

# RECORD OF DECISION

---

Mayflower Cleaners  
State Superfund Project  
Great Neck, Nassau County  
Site No. 130068  
March 2013



Prepared by  
Division of Environmental Remediation  
New York State Department of Environmental Conservation

# **DECLARATION STATEMENT - RECORD OF DECISION**

---

Mayflower Cleaners  
State Superfund Project  
Great Neck, Nassau County  
Site No. 130068  
March 2013

## **Statement of Purpose and Basis**

This document presents the remedy for the Mayflower Cleaners site, a Class 2 inactive hazardous waste disposal site. The remedial program was chosen in accordance with the 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, 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 Mayflower Cleaners site and the public's input to the proposed remedy 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**

The elements of the selected remedy are as follows:

Elements of the Proposed Remedy:

### 1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance and monitoring of the remedial program. Green remediation principals and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows;

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gas and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy, and generating some renewable energy on site if possible;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which will otherwise be considered a waste.

- Maximizing habitat value and creating habitat when possible.
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. The site is currently completely covered by three adjoining commercial buildings and customer parking lots, and it is anticipated that this cover will stay in place, however, if modified; a site cover will be installed to allow for commercial use of the site. The remedial design will stipulate that the site cover will consist either of the structures such as buildings, pavement and sidewalks currently comprising the site development, or a soil cover will be installed in areas where exposed surface soil are found to exceeds the commercial use soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of one foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d). The soil cover will be placed over a demarcation layer. The excavation will be backfilled with soil meeting the backfill material requirements for commercial use as set forth in 6 NYCRR Part 375-6.7(d) with the upper six inches of the soil of sufficient quality to maintain a vegetative layer.

### 3. Sub Slab Depressurization System (SSDS)

Upgrade the existing SSDS to ensure that soil vapor intrusion concerns in on-site buildings will be addressed. The upgrade will include the installation of an appropriate size blower motor and the connection of an additional suction pit and piping in the adjoining mini-mall to mitigate the potential for soil vapor intrusion to impact the indoor air. Once the upgrade is completed, an evaluation of the SSDS will be conducted in accordance with the NYSDOH Soil Vapor Intrusion Guidance document to determine its mitigation effectiveness.

### 4. Institutional Control

Imposition of an institutional control in the form of an environmental easement for the controlled property that:

- requires the remedial party or site 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);
- allows the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH;
- prohibits agriculture or vegetable gardens on the controlled property; and
- requires compliance with the Department approved Site Management Plan.

### 5. Site Management Plan

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 site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 4 above.

Engineering Controls: The soil cover system discussed in Paragraph 2 above and the SSDS discussed in Paragraph 3 above.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
  - descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
  - a provision for evaluation of the potential for soil vapor intrusion for any building be developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
  - provisions for the management and inspection of the identified engineering controls;
  - maintaining site access controls and Department notification; and
  - the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.
- b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
- monitoring of soil vapor/indoor air to assess the performance and effectiveness of the remedy;
  - a schedule of monitoring and frequency of submittals to the Department;
  - monitoring for vapor intrusion for any buildings occupied or developed on the site, as may be required by the Institutional and Engineering Control Plan discussed.
- c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:
- compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
  - maintaining site access controls and Department notification; and
  - providing the Department access to the site and O&M records.

### **New York State Department of Health Acceptance**

The New York State Department of Health (NYSDOH) concurs that the remedy 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.

March 28, 2013

Date



Robert W. Schick, P.E., Director  
Division of Environmental Remediation

# RECORD OF DECISION

Mayflower Cleaners  
Great Neck, Nassau County  
Site No. 130068  
March 2013

---

## **SECTION 1: SUMMARY AND PURPOSE**

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of hazardous wastes at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The disposal or release of hazardous wastes at this site, as more fully described in this document, has contaminated various environmental media. The remedy is intended to attain the remedial action objectives identified for this site for the protection of public health and the environment. This Record of Decision (ROD) identifies the selected remedy, summarizes the other alternatives considered, and discusses the reasons for selecting the remedy.

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 document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

## **SECTION 2: CITIZEN PARTICIPATION**

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repository:

Great Neck Public Library  
159 Bayview Avenue  
Great Neck, NY 11023  
Phone: (516)-466-8055

A public meeting was also conducted. At the meeting, the findings of the remedial investigation (RI) and the feasibility study (FS) were presented along with a summary of the proposed remedy.

After the presentation, a question-and-answer period was held, during which verbal or written comments were accepted on the proposed remedy.

Comments on the remedy received during the comment period are summarized and addressed in the responsiveness summary section of the ROD.

### **Receive Site Citizen Participation Information By Email**

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at <http://www.dec.ny.gov/chemical/61092.html>

### **SECTION 3: SITE DESCRIPTION AND HISTORY**

Site Location: The Mayflower Cleaners site is located at 471-491 Great Neck Road, Great Neck, Nassau County.

Site Features: The site consists of three multi-tenant adjoining commercial buildings and customer parking lots. The Mayflower Cleaners is an active dry cleaning operation, and is located in the southern corner of one of the buildings at 489 Great Neck Road. The dry cleaner shares the single-story masonry building with another tenant, a bagel shop. The adjoining building to the north is a two story multi-tenant mini mall. The adjoining building to the north of the mini- mall building is a single story building which includes several commercial establishments and a library. The remainder of the site consists of paved parking areas.

Current Zoning and Land Use(s): The property is zoned for commercial use and is currently occupied by several retail establishments.

Past Use of the Site: In December 1992, the Nassau County Department of Health (NCDH) performed an inspection and sampling of two dry wells (UIC structures) located in the basement of the Mayflower Cleaners. The dry wells were crude shallow holes in the concrete basement floor, open to the sub-slab soil. The operator of cleaners has admitted to draining boiler water into the rear dry well each day. Analytical results of soil samples collected in 1995 from the dry wells contained tetrachloroethylene (PCE) at levels of 3.4 Parts Per Million (ppm) and 2.4 ppm. In December 1996, the two dry wells were remediated in accordance with an approved United States Environmental Protection Agency (USEPA) closure plan under the supervision of the NCDH. Soils in the dry wells were excavated to a depth of 2.5 feet below the basement slab.

Site Geology/Hydrogeology: The soils in the area of the site are a mix of sand, silt and clay and fill material. Depth to groundwater at the site is approximately 25 feet below grade. The site-specific groundwater flow direction is to the north-northwest.

A site location map is attached as Figure 1.

#### **SECTION 4: LAND USE AND PHYSICAL SETTING**

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to commercial use (which allows for industrial use) as described in Part 375-1.8(g) were/was evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the RI to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is included in the Tables for the media being evaluated in Exhibit A.

#### **SECTION 5: 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 PRPs for the site, documented to date, include:

Plymouth Realty Company

The Department and Plymouth Realty Company entered into a Consent Order on May 25, 2007. The Order obligates the responsible parties to implement a RI/FS. After the remedy is selected, the Department will approach the PRPs to implement the selected remedy. If an agreement cannot be reached with the PRPs, the Department will evaluate the site for further action under the State Superfund. The PRPs are subject to legal actions by the state for recovery of all response costs the state has incurred.

#### **SECTION 6: SITE CONTAMINATION**

##### **6.1: Summary of the Remedial Investigation**

A Remedial Investigation (RI) has been conducted. The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The field activities and findings of the investigation are described in the RI Report.

The following general activities are conducted during an RI:

- Research of historical information,
- Geophysical survey to determine the lateral extent of wastes,



- Test pits, soil borings, and monitoring well installations,
- Sampling of waste, surface and subsurface soils, groundwater, and soil vapor,
- Sampling of surface water and sediment,
- Ecological and Human Health Exposure Assessments.

The analytical data collected on this site includes data for:

- air
- groundwater
- soil
- indoor air
- sub-slab vapor

### **6.1.1: Standards, Criteria, and Guidance (SCGs)**

The remedy must conform to 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 soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in Exhibit A list the applicable SCGs in the footnotes. For a full listing of all SCGs see: <http://www.dec.ny.gov/regulations/61794.html>

### **6.1.2: RI Results**

The data have identified contaminants of concern. A "contaminant of concern" is a hazardous waste that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized in Exhibit A. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

TRICHLOROETHENE (TCE)

TETRACHLOROETHYLENE (PCE)

As illustrated in Exhibit A, the contaminant(s) of concern exceed the applicable SCGs for:

- air
- soil vapor intrusion

### **6.2: 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.

There were no IRMs performed at this site during the RI.

