



**Whole Foods Market**  
**220 3<sup>rd</sup> Street**  
**BROOKLYN, KINGS COUNTY, NEW YORK**

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**Site Management Plan**

**NYSDEC Site Number: C224100**

**Prepared for:**  
190-220 Third Street Store Brooklyn, LLC  
930 Sylvan Avenue  
Englewood Cliffs, New Jersey 07632

**Prepared by:**  
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**Revisions to Final Approved Site Management Plan:**

Revision #	Submitted Date	Summary of Revision	DEC Approval Date

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**AUGUST 2011**

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Architecture ▪ Engineering ▪ Planning ▪ Landscape Architecture ▪ Land Surveying ▪ Environmental Sciences

## Executive Summary

190-220 Third Street Store Brooklyn, LLC entered into a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) to remediate the property located at 220 3<sup>rd</sup> Street in Kings County, Brooklyn, New York (the Site). The remediation was conducted to achieve cleanup standards for the commercial use of the Site and provide Site conditions that are protective of human health and the environment. To manage contamination left in place, and address the potential for future exposure, an Environmental Easement and a Composite Cover System have been placed on the Site.

This Site Management Plan (SMP) addresses the means for implementing the institutional controls (ICs) and engineering controls (ECs) that are required by the Environmental Easement. This SMP has been approved by the NYSDEC in consultation with the New York State Department of Health (NYSDOH). Failure to properly implement this SMP is a violation of the Environmental Easement, and failure to comply with this SMP is a violation of Environmental Conservation Law, 6 NYCRR Part 375 and the BCA. This SMP may only be revised with the approval of the NYSDEC.

### **BEFORE ANY ACTIVITIES ARE UNDERTAKEN AT THE PROPERTY, ALL PARTIES SHOULD BE AWARE OF THE FOLOWING RESTRICTIONS:**

- Any intrusive work that will penetrate the Composite Cover System's demarcation barrier, or encounter or disturb the remaining contamination, including any modifications or repairs to the existing cover system will be performed in compliance with this SMP, including the Excavation Work Plan (EWP) that is attached as Appendix B to this SMP;
- The Site may not be used for a higher level of use, such as unrestricted or restricted residential use without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC;
- Any development or change of use of the Site must be preceded by a "Change of Use" notification to the NYSDEC as required by regulation, currently found at 6NYCRR part 375-1.11(d). (Note that transfer of ownership of all or part of the Site is considered change of use") Procedures for this notification can be found on the NYSDEC internet web page. The Site may only be used for commercial or industrial purposes, currently defined in regulation 6NYCRR Part 375-1.8(g)(2), provided that the long-term Engineering and Institutional Controls included in this SMP are employed, unless an express written wavier is obtained from the NYSDEC or Relevant Agency.
- The use of the ground water underlying the Site is prohibited unless the user first obtains permission from the NYSDEC or Relevant Agency;

- The potential for vapor intrusion must be evaluated for any buildings constructed at the Site, and any potential impacts that are identified must be monitored or mitigated. Alternatively, a soil vapor intrusion (SVI) mitigation system may be installed as an element of the building foundation without first conducting an investigation;
- Vegetable gardens and farming on the ground surface of the Site are prohibited; and
- The Site owner or remedial party will submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Site are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Site at any time in order to evaluate the continued maintenance of any and all controls. This certification must be submitted at a frequency determined by the NYSDEC and will be made by an expert that the NYSDEC finds acceptable.

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# **SITE MANAGEMENT PLAN**

## **1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM**

### **1.1 INTRODUCTION**

This document is required as an element of the remedial program at the Whole Foods Market Site located at 220 3<sup>rd</sup> Street, Brooklyn, Kings County, New York (hereinafter referred to as the “Site”) under the New York State (NYS) Brownfield Cleanup Program (BCP) administered by New York State Department of Environmental Conservation (NYSDEC). The Site was remediated in accordance with Brownfield Cleanup Agreement (BCA) Index# W2-1052-05-02 Site # C224100, which was executed on April 25, 2005.

#### **1.1.1 General**

190-220 Third Street Store Brooklyn, LLC (formerly Whole Foods Market Properties Brooklyn, LLC) entered into a BCA with the NYSDEC to remediate a 2.155 acre property located in Kings County, Brooklyn, New York. This BCA required the Remedial Party, 190-220 Third Street Store Brooklyn, LLC to investigate and remediate contaminated media at the Site. A figure showing the Site location and boundaries of this 2.155-acre Site is provided in Figure 1. The boundaries of the Site are more fully described in the metes and bounds Site description included in Appendix A.

After completion of the remedial work proposed in the Remedial Work Plan, residual contamination was left in the subsurface at this Site, which is hereafter referred to as ‘remaining contamination.’ This Site Management Plan (SMP) was prepared to manage remaining contamination at the Site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. All reports associated with the

Site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

This SMP was prepared by BL Companies, on behalf of 190-220 Third Street Store Brooklyn, LLC, in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, dated May 2010, and the guidelines provided by NYSDEC. This SMP addresses the means for implementing the Institutional Controls (ICs) and Engineering Controls (ECs) that are required by the Environmental Easement for the Site.

### **1.1.2 Purpose**

The Site contains contamination left in place after completion of the remedial action. Engineering Controls have been incorporated into the Site remedy to control exposure to remaining contamination during the use of the Site to provide protection of public health and the environment. An Environmental Easement granted to the NYSDEC, and recorded with the Kings County Clerk, will require compliance with this SMP and all ECs and ICs placed on the Site. The ICs place restrictions on Site use, and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs. This SMP specifies the methods necessary to ensure compliance with all ECs and ICs required by the Environmental Easement for contamination that remains at the Site. This SMP has been approved by the NYSDEC, and compliance with this SMP is required by the grantor of the Environmental Easement and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

This SMP provides a detailed description of procedures required to manage remaining contamination at the Site after completion of the Remedial Action, including: (1) implementation and management of Engineering and Institutional Controls; (2) media monitoring; (3) operation and maintenance of all containment systems; (4) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports; and (5) defining criteria for termination of media monitoring operations.

To address these needs, this SMP includes two plans: (1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs; and (2) a Monitoring Plan for implementation of Site ground water monitoring.

This SMP also includes a description of the Periodic Review Reports necessary for the periodic submittal of data, information, recommendations, and certifications to NYSDEC.

It is important to note that:

- This SMP details the Site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the Environmental Easement, which is grounds for revocation of the Certificate of Completion (COC);
- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6 NYCRR Part 375 and the BCA (Index W2-1052-05-02; Site #C224100) for the Site, and thereby subject to applicable penalties.

### **1.1.3 Revisions**

Revisions to this SMP must be proposed in writing to the NYSDEC's Project Manager. In accordance with the Environmental Easement for the Site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

## **1.2 SITE BACKGROUND**

### **1.2.1 Site Location and Description**

The Site is located in the Borough of Brooklyn Kings County, New York and is identified as Block 978, Lots 16, and 19, and a portion of Lot 1 and Lot 7 on the City of New York Tax Map. The Site is a 2.155-acre area bounded by 3<sup>rd</sup> Street to the north, the 4<sup>th</sup> Street Basin to the south, 3<sup>rd</sup> Avenue to the east, and Block 978, Lot 23 to the west (see Figure 1). The boundaries of the Site are more fully described in Appendix A – Metes and Bounds.

### **1.2.2 Site History**

The historic use of the Site, as presented in this section of the SMP, has been excerpted from the following BL Companies reports.

- *Phase I Environmental Site Assessment*. Prepared for Whole Foods Market, Needham, Massachusetts. December 2003.

- *Compressive Phase II Site Investigation*. Prepared for Whole Foods Market, Needham Massachusetts. February 13, 2004.
- *Remedial Investigation Work Plan*. Prepared for Whole Foods Market Properties Brooklyn LLC. October 29, 2004. Revised May 20, 2005 and June 24, 2005.
- *Interim Remedial Measures Work Plan: Underground Storage Tank Removal*. Prepared for Whole Foods Market Properties Brooklyn LLC. May 20 2005. Revised May 27, 2005 and June 27, 2005.
- *Interim Remedial Measures Work Plan: For Soil Excavation*. Prepared for Whole Foods Market Properties Brooklyn LLC. June 1, 2005. Revised June 23, 2005 and July 27, 2005.
- *Interim Remedial Measures #1 Report: Underground Storage Tank and Septic System Removal*. Prepared for Whole Foods Market Properties Brooklyn LLC. April 21, 2006.
- *Interim Remedial Measures #2 Report: For Soil Excavation*. Prepared for Whole Foods Market Properties Brooklyn LLC. April 28, 2006.
- *Remedial Investigation Report*. Proposed Whole Foods Market. Prepared for Whole Foods Market Properties Brooklyn LLC. April 14, 2006. Revised October 31, 2006.
- *Remedial Work Plan. Proposed Whole Foods Market*. Prepared for Whole Foods Market Properties Brooklyn LLC. December 7, 2006.

Prior to 1880, the Site was part of the Edwin Clarke and Grace Hill Litchfield Estate. The 1886 Sanborn™ Fire Insurance Map depicted the Site developed with a two-story building, the Hopkins and Ennis Coal Yard, A. Polhemus & Son Long Island Ice Company, and a portion of the J. E. Litchfield and Co.'s Lumber Yard. The Hopkins and Ennis Coal Yard consisted of a coal pile located in the southeastern portion of the Site, a two-story office building located in the northern portion of the Site, and an outbuilding located to the south of the office building. The A. Polhemus & Son Long Island Ice Company consisted of an office building located in the northwestern portion of the Site and an outbuilding located in the central portion of the Site.

The 1904 Sanborn™ Fire Insurance Map depicted the Site developed with a two-story garage listed as a Shoppe, the Schroeder and Horstman Coal Yard, and the Powell and Titus Coal Yard. The coal yards consisted of office buildings located along Third Street, storage buildings located in the central portion of the Site, and coal sheds located in the southeastern and southwestern portions of the Site. The 1904 Sanborn™ Fire

Insurance Map also depicted the Pure Oil Company on the western portion of the Site and a 200,000-gallon oil tank on the northwestern portion of the Site.

The 1915 Sanborn™ Fire Insurance Map depicted the Site developed with the Schroeder and Horstman Coal Yard and the Powell and Titus Coal Yard. The Site was also developed with the John Morton Sons Co. Building Materials in the western portion. The 200,000-gallon oil tank was no longer present.

The 1938 Sanborn™ Fire Insurance Map depicted the Site developed with the Horstman and Higley Co., Inc. Coal Yard, the Powell and Titus Coal Yard, and Carroll Trucking Corp. The layout of the coal yards had not significantly changed since the 1915 Sanborn™ Fire Insurance Map. The Carroll Trucking Corp. was depicted on the western portion of the Site.

The 1950 Sanborn™ Fire Insurance Map depicted the Site developed with a lumberyard and a freight depot on the southern portion and an auto junkyard and auto repair on the northern portion.

The 1969 Sanborn™ Fire Insurance Map depicted the Site developed with several interconnected buildings and an open, rear area at the northwest corner of 3<sup>rd</sup> Street and 3<sup>rd</sup> Avenue. The former buildings consisted of a one-story warehouse building, a two-story auto repair shop that was located on the eastern portion of the Site, and a one/two-story building used for truck repairs that was located on the northwestern portion of the Site. The Site also contained a one/two-story building/loading dock that was located on the northern portion of the Site. The remaining area (rear) was depicted as an open area that bordered the 4<sup>th</sup> Street Basin and was used for parking and/or storage when the Site was occupied. Access to the Site was from 3<sup>rd</sup> Street via a paved driveway.

The 1977, 1979, and 1980 Sanborn™ Fire Insurance Maps depicted the Site similar to the 1969 map. The 1981 Sanborn™ Fire Insurance Map depicted the building on the northwestern portion of the Site as an auto repair shop. The remaining portions of the Site were depicted as they appeared on the 1980 map. The 1982, 1986, 1987, 1988, 1991, 1992, 1993, 1995, and 1996 Sanborn™ Fire Insurance Maps depicted the Site similar to the 1981 map.

When the warehouse was occupied, it was used to store radiators and heat exchangers for automobiles and trucks. At one time, radiators were manufactured in this building. An unoccupied loading dock/building was used as a storage area for metal scaffolding and structure supports. The former truck repair building contained office space on the upper and lower levels, a repair area, a storage area and employee area. Public water and natural gas serviced the buildings. A septic system provided on-Site wastewater treatment. A Site plan showing the former locations of the buildings is depicted in Figure 2.

Demolition of Site buildings was completed in 2007. Subsequent to 2007, the Site has not contained structures or structural foundations.

### **1.2.3 Geologic Conditions**

The Site is located in the Atlantic Coastal Plain Physiographic Province and is underlain by Coastal Plain deposits. The Coastal Plain deposits consist of approximately 54 feet of glacial till, over approximately 50 feet of fine to very coarse sand and gravel with a few layers of clay and silt of the Jameco Aquifer. Approximately 50 feet of clay, silt, and a few layers of sand, known as Gardiners Clay, underlie the Jameco Aquifer. Bedrock underlies the Gardiners Clay and is reported to be approximately 154 feet below ground surface.

Site-specific geologic information was obtained during the advancement of both environmental and geotechnical test borings across the Site. The Site is underlain by urban fill that varies in thickness from approximately 5 feet to 25 feet. The urban fill is underlain by an organic layer composed of varying proportions of silt and clay that varied in thickness from approximately 10 feet to 25 feet. The top of the organic layer likely represents the original surface of the Site, prior to filling in the late 1800s. The organic layer is underlain by a mixture of fine to coarse sands with increasing percentages of gravel and coarser sands with depth (coarsening downward sequence). Exploration borings were advanced to a total depth of approximately 77 feet below grade. The bedrock surface was not encountered in any of the test borings.

#### **1.2.4 Hydrogeologic Setting**

Shallow ground water is present in the overburden fill material beneath the Site. Ground water is tidally influenced, but flows toward the 4<sup>th</sup> Street Basin in both high and low tide conditions. The ground water level within the overburden aquifer ranges from an elevation of approximately 3 feet at the northwest boundary of the Site to an elevation of approximately 8 feet in the southeast boundary of the Site (BL Companies Datum). Add 4.795 feet to the BL datum to adjust to the United States Coast and Geodetic Survey (U.S.C.G.S) 1929 datum. Ground water elevation contours are illustrated in Figure 3. The average horizontal gradient across the Site is approximately 0.01 feet per foot.

A tidal survey was performed at the Site in March 2005. During the survey, water levels were monitored continuously in the 4<sup>th</sup> Street Basin and in a shallow ground water monitoring well located approximately 15 feet from the basin for approximately two weeks. The tidal survey data from the monitoring well indicated that the water level in the monitoring well is tidally influenced with a maximum fluctuation of approximately 1.78 feet.

### **1.3 SUMMARY OF REMEDIAL INVESTIGATION FINDINGS**

A Remedial Investigation (RI) was performed to characterize the nature and extent of contamination at the Site before and after the implementation of Interim Remedial Measures (IRMs). The results of the RI are described in the following report:

- BL Companies, 2006. *Remedial Investigation Report*. Proposed Whole Foods Market. Prepared for Whole Foods Market Brooklyn LLC. April 14, 2006. Revised October 31, 2006.

Below is a summary of Site conditions between 2003 and 2006, during the period of time that the RI was conducted.

#### Soil

Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs) and metals were detected at concentrations above laboratory detection limits in soil samples collected across the entire Site. The Remedial Investigation Report (RIR) provides a description of the nature

and extent of the contamination both before and after IRMs were completed at the Site. As described in Subsection 1.4, the IRMs were designed to remove soils that exhibited concentrations of compounds that exceed Technical and Administrative Guidance Memorandum (TAGM) #4046 Recommended Soil Cleanup Objectives (RSCOs), and where the source of the impacted soil appeared to be from an on-Site release. The IRMs partially or completely removed “hotspot soils,” but not all soils that exhibited concentrations of compounds that exceeded TAGM # 4046 RSCOs. The former locations of the “Hotspots” remediated during the IRMs (i.e., Hotspots 1, 2, 3, 4A, 4B, 5 and PCB) are illustrated on Figure 4.

At the time of completion of this SMP, the development and implementation of remedial programs for Brownfield sites in New York State utilize the SCOs as set forth in 6 New York Codes, rules and Regulations (NYCRR) Part 375, December 2006. Table 1 presents a comparison of soil analytical results prior to completion of Site remediation to NYSDEC commercial and residential SCOs set forth in 6 NYCRR Part 375. The location of RI samples are illustrated in Figure 2. Table 2 lists the compounds that were present in soil prior to completion of the remediation, the number of soil samples analyzed, the maximum detected concentration and corresponding sample identification, and the number of samples that exceed NYSDEC commercial and residential SCOs. The comparison of pre-remediation soil analytical results to the residential SCOs is presented for informational purpose only and do not represent cleanup objectives for the Site.

### Ground Water

VOCs, SVOCs and metals were detected in ground water samples collected at the Site. Benzene was the only VOC detected in post-IRM samples that exceeded NYSDEC TOGS 1.1.1 Class GA standards. Acenaphthene and phenol were the only SVOCs detected in post-IRM samples that exceeded NYSDEC TOGS 1.1.1 standards. Several metals (iron, lead, magnesium, manganese, sodium) were detected in post-IRM ground water samples collected from the Site. Aldrin was the only pesticide detected at a concentration that exceeded the NYSDEC TOGS 1.1.1 standards in ground water samples collected and analyzed following the implementation of the IRMs. Table 3 lists the compounds present in ground water prior to the completion of remediation, the



number of samples analyzed, the maximum detected concentration and corresponding sample identification, and the number of samples exceeding NYSDEC TOGS 1.1.1 standards. Table 4 presents ground water analytical results following the completion of the IRMs. A comparison between the post-IRM ground water analytical results to pre-IRM ground water analytical results indicated a reduction in the number and extent of detected compounds that exceeded NYSDEC TOGS 1.1.1 standards.

#### Soil Vapor

VOCs were detected in soil gas samples collected before and after the implementation of IRMs. Table 5 presents the soil gas analytical results prior to the completion of the remediation. Table 6 presents soil gas analytical results following the completion of the IRMs. Comparisons of VOC constituents detected in pre-IRM sample location versus post-IRM sample location showed a decrease in the concentrations of VOC constituents following the implementation of the IRMs.

#### Underground Storage Tanks

Pre-IRM Site conditions included the presence of five underground storage tanks (USTs), two dry wells, a septic tank, and a cesspool. Four USTs (i.e., USTs 1, 2, 3 and 5), two dry wells, septic tank and cesspool were removed from the Site during the implementation of the IRMs. The locations of the former USTs, dry wells, septic tank, and cesspool are illustrated on Figure 2. UST 1 was a 1,000-gallon fuel oil/diesel tank; USTs 2, 3, and 4 were 550-gallon gasoline tanks; UST 4A was a 150-gallon hydraulic oil tank and UST 5 was a 550-gallon fuel oil/diesel tank.

### **1.4 SUMMARY OF REMEDIAL ACTIONS**

The Site was remediated in accordance with the NYSDEC-approved Interim Remedial Work Plan dated May 20, 2005, revised May 27, 2005 and June 27, 2005, Interim Remedial Work Plan dated June 1, 2005, revised June 23, 2005 and July 27, 2005, Remedial Work Plan dated December 2006, and Informational Letter on Hotspot Removal dated May 10, 2010. The remediation work was performed in accordance with the above-mentioned NYSDEC-approved documents and the Hot Spot Remediation Project Manual and Drawings dated June 10, 2009.

The following is a summary of the Interim Remedial Measures performed at the Site in 2005.

IRM #1 included the removal of four USTs (USTs 1, 2, 3, and 5), two drywells, and a septic tank and cesspool. Underground storage tanks removed from the Site were “closed” under the NYSDEC Bulk Petroleum Storage Tank Program.

IRM #2 included the excavation and off Site removal of soils from release areas (i.e., Hotspots 1, 2, 3, 4A, 4B, 5 and PCB) where concentrations of VOCs, SVOCs/polycyclic aromatic hydrocarbons (PAHs), PCBs, and metals exceeded the TAGM #4046 RSCOs, identified in the RI.

Based upon post-IRM analytical data, IRM #1 and IRM #2 were effective in removing sources of contamination and in reducing the risk to human health and the environment associated with the Site. In addition to the removal of the USTs, dry wells, septic tank and cesspool, approximately 16,500 cubic yards of petroleum-impacted soil was removed during the IRM activities. Based upon post-IRM ground water data presented in the RIR, ground water quality improved at the Site as a result of these activities.

The following is a summary of the Post-IRM Remedial Actions performed at the Site:

- Off-Site disposal of two USTs (USTs 4 and 4A). Excavated soil managed in accordance with NYSDEC-approved Soil Management Plan included as part of the Remedial Work Plan dated December 7, 2006;
- Excavation and off-Site disposal of contaminated soil to achieve a NYSDEC Track 4 Restricted Use Site-Specific cleanup for the intended commercial use of the Site. The Site-specific soil cleanup objectives (SCOs) for the contaminants of concern are the Track 2 Restricted-Commercial SCOs defined in NYCRR Part 375-6, Table 375-6.8(b). As illustrated on Figure 4, excavation depth elevations ranged between approximately –4 feet and –7.0 feet (BL datum). Contamination remains at concentrations above the Site-specific SCOs at discrete areas on the

Site at elevations between approximately 4 feet and –13 feet (BL Datum), and in some areas of the urban fill between elevations of approximately 0 and 9 feet;

- Construction and maintenance of a Composite Cover System consisting of a demarcation barrier beneath a minimum 2-foot-thick cover layer of clean crushed rock to prevent human exposure to remaining contaminated soil at the Site;
- The execution and recording of an Environmental Easement to restrict land use and prevent future exposure to contamination remaining at the Site. The Environmental Easement requires: (a) limiting the use and development of the property to commercial/industrial use; (b) compliance with the NYSDEC-approved SMP; (c) restricting the use of ground water as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH; and (d) the property owner to complete and submit to the NYSDEC a periodic certification of industrial and engineering controls; and
- Development and implementation of a Site Management Plan for long term management of remaining contamination as required by the Environmental Easement, which includes plans for: (1) Institutional and Engineering Controls, (2) monitoring, (3) operation and maintenance and (4) reporting.

Remedial activities were completed at the Site between February and June 2010.

#### **1.4.1 Removal of Contaminated Materials from the Site**

The remediation completed at the Site included the excavation and off-Site disposal of soils that contained contaminants of concern (COCs) at concentrations above the Site-specific SCOs. A list of the soil cleanup objectives (SCOs) for the primary COCs and applicable land uses for this Site is provided in Table 7. The area of the remedial excavations included UST areas, IRM areas, and areas identified as Hotspots in the RWP. Areas where remedial excavation was performed are depicted in Figure 4. Figure 4 also illustrates the excavation depth elevations for each remedial excavation. The remedial excavation volume was approximately 24,260 cubic yards.

### **1.4.2 Site-Related Treatment Systems**

No long-term treatment systems were installed as part of the Site remedy. A soil vapor intrusion mitigation system, including a chemical vapor barrier and sub-slab depressurization system is proposed to be installed as an element of future building foundation construction.

### **1.4.3 Remaining Contamination**

The remedial actions at the Site were conducted to achieve cleanup standards for the intended commercial use of the Site and provide that Site conditions that are protective of human health and the environment. Contamination remains on the Site in a discrete area, including areas of structurally intact portions of the 4<sup>th</sup> Street Basin Bulkhead (former locations of Hotspots, 9B, 9C and 10A), and in portions of the urban fill, which is ubiquitous in the neighborhood.

This remaining contamination is managed by the use of institutional and engineering controls, which includes a Composite Cover System constructed with a minimum a 2-foot-layer of clean crushed rock cover overlying a demarcation barrier of orange woven geotextile fabric with warning text printed in English and Spanish. The location and elevations of the demarcation barrier are illustrated in Figure 5.

Figure 6 and Tables 8 and 9 summarize the results of the soil samples remaining at the Site after completion of Remedial Action that exceed the Track 4 Site-specific SCOs

Soil containing contamination at concentrations above the Track 4 Site-Specific SCOs that remain on-Site beneath the demarcation barrier are presented in Figure 6.

Wood framing of the 4<sup>th</sup> Street Basin Bulkhead was encountered at the following locations.

- Former Hotspots 9B at an elevation of approximately -4.8 feet (BL datum)
- Former Hotspot 9C at an elevation of approximately -4.8 feet (BL datum)
- Former Hotspot 10A at an elevation of approximately -5.0 feet (BL datum)
- Former Hotspot 10C at an elevation of approximately -4.3 feet (BL datum)

If future excavation is conducted in the areas of Former Hotspots 9B, 9C, 10A, and 10C, the structurally intact wood framing of the 4<sup>th</sup> Street Basin Bulkhead may be encountered.

Table 10 presents soil samples with concentrations of regulated compounds remaining at the Site above NYSDEC unrestricted use SCOs as defined in 6NYCRR Part 375, Table 375-6.8(a), December 4, 2006. Table 11 lists the regulated compounds that remain above residential standards, the number of soil samples analyzed, the maximum detected concentrations and corresponding sample identification, and the number of samples that exceed residential standards. The locations of samples containing regulated compounds remaining at the Site above unrestricted use SCOs are illustrated in Figure 2 and Figure 7. The regulated compounds that remain above the unrestricted use SCOs are presented for informational purposes only, and do not represent Site-specific SCOs for the Site.

#### **1.4.4 Excavation Fill**

The remedial excavations were backfilled with imported clean fill that met NYSDEC standards, criteria, and guidelines. The excavation fill plan is illustrated on Figure 7.

## **2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN**

### **2.1 INTRODUCTION**

#### **2.1.1 General**

Since contaminated soil and ground water remains beneath the Site, Engineering Controls and Institutional Controls (EC/ICs) are required by the NYSDEC to protect human health and the environment. This Engineering and Institutional Control Plan describes the procedures for the implementation and management of the EC/ICs at the Site. The EC/IC Plan is one component of the SMP and is subject to revision by the NYSDEC.

#### **2.1.2 Purpose**

This EC/IC plan provides:

- A description of the EC/ICs on the Site;
- The basic implementation and intended role of each EC/IC;
- A description of the key components of the ICs set forth in the Environmental Easement;
- A description of the features to be evaluated during each required inspection and periodic review; and
- A description of plans and procedures to be followed for implementation of EC/ICs, such as the implementation of the Excavation Work Plan for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the Site.

## **2.2 ENGINEERING CONTROLS**

### **2.2.1 Engineering Control Systems**

#### 2.2.1.1 Composite Cover System

Exposure to remaining contamination at the Site is prevented by the placement of a Composite Cover System over the Site. This Composite Cover System is comprised of a minimum of 24 inches of clean crushed rock placed over a demarcation barrier. The Excavation Work Plan that appears in Appendix B outlines the procedures required to be implemented in the event the demarcation barrier is breached, penetrated or temporarily removed, and any underlying contamination is disturbed.

Procedures for operating and maintaining the engineering control are documented in the Operation and Maintenance Plan (Section 4 of this SMP). Procedures for monitoring the engineering control are included in the Monitoring Plan (Section 3 of this SMP). The Monitoring Plan also addresses inspections of the engineering control.

### **2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems**

Generally, remedial processes are considered completed when effectiveness monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.6 of NYSDEC DER-10.

#### 2.2.2.1 Composite Cover System

The Composite Cover System is a permanent engineering control and the quality and integrity of this system will be visually inspected at defined, regular intervals in perpetuity.

#### 2.2.2.2 Monitored Natural Attenuation

Ground water monitoring to assess natural attenuation will continue, as determined by the NYSDEC, until residual ground water concentrations are found to be consistently below NYSDEC standards or have become asymptotic at an acceptable level over an extended period. Monitoring will continue until permission to discontinue is granted in writing by the NYSDEC. If ground water contaminant levels become

asymptotic at a level that is not acceptable to the NYSDEC, additional source removal, treatment and/or control measures will be evaluated.

### **2.3 INSTITUTIONAL CONTROLS**

A series of Institutional Controls is required by the RAP to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the Site to commercial/industrial uses only. Adherence to these Institutional Controls on the Site is required by the Environmental Easement and will be implemented under this Site Management Plan. These Institutional Controls are:

- Compliance with the Environmental Easement and this SMP by the Grantor and the Grantor's successors and assigns;
- All Engineering Controls must be operated and maintained as specified in this SMP;
- All Engineering Controls on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP;
- Ground water monitoring must be performed as defined in this SMP; and
- Data and information pertinent to Site Management must be reported at the frequency and in a manner defined in this SMP.

Institutional Controls identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement.

The Site has a series of Institutional Controls in the form of Site restrictions. The Environmental Easement requires adherence to these Institutional Controls. Site restrictions that apply to the Controlled Property are:

- The property may only be used for commercial/industrial use provided that the long-term Engineering and Institutional Controls included in this SMP are employed;



- The property may not be used for a higher level of use, such as unrestricted or restricted residential use without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC;
- All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- The use of the ground water underlying the property is prohibited unless the user first obtains permission from the NYSDEC or Relevant Agency;
- The potential for vapor intrusion must be evaluated for any buildings constructed at the Site, and any potential impacts that are identified must be monitored or mitigated. Alternatively, a soil vapor intrusion (SVI) mitigation system may be installed as an element of the building foundation without first conducting an investigation;
- Vegetable gardens and farming on the ground surface of the property are prohibited; and
- The Site owner or remedial party will submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification must be submitted annually at a frequency determined by the NYSDEC and will be made by an expert that the NYSDEC finds acceptable.

### **2.3.1 Excavation Work Plan**

The Site has been remediated for commercial/industrial uses. Any future intrusive work that will penetrate the Composite Cover System's demarcation barrier, or encounter or disturb the remaining contamination, including any modifications or repairs to the existing cover system will be performed in compliance with the Excavation Work Plan (EWP) that is attached as Appendix B to this SMP. Work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) prepared for the Site. A HASP is attached as Appendix C to this SMP that is in current compliance with DER-

10, and 29 CFR 1910, 29 CFR 1926, and all other applicable Federal, State and local regulations. The CAMP is attached as Appendix D. Based on future changes to State and Federal health and safety regulations, and specific methods employed by future contractors, the HASP and CAMP will be updated and re-submitted with the notification provided in Section A-1 of the EWP. Any intrusive construction work will be performed in compliance with the EWP, HASP and CAMP, and will be included in the periodic inspection and certification reports submitted under the Site Management Reporting Plan (See Section 5).

The Site owner and associated parties preparing the remedial documents submitted to the State, and parties performing this work, are completely responsible for the safe performance of all intrusive work, the structural integrity of excavations, proper disposal of excavation de-water, control of runoff from open excavations into remaining contamination, and for structures that may be affected by excavations (such as building foundations and bridge footings). The Site owner will ensure that Site development activities will not interfere with, or otherwise impair or compromise, the engineering controls described in this SMP.

### **2.3.2 Soil Vapor Intrusion Evaluation**

Prior to the construction of any enclosed structures over the areas that contain remaining contamination and the potential for soil vapor intrusion (SVI) has been identified, an SVI evaluation will be performed to determine whether any mitigation measures are necessary to eliminate potential exposure to vapors in the proposed structure. Alternatively, an SVI mitigation system may be installed as an element of the building foundation without conducting an investigation. This SVI mitigation system will include a vapor barrier and passive sub-slab depressurization system that is capable of being converted to an active system.

Prior to conducting an SVI investigation or installing a mitigation system, a work plan must be developed and submitted to the NYSDEC and NYSDOH for approval. This work plan will be developed in accordance with the most recent NYSDOH “Guidance for Evaluating Vapor Intrusion in the State of New York”. Measures to be employed to mitigate potential vapor intrusion will be evaluated, selected, designed, installed, and

maintained based on the SVI evaluation, the NYSDOH guidance, and construction details of the proposed structure.

Preliminary (unvalidated) SVI sampling data will be forwarded to the NYSDEC and NYSDOH for initial review and interpretation. Upon validation, the final data will be transmitted to the agencies, along with a recommendation for follow-up action, such as mitigation. Validated SVI data will be transmitted to the property owner within 30 days of validation.

SVI sampling results, evaluations, and follow-up actions will also be summarized in the next Periodic Review Report.

## **2.4 INSPECTIONS AND NOTIFICATIONS**

### **2.4.1 Inspections**

Inspection of the remedial components installed at the Site will be conducted at the frequency specified in the SMP Monitoring Plan. A comprehensive Site-wide inspection will be conducted annually, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether Engineering Controls continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria;
- Sampling and analysis of appropriate media during monitoring events;
- If Site records are complete and up to date; and
- Changes, or needed changes, to the remedial or monitoring system.

Inspections will be conducted in accordance with the procedures set forth in the Monitoring Plan of this SMP (Section 3). The reporting requirements are outlined in the Periodic Review Reporting section of this plan (Section 5).

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the Site will be conducted within 5 days of the event to

verify the effectiveness of the EC/ICs implemented at the Site by a qualified environmental professional as determined by NYSDEC.

#### **2.4.2 Notifications**

Notifications will be submitted by the property owner to the NYSDEC as needed for the following reasons:

- 60-day advance notice of any proposed changes in Site use that are required under the terms of the BCA, 6 NYCRR Part 375, and/or Environmental Conservation Law.
- 15-day advance notice of any proposed ground-intrusive activities pursuant to the Excavation Work Plan.
- Notice within 48-hours of any damage or defect to foundations structures that reduces or has the potential to reduce the effectiveness of other Engineering Controls and likewise any action to be taken to mitigate the damage or defect.
- Notice within 48-hours of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of Engineering Controls in place at the Site, including a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action shall be submitted to the NYSDEC within 45 days and shall describe and document actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the Site or responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser has been provided with a copy of the BCA, and all approved work plans and reports, including this SMP
- Within 15 days after the transfer of all or part of the Site, the new owner's name, contact representative, and contact information will be confirmed in writing.

## **2.5 CONTINGENCY PLAN**

Emergencies may include injury to personnel, fire or explosion, environmental release, or serious weather conditions.

In the event of an emergency, Site control, communications and appropriate evacuation routines will be the responsibility of the qualified environmental professional supervising the work. Emergency communication with off-Site emergency response groups will be via cellular telephone. For on-Site emergency communications, the qualified environmental professional will signal utilizing verbal communication. The qualified environmental professional will telephone all pertinent emergency personnel (ambulance, fire etc.) and notify the Site owner. All personnel will leave the area via the safest route and meet at a location designated by the qualified environmental professional. The qualified environmental professional will check to determine that all personnel have been accounted for. If personnel are identified as missing, the qualified environmental professional will contact emergency services for assistance.

Emergency situations that may occur under such circumstances include: uncontrolled releases of contaminants, severe weather, fire or explosion, discovery of underground tanks, drums or other unknown material. These situations may require the involvement of trained and equipped emergency response personnel.

### **2.5.1 Emergency Telephone Numbers**

In the event of any environmentally related situation or unplanned occurrence requiring assistance, the Owner or Owner's representative(s) should contact the appropriate party from the contact list below. For emergencies, appropriate emergency response personnel should be contacted. Prompt contact should also be made to the qualified environmental professional. These emergency contact lists must be maintained in an easily accessible location at the Site.

**Table 2.5: Emergency Contact Numbers**

Medical, Fire, and Police:	911
One Call Center:	(800) 272-4480 (prior notice required for utility mark out)
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362
BL Companies (qualified environmental professional)	203 630-1406
Consolidated Edison Company	800 752-6633
NYC Department of Public Works	718-389-2464
National Response Center	800 424-8803

\* Note: Contact numbers subject to change and should be updated as necessary

**2.5.2 Map and Directions to Nearest Health Facility**

Site Location: 220 3<sup>rd</sup> Street, Brooklyn, New York

Nearest Hospital Name: Interfaith Medical Center

Hospital Location: 1545 Atlantic Avenue, Brooklyn, New York

Hospital Telephone: (718) 604-6000

Directions to the Hospital:

1. Leave Site going north on 3<sup>rd</sup> Street
2. Turn left onto 3<sup>rd</sup> Avenue
3. Turn right on Atlantic Avenue
4. Go approximately 2.4 miles and arrive at hospital.

Total Distance: Approximately 3 miles

Total Estimated Time: Approximately 15 minutes by Automobile

### Map Showing Route from the site to the Hospital:



#### Hospital Location and Directions

Nearest Hospital: Interfaith Medical Center (718) 604-6000  
1545 Atlantic Avenue  
Brooklyn, NY

Leave Site going north on 3<sup>rd</sup> Street. Turn left onto 3<sup>rd</sup> Avenue. Turn right onto Atlantic Avenue. Go approximately 2.4 miles and arrive at hospital.

### **2.5.3 Response Procedures**

As appropriate, the fire department and other emergency response groups will be notified immediately by telephone of the emergency. The list of emergency telephone numbers is found at the beginning of this Contingency Plan (Table 2.5). The list will also be posted prominently at the Site and made readily available to all personnel at all times.



## **3.0 SITE MONITORING PLAN**

### **3.1 INTRODUCTION**

#### **3.1.1 General**

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the remedy to reduce and/or mitigate contamination at the Site, the Composite Cover System, and the affected Site media identified below. Monitoring of other Engineering Controls is described in Chapter 4, Operation, Monitoring and Maintenance Plan. This Monitoring Plan may only be revised with the approval of NYSDEC.

#### **3.1.2 Purpose and Schedule**

This Monitoring Plan describes the methods to be used for:

- Sampling and analysis of ground water;
- Assessing compliance with applicable NYSDEC standards, criteria and guidance, particularly ambient ground water standards and Part 375 SCOs for soil;
- Assessing achievement of the remedial performance criteria;
- Evaluating Site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment; and
- Preparing the necessary reports for the various monitoring activities.

To adequately address these issues, this Monitoring Plan provides information on:

- Sampling locations, protocol, and frequency;
- Information on all designed monitoring systems (e.g., well logs);
- Analytical sampling program requirements;
- Reporting requirements;
- Quality Assurance/Quality Control (QA/QC) requirements;
- Inspection and maintenance requirements for monitoring wells;

- Monitoring well decommissioning procedures; and
- Annual inspection and periodic certification.

Semi-Annual ground water monitoring of the performance of the remedy and overall reduction in contamination on-Site will be conducted for the first two years. The frequency thereafter will be determined by the NYSDEC. Trends in contaminant levels in ground water in the affected areas will be evaluated to determine if the remedy continues to be effective in achieving remedial goals. Monitoring programs are summarized in Table 3.1 and outlined in detail in Sections 3.2 and 3.3 below.

**Table 3.1: Monitoring/Inspection Schedule**

<b>Monitoring Program</b>	<b>Frequency*</b>	<b>Matrix</b>	<b>Analysis</b>
MNA	Semi-Annual	Ground Water	EPA Methods 8260B and 8270C
Composite Cover System	Annual	Soil	Visual Inspection and Certification Checklist
Site-Wide	Annual	-	Visual Inspection and Certification Checklist
Site Records and Institutional Controls	Annual	-	Inspection and Certification Checklist

\* The frequency of events will be conducted as specified until otherwise approved by NYSDEC and NYSDOH

### **3.2 COMPOSITE COVER SYSTEM MONITORING**

The Annual Certification will be a written statement by a qualified environmental professional that the Composite Cover System employed at the Site is unchanged since the completion of the remedial activities or previous Annual Certification, or that any changes to the Composite Cover System at the Site were approved by the NYSDEC, and that nothing has occurred that would impair the ability of the Composite Cover System to protect public health and the environment or constitute a violation or failure to comply with this SMP. The Annual Site-Wide and Engineering Controls Inspection and

Certification Checklist (Appendix E) will be used for each Annual Inspection. The qualified environmental professional who conducts the Annual Inspection must be familiar with the Site, the Composite Cover System, and regulated post-remediation construction activities.

The Composite Cover System installed at the Site will be visually inspected annually to determine if, and when, maintenance activities are required to maintain the integrity of these features. The NYSDEC and NYSDOH–approved Composite Cover System includes the minimum 2-foot-thick cover of clean crushed rock and demarcation barrier below the clean crushed rock to separate the cover from the underlying material and to serve as a visual indicator if the cover material is breached. The as-built drawing of the Composite Cover System is included as Figure 8 of this SMP. The Composite Cover System will be visually inspected at least annually for signs of erosion or other disturbances. The surface elevation of the cover will be surveyed at least annually to determine the thickness of the cover. The cover will also be visually inspected and surveyed following intrusive excavation that requires notification to the NYSDEC. If damage to the cover is visually observed and/or determined by survey, the engineering controls will be repaired. During each survey, elevations will be referenced to an existing benchmark installed at the Site.

### **3.3 MEDIA MONITORING PROGRAM**

#### **3.3.1 Ground Water Monitoring**

A network of five ground water monitoring wells (MW-1A, MW-2A, MW-3A, MW-4A, and MW-5A) has been installed to monitor both hydraulically up-gradient and down-gradient ground water conditions at the Site. The well locations are illustrated in Figure 1. The network of on-Site wells has been designed based on the following criteria: Monitoring wells MW-1A and MW-4A are located along the hydraulically upgradient Site boundary. Monitoring well MW-5A is located in the interior of the Site, hydraulically downgradient of monitoring wells MW-1A and MW-4A. Monitoring wells MW-2A and MW-3A are hydraulically downgradient wells, located adjacent to the 4<sup>th</sup> Street Basin. The monitoring wells are screened in the uppermost portion of the

overburden aquifer. Table 12 presents a summary of the monitoring well construction details. The monitoring wells were installed at specific locations and depths in order to characterize Site hydrology and define the ground water quality of the overburden aquifer.

Ground water analytical data collected at five locations (MW-1A, MW-2A, MW-3A, MW-4A, and MW-5A) following completion of IRMs and prior to the completion of the remedial remedy in 2010 are presented in Table 4. The table presents the sample identification, analytical results and any applicable data qualifier for compounds detected ground water samples collected in 2009.

Benzene was detected at a concentration of 63 ppb in a ground water sample collected from MW-1A in 2009. Benzene was the only VOC detected at a concentration that exceeded the NYSDEC TOGS standards in the ground water samples analyzed in 2009. Based on the location of MW-1A (hydraulically upgradient), the benzene detected in ground water is most likely related to a gasoline source located off Site. Benzene was not detected at concentrations above laboratory detection limits in ground water samples collected from monitoring wells MW-2A, MW-3A, MW-4A and MW-5A. SVOCs were not detected at concentrations above laboratory detection limits in the ground water samples analyzed.

Monitoring wells MW-1A, MW-2A, MW-3A, and MW-4A were destroyed during the implementation of the remedial remedy in 2010. Monitoring wells MW-1A, MW-3A, and MW-4A were replaced in June 2010.

Post-Remedial ground water samples will be collected from monitoring wells MW-1A, MW-3A, and MW-4A and MW-5A on a semi-annually for a minimum period of two years to comply with Section 5.2, Certification of Engineering and Institutional Controls, of this SMP. The frequency thereafter will be determined by the NYSDEC. The first sampling round will be performed within one year after the remediation is completed. Ground water sampling will be discontinued at a monitoring well after the analytical results of three consecutive rounds of analytical data confirms that concentrations of Site-related contaminants do not exceed New York State Ambient Water Quality Standards (AWQS) for Class GA Water. The sampling frequency may be

modified with the approval NYSDEC. The SMP will be modified to reflect changes in sampling plans approved by NYSDEC.

Ground water samples will be analyzed for VOCs via EPA Method 8260B and SVOCs via EPA Method 8270C. Table 13 summarizes the number of wells and analyses methods to be performed on ground water samples to be collected during each monitoring event.

Deliverables for the ground water-monitoring program are specified in Section 3.6 of this SMP

#### 3.3.1.1 Sampling Protocol

All monitoring well sampling activities will be recorded in a field book and a ground water-sampling log. Other observations (e.g., well integrity, etc.) will be noted on the well sampling log. The well sampling log will serve as the inspection form for the ground water monitoring well network. Sampling protocols are presented in Appendix F.

#### 3.3.1.2 Monitoring Well Repairs, Replacement And Decommissioning

If biofouling or silt accumulation occurs in the on-Site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and/or replaced (as per the Monitoring Plan), if monitoring events render the well(s) unusable.

Repairs and/or replacement of wells in the monitoring well network will be conducted based on assessments of structural integrity and overall performance of each individual well.

The NYSDEC will be notified prior to any repair or decommissioning of monitoring wells for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent periodic report. Well decommissioning without replacement will be done only with the prior approval of NYSDEC. Well abandonment will be performed in accordance with NYSDEC's "Ground Water Monitoring Well Decommissioning Procedures." Monitoring wells that

are decommissioned because they have been rendered unusable will be reinstalled in the nearest available location, unless otherwise approved by the NYSDEC.

### **3.4 SITE-WIDE INSPECTION**

Site-wide inspections will be performed on a regular schedule at a minimum of once a year. Site-wide inspections will also be performed after all severe weather conditions that may affect Engineering Controls or monitoring devices. During these inspections, an inspection form will be completed (Appendix E). The form will compile sufficient information to assess the following:

- Compliance with all ICs, including Site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General Site conditions at the time of the inspection;
- The Site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection;
- Compliance with permits and schedules included in the Operation and Maintenance Plan; and
- Confirm that Site records are up to date.

### **3.5 MONITORING QUALITY ASSURANCE/QUALITY CONTROL**

All sampling and analyses will be performed in accordance with the requirements of the Quality Assurance Project Plan (QAPP) prepared for the Site (Appendix G). Main Components of the QAPP include:

- QA/QC Objectives for Data Measurement;
- Sampling Program;
  - Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such.

- Sample holding times will be in accordance with the NYSDEC ASP requirements.
- Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.
- Sample Tracking and Custody;
- Calibration Procedures;
  - All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.
  - The laboratory will follow all calibration procedures and schedules as specified in USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.
- Analytical Procedures;
- Preparation of a Data Usability Summary Report (DUSR), which will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method;
- Internal QC and Checks;
- QA Performance and System Audits;
- Preventative Maintenance Procedures and Schedules; and
- Corrective Action Measures.

### **3.6 MONITORING REPORTING REQUIREMENTS**

Forms and other pertinent information generated during regular monitoring events and inspections will be kept on file on-Site. All forms, and other relevant reporting formats used during the monitoring/inspection events, will be (1) subject to approval by NYSDEC and (2) submitted at the time of the Periodic Review Report, as specified in the Reporting Plan of this SMP.

All monitoring results will be reported to NYSDEC on a periodic basis in the Periodic Review Report. The report will include, at a minimum:

- Date of event;
- Personnel conducting sampling;
- Description of the activities performed;
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc.);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-identified format);
- Any observations, conclusions, or recommendations; and
- A determination as to whether ground water conditions have changed since the last reporting event.

Data will be reported in hard copy or digital format as determined by NYSDEC. A summary of the monitoring program deliverables is summarized in Table 3.6 below.

**Table 3.6: Schedule of Monitoring/Inspection Reports**

Task	Reporting Frequency*
Periodic Review Report	**
Site-Wide Inspection	Annual
Ground Water Monitoring	Semi-annual

\* The frequency of events will be conducted as specified until otherwise approved by NYSDEC

\*\*Beginning eighteen months after certificate of completion has been issued. Frequency of subsequent submittals to be determined by the NYSDEC.



## **4.0 OPERATION AND MAINTENANCE PLAN**

### **4.1 INTRODUCTION**

The Site remedy does not rely on any mechanical systems, such as sub-slab depressurization systems or air sparge/soil vapor extraction systems to protect public health and the environment. The operation and maintenance of such components are not applicable and therefore, are not included in this SMP.

Information on non-mechanical Engineering Controls (i.e. Composite Cover System) is provided in Section 3 - Engineering and Institutional Control Plan. A copy of this Operation and Maintenance Plan, along with the complete SMP, will be kept at the Site. This Operation and Maintenance Plan is not to be used as a stand-alone document, but as a component document of the SMP.

### **4.2 MAINTENANCE AND PERFORMANCE MONITORING REPORTING REQUIREMENTS**

Maintenance reports and information generated during regular operations at the Site will be kept on-file on-Site. All reports, forms, and other relevant information generated will be available upon request to the NYSDEC and submitted as part of the Periodic Review Report, as specified in the Section 5 of this SMP.

#### **4.2.1 Routine Maintenance Reports**

Checklists or forms will be completed during each routine maintenance event. Checklists/forms will include, but not be limited to the following information:

- Date;
- Name, company, and position of person(s) conducting maintenance activities;
- Maintenance activities conducted;
- Any modifications to the system;

- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

#### **4.2.2 Non-Routine Maintenance Reports**

During each non-routine maintenance event, a form will be completed which will include, but not be limited to, the following information:

- Date;
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- Repairs or adjustments made to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

## **5.0 INSPECTIONS, REPORTING AND CERTIFICATIONS**

### **5.1 SITE INSPECTIONS**

#### **5.1.1 Inspection Frequency**

Inspections will be conducted at the frequency specified in the schedules provided in Section 3 Monitoring Plan and Section 4 Operation and Maintenance Plan of this SMP. At a minimum, a Site-wide inspection will be conducted annually. Inspections of remedial components will also be conducted when a severe condition has taken place, such as an erosion or flooding event that may affect the ECs.

#### **5.1.2 Inspection Forms, Sampling Data, and Maintenance Reports**

Inspections and monitoring events will be recorded on the appropriate forms for their respective system as discussed in Appendix F (Field Sampling Plan). Additionally, a general Site-wide inspection form will be completed during the Site-wide inspection (see Appendix E). These forms are subject to NYSDEC revision.

Applicable inspection forms and other records, including all media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format in the Periodic Review Report.

#### **5.1.3 Evaluation of Records and Reporting**

The results of the inspection and Site monitoring data will be evaluated as part of the EC/IC certification to confirm that the:

- EC/ICs are in place, are performing properly, and remain effective;
- The Monitoring Plan is being implemented;
- Operation and maintenance activities are being conducted properly and, based on the above items;
- The Site remedy continues to be protective of public health and the environment and is performing as designed in the RAP and FER.

## 5.2 CERTIFICATION OF ENGINEERING AND INSTITUTIONAL CONTROLS

After the last inspection of the reporting period, a qualified environmental professional will prepare the following certification:

For each institutional or engineering control identified for the Site, I certify that all of the following statements are true:

- The inspection of the Site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;
- The institutional control and/or engineering control employed at this Site is unchanged from the date the control was put in place, or last approved by the Department;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any Site management plan for this control;
- Access to the Site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- If a financial assurance mechanism is required under the oversight document for the Site, the mechanism remains valid and sufficient for the intended purpose under the document;
- Use of the Site is compliant with the environmental easement;
- The engineering control systems are performing as designed and are effective;
- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the Site remedial program and generally accepted engineering practices;
- The information presented in this report is accurate and complete; and
- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, Guy F. LaBella,

PhD, PE, CHMM, of 355 Research Parkway, Meriden, Connecticut, am certifying as Owner's Designated Site Representative

The signed certification will be included in the Periodic Review Report described below.

### **5.3 PERIODIC REVIEW REPORT**

A Periodic Review Report will be submitted to the Department beginning eighteen months after the Certificate of Completion has been issued. The frequency of subsequent Periodic Review Report submittals will be determined by the Department. In the event that the Site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the Site described in Appendix A (Metes and Bounds). The Periodic Review Report will be prepared in accordance with NYSDEC DER-10 and submitted within 45 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the Site;
- Results of the required annual site inspections and severe condition inspections, if applicable;
- All applicable inspection forms and other records generated for the Site during the reporting period in electronic format;
- A summary of any discharge monitoring data and/or information generated during the reporting period with comments and conclusions;
- Data summary tables and graphical representations of contaminants of concern by media (ground water), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends;
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted electronically in a NYSDEC-approved format; and

- A Site evaluation, which includes the following:
  - The compliance of the remedy with the requirements of the Site-specific RWP;
  - The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;
  - Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring Plan for the media being monitored;
  - Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and
  - The overall performance and effectiveness of the remedy.

The Periodic Review Report will be submitted, in hard-copy format, to the NYSDEC Central Office and Regional Office in which the Site is located, and in electronic format to NYSDEC Central Office, Regional Office and the NYSDOH Bureau of Environmental Exposure Investigation.

#### **5.4 CORRECTIVE MEASURES PLAN**

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a corrective measures plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the corrective measures plan until it is approved by the NYSDEC.

