

Division of Environmental Remediation

Record of Decision
for the
Revonak Dry Cleaners Site
State Superfund Project
and the
New Paltz Plaza
Voluntary Cleanup Program Project
Site No. V00087-3
New Paltz (T), Ulster County, New York
Site Number 356021

March 2010

DECLARATION STATEMENT - RECORD OF DECISION

**Revonak Dry Cleaners
State Superfund Project
and the
New Paltz Plaza
Voluntary Cleanup Program Project
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Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedy for the State Superfund (SSF) Revonak Dry Cleaners Site, a Class 2 inactive hazardous waste disposal site, and the decision document for the Voluntary Cleanup Program (VCP) Project, New Paltz Plaza (the "Sites"). The selected remedial program was chosen in accordance with the New York State Environmental Conservation Law, 6 NYCRR Part 375, and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the SSF Revonak Dry Cleaners, the New Paltz Plaza VCP, and the public's input to the Proposed Remedial Action Plan (PRAP) presented by the Department. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Description of Selected Remedy

Based on the results of the investigations at these Sites, and completion of interim remedial measures has accomplished the remediation goals for both the Revonak Dry Cleaners Site and the New Paltz Plaza Site. The Department has selected a No Further Action, with continued operation of the engineering controls (i.e., sub-slab depressurization (SSD) systems); continued groundwater monitoring; a contingency plan that allows for further groundwater remediation via application of hydrogen releasing compound (HRC) or similar technology (e.g., in-situ chemical oxidation), in the event that tetrachloroethene (PCE), volatile organics and/or their breakdown compounds do not continue the downward trend toward groundwater standards; emplacement of the appropriate institutional and engineering controls (EC/IC); and a periodic certification of all EC/ICs; as the selected remedy for these Sites. The components of the remedy are as follows:

1. Imposition of an institutional control in the form of a deed restriction on the 14.5-acre plaza property, including the former Revonak Dry Cleaners Site that will:

- a. require the remedial party or property owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
 - b. restrict the use of the Sites, subject to local zoning laws, to: ☐ residential use ☐ restricted residential use ☒ commercial use ☒ industrial use;
 - c. restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the Department, NYSDOH or Ulster County DOH; and
 - d. requires compliance with the Department-approved Site Management Plan.
2. Since volatile organic compounds may remain in soils which will need to be addressed if they are ever disturbed or are accessed in the future, and the remedy results in contamination remaining at the Sites that does not allow for unrestricted use, a Site Management Plan is required, which includes the following:
- a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the Sites and details the steps and media-specific requirements necessary to assure the following institutional and/or engineering controls remain in place and effective:
 - Institutional Controls:
 - (i) a deed restriction as described in paragraph 1 above; and
 - (ii) identification of any use restrictions on the Sites.
 - Engineering Controls:
 - (i) a contingency plan that allows for further groundwater remediation via application of HRC or other similar technology (e.g., in-situ chemical oxidation), in the event that PCE, volatile organics and/or their breakdown compounds remain consistently above groundwater standards or have not become asymptotic (i.e., the concentrations of volatile organics remain at their lowest without any further reduction in concentration) at an acceptable level over an extended period; and
 - (ii) operation and maintenance of the nine existing SSD systems.
- This plan includes:
- (i) an excavation plan which details the provisions for management of future excavations in areas of remaining contamination (e.g., beneath L-shaped plaza foundation and utility bedding) to assure that any contaminated media encountered will be managed and disposed of in accordance with applicable laws and regulations, and the backfilling will employ clean soil that meets the Division of Environmental Remediation's criteria for backfill or local Site background. Non-vegetated areas (roadways, parking lots, etc.) will be covered by a paving system or concrete at least six inches thick, and any newly constructed or modified buildings will require a minimum six inch concrete slab;
 - (ii) provisions for the management and inspection of the identified engineering controls;
 - (iii) maintaining Site access controls and Department notification; and

- (iv) the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls for continued operation of SSD systems;
- b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes:
 - (i) monitoring of groundwater and soil vapor to assess the performance and effectiveness of the remedy;
 - (ii) a schedule of monitoring and frequency of submittals to the Department; and
 - (iii) provision to evaluate the potential for vapor intrusion for any buildings developed on the New Paltz Plaza VCP Site, including provision for mitigation of any impacts identified.

New York State Department of Health Acceptance

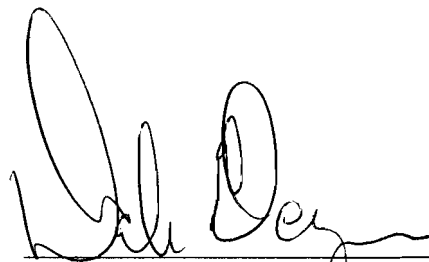
The New York State Department of Health (NYSDOH) concurs that the remedy selected for this site is protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

MAR 3 2010

Date



Dale A. Desnoyers, Director
Division of Environmental Remediation

RECORD OF DECISION
for the
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SECTION 1: SUMMARY RECORD OF DECISION

