

# DECISION DOCUMENT

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Gowanus Village I, LLC  
Brownfield Cleanup Program  
Brooklyn, Kings County  
Site No. C224099  
February 2014



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

# **DECLARATION STATEMENT - DECISION DOCUMENT**

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Gowanus Village I, LLC  
Brownfield Cleanup Program  
Brooklyn, Kings County  
Site No. C224099  
February 2014

## **Statement of Purpose and Basis**

This document presents the remedy for the Gowanus Village I, LLC 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 Gowanus Village I, LLC 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, optimization, 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 gases 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. Excavation**

Excavation and off-site disposal of on-site contaminant source areas will be required including:

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- soil exceeding 10 ppm PCBs, to the extent feasible based on existing structures; and
- areas of concentrated solid or semi-solid hazardous substances.

Approximately 1,300 cubic yards (1,950 tons) of TSCA regulated PCB (greater than 50 ppm) contaminated soil; approximately 350 cubic yards (525 tons) of PCB (greater than 10 ppm, less than 50 ppm) contaminated soil; and approximately 65 cubic yards (98 tons) of soil contaminated with elevated concentrations of metals will be removed from the site for off-site disposal at an appropriately permitted facility. A limited volume of contaminated soil underneath the on-site building which contains PCBs greater than 50 ppm will remain on-site since removal of this soil is not feasible. The site will be re-graded as required to accommodate installation of a cover system as described in Paragraph 3.

On-site soils which do not exceed the commercial use SCOs for VOCs and/or metals, and have less than 500 ppm of total SVOCs may be consolidated on-site, utilized for backfilling excavations or re-grading of low elevation areas of the site (above the water table) and will be covered (see Paragraph 3, below); for contaminants with groundwater concentrations above standards, this criteria or the Protection of Groundwater SCOs (whichever is lower) will be used to determine if soils may be reused on-site. The consolidation is anticipated to primarily occur in the area located north of the onsite building.

Following the surface soil consolidation and re-grading activities any excess soil exceeding the restricted residential soil cleanup objectives (RRSCOs) will be transported off-site for disposal.

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) for restricted residential use will be brought, as needed to complete the backfilling of the excavation and establish the designed grades at the site.

### 3. Cover System

A site cover will be required to allow for restricted residential use of the site. The site cover will consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the soil quality of the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is required it will be a minimum of two feet of certified clean 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).

### 4. Monitored Natural Attenuation

Groundwater contamination (remaining after implementation of the remedial components described above) will be addressed with monitored natural attenuation (MNA). Groundwater will be monitored for site related contamination and also for MNA indicators which will provide an understanding of the (biological activity) breakdown of dissolved phase contamination. In addition to the four replacement groundwater monitoring wells within the building, nine replacement groundwater monitoring wells will be installed at the site. It is anticipated that

contamination will decrease by an order of magnitude within several years. The groundwater monitoring program will be conducted until residual groundwater concentrations are found to be below NYSDEC Technical and Operational Guidance Series (TOGS) Ambient Water Quality Standards (AWQS) or have become asymptotic over an extended period. Reports of the attenuation will be provided annually in the Groundwater Monitoring Reports, and active remediation will be proposed if it appears that excavation and natural processes will not address the contamination. The contingency remedial action will depend on the information collected, but it is currently anticipated that chemical and/or biological remediation injections would be the expected contingency remedial action.

#### 5. 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 or 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 NYCDOH;
- requires compliance with the Department approved Site Management Plan.

#### 6. 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 5 above.

Engineering Controls: The cover systems discussed in Paragraph 3.

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;
- a provision for further investigation (in areas where access was previously hindered) to refine the nature and extent of contamination under the building slab if and when the building is demolished;
- a provision for removal or treatment of residual contamination located under the building if and when the building is demolished and the removal of the concrete slab is performed;
- descriptions of the provisions of the environmental easement including any land use, groundwater and/or surface water use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any buildings re-occupied or 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.

- A Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- monitoring of groundwater quality 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 on the site, as may be required by the Institutional and Engineering Control Plan discussed above.


