



## **Whole Foods Market**

**220 3<sup>rd</sup> Street**

**BROOKLYN, KINGS COUNTY, NEW YORK**

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# **Final Engineering Report**

**NYSDEC Site Number: C224100**

**Prepared for:**

190-220 Third Street Store Brooklyn, LLC

930 Sylvan Avenue

Englewood Cliffs, New Jersey 07632

**Prepared by:**

BL Companies

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**NOVEMBER 2011**

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

# CERTIFICATIONS

I, Guy F. LaBella, am currently a registered professional engineer licensed by the State of New York, I had primary direct responsibility for implementation of the remedial program activities, and I certify that the Remedial Work Plan was implemented and that all construction activities were completed in substantial conformance with the Department-approved Remedial Work Plan.

I certify that the data submitted to the Department with this Final Engineering Report demonstrates that the remediation requirements set forth in the Remedial Work Plan dated December 7, 2006, the NYSDEC Remedial Work Plan Approval Letter, dated May 3, 2007, and the BL Companies Informational Letter on Hotspot Removal dated May 10, 2010, and in all applicable statutes and regulations have been or will be achieved in accordance with the time frames, if any established in for the remedy.

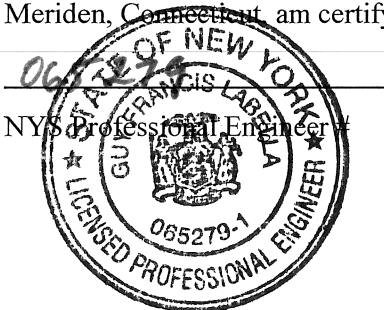
I certify that all use restrictions, Institutional Controls, Engineering Controls, and/or any operation and maintenance requirements applicable to the Site are contained in an environmental easement created and recorded pursuant ECL 71-3605 and that all affected local governments, as defined in ECL 71-3603, have been notified that such easement has been recorded.

I certify that a Site Management Plan has been submitted for the continual and proper operation, maintenance, and monitoring of all Engineering Controls employed at the Site, including the proper maintenance of all remaining monitoring wells, and that such plan has been approved by Department.

I certify that all documents generated in support of this report have been submitted in accordance with the DER's electronic submission protocol and have been accepted by the Department.

I certify that all data generated in support of this report have been submitted in accordance with the Department's electronic data deliverable and have been accepted by the Department.

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, of 355 Research Parkway, Meriden, Connecticut, am certifying as Owner's Designated Representative for the Site.



11/21/2011  
Date

Guy F. LaBella  
Signature

TABLE OF CONTENTS

CERTIFICATION ..... ii

TABLE OF CONTENTS..... iii

LIST OF ACRONYMS .....v

FINAL ENGINEERING REPORT ..... 1

1.0 BACKGROUND AND SITE DESCRIPTION .....1

2.0 SUMMARY OF SITE REMEDY .....2

    2.1 Remedial Action Objectives .....2

    2.2 Description of Selected Remedial Remedy .....2

3.0 INTERIM REMEDIAL MEASURES .....4

    3.1 Interim Remedial Measures .....4

4.0 DESCRIPTION OF REMEDIAL ACTIONS PERFORMED .....6

    4.1 Governing Documents .....6

    4.2 Remedial Program Elements..... 11

    4.3 Contaminated Materials Removal..... 20

    4.4 End-Point Documentation Sampling ..... 23

    4.5 Imported Backfill ..... 24

    4.6 Contamination Remaining at the Site ..... 25

    4.7 Composite Cover System..... 26

    4.8 Other Engineering Controls ..... 26

    4.9 Institutional Controls ..... 26

    4.10 Deviations from the Remedial Work Plan ..... 27

**Figures**

- Figure 1: Site Plan
- Figure 2: Remedial Excavation Plan
- Figure 3: Pre-Remediation Contamination Source Areas
- Figure 4: Excavation Fill Plan
- Figure 5: Location of Remaining Soil with Regulated Compounds above Track 4 Site-Specific Restricted Use SCOs
- Figure 6: Documentation Sample Location Plan
- Figure 7: Demarcation Barrier Elevation Plan
- Figure 8: Former Site Conditions and Pre-Remediation Sample Location Plan

Figure 9: Location of Documentation Soil Samples and Surface Soil Samples with Regulated Compounds Above Unrestricted Use SCOs

Figure 10: Composite Cover System Plan

### **Tables**

- Table 1: Track 4 Site-Specific Restricted Use Soil Cleanup Objectives
- Table 2: Quantities of Material Removed from Site
- Table 3: Documentation Sample Analytical Results
- Table 4: Imported Backfill Quantities
- Table 5: Backfill Analytical Results Compared to NYSDEC Standards, Criteria and Guidance Values
- Table 6: Soil Samples with Concentrations of Regulated Compounds Remaining above Track 4 Site –Specific Restricted Use Soil Cleanup Objectives
- Table 7: Soil Samples with Regulated Compounds Remaining Above Unrestricted Use SCOs
- Table 8: Soil Analytical Summary – Samples with Regulated Compounds Above Unrestricted Use SCOs

### **Appendices**

- Appendix A: Metes and Bounds
- Appendix B: Final Engineering Report-Electronic Copy
- Appendix C: Documentation of Agency Approvals
- Appendix D: Non-Agency Permits and Violations
- Appendix E: CAMP Field Data Sheets-Electronic Copy
- Appendix F: Daily Field Reports-Electronic Copy
- Appendix G: Digital Photographic Log
- Appendix H: Disposal Facility Correspondence-Electronic Copy
- Appendix I: Manifests, Weight Tickets, Bills of Lading, Tabulated Load Summary-Electronic Format
- Appendix J: Data Usability Report and Laboratory Analytical Data for Documentation Samples-Electronic Copies
- Appendix K: Imported Backfill Documentation
- Appendix L: Proof of Environmental Easement Filing

## LIST OF ACRONYMS

<b>Acronym</b>	<b>Definition</b>
ALTA	American Land Title Association
ASP	Analytical Services Protocol
BCA	Brownfield Cleanup Agreement
BEST	Building Environmental Safety Team
CAMP	Community Air Monitoring Plan
CHASP	Contractor Health and Safety Plan
CLP	Contract Laboratory Protocol
COC	contaminant of concern
CPP	Citizens Participation Plan
DUSR	Data Usability Summary Report
EC/ICs	Engineering and Institutional Controls
ELAP	Environmental Laboratory Accreditation Program
EPA	Environmental Protection Agency
ESCP	Erosion and Sediment Control Plan
FER	Final Engineering Report
HASP	Health and Safety Plan
IRM	Interim Remedial Measure
mcg/m <sup>3</sup>	micrograms per cubic meter
MTA	Metropolitan Transit Authority
NYCRR	New York Codes, Rules and Regulations
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
PCB	polychlorinated biphenyl
PID	photoionization detector
PM-10	particulate matter less than 10 micrometers
PPE	personnel protective equipment
ppm	parts per million
QEP	Qualified Environmental Professional
RAHASP	Remedial Action Health and Safety Plan
RAO	Remedial Action Objective
RIR	Remedial Investigation Report
RSCO	Recommended Soil Cleanup Objective
RWP	Remedial Work Plan
SCO	Site-Specific Soil Cleanup Objective

SEQRA	State Environmental Quality Review Act
SOP	Site Operations Plan
SVOC	semivolatile organic compound
SWPPP	Surface Water Pollution Prevention Plan
TAGM	Technical and Administrative Guidance Memorandum
TAL	Total Analyte List
TOGS	Technical and Operational Guidance Series
UFPO	Underground Facility Protective Organization
USCGS	United States Coast and Geodetic Survey
UST	underground storage tank
VOC	volatile organic compound

# FINAL ENGINEERING REPORT

## 1.0 BACKGROUND AND SITE DESCRIPTION

190-220 Third Street Store Brooklyn, LLC (successor to Whole Foods Market Properties Brooklyn, LLC) entered into a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) on April 25, 2005, to investigate and remediate a 2.155-acre property located in Kings County, Brooklyn, New York (hereafter referred to as the Site). The Site was remediated to commercial use.

The Site is located in Kings County, New York and is identified as Block 978, Lots 16, 19, and portions of Lot 1 and Lot 7 on municipality Tax Map # 3. The Site is situated on a 2.155-acre area bounded by 3<sup>rd</sup> Street to the northeast, the 4<sup>th</sup> Street Basin to the southwest, 3<sup>rd</sup> Avenue to the southeast, and an contiguous property (Lot 23) to the southwest (see Figure 1). Lot 23 is vacant land being leased by 190-220 Third Street Store Brooklyn, LLC. The boundaries of the Site are fully described in Appendix A: Survey Map, Metes and Bounds.

An electronic copy of this Final Engineering Report (FER) with all supporting documentation is included as Appendix B.

## **2.0 SUMMARY OF SITE REMEDY**

### **2.1 REMEDIAL ACTION OBJECTIVES**

Based on the results of the Remedial Investigation and as presented in the NYSDEC-approved Remedial Work Plan (RWP) dated December 7, 2006, NYSDEC Remedial Work Plan Approval Letter, dated May 3, 2007 and BL Companies Informational Letter on Hotspot Removal dated May 10, 2010, the following Remedial Action Objectives (RAOs) were identified for this Site.

- Eliminate, to the extent practicable, the potential human health exposure to future Site users, employees, and construction workers to the Site contaminants.
- Eliminate, to the extent practicable, potential impacts to the environment from Site contaminants.
- Excavate and remove identified Site contamination to the extent practicable.

### **2.2 DESCRIPTION OF SELECTED REMEDIAL REMEDY**

The Site was remediated in accordance with the remedy selected by the NYSDEC in the RWP dated December 7, 2006, the NYSDEC Remedial Work Plan Approval Letter, dated May 3, 2007, and the BL Companies Informational Letter on Hotspot Excavation, dated May 10, 2010.

The factors considered during the selection of the remedy are those listed in 6NYCRR 375-1.8. The following are the components of the selected remedy:

1. Off-Site disposal of two underground storage tanks (USTs 4 and 4a).  
Excavated soil managed in accordance with NYSDEC-approved SMP included as part of the RWP dated December 7, 2006.
2. 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). (See Table 1). Excavation depth elevations ranged between approximately -4 feet and -7 feet (BL Companies Datum). Add 4.795 feet to the BL Companies Datum to adjust to the United States Coast and Geodetic Survey (U.S.C.G.S) 1929 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 Companies Datum), and in some areas of the urban fill between elevations of approximately 0 and 9 feet (BL Companies Datum).

3. Construction and maintenance of a Composite Cover System consisting of demarcation barrier and a minimum 2-foot-thick cover layer of clean crushed rock to prevent human exposure to remaining contaminated soil at the Site.
4. Execution and recording of an Environmental Easement to restrict land use and prevent future exposure to any contamination remaining at the Site. The Environmental Easement requires: (a) limiting the use and development of the property to commercial use, which would also permit 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.
5. Development and implementation of a SMP 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.

### **3.0 INTERIM REMEDIAL MEASURES**

Prior to the implementation of the NYSDEC-approved remedial remedy in 2010, NYSDEC-approved Interim Remedial Measures (IRMs) were performed at the Site in 2005 and 2006. The information and certifications made in the following two reports were relied upon to prepare this report and certify that the remediation requirements for the Site have been met.

- *Interim Remedial Measures Report #1 Report, Underground Storage Tank and Septic System Removal*, prepared by BL Companies, April 21, 2006.
- *Interim Remedial Measures Report #2 Report for Soil Remediation*, prepared by BL Companies, April 28, 2006.

A copy of the NYSDEC IRM Approval Letter dated March 30, 2007 is presented in Appendix C (Documentation of Agency Approvals).

### **3.1 INTERIM REMEDIAL MEASURES**

The IRM's were designed to remove soils that exhibited concentrations of regulated compounds that exceeded 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 removed several, but not all soils that exhibited concentrations of compounds that exceeded TAGM # 4046 RSCOs. The standards and guidance values published in TAGM #4046, Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations in New York Codes, Rules and Regulations (NYCRR) 703 and Draft 6 NYCRR Subpart 375-3 were used for comparative screening purposes to evaluate soil and ground water quality at the Site, and were not used as Site-specific clean-up goals.

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

IRM #1 included the removal of four USTs (USTs 1,2,3 and 5), two drywells, and a septic tank and cesspool. The USTs 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 (Hotspots 1, 2, 3, 4a, 5 and PCB) where concentrations of regulated compounds (included VOCs, SVOCs/Polycyclic Aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCBs), and metals) exceeded the TAGM #4046 RSCOs, identified in the Remedial Investigation Report, dated October 31, 2006.