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected this remedy for the above referenced Sites. The disposal of hazardous waste at Revonak Dry Cleaners has resulted in threats to public health and the environment that is addressed by this remedy presented in this Record of Decision (ROD). The disposal of hazardous waste at Revonak Dry Cleaners, as more fully described in Sections 5 of this document, has contaminated various environmental media. However, during the course of the investigation certain actions, known as interim remedial measures (IRMs), were undertaken at the former Revonak Dry Cleaners Site in response to the threats posed. An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the remedial investigation/feasibility study (RI/FS). The IRMs undertaken at this Site included various response actions (see Section 5.2) and, based on those actions, the Site no longer poses a significant threat to human health or the environment; therefore No Further Action with continued Site Management, is selected as the remedy for these Sites. The remedy, discussed in detail in Section 6, describes how the IRMs attained the remediation goals identified for Revonak, as well as those for the New Paltz Plaza Voluntary Cleanup Program project (see Section 2).

This ROD identifies the selected remedy, and discusses the reasons for the selected remedy. The Department has selected a final remedy for the site only after careful consideration of all comments received during the public comment period.

The New York State Inactive Hazardous Waste Disposal Site Remedial Program (also known as the State Superfund Program) is an enforcement program, the mission of which is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment.

The Department has issued this ROD in accordance with the requirements of New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York, 6 NYCRR Part 375.

Concerns of the community regarding the investigation and the PRAP have been evaluated. The responsiveness summary (Appendix A) presents the public comments received and the manner in which the Department addressed the concerns raised. No significant public comments were received.

SECTION 2: SITE DESCRIPTION AND HISTORY

2.1: Location and Description

The 0.05 acre former Revonak Dry Cleaners (the State Superfund Site or “SSF Site”), is in the Town of New Paltz, Ulster County. The Revonak Dry Cleaners Site, located at 12 New Paltz Plaza is currently occupied by an active dry cleaner, and is contained within the New Paltz Plaza (the Voluntary Cleanup Program Site or “VCP Site”) located along Route 299 (a.k.a. Main Street) which is an active commercial and retail plaza. The entire 14.5 acre Shopping Center, including the former Revonak Dry Cleaner, is in the VCP as Site No. V00087. For purposes of this document the “Sites” will include both the SSF Site and the VCP Site. See Figure 1 for the property boundaries.

The current owner of New Paltz Plaza completed a majority of the investigation of the SSF Site-related impacts to the shopping center under their Voluntary Cleanup Agreement (VCA). Also, the Department recently completed an off-Site investigation under the State Superfund program, which delineated contamination beyond the Sites. The Sites are covered by paved parking areas, roadways and buildings typical of an active commercial and retail plaza. The surrounding area is used for a mixture of residential and commercial purposes. Residential areas are situated to the west and north of the Sites.

The geology beneath and near the Sites consists of 5-8 feet of overburden and man-made fill. Depth to bedrock varies from 8 feet to as much as 28 feet in areas immediately off-Site, the bedrock slopes gradually towards the north. Data suggests that there is a hydraulic connection between the overburden and the shallow bedrock groundwater systems. In general, groundwater flow is to the northwest. A map illustrating the local groundwater flow direction has been included as Figure 1. Depth to groundwater is approximately 3-5 feet below ground surface.

2.2: Operational/Disposal History

From 1968 to 1993 two dry cleaners operated at the SSF Site; Franchise Laundry & Dry Cleaning Corporation and Revonak Cleaners, Inc. The equipment and operational procedures (1980's and before) used by the businesses 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. Further information on that investigation is included in Sections 2.3 and 5.1.2. The current dry cleaner (under new ownership) is operating with equipment in accordance with applicable regulations.

2.3: Remedial History

In 1991, petroleum was discovered leaking from a 10,000 gallon underground storage tank (UST) servicing the Great American Food Store, a former tenant in the New Paltz Plaza. The UST and associated piping were removed, along with petroleum-impacted soil. Additionally, five groundwater monitoring wells were installed to verify the success of these removals. Data from these monitoring wells indicated the continued presence of petroleum constituents and also identified the presence of PCE and TCE, hazardous wastes typically associated with dry cleaning operations, and not with a fuel oil spill.

As a result of identified hazardous waste disposal, the Department listed the Revonak Dry Cleaners Site as a Class 2 Site in the Registry of Inactive Hazardous Waste Disposal Sites in New York in February 1995. A Class 2 Site is a Site where hazardous waste presents a significant threat to the public health or the environment and action is required.

New Paltz Plaza Associates, a joint venture of ABC Realty Associates and XYZ Realty Associates, was the owner of the shopping center from 1977 to 1997. In December 1995, New Paltz Plaza Associates entered into an Order on Consent with the Department for a “Focused Remedial Investigation (FRI) and Interim Remedial Measure (IRM)” for the 0.05-acre SSF Site. New Paltz Plaza Associates completed the FRI, but failed to implement their IRM work plan.

In December 1996, New Paltz Plaza Properties, L.P, applied to the Department’s Voluntary Cleanup Program (VCP) as a non-Potentially Responsible party Volunteer and was accepted into the VCP and in February 1997 entered into a Voluntary Cleanup Agreement (VCA) for the investigation of the VCP Site, including the 0.05-acre SSF Site. In December 1997, New Paltz Plaza Properties, L.P. and its general partner, New Paltz Plaza, Inc., entered into a second VCA for the implementation of a remedial program (IRMs) which encompassed both the 0.05-acre SSF Site and the balance of the VCP Site.