## **Tables**

**Table 1**  
 Soil Analytical Results - Prior to Completion of Remediation  
 Whole Foods Market  
 220 3rd Street  
 Brooklyn, Kings County, New York  
 NYSDEC BCP SITE No. C224100

		December 5 and 9, 2003																				
Sample ID	Unrestricted Use SCO's	Track 4 Site-Specific SCOs	B-1,S-2/4-8	B-2,S-1/0-4	B-3,S-3/8-12	B-4,S-2/4-8	B-6,S-2/4-8	B-7, S-1 (0-4)	B-8/S-2 (4-8)	B-9/S-2 (4-8)	B-9/S-3 (8-12)	B-10/S-2 (4-8)	B-11/S-1 (0-4)	B-11/S-2 (4-8)	B-12/S-1 (0-4)	B-13/S-1(0-4)	B-13/S-2(4-8)	B-14/S-1(0-4)	B-14/S-2 (4-8)	B-15/S-3 (8-12)	B-15/S-4 (12-16)	
<b>VOCs (ppm)</b>																						
1,2,4-Trimethylbenzene	3.6	190	<0.005 U	<0.005 U	0.065	<0.005 U	<0.005 U	<0.005 U	0.004	0.01	1	0.016	0.012	0.031	<0.025 U	<0.005 U	<0.005 U	0.015	<0.005 U	0.018	<b>23</b>	
1,3,5-Trimethylbenzene	8.4	190	<0.005 U	<0.005 U	0.011	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.5	0.006	<0.005 U	0.010	0.033	<0.005 U	<0.005 U	0.006	<0.005 U	0.005	4.6	
Benzene	0.06	44	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.1 U	<0.005 U	<0.005 U	<0.005 U	<0.025 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.1 U	
Ethylbenzene	1	390	<0.005 U	<0.005 U	0.006	<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.015	0.83	0.011	0.008	0.023	0.057	<0.005 U	<0.005 U	0.021	0.005	0.013	<b>20</b>	
Isopropylbenzene	NE	NE	<0.005 U	<0.005 U	0.009	<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.43	0.023	<0.005 U	0.006	<0.025 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.016	2.1	
Methyl-tert-butyl-ether (MTBE)	0.93	500	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.1 U	<0.005 U	<0.005 U	<0.005 U	<0.025 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.1 U	
n-Butylbenzene	12	500	<0.005 U	<0.005 U	0.035	<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.34	0.023	<0.005 U	0.042	<0.025 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.018	4.4	
n-Propylbenzene	2.9	500	<0.005 U	<0.005 U	0.011	<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.33	0.031	<0.005 U	0.005	<0.025 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.018	2	
p-Isopropyltoluene	NE	NE	<0.005 U	<0.005 U	0.009	<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.29	0.024	<0.005 U	<0.005 U	<0.025 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.023	3	
sec-Butylbenzene	11	500	<0.005 U	<0.005 U	0.006	<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.1	0.049	<0.005 U	0.039	<0.025 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.032	0.35	
tert-Butylbenzene	5.9	500	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.006	<0.1 U	0.010	<0.005 U	0.005	<0.025 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	1.8	
Toluene	0.7	500	<0.005 U	<0.005 U	0.006	<0.005 U	<0.005 U	0.007	0.007	0.04	0.17	0.014	0.011	0.012	0.061	0.010	<0.005 U	0.043	0.013	0.015	0.22	
Xylenes (Total)	0.26	500	<0.005 U	<0.005 U	0.022	<0.005 U	<0.005 U	0.006	0.016	0.077	<b>0.46</b>	0.059	0.04	0.071	0.095	0.017	<0.005 U	0.07	0.021	0.059	<b>4.9</b>	
<b>SVOCs (ppm)</b>																						
2-Methylnaphthalene	NE	NE	<0.33 U	<0.66 U	5.6	<1.7 U	<0.33 U	<0.33 U	<0.33 U	<0.66 U	4.2	<0.33 U	<0.66 U	<0.33 U	<0.66 U	<0.66 U	<0.66 U	<3.3 U	<0.33 U	3.4	62	
Acenaphthene	20	500	<0.33 U	<0.66 U	<b>40</b>	<1.7 U	<0.33 U	<0.33 U	<0.33 U	<0.66 U	13	<0.33 U	<0.66 U	<0.33 U	<0.66 U	<0.66 U	<0.66 U	<3.3 U	<0.33 U	8.5	<b>73</b>	
Acenaphthylene	100	500	<0.33 U	<0.66 U	6.3	3	<0.33 U	<0.33 U	<0.33 U	<0.66 U	<1.7 U	<0.33 U	<0.66 U	<0.33 U	<0.66 U	<0.66 U	<0.66 U	<3.3 U	<0.33 U	<1.7 U	11	
Anthracene	100	500	<0.33 U	<0.66 U	21	<1.7 U	<0.33 U	<0.33 U	<0.33 U	<0.66 U	5	<0.33 U	<0.66 U	<0.33 U	<0.66 U	<0.66 U	<0.66 U	<0.66 U	2.1	<0.33 U	6.8	42
Benzo(a)anthracene	1	5.6	0.35	<b>7.3</b>	<b>17</b>	<b>1.8</b>	<0.33 U	0.35	0.36	0.95	<b>3.6</b>	<0.33 U	<0.66 U	<0.33 U	<0.66 U	<0.66 U	<b>1.4</b>	<0.66 U	<b>5.5</b>	<0.33 U	<b>3.2</b>	<b>27</b>
Benzo(a)pyrene	1	1	<0.33 U	<0.66 U	<b>12</b>	<b>3.7</b>	<0.33 U	<0.33 U	<0.33 U	<0.66 U	<b>4.1</b>	<0.33 U	<0.66 U	<0.33 U	<0.66 U	<0.66 U	<b>1.3</b>	<0.66 U	<b>4.7</b>	<0.33 U	<1.7 U	<b>27</b>
Benzo(b)fluoranthene	1	5.6	<0.33 U	<0.66 U	<b>12</b>	<b>1.7</b>	<0.33 U	<0.33 U	<0.33 U	<0.66 U	<b>1.8</b>	<0.33 U	<0.66 U	<0.33 U	<0.66 U	<0.66 U	<b>1.1</b>	<0.66 U	<b>4.3</b>	<0.33 U	<b>2.2</b>	<b>29</b>
Benzo(g,h,i)perylene	100	500	<0.33 U	<0.66 U	6.9	3	<0.33 U	<0.33 U	<0.33 U	<0.66 U	<1.7 U	<0.33 U	<0.66 U	<0.33 U	<0.66 U	<0.66 U	<0.66 U	<3.3 U	<0.33 U	<1.7 U	<8.3 U	
Benzo(k)fluoranthene	0.8	56	<0.33 U	<0.66 U	<b>11</b>	<b>2</b>	<0.33 U	0.34	0.34	<0.66 U	<b>2.5</b>	<0.33 U	<0.66 U	<0.33 U	<0.66 U	<0.66 U	<b>1.4</b>	<0.66 U	<b>4.6</b>	<0.33 U	<b>3.2</b>	<b>32</b>
Chrysene	1	56	0.38	<b>8.7</b>	<b>17</b>	<b>2.5</b>	<0.33 U	0.47	0.47	0.97	<b>3.8</b>	0.34	<0.66 U	<0.33 U	0.79	<b>1.6</b>	0.69	<b>6.2</b>	<0.33 U	<b>4</b>	<b>30</b>	
Dibenzo(a,h)anthracene	0.33	0.56	<0.33 U	<0.66 U	<3.3 U	<1.7 U	<0.33 U	<0.33 U	<0.33 U	<0.66 U	<1.7 U	<0.33 U	<0.66 U	<0.33 U	<0.66 U	<0.66 U	<0.66 U	<3.3 U	<0.33 U	<1.7 U	<8.3 U	
Fluoranthene	100	500	0.69	1.6	32	3.8	<0.33 U	1.1	1	1.2	7.9	1.3	<0.66 U	<0.33 U	1.2	3	1.1	11	<0.33 U	7.3	61	
Flourene	30	500	<0.33 U	<0.66 U	35	<1.7 U	<0.33 U	<0.33 U	<0.33 U	<0.66 U	7.4	<0.33 U	<0.66 U	<0.33 U	<0.66 U	<0.66 U	<0.66 U	<3.3 U	<0.33 U	6	<b>54</b>	
Indeno(1,2,3-cd)pyrene	0.5	5.6	<0.33 U	<0.66 U	<b>4.8</b>	<b>1.7</b>	<0.33 U	<0.33 U	<0.33 U	<0.66 U	<1.7 U	<0.33 U	<0.66 U	<0.33 U	<0.66 U	<0.66 U	<0.66 U	<3.3 U	<0.33 U	<1.7 U	<8.300 U	
Naphthalene	12	500	<0.33 U	<0.66 U	3.6	<1.7 U	<0.33 U	<0.33 U	<0.33 U	<0.66 U	7.6	<0.33 U	<0.66 U	<0.33 U	<0.66 U	<0.66 U	<0.66 U	<3.3 U	<0.33 U	7.2	<b>140</b>	
Phenanthrene	100	500	0.64	1.3	51	<1.7 U	<0.33 U	1.1	0.86	1.9	14	0.87	<0.66 U	<0.33 U	1.3	2.3	0.7	8.2	<0.33 U	13	<b>110</b>	
Pyrene	100	500	0.65	1.7	45	7.4	<0.33 U	0.95	0.91	1.4	12	1	<0.66 U	<0.33 U	1.5	2.9	1.1	9.3	<0.33 U	11	85	
<b>RCRA Metals Total, (ppm)</b>																						
Arsenic	13	16	4.14	7.54	2.89	2.79	2.79	12.4	2.1	3.49	3.54	2.73	3.16	4.89	4.21	5.09	3	7.38	5.4	4.28	3.26	
Barium	350	400	27.8	111	23.9	42.6	16.9	56.5	14.4	23.7	106	53.8	21.5	57.3	49.4	65.2	56.9	254	67.9	39.9	50.2	
Cadmium	2.5	9.3	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<b>9.53</b>	0.52	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	0.84	<0.50 U	<0.50 U	<0.50 U	
Chromium	NE	400	7.96	13.3	8.56	10	6.58	8.03	3.2	8.42	9.7	12.2	7.84	18.1	15.2	12.9	10.8	13.8	17	16.7	18.1	
Lead	63	1,000	37.9	<b>297</b>	28.7	<b>66.9</b>	15.5	<b>182</b>	25.5	<b>632</b>	21.4	14.2	26.9	<b>380</b>	58.3	<b>137</b>	161	<b>837</b>	<b>125</b>	56.4	<b>86.6</b>	
Selenium	3.9	1,500	1.88	2.36	2.03	<b>1.62</b>	<1.00 U	3.24	<1.00 U	1.69	1.62	1.41	1.54	1.74	1.82	1.67	1.4	1.84	2.2	1.73	1.48	
Silver	2	1,500	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	
Mercury	0.18	2.8	0.12	0.15	<b>0.63</b>	<b>0.29</b>	<0.10 U	<b>0.27</b>	0.15	<0.10 U	<b>0.29</b>	<b>0.24</b>	<b>0.39</b>	<b>0.21</b>	<0.10 U	<b>0.21</b>	0.24	<b>0.5</b>	<b>0.45</b>	<b>0.57</b>	<0.10 U	
<b>PCBs (ppm)</b>																						
PCB, Total	0.1	1	<0.02 U	<0.02 U	<0.02 U	<0.02 U	<0.02 U	<0.02 U	<0.02 U	<0.02 U	<0.02 U	<0.02 U	<0.02 U	<0.02 U	<0.02 U	0.05	<0.02 U	<0.02 U	<0.02 U	<0.02 U	<0.02 U	

**NOTES**  
 Track 4 Site Specific SCOs = Track 2 Restricted Use SCOs, 6NYCRR Part 375  
 Unrestricted Use SCO's are presented for informational purpose only and did not represent cleanup objectives for the Site, 6NYCRR Part 375-6.8 (a)  
 Boring locations are depicted on Figure 2 of the Site Management Plan  
 Prior to Remediation Refers to Site conditions prior to the completion of Interim Remedial Measures (IRMs) conducted in 2005 and remediation conducted in 2010.  
**Bold** indicates exceedance of Unrestricted Use SCO's.  
 Shading indicates exceedance of Track 4 Site Specific Standard.  
 S1 = Sampled from 0-4 feet below ground surface.  
 S2 = Sampled from 4-8 feet below ground surface.  
 S3 = Sampled from 8-12 feet below ground surface.  
 S4 = Sampled from 12-16 feet below ground surface.  
 ppm = parts per million  
 NE = None Established by the NYSDEC  
 NA = Not Analyzed  
 U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
 0.04\* = TCLP Extraction Method must be used to demonstrate Ground Water Protection for these compounds  
 J = (Organic Qualifiers) The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.  
 B = (Inorganic Qualifiers) The result is less than the Low Level Standard Check - Secondary Dilution and Analysis/Reporting Limit, but greater than or equal to the Instrument Detection Limit/Method Detection Limit.  
 U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
 UJ = (Organic Qualifiers) The analyte was not detected above the reported sample quantitation limit (QL).  
 \* = (Flag) In description = dry weight  
 (M) = (Organic Flags) Manually Integrated Compound  
 (H) = (Organic Flags) Alternate Peak Selection upon Analytical Review  
 (B) = (Organic Flags) Compound was Found in the Blank and Sample  
 (N) = (Inorganic Flags) MS, MSD: Spike Recovery Exceeds the Upper or Lower Control Limits  
 (M) = (Organic Flags) Manually Integrated Compound  
 R = (Organic/Inorganic Qualifiers) The result is rejected due to deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.



**Table 1**  
 Soil Analytical Results - Prior to Completion of Remediation  
 Whole Foods Market  
 220 3rd Street  
 Brooklyn, Kings County, New York  
 NYSDEC BCP SITE No. C224100

		January 19 and 20, 2004																
Sample ID	Unrestricted Use SCO's	Track 4 Site-Specific SCOs	GP-9/S-2	GP-10/S-1	GP-10/S-2	GP-11/S-1	GP-11/S-2	GP-12/S-1	GP-12/S-2	GP-13/S-1	GP-13/S-2	GP-14/S-1	GP-14/S-2	GP-15/S-1	GP-16/S-1	GP-16/S-2	GP-17/S-1	GP-17/S-2
<b>VOCs (ppm)</b>																		
1,2,4-Trimethylbenzene	3.6	190	<0.005 U	<0.005 U	<0.005 U	0.016	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U
1,3,5-Trimethylbenzene	8.4	190	<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.057	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.009	<0.005 U	<0.005 U	<0.005 U
Benzene	0.06	44	<0.005 U	<0.005 U	<0.005 U	0.011	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U
Ethylbenzene	1	390	<0.005 U	0.015	<0.005 U	0.011	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U
Isopropylbenzene	NE	NE	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U
Methyl-tert-butyl-ether (MTBE)	0.93	500	NA	NA	NA	<0.005 U	<0.005 U	NA	NA	NA	<0.005 U	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	12	500	<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.049	<0.005 U	<0.005 U	<0.005 U	0.013	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U
n-Propylbenzene	2.9	500	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U
p-Isopropyltoluene	NE	NE	<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.055	<0.005 U	<0.005 U	<0.005 U	0.018	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U
sec-Butylbenzene	11	500	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U
tert-Butylbenzene	5.9	500	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U
Toluene	0.7	500	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U
Xylenes (Total)	0.26	500	0.005	0.013	<0.005 U	0.03	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.006	<0.005 U	<0.005 U	<0.005 U
<b>SVOCs (ppm)</b>																		
2-Methylnaphthalene	NE	NE	NA	NA	NA	<1.7 U	<0.33 U	NA	NA	NA	<1.7 U	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	500	NA	NA	NA	<1.7 U	<0.33 U	NA	NA	NA	<1.7 U	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	100	500	NA	NA	NA	<1.7 U	<0.33 U	NA	NA	NA	<1.7 U	NA	NA	NA	NA	NA	NA	NA
Anthracene	100	500	NA	NA	NA	<1.7 U	<0.33 U	NA	NA	NA	<1.7 U	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	1	5.6	NA	NA	NA	<1.7 U	<0.33 U	NA	NA	NA	<1.7 U	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	1	1	NA	NA	NA	<1.7 U	<0.33 U	NA	NA	NA	<1.7 U	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1	5.6	NA	NA	NA	<1.7 U	<0.33 U	NA	NA	NA	<1.7 U	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	100	500	NA	NA	NA	<1.7 U	<0.33 U	NA	NA	NA	<1.7 U	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	0.8	56	NA	NA	NA	<1.7 U	<0.33 U	NA	NA	NA	<1.7 U	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	56	NA	NA	NA	<1.7 U	<0.33 U	NA	NA	NA	<1.7 U	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	0.33	0.56	NA	NA	NA	<1.7 U	<0.33 U	NA	NA	NA	<1.7 U	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	500	NA	NA	NA	<1.7 U	<0.33 U	NA	NA	NA	<1.7 U	NA	NA	NA	NA	NA	NA	NA
Fluorene	30	500	NA	NA	NA	<1.7 U	<0.33 U	NA	NA	NA	<1.7 U	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.5	5.6	NA	NA	NA	<1.7 U	<0.33 U	NA	NA	NA	<1.7 U	NA	NA	NA	NA	NA	NA	NA
Naphthalene	12	500	NA	NA	NA	<1.7 U	0.43	NA	NA	NA	<1.7 U	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	100	500	NA	NA	NA	<1.7 U	<0.33 U	NA	NA	NA	<1.7 U	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	500	NA	NA	NA	<1.7 U	<0.33 U	NA	NA	NA	<1.7 U	NA	NA	NA	NA	NA	NA	NA
<b>RCRA Metals Total, (ppm)</b>																		
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	9.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NE	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	1,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	1,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCBs (ppm)</b>																		
PCB, Total	0.1	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**NOTES**

Track 4 Site Specific SCOs = Track 2 Restricted Use SCOs, 6NYCRR Part 375  
 Unrestricted Use SCO's are presented for informational purpose only and did not represent cleanup objectives for the Site, 6NYCRR Part 375-6.8 (a)  
 Boring locations are depicted on Figure 2 of the Site Management Plan  
 Prior to Remediation Refers to Site conditions prior to the completion of Interim Remedial Measures (IRMs) conducted in 2005 and remediation conducted in 2010.  
**Bold** indicates exceedance of Unrestricted Use SCO's.  
**Shading** indicates exceedance of Track 4 Site Specific Standard.  
 S1 = Sampled from 0-4 feet below ground surface.  
 S2 = Sampled from 4-8 feet below ground surface.  
 S3 = Sampled from 8-12 feet below ground surface.  
 S4 = Sampled from 12-16 feet below ground surface.  
 ppm = parts per million  
 NE = None Established by the NYSDEC  
 NA = Not Analyzed  
 U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
 0.04\* = TCLP Extraction Method must be used to demonstrate Ground Water Protection for these compounds  
 J = (Organic Qualifiers) The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.  
 B = (Inorganic Qualifiers) The result is less than the Low Level Standard Check - Secondary Dilution and Analysis/Reporting Limit, but greater than or equal to the Instrument Detection Limit/Method Detection Limit.  
 U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
 UJ = (Organic Qualifiers) The analyte was not detected above the reported sample quantitation limit (QL).  
 \* = (Flag) In description = dry weight  
 (M) = (Organic Flags) Manually Integrated Compound  
 (H) = (Organic Flags) Alternate Peak Selection upon Analytical Review  
 (B) = (Organic Flags) Compound was Found in the Blank and Sample  
 (N) = (Inorganic Flags) MS, MSD: Spike Recovery Exceeds the Upper or Lower Control Limits  
 (M) = (Organic Flags) Manually Integrated Compound  
 R = (Organic/Inorganic Qualifiers) The result is rejected due to deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

**Table 1**  
 Soil Analytical Results - Prior to Completion of Remediation  
 Whole Foods Market  
 220 3rd Street  
 Brooklyn, Kings County, New York  
 NYSDEC BCP SITE No. C224100

		October 28 & 29, 2004																			
Sample ID	Unrestricted Use SCO's	Track 4 Site-Specific SCOs	B101-S1	B101-S2	B102-S1	B103-S1	B104-S1	B-105/S-1	B105-S2	B106-S1	B106-S2	B106-S3	B106-S4	B107-S1	B107-S2	B107-S3	B107-S4	B108-S1	B108-S2	B109-S1	B109-S2
<b>VOCs (ppm)</b>																					
1,2,4-Trimethylbenzene	3.6	190	NA	NA	NA	NA	NA	NA	NA	<0.053 UJ	<0.049 UJ	<0.048 UJ	<0.052 UJ	<0.051 UJ	<0.053 UJ	<0.054 UJ	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	8.4	190	NA	NA	NA	NA	NA	NA	NA	<0.053 UJ	<0.049 UJ	<0.048 UJ	<0.052 UJ	<0.051 UJ	<0.053 UJ	<0.054 UJ	NA	NA	NA	NA	NA
Benzene	0.06	44	NA	NA	NA	NA	NA	NA	NA	<0.053 UJ	<0.049 UJ	<0.048 UJ	<0.052 UJ	<0.051 UJ	<0.053 UJ	<0.054 UJ	NA	NA	NA	NA	NA
Ethylbenzene	1	390	NA	NA	NA	NA	NA	NA	NA	<0.053 UJ	<0.049 UJ	<0.048 UJ	<0.052 UJ	<0.051 UJ	<0.053 UJ	<0.054 UJ	NA	NA	NA	NA	NA
Isopropylbenzene	NE	NE	NA	NA	NA	NA	NA	NA	NA	<0.053 UJ	<0.049 UJ	<0.048 UJ	<0.052 UJ	<0.051 UJ	<0.053 UJ	<0.054 UJ	NA	NA	NA	NA	NA
Methyl-tert-butyl-ether (MTBE)	0.93	500	NA	NA	NA	NA	NA	NA	NA	<0.053 UJ	<0.049 UJ	<0.048 UJ	<0.052 UJ	<0.051 UJ	<0.053 UJ	<0.054 UJ	NA	NA	NA	NA	NA
n-Butylbenzene	12	500	NA	NA	NA	NA	NA	NA	NA	<0.053 UJ	<0.049 UJ	<0.048 UJ	<0.052 UJ	<0.051 UJ	<0.053 UJ	<0.054 UJ	NA	NA	NA	NA	NA
n-Propylbenzene	2.9	500	NA	NA	NA	NA	NA	NA	NA	<0.053 UJ	<0.049 UJ	<0.048 UJ	<0.052 UJ	<0.051 UJ	<0.053 UJ	<0.054 UJ	NA	NA	NA	NA	NA
p-Isopropyltoluene	NE	NE	NA	NA	NA	NA	NA	NA	NA	<0.053 UJ	<0.049 UJ	<0.048 UJ	<0.052 UJ	<0.051 UJ	<0.053 UJ	<0.054 UJ	NA	NA	NA	NA	NA
sec-Butylbenzene	11	500	NA	NA	NA	NA	NA	NA	NA	<0.053 UJ	<0.049 UJ	<0.048 UJ	<0.052 UJ	<0.051 UJ	<0.053 UJ	<0.054 UJ	NA	NA	NA	NA	NA
tert-Butylbenzene	5.9	500	NA	NA	NA	NA	NA	NA	NA	<0.053 UJ	<0.049 UJ	<0.048 UJ	<0.052 UJ	<0.051 UJ	<0.053 UJ	<0.054 UJ	NA	NA	NA	NA	NA
Toluene	0.7	500	NA	NA	NA	NA	NA	NA	NA	<0.053 UJ	<0.049 UJ	<0.048 UJ	<0.052 UJ	<0.051 UJ	<0.053 UJ	<0.054 UJ	NA	NA	NA	NA	NA
Xylenes (Total)	0.26	500	NA	NA	NA	NA	NA	NA	NA	<0.053 UJ	<0.049 UJ	<0.048 UJ	<0.1 UJ	<0.1 UJ	<0.11 UJ	<0.11 UJ	NA	NA	NA	NA	NA
<b>SVOCs (ppm)</b>																					
2-Methylnaphthalene	NE	NE	NA	NA	NA	<0.059 UJ	NA	NA	NA	<0.056 UJ	<0.062 UJ	<0.061 UJ	<0.058 UJ	0.11 J	<0.060 UJ	<0.062 UJ	<0.086 UJ	<0.12 UJ	<0.061 UJ	<0.12 UJ	<0.070 UJ
Acenaphthene	20	500	NA	NA	NA	0.084 J	NA	NA	NA	<0.058 UJ	<0.065 UJ	<0.063 UJ	<0.060 UJ	0.19 J	<0.062 UJ	<0.064 UJ	<0.089 UJ	<0.12 UJ	0.11 J	<0.12 UJ	0.15 J
Acenaphthylene	100	500	NA	NA	NA	0.14 J	NA	NA	NA	<0.043 UJ	<0.048 UJ	<0.047 UJ	<0.045 UJ	0.071 J	<0.046 UJ	<0.048 UJ	<0.066 UJ	<0.092 UJ	<0.047 UJ	0.17 J	<0.054 UJ
Anthracene	100	500	NA	NA	NA	0.36 J	NA	NA	NA	0.058 J	<0.065 UJ	<0.063 UJ	<0.060 UJ	0.35 J	<0.062 UJ	<0.064 UJ	<0.089 UJ	<0.12 UJ	0.24 J	0.25 J	0.24 J
Benzo(a)anthracene	1	5.6	NA	NA	NA	1.4 J	NA	NA	NA	0.22 J	<0.053 UJ	<0.052 UJ	<0.049 UJ	0.92 J	<0.051 UJ	0.075 J	<0.073 UJ	0.25 J	0.53 J	0.69 J	0.63 J
Benzo(a)pyrene	1	1	NA	NA	NA	1.4 J	NA	NA	NA	0.23 J	<0.048 UJ	<0.047 UJ	<0.045 UJ	0.88 J	<0.046 UJ	0.070 J	<0.066 UJ	0.25 J	0.54 J	0.72 J	0.61 J
Benzo(b)fluoranthene	1	5.6	NA	NA	NA	2.3 J	NA	NA	NA	0.28 J (M)	<0.11 UJ	<0.11 UJ	<0.1 UJ	1.4 J (M)	<0.11 UJ	<0.110 UJ	<0.15 UJ	0.42 J	0.45 J (M)	0.64 J (M)	0.97 J
Benzo(g,h,i)perylene	100	500	NA	NA	NA	0.92 J	NA	NA	NA	0.18 J	<0.044 UJ	<0.042 UJ	<0.041 UJ	0.52 J	<0.042 UJ	<0.043 UJ	<0.06 UJ	0.27 J (M)	0.28 J	0.57 J	0.39 J
Benzo(k)fluoranthene	0.8	56	NA	NA	NA	<0.041 UJ	NA	NA	NA	0.16 J (M)	<0.044 UJ	<0.042 UJ	<0.041 UJ	<0.042 UJ	<0.042 UJ	0.071 J (M)	<0.06 UJ	<0.083 UJ	0.47 J (M)	0.63 J (M)	<0.049 UJ
Chrysene	1	56	NA	NA	NA	1.5 J	NA	NA	NA	0.25 J	<0.049 UJ	<0.048 UJ	<0.046 UJ	1.1 J	0.057 J	0.088 J	<0.068 UJ	0.3 J	0.6 J	0.79 J	0.72 J (M)
Dibenzo(a,h)anthracene	0.33	0.56	NA	NA	NA	0.36 J	NA	NA	NA	0.059 J (M)	<0.044 UJ	<0.042 UJ	<0.041 UJ	0.19 J (M)	<0.042 UJ	<0.043 UJ	<0.06 UJ	<0.083 UJ	0.12 J	0.22 J	0.18 J (M)
Fluoranthene	100	500	NA	NA	NA	2.6 J	NA	NA	NA	0.43 J	0.052 J	<0.048 UJ	<0.046 UJ	2.1 J	0.073 J	0.190 J	<0.068 UJ	0.4 J	1.1 J	1.4 J	1.4 J
Flourene	30	500	NA	NA	NA	0.091 J	NA	NA	NA	<0.045 UJ	<0.051 UJ	<0.049 UJ	<0.047 UJ	0.2 J	<0.049 UJ	<0.050 UJ	<0.070 UJ	<0.097 UJ	0.12 J	<0.096 UJ	0.12 J
Indeno(1,2,3-cd)pyrene	0.5	5.6	NA	NA	NA	0.79 J	NA	NA	NA	0.14 J	<0.040 UJ	<0.039 UJ	<0.037 UJ	0.42 J	<0.038 UJ	<0.040 UJ	<0.055 UJ	0.2 J (M)	0.26 J	0.4 J	0.33 J
Naphthalene	12	500	NA	NA	NA	0.084 J	NA	NA	NA	<0.06 UJ	<0.067 UJ	<0.065 UJ	<0.062 UJ	0.24 J	<0.064 UJ	0.11 J	<0.092 UJ	<0.013 UJ	0.085 J	0.24 J	0.3 J
Phenanthrene	100	500	NA	NA	NA	1.3 J	NA	NA	NA	0.25 J	<0.046 UJ	<0.045 UJ	<0.043 UJ	1.4 J	0.063 J	0.17 J	<0.063 UJ	0.027 J	0.8 J	0.74 J	0.97 J
Pyrene	100	500	NA	NA	NA	2.7 J	NA	NA	NA	0.47 J	<0.054 UJ	<0.053 UJ	<0.050 UJ	2.3 J	0.073 J	0.18 J	<0.075 UJ	0.51 J	1.1 J	1.6 J	1.5 J
<b>RCRA Metals Total, (ppm)</b>																					
Arsenic	13	16	NA	NA	NA	2.8 B	NA	NA	NA	4.8 B	4.6 B	3.8 B	4.1 B	4.7 B	2.6 B	3.9 B	9.5 B	5.8 B	8.6 B	NA	NA
Barium	350	400	NA	NA	NA	96.3	NA	NA	NA	79.9	36.4	41.4	35.6	89.1	34.7	70.8	43.6	79.3	108	NA	NA
Cadmium	2.5	9.3	NA	NA	NA	<1.2 U	NA	NA	NA	<1.1 U	<1.2 U	<1.1 U	<1.3 U	<1.1 U	<1.1 U	<1.3 U	<1.8 U	<1.3 U	<1.4 U	NA	NA
Chromium	NE	400	NA	NA	NA	18.1	NA	NA	NA	19	14.3	15.5	11.7	12.8	10.5	8.8	34.5	22.1	13.8	NA	NA
Lead	63	1,000	NA	NA	NA	303	NA	NA	NA	184	11.5	11.4	13	153	44.1	136	16.3 B	136	227	NA	NA
Selenium	3.9	1,500	NA	NA	NA	<1.9 U	NA	NA	NA	<1.8 U	<2.0 U	<1.7 U	<2.0 U	<1.8 U	<1.7 U	<2.0 U	<3.0 U	<2.1 U	2.3 B	NA	NA
Silver	2	1,500	NA	NA	NA	<0.37 U	NA	NA	NA	<0.36 U	<0.40 U	<0.34 U	<0.40 U	<0.36 U	<0.35 U	<0.40 U	<0.59 U	0.61 B	<0.45 U	NA	NA
Mercury	0.18	2.8	NA	NA	NA	0.25	NA	NA	NA	0.14	0.017 B	<0.014 U	<0.014 U (*)	0.11	0.098	0.34	0.034 B	0.11	7.8	NA	NA
<b>PCBs (ppm)</b>																					
PCB, Total	0.1	1	0.0088 J (M)	0.016 J (M)	0.037 J (M)	NA	0.017 J (M)	0.0088 J	0.055 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**NOTES**  
 Track 4 Site Specific SCOs = Track 2 Restricted Use SCOs, 6NYCRR Part 375  
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 Boring locations are depicted on Figure 2 of the Site Management Plan  
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**Bold** indicates exceedance of Unrestricted Use SCO's.  
**Shading** indicates exceedance of Track 4 Site Specific Standard.  
 S1 = Sampled from 0-4 feet below ground surface.  
 S2 = Sampled from 4-8 feet below ground surface.  
 S3 = Sampled from 8-12 feet below ground surface.  
 S4 = Sampled from 12-16 feet below ground surface.  
 ppm = parts per million  
 NE = None Established by the NYSDEC  
 NA = Not Analyzed  
 U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
 0.04\* = TCLP Extraction Method must be used to demonstrate Ground Water Protection for these compounds  
 J = (Organic Qualifiers) The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.  
 B = (Inorganic Qualifiers) The result is less than the Low Level Standard Check - Secondary Dilution and Analysis/Reporting Limit, but greater than or equal to the Instrument Detection Limit/Method Detection Limit.  
 U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
 UJ = (Organic Qualifiers) The analyte was not detected above the reported sample quantitation limit (QL).  
 \* = (Flag) In description = dry weight  
 (M) = (Organic Flags) Manually Integrated Compound  
 (H) = (Organic Flags) Alternate Peak Selection upon Analytical Review  
 (B) = (Organic Flags) Compound was Found in the Blank and Sample  
 (N) = (Inorganic Flags) MS, MSD: Spike Recovery Exceeds the Upper or Lower Control Limits  
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**Table 1**  
 Soil Analytical Results - Prior to Completion of Remediation  
 Whole Foods Market  
 220 3rd Street  
 Brooklyn, Kings County, New York  
 NYSDEC BCP SITE No. C224100

Sample ID	Unrestricted Use SCO's	Track 4 Site-Specific SCOs	October 28 & 29, 2004												November 1 - 3, 2004				
			B110-S1	B110-S2	B111-S2	B111-S3	B112-S1	B112-S2	B113-S1	B113-S3	B114-S1	B114-S2	B114-S3	B114-S4	B115 (0-4)	B115 (4-8)	B117 (0-4)	B117 (4-8)	B117 (8-12)
<b>VOCs (ppm)</b>																			
1,2,4-Trimethylbenzene	3.6	190	NA	2.7 J	<b>13 J</b>	0.13 J	NA	<0.039 UJ	1.1 J	<b>9.8 J</b>	<0.043 UJ	<0.057 UJ	0.23 J	<0.045 UJ	NA	NA	<0.055 UJ	2 J	<0.055 UJ
1,3,5-Trimethylbenzene	8.4	190	NA	0.41 J	<0.56 UJ	<0.049 UJ	NA	<0.039 UJ	0.065 J	<2.7 UJ	<0.043 UJ	<0.057 UJ	<0.066 UJ	<0.045 UJ	NA	NA	<0.055 UJ	0.8 J	<0.055 UJ
Benzene	0.06	44	NA	<0.064 UJ	<0.56 UJ	<0.049 UJ	NA	<0.039 UJ	<0.051 UJ	<2.7 UJ	<0.043 UJ	<0.057 UJ	<0.066 UJ	<0.045 UJ	NA	NA	<0.055 UJ	<0.059 UJ	<0.055 UJ
Ethylbenzene	1	390	NA	<0.064 UJ	<b>5 J</b>	<0.049 UJ	NA	<0.039 UJ	<0.051 UJ	<2.7 UJ	<0.043 UJ	0.059 J	<0.066 UJ	<0.045 UJ	NA	NA	<0.055 UJ	<b>2.9 J</b>	<0.055 UJ
Isopropylbenzene	NE	NE	NA	<0.064 UJ	<0.56 UJ	0.066 J	NA	<0.039 UJ	<0.051 UJ	<2.7 UJ	<0.043 UJ	<0.057 UJ	0.23 J	<0.045 UJ	NA	NA	<0.055 UJ	0.33 J	<0.055 UJ
Methyl-tert-butyl-ether (MTBE)	0.93	500	NA	<0.064 UJ	<0.56 UJ	<0.049 UJ	NA	<0.039 UJ	<0.051 UJ	<2.7 UJ	<0.043 UJ	<0.057 UJ	<0.066 UJ	<0.045 UJ	NA	NA	<0.055 UJ	<0.059 UJ	<0.055 UJ
n-Butylbenzene	12	500	NA	3 J	<0.56 UJ	0.088 J	NA	<0.039 UJ	1.7 J	6.5 J	<0.043 UJ	<0.057 UJ	0.43 J	0.16 J	NA	NA	<0.055 UJ	<0.059 UJ	<0.055 UJ
n-Propylbenzene	2.9	500	NA	<0.064 UJ	<0.56 UJ	0.15 J	NA	<0.039 UJ	<0.051 UJ	<2.7 UJ	<0.043 UJ	<0.057 UJ	0.2 J	<0.045 UJ	NA	NA	<0.055 UJ	2.8 J	<0.055 UJ
p-Isopropyltoluene	NE	NE	NA	<0.064 UJ	<0.56 UJ	<0.049 UJ	NA	<0.039 UJ	<0.051 UJ	<2.7 UJ	<0.043 UJ	<0.057 UJ	0.16 J	<0.045 UJ	NA	NA	<0.055 UJ	<0.059 UJ	<0.055 UJ
sec-Butylbenzene	11	500	NA	<0.064 UJ	8.5 J	0.12 J	NA	<0.039 UJ	0.5 J	4.6 J	<0.043 UJ	<0.057 UJ	0.15 J	<0.045 UJ	NA	NA	<0.055 UJ	1.3 J	<0.055 UJ
tert-Butylbenzene	5.9	500	NA	<0.064 UJ	<0.56 UJ	0.056 J	NA	<0.039 UJ	<0.051 UJ	<2.7 UJ	<0.043 UJ	<0.057 UJ	0.16 J	<0.045 UJ	NA	NA	<0.055 UJ	0.43 J	<0.055 UJ
Toluene	0.7	500	NA	0.35 J	<b>2.5 J</b>	<0.049 UJ	NA	<0.039 UJ	<0.051 UJ	<2.7 UJ	<0.043 UJ	<0.057 UJ	<0.066 UJ	<0.045 UJ	NA	NA	<0.055 UJ	0.28 J	<0.055 UJ
Xylenes (Total)	0.26	500	NA	<0.064 UJ	<b>16 J</b>	<b>0.28</b>	NA	<0.039 UJ	<0.1 UJ	<2.7 UJ	<0.043 UJ	<0.057 UJ	0.18 J	<0.045 UJ	NA	NA	<0.055 UJ	<b>2.63 J</b>	<0.055 UJ
<b>SVOCs (ppm)</b>																			
2-Methylnaphthalene	NE	NE	<6 UJ	0.42 J	0.4 J	0.5 J	0.13 J	<0.057 UJ	0.48 J	6.8 J	<0.058 UJ	<0.065 UJ	<5.3 UJ	<0.68 UJ	1.6 J	<0.06 R	NA	NA	NA
Acenaphthene	20	500	<6.2 UJ	0.13 J	<0.063 UJ	0.21 J	0.22 J	<0.059 UJ	0.24 J	<b>77 J</b>	<0.06 UJ	<0.067 UJ	<b>53 J</b>	5.3 J	2.2 J	<0.063 R	NA	NA	NA
Acenaphthylene	100	500	5.9 J	0.23 J	<0.047 UJ	0.13 J	<0.087 UJ	<0.044 UJ	0.27 J	9.9 J	0.064 J	<0.05 UJ	1.4 J	1.7 J	1.7 J	<0.047 R	NA	NA	NA
Anthracene	100	500	26 J	0.66 J	0.11 J	0.51 J	0.34 J	<0.059 UJ	0.39 J	33 J	0.12 J	<0.067 UJ	20 J	6.9 J	5.8 J	<0.063 R	NA	NA	NA
Benzo(a)anthracene	1	5.6	<b>120 J</b>	1 J	0.16 J	0.99 J	0.72 J	0.24 J	1 J	<b>13 J</b>	0.29 J	<0.055 UJ	<b>27 J</b>	<b>3.8 J</b>	<b>14 J</b>	<0.051 R	NA	NA	NA
Benzo(a)pyrene	1	1	<b>100 J</b>	0.97 J	0.16 J	0.85 J	0.69 J	0.22 J	<b>1.2</b>	<b>14 J</b>	0.28 J	<0.05 UJ	<b>40 J</b>	<b>4.2 J</b>	<b>13 J</b>	0.054 J	NA	NA	NA
Benzo(b)fluoranthene	1	5.6	<b>93 J</b>	0.69 J (M)	0.13 J	0.66 J	0.68 J	0.18 J	<b>1.6 J</b>	<b>5.8 J</b>	0.45 J	<0.11 UJ	<b>14 J (M)</b>	<b>3 J</b>	<b>12 J</b>	<0.11 R	NA	NA	NA
Benzo(g,h,i)perylene	100	500	62 J	0.62 J	0.1 J	0.57 J	0.26 J	0.11 J	0.85 J	8.4 J	0.21 J	<0.045 UJ	25 J	2.5 J	7.4 J	<0.042 R	NA	NA	NA
Benzo(k)fluoranthene	0.8	56	<b>83 J</b>	<b>0.85 J (M)</b>	0.13 J	<b>0.81 J</b>	0.46 J	0.2 J	<0.092 UJ	<b>7 J</b>	<0.041 UJ	<0.045 UJ	<b>18 J (M)</b>	<0.47 UJ	<b>11 J</b>	0.043 J (M)	NA	NA	NA
Chrysene	1	56	<b>120 J</b>	1 J	0.18 J	<b>1.1 J</b>	0.74 J	0.24 J	<b>1.3 J</b>	<b>13 J</b>	0.35 J	<0.051 UJ	<b>29 J</b>	<b>3.5 J</b>	<b>14 J</b>	0.051 J	NA	NA	NA
Dibenzo(a,h)anthracene	0.33	0.56	<b>22 J</b>	0.25 J	<0.043 UJ	0.19 J	0.1 J	0.044 J	0.33 J	<2.2 UJ	0.089 J	<0.045 UJ	<3.7 UJ	<0.47 UJ	<b>2.6 J (M)</b>	<0.042 R	NA	NA	NA
Fluoranthene	100	500	<b>250 J</b>	2.1 J	0.43 J	2.4 J	1.9 J	0.44 J	2.3 J	40 J	0.71 J	0.071 J	78 J	14 J	41 J	0.054 J	NA	NA	NA
Flourene	30	500	<4.9 UJ	0.32 J	0.11 J	0.3 J	0.17 J	<0.046 UJ	0.34 J	29 J (M)	0.055 J	<0.053 UJ	<4.3 UJ	2.2 J	2 J	<0.049 R	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.5	5.6	<b>59 J</b>	0.5 J	0.086 J	0.5 J	0.26 J	0.1 J	<b>0.69 J</b>	<b>4.8 J</b>	0.16 J	<0.042 UJ	<b>14 J</b>	<b>1.4 J</b>	<b>6.3 J</b>	<0.039 R	NA	NA	NA
Naphthalene	12	500	<6.5 UJ	0.14 J	<0.066 UJ	<0.067 UJ	<0.12 UJ	<0.061 UJ	0.81 J	44 J	<0.063 UJ	<0.07 UJ	<5.7 UJ	2.8 J	2.2 J	<0.065 R	NA	NA	NA
Phenanthrene	100	500	<b>100 J</b>	2.1 J	0.39 J	2.2 J	1.3 J	0.23 J	1.6 J	98 J	0.52 J	<0.048 UJ	8.6 J	22 J	36 J	<0.044 R	NA	NA	NA
Pyrene	100	500	<b>210 J</b>	2.2 J	0.37 J	2 J	1.4 J	0.38 J	2 J	58 J	0.59 J	0.067 J	<b>120 J</b>	25 J	28 J	0.066 J	NA	NA	NA
<b>RCRA Metals Total, (ppm)</b>																			
Arsenic	13	16	<b>111</b>	5.3 B	NA	NA	NA	2.7 B	<b>14.7</b>	<b>20.2</b>	7.2 B	5.1 B	13	8.2 B	3.1 J	4.3 J	NA	NA	NA
Barium	350	400	106	78.4	NA	NA	NA	267	113	38	43.1	49	36	89.9	210 J	91.2 J	NA	NA	NA
Cadmium	2.5	9.3	<b>7.7</b>	<1.1 U	NA	NA	NA	<0.94 U	<1.3 U	<1.1 U	<1.3 U	<1.1 U	<1.1 U	<1.1 U	<1.1 U	<1.2 U	NA	NA	NA
Chromium	NE	400	75.4	17	NA	NA	NA	15.6	10.9	7	13.9	17.7	11.5	17.9	14.2	19.5	NA	NA	NA
Lead	63	1,000	<b>183</b>	<b>159</b>	NA	NA	NA	<b>1390</b>	<b>263</b>	<b>117</b>	<b>65.6</b>	<b>152</b>	<b>80.2</b>	<b>108</b>	<b>865 J</b>	<b>247 J</b>	NA	NA	NA
Selenium	3.9	1,500	4.1 B	<1.7 U	NA	NA	NA	<1.5 U	2.3 B	2.9 B	<2.0 U	<1.8 U	<b>5.0 B</b>	2.6 B	<1.8 UJ	<1.9 UJ	NA	NA	NA
Silver	2	1,500	<0.42 U	<0.34 U	NA	NA	NA	<0.30 U	<0.40 U	<0.35 U	0.66 B	<0.36 U	<0.35 U	<0.37 U	<0.35 U	<0.39 U	NA	NA	NA
Mercury	0.18	2.8	0.18	<b>0.84</b>	NA	NA	NA	0.048 (*)	<b>0.29 (*)</b>	<b>0.30 (*)</b>	0.068 (*)	<b>0.50 (*)</b>	<b>0.52 (*)</b>	0.049 B (*)	<b>0.42</b>	<b>0.48</b>	NA	NA	NA
<b>PCBs (ppm)</b>																			
PCB, Total	0.1	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**NOTES**  
 Track 4 Site Specific SCOs = Track 2 Restricted Use SCOs, 6NYCRR Part 375  
 Unrestricted Use SCO's are presented for informational purpose only and did not represent cleanup objectives for the Site, 6NYCRR Part 375-6.8 (a)  
 Boring locations are depicted on Figure 2 of the Site Management Plan  
 Prior to Remediation Refers to Site conditions prior to the completion of Interim Remedial Measures (IRMs) conducted in 2005 and remediation conducted in 2010.  
**Bold** indicates exceedance of Unrestricted Use SCO's.  
**Shading** indicates exceedance of Track 4 Site Specific Standard.  
 S1 = Sampled from 0-4 feet below ground surface.  
 S2 = Sampled from 4-8 feet below ground surface.  
 S3 = Sampled from 8-12 feet below ground surface.  
 S4 = Sampled from 12-16 feet below ground surface.  
 ppm = parts per million  
 NE = None Established by the NYSDEC  
 NA = Not Analyzed  
 U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
 0.04\* = TCLP Extraction Method must be used to demonstrate Ground Water Protection for these compounds  
 J = (Organic Qualifiers) The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.  
 B = (Inorganic Qualifiers) The result is less than the Low Level Standard Check - Secondary Dilution and Analysis/Reporting Limit, but greater than or equal to the Instrument Detection Limit/Method Detection Limit.  
 UJ = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
 UJ = (Organic Qualifiers) The analyte was not detected above the reported sample quantitation limit (QL).  
 \* = (Flag) In description = dry weight  
 (M) = (Organic Flags) Manually Integrated Compound  
 (H) = (Organic Flags) Alternate Peak Selection upon Analytical Review  
 (B) = (Organic Flags) Compound was Found in the Blank and Sample  
 (N) = (Inorganic Flags) MS, MSD: Spike Recovery Exceeds the Upper or Lower Control Limits  
 (M) = (Organic Flags) Manually Integrated Compound  
 R = (Organic/Inorganic Qualifiers) The result is rejected due to deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

**Table 1**  
 Soil Analytical Results - Prior to Completion of Remediation  
 Whole Foods Market  
 220 3rd Street  
 Brooklyn, Kings County, New York  
 NYSDEC BCP SITE No. C224100

