring initially. Complete breathing zone monitoring if source concentrations are near or above contaminant action level concentrations. Log direct reading monitoring and record results on Direct Reading Report form. Calibrate monitoring instruments daily or in accordance with manufacturers' specifications. Record calibration data on the Instrument Calibration Log.

Results shall be interpreted by the Site Safety Officer. At a minimum, exposures to suspected chemicals of contamination, as defined in this HASP, should be monitored prior to and during intrusive field activities. Additional characterization monitoring shall begin immediately if the operation destabilizes, the environment changes, or the potential for exposure is otherwise affected. Monitoring should continue on a continuous basis until the operation is stable and the SSO or HSM feels that the monitoring is sufficient to adequately assess and characterize exposure during that operation.

See Table 4-2 for monitoring protocols and contaminant action levels.

See Attachment 3 for Direct Reading Report and Instrument Calibration Log.

TABLE 4-1

PERSONAL PROTECTIVE EQUIPMENT (PPE) REQUIREMENTS

Job Task	Level of Protection	PPE Suit	PPE Gloves	PPE Feet	PPE Head	PPE Eye	PPE Ear	PPE Respirator	Level of Upgrade	Add. PPE for Upgrade

SUIT:
Std = Standard work clothes
Tyvek = Uncoated Tyvek disposable coverall
PE Tyvek = Polyethylene-coated Tyvek
Chemrel = Chemrel coverall with hood
Saranex = Saranex-laminated Tyvek
Lt PVC = Light wt. PVC raingear
Med PVC = Medium wt. PVC suit
Hvy PVC = Heavy PVC coverall with hood
Road = Roadwork vest

GLOVES:
Work = Work gloves (canvas,leather)
Neo = Neoprene gloves
PVC = PVC gloves
N = Nitrile gloves
V = Vinyl gloves
L = Latex gloves

FEET:
Steel = Steel-toe boots
Steel+ = Steel toe PVC boots
Booties = PVC booties

HEAD:
HH = Hardhat

EYE:
Glass = Safety glasses
Goggle = Goggles
Shield = Face shield

EAR:
Plugs = Earplugs
Muff = Ear muff

RESPIRATOR:
APR = Air purifying respirator
Full APR = Full face APR
Half APR = Half face APR
PAPR = Powered APR
SAR = Airline supplies air respirator
SCBA = Self contained breathing apparatus
Escape = Escape SCBA
OV = Organic Vapor cartridge
AG = Acid gas cartridge
OV/AG = Organic vapor/Acid gas cartridge
AM = Ammonia cartridge
D/M = Dust/mist pre-filter and cover for cartridge
HEPA = High efficiency particulate air filter cartridge

OTHER:
* = use if contact with wet soil or water
** = Optimal use except if specific hazard present

COMMENTS: _____

_____

TABLE 4-2

MONITORING PROTOCOLS AND CONTAMINANT ACTION LEVELS

				Breathing Zone Action Level Concentrations*	
Job Task	Contaminant	Monitoring Equipment	Monitoring Protocol/Frequency	Monitored Level for Mandatory Respirator Use	Monitored Level for Mandatory Work Stoppages**

COMMENTS:

_____

_____

* Monitoring performed at operator's breathing zone.
** Call the Regional Health and Safety Manager for consultation.

PID - Photoionization Detector (HNU, TIP, OVM)
FID - Flame Ionization Detector (OVA)
LEL - Lower Explosive Limit; represents the minimum concentration of combustible vapor in air that will ignite, if an ignition source is present (expressed in % by volume).
LEL-02 - LEL and Oxygen Meter
CT = Coloimetric Gas Detector Tube

4.3 SITE ZONES/DELINATION

Exclusion Zone:

_____ Areas within barricades, cones and/or caution tape
_____ Within 40-ft radius of drill rig operations
_____ Within 40-ft radius of heavy equipment operations
_____ Within 10-ft radius of hand augering location
_____ Within 10-ft radius of ground water monitoring well locations
_____ Other (describe):

Contamination Reduction Zone: At perimeter of Exclusion Zone.