In 2008, the Department undertook a State funded investigation to evaluate potential off-Site impacts directly downgradient pursuant to groundwater flow direction, and to the north of the Sites. As noted above, remedial activities commenced prior to the 1995 Order on Consent. Also, as detailed in Section 4, the Sites were subject to study under both the SSF Program and the Department’s Voluntary Cleanup Program. Below is a listing of the various remedial activities which have occurred at the Sites.

- Preliminary Site Assessment completed in 1991.
- Underground storage tank (UST) removal conducted in 1991.
- Site Characterization completed in 1991.
- Subsurface investigation for the former Great American spill, 1991-1992.
- Focused Remedial Investigation, April 1995.

- Soil gas survey, floor drain investigation, soil and groundwater sampling, May 1995.
- Geoprobe subsurface soil investigation, December 1995.
- Private potable wells were sampled by NYSDOH, in conjunction with the Ulster County Health Department. These locations are approximately 1/2 mile to the northwest, with one well to the northeast. The first round of sampling was initiated in 1993, a second sampling round was conducted in 2000, and a third sampling round was conducted in 2002.
- Interim Remedial Measures implemented by the Volunteer - multiple, 1997-2009 (see Section 5.2).

SECTION 3: LAND USE

The Department may consider the current, intended, and reasonable anticipated future land use of the Sites and their surroundings when assessing the nature and extent of contamination. For these Sites, alternatives that may restrict the use to commercial criteria, as described in Part 375-1.8(g), are being evaluated in addition to unrestricted Standards, Criteria and Guidance (SCGs) because the Sites consist of an established shopping center. The Department has evaluated the restricted commercial and protection of groundwater SCGs, found in Part 375-6.8(b), in assessing the nature and extent of contamination.

A comparison of the appropriate SCGs for the identified land use against the unrestricted use SCGs for the contaminants is included in the Tables for the media being evaluated in section 5.1.2.

SECTION 4: ENFORCEMENT STATUS

Potentially Responsible parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The Department and the New Paltz Plaza Associates entered into a Consent Order on February 24, 1995. The Order obligates the PRP to implement the FRI and any IRMs under the inactive hazardous waste disposal site remedial program. The PRP began the investigation and drafted the IRM work plan, but never completed the IRM.

As discussed in Section 2, the Sites are also subject to two VCAs. New Paltz Plaza Properties, L.P. and New Paltz Plaza, Inc. are in compliance with both VCAs. As non-PRP Volunteers, New Paltz Plaza Properties, L.P. and New Paltz Plaza, Inc. are not responsible for conducting an off-Site investigation and implementing any needed off-Site remedy. New Paltz Plaza Associates is no longer a viable entity and identified operators were either deceased or unable/unwilling to conduct the off-Site investigation beyond the boundaries of the Shopping Center (off-Site RI). Therefore, the Department undertook the off-Site RI using State Superfund monies. However, the Volunteer opted to investigate and remediate the entire VCP Site property including the 0.05 acre SSF Site.

SECTION 5: SITE CONTAMINATION

A remedial investigation has been conducted to determine the nature and extent of contamination and to evaluate the alternatives for addressing the significant threats to human health and the environment.

5.1: Summary of the Remedial Investigation

The purpose of the Remedial Investigation (RI) was to define the nature and extent of any contamination resulting from previous activities at the Sites. The RI was conducted between April 1995 and December 1997, with supplemental RI activities during the period from 1997 to 2009. Also, to assess the potential for impact to off-Site downgradient areas, the Department undertook an off-Site RI beginning in 2009. The field activities and findings of the investigations are described in the "Remediation Report for New Paltz Plaza" (1998), "Final Engineering Report (FER) for New Paltz Plaza" (2008) and the "Off-Site Investigation Report at Revonak Dry Cleaners" (2009).

The following general activities are conducted during an RI:

- Research of historical information,
- Survey of residential water supply wells,
- Test pits, soil borings, and monitoring well installations,
- Sampling of surface and subsurface soils, groundwater and soil vapor,
- Survey of floor drain and sewer lines,
- Ecological and Human Health Exposure Assessments.

5.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform with promulgated standards and criteria that are directly applicable, or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and surface and subsurface soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in the following Sections list the applicable SCG in the footnotes. For a full listing of all SCGs see: www.dec.ny.gov/regulations/61794.html

Based on the RI results, in comparison to the SCGs and potential public health and environmental exposure routes, certain media and areas of the Sites require remediation. These are summarized in Section 5.1.2. More complete information can be found in the Remediation Report, FER and Off-Site Investigation Report.

5.1.2: Nature and Extent of Contamination

This section describes the findings of the Remedial Investigation. As described in the Remediation Report, FER and Off-Site Investigation Report, waste/source materials were identified at the Sites and are impacting groundwater and/or soil vapor. Note that for clarity the data presented below is in two categories; 1) data from within the boundaries of the New Paltz Plaza (the Sites), and 2) data from downgradient and beyond the boundaries of the Sites (off-Site).