### **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.

February 19, 2014

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Date



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Robert Cozzy, Director  
Remedial Bureau B

# DECISION DOCUMENT

Gowanus Village I, LLC  
Brooklyn, Kings County  
Site No. C224099  
February 2014

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## **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 repositories:

Brooklyn Public Library - Pacific Branch  
25 4th Avenue  
Brooklyn, NY 11217  
Phone: (718) 638-1531

Brooklyn Public Library - Park Slope Library  
431 6th Avenue  
Brooklyn, NY 11215  
Phone: (718) 832-1853

NYSDEC  
Attn: Brian Davidson  
625 Broadway - 12th Fl.  
Albany, NY 12233-7016  
Phone: (518) 402-9767

### **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 property is an approximately 2.5 acre site located in a commercial/industrial area of Brooklyn at 153 2nd Street a/k/a 322 3rd Avenue. The Gowanus Canal is located adjacent to the site to the northwest.

#### **Site Features:**

A 24,200 square foot, three story vacant structure occupies the eastern portion of the site. The building has a basement floor that is a 13 foot thick concrete slab that extends below the water table. The remainder of the site is vacant and mostly covered with various material and debris (paved with concrete, covered with debris piles and scrap metal) along with some vegetative cover.

#### **Current Zoning and Land Use:**

The site is currently inactive and is zoned as a manufacturing district (M2-1) by the City of New York. The property uses surrounding the site are primarily light industrial, with a small concentration of residential use. The closest residential properties are located approximately 300 feet to the northeast of the site near the intersection of 3rd Avenue and Carroll Street. The site is bordered to the north by a 60 foot wide filled-in canal (former 1st Street Basin), which is to be restored as part of the Gowanus Canal NPL site remedy. To the east is a storage facility, a Verizon truck depot is located south of the site, and the Gowanus Canal, which is approximately 100 feet wide, lies directly west of the site.

#### **Past Use of the Site:**

Sanborn maps dating back to 1886 indicate that the site was occupied by Nassau Sulfur Works and Smith and Shaw Mattress Materials and Paper Stock. In 1904, the property was transferred to the Brooklyn Rapid Transit R.R. Power Plant. Under their ownership, it appears that coal was delivered by water and transported beneath the site via coal tunnel. In 1938, the property was turned over to the Williamsburg Power Plant Corporation and used as a central power station. The property was transferred to the New York City Transit System in 1950, where it was used as an electrical sub-station and switching yard until 1996.

Prior to the initiation of the Remedial Investigation, a Phase II Investigation was completed in 2005.

#### Site Geology and Hydrogeology:

The site is underlain by urban fill, generally to a depth of about 8 feet, but reportedly ranging to depths up to 24 feet in some areas. Below the fill is a layer of organic silt indicative of a historic wetland. The depth to groundwater ranges from about 7 feet to 20 feet with groundwater movement generally to the northwest toward the Gowanus Canal.

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(s) under the Brownfield Cleanup Agreement is a/are Volunteer(s). The Volunteer(s) does/do not have an obligation to address off-site contamination. The Department has determined that this site poses a significant threat to human health and the environment and there are off-site impacts that require remedial activities; accordingly, 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:

- groundwater
- soil
- soil 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:

CHLOROBENZENE  
1,2,4-TRIMETHYLBENZENE  
COPPER

BARIUM  
ARSENIC  
LEAD

BENZO(A)PYRENE  
BENZ(A)ANTHRACENE  
POLYCHLORINATED BIPHENYLS (PCB)

TETRACHLOROETHYLENE (PCE)  
1,4-DICHLOROBENZENE  
MERCURY

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

- groundwater
- soil

### **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 upon investigations conducted at the site to date, the primary contaminants of concern include volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals and polychlorinated byphenyls (PCBs). The contaminants of concern do not appear to be contributing to off-site environmental impacts that require additional investigation or remedial action. The contaminants found in each media sampled (soil, groundwater and soil vapor) are summarized below:

#### **Surface Soil:**

PCBs were detected in the 0-2 ft interval from below detection limits (BDL) to 72 parts per million (ppm). The restricted residential soil cleanup objective (RRSCO) for PCBs is 1 ppm. SVOCs are also present at concentrations above RRSCOs. No VOCs or metals exceed the RRSCO in surface soil.

#### **Subsurface Soil:**

PCBs in subsurface soil range from BDL to 3,870 ppm. VOCs were detected ranging to 2,540 ppm total VOCs, primarily trimethylbenzene (RRSCO is 52 ppm). SVOCs are also present at concentrations above RRSCOs. Several metals are present at elevated concentrations; lead is present at concentrations up to 6,320 ppm (RRSCO is 400ppm) and copper, arsenic, barium and

mercury are present at concentrations above RRSCOs. Elevated metals concentrations are often associated with urban fill which is present at the site.