Based on 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, over 11,000 tons of petroleum-impacted soil were removed during the IRM activities. Based on Post-IRM ground water data presented in the Remedial Investigation Report (RIR) dated October 31, 2006, groundwater quality improved at the Site as a result of these activities.

## **4.0 DESCRIPTION OF REMEDIAL ACTIONS PERFORMED**

Remedial activities completed at the Site in 2010 were conducted in accordance with the NYSDEC-approved RWP dated December 7, 2006, the NYSDEC Remedial Work Plan Approval Letter, dated May 3, 2007, and the BL Companies Informational Letter on Hotspot Excavation, dated May 10, 2010. All deviations from the RWP are noted below.

### **4.1 GOVERNING DOCUMENTS**

The remediation Governing Documents consist of the RWP and its appendices (Soil Management Plan, Health and Safety Plan, Community Air Monitoring Plan), as well as the following documents which are not included as part of the RWP.

- NYSDEC RWP Approval Letter dated May 3, 2007.
- Hot Spot Remediation Project Manual and Drawing Set dated June 10, 2009.
- Informational Letter on Hotspot Removal dated May 10, 2010.

A general description of the contents of these Governing Documents is presented in this section of the FER.

#### **4.1.1 Remedial Action Health & Safety Plan (HASP)**

A Remedial Action Health and Safety Plan (RAHASP) was prepared to communicate potential and known health and safety hazards encountered during remediation of the Site, and establish personnel protection standards and mandatory safety practices and procedures. The RAHASP was included as Appendix B of the RWP. In addition, the remediation contractor prepared a Contractor Health and Safety Plan (CHASP) in 2010. This CHASP conformed to the RAHASP as a minimum and included additional practices and procedures specific to the contractor's activities. All remedial work performed under this Remedial Action was in full compliance with governmental requirements, including Site and worker safety requirements mandated by Federal OSHA. The RAHASP was complied with for all remedial and invasive work performed at the Site.

#### 4.1.2 Soil Management Plan

Soil and material management for the remedial remedy was performed in accordance with the Soil Management Plan presented in Appendix A of the RWP dated December 7, 2006. The Soil Management Plan defined a program for the excavation, handling, storage, testing, transport and disposal of soils and materials encountered during the remediation of the Site. The following components of the Soil Management Plan were applied to assure compliance with all applicable Federal, State, and local laws and regulations.

##### 4.1.2.1 Material Excavation and Load Out

A Qualified Environmental Professional (QEP) provided oversight of all excavation and load-out of excavated materials. Licensed haulers in accordance with appropriate State and local regulations (including 6NYCRR Part 364) performed all transport of materials. Loaded vehicles leaving the Site were appropriately secured, manifested and placarded. The Remediation Contractor was responsible for ensuring that all outbound trucks were clear of soil and other materials derived from the Site during the remediation. Locations where vehicles entered and exited the Site were inspected daily for evidence off-Site sediment tracking. The Remediation Contractor maintained project documents including material shipping records, bills of lading, manifests and/or waste disposal receipts, and final destination certifications for the QEP.

##### 4.1.2.2 Materials Disposed of Off-Site

All soil, USTs, and miscellaneous solid waste (e.g., concrete, wood) removed from the Site were disposed of off-Site in accordance with Federal, State (including 6NYCRR Part 360) and local regulations. Prior to shipping, soil and solid waste characterization analyses were performed in a manner suitable to the receiving facility. Pre-acceptance letters/permits were obtained from the receiving facility stating the acceptance of the material. USTs were disposed of at a regulated UST processing facility. Documentation associated with the disposal of all materials, including copies of receipts for the material disposed, is discussed further in Section 4.3 of this FER.

#### 4.1.2.3 Fluid Management

All liquids removed from the Site, including liquid contained in USTs, was handled, transported and disposed of in accordance with applicable Federal, State, and Local regulations. Documentation associated with the disposal of all liquids including records of receipt of the material is discussed further in Section 4.3 of this FER.

#### 4.1.2.4 Backfill From Off-Site Sources

The remedial excavations (including the IRM excavations) were backfilled with imported clean crushed rock that contained chemical concentrations below applicable NYSDEC Standards, Criteria, and Guidance Values defined in 6NYCRR Part 375-6.8(b). Prior to transporting material to the Site, a background check was conducted to identify the source of the material. Documentation associated with the clean crushed rock is discussed further in Section 4.3 of this FER.

### **4.1.3 Storm-Water Pollution Prevention Plan**

Erosion and sediment controls for all remedial construction were initiated in conformance with the requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control and the site-specific Sediment and Erosion Plan and Surface Water Pollution Prevention Plan (SWPPP) presented in the Hot Spot Remediation Project Manual and Hot Spot Remediation Set dated June 2010. The Sediment and Erosion Plan and SWPPP included, but were not limited to, descriptions of the following.

- Responsibility and Implementation of the SWPPP
- Pollution Preventions Measures
- Construction Waste Handling
- Catch Basin Erosion Control
- Material Stock Pile Details
- Silt Fence and Silt Sack Details
- Straw Bail Dike Details

- Anti-tracking Stabilization Rock Construction Entrance and Egress Details
- Fencing
- Maintenance Schedules and Inspection Procedures

#### **4.1.4 Community Air Monitoring Plan**

During the implementation of the remedial remedy in 2010, a Community Air Monitoring Plan (CAMP) was implemented. The CAMP included real-time continuous air monitoring for VOCs and particulate levels during all excavation and backfilling activities. The CAMP implemented at the Site included the following.

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

VOCs were monitored by qualified environmental professionals at the upwind and downwind perimeter of the Site on a continuous basis during excavation activities. Upwind concentrations were measured to establish background conditions. The monitoring work was performed using equipment appropriate to measure the types of contamination known or suspected to be present – Photoionization detector (PID). The PID was calibrated at a minimum daily using an appropriate surrogate. The PID was calibrated at a minimum daily using an appropriate surrogate. Fifteen-minute running average concentrations were compared to the following action levels:

- If the ambient air concentration of VOCs at the downwind perimeter of the Site exceeded 5 parts per million (ppm) above upwind concentrations for the 15-minute average, work activities were temporarily halted and monitoring continued. If the VOC levels readily decrease (per instantaneous readings) below 5 ppm over upwind concentrations, work activities resumed with continued monitoring.
- If VOC levels at the down gradient perimeter of the Site persisted at levels in excess of 5 ppm over upwind concentrations but less than 25 ppm, work activities were halted, the source of the vapors identified, corrective actions were taken to abate emissions, and monitoring continued. After these steps, work activities could resume provided that the VOC 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 downwind concentration for the 15-minute average.
- If the VOC levels were measured above 25 ppm the upwind concentration, activities were shutdown.

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

Particulate concentrations were monitored continuously at the upwind and downwind

perimeters of the Site at temporary particulate monitoring stations. The particulate monitoring was 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. In addition, fugitive dust migration was visually assessed during all work activities. The following were the action levels used for particulates:

- If the downwind PM-10 particulate level was 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 were employed. Work continued with dust suppression techniques provided that downwind PM-10 particulate levels did not exceed  $150 \text{ mcg}/\text{m}^3$  above the upwind level and provided that no visible dust was migrating from the Site.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels were greater than  $150 \text{ mcg}/\text{m}^3$  above the upwind level, work was stopped and a re-evaluation of activities initiated. Work resumed provided that dust suppression measures and other controls were 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 PID and PM-10 readings were recorded and are discussed in Section 4.2.5 of this FER.

#### **4.1.5 Contractors Site Operations Plans (SOPs)**

The Remediation Engineer reviewed all plans and submittals for the remedial project (i.e. those listed above plus contractor and subcontractor submittals) and confirmed that they were in compliance with the RWP and the Remediation Project Manual. All remedial documents were submitted to NYSDEC and NYSDOH in a timely manner and prior to the start of work.

#### **4.1.6 Community Participation Plan**

A Citizen Participation Plan (CPP) was developed for the Site required citizen participation activities to occur during the remedial program. A Site Contact List has been generated that contains the names and required contacts, found appropriate by either the NYSDEC or the Volunteer, and others who have requested to be placed on the list. The Applicant has kept this Site Contact List up-to-date.

A document repository has been established at the following location and contains all applicable project documents released to date.



New York City Public Library  
Carroll Gardens Branch  
396 Clinton Street  
Brooklyn, NY 11231  
(718) 596-6972

Brooklyn Community Board #6  
250 Baltic Street  
Brooklyn, NY 11201  
(718) 643-3027

As part of the CPP process, the following documents have been placed into the document repository: IRM Reports, Site Investigation Report, and Remedial Action Report. The SMP and FER will be placed into the public repository following NYSDEC approval. Each NYSDEC comment and/or approval letter for each of these reports and each Project Fact Sheet has or will be placed into the public repository. The BCP Volunteer (190-220 Third Street Site Brooklyn, LLC) sent a certificate of mailing to the NYSDEC project manager following the distribution of all Fact Sheets, Reports and notices.

A public meeting was held February 22, 2010 to present the Remediation Scope of Work to Community Board # 6 and the public.

## **4.2 REMEDIAL PROGRAM ELEMENTS**

### **4.2.1 Contractors and Consultants**

The following are the primary parties involved with the remediation of the Site.

BCP Volunteer:	Whole Foods Market
Property Owner/Lessee:	190-220 Third Street Store Brooklyn, LLC
Regulatory Oversight:	New York State Department of Environmental Conservation
Certifying Engineer of Record:	Guy F. LaBella, P.E. BL Companies
Remediation Engineer:	Paul Curcio, P.E. BL Companies
Qualified Environmental Professionals:	John Bogdanski P.G. and Jack Bernhard BL Companies

Remediation Contractor:

Op-Tech Environmental Services, Inc.

#### **4.2.2 Site Preparation**

This Section of the FER describes criteria and procedures that were used to perform various Site preparation elements of the remedial remedy conducted in 2010.

##### **4.2.2.1 Mobilization**

Prior to mobilization to the Site, the remediation contractor prepared and submitted all required documents, in accordance the Hot Spot Remediation Project Manual and Drawing Set dated June 10, 2009, for review and approval by the Certifying Engineer of Record and the Remediation Engineer. The Remediation Contractor obtained all necessary Federal, State and local permits associated with remediation of the Site.

A pre-remediation Site meeting was held on March 10, 2010 with the NYSDEC Program Manager, remediation contractor and the Remediation Engineer to review the remediation sequence, confirm the responsibilities of the parties, and establish formal lines of communication for the project. The public was notified in accordance with the requirements of the BCA CPP prior to the start of the on-Site work.

Subsequent to the pre-remediation meeting, the Remediation Contractor mobilized all necessary labor, equipment, supplies and material to perform the remediation in accordance with the Governing Documents. Initial Site activities consisted of the following.

- Clearing and Grubbing
- Site Fencing and Signage
- Erosion and Sediment Controls
- Stabilized Construction Entrances
- Utility Mark out and Easement Layout
- Excavation Support System
- Equipment and Material Staging
- Decontamination Area

- Installation of temporary Site facilities (e.g., trailers, sanitation)

Documentation of agency approvals required by the RWP is included in Appendix C. Other non-agency permits relating to the remediation project are provided in Appendix D.

All State Environmental Quality Review Act (SEQRA) requirements and all substantive compliance requirements for attainment of applicable natural resource or other permits were achieved during this Remedial Action.

A NYSDEC-approved project sign was erected at the project entrance and remained in place during all phases of the Remedial Action.

#### 4.2.2.2 Erosion and Sediment Controls

The Certifying Engineer of Record and the Remediation Engineer, prior to remedial contractor mobilization, prepared an Erosion and Sediment Control Plan (ESCP). The plan discussed the means and methods to be used to minimize off-Site sediment transport weather storm events. Generally, the ESCP included construction of embankments and drainage paths, installation and maintenance of hay bails and silt fencing, silt sacks in catch basins, and a silt curtain between the Site and the 4<sup>th</sup> Street Basin.

#### 4.2.2.3 Site Fencing and Signage

An 8-foot high chain-link fence surrounded the Site during the remediation. The existing Site fence located along 3<sup>rd</sup> Avenue and 3<sup>rd</sup> Street was maintained during the remediation. An 8-foot high chain-link fence was erected along the northwest Site boundary (between Lot 23 and the Site) and along the 4<sup>th</sup> Street Basin side of the Site. All traffic entered and left the Site via a gate to 3<sup>rd</sup> Street.

An exclusion zone was established for the Site during the remedial excavations and backfilling activities. The exclusion zone was areas of the Site where all worker activities were subject to monitoring, work procedures, and Personal Protection Equipment requirements in accordance with the Site-specific Health and Safety Plan.

In accordance with the NYSDEC BCP requirements, a project sign was erected by the Volunteer at the main entrance to the Site prior to the start of remedial activities. The sign stated that the remediation was being performed under the New York Brownfield Cleanup Program.