Groundwater

On-site groundwater samples were collected from 15 shallow wells and 7 bedrock wells 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 18 years.

Figures 1 and 2 illustrate the shallow groundwater results and groundwater flow direction from the June 2009 sampling event. 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 1 below. Note Figure 2 shows the 2009 groundwater concentrations for the VOCs identified in Table 1. 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.

Table 1 – Groundwater September 2008 - 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 Standards and 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

Groundwater contamination identified during the RI was addressed by an IRM which consisted of two hydrogen release compound (HRC) injection events in 2003 and 2006, described in Section 5.2. Residual contamination may require further injections as described in Section 6.2, should the concentrations of VOCs not continue the apparent trend toward groundwater standards.

Groundwater sampling was conducted during the Department's off-Site RI in 2009. No site-related groundwater contamination of concern was identified beyond the boundaries of the VCP Site during the off-Site RI. The groundwater evaluation extended approximately ½ mile downgradient from the Sites, including a deep bedrock aquifer which serves as source of potable water to some nearby properties. The private wells in this area were sampled, and analysis found no SSF Site-related contamination. Therefore, no remedial alternatives needed to be evaluated for groundwater beyond the boundaries of the VCP Site.

Soils

As described in Section 2, 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 VCP 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.

Subsurface soil samples were collected from depths of 1 to 12 feet below ground surface. 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. 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 (see Section 5.2) was implemented by the Volunteer for this contaminated soil. A total of 223 tons of contaminated soil were removed and properly disposed 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 2.

Table 2 - Post-excavation Soil December 1997					
Detected Constituents	Concentration Range Detected	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	.47	0 of 58	200[0.47]	0 of 58
Toluene	ND – .085	.7	0 of 58	500[0.7]	0 of 58
Ethylbenzene	ND – .98	1.0	0 of 58	390[1.0]	0 of 58
Xylene (mixed)	ND – 1.043	.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

Subsurface soil contamination identified during the RI of the Sites was addressed during the IRM described in Section 5.2. However, this IRM for soil excavation was limited to areas accessible at that time. No excavations have since been completed beneath the Shopping Center, or near the bedding of sewer and water lines. Therefore, VOCs may remain in these soils, which will need to be addressed if they are ever disturbed or are accessed in the future. 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.

During the installation of the off-Site groundwater monitoring wells, soil samples were monitored for any soil vapors being emitted. Also, grab samples were assessed for any visual or olfactory contamination. Based on field screening and visual observation, none of the soil samples appeared to be contaminated with solvents or petroleum that would require laboratory analysis, thus the off-Site RI focused on groundwater and soil vapor.

Soil Vapor Intrusion

The potential for soil vapor intrusion resulting from the presence of soil or groundwater contamination was evaluated by the sampling of soil vapor, sub-slab soil vapor under structures, and indoor air inside structures. At the Sites, due to the presence of buildings in the impacted area, a full suite of samples were collected to evaluate whether soil vapor intrusion was occurring.

Soil vapor samples were collected at two soil vapor points, SV-1 and SV-2, located on the northern boundary of the VCP 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 more recent (2009) investigation. Concentrations of VOCs from the recent sampling program are shown on Figure 3. Concentrations in the past for PCE and TCE, have been as high as 4,000 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and $476 \mu\text{g}/\text{m}^3$, respectively. Based on the concentrations detected, the soil vapor contamination identified during the RI has dropped considerably, supporting that the contaminant source was addressed during the IRM. However, to address the potential for soil vapor intrusion, sub-slab mitigation systems have been installed at multiple tenant locations within the shopping center as described in Section 5.2.

The off-Site sampling program included 10 sub-slab points, 10 indoor air samples and 1 outside ambient air sample. As illustrated by Figure 3 and Table 3, based on the concentration detected, and in comparison with the NYSDOH Soil Vapor Intrusion Guidance, no off-Site structures warranted continued monitoring or mitigation.

Table 3: Indoor Air 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	ND – 0.6	5	0 of 10

a - ug/m³: 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

5.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Record of Decision. A number of IRMs have been implemented at the Sites under the VCP. These are described below. The areas addressed by the IRMs are shown on Figure 1. The Department did not perform any State funded IRMs.

- In 1997 and 1998, 223 tons of PCE contaminated soil and 10,000 gallons of contaminated groundwater were removed from the area behind the dry cleaner. Confirmation samples were collected as described in Section 5.1.2.
- In 2003, 746 pounds of HRC were injected into groundwater directly behind the dry cleaner at 27 locations by geoprobes, to treat VOCs in groundwater and soil.
- In 2006, an additional 5,000 pounds of HRC were injected behind the dry cleaner and areas downgradient at 140 locations, to further enhance the degradation of residual VOCs in groundwater.
- During 2006/2007, 60 hybrid poplar trees were planted along the northern property line of the Shopping Center to promote phytoremediation of contaminated groundwater.
- Mitigation measures were taken at multiple tenant locations over the groundwater plume via the installation of nine sub-slab depressurization (SSD) systems to address potential indoor air contamination of volatile organic compounds associated with soil vapor intrusion.