#### Groundwater:

VOCs and metals were detected in groundwater above groundwater standards. Total VOCs detected range to over 1 ppm at one location. The primary VOCs detected in groundwater are chlorobenzene and dichlorobenzene. VOCs and SVOCs were either not detected or detected at very low concentrations (below standards) in groundwater from the three monitoring wells located closest to the Gowanus Canal. Total PCBs were detected at a concentration of 84.6 parts per billion (ppb) in a groundwater sample collected from beneath the on-site building. This may be attributed to the high turbidity of the sample. A lower turbidity level could not be achieved due to the very slow recharge of this well. PCBs were not detected in seven of the ten groundwater monitoring wells. The other two locations had concentrations of PCBs of 0.141 ppb and 0.411 ppb (the groundwater standard is 0.09 ppb), respectively.

#### Soil Vapor:

VOCs are present in soil vapor. The most significant detection was for tetrachloroethene (perchloroethene or PCE) detected at concentrations up to 1,260 ug/m<sup>3</sup> along 2nd Street.

#### Special Resources Impacted/Threatened:

The site borders the Gowanus Canal, a National Priorities List (NPL) Site, but based on the existing data the Gowanus Village site has not been determined to be a contributor to the contamination of sediments in the Gowanus Canal.

#### Significant Threat:

The site presents a significant environmental threat due to the ongoing release of contaminants from on-site source areas to the groundwater as well as the potential for the off-site migration of soil contamination via surface erosion. The site presents a significant threat to public health due to the presence of elevated concentrations of PCBs in on-site soil.

### **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*.

The site is completely fenced, which restricts access. However, persons who enter the site could contact contaminants in the soil by walking on the site, digging or otherwise disturbing the soil. People are not expected to come into contact with contaminated groundwater unless they dig below the ground surface. Volatile organic compounds 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 or buildings, is referred to as soil vapor intrusion. Because the site is vacant, the inhalation of site-related contaminants due to soil vapor intrusion does not represent a current concern. However, a soil vapor intrusion evaluation is necessary prior to occupancy of any building at the site. Furthermore, environmental sampling indicates that soil vapor is coming onto the site from an off-site source and could represent a concern for off-site properties.

## **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.

#### **RAOs for Environmental Protection**

- Remove the source of ground or surface water contamination.

### **Soil**

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

- Prevent ingestion/direct contact with contaminated soil.

#### **RAOs for Environmental Protection**

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

### **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 Hot Spot Excavation 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, optimization, 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 gases and other emissions;
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- Conserving and efficiently managing resources and materials;
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- 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.

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On-site soils which do not exceed the commercial use SCOs for VOCs and/or metals, and have less than 500 ppm of total SVOCs may be consolidated on-site, utilized for backfilling excavations or re-grading of low elevation areas of the site (above the water table) and will be covered (see Paragraph 3, below); for contaminants with groundwater concentrations above standards, this criteria or the Protection of Groundwater SCOs (whichever is lower) will be used to determine if soils may be reused on-site. The consolidation is anticipated to primarily occur in the area located north of the onsite building.

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Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) for restricted residential use will be brought, as needed to complete the backfilling of the excavation and establish the designed grades at the site.

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### 4. Monitored Natural Attenuation

Groundwater contamination (remaining after implementation of the remedial components described above) will be addressed with monitored natural attenuation (MNA). Groundwater will be monitored for site related contamination and also for MNA indicators which will provide an understanding of the (biological activity) breakdown of dissolved phase contamination. In addition to the four replacement groundwater monitoring wells within the building, nine replacement groundwater monitoring wells will be installed at the site. It is anticipated that contamination will decrease by an order of magnitude within several years. The groundwater monitoring program will be conducted until residual groundwater concentrations are found to be below NYSDEC Technical and Operational Guidance Series (TOGS) Ambient Water Quality Standards (AWQS) or have become asymptotic over an extended period. Reports of the attenuation will be provided annually in the Groundwater Monitoring Reports, and active remediation will be proposed if it appears that excavation and natural processes will not address the contamination. The contingency remedial action will depend on the information collected, but it is currently anticipated that chemical and/or biological remediation injections would be the expected contingency remedial action.