### **6.3: 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.

Based upon the resources and pathways identified and the toxicity of the contaminants of ecological concern at this site, a Fish and Wildlife Resources Impact Analysis (FWRIA) was deemed not necessary for OU 01.

**Nature and Extent of Contamination:** The primary contaminants of concern at the site at this time are associated with chlorinated solvents, specifically PCE and trichloroethene (TCE). Historically, PCE was detected in soil/sediment samples collect from two site dry wells (Class V injection wells) in the basement of the dry cleaners at levels of 3.4 ppm and 2.4 ppm. In 1996, these dry wells were excavated in accordance with a USEPA approved closure plan under the supervision of the NCDH. The closure plan included the excavation of contaminated soils to a depth of 2.5 feet below the basement floor slab. End point samples were collected and confirmed remedial activities were successful.

The Department's Spills Unit is managing the investigation and remediation of the Great Neck Amoco Site (Spill # 82-00157) located hydraulically upgradient to the southeast of the site, across Great Neck Road. The results of historical groundwater sampling events at the Amoco Site show the presence of petroleum related hydrocarbons as well as chlorinated constituents in groundwater (i.e., PCE and TCE). It is therefore reasonable to conclude that the presence of chlorinated constituents in on-site groundwater are attributable to the upgradient releases at the Great Neck Amoco Site and not from the Mayflower Cleaners Site.

Soil, groundwater and sub-slab soil vapor samples were collected at the Mayflower Cleaners Site as part of the RI, which was conducted between 2009 and 2011. Soil and groundwater samples collected at the site during the RI indicate that the Mayflower Cleaners is currently not a source of the PCE detected in area groundwater and the detections can be attributed to the upgradient Amoco site.

Sub-slab soil vapor samples collected during the RI from the basement of Mayflower Cleaners contained 110,000 ug/m<sup>3</sup> of PCE , as well as detectable concentrations of TCE (170 ug/m<sup>3</sup>), toluene (62 ug/m<sup>3</sup>), and trichlorofluoromethane (110 ug/m<sup>3</sup>). A second sub slab soil sample collected from the eastern portion of the basement of Mayflower Cleaners contained 460,000 ug/m<sup>3</sup> of PCE, as well as detectable concentrations of TCE (190 ug/m<sup>3</sup>), chloroform (53 ug/m<sup>3</sup>) and trichlorofluoromethane (220 ug/m<sup>3</sup>).

Indoor air samples collected in the adjacent bagel shop contained 180 ug/m<sup>3</sup> of PCE and the indoor air sample collected in the mini-mall contained 74 ug/m<sup>3</sup> of PCE.

In an effort to mitigate the elevated levels of VOCs detected in soil vapor beneath the basement slab, which appears to be the result of residual vapors trapped beneath the basement slab, the property owner installed a Sub-Slab Depressurization System (SSDS) in 2010. The system, which is currently operating, was installed without the oversight and /or approval of the Department. The SSDS will be evaluated and upgraded as part of the proposed selected remedy. The results of the RI have determined that the dry wells located in the basement of the Mayflower Cleaners were successfully remediated in 1996 and that there have been no additional VOCs impacts to site soils and/or groundwater since that time.

#### **6.4: Summary of Human Exposure Pathways**

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure*.

Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. A sub slab depressurization system (system that ventilates/removes the air beneath the building) has been installed in the dry cleaning portion of the building to mitigate soil vapor intrusion. However, subsequent evaluations of all on-site buildings show that indoor air is still being impacted and additional measures are necessary to prevent contact with contaminants in indoor air. Sampling indicates soil vapor intrusion is not a concern for off-site buildings.

#### **6.5: Summary of the Remediation Objectives**

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

##### **Soil Vapor**

###### **RAOs for Public Health Protection**

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

### **SECTION 7: SUMMARY OF THE SELECTED REMEDY**

To be selected the remedy must be protective of human health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. The remedy must also attain the remedial action objectives identified for the site, which are presented in

Section 6.5. Potential remedial alternatives for the Site were identified, screened and evaluated in the feasibility study (FS) report.

A summary of the remedial alternatives that were considered for this site is presented in Exhibit B. Cost information is presented in the form of present worth, which represents the amount of money invested in the current year that would be sufficient to cover all present and future costs associated with the alternative. This enables the costs of remedial alternatives to be compared on a common basis. As a convention, a time frame of 30 years is used to evaluate present worth costs for alternatives with an indefinite duration. This does not imply that operation, maintenance, or monitoring would cease after 30 years if remediation goals are not achieved. A summary of the Remedial Alternatives Costs is included as Exhibit C.

The basis for the Department's remedy is set forth at Exhibit D.

The selected remedy is referred to as the Vapor Mitigation System remedy.

The estimated present worth cost to implement the remedy is \$150,000. The cost to construct the remedy is estimated to be \$120,000 and the estimated average annual cost is \$2,000.

The elements of the selected remedy are as follows:

Elements of the Proposed Remedy:

#### 1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance and monitoring of the remedial program. Green remediation principals and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows;

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gas and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy, and generating some renewable energy on site if possible;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which will otherwise be considered a waste.
- Maximizing habitat value and creating habitat when possible.
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. The site is currently completely covered by three adjoining commercial buildings and customer parking lots, and it is anticipated that this cover will stay in place, however, if modified; a site cover will be installed to allow for commercial use of the site. The remedial design will stipulate that the site cover will consist either of the structures such as buildings, pavement and sidewalks currently comprising the site development, or a soil cover will be installed in areas where exposed surface soil are found to exceeds the commercial use soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of one foot of

soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d). The soil cover will be placed over a demarcation layer. The excavation will be backfilled with soil meeting the backfill material requirements for commercial use as set forth in 6 NYCRR Part 375-6.7(d) with the upper six inches of the soil of sufficient quality to maintain a vegetative layer.

### 3. Sub Slab Depressurization System (SSDS)

Upgrade the existing SSDS to ensure that soil vapor intrusion concerns in on-site buildings will be addressed. The upgrade will include the installation of an appropriate size blower motor and the connection of an additional suction pit and piping in the adjoining mini-mall to mitigate the potential for soil vapor intrusion to impact the indoor air. Once the upgrade is completed, an evaluation of the SSDS will be conducted in accordance with the NYSDOH Soil Vapor Intrusion Guidance document to determine its mitigation effectiveness. Details of the SSDS is shown on Figure 4.

### 4. Institutional Control

Imposition of an institutional control in the form of an environmental easement for the controlled property that:

- requires the remedial party or site 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);
- allows the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH;
- prohibits agriculture or vegetable gardens on the controlled property; and
- requires compliance with the Department approved Site Management Plan.

### 5. Site Management Plan

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 site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 4 above.

Engineering Controls: The soil cover system discussed in Paragraph 2 above and the SSDS discussed in Paragraph 3 above.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
  - descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
  - a provision for evaluation of the potential for soil vapor intrusion for any building be developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
  - provisions for the management and inspection of the identified engineering controls;
  - maintaining site access controls and Department notification; and
  - the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.
- b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- monitoring of soil vapor/indoor air to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department;
- monitoring for vapor intrusion for any buildings occupied or developed on the site, as may be required by the Institutional and Engineering Control Plan discussed.
- c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:
  - compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
  - maintaining site access controls and Department notification; and
  - providing the Department access to the site and O&M records.

## **Exhibit A**

### **Nature and Extent of Contamination**

This section describes the findings of the Remedial Investigation for all environmental media that were evaluated. As described in Section 6.1, samples were collected from various environmental media to characterize the nature and extent of contamination.

For each medium, a table summarizes the findings of the investigation. The tables present the range of contamination found at the site in the media and compares the data with the applicable SCGs for the site. The contaminants are volatile organic compounds (VOCs). For comparison purposes, the SCGs are provided for each medium that allows for unrestricted use.

### **Waste/Source Areas**

As described in the RI report, waste/source materials were identified at the site and are impacting soil vapor.

