

# **REMEDIAL WORK PLAN**

**4566 BROADWAY AVENUE (NAGLE)**

**4566 BROADWAY**

**NEW YORK, NEW YORK 10040**

**BCP ID No.: C231054**

**PREPARED FOR:**

**4566 BROADWAY, LLC**

**364 MASPETH AVENUE**

**BROOKLYN, NEW YORK 11211**

**JCB PROJECT #: 11-21567**

**DECEMBER, 2012**

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### List of Acronyms

AOC	Area of Concern
ASP	Analytical Services Protocol
ASR	Advanced Site Restoration, Inc.
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
bsg	Below Surface Grade
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAMP	Community Air Monitoring Plan
CHASP	Construction Health and Safety Plan
CLP	Contract Laboratory Procedure
COC	Chain of Custody
COPCs	Chemicals of Potential
DER	Division of Environmental Remediation
DER-10	NYSDEC Technical Guidance for Site Investigation & Remediation
DUSR	Data Usability Summary Report
ECL	Environmental Conservation Law
ELAP	Environmental Laboratory Approval Program
EPA	Environmental Protection Agency
GOC	Gaseteria Oil Corp.
H&A	Haley and Aldrich
HASP	Health and Safety Plan
HFM	Historic Fill Material
JCB	J. C. Broderick and Associates, Inc.
LNAPL	Light Non Aqueous Phase Liquid
LQG	Large Quantity Generator
MtBE	Methyl tertiary-Butyl Ether
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NEA	Northeast Analytical, Inc.
NYCDOB	New York City Department of Buildings
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PCBs	Polychlorinated Biphenyls
PID	Photo-Ionization Detector
ppm	Parts Per Million
ppb	Parts per Billion
PVC	Poly Vinyl Chloride
QA/QC	Quality Assurance/Quality Control
QEA	Qualitative Exposure Assessment
RA	Remedial Action
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RIR	Remedial Investigation Report
RIWP	Remedial Investigation Work Plan
SB	Soil Boring

### **List of Acronyms - Continued**

SCG	Standards, Criteria, and Guidance
SRIWP	Supplemental Remedial Investigation Work Plan
SRI	Supplemental Remedial Investigation
SVE	Soil Vapor Extraction
SVI	Soil Vapor Intrusion
SVOCs	Semi-Volatile Organic Compounds
TAGM	Technical and Administrative Guidance Memorandum
TAL	Target Analyte List
TOGS	Technical and Operations Guidance Series
TVOCs	Total Volatile Organic Compounds
USGS	United States Geologic Survey
UST	Underground Storage Tank
UUSCO	Unrestricted Use Soil Cleanup Objectives
VOCs	Volatile Organic Compounds

## **Section No. 1.0: Introduction**

This Remedial Work Plan (RWP) has been prepared by John A. Rhodes, P.E., of CEUS Engineering, P.C. ("CEUS") with assistance from J.C. Broderick & Associates, Inc. (JCB) on behalf of 4566 Broadway, LLC ("4566"), of Brooklyn, New York, for the commercial property located at 4566 Broadway, New York, New York 10040 (Figure 1, Appendix A, the "Site"), subsequently named "4566 Broadway Avenue". The Site was accepted into the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) through a Brownfield Cleanup Agreement (BCA) executed on September 8, 2006 (NYSDEC BCP Number: C231054). 4566 was accepted into this program as a Participant.

This RWP has been prepared to provide for the development and implementation of the remedy in accordance with the Alternative Analysis and Decision Documents. It is the plan of the participant to achieve a Restricted-Residential Track 4 cleanup.

## **Section No. 2.0: Site History**

The Site, is located at 4566 Broadway New York, New York 10040. The Site is located on the northeast portion of the intersection formed between Broadway and Nagle Avenue. According to the United States Geological Survey (USGS) *Central Park, New York, 1995 7.5 Minute Series Topographical Map*, the Site is situated at an approximate elevation of 31 feet (ft) above mean sea level. The Site is designated as Block 2172, Lot 1 on the Tax Map of the City of New York. The location of the Site is shown on the Site Location Map, Appendix-A Figure-1.