			November 1 - 3, 2004																
Sample ID	Unrestricted Use SCO's	Track 4 Site-Specific SCOs	B118 (0-4)	B118 (4-8)	B118 (8-12)	B121 (0-4)	B121 (4-8)	B121 (8-12)	B122 (0-4)	B122 (4-8)	B123 (0-4)	B123 (4-8)	B124 (0-4)	B129 (0-4)	B129 (4-8)	B132 (0-4)	B132 (4-8)	B132 (12-16)	B133 (0-4)
<b>VOCs (ppm)</b>																			
1,2,4-Trimethylbenzene	3.6	190	NA	NA	<0.096 UJ	<0.068 UJ	<0.082 UJ	NA	<0.057 UJ	<0.057 UJ	<0.051 UJ	<0.063 UJ	NA	NA	NA	<0.058 UJ	<0.058 U	NA	<0.056 U
1,3,5-Trimethylbenzene	8.4	190	NA	NA	1.3 J	<0.068 UJ	<0.082 UJ	NA	<0.057 UJ	<0.057 UJ	<0.051 UJ	<0.063 UJ	NA	NA	NA	<0.058 UJ	0.16	NA	0.059
Benzene	0.06	44	NA	NA	<0.096 UJ	<0.068 UJ	<0.082 UJ	NA	<0.057 UJ	<0.057 UJ	<0.051 UJ	<0.063 UJ	NA	NA	NA	<0.058 UJ	<0.058 U	NA	<0.056 U
Ethylbenzene	1	390	NA	NA	<b>8.5 J</b>	<0.068 UJ	<0.082 UJ	NA	<0.057 UJ	<0.057 UJ	<0.051 UJ	<0.063 UJ	NA	NA	NA	<0.058 UJ	0.093	NA	<0.056 U
Isopropylbenzene	NE	NE	NA	NA	0.43 J	<0.068 UJ	<0.082 UJ	NA	<0.057 UJ	<0.057 UJ	<0.051 UJ	<0.063 UJ	NA	NA	NA	<0.058 UJ	< 0.058	NA	<0.056 U
Methyl-tert-butyl-ether (MTBE)	0.93	500	NA	NA	<0.096 UJ	<0.068 UJ	<0.082 UJ	NA	<0.057 UJ	<0.057 UJ	<0.051 UJ	<0.063 UJ	NA	NA	NA	<0.058 UJ	<0.058 U	NA	<0.056 U
n-Butylbenzene	12	500	NA	NA	<0.096 UJ	<0.068 UJ	<0.082 UJ	NA	<0.057 UJ	<0.057 UJ	<0.051 UJ	<0.063 UJ	NA	NA	NA	<0.058 UJ	0.65	NA	<0.056 U
n-Propylbenzene	2.9	500	NA	NA	<b>4.3 J</b>	<0.068 UJ	<0.082 UJ	NA	<0.057 UJ	<0.057 UJ	<0.051 UJ	<0.063 UJ	NA	NA	NA	<0.058 UJ	< 0.058	NA	<0.056 U
p-Isopropyltoluene	NE	NE	NA	NA	<0.096 UJ	<0.068 UJ	<0.082 UJ	NA	<0.057 UJ	<0.057 UJ	<0.051 UJ	<0.063 UJ	NA	NA	NA	<0.058 UJ	0.26	NA	0.092
sec-Butylbenzene	11	500	NA	NA	1.9 J	<0.068 UJ	<0.082 UJ	NA	<0.057 UJ	<0.057 UJ	<0.051 UJ	<0.063 UJ	NA	NA	NA	<0.058 UJ	0.88	NA	0.25
tert-Butylbenzene	5.9	500	NA	NA	0.68 J	<0.068 UJ	<0.082 UJ	NA	<0.057 UJ	<0.057 UJ	<0.051 UJ	<0.063 UJ	NA	NA	NA	<0.058 UJ	0.56	NA	<0.056 U
Toluene	0.7	500	NA	NA	<b>2.2 J</b>	0.073 J	<0.082 UJ	NA	0.078 J	<0.057 UJ	0.31 J	<0.063 UJ	NA	NA	NA	<0.058 UJ	0.19	NA	<0.056 U
Xylenes (Total)	0.26	500	NA	NA	<b>8.1 J</b>	<0.068 UJ	<0.082 UJ	NA	<0.057 UJ	<0.057 UJ	<0.051 UJ	<0.063 UJ	NA	NA	NA	<0.058 UJ	0.18	NA	<0.056 U
<b>SVOCs (ppm)</b>																			
2-Methylnaphthalene	NE	NE	0.53 J	<0.059 R	0.11 J	0.19 J	<0.078 UJ	<0.068 UJ	NA	NA	<0.5 UJ	0.1 J	0.15 J	<0.13 UJ	<0.064 UJ	9.2 J	NA	17 J	7 J
Acenaphthene	20	500	0.88 J	0.068 J	0.099 J	<0.067 UJ	<0.081 UJ	<0.07 UJ	NA	NA	<0.52 UJ	0.62 J	0.13 J	<0.13 UJ	<0.067 UJ	19 J	NA	<b>35 J</b>	16 J
Acenaphthylene	100	500	0.6 J	<0.046 R	0.056 J	1 J	<0.06 UJ	<0.052 UJ	NA	NA	<0.39 UJ	<0.049 UJ	0.23 J	0.11 J	<0.05 UJ	<4.6 UJ	NA	<3.5 UJ	<4.6 UJ
Anthracene	100	500	2.4 J	0.077 J	0.2 J	0.5 J	<0.081 UJ	0.086 J	NA	NA	<0.52 UJ	0.068 J	0.4 J	0.18 J	<0.067 UJ	38 J	NA	<4.7 UJ	35 J
Benzo(a)anthracene	1	5.6	<b>6.4 J</b>	0.018 J	0.46 J	<b>0.52 J</b>	0.12 J	0.28 J	NA	NA	<0.42 UJ	0.16 J	<b>1.1 J</b>	0.51 J	<0.055 UJ	<b>67 J</b>	NA	<3.9 UJ	<b>65 J</b>
Benzo(a)pyrene	1	1	<b>7 J</b>	0.21 J	0.4 J	<b>0.83 J</b>	0.13 J	0.28 J	NA	NA	<0.39 UJ	0.14 J	<b>1.5 J (H)</b>	0.71 J	0.054 J	<b>52 J</b>	NA	<3.5 UJ	<b>61 J</b>
Benzo(b)fluoranthene	1	5.6	<b>6.4 J</b>	0.15 J	0.35 J	0.93 J	<0.14 UJ	0.22 J (M)	NA	NA	<0.88 UJ	0.13 J	<b>1.2 J (H)</b>	0.49 J	<0.11 UJ	<b>28 J</b>	NA	<8 UJ	<b>48 J</b>
Benzo(g,h,i)perylene	100	500	4.2 J	0.11 J	0.23 J	1.4 J	0.087 J	0.21 J	NA	NA	<0.35 UJ	0.075 J	<b>0.96 J (H)</b>	0.51 J	<0.045 UJ	33 J	NA	<3.2 UJ	34 J
Benzo(k)fluoranthene	0.8	56	<b>4.3 J</b>	0.18 J	0.31 J	<b>0.81 J</b>	0.12 J	0.28 J (M)	NA	NA	<0.35 UJ	0.12 J	<b>1 J (H)</b>	0.56 J	<0.045 UJ	<b>53 J</b>	NA	<3.2 UJ	<b>45 J</b>
Chrysene	1	56	<b>6.9 J</b>	0.2 J	0.59 J	0.95 J	0.13 J	0.33 J	NA	NA	0.46 J	0.17 J	<b>1.3 J</b>	0.61 J	0.058 J	<b>74 J</b>	NA	<3.6 UJ	<b>70 J</b>
Dibenzo(a,h)anthracene	0.33	0.56	<b>1.2 J (M)</b>	<0.041 R	0.061 J	<b>0.34 J</b>	<0.054 UJ	0.074 J	NA	NA	<0.35 UJ	<0.044 UJ	0.28 J (H)	0.11 J	<0.045 UJ	<b>9.5 J (M)</b>	NA	<3.2 UJ	<b>11 J (M)</b>
Fluoranthene	100	500	18 J	0.53 J	1.3 J	0.78 J	0.16 J	0.46 J	NA	NA	0.67 J	0.29 J	3.3 J	1.3 J	0.08 J	<b>120 J</b>	NA	4.8 J	<b>230 J</b>
Flourene	30	500	0.96 J	0.060 J	0.12 J	<0.052 UJ	<0.063 UJ	<0.055 UJ	NA	NA	<0.41 UJ	0.077 J	0.17 J	0.11 J	<0.052 UJ	25 J	NA	8.1 J	17 J
Indeno(1,2,3-cd)pyrene	0.5	5.6	<b>3.3 J</b>	0.076 J	0.17 J	<b>0.92 J</b>	0.073 J	0.18 J	NA	NA	<0.32 UJ	0.072 J	<b>0.82 J (M)</b>	0.36 J	<0.041 UJ	<b>29 J</b>	NA	<2.9 UJ	<b>28 J</b>
Naphthalene	12	500	0.69 J	0.13 J	0.24 J	0.23 J	<0.084 UJ	0.095 J	NA	NA	<0.54 UJ	0.4 J	0.19 J	<0.13 UJ	<0.069 UJ	<b>18 J</b>	NA	<b>120 J</b>	9.4 J
Phenanthrene	100	500	11 J	0.39 J	0.87 J	0.95 J	0.1 J	0.28 J	NA	NA	0.51 J	0.19 J	1.5 J	0.71 J	0.063 J	<b>170 J</b>	NA	20 J	<b>210 J</b>
Pyrene	100	500	9.5 J	0.4 J	0.78 J	0.96 J	0.18 J	0.41 J	NA	NA	0.53 J	0.22 J	1.9 J	0.95 J	0.067 J	<b>190 J</b>	NA	6.3 J	<b>160 J</b>
<b>RCRA Metals Total, (ppm)</b>																			
Arsenic	13	16	5.8 J	NA	5.2 J	<b>40.3 J</b>	<b>26.2 J</b>	<b>15.8 J</b>	NA	NA	<b>53.5 J</b>	6.5 J	NA	6.0 J	<1.4 UJ	9.8 J	NA	NA	7.2 J
Barium	350	400	<b>376 J</b>	NA	102 J	175 J	155 J	100 J	NA	NA	232 J	78.0 J	NA	167 J	19.3 J	79.5 J	NA	NA	63.5 J
Cadmium	2.5	9.3	<1.5 U	NA	<1.4 U	<1.2 U	<1.4 U	<1.6 U	NA	NA	<1.4 U	<1.2 U	NA	1.7 B	<1.1 U	<1.3 U	NA	NA	<1.0 U
Chromium	NE	400	12.4	NA	17.5	8.4	23.4	16	NA	NA	36.5	14.7	NA	28.3	2.4 B	53.1	NA	NA	9.3
Lead	63	1,000	357 J	NA	<b>171 J</b>	<b>227 J</b>	<b>1,270 J</b>	<b>275 J</b>	NA	NA	<b>169 J</b>	<b>178 J</b>	NA	<b>539 J</b>	40.2 J	<b>117 J</b>	NA	NA	<b>168 J</b>
Selenium	3.9	1,500	<2.3 UJ	NA	<2.3 UJ	4.5 J	<2.2 UJ	<2.5 UJ	NA	NA	<2.2 UJ	<2.0 UJ	NA	<2.2 UJ	<1.8 UJ	<2.0 UJ	NA	NA	<1.6 UJ
Silver	2	1,500	<0.47 U	NA	<0.40 U	<0.40 U	<0.44 U	<0.50 U	NA	NA	<0.44 U	<0.40 U	NA	0.46 B	<0.36 U	<0.41 U	NA	NA	<0.33 U
Mercury	0.18	2.8	<b>0.23</b>	NA	<b>0.7</b>	<b>0.33</b>	<b>0.26</b>	<b>1.1</b>	NA	NA	0.058	<b>0.53</b>	NA	<b>0.41</b>	0.079	0.18	NA	NA	<b>0.34</b>
<b>PCBs (ppm)</b>																			
PCB, Total	0.1	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**NOTES**  
 Track 4 Site Specific SCOs = Track 2 Restricted Use SCOs, 6NYCRR Part 375  
 Unrestricted Use SCO's are presented for informational purpose only and did not represent cleanup objectives for the Site, 6NYCRR Part 375-6.8 (a)  
 Boring locations are depicted on Figure 2 of the Site Management Plan  
 Prior to Remediation Refers to Site conditions prior to the completion of Interim Remedial Measures (IRMs) conducted in 2005 and remediation conducted in 2010.  
**Bold** indicates exceedance of Unrestricted Use SCO's.  
**Shading** indicates exceedance of Track 4 Site Specific Standard.  
 S1 = Sampled from 0-4 feet below ground surface.  
 S2 = Sampled from 4-8 feet below ground surface.  
 S3 = Sampled from 8-12 feet below ground surface.  
 S4 = Sampled from 12-16 feet below ground surface.  
 ppm = parts per million  
 NE = None Established by the NYSDEC  
 NA = Not Analyzed  
 U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
 0.04\* = TCLP Extraction Method must be used to demonstrate Ground Water Protection for these compounds  
 J = (Organic Qualifiers) The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.  
 B = (Inorganic Qualifiers) The result is less than the Low Level Standard Check - Secondary Dilution and Analysis/Reporting Limit, but greater than or equal to the Instrument Detection Limit/Method Detection Limit.  
 UJ = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
 UJ = (Organic Qualifiers) The analyte was not detected above the reported sample quantitation limit (QL).  
 \* = (Flag) In description = dry weight  
 (M) = (Organic Flags) Manually Integrated Compound  
 (H) = (Organic Flags) Alternate Peak Selection upon Analytical Review  
 (B) = (Organic Flags) Compound was Found in the Blank and Sample  
 (N) = (Inorganic Flags) MS, MSD: Spike Recovery Exceeds the Upper or Lower Control Limits  
 (M) = (Organic Flags) Manually Integrated Compound  
 R = (Organic/Inorganic Qualifiers) The result is rejected due to deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

**Table 1**  
 Soil Analytical Results - Prior to Completion of Remediation  
 Whole Foods Market  
 220 3rd Street  
 Brooklyn, Kings County, New York  
 NYSDEC BCP SITE No. C224100

Sample ID	Unrestricted Use SCO's	Track 4 Site- Specific SCO's	November 1 - 3, 2004					December 6 - 8, 2004														
			B133 (8-12)	B134 (0-4)	B134 (4-8)	B134 (8-12)	B137 (4-8)	B138-S1	B138-S2	B139-S1	B139-S2	B140-S1	B140-S2	B140-S3	B141-S1	B141-S2	B141-S3	B142-S1	B143-S1	B143-S2	B144-S1	B144-S2
<b>VOCs (ppm)</b>																						
1,2,4-Trimethylbenzene	3.6	190	0.089	<0.067 U	0.4	<0.057 U	0.320	<0.059 U	<0.065 U	<0.062 U	<0.066 U	<0.053 U	<0.061 U	NA	<0.055 U	<0.058 U	<0.057 R	<0.059 R	<0.059 R	<0.059 U	<0.056 U	<0.058 U
1,3,5-Trimethylbenzene	8.4	190	<0.051 U	<0.067 U	<0.053 U	<0.057 U	<0.057 U	<0.059 U	<0.065 U	<0.062 U	<0.066 U	<0.053 U	<0.061 U	NA	<0.055 U	<0.058 U	<0.057 R	<0.059 R	<0.059 R	<0.059 U	<0.056 U	<0.058 U
Benzene	0.06	44	<0.051 U	<0.067 U	<0.053 U	<0.057 U	<0.057 U	<0.059 U	<0.065 U	<0.062 U	<0.066 U	<0.053 U	<0.061 U	NA	<0.055 U	<0.058 U	<0.057 R	<0.059 R	<0.059 R	<0.059 U	<0.056 U	<0.058 U
Ethylbenzene	1	390	0.054	<0.067 U	0.084	<0.057 U	0.17	<0.059 U	<0.065 U	<0.062 U	<0.066 U	<0.053 U	<0.061 U	NA	<0.055 U	<0.058 U	<0.057 R	<0.059 R	<0.059 R	<0.059 U	<0.056 U	<0.058 U
Isopropylbenzene	NE	NE	<0.051 U	<0.067 U	<0.053 U	<0.057 U	<0.057 U	<0.059 U	<0.065 U	<0.062 U	<0.066 U	<0.053 U	<0.061 U	NA	<0.055 U	<0.058 U	<0.057 R	<0.059 R	<0.059 R	<0.059 U	<0.056 U	<0.058 U
Methyl-tert-butyl-ether (MTBE)	0.93	500	<0.051 U	<0.067 U	<0.053 U	<0.057 U	<0.057 U	<0.059 U	<0.065 U	<0.062 U	<0.066 U	<0.053 U	<0.061 U	NA	<0.055 U	<0.058 U	<0.057 R	<0.059 R	<0.059 R	<0.059 U	<0.056 U	<0.058 U
n-Butylbenzene	12	500	0.057	<0.067 U	<0.053 U	<0.057 U	<0.057 U	<0.059 U	<0.065 U	<0.062 U	<0.066 U	<0.053 U	<0.061 U	NA	<0.055 U	<0.058 U	<0.057 R	<0.059 R	<0.059 R	<0.059 U	<0.056 U	<0.058 U
n-Propylbenzene	2.9	500	<0.051 U	<0.067 U	0.32	<0.057 U	0.23	<0.059 U	<0.065 U	<0.062 U	<0.066 U	<0.053 U	<0.061 U	NA	<0.055 U	<0.058 U	<0.057 R	<0.059 R	<0.059 R	<0.059 U	<0.056 U	<0.058 U
p-Isopropyltoluene	NE	NE	<0.051 U	<0.067 U	0.063	<0.057 U	0.066	<0.059 U	<0.065 U	<0.062 U	<0.066 U	<0.053 U	<0.061 U	NA	<0.055 U	<0.058 U	<0.057 R	<0.059 R	<0.059 R	<0.059 U	<0.056 U	<0.058 U
sec-Butylbenzene	11	500	<0.051 U	<0.067 U	0.25	<0.057 U	0.33	<0.059 U	<0.065 U	<0.062 U	<0.066 U	<0.053 U	<0.061 U	NA	<0.055 U	<0.058 U	<0.057 R	<0.059 R	<0.059 R	<0.059 U	<0.056 U	<0.058 U
tert-Butylbenzene	5.9	500	<0.051 U	<0.067 U	0.16	<0.057 U	<0.057 U	<0.059 U	<0.065 U	<0.062 U	<0.066 U	<0.053 U	<0.061 U	NA	<0.055 U	<0.058 U	<0.057 R	<0.059 R	<0.059 R	<0.059 U	<0.056 U	<0.058 U
Toluene	0.7	500	<0.051 U	<0.067 U	<0.053 U	<0.057 U	<0.057 U	0.13	<0.065 U	<0.062 U	0.61	<0.053 U	<0.061 U	NA	<0.055 U	<0.058 U	<0.057 R	<0.059 R	<0.059 R	<0.059 U	<0.056 U	<0.058 U
Xylenes (Total)	0.26	500	0.07	<0.067 U	0.17	<0.057 U	0.19	<0.059 U	<0.065 U	<0.062 U	<0.066 U	<0.053 U	<0.061 U	NA	<0.055 U	<0.058 U	<0.057 R	<0.059 R	<0.059 R	<0.059 U	<0.056 U	<0.058 U
<b>SVOCs (ppm)</b>																						
2-Methylnaphthalene	NE	NE	0.079 J	<0.058 UJ	<0.059 UJ	<0.059 UJ	<0.061 UJ	NA	NA	NA	NA	<0.38 U	<0.36 U (B)	<0.43 U (B)	NA	NA	NA	<0.36 U	<0.38 U	<0.42 U (B)	<0.37 U	<4 U (B)
Acenaphthene	20	500	0.16 J	0.071 J	<0.062 UJ	<0.062 UJ	0.069 J	NA	NA	NA	NA	0.071 J	<0.36 U	0.084 J	NA	NA	NA	0.065 J	<0.38 U	0.075 J	0.093 J	1.5 J
Acenaphthylene	100	500	<0.05 UJ	<0.045 UJ	<0.046 UJ	<0.046 UJ	<0.047 UJ	NA	NA	NA	NA	0.1 J	<0.36 U	0.068 J	NA	NA	NA	<0.36 U	<0.38 U	<0.42 U	0.077 J	<4 U
Anthracene	100	500	0.35 J	0.077 J	<0.062 UJ	<0.062 UJ	0.085 J	NA	NA	NA	NA	0.21 J	0.11 J	0.2 J	NA	NA	NA	0.086 J	0.12 J	0.21 J	0.22 J	3.8 J
Benzo(a)anthracene	1	5.6	0.56 J	0.25 J	<0.050 UJ	<0.05 UJ	0.19 J	NA	NA	NA	NA	0.45	0.24 J	0.45	NA	NA	NA	0.26 J	0.46	0.53	0.63	5.7
Benzo(a)pyrene	1	1	0.56 J	0.31 J	<0.046 UJ	<0.046 UJ	0.19 J	NA	NA	NA	NA	0.36 J	0.21 J	0.45	NA	NA	NA	0.25 J	0.63	0.58	0.66	5.2
Benzo(b)fluoranthene	1	5.6	0.43 J	0.27 J	<0.1 UJ	<0.1 UJ	0.13 J (M)	NA	NA	NA	NA	0.43	0.17 J	0.29 J	NA	NA	NA	0.21 J	0.45	0.37 J	0.62	3.5 J
Benzo(g,h,i)perylene	100	500	0.36 J	0.23 J	<0.041 UJ	<0.041 UJ	0.12 J	NA	NA	NA	NA	0.21 J	0.11 J	0.23 J	NA	NA	NA	0.15 J (M)	0.42	0.31 J	0.51	2.7 J
Benzo(k)fluoranthene	0.8	56	0.4 J	0.28 J	<0.041 UJ	<0.041 UJ	0.22 J (M)	NA	NA	NA	NA	0.31 J	0.17 J	0.43	NA	NA	NA	0.19 J	0.49	0.5	0.53	4.3
Chrysene	1	56	0.59 J	0.32 J	<0.047 UJ	<0.047 UJ	0.24 J	NA	NA	NA	NA	0.59	0.25 J	0.49	NA	NA	NA	0.32 J	0.49	0.55	0.72	6
Dibenzo(a,h)anthracene	0.33	0.56	0.084 J (M)	<0.041 UJ	<0.041 UJ	<0.041 UJ	0.054 J (M)	NA	NA	NA	NA	0.064 J	<0.36 U	0.077 J	NA	NA	NA	<0.36 U	0.18 J (M)	0.15 J (M)	0.13 J	0.95 J (M)
Fluoranthene	100	500	1.9 J	0.71 J	<0.047 UJ	<0.047 UJ	0.47 J	NA	NA	NA	NA	1.2	0.55	1.1	NA	NA	NA	0.59	0.72	1	1.4	15
Flourene	30	500	0.18 J	<0.047 UJ	<0.048 UJ	<0.048 UJ	0.097 J	NA	NA	NA	NA	0.076 J	0.047 J	0.1 J	NA	NA	NA	0.057 J	<0.38 U	0.071 J	0.095 J	1.6 J
Indeno(1,2,3-cd)pyrene	0.5	5.6	0.25 J	0.16 J	<0.038 UJ	<0.038 UJ	0.11 J	NA	NA	NA	NA	0.17 J	0.097 J	0.21 J	NA	NA	NA	0.16 J (M)	0.47	0.3 J	0.39	2.2 J
Naphthalene	12	500	0.13 J	0.089 J	<0.064 UJ	0.15 J	<0.066 UJ	NA	NA	NA	NA	<0.38 U	<0.36 U (B)	<0.43 U (B)	NA	NA	NA	<0.36 U	<0.38 U	<0.42 U (B)	<0.37 U	<0.4 U
Phenanthrene	100	500	1.7 J	0.46 J	<0.044 UJ	<0.044 UJ	0.3 J	NA	NA	NA	NA	1.1 (B)	0.48 U	0.7 U	NA	NA	NA	0.6	0.39	0.67 U	0.99 (B)	15 (B)
Pyrene	100	500	1.3 J	0.5 J	<0.051 UJ	<0.051 UJ	0.4 J	NA	NA	NA	NA	1.1 (B)	0.49 (B)	1 (B)	NA	NA	NA	0.63	0.72	1 (B)	1.4 (B)	13 (B)
<b>RCRA Metals Total, (ppm)</b>																						
Arsenic	13	16	4.4 J	NA	NA	NA	4.0 J	7.5 B	4.4 B	3.8 B	<10.4 U	4.6 B	4.3 B	NA	5.3 B	8.7 B	3.6 B (*)	<10.2 U (*)	5.6 B (*)	4.3 B	4.2 B	6.1 B
Barium	350	400	150 J	NA	NA	NA	109 J	117	114	99	13.8	68.5	72.2	NA	253	273	40.9 (*)	44.8 (*)	60.3 (*)	78	80.4	79.5
Cadmium	2.5	9.3	<1.4 U	NA	NA	NA	<1.2 U	1.4 B	<4.4 U	<4.7 U	<3.9 U	<3.9 U	<3.9 U	NA	<3.0 U	<3.9 U	<3.7 U (N)	<3.8 U (N)	<4.0 U (N)	<4.0 U	<3.2 U	<3.2 U
Chromium	NE	400	14.6	NA	NA	NA	13.2	10.1 J (*)	9.8 J (*)	11.4 J (*)	5.9 J (*)	9.7 J (*)	5.3 J (*)	NA	12.4 J (*)	14.9 J (*)	11.8 (*)	12.5 (*)	12.8 (*)	9.7 J (*)	13.7 J (*)	13.8 J (*)
Lead	63	1,000	111 J	NA	NA	NA	667 J	224 J (*)	152 J (*)	161 J (*)	36.0 J (*)	408 J (*)	146 J (*)	NA	486 J (*)	492 J (*)	24.4 (*)	59.6 (*)	192 (*)	126 J (*)	96.5 J (*)	506 J (*)
Selenium	3.9	1,500	<2.2 UJ	NA	NA	NA	<2.0 UJ	<19.7 U	<23.3 U	<24.9 U	<20.8 U	<20.7 U	<20.6 U	NA	<15.9 U	<20.7 U	<20.0 U (N)	<20.3 U (N)	<21.4 U (N)	<21.3 U	<16.9 U	<17.2 U
Silver	2	1,500	<0.44 UJ	NA	NA	NA	<0.4 U	<3.7 U	<4.4 U	<4.7 U	<3.9 U	0.62 B	<3.9 U	NA	<3.0 U	<3.9 U	<3.7 U	<3.8 U	<4.0 U	<4.0 U	<3.2 U	<3.2 U
Mercury	0.18	2.8	0.24	NA	NA	NA	5	0.33	0.74	0.51	0.037 B	0.26	4.2	NA	0.69	0.89	0.044 B	0.095	0.34	0.32	0.23	0.9
<b>PCBs (ppm)</b>																						
PCB, Total	0.1	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**NOTES**  
 Track 4 Site Specific SCO's = Track 2 Restricted Use SCO's, 6NYCRR Part 375  
 Unrestricted Use SCO's are presented for informational purpose only and did not represent cleanup objectives for the Site, 6NYCRR Part 375-6.8 (a)  
 Boring locations are depicted on Figure 2 of the Site Management Plan  
 Prior to Remediation Refers to Site conditions prior to the completion of Interim Remedial Measures (IRMs) conducted in 2005 and remediation conducted in 2010.  
**Bold** indicates exceedance of Unrestricted Use SCO's.  
 Shading indicates exceedance of Track 4 Site Specific Standard.  
 S1 = Sampled from 0-4 feet below ground surface.  
 S2 = Sampled from 4-8 feet below ground surface.  
 S3 = Sampled from 8-12 feet below ground surface.  
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 ppm = parts per million  
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 NA = Not Analyzed  
 U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
 0.04\* = TCLP Extraction Method must be used to demonstrate Ground Water Protection for these compounds  
 J = (Organic Qualifiers) The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.  
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 U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
 UJ = (Organic Qualifiers) The analyte was not detected above the reported sample quantitation limit (QL).  
 \* = (Flag) In description = dry weight  
 (M) = (Organic Flags) Manually Integrated Compound  
 (H) = (Organic Flags) Alternate Peak Selection upon Analytical Review  
 (B) = (Organic Flags) Compound was Found in the Blank and Sample  
 (N) = (Inorganic Flags) MS, MSD: Spike Recovery Exceeds the Upper or Lower Control Limits  
 (M) = (Organic Flags) Manually Integrated Compound  
 R = (Organic/Inorganic Qualifiers) The result is rejected due to deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

**Table 1**  
 Soil Analytical Results - Prior to Completion of Remediation  
 Whole Foods Market  
 220 3rd Street  
 Brooklyn, Kings County, New York  
 NYSDEC BCP SITE No. C224100

Sample ID	Unrestricted Use SCO's	Track 4 Site-Specific SCO's	December 6 - 8, 2004												August 17, 2005								
			B145-S1	B145-S2	B145-S3	B146-S1	B147-S1	B148-S1	B148-S2	B148-S3	B149-S1	B149-S2	B149-S3	B149-S3DUP	CEB-1/S-4	CEB-1/S-5	CEB-2/S-4	CEB-2/S-5	CEB-3/S-2	CEB-3/S-3	SED-1	SED-2	SED-3
<b>VOCs (ppm)</b>																							
1,2,4-Trimethylbenzene	3.6	190	<0.054 U	<0.059 U	<0.06 U	<0.053 U	<0.059 U	0.26	<31 U	<0.062 U	1.4 J	0.210 J	25 J	18 J	<0.064 U	<1.6 U	<0.140 U	<4.4 U	<0.7 U	<0.064 U	<0.140 U	0.170 UJ	0.530 J
1,3,5-Trimethylbenzene	8.4	190	<0.054 U	<0.059 U	<0.06 U	<0.053 U	<0.059 U	<0.055 U	<31 U	<0.062 U	0.33 J	0.110 J	16 J	8.8 J	<0.064 U	<1.6 U	<0.140 U	<4.4 U	<0.7 U	<0.064 U	<0.140 U	<0.120 UJ	<0.130 UJ
Benzene	0.06	44	<0.054 U	<0.059 U	<b>0.062</b>	<0.053 U	<0.059 U	<0.055 U	<31 U	<0.062 U	<0.058 R	<0.057 R	<0.64 R	<0.58 R	<b>0.074</b>	<1.6 U	<b>0.220</b>	<4.4 U	<0.7 U	<0.064 U	<0.140 U	<0.120 UJ	<0.130 UJ
Ethylbenzene	1	390	<0.054 U	<0.059 U	<0.06 U	<0.053 U	<0.059 U	0.012	<31 U	<0.062 U	0.34 J	0.140 J	34 J	24 J	<0.064 U	<1.6 U	<0.140 U	<4.4 U	<0.7 U	0.071	<0.140 U	<0.120 UJ	<0.130 UJ
Isopropylbenzene	NE	NE	<0.054 U	<0.059 U	<0.06 U	<0.053 U	<0.059 U	0.059	<31 U	<0.062 U	<0.058 R	<0.057 R	5.6 J	3.3 J	<0.064 U	<1.6 U	<0.140 U	<4.4 U	<0.7 U	<0.064 U	<0.140 U	<0.120 UJ	0.160 J
Methyl-tert-butyl-ether (MTBE)	0.93	500	<0.054 U	<0.059 U	<0.06 U	<0.053 U	<0.059 U	<0.055 U	<31 U	<0.062 U	<0.058 R	<0.057 R	<0.64 R	<0.58 R	<0.064 U	<1.6 U	<0.140 U	<4.4 U	<0.7 U	<0.064 U	<0.140 U	<0.120 UJ	<0.130 UJ
n-Butylbenzene	12	500	<0.054 U	<0.059 U	<0.06 U	<0.053 U	<0.059 U	0.42	<31 U	<0.062 U	0.65 J	<0.057 R	39 J	29 J	<0.064 U	2	<0.140 U	<4.4 U	<0.7 U	<0.064 U	<0.140 U	0.180 UJ	0.480 J
n-Propylbenzene	2.9	500	<0.054 U	<0.059 U	<0.06 U	<0.053 U	<0.059 U	<0.055 U	<31 U	<0.062 U	0.21 J	<0.057 R	1.3 J	0.86 J	<0.064 U	<1.6 U	<0.140 U	<4.4 U	<0.7 U	<0.064 U	<0.140 U	<0.120 UJ	<0.130 UJ
p-Isopropyltoluene	NE	NE	<0.054 U	<0.059 U	<0.06 U	<0.053 U	<0.059 U	0.061	<31 U	<0.062 U	<0.058 R	<0.057 R	5.8 J	4.6 J	<0.064 U	<1.6 U	<0.140 U	<4.4 U	<0.7 U	<0.064 U	<0.140 U	<0.120 UJ	0.170 J
sec-Butylbenzene	11	500	<0.054 U	<0.059 U	<0.06 U	<0.053 U	<0.059 U	0.019	<31 U	<0.062 U	0.13 J	<0.057 R	3.2 J	2.4 J	<0.064 U	<1.6 U	<0.140 U	<4.4 U	<0.7 U	<0.064 U	<0.140 U	<0.120 UJ	0.350 J
tert-Butylbenzene	5.9	500	<0.054 U	<0.059 U	<0.06 U	<0.053 U	<0.059 U	0.065	<31 U	<0.062 U	<0.058 R	<0.057 R	<0.64 R	<0.58 R	<0.064 U	<1.6 U	<0.140 U	<4.4 U	<0.7 U	<0.064 U	<0.140 U	<0.120 UJ	<0.130 UJ
Toluene	0.7	500	0.062	<0.059 U	<0.06 U	<0.053 U	<0.059 U	0.085	<31 U	<0.062 U	0.082 J	<0.057 R	<0.64 R	<0.58 R	<0.064 U	<1.6 U	<0.140 U	<4.4 U	<0.7 U	<0.064 U	<0.140 U	<0.120 UJ	<0.130 UJ
Xylenes (Total)	0.26	500	<b>0.314</b>	<0.059 U	<0.012 U	<0.053 U	<0.059 U	0.246	<31 U	<0.062 U	0.19 J	0.120 J	<b>23.7 J</b>	<b>20.8 J</b>	<0.130 U	<3.2 U	<0.270 U	<8.8 U	<1.4 U	<0.130 U	0.150 J	0.170 UJ	<b>0.780 J</b>
<b>SVOCs (ppm)</b>																							
2-Methylnaphthalene	NE	NE	<1.8 U	<1.9 U (B)	<0.41 U (B)	<14 U (B)	<3.7 U (B)	<1.8 U	<310 U	<0.38 U	0.7	7.2 J	56 J	78	<0.260 U	20	0.740	38	4.4	0.520	6.8 J	16 J	22 J
Acenaphthene	20	500	1 J	0.36 J	<0.41 U	6.5 J	0.98 J	0.48 J	<b>470</b>	0.32 J	0.15 J	3	<b>110</b>	<b>150</b>	1.8	<b>54</b>	1.9	<b>120</b>	<b>21</b>	1.8	<b>30 J</b>	20 J	<b>36 J</b>
Acenaphthylene	100	500	<1.8 U	0.4 J	<0.41 U	2.1 J	0.88 J	0.44 J	49 J	<0.38 U	0.12 J	1.4 J	<77 U	<75 U	19	1.9 J	0.110 J	3.7 J	0.970 J	0.190 J	28 J	21 J	29 J
Anthracene	100	500	1.9	1.2 J	<0.41 U	12 J	2.8 J	1.1 J	<b>160 J</b>	0.092 J	0.18 J	5.2 J	20 J	28 J	0.970 J	9 J	0.600	31	4.5	0.6	59 J	44 J	53 J
Benzo(a)anthracene	1	5.6	<b>3.2</b>	<b>3.6</b>	<0.41 U	<b>24</b>	<b>8.6</b>	<b>2.8</b>	<b>62 J</b>	0.063 J	0.75	<b>2.7 J</b>	<77 U	<b>13 J</b>	<b>2.1</b>	<b>3.7</b>	0.780	<b>14 J</b>	<b>2.6</b>	0.580	<b>53 J</b>	<b>40 J</b>	<b>50 J</b>
Benzo(a)pyrene	1	1	<b>2.9</b>	<b>3.7</b>	<0.41 U	<b>23</b>	<b>9.6</b>	<b>3.6</b>	<b>80 J</b>	0.057 J	<b>1.4</b>	<b>3.3 J</b>	<b>11 J (M)</b>	<b>16 J</b>	<b>3.7</b>	<b>3.6 J</b>	0.610	<b>13 J</b>	<b>2.8</b>	0.720	<b>37 J</b>	<b>28 J (M)</b>	<b>38 J</b>
Benzo(b)fluoranthene	1	5.6	<b>2.2</b>	<b>3.8 (M)</b>	<0.41 U	<b>14 J</b>	<b>8.8</b>	<b>2.9</b>	<310 U	<0.38 U	<b>1.5</b>	<7.2 U	<77 U	<75 U	<b>2</b>	<2.7 U	0.610	<b>9.7 J</b>	<b>1.5 J</b>	0.720	<b>34 J</b>	<b>27 J</b>	<b>37 J (M)</b>
Benzo(g,h,i)perylene	100	500	1.7 J	2.6	<0.41 U	13 J	6.8	3.3	52 J	<0.38 U	1.3	2.2 J	<77 U	12 J	3.8 (M)	2.6 J (M)	0.410	6.7 J (M)	2.1	0.250 J	8.5 J (M)	9.3 J	9.8 J
Benzo(k)fluoranthene	0.8	56	<b>2.8</b>	<b>3.1 (M)</b>	<0.41 U	<b>21</b>	<b>7.3</b>	<b>2.4</b>	<b>37 J (M)</b>	<0.38 U	0.86	<b>1.8 J</b>	<77 U	<b>9 J</b>	<b>1.2 J</b>	<b>1.1 J</b>	0.250 J	<b>3.5 J</b>	0.790 J	0.280 J	<b>12 J (M)</b>	<b>8.7 J</b>	<b>9.3 J</b>
Chrysene	1	56	<b>3.3</b>	<b>4.2</b>	<0.41 U	<b>28</b>	<b>9.4</b>	<b>3.2</b>	<b>68 J</b>	0.061 J	0.99	<b>3 J</b>	<b>10 J</b>	<b>14 J</b>	<b>2.2</b>	<b>3.3 J</b>	0.650	<b>13 J</b>	<b>2.7</b>	0.630	<b>55 J</b>	<b>36 J</b>	<b>58 J</b>
Dibenzo(a,h)anthracene	0.33	0.56	<b>0.610 J (M)</b>	<b>1.1 J</b>	<0.41 U	<b>4 J (M)</b>	<b>1.9 J</b>	<b>0.76 J</b>	<310 U	<0.38 U	<b>0.35 J (M)</b>	<7.2 U	<77 U	<75 U	<0.180 U	<1.1 U	<0.046 U	<2.5 U	<0.210 U	<0.044 U	<b>2.5 J (M)</b>	<b>2.2 J</b>	<b>3.5 J (M)</b>
Fluoranthene	100	500	8.8	9.5	<0.41 U	63	21	7.4	<b>220 J</b>	0.16 J	1.4	8.9	35 J	46 J	4.1	14	1.4	45	7.8	1.5	<b>120 J</b>	87 J	<b>120 J</b>
Flourene	30	500	0.85 J	0.37 J	<0.41 U	5.9 J	1 J	0.53 J	<b>180 J (M)</b>	0.11 J	0.092 J	11	28 J (M)	<b>32 J</b>	0.960 J	15	0.620	<b>38</b>	5.7	0.610	11 J	20 J	28 J
Indeno(1,2,3-cd)pyrene	0.5	5.6	<b>1.5 J</b>	<b>2.30</b>	<0.41 U	<b>11 J</b>	<b>5.6</b>	<b>2.1</b>	<310 U	<0.38 U	<b>0.98</b>	<b>1.2 J</b>	<77 U	<75 U	<b>2 (M)</b>	<b>1.1 J</b>	0.300 J	<2.3 U	<b>1.2 J (M)</b>	0.180 J (M)	<b>6.7 J (M)</b>	<b>7.6 J</b>	<b>7.3 J</b>
Naphthalene	12	500	<1.8 U	<1.9 U (B)	<0.41 U (B)	<14 U (B)	<3.7 U (B)	<1.8 U	<b>1,600 (B)</b>	0.59 (B)	0.61	<b>14</b>	<b>350</b>	<b>510</b>	1.7	<b>110</b>	3.8	<b>180</b>	22	2.7	11 J	<b>18 J</b>	<b>26 J</b>
Phenanthrene	100	500	8.1 (B)	6.1 (B)	<0.41 U (B)	80 (B)	14 (B)	5.3 (B)	<b>520 (B)</b>	<0.38 U	0.63	20	74 J	<b>110</b>	2.5	41	2.4	<b>110</b>	18	2.2	55 J	88 J	100 J
Pyrene	100	500	7.3 (B)	8.3 (B)	<0.41 U (B)	77 (B)	18 (B)	7.3 (B)	<b>370 (B)</b>	<0.38 U	1.8	14	58 J	78	8.1	20	1.5	79	7.8	1.2	82 J	57 J	78 J
<b>RCRA Metals Total, (ppm)</b>																							
Arsenic	13	16	12.8	<b>172</b>	3.2 B	7.5 B	<b>13.9</b>	3.5 B	4.5 B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	30.3 J (*)	32.1 J (*)	33.6 J (*)
Barium	350	400	76.9	213	36.8	<b>916</b>	<b>1150</b>	43.5	80.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,170 J (*)	1,030 J (*)	1,920 J (*)
Cadmium	2.5	9.3	<3.9 U	<3.3 U	<3.6 U	<2.8 U	1.1 B	<3.3 U	<3.8 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	46.1 J	32.6 J	42.5 J
Chromium	NE	400	10.9 J (*)	11.5 J (*)	11.2 J (*)	16.1 J (*)	19.7 J (*)	10.0 J (*)	12.4 J (*)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	764 J	602 J	846 J
Lead	63	1,000	<b>142 J (*)</b>	<b>444 J (*)</b>	8.9 B J (*)	<b>1,280 J (*)</b>	<b>2,320 J (*)</b>	<b>71.2 J (*)</b>	<b>153 J (*)</b>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<b>1,890 J (*)</b>	<b>1,220 J (*)</b>	<b>2,050 J (*)</b>
Selenium	3.9	1,500	<21.0 U	<b>24.2</b>	<19.4 U	<15.1 U	<17.5 U	<17.5 U	<20.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5.6 UJ	5 J B	6 J B
Silver	2	1,500	<3.9 U	0.35 B	<3.6 U	<2.8 U	0.60 B	<3.3 U	<3.8 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<b>36.1 JJ</b>	<b>23.7 JJ</b>	<b>33.4 JJ</b>
Mercury	0.18	2.8	<b>0.26</b>	<b>0.5</b>	0.036 B	1	<b>2.2</b>	0.11	<b>0.35</b>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<b>6.2 J</b>	<b>4.9 J</b>	<b>7.9 J</b>
<b>PCBs (ppm)</b>																							
PCB, Total	0.1	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**NOTES**  
 Track 4 Site Specific SCO's = Track 2 Restricted Use SCO's, 6NYCRR Part 375  
 Unrestricted Use SCO's are presented for informational purpose only and did not represent cleanup objectives for the Site, 6NYCRR Part 375-6.8 (a)  
 Boring locations are depicted on Figure 2 of the Site Management Plan  
 Prior to Remediation Refers to Site conditions prior to the completion of Interim Remedial Measures (IRMs) conducted in 2005 and remediation conducted in 2010.  
**Bold** indicates exceedance of Unrestricted Use SCO's.  
**Shading** indicates exceedance of Track 4 Site Specific Standard.  
 S1 = Sampled from 0-4 feet below ground surface.  
 S2 = Sampled from 4-8 feet below ground surface.  
 S3 = Sampled from 8-12 feet below ground surface.  
 S4 = Sampled from 12-16 feet below ground surface.  
 ppm = parts per million  
 NE = None Established by the NYSDEC  
 NA = Not Analyzed  
 U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
 0.04\* = TCLP Extraction Method must be used to demonstrate Ground Water Protection for these compounds  
 J = (Organic Qualifiers) The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.  
 B = (Inorganic Qualifiers) The result is less than the Low Level Standard Check - Secondary Dilution and Analysis/Reporting Limit, but greater than or equal to the Instrument Detection Limit/Method Detection Limit.  
 U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
 UJ = (Organic Qualifiers) The analyte was not detected above the reported sample quantitation limit (QL).  
 \* = (Flag) In description = dry weight  
 (M) = (Organic Flags) Manually Integrated Compound  
 (H) = (Organic Flags) Alternate Peak Selection upon Analytical Review  
 (B) = (Organic Flags) Compound was Found in the Blank and Sample  
 (N) = (Inorganic Flags) MS, MSD: Spike Recovery Exceeds the Upper or Lower Control Limits  
 (M) = (Organic Flags) Manually Integrated Compound  
 R = (Organic/Inorganic Qualifiers) The result is rejected due to deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

**Table 2**

Soil Analytical Summary - Prior to Completion of Remediation  
 Whole Foods Market  
 220 3rd Street  
 Brooklyn, Kings County, New York  
 NYSDEC BCP SITE No. C224100

	NYSDEC Unrestricted Use SCOs	NYSDEC Track 4 Site Specific SCOS	Number of Samples Analyzed	Number of Detections	Maximum Detected Concentration (ppm)	Sample(s) Where Maximum Detected Concentration Occurred	Number of Samples with Detected Results Greater than NYSDEC Unrestricted Use SCOs	Number of Samples with Detected Results Greater than NYSDEC Track 4 Site-Specific SCOS
<b>VOCs (ppm)</b>								
1,2,4-Trimethylbenzene	3.6	190	96	26	25 J	B149-S3	5	0
1,3,5-Trimethylbenzene	8.4	190	96	20	16 J	B149-S3	2	0
Benzene	0.06	44	96	2	0.062	B145-S3	3	0
Ethylbenzene	1	390	96	26	34 J	B149-S3	6	0
Isopropylbenzene	NE	NE	96	13	5.6 J	B149-S3	0	0
Methyl-tert-butyl-ether (MTBE)	0.93	500	83	0	ND	ND	0	0
n-Butylbenzene	12	500	92	20	39 J	B149-S3	2	0
n-Propylbenzene	2.9	500	96	15	4.3 J	B118 (8-12)	1	0
o-Xylene	NE	NE	96	29	9.7 J	B149-S3	0	0
p-&m-Xylene	NE	NE	96	27	14 J	B149-S3	0	0
p-Isopropyltoluene	NE	NE	96	15	5.8 J	B149-S3	0	0
sec-Butylbenzene	11	500	96	21	8.5 J	B111-S2	0	0
tert-Butylbenzene	5.9	500	96	11	1.8	B-15/S-4	0	0
Toluene	0.7	500	96	27	2.5 J	B111-S2	2	0
Xylenes (Total)	0.26	500	83	30	23.7 J	B149-S3	10	0
<b>SVOCs (ppm)</b>								
2-Methylnaphthalene	NE	NE	88	25	78	B124 (0-4)	0	0
Acenaphthene	20	500	88	44	470	B148-S2	10	0
Acenaphthylene	100	500	88	30	49 J	B148-S2	0	0
Anthracene	100	500	88	54	160 J	B148-S2	1	0
Benzo(a)anthracene	1	5.6	88	64	120 J	B110-S1	34	15
Benzo(a)pyrene	1	1	88	61	100 J	B110-S1	35	27
Benzo(b)fluoranthene	1	5.6	88	53	93 J	B110-S1	31	11
Benzo(g,h,i)perylene	100	500	88	52	62 J	B110-S1	0	0
Benzo(k)fluoranthene	0.8	56	88	54	83 J	B110-S1	33	1
Chrysene	1	56	88	72	120 J	B110-S1	38	4
Dibenzo(a,h)anthracene	0.33	0.56	88	36	22 J	B110-S1	17	11
Fluoranthene	100	500	88	75	250 J	B110-S1	6	0
Flourene	30	500	88	46	180 J(M)	B148-S2	4	0
Indeno(1,2,3-cd)pyrene	0.5	5.6	88	50	59	B110-S1	28	6
Naphthalene	12	500	88	35	1,600 (B)	B148-S2	10	2
Phenanthrene	100	500	88	70	520 (B)	B148-S2	7	1
Pyrene	100	500	88	73	370 (B)	B148-S2	5	0
<b>Metals (ppm)</b>								
Arsenic	13	16	75	73	172	B145-S2	12	6
Barium	350	400	75	75	1150	B147-S1	6	2
Cadmium	2.5	9.3	75	7	9.53	B-9/S-2	5	1
Chromium	NE	400	75	75	75.4	B110-S1	0	0
Lead	63	1,000	75	75	2,320 J (*)	B147-S1	50	4
Selenium	3.9	1,500	75	25	24.2	B145-S2	3	0
Silver	3	1,500	75	6	0.66 B	B114-S1	3	0
Mercury	0.18	2.8	75	69	7.8	B108-S2	48	3
<b>PCBs (ppm)</b>								
PCB, Total	0.1	1	25	7	0.055 J	B105-S2	0	0
<b>Notes:</b>								
Track 4 Site Specific SCOs = Track 2 Restricted Use SCOs, 6NYCRR Part 375								
Unrestricted Use SCOs (6NYCRR Part 375, Table 375-6.8(a)) are presented for informational purpose only and did not represent cleanup objectives for the Site.								
S1 = Sampled from 0-4 feet below ground surface.								
S2 = Sampled from 4-8 feet below ground surface.								
S3 = Sampled from 8-12 feet below ground surface.								
S4 = Sampled from 12-16 feet below ground surface.								
ppm = parts per million								
NE = None Established by the NYSDEC								
J = (Organic Qualifiers) The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.								
B = (Inorganic Qualifiers) The result is less than the Low Level Standard Check - Secondary Dilution and Analysis/Reporting Limit, but greater than or equal to the Instrument Detection Limit/Method Detection Limit.								
* = (Flag) In description = dry weight								
(M) = (Organic Flags) Manually Integrated Compound								
(B) = (Organic Flags) Compound was Found in the Blank and Sample								
Prior to completion of remediation refers to Site conditions prior to completion of Interim Remedial Measures (IRM) conducted in 2005 and Remediation completed in 2010.								

**Table 3**  
Ground Water Analytical Summary - Prior to Completion of Remediation  
Whole Foods Market  
220 3rd Street Brooklyn, Kings County, New York  
NYSDEC BCP SITE No. C224100

	NYSDEC TOGS 1.1.1	Number of Samples Analyzed	Number of Detections	Maximum Detected Concentration	Sample(s) Where Maximum Detected Concentration Occurred	Number of Samples with Detected Results Greater than NYSDEC TOGS 1.1.1
<b>VOCs (ppb)</b>						
1,2,4-Trichlorobenzene	5**	9	1	12	MW-1 (Dec. 15, 2003)	1
1,2,4-Trimethylbenzene	5**	40	17	130	MW-7 (Oct. 22, 2004)	10
1,2-Dichlorobenzene	3	9	1	10	MW-5 (Jan. 21, 2004)	1
1,2-Dichloroethylene (cis)	5**	22	2	0.27 J	MW-16 (Jan. 19, 2005)	0
1,3,5-Trimethylbenzene	5**	40	13	46	MW-7 (Oct. 22, 2004)	6
2-Butanone (MEK)	NE	13	1	3.4 J(B)	MW-16 (Jan. 19, 2005)	0
Acetone	50	10	13	4.9 J	MW-16 (Jan. 19, 2005)	0
Benzene	1	40	17	150	MW-16 (Jan. 19, 2005)	12
Chloroform	7	22	3	7	MW-1 (Oct. 22, 2004)	0
Ethylbenzene	5**	40	15	540	MW-7 (Jan. 21, 2004)	11
Isopropylbenzene	5**	40	19	39	MW-7 (Oct. 22, 2004)	13
Methyl-tert-butyl-ether (MTBE)	10	31	30	53 J	MW-12 (Nov. 3, 2004)	16
Methylene chloride	5**	22	13	2.1	MW-16 (Jan. 19, 2005)	0
n-Butylbenzene	5**	40	6	530	MW-7 (Jan. 21, 2004)	3
n-Propylbenzene	5**	40	19	26	MW-7 (Oct. 22, 2004)	10
o-Xylene	5**	40	15	130	MW-7 (Jan. 21, 2004)	8
p-&m-Xylene	5**	40	16	250	MW-7 (Jan. 21, 2004)	8
p-Isopropyltoluene	5**	40	8	6.29	MW-18S (Jan. 19, 2005)	1
sec-Butylbenzene	5**	40	11	7.2	MW-13 (Jan. 19, 2005)	1
Styrene	5**	37	2	0.17 J	MW-106 (Jan. 19, 2005)	0
tert-Butylbenzene	5**	40	6	5.8	MW-13 (Jan. 19, 2005)	1
Tetrachloroethylene	5**	37	1	0.61	MW-4 (Jan. 19, 2005)	0
Toluene	5**	40	11	19	MW-7 (Oct. 22, 2004)	1
Xylenes (Total)	5**	40	13	380	MW-7 (Jan. 21, 2004)	5
<b>SVOCs (ppb)</b>						
Naphthalene	10	35	11	13,000	MW-4 (Dec. 15, 2003)	7
2-Methylnaphthalene	NE	35	7	100 J	MW-106 (Jan. 19, 2005)	0
Acenaphthylene	20	35	2	6 J	MW-12 (Nov. 3, 2004)	0
Acenaphthene	20	35	15	730 J	MW-7 (Oct. 22, 2004)	11
Flourene	50	35	13	53 J	MW-6 (Oct. 22, 2004)	2
Phenanthrene	50	35	18	370 J	MW-7 (Oct. 22, 2004)	4
Anthracene	50	35	11	160 J	MW-7 (Oct. 22, 2004)	1
Fluoranthene	50	35	14	43 J	MW-12 (Nov. 3, 2004)	0
Pyrene	50	35	9	7 J	MW-12 (Jan. 19, 2005)	9
Benzo(a)anthracene	0.002	35	8	7 J	MW-12 (Nov. 3, 2004)	8
Chrysene	0.002	35	4	5 J	MW-4 (Oct. 22, 2004)	4
Benzo(b)fluoranthene	0.002	35	4	5 J	MW-12 (Jan. 19, 2005)	4
Benzo(k)fluoranthene	0.002	35	4	5 J (M)	MW-12 (Jan. 19, 2005)	4
Benzo(a)pyrene	ND	35	7	8 J	MW-12 (Nov. 3, 2004 & Jan. 19, 2005)	0
Indeno(1,2,3-cd)pyrene	0.002	35	4	3 J	MW-2 & MW-8 (Oct. 22, 2004) & MW-12 (Jan. 19, 2005)	4
Dibenzo(a,h)anthracene	NE	35	1	1 J	MW-8 (Oct. 22, 2004)	0
Benzo(g,h,i)perylene	NE	35	5	5 J	MW-12 (Jan. 19, 2005)	0
<b>Metals (ppb)</b>						
Arsenic	25	23	10	82.5	MW-10 (Jan. 19, 2005)	4
Barium	1,000	23	23	888	MW-10 (Jan. 19, 2005)	0
Cadmium	5	23	3	7.4 B	MW-10 (Jan. 19, 2005)	1
Chromium	50	23	10	172	MW-2 (Jan. 19, 2005)	3
Lead	25	23	19	877	MW-10 (Jan. 19, 2005)	9
Selenium	10	23	0	ND	ND	0
Silver	50	23	0	ND	ND	0
Mercury	0.7	23	7	2.9	MW-13 (Jan. 19, 2005)	3
<b>PCBs (ppb)</b>						
PCB, Total	0.09	24	0	ND	ND	0

**NOTES**

TOGS = Technical and Operational Guidance Series (1.1.1). Ambient water quality

MW-106 is a duplicate sample of MW-6

NE = None Established by NYSDEC

ND = No Detections

ppb = parts per billion

J = (Organic Qualifiers) The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

B = (Inorganic Qualifiers) The result is less than the Low Level Standard Check - Secondary Dilution and Analysis/Reporting Limit,

(B) = (Organic Flags) The compound was found in the blank and the sample.

(M) = (Organic Flags) Manually Integrated Compound

\*\* = The principal organic contaminant standard for groundwater of 5 ug/L applies to this substance.

Prior to completion of remediation refers to Site conditions prior to completion of Interim Remedial Measures (IRM) conducted in 2005 and Remediation completed in 2010.