#### 4.2.2.4 Site Clearing

The remediation contractor removed all shrubs, weeds and other vegetative material from the Site. Trees located along the 4<sup>th</sup> Street Basin were preserved.

#### 4.2.2.5 Stabilized Construction Entrance

The Remediation Contractor maintained a stabilized construction entrance along 3<sup>rd</sup> Street. The construction entrance included an 8-foot high lockable fence, anti-tracking pad, signage, and traffic guidance equipment. The Remediation Contractor kept all existing streets and public sidewalks open to vehicular and pedestrian traffic in accordance with all applicable laws, ordinances, and permits. The Remediation Contractor directed the arrival and departure of construction vehicles and provided flag services as needed to maintain safe travel on 3<sup>rd</sup> Street.

#### 4.2.2.6 Utility Mark Out and Easement Layout

The Remediation Contractor contacted the Underground Facilities Protective Organization (UFPO) to have all utilities on the Site located and marked as appropriate.

The Remediation Contractor completed an American Land Title Association (ALTA) Survey that accurately illustrated the location, boundaries, and metes & bounds of the area covered by the environmental easement.

#### 4.2.2.7 Excavation Support System

The Remediation Contractor performed excavations using proper shoring (including use of Slide-Rail Trench Boxes) and bracing and/or excavation sloping/benching to ensure slope stability.

#### 4.2.2.8 Equipment and Material Staging

The Remediation Contractor, in consultation with the Certifying Engineer of Record and the Project Engineer, established manageable and appropriate excavation stages to permit continuous work, while accommodating the sampling requirements and the receiving capacity of the selected off-Site regulated disposal facilities.

Soil stockpile management was performed in accordance with the Hot Spot Remediation Project Manual and Drawing Set dated June 10, 2009. Stockpile management practices included;

- Placement of soils on proper separation barriers to prevent cross contamination of other soils, and control storm water runoff.

- Management of stockpiles to prevent mixing of separate materials
- Manage stockpiles to minimize storm water runoff from infiltrating the stockpile, odor, and dust generation.

#### 4.2.2.9 Site Control Measures

Restricted access and protective zones were established with respect to the contamination hazards of the Site. These zones were determined by the Site Safety Officer and helped minimize the possibility of cross contamination of uncontaminated areas. The establishment of zones was also be used to prevent exposure of project personnel to contaminated materials. In addition, zones were established to control entry by unauthorized and/or untrained personnel into these restricted areas. The restricted access and protective zones established for the Site consisted of a Support Zone, Contaminant Reduction Zone and an Exclusion Zone.

The Support Zone was kept free of any contaminated material and was used for equipment storage and assembly. Support personnel were staged in this area along with vehicles and equipment not required in the work area that was designated as contaminated. The Site work trailer was also located in the Support Zone.

The Contaminant Reduction Zone was established between the Support Zone and the Exclusion Zone. Decontamination equipment was located in the Contaminant Reduction Zone and decontamination procedures were executed in this zone for all personnel, equipment and materials passing to the Support Zone. The Contaminant Reduction Zone also provided support to non-construction activities such as sample preparation and packaging.

The Exclusion Zone is the area where actual intrusive activities were performed. No one was allowed to enter the Exclusion Zone without authorization from the Site Safety Officer. Entrance and exit to the Exclusion Zone was maintained at a single access point whenever practical. All equipment and personnel entered and exited the Exclusion Zone through the Contaminant Reduction Zone.

### **4.2.3 General Site Controls**

#### 4.2.3.1 Site Security

The 8-foot high chain link fence that surrounded the perimeter of the Site, Lot 23 and Lot 30 and Lot 32 was maintained during the duration of the remediation. All vehicles and equipment left at the Site were secured at the end of each working day. All

gates to the Site were closed and locked at the end of each workday. Warning signs, in English and Spanish, were placed on the gates and perimeter fencing to alert passersby and discourage trespassing. Full-time on-Site security was present during non-working periods of the week (nights, weekends, holidays) until the remedial work was completed.

#### 4.2.3.2 Job Site Record Keeping

Job Site Records that were kept during the execution of the remedial remedy included, but were not limited to the following.

- Daily Field Reports prepared by the Remediation Contractor and the Qualified Environmental Professional overseeing the remediation in the field.
- Remediation Photographs taken by the Remediation Contractor and Qualified Environmental Professional.
- Air monitoring results
- Backfill sample records
- Contractor submittals
- Laboratory analytical sample results
- As-built locations of excavation limits and documentation samples
- Waste Transport manifests
- Weight Tickets for regulated wastes and imported fill transported to or from the Site
- Quantities related to pay items

#### 4.2.3.3 Erosion and Sediment Controls

The erosion and sedimentation control plan was implemented to protect existing roadways and storm drainage systems, adjacent properties, and the 4<sup>th</sup> Street Basin from surface runoff and erosion.

#### 4.2.3.4 Personnel and Equipment Decontamination, and Residual Waste Management

The Remediation Contractor established decontamination areas for personnel and equipment decontamination in accordance with the requirements of the RAHASP. A personnel decontamination area was set up in the Contaminant Reduction Zone where workers could drop equipment, decontaminate equipment, remove personnel protective equipment (PPE), and wash. The decontamination station was equipped with basins for water and detergent, boot wash, and trash bags or cans for containing disposable PPE and discarded materials.

All material and equipment (except disposable items) were decontaminated on specially constructed ‘pads’ located in the Contaminant Reduction Zone. The pad consisted of a layer of crushed stone underlain by an impervious plastic liner that had been graded to drain to a collection sump. The pad was sized to accommodate the largest piece of equipment used on the project.

Soil collected from decontamination was combined with the excavated material for off-Site disposal at a regulated facility.

#### 4.2.3.5 Stockpile Methods

During excavation activities, subsurface soils were managed in accordance with the Soil Management Plan. Subsurface soil was segregated into off-Site disposal stockpiles or directly loaded for transportation and off-Site disposal.

#### 4.2.3.6 Stop Work Order

The New York City Department of Buildings Buildings Environmental Safety Team (BEST) Squad issued a Stop Work Order to Milestone Construction (holder of the Site Building Permit) on April 7, 2009. The Stop Work Order was issued to Milestone Construction for violations of Section 33 of the New York City Building Code Regulations. The violations were corrected, the Stop Work Order rescinded, and remediation work resumed on May 3, 2010. Copies of the documents associated with the BEST Squad Stop Work Order and Rescind Order are provided in Appendix D.

#### **4.2.4 Nuisance controls**

Odor, dust and nuisance controls plans (i.e., rodent control) were implemented during Site remediation. A summary of these plans is presented in the following sections.

##### **4.2.4.1 Odor Control**

Procedures were employed during the remediation to prevent on- and off-Site odor nuisances. These procedures included the following.

- Limiting the area of open excavations.
- Direct loading of odorous soils for off-Site disposal at regulated facility.

##### **4.2.4.2 Dust Control**

Dust management practices completed during the remediation included the following.

- A dedicated on-Site water truck was used to spray water directly onto off-road areas, including excavation and stockpile areas.
- Clearing vegetation was performed in a manner that limited the disturbance of soils.
- Gravel was used on roadways to minimize dust generation from the road surface.
- On-Site roads were limited in total area of Site to minimize the areas requiring water truck spaying

##### **4.2.4.3 Other Nuisances**

The Site remediation conformed, at a minimum, to NYSDEP noise control standards.

A plan for rodent control was developed and utilized during the Site remediation.

##### **4.2.4.4 Truck Egress and Routing**

All traffic entered and left the Site via a 12-foot long sliding gate to 3<sup>rd</sup> Street. The Remediation Contractor's personnel directed the arrival and departure of



construction vehicles and provided flag services needed to maintain safe travel on 3<sup>rd</sup> Street. A Haul Route Traffic Plan was submitted to the Certifying Engineer of Record following the selection of off-Site disposal facilities. The haul routes utilized were selected to minimize or eliminate the time trucks were on local streets. Site personnel were required to park on-Site or in legal all-day on-street parking spaces.

#### 4.2.5 CAMP Results

The Community Air Monitoring Plan was followed during the excavation and material handling activities performed during the remediation. The purpose of the CAMP was to provide protection for the downwind community (i.e., off-site receptors and on-site workers not directly involved with the subject work activities) from potential airborne constituent releases as a direct result of the remediation activities. The NYSDEC-approved CAMP was included in the NYSDEC-approved RWP dated December 7, 2006 and Section 4.1.4 of this FER.

During on-Site remediation activities, ambient VOC concentrations were monitored at the upwind and downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis. Real-time particulate concentrations were monitored continuously at the upwind and downwind perimeters of the exclusion zone. Additionally, the on-Site QEP visually assessed fugitive dust migration during all remediation work activities. The QEP recorded these visual assessments in daily field reports. The CAMP included action levels, which, if exceeded, required either a change in field operations (e.g., apply water to control dust) or a halt to field activities. At no time during the on-Site remediation field activities were action levels for VOCs exceeded. The action levels for particulate concentrations exceeded action levels for three approximate 30 minutes periods of time (i.e., 3/10/10 – 7:34 to 8:04; 3/10/10 – 8:20 to 8:58; 6/9/10 – 6:54 to 7:23). The particulate action levels exceeded on March 10, 2010 were the result of street sweeping activities conducted in the Support Zone. Street sweeping operations were halted to prevent exceedences of particulate action levels. The particulate action level exceeded on June 9, 2010 was the result of the spreading of imported crushed rock associated with the construction of the Composite Cover System. Spreading operations were modified to prevent exceedences of particulate action levels. Copies of all field data sheets relating to the CAMP are provided in electronic format in Appendix E.

#### **4.2.6 Reporting**

During the execution of the remediation, the QEP and the Remediation Contractor completed daily progress reports summarizing the ongoing status of the remedial activities and the anticipated schedule for future activities.

All daily reports are included in electronic format in Appendix F.

The digital photographic log required by the RWP is included in electronic format in Appendix G.

### **4.3 CONTAMINATED MATERIALS REMOVAL**

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, concrete and miscellaneous debris. A list of the SCOs for the primary COCs and applicable land uses for the Site is provided in Table 1. 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 2. Figure 2 also illustrated the excavation depth elevations for each remedial excavation. The remedial excavation volume for all contaminated material removed from the Site was approximately 18,160 tons. In addition, 630 cubic yards of concrete were removed from the Site.

The locations of the original source areas of materials to be removed from the Site are shown in Figure 3. The locations where remedial excavations were performed are shown in Figure 2.

Table 2 lists the quantity of each category of material removed from the Site and their disposal locations. Laboratory analytical results of the waste characterization samples are presented in Appendix H

Letters from Applicants to disposal facility owners and acceptance letters from disposal facility owners are attached in Appendix H.

Manifests, weight tickets, and bills of lading are included in electronic format in Appendix I.

### **4.3.1 Soil**

Soil removal began on February 23, 2010 and was completed on April 7, 2010. The Remediation Contractor excavated soils from each Hotspot in accordance with the Governing Documents. The locations and excavation depth elevations of remedial excavation are illustrated on Figure 2. The Remediation Contractor directly loaded trucks with excavated soil and debris from within the exclusion zone as the availability of approved haulers permitted. Temporary stockpiles remaining at the end of daily operations were secured with tarps and weights and promptly removed from the Site. All soil and debris removed from the Site was disposed of as non-hazardous solid waste at the Clean Earth facility in Carteret New Jersey or Philadelphia Pennsylvania. During the remediation conducted in 2010, 7,152.08 tons of non-hazardous soil was removed from the Site, transported, and disposed of off-Site (Table 2). Waste manifests for non-hazardous waste were supplemented with weight information at the landfill, and copies were returned to the Remediation Contractor. Truck weight data were reviewed and tabulated by the Project Engineer for comparison of the official manifest weights recorded at the disposal facility with the total weights submitted on the Contractor's applications for payment. Waste manifests (including transporter names and license numbers) and weight tickets are provided in Appendix I.

Upon completion of soil removal, end-point documentation soil samples were collected on a maximum 40-foot grid from the sides and bottom of the excavations and analyzed for VOCs, SVOCs, TAL metals and total cyanide to characterize the soils to be encapsulated by the Composite Cover System. Laboratory analytical results of the end-point documentation samples are presented in Table 3. Laboratory analytical results are presented in Appendix J.

Langan Engineering & Environmental Services surveyed the location and elevation of each excavation and end-point documentation sample. Each excavation was backfilled subsequent to its completion. Final backfill placement was completed on February 2010. A post-backfill survey was completed on March 2, 2010. Figure 4 illustrated the remedial excavation fill elevations.