### 5. 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 or 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 NYCDOH;

- requires compliance with the Department approved Site Management Plan.

#### 6. 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:

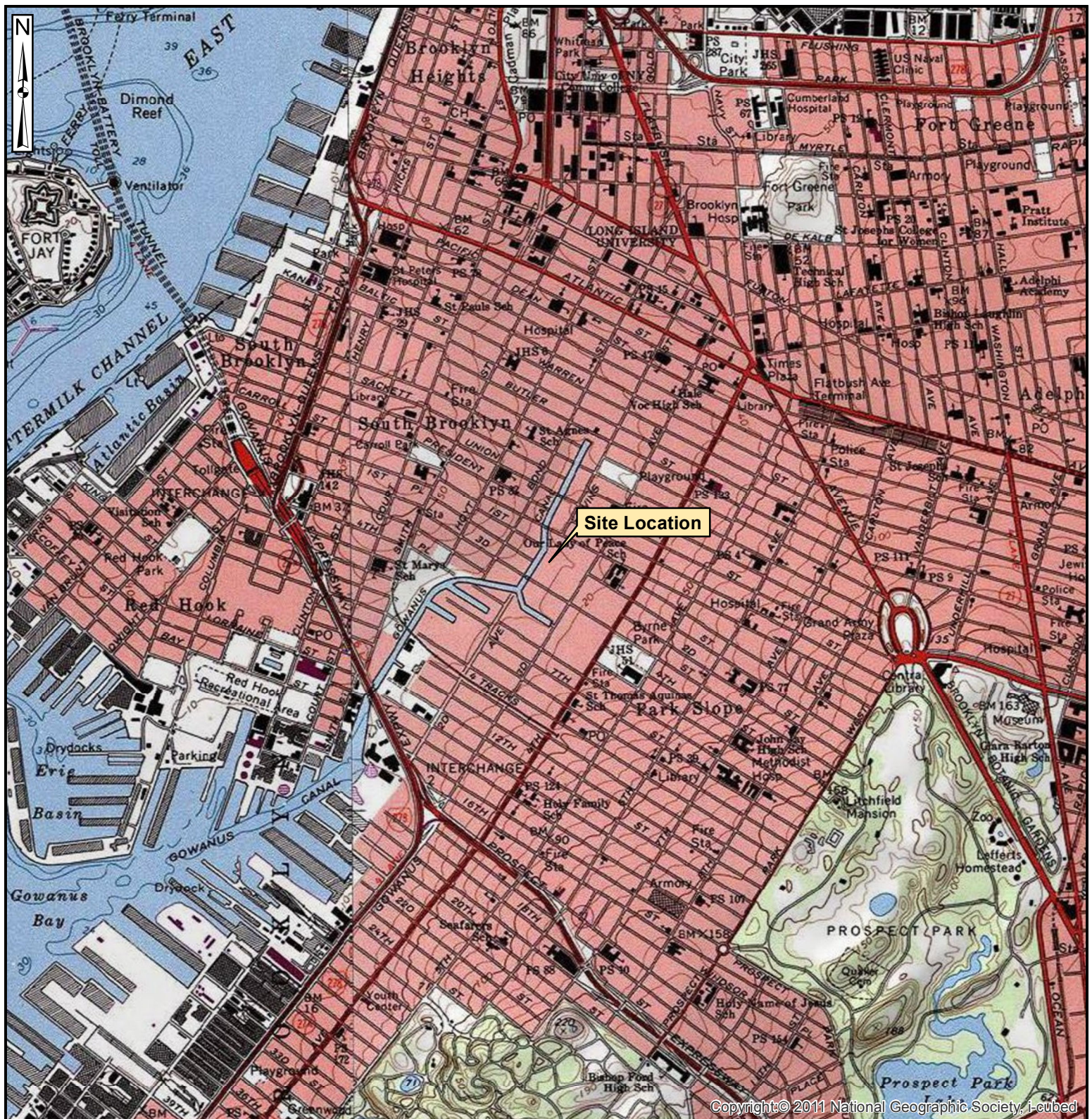
Institutional Controls: The Environmental Easement discussed in Paragraph 5 above.

Engineering Controls: The cover systems discussed in Paragraph 3.