**Table 4**  
Groundwater Analytical Results - Following Completion of IRMs  
Whole Foods Market  
220 3rd Street  
Brooklyn, Kings County, New York  
NYSDEC BCP SITE No. C224100

Sample ID	TOGS	GW-MW-1A				GW-MW-2A				GW-MW-3A				GW-MW-4A				GW-MW-5A			
		26-Apr-06	9-Aug-06	3-Oct-07	30-Apr-09	26-Apr-06	9-Aug-06	3-Oct-07	30-Apr-09	26-Apr-06	9-Aug-06	3-Oct-07	30-Apr-09	26-Apr-06	9-Aug-06	3-Oct-07	30-Apr-09	26-Apr-06	9-Aug-06	3-Oct-07	30-Apr-09
<b>VOCs (ppb) TCL</b>																					
Acetone	50	8.6 UJ	12	NA	5 JB	5.0 UJ	1.4 J	<5.0	<10	<0.64 UJ	1.3 J	<5.0	<10	5.0 UJ	5.4	<5.0	<10	5.0 UJ	1.7 J	<5.0	<10
Methylene chloride	5**	<0.97 U	2.8 J	<5.0	5 JB	<0.97 U	<0.97 U	<5.0	5 JB	<0.97 U	<0.97 U	<5.0	5 JB	<0.97 U	<0.97 U	<5.0	5 JB	<0.97 U	<0.97 U	<5.0	5 JB
2-Butanone	NE	5.0 U	2.5 J	<5.0	<10	<0.58 U	<0.58 U	<5.0	<10	<0.58 U	<0.58 U	<5.0	<10	<0.58 U	<0.58 U	<5.0	<10	<0.58 U	<0.58 U	<5.0	<10
Benzene	1	66	120	150	63	<0.090 U	0.16 J	<5.0	<5.0	<0.090 U	0.19 J	<5.0	<5.0	<0.090 U	<0.090 U	<5.0	<5.0	<0.090 U	<0.090 U	<5.0	<5.0
Toluene	5**	0.54 J	1.1 J	<5.0	<5.0	<0.10 U	<0.10 U	<5.0	<5.0	<0.10 U	<0.10 U	<5.0	<5.0	<0.10 U	<0.10 U	<5.0	<5.0	<0.10 U	<0.10 U	<5.0	<5.0
Ethylbenzene	5**	0.36 J	0.54 J	<5.0	<5.0	<0.22 U	<0.22 U	<5.0	<5.0	<0.22 U	<0.22 U	<5.0	<5.0	<0.22 U	<0.22 U	<5.0	<5.0	<0.22 U	<0.22 U	<5.0	<5.0
Xylenes (Total)	5**	1.6	2.8	<5.0	2 J	<0.34 U	<0.34 U	<5.0	<5.0	<0.34 U	<0.34 U	<5.0	<5.0	<0.34 U	<0.34 U	<5.0	<5.0	<0.34 U	<0.34 U	<5.0	<5.0
1,2-Dichloroethane	0.6	ND	ND	<5.0	1 J	ND	ND	<5.0	<5.0	ND	ND	<5.0	<5.0	ND	ND	<5.0	<5.0	ND	ND	<5.0	<5.0
Isopropylbenzene	5**	ND	ND	5	4 J	ND	ND	<5.0	<5.0	ND	ND	<5.0	<5.0	ND	ND	<5.0	<5.0	ND	ND	<5.0	<5.0
Methyl tert-butyl ether (MTBE)	NE	ND	ND	<5.0	<5.0	ND	ND	<5.0	1 J	ND	ND	5	<5.0	ND	ND	28	6	ND	ND	<5.0	3 J
n-butylbenzene	5	ND	ND	7	ND	ND	ND	<5.0	ND	ND	ND	<5.0	ND	ND	ND	<5.0	ND	ND	ND	<5.0	ND
<b>SVOCs (ppb) TCL</b>																					
Acenaphthene	20	<0.8 U	<1 U	<0.0525	<5.2	<0.8 U	<0.8 U	0.4	<5.2	<0.8 U	<0.9 U	<0.0525	<5.2	<0.8 U	<0.9 U	<0.0835	<5.2	24	13	<0.0625	<5.2
Acenaphthalene	NE	ND	ND	0.2	ND	ND	<0.0525	ND	ND	ND	<0.0525	ND	ND	ND	<0.0835	ND	ND	ND	ND	<0.0625	ND
Flourene	50	<0.8 U	<1 U	<5.25	<5.2	<0.8 U	<0.8 U	<5.25	<5.2	<0.8 U	<0.9 U	<5.25	<5.2	<0.8 U	<0.8 U	<8.35	<5.2	2 J	<0.9 U	<6.25	<5.2
Naphthalene	10	ND	ND	0.2	ND	ND	<0.0525	ND	ND	ND	<0.0525	ND	ND	ND	<0.0835	ND	ND	ND	ND	<0.0625	ND
Phenanthrene	50	<0.7 U	<0.8 U	0.1	<5.2	<0.7 U	<0.7 U	<0.0525	<5.2	<0.7 U	<0.8 U	<0.0525	<5.2	<0.7 U	<0.7 U	<0.0835	<5.2	0.8 J	0.7 J	<0.0625	<5.2
Phenol	1	5 J	<0.4 U	<5.25	<5.2	<0.4 U	<0.4 U	<5.25	<5.2	<0.4 U	<0.4 U	<5.25	<5.2	<0.4 U	<0.4 U	<8.35	<5.2	<0.4 U	<0.4 U	<6.25	<5.2
Bis(2-ethylhexyl)phthalate	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4	ND	ND	ND	3	ND
<b>Total Metals (ppb)</b>																					
Aluminum	NE	2,770	1,570	452	2,410	198 B	<92.0 U	244	16.2	142 B	<92.0 U	275	28.4	617	1,190	1,250	1,310	142 B	<92.0 U	350	55.3
Arsenic	25	10.3 B	8.2 B	31.9	15.8	5.3 B	8.0 B	<10.0	<10.0	<3.9 U	5.2 B	<10.0	<10.0	5.2 B	17.6 B	10.6	13.8	<3.9 U	4.3 B	<10.0	<10.0
Barium	1,000	121	91.9	259	116	215	399	228	123	151	238	253	81.6	202	292	370	293	189	175	232	170
Beryllium	3	0.71 B	<0.54 U	<1	<1.0	<0.54 U	<0.54 U	<1.0	<1.0	<0.54 U	<0.54 U	<1.0	<1.0	<0.54 U	<0.54 U	<3.0	<1.0	<0.54 U	<0.54 U	<1.0	<1.0
Calcium	NE	85,200	105,000	120,000	51,900	161,000	185,000	126,000	171,000	253,000	162,000	144,000	87,700	148,000	146,000	172,000	152,000	138,000	134,000	293,000	125,000
Chromium	50	4.9 B	5.9 B	7.7	7.3	1.5 B	<1.3 U	5.1	<5.0	<1.3 U	<1.3 U	6	<5.0	<1.3 U	5.5 B	9.2	<5.0	<1.3 U	4.9 B	5.3	<5.0
Cobalt	NE	4.6 B	2.8 B	<5	<5.0	<1.8 U	<1.8 U	<5.0	<5.0	3.4 B	<1.8 U	<5.0	<5.0	3.1 B	<1.8 U	<5.0	<5.0	<1.8 U	<1.8 U	<5.0	<5.0
Copper	200	12.2	10.3	7.9	24.6	<4.3 U	<4.3 U	8.8	8.8	<4.3 U	<4.3 U	12.4	18.1	<4.3 U	6.7 B	11.1	10.7	<4.3 U	<4.3 U	42.7	<5.0
Iron	300	5,440	2,110	37,900	15,300	1,200	3,370	12,200	1,550	13,500	9,170	4,430	777	2,300	9,370	12,000	13,400	15,400	10,300	1,620	7,360
Lead	25	16.9	5.0 B	5.1	21.4	9.4 B	<3.0 U	<3.0	10.3	7.6 B	<3.0 U	<3.0	5.8	27.5	5.7 B	11.3	15	<3.0 U	<3.0 U	<3.0	3.4
Magnesium	35,000	53,500	72,600	64,000	27,400	168,000	195,000	40,200	162,000	52,200	35,200	43,500	10,500	35,100	58,900	71,900	53,700	35,500	37,400	396,000	31,800
Manganese	300	2,340	3,440	5,680	2,110	585	681	1,540	486	1,660	1,850	1,600	254	5,080	6,470	7,840	6,640	1,900	1,410	579	1,150
Nickel	100	11.2	11.7	<5	1.7	<1.9 U	<1.9 U	<5.0	<5.0	9.3 B	<1.9 U	<5.0	<5.0	6.9 B	12.6	7.5	11	<1.9 U	3.5 B	<5.0	<5.0
Potassium	NE	43,200 J	52,600	29,600	11,100	115,000 J	128,000	26,900	58,200	39,600 J	52,900	30,300	6,800	20,000 J	11,800	12,000	8,660	35,000 J	41,100	49,600	29,200
Sodium	20,000	167,000 JJ	218,000	593,000	168,000	195,000 JJ	226,000	361,000	861,000	153,000 JJ	159,000	590,000	61,900	92,600 JJ	135,000	185,000	143,000	132,000 JJ	159,000	4,500,000	210,000
Vanadium	NE	13.8	10.2	<10	16.8	3.4 B	<1.5 U	<10.0	<10.0	1.8 B	<1.5 U	<10.0	<10.0	5.0 B	1.9 B	<10.0	<10.0	<1.5 U	<1.5 U	<10.0	<10.0
Zinc	2,000	34.5 B	27.8 B	<20	51.2	<11.0 U	<11.0 U	<20.0	47.8	90.5	<11.0 U	<20.0	62	22.8 B	16.4 B	23.2	40.9	<11.0 U	<11.0 U	20.8	<20.0
<b>PCBs (ppb)</b>																					
PCB 1248	0.09	0.50 U	<0.068 U	<0.5	NA	<0.060 U	<0.060 U	<0.5	NA	<0.060 U	<0.067 U	<0.5	NA	<0.060 U	<0.067 U	<0.5	NA	0.50 U	<0.067 U	<0.5	NA
<b>Pesticides (ppb)</b>																					
Aldrin	ND	0.0079 J (M)	0.018 J	<0.0384	NA	<0.0058 U	<0.0058 U	<0.0253	NA	<0.0058 U	<0.0064 U	<0.032	NA	<0.0058 U	<0.0064 U	<0.0436	NA	<0.0058 U	<0.0064 U	<0.03	NA
alpha-BHC	NE	0.014 J (M)	<0.012 U	<0.0384	NA	<0.011 U	<0.011 U	<0.0253	NA	<0.011 U	<0.012 U	<0.032	NA	<0.011 U	<0.012 U	<0.0436	NA	<0.011 U	<0.012 U	<0.03	NA
beta-BHC	NE	0.025 J	<0.015 U	<0.0384	NA	<0.013 U	<0.013 U	<0.0253	NA	<0.013 U	<0.014 U	<0.032	NA	0.050 U	<0.014 U	<0.0436	NA	0.032 J (M)	<0.014 U	<0.03	NA
Chlordane-alpha	0.05	<0.0055 U	<0.0063 U	<0.160	NA	<0.0055 U	<0.0055 U	<0.105	NA	<0.0055 U	<0.0061 U	<0.133	NA	<0.0055 U	<0.0061 U	<0.182	NA	0.013 J	<0.0061 U	<0.125	NA
Chlordane-gamma	0.05	<0.0061 U	<0.0069 U	<0.160	NA	<0.0061 U	<0.0061 U	<0.105	NA	<0.0061 U	<0.0068 U	<0.133	NA	<0.0061 U	<0.0068 U	<0.182	NA	0.018 J	<0.0068 U	<0.125	NA
gamma-BHC (Lindane)	NE	0.034 J	<0.0059 U	<0.0384	NA	<0.0052 U	0.028 J	<0.0253	NA	0.0072 J (M)	<0.0058 U	<0.032	NA	0.018 J (M)	<0.0058 U	<0.0436	NA	<0.0052 U	<0.0058 U	<0.03	NA
Heptachlor epoxide	0.03	<0.0057 U	<0.0065 U	<0.0384	NA	<0.0057 U	<0.0057 U	<0.0253	NA	<0.0057 U	<0.0063 U	<0.032	NA	<0.0057 U	<0.0063 U	<0.0436	NA	0.050 U	<0.0063 U	<0.03	NA

**NOTES**  
Only compounds detected are listed  
TOGS = Technical and Operational Guidance Series (1.1.1).  
Ambient water quality standards and guidance values and groundwater effluent limitations.  
Shading indicates exceedance of TOGS Criteria  
Following completion of IRMs refers to Site conditions following completion of Interim Remedial Measures (IRMs) conducted in 2005 and prior to remediation in 2010.  
Monitoring well locations are depicted on Figure 1 of the Site Management Plan  
\*\* = The principal organic contaminant standard for groundwater of 5 ug/L applies to this substance.  
NE = None Established by NYSDEC  
ND = Non-detectable concentration by the approved analytical methods referenced in TOGS 1.1.1 Section 700.3  
< = Less than Laboratory Method Detection Limit (MDL)  
GW-MW-1A is identified as GW-MW-A in the laboratory analytical reports  
ppb = parts per billion  
U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
J and JJ = (Organic Qualifiers) The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.  
UJ = (Organic Qualifiers) The analyte was not detected above the reported sample quantitation limit (QL).  
However, the reported QL is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.  
B = (Inorganic Qualifiers) The result is less than the Low Level Standard Check - Secondary Dilution and Analysis/Reporting Limit, but greater than or equal to the Instrument Detection Limit/Method Detection Limit.  
(M) = (Organic Flags) Manually Integrated Compound

**Table 5**  
Soil-Gas Analytical Results - Prior to Completion of Remediation  
Whole Foods Market  
220 3rd Street  
Brooklyn, Kings County, New York  
NYSDEC BCP SITE No. C224100

Sample ID	SG-1	SG-2	SG-3	SG-4	SG-5	SG-6	SG-7	SG-8	SG-9	SG-10	SG-11	SG-12
Date Sampled	15-Dec-03	15-Dec-03	15-Dec-03	15-Dec-03	15-Dec-03	15-Dec-03	15-Dec-03	15-Dec-03	15-Dec-03	15-Dec-03	31-Mar-05	31-Mar-05
<b>VOCs [ug/m3]</b>												
1,1,1-Trichloroethane	11.65	13.87	<5.55	<5.55	9.99	12.21	14.98	<5.55	9.43	7.77	<130 U	<160 U
1,1-Dichloroethane	<4.12	<4.12	<4.12	<4.12	<4.12	<4.12	6.59	<4.12	<4.12	<4.12	<94 U	<120 U
1,2,4-Trimethylbenzene	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	140.00	<5.00	<5.00	<110 U	<140 U
1,3,5-Trimethylbenzene	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	150.00	<5.00	<5.00	<110 U	<140 U
Benzene	17.54	<3.25	<3.25	4.22	<3.25	<3.25	<3.25	35.74	16.25	4.22	<74 U	<91 U
Dichlorodifluoromethane	<5.03	<5.03	22.63	60.34	<5.03	18.11	<5.03	9.56	<5.03	<5.03	<110 U	<140 U
Ethylbenzene	25.17	<4.42	<4.42	1.0	<4.42	<4.42	<4.42	35.33	<4.42	<4.42	<100 U	<120 U
o-Xylene	<4.42	<4.42	<4.42	<4.42	<4.42	<4.42	<4.42	114.83	<4.42	5.30	<100 U	<120 U
p-&m-Xylene	7.06	<4.42	<4.42	<4.42	<4.42	<4.42	<4.42	83.91	<4.42	5.30	<100 U	<120 U
Tetrachloroethylene	<6.90	<6.90	<6.90	<6.90	<6.90	<6.90	28.97	40,008.90	46.91	89.68	<160 U	<190 U
Toluene	42.15	6.51	5.36	5.75	5.37	6.13	6.52	111.15	27.60	19.16	<87 U	<110 U
Trichloroethylene	<5.47	<5.47	<5.47	<5.47	<5.47	<5.47	<5.47	43.18	<5.47	<5.47	<120 U	<150 U
Trichlorofluoromethane	211.4	46.84	257.1	13,710.46	182.86	56.00	17.71	2,514.26	19.43	<5.71	<130 U	<160 U
Total VOCs	314.94	67.22	285.06	13,781.77	198.22	92.45	74.77	43,246.86	119.62	131.43	0.00	0.00

**NOTES**

Only compounds detected are listed

Prior to completion of remediation refers to Site conditions prior to completion of Interim Remedial Measures (IRM) conducted in 2005 and Remediation completed in 2010.

Soil Gas sample locations are depicted on Figure 2 of the Site Management Plan

\*NYSDEC has not established regulatory levels for compounds in soil gas

ug/m3 = micrograms per meter cubed

U = (Organic Qualifiers) The analyte was not detected at or above the reporting limit.

**Table 6**

Soil-Gas Analytical Results - Following Completions of IRM's  
 Whole Foods Market  
 220 3rd Street  
 Brooklyn, Kings County, New York  
 NYSDEC SITE NO. C224100

Sample ID	SV-1	SV-2	SV-3	SV-4	SV-5
Date Sampled	26-Apr-06	3-Mar-06	3-Mar-06	3-Mar-06	3-Mar-06
<b>VOCs (ug/m<sup>3</sup>)</b>					
Dichlorodifluoromethane	4.0 U	3.0	< 25 U	< 4.9 U	2.8
Chloromethane	2.0 U	< 1.0 U	< 10 U	< 2.1 U	1.4
Trichlorofluoromethane	2.1 U	1.8	< 11 U	4.1	1.5
Acetone	24 J	< 12 U	< 120 U	< 24 U	20 J
Isopropyl Alcohol	29.0 J	< 12 U	< 120 U	< 25 U	29 J
Carbon Disulfide	4.7	6.9	44	12	< 1.6 U
Methylene Chloride	19	< 1.7 U	< 17 U	< 3.5 U	< 1.7 U
n-Hexane	9.9	< 1.8 U	< 18 U	< 3.5 U	1.9
Methyl Ethyl Ketone	4.7	4.1 J	< 15 U	< 2.9 U	< 1.5 U
Chloroform	1.5	5.9	< 9.8 U	< 2.0 U	< 0.98 U
Cyclohexane	2.0	< 0.69 U	< 6.9 U	< 1.4 U	0.69
2,2,4-Trimethylpentane	56	38	170	130	37
Benzene	1.4 U	1.7	< 6.4 U	< 1.3 U	0.96
n-Heptane	2.4	< 0.82 U	< 8.2 U	< 1.6 U	< 0.82 U
Toluene	17.0 U	7.2	1,000	210	4.9
Tetrachloroethylene	1.4	4.1	< 14 U	< 2.7 U	< 1.4 U
Ethylbenzene	3.0	6.1	< 8.7 U	< 1.7 U	< 0.87 U
Total xylenes	13	18	< 8.7 U	< 1.7 U	< 0.87 U
4-Ethyltoluene	1.8	7.4	< 9.8 U	< 2.0 U	< 0.98 U
1,2,4-Trimethylbenzene	2.0	5.4	< 9.8 U	< 2.0 U	< 0.98 U
1,4-Dichlorobenzene	6.0	< 1.2 U	< 12 U	< 2.4 U	< 1.2 U
1,3,5-Trimethylbenzene	< 0.98 U	4.5	< 9.8 U	< 2.0 U	< 0.98 U
Total VOCs	187.9	114.1	1,214.0	356.1	100.2

**NOTES**

Following completion of IRMs refers to Site conditions following completion of Interim Remedial Measures (IRMs) conducted in 2005 and prior to remediation in 2010

Soil Gas sample locations are depicted on Figure 2 of the Site Management Plan

Only compounds detected are listed

\*NYSDEC has not established regulatory levels for compounds in soil gas

ug/m<sup>3</sup> = micrograms per cubic meter

U = (Organic Qualifiers) The analyte was not detected at or above the reporting limit.

J = (Organic Qualifiers) The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

**TABLE 7**

**Track 4 Site-Specific Soil Cleanup Objectives  
Whole Foods Market  
220 3rd Street  
Brooklyn, Kings County, New York  
NYSDEC BCP NO. C224100**

Contaminant	Track 4 SCOs (ppm)
<b>Metals</b>	
Arsenic	16
Barium	400
Beryllium	590
Cadmium	9.3
Copper	270
Lead	1,000
Manganese	10,000
Total Mercury	2.8
Nickel	310
Selenium	1,500
Silver	1,500
Zinc	10,000
<b>PCBs/Pesticides</b>	
4,4'-DDE	62
4,4'-DDT	47
4,4'-DDD	92
Aldrin	0.68
alpha-BHC	3.4
beta-BHC	3
Chlordane (alpha)	24
delta-BHC	500
Dibenzofuran	350
Dieldrin	1.4
Endosulfan I	200
Endosulfan II	200
Endosulfan sulfate	200
Endrin	89
Heptachlor	15
Lindane	9.2
Polychlorinated biphenyls	1

Contaminant	Track 4 SCOs (ppm)
<b>Semivolatiles</b>	
Acenaphthene	500
Acenaphthylene	500
Anthracene	500
Benz(a)anthracene	5.6
Benzo(a)pyrene	1
Benzo(b)fluoranthene	5.6
Benzo(g,h,i)perylene	500
Benzo(k)fluoranthene	56
Chrysene	56
Dibenz(a,h)anthracene	0.56
Fluoranthene	500
Fluorene	500
Indeno(1,2,3-cd)pyrene	5.6
m-Cresol	500
Naphthalene	500
o-Cresol	500
p-Cresol	500
Pentachlorophenol	6.7
Phenanthrene	500
Phenol	500
Pyrene	500

Contaminant	Track 4 SCOs (ppm)
<b>Volatiles</b>	
1,1,1-Trichloroethane	500
1,1-Dichloroethane	240
1,1-Dichloroethene	500
1,2-Dichlorobenzene	500
1,2-Dichloroethene	30
cis-1,2-Dichloroethene	500
trans-1,2-Dichloroethene	500
1,3-Dichlorobenzene	280
1,4-Dichlorobenzene	130
1,4-Dioxane	130
Acetone	500
Benzene	44
Butylbenzene	500
Carbon tetrachloride	22
Chlorobenzene	500
Chloroform	350
Ethylbenzene	390
Hexachlorobenzene	6
Methyl ethyl ketone	500
Methyl tert-butyl ether	500
Methylene chloride	500
n-Propylbenzene	500
sec-Butylbenzene	500
tert-Butylbenzene	500
Tetrachloroethene	150
Toluene	500
Trichloroethene	200
1,2,4-Trimethylbenzene	190
1,3,5-Tremethylbenzene	190
Vinyl chloride	13
Xylene (mixed)	500

**Table 8**

Soil Samples with Concentrations of Regulated Compounds Remaining above Track 4 Site Specific SCOs  
 Whole Foods Market  
 220 3rd Street  
 Brooklyn, Kings County, New York  
 NYSDEC SITE No. C224100

Sample ID	Track 4 Site-Specific Restricted Use SCOs	CEB-1/S-4	CEB-1/S-5	B-15/S-4 (-5.5' to -9.5')	B-9/S-3 (-6' to -8')	B108-S2 (0.5 to -3.5)	B112-S2 (4 To 0)	B113/S3 (-7' to -9')	B114/S3 (-7' to -9')	B114/S4 (-9' to -13')	B121/0-4 (2 to -1)	B121/4-8 (-1 to -5)
<b>Date Sampled</b>		17-Aug-05	17-Aug-05	9-Dec-03	9-Dec-03	28-Oct-04	29-Oct-04	29-Oct-04	29-Oct-04	29-Oct-04	2-Nov-04	2-Nov-04
<b>SVOCs (ppm)</b>												
Benzo(a)anthracene	5.6	2.1	3.7 J	27	3.6	0.53 J	0.24 J	13 J	27 J	3.8 J	0.52 J	0.12 J
Benzo(a)pyrene	1	3.7	3.6 J	27	4.1	0.54 J	0.22 J	14 J	40 J	4.2 J	0.83 J	0.13 J
Benzo(b)fluoranthene	6	2	<2.7 U	29	1.8	0.45 J (M)	0.18 J	5.8 J	14 J (M)	3 J	0.93 J	<0.14 UJ
Dibenzo(a,h)anthracene	0.56	<0.180 U	<1.1 U	<8.3 U	<1.7 U	0.12 J	0.044 J	<2.2 UJ	<3.7 UJ	<0.470 UJ	0.34 J	<0.054 UJ
Indeno(1,2,3-cd)pyrene	5.6	2 M	1.1 J	<8.3 U	<1.7 U	0.26 J	0.1 J	4.8 J	14 J	1.4 J	0.92 J	0.073 J
<b>RCRA Metals (ppm)</b>												
Arsenic	16	NA	NA	3.26	3.54	8.6 B	2.7 B	20.2	13	8.2 B	40.3 J	26.2 J
Barium	400	NA	NA	50.2	106	108	267	38	36	89.9	175 J	155 J
Lead	1000	NA	NA	86.6	21.4	227	1390	117	80.2	108	227 J	1270 J
Mercury	2.8	NA	NA	<0.10 U	0.29	7.8	0.048	0.3	0.52	0.049 B	0.33	0.26

**NOTES**

Only compounds detected above site specific criteria are listed  
 Shading indicates exceedance of Track 4 Restricted Use SCO's (6NYCRR Part 375, Table 375-6.8(b), December 14, 2006)  
 ppm = parts per million  
 ppb = parts per billion  
 For sample locations see Figure 6 of Site Management Plan  
 (-5.5' to -9.5') = elevation of Contamination remaining at concentrations above the Track 4 Site Specific SCOs.  
 Elevations are U.S.C.G.S. (1929).  
 J = (Organic Qualifiers) The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.  
 U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
 UJ = (Organic Qualifiers) The analyte was not detected above the reported sample quantitation limit (QL).  
 However, the reported QL is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.  
 (M) = (Organic Flags) Manually Integrated Compound  
 < = The analyte was not detected at or above the reporting limit.

**Table 8**

Soil Samples with Concentrations of Regulated Compounds Remaining above Track 4 Site Specific SCOs  
 Whole Foods Market  
 220 3rd Street  
 Brooklyn, Kings County, New York  
 NYSDEC SITE No. C224100

Sample ID	Track 4 Site-Specific Restricted Use SCOs	B123/0-4 (2 TO -1)	B140/S2 (1 TO -3)	UST3N	Hotspot 9B Bottom	A-1 (5' to 7')	A-5 (6' to 8')	A-6 (6' to 8')	B-1 (3' to 5')	B-2 (2' to 4')	B-3 (2' to 4')	B-4 (3' to 5')	B-5 (4' to 6')
<b>Date Sampled</b>		2-Nov-04	6-Dec-04	8-Dec-05	11-May-10	28-Apr-09	28-Apr-09	28-Apr-09	28-Apr-09	28-Apr-09	28-Apr-09	28-Apr-09	28-Apr-09
<b>SVOCs (ppb)</b>													
Benzo(a)anthracene	5.6	<0.42 UJ	0.24 J	NA	<0.020	3	5.8 J	7.4 J	0.96	3.2 J	2 J	1.9	0.74
Benzo(a)pyrene	1	<0.039 UJ	0.21 J	NA	<0.019	3.3	6.6 J	7.4 J	1.4	2.9 J	2.8 J	1.6 J	0.91
Benzo(b)fluoranthene	6	<0.88 UJ	0.17 J	NA	<0.020	2.7	4.3 J	7.4 J	1.3	2.4 J	1.4 J	1.3 J	0.9
Dibenzo(a,h)anthracene	0.56	<0.35 UJ	<0.36 U	NA	<0.023	0.52	<8.28	<8.28	<0.833	<3.37	<3.55	<1.68	0.11 J
Indeno(1,2,3-cd)pyrene	5.6	<0.32 UJ	0.097 J	NA	<0.021	1.6	<8.28	4 J	0.48 J	<3.37	<3.55	0.82 J	0.67
<b>RCRA Metals (ppm)</b>													
Arsenic	16	53.5 J	4.3 B	7.6 B	26.5	9.09	7.56	11.8	5.58	6.98	6.12	6.74	8.79
Barium	400	232 J	72.2	481	165	266	122	102	87.3	386	140	127	46.6
Lead	1000	169 J	146 J	1,140 J	41.1	305	725	464	126	395	199	275	1,290
Mercury	2.8	0.058	4.2	1.0	0.063	<0.111	0.12	0.2	<0.101	<0.102	0.18	0.12	<0.119

**NOTES**

Only compounds detected above site specific criteria are listed  
 Shading indicates exceedance of Track 4 Restricted Use SCO's (6NYCRR Part 375, Table 375-6.8(b), December 14, 2006)  
 ppm = parts per million  
 ppb = parts per billion  
 For sample locations see Figure 6 of Site Management Plan  
 (-5.5' to -9.5') = elevation of Contamination remaining at concentrations above the Track 4 Site Specific SCOs.  
 Elevations are U.S.C.G.S. (1929).  
 J = (Organic Qualifiers) The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.  
 U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
 UJ = (Organic Qualifiers) The analyte was not detected above the reported sample quantitation limit (QL).  
 However, the reported QL is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.  
 (M) = (Organic Flags) Manually Integrated Compound  
 < = The analyte was not detected at or above the reporting limit.

**Table 8**

Soil Samples with Concentrations of Regulated Compounds Remaining above Track 4 Site Specific SCOs  
 Whole Foods Market  
 220 3rd Street  
 Brooklyn, Kings County, New York  
 NYSDEC SITE No. C224100

Sample ID	Track 4 Site-Specific Restricted Use SCOs	B-6 (5' to 7')	C-1 (2' to 4')	C-2 (2' to 4')	C-3 (2' to 4')	C-4 (2' to 4')	C-5 (3' to 5')	C-6 (5' to 7')	D-2 (2' to 4')	D-3 (1' to 3')	D-4 (1' to 3')	D-5 (2' to 4')
<b>Date Sampled</b>		28-Apr-09	28-Apr-09	28-Apr-09	28-Apr-09	28-Apr-09	28-Apr-09	28-Apr-09	28-Apr-09	28-Apr-09	28-Apr-09	28-Apr-09
<b>SVOCs (ppb)</b>												
Benzo(a)anthracene	5.6	22	4.8	4.9	2.6	4.1	4.9	1.3	1.4 J	38	2.2	6.6
Benzo(a)pyrene	1	18	5	3.9	2.7	3.6	4.3	1	1.5 J	31	1.9	5.3
Benzo(b)fluoranthene	6	16	2.8 J	3.4 J	1.9	3.7	4.7	1	0.96 J	31	1.7	4.2
Dibenzo(a,h)anthracene	0.56	<8.27	<3.47	<3.42	<1.68	<3.3	<3.37	0.24 J	<3.37	<20.3	<0.924	1.1
Indeno(1,2,3-cd)pyrene	5.6	8.2 J	2.5 J	1.9 J	1.2 J	1.9 J	2.2 J	0.6	<3.37	15 J	0.66 J	2
<b>RCRA Metals (ppm)</b>												
Arsenic	16	18.7	9.75	10.3	8.02	5.56	7.86	5.42	10.7	23.7	10.1	12.3
Barium	400	255	218	197	237	78.1	115	52.6	167	188	148	182
Lead	1000	519	316	304	318	156	275	98.4	301	446	294	2,320
Mercury	2.8	<0.101	0.24	<0.103	0.24	0.13	<0.102	<0.101	<0.102	<0.123	<0.112	0.36

**NOTES**

Only compounds detected above site specific criteria are listed  
 Shading indicates exceedance of Track 4 Restricted Use SCO's (6NYCRR Part 375, Table 375-6.8(b), December 14, 2006)  
 ppm = parts per million  
 ppb = parts per billion  
 For sample locations see Figure 6 of Site Management Plan  
 (-5.5' to -9.5') = elevation of Contamination remaining at concentrations above the Track 4 Site Specific SCOs.  
 Elevations are U.S.C.G.S. (1929).  
 J = (Organic Qualifiers) The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.  
 U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
 UJ = (Organic Qualifiers) The analyte was not detected above the reported sample quantitation limit (QL).  
 However, the reported QL is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.  
 (M) = (Organic Flags) Manually Integrated Compound  
 < = The analyte was not detected at or above the reporting limit.

**Table 8**

Soil Samples with Concentrations of Regulated Compounds Remaining above Track 4 Site Specific SCOs  
 Whole Foods Market  
 220 3rd Street  
 Brooklyn, Kings County, New York  
 NYSDEC SITE No. C224100

Sample ID	Track 4 Site-Specific Restricted Use SCOs	D-6 (2' to 4')	E-1 (7' to 9')	E-2 (2' to 4')	E-3 (1' to 3')	E-4 (1' to 3')	F-1 (7' to 9')	F-2 (0' to 2')	F-4 (2' to 4')	F-5 (1' to 3')
<b>Date Sampled</b>		28-Apr-09	30-Apr-09	30-Apr-09	30-Apr-09	30-Apr-09	30-Apr-09	30-Apr-09	30-Apr-09	30-Apr-09
<b>SVOCs (ppb)</b>										
Benzo(a)anthracene	5.6	<3.63	1.2	2.7 J	4.1	2.5 J	1.5 J	<3.66	3.1	<4.13
Benzo(a)pyrene	1	<3.63	1	2.9 J	3.5	2.6 J	1.6 J	<3.66	2.6	<4.13
Benzo(b)fluoranthene	6	<3.63	0.830 J	2.1 J	2.3	2.8 J	<3.65	<3.66	1.8 J	<4.13
Dibenzo(a,h)anthracene	0.56	<3.63	<0.94	<3.55	0.51 J	<3.66	<3.65	<3.66	<1.86	<4.13
Indeno(1,2,3-cd)pyrene	5.6	<3.63	<0.94	<3.55	1.3	<3.66	<3.65	<3.66	1 J	<4.13
<b>RCRA Metals (ppm)</b>										
Arsenic	16	15.7	17.4	13.1	11.2	13.6	13.1	24.7	8.50	7.30
Barium	400	542	413	291	189	166	280	217	251	181
Lead	1000	969	618	976	509	329	563	433	476	1,210
Mercury	2.8	<0.110	<0.113	<0.110	0.32	<0.111	<0.110	<0.111	<0.113	0.13

**NOTES**

Only compounds detected above site specific criteria are listed  
 Shading indicates exceedance of Track 4 Restricted Use SCO's (6NYCRR Part 375, Table 375-6.8(b), December 14, 2006)  
 ppm = parts per million  
 ppb = parts per billion  
 For sample locations see Figure 6 of Site Management Plan  
 (-5.5' to -9.5') = elevation of Contamination remaining at concentrations above the Track 4 Site Specific SCOs.  
 Elevations are U.S.C.G.S. (1929).  
 J = (Organic Qualifiers) The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.  
 U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
 UJ = (Organic Qualifiers) The analyte was not detected above the reported sample quantitation limit (QL).  
 However, the reported QL is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.  
 (M) = (Organic Flags) Manually Integrated Compound  
 < = The analyte was not detected at or above the reporting limit.



**Table 9**  
 Soil Analytical Summary -  
 Samples with Concentrations of Regulated Compounds Remaining Above Track 4 Site-Specific Restricted Use SCOs  
 Whole Foods Market  
 220 3rd Street  
 Brooklyn, Kings County, New York  
 NYSDEC SITE No. C224100

	NYSDEC Track 4 Site Specific Restricted Use SCOS	Number of Samples Analyzed*	Number of Detections	Maximum Detected Concentration	Sample Where Maximum Detected Concentration Occurred	Number of Samples with Detected Results Greater than NYSDEC Track 4 Site-Specific SCOS
<b>SVOCs (ppm)</b>						
Benzo(a)anthracene	5.6	42	39	38	D-3 (1' to 3')	8
Benzo(a)pyrene	1	42	40	40 J	B114/S3	31
Benzo(b)fluoranthene	5.6	42	37	31	D-3 (1' to 3')	5
Dibenzo(a,h)anthracene	0.56	42	8	1.3 J	DW1W-1	1
Indeno(1,2,3-cd)pyrene	5.6	42	27	15 J	D-3 (1' to 3')	3
<b>Metals (ppm)</b>						
Arsenic	16	41	41	53.5 J	B123/0-4	8
Barium	400	41	41	542	D-6 (2' to 4')	3
Lead	1,000	41	41	2,320	D-5 (2' to 4')	6
Mercury	3	41	22	7.8	B108-S2	2

Track 4 Site Specific restricted Use SCOs (6NYCRR Part 375, Table 375-6.8(b), December 2006).

\*Number of Samples Analyzed means the number of samples analyzed with one or more compounds detected above Track 4 Site-Specific Restricted Use SCOs.

S1 = Sampled from 0-4 feet below ground surface.

S2 = Sampled from 4-8 feet below ground surface.

S3 = Sampled from 8-12 feet below ground surface.

S4 = Sampled from 12-16 feet below ground surface.

ppm = parts per million

J = (Organic Qualifiers) The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

**Table 10**

Soil Samples with Regulated Compounds Remaining above Unrestricted Use SCOs  
 Whole Foods Market  
 220 3rd Street  
 Brooklyn, Kings County, New York  
 NYSDEC SITE No. C224100

Sample ID (Depth in Feet)	Unrestricted Use SCOs	December 5 and 9, 2003				October 28 and 29, 2004								
		B-2,S-1/0-4	B-7, S-1 (0-4)	B-9/S-3 (8-12)	B-15/S-4 (12-16)	B103-S1	B107-S1	B107-S3	B108-S1	B108-S2	B112-S2	B113-S3	B114-S3	B114-S4
<b>VOCs (ppm)</b>														
1,2,4-Trimethylbenzene	3.6	<0.005 U	<0.005 U	1	23	NA	<0.051 UJ	<0.054 UJ	NA	NA	<0.039 UJ	9.8 J	0.23 J	<0.045 UJ
Benzene	0.06	<0.005 U	<0.005 U	<0.1 U	<0.1 U	NA	<0.051 UJ	<0.054 UJ	NA	NA	<0.039 UJ	<2.7 UJ	<0.066 UJ	<0.045 UJ
Ethylbenzene	1	<0.005 U	<0.005 U	0.83	20	NA	<0.051 UJ	<0.054 UJ	NA	NA	<0.039 UJ	<2.7 UJ	0.059 J	<0.045 UJ
Xylenes (total)	0.26	<0.005 U	0.006	0.46	4.9	NA	<0.1 UJ	<0.11 UJ	NA	NA	<0.039 UJ	<2.7 UJ	0.18 J	<0.045 UJ
<b>SVOCs (ppm)</b>														
Acenaphthene	20	<0.66 U	<0.33 U	13	73	0.084 J	0.19 J	<0.064 UJ	<0.12 UJ	0.11 J	<0.059 UJ	77 J	53 J	5.3 J
Benzo(a)anthracene	1	7.3	0.35	3.6	27	1.4 J	0.92 J	0.075 J	0.25 J	0.53 J	0.24 J	13 J	27 J	3.8 J
Benzo(a)pyrene	1	<0.66 U	<0.33 U	4.1	27	1.4 J	0.88 J	0.070 J	0.25 J	0.54 J	0.22 J	14 J	40 J	4.2 J
Benzo(b)fluoranthene	1	<0.66 U	<0.33 U	1.8	29	2.3 J	1.4 J (M)	<0.110 UJ	0.42 J	0.45 J (M)	0.18 J	5.8 J	14 J (M)	3 J
Benzo(k)fluoranthene	0.8	<0.66 U	0.34	2.5	32	<0.041 UJ	<0.042 UJ	0.071J (M)	<0.083 UJ	0.47 J (M)	0.2 J	7 J	18 J (M)	<0.47 UJ
Chrysene	1	8.7	0.47	3.8	30	1.5 J	1.1 J	0.088 J	0.3 J	0.6 J	0.24 J	13 J	29 J	3.5 J
Dibenzo(a,h)anthracene	0.33	<0.66 U	<0.33 U	<1.7 U	<8.3 U	0.36 J	0.19 J (M)	<0.043 UJ	<0.083 UJ	0.12 J	0.044 J	<2.2 UJ	<3.7 UJ	<0.47 UJ
Fluorene	30	<0.66 U	<0.33 U	7.4	54	0.091 J	0.2 J	<0.049 UJ	<0.097 UJ	0.12 J	<0.046 UJ	29 J	<4.3 UJ	<0.053 UJ
Indeno(1,2,3-cd)pyrene	0.5	<0.66 U	<0.33 U	<1.7 U	<8.3 U	0.79 J	0.42 J	<0.040 UJ	0.2 J (M)	0.26 J	0.1 J	4.8 J	14 J	1.4 J
Naphthalene	12	<0.66 U	<0.33 U	7.6	140	0.084 J	0.24 J	0.11 J	<0.013 UJ	0.085 J	<0.061 UJ	44 J	<5.7 UJ	2.8 J
Phenanthrene	100	1.3	1.1	14	110	1.3 J	1.4 J	0.17 J	0.027 J	0.027 J	0.23 J	98 J	8.6 J	<0.048 UJ
<b>RCRA Metals Total, (ppm)</b>														
Arsenic	13	7.54	12.4	3.54	3.26	2.8 B	4.7 B	3.9 B	5.8 B	8.6 B	2.7 B	20.2	13	8.2 B
Barium	350	111	56.5	106	50.2	96.3	89.1	70.8	79.3	108	267	38	36	89.9
Cadmium	2.5	<0.50 U	<0.50 U	0.52	<0.50 U	<1.2 U	<1.1 U	<1.3 U	<1.3 U	<1.4 U	<0.94 U	<1.1 U	<1.1 U	<1.1 U
Lead	63	297	182	21.4	86.6	303	153	136	136	227	1390	117	80.2	108
Nickel	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	0.15	0.27	0.29	<0.10 U	0.25	0.11	0.34	0.11	7.8	0.048 (*)	0.30 (*)	0.52 (*)	0.049 B (*)

**NOTES**

Unrestricted Use SCOs are presented for informational purpose only and did not represent cleanup objectives for the Site.  
 SHADE indicates exceedance of Unrestricted Use SCOs (6NYCRR Part 375, Table 375-6.8(a), December 14, 2006).  
 Boring Locations are depicted on Figure 2 and Figure 7 of the Site Management Plan  
 S1 = Sampled from 0-4 feet below ground surface.  
 S2 = Sampled from 4-8 feet below ground surface.  
 S3 = Sampled from 8-12 feet below ground surface.  
 S4 = Sampled from 12-16 feet below ground surface.  
 ppm = parts per million  
 NE = None Established by the NYSDEC  
 NA = Not Analyzed  
 U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
 0.04\* = TCLP Extraction Method must be used to demonstrate Ground Water Protection for these compounds  
 J = (Organic Qualifiers) The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.  
 B = (Inorganic Qualifiers) The result is less than the Low Level Standard Check - Secondary Dilution and Analysis/Reporting Limit, but greater than or equal to the Instrument Detection Limit/Method Detection Limit.  
 U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
 UJ = (Organic Qualifiers) The analyte was not detected above the reported sample quantitation limit (QL).  
 \* = (Flag) In description = dry weight  
 (M) = (Organic Flags) Manually Integrated Compound  
 (H) = (Organic Flags) Alternate Peak Selection upon Analytical Review  
 (B) = (Organic Flags) Compound was Found in the Blank and Sample  
 (N) = (Inorganic Flags) MS, MSD: Spike Recovery Exceeds the Upper or Lower Control Limits  
 (M) = (Organic Flags) Manually Integrated Compound  
 R = (Organic/Inorganic Qualifiers) The result is rejected due to deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.  
 < = The analyte was not detected at or above the reporting limit.

**Table 10**

Soil Samples with Regulated Compounds Remaining above Unrestricted Use SCOs  
 Whole Foods Market  
 220 3rd Street  
 Brooklyn, Kings County, New York  
 NYSDEC SITE No. C224100

Sample ID (Depth in Feet)	Unrestricted Use SCOs	November 1 - 3, 2004							December 6-8, 2004							
		B121 (0-4)	B121 (4-8)	B121 (8-12)	B123 (0-4)	B123 (4-8)	B129 (0-4)	B132 (12-16)	B138-S1	B138-S2	B140-S1	B140-S2	B141-S1	B141-S2	B143-S1	B143-S2
<b>VOCs (ppm)</b>																
1,2,4-Trimethylbenzene	3.6	<0.068 UJ	<0.082 UJ	NA	<0.051 UJ	<0.063 UJ	NA	NA	<0.059 U	<0.065 U	<0.053 U	<0.061 U	<0.055 U	<0.058 U	<0.057 R	<0.058 R
Benzene	0.06	<0.068 UJ	<0.082 UJ	NA	<0.051 UJ	<0.063 UJ	NA	NA	<0.059 U	<0.065 U	<0.053 U	<0.061 U	<0.055 U	<0.058 U	<0.057 R	<0.058 R
Ethylbenzene	1	<0.068 UJ	<0.082 UJ	NA	<0.051 UJ	<0.063 UJ	NA	NA	<0.059 U	<0.065 U	<0.053 U	<0.061 U	<0.055 U	<0.058 U	<0.057 R	<0.058 R
Xylenes (total)	0.26	<0.068 UJ	<0.082 UJ	NA	<0.051 UJ	<0.063 UJ	NA	NA	<0.059 U	<0.065 U	<0.053 U	<0.061 U	<0.055 U	<0.058 U	<0.057 R	<0.058 R
<b>SVOCs (ppm)</b>																
Acenaphthene	20	<0.067 UJ	<0.081 UJ	<0.068 UJ	<0.52 UJ	0.62 J	<0.13 UJ	35 J	NA	NA	0.071 J	<0.36 U	NA	NA	<0.38 U	0.075 J
Benzo(a)anthracene	1	0.52 J	0.12 J	0.28 J	<0.42 UJ	0.16 J	0.51 J	<3.9 UJ	NA	NA	0.45	0.24 J	NA	NA	0.46	0.53
Benzo(a)pyrene	1	0.83 J	0.13 J	0.28 J	<0.39 UJ	0.14 J	0.71 J	<3.5 UJ	NA	NA	0.36 J	0.21 J	NA	NA	0.63	0.58
Benzo(b)fluoranthene	1	0.93 J	<0.14 UJ	0.22 J (M)	<0.88 UJ	0.13 J	0.49 J	<8 UJ	NA	NA	0.43	0.17 J	NA	NA	0.45	0.37 J
Benzo(k)fluoranthene	0.8	0.81 J	0.12 J	0.28 J (M)	<0.35 UJ	0.12 J	0.56 J	<3.2 UJ	NA	NA	0.31 J	0.17 J	NA	NA	0.49	0.5
Chrysene	1	0.95 J	0.13 J	0.33 J	0.46 J	0.17 J	0.61 J	<3.6 UJ	NA	NA	0.59	0.25 J	NA	NA	0.49	0.55
Dibenzo(a,h)anthracene	0.33	0.34 J	<0.054 UJ	0.074 J	<0.35 UJ	<0.044 UJ	0.11 J	<3.2 UJ	NA	NA	0.064 J	<0.36 U	NA	NA	0.18 J (M)	0.15 J (M)
Fluorene	30	<0.052 UJ	<0.063 UJ	<0.055 UJ	<0.41 UJ	0.077 J	0.11 J	8.1 UJ	NA	NA	0.076 J	0.047 J	NA	NA	0.057 J	<0.38 U
Indeno(1,2,3-cd)pyrene	0.5	0.92 J	0.073 J	0.18 J	<0.32 UJ	0.072 J	0.36 J	<2.9 UJ	NA	NA	0.17 J	0.097 J	NA	NA	0.47	0.3 J
Naphthalene	12	0.23 J	<0.084 UJ	0.095 J	<0.54 UJ	0.4 J	<0.13 UJ	120 J	NA	NA	<0.38 U	<0.36 U (B)	NA	NA	<0.38 U	<0.42 U (B)
Phenanthrene	100	0.95 J	0.1 J	0.28 J	0.51 J	0.19 J	0.19 J	20 J	NA	NA	1.1 B	0.48 U	NA	NA	0.6	0.39
<b>RCRA Metals Total, (ppm)</b>																
Arsenic	13	40.3 J	26.2 J	15.8 J	53.5 J	6.5 J	6.0 J	NA	7.5 B	4.4 B	4.6 B	4.3 B	5.3 B	8.7 B	5.6 B	4.3 B
Barium	350	175 J	155 J	100 J	232 J	78 J	167 J	NA	117	114	68.5	72.2	253	273	60.3	78
Cadmium	2.5	<1.2 U	<1.4 U	<1.6 U	<1.4 U	<1.2 U	1.7 B	NA	1.4 B	<4.4 U	<3.9 U	<3.9 U	<3.0 U	<3.9 U	<4.0 U (N)	<4.0 U
Lead	63	227 J	1,270 J	275 J	169 J	178 J	539 J	NA	224 J	152 J	408 J (*)	146 J (*)	486 J (*)	492 J (*)	192	126
Nickel	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	0.33	0.26	1.1	0.058	0.53	0.41	NA	0.33	0.74	0.26	4.2	0.69	0.89	0.34	0.32

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 S2 = Sampled from 4-8 feet below ground surface.  
 S3 = Sampled from 8-12 feet below ground surface.  
 S4 = Sampled from 12-16 feet below ground surface.  
 ppm = parts per million  
 NE = None Established by the NYSDEC  
 NA = Not Analyzed  
 U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
 0.04\* = TCLP Extraction Method must be used to demonstrate Ground Water Protection for these compounds  
 J = (Organic Qualifiers) The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.  
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 \* = (Flag) In description = dry weight  
 (M) = (Organic Flags) Manually Integrated Compound  
 (H) = (Organic Flags) Alternate Peak Selection upon Analytical Review  
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**Table 10**  
Soil Samples with Regulated Compounds Remaining above Unrestricted Use SCOs  
Whole Foods Market  
220 3rd Street  
Brooklyn, Kings County, New York  
NYSDEC SITE No. C224100

Sample ID (Depth in Feet)	Unrestricted Use SCOs	August 17, 2005											
		CEB-1/S-4	CEB-1/S-5	UST2N	UST2E	UST2S	UST2W	UST2B	UST3N	UST3E	UST3S	UST3W	UST3B
<b>VOCs (ppm)</b>													
1,2,4-Trimethylbenzene	3.6	<0.064 U	<1.6 U	<0.072 U	<0.076 U	<0.084 U	<0.060 U	<0.063 U	0.08	<0.064 U	<0.066 U	<0.064 U	0.28
Benzene	0.06	0.074	<1.6 U	<0.072 U	<0.076 U	<0.084 U	0.075	<0.063 U	<0.075 U	<0.064 U	<0.066 U	<0.064 U	<0.065 U
Ethylbenzene	1	<0.064 U	<1.6 U	<0.072 U	<0.076 U	<0.084 U	<0.060 U	<0.063 U	<0.075 U	<0.064 U	<0.066 U	<0.064 U	<0.065 U
Xylenes (total)	0.26	<0.064 U	<3.2 U	<0.140	<0.150 U	<0.170 U	<0.120 U	<0.150 U	<0.150 U	<0.0130 U	<0.0130 U	<0.130 U	0.31
<b>SVOCs (ppm)</b>													
Acenaphthene	20	1.8	54	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	1	2.1	3.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	1	3.7	3.6 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1	2	<2.7 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	0.8	1.2 J	1.1 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	2.2	3.3 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	0.33	<0.180 U	<1.1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	30	0.960 J	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.5	2 (M)	1.1 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	12	1.7	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	100	2.5	41	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>RCRA Metals Total, (ppm)</b>													
Arsenic	13	NA	NA	8.1 B	6.2 B	6.3 B	8.4 B	8.4 B	7.6 B	6.3 B	6.3 B	10.6 B	5.3 B
Barium	350	NA	NA	119 J	97.6 J	120 J	369 J	104 J	481	91.3 J	82.7 J	80.6 J	61.8 J
Cadmium	2.5	NA	NA	<4.1 U	<4.0 U	<6.0 U	<3.8 U	<4.3 U	<3.9 U	<3.9 U	<4.5 U	<4.4 U	<4.6 U
Lead	63	NA	NA	594 J	335 J	314 J	364 J	239 J	1,140 J	237 J	214 J	283 J	214 J
Nickel	30	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mercury	0.18	NA	NA	0.59	0.65	1.0	0.51	0.40	1.0	0.49	0.5	1.6	0.77

**NOTES**

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**Table 10**  
Soil Samples with Regulated Compounds Remaining above Unrestricted Use SCOs  
Whole Foods Market  
220 3rd Street  
Brooklyn, Kings County, New York  
NYSDEC SITE No. C224100