5.3: Summary of Human Exposure Pathways:

This section describes the current or potential human exposures (the way people may come in contact with contamination) that may result from the site contamination. A more detailed discussion of the human exposure pathways can be found in the Remediation Report, FER and Off-Site

Investigation Report available at the document repositories. An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has five elements: [1] a contaminant source, [2] contaminant release and transport mechanisms, [3] a point of exposure, [4] a route of exposure, and [5] a receptor population.

Contaminant release and transport mechanisms carry contaminants from the source to a point where people may be exposed. The exposure point is a location where actual or potential human contact with a contaminated medium may occur. The route of exposure is the manner in which a contaminant actually enters or contacts the body (e.g., ingestion, inhalation, or direct contact). The receptor population is the people who are, or may be, exposed to contaminants at a point of exposure.

An exposure pathway is complete when all five elements of an exposure pathway exist. An exposure pathway is considered a potential pathway when one or more of the elements currently does not exist, but could in the future.

Groundwater

Drinking contaminated groundwater is not expected because the buildings which occupy the Sites and all adjacent properties are connected to the public water supply. Exposure to contaminated groundwater through direct contact or incidental ingestion is not expected. During construction activities, workers could be exposed to contaminated groundwater through dermal contact and incidental ingestion.

An evaluation of off-Site groundwater indicated that private water supplies were not impacted by Site-related contaminants. Public water is also available for property owners to connect to. Exposure to contaminated groundwater through direct contact or incidental ingestion is not expected because the contaminated groundwater plume does not go off-Site.

Soil

Dermal contact with, or incidental ingestion of, residual contamination is not expected as buildings and parking lots cover the area of concern. During construction activities, where soils are disturbed or removed, workers could be exposed to residual contaminants in soil through dermal contact or incidental ingestion.

Soil Vapor

SSD systems have been installed within the existing on-site buildings to prevent exposure to site contaminants potentially entering the buildings via soil vapor intrusion. Future exposures to soil vapors by visitors or employees/tenants is not expected as long as the systems remain in place and operational. Monitoring of the systems will provide information regarding the effectiveness of the systems to mitigate soil vapor intrusion. During construction activities, workers could be exposed to contaminated vapors that volatilize off of the groundwater.

The potential for soil vapor intrusion to occur at off-Site residences was evaluated and no further

actions were deemed necessary.

5.4: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the Site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water.

Ecological resources were identified during the RI. These include a New York State designated wetland and a nearby creek, northeast of the Sites. Potential Site-related impacts could be attributed to a petroleum release and the observed presence of dry cleaner solvent in subsurface soil and groundwater. Soil contamination associated with the petroleum and the dry cleaner solvent release has since been removed and data supports that residual groundwater contamination is limited to the Shopping Center property, thus no longer threatening the wetland or creek. Therefore, environmental impacts, including existing and potential future exposure pathways to fish and wildlife, wetlands and surface water are viewed as minimal.

SECTION 6: SUMMARY OF THE SELECTED REMEDY

Based on the Administrative Record (Appendix B), the IRMs that have been performed, the discussion presented below, the Department has selected a No Further Action, with continued operation of the engineering controls (i.e., SSD system); continued groundwater monitoring; a contingency plan that allows for further groundwater remediation via application of HRC or similar technology (e.g., in-situ chemical oxidation), in the event that PCE, volatile organics and/or their breakdown compounds do not continue the downward trend toward groundwater standards; emplacement of the appropriate institutional and engineering controls (EC/IC); and a periodic certification of all EC/ICs; as the preferred alternative for these Sites.

6.1 Basis for Selection

The selected remedy is based on the results of the RI and the evaluation of alternatives. No further action remedy is selected and is being proposed because, as described below, it satisfies the threshold criteria and provides the best balance of the balancing criterion described in Section 5.2. It would achieve the remediation goals for the site by being protective of human health and the environment and would satisfy all SCGs as described above. Overall protectiveness is achieved through meeting the remediation goals listed above. The elements of this remedy are described at the end of this section.

Public Health Protection

Groundwater

- Prevent people from drinking groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with contaminated groundwater.
- Prevent inhalation of contaminants from groundwater.

Soil

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of contaminants volatilizing from the soil.

Soil Vapor

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into the indoor air of buildings at or near a site.

Environmental Protection

Groundwater

- Restore the groundwater aquifer to meet ambient groundwater quality criteria, to the extent feasible.

The estimated present worth cost to implement the remedy is \$138,000. There is no cost to construct the remedy and the estimated average annual cost for 30 years is \$9,000.

6.2 Elements of the Selected Remedy

The elements of the selected restricted use remedy are as follows:

1. Imposition of an institutional control in the form of a deed restriction on the 14.5-acre plaza property, including the former Revonak Dry Cleaners Site that will:
 - a. require the remedial party or property owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
 - b. restrict the use of the Sites, subject to local zoning laws, to: ☐ residential use ☐ restricted residential use ☒ commercial use ☒ industrial use;
 - c. restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the Department, NYSDOH or Ulster County DOH; and
 - d. requires compliance with the Department-approved Site Management Plan.
2. Since VOCs may remain in soils which will need to be addressed if they are ever disturbed or are accessed in the future, and the remedy results in contamination remaining at the Sites that does not allow for unrestricted use, a Site Management Plan is required, which includes the following:
 - a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the Sites and details the steps and media-specific requirements necessary to assure the following institutional and/or engineering controls remain in place and effective:
 - Institutional Controls:
 - (iii) a deed restriction as described in paragraph 1 above; and
 - (iv) identification of any use restrictions on the Sites.