### **4.3.2 Concrete**

630 cubic yards of concrete was removed from the Site in May 2010. The concrete was generated from the demolition and repair of the 4<sup>th</sup> Street Basin Bulkhead, slabs that needed to be removed for the excavation of Hotspot 9A, and stockpiles that were on-Site prior to the 2010 remedial activities. The concrete was transported off-Site

by Dan O's Materials, LLC and was disposed of at the VANBRO Corporation recycling facility located in Staten Island New York. Manifests (including transporter names and truck numbers) and New York City Department of Sanitation permit for deposition of concrete are included in electronic format in Appendix I.

#### 4.3.3 Miscellaneous Debris

7.67 tons of wood debris (including deteriorated bulkhead timbers) was removed from the Site on June 18, 2010. The majority of the wood debris was excavated from the southwest most portion of the Site in the area of Former Hotspots 10A, 9A and 9C, adjacent to the 4<sup>th</sup> Street Basin. The wood debris was transported off-Site and disposed of at the Apex Sanitary landfill in Amsterdam Ohio. Manifests (including transporter names and license numbers) and weight tickets are included in electronic format in Appendix I.

#### 4.3.4 Underground Tanks

The remedial action completed at the Site included the removal and disposal of six USTs, two dry wells, a septic tank and a cesspool. A description of these tanks is provided in the following table.

<b>Tank Identification</b>	<b>Description</b>
<b>1</b>	<b>1,000-gallon fuel oil/diesel UST</b>
<b>2</b>	<b>555-gallon gasoline UST</b>
<b>3</b>	<b>550-gallon gasoline UST</b>
<b>4</b>	<b>550-gallon gasoline UST</b>
<b>4a</b>	<b>150-gallon hydraulic reservoir UST</b>
<b>5</b>	<b>550-gallon fuel oil/diesel UST</b>
<b>ST-1</b>	<b>Septic tank</b>
<b>DW-1</b>	<b>Drywell</b>
<b>DW-2</b>	<b>Drywell</b>
<b>CP-1</b>	<b>Cesspool</b>

USTs 1,2, 3, and 5, drywells, septic tank and cesspool were removed and disposed of as part of the IRMs completed in 2005/2006. Underground storage tanks 4 and 4a were removed and disposed of as part of the remediation completed in 2010. USTs 1, 2, 3, 4, 4a, and 5 were closed under the NYSDEC Petroleum Bulk Storage Program. The NYSDEC Petroleum Bulk Storage Tank Facilities Information Report is provided in Appendix C.

During the removal of USTs 4 and 4a, 132.86 tons of non-hazardous soil was removed from the Site, transported, and disposed of off-Site (see Table 2). The 132.86

tons of non-Hazardous soils associated with the UST removals is included in the total tons of non-hazardous soil disposed of as discussed in Section 4.3.1.

#### 4.3.4.1 Disposal Details

The documentation of the removal and disposal of these underground tanks was presented in the following two reports.

- *Interim Remedial Measures #1 Report, Underground Storage Tank and Septic System Removal, Proposed Whole Foods Market, 220 3<sup>rd</sup> Street, Brooklyn, Kings County, New York*, dated April 21, 2006, prepared by BL Companies.
- *Tank Closure Report* dated June 29, 2010, prepared by Hydro Tech Environmental Corporation.

A NYSDEC PBSP Facility Information Report documenting the closed status of the USTs are presented in Appendix C.

#### **4.4 END-POINT DOCUMENTATION SAMPLING**

End-point documentation samples were collected from the remedial excavations in accordance with the frequency requirements specified in the NYSDEC-approved RWP dated December 7, 2010. The purpose of the documentation samples was to characterize the soils covered by backfill and encapsulated by the Composite Cover System. A NYSDOH Environmental Laboratory Accreditation Program (ELAP) Contract Laboratory Protocol (CLP) certified laboratory was selected to perform all laboratory analyses on end-point samples. Documentation samples were analyzed for VOCs by EPA Method 8260B, SVOCs by EPA Method 8270, Total Analyte List (TAL) Metals by EPA Method 6000.7000 series, and Total Cyanide by EPA Method 01a-1677. These analytical methods conform to the NYSDEC Analytical Services Protocol (ASP). Category B laboratory deliverables as defined by the NYSDEC ASP were submitted for all end-point documentation samples.

In addition to the end-point documentation samples, documentation samples were collected between the ground surface (containing mineral soil beneath any vegetative

turf) and 24 inches below the ground surface from a predefined alphanumeric grid in accordance with the frequency requirements specified in a BL Companies letter to the NYSDEC dated April 9, 2009. The original propose of the alphanumeric grid sampling was to pre-characterize soils that would will remain on Site and could be handled and managed as reusable soil/fill throughout the Site. However, during the implication of the remediation in 2010, these soils where left in place and not handled and managed as reusable fill. The laboratory analytical results of the pre-characterization sampling are provided to further document the nature of soils encapsulated by the Composite Cover System. The alphanumeric grid is illustrated in Figure 5. The NYSDEC-approved the alphanumeric grid documentation sampling in a letter dated April 28, 2009 (see Appendix C).

A summary of the documentation sample analytical results is included in Table 3 and all exceedances of Track 4 Site-specific restricted use SCOs are highlighted. In addition to the documentation samples collected during the remediation of the Site in 2010, documentation samples collected during the IRMs are presented in Table 3.

Data Usability Summary Reports (DUSRs) were prepared for all data generated in this end-point documentation-sampling program. These DUSRs are included in Appendix J, and associated laboratory analytical data is provided electronically in Appendix J. The DUSRs comply with the requirements of Appendix 2B of DER-10 and were prepared in order to provide a thorough evaluation of the documentation analytical data. The DUSRs confirm that the documentation samples meet the project specific criteria for the data quality and data use.

#### **4.5 IMPORTED BACKFILL**

The remedial excavations, including all IRM excavations completed in 2005, Hotspot excavations and UST Removal excavations completed in 2010 were backfilled with imported clean fill.

The borrow source material (“mole rock”) used for on-Site backfill and construction of the Composite Cover System is virgin rock generated from the New York City Metropolitan Transit Authority (MTA) subway line extension project located a 26th Street and 1st Avenue, Manhattan, New York. Shea, Skanska, Schiavone Tunnel Construction (3S Tunnel Construction) is a prime contractor for the MTA tunnel project.

Samples of the borrow source material were collected for laboratory analyses by Environmental Energy Associates, Inc. (a subcontractor to 3S Tunnel Construction) in February 2010. Test America Analytical Laboratories of New York analyzed the sample for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs) pesticides, herbicides, hexavalent chromium, mercury, Technical Administrative Guidance Manual (TAGM) metals, and percent moisture. Laboratory analytical results, including laboratory analytical methods, are presented in Appendix K. A Virgin Source Certification executed by REBCO Contracting Corporation, a subcontractor to 3S Tunnel Construction, is presented in Appendix K. A NYSDEC Backfill Approval Letter dated February 17, 2010, is included in Appendix C.

The borrow source material used for backfill complies with typical aggregate gradations specifics in American Society for Testing and Materials D448 and NYSDOT Specification Tables 703-4 and 703-5. The borrow source documentation sampling protocol was conducted in accordance with the NYSDEC-approved documentation sample collection protocol presented in the February 8, 2010 letter from BL Companies to the NYSDEC (see Appendix K). The borrow source material was be trucked to the Site directly from the borrow source.

In addition to the mole rock, coarse quarry rock (“riprap”) was used for the Composite Cover System placed along the bank of the 4<sup>th</sup> Street Basin. A virgin source certification, executed by New York Sand & Stone, LLC, is presented in Appendix K.

A table of all sources of imported backfill with quantities for each source is shown in Table 4. Tables summarizing chemical analytical results for backfill, in comparison to allowable levels, are provided in Table 5. Figure 4 depicts the locations where backfill was used at the Site.

#### **4.6 CONTAMINATION REMAINING AT THE SITE**

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 are protective of human health and the environment. Contamination remains on the Site in discrete areas, 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 include at a Composite Cover System constructed with a minimum 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 elevation of the demarcation barrier are illustrated in Figure 7.

Table 6 summarizes the results of the soil samples remaining at the Site after completion of Remedial Action (including IRMs) that exceed the Track 4 Site-specific SCOs. Figure 5 illustrated the locations and elevations of soil samples remaining at the Site after completion of Remedial Action (including IRMs) that exceed the Track 4 Site-specific SCOs.

The remedial actions at the Site were conducted to achieve cleanup standards for the intended commercial use of the Site and provide the 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 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 7.

Table 7 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 8 lists the regulated compounds that remain above NYSDEC unrestricted use SCOs, the number of soil samples analyzed, the maximum detected concentrations and corresponding sample identification, and the number of samples that exceed NYSDEC unrestricted use SCOs. The locations of samples containing regulated compounds remaining at the Site above unrestricted use SCOs are illustrated on Figure 8 and Figure 9. Figure 8 illustrates the former Site conditions and pre-remediation samples locations. Figure 9 illustrates the locations of post-remediation documentation soil samples and surface soil samples.

Since contaminated soil and groundwater remains beneath the Site after completion of the Remedial Action, ICs and ECs are required to protect human health and the environment. These Engineering and Institutional Controls (ECs/ICs) are described in the following sections. Long-term management of these EC/ICs and residual contamination will be performed under the SMP approved by the NYSDEC.



#### **4.7 COMPOSITE COVER SYSTEM**

Exposure to remaining contamination in soil/urban fill at the Site is prevented by a Composite Cover System placed over the Site. This Composite Cover System is comprised of 24 inches or more of clean crushed rock placed over a demarcation barrier. The clean rock used to construct the Composite Cover System was composed of either “mole rock” from the New York City Metropolitan Transit Authority (MTA) subway line extension project or “riprap” from a virgin borrow source (as described in Section 4.5 of this FER). Figure 10 depicts the location, elevations, thickness, and an as-built cross-section of the Composite Cover System used on the Site. Figure 7 illustrates the location and elevations that the demarcation barrier. The Excavation Work Plan, which outlines the procedures required in the event the Composite Cover System and/or underlying remaining contamination are disturbed, is provided in Appendix B of the SMP.

#### **4.8 OTHER ENGINEERING CONTROLS**

The remedy for the site did not require the construction of any other engineering controls.

#### **4.9 INSTITUTIONAL CONTROLS**

The Site remedy requires that an environmental easement be placed on the Site to (1) implement, maintain and monitor the ECs; (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 uses only.

The environmental easement for the Site was executed by the Department on September 16, 2011, and filed with the Kings County Clerk on November 4, 2011. The County Recording Identifier number for this filing is 2011000389393. A copy of the easement and proof of filing is provided in Appendix L.

#### **4.10 DEVIATIONS FROM THE REMEDIAL WORK PLAN**

In accordance with the RWP, NYSDEC RWP Approval Letter, and as discussed in Section 2.2 of this FER, soil containing contamination at concentrations above Track 4 Site-Specific SCOs remains on-Site beneath the Composite Cover System. During the excavation of Hotspots 9B, 9C, 10A, and 10C, wood framing of the 4<sup>th</sup> Street Basin Bulkhead was encountered. The Bulkhead consists of earth-filled timber cribs that extend approximately 20 feet inland from the 4<sup>th</sup> Street Basin.

Based on visual observations conducted by BL Companies and the Remediation Contractor, the uppermost portion of the bulkhead in the areas of Hotspots 9B, 9C, 10A, and 10C, was deteriorated and not structurally intact. Therefore, the uppermost portion of the bulkhead in these areas was removed to enable the excavation and off-Site disposal of contaminated soil to proceed in accordance with the RWP. The lower portion of the Bulkhead was structurally intact and is likely preventing soil at the Site from falling into the 4<sup>th</sup> Street Basin. The structurally intact portions of the Bulkhead were encountered at the following elevations.

<b>Former Hotspot Identification</b>	<b>Approximate Elevation of Structurally Intact Bulkhead (Feet, BL Companies Datum)</b>
9B	-4.8
9C	-4.8
10A	-5.0
10C	-4.3

Due to the presence of the Bulkhead in Hotspots 9B, 9C, 10A, and 10C, the remedial excavation could not be extended to the elevations specified in the RWP. NYSDEC was made aware of this situation and subsequently approved deviation from the RWP in their Remedy Modification letter dated November 5, 2009 (see Appendix C). Soil containing contamination at concentrations above Track 4 Site-Specific SCOs remain below the Composite Cover System at Hotspots 9B, 9C and 10A.