Sample ID (Depth in Feet)	Unrestricted Use SCOs	March 16, 19, 23 & 27, 2010						April 1, 2010			
		HS 4/5 N-1	HS 4/5 W-1	EX1-2, B-2	EP-5	Hotspot 10B Bottom	Hotspot 3a Bottom 1	Hotspot 3a Bottom 2	Hotspot 8 Bottom	Hotspot 11 Bottom 2	Hotspot 9B Bottom
<b>VOCs (ppm)</b>											
1,2,4-Trimethylbenzene	3.6	--	--	<0.0023 UJ	<0.00114	NA	NA	NA	NA	NA	NA
Benzene	0.06	<0.074 UJ	<0.058 UJ	<0.0020 UJ	<0.00114	<0.0020 U	<0.0014 U	<0.0017 U	0.3	<0.0025 U	<0.0019 U
Ethylbenzene	1	<0.074 UJ	<0.058 UJ	<0.0020 UJ	<0.00228	<0.0020 U	<0.0014 U	<0.0017 U	3.3	<0.0025 U	<0.0019 U
Xylenes (total)	0.26	--	--	--	<0.00228	<0.0059 U	<0.0042 U	<0.0052 U	1.1	<0.0074 U	<0.0036 U
<b>SVOCs (ppm)</b>											
Acenaphthene	20	0.230 J	0.130 J	<0.078 UJ	0.220	<0.670 U	<0.480 U	<0.580 U	0.540 J	<0.820 U	<0.061 U
Benzo(a)anthracene	1	0.160 J	0.370 J	0.530 J	1.34	0.400	<0.048 U	0.160	0.027 J	<0.082 U	<0.061 U
Benzo(a)pyrene	1	0.150 J	0.370 J	0.450 J	0.945	0.350	<0.048 U	0.120	<0.058 U	<0.082 U	<0.061 U
Benzo(b)fluoranthene	1	0.160 J	0.41	0.540 J	<0.761	0.370	<0.048 U	0.190	<0.058 U	<0.082 U	<0.061 U
Benzo(k)fluoranthene	0.8	<0.047 U	0.140 J	0.250 J	<0.304	0.400	<0.048 U	<0.058 U	<0.058 U	<0.082 U	<0.061 U
Chrysene	1	0.160 J	0.41	0.500 J	1.35	0.360 J	<0.480 U	0.140 J	<0.580 U	<0.820 U	<0.061 U
Dibenzo(a,h)anthracene	0.33	<0.047 U	<0.042 U	0.076 J (M)	<0.304	<0.067 U	<0.048 U	<0.058 U	<0.058 U	<0.082 U	<0.061 U
Fluorene	30	0.110 J	0.140 J	0.140 J	2.67	<0.670 U	<0.480 U	<0.580 U	<0.580 U	<0.820 U	<0.061 U
Indeno(1,2,3-cd)pyrene	0.5	<0.043 U	0.230 J	0.230 J	0.586	0.160	<0.048 U	<0.058 U	<0.058 U	<0.082 U	<0.061 U
Naphthalene	12	<0.072 U	0.100 J	<0.080 UJ	0.204	<0.670 U	<0.480 U	<0.580 U	<0.580 U	<0.820 U	<0.061 U
Phenanthrene	100	0.5	0.49	0.810 J	2.6	0.390 J	<0.480 U	<0.580 U	0.110 J	<0.820 U	0.0323 J
<b>RCRA Metals Total, (ppm)</b>											
Arsenic	13	6.5 B (N)	3.6 B (N)	7.7 J	NA	9.3	9.9	7.4	7.7	5.8	26.5
Barium	350	93.0 (*)	71.3 (*)	72.6 J	NA	116	88.5	101	59.3	71.4 J	165
Cadmium	2.5	<1.3 U	<1.1 U	<1.2 U	NA	<1.9 U	<1.4 U	<1.7 U	<1.8 U	<2.4 U	<0.95
Lead	63	82.1 (*)	394 (*)	199	NA	39.8	122	119	20.5	17.5	41.1
Nickel	30	ND	ND	ND	NA	33.4	22.1	42.8	33.7	34.2	13.8
Mercury	0.18	0.37	0.37	1.1	NA	0.84	0.39	1.2	<0.052 U	<0.079 U	0.063

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S4 = Sampled from 12-16 feet below ground surface.  
ppm = parts per million  
NE = None Established by the NYSDEC  
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Whole Foods Market  
220 3rd Street  
Brooklyn, Kings County, New York  
NYSDEC SITE No. C224100

Sample ID (Depth in Feet)	Unrestricted Use SCOs	April 28 and 30, 2009											
		Hotspot 10A Bottom	Hotspot 10C Bottom	A-1	A-2	A-3	A-4	A-5	A-6	B-1	B-2	B-3	B-4
<b>VOCs (ppm)</b>													
1,2,4-Trimethylbenzene	3.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	<0.0016 U	<0.0017 U	<0.0051	<0.0054	<0.0056	<0.0053	<0.0051	0.002 J	<0.0051	0.003 J	<0.0054	0.001 J
Ethylbenzene	1	<0.0016 U	<0.0017 U	<0.0051	<0.0054	<0.0056	<0.0053	<0.0051	0.034	<0.0051	0.010	<0.0054	0.0052
Xylenes (total)	0.26	<0.0033 U	<0.0034 U	<0.0051	<0.0054	<0.0056	<0.0053	0.002 J	0.117	<0.0051	0.038	<0.0054	0.020
<b>SVOCs (ppm)</b>													
Acenaphthene	20	0.171	<0.052	<0.842	<0.177	<0.183	<0.175	<8.28	<8.28	<0.833	<3.37	<3.55	<1.68
Benzo(a)anthracene	1	0.0938	<0.052	3	0.300	0.120 J	0.110 J	5.8 J	7.4 J	0.960	3.2 J	2 J	1.9
Benzo(a)pyrene	1	0.118	<0.052	3.3	0.340	0.150 J	0.089 J	6.6 J	7.4 J	1.4	2.9 J	2.8 J	1.6 J
Benzo(b)fluoranthene	1	0.0542	<0.052	2.7	0.270	0.080 J	<0.175	4.3 J	7.4 J	1.3	2.4 J	1.4 J	1.3 J
Benzo(k)fluoranthene	0.8	0.0524 J	<0.052	2.7	0.260	0.098 J	0.079 J	5.8 J	<8.28	1.1	2.5 J	1.9 J	1.5 J
Chrysene	1	0.0917	<0.052	2.8	0.330	0.140 J	0.120 J	8.5	8.1	1.2	3.4	2 J	1.7
Dibenzo(a,h)anthracene	0.33	<0.054	<0.052	0.520	<0.177	<0.183	<0.175	<8.28	<8.28	<0.833	<3.37	<3.55	<1.68
Fluorene	30	0.104	<0.052	<0.842	<0.177	<0.183	<0.175	<8.28	<8.28	<0.833	<3.37	<3.55	<1.68
Indeno(1,2,3-cd)pyrene	0.5	0.0442 J	<0.052	1.6	0.140 J	<0.183	<0.175	<8.28	4 J	0.480 J	<3.37	<3.55	0.820 J
Naphthalene	12	0.306	<0.052	<0.842	<0.177	<0.183	<0.175	<8.28	<8.28	<0.833	<3.37	<3.55	<1.68
Phenanthrene	100	0.409	<0.052	2.5	0.310	0.170 J	0.096 J	21	28	1.2	5.6	<3.55	<1.68
<b>RCRA Metals Total, (ppm)</b>													
Arsenic	13	12.7	10.6	9.09	7.90	5.32	5.68	7.56	11.8	5.58	6.98	6.12	6.74
Barium	350	66.9	85.7	94.4	94.4	113	86.0	122	102	87.3	386	140	127
Cadmium	2.5	<0.78	<0.76	0.98	0.54	<0.553	<0.530	0.89	0.68	<0.505	1.46	<0.536	0.59
Lead	63	134	209	305	230	205	197	725	464	126	395	199	275
Nickel	30	22.5	36.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	0.44	0.11	<0.111	0.13	0.16	<0.106	0.12	0.20	<0.101	<0.102	0.18	0.12

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Sample ID (Depth in Feet)	Unrestricted Use SCOs	April 28 and 30, 2009													
		B-5	B-6	C-1	C-2	C-3	C-4	C-5	C-6	D-1	D-2	D-3	D-4	D-5	D-6
<b>VOCs (ppm)</b>															
1,2,4-Trimethylbenzene	3.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	<0.0060	<0.0051	<0.0052	<0.0051	<0.0051	0.003 J	<0.0051	<0.0051	0.001	0.005 J	<0.0062	<0.0056	<0.0054	<0.0055
Ethylbenzene	1	<0.0060	<0.0051	<0.0052	<0.0051	<0.0051	0.020	<0.0051	<0.0051	0.048	0.019	<0.0062	<0.0056	<0.0054	<0.0055
Xylenes (total)	0.26	<0.0060	<0.0051	<0.0052	<0.0051	0.002 JB	0.067	0.004 J	<0.0051	0.158	0.068	<0.0062	<0.0056	<0.0054	<0.0055
<b>SVOCs (ppm)</b>															
Acenaphthene	20	<0.196	3.8 J	<3.47	<3.42	<1.68	<3.3	<3.37	<0.333	<0.346	<3.37	<20.3	<0.924	0.650 J	<3.63
Benzo(a)anthracene	1	0.740	22	4.8	4.9	2.6	4.1	4.9	1.3	0.920	1.4 J	38	2.2	6.6	<3.63
Benzo(a)pyrene	1	0.910	18	5	3.9	2.7	3.6	4.3	1	0.770	1.5 J	31	1.9	5.3	<3.63
Benzo(b)fluoranthene	1	0.900	16	2.8	3.4	1.9	3.7	4.7	1	0.870	0.960 J	31	1.7	4.2	<3.63
Benzo(k)fluoranthene	0.8	0.830	18	4	3.5	2.8	3.2	3.5	1	0.850	<3.37	31	1.9	5	<3.63
Chrysene	1	0.740	18	4.3	4.5	2.5	3.8	4.7	1.1	0.890	2 J	36	2.1	5.6	1.6 J
Dibenzo(a,h)anthracene	0.33	0.11 J	<8.27	<3.47	<3.42	<1.68	<3.3	<3.37	0.240 J	<0.346	<3.37	<20.3	<0.924	1.1	<3.63
Fluorene	30	0.080 J	3.7 J	<3.47	<3.42	<1.68	<3.3	<3.37	0.140 J	<0.346	<3.37	<20.3	<0.924	0.870 J	<3.63
Indeno(1,2,3-cd)pyrene	0.5	0.670	8.2	2.5 J	1.9 J	1.2 J	1.9 J	2.2 J	0.600	0.320 J	<3.37	15 J	0.660 J	2	<3.63
Naphthalene	12	<0.196	<8.27	<3.47	<3.42	<1.68	<3.3	<3.37	<0.333	<0.346	<3.37	<20.3	<0.924	<0.891	<3.63
Phenanthrene	100	0.790	33	4.8	8.5	2.6	4.4	5.5	1.4	1.3	2.1 J	66	2.3	6.7	1.9 J
<b>RCRA Metals Total, (ppm)</b>															
Arsenic	13	8.79	18.7	9.75	10.3	8.02	5.56	7.86	5.42	7.53	10.7	23.7	10.1	12.3	15.7
Barium	350	46.6	255	218	197	237	78.1	115	52.6	74.2	167	188	148	182	542
Cadmium	2.5	<0.596	2.21	0.69	0.58	0.80	<0.502	0.67	<0.507	<0.524	0.89	1.53	0.77	1.1	2.25
Lead	63	1290	519	316	304	318	156	275	98.4	119	301	446	294	2320	969
Nickel	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	<0.119	<0.101	0.24	<0.103	0.24	0.13	<0.102	<1.01	<0.105	<0.102	<0.123	<0.112	0.36	<0.110

**NOTES**  
Unrestricted Use SCOs are presented for informational purpose only and did not represent cleanup objectives for the Site.  
SHADE indicates exceedance of Unrestricted Use SCOs (6NYCRR Part 375, Table 375-6.8(a), December 14, 2006).  
Boring Locations are depicted on Figure 2 and Figure 7 of the Site Management Plan  
S1 = Sampled from 0-4 feet below ground surface.  
S2 = Sampled from 4-8 feet below ground surface.  
S3 = Sampled from 8-12 feet below ground surface.  
S4 = Sampled from 12-16 feet below ground surface.  
ppm = parts per million  
NE = None Established by the NYSDEC  
NA = Not Analyzed  
U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
0.04\* = TCLP Extraction Method must be used to demonstrate Ground Water Protection for these compounds  
J = (Organic Qualifiers) The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.  
B = (Inorganic Qualifiers) The result is less than the Low Level Standard Check - Secondary Dilution and Analysis/Reporting Limit, but greater than or equal to the Instrument Detection Limit/Method Detection Limit.  
U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
UJ = (Organic Qualifiers) The analyte was not detected above the reported sample quantitation limit (QL).  
\* = (Flag) In description = dry weight  
(M) = (Organic Flags) Manually Integrated Compound  
(H) = (Organic Flags) Alternate Peak Selection upon Analytical Review  
(B) = (Organic Flags) Compound was Found in the Blank and Sample  
(N) = (Inorganic Flags) MS, MSD: Spike Recovery Exceeds the Upper or Lower Control Limits  
(M) = (Organic Flags) Manually Integrated Compound  
R = (Organic/Inorganic Qualifiers) The result is rejected due to deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.  
< = The analyte was not detected at or above the reporting limit.

**Table 10**  
Soil Samples with Regulated Compounds Remaining above Unrestricted Use SCOs  
Whole Foods Market  
220 3rd Street  
Brooklyn, Kings County, New York  
NYSDEC SITE No. C224100

Sample ID (Depth in Feet)	Unrestricted Use SCOs	April 28 and 30, 2009											
		E-1	E-2	E-3	E-4	E-5	E-6	F-1	F-2	F-3	F-4	F-5	F-6
<b>VOCs (ppm)</b>													
1,2,4-Trimethylbenzene	3.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	<0.0057	0.002 J	0.002 J	<0.0056	<0.0058	0.004 J	<0.0056	<0.0056	<0.0054	<0.0057	<0.0062	0.002 J
Ethylbenzene	1	<0.0057	0.011	0.006	<0.0056	<0.0058	0.019	<0.0056	<0.0056	<0.0054	<0.0057	<0.0062	0.039
Xylenes (total)	0.26	<0.0057	0.038	0.021	<0.0056	<0.0058	0.058	<0.0056	<0.0056	<0.0054	<0.0057	<0.0062	0.128
<b>SVOCs (ppm)</b>													
Acenaphthene	20	<0.940	<3.55	0.450 J	<3.66	<1.9	<3.63	<3.65	<3.66	<1.78	<1.86	<4.13	<0.912
Benzo(a)anthracene	1	1.2	2.7 J	4.1	2.5 J	<1.9	<3.63	1.5 J	<3.66	<1.78	3.1	<4.13	<0.912
Benzo(a)pyrene	1	1	2.9 J	3.5	2.6 J	<1.9	<3.63	1.6 J	<3.66	0.730 J	2.6	<4.13	0.380 J
Benzo(b)fluoranthene	1	0.830 J	2.1 J	2.3	2.8 J	<1.9	<3.63	<3.65	<3.66	<1.78	1.8 J	<4.13	<0.912
Benzo(k)fluoranthene	0.8	0.900 J	2.6 J	2.9	2 J	0.800 J	<3.63	<3.65	<3.66	<1.78	2	<4.13	<0.912
Chrysene	1	1.2	3.5 J	3.8	32 J	1.2 J	<3.63	2 J	2 J	<1.78	3	<4.13	<0.912
Dibenzo(a,h)anthracene	0.33	<0.940	<3.55	0.510 J	<3.66	<1.9	<3.63	<3.65	<3.66	<1.78	<1.86	<4.13	<0.912
Fluorene	30	<0.940	<3.55	0.480 J	<3.66	<1.9	<3.63	<3.65	<3.66	<1.78	<1.86	<4.13	<0.912
Indeno(1,2,3-cd)pyrene	0.5	<0.940	<3.55	1.3	<3.66	<1.9	<3.63	<3.65	<3.66	<1.78	1 J	<4.13	<0.912
Naphthalene	12	<0.940	<3.55	<0.927	<3.66	<1.9	<3.63	<3.65	<3.66	<1.78	<1.86	<4.13	<0.912
Phenanthrene	100	1.5	4.5	5.4	7	2	<3.63	2.9 J	3.1 J	<1.78	5.7	<4.13	0.460 J
<b>RCRA Metals Total, (ppm)</b>													
Arsenic	13	17.4	13.1	11.2	13.6	7.77	7.35	13.1	24.7	7.26	8.5	7.30	5.37
Barium	350	413	291	189	166	98.3	129	280	217	256	251	181	74
Cadmium	2.5	1	2.58	1.19	0.97	0.82	2.23	1.03	2.22	1.51	1.34	2.88	1.68
Lead	63	618	976	509	329	254	383	563	433	533	476	1210	789
Nickel	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	<0.113	<0.110	0.32	<0.111	<0.115	<0.108	<0.110	<0.111	0.18	<0.113	0.13	<0.111

**NOTES**

Unrestricted Use SCOs are presented for informational purpose only and did not represent cleanup objectives for the Site.  
SHADE indicates exceedance of Unrestricted Use SCOs (6NYCRR Part 375, Table 375-6.8(a), December 14, 2006).  
Boring Locations are depicted on Figure 2 and Figure 7 of the Site Management Plan  
S1 = Sampled from 0-4 feet below ground surface.  
S2 = Sampled from 4-8 feet below ground surface.  
S3 = Sampled from 8-12 feet below ground surface.  
S4 = Sampled from 12-16 feet below ground surface.  
ppm = parts per million  
NE = None Established by the NYSDEC  
NA = Not Analyzed  
U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
0.04\* = TCLP Extraction Method must be used to demonstrate Ground Water Protection for these compounds  
J = (Organic Qualifiers) The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.  
B = (Inorganic Qualifiers) The result is less than the Low Level Standard Check - Secondary Dilution and Analysis/Reporting Limit, but greater than or equal to the Instrument Detection Limit/Method Detection Limit.  
U = (Organic/Inorganic Qualifiers) The analyte was not detected at or above the reporting limit.  
UJ = (Organic Qualifiers) The analyte was not detected above the reported sample quantitation limit (QL).  
\* = (Flag) In description = dry weight  
(M) = (Organic Flags) Manually Integrated Compound  
(H) = (Organic Flags) Alternate Peak Selection upon Analytical Review  
(B) = (Organic Flags) Compound was Found in the Blank and Sample  
(N) = (Inorganic Flags) MS, MSD: Spike Recovery Exceeds the Upper or Lower Control Limits  
(M) = (Organic Flags) Manually Integrated Compound  
R = (Organic/Inorganic Qualifiers) The result is rejected due to deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.  
< = The analyte was not detected at or above the reporting limit.



**Table 11**  
 Soil Analytical Summary -  
 Samples with Concentrations of Regulated Compounds above Unrestricted Use SCOs  
 Whole Foods Market  
 220 3rd Street  
 Brooklyn, Kings County, New York  
 NYSDEC SITE NO. C224100

	NYSDEC Unrestricted Use SCOs	Number of Samples Analyzed*	Number of Detections	Maximum Detected Concentration	Sample Where Maximum Detected Concentration Occurred	Number of Samples with Detected Results Greater than NYSDEC Unrestricted Use SCOs
<b>VOCs (ppm)</b>						
1,2,4-Trimethylbenzene	3.6	36	6	23	B-15/S-4(12-16)	2
Benzene	0.06	82	9	0.3	Hotspot 8 Bottom	3
Ethylbenzene	1	82	13	20	B-15/S-4(12-16)	2
Xylenes (total)	0.26	79	18	1.1	Hotspot 8 Bottom	4
<b>SVOCs (ppm)</b>						
Acenaphthene	20	74	22	73	B-15/S-4(12-16)	5
Benzo(a)anthracene	1	74	61	38	D-3	33
Benzo(a)pyrene	1	74	60	40 J	B114/S3	31
Benzo(b)fluoranthene	1	74	42	31	D-3	28
Benzo(k)fluoranthene	0.8	74	38	32	B-15/S-4	27
Chrysene	1	74	63	36	D-3	38
Dibenzo(a,h)anthracene	0.33	74	13	0.52	A-1	5
Fluorene	30	74	19	54	B-15/S-4(12-16)	2
Indeno(1,2,3-cd)pyrene	0.5	74	42	15 J	D-3	24
Naphthalene	12	74	17	140	B-15/S-4(12-16)	4
Phenanthrene	100	74	52	110	B-15/S-4(12-16)	1
<b>Metals (ppm)</b>						
Arsenic	13	84	64	53.5 J	B123/0-4	9
Barium	350	84	64	542	D-6	4
Cadmium	2.5	84	33	2.88	F-5	3
Lead	6	84	84	2,320	D-5	25
Nickel	30	21	8	43	Hotspot 10C Bottom	5
Mercury	0.18	84	47	7.8	B108-S2	10

**Notes:**

Unrestricted Use SCOs (6NYCRR part 375, Table 375-6.8(a), December 14, 2006) are presented for informational purpose only and did not represent cleanup objectives for the Site.

\*Number of Samples Analyzed means number of samples analyzed with one or more compounds detected a concentrations above Unrestricted Use SCOs.

S1 = Sampled from 0-4 feet below ground surface.

S2 = Sampled from 4-8 feet below ground surface.

S3 = Sampled from 8-12 feet below ground surface.

S4 = Sampled from 12-16 feet below ground surface.

ppm = parts per million

||J = (Organic Qualifiers) The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample. ||

## Table 12

Ground Water Monitoring Well Construction  
Details  
Whole Foods Market  
220 3rd Street  
Brooklyn, Kings County, New York  
NYSDEC BCP Site No. C224100

Well ID	Installation Date	Completion Depth (ft)	Screen Length (ft)	Top-of Casing Elevation
MW-1A (destroyed)	03/23/06	12	10	5.96
MW-1A (replacement)	06/10/10	12	10	10.97
MW-2A (destroyed)	03/26/06	12	10	6.33
MW-3A (destroyed)	03/23/06	12	10	5.62
MW-3A (replacement)	06/10/10	12	10	6.60
MW-4A (destroyed)	03/23/06	17	10	10.77
MW-4A (replacement)	06/10/10	17	10	10.88
MW-5A	03/23/06	17	10	5.82

**Notes:**

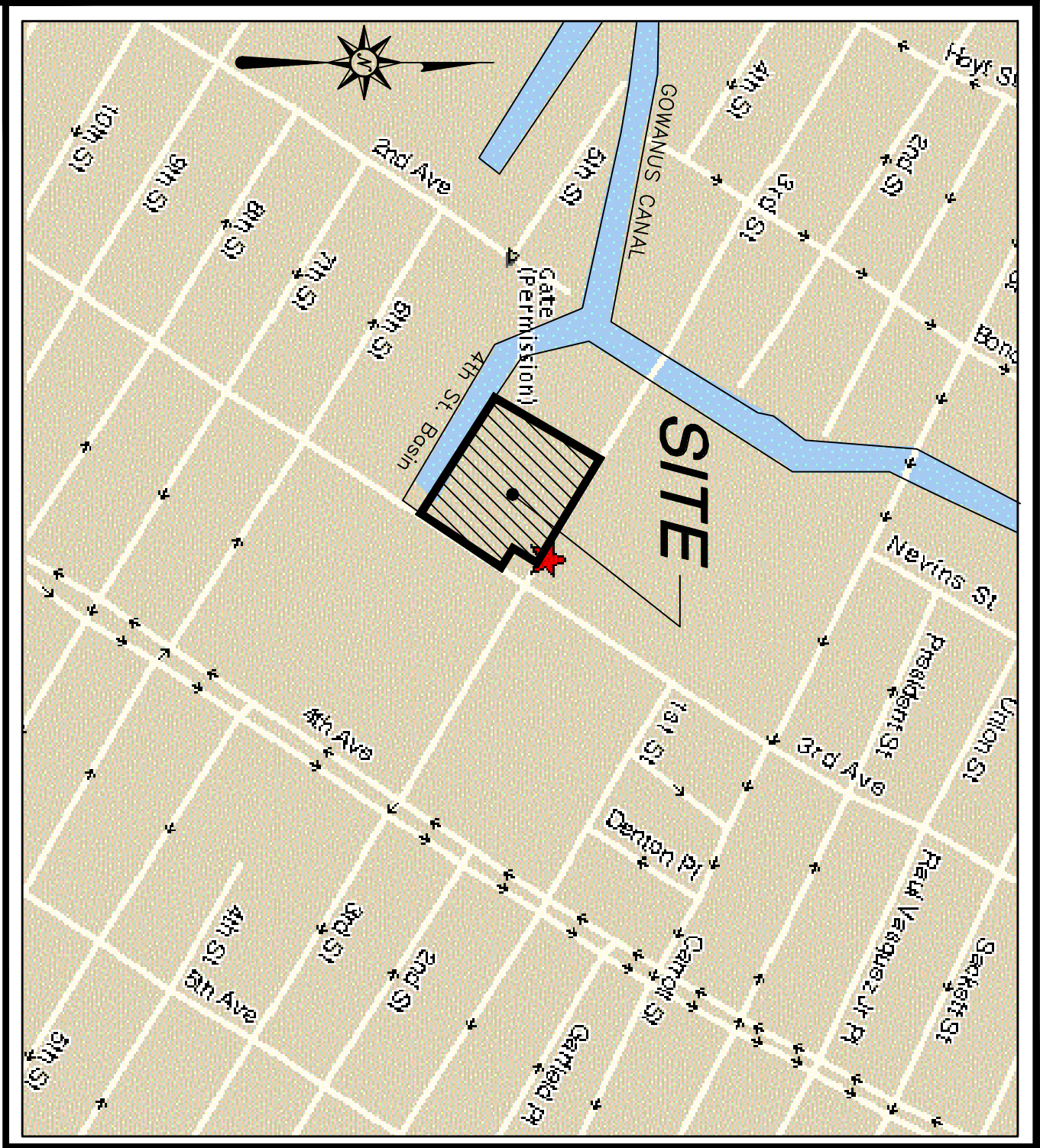
Elevations are referenced to BL Companies Datum that is 4.795 feet below the U.S.C.G.S. 1929 datum.

Completion depth is approximate depth of monitoring well below ground surface on installation date.

**Table 13**  
 Ground Water Sample Collection and Analytical Summary  
 Whole Foods Market  
 220 3rd Street  
 Brooklyn, Kings County, New York  
 NYSDEC BCP Site No. C224100

Sampling Method <sup>1</sup>	Analytical Parameters	Number of Wells <sup>2</sup>	Number of Field Blanks <sup>3</sup>	Number of Trip Blanks <sup>3</sup>	Number of Field Duplicates <sup>3</sup>
Peristaltic Pump or Submersible Pump	VOC's (Method 8260B) SVOC's ( Method 8270C)	3	1	1	1
NOTES: 1. Samples should be collected on a semi-annual basis. 2. Number of wells as of 2010. 3. Number of Quality Assurance/Quality Control samples may be modified by Qualified Environmental Professional.					

## **Figures**



## LOCATION MAP

NOT TO SCALE

### LEGAL DESCRIPTION:

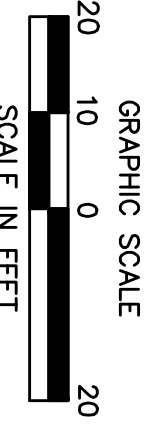
PARCEL 1 (PART OF LOTS 1 AND 2)  
 ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE BOROUGH OF BROOKLYN, COUNTY OF KINGS, CITY AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT ON THE SOUTHERLY SIDE OF 3RD STREET DISTANT NORTH 42 DEGREES 31 MINUTES 44 SECONDS WEST 24.50 FEET FROM CORNER FORMED BY THE INTERSECTION OF THE SOUTHERLY SIDE OF 3RD STREET WITH THE WESTERN SIDE OF 3RD AVENUE;  
 RUNNING THENCE SOUTHERLY PARALLEL WITH 3RD AVENUE SOUTH 47 DEGREES 28 MINUTES 16 SECONDS WEST 49.80 FEET;  
 THENCE EASTERLY PARALLEL WITH 3RD STREET SOUTH 42 DEGREES 31 MINUTES 44 SECONDS EAST 54.80 FEET TO THE WESTERN SIDE OF 3RD AVENUE;  
 THENCE SOUTHERLY ALONG THE WESTERN SIDE OF 3RD AVENUE SOUTH 47 DEGREES 28 MINUTES 16 SECONDS WEST 285.20 FEET;  
 THENCE WESTERLY ALONG A PORTION OF THE NORTHERLY SIDE OF 4TH STREET BASIN NORTH 42 DEGREES 31 MINUTES 44 SECONDS WEST 105.75 FEET;  
 THENCE NORTHERLY PARALLEL WITH 3RD AVENUE NORTH 47 DEGREES 28 MINUTES 16 SECONDS EAST 200.00 FEET;  
 THENCE WESTERLY PARALLEL WITH 3RD STREET NORTH 42 DEGREES 31 MINUTES 44 SECONDS WEST 30.00 FEET;  
 THENCE NORTHERLY PARALLEL WITH 3RD AVENUE NORTH 47 DEGREES 28 MINUTES 16 SECONDS EAST 105.00 FEET TO THE SOUTHERLY SIDE OF 3RD STREET;  
 THENCE EASTERLY ALONG THE SOUTHERLY SIDE OF 3RD STREET SOUTH 42 DEGREES 31 MINUTES 44 SECONDS EAST 101.25 FEET TO THE POINT OR PLACE OF BEGINNING.  
 PARCEL 2 (LOTS 18 AND 19)  
 ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE BOROUGH OF BROOKLYN, COUNTY OF KINGS, CITY AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT ON THE SOUTHERLY SIDE OF 3RD STREET DISTANT NORTH 42 DEGREES 31 MINUTES 44 SECONDS WEST 135.75 FEET WESTERLY FROM THE CORNER FORMED BY THE INTERSECTION OF THE SOUTHERLY SIDE OF 3RD STREET WITH THE WESTERN SIDE OF 3RD AVENUE;  
 RUNNING THENCE SOUTHERLY PARALLEL WITH 3RD AVENUE SOUTH 47 DEGREES 28 MINUTES 16 SECONDS WEST 105.00 FEET;  
 THENCE EASTERLY PARALLEL WITH 3RD STREET SOUTH 42 DEGREES 31 MINUTES 44 SECONDS EAST 50.80 FEET;  
 THENCE SOUTHERLY PARALLEL WITH 3RD AVENUE SOUTH 47 DEGREES 28 MINUTES 16 SECONDS WEST 200.00 FEET TO THE NORTHERLY SIDE OF 4TH STREET BASIN;  
 THENCE WESTERLY ALONG A PORTION OF THE NORTHERLY SIDE OF 4TH STREET BASIN NORTH 42 DEGREES 31 MINUTES 44 SECONDS WEST 200.00 FEET;  
 THENCE NORTHERLY PARALLEL WITH 3RD AVENUE NORTH 47 DEGREES 28 MINUTES 16 SECONDS EAST 305.00 FEET TO THE SOUTHERLY SIDE OF 3RD STREET;  
 THENCE EASTERLY ALONG THE SOUTHERLY SIDE OF 3RD STREET SOUTH 42 DEGREES 31 MINUTES 44 SECONDS EAST 170.00 FEET TO THE POINT OR PLACE OF BEGINNING.

### GENERAL NOTES:

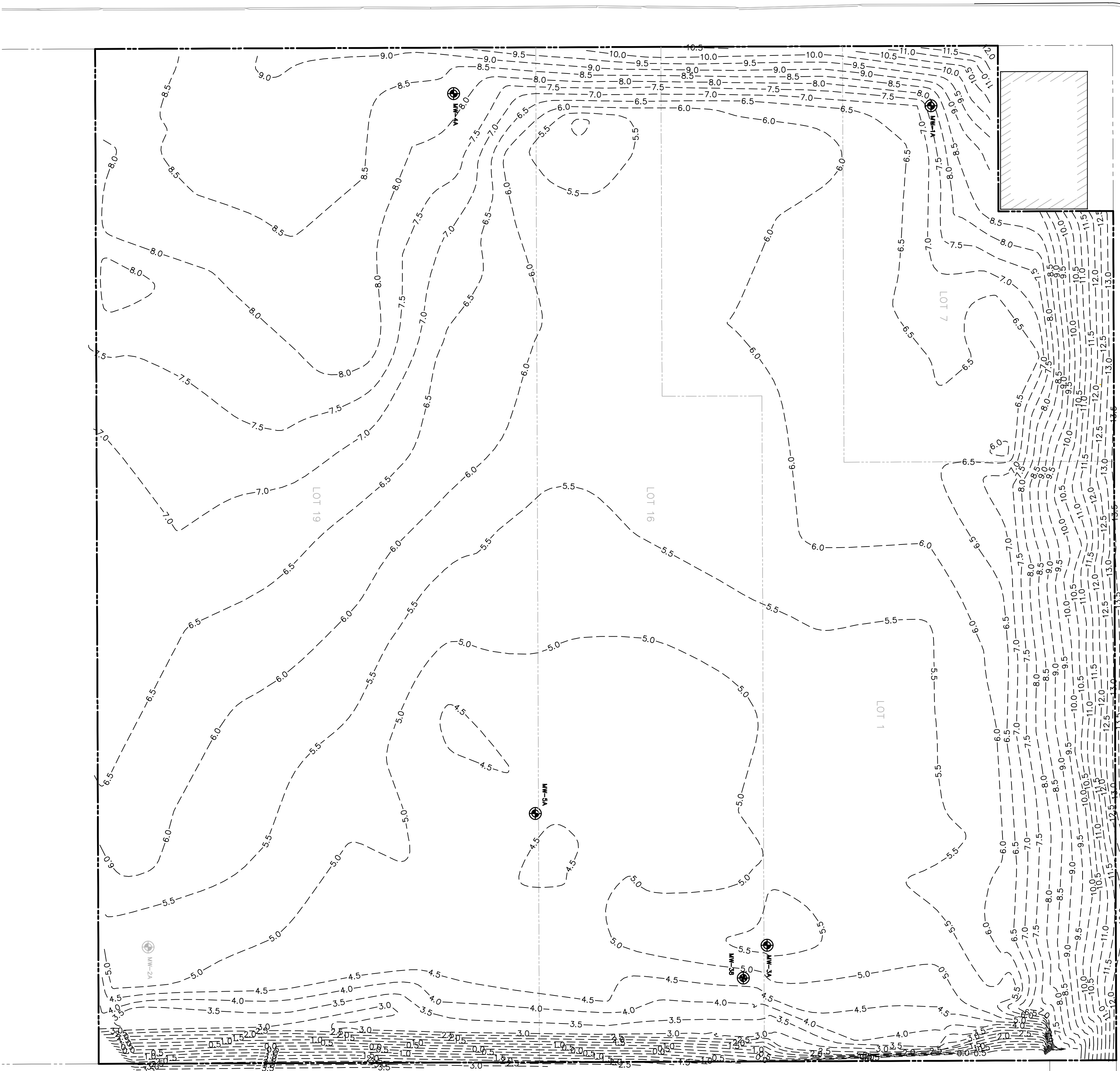
1. BASE PLAN AND SURVEY CONDUCTED BY LANGAN ENGINEERING SERVICES AND PROVIDED TO BL COMPANIES BY GP-TECH ENVIRONMENTAL SERVICES INC.
2. THE MERIDIAN OF THIS SURVEY IS REFERENCED TO NAD 83.
3. ELEVATIONS ARE REFERENCED TO A BL COMPANIES DATUM, ADD 4.795 FEET TO ADJUST TO U.S.C.S. 1929 DATUM.
4. GROUND WATER MONITORING WELLS MW-1A, MW-2A, MW-3A, MW-4A AND MW-5A WERE DESTROYED DURING CONSTRUCTION AND WERE REPLACED BY NEW WELLS MW-1B, MW-2B, MW-3B, MW-4B AND MW-5B DURING THE INSTALLATION OF THE COMPOSITE COVER SYSTEM.

### LEGEND:

- PROPERTY LINE
- INTERIOR LOT LINES
- - - - - EXISTING CONTOUR (FEET)
- ⊕ MW-1A, MW-2A, MW-3A, MW-4A, MW-5A GROUND WATER MONITORING WELLS (DESTROYED DURING CONSTRUCTION AND NOT REPAIRED)
- ⊕ MW-1B, MW-2B, MW-3B, MW-4B, MW-5B GROUND WATER MONITORING WELLS (INSTALLED BY USEPA)

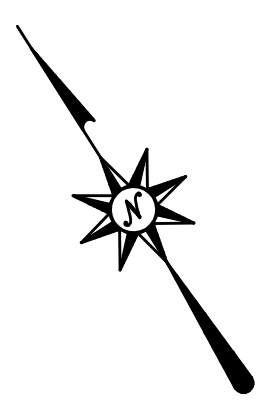


3RD STREET (80' R.O.W.)



4TH STREET BASIN  
(Tidal Water)

3RD AVENUE (80' R.O.W.)



Xref (a): .....XXXXXXXXXXXX

FIGURE 1

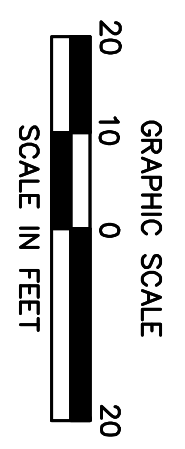
REVISIONS	No.	Date	Desc.
Designed			J.B.
Drawn			J.S.Y.
Checked			
Approved			
Scale	1"=20'		
Project No.	03C497		
Date	04/12/11		
CAD File:	EV03C49702		
Title	SITE PLAN		
Sheet No.			

**WHOLE FOODS MARKET**  
 220 3RD STREET  
 BROOKLYN, KINGS COUNTY, NEW YORK  
 NYSDEC BCP SITE NO. C224100

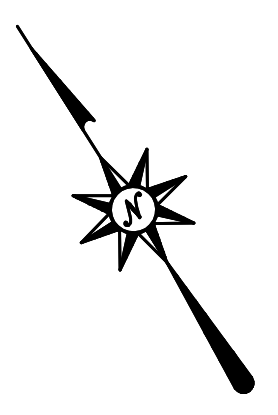
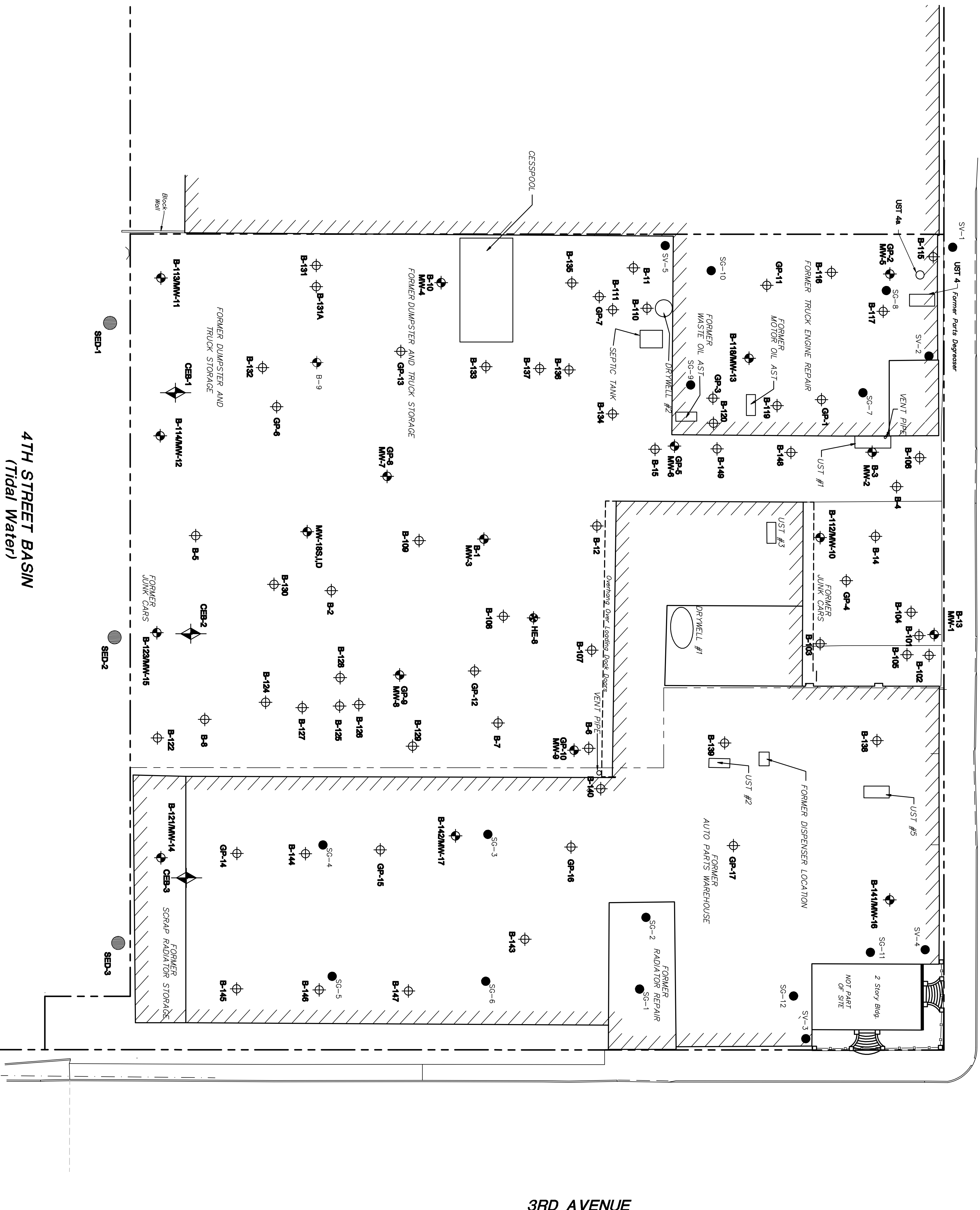
**BL Companies**  
 ARCHITECTURE  
 ENGINEERING  
 PLANNING  
 LANGAN ENGINEERING SERVICES  
 LAND SURVEYING  
 ENVIRONMENTAL SCIENCES

300 Rensselaer Parkway  
 Manhattan, NY 10002  
 (212) 850-8815 Fax

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- LEGEND:**
- PROPERTY LINE
  - SG-10 SOIL GAS SAMPLING POINT
  - ⊕ B-10 GEOPROBE BORING WITH MONITORING WELL
  - ⊕ MW-4 GEOPROBE BORING
  - ⊕ GP-6 PMA TEST BORING
  - ⊕ CANAL SEDIMENT SAMPLE LOCATION
  - SV-1 POST-FIRM SOIL GAS SAMPLING POINT



Xref (s):

REVISIONS	
No.	Date Desc.

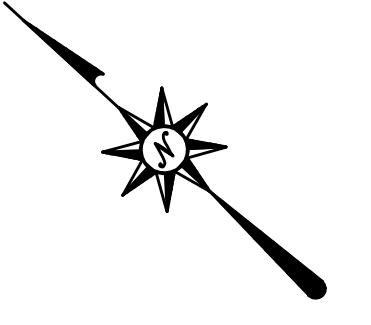
Designed: J.B.  
 Drawn: J.S.V.  
 Checked:        
 Approved:        
 Scale: 1"=20'  
 Project No: 03C497  
 Date: 04/12/11  
 CAD File: E:\03C497\06  
 Title: **FORMER SITE CONDITIONS AND PRE-REMEDIATION SAMPLE LOCATION PLAN**  
 Sheet No.

**WHOLE FOODS MARKET**  
 220 3RD STREET  
 BROOKLYN, KINGS COUNTY, NEW YORK  
 NYSDEC BCP SITE NO. C224100

**BL Companies**  
 ARCHITECTURE  
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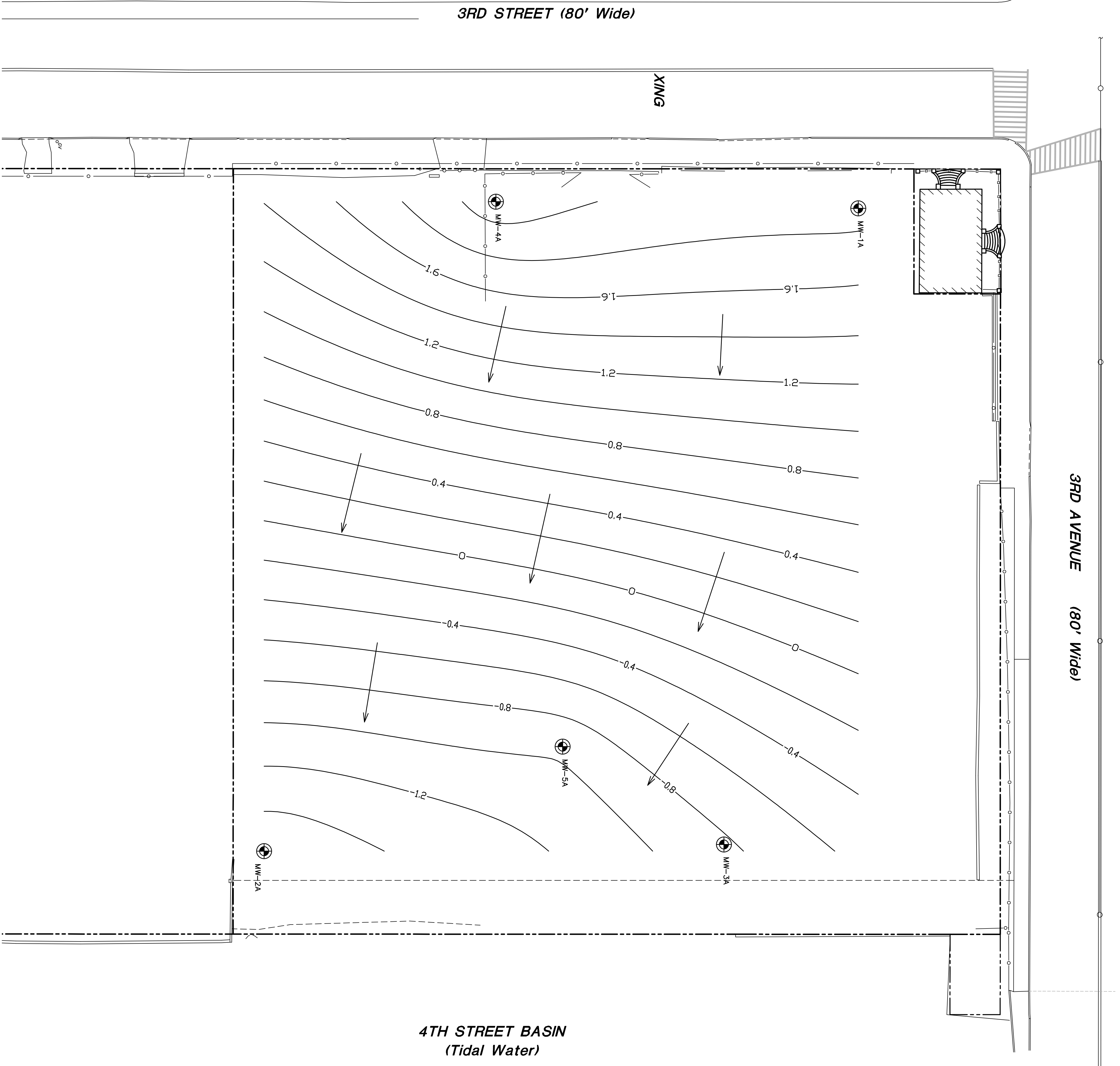
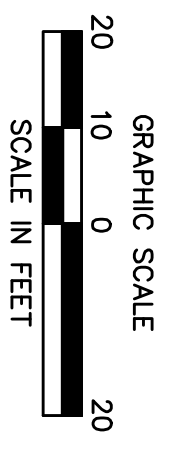
386 Research Parkway  
 Madison, CT 06030  
 (860) 441-1100  
 (203) 880-2815 fax

**FIGURE 2**



- LEGEND:**
1. BASE PLAN AND SURVEY COMPLETED BY BL COMPANIES.
  2. ELEVATIONS ARE REFERENCED TO A BL COMPANIES DATUM, ADD 4,795 FEET TO ADJUST TO U.S.C.S. 1929 DATUM.
  3. GROUND WATER CONTOURS ARE BASED ON FORMER MONITORING WELL LOCATIONS.

- LEGEND:**
- ⊕ MW-1A GROUND WATER MONITORING WELL
  - ~ GROUND WATER CONTOUR (FT)
  - ↘ GROUND WATER FLOW DIRECTION
  - - - PROPERTY LINE
  - FENCE



Xref (s) : ; XC03C49704 ; N-621-03C497-GWCONTOUR-090430 ; XY03C49706

REVISIONS	
No.	Desc.

Designed	J.B.
Drawn	J.S.Y.
Checked	
Approved	
Scale	1"=20'
Project No.	03C497
Date	04/12/11
CAD File:	EV03C49703a
Title	
GROUND WATER CONTOUR PLAN	
4/30/09	
Sheet No.	

**WHOLE FOODS MARKET**  
 220 3RD STREET  
 BROOKLYN, KINGS COUNTY, NEW YORK  
 NYSDEC BCP SITE NO. C224100

**Bl Companies**  
 ARCHITECTURE  
 ENGINEERING  
 PLANNING  
 LANDSCAPE ARCHITECTURE  
 LAND SURVEYING  
 ENVIRONMENTAL SCIENCES

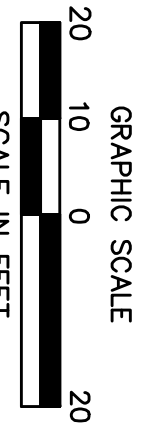
300 Riverbank Parkway  
 Westport, CT 06880  
 (203) 868-8800  
 (203) 868-2815 Fax

**FIGURE 3**

©2009 BL COMPANIES, INC. THESE DRAWINGS SHALL NOT BE UTILIZED BY ANY PERSON, FIRM OR CORPORATION WITHOUT THE SPECIFIC WRITTEN PERMISSION OF BL COMPANIES

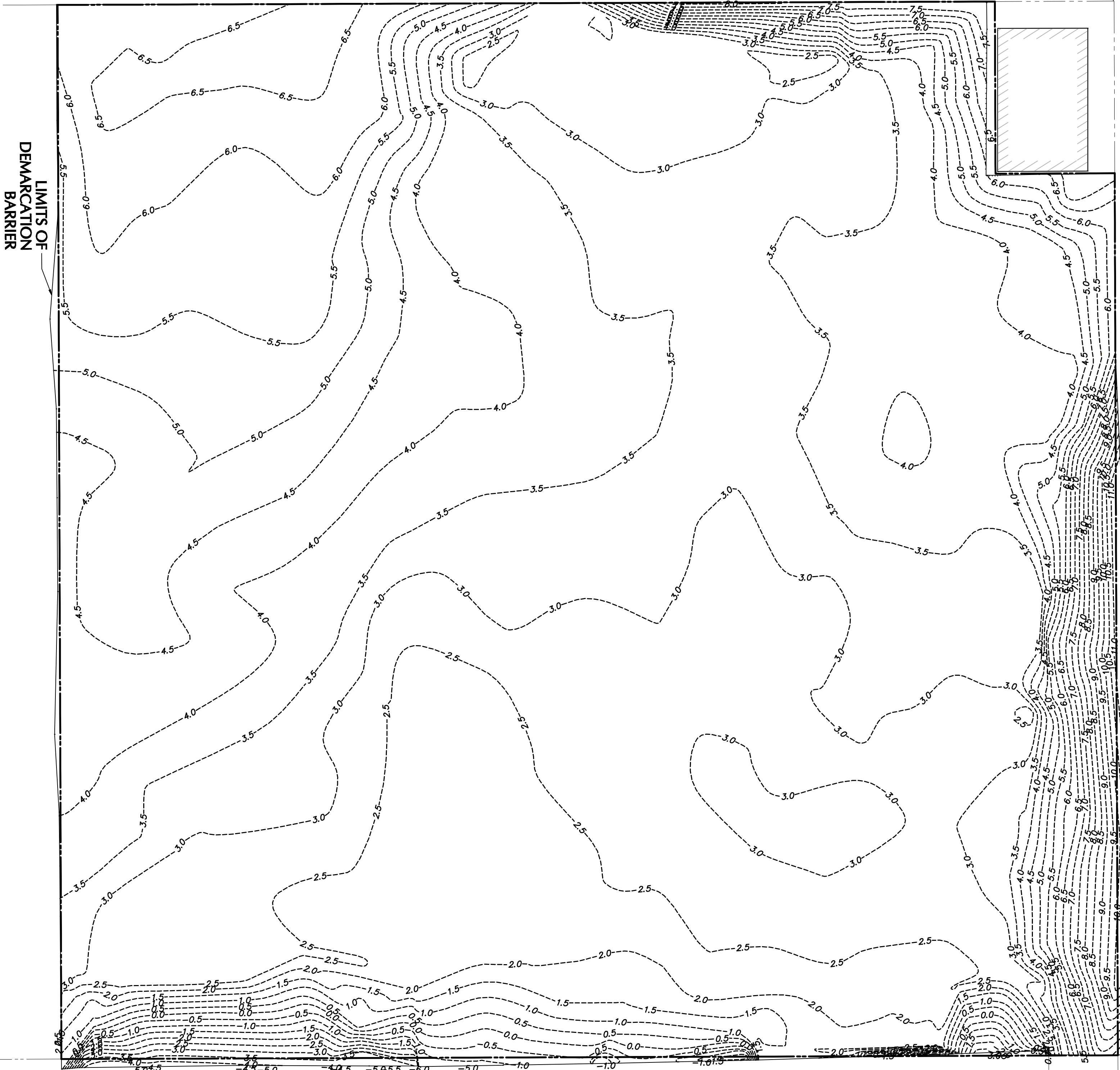




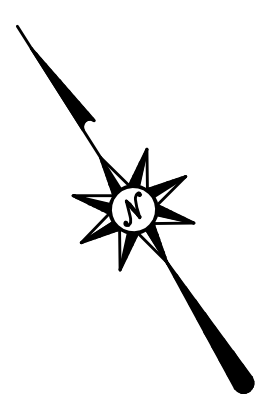


3RD STREET (80' R.O.W.)