Engineering Controls:

- (iii) a contingency plan that allows for further groundwater remediation via application of HRC or other similar technology (e.g., in-situ chemical oxidation), in the event that PCE, volatile organics and/or their breakdown compounds remain consistently above groundwater standards or have not become asymptotic (i.e., the concentrations of volatile organics remain at their lowest without any further reduction in concentration) at an acceptable level over an extended period; and
- (iv) operation and maintenance of the nine existing SSD systems.

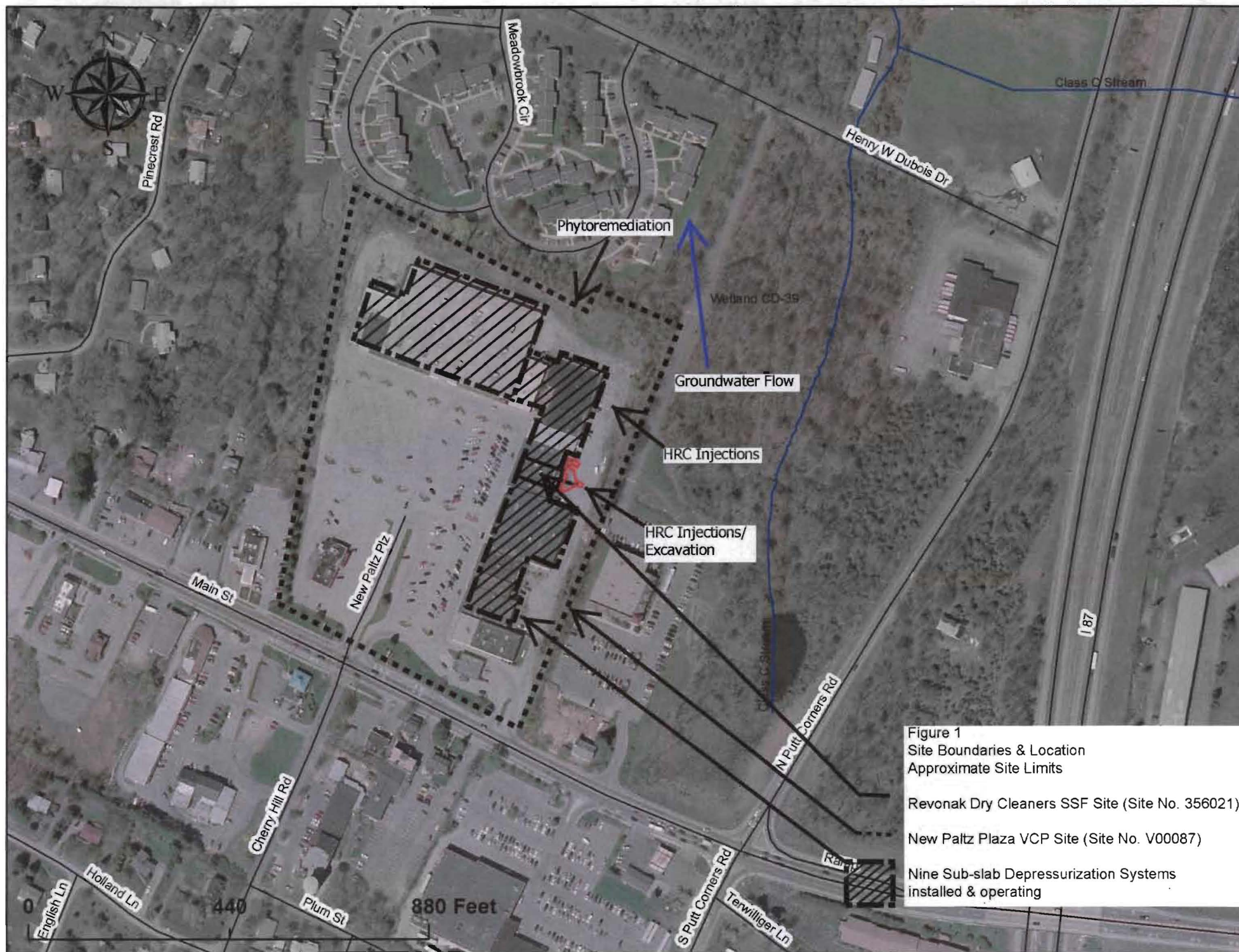
This plan includes:

