DECISION DOCUMENT

Former Gateway French Dry Cleaners
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224151
December 2014

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

DECLARATION STATEMENT - DECISION DOCUMENT

Former Gateway French Dry Cleaners
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224151
December 2014

Statement of Purpose and Basis

This document presents the remedy for the Former Gateway French Dry Cleaners site, a brownfield cleanup 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.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the Former Gateway French Dry Cleaners site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the selected remedy are as follows:

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 principles 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;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would 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. Cover System

A site cover currently exists and will be maintained to allow for restricted residential use of the site. Any site redevelopment will maintain a site cover, which may consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of two feet of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for restricted residential use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

3. Vapor Mitigation

Any existing or future buildings within the area indicated on Figure 2 will be required to have a sub-slab depressurization system (SSDS), or a similar engineered system, to prevent the migration of vapors into the building from soil and/or groundwater. There is an existing SSDS installed and operating on the residential building located immediately adjacent to the north of the site. This system will be expanded to include the on-site and off-site commercial building.

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 restricted residential, 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 NYC DOH; 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 above
   - Engineering controls: The site cover and sub-slab depressurization system discussed above

   This plan includes, but may not be limited to
   - Excavation plan which details the provision for management of future excavations in area of remaining contamination;
   - Description of the provision of the environmental easement including any land use, and groundwater use restrictions;

- Provision for 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 site cover to assess the performance and effectiveness of the remedy; and
   - A schedule of monitoring and frequency of submittals to the Department.

Declaration

The remedy conforms with promulgated standards and criteria that are directly applicable, or that are relevant and appropriate and takes into consideration Department guidance, as appropriate. The remedy is protective of public health and the environment.

December 22, 2014

Date

Robert J. Cozzy, Director
Remedial Bureau B

DECISION DOCUMENT

Former Gateway French Dry Cleaners
Brooklyn, Kings County
Site No. C224151
December 2014

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 contaminants 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 contaminants at this site, as more fully described in this document, has contaminated various environmental media. Contaminants include hazardous waste and/or petroleum.

The New York State Brownfield Cleanup Program (BCP) is a voluntary program. The goal of the BCP is to enhance private-sector cleanups of brownfields and to reduce development pressure on "greenfields." A brownfield site is real property, the redevelopment or reuse of which may be complicated by the presence or potential presence of a contaminant.

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:

Coney Island Library
Attn: Angela Barnes
1901 Mermaid Avenue (Near W. 19th Street)
Brooklyn, NY 11224
Phone: 718-265-3220

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

Location:
The site is located at 3375-3377 Neptune Avenue, in the borough of Brooklyn, city of New York, and is identified on the local Tax maps as Block 6979, portion of lot 100.

Site Features:
The site is about 0.04 acres in size and is located within a one story commercial strip which is set back from Neptune Avenue. The site is bordered to the south by Neptune Avenue, to the east by commercial space, to the west by a Key Food Supermarket and residential building, and to the north by a residential building. There is an occupied multi-story residential apartment building which is part of the same structure attached to the rear of the commercial strip.

Current Zoning and Land Use:
The current site zoning is R6 residential. The site is part of a mixed use development with residential apartments and commercial/retail space. The current land use category is "mixed use" (commercial/residential) and the site is currently occupied by a dental office. Surrounding parcels are single family homes and apartment buildings.

Past Use of the Site:
From about 1975 to 1996, the site was occupied by the Gateway French Dry Cleaner, which utilized tetrachloroethylene (PCE or "perc") as a cleaning solvent. After 1996, the retail space was occupied by Neptune Dental and AFAM Medical until approximately 2009. Currently the site is being used as a dental office.

A sub-slab depressurization system (SSDS) was installed and is operating on the residential building located immediately north of the site, which is owned by the Applicant. This SSDS system was installed by the Applicant in January 2013 prior to entry into the BCP, and has been operating since April 2013.

Site Geology and Hydrogeology:
The stratigraphy of the site consists of an asphalt or concrete cover, followed by a layer of urban fill to approximately 6 feet, and native unconsolidated sediments consisting of fine to coarse sand with silts. Groundwater is approximately 9 to 10 feet below grade surface at the site and generally flows toward the southeast.

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 restricted-residential use (which allows for commercial use and 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 Remedial Investigation (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 available in the RI Report.