The Site consists of a 0.36-acre triangular parcel, which operated as a gasoline service station and an automotive repair shop for several decades and is currently used a parking lot, containing a one-story brick building used for storage and small parking attendant's office (Figure 2, Appendix A). The surrounding area is characterized by a mix of commercial businesses (mostly retail), as well as residential properties. Available New York City records concerning the Site's early use indicate that the Site was initially developed and operated from the 1920's into the 1950's as a Socony-Vacuum (Mobil) gasoline service station and auto repair facility. The facility was owned and operated by Louis Calderone and his company, Kesbec Oil, the largest gasoline distributor and operator of retail gasoline stations in Manhattan at the time. Since the 1950's, Kesbec Oil (a company, then co-owned by Louis Calderone and Humble Oil and Refining Company) operated the Site as an "Esso" branded service station until 1966. At that time, the Site was sold to Humble Oil and Refining Company who operated the Site as an "Esso" station, and was subsequently rebranded as an "Exxon" station after Humble Oil changed its name to Exxon Corporation (Exxon). Both Kesbec Oil and the Exxon (now known as ExxonMobil Corporation) entities operated automobile repair facilities as well as gasoline retail sales. In 1976, Fabrizio Realty Corp., a subsidiary of Gaseteria Oil Corp. (GOC) acquired the Site, which was operated as a gasoline only station until 2002, when it was leased to BP Products North America, Inc. (BP). BP then operated the Site as a gasoline only service station under a lease agreement until 2005, at which time the Site was converted to a 24-hour public parking lot.

## **Section No. 3.0: Nature and Extent of Contamination**

The Site was assigned NYSDEC Spill No. 02-30040 due to Volatile Organic Compounds (VOCs) which were present in the soil above the NYSDEC Technical and Administrative Guidance Memorandum (TAGM) 4046 dated January 24, 1994. In addition, VOCs including Methyl tert-Butyl Ether (MtBE), Semi-Volatile Organic Compounds (SVOCs) and minor amounts of metals were detected in the groundwater in excess of the NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 dated October 22, 1993, reissued June 1998. NYSDEC Spill No. 09-10491 was assigned on December 24, 2009. On October 24, 2010 the original spill number was closed due to consolidation of spill numbers.

According to the Surficial Geologic Map of New York, Lower Hudson Sheet (Cadwell, 1989), this area of New York is underlain by Pleistocene-age glacial till, dominantly consisting of fine to coarse grained sand with interstitial lenses of gravel and silt, that are remnants of glacial deposition. According to the United States Department of Agriculture Soil Survey Classification and Nomenclature System, this soil would likely be referred to as *Urban Land*, because the original composition and structure of the soil has been significantly altered by urbanization and development activities. The Site is underlain by brown fine to coarse-grained sand and gravel extending to a depth of at least 30 ft bsg.

The water quality of the upper glacial aquifer is impaired in areas due to heavy industrial and commercial development in the urban areas. Local groundwater flow was calculated from a site survey and groundwater gauging to be towards the east, southeast. Depth to groundwater ranges from approximately 4' to 11' bsg. Regional groundwater flow is in an east southeast direction.

Several soil contaminants potentially related to petroleum based activities were found at the Site. Benzene, Toluene, Ethylbenzene, and Xylene (BTEX) compounds were found in the center portion of the Site. Target chlorinated solvents detected include Tetrachloroethene (PCE), Trichloroethene (TCE), cis-1,2 Dichloroethene (cis-DCE), trans-1,2 Dichloroethene (trans-DCE), and Vinyl Chloride (VC). PCE was detected in the unsaturated soil at three (3) locations behind the existing parking lot attendant's office (SB-8, ASR-16 and ASR-17). The highest value was 120ppm in boring SB-8 at 2.5'-5' bsg. PCE concentrations decreased vertically and horizontally from these locations to a depth of approximately 12.5 ft bsg. SVOCs were found throughout the central portion of the Site, corresponding to the area of the former service station facilities.

Two (2) Target Analyte List (TAL) Metal Areas of Concern (AOCs) were found during the investigation. One (1) AOC is located on the northern and eastern portions of the Site and along the sidewalk adjacent to Nagle Avenue.

During the advancement of on-site soil borings, historic fill material (HFM) was identified from surface grade to a maximum depth of sixteen (16) feet bsg. The HFM consisted of various amounts of red brick, coal ash and wood mixed with disturbed native soils.

Soil concentrations of Volatile Organics exceeded RRSCOs in only five borings. Ethyl benzene and xylenes (and trimethylbenzenes in two cases) exceeded RRSCOs in borings ASR-5, ASR-7, ASR-18 and SB-4, all in the range of approximately eight to ten feet. In one boring, SB-8, PCE exceeded the RRSCO for PCE. Similarly, Semi-Volatile Organics exceeded RSCOs in only seven borings.