Support Zone: Outside of Contamination Reduction Zone.

4.4 SITE COMMUNICATION

_____ By two way radio
_____ By telephone
_____ By pager
_____ By other means (describe):

4.5 SITE SECURITY

_____ Restricted access
_____ Fenced
_____ Security guard
_____ Other means (describe):

SECTION 5.0

SITE OPERATING PROCEDURES

5.1 INITIAL SITE ENTRY PROCEDURES

- Review Initial Health and Safety Mobilization Checklist (Attachment 4).
- Locate nearest available telephone. Indicate location on Site Map.
- Determine wind direction, establish hotline, and set up decontamination facilities. Note wind direction and location of decontamination facilities on site map.
- Post Emergency Information. Confirm/post emergency phone numbers and hospital route.
- Designate at least one vehicle for emergency use.
- If toilet facilities are not located within a 5-minute walk from the decontamination facilities, either provide a chemical toilet and hand washing facilities or have a vehicle available (not the emergency vehicle) for transport to nearby facilities.
- Prior to working on site, conduct an inspection for physical and chemical hazards.
- Conduct or review utility clearance prior to start of work, if appropriate.
- Note any specialized protocols particular to work tasks associated with the project.

5.2 DAILY OPERATING PROCEDURES

- Hold daily Tailgate Safety Meetings prior to work start.
  - *See Attachment 5 for Tailgate Safety Meeting Form*
- Use monitoring instruments and follow designated protocol and contaminant action levels.
- Use personal protective equipment (PPE) as specified.
- Remain upwind of operations and airborne contaminants, if possible.
- Establish a work/rest regime when ambient temperatures and protective clothing create a potential heat stress hazard.
- Do not carry cigarettes, gum, etc. into contaminated areas.
- Refer to Site Safety Officer for specific concerns for each individual site task.
- **USE BUDDY SYSTEM WHERE APPROPRIATE.**
- Be alert to your own physical condition. Watch buddy for signs of fatigue, exposure, etc.
- All accidents, no matter how minor, must be reported immediately to the SSO.
- A work/rest regimen must be initiated when ambient temperature and protective clothing create a potential heat stress situation.
- Contain liquids and cuttings generated during drilling.
- Limit contaminants contact with clean equipment.
- Practice contamination avoidance, on- and off-site. Activities should be planned ahead of time.
- Apply immediate first aid to any and all cuts, scratches, abrasions, etc.

- Be alerted to your own physical condition. Watch your buddy for signs of fatigue, exposure, etc.

5.3 UTILITY CLEARANCE

Date to be performed: _____

Will be performed by following personnel: _____

_____

Method that will be utilized: _____

_____

Follow utility clearance requirements specified in Attachment 2.

5.4 ADDITIONAL SITE-SPECIFIC OPERATING PROCEDURES

Add appropriate protocols unique to this job. (This section will stand alone to point out special measures unique to work at this site.) Procedures for Permit Required Confined Space Entry Work and excavation Work can be mentioned here. All non-chemical hazards described in Section 3-1 should have precautions specified for mitigation.

5.5 DECONTAMINATION PROCEDURES

Depending on the specific job task, decontamination may include personnel themselves, sampling equipment, and/or heavy equipment. The specified level of protection for a task (A, B, C, or D) does not in itself define the extent of personal protection or equipment decontamination. For instance, Level C without dermal hazards will require less decontamination than Level C with dermal hazards. And, heavy equipment will always require decontamination to prevent cross-contamination of samples and/or facilities. The following sections summarize general decontamination protocols.

5.5.1 Heavy Equipment

Heavy equipment will be decontaminated prior to personnel decontamination. Drillers will steam clean their augers after use preferably at locations near the individual drilling operations. Contaminant systems will be set up for collection of decon fluids and materials. Berms and wind barriers will be set up, if appropriate.