SECTION 5: ENFORCEMENT STATUS

The Applicant under the Brownfield Cleanup Agreement is a Participant. The Applicant has an obligation to address on-site and off-site contamination. Accordingly, no enforcement actions are necessary.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A remedial investigation (RI) serves as the mechanism for collecting data to:

- characterize site conditions;
- determine the nature of the contamination; and
- assess risk to human health and the environment.

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site, or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess groundwater and soil borings or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- air
- groundwater
- soil
- soil vapor
- 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. 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 contaminant 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 below. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

TETRACHLOROETHYLENE (PCE) NAPHTHALENE
TRICHLOROETHENE (TCE)

The contaminant(s) of concern exceed the applicable SCGs for:

- groundwater
- soil
- 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 Decision Document.

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. The RI report presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors.

Nature and Extent of Contamination:
Based on the investigations conducted to date, the primary contaminant of concern at the site is tetrachloroethylene (PCE) and its breakdown product trichloroethylene (TCE). Chlorinated solvents, included PCE, were detected in soil, groundwater and soil vapor above applicable standards and guidance values.

Soil:
PCE was detected in on-site soil at concentrations exceeding the Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs) of 1.3 parts per million (ppm), with a maximum PCE concentration of 2.9 ppm. Available soil sample results indicated no other VOCs, metals, SVOCs, pesticides or PCBs were detected above restricted residential SCOs. Site-related soil contamination is not expect to extend off-site base on the available data.

Groundwater:
PCE was detected in groundwater at concentrations exceeding the applicable groundwater (GW) standards of 5 part per billion (ppb), with a maximum concentration of 5.8 ppb. Several naturally occurring metals were detected in GW at concentration exceeding the applicable standards. Naphthalene was detected above GW standard with concentration of 63.8 ppb. No pesticides or PCBs were detected above groundwater standards. Groundwater contamination does not extend off-site.

Soil Vapor:
PCE and TCE were detected in sub-slab soil vapor samples both on and off-site with concentrations up to 68,000 ug/m3 and 730 ug/m3 respectively; PCE and TCE were detected in on-site and off-site soil vapor samples with maximum concentrations of 6920 ug/m3, and 29.3 ug/m3 respectively; PCE was detected in indoor air at maximum concentrations of 1.38 ug/m3 while TCE was not detected in indoor air. Based on the NYSDOH soil vapor/indoor air decision matrices and guidance, action are needed to address soil vapor intrusion both on and off-site.

Significant Threat:
NYSDEC and NYSDOH have determined that this site does not pose a significant threat to human health or the environment.

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.*

Direct contact with contaminants in the soil is unlikely because the site is covered with buildings and pavement. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not contaminated by this site. 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 in to the indoor air of buildings, is referred to as soil vapor intrusion. Soil vapor sampling indicates that there is a potential for soil vapor intrusion to

affect the indoor air quality of the on-site building and two adjacent off-site buildings and actions have been recommended to address this concern.

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:

Groundwater

RAOs for Public Health Protection

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

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

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: ELEMENTS OF THE SELECTED REMEDY

The alternatives developed for the site and the evaluation of the remedial criteria are presented in the Alternative Analysis. The remedy is selected pursuant to the remedy selection criteria set forth in DER-10, Technical Guidance for Site Investigation and Remediation and 6 NYCRR Part 375.

The selected remedy is a Track 4: Restricted use with site-specific soil cleanup objectives remedy.

The selected remedy is referred to as the Sub Slab Depressurization System and Cover system remedy.

The elements of the selected remedy, as shown in Figure 2, are as follows:

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 principles 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;