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- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
  - a provision for further investigation (in areas where access was previously hindered) to refine the nature and extent of contamination under the building slab if and when the building is demolished;
  - a provision for removal or treatment of residual contamination located under the building if and when the building is demolished and the removal of the concrete slab is performed;
  - descriptions of the provisions of the environmental easement including any land use, groundwater and/or surface water use restrictions;
  - a provision for evaluation of the potential for soil vapor intrusion for any buildings re-occupied or 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.
- A Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
- monitoring of groundwater quality 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 on the site, as may be required by the Institutional and Engineering Control Plan discussed above.





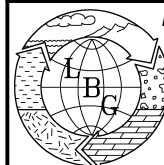
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2,000 1,000 0 2,000 Feet



BASE SOURCE: ESRI USA TOPO MAPS

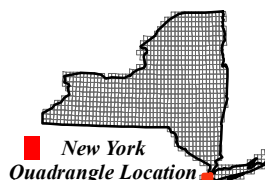
**BRT Powerhouse Gowanus**  
**332 3rd Avenue**  
**Brooklyn, New York**  
**NYS BCP Site No. C224099**  
**SITE LOCATION**



Prepared by:  
**LEGGETTE, BRASHEARS & GRAHAM, INC.**  
 Professional Groundwater and Environmental Services  
 110 Corporate Park Drive, Suite 112  
 White Plains, New York 10604  
 (914) 694-5711 [www.lbgweb.com](http://www.lbgweb.com)

DATE: 11/06/12

USGS 7.5 Minute Topographic Quadrangle  
 (20 foot Contour Interval)  
 - Jersey City, NJ-NY; 1967, P.R. 1981.  
 - Brooklyn, NY; 1967, P.R. 1979  
 P.R. - Photo Revised