Wastes are defined in 6 NYCRR Part 375-1.2(aw) and include solid, industrial and/or hazardous wastes. Source Areas are defined in 6 NYCRR Part 375(au). Source areas are areas of concern at a site where substantial quantities of contaminants are found which can migrate and release significant levels of contaminants to another environmental medium. Wastes and Source areas were identified at the site include, spent dry cleaning fluids containing tetrachloroethene (PCE).

In December 1992, the two dry wells in the basement of the Mayflower Cleaners facility were sampled during an inspection performed by the Nassau County Department of Health. The analytical results indicated the presence of PCE within the dry wells at concentrations of 3.4 ppm and 2.4 ppm. Subsequently, the site was referred to EPA's Underground Injection Control (UIC) Program. Based on the results of samples collected within and below the dry wells, the EPA required the excavation of both dry wells to a depth of 2.5 feet below the basement concrete slab. The dry wells were closed in January 1996 by the property owner in accordance with the EPA-approved closure plan. End point samples were collected and confirmed remedial activities were successful. The EPA UIC Program file was closed in March 1996.

The waste/source areas identified were addressed in 1996 prior to the site's listing on the Registry of Inactive Hazardous Waste Disposal Sites. No remaining site-related waste/source areas were identified during the RI. Therefore, no remedial alternatives need to be evaluated for waste/source areas.

### **Groundwater**

Groundwater samples were collected from an existing monitoring well network as well as newly installed monitoring wells. The samples were collected to assess groundwater conditions on and off-site. The results indicate the presence of selected petroleum related and chlorinated VOC constituents in shallow groundwater at the site in excess of the SCGs. The Department's Spills Unit is managing the investigation and remediation of the nearby Great Neck Amoco Site (Spill #82-00157). This spill site is located southeast and hydraulically upgradient of the Mayflower Cleaners site. Groundwater samples collected in association with the spill site revealed elevated levels of petroleum related VOCs and other VOCs in groundwater upgradient of the Mayflower Cleaners site. Based on this information, and samples collected as part of the RI, the Mayflower Cleaners is not a source of the VOCs detected in area groundwater and that these detections can be attributed to the Amoco spill site.

**Table 1 - Groundwater**

Detected Constituents	Concentration Range	SCG <sup>b</sup>	Frequency Exceeding SCG
<b>VOCs</b>			
Tetrachlorethene (PCE)	ND-350	5	2/9
Trichloroethylene (TCE)	ND-20	5	1/9
1,2,4-Trimethylbenzene	ND-1300	5	7/9
1,3,5-Trimethylbenzene	ND-380	5	5/9
Benzene	ND-6700	1	7/9
Cis-1,2-Dichloroethylene	ND-18	5	1/9
Ethylbenzene	ND-2200	5	7/9
M-P-Xylene	ND-8300	5	6/9
N-Propylbenzene	ND-240	5	6/9
O-Xylene	ND-3600	5	5/9
Toluene	ND-23000	5	6/9
Isopropylbenzene	ND-65	5	3/9
<b>Inorganics</b>			
Iron	14000-14000	300	1/1
Manganese	2410-2410	300	1/1
Sodium	97000-97000	20000	1/1

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).

The primary groundwater contaminants are PCE, TCE and petroleum related constituents. Based on the regional groundwater flow direction and historical groundwater sampling results, the presence of these compounds detected in groundwater at the Mayflower Cleaners site may be attributed to hydraulically upgradient sources, notably, the adjacent gas station which is a petroleum remediation site. No site-related groundwater contamination of concern was indentified during the RI. Therefore, no remedial alternatives need to be evaluated for groundwater.



## Soil

In an effort to determine whether site-related source material was not contributing to the presence of chlorinated VOCs in groundwater near the Mayflower Cleaners Site, subsurface soil samples were collected during the RI. Two soil borings (SB-1 and SB-2) were installed in the basement of Mayflower Cleaners in the location of the former dry wells. The soil borings were advanced to a depth of 10 ft below the concrete basement slab. Soil samples were collected from 2.5 to 5 ft bgs and 8 to 10 ft bgs at both SB-1 and SB-2 and analyzed for VOCs by USEPA Method 8260. Three additional soil borings were installed upgradient and side gradient of the dry cleaners facility with soil samples being collected at the water table and five feet below the water table and analyzed for VOCs by USEPA Method 8260.

A review of the soil analytical results indicated that VOCs were detected in only one of the eight samples collected. At SB-2 (2.5'-5'), PCE at a concentration of 0.003 mg/kg which is below the NYSDEC Commercial SCO of 150 mg/kg. The RI soil results indicate that there is no significant residual source of PCE or TCE in subsurface soils where samples were collected at the site. No site-related soil contamination of concern was identified during the RI. Therefore, no remedial alternatives need to be evaluated for soil.

## Soil Vapor

The evaluation of the potential for soil vapor intrusion resulting from the presence of site related soil or groundwater contamination was evaluated by the sampling of sub-slab soil vapor under structures, outdoor air and indoor air inside structures. At this site 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.

Sub-slab soil vapor samples were collected from beneath the basement slab of the Mayflower Cleaners in the location of the former dry wells, in the basement of the adjacent bagel shop, the adjacent mini-mall and in the basement hallway beneath the liquor store, pet store and public library. Indoor air and outdoor air samples were also collected at this time. The samples were collected to determine whether actions are needed to address exposures related to soil vapor intrusion. The data showed PCE and trichloroethylene (TCE) in on-site sub-slab soil vapor and indoor air at levels which called for mitigation pursuant to the NYSDOH Soil Vapor Intrusion Guidance document (NYSDOH Guidance). An interim active sub-slab depressurization system (SSDS) has been installed in the basement of the Mayflower Cleaners establishment; however, the data collected during the RI indicates the system needs to be upgraded to mitigate the adjacent retail establishments in the adjoining building.

Based on the findings of the Remedial Investigation, the disposal of hazardous waste has resulted in the contamination of soil vapor. The site contaminants that are considered to be the primary contaminants of concern which will drive the remediation of soil vapor to be addressed by the remedy selection process are tetrachloroethylene (PCE) and trichloroethene (TCE).

**Exhibit B**

**Description of Remedial Alternatives**

The following alternatives were considered based on the remedial action objectives (see Section 6.5) to address the contaminated media identified at the site as described in Exhibit A.

**Alternative 1: No Action**

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. This alternative leaves the site in its present condition and does not provide any additional protection to public health and the environment.

No capital cost or annual O&M cost for the No Action alternative will incur. Small periodic costs associated with reviews to assess current conditions may be incurred. The net present value of periodic reviews for a 30-year period is estimated at \$56,000.

*Present Worth:* ..... \$56,000  
*Capital Cost:* ..... \$0  
*Annual Costs:* ..... \$0

**Alternative 2: Soil Vapor Monitoring**

Alternative 2 will involve monitoring, as defined by the NYSDOH Guidance, and would include sampling the following: sub-slab vapor, basement air, lowest occupied living space air and outdoor air.

Under this alternative, monitoring would be performed to determine whether concentrations in the indoor air or sub-slab vapor have changed. Monitoring may also be needed to determine whether existing building conditions (e.g., ventilation and air-conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitoring is determined on a site-specific and building-specific conditions, taking into account applicable environmental data and building operating conditions. Restrictions on the use of site groundwater will be implemented.

It is estimate that it will take in excess of 30 years to meet remedial goals.

The capital cost including design, preparation of an OM&M Plan, recording of an environmental easement, and preparation of a periodic monitoring work plan is approximately \$20,000. Annual O&M consisting of sample collection would be approximately \$2,000. Small periodic costs associated with reviews to assess current conditions may be incurred. The net present value of this alternative is estimated at \$80,000.

*Present Worth:* ..... \$80,000  
*Capital Cost:* ..... \$20,000  
*Annual Costs:* ..... \$2,000

### Alternative 3: Soil Vapor Mitigation

Alternative 3 will involve Mitigation, as defined by the NYSDOH Guidance, is needed to minimize current or potential exposures associated with soil vapor intrusion. In this case, the existing SSDS will be upgraded to ensure that all area of any site buildings that are impacted, or have the potential to be impacted by soil vapor intrusion, are mitigated. Restrictions on the use of site groundwater will be implemented.