Only four metals exceeded RRSCOs. Of 83 samples analyzed for metals, one exceeded the RRSCO for barium, two for copper, one for mercury and six for lead.

Groundwater at the Site was found to contain modest levels of BTEX contamination. Total BTEX was highest on-site in ASR-4, close to the center of the Site. Off-site Total BTEX was highest in ASR-7, located in close proximity to the location of the former USTs. Methyl tertiary Butyl Ether (MtBE) was detected over the Guidance Values in two (2) on-site monitoring wells. No MtBE above the Guidance Values was identified in the off-site groundwater. Two (2) Target Chlorinated Solvents, cis-1,2 Dichloroethene and Tetrachloroethene (PCE), were detected over the Guidance Values in one (1) monitoring well, ASR-17, which is located on-site. A degradation product of Tetrachloroethene (PCE), Vinyl Chloride (VC), was detected in monitoring well ASR-18, located directly down gradient of monitoring well ASR-17. These results confirm that degradation of Tetrachloroethene (PCE) is occurring

TAL Metals were found in the groundwater throughout the Site and off-site across Nagle Avenue. It should be noted that none of the metal samples were field-filtered. Due to the relatively shallow depths to the upper weathered bedrock layer, the groundwater will often exhibit natural high mineral content.

The analysis of the soil vapor samples for the Site indicates the detection of BTEX compounds, Methyl tertiary Butyl Ether (MtBE), Tetrachloroethylene (PCE), plus Trichloroethene (TCE), Cis-1,2-Dichloroethene (cis-DCE), and Vinyl Chloride (VC) which are degradation products of PCE. The presence of TCE, cis-1,2 Dichloroethene and Vinyl Chloride in the soil vapor samples indicate that the chlorinated compounds are actively degrading.

#### **Section No. 4.0 Remedial Action Objectives**

The following subsections summarize the contaminants of concern, general locations of contaminants and the Remedial Action Objectives (RAOs) identified for each of the identified media. These RAOs are based on the findings of the RI and the anticipated future use of the Site for mixed use, commercial or residential purposes.

1. Contaminants of concern detected in the **on-site** subsurface soil include VOC, SVOCs and metals. The RAOs for this medium are to prevent the exposure of humans and environmental receptors to contaminated subsurface soil via dermal contact and incidental ingestion or inhalation of particulates.
2. Soil contamination is also located **off-site** on the north side of Nagle Avenue above the observed groundwater interface, which includes SVOCs and metals. Background research performed indicates that this area was used in the past as a parking lot and has never been owned or occupied by the Participant. The possibility exists that historic fill material was imported during road and sidewalk construction. Based upon these findings, alternatives for the remediation of off-site soil contamination will only be addressed for the area under the sidewalk immediately adjacent to the site.
3. Contaminants of concern detected in the **on-site** groundwater include VOCs, SVOCs and metals. The contaminants of concern detected in the **off-site** groundwater are limited to VOCs and SVOCs on the north side of Nagle Avenue. The RAOs for this medium are to prevent the exposure of humans and environmental receptors to contaminated groundwater via dermal contact, ingestion of groundwater, inhalation of vapors, and the reduction of off-site plume extent and concentrations until groundwater standards are achieved.
4. VOCs were detected in the off-site groundwater on the south side of Nagle Avenue. Based upon this finding and our analysis of groundwater contaminant movement, the Site is not the source of off-site groundwater contamination south of Nagle Avenue.
5. Contaminants of concern detected in the soil vapor include VOCs. The RAOs for this medium are to prevent the exposure of humans and environmental receptors to contaminated soil vapor via inhalation of vapors and to prevent off-site migration.

#### **Section No. 5.0: Current and Reasonable Anticipated Future Use**

The Site is currently a 24-hour public parking lot.

The reasonably anticipated future use is a mixed use building containing residential and commercial spaces. Currently, no underground parking is anticipated.



As reported earlier, due to the economic downturn, 4566 has not finalized plans for development and construction on the Site due to the lack of a commitment from an anchor tenant for the development.