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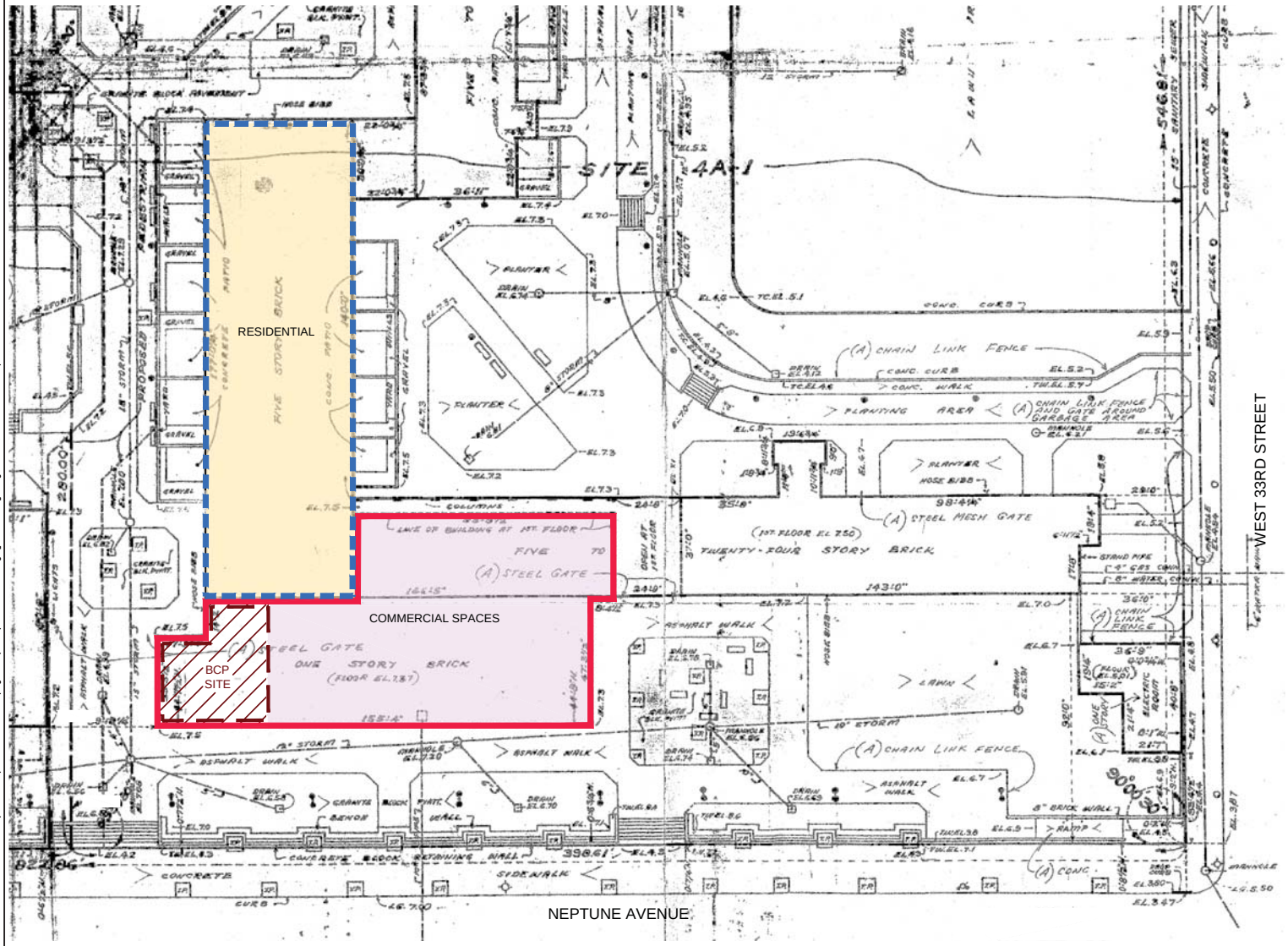
b. A Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
   - Monitoring of site cover to assess the performance and effectiveness of the remedy; and
   - A schedule of monitoring and frequency of submittals to the Department.

Figure 1 - Site Boundary Map
Former Gateway French Dry Cleaners
Site No. C224151



NOTES:

1. THE BASE MAP WAS DEVELOPED FROM AN ELECTRONIC FILE PROVIDED BY: STARRETT CORPORATION, ENTITLED: FINAL SURVEY, DATED: OCTOBER 22, 1976, ORIGINAL SCALE: 1" = 30'.

NO.	ISSUE/DESCRIPTION	BY	DATE

3325 NEPTUNE AVENUE
BROOKLYN, NEW YORK

SUB-SLAB DEPRESSURIZATION SYSTEM
SITE MAP

PREPARED BY:
GZA GeoEnvironmental of New York
Engineers and Scientists
104 WEST 29TH STREET, 10TH FLOOR
NEW YORK, NEW YORK 10001

PREPARED FOR:
STARRETT CORPORATION

PROJ MGR: DW	REVIEWED BY: BE	CHECKED BY: DW	FIGURE
DESIGNED BY: BE	DRAWN BY: MT	SCALE: 1" = 40'	2
DATE: AUGUST 2014	PROJECT NO. 12.0076112.02	REVISION NO.	SHEET NO.