It is estimate that it will take in excess of 30 years to meet remedial goals.

The capital cost for the upgrade to the existing SSDS, which includes the design, preparation of an OM&M Plan, recording of an environmental easement, as well as the upgrade of the system is approximately \$120,000. Annual O&M consisting of sample collection would be approximately \$2,000. Small periodic costs associated with reviews to assess current conditions may be incurred. The net present value of this alternative is estimated at \$150,000.

<i>Present Worth:</i> .....	<i>\$150,000</i>
<i>Capital Cost:</i> .....	<i>\$120,000</i>
<i>Annual Costs:</i> .....	<i>\$2,000</i>

## Exhibit C

### Remedial Alternative Costs

<i>Remedial Alternative</i>	<i>Capital Cost (\$)</i>	<i>Annual Costs (\$)</i>	<i>Total Present Worth (\$)</i>
<i>Alternative 1 - No Action</i>	<i>0</i>	<i>0</i>	<i>56,000</i>
<i>Alternative 2 - Monitoring</i>	<i>20,000</i>	<i>2,000</i>	<i>80,000</i>
<i>Alternative 3 - Mitigation</i>	<i>120,000</i>	<i>2,000</i>	<i>150,000</i>

## **Exhibit D**

### **SUMMARY OF THE PROPOSED REMEDY**

The Department is proposing Alternative 3 Mitigation as the remedy for this site. Alternative 3 would achieve the remediation goals for the site by the mitigation of the current or potential exposures associated with soil vapor intrusion. The elements of this remedy are described in Section 7. The proposed remedy is depicted in Figure 4.

### **Basis for Selection**

The proposed remedy is based on the results of the RI and the evaluation of alternatives. The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375. A detailed discussion of the evaluation criteria and comparative analysis is included in the FS report.

The first two evaluation criteria are termed "threshold criteria" and must be satisfied in order for an alternative to be considered for selection.

1. Protection of Human Health and the Environment. This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

Remedial Alternative 3, upgrading the existing SSDS, would satisfy this criterion by preventing the migration of sub-slab vapors into occupied buildings. Alternative 2 monitors site conditions but does not prevent the migration of sub-slab vapors into occupied buildings. Alternative 1, the No Action alternative, would not remove, contain, or treat the concentrations of PCE and TCE in soil vapor beneath the on-site building that require action under the NYSDOH Guidance. It would not provide for continued OM&M and periodic certification as well as provide any use restrictions for groundwater at the Site. Therefore, potential risks to human health would remain unchanged.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the Department has determined to be applicable on a case-specific basis.

The Proposed Remedial Alternative 3 complies with SCGs since it follows the recommendations of the NYSDOH Guidance which recommends measures to ensure that TCE and PCE in sub-slab soil vapors do not impact the indoor air in any portion of the on-site building. An SSDS is the preferred remedy for soil vapor intrusion mitigation. Alternatives 1 and 2 will not address soil vapor intrusion concerns since no action would be taken and thus the potential risks to human health would remain unchanged.

The next six "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals

remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the engineering and/or institutional controls intended to limit the risk, and 3) the reliability of these controls.

Alternative 3 would prevent migration of concentrations of PCE and TCE vapors above NYSDOH Guidance objectives into the on-site building and would eliminate associated inhalation exposures consistent with RAOs. Use restrictions will eliminate potential exposure to subsurface contamination that may remain at the site and development of an OM&M Plan will ensure that this protection remains effective for the long-term. The OM&M Plan will require monitoring and inspection in accordance with the NYSDOH Guidance and will ensure that controls and use restrictions continue to be in place in perpetuity.

The No Action and Monitoring alternatives would have no long-term effectiveness and/or permanence. The

magnitude of potential human health risks would be the same following implementation of either alternative. No engineering or institutional controls would be implemented to manage concentrations of PCE and TCE in soil vapor or restrict the use of groundwater.

4. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

Alternative 3 would not involve any containment, removal, treatment, or disposal of the contaminated material. However, an SSDS, OM&M, and implementation of institutional controls will provide assurance that provisions will be in place to ensure that soil vapor intrusion does not occur and that the equipment necessary to mitigate soil vapor intrusion is properly maintained. Based on pilot test data, it is reasonable to assume that the existing system can be upgraded to remove contaminated soil vapor from the building's sub-slab environment, and therefore prevent soil vapor intrusion.

The No Action and Monitoring alternatives would not involve any treatment, reduction, or control of concentrations of PCE and TCE in soil vapor. Therefore, these alternatives would not provide any reduction in the toxicity, mobility, and/or volume of PCE and TCE soil vapor or in indoor air.

5. Short-term Impacts and Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

Under Alternative 3, site workers who might come in contact with contaminated media would be subject to a Health and Safety Plan (HASP) that would require the use of personal protective equipment (PPE) to minimize the potential risks of exposure. An SSDS design and the development of an OM&M plan signed and sealed by a Professional Engineer as part of this alternative and is estimated to take three to six months to implement.

Under the No Action and Monitoring alternatives, no short-term impacts to workers or the surrounding community would occur. No construction would be required for implementation of these alternatives. Workers would be subject to a Health and Safety Plan (HASP) that would require the use of personal protective equipment (PPE) to minimize the potential risks of exposure. These alternatives would not result in any short-term improvement over current conditions. As no design or construction activities are required for these alternatives, they would take no time to implement.

6. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction of the remedy and the ability to monitor its effectiveness. For administrative feasibility, the availability of the necessary personnel and materials is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, institutional controls, and so forth.

Alternative 3 is favorable in that no technical feasibility/implementability concerns exist with this alternative. The existing SSDS currently operates to meet its interim performance objectives, but does not effectively meet RAOs. The pilot test data collected in May 2011 was used to design an effective upgrade to the existing SSDS. The upgraded system will mitigate the intrusion of contaminated sub-slab vapors from all areas of the on-site building area currently being mitigated by the existing system. Installation of the upgraded SSDS would include commonly-used construction methods and materials including concrete, piping, sealant, and readily-available fan(s) and/or blower(s) to provide vacuum pressure to the system. Since suction pits, piping, and a fan for the interim SSDS system were previously installed, new SSDS components would be tied-into the existing components and installation could be accomplished with minimal new pipe runs and disruptions to building occupants. Suction pits and vapor monitoring points would be installed in areas of buildings with minimal occupant activity and in areas acceptable to occupants. To the greatest extent practicable, piping would run from the subsurface to the ceiling of basement spaces and in areas where piping already exists (*i.e.*, the existing interim SSDS).

The other alternatives: the No Action and Monitoring Alternatives, contain no technical feasibility/implementability concerns. The Alternatives do not include any difficulties associated with the construction of the remedy and the ability to monitor its effectiveness. No administrative feasibility concerns exist with these alternatives and as they involve no construction activities, availability of resources and use of proven technologies is not applicable.

7. Cost-Effectiveness. Capital costs and annual operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision.

The estimated costs associated with the implementation of each alternative are summarized in Exhibit C. Alternative 3 is expected to provide an effective remedy for soil vapor intrusion. The capital cost including design, preparation of an OM&M Plan, recording of an environmental

easement, and upgrading the existing SSDS is approximately \$120,000. Annual O&M consisting of sample collection would be approximately \$2,000. Periodic costs associated with reviews to assess current conditions may be incurred. The net present worth of this alternative is estimated at \$150,000.

8. Land Use. When cleanup to pre-disposal conditions is determined to be infeasible, the Department may consider the current, intended, and reasonable anticipated future land use of the site and its surroundings in the selection of the soil remedy.