The Site is located on the northeast corner of Broadway and Nagle Avenue. To the north of the Site is a residential building, with a retail hardware store on the first floor. To the east of the Site is an open space and outdoor recreation area for IS 218. Across Nagle Avenue, to the southeast of the Site are multi-story residential buildings, which contain retail businesses at street level. Based upon background research, 17 Nagle Avenue (17 Nagle), located south southeast of the Site and across Nagle Avenue, was formerly identified as Johnnies Cleaners, a dry cleaning facility. According to the EPA, 17 Nagle Avenue was listed on the Resource Conservation and Recovery Act (RCRA) Large Quantity Generator (LQG) database with EPA ID number NYD982793127 in 1989. The classification was then changed to a RCRA-Non-Generator facility in 1999 and was listed as such until 2007. In addition, a New York City Department of Buildings (NYCDOB) approved plan dated February 1987 identified 17 Nagle as an existing dry cleaning store utilizing dry cleaning equipment and solvents on-site.<sup>1</sup> To the south of the Site, on the corner of Broadway and Hillside Avenues is a United States Post Office. To the southwest of the Site is an automobile repair facility, beyond which is a multi-story residential building. To the west of the Site, across Broadway, is Fort Tryon Park.

The property is zoned residential R-7 with a C-1 commercial overlay. R7 districts are typically medium density residential districts that are generally characterized by 14-story buildings with low lot coverage that are set back from the street. C-1 districts are generally located in proximity to residential neighborhoods and typically contain uses such as grocery stores, small dry cleaners and restaurants. Commercial use is limited to one (1) or two (2) floors therefore; the proposed project is compatible with the surrounding land use and will comply with the current zoning.

#### **Section No. 6.0: Identification of Soil Cleanup Track to Be Achieved**

Track 4: Restricted-Residential Use will be the Soil Cleanup Track to be achieved. The remedial program specified below will achieve a cleanup level that will allow the Site to be used for any purpose reasonably anticipated for this urban property in New York City. The soil component of the remedial program will achieve the Restricted-Residential Soil Cleanup Objectives (RRSCOs) as set forth in Table 375-6.8(a) for all soils above bedrock.

The program will use long term institutional and/or engineering controls for metals and semi-volatile organics for which a limited number of samples exceeded their respective RRSCOs. These samples represent soils generally from the eight to ten foot depth and will be fully capped by the buildings and paved surfaces.

#### **Section No. 7.0: Summary of Alternatives Analysis**

The remedial alternatives were evaluated with respect to the following nine (9) factors as defined in 6 NYCCR Part 375-1.8(f).

- Overall Protectiveness of the Public Health and the Environment
- Standards, Criteria and Guidance
- Long Term Effectiveness and Permanence

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<sup>1</sup> Based upon our team's records search of surrounding properties, our team concludes in its Records Search Report that the property located at 17 Nagle Avenue contained a former dry cleaning establishment that was a likely source of PCE contamination.

- Reduction in Toxicity, Mobility or Volume of Concentration through Treatment
- Short Term Impacts and Effectiveness
- Implementability
- Cost-effectiveness, including Capital Costs and Annual Site Maintenance Plan Costs
- Community Acceptance
- Land Use

These criteria are discussed in greater detail in the Alternative Analysis. The Decision Document selected Alternative A; Alternative B was determined to be infeasible.