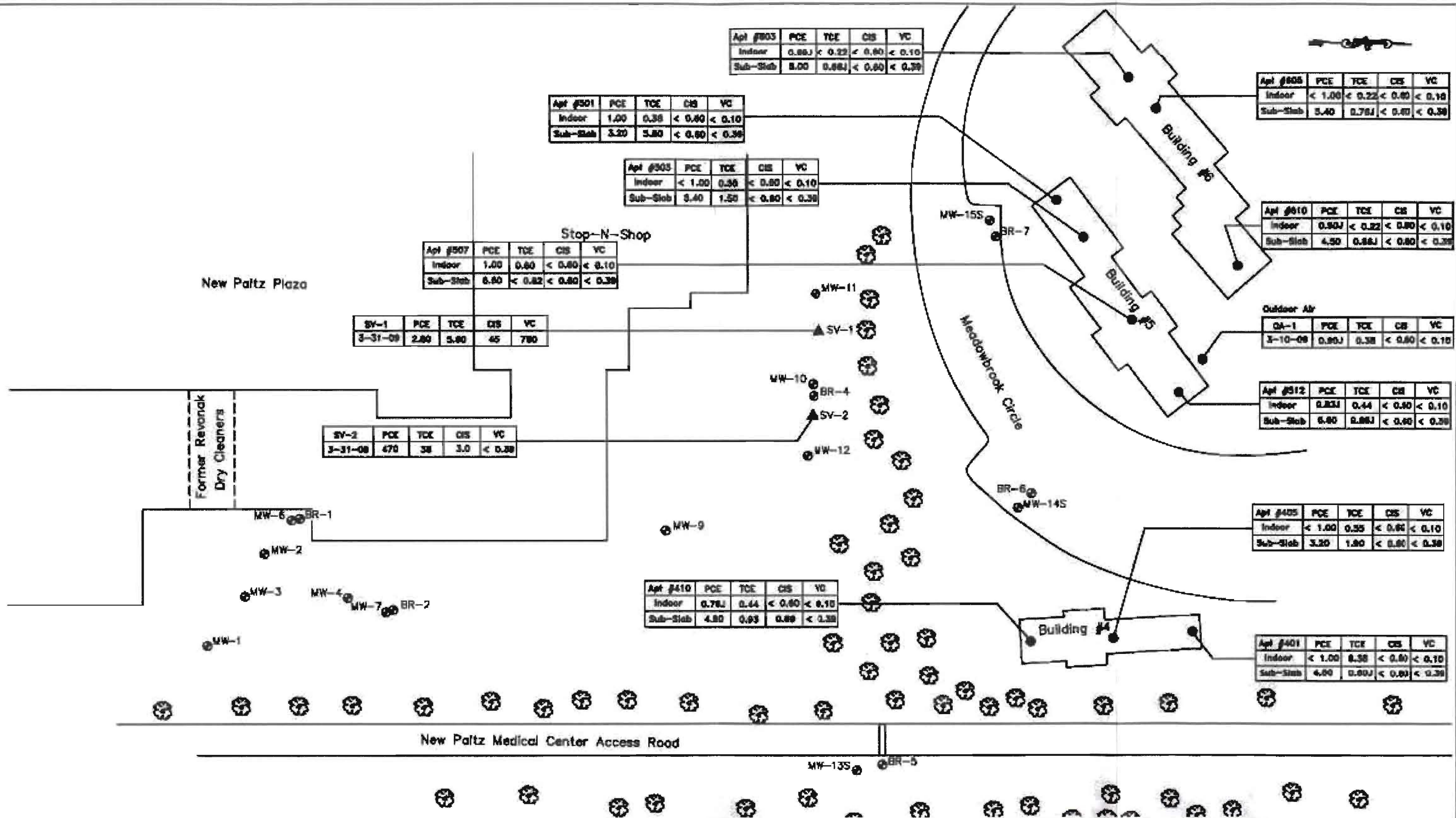
- (i) an excavation plan which details the provisions for management of future excavations in areas of remaining contamination (e.g., beneath L-shaped plaza foundation and utility bedding) to assure that any contaminated media encountered will be managed and disposed of in accordance with applicable laws and regulations, and the backfilling will employ clean soil that meets the Division of Environmental Remediation's criteria for backfill or local Site background. Non-vegetated areas (roadways, parking lots, etc.) will be covered by a paving system or concrete at least six inches thick, and any newly constructed or modified buildings will require a minimum six inch concrete slab;
 - (ii) provisions for the management and inspection of the identified engineering controls;
 - (iii) maintaining Site access controls and Department notification; and
 - (iv) the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls for continued operation of SSD systems;
- b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes:
- (ii) monitoring of groundwater and soil vapor to assess the performance and effectiveness of the remedy;
 - (ii) a schedule of monitoring and frequency of submittals to the Department; and
 - (iii) provision to evaluate the potential for vapor intrusion for any buildings developed on the New Paltz Plaza VCP Site, including provision for mitigation of any impacts identified.