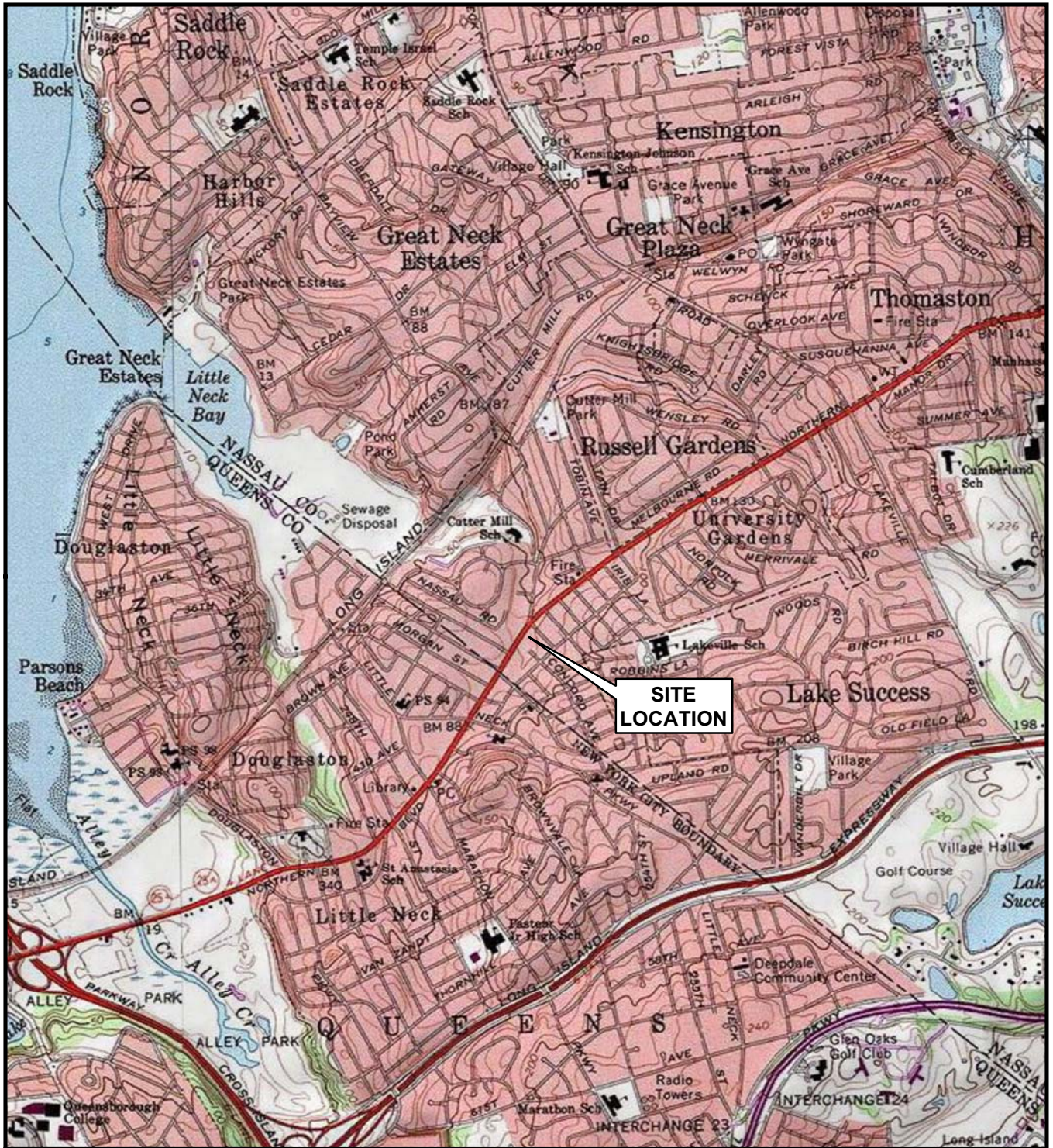
An environmental easement and a site management plan are required for Alternative 3 because of the restriction of the use of site groundwater, the operation of the SSDS and the implementation of a site management plan (SMP).

The final criterion, Community Acceptance, is considered a "modifying criterion" and is taken into account after evaluating those above. It is evaluated after public comments on the Proposed Remedial Action Plan have been received.

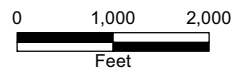
9. Community Acceptance. Concerns of the community regarding the investigation, the evaluation of alternatives, and the PRAP were evaluated. A public meeting was held on February 25, 2013 and the attendees generally indicated support for the remedy. No written comments were received. A responsiveness summary has been prepared that describes public comments received and the manner in which the Department will address the concerns raised.

Alternative 3 is being proposed because, as described above, it satisfies the threshold criteria and provides the best balance of the balancing criterion.



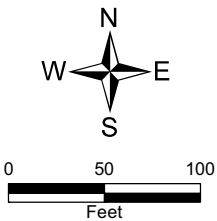


**Figure 1**  
Site Location Map



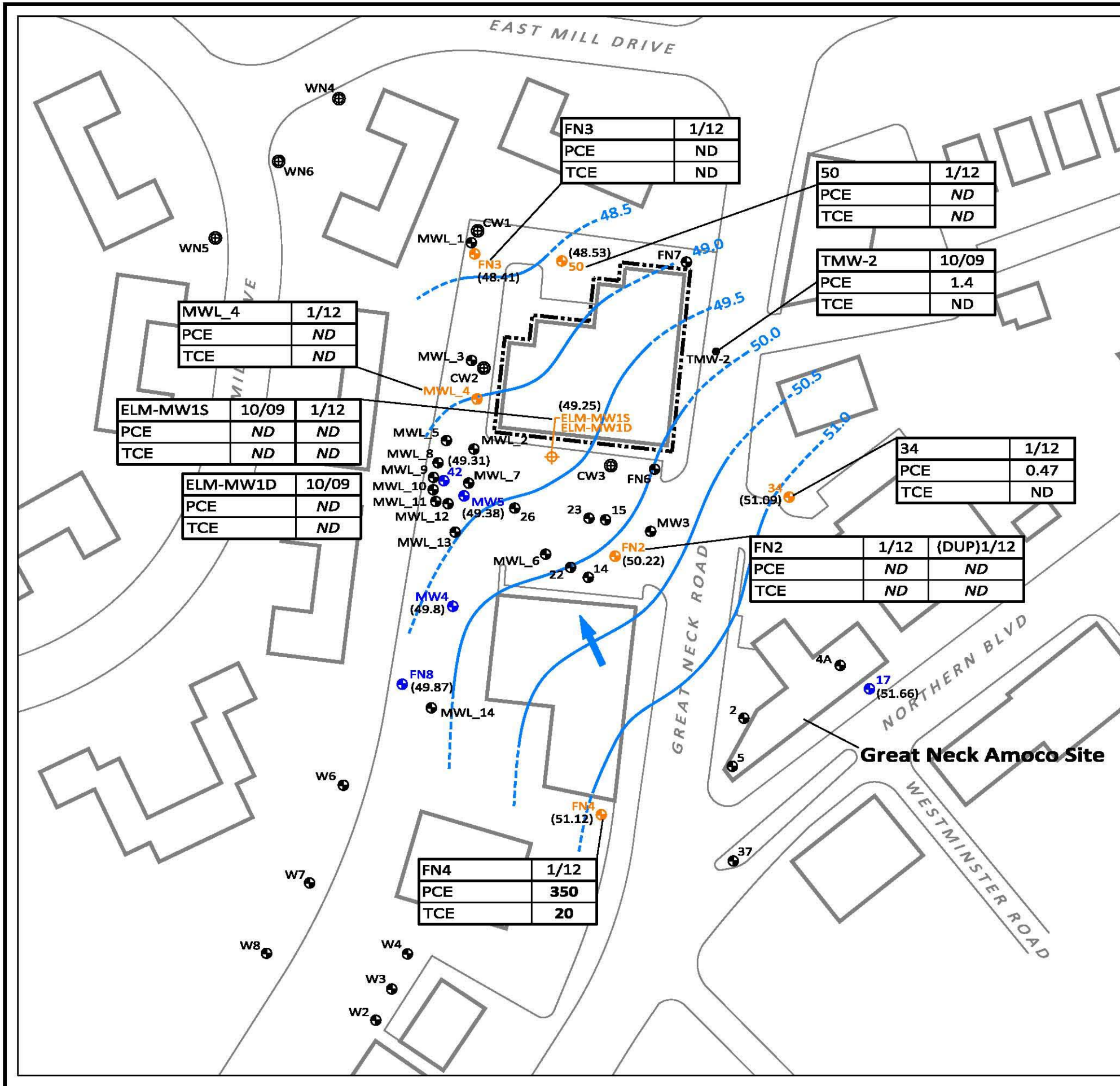
Mayflower Cleaners  
Town of North Hempstead, Nassau County  
Site No. 130068