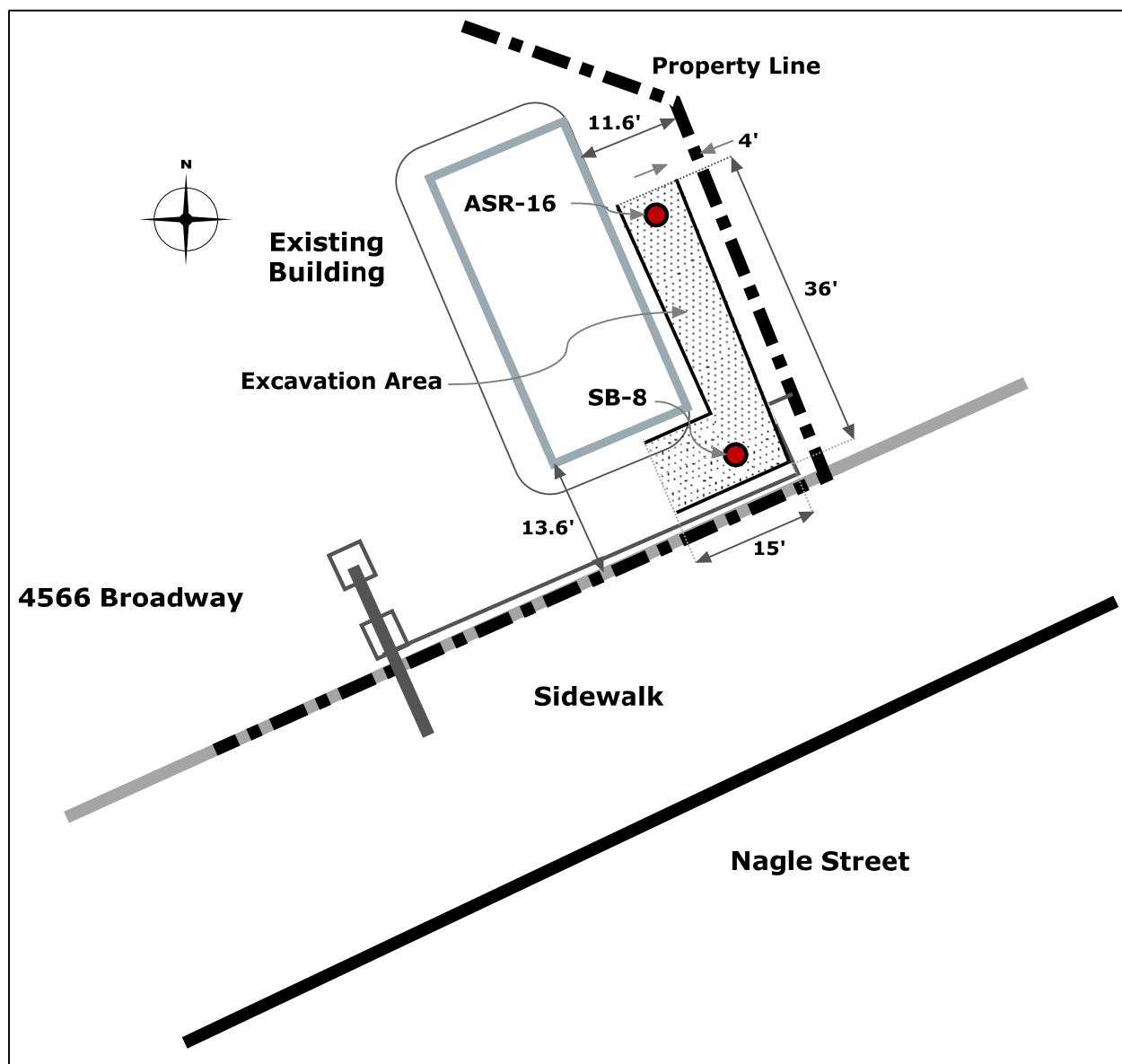
### **Section No. 8.0: Conceptual Design**

Alternative A for Restrictive Residential Use (Track 4) would be comprised of the following elements.

1. 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;
  - a) Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
  - b) Reducing direct and indirect greenhouse gas and other emissions;
  - c) Increasing energy efficiency and minimizing use of non-renewable energy;
  - d) Conserving and efficiently managing resources and materials;
  - e) Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
  - f) Maximizing habitat value and creating habitat when possible;
  - g) Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
  - h) Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.
2. PCE contaminated soil will be excavated to pre-defined limits (as described, and for the reasons discussed below) and will be transported off-site for disposal. The soil excavation will remove most, if not all of the soil with PCE contamination above the restricted residential SCO (RRSCO), but as described below, physical constraints may not allow excavation of all of the soil above the RRSCO for PCE. The soil excavation will occur near the location of borings SB-8, ASR-16 and ASR-17 (near the northeast corner of the property, behind the one story on-site building; see Figure-1) as follows:
  - a) The excavation will be to be a depth of five (5) feet with lateral dimensions extending southwest of SB-8 and northwest of ASR-16. (See Figure-1). The depth of five feet is based on the proximity of the excavation to the building foundation and adjacent properties, as well as the decreasing concentrations of PCE with depth. The lateral limits of the excavation are based on the limitations imposed by the on-site one story building foundation to the northwest, the sidewalk to the south and the neighboring property to the northeast.
  - b) Post excavation samples will be taken to document the residual PCE contamination, if any. These soil samples will not be used to determine further excavation.

- c) A Soil Vapor Extraction (SVE) system will be installed to remediate the residual contamination (the SVE system is discussed in greater detail below).

Figure 1 Excavation Near Borings SB-8 and ASR-16



Approximately 60 (sixty) cubic yards of soil will be removed by excavation and property disposed of off-site. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site.

Figure 1 shows a detail of the area to be excavated near boring SB-8. The area shown should be able to be excavated to a depth of five feet using a trench box. The Figure shows five foot wide trench boxes to illustrate the area to be excavated. The actual excavation would use the appropriate sized trench box as determined by the excavator and foundation engineer and would most likely backfill prior to moving perpendicular to the supporting side walls of the trench box.