Vehicles that become contaminated with suspect soil will be cleaned prior to leaving the site. The wheel wells, tires, sides of vehicles, etc. may be pressure washed or brushed clean of visible debris at a location to be determined by the SSO.

5.5.2 Samples and Sampling Equipment

The same decontamination line will be used for sampling equipment decon as is used for personnel decon. At a minimum, the following is performed:

- Hand augers and buckets will be washed in TSP solution or equivalent and rinsed in distilled water.
- Sampling equipment will be brushed clean and rinsed with distilled water or other appropriate cleaning material.
- Samples will be dry-wiped prior to packaging.

5.5.3 Decon Wastes

- Spent decon solutions may be required to be drummed and disposed of as hazardous waste and/or solvent solutions may be required to be segregated from water rinses.
- Decontamination shall be performed in a manner that minimizes the amount of waste generated.

5.6 PROCEDURES FOR WASTE HANDLING OF ANTICIPATED WASTES

5.6.1 Waste Generation

Anticipated: Yes _____ No _____

Types: Liquid ____ Solid ____ Sludge _____ Gas _____

Quantity:

Expected Volume of Solid _____ (include units)
Expected Volume of Liquid _____

Characteristics:

Corrosive ___ Ignitable ___ Radioactive ___ Volatile ___
Toxic ___ Reactive ___ Unknown ___ Carcinogenic ___
Other (specify): _____

Known Non-Hazardous: Yes ____ No ____

Known Hazardous Waste or Extremely Hazardous waste: Yes ____ No ___

Potentially Hazardous Waste or Extremely Hazardous Waste: Yes ___ No ___

Waste Requires Analysis: Yes ____ No ____
Specify Type: _____

5.6.2 Storage and/or Treatment Methods Proposed:

These wastes will be (1) temporarily stored* in the following manner(*s) and stored within secondary containment:

Open head 55-gallon drum _____
Closed head 55-gallon drum _____
Overpack drum _____
Baker tanks _____
Lined waste bins _____
Other _____

and/or (2) treated on site _____
Neutralization _____ Aeration _____

Physical Change _____ Chemical _____

Bioremediation _____ Change _____

Is a permit required to treat? Yes ____ No ____

5.6.3 Disposal

- If Extremely Hazardous waste is identified, an Extremely Hazardous Waste Disposal Permit is required.

- Hazardous waste to be shipped for off site disposal must be accompanied with a manifest signed by the client (generator). Manifest must not identify Alpha Geoscience as the generator. Alpha Geoscience employees may not sign manifests as agents or generators.

5.7 SITE INSPECTIONS

Conduct site inspections weekly utilizing the Project Manager/Field Supervisor Job Safety Checklist, HS 5-1 (Attachment 7).

_____

* Temporary storage of hazardous waste without a permit is limited to 90 days. Label all temporary storage containers with:

(1) "Contents Under Analysis"
(2) The composition of the waste (soil, drilling, cuttings, etc.)
(3) The nature of known contaminants and their hazardous properties; (e.g., soil

contaminated with gasoline-inhalation and dermal hazard).

(4) The name of generator (NEVER Alpha Geoscience)

(5) The date of accumulation; and,

(6) A phone contact for questions (the Alpha Geoscience office)

SECTION 6.0

EMERGENCY RESPONSE PROCEDURES

6.0 EMERGENCY RESPONSE

The Emergency Response Plan will be prepared to address the site specific nature of hazards and potential emergencies. Emergency procedures will be implemented as appropriate.

6.1 EMERGENCY RESPONSE PLANNING

Step 1: Post site map which includes topography, layout, evacuation routes, safe distances and assembly area. Note location of utilities main shut-offs and disconnects on site map. Review this information during initial Tailgate Safety training and periodically.

Step 2: Complete and post Emergency Response Contact List (HS 13-1), directions and map to hospital**.** Ensure that emergency communications equipment is available.

Step 3: Notify local authorities (e.g., fire and police) of your presence and integrate any emergency plans with local requirements. Post hospital route and verify hospital route is accessible (Attachment 6).