**Figure 2**  
Site Map  
Mayflower Cleaners  
Town of North Hempstead, Nassau County  
Site No. 130068



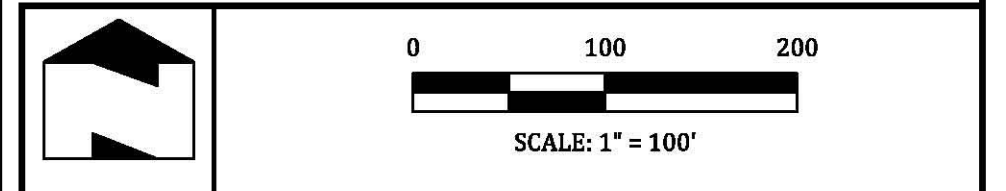


**LEGEND**

- SITE BOUNDARY
  - FN8 MONITORING WELL LOCATION AND ID, AND GROUND WATER ELEVATION COLLECTED DECEMBER 14, 2011
  - FN3 MONITORING WELL LOCATION AND ID, AND GROUND WATER ELEVATION COLLECTED JANUARY 9-10, 2012
  - 17 MONITORING WELL LOCATION AND ID
  - ⊕ CW1 CLUSTER WELL LOCATION AND ID
  - TMW TEMPORARY WELL LOCATION AND ID
  - (51.12) GROUND WATER ELEVATION (FEET)
  - GROUND WATER ELEVATION CONTOUR (FEET)  
CONTOUR INTERVAL = 0.5 FOOT  
DASHED WHERE INFERRED
  - INTERPRETED GROUND WATER FLOW DIRECTION
- |                                                    |      |                                             |
|----------------------------------------------------|------|---------------------------------------------|
| FN2                                                | 1/12 | SAMPLE ID AND DATE                          |
| PCE                                                | ND   | TETRACHLOROETHENE RESULT IN ug/L (TOGS = 5) |
| TCE                                                | ND   | TRICHLOROETHENE RESULT IN ug/L (TOGS = 5)   |
| ND NOT DETECTED                                    |      |                                             |
| ND NOT DETECTED/REPORTING LIMIT EXCEEDS TOGS 1.1.1 |      |                                             |

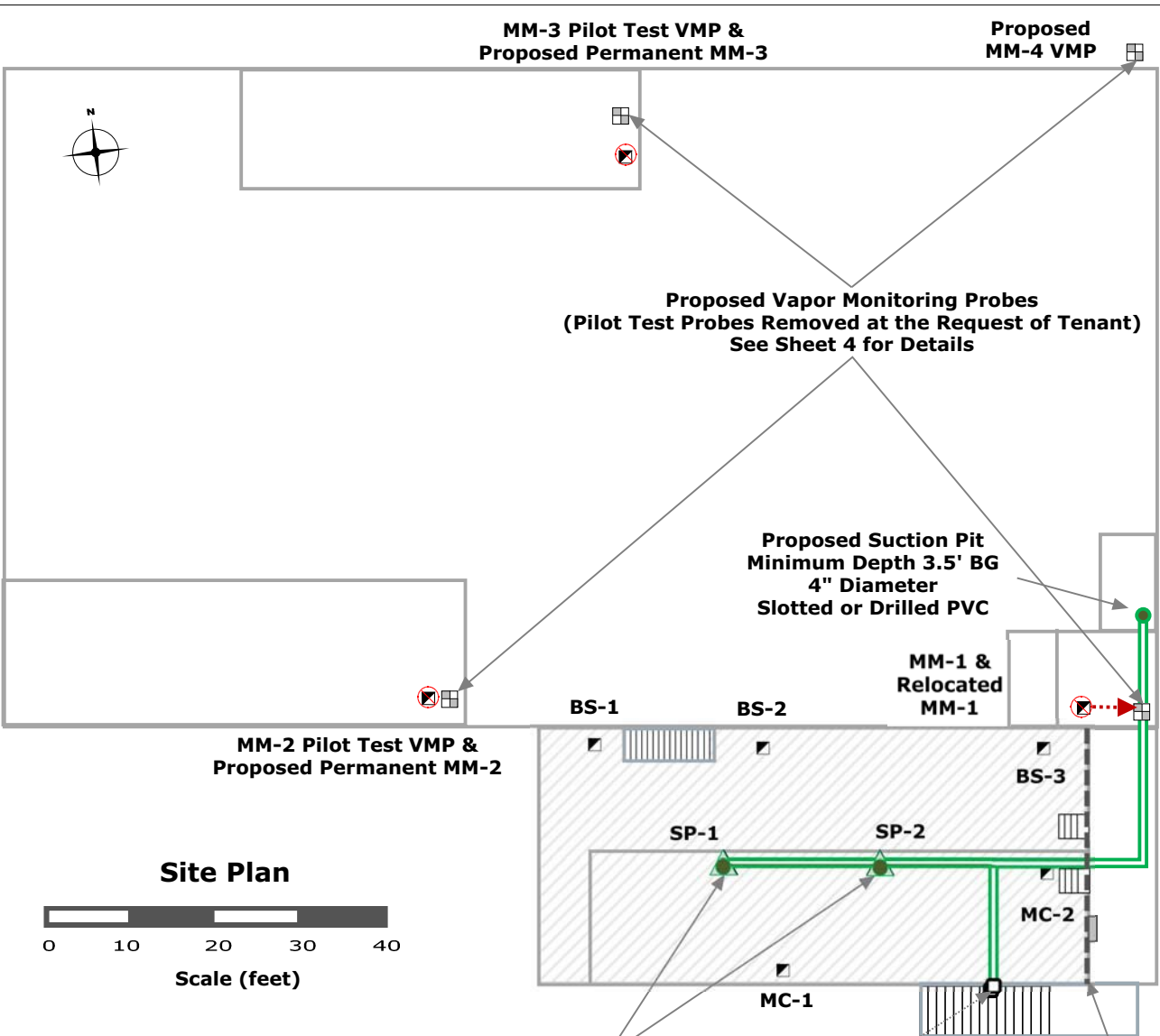
**NOTES:**

1. ALL RESULTS ARE IN ug/L.
2. ONLY COMPOUNDS OF CONCERN ARE SHOWN.
3. **BOLD RESULTS EXCEED APPLICABLE TOGS 1.1.1 STANDARD (SEE LEGEND).**
4. GROUND WATER ELEVATION FOR MWL\_4 IS NOT SHOWN BECAUSE WELL WAS NOT SURVEYED.
5. GROUND WATER CONTOURS WERE DERIVED FROM BOTH THE 12/14/11 AND 1/9-10/12 GAUGING EVENTS.
6. THE HORIZONTAL DATUM IS THE NEW YORK STATE PLANE COORDINATE SYSTEM NAD83 DETERMINED BY DIFFERENTIAL GPS ON 12/20/11. REFERENCE STATION: NYQN.
7. THE VERTICAL DATUM IS THE EXISTING WELL DATUM PROVIDED BY THE ELM GROUP TO BORBAS SURVEYING & MAPPING, LLC. IN A DIGITAL FILE (MAYFLOWER\_SURVEY\_DATA.XLSX) VIA EMAIL ON 12/19/11. BENCHMARK HELD: MARK ON 4" DIAMETER PVC INNER CASING OF FN7=69.83'.
8. THE EXISTING WELL DATUM DIFFERS FROM NAVD88 (NORTH AMERICAN VERTICAL DATUM OF 1988) BY APPROXIMATELY 25 FEET (NAVD88 INNER CASING OF FN7=45.07'±).
9. ALL COORDINATES AND ELEVATIONS SHOWN HEREON ARE IN U.S. SURVEY FEET.