3. Soil vapor extraction (SVE) is an in-situ technology used to treat volatile organic compounds (VOCs) in soil. The process physically removes contaminants from the soil by applying a vacuum to a SVE well that has been installed into the vadose zone (the area below the ground but above the water table). The vacuum draws air through the soil matrix which carries the VOCs from the soil to the SVE well. The air extracted from the SVE wells is then run through an activated carbon treatment canister (or other air treatment process as applicable) to remove the VOCs before the air is discharged to the atmosphere.

At this site approximately 10 SVE wells would be installed in the vadose zone and screened from two to 12 feet below the ground surface to a depth of approximately 12 feet. The air containing VOCs extracted from the SVE wells would be treated using activated carbon (or other air treatment as applicable). The number of wells would be modified based on initial pilot testing of the extent of influence of vapor recovery from the wells.

The SVE system will focus on following four areas: (i) The area of elevated PCE in the northeastern end of the Site (SB-8, ASR-16 and ASR-17); (ii) The area of elevated BTEX near the former gasoline tanks (ASR-5, SB-5); (iii) The area of elevated BTEX along the northern Site boundary (ASR-4, ASR-14 and SB-4); and (iv) and the area along the southeastern property boundary close to ASR-7. (Please see figure-2).

The operation of the components of the SVE system will continue until the remedial objectives have been achieved, or until the Department determines that continued operation is technically impracticable or not feasible.

The SVE system will reduce the concentration of the most critical contaminants affecting on and off-site groundwater, and thus will help the natural attenuation processes remediate groundwater.

The SVE system would be comprised of a linear array of soil extraction points within each of the four areas identified above. The number of extraction points would be about two to three per area, but this would be adjusted based on field pilot testing. The header lines would be brought to a skid mounted blower and treatment train in the area of the current building. The conceptual piping layout is shown in Figure 3.

The blower and treatment plant would be similar to the skid mounted unit shown in Figure 4, which has been adapted from a skid mounted unit available from Carbtrol, Inc. Sizing of unit processes would be done after the field pilot test.