3RD AVENUE (80' R.O.W.)



4TH STREET BASIN  
 (Tidal Water)



**GENERAL NOTES:**

1. BASE PLAN AND SURVEY COMPLETED BY LANGAN ENGINEERING SERVICES AND PROVIDED TO BL COMPANIES BY OP-TECH ENVIRONMENTAL SERVICES INC.
2. ELEVATIONS ARE REFERENCED TO A BL COMPANIES DATUM, ADD 4.795 FEET TO ADJUST TO U.S.C.G.S. 1929 DATUM.

**LEGEND:**

- PROPERTY LINE
- - - - - DEMARCATION BARRIER ELEVATION CONTOUR (FEET)

Xref (e): .XXXXXXXXXXXX

REVISIONS	
No.	Date Desc.

**WHOLE FOODS MARKET**  
 220 3RD STREET  
 BROOKLYN, KINGS COUNTY, NEW YORK  
 NYSDEC BCP SITE NO. C224100

**BL Companies**  
 ARCHITECTURE  
 ENGINEERING  
 PLANNING  
 LANGAN ENGINEERING SERVICES  
 LAND SURVEYING  
 ENVIRONMENTAL SCIENCES

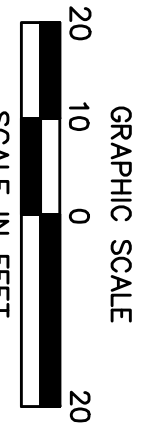
300 Rensselaer Parkway  
 Westbury, NY 11591  
 (516) 335-8800  
 (516) 335-8815 Fax

Designed: J.B.  
 Drawn: J.S.Y.  
 Checked: J.S.Y.  
 Approved: J.S.Y.  
 Scale: 1"=20'  
 Project No: 03C497  
 Date: 04/14/11  
 CAD File: E:\03C497\02  
 Title: DEMARCATION BARRIER ELEVATION PLAN  
 Sheet No. **FIGURE 5**



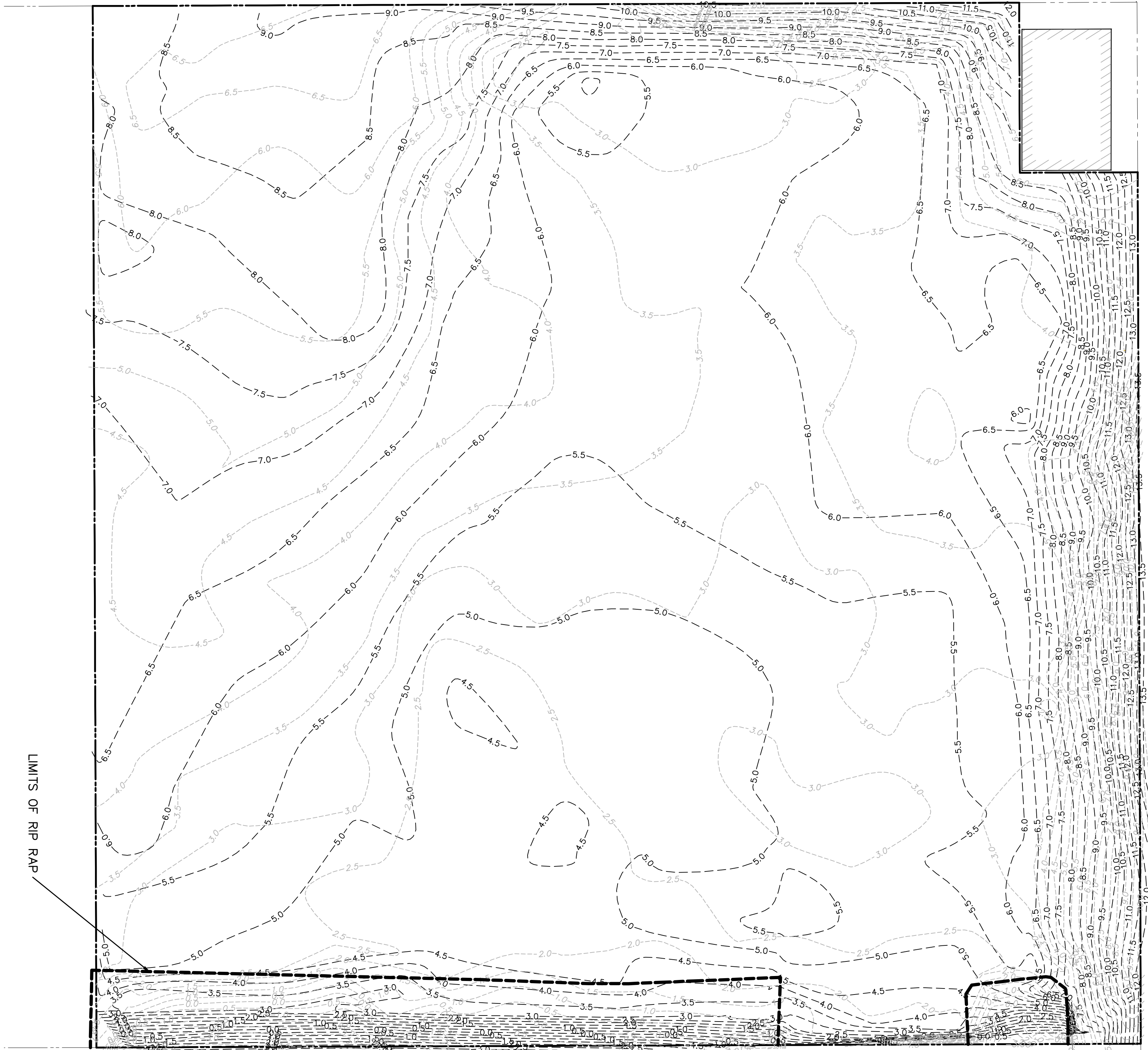






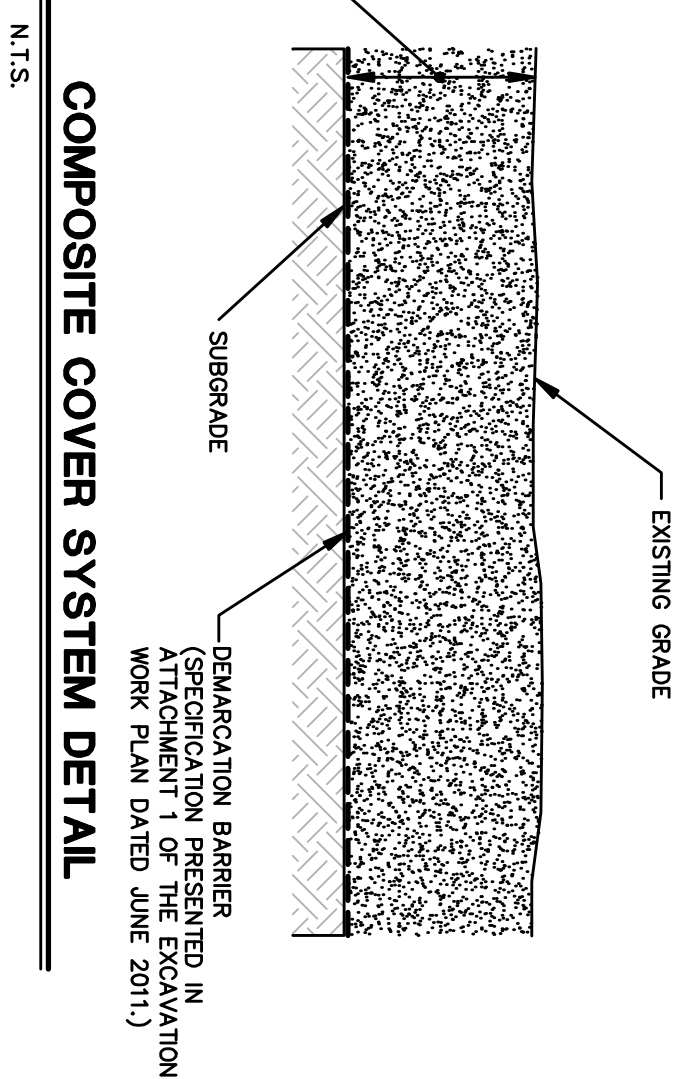
3RD STREET (80' R.O.W.)

3RD AVENUE (80' R.O.W.)



4TH STREET BASIN  
 (Tidal Water)

MINIMUM 2 FEET OF FILL  
 (MATERIAL OR RIP RAP)  
 MEETING OR EXCEEDING  
 CRITERIA AND GUIDANCE VALUES  
 OF THE EXCAVATION DATED JUNE 2011.

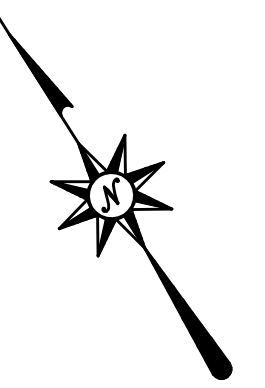


**GENERAL NOTES:**

1. BASE PLAN AND SURVEY COMPLETED BY LANGOLF ENGINEERING SERVICES AND PROVIDED TO BL COMPANIES BY GP-TECH ENVIRONMENTAL SERVICES INC.
2. ELEVATIONS ARE REFERENCED TO A BL COMPANIES DATUM, ADD 4.785 FEET TO ADJUST TO U.S.C.G.S. 1929 DATUM.

**LEGEND:**

- PROPERTY LINE AND LIMITS OF COMPOSITE COVER SYSTEM
- - - - - EXISTING GROUND SURFACE CONTOUR (FEET)
- - - - - DEMARCATION BARRIER ELEVATION CONTOUR (FEET)



Xref (e): .XXXXXXXXXXXX

REVISIONS	
No.	Desc.

**WHOLE FOODS MARKET**  
 220 3RD STREET  
 BROOKLYN, KINGS COUNTY, NEW YORK  
 NYSDEC BCP SITE NO. C224100

**Bl Companies**  
 ARCHITECTURE  
 ENGINEERING  
 PLANNING  
 LANGOLF ENGINEERING  
 LAND SURVEYING  
 ENVIRONMENTAL SCIENCES

388 Manhattan Parkway  
 3rd Floor  
 Brooklyn, NY 11218  
 (718) 860-8111  
 (718) 860-8111 Fax

**FIGURE 9**

Sheet No.

Designed: J.B.  
 Drawn: J.S.V.  
 Checked: J.S.V.  
 Approved: J.S.V.  
 Scale: 1"=20'  
 Project No: 03C497  
 Date: 06/22/11  
 CAD File: E:\03C497\02

## **Appendices**

## **Appendix A**

### **Metes and Bounds**



**PARTY IN TITLE, CONTINUED FROM SCHEDULE A**

**AS TO THE FEE ESTATE:**

190-220 THIRD STREET STORE BROOKLYN, LLC successor to WFM PROPERTIES BROOKLYN, LLC by Certificate of amendment of Certificate of Formation filed State of Delaware Secretary of State, June 12, 2006, and New York State Department of State, June 15, 2006.

Title acquired under the following deeds:

**AS TO PARCEL I (PART OF LOTS 1 AND 7):**

Deed dated 1/12/05, recorded on 5/25/05, in CRFN 2005000304208, made by LEVANIC, INC.

**AS TO PARCEL II (LOTS 16 AND 19):**

Deed dated 1/12/05, recorded on 5/25/05, in CRFN 20050003044209, made by RICHARD KOWALSKI.

**AS TO THE LEASEHOLD ESTATE:**

Policy insures that the lease dated as of 4/20/05, made by WFM PROPERTIES BROOKLYN, LLC (landlord) to WHOLE FOODS MARKET GROUP, INC. (tenant), as evidenced by instrument recorded on 12/12/05 in CRFN 2005000685949, as amended by First Amendment to Lease dated as of 7/31/06, as evidenced by First Amendment to Memorandum of Lease dated as of 7/31/06, is a valid and subsisting lease upon the premises therein described by the unexpired term thereof and can be assigned by WHOLE FOODS MARKET GROUP, INC. the owner and holder of record.

CHICAGO TITLE INSURANCE COMPANY  
SCHEDULE A DESCRIPTION

Title No.: 3409-00117

PARCEL I (PART OF LOTS 1 AND 7):

All that certain plot, piece or parcel of land, situate, lying and being in the Borough of Brooklyn, County of Kings, City and State of New York, bounded and described as follows:

BEGINNING at a point on the southerly side of 3rd Street distant North 42 degrees 31 minutes 44 seconds West 34.50 feet from corner formed by the intersection of the southerly side of 3rd Street with the westerly side of 3rd Avenue;

RUNNING THENCE southerly parallel with 3rd Avenue South 47 degrees 28 minutes 16 seconds West 49.80 feet;

THENCE easterly parallel with 3rd Street South 42 degrees 31 minutes 44 seconds East 34.50 feet to the westerly side of 3rd Avenue;

THENCE southerly along the westerly side of 3rd Avenue South 47 degrees 28 minutes 16 seconds West 255.20 feet;

THENCE westerly along a portion of the northerly side of 4th Street Basin North 42 degrees 31 minutes 44 seconds West 105.75 feet;

THENCE northerly parallel with 3rd Avenue North 47 degrees 28 minutes 16 seconds East 200.00 feet;

THENCE westerly parallel with 3rd Street North 42 degrees 31 minutes 44 seconds West 30.00 feet;

THENCE northerly parallel with 3rd Avenue North 47 degrees 28 minutes 16 seconds East 105.00 feet to the southerly side of 3rd Street;

THENCE easterly along the southerly side of 3rd Street South 42 degrees 31 minutes 44 seconds East 101.25 feet to the point or place of BEGINNING.

--CONTINUED--

CHICAGO TITLE INSURANCE COMPANY  
SCHEDULE A DESCRIPTION

Title No.: 3409-00117

PARCEL II (LOTS 16 AND 19):

ALL that certain plot, piece or parcel of land, situate, lying and being in the Borough of Brooklyn, County of Kings, City and State of New York, bounded and described as follows:

BEGINNING at a point on the southerly side of 3rd Street distant North 42 degrees 31 minutes 44 seconds West 135.75 feet westerly from the corner formed by the intersection of the southerly side of 3rd Street with the westerly side of 3rd Avenue;

RUNNING THENCE southerly parallel with 3rd Avenue South 47 degrees 28 minutes 16 seconds West 105.00 feet;

THENCE easterly parallel with 3rd Street South 42 degrees 31 minutes 44 seconds East 30.00 feet;

---

THENCE southerly parallel with 3rd Avenue South 47 degrees 28 minutes 16 seconds West 200.00 feet to the northerly side of 4th Street Basin;

THENCE westerly along a portion of the northerly side of 4th Street Basin North 42 degrees 31 minutes 44 seconds West 200.00 feet;

THENCE northerly parallel with 3rd Avenue North 47 degrees 28 minutes 16 seconds East 305.00 feet to the southerly side of 3rd Street;

THENCE easterly along the southerly side of 3rd Street South 42 degrees 31 minutes 44 seconds East 170.00 feet to the point or place of BEGINNING.

CHICAGO TITLE INSURANCE COMPANY  
SCHEDULE A DESCRIPTION

Title No.: 3409-00117

OVERALL DESCRIPTION OF PARCEL I (PART OF LOTS 1 AND 7) and PARCEL II (LOTS 16 AND 19):

All that certain plot, piece or parcel of land, situate, lying and being in the Borough of Brooklyn, County of Kings, City and State of New York, bounded and described as follows:

BEGINNING at a point on the southerly side of 3rd Street distant North 42 degrees 31 minutes 44 seconds West 34.50 feet from the corner formed by intersection of the southerly side of 3rd Street with the westerly side of 3rd Avenue;

RUNNING THENCE southerly parallel with 3rd Avenue South 47 degrees 28 minutes 16 seconds West 49.80 feet;

THENCE easterly parallel with 3rd Street South 42 degrees 31 minutes 44 seconds East 34.50 feet to the westerly side of 3rd Avenue;

---

THENCE southerly along the westerly side of 3rd Avenue South 47 degrees 28 minutes 16 seconds West 255.20 feet;

THENCE westerly along a portion of the northerly side of 4th Street Basin North 42 degrees 31 minutes 44 seconds West 305.75 feet;

THENCE northerly parallel with 3rd Avenue North 47 degrees 28 minutes 16 seconds East 305.00 feet to the southerly side of 3rd Street;

THENCE easterly along the southerly side of 3rd Street South 42 degrees 31 minutes 44 seconds East 271.25 feet to the point or place of BEGINNING.

## **Appendix B**

### **Excavation Work Plan**

## **APPENDIX B – EXCAVATION WORK PLAN**

### **B-1 NOTIFICATION**

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the Site owner or their representative will notify the Department. Currently, this notification will be made to:

Javier Perez, Project Manager

NYSDEC, Division of Environmental Remediation

Remedial Bureau B, Section B

625 Broadway, 12<sup>th</sup> Floor

Albany, New York 12233-7016

This notification will include:

- A detailed description of the work to be performed, including the location and aerial extent, plans for Site re-grading, intrusive elements or utilities to be installed below the Composite Cover System, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control;
- A summary of environmental conditions anticipated in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this EWP;
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120;
- A copy of the contractor's health and safety plan, in electronic format, if it differs from the HASP provided in Appendix C of the SMP;
- Identification of disposal facilities for potential waste streams; and

- Identification of sources of any anticipated backfill, along with all required chemical testing results.

Following notification to the Department and prior to conducting excavation work below the demarcation barrier, the Department and the Site owners qualified environmental professional will determine the requirements of the EWP that apply to the proposed work.

## **B-2 SOIL SCREENING METHODS**

In the event of a planned excavation below the Composite Cover System's demarcation barrier, the material below the demarcation barrier can be pre-characterized before commencing excavation activities or characterized during the excavation activities. Personnel with the appropriate Occupational Health & Safety Administrative (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) training will perform excavation activities conducted below the demarcation barrier.

Visual, olfactory and instrument-based soil screening will be performed by a qualified environmental professional during all remedial and development excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-Site disposal, material that requires testing, material that can be returned to the subsurface, and material that can be used as cover soil.

## **B-3 STOCKPILE METHODS**

Subsurface soil can be direct loaded for off-Site disposal or segregated into stockpiles. Soil characterization testing and disposal authorization will be the responsibility of the Site owner's qualified environmental professional. Stockpiled subsurface soils will be characterized for reuse and/or acceptance at a disposal/recycling facility.

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by NYSDEC.

#### **B-4 MATERIALS EXCAVATION AND LOAD OUT**

A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and its contractors are responsible for safe execution of all invasive and other work performed under this Plan. The qualified environmental professional is not responsible for execution of construction activities by contractors or is the qualified environmental professional responsible for selection of the means and methods to accomplish the materials excavation and load out.

At the request of the Owner, the qualified environmental professional may elect to map the location of utilities and easements on the Site. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the Site.

Loaded vehicles leaving the Site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

A truck wash will be operated on-Site. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the Site until the activities performed under this section are complete.

Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking.



The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials.

The contractor performing the excavation work will be responsible for the completion of an “as-built” survey depicting areas of soil excavation and Composite Cover System repair(s). A surveyor licensed to practice in the State of New York will conduct the survey.

#### **B-5 MATERIALS TRANSPORT OFF-SITE**

All soils excavated below the Composite Cover System’s demarcation barrier that is to be disposed of off-Site must be loaded within the Site limits.

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the Site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

All trucks will be washed prior to leaving the site. Truck wash waters will be collected and disposed of off-site in an appropriate manner.

All vehicles are expected to enter and leave the Site via 3<sup>rd</sup> Street and/or 3<sup>rd</sup> Avenue. All trucks, except trucks of local origin, are expected to use the Brooklyn-Queens Expressway (Route 278). Truck traffic between the Site and the Brooklyn-Queens Expressway is expected to be limited to 3<sup>rd</sup> Avenue, Atlantic Avenue, and streets contiguous to 3<sup>rd</sup> Avenue and Atlantic Avenue. All trucks loaded with Site materials will exit the vicinity of the Site using only these approved truck routes. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive Sites; (b) use of city mapped truck routes; (c) prohibiting off-Site

queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport.

Trucks will be prohibited from stopping and idling in the neighborhood outside the project Site.

Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during site remediation and development.

Queuing of trucks will be performed on-Site in order to minimize off-Site disturbance. Off-site queuing will be prohibited.

## **B-6 MATERIALS DISPOSAL OFF-SITE**

All soil/fill/solid waste excavated below the Composite Cover System's demarcation barrier and removed from the Site will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6 NYCRR Part 360) and Federal regulations. If disposal of soil/fill from this Site is proposed for unregulated off-Site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of materials from this site will not occur without formal NYSDEC approval.

Off-Site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6 NYCRR Part 360-1.2. Material that does not meet Track 1 unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6 NYCRR Part 360-16 Registration Facility).

## **B-7 MATERIALS REUSE ON-SITE**

Chemical criteria for on-Site reuse of material have been approved by NYSDEC and are listed in Table B-1. The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-Site. Contaminated on-Site material, including historic fill and contaminated soil, that is acceptable for re-use on-site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

A qualified environmental professional, who will collect samples for laboratory analyses as follows, will perform the chemical characterization assessment of soils for potential on-Site reuse. Two composite samples for SVOCs and metals per 600 cubic yards, and five composite plus five grab samples for VOCs per 500 cubic yards will be collected for analyses. For stockpiles of more than 1,000 cubic yards, the number of samples will be reduced to two composite samples for SVOCs/metals, and five composite, plus five grab samples, for VOCs per 500 cubic yards for every 2,500 cubic yards of additional soil (up to 5,000 cubic yards), if and only if COCs are detected in the first 1,000 cubic yards at concentrations at or below the standards, criteria, and guidance values in Table B-1.

Composite samples will consist of a minimum of 5 grab samples collected from locations within the stockpile. Photoionization detector measurements will be recorded at each sample location. One grab sample will be collected from the individual locations (either the sample with the highest PID reading or if no PID reading are obtained, a randomly selected sample). A NYSDOH-ELAP-certified laboratory will analyze the composite samples for TCL SVOCs, and TAL metals, and the grab sample will be analyzed for TCL VOCs. Any modification to the above-mentioned sampling and analyses procedures must be approved by the NYSDEC prior to implementation.

Demolition material proposed for reuse on-Site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-Site will not be performed without prior NYSDEC approval. Organic

matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-Site.

## **B-8 FLUIDS MANAGEMENT**

All liquids to be removed from the Site, including excavation dewatering and ground water monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the Site, but will be managed off-Site.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed under a SPDES permit.

## **B-9 COMPOSITECOVER SYSTEM RESTORATION**

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the RWP. The demarcation barrier, consisting of orange geotextile fabric or equivalent material will be replaced to provide a visual reference to the top of the 'Remaining Contamination Zone', the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in this Site Management Plan. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the 'Remaining Contamination. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in any updates to the Site Management Plan. The Specifications for the Composite Cover System are provided in Attachment 1 of this EWP.

## **B-10 BACKFILL FROM OFF-SITE SOURCES**

Imported clean fill will be used to fill areas above and/or below the demarcation barrier. Prior to transporting the clean fill to the Site, the source of the material will undergo an assessment to identify past uses, environmental violations, or releases of hazardous materials at the source.

All materials proposed for import onto the Site will be approved by the qualified environmental professional and will be in compliance with provisions in this SMP prior to receipt at the site.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this Site, will not be imported onto the Site without prior approval by NYSDEC. Solid waste will not be imported onto the Site.

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

## **B-11 STORMWATER POLLUTION PREVENTION**

For construction projects exceeding 1 acre, the contractor performing the work will complete a Storm Water Pollution Prevention Plan (SWPPP). The plan will conform to the requirements of NYSDEC Division of Water guidelines and applicable Federal, State, and local regulations. The plan, at a minimum, will include the following information,

- Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by NYSDEC. All necessary repairs shall be made immediately.
- Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.
- All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

- Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.
- Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters
- Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

## **B-12 CONTINGENCY PLAN**

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for full a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the Site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the periodic reports prepared pursuant to Section 5 of the SMP.

## **B-13 COMMUNITY AIR MONITORING PLAN**

The Site-specific Community Air Monitoring Plan (CAMP) is presented in Appendix D of the SMP. The Site-specific CAMP will be implemented at the Site in

accordance with provisions of the NYSDOH Generic CAMP contained in Appendix 1A of DER-10, Generic Community Air Monitoring Plan. Continuous monitoring at fixed stations will be conducted for ground intrusive activities that extend beneath the Composite Cover System's demarcation barrier. Ground intrusive activities include excavation, backfilling, impacted soil handling, and the installation of monitoring wells. The location of air sampling stations will be based on generally prevailing wind conditions. These locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide upwind and downwind monitoring stations. Personal monitoring will be performed near activities that are likely to generate dust and/or vapor.

The CAMP establishes action levels for dust and VOCs that are protective of the surrounding community. Specific measures that will be taken during ground intrusive activities that extend beneath the Composite Cover System's demarcation barrier to comply with the CAMP are described in the following paragraphs.

Air monitoring may not be necessary for certain types of excavation work below the Composite Cover System. However, Department approval is necessary for exclusion of a CAMP during excavation work below the Composite Cover System.

### **VOC MONITORING, RESPONSE LEVELS AND ACTIONS**

VOCs will be monitored at the upwind and downwind perimeter of the Site on a continuous basis during ground intrusive activities. The monitoring work will be performed using equipment appropriate to measure the types of contamination known or suspected to be present (i.e., Photoionization detector (PID)). The PID will be calibrated at a minimum daily using an appropriate surrogate. Fifteen-minute running average concentrations will be compared to the following action levels:

If the ambient air concentration of total organic vapors at the downwind perimeter of the Site exceeds 5 parts per million (ppm) above upwind concentrations for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

If total organic vapor levels at the downwind perimeter of the Site persist at levels in excess of 5 ppm over upwind concentrations but less than 25 ppm, work activities will be halted, the source of the vapors identified, corrective actions will be taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the Site or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less – but in no case less than 20 feet, is below 5 ppm the upwind concentration for the 15-minute average.

If the downwind total organic vapor levels exceed the upwind level by 25 ppm for a 15-minute average, activities will be shutdown.

### **PARTICULATE MONITORING, RESPONSE LEVELS AND ACTIONS**

Particulate concentrations will be monitored continuously at the upwind and downwind Site perimeters at temporary particulate monitoring (PM) stations. Particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes or less for comparison to the airborne particulate action levels. The PM equipment will be equipped with an audible and/or visual alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities. The following are the action levels for particulates:

If the downwind PM-10 particulate level is 100 micrograms per cubic meter ( $\text{ug}/\text{m}^3$ ) greater than upwind particulate levels for the 15-minute period or if airborne dust is observed leaving the Site, then dust suppression techniques will be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed  $150 \text{ ug}/\text{m}^3$  above the upwind level and provided that no visible dust is migrating from the Site.

If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than  $150 \text{ ug}/\text{m}^3$  above the upwind level, work will be stopped and a re-evaluation of activities initiated. Work can resume provided that dust



suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentrations to less than 150 ug/m<sup>3</sup> of the upwind level and in reducing visible dust migration.

#### Weather

A log of local weather observations (wind direction, temperature, and precipitation data) will be taken coincidental with real-time air-quality measurements.

#### Reporting

Air monitoring data will be recorded and made available for State (NYSDEC and NYSDOH) personnel to review.

Exceedances of the action levels contained in the CAMP will be reported to NYSDEC Project Managers.

### **B-14 ODOR CONTROL PLAN**

This odor control plan is capable of controlling emissions of nuisance odors off-Site . Specific odor control methods to be used will include reducing the excavation rate or changing the sequence of work activities; and changing the work methods or equipment to alternatives that minimize air emissions. If nuisance odors are identified at the Site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the property owner's Qualified Environmental Professional, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on- and off-Site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. . If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (a) direct load-out

of soils to trucks for off-Site disposal; (b) use of chemical odorants in spray or misting systems; (c) use of water in spray or misting systems; and, (d) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

## **B-15 DUST CONTROL PLAN**

This dust control plan addresses dust management during invasive on-Site work. If real-time perimeter particulate action levels are exceeded, a qualified environmental professional will determine what type of dust suppression control would be appropriate. Actions that may be taken to reduce dust emissions include the following:

- Road wetting using a water truck.
- Placement of gravel on roadways to provide a clean and dust-free road surface.
- Covering areas of exposed soils or stockpiles with tarpaulins
- Temporarily relocating work to an area with potentially lower dust emission levels.
- Reduce the excavation rate or change the sequence of work activities
- Change the work methods or equipment to alternatives that minimize dust emissions

In practice, these actions will typically be employed proactively to prevent action levels from being reached at the Site perimeter.

## **B-16 OTHER NUISANCES**

A plan will be developed and utilized by the contractor for all excavation work to ensure that excavation work completed below the Clean Cover System's demarcation barrier will be in compliance with local noise control ordinances.

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**TABLE B-1  
MATERIAL REUSE ON-SITE  
NYSDEC STANDARDS, CRITERIA, AND GUIDANCE VALUES\***

**220 3<sup>RD</sup> STREET / NYSDEC BCP SITE NO. C224100  
BROOKLYN, KINGS COUNTY, NEW YORK**

Contractor shall comply with following SCGs for material imported to the Site to construct composite cover system, or an excavation backfill.

Contaminant	SCGs*
Metals	
Arsenic	16
Barium	400
Beryllium	47
Cadmium	7.5
Chromium, hexavalent	19
Chromium, trivalent	1500
Copper	270
Total cyanide	27
Lead	450
Manganese	2,000
Total Mercury	0.73
Nickel	130
Selenium	4
Silver	8.3
Zinc	2,430
PCBs/Pesticides	
4,4'-DDE	17
4,4'-DDT	47
4,4'-DDD	14
Aldrin	0.19
alpha-BHC	0.02
beta-BHC	0.09
Chlordane (alpha)	2.9
delta-BHC	0.25
Dibenzofuran	210
Dieldrin	0.1
Endosulfan I	102
Endosulfan II	102
Endosulfan sulfate	200
Endrin	0.06
Heptachlor	0.38
Lindane	0.1
Polychlorinated biphenyls	1

Contaminant	SCGs*
Semivolatiles	
Acenaphthene	98
Acenaphthylene	107
Anthracene	500
Benz(a)anthracene	1
Benzo(a)pyrene	1
Benzo(b)fluoranthene	1.7
Benzo(g,h,i)perylene	500
Benzo(k)fluoranthene	1.7
Chrysene	1
Dibenz(a,h)anthracene	0.56
Fluoranthene	500
Fluorene	386
Indeno(1,2,3-cd)pyrene	5.6
m-Cresol	0.33
Naphthalene	12
o-Cresol	0.33
p-Cresol	0.33
Pentachlorophenol	0.8
Phenanthrene	500
Phenol	0.33
Pyrene	500

\*SCGs are the lower of the protection of ground water or the commercial-use protection of Public Health Soil Clean-Up objectives as set forth in Table 6NYCRR Part 375-6.8(b).

Contaminant	SCGs*
Volatiles	
1,1,1-Trichloroethane	0.68
1,1-Dichloroethane	0.17
1,1-Dichloroethene	0.33
1,2-Dichlorobenzene	1.1
1,2-Dichloroethene	0.02
cis-1,2-Dichloroethene	0.25
trans-1,2-Dichloroethene	0.19
1,3-Dichlorobenzene	2.4
1,4-Dichlorobenzene	1.8
1,4-Dioxane	0.1
Acetone	0.05
Benzene	0.06
Butylbenzene	12
Carbon tetrachloride	0.76
Chlorobenzene	1.1
Chloroform	0.37
Ethylbenzene	1
Hexachlorobenzene	3.2
Methyl ethyl ketone	0.12
Methyl tert-butyl ether	0.93
Methylene chloride	0.05
n-Propylbenzene	3.9
sec-Butylbenzene	11
tert-Butylbenzene	5.9
Tetrachloroethene	1.3
Toluene	0.7
Trichloroethene	0.47
1,2,4-Trimethylbenzene	3.6
1,3,5-Tremethylbenzene	8.4
Vinyl chloride	0.02
Xylene (mixed)	1.6

**ATTACHMENT 1  
COMPOSITE COVER SYSTEM  
NYSDEC STANDARDS, CRITERIA, AND GUIDANCE VALUES\***

**220 3<sup>RD</sup> STREET / NYSDEC BCP SITE NO. C224100  
BROOKLYN, KINGS COUNTY, NEW YORK**

Contractor shall comply with following SCGs for material imported to the Site to construct composite cover system.

Contaminant	SCGs*
Metals	
Arsenic	16
Barium	400
Beryllium	47
Cadmium	7.5
Chromium, hexavalent	19
Chromium, trivalent	1500
Copper	270
Total cyanide	27
Lead	450
Manganese	2,000
Total Mercury	0.73
Nickel	130
Selenium	4
Silver	8.3
Zinc	2,430
PCBs/Pesticides	
4,4'-DDE	17
4,4'-DDT	47
4,4'-DDD	14
Aldrin	0.19
alpha-BHC	0.02
beta-BHC	0.09
Chlordane (alpha)	2.9
delta-BHC	0.25
Dibenzofuran	210
Dieldrin	0.1
Endosulfan I	102
Endosulfan II	102
Endosulfan sulfate	200
Endrin	0.06
Heptachlor	0.38
Lindane	0.1
Polychlorinated biphenyls	1
Contaminant	SCGs*

Semivolatiles	
Acenaphthene	98
Acenaphthylene	107
Anthracene	500
Benz(a)anthracene	1
Benzo(a)pyrene	1
Benzo(b)fluoranthene	1.7
Benzo(g,h,i)perylene	500
Benzo(k)fluoranthene	1.7
Chrysene	1
Dibenz(a,h)anthracene	0.56
Fluoranthene	500
Fluorene	386
Indeno(1,2,3-cd)pyrene	5.6
m-Cresol	0.33
Naphthalene	12
o-Cresol	0.33
p-Cresol	0.33
Pentachlorophenol	0.8
Phenanthrene	500
Phenol	0.33
Pyrene	500

Fill used for the composite cover system must be composed of soil or other unregulated material as set forth in 6NYCRR Part 360 that contains regulated compounds at concentrations at or below the NYSDEC standards, criteria, and guidance values presented in this Attachment 1.

\*SCGs are the lower of the protection of ground water or the commercial-use protection of Public Health Soil Clean-Up objectives as set forth in Table 6NYCRR Part 375-6.8(b).

Contaminant	SCGs*
Volatiles	
1,1,1-Trichloroethane	0.68
1,1-Dichloroethane	0.17
1,1-Dichloroethene	0.33
1,2-Dichlorobenzene	1.1
1,2-Dichloroethene	0.02
cis-1,2-Dichloroethene	0.25
trans-1,2-Dichloroethene	0.19
1,3-Dichlorobenzene	2.4
1,4-Dichlorobenzene	1.8
1,4-Dioxane	0.1
Acetone	0.05
Benzene	0.06
Butylbenzene	12
Carbon tetrachloride	0.76
Chlorobenzene	1.1
Chloroform	0.37
Ethylbenzene	1
Hexachlorobenzene	3.2
Methyl ethyl ketone	0.12
Methyl tert-butyl ether	0.93
Methylene chloride	0.05
n-Propylbenzene	3.9
sec-Butylbenzene	11
tert-Butylbenzene	5.9
Tetrachloroethene	1.3
Toluene	0.7
Trichloroethene	0.47
1,2,4-Trimethylbenzene	3.6
1,3,5-Tremethylbenzene	8.4
Vinyl chloride	0.02
Xylene (mixed)	1.6

## **Appendix C**

### **Health and Safety Plan**

SITE MANAGEMENT  
HEALTH AND SAFETY PLAN

for

Whole Foods Market  
220 3<sup>rd</sup> Street  
Brooklyn, Kings County New York

NYSDEC BCP Site No. C224100

*Prepared For*

190-220 Third Street Store Brooklyn LLC  
Englewood Cliffs, New Jersey

*Prepared by:*

BL Companies, Inc.  
355 Research Parkway  
Meriden, Connecticut 06450

## **EMERGENCY TELEPHONE NUMBERS**

A. Local Emergency Numbers

Police Department	911
Fire Department	911
Ambulance	911

B. Project Emergency Numbers

BL Companies, Inc. (Qualified Environmental Professional)	(203) 630-1406
Whole Foods Market	(201) 567-2090

C. Hospital Location and Directions

Nearest Hospital:	Interfaith Medical Center	(718) 604-6000
	1545 Atlantic Avenue	
	Brooklyn, NY	

Leave Site going north on 3<sup>rd</sup> Street. Turn left onto 3<sup>rd</sup> Avenue. Turn right onto Atlantic Avenue. Go approximately 2.4 miles and arrive at hospital.

D. Additional Phone Numbers

NYSDEC Spill Hotline	(518) 457-7362
NYSDEC, Environmental Conservation Police	(718) 482-4885
U.S. EPA Emergency Response	(800) 424-8802
Poison Control Center	(800) 343-2722
Consolidated Edison Emergency	(800) 752-6633
AT&T Emergency Phone	(800) 222-3000



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## I. INTRODUCTION

The following Site Health & Safety Plan (HASP) describes standard operating procedures for worker protection during specific work activities conducted at the Whole Foods Market (WFM) Site located at 220 3<sup>rd</sup> Street, Brooklyn, Kings County, New York. This HASP was prepared for 190-220 Third Street Store Brooklyn LLC by BL Companies, Inc. (BL), Meriden, Connecticut. The protocols and procedures described below apply directly to the work conducted beneath the Composite Cover System's demarcation barrier and in accordance with the Site Management Plan (SMP) dated April 2011.

Personnel involved with work performed beneath the demarcation barrier will be familiar with the contents of the HASP. A copy of this plan will be posted on-Site at all times during Site operations. Should new information regarding conditions at the Site become available, the HASP will be updated. Employees' and subcontractors involved in Site operations will be apprised of the changes and provided with a copy of the revised HASP.

Soil and ground water impacted with semi-volatile organic compounds/polynuclear aromatic hydrocarbons (SVOCs/PAHs), volatile organic compounds (VOCs), metals, and polychlorinated biphenyls (PCBs) have been encountered during subsurface investigations of the Site. Remediation has been completed at the Site in accordance with the terms of the Brownfield Cleanup Agreement (BCA), dated April 25, 2005, Index W2-1052-05-02, between WFM and the New York Department of Environmental Conservation (NYSDEC), the Remedial Work Plan (RWP), dated December 7, 2006, and the NYSDEC RWP Approval Letter dated May 3, 2007. Some contamination remains in place at the Site and is managed through the implementation of engineering controls to limit human exposure to the contamination during the use of the site and to ensure protection of public health and the environment. Ongoing site management will be required and will include onsite activities such as implementation and management of all engineering controls; media monitoring; operation and maintenance of all containment systems; and performance of periodic inspections.

The purpose of this Health & Safety Plan is to communicate potential and known health and safety hazards that may be encountered at the site during site management activities. If additional concerns are identified during the construction phase of this WFM project, the HASP will be revised addressing those concerns. Health and safety measures, including engineering controls, personal protective equipment and decontamination, decontamination of equipment, and personnel training are outlined in this HASP and must be adhered to in order to reduce health and safety risks to personnel working at the site. Personnel assigned to manage the site will be required to read and sign the HASP, thereby certifying that they have read and understand its requirements.

## II. STATEMENT OF SAFETY AND HEALTH POLICY

This HASP has been developed to provide guidance for compliance to the standards set forth in the Occupational Safety and Health Administration (OSHA), 29 Code of Federal Regulations (CFR) 1926 (29CFR 1926), *Safety and Health Regulations for Construction*. This HASP was also developed in accordance with OSHA 29 CFR 1910.120 *Hazardous Waste Site Operations*

*and Emergency Response*, which has been formerly incorporated into 29 CFR 1926.65. The policies and procedures described within the HASP are based upon existing information pertinent to the project and made available to BL Companies at the time the HASP was prepared, as well as BL Companies' past experience with similar projects.

BL Companies does not guarantee the Health and Safety of any person(s) entering the Site. Due to the potential for the presence of hazards at the site and the proposed activities scheduled to occur within the boundaries of the Site, it is not possible to discover, evaluate, and provide protection from all potential hazards that may be encountered. Strict adherence to the specific items and procedures outlined in the HASP are intended to reduce, but not eliminate, the potential for injury to persons at the Site. Therefore, the guidelines outlined in this HASP are intended for this Site and should not be applied to other sites.

### III. SITE INFORMATION AND CONTAMINATION CHARACTERIZATION

Contaminated soil and ground water have been identified at the Site during previous investigations. Much of the contaminated soil has been removed and disposed of off-Site at a regulated facility. However, areas of soil contamination remains on-Site at concentrations above the Restricted-Commercial Site Cleanup Objectives (SCOs) and are addressed through the implementation of an engineered control.

### IV. SAFETY AND HEALTH RISK ANALYSIS

The overall health and safety risks from and construction activities performed beneath the Composite Cover System's demarcation barrier are considered low due to the concentration of contaminants detected at the Site.

Note: NIOSH develops and periodically revises Recommended Exposure Limits (REL) for hazardous substances or conditions in the workplace. OSHA promulgates and enforces Permissible Exposure Limits (PELs) for hazardous substances in the workplace; Threshold Limit Values (TLVs) and Short Term Exposure Limits (STELs) are recommendations of the American Conference of Governmental Industrial Hygienists (ACGIH); PELs and TLVs are normally compared to 8-hour TWA exposures. IDLH - immediately dangerous to life and health. ST = short-term exposure; C15 = ceiling 15-min (e.g.); 5 min (2) = 5 minute max peak in any 2 hours (e.g.); 10 min = 10 minute max peak; A3 = animal carcinogen (ACGIH); Ca = potential occupational carcinogen (NIOSH), A4 = not classifiable as a carcinogen (ACGIH); A1 = confirmed human carcinogen (ACGIH); A2 = suspected human carcinogen.

Exposure media includes vapors, dust, soil particulates, and groundwater. Exposure routes include inhalation, absorption, ingestion and contact.

Interim remedial measures (IRMs) were completed in 2005 and a remediation was completed in 2010 to prevent potential risk to the environment and public health from on-Site areas of identified contamination. The following contaminants were detected in the material analyzed between December 2003 and December 2004, prior to completing the IRMs and 2010 remediation.

1. **Semi-Volatile Organic Compounds (SVOCs)/Polycyclic Aromatic Hydrocarbons (PAHs)**

The following SVOCs/PAHs were detected at the Site:

- 2-Methylnaphthalene, not detected (ND) – 170 ppm
- Acenaphthene, ND – 1,800 ppm
- Acenaphthalene, ND – 49 ppm
- Anthracene, ND – 960 ppm
- Benzo(a)anthracene, ND – 67 ppm
- Benzo(a)pyrene, ND – 80 ppm
- Benzo(b)fluoranthene, ND – 48 ppm
- Benzo(g,h,i)perylene, ND – 52 ppm
- Benzo(k)fluoranthene, ND – 53 ppm
- Chrysene, ND – 74 ppm
- Fluoranthene, ND – 1,300 ppm
- Flourene, ND – 1,000 ppm
- Indeno(1,2,3-cd)pyrene, ND – 29 ppm
- Napthalene, ND – 15,000 ppm
- Pheneanthrene, ND – 3,400 ppm
- Pyrene, ND – 2,100 ppm

The following are available exposure limits for releases into the air:

TLV as coal tar pitch volatiles:  $0.2 \text{ mg/m}^3 \text{ A1}$  PEL:  $0.2 \text{ mg/m}^3$  REL:  $0.1 \text{ mg/m}^3 \text{ Ca}$

2. **Volatile Organic Compounds (VOCs)**

The following VOCs were detected at the Site:

- 1,2,4-Trimethylbenzene, ND – 58 ppm
- 1,3,5-Trimethylbenzene, ND – 52 ppm
- Benzene, ND – 750 ppm
- Ethylbenzene, ND – 150 ppm
- Isopropylbenzene, ND – 11 ppm
- Napthalene, ND – 19,000 ppm
- n-Butylbenzene, ND – 230 ppm
- n-Propylbenzene, ND – 19 ppm
- Total Xylenes, ND – 154 ppm
- p-Isopropyltoluene, ND – 14 ppm
- sec-Butylbenzene, ND – 8.5 ppm
- tert-Butylbenzene, ND – 77 ppm
- Toluene, ND – 2.5 ppm

- Pheneanthrene, ND – 3,400 ppm

The following are available exposure limits for releases into the air using benzene as the primary compound of concern:

TLV as benzene: 0.2 mg/m<sup>3</sup> A1    PEL: 1 mg/m<sup>3</sup>    REL:0.1 mg/m<sup>3</sup> Ca

### 3. Inorganic Metals

RCRA metals were detected at the Site. The concentration of some of the detected metals exceeded the applicable standards and is discussed below.

**Lead:** The highest concentration of lead detected in the soil sampled was 2,320 mg/kg. According to the Federal EPA, Residential Direct Exposure Criteria, soil is considered contaminated with lead at a total concentration greater than 400 mg/kg. NYSDEC TAGM limits are based on site background levels.

The following are exposure limits for elemental lead released into the air:  
REL: 0.100 mg/m<sup>3</sup>    PEL: 0.050 mg/m<sup>3</sup>    IDLH: 100 mg/m<sup>3</sup> (Pb)

Physical Description: Metal: A heavy ductile, soft gray solid. Exposure media includes dust, soil particulates, and as dissolved in water.

**Chromium:** the highest total concentration detected in the soil sampled was 53.1 mg/kg. The NYSDEC TAGM #4046 screening criteria for chromium is 10 mg/kg.

The following are exposure limits for chromium compounds:  
REL: 0.5 mg/m<sup>3</sup>    PEL: 1 mg/m<sup>3</sup>    IDLH: 250 mg/m<sup>3</sup> (Cr)

Physical Description: Appearance and odor vary depending upon the specific chromium compound.

**Arsenic:** the highest total concentration detected in the soil sampled was 47.3 mg/kg. The NYSDEC TAGM #4046 screening criteria for arsenic is 7.5 mg/kg. ACGIH notes that arsenic is a confirmed human carcinogen.

The following are exposure limits for inorganic arsenic released into the air:  
REL Ceiling: 0.002 mg/m<sup>3</sup> 15 min (Ca) PEL: 0.010 mg/m<sup>3</sup> IDLH: 5 mg/m<sup>3</sup> (Ca)

Physical Description: Metal: Silver-gray or tin-white brittle, odorless solid. Exposure media includes dust, soil particulates, and as dissolved in water.

**Mercury:** the highest total concentration detected in the soil sampled was 2.2 mg/kg. The NYSDEC TAGM #4046 screening criteria for arsenic is 0.1 mg/kg. ACGIH notes that arsenic is a confirmed human carcinogen.

The following are exposure limits for inorganic arsenic released into the air:  
REL Ceiling: 0.05 mg/m<sup>3</sup>      PEL: 0.10 mg/m<sup>3</sup>      IDLH: 5 mg/m<sup>3</sup> (Hg)

Physical Description: Metal: Silver-gray or tin-white brittle, odorless solid. Exposure media includes dust, soil particulates, and as dissolved in water.

**Selenium:** the highest total concentration detected in the soil sampled was 24.2 mg/kg (ppm). The NYSDEC TAGM #4046 screening criteria for selenium is 24.2 ppm.

The following are exposure limits for selenium:  
REL: 0.2 mg/m<sup>3</sup>      PEL: 0.2 mg/m<sup>3</sup>      IDLH: 1 mg/m<sup>3</sup> (Se)

Physical Description: Amorphous or crystalline, red to gray solid. Exposure media includes dust and/or soil particulates.

#### 4. **PCBs**

PCBs were detected solely in soil at one location at the Site. The highest concentration of PCBs detected at the Site was 55 parts per billion (ppb). The NYSDEC TAGM #4046 screening criteria for PCB is 1 mg/kg.

The following are exposure limits for PCBs released into the air:  
REL: 0.2 mg/m<sup>3</sup>      PEL: 0.5 mg/m<sup>3</sup>      IDLH: 5 mg/m<sup>3</sup>

Physical Description: Colorless to pale-yellow solid with mild hydrocarbon odor. Exposure media includes dust and/or soil particulates.

#### V **REMAINING CONTAMINATION**

Contamination is known to remain on the Site as a result of the presence of urban fill, which is ubiquitous in the neighborhood, and in a few discrete areas of formerly identified “hotspots”. Tables and figures of the Site Management Plan dated April 2011 summarizes the results of all soil samples remaining at the Site after the completion of IRMs and 2010 remedial activity.

#### VI. **HAZARD ANALYSIS**

The hazard analysis for this Site is based upon the anticipated risk posed by proposed construction activities and anticipated site management activities. The following is a summary of each anticipated activity, associated hazard(s), and methods to minimize and/or prevent these hazards:

Site specific hazards that may be encountered during ground water monitoring, ground water sampling, and excavation activities include: exposure to harmful chemicals, and/or contaminants; electrical hazards from power sources, handling glass containers, exposure to loud noises, and overhead hazards from heavy equipment.

These hazards can be prevented by using trained personnel for air monitoring and sample collection, using ground fault interrupters, using well maintained equipment, not using electrical equipment in wet or flammable areas, being aware of the action levels for the chemical contaminants on-Site, wearing personal protective equipment, and reading and understanding the HASP.

## VII. RESPONSIBILITIES

The following personnel are designated to perform the stated Site activities and provide proper communications in the event of an emergency or need for medical attention.

### Project Manager

John K. Bogdanski, PG, BL Companies, Inc. (or other Qualified Environmental Professional)

### Health and Safety Manager

Guy F. LaBella, PhD, PE, CHMM, BL Companies, Inc. (or other Qualified Environmental Professional)

Qualifications: Completed 40-hour and Annual 8-hour Refresher "HAZWOPER" Training  
Completed 8-hour Site Supervisor Training  
Institute of Hazardous Materials Management- Certified Hazardous Materials Manager (CHMM)  
Professional Engineer, Licensed Environmental Professional  
Experience in performing air-monitoring activities on various ConnDOT construction sites utilizing PIDs, FIDs, Dust Meters, Personal Sampling Pumps, Oxygen & Combustible Gas Meters, and Portable Gas Chromatograph

### Health and Safety Officer/ Site Safety Officers

BL Companies (or other Qualified Environmental Professional)

Qualifications: Completed 40-hour and Annual 8-hour Refresher "HAZWOPER" Training  
Completed 8-hour Site Supervisor Training  
Experience in performing air-monitoring activities on various construction sites utilizing PIDs, Dust Meters, Personal Sampling Pumps, Oxygen & Combustible Gas Meters, and Portable Gas

The responsibility of the Health and Safety Manager is to review and approve the HASP.