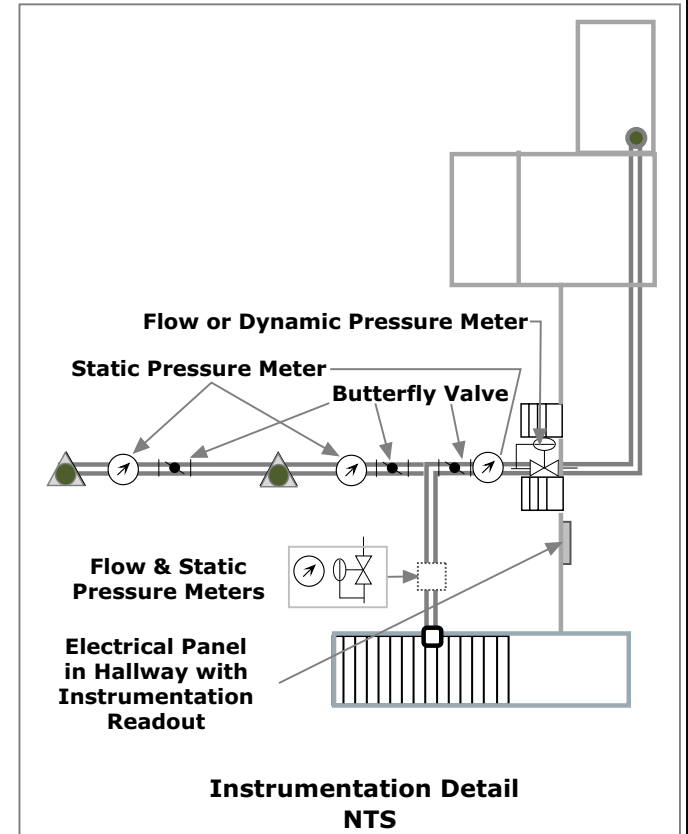
TITLE:	FIGURE 3
SGI SAMPLING RESULTS AND GROUND WATER CONTOUR MAP	
LOCATION:	489 GREAT NECK ROAD GREAT NECK, NEW YORK
DATE:	1/20/12
FILENAME:	207072_MONWELL_LOC-REV3
LAYOUT:	GW DATA

**The EIM Group**  
218 WALL STREET, PRINCETON, NEW JERSEY 08540  
 4920 YORK ROAD, SUITE 200, HOLMERC, PENNSYLVANIA 18928 612  
 MAIN STREET, BOONTON, NEW JERSEY 07005  
 267 BROADWAY, FIFTH FLOOR, NEW YORK, NEW YORK 10007  
 2475 BAGLYOS CIRCLE, BETHLEHEM, PENNSYLVANIA 18020  
 www.ExploreEIM.com



**Notes**

1. Final design and component selection are subject to approval by the environmental engineer.
2. Contractor shall provide all specifications and cut sheets to the environmental engineer for approval prior to installation.
3. Basement wall (3' X 30' with stairway indentations) shall be repaired with concrete filler and sealed with 4Evercrete manufactured by ECI Global Solutions Inc., or equivalent or superior.



- Key**
- ☐ Vapor Monitoring Probe
  - ▲ Existing Suction Pit
  - Proposed Suction Pit
  - New 4" Laterals
  - New 4" Riser to Replace Existing 3" Riser

Existing Suction Pits  
3.5' BG, 3" Diameter  
Transitioning to New  
4" Lateral At Grade

New 4" Riser  
To Replace Existing  
3" Riser  
(See Sheet 4 for Details)

Wall to be  
Sealed  
See Sheet 1

**Piping Layout and VMP Locations**

**Mayflower Cleaners**  
489 Great Neck Road, Great Neck, NY

DRAWN	CHECKED	DATE	DRAWG NO.
Keith P. Brodock, P.E.	Tarek Z. Khouri, P.E.	June 2011	Figure 4

ELM Engineering, P.C.  
An Affiliate of



CEUS Engineering, P.C.



267 BROADWAY | FIFTH FLOOR | NEW YORK NY 10007  
TEL 212.962.4301 FAX 212.962.4302  
WWW.EXPLOREELM.COM

John A. Rhodes, P.E.  
NYS License 84423

# **APPENDIX A**

## **Responsiveness Summary**

# RESPONSIVENESS SUMMARY

**Mayflower Cleaners  
State Superfund Project  
Great Neck, Nassau County, New York  
Site No. 130068**

The Proposed Remedial Action Plan (PRAP) for the Mayflower 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 20, 2013. The PRAP outlined the remedial measure proposed for the contaminated media at the Mayflower Cleaners site.

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 February 25 2013, which included a presentation of the remedial investigation feasibility study (RI/FS) for the Mayflower Cleaners 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 20, 2013.

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:** Is the DEC officially saying that Mayflower Cleaners is not contributing to the ground water contamination in this area of the Great Neck Peninsula?

**RESPONSE 1:** Based on the results of the Remedial Investigation that was conducted at the Mayflower Cleaners Site and the historic groundwater sampling data collected as part of the on-going investigation and remediation of the nearby Great Neck Amoco spill site (NYSDEC Spill # 82-00157), it appears that the Mayflower Cleaners site is not contributing to the elevated levels of petroleum and chlorinated solvents in the groundwater in this area of the Great Neck Peninsula. This includes the low levels of tetrachloroethylene (PCE) and other petroleum compounds detected in the monitoring wells located immediately upgradient of the Great Neck North Water Authority's Watermill Lane well field.

**COMMENT 2:** When did the contamination from this site start?

**RESPONSE 2:** The earliest known report of contamination detected at the site was during an inspection performed by the Nassau County Department of Health (NCDH) in 1992. As a result of

that inspection, it was determined that spent dry cleaning waste was being discharged to the dry wells in the basement of the cleaners.

**COMMENT 3:** Could there still be soil contamination deeper in the ground?

**RESPONSE 3:** In December 1996, the dry wells were remediated in accordance with an approved United States Environmental Protection Agency (USEPA) closure plan under the supervision of the NCDH. As part of the recent Remedial Investigation (RI), soil borings were installed in the center of each of the former dry wells to determine if the soil below the dry wells was impacted. The borings extended to a depth of 10 feet below the bottom of the dry wells and soil samples confirmed that no soil contamination existed in the area below the former dry wells.

**COMMENT 4:** Has the DEC and NCDH checked the many other car dealers and auto repair shops in this area to see if they are contaminating the ground water?

**RESPONSE 4:** No car dealers or auto repair shops in the area of the site were investigated as part of the investigation being conducted at the Mayflower Cleaners site. However, a review of the other remedial projects and site investigations that have occurred in the area was conducted. The Citizens Development Company site (Site # 130070) and the Great Neck Amoco spill site (NYSDEC Spill # 82-00157) data was reviewed (See Response 1). The NCDH may be contacted to determine if they have investigated any other car dealers and auto repair shops in the Great Neck area.

**COMMENT 5:** Did the DEC encounter any clay layers or lenses when installing the monitoring wells?

**RESPONSE 5:** A review of the boring logs and field notes collected during the installation of the monitoring wells and soil borings during the Remedial Investigation conducted at the Mayflower Cleaners site indicates that the subsurface soils consist mainly of sand and some silt. However, at soil boring SB-2, clay lenses were encountered at a depth of four to eight feet below grade.

**COMMENT 6:** What and why was the Great Neck Amoco station using PCE if this is the upgradient source?

**RESPONSE 6:** The investigation of the Mayflower Cleaners site concluded that the source of contaminated groundwater on the Mayflower Cleaners site has migrated from the upgradient Great Neck Amoco spill site. This investigation did not determine the source of the groundwater contamination to be the Great Neck Amoco spill site, only that it was coming from upgradient.

**COMMENT 7:** What type of recovery system is currently being used at the Great Neck Amoco spill site?

**RESPONSE 7:** According to the project manager for the Great Neck Amoco spill site, an air sparge and soil vent system was installed to remediate the impacted soil and groundwater downgradient of

the station, including the area in and around the Mayflower Cleaners site. The system is currently not running as the Spill Program is evaluating another technology to replace the system.

**COMMENT 8:** Why weren't additional deeper monitoring wells sampled during the Mayflower Investigation?

**RESPONSE 8:** A network of deep and shallow monitoring wells exists in and around the Mayflower Cleaners site. These wells were installed in connection with the ongoing investigation and remediation of the nearby Great Neck Amoco spill site. As part of the Mayflower Cleaners investigation, the historic and recent sampling data collected from these monitoring wells was reviewed and evaluated. Based on the data obtained, it was not necessary to install new deeper wells or sample any additional deeper wells as part of the Mayflower Cleaners site investigation. As part of the Mayflower project, shallow and intermediate wells were installed immediately upgradient and side gradient of the cleaners to supplement the existing well network. Based on the data available, it was not necessary to install additional deeper monitoring wells on the northeast and northwest sides of the site or sample any of the existing deeper wells.