Figure 2 Soil Vapor Extraction Areas

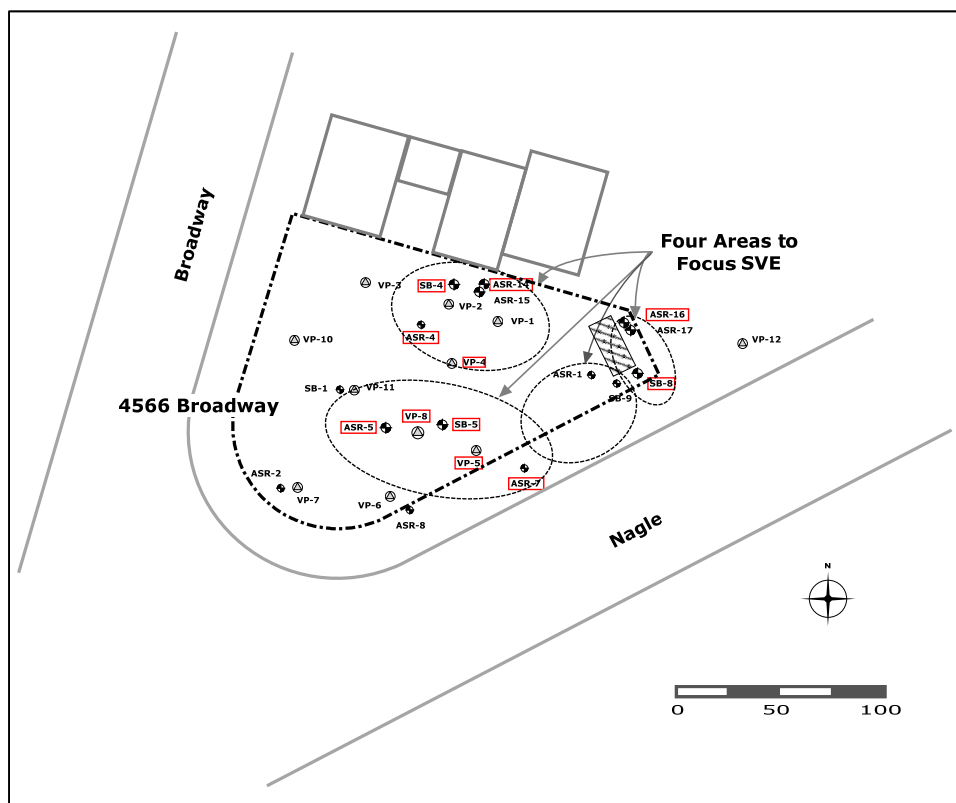
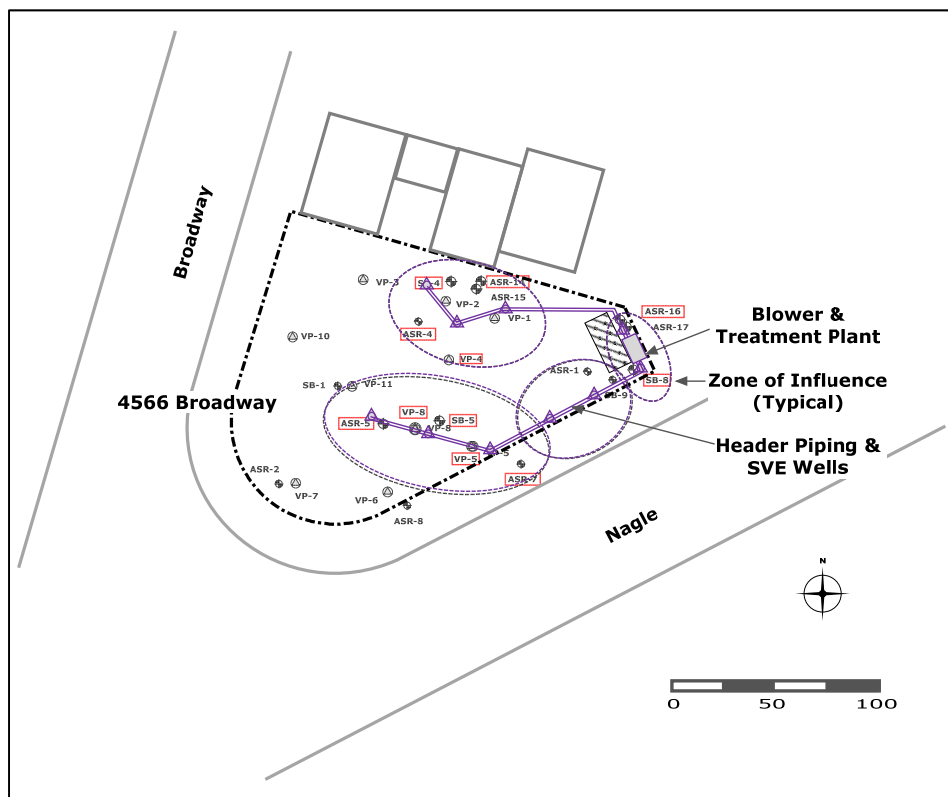
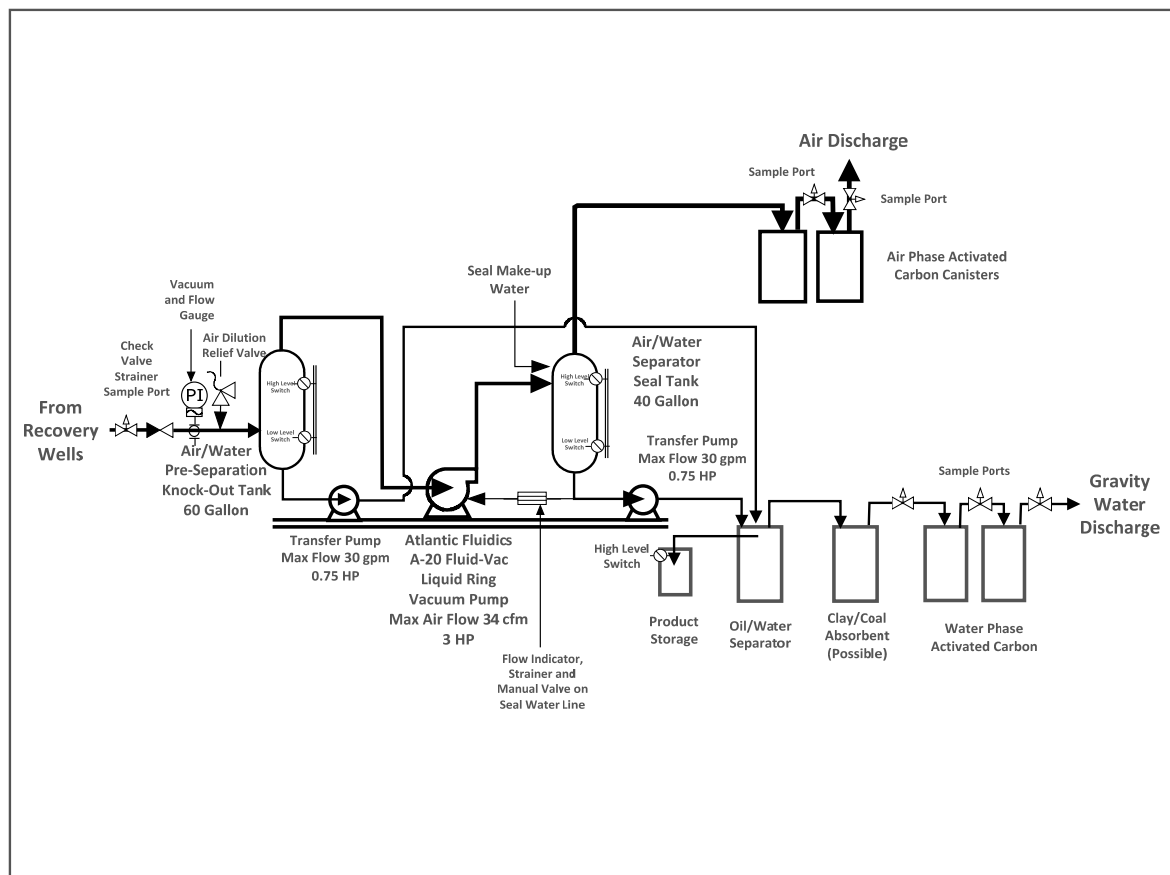