Enforcement of this HASP will be the responsibility of the Site Safety Officer and/or the Health and Safety Officer designated for the Site, or in their absence, a designated, qualified replacement. Employees of BL Companies, subcontractors, or their employees may be excluded from the site at the discretion of the Health and Safety Officer or the Site Safety Officer, should a violation of the protocols established in this Health and Safety Plan occur.



While working within an Established Exclusion Zone, the Health and Safety Officer and Site Safety Officer will report to the Project Manager on a daily basis regarding the conformance to the protocols outlined in the HASP. The primary responsibilities of the Health and Safety Officer and Site Safety Officer are:

1. Ensure that all personal performing work below the Composite Cover System's demarcation barrier is familiar with the HASP.
2. Communicate to all personnel performing work the hazards associated with Site activities within exclusion zones.
3. Utilize engineering and administrative controls in order to reduce health and safety risks encountered during project activities.
4. Provide personal protective equipment to project personnel, when engineering and administrative controls are known to be limited in effectiveness.
5. Require that personal protective equipment be properly utilized and maintained by project personnel.
6. Oversee the overall performance of project-related personnel and encourage safe work practices.
7. Identify and correct deficiencies and unsafe work practices.
8. Conduct field screening and monitoring procedures utilizing direct reading instrumentation in order to identify chemical hazards present in construction areas.
9. Advise the Project Manager regarding the reclassification of hazards, as well as any changes in the level of personal protective equipment to be worn.
10. Direct emergency and evacuation procedures for personnel covered under this HASP.
11. Issue stop-work orders as necessary.

The responsibilities of the Project Manager include, but are not limited to:

1. Determine if personal who will work in the exclusion zone, have successfully completed the appropriate educational requirements stipulated in 29 CFR 1926.65, are currently monitored under a medical surveillance program in compliance with those regulations, and are physically fit for work in Level C conditions.
2. Determine availability of personal protective equipment for all BL Companies personnel who will be working in the exclusion zones.
3. Notify the Owner of any changes in actual Site conditions.

4. Notify the Owner of the reclassifications of hazards within the construction Site, as well as any changes in the levels of personal protective equipment to be worn.
5. Conduct oversight of the Site operations.

#### VIII. EMPLOYEE TRAINING

Prior to the initiation of operations on the Site, on-Site workers will receive a pre-entry briefing based upon the contents of this plan. This briefing will include at a minimum the following items:

- Verbal description of the site and hazards present.
- A chemical hazard briefing.
- The location of the nearest emergency communications and emergency facilities and emergency telephone numbers.
- Emergency procedures.
- The identification of hazards that are associated with anticipated tasks of the day
- Hazards specific to the site, their chemical nature, concentrations present or expected, exposure limits, symptoms of overexposure, and emergency first response first aid.
- The inspection and use of personal safety equipment.
- A discussion of the location of safe areas if emergency evacuation is necessary.
- How to detect/eliminate/prevent hazards through the use of monitoring and control measures.

Unless the Action levels outlined in Section XI are exceeded during on-Site air monitoring, on-Site workers are only required to be trained according to 29 CFR 1926.65 paragraph (c)(3)- Initial Training. However, if air monitoring determines that concentrations of contaminants have exceeded the Action Levels outlined in Section XI, then all personnel who will perform activities within an exclusion zone will be required to have successfully completed appropriate health and safety training meeting the requirements of OSHA 29 CFR 1926.65 and 29 CFR 1910.120. Should this situation occur, a copy of their training certificate will be required on Site to confirm that every assigned person has currently received the necessary training.

The purpose of the training is to ensure that workers are aware of potential hazards they may encounter, provide knowledge and skills in order to complete tasks with minimal risk to health and safety, provide knowledge of the purpose and limitations of personal protective equipment, develop safe work practices, and inform workers of the requirement of a medical surveillance program, including the recognition of symptoms and signs that might indicate exposure to a hazard.

#### IX. PERSONAL PROTECTIVE EQUIPMENT

Standard levels of personal protection have been divided into four categories by the Environmental Protection Agency, OSHA, U.S. Coast Guard, and National Institute for Occupational Safety and Health (NIOSH). These categories have been established according to the level of hazard that personnel may be exposed to. These four levels include:

Level A - Provides the highest level of respiratory, skin and eye protection.

Level B - Provides the highest respiratory protection, but lower skin protection than in Level A.

Level C - Provides the same skin protection as Level B, but has lower level of respiratory protection.

Level D - Provides no respiratory protection and minimal skin protection.

When working in an exclusion zone, the level of personal protective equipment (PPE) worn will be in conformance with OSHA 29 CFR 1926.65. The minimal level of PPE will be level D. All Qualified Environmental Professionals and subcontractors entering work zones on this project are required to wear Level D PPE at all times. This level of protection may be upgraded to a Level C (either partial or full) at the discretion of the Health and Safety Manager or Site Safety Officer, in the event that site conditions and/or air monitoring results indicate a potential exposure risk.

Level D PPE includes:

- Coveralls/Tyvek\*
- Work Gloves
- Steel Toe/Shank Work Boots
- Hard Hat
- Nitrile or Latex Inner Sampling Gloves\*
- Disposable Outer Boots\*
- Safety Glasses/Goggles/Face Shield\*
- Hearing Protection\*
- Approved Safety Vests (when working within the highway R-O-W)

\*When Hazards Exist/Optional

The criteria for Level D PPE include:

- No contaminants are present above the concentrations as specified in the Safety and Health Risk Analysis - Section IV of this HASP.
- Work functions preclude unexpected contact with, or inhalation of any contaminants.
- No contaminants are known or suspected to be present at the site that may cause immediate adverse effects upon contact or inhalation.

Level C PPE includes:

- Minimum of 2 Workers
- Steel Toe/Shank Boots
- Hard Hat

Full Face or Half Face Respirator with Appropriate Filters (e.g. Organic vapor cartridge and/or high efficiency particulate filter)  
Chemical Specific Protective Clothing  
Nitrile or Latex Inner Sampling Gloves  
Chemical Specific Protective Outer Gloves  
Chemical Specific Protective Outer Boots  
Safety Glasses/Goggles/Face Shield\*  
Hearing Protection\*

\*When Hazard Exists/Optional

The criteria for Level C include:

- Oxygen concentrations are not less than 19.5% by volume.
- Contact with atmospheric contaminants will not affect exposed areas of the body.
- Measured concentrations in air of identified constituents will be reduced below the threshold limit value (TLV) by the respirator used and the concentrations are within the service limit of the filter canister and the safety factor provided by the type of respirator used.

In the event that airborne concentrations of site contaminants exceed the established exposure action levels set by this HASP, respiratory protective equipment must be worn by OSHA-trained personnel in order to protect workers from hazardous conditions. Every effort will be made to use engineering controls to minimize exposure levels prior to the use of PPE. However, respiratory equipment should be readily available to personnel at all times. Activities associated with this project are not expected to warrant the use of Level C, Level B, or Level A type respiratory equipment.

## X. MEDICAL SURVEILLANCE PROGRAM

Medical surveillance is essential in the assessment and monitoring of worker fitness and health, both prior to employment and during the course of employment. Accurate medical records should be maintained on file. The information obtained from the program can also be used to adjust claims, provide evidence in litigation and provide information regarding worker health and medical conditions. A medical monitoring program includes a pre-employment medical examination, periodic medical examinations based upon frequency of worker exposure, record keeping, post-injury/accident examinations, and termination medical examination. The medical surveillance program shall categorize employees as "fit for work" and able to wear respiratory protective equipment.

A medical monitoring program is required for employees engaging in operations conducted on hazardous waste sites (29 CFR 1926.65). Since previous environmental investigations conducted at the Site did not detect the presence of hazardous concentrations of contaminants, this project is not considered a hazardous waste site. Therefore, on-Site workers are not required to be under a medical surveillance program unless air monitoring/laboratory analyses determines that concentrations of contaminants in the Area of Environmental Concern exceeds the Action

Levels for this Site. In the event this occurs, all personnel working in the Area of Environmental Concern will be required to provide proof of participation in a medical surveillance program.

#### XI. MONITORING PROGRAM FOR CHEMICAL SUBSTANCES/PHYSICAL AGENTS

Personnel entering the project Site must use adequate safety precautions in order to minimize exposure to contaminants. These precautions include exposure monitoring to characterize potential Site health hazards, determine type of personal protective equipment necessary, and establish standard operating procedures. Air monitoring is one method of obtaining important information on-Site hazards. Decisions based upon air monitoring data will be used to determine the level of personal protection. In addition, the air-monitoring program will determine whether personnel need to be trained in accordance with OSHA 29 CFR 1926.65.

The Site Safety Officer, or assigned designee, will be responsible for air monitoring during activities performed in the exclusion zone. Identification and quantification of airborne contaminants is the overall objective of the air-monitoring program. Results obtained from the air monitoring activities will be carefully evaluated and used in the selection of the proper level of personal protection. These data will also help delineate areas where and when personal protection equipment is needed, identify areas where reclassification or upgrading of PPE is necessary, assess potential health effects from contaminant exposure and determine the need for specific medical monitoring of project personnel.

The air-monitoring program will employ two methods of identifying airborne contaminants. The first method will employ the use of direct reading instruments to obtain "real-time" exposure levels. Real time air monitoring will be conducted for VOCs in the work zone during soil excavation and handling activities. Monitoring for VOCs will be conducted using a photo-ionization detector (PID) equipped with a 10.6 eV lamp calibrated with isobutylene and referenced to benzene in air. Concentrations of volatile organic compounds in the air will be available immediately to personnel so that the appropriate corrective action can be taken.

Certain groups of compounds detected at this Site could present a particulate inhalation hazard (dust) if present in elevated concentrations. Real-time particulate air monitoring will be conducted using a Particulate Material Sampler. This instrument is designed to measure the concentration of airborne particulate matter, liquid or solid, and provides a direct and continuous readout.

Monitoring for explosive atmospheres will be conducted using a LEL meter calibrated with pentane as a reference standard and with the alarm set at 10 percent LEL. Monitoring with the LEL meter are required when the potential for explosive atmospheric sources or methane sources are encountered. Air monitoring will also include the use of an oxygen meter prior to entry into an excavation.

Direct reading instruments will be used continuously during excavation activities in the exclusion zone.

The second method of detection will supplement the direct reading instruments listed above. Because of the low exposure limits of benzene (1 ppm), the PID does not provide a safe screening method for benzene when used alone. Therefore, PID readings will be supplemented with specific colorimetric indicator tubes (Draegar, Sensidyne or equivalent) to detect the presence of benzene in the breathing zone of the workers during intrusive activities.

Personal sampling may be conducted for activities identified by the Site Safety Officer as requiring additional safety factors. Results of sample analysis can determine changes in personal protective equipment requirements. The Site Safety Officer will have the option of discontinuing air monitoring when conditions prove to be adequate in protecting worker health and safety.

If noise levels become a concern, a calibrated sound level meter will be used to determine employee exposure levels.

Monitoring data will be recorded and maintained by the Site Safety Officer. Notification to BL Companies will be made when airborne contaminant concentrations exceed the action levels set forth in this HASP. If the Action Levels are exceeded, all personnel will be required to leave the work area. Only OSHA-trained personnel will be allowed to return to the work area after donning the appropriate PPE. The date, time, location, sampling parameters and instrument readings will be recorded and transferred to the Project Manager for placement into the project files.

#### A. Direct Reading Instruments

Direct reading instruments provide information at the time of sampling, thereby enabling rapid decision making. These instruments are capable of detecting contaminant concentrations in parts per million (ppm). They are used to detect flammable or explosive atmospheres (Combustible Gas Meter), oxygen deficient atmospheres (Oxygen Sensor), certain gases and vapors (Photoionization Detector, Flame Ionization Detector, or Colorimetric Detector Tubes), and certain particulates (Infrared Spectrophotometer, Miniram). Direct reading instruments are designed to detect and measure specific classes of chemicals or conditions. Instruments designed for specific substances may also detect other substances that may result in false readings ("false-positives").

Only personnel trained in the use of this equipment and knowledgeable in their limitations will operate these instruments. Data interpretation will be based upon actual field conditions when compared to specific background information. At a minimum, monitoring equipment will be calibrated in the field at the start and end of each day, and whenever equipment operation is questionable. The Site Safety Officer will keep a log of the time and date of all field calibrations.

The Site Safety Officer will utilize a Photoionization Detector (PID) to monitor total volatile organic compounds, and a Particulate Material Sampler to monitor dust particulates. If the PID detects a sustained concentration of total volatile organic compounds above background levels, then additional equipment will be utilized (oxygen sensor, combustible gas meter, etc.).

B. Personal Air Monitoring

Whenever direct monitoring indicates that worker exposure to hazardous substances or physical agents (noise) may be at or above an Action Level (See Subsection C), personal air monitoring methods in accordance with NIOSH/OSHA guidelines will be implemented. Initially, personal air monitoring will be conducted on workers who are most likely to have the highest exposure. If personal air monitoring results indicate exposure levels at or above the PEL, personal air monitoring will be expanded to cover all employees in the work area.

C. Action Levels

If the action levels listed in Table 1 (below) are exceeded in the breathing zone of any worker for a duration of one minute or longer, all workers will be notified and required to leave the excavation area. Personal decontamination procedures may be necessary prior to leaving the area. The Site Safety Officer will brief the OSHA-trained workers prior to returning to the support zone where they will upgrade from Level D to Level C PPE (See Note).

**TABLE 1**

<b>CONTAINMENT</b>	<b>INSTRUMENT</b>	<b>ACTION LEVEL</b>
Combustible Gas	CG-1	<10% Lower Explosive Limit (LEL) is normal >10 % LEL requires immediate site evacuation
Dusts	Particulate Material Sampler	>2.5 mg/m <sup>3</sup>
Noise		>85 decibels requires hearing protection
Oxygen	Oxygen Meter	19.5% to 23% is normal
Volatile Organic Compounds	PID/FID	>10 ppm

Note: If the contaminant concentrations listed in Table 2 are detected in the breathing zone for a duration of one minute, the workers will then upgrade from Level C PPE to Level B PPE.

**TABLE 2**

<b>CONTAINMENT</b>	<b>INSTRUMENT</b>	<b>ACTION LEVEL</b>
Combustible Gas	CG-1	<10% Lower Explosive Limit (LEL) is normal >10% LEL requires immediate site evacuation
Dusts	Particulate Material Sampler	>5.0 mg/m <sup>3</sup>
Noise		>85 decibels requires hearing protection
Oxygen	Oxygen Meter	19.5% to 23% is normal (Note)

		2)
Volatile Organic Compounds	PID/FID	>50 ppm

Note: Oxygen deficiency is not corrected with Level C air purifying respiratory protection. Only Level B supplied air respiratory protection provides this correction.

D. Community Air Monitoring Program (CAMP)

Based upon the nature of known or potential contaminants at the Site, real-time air monitoring for VOCs and particulates will be necessary.

**Continuous Monitoring**

Continuous monitoring will be conducted for all ground intrusive activities conducted beneath the Composite Cover System’s demarcation barrier. Ground intrusive activities include excavation, backfilling, impacted soil handling.

**VOC Monitoring, Response Levels and Actions**

VOCs will be monitored at the downwind perimeter of the Site on a continuous basis during ground intrusive activities conducted beneath the composite cover system. Upwind concentrations will be measured at the start of each workday and periodically afterwards to establish background conditions. The monitoring work will be performed using equipment appropriate to measure the types of contamination known or suspected to be present – PID. The PID will be calibrated at a minimum daily using an appropriate surrogate. Fifteen-minute running average concentrations will be compared to the following action levels:

- If the ambient air concentration of VOCs at the downwind perimeter of the Site exceeds 5 parts per million (ppm) above upwind concentrations for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the level of VOCs readily decreases (per instantaneous readings) below 5 ppm over upwind concentrations, work activities can resume with continued monitoring.
- If VOC levels at the downwind perimeter of the Site persist at levels in excess of 5 ppm over upwind concentrations but less than 25 ppm, work activities will be halted, the source of the vapors identified, corrective actions will be taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the site or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less – but in no case less than 20 feet, is below 5 ppm background for the 15-minute average.
- If the level of VOCs at the perimeter of the Site is greater than 25 ppm above the upwind concentrations, activities will be shutdown.

All 15-minute readings will be recorded and be available for State (DEC and DOH) personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.



## Particulate Monitoring, Response Levels and Actions

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the site at temporary particulate monitoring stations. The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes or less for comparison to the airborne particulate actions levels. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assess during all work activities. The following are the action levels for particulates:

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter ( $\text{mcg}/\text{m}^3$ ) greater than upwind perimeter concentrations for the 15-minute period or if airborne dust is observed leaving the site, then dust suppression techniques will be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed  $150 \text{ mcg}/\text{m}^3$  above the upwind level and provided that no visible dust is migrating from the site.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than  $150 \text{ mcg}/\text{m}^3$  above the upwind level, work will be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentrations to within  $150 \text{ mcg}/\text{m}^3$  of the upwind level and in preventing visible dust migration.

All readings will be recorded and be available for State (DEC and DOH) personnel to review.

## XII. HEAT STRESS/COLD STRESS MONITORING

### 1. HEAT STRESS

Due to the additional physical and psychological stress of working, employees will be monitored for signs of stress when the ambient temperature in the work area is  $70^{\circ}$  F. Frequency of monitoring for signs of stress shall increase as the ambient temperature increases. In addition, a schedule for working in PPE has been included in the HASP (Table 3) as a guideline for work time duration should work be anticipated above the expected Level D personal protection. There are four levels of heat stress that workers should be aware of. The following summarizes the four levels of heat stress, their symptoms, and treatment.

- A. Heat Rash: the inflammation and clogging of the sweat ducts due to overexposure to heat.

Symptoms: Appearance of small red vesicles on the skin.

Treatment: Mild drying of the skin.

- B. Heat Cramps: a salt/water imbalance in the body resulting from inadequate replacement of salt in the body after over-exposure to heat.

Symptoms: Uncontrolled spasms and cramps in muscles, especially in the abdomen.

Treatment: Consume salted fluids.

- C. Heat Exhaustion: mild shock caused by insufficient water and/or salt when exposed to heat for an extended period of time.

Symptoms: Fatigue, dizziness, weakness, nausea, clammy skin, and paleness.

Treatment: Go to a cool environment, consume salted fluids.

- D. Heat Stroke: dangerous rise in body temperature caused by dehydration and/or lack of salt intake.

Symptoms: Nausea, headache, dizziness, delirium, hot and dry skin, and coma

Treatment: Go to a cool environmental, immerse victim in cold/iced water, fan, seek medical attention.

The monitoring of personnel during work activities can greatly reduce the risk of heat stress during hot and humid weather. To prevent workers from being overcome by heat stress, coolers of chilled water and Gatorade-type liquids should be made available to the workers throughout the day. Workers should also be advised to utilize sunscreen and be provided with a cool shaded break area. Additional factors that may increase the risk of heat stress include: obesity, old age, and recent illness or alcohol intake.

**TABLE 3**

<b>RECOMMENDED HEAT STRESS WORK SCHEDULE</b>			
<b>AMBIENT TRANSPORTATION</b>	<b>PROTECTION LEVEL (USEPA)</b>	<b>MAXIMUM WORK* PERIOD (hours)</b>	<b>REST* PERIOD (hours)</b>
Above 90°F	A	.25	.50
	B	.50	.50
	C	.75	.25
85-90°F	A	.50	.25
	B	.50	.25
	C	.75	.20

<b>RECOMMENDED HEAT STRESS WORK SCHEDULE</b>			
<b>AMBIENT TRANSPORTATION</b>	<b>PROTECTION LEVEL (USEPA)</b>	<b>MAXIMUM WORK* PERIOD (hours)</b>	<b>REST* PERIOD (hours)</b>
80-85°F	A	1.0	.25
	B	1.5	.25
	C	2.5	.20
70-80°F	A	1.5	.20
	B	3.0	.15
	C	5.0	.15
60-70°F	A	2.0	.15
	B	4.0	.15
	C	6.0	.15
50-60°F	A	3.0	.15
	B	8.0	0
	C	8.0	0
30-50°F	A	5.0	.10
	B	8.0	0
	C	8.0	0
Below 30°F	A	8.0	0
	B	8.0	0
	C	8.0	0

\*Wind chill, relative humidity, work load and physical ability should be taken into consideration.

## 2. COLD EXPOSURE

Cold injury (frostbite and hypothermia) and impaired ability to work are dangers at low temperatures and when the wind-chill factor is low. Persons working outdoors in temperatures at

or below freezing may be frostbitten. Extreme cold for a short period of time may cause severe injury to exposed body surfaces, or result in profound generalized cooling, and causing death. Areas of the body that have high surface area-to-volume ratios, such as fingers, toes, and ears, are the most susceptible.

Two factors influence the development of a cold injury: ambient temperature and the velocity of the wind. Wind chill is used to describe the chilling effect of moving air in combination with low temperature. As a general rule, the greatest incremental increase in wind chill occurs when a wind of 5 mph increases to 10 mph. Additionally, water conducts heat 240 times faster than air.

Thus, the body cools suddenly when protective equipment is removed if the clothing underneath is perspiration soaked.

Local injury resulting from cold is included in the generic term frostbite. There are several degrees of damage. Frostbite of the extremities can be categorized into:

- Frost nip or incipient frostbite: characterized by suddenly blanching or whitening of the skin.
- Superficial frostbite: skin has a waxy or white appearance and is firm to the touch, but tissue beneath is resilient.
- Deep frostbite: tissues are cold, pale, and solid; and extremely serious injury.

Systemic hypothermia is caused by exposure to freezing or rapidly dropping temperature. Its symptoms are usually exhibited in five stages:

- Shivering,
- Apathy, listlessness, and sleepiness, and sometimes rapid cooling of the body to less than 95 degrees,
- Unconsciousness, glassy stare, slow pulse, and slow respiratory rate,
- Freezing of the extremities, and
- Death.

To guard against cold injury, wear, use appropriate clothing including hand, face and foot- wear; have warm shelter readily available; carefully schedule work and rest periods; and, monitor workers' physical conditions. Loosely layered clothing is preferred because of the added insulating properties from entrapped air between the layers. The fingers, toes, nose tips, ears, and cheeks should be periodically exercised to keep them warm and to detect any numb or hard areas indicative of frostbite. However, once frostbite occurs, the preferred method of thawing is gradual rewarming by placing body surfaces against the frostbitten part. Workers should use the “buddy system” to detect signs of frostbite on co-workers.

### XIII. STANDARD OPERATING SAFETY PROCEDURES & ENGINEERING CONTROLS

All personnel working in the exclusion zones will adhere to the items outlined in this HASP. A signature sheet is included at the end of the HASP and will be signed by all personnel indicating they have read and understand the contents. A daily health and safety meeting will be held at the site to discuss concerns or hazards anticipated during the day's activities. Project personnel will notify the Site Safety Officer of any unsafe condition or practices at the site so that the condition or practice can be remedied.

Engineering controls will be utilized whenever possible in order to reduce the potential for exposure to hazards, and so that changes in upgrades of personnel protective equipment and work zone delineation can be prevented. An example of a typical engineering control consists of wetting down soils with water in order to reduce airborne dust generated during construction activities and thereby reducing or eliminating the need for respiratory protection. In addition, having workers stay upwind of potential airborne contaminants is another engineering control utilized to reduce worker exposure.

#### XIV SITE CONTROL MEASURES

Restricted access and protective zones will be established with respect to the contamination hazards of the site. These zones will be determined by the Site Safety Officer and/or the Health and Safety Officer. These zones will help minimize the possibility of cross contamination of uncontaminated areas. The establishment of zones will also be used to prevent exposure of project personnel to contaminated materials. In addition, "zones" will be established to control entry by unauthorized and/or untrained personnel into these areas. The health and safety of project related personnel is the overall objective when establishing protective zones.

##### A. Support Zone

The support zone will be kept free of any contaminated material and is usually used for equipment storage and assembly. Support personnel are staged in this area along with vehicles and equipment not required in the work area that has been designated as contaminated. The location of the support zone will be determined by the Site Safety Officer after he/she evaluates the contaminant hazard, exposure potential, wind direction and speed, topography, visibility, or other factors that may impact personnel located in this zone.

##### B. Contaminant Reduction Zone

The contaminant reduction zone is the area between the support zone and the area designated as contaminated (exclusion zone). This area is a transition zone and initially is uncontaminated. Decontamination equipment is located in the contaminant reduction zone and decontamination procedures are executed in this zone for all personnel, equipment and materials passing to the support zone. Separate decontamination areas will be provided for personnel and equipment. The contaminant reduction zone will also provide support to non-construction activities such as sample preparation and packaging. The staging of equipment and personnel who will assist workers in the area of contamination also takes place in this zone. No smoking, eating, chewing gum or tobacco, drinking, taking medicine, or application of cosmetics (including chapstick and sunscreen) will be permitted in the contaminant reduction zone. These materials, in addition to lighters or matches will not be allowed in this zone.

##### C. Exclusion Zone

The contaminated area is known as the exclusion zone and is the area in which actual intrusive activities are performed. No person will be allowed to enter the exclusion zone without authorization from the Site Safety Officer or the Health and Safety Officer. Activities within the exclusion zone will be monitored continuously in order to prevent exposure to contaminants. Entrance and exit to the exclusion zone will be maintained at a single access point whenever practical. All equipment and personnel will enter and exit the exclusion zone through the contaminant reduction zone. In addition, there will be no smoking, eating, chewing gum, chewing tobacco, drinking, taking medicine, or application of cosmetics in the exclusion zone. These materials, in addition to lighters and matches will not be allowed in this zone.

#### XV. DECONTAMINATION PROCEDURES

To minimize contact with contaminated substances and lessen the potential for contamination, personnel will make every effort not to walk through areas of obvious contamination (i.e. liquids, discolored surfaces, smoke/vapor clouds, etc.). Personnel will not kneel or sit on the ground in the Exclusion Zone and/or Contaminant Reduction Zone.

Decontamination will be required when the airborne concentration of contaminants exceeds the action levels outlined in Section X, or in the opinion of the Site Safety Officer, significant levels of contamination may be transported off-site or between locations on the site by personnel or equipment. If the site requires the use of disposable protective equipment (Level D or above), a decontamination area will be designated within the contaminant reduction zone prior to commencement of the work.

The decontamination area will be equipped with potable and non-potable water, brushes, soap and solvents for decontamination, first aid kits, including eye wash, extra personal protective equipment, and plastic bags for disposal of contaminated material. A soap (detergent) and water wash/rinse will be used for all protective equipment. A waterless hand cleaner and paper towels may be used for hands, arms, or any skin surface potentially in contact with contaminated material. This area will be manned by personnel dressed in a level of personal protective equipment sufficient to enter the exclusion zone in the case of emergency.

Equipment decontamination may involve an initial hand wash, using a solution of water and Alconox, followed by a clean water rinse, a methanol rinse, and steam cleaning. All decontamination fluids and disposable personnel protective equipment will be collected in the proper containers (i.e., drums, garbage bags), so that they may be disposed of properly at a later time.

## XVI. EMERGENCY EQUIPMENT AND FIRST AID REQUIREMENTS

In the case of an accident, severe injury, or other medical emergency, medical assistance should be contacted immediately. First aid should be administered on-Site only by trained personnel. The Site Safety Officer has been certified in first aid and CPR. In addition, the medical facility that will receive the injured person should be notified as to the condition and the type of injury. A non-severe injury may require transportation in a site vehicle. Directions to the closest hospital and pertinent telephone numbers are listed at the beginning of this HASP. A copy of the HASP should accompany all personnel transported to the hospital in order to provide information for proper diagnosis and medical treatment. The Site Safety Officer, Health and Safety Officer and Project Manager should be notified of the injury. In addition, an Accident Report/Incident Report should be completed as soon as possible by the Health and Safety Manager. A copy of an Accident Report/Incident Report is located in Appendix B.

### A. Emergency Medical Equipment

Emergency medical equipment will be kept on-site and shall include at a minimum:

First aid kit

## Emergency eye wash

Should an emergency shower be required, potable or non-potable water available at the decontamination areas can be used.

### B. Emergency First Aid

The following generalized emergency first aid is intended for cases where the exact cause of the symptoms is not well known.

<u>Exposure</u>	<u>First Aid</u>
Dizziness, headache, nausea	Remove to fresh air. Perform artificial respiration if necessary. Seek medical attention if persists.
Burning sensation (eyes)	Irrigate immediately for 15 minutes. Seek medical attention if persists.
Burning sensation (skin)	Decontaminate with soap and water. Remove wet or contaminated clothing. Seek medical attention if persists.
Ingestion	Get emergency medical help. Induce vomiting if conscious.

### C. Personal Injury Within the Exclusion Zone

Upon notification of an injury in the exclusion zone, an emergency signal horn blast will be sounded. All site personnel will assemble in the decontamination area. The Site Safety Officer will evaluate the nature of the injury and if necessary, the affected person will be decontaminated prior to movement. No person will re-enter the exclusion zone until after the cause of injury or illness has been determined.

### D. Personnel Injury Outside the Exclusion Zone

Upon notification of an injury outside of the exclusion zone, the Site Safety Officer will assess the nature of the injury. If the cause of the injury/illness does not affect the performance of site personnel, activities may continue while the injury is handled. If the injury increases the risk to others, an air horn will be sounded and site personnel will move to the decontamination area for further instructions. Activities on-site will stop until the risk has been removed or minimized.

## XVII. EMERGENCY RESPONSE PLAN

In the event of an emergency, site control, communications and appropriate evacuation routines will be the responsibility of the Site Safety Officer. Emergency communication with off-site emergency response groups will be via telephone. Telephones will be located in the project

trailer and in the vehicles of the Project Manager and Site Safety Officer. For on-site emergency communications, the Site Safety Officer will signal utilizing an air horn located in the trailer. Immediately after sounding the alarm, (one long blast) the Site Safety Officer will telephone all pertinent emergency personnel (ambulance, fire etc.) and notify the Project Manager and Health and Safety Officer. All personnel will leave the area via the safest route and meet at a location designated by the Site Safety Officer. The Site Safety Officer will check to determine that all personnel have been accounted for. If personnel are identified as missing, the Site Safety Officer will contact emergency services for assistance.

Environments characterized as immediately dangerous to life and health (IDLH) are not anticipated to occur at the site and are therefore not covered by this HASP. Unexpected occurrences of such conditions will necessitate immediate evacuation of the area. Emergency situations that may occur under such circumstances include uncontrolled releases of contaminants, severe weather, discovery of drums or other unknown material. These situations may require the involvement of trained and equipped emergency response personnel.

A. Emergency Communications

In the event of an emergency, the Site Safety Officer will alert the construction site by using an air horn. The following signals will be used:

Three short blasts	Personnel injury - Evacuate to designated area
One long blast	Site emergency - Everyone evacuate to designated off-site area.

When working in the exclusion zone, personnel will use the "buddy" system. Hand signals should be pre-arranged should other means of communications breakdown. The following standard hand signals should be utilized:

Thumbs up	Ok, I'm alright, I understand
Thumbs down	No, negative
Hand gripping throat	Out of air, can't breath
Grip partner's waist, wrist	Leave area immediately, no debate
Hands on top of head	Need assistance

B. Fire and Explosion

Upon notification of a fire or explosion on-Site, the emergency signal horn will be sounded and all site personnel will move to the decontamination area or to an area upwind of the fire or explosion. The fire department will then be alerted.

C. Personal Protective Equipment Failure

If any site worker experiences a failure or alteration of personal protective equipment that affects the protection factor, that person and his/her buddy (under modified Level D conditions) will



immediately leave the exclusion zone and go to the decontamination area where the Site Safety Officer will assess and remedy the situation.

Under Level C conditions (or higher), failure or alteration of personal protective equipment will immediately cause all personnel present in the work area to withdraw with their assigned buddies from the exclusion zone. All personnel will assemble in the decontamination area, where the Site Safety Officer will assess the failure. Re-entry to the exclusion zone will not be permitted until the cause of the failure has been determined and the equipment has been repaired or replaced.

#### D. Other Equipment Failure

Should other equipment fail to operate properly, the Site Safety Officer and/or the Project Manager will be notified. The effect of equipment failure on continuing operations at the site will then be evaluated. If the failure affects the safety of personnel or prevents completion of tasks, all personnel will leave the exclusion zone until the appropriate remedial actions have been taken.

### XVIII. SPILL CONTAINMENT PROGRAM

If a spill or release of hazardous materials occurs at the Site, work will cease and access to the Site will be under the guidance of the Site Safety Officer. The spill area will be identified and made into an exclusion zone. All personnel on-Site will be notified of the event and evacuated to an upwind location. An evaluation of the situation will be made in order to determine the identity of the released material, as well as the hazard to the public and on-site personnel. Emergency services will be notified immediately. The Project Manager will be notified immediately of the situation. The Project Engineer will also be notified immediately of the situation in order to allow implementation of protocols within their HASP. The spill or release may also require the notification of the NYSDEC Spill Hotline. All events will be documented in detail by the Site Safety Officer in the project field book.

Once the hazards associated with the release have been recognized, a decision will be made by the Project Manager to determine if sufficient equipment and trained personnel are available on-site to control the release. If the release cannot be controlled with the personnel and equipment available, no action will be taken until appropriate support is available.

Air monitoring will be conducted by the Site Safety Officer, upwind of the spill, in order to determine the hazards associated with the release. Personal protective equipment will be determined based on air monitoring results. If the material is unknown, Level B PPE will be the minimum level of protection utilized. If appropriate equipment is available, samples of the material will be collected by OSHA-trained personnel, and submitted to a certified laboratory for analysis. The Project Manager will review the documentation regarding the spill or release in order to determine if a similar release can be avoided in the future.

### XIX. LOGS, RECORD KEEPING AND INSPECTIONS

The Site Safety Officer will keep a field log in a dedicated field book regarding daily field activities. The daily log will also document equipment calibration that has occurred each day. Copies of the field book logs, or the entire field book, will be given to the Project Manager at the completion of the project for insertion into the project file.

The daily log will also document visitors to the Site. All personnel visiting the Site must check in with the HSO or designee for orientation and briefing of site hazards.

Accidents and incidents will be recorded on an accident/incident report included in Appendix B. The Health and Safety Officer is responsible for filling out the Accident/Incident Report.

The Health and Safety Officer may inspect the site at any time in order to determine if the HASP is being implemented correctly and to determine if the Contractor's personnel are utilizing safe work practices. During the inspection, the Health and Safety Officer will document his/her observations and make notes regarding any potential hazard not addressed in this HASP. Documentation generated during the site inspection will be given to the Project Manager for incorporation into the project file.

## XX. CONFINED SPACE PROCEDURES

A *confined space* is defined as a space that has all of the following features: it is large enough for an employee to enter and perform work; it has limited or restricted entrances or exits; and, it is not intended for continuous employee occupancy. A *permit-required confined space* is a confined space that poses any one of the following hazards: a potentially hazardous atmosphere; a potential for engulfment of an employee; and, an internal configuration, such as a tapered floor, which could cause an employee to become trapped.

A potentially hazardous atmosphere is one that could cause death, incapacitation, injury, acute illness, and impairment of ability to self-rescue, and includes one or more of the following:

- a. Flammable gases, vapors, and/or mists in excess of 10% of Lower Flammable Levels (LELs);
- b. Airborne combustible dusts in excess of LELs;
- c. Oxygen deficiency (<19.5%) or oxygen enrichment (>23.5%);
- d. Acutely toxic contaminants at concentrations greater than the Permissible Exposure Limits (PEL) or equivalent; and
- e. Any other condition recognized as Immediately Dangerous to Life and Health (IDLH).

If access to a permit-required confined space is necessary in order to perform this project, the Health and Safety Officer must be notified in order that he/she may coordinate a proper permit-required confined space entry program under 29 CFR 1910.146.

## APPENDIX A



## APPENDIX B

**ACCIDENT/INCIDENT REPORT**

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

EMPLOYER: \_\_\_\_\_ JOB TITLE: \_\_\_\_\_

EVENT LOCATION & TIME: \_\_\_\_\_

\*\*\*\*\*

EVENT DESCRIPTION: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

TYPE: \_\_\_Physical \_\_\_Chemical \_\_\_Biological \_\_\_Other

INJURIES: \_\_\_\_\_

CONTRIBUTING ACTS/CONDITIONS: \_\_\_\_\_

MEDICAL TREATMENT/LOCATION & TIME: \_\_\_\_\_

\_\_\_\_\_

\*\*\*\*\*

**PROJECT MANAGEMENT REVIEW**

CORRECTIVE ACTS TO BE TAKEN: \_\_\_\_\_

\_\_\_\_\_

\*\*\*\*\*

**SIGNATURES:**

\_\_\_\_\_  
EMPLOYEE PROJECT MANAGER HEALTH & SAFETY OFFICER

DATE: \_\_\_\_\_

## APPENDIX C





## APPENDIX D



# APPENDIX E

## LIST OF ACRONYMS

ACGIH - American Conference of Governmental Industrial Hygienists  
AOEC - Area of Environmental Concern  
AT&T – American Telephone and Telegraph  
BCA – Brownfield Cleanup Agreement  
BL – BL Companies  
CFR - Code of Federal Regulations  
CHM - Certified Hazards Manager  
CIH - Certified Industrial Hygienist  
CPR - Cardiopulmonary Resuscitation  
DEC - Direct Exposure Criteria  
FID - Flame Ionization Detector  
GA/GAA - a groundwater classification code  
HASP - Health and Safety Plan  
HAZWOPER - Hazardous Waste Site Operations and Emergency Response  
HSM - Health and Safety Manager  
HSO - Health and Safety Officer  
I/C DEC - Industrial/Commercial Direct Exposure Criteria  
IDLH - Immediately Dangerous to Life or Health  
IRM – Interim Remedial Measure  
ND – Not detected  
NIOSH - National Institute for Occupational Safety and Health  
NYSDEC – New York State Department of Environmental Conservation  
NYSDOH – New York State Department of Health  
OSHA - Occupational Safety and Health Administration  
PAH – Polycyclic aromatic hydrocarbon  
PE - Professional Engineer  
PEL - Permissible Exposure Limit  
PID - Photoionization Detector  
PPE - Personal Protective Equipment  
ppm - parts per million  
RCRA - Resource Conservation and Recovery Act  
REL - Recommended Exposure Limit  
RWP – Remedial Work Plan  
SMP – Site Management Plan  
STEL - Short Term Exposure Limit  
SVOC – Semi-volatile organic compound  
TBA - To Be Announced  
TBD - To Be Determined  
TLV - Threshold Limit Value  
TPH - Total Petroleum Hydrocarbons

TWA - Time weighted average

U.S. EPA - United States Environmental Protection Agency

VOCs - Volatile Organic Compounds

WPCA - Water Pollution Control Authority

## **Appendix D**

### **Community Air Monitoring Plan**

**Whole Foods Market  
220 3<sup>rd</sup> Street  
Brooklyn, Kings County, New York**

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**Community Air Monitoring Plan**

Based upon the nature of contaminants remaining below the Composite Cover System's demarcation barrier at the Site, real-time air monitoring for volatile organic compounds (VOCs) and particulate levels at the perimeter of the Site may be necessary for ground intrusive activities that extend beneath the demarcation barrier

### **Continuous Monitoring**

Continuous monitoring will be conducted for excavation activities conducted below the Composite Cover System.

### **VOC Monitoring, Response Levels and Actions**

VOCs will be monitored at the downwind perimeter of the Site on a continuous basis during excavation activities that extend below the demarcation barrier. Upwind concentrations will be measured at the start of each workday and periodically afterwards to establish background conditions. The monitoring work will be performed using equipment appropriate to measure the types of contamination known or suspected to be present – Photoionization detector (PID). The PID will be calibrated at a minimum daily using an appropriate surrogate. Fifteen-minute running average concentrations will be compared to the following action levels:

- If the ambient air concentration of VOCs at the downwind perimeter of the site exceeds 5 parts per million (ppm) above upwind concentrations for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the VOC levels readily decrease (per instantaneous readings) below 5 ppm over upwind concentrations, work activities can resume with continued monitoring.
- If VOC levels at the down gradient perimeter of the Site persist at levels in excess of 5 ppm over upwind concentrations but less than 25 ppm, work activities will be halted, the source of the vapors identified, corrective actions will be taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the Site or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less – but in no case less than 20 feet, is below 5 ppm background for the 15-minute average.

- If the VOCs level is above 25 ppm the upwind concentration, activities will be shutdown.

All 15-minute readings will be recorded and be available for State (DEC and DOH) personnel to review.

### **Particulate Monitoring, Response Levels and Actions**

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the Site at temporary particulate monitoring stations. The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes or less for comparison to the airborne particulate actions levels. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities. The following are the action levels for particulates:

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter ( $\text{mcg}/\text{m}^3$ ) greater than the upwind level for the 15-minute period or if airborne dust is observed leaving the Site, then dust suppression techniques will be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed  $150 \text{ mcg}/\text{m}^3$  above the upwind level and provided that no visible dust is migrating from the Site.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than  $150 \text{ mcg}/\text{m}^3$  above the upwind level, work will be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentrations to within  $150 \text{ mcg}/\text{m}^3$  of the upwind level and in preventing visible dust migration.

Air monitoring may not be necessary for certain types of excavation work below the Composite Cover System. Department approval is necessary for exclusion of a CAMP during excavation work below the Composite Cover System.



## **Appendix E**

### **Annual Statewide and Engineering Control Inspection and Certification Checklist**

**Whole Foods Market  
220 3<sup>rd</sup> Street  
Brooklyn, New York  
NYSDEC BCP ID No. C224100**

**SITE-WIDE AND ENGINEERING CONTROL  
INSPECTION AND CERTIFICATION CHECKLIST**

Date: \_\_\_\_\_

Inspector: \_\_\_\_\_

Weather Conditions: \_\_\_\_\_

1. Inspection of entire clean fill cover system completed (Including visual inspection and survey).       Yes                       No

2. Are there any animal burrows greater than 6 inches relative to the surrounding grade noted within the limits of the composite cover system?    Yes               No

Describe:

\_\_\_\_\_  
\_\_\_\_\_

(If yes, describe location, diameter, and depth. Burrow holes shall be repaired following the cover system design criteria and using similar materials as the system in place. Certification of the repair will be made by a New York-licensed Professional Engineer)

3. Are there any areas of settlement and/or erosion and/or unauthorized excavations or protrusions greater than 6 inches within the area of the composite cover system?

Yes               No

Describe:

\_\_\_\_\_  
\_\_\_\_\_

(If yes, describe location, size, and amount of settlement. Repair engineering control deficiencies using cover system design criteria and similar materials as the system in place. Certification of the repair will be made by a New York-Licensed Professional Engineer)

4. Based on the information obtained from the Site inspection, does the Engineering Control appear to be performing as designed and does it appear that the control continues to be protective of human health and the environment?  Yes  No

If no, explain: \_\_\_\_\_  
\_\_\_\_\_

5. Are the ground water monitoring wells damaged or missing?  
 Yes  No

Describe: \_\_\_\_\_  
\_\_\_\_\_

6. Are the Site cover materials (e.g. buildings, pavement, etc) in the area of the composite cover system damaged?  Yes  No

Describe: \_\_\_\_\_  
\_\_\_\_\_

7. Have irrigation or drinking water wells been installed at the Site?  
 Yes  No

Describe: \_\_\_\_\_  
\_\_\_\_\_

8. Is the current land use of the area within the limits of the clean composite system being used in accordance with the environmental easement?  
 Yes  No

Describe: \_\_\_\_\_  
\_\_\_\_\_

9. If applicable, is an environmental easement on file at the Land Division of Records of the New York City Registrar's Office?  Applicable  Not Applicable

If applicable, confirm easement and any amendments are properly recorded.  
Provide the following information for the recorded easement.

Book Number: \_\_\_\_\_

Page: \_\_\_\_\_

Date easement was filed: \_\_\_\_\_

Have any amendments and/or additional filings been recorded that may modify or supersede the easement?            Yes            No

If yes, explain: \_\_\_\_\_

---

Inspection Follow-Up and/or Corrective Action

The following is a description and scheduled date of any required corrective action (i.e. animal burrow repair, erosion repair, settlement repair, unauthorized excavation repair etc.)

---

---

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---

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Inspector's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Submit inspection reports to:

BL Companies  
355 Research Parkway  
Meriden, CT 06450

## **Appendix F**

### **Field Sampling Plan**

**FIELD SAMPLING PLAN**  
**Whole Foods Market**  
**220 3<sup>rd</sup> Street**  
**Brooklyn, Kings County, New York**

**NYSCED BCP Site No. C224100**

*Prepared For:*

190-220 Third Street Store Brooklyn, LLC  
930 Sylvan Avenue  
Englewood Cliffs, New Jersey 07032

Prepared By:

**BL COMPANIES, INC.**  
355 Research Parkway  
Meriden, Connecticut 06450  
**203-630-1406**

April 2011

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# **SECTION 1**

## **INTRODUCTION**

This Field Sampling Plan (FSP) is intended to define the methods and procedures to be used for conducting field-sampling activities at the Whole Foods Market site located at 220 3<sup>rd</sup> Street in Brooklyn, Kings County, New York (the Site). This FSP is part of a Site Management Plan (dated April 2011) developed for the Site.

A Site-Specific Health and Safety Plan (HASP) has been prepared that describes the standard operation procedures for work protection to be used during the field sampling activities described in this FSP. The HASP is presented in Appendix C of the SMP.

### **1.1 OVERVIEW OF FIELD ACTIVITIES**

The following field activities may be performed as part of on-Site field sampling activities conducted beneath the Composite Cover System's demarcation barrier.

- Air monitoring
- Subsurface soil sampling
- Test pit and/or construction excavations
- Soil borings, monitoring well installation
- Ground water sampling
- Contaminated soil/material load out and transport activities

## **SECTION 2 GENERAL FIELD GUIDELINES**

### **2.1 SITE HAZARDS**

Potential on-Site surface hazards, such as sharp objects, overhead power lines, energized areas, and building hazards will be identified prior to initiation of fieldwork. Generally, such hazards will be identified during a Site visit prior to the first day of fieldwork. The HASP describes the standard operation procedures for work protection.

### **2.2 UNDERGROUND UTILITIES**

Underground utilities, including electric lines, gas lines, and communication lines will be identified prior to initiation of subsurface work conducted below the surface of the Composite Cover System. This will be accomplished as follows:

- Off-Site utilities will be located and marked by a representative of the Underground Facilities Protection Organization (UFPO): 800-962-7962. The New York City Department of Environmental Protection (NYCDEP) will mark sewer and water.
- On-Site underground utilities in the vicinity of proposed subsurface work will be located in conjunction with the Site owner and Site tenant.

### **2.3 FIELD LOG BOOKS**

All activities conducted beneath the Composite Cover System's demarcation barrier will be documented in field logbooks. Entries will be of sufficient detail that a complete daily record of significant events, observations, and measurements is obtained. The field log book will provide a legal record of the activities conducted at the site.

Field book entries may include the following information:

- Location of field activity;
- Date and time of entry;
- Names and titles of Qualified Environmental Professional;
- Names and titles of any site visitors and Site contacts;
- Weather information, for example: temperature, cloud coverage, wind speed and direction;
- Purpose of field activity;
- A detailed description of the field work conducted;
- Sample media (e.g., soil, ground water);

- Sample collection method;
- Number and volume of sample(s) taken;
- Description of sampling point(s);
- Volume of ground water removed before sampling;
- Preservatives used;
- Analytical parameters;
- Date and time of collection;
- Sample identification number(s);
- Sample distribution (e.g., laboratory);
- Field observations;
- Any field measurements made, such as pH, temperature, conductivity, water level, etc.;
- References for all maps and photographs of the sampling site(s);
- Information pertaining to sample documentation such as:
  - Bottle lot numbers;
  - Dates and method of sample shipments;
  - Chain-of-Custody Record numbers;
  - Shipping Bill Number.

## **SECTION 3**

### **FIELD EQUIPMENT DECONTAMINATION AND MANAGEMENT OF INVESTIGATION DERIVED WASTES**

#### **3.1 DECONTAMINATION AREA**

A decontamination area will be constructed on-Site for decontamination of construction and drilling equipment. Water from decontamination activities will be collected in 55-gallon drums or other suitable containers and managed as described in Section 3.3.

#### **3.2 EQUIPMENT DECONTAMINATION**

The following procedures may be used to decontaminate equipment used during construction and investigative activities.

- Construction and drilling equipment will be cleaned with a high-pressure steam-cleaning unit (or other suitable method) before beginning work.
- Tools, construction and drilling equipment will be placed on sawhorses, polyethylene plastic sheets or other suitable material following decontamination. Direct contact with the ground will be avoided.
- Tools, construction and drilling equipment will be decontaminated between each work location according to the above procedures.
- The back of construction and drill rigs and all tools that contact soils below the Composite Cover System's demarcation barrier will be decontaminated at the completion of the work and prior to leaving the Site.

##### **3.2.1 Sampling Equipment Decontamination**

###### *Procedures*

- Prior to sampling, all non-dedicated sampling equipment (bowls, spoons, interface probes, etc.) will be either steam cleaned or washed with potable water and appropriate detergent. Decontamination may take place at the sampling location as long as all liquids are contained in pails, buckets, etc.
- The sampling equipment will then be rinsed with potable water followed by a deionized water rinse.

- Between rinses, equipment will be placed on polyethylene sheets or aluminum foil if necessary. At no time will washed equipment be placed directly on the ground.
- Equipment will be wrapped in polyethylene plastic or aluminum foil for storage or transportation from the designated decontamination area to the sampling location.

### *Suggested Materials*

- Potable water
- Simple Green®
- Reagent-grade methanol or isopropanol
- Distilled water
- Aluminum foil
- Plastic/polyethylene sheeting
- Plastic buckets and brushes
- Personal protective equipment in accordance with the HASP

## **3.3 MANAGEMENT OF CONSTRUCTION AND INVESTIGATION DERIVED WASTES**

### **3.3.1 Decontamination Fluids**

Decontamination fluids will be collected in 55-gallon drums or other suitable containers. The containers will be labeled as investigation derived wastewater and stored on wooden pallets in a plastic-lined containment area pending characterization and proper disposal.

### **3.3.2 Drill Cuttings and Excavation Materials**

Drill cuttings and excavated soil not reused and managed by engineering controls will be placed in 55-gallon drums or other suitable containers. The containers will be labeled as investigation derived waste soils and stored on wooden pallets in a plastic-lined containment area pending characterization and proper disposal.

### **3.3.3 Development and Purge Water**

All development and purge water will be contained in 55-gallon drums or other suitable containers. The containers will be labeled as investigation derived wastewater and stored on wooden pallets in a plastic-lined containment area pending characterization and proper disposal.

### **3.3.4 Personal Protective Equipment**

All personal protective equipment (PPE) will be placed in 55-gallon drums or other suitable containers for proper disposal.

### **3.3.5 Sampling Equipment**

All disposable ground water and soil sampling equipment will be placed in 55-gallon drums or other suitable containers for disposal.

## **SECTION 4**

### **DRILLING/EXCAVATION/SOIL SAMPLING PROCEDURES**

#### **4.1 INTRODUCTION**

Drilling, excavation, and soil sampling activities conducted at the Site may consist of:

- Soil borings;
- Monitoring well installations; and
- Construction excavations.

These procedures are described in the following section.

#### **4.2 SOIL BORINGS, EXCAVATIONS, AND SUBSURFACE SOIL SAMPLING**

The following methods may be used for conducting the soil borings.

##### ***Drilling, Excavation and Geologic Logging Method***

- Soil borings/excavations will be advanced using methods approved by the Qualified Environmental Professional.
- Soil samples retrieved from the borehole/excavations will be visually described for: 1) percent recovery, 2) soil type, 3) color, 4) moisture content, 5) texture, 6) grain size and shape, 7) consistency, 8) visible evidence of staining, and 9) any other observations. The descriptions will be in accordance with the Unified Soil Classification System (USCS) or modified Burmeister Soil Classification.
- Remaining soil will be disposed of in accordance with methods specified in Section 3.3.
- Drilling and excavation equipment will be decontaminated between each location in accordance with methods specified in Section 3.2.
- The Qualified Environmental Professional overseeing the work will log borehole/excavation geology in the field book, Drilling Log, Excavation Log, or similar form.