## **Figures**

Figure 1: Site Plan

Figure 2: Remedial Excavation Plan

Figure 3: Pre-Remediation Contamination Source Areas

Figure 4: Excavation Fill Plan

Figure 5: Location of Remaining Soil with Regulated Compounds above Track 4 Site-Specific Restricted Use SCOs

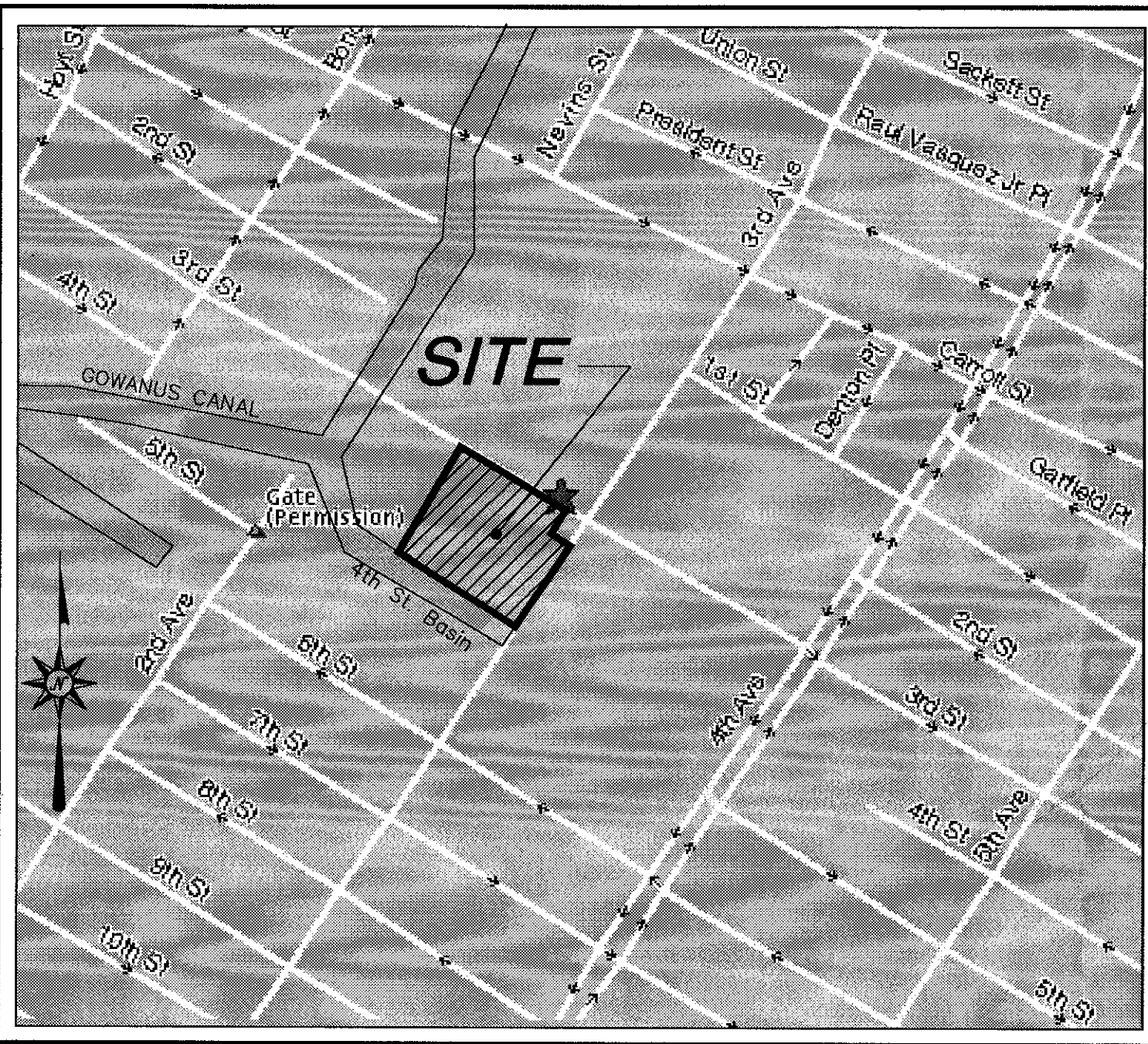
Figure 6: Documentation Sample Location Plan

Figure 7: Demarcation Barrier Elevation Plan

Figure 8: Former Site Conditions and Pre-Remediation Sample Location Plan

Figure 9: Location of Documentation Soil Samples and Surface Soil Samples with Regulated Compounds Above Unrestricted Use SCOs

Figure 10: Composite Cover System Plan



**LOCATION MAP**

NOT TO SCALE

**LEGAL DESCRIPTION:**

**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;

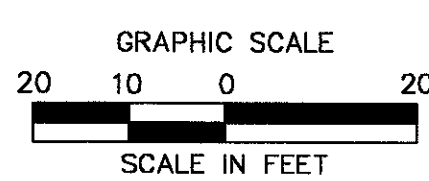
**PARCEL II (LOTS 16 AND 19)**  
 ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE BOROUGH OF BROOKLYN, COUNTY OF KINGS, CITY AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT ON THE SOUTHERLY SIDE OF 3RD STREET DISTANT NORTH 42 DEGREES 31 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.

**GENERAL NOTES:**

1. BASE PLAN AND SURVEY COMPLETED BY LANGAN ENGINEERING SERVICES AND PROVIDED TO BL COMPANIES BY OP-TECH ENVIRONMENTAL SERVICES INC.
2. THE MERIDIAN OF THIS SURVEY IS REFERENCED TO NYE NAD83.
3. ELEVATIONS ARE REFERENCED TO A BL COMPANIES DATUM. ADD 4.795 FEET TO ADJUST TO U.S.C.G.S. 1929 DATUM.
4. GROUND WATER MONITORING WELLS MW-1A, MW-2A, MW-3A, MW-4A AND MW-5A WERE DESTROYED DURING CONSTRUCTION. WELLS MW-1A, MW-4A AND MW-5A WERE REPLACED FOLLOWING THE INSTALLATION OF THE COMPOSITE COVER SYSTEM.

**LEGEND:**

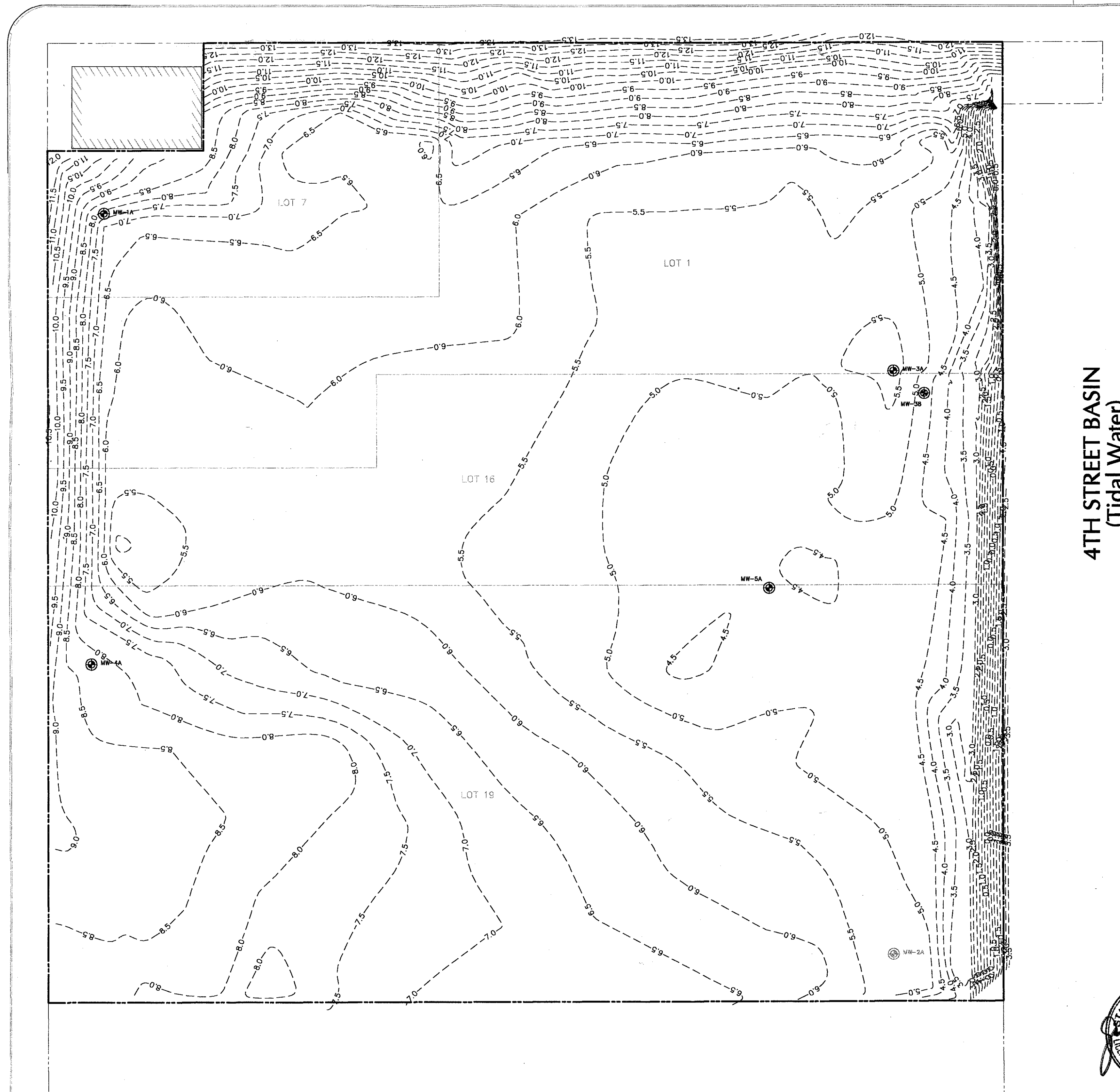
- PROPERTY LINE
- INTERIOR LOT LINES
- 4.5--- EXISTING CONTOUR (FEET)
- MW-1A GROUND WATER MONITORING WELL  
NOTE: GREY DOTWES WELL DESTROYED DURING CONSTRUCTION AND NOT REPLACED.
- MW-3B GROUND WATER MONITORING WELL (INSTALLED BY USEPA)



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

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

4TH STREET BASIN  
(Tidal Water)



**BL Companies**  
 ARCHITECTURE  
 ENGINEERING  
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 Meriden, CT 06450  
 (203) 630-1400  
 (203) 630-2615 Fax

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

REVISIONS	Date	Desc.
No.	Date	Desc.

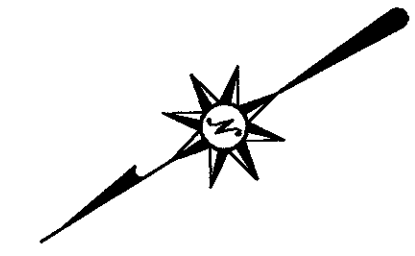
Designed: J.B.  
 Drawn: J.S.Y.  
 Checked: \_\_\_\_\_  
 Approved: \_\_\_\_\_  
 Scale: 1"=20'  
 Project No.: 03C497  
 Date: 04/12/11  
 CAD File: EVO3C49702