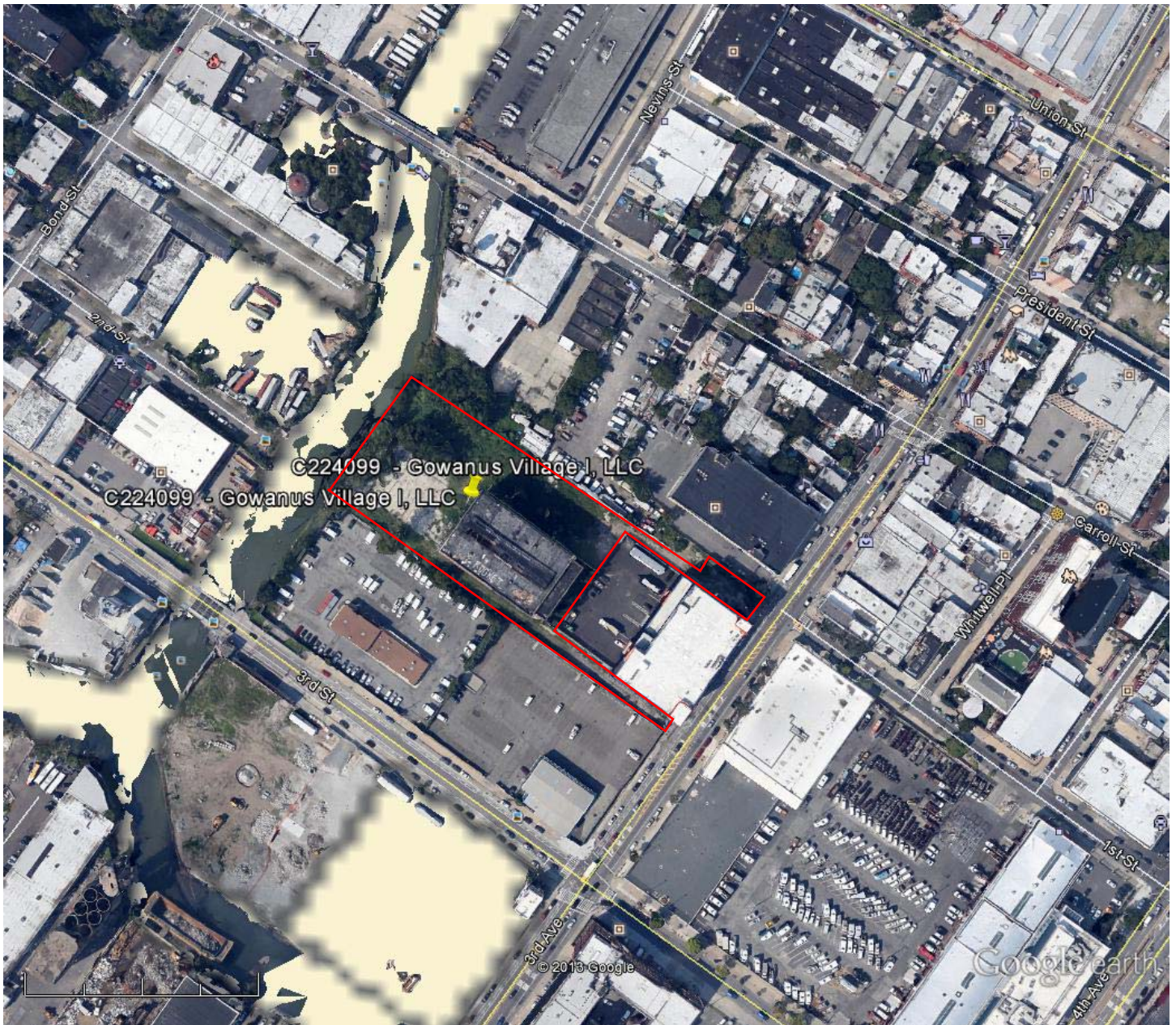
FILE: Z:\GOWANI\gis\

DRAWN BY: ZT

CHECKED BY: SG

FIGURE: 1





Google earth

feet  
meters



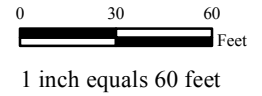
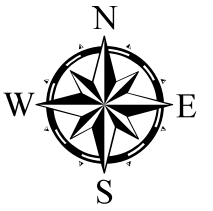
FIGURE 1A  
SITE LOCATION





- LEGEND**
- × SPOT ELEVATION FTMSL  
(FEET ABOVE MEAN SEA LEVEL)
  - ELEVATION CONTOURS (1-FOOT)
  - ⬡ PROPERTY BOUNDARY
  - ⬢ EXISTING BUILDING FOOTPRINT
  - ⬢ WINDOW DRAINAGE STRUCTURE

- "HOT SPOT" EXCAVATIONS**
- 9 PCB EXCAVATIONS  
(# DEPTH BELOW GRADE)
  - 9 PCB NON-HAZARDOUS  
EXCAVATION  
(# DEPTH BELOW GRADE)
  - 9 METALS EXCAVATION  
(# DEPTH BELOW GRADE)



**GOWANUS VILLAGE I, LLC**  
**322 3RD AVENUE**  
**BROOKLYN KING'S COUNTY, NEW YORK**  
**NYSDEC BCP SITE NO. C224099**  
**INDEX NO. W2-1069-0506**

**NOTES:**  
REVISED CONTOURS FROM BRT POWERHOUSE, LLC, TOPOGRAPHICAL SURVEY, PERFECT POINT LAND SURVEYING, 2013 (FOR REFERENCE USE ONLY)  
ELEVATION - BASED ON BROOKLYN DATUM WHICH IS 2.56' ABOVE MEAN SEA LEVEL AT SANDY HOOK, US COAST AND GEODETIC SURVEY.  
AERIAL IMAGE - 2012 COVERAGE, NYS CLEARINGHOUSE, (<http://gis.ny.gov/>) GEOREFERENCED USING ARCGIS 10.1.  
REVISED CONTOURS BASED ON SPOT ELEVATIONS COLLECTED DECEMBER, 2013 AS SHOWN (REFERENCE USE ONLY)

| PROPOSED "HOT SPOT" EXCAVATIONS |          |   |          |
|---------------------------------|----------|---|----------|
| DATE:                           | REVISED: | PREPARED BY:  |          |
|                                 |          | LEGGETTE, BRASHEARS & GRAHAM, INC.                              |          |
|                                 |          | Professional Groundwater and Environmental Engineering Services |          |
|                                 |          | 110 Corporate Park Drive, Suite 112                             |          |
|                                 |          | White Plains, New York 10604                                    |          |
|                                 |          | (914) 694-5711  |          |
| DRAWN:                          | PAS      | CHECKED:  | SG       |
|                                 |          | DATE:   | 12/19/13 |
|                                 |          | FIGURE:   | 2        |