Step 4: Provide emergency equipment for first aid, emergency decontamination, fire protection, personal protection and spill response. Designate vehicle for emergency transport.

(Include emergency equipment as site conditions and characteristics require.)

Step 5: Assure that personnel certified in first aid and CPR are available to respond to injuries within four (4) minutes**.**

Step 6: Conduct training for site personnel in emergency response during initial orientation. Establish alarm and methods of notification and communication during an emergency.

6.2 LINES OF AUTHORITY AND PERSONNEL RESPONSIBILITIES

During an emergency incident, the Field Personnel shall have the authority to commit the necessary resources for responding to the emergency, and shall assume the following responsibilities:

Step 1: Determine the extent of the incident and direct the emergency response efforts.

Step 2: Direct the SSO to conduct perimeter air monitoring,and monitor wind speed and wind

direction to determine the extent of impacted areas.

Step 3: Alert personnel of the emergency using an air horn or other suitable means of communication. If necessary, initiate evacuation procedures.

Step 4: Make the required notifications. As a minimum, the Alpha Geoscience Project Manager and the Alpha Geoscience Health and Safety Manager must be notified immediately. Additional notifications and assistance from outside agencies may be required based on the extent of the incident.

Step 5: Prepare the Accident/Injury Report (HS 8-1) and send it to the Health and Safety Director and the Health and Safety Manager.

6.3 EVACUATION PROCEDURES

If evacuation is required, the Field Personnel shall:

Step 1: Activate the communication system to alert site workers of evacuation. Personnel shall be advised to remain upwind of contaminants, if possible, and proceed to the designated assembly area.

Step 2: Account for all personnel at the assembly area.

Step 3: Notify the client of the need to initiate evacuation procedures for other site personnel.

Step 4: Notify the Fire and Police Departments and request their assistance for evacuating the surrounding area and residences.

6.4 EMERGENCY MEDICAL TREATMENT

Refer to the Hospital Route Directions and Map. If an injury/medical emergency occurs, the following procedures shall be used:

Step 1: Notify the Field Personnel immediately.

Step 2: The Field Personnel shall ensure that medical treatment is provided for the injured person immediately. The Field Personnel shall summon the first aid responders and notify the hospital and the local Emergency Medical Service (EMS) if necessary.

Step 3: If the injured/ill person is within the exclusion zone, steps should be taken to decontaminate him/her and remove the PPE if it can be done without worsening the injury.

Step 4: First aid responders shall use universal precautions for infection control when providing first aid.

Step 5: Prepare the Accident/Injury Report (HS 8-1) and distribute it to the Health and Safety

Manager within 24 hours.

6.5 SPILL CONTROL

If a spill occurs, the following steps shall be taken to mitigate the incident:

Step 1: Notify the Field Supervisor, and he/she shall assess the extent of the spill to determine if it can be safely mitigated with the personnel and protective equipment available at the site.

Step 2: If the release is beyond the field team's capabilities, the Field Supervisor shall evacuate the site personnel to a safe location upwind of the release, and notify the Project Manager and Fire Department.

Step 3: The Project Manager shall notify the client, Health and Safety Manager and regulatory agencies, if necessary.

Step 4: If the spill can be safely mitigated using defensive actions, first don the appropriate PPE. Initially, Level C PPE should be worn until air monitoring indicates a downgrade in PPE is appropriate.

Step 5: Takes steps to secure the area and to prevent unauthorized persons from entering the area.

Step 6: Takes steps to contain the spill and to prevent it from reaching sewers, storm ditches, etc.

Step 7: Clean up the spill with absorbent, neutralizers, soil removal as appropriate. Place waste in sealed, labeled containers for disposal.

SECTION 7.0

RECORDKEEPING

7.0 RECORDKEEPING

The Project Manager (PM) will assure that all field documentation is properly completed in a timely manner. All HASP documentation, including monitoring results, calibration logs, tailgate safety meeting forms, utility clearance and utility maps, and Project Manager/Field Supervisor Jobsite Safety Checklists, are to be forwarded to the Project Manager for review and signature on a regular basis (recommended weekly). Once reviewed by the PM, HASP forms should then be distributed to the HSM and to the project file.