Figure 3 VES Locations



**Figure 4 Skid Mounted Blower and Treatment System**



4. 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 a 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).
5. If the construction of new building begins during this remedial process and before the remedy is completed then a vapor barrier and sub-slab depressurization (SSDS) system will be incorporated in the building during construction.
6. Imposition of an institutional control in the form of an environmental easement for the controlled property that:
  - a) 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);

- b) Allows the use and development of the controlled property for restricted residential, commercial and industrial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
  - c) 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;
  - d) Requires compliance with the Department approved Site Management Plan.
7. A Site Management Plan will be 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 under the point number 6 above.

Engineering Controls: The SVE system discussed in Paragraph 3, the Cover System discussed in Paragraph 4 and the vapor barrier and the sub-slab depressurization system discussed in Paragraph 5, above.

This plan includes, but may not be limited to:

- i. An Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
  - ii. Descriptions of the provisions of the environmental easement including any land use and/or groundwater use restrictions;
  - iii. A provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
  - iv. Provisions for the management and inspection of the identified engineering controls;
  - v. Provisions for maintaining site access controls and Department notifications; and
  - vi. 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:
- i. Monitoring of groundwater and soil vapor to assess the performance and effectiveness of the remedy;
  - ii. A schedule of monitoring and frequency of submittals to the Department;

- iii. 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 in Item 6(a) above.
- 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:
  - i. Compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
  - ii. Maintaining site access controls and Department notifications; and
  - iii. Providing the Department access to the site and O&M records.
- 8. A contingency plan for groundwater remediation of petroleum compounds prior to building construction:
  - a) As the BTEX groundwater contaminant plume is currently indicated to be stable and decreasing in concentration and extent, a contingency plan will be developed and implemented should monitoring of the BTEX groundwater plume indicate that this trend is not continuing after the above remedy has been run for two years;
  - b) The contingency plan will be comprised of air sparging, the addition of dissolved oxygen in the area of petroleum related contamination, or another approach indicated to be most cost-effective and appropriate at the time the contingency plan is required; and
  - c) The Participant will commit to not building structures that might inhibit the implementation of the contingency plan until there is no longer a need for the plan.

A site specific Health and Safety Plan and Community Air Monitoring Plan will be included in the Remedial Action Work Plan.



**Section No. 9.0: Certification**

John Rhodes, a NYS licensed Professional Engineer, and his company, CEUS Engineering, P.C., a registered NYS engineering firm, has prepared or supervised the development of this Remedial Work Plan. The CEUS engineering contract is directly with 4566, the Participant.

I, John A. Rhodes, P.E., certify that I am currently a NYS registered professional engineer as defined in 6 NYCRR Part 375 and that this Remedial Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.

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