##### ***Soil Sampling***

- Soil sampling methods will be determined by a Qualified Environmental Professional.

- The sample containers will be labeled, placed in a cooler and packed on ice (to maintain a temperature of 4° C). The coolers will be shipped or delivered to the laboratory for analysis.
- Chain-of-custody procedures will be followed as outlined in the Quality Assurance Project Plan (QAPP) presented in Appendix G of the SMP.
- The sampling equipment will be decontaminated between samples in accordance with procedures described in Section 3.
- Excess soil remaining after sampling will be contained in accordance with methods specified in Section 3.3.
- The sample locations, descriptions, and depths will be recorded in the field book.

### ***Suggested Equipment***

- Field book
- Project plans
- Personal protective equipment in accordance with the HASP
- Metal detector
- Stakes and flagging
- One pint containers for lithology samples
- Tape measure
- Decontamination supplies
- Water level indicator
- Photoionization detector
- Camera
- Clear tape, duct tape
- Aluminum foil
- Laboratory sample bottles
- Coolers and ice
- Shipping supplies



## **SECTION 5 GROUND WATER SAMPLING PROCEDURES**

### **5.1 INTRODUCTION**

Ground water sampling will be conducted at the Site. Procedures for obtaining samples of various environmental media are described in this section. Subsurface soil sampling procedures are described in Section 4. Air monitoring procedures are described in Section 6. Sample handling procedures are described in Section 8.

### **5.2 GROUND WATER SAMPLING**

The following method may be used to collect ground water samples from monitoring wells.

#### ***Ground water Sampling Method - Purging***

- Prior to sampling, the static water level will be measured, using a Ground Water Interface Probe, to the nearest 0.01-foot from the surveyed well elevation mark on the top of the PVC casing. The measurement will be recorded in the field book.
- The Ground Water Interface Probe will be decontaminated according to procedures outlined in Section 3.
- The well will be purged and sampled in accordance with Environmental Protection Agency Low Stress (low flow) Purging and Sampling Procedures for Collection of Ground Water Samples from Monitoring Wells (July 1996).
- Purge water will be managed and disposed of in accordance with procedures described in Section 3.

#### ***Ground water Sampling Method – Sampling***

- The well will be purged and sampled in accordance with Environmental Protection Agency Low Stress (low flow) Purging and Sampling Procedures for Collection of Ground Water Samples from Monitoring Wells (July 1996).
- Sample containers for VOCs will be filled first. Sample containers for the other analytes will follow.

- The sample containers will be labeled, placed in a cooler and packed on ice (to maintain a temperature of 4° C). The cooler will be shipped or delivered to the laboratory for analysis.
- Chain-of-custody procedures will be followed as outlined in the QAPP presented in Appendix G of the SMP.
- After all samples are collected, the sampling tube will be disposed of in accordance with methods described in Section 3.3.
- Well sampling data will be recorded on a Ground Water Sampling Log, or similar form.

***Suggested Equipment and Supplies***

- Field book
- Project plans
- Personal protective equipment in accordance with the HASP
- Water level indicator
- Temperature, conductivity, dissolved oxygen, REDOX potential, pH meters
- Turbidity meter
- 250-mL glass beaker
- Decontamination supplies
- Peristaltic pump or other pump
- Plastic tubing
- Plastic sheeting
- PID
- Clear tape, duct tape
- Coolers and ice
- Laboratory sample bottles
- Shipping labels

## **SECTION 6 AIR MONITORING**

### **6.1 BREATHING ZONE AIR MONITORING DURING EXCAVATION, DRILLING AND SAMPLING**

Air monitoring of the breathing zone will be conducted periodically during drilling, excavation, and soil sampling activities conducted beneath the Composite Cover System's demarcation barrier in accordance with the Site-specific HASP presented in Appendix C of the SMP.

A photoionization detector (PID) or equivalent will be used to monitor for VOCs in the breathing zone and to field screen soil samples. The PID readings will be recorded in the field book. The procedure for the PID operation and calibration is included in Section 7 and the Site HASP.

### **6.2 COMMUNITY AIR MONITORING PLAN**

In accordance with NYSDEC and NYSDOH requirements, a Community Air Monitoring Plan (CAMP) will be implemented at the Site during drilling and/or excavation work conducted beneath the composite cover system. The objective of the CAMP is to provide a measure of protection for the downwind community (i.e., off-site receptors, including residences and businesses and on-site workers not involved with site SC activities) from potential airborne contaminant releases as a direct result of SC activities. The CAMP is presented in Appendix D of the SMP.

## **SECTION 7**

### **FIELD INSTRUMENTS AND CALIBRATION**

All field analytical equipment will be calibrated immediately prior to each day's use and more frequently if required by the equipment manufacturer or specified in this FSP. The calibration procedures will conform to manufacturer's standard instructions and the Qualified Environmental Professionals standard operating procedures. Instrument calibration will be documented in the project field book and/or instrument calibration log. The Qualified Environmental Professional overseeing the work will maintain copies of instrument calibration sheets.

The following field instruments may be used during construction and/or investigation conducted below the Composite Cover System's demarcation barrier.

- Portable Photoionization Analyzer (PID) (or equivalent);
- Multi-Parameter Water Quality Flow Cell Meter (or equivalent);
- Particulate Meter;
- Combustible gas meter;
- Oxygen meter;
- Noise meter.

#### **7.1 Portable Photoionization Analyzer**

- An equipment check will be completed at the beginning and end of each working day.
- The photoionization detector will be a PID (or equivalent), equipped with a 10.6 eV lamp. The PID is capable of ionizing and detecting compounds with an ionization potential of less than 10.6 eV.
- At a minimum, calibration must be performed at the beginning and end of each day of use with a standard calibration gas having an approximate concentration of 100 parts per million of isobutylene. If the unit experiences abnormal perturbation or erratic readings, additional calibration will be required.
- Calibration data must be recorded in field notebooks and/or on calibration log sheets.

#### **7.2 Multi-Parameter Water Quality Meter**

- Calibration of the multi-parameter water quality meter will be performed at the start of each day of use according to manufacturer's instructions.

### **7.3 Particulate Meter**

- The particulate meter will be calibrated at the start of each day of use in accordance with the manufacturer's instructions.

### **7.4 Combustible Gas Meter**

- The combustible gas meter will be calibrated at the start of each day of use in accordance with the manufacturer's instructions.

### **7.5 Oxygen Meter**

- The oxygen meter will be calibrated at the start of each day of use in accordance with the manufacturer's instructions.

### **7.6 Noise Meter**

- The noise meter will be calibrated at the start of each day of use in accordance with the manufacturer's instructions.

## SECTION 8

### FIELD SAMPLE IDENTIFICATION AND CUSTODY

#### 8.1 SAMPLE LOCATION NUMBERING SYSTEM

- Subsurface soil borings/excavations will be numbered consecutively. Individual samples will also be designated with a depth code (see below).
- Monitoring wells will be numbered consecutively.

#### 8.2 SAMPLE IDENTIFICATION

Each sample will be given a unique alphanumeric identifier in accordance with the following classification system:

SAMPLE IDENTIFICATION			
LL*	NN*	N-N	LL
Sample Type	Sample Number	Depth Code	QC Identifier
	<u>Solid</u>		<u>Water</u>
Sample Type:	MW - Monitoring Well Boring SB – Soil Boring EX – Excavation		MW - Monitoring Well
Sample Number:	Number referenced to a sample location map.		
Depth Code:	Depth in feet of sample interval (0-0.5, 2-4, 10-12, etc.)		
QC Identifier:	FB - Field Blank TB - Trip Blank WB - Wash or Rinse Blank	MS - Matrix Spike MD - Matrix Spike Duplicate MB - Matrix Blank	

\* L = Letter  
\* N = Number

Field duplicate samples will be assigned identifiers that do not allow the laboratory to distinguish them as field duplicates. Each sample container will be labeled prior to packing for shipment. The sample identifier, site name, date and time of sampling, and analytical parameters will be written on the label in waterproof ink and recorded in the field book.

#### 8.3 CHAIN OF CUSTODY

- A Chain of Custody (COC) record will accompany the sample containers during selection and preparation at the laboratory, during shipment to the field, and during return shipment/delivery to the laboratory.

- The COC will identify each sample container and the analytical parameters for each, and will list the field personnel that collected the samples, the project name and number, the name of the analytical laboratory that will receive the samples, and the method of sample shipment.
- If samples are split and sent to different laboratories, a copy of the COC will be sent with each sample shipment.
- The COC will be completed by field personnel as samples are collected and packed for shipment.
- Erroneous markings will be crossed-out with a single line and initialed by the author.
- The REMARKS space will be used to indicate if the sample is a matrix spike, matrix spike duplicate, or matrix duplicate.
- Trip and field blanks will be listed on separate rows.
- The method of shipment or delivery will be entered on the COC. The samples can be delivered to the laboratory by the Qualified Environmental Professional or shipped to the laboratory using a shipping company (e.g., Federal Express).
- A member of the sampling team will write his/her signature, the date, and time on the first RELINQUISHED BY space. Duplicate copies of each COC must be completed.
- One copy of the COC will be retained by sampling personnel. The other copy and the original will be sealed in a plastic bag and placed inside the lid of the cooler.
- Samples will be refrigerated at 4°C, typically by packing with ice, to preserve the samples during shipment/delivery to the laboratory.
- If the sample container is shipped to the laboratory, after the sample cooler is closed, custody seals provided by the laboratory will be affixed to the latch and across the front and back of the cooler lid, and signed by the person relinquishing the samples to the shipper.
- The seal will be covered with clear tape, and the cooler lid will be secured by wrapping with packing tape.
- The cooler will be relinquished to the shipper.

- The COC seal must be broken to open the container. Breakage of the seals before receipt at the laboratory may indicate tampering. If tampering is apparent, the laboratory will contact the Qualified Environmental Professional, and the samples will not be analyzed.
- The samples must be shipped/delivered to the laboratory within 48 hours of collection.

#### **8.4 SAMPLE DOCUMENTATION**

The Qualified Environmental Professional overseeing the Work will retain a copy of the COC, and, in addition, the Qualified Environmental Professional will ensure that the following information about each sample is recorded in the field book:

- Sample identifier;
- Identification of sampled media (e.g., soil, sediment, ground water);
- Sample location with respect to known reference point;
- Physical description of sample location;
- Field measurements, (e.g., pH, temperature, conductivity, and water levels);
- Date and time of collection;
- Sample collection method;
- Volume of ground water purged before sampling;
- Number of sample containers;
- Analytical parameters;
- Preservatives used; and
- Shipping information (if applicable):



## **Appendix G**

### **Quality Assurance Project Plan**

**QUALITY ASSURANCE PROJECT PLAN**  
**Whole Foods Market**  
**220 3<sup>rd</sup> Street**  
**Brooklyn, Kings County, New York**

*Prepared For:*

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930 Sylvan Avenue  
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Prepared By:

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**203-630-1406**

April 2011

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# **SECTION 1 - PROJECT DESCRIPTION**

## **1.1 INTRODUCTION**

This Quality Assurance Project Plan (QAPP) specifies analytical methods to be used to ensure that data from environmental investigation work and construction work conducted beneath the Composite Cover System's demarcation barrier located at 220 3<sup>rd</sup> Street in the Borough of Brooklyn, City of New York, Kings County, New York are precise, accurate, representative, comparable, and complete. The City of New York Assessor's Office lists the Site as Block 978, Lots 16 and 19, and a portion of Lot 1 and Lot 7. The boundaries of the Site are more fully described in Appendix A of the SMP. This QAPP is part of a Site Management Plan (SMP) dated April 2011.

## **1.2 OBJECTIVES**

The Qualified Environmental Professional managing work conducted beneath the Composite Cover System's demarcation barrier at the Site is responsible for producing suitable and verifiable data results from sampling and analysis. The quality assurance procedures detailed in this QAPP should be followed for all sampling and laboratory analysis activities. The location of the Composite Cover System is presented in the SMP dated April 2011.

**SECTION 2 -  
PROJECT ORGANIZATION**

The person responsible for conducting work beneath the Composite Cover System's Demarcation Barrier will inform the holder of the Site Certificate of Completion under the NYSDEC Brownfield Cleanup Agreement that the collection and analysis of samples conforms to appropriate methods and procedures.

Key contacts for this project are as follows:

<u>Brownfield Cleanup Agreement</u>	Whole Foods Market
<u>Volunteer/ Project Manager:</u>	Mr. Mark Mobley
	Telephone: (201) 507-2096

Qualified Environmental Professional::	BL Companies
	Telephone: (203) 630-1406
	Fax: (203) 630-2615

**SECTION 3 -  
QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)  
OBJECTIVES FOR MEASUREMENT OF DATA**

**3.1 INTRODUCTION**

The quality assurance and quality control (QA/QC) objectives for all data includes precision, accuracy, representativeness, completeness, and comparability. These objectives are defined in the subsections presented below. They are formulated to meet the requirements of the USEPA SW-846.

**3.2 PRECISION**

Precision is an expression of the reproducibility of measurements of the same parameter under a given set of conditions. Specifically, it is a quantitative measurement of the variability of a group of measurements compared to their average value (USEPA, 1987). Precision is usually stated in terms of standard deviation, but other estimates such as the coefficient of variation (relative standard deviation), range (maximum value minus minimum value), relative range, and relative percent difference (RPD) are common.

For this project, field sampling precision will be determined by analyzing coded duplicate samples (labeled so that the laboratory does not recognize them as duplicates) for the same parameters, and then, during data validation (Section 8), calculating the RPD for duplicate sample results.

Analytical precision will be determined by the laboratory by calculating the RPD for the results of the analysis of internal QC duplicates and matrix spike duplicates. The formula for calculating RPD is as follows:

$$RPD = \frac{|V1 - V2|}{(V1 + V2)/2} \times 100$$

where:

- RPD = Relative Percent Difference.
- V1, V2 = The two values to be compared.
- |V1 - V2| = The absolute value of the difference between the two values.
- (V1 + V2)/2 = The average of the two values.

The data quality objectives for analytical precision, calculated as the RPD between duplicate analyses, are presented in Tables 3.1 and 3.2.



### 3.3 ACCURACY

Accuracy is a measure of the degree of agreement of a measured value with the true or expected value of the quantity of concern (Taylor, 1987), or the difference between a measured value and the true or accepted reference value. The accuracy of an analytical procedure is best determined by the analysis of a sample containing a known quantity of material, and is expressed as the percent of the known quantity which is recovered or measured. The recovery of a given analyte is dependent upon the sample matrix, method of analysis, and the specific compound or element being determined. The concentration of the analyte relative to the detection limit of the analytical method is also a major factor in determining the accuracy of the measurement. Concentrations of analytes which are close to the detection limits are less accurate because they are more affected by such factors as instrument “noise”. Higher concentrations will not be as affected by instrument noise or other variables and thus will be more accurate.

Sampling accuracy may be determined through the assessment of the analytical results of field blanks and trip blanks for each sample set. Analytical accuracy is typically assessed by examining the percent recoveries of surrogate compounds that are added to each sample (organic analyses only), and the percent recoveries of matrix spike compounds added to selected samples and laboratory blanks. Additionally, initial and continuing calibrations must be performed and accomplished within the established method control limits to define the instrument accuracy before analytical accuracy can be determined for any sample set.

Accuracy is normally measured as the percent recovery (%R) of a known amount of analyte, called a spike, added to a sample (matrix spike) or to a blank (blank spike). The %R is calculated as follows:

$$\%R = \frac{SSR - SR}{SA} \times 100$$

where:

- %R = Percent recovery.
- SSR = Spike sample result: concentration of analyte obtained by analyzing the sample with the spike added.
- SR = Sample result: the background value, i.e., the concentration of the analyte obtained by analyzing the sample.
- SA = Spiked analyte: concentration of the analyte spike added to the sample.

The acceptance limits for accuracy for each parameter are presented in Tables 3.1 and 3.2.

### 3.4 REPRESENTATIVENESS

Representativeness expresses the degree to which sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Representativeness is a qualitative parameter which is most concerned with the proper design of the sampling program (USEPA, 1987). Samples must be representative of the environmental media being sampled. Selection of sample locations and sampling procedures will incorporate consideration of obtaining the most representative sample possible.

Field and laboratory procedures will be performed in such a manner as to ensure, to the degree that is technically possible, that the data derived represents the in-place quality of the material sampled. Every effort will be made to ensure chemical compounds will not be introduced into the sample via sample containers, handling, and analysis. Decontamination of sampling devices and digging equipment will be performed between samples as outlined in the Field Sampling Plan. Analysis of field blanks, trip blanks, and method blanks will also be performed to monitor for potential sample contamination from field and laboratory procedures.

The assessment of representativeness also must consider the degree of heterogeneity in the material from which the samples are collected. Sampling heterogeneity will be evaluated during data validation through the analysis of coded field duplicate samples. The analytical laboratory will also follow acceptable procedures to assure the samples are adequately homogenized prior to taking aliquots for analysis, so the reported results are representative of the sample received.

Chain-of-custody procedures will be followed to document that contamination of samples has not occurred during container preparation, shipment, and sampling. Details of blank, duplicate and Chain-of-custody procedures are presented in Sections 4 and 5.

### 3.5 COMPLETENESS

Completeness is defined as the percentage of measurements made which are judged to be valid (USEPA, 1987). The QC objective for completeness is generation of valid data for at least 90 percent of the analyses requested. Completeness is defined as follows for all sample measurements:

$$\%C = \frac{V}{T} \times 100$$

where:

%C = Percent completeness.

V = Number of measurements judged valid.

T = Total number of measurements.

### **3.6 COMPARABILITY**

Comparability expresses the degree of confidence with which one data set can be compared to another (USEPA, 1987). The comparability of all data collected for this project will be ensured by:

- Using identified standard methods for both sampling and analysis phases of this project;
- Requiring traceability of all analytical standards and/or source materials to the U.S. Environmental Protection Agency (USEPA) or National Institute of Standards and Technology (NIST);
- Requiring that all calibrations be verified with an independently prepared standard from a source other than that used for calibration (if applicable);
- Using standard reporting units and reporting formats including the reporting of QC data;
- Performing a complete data validation on a representative fraction of the analytical results, including the use of data qualifiers in all cases where appropriate; and
- Requiring that all validation qualifiers be used any time an analytical result is used for any purpose.

These steps will ensure all future users of either the data or the conclusions drawn from them will be able to judge the comparability of these data and conclusions.

## **SECTION 4 - SAMPLING PROGRAM**

### **4.1 INTRODUCTION**

This section presents sample container preparation procedures, sample preservation procedures, sample holding times, and field QC sample requirements. The sampling procedures are presented in the Field Sampling Plan dated October 2010.

### **4.2 SAMPLE CONTAINER PREPARATION AND SAMPLE PRESERVATION**

Sample containers will be properly washed and decontaminated prior to their use by either the analytical laboratory or the container vendor to the specifications required by the USEPA. Copies of the sample container QC analyses will be provided by the laboratory for each container lot used to obtain samples. The containers will be tagged, the appropriate preservatives will be added. The types of containers are shown in Tables 4.1 and 4.2.

Samples shall be preserved according to the preservation techniques given in Tables 4.1 and 4.2. Preservatives will be added to the sample bottles by the laboratory prior to their shipment/delivery in sufficient quantities to ensure that proper sample pH is met. Following sample collection, the sample bottles should be placed on ice in the cooler, cooled to 4°C with ice or "blue ice", and shipped/delivered to the laboratory within 48 hours of collection. Chain-of-custody procedures are described in Section 5.

### **4.3 SAMPLE HOLDING TIMES**

The sample holding times for organic and inorganic parameters are given in Tables 4.2 and 4.3 and must be in accordance with the NYSDEC ASP requirements. Holding times for Toxicity Characteristic Leaching Procedure (TCLP) samples are given in Table 4.4. The NYSDEC ASP holding times must be strictly adhered to by the laboratory. Any holding time exceedances must be reported to the person responsible for conducting the work (e.g., Qualified Environmental Professional).

### **4.4 FIELD QC SAMPLES**

To assess field sampling and decontamination performance, two types of "blanks" will be collected and submitted to the laboratory for analyses. In addition, the precision of field sampling procedures will be assessed by collecting coded field duplicates and matrix spike/matrix spike duplicates (MS/MSDs). The blanks will include:

- a. Trip Blanks - A Trip Blank will be prepared before the sample containers are sent by the laboratory. The trip blank will consist of a 40-ml VOA vial containing distilled,

deionized water, which accompanies the other water sample bottles into the field and back to the laboratory. A trip blank will be included with each delivery/shipment of water samples for target compound list (TCL) volatiles analysis. The Trip Blank will be analyzed for TCL volatile organic compounds to assess any contamination from sampling and transport, and internal laboratory procedures.

- b. Field Blanks - Field Blanks will be taken at a minimum frequency of one per 20 field samples per sample matrix. Field blanks are used to determine the effectiveness of the decontamination procedures for sampling equipment. It is a sample of deionized, distilled water provided by the laboratory that has passed through a decontaminated bailer or other sampling apparatus. It is usually collected as a last step in the decontamination procedure, prior to taking an environmental sample. The field blank may be analyzed for all or some of the parameters of interest.

The duplicates will consist of:

- a. Coded Field Duplicate - To determine the representativeness of the sampling methods, coded field duplicates will be collected. The samples are termed "coded" because they will be labeled in such a manner that the laboratory will not be able to determine that they are a duplicate sample. This will eliminate any possible bias that could arise.
- b. Matrix Spike/Matrix Spike Duplicate (MS/MSD) - MS/MSD samples (MS/MSD for organics; MS and laboratory duplicate for inorganics) will be taken at a frequency of one pair per 20 field samples. These samples are used to assess the effect of the sample matrix on the recovery of target compounds or target analytes. The percent recoveries and RPDs are given in Tables 3.1 and 3.2.

## **SECTION 5 - SAMPLE TRACKING AND CUSTODY**

### **5.1 INTRODUCTION**

This section presents sample custody procedures for both the field and laboratory. Implementation of proper custody procedures for samples generated in the field is the responsibility of field personnel. Both laboratory and field personnel involved in the Chain-of-custody (COC) and transfer of samples will be trained as to the purpose and procedures prior to implementation.

Evidence of sample traceability and integrity is provided by COC procedures. These procedures document the sample traceability from the selection and preparation of the sample containers by the laboratory, to sample collection, to sample shipment, to laboratory receipt and analysis. The sample custody flowchart is shown in Figure 5.1. A sample is considered to be in a person's custody if the sample is:

- In a person's possession;
- Maintained in view after possession is accepted and documented;
- Locked and tagged with Custody Seals (for shipped samples) so that no one can tamper with it after having been in physical custody; or
- In a secured area which is restricted to authorized personnel.

### **5.2 FIELD SAMPLE CUSTODY**

A COC (Figure 5.2 or similar) accompanies the sample containers from selection and preparation at the laboratory, during delivery/shipment to the field for sample containment and preservation, and during return to the laboratory. Triplicate copies of the COC must be completed for each sample set collected.

The COC lists the field personnel responsible for taking samples, the project name and number, the name of the analytical laboratory to which the samples are sent, and the method of sample shipment. The COC also lists a unique description of every sample bottle in the set. If samples are split and sent to different laboratories, a copy of the COC record will be sent with each sample.

The REMARKS space on the COC is used to indicate if the sample is a matrix spike, matrix spike duplicate, or any other sample information for the laboratory. Since they are not specific to any one sample point, trip and field blanks are indicated on separate rows. Once all bottles are properly accounted for on the form, a sampler will write his or her signature and the date and time on the first RELINQUISHED BY space. If the samples are shipped using a private

shipping company (e.g. Federal Express), the sampler will also write the method of shipment, the shipping cooler identification number, and the shipper airbill number on the top of the COC. Mistakes will be crossed out with a single line in ink and initialed by the author.

Sampling personnel retain one copy of the COC and the other two copies are put into a sealable plastic bag and placed inside the lid of the cooler. The cooler lid is closed, custody seals provided by the laboratory are affixed to the latch and across the back and front lids of the cooler (for coolers shipped using private carrier), and the person relinquishing the samples signs their name across the seal. The seal is taped, and the cooler is wrapped tightly with clear packing tape. It is then relinquished by field personnel to personnel responsible for shipment, typically an overnight carrier. The COC seal must be broken to open the container. Breakage of the seals before receipt at the laboratory may indicate tampering. If tampering is apparent, the laboratory will contact the Project Manager, and the sample will not be analyzed.

### **5.3 LABORATORY SAMPLE CUSTODY**

The laboratory will be notified of upcoming field sampling activities, and the subsequent shipment of samples to the laboratory. This notification will include information concerning the number and type of samples to be shipped as well as the anticipated date of arrival. Laboratory specific sample custody procedures will be followed.

## **SECTION 6 - CALIBRATION PROCEDURES**

### **6.1 FIELD INSTRUMENTS**

Field analytical equipment will be calibrated immediately prior to each day's use. The calibration procedures will conform to manufacturer's standard instructions and are described in the FSP. Copies of instrument calibration sheets will be maintained by the Qualified Environmental Professional.

### **6.2 LABORATORY INSTRUMENTS**

The laboratory will follow all calibration procedures and schedules as specified in the sections of the USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods given in Section 7.



## **SECTION 7 - ANALYTICAL PROCEDURES**

### **7.1 INTRODUCTION**

Analytical methods used will have been published in the most current NYSDEC Analytical Services Protocol. The analytical laboratory performing analysis will be certified for the specific analytical parameter or category of parameters pursuant to NYSDOH ELAP certification.

## **SECTION 8 - DATA REDUCTION, VALIDATION, AND REPORTING**

### **8.1 INTRODUCTION**

Data collected during the field investigation will be reduced and reviewed by the laboratory QA personnel, and a report on the findings will be tabulated in a standard format. The criteria used to identify and quantify the analytes will be those specified for the applicable methods in the USEPA SW-846 and subsequent updates. The data package provided by the laboratory will contain all items specified in the USEPA SW-846 appropriate for the analyses to be performed, and be reported in standard format.

The completed copies of the chain-of-custody (both external and internal) accompanying each sample from time of initial bottle preparation to completion of analysis shall be attached to the analytical reports.

### **8.2 DATA REDUCTION**

Two copies of the analytical data packages will be provided by the laboratory. One copy of the package will be sent to the Whole Foods Project Manager (or other responsible person) for filing; a second copy will be sent to the Qualified Environmental Professional and used to generate summary tables.

### **8.3 DATA VALIDATION**

Data validation will be performed in accordance with the USEPA Contract Laboratory Program for Organic Data Review, EPA 540/R-99/008 (October 1999), and USEPA Contract Laboratory Program for Inorganic Data Review, EPA 540/R-94/013 (February 1994). Data validation for all samples will include a review of holding times, method blanks, surrogates, reporting limits, chain-of-custody records, and QC samples.

### **8.4 DATA REPORTING**

Prior to release by the laboratory, the data must first meet all the specific QA/QC associated with the Standard Operating Procedure (SOP) that was used for the analysis. The laboratory quality assurance officer (LQA) at the laboratory is responsible for the final verification of the data. A Data Usability Summary Report (DUSR) will be completed in accordance with the latest version of NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation.

## 8.5 DATA MANAGEMENT

An electronic database of all chemical data generated may be created and maintained for this project from the electronic data deliverables (EDDs) provided by the laboratory. The following data management procedure may be used for all laboratory analytical data.

- Data package, including data summaries (Form Is) and all laboratory QA/QC and other backup information, is sent to an independent data validator.
- Digital data disks are used to import electronic data into the database.
- When validation is complete, qualifiers are entered into the database.
- Original Form Is with qualifiers are filed in the project files. Copies of the Form Is with qualifiers are organized in three-ring binders in order of sample identification.
- Site data tables are generated from the database.
- Database tables are checked against validated Form Is for accuracy and completeness.
- Data is exported from the database to MS Excel for creation of tables.
- All Excel tables are spot-checked against Form Is after formatting or updating with new sample data.

## **SECTION 9 - INTERNAL QUALITY CONTROL CHECKS AND FREQUENCY**

### **9.1 QUALITY ASSURANCE BATCHING**

Each set of samples will be analyzed concurrently with calibration standards, method blanks, matrix spikes (MS), matrix spike duplicates (MSD) or laboratory duplicates, and QC check samples (if required by the protocol). If required, the field personnel will designate the MS/MSD samples.

### **9.2 CALIBRATION STANDARDS AND SURROGATES**

All organic standard and surrogate compounds are checked by the method of mass spectrometry for correct identification and gas chromatography for degree of purity and concentration. All standards are traceable to a source of known quality certified by the USEPA or NIST, or other similar program. When the compounds pass the identity and purity tests, they are certified for use in standard and surrogate solutions. Concentrations of the solutions are checked for accuracy before release for laboratory use. Standard solutions are replaced monthly or more frequently, based upon data indicating deterioration.

### **9.3 ORGANIC BLANKS AND MATRIX SPIKE**

Analysis of blank samples verifies that the analytical method does not introduce contaminants or detect "false positives". The blank water can be generated by reverse osmosis and Super-Q filtration systems, or distillation of water containing  $\text{KMnO}_4$ . The matrix spike is generated by addition of surrogate standard to each sample.

### **9.4 TRIP AND FIELD BLANKS**

Trip blanks and field blanks will be utilized in accordance with the specifications in Section 4. These blanks will be analyzed to provide a check on sample bottle preparation and to evaluate the possibility of atmospheric or cross contamination of the samples.

## **SECTION 10 - QUALITY ASSURANCE PERFORMANCE AUDITS AND SYSTEM AUDITS**

### **10.1 INTRODUCTION**

Quality assurance audits may be performed by the project quality assurance group under the direction and approval of the project Quality Assurance Officer (QAO). The Qualified Environmental Professional will consult with the NYSDEC to determine whether a Quality Assurance Audit and QAO will be required. These audits will be implemented to evaluate the capability and performance of project and subcontractor personnel, items, activities, and documentation of the measurement system(s). Functioning as an independent body and reporting directly to corporate quality assurance management, the QAO may plan, schedule, and approve system and performance audits based upon procedures customized to the project requirements. At times, the QAO may request additional personnel with specific expertise from company and/or project groups to assist in conducting performance audits. However, these personnel will not have responsibility for the project work associated with the performance audit.

### **10.2 SYSTEM AUDITS**

System audits may be performed by the QAO or designated auditors, and encompass a qualitative evaluation of measurement system components to ascertain their appropriate selection and application. In addition, field and laboratory quality control procedures and associated documentation may be system audited. These audits may be performed once during the performance of the project. However, if conditions adverse to quality are detected or if the Qualified Environmental Professional requests, additional audits may occur.

### **10.3 PERFORMANCE AUDITS**

The laboratory may be required to conduct an analysis of Performance Evaluation (PE) samples or provide proof that Performance Evaluation samples submitted by USEPA or a state agency have been analyzed within the past twelve months.

### **10.4 FORMAL AUDITS**

Formal audits refer to any system or performance audit that is documented and implemented by the QA group. These audits encompass documented activities performed by qualified lead auditors to a written procedure or checklists to objectively verify that quality assurance requirements have been developed, documented, and instituted in accordance with contractual and project criteria. Formal audits may be performed on project and subcontractor work at various locations.

Audit reports will be written by auditors who have performed the site audit after gathering and evaluating all data. Items, activities, and documents determined by lead auditors to be in noncompliance shall be identified at exit interviews conducted with the involved management. Noncompliances will be logged, and documented through audit findings which are attached to and are a part of the integral audit report. These audit finding forms are directed to management to satisfactorily resolve the noncompliance in a specified and timely manner.

The Qualified Environmental Professional has overall responsibility to ensure that all corrective actions necessary to resolve audit findings are acted upon promptly and satisfactorily. Audit reports must be submitted to the Qualified Environmental Professional within fifteen days of completion of the audit. Serious deficiencies will be reported to the Project Manager within 24 hours. All audit checklists, audit reports, audit findings, and acceptable resolutions are approved by the QAO prior to issue. Verification of acceptable resolutions may be determined by re-audit or documented surveillance of the item or activity. Upon verification acceptance, the QAO will close out the audit report and findings.

## **SECTION 11 - PREVENTIVE MAINTENANCE PROCEDURES AND SCHEDULES**

### **11.1 PREVENTIVE MAINTENANCE PROCEDURES**

Equipment, instruments, tools, gauges, and other items requiring preventive maintenance will be serviced in accordance with the manufacturer's specified recommendations and written procedure developed by the operators.

A list of critical spare parts will be established by the operator. These spare parts will be available for use in order to reduce the downtime. A service contract for rapid instrument repair or backup instruments may be substituted for the spare part inventory.

### **11.2 SCHEDULES**

Written procedures will establish the schedule for servicing critical items in order to minimize the downtime of the measurement system. The laboratory will adhere to the maintenance schedule, and arrange any necessary and prompt service. Required service will be performed by qualified personnel.

### **11.3 RECORDS**

Logs shall be established to record and control maintenance and service procedures and schedules. All maintenance records will be documented and traceable to the specific equipment, instruments, tools, and gauges. Records produced shall be reviewed, maintained, and filed by the operators at the laboratories. The QAO may audit these records to verify complete adherence to these procedures.

## **SECTION 12 - CORRECTIVE ACTION**

### **12.1 INTRODUCTION**

The following procedures have been established to ensure that conditions adverse to quality, such as malfunctions, deficiencies, deviations, and errors, are promptly investigated, documented, evaluated, and corrected.

### **12.2 PROCEDURE DESCRIPTION**

When a significant condition adverse to quality is noted at the Site, laboratory, or subcontractor location, the cause of the condition will be determined and corrective action will be taken to preclude repetition. Condition identification, cause, reference documents, and corrective action planned to be taken will be documented and reported to the QAO, Qualified Environmental Professional and Brownfield Cleanup Agreement Volunteer. Implementation of corrective action is verified by documented follow-up action.

All project personnel have the responsibility, as part of the normal work duties, to promptly identify, solicit approved correction, and report conditions adverse to quality. Corrective actions will be initiated as follows:

- When predetermined acceptance standards are not attained;
- When procedure or data compiled are determined to be deficient;
- When equipment or instrumentation is found to be faulty;
- When samples and analytical test results are not clearly traceable;
- When quality assurance requirements have been violated;
- When designated approvals have been circumvented;
- As a result of system and performance audits;
- As a result of a management assessment;
- As a result of laboratory/field comparison studies; and
- As required by USEPA SW-846, and subsequent updates, or by the NYSDEC ASP.

Project management and staff, such as field investigation teams and laboratory groups, monitor on-going work performance in the normal course of daily responsibilities. Work may be audited at the sites, laboratories, or contractor locations. Activities, or documents ascertained to be noncompliant with quality assurance requirements will be documented. Corrective actions will be mandated through audit finding sheets attached to the audit report. Audit findings are logged, maintained, and controlled by the QAO.

Personnel assigned to quality assurance functions will have the responsibility to issue and control Corrective Action Request (CAR) Forms (Figure 12.1 or similar). The CAR identifies the out-



of-compliance condition, reference document(s), and recommended corrective action(s) to be administered. The CAR is issued to the personnel responsible for the affected item or activity. A copy is also submitted to the Qualified Environmental Professional. The individual to whom the CAR is addressed returns the requested response promptly to the QA personnel, affixing his/her signature and date to the corrective action block, after stating the cause of the conditions and corrective action to be taken. The QA personnel maintain the log for status of CARs, confirms the adequacy of the intended corrective action, and verifies its implementation. CARs will be retained in the project file for the records.

Any project personnel may identify noncompliance issues; however, the designated QA personnel are responsible for documenting, numbering, logging, and verifying the close out action. The Qualified Environmental Professional will be responsible for ensuring that all recommended corrective actions are implemented, documented, and approved.

## **SECTION 13 - REFERENCES**

USEPA, 1986. *SW-846 "Test Method for Evaluating Solid Waste,"* dated November 1986. U.S. Environmental Protection Agency, Washington, D.C.

Taylor, J. K., 1987. *Quality Assurance of Chemical Measurements.* Lewis Publishers, Inc., Chelsea, Michigan

USEPA, 1987. *Data Quality Objectives for Remedial Response Actions Activities: Development Process,* EPA/540/G-87/003, OSWER Directive 9355.0-7- U.S. Environmental Protection Agency, Washington, D.C.

USEPA, 1992a. *CLP Organics Data Review and Preliminary Review.* SOP No. HW-6, Revision #8, dated January 1992. USEPA Region II.

USEPA, 1992b. *Evaluation of Metals Data for the Contract Laboratory Program (CLP) based on SOW 3/90.* SOP No. HW-2, Revision XI, dated January 1992. USEPA Region II.

**TABLE 3.1**  
**QUALITY CONTROL LIMITS FOR WATER SAMPLES**

Analytical Parameters	Analytical Method (a)	Matrix Spike (MS) Compounds	Laboratory Accuracy and Precision			Surrogate Compounds	Surrogate % Recovery
			MS/MSD (b) % Recovery	MS/MSD RPD (c)	LCS (d) % Recovery		
VOCs (e)	SW8260B	1,1-Dichloroethane	61-145	14	NA	Toluene-d8	88-110
		Trichloroethene	71-120	14	NA	Bromofluorobenzene	86-115
		Benzene	76-127	11	NA	1,2-Dichloroethane-d4	76-114
		Toluene	76-125	13	NA		
		Chlorobenzene	75-130	13	NA		
SVOCs (f)	SW8270C	Phenol	12-110	42	NA	Nitrobenzene-d5	35-114
		2-Chlorophenol	27-123	40	NA	2-Fluorobiphenyl	43-116
		1,4-Dichlorobenzene	36-97	28	NA	Terphenyl-d14	33-141
		N-Nitroso-di-n-propylamine	41-116	38	NA	Phenol-d5	10-110
		1,2,4-Trichlorobenzene	39-98	28	NA	2-Fluorophenol	21-110
		4-Chloro-3-methylphenol	23-97	42	NA	2,4,6-Tribromophenol	10-123
		Acenaphthene	46-118	31	NA	2-Chlorophenol-d4	33-110 (g)
		4-Nitrophenol	10-80	50	NA	1,2-Dichlorobenzene-d4	16-110 (g)
		2,4-Dinitrotoluene	24-96	38	NA		
		Pentachlorophenol	9-103	50	NA		
		Pyrene	26-127	31	NA		
		Pesticides/PCBs (h)	SW8082	Gamma-BHC (Lindane)	56-123	15	NA
Heptachlor	40-131			20	NA	Decachlorobiphenyl	60-150 (g)
Aldrin	40-120			20	NA		
Dieldrin	52-126			18	NA		
Endrin	56-121			21	NA		
Inorganics (i)	SW6010B, SW7470A/ 7471A, SW7841, SW9010A (Cyanide)	4,4'-DDT	38-127	27	NA		
		Inorganic Analyte	75-125 (j)	20 (k)	80-120	NA	NA

(a) Analytical Methods: USEPA SW-846, 3rd edition, Revision 1, November 1990; any subsequent revisions shall supersede this information

(b) Matrix Spike/Matrix Spike Duplicate

(c) Relative Percent Difference

(d) Laboratory Control Sample

(e) Target Compound List Volatile Organic Compounds

(f) Target Compound List Semivolatile Organic Compounds

(g) Limits are advisory only

(h) Polychlorinated Biphenyls

(i) Target Analyte List Inorganics (metals and cyanide)

(j) Matrix spike only

(k) Laboratory duplicate RPD

NA - Not Applicable

**TABLE 3.2**  
**QUALITY CONTROL LIMITS FOR SOIL SAMPLES**

Analytical Parameter	Analytical Method (a)	Matrix Spike (MS) Compounds	Laboratory Accuracy and Precision				Surrogate Compounds	Surrogate % Recovery
			MS/MSD (b) % Recovery	MS/MSD RPD (c)	LCS (d) % Recovery			
VOCs (e)	SW8260B	1,1-Dichloroethane	59-172	22	NA	Toluene-d8	84-138	
		Trichloroethene	62-137	24	NA	Bromofluorobenzene	59-113	
		Benzene	66-142	21	NA	1,2-Dichloroethane-d4	70-121	
		Toluene	59-139	21	NA			
		Chlorobenzene	60-133	21	NA			
SVOCs (f)	SW8270C	Phenol	26-90	35	NA	Nitrobenzene-d5	23-120	
		2-Chlorophenol	25-102	50	NA	2-Fluorobiphenyl	30-115	
		1,4-Dichlorobenzene	28-104	27	NA	Terphenyl-d14	18-137	
		N-Nitroso-di-n-propylamine	41-126	38	NA	Phenol-d5	24-113	
		1,2,4-Trichlorobenzene	38-107	23	NA	2-Fluorophenol	25-121	
		4-Chloro-3-methylphenol	26-103	33	NA	2,4,6-Tribromophenol	19-122	
		Acenaphthene	31-137	19	NA	2-Chlorophenol-d4	20-130 (g)	
		4-Nitrophenol	11-114	50	NA	1,2-Dichlorobenzene-d4	20-130 (g)	
		2,4-Dinitrotoluene	28-89	47	NA			
		Pentachlorophenol	17-109	47	NA			
		Pyrene	35-142	36	NA			
		Pesticides/PCBs (h)	SW8082	Gamma-BHC (Lindane)	46-127	50	NA	Tetrachloro-m-xylene
Heptachlor	35-130			31	NA	Decachlorobiphenyl	60-150 (g)	
Aldrin	34-132			43	NA			
Dieldrin	31-134			38	NA			
Endrin	42-139			45	NA			
4,4'-DDT	23-134			50	NA			
Inorganics (i)	SW6010B, SW7470A/ 7471A, SW7841, SW9010A (Cyanide)	Inorganic Analyte	75-125 (j)	20 (k)	80-120	NA	NA	

(a) Analytical Methods: USEPA SW-846, 3rd edition, Revision 1, November 1990, any subsequent revisions shall supersede this information

(b) Matrix Spike/Matrix Spike Duplicate

(c) Relative Percent Difference

(d) Laboratory Control Sample

(e) Target Compound List Volatile Organic Compounds

(f) Target Compound List Semivolatile Organic Compounds

(g) Limits are advisory only

(h) Polychlorinated Biphenyls

(i) Target Analyte List Inorganics (metals and cyanide)

(j) Matrix spike only

(k) Laboratory duplicate RPD

NA - Not Applicable

**TABLE 4.1****WATER SAMPLE CONTAINERIZATION, PRESERVATION,  
AND HOLDING TIMES**

<b>Analysis</b>	<b>Bottle Type</b>	<b>Preservation (a)</b>	<b>Holding Time (b)</b>
Volatile Organic Compounds (VOCs)	2-40 mL glass vial w/ Teflon septum	Cool to 4°C	10 days
Semivolatile Organics Compounds (SVOCs)	1000 mL glass w/ Teflon lined cap	Cool to 4°C	5 days*
PCBs	Glass w/teflon cap	Cool to 4°C	5 days*
Metals	1000 mL plastic bottle	Nitric Acid to pH < 2 Cool to 4°C	6 months, except mercury (26 days)
Cyanide	500 mL plastic bottle	NaOH to pH > 12 Cool to 4°C	14 days

(a) All samples to be preserved in ice during collection and transport.

(b) Days from validated time of sample receipt (VTSR).

\* Extraction of water samples for PCB analysis by separatory funnel must be completed within 7 days of VTSR. Continuous liquid-liquid extraction is the required extraction for water samples for SVOCs. Continuous liquid-liquid extraction and concentration of water samples for SVOCs analysis completed within 7 days of VTSR. Extracts of water samples must be analyzed within 40 days of extraction.

**TABLE 4.2  
SOIL AND WASTE SAMPLE  
CONTAINERIZATION AND HOLDING TIMES**

<b>Analysis</b>	<b>Bottle Type</b>	<b>Preservation <sup>(a)</sup></b>	<b>Holding Time <sup>(b)</sup></b>
Volatile Organic Compounds (VOCs)	Wide-mouth glass w/ teflon lined cap or encore sampler	Cool to 4°C	10 days
Other Organic Compounds <sup>(c)</sup>	Wide-mouth glass w/ teflon lined cap	Cool to 4°C	10 days*
Metals	Wide-mouth plastic or glass	Cool to 4°C	6 months, except mercury (26 days)
Cyanide	Wide-mouth plastic	Cool to 4°C	14 days
TCLP Organic Compounds	Wide-mouth glass w/ teflon lined cap	Cool to 4°C	See Table 4.4
TCLP Metals	Wide-mouth plastic or glass	Cool to 4°C	See Table 4.4

(a) All samples to be preserved in ice during collection and transport.

(b) Days from date of sample collection.

(c) Semivolatile organic compounds or PCBs.

\* Soxhlet or sonication procedures for extraction and concentration of soil/waste samples for SVOCs must be completed within 10 days of VTSR. Soxhlet or sonication procedures for extraction and concentration of soil/sediment/waste samples for PCBs must be completed within 10 days of VTSR. Extracts of soil samples must be analyzed within 40 days of extraction.

**TABLE 4.3****TCLP<sup>(a)</sup> SAMPLE HOLDING TIMES**

<b>Analytical Parameter</b>	<b>From: Sample Collection To: TCLP Extraction</b>	<b>From: TCLP Extraction To: Preparative Extraction</b>	<b>From: Preparative Extraction To: Determinative Analysis</b>
Volatiles	14 days	NA	14 days
Semivolatiles	14 days	7 days	40 days
Mercury	26 days	NA	26 days
Metals (except Mercury)	180 days	NA	180 days

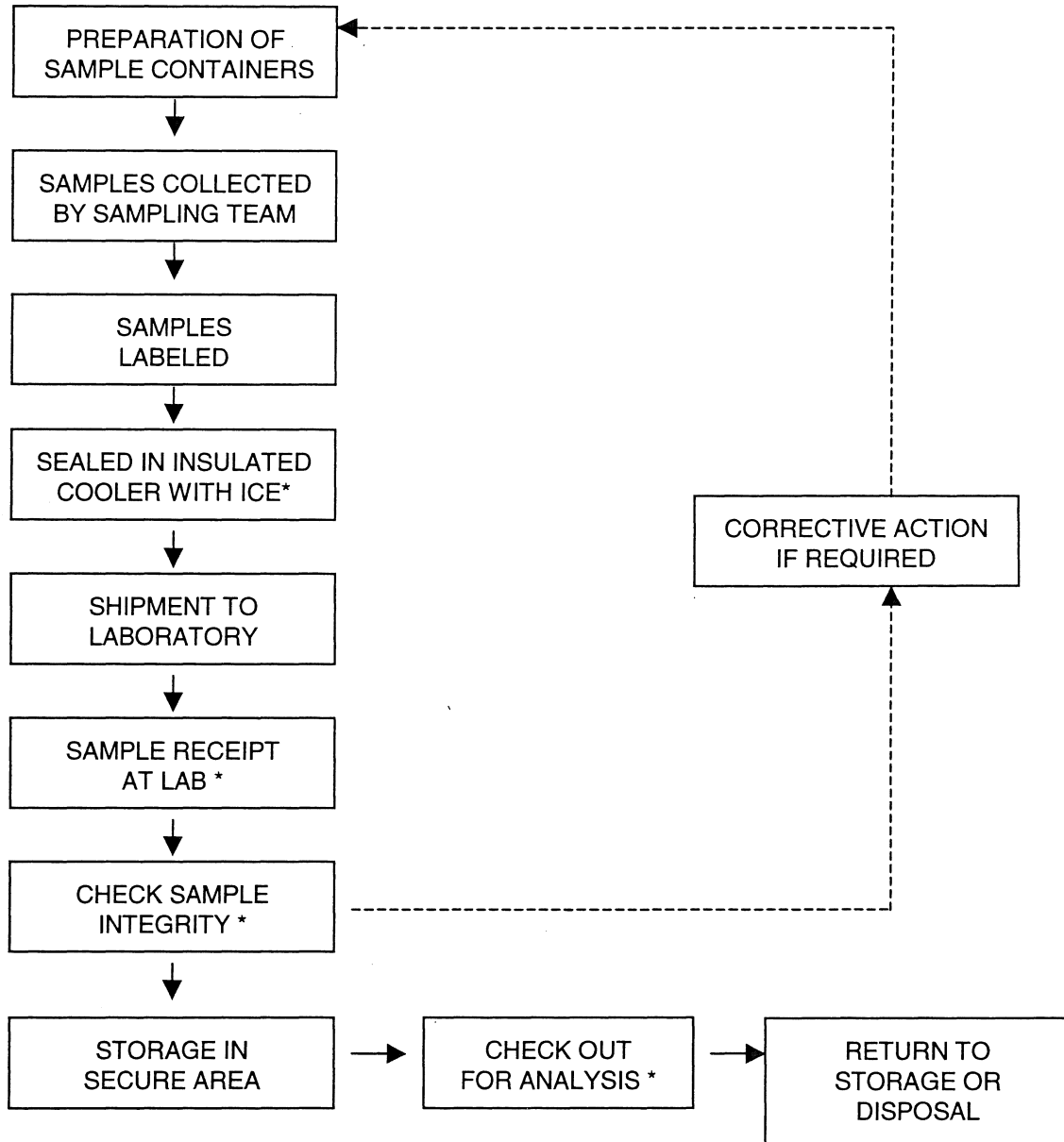
(a) Toxicity Characteristic Leaching Procedure

NA - Not Applicable

FIGURE 5.1

# SAMPLE CUSTODY

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\* REQUIRES SIGN-OFF ON CHAIN-OF-CUSTODY FORM

---



# CHAIN OF CUSTODY RECORD

WORK ORDER NO. \_\_\_\_\_

DUE DATE \_\_\_\_\_

COMPANY: \_\_\_\_\_

PHONE: ( ) \_\_\_\_\_ FAX #: ( ) \_\_\_\_\_

P.O.#: \_\_\_\_\_

CLIENT CONTACT: \_\_\_\_\_

PROJECT #: \_\_\_\_\_

**SAMPLE TYPE**  
 1. WATER 6. WIPES  
 2. SOIL 7. AIR CASSETTE  
 3. SLUDGE 8. OTHER  
 4. OIL  
 5. CHIPS

**CONTAINER TYPE**  
 P - PLASTIC  
 G - GLASS  
 V - VOA

PRESERVATIVES

SCILAB SAMPLE #	CLIENT SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER		SAMPLING INFORMATION			REPORT PACKAGES
			SIZE	TYPE	#	DATE	TIME	
								MWRA <input type="checkbox"/>
								MA DEP <input type="checkbox"/>
								RDR <input type="checkbox"/>
								ASP A <input type="checkbox"/>
								ASP B <input type="checkbox"/>
								QC LEVEL 1 <input type="checkbox"/>
								QC LEVEL 2 <input type="checkbox"/>

Temperature upon receipt: \_\_\_\_\_

**SPECIAL INSTRUCTIONS**

24 HOUR TAT  5 Day TAT

48 HOUR TAT  7 DAY TAT

72 HOUR TAT  10 DAY TAT

RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

Shade areas for laboratory use only.  
 Gold copy - Originator, Retains  
 Pink copy - Shipper, Retains

Submit White and Yellow copies to the laboratory.

FIGURE 5.2

FIGURE 12.1

<b>CORRECTIVE ACTION REQUEST</b>					
Number: _____		Date: _____			
<b>TO:</b> _____ You are hereby requested to take corrective actions indicated below and as otherwise determined by you to (a) resolve the noted condition and (b) to prevent it from recurring. Your written response is to be returned to the project quality assurance manager by _____					
<b>CONDITION:</b>					
<b>REFERENCE DOCUMENTS:</b>					
<b>RECOMMENDED CORRECTIVE ACTIONS:</b>					
_____	_____	_____	_____	_____	_____
Originator	Date	Approval	Date	Approval	Date
<b>RESPONSE</b>					
<b>CAUSE OF CONDITION:</b>					
<b>CORRECTIVE ACTION</b>					
(A) RESOLUTION					
(B) PREVENTION					
(C) AFFECTED DOCUMENTS					
<b>C.A. FOLLOWUP:</b>					
<b>CORRECTIVE ACTION VERIFIED BY:</b> _____				<b>DATE:</b> _____	