The HSM will review and initial all forms indicating acceptance of finding. The HSM will contact the PM to question records and findings as appropriate.

(Indicated forms that should be completed)

FORM NAME	FORM	APPLICABLE	
		YES	NO
Signed Cover Sheet	- -		
Signature and Acknowledgement	SECTION 1-5		
Training Verification (Alpha Geoscience)	TABLE 1-2		
Training Verification (Subcontractor)	TABLE 1-3		
Job Safety Checklist	HS 5-1		
Tailgate Safety Meeting	HS 5-2		
Direct Reading Form	HS 5-3		
Instrument Calibration	HS 5-4		
Emergency Response Contacts	HS 13-1		
Confined Space Entry Permit	HS 14-2		
Utility Clearance Request	HS 15-1		
Utility Clearance Checklist	HS 15-2		
Hot Work Permit	HS 30-1		

APPENDIX D

Example Excavation Work Plan

(The following work plan is an example of the type of plan that would be developed and submitted to the NYSDEC. Project details would be added to the plan depending on the location and scope of the planned excavation.)

EXAMPLE EXCAVATION WORK PLAN

1.0 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 Department. Currently, this notification will be made to:

Ed Moore
Region 3 Hazardous Waste Remediation Engineer
21 South Putt Corners Road
New Paltz, NY 12561-1696
(845) 256-3137

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent, plans for site re-grading, intrusive elements or utilities to be installed, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control,
- A summary of environmental conditions anticipated 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, in electronic format, if it differs from the HASP provided in Appendix D of this document,
- Identification of disposal facilities for potential waste streams,
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

2.0 SOIL SCREENING METHODS

Visual, olfactory and instrument-based soil screening will be performed by a qualified environmental professional during all remedial and development excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed regardless of when the 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 Record of Decision.

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal, material that requires testing, clean material that can be reused as backfill.

3.0 STOCKPILE 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 NYSDEC.

4.0 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 its contractors are solely 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. 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.

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.

5.0 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.

All trucks will be washed prior to leaving the site. Truck wash waters will be collected and disposed of off-site in an appropriate manner.

Truck transport routes are as follows: [describe route and provide map]. All trucks loaded with site materials will exit the vicinity of the site using only these approved truck routes. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport; [(g) community input [where necessary]]

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.

6.0 MATERIALS DISPOSAL OFF-SITE

All soil/fill/solid waste 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 soil/fill 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 Track 1 unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

7.0 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 re-use on-site will be placed below an impervious surface, and will not be reused within a top 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.

8.0 FLUIDS MANAGEMENT

All liquids to be removed from the site, including excavation dewatering 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, but will be managed off-site.

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.

10.0 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.

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

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards are listed in Table [x]. Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC. Solid waste will not be imported onto the site.

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

11.0 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 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.

12.0 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 full 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 reports prepared pursuant to Section 5 of the SMP.

A-13 COMMUNITY AIR MONITORING PLAN

A figure showing the location of air sampling stations based on generally prevailing wind conditions is shown in Figure [x]. These locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and at least two downwind monitoring stations. Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

14.0 ODOR CONTROL PLAN

This odor control plan is capable of controlling emissions of nuisance odors off-site and on-site, since there are residents or tenants on the property and nearby. Specific odor control methods to be used on a routine basis will include [define elements]. If nuisance odors are identified at the site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the property owner's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on- and off-site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils; [add other elements as appropriate]. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods [add others as necessary].

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

15.0 DUST CONTROL PLAN

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

- Dust suppression will be achieved though the use of a dedicated on-site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.

- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.

- Gravel will be used on roadways to provide a clean and dust-free road surface.

- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

APPENDIX E

Community Air Monitoring Plan

New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for volatile organic compounds (VOCs) and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. Periodic monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

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

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate if the action level is exceeded. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

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