**COMMENT 9:** Were deeper monitoring wells on the northeast and northwest sides of the site sampled?

**RESPONSE 9:** See Response 8.

**COMMENT 10:** Is the DEC planning on sampling any of the monitoring wells in the Magothy aquifer?

**RESPONSE 10:** The Department is not planning on sampling any additional monitoring wells as part of the Mayflower Cleaners site investigation. The Department will consider sampling additional monitoring wells as part of the Mayflower Cleaners remedial design. Also see Response 8.

**COMMENT 11:** How do you know that there isn't a direct connection between the Upper Glacial and the Magothy aquifers?

**RESPONSE 11:** The Mayflower Cleaners site is situated over the Upper Glacial and Magothy aquifers. The Upper Glacial aquifer is approximately 190 feet thick and is composed of stratified sands and gravel with intermittent silt lenses. Beneath the Upper Glacial aquifer lies the Magothy aquifer. The Magothy aquifer is composed of clay, silt and sandy clay. A connection between the Upper Glacial and the Magothy aquifers could exist in some areas of the site; however, no area of connection between the aquifers was identified during the Mayflower Cleaners site investigation.

**COMMENT 12:** What is a Sub-Slab Depressurization System (SSDS)?

**RESPONSE 12:** A SSDS is an effective way to ensure that contaminated subsurface vapors do not enter from the sub slab environment into the building. The system creates a pressure differential between the sub slab environment and the interior of the building thereby preventing the migration of



contaminated sub slab soil vapor into the interior of the building. The contaminated soil vapor is exhausted through a pipe connected to an exhaust fan that terminates above the roof.

**COMMENT 13:** Is the current operating SSDS up to standards? Is it doing its job? Why is there still contamination under this site?

**RESPONSE 13:** The SSDS that was installed in the basement of the Mayflower Cleaners site was installed by the owner of the property (without and Department involvement or oversight) to address the elevated levels detected in the sub slab and indoor air in the Mayflower cleaner's basement and adjacent store's basement. While the system is working effectively in those areas, it needs to be upgraded to ensure that all areas of the site building with contaminated soil vapor in the sub slab environment are mitigated effectively. Once the upgrade to the system has been completed and the system evaluated to determine if it is operating effectively, the system can be approved by the Department.

A SSDS is not a system designed to treat the soil or remove all of the contaminated soil vapor beneath the building, it is designed to remove vapor in the area beneath the floor slab before it gets into the building. It appears from sub slab soil and soil vapor data collected as part of the Remedial Investigation that contaminated vapors are still trapped below the building's basement slab. Based on the results of the Remedial Investigation, no additional source of the contaminated vapors was identified. It is expected that the system will remove these residual vapors and mitigate potential exposures.

**COMMENT 14:** What are the levels in the indoor air when it was sampled?

**RESPONSE 14:** The most recent sampling occurred in 2011. The indoor air sample collected in the Bagel store basement contained PCE at 180.0 ug/m<sup>3</sup>. The indoor air sample collected in the mini-mall contained PCE at 74.0 ug/m<sup>3</sup> and the sample collected in the pet shop hallway contained PCE at 15 ug/m<sup>3</sup>. As part of the remedy, the existing system will be upgraded and additional sampling will occur to assure levels remain below action levels.

**COMMENT 15:** Does the SSDS have an alarm system if it stops operating?

**RESPONSE 15:** The SSDS that is currently operating does not have an alarm if it stops operating. However, the proposed upgrade to the system will include an alarm to alert the property owner and the system engineer that the system has stopped working.

**COMMENT 16:** How long will the SSDS be operating?

**RESPONSE 16:** The property owner and consultant are currently preparing the design document for the upgrade to the existing SSDS. The design document will include a detailed discussion of system termination procedures. System termination procedures will be done in accordance to the New York State's *Guidance for Evaluating Soil Vapor Intrusion in the State of New York*. (NYSDOH, October 2006). In general, the system will not be removed from operation until it is demonstrated that

contaminated sub slab vapors are not entering or that there is no potential for contaminated soil vapor to enter any on-site buildings.

**COMMENT 17:** How much does the SSDS system cost?

**RESPONSE 17:** The cost for the SSDS, including the upgrades, is approximately \$120,000.

**COMMENT 18:** What are the acceptable levels for vapors in the building and sub slab?

**RESPONSE 18:** The State of New York does not have any standards for concentrations of volatile chemicals in subsurface vapors (either soil vapor or sub-slab vapor). The NYSDOH has guideline levels for PCE and trichloroethene (TCE) in indoor air of 100 micrograms per liter of air ( $\mu\text{g}/\text{liter}$ ) and  $5\mu\text{g}/\text{liter}$ , respectively. The NYSDOH has matrices, in the October 2006 Final Soil Vapor Intrusion Guidance that address these two site-related chemicals. The goal of the recommended actions is to reduce chemical levels in indoor air to as close to background as practical.

**COMMENT 19:** Who is the current DEC project manager for the former Stanton Cleaners site?

**RESPONSE 19:** The DEC project Manager for the Stanton Cleaner site (Site # 130072) is David Gardner. Mr. Gardner can be reached at (518)402-9813 or drgardner@gw.dec.state.ny.us

**COMMENT 20:** Who should we contact to get information about the Great Neck Amoco spill site and the Exxon Mobil at Steamboat Rd?

**RESPONSE 20:** Information regarding the Great Neck Amoco spill site and the Exxon Mobil site at Steamboat Road can be obtained by contacting Mr. Chris Engelhardt of the Department's Bureau of Spill Prevention and Response. Mr. Engelhardt can be reached at (631)444-0336 or caenglh@gw.dec.state.ny.us

**COMMENT 21:** Is DEC or somebody else looking at all of these sites together to see how they affect the ground water on the Great Neck Peninsula?

**RESPONSE 21:** At this time, the Department is not aware of any agency conducting a regional study of hazardous waste and petroleum spill sites located in the area of the Great Neck Peninsula. Department project managers coordinate as needed when sites are in close proximity.

**COMMENT 22:** Due to the fact that PCE specific gravity is 1.6 of water, it has a tendency for the contaminant to sink quickly and sit on the clay lenses and follow the natural groundwater flow direction. In this instance, the shallow monitoring wells that have been sampled regarding this spill would not detect the contaminant. Therefore, the Water Authority officially requests that additional monitoring wells be constructed and sampled, between the spill site, and the Water Authority's Watermill Lane well field, at the level the Water Authority derives its drinking water from.

**RESPONSE 22:** As part of the Great Neck Amoco spill project, deep wells were installed and currently exist in the area between the spill site and the Great Neck North Water Authority's Watermill Lane well field. This area is upgradient to the well field. These wells have been, and will be, sampled as part of the ongoing investigation and remediation of the Great Neck Amoco spill site. The results will be evaluated and if warranted, additional wells will be installed as part of the existing network of monitoring wells.

# **APPENDIX B**

## **Administrative Record**

## **Administrative Record**

**Mayflower Cleaners  
State Superfund Project  
Great Neck, Nassau County, New York  
Site No. 130068**

1. Proposed Remedial Action Plan for the Mayflower Cleaners site, dated March 2013, prepared by the Department.
2. Order on Consent, Index No. A1-0556-0706, between the Department and Plymouth Realty Company, LLC, executed on May 25, 2007.
3. "Remedial Investigation Work Plan", Dated March 2009, prepared by Environmental Liability Management (ELM) Engineering P.C.
4. "Supplemental Remedial Investigation Work Plan", Dated October 2010, prepared by Environmental Liability Management (ELM) Engineering P.C.
5. "Groundwater Sampling Work Plan", Dated January 2012, prepared by Environmental Liability Management (ELM) Engineering P.C.
6. "Final Remedial Investigation Report", Dated January 2012, prepared by Environmental Liability Management (ELM) Engineering P.C.
7. "Final Feasibility Study Report", Dated March 2013, prepared by Integral Consulting Inc.