**SITE PLAN**

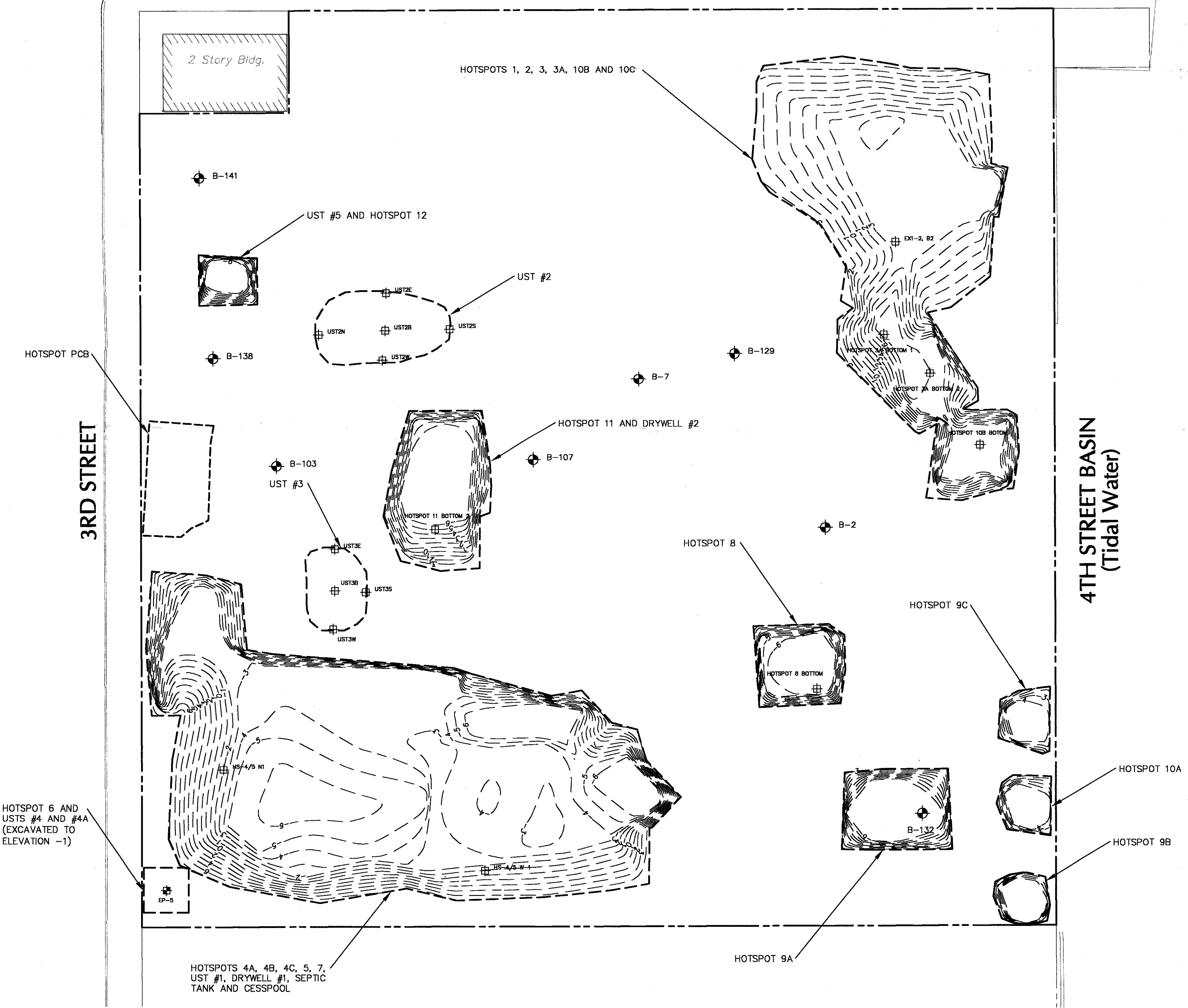
Title  
 Project No.  
 Date

Sheet No.

**FIGURE 1**

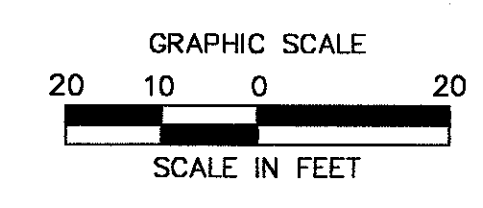


3RD AVENUE



3RD STREET

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 4.785 FEET TO ADJUST TO U.S.C.G.S. 1929 DATUM.
3. REMEDIAL EXCAVATIONS INCLUDE EXCAVATIONS COMPLETED DURING IRM'S (USTS 1, 2, 3, AND 5, DRYWELLS 1 AND 2, SEPTIC TANK, CESSPOOL, HOTSPOTS 1, 2, 3, 4A, 4B, 5 AND PCB) AND REMEDIATION COMPLETED IN 2010 (HOTSPOTS 3A, 4C, 6, 7, 8, 9A, 9B, 9C, 10A, 10B, 10C, 11, 12 AND USTs 4 AND 4A).

**LEGEND:**

- PROPERTY LINE
- REMEDIAL EXCAVATION LIMITS
- REMEDIAL EXCAVATION CONTOURS (FT)



REVISIONS	
No.	Date

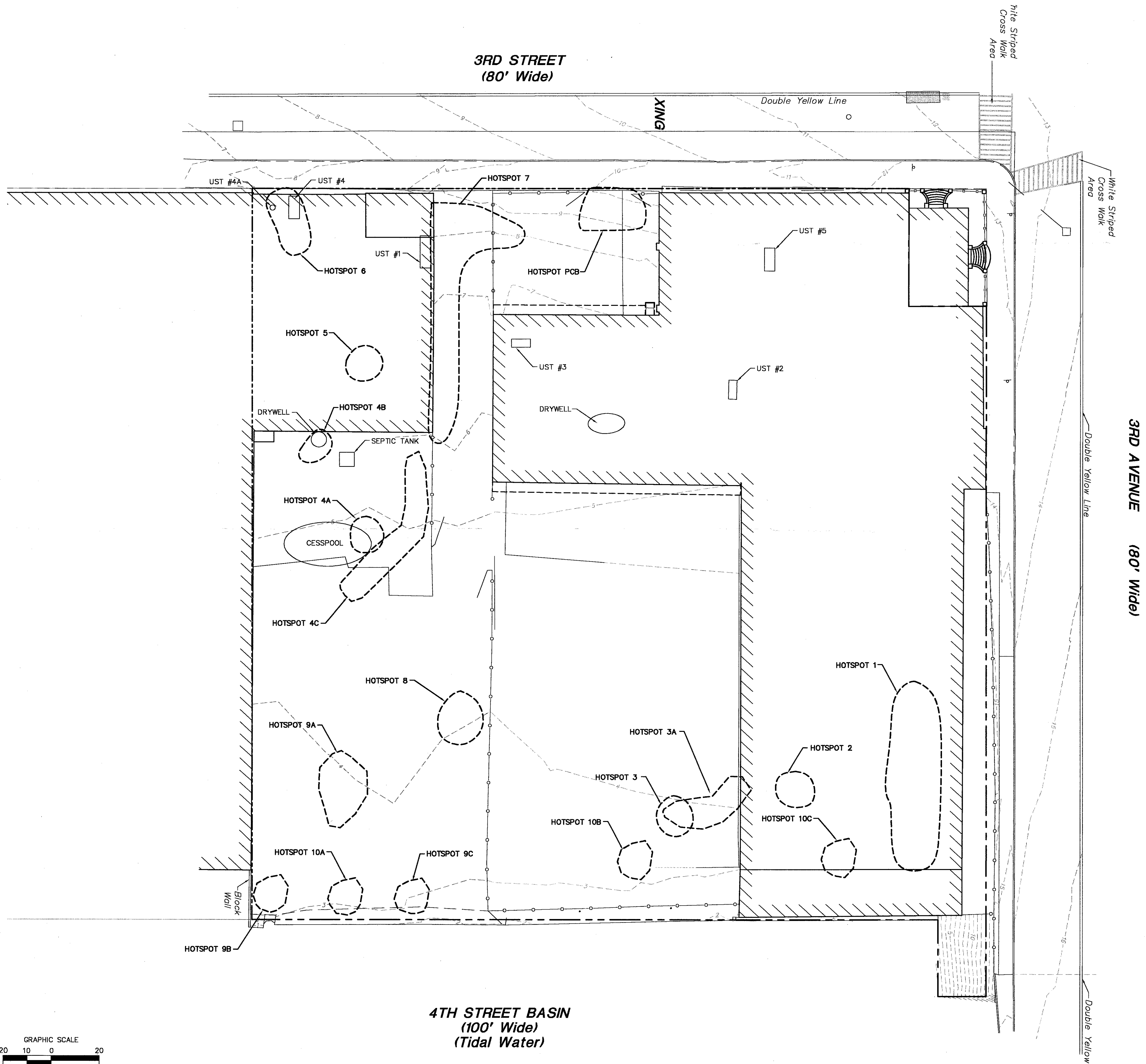
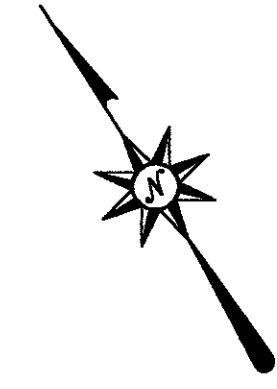
Designed J.B.  
 Drawn J.S.Y.  
 Checked  
 Approved  
 Scale 1"=20'  
 Project No. 03C497  
 Date 05/20/11  
 CAD File: EVO3C49704

Title  
**REMEDIAL EXCAVATION PLAN**

Sheet No.

**FIGURE 2**

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 User: JBL Date: 05/20/11 10:52 AM  
 L:\work\FER\FIG 2



3RD AVENUE  
(80' Wide)

3RD STREET  
(80' Wide)

4TH STREET BASIN  
(100' Wide)  
(Tidal Water)

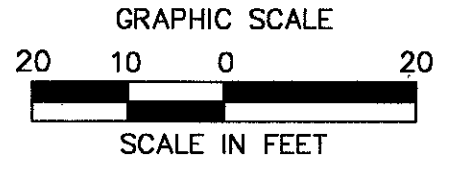
**GENERAL NOTES:**

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.G.S. 1929 DATUM.
3. UST = UNDERGROUND STORAGE TANK



**LEGEND:**

- PROPERTY LINE
- FORMER GROUND SURFACE CONTOUR (FT)
- FORMER BUILDING
- FENCE
- FENCE



REVISIONS	No.	Date	Desc.

Designed J.B.  
Drawn J.S.Y.  
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Scale 1"=20'  
Project No. 03C497  
Date 05/20/11  
CAD File: EV03C49707

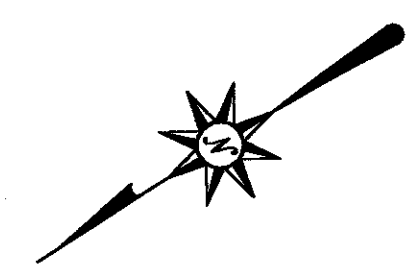
PRE-REMEDIATION  
CONTAMINATION  
SOURCE AREAS

Sheet No.

**FIGURE 3**

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 Layer: FER FIG 3

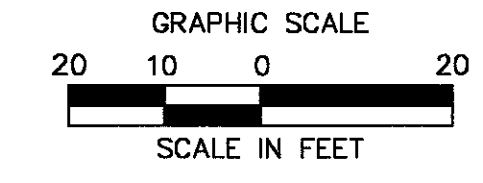
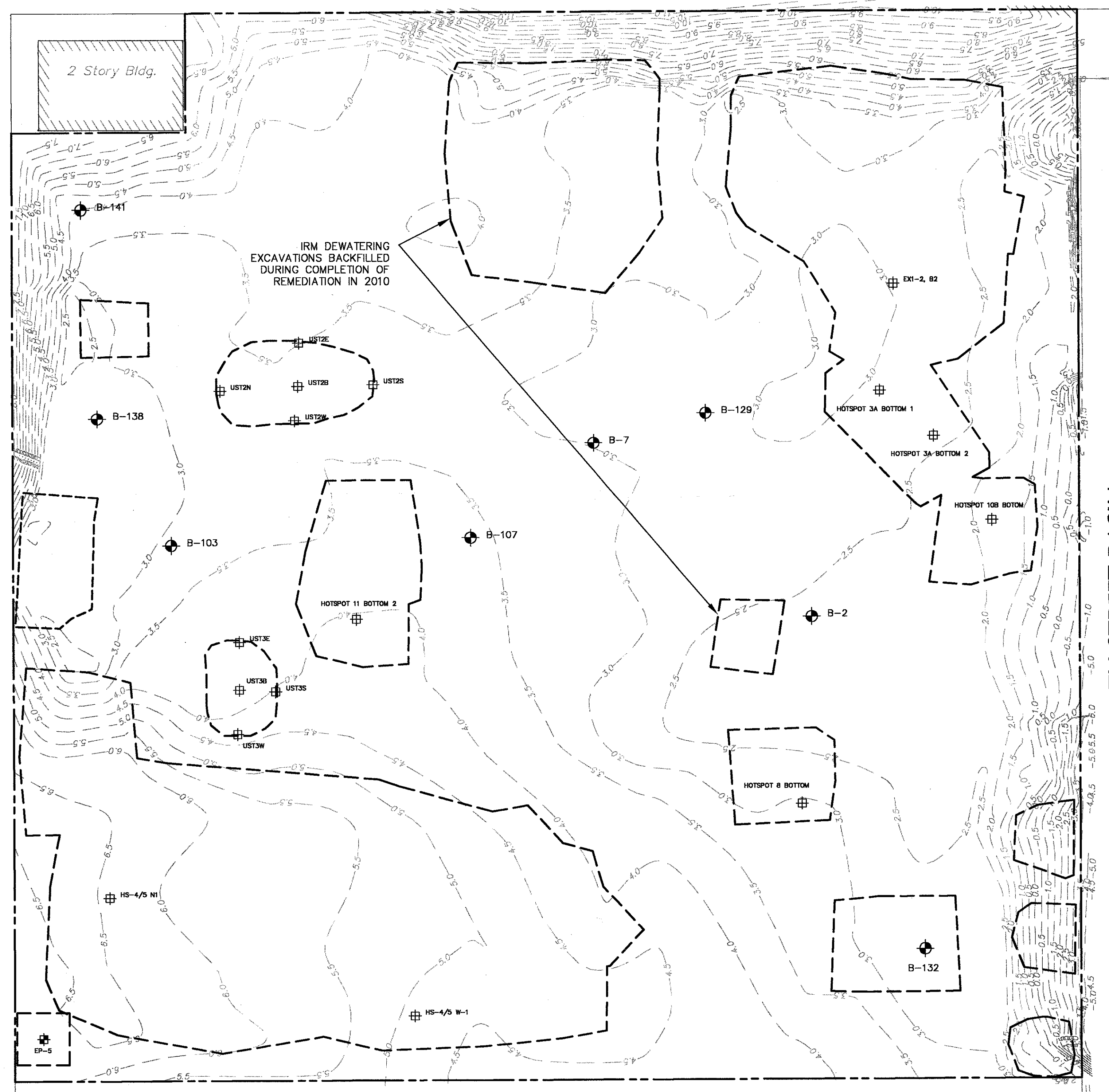
C:\Users\BLI\OneDrive\Documents\Projects\3RD AVENUE\3RD AVENUE.dwg



3RD AVENUE

3RD STREET

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.