SECTION 7: HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the remedial investigation process, a number of Citizen Participation activities were undertaken to inform and educate the public about conditions at the site and the potential remedial alternatives. The following public participation activities were conducted for the site:

- Repositories for documents pertaining to these Sites were established at the Elting Public Library, 93 Main Street, and at the NYSDEC Regional Office, 21 South Putt Corners Road in New Paltz.
- The contact list, which included nearby property owners, elected officials, local media and other interested parties, was established along with a citizen participation plan in August 1994.
- A fact sheet was distributed to the contact list in April 1995 announcing the start of an environmental study at the Former Revonak Dry Cleaners.
- A fact sheet was distributed to the contact list in April 1997 announcing the proposed remedial response to begin at the New Paltz Plaza VCP Site.
- The citizen participation plan and the contact list were updated in April 2009.
- A fact sheet was distributed to the contact list in February 2009 announcing the proposed off-site investigation to continue beyond the New Paltz Plaza and Revonak Sites.
- A fact sheet was distributed to the contact list on February 8, 2010 to announce the availability of the PRAP, the opening of the public comment period, and the public meeting scheduled for March 2, 2010. Availability of the PRAP and information pertaining to New Paltz Plaza VCP Site was also announced in the Environmental Notice Bulletin.
- A public meeting was held on March 2, 2010 to present and receive comments on the PRAP.
- A responsiveness summary (Appendix A) was prepared to address the comments received during the public comment period for the PRAP.





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SITE: Former Revonak Dry Cleaners
New Paltz Plaza
New Paltz, New York
NYSDEC Site No. 356021

FIGURE 3

DATE: 3-10-09

SCALE: 1" = 60'

Sub-Slab & Indoor Air Sampling Results
March 10, 2009

LEGEND:

● MONITORING WELL

Concentrations in ug/m³

PCE = Tetrachloroethene
TCE = Trichloroethene
CIS = Cis 1,2-Dichloroethene
VC = Vinyl Chloride

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

**for the
Revonak Dry Cleaners
State Superfund Project
New Paltz (T), Ulster County, New York
Site No. 356021
and the
New Paltz Plaza
Voluntary Cleanup Program Project
Site No. V00087-3**

The Proposed Remedial Action Plan (PRAP) for the Revonak Dry Cleaners site, was prepared by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on February 2, 2010. The PRAP outlined the remedial measure proposed for the contaminated groundwater and/or soil vapor at the Sites.

The release of the PRAP was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy.

A public meeting was held on March 2, 2010, which included a presentation of the remedial investigation and completed interim remedial measures, as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the PRAP ended on March 12, 2010.

This responsiveness summary responds to all questions and comments raised during the public comment period. The following are the comments received, with the Department's responses:

COMMENT 1: Didn't the New York State Department of Health conduct a well survey years ago? Was there any well testing done as a part of that survey, and if so, were the findings reflected in the Proposed Remedial Action Plan?

RESPONSE 1: A survey of nearby private wells was completed by the Department in conjunction with the NYSDOH and the Ulster County Department of Health. Based on the survey, the NYSDOH sampled private wells in 1993, 1997, 2000 and 2003 on Pinecrest Drive, Old Mill Road, Main Street, North Putt Corners Road, Dubois Lane, and Henry W. Dubois Road. The sample results were provided to the property owners. Site related contaminants were not detected in any of the past sampling events. Public water is available and many of the nearby properties have since connected to the public water supply system. Based on the 1993-2002 sample results and the 2009 off-Site groundwater investigation, no further private water supply sampling is necessary. A reference to the private well sampling was included in Section 5.1.2 of the PRAP.

COMMENT 2: Will the Department decommission the off-site groundwater monitoring wells?

RESPONSE 2: Yes, the Department will decommission wells on the Meadowbrook Farms property and the New Paltz Medical property since no further off-site groundwater monitoring is necessary.

APPENDIX B

Administrative Record

Administrative Record

**Revonak Dry Cleaners
State Superfund Project
New Paltz (T), Ulster County, New York
Site No. 356021
and the
New Paltz Plaza
Voluntary Cleanup Program Project
Site No. V00087-3**

1. Proposed Remedial Action Plan for the Revonak Dry Cleaners Site, and the New Paltz Plaza Voluntary Cleanup Program Project dated February 2010, prepared by the Department.
2. Order on Consent, Index No. W3-0667-93-11, between the Department and New Paltz Plaza Associates executed on February 24, 1995.
3. The Department and the volunteer, New Paltz Plaza Properties, L.P., entered into a Voluntary Cleanup Agreement, Index No. W3-0782-96-12, February 26, 1997.
4. The Department and the volunteer, New Paltz Plaza Properties, L.P. and New Paltz Plaza, Inc., entered into a Voluntary Cleanup Agreement, Index No. W3-0782-97-10, December 17, 1997.
5. Preliminary Subsurface Investigation Report, for Victory Markets, Inc. (Great American Food Store), prepared by Environmental Products & Services, Inc.
6. Remediation Report, for New Paltz Plaza Properties L.P., dated June 1998, prepared by Alpha Geoscience, Inc.
7. Petroleum Investigation Report, for New Paltz Plaza Properties L.P., dated January 2002, prepared by Alpha Geoscience, Inc.
8. Source Investigation Report, for New Paltz Plaza Properties L.P., dated March 2003, prepared by Alpha Geoscience, Inc.
9. Final Engineering Report, for New Paltz Plaza Properties L.P., dated April 2008, prepared by Alpha Geoscience, Inc.
10. Annual Groundwater and Soil Vapor Monitoring Report, for New Paltz Plaza Properties L.P., dated September 2008, prepared by Alpha Geoscience, Inc.
11. Off-Site Investigation Report, for Former Revonak Dry Cleaners, dated September 2009, prepared by Aztech Technologies, Inc.