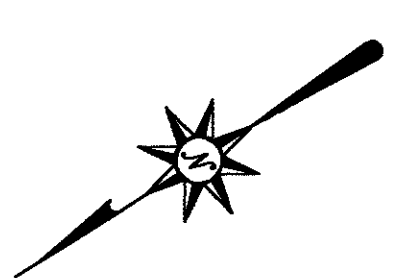
**LEGEND:**

- PROPERTY LINE
- EXCAVATION LIMITS
- BACKFILL ELEVATION PRIOR TO THE INSTALLATION OF THE COMPOSITE COVER SYSTEM (FT)



REVISIONS	
No.	Date

Designed: J.B.  
Drawn: J.S.Y.  
Checked:        
Approved:        
Scale: 1"=20'  
Project No.: 03C497  
Date: 05/20/11  
CAD File: EV03C49704  
Title: EXCAVATION FILL PLAN  
Sheet No.:



REMAINING CONTAMINATION				
GRID COORD.	COMPOUND	TRACK 4 SITE SPECIFIC RESTRICTED USE SCOs (PPM)	CONCENTRATION (PPM)	ELEVATION (FT)
A-1	BENZO(a)PYRENE	1	3.3	7 TO 5
A-5	BENZO(a)ANTHRACENE	5.8	5.8	8 TO 6
A-5	BENZO(a)PYRENE	1	6.6	8 TO 6
A-6	BENZO(a)ANTHRACENE	5.8	7.4	8 TO 6
A-6	BENZO(a)PYRENE	1	7.4	8 TO 6
A-6	BENZO(a)FLUORANTHENE	6	7.4	8 TO 6
B-1	BENZO(a)PYRENE	1	1.4	5 TO 3
B-2	BENZO(a)PYRENE	1	2.9	4 TO 2
B-3	BENZO(a)PYRENE	1	2.8	4 TO 2
B-4	BENZO(a)PYRENE	1	1.6	5 TO 3
B-5	LEAD	1,000	1,290	6 TO 4
B-6	BENZO(a)ANTHRACENE	5.8	22	7 TO 5
B-6	BENZO(a)PYRENE	1	18	7 TO 5
B-6	BENZO(a)FLUORANTHENE	6	16	7 TO 5
B-6	INDENO(1,2,3-cd)PYRENE	5.8	8.2	7 TO 5
B-6	ARSENIC	16	18.7	7 TO 5
C-1	BENZO(a)PYRENE	1	5	4 TO 2
C-2	BENZO(a)PYRENE	1	3.9	4 TO 2
C-3	BENZO(a)PYRENE	1	2.7	4 TO 2
C-4	BENZO(a)PYRENE	1	3.6	4 TO 2
C-5	BENZO(a)PYRENE	1	4.3	5 TO 3
C-6	BENZO(a)PYRENE	1	1	7 TO 5
D-2	BENZO(a)PYRENE	1	1.5	4 TO 2
D-3	BENZO(a)ANTHRACENE	5.8	38	3 TO 1
D-3	BENZO(a)PYRENE	1	31	3 TO 1
D-3	BENZO(a)FLUORANTHENE	6	31	3 TO 1
D-3	INDENO(1,2,3-cd)PYRENE	5.8	15	3 TO 1
D-3	ARSENIC	16	23.7	3 TO 1
D-4	BENZO(a)PYRENE	1	1.9	3 TO 1
D-5	BENZO(a)ANTHRACENE	5.8	6.6	4 TO 2
D-5	BENZO(a)PYRENE	1	5.3	4 TO 2
D-5	DIBENZO(a,h)ANTHRACENE	0.560	1.1	4 TO 2
D-5	LEAD	1,000	2,320	4 TO 2
D-6	BARIUM	400	542	4 TO 2
E-1	BENZO(a)PYRENE	1	1	9 TO 7
E-1	ARSENIC	16	17.4	9 TO 7
E-1	BARIUM	400	413	9 TO 7
E-2	BENZO(a)PYRENE	1	2.9	4 TO 2
E-3	BENZO(a)PYRENE	1	3.5	3 TO 1
E-4	BENZO(a)PYRENE	1	2.8	3 TO 1
F-1	BENZO(a)PYRENE	1	1.6	9 TO 7
F-2	ARSENIC	16	24.7	2 TO 0
F-4	BENZO(a)PYRENE	1	2.6	4 TO 2
F-5	LEAD	1,000	1,210	3 TO 1

REMAINING CONTAMINATION			
COMPOUND	TRACK 4 SITE SPECIFIC SCOs (PPM)	CONCENTRATION (PPM)	ELEVATION (FT)
MERCURY	2.8	4.2	1 TO -3

REMAINING CONTAMINATION			
COMPOUND	TRACK 4 SITE SPECIFIC SCOs (PPM)	CONCENTRATION (PPM)	ELEVATION (FT)
ARSENIC	16	40.3 J	2 TO -1
ARSENIC	16	28.2 J	-1 TO -5
LEAD	1,000	1,270 J	-1 TO -8

REMAINING CONTAMINATION			
COMPOUND	TRACK 4 SITE SPECIFIC SCOs (PPM)	CONCENTRATION (PPM)	ELEVATION (FT)
MERCURY	2.8	7.8	0.5 TO -3.5

REMAINING CONTAMINATION			
COMPOUND	TRACK 4 SITE SPECIFIC SCOs (PPM)	CONCENTRATION (PPM)	ELEVATION (FT)
ARSENIC	16	53.5 J	2 TO -1

REMAINING CONTAMINATION (FORMER HOTSPOT 9C)			
COMPOUND	TRACK 4 SITE SPECIFIC SCOs (PPM)	CONCENTRATION (PPM)	ELEVATION (FT)
BENZO(a)ANTHRACENE	5.8	27	-7 TO -9
BENZO(a)PYRENE	1	4.2	-9 TO -13
BENZO(a)FLUORANTHENE	6	14	-7 TO -9
BENZO(a)FLUORANTHENE	5.8	14	-7 TO -9

REMAINING CONTAMINATION (FORMER HOTSPOT 10A)			
COMPOUND	TRACK 4 SITE SPECIFIC SCOs (PPM)	CONCENTRATION (PPM)	ELEVATION (FT)
BENZO(a)PYRENE	1	3.7	-4.2 TO -9

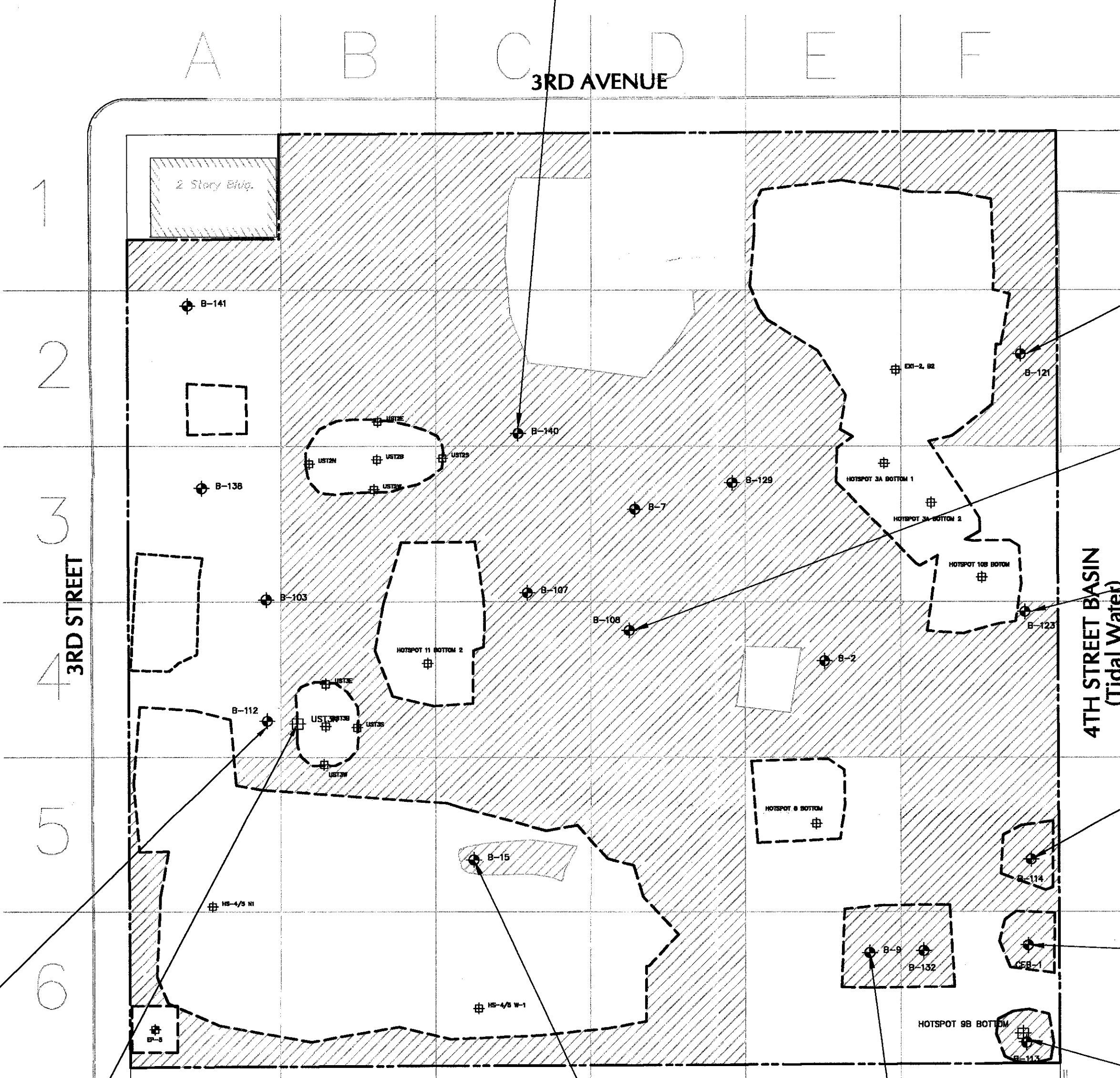
REMAINING CONTAMINATION (FORMER HOTSPOT 9B)			
COMPOUND	TRACK 4 SITE SPECIFIC SCOs (PPM)	CONCENTRATION (PPM)	ELEVATION (FT)
BENZO(a)ANTHRACENE	5.8	13	-7 TO -9
BENZO(a)PYRENE	1	14	-7 TO -9
ARSENIC	16	26.5	-7 TO -9

REMAINING CONTAMINATION			
COMPOUND	TRACK 4 SITE SPECIFIC SCOs (PPM)	CONCENTRATION (PPM)	ELEVATION (FT)
LEAD	1,000	1,390	4 TO 0

REMAINING CONTAMINATION (FORMER UST #3)			
COMPOUND	TRACK 4 SITE SPECIFIC SCOs (PPM)	CONCENTRATION (PPM)	ELEVATION (FT)
LEAD	1,000	1,140	1 TO -1
BARIUM	400	481	1 TO -1

REMAINING CONTAMINATION (FORMER HOTSPOT 7)			
COMPOUND	TRACK 4 SITE SPECIFIC SCOs (PPM)	CONCENTRATION (PPM)	ELEVATION (FT)
BENZO(a)ANTHRACENE	5.8	27	-7 TO -9.5
BENZO(a)PYRENE	1	27	-7 TO -9.5
BENZO(a)FLUORANTHENE	6	28	-7 TO -9.5

REMAINING CONTAMINATION (FORMER HOTSPOT 9A)			
COMPOUND	TRACK 4 SITE SPECIFIC SCOs (PPM)	CONCENTRATION (PPM)	ELEVATION (FT)
BENZO(a)PYRENE	1	4.1	-6 TO -8

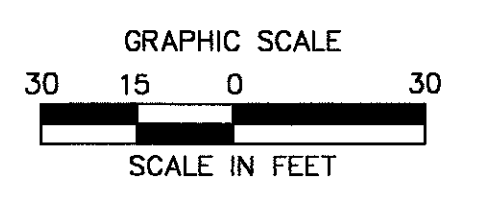


**GENERAL NOTES:**

1. BASE PLAN AND SURVEY COMPLETED BY LANGAN ENGINEERING SERVICES AND PROVIDED TO BL COMPANIES BY OP-TECH ENVIRONMENTAL SERVICES INC.
2. SOIL ANALYTICAL RESULTS ARE SUMMARIZED ON TABLE 1 OF FER.
3. 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
- - - - - REMEDIATION EXCAVATION LIMITS
- [Hatched Area] LOCATION OF REMAINING SOIL CONTAMINATION AT NOTED ELEVATION
- ⊕ B-15 SOIL BORING
- ⊕ UST#N EXCAVATION DOCUMENTATION SAMPLE LOCATION



REVISIONS  
No. Date

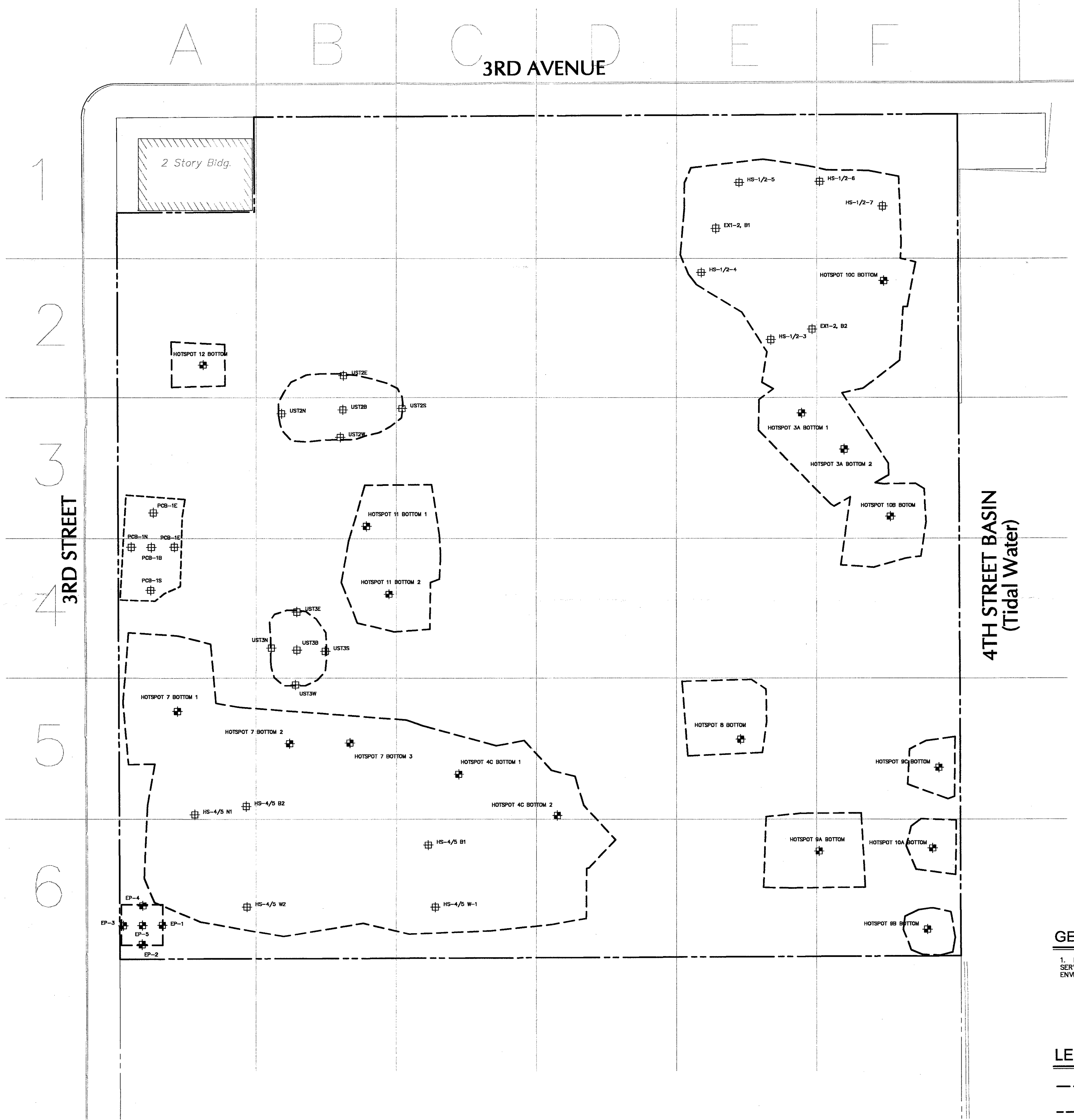
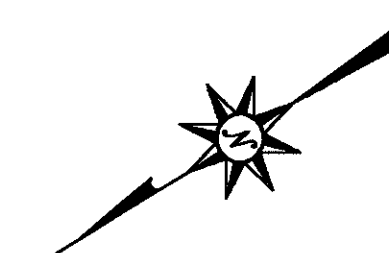
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Drawn J.S.Y.  
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Approved  
Scale 1"=30'  
Project No. 03C497  
Date 05/20/11  
CAD File: EV03C49704  
Title LOCATION OF REMAINING SOIL WITH REGULATED COMPOUNDS ABOVE TRACK 4 SITE SPECIFIC RESTRICTED USE SCOs  
Sheet No.

Xref (S) : X203-69704-000-0000-0000

**FIGURE 5**

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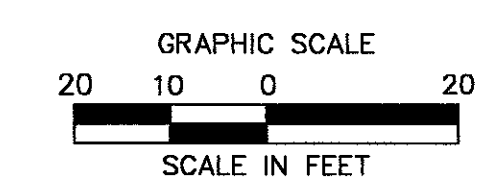
**GENERAL NOTES:**

1. BASE PLAN AND SURVEY COMPLETED BY LANGAN ENGINEERING SERVICES AND PROVIDED TO BL COMPANIES BY OP-TECH ENVIRONMENTAL SERVICES INC.



**LEGEND:**

- PROPERTY LINE
- REMEDIAL EXCAVATION LIMITS
- ⊕ USTN EXCAVATION DOCUMENTATION SAMPLE LOCATION (RM's)
- ⊕ EXCAVATION DOCUMENTATION SAMPLE LOCATION (2010 REMEDIATION)



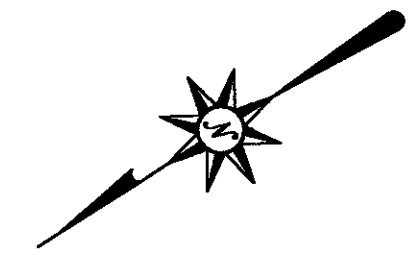
REVISIONS	
No.	Date

Designed	J.B.
Drawn	J.S.Y.
Checked	
Approved	
Scale	1"=20'
Project No.	03C497
Date	05/20/11
CAD File:	EV03C49704
Title	DOCUMENTATION SAMPLE LOCATION PLAN
Sheet No.	

**FIGURE 6**

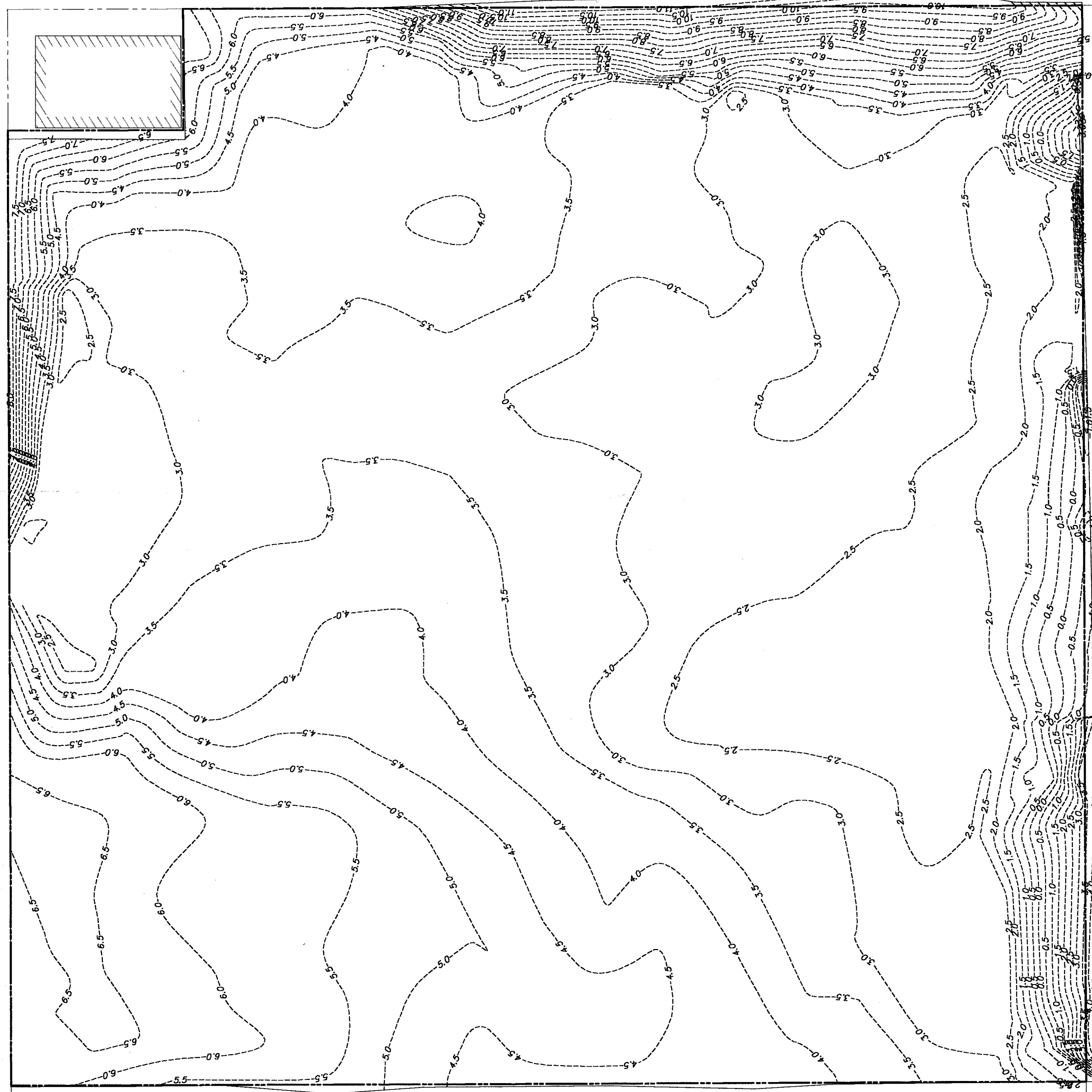
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3RD AVENUE (80' R.O.W.)

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

4TH STREET BASIN  
(Tidal Water)



LIMITS OF  
DEMARCATION  
BARRIER

**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
- 4.5 --- DEMARCATION BARRIER ELEVATION CONTOUR (FEET)



REVISIONS	Date	Desc.
No.		

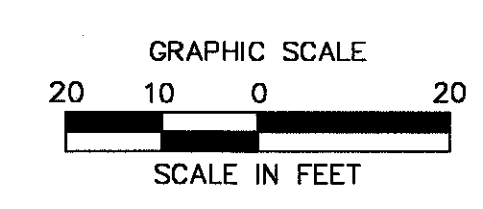
Designed	J.B.
Drawn	J.S.Y.
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Approved	
Scale	1"=20'
Project No.	03C497
Date	05/20/11

CAD File:  
EV03C49702

Title  
**DEMARCATION  
BARRIER  
ELEVATION  
PLAN**

Sheet No.

**FIGURE 7**



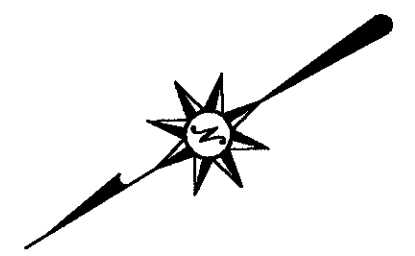
REVISIONS	No.	Date	Desc.

Designed	J.B.
Drawn	J.S.Y.
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Approved	
Scale	1"=20'
Project No.	03C497
Date	04/12/11

CAD File:  
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Title  
FORMER SITE  
CONDITIONS AND  
PRE-REMEDIATION  
SAMPLE LOCATION  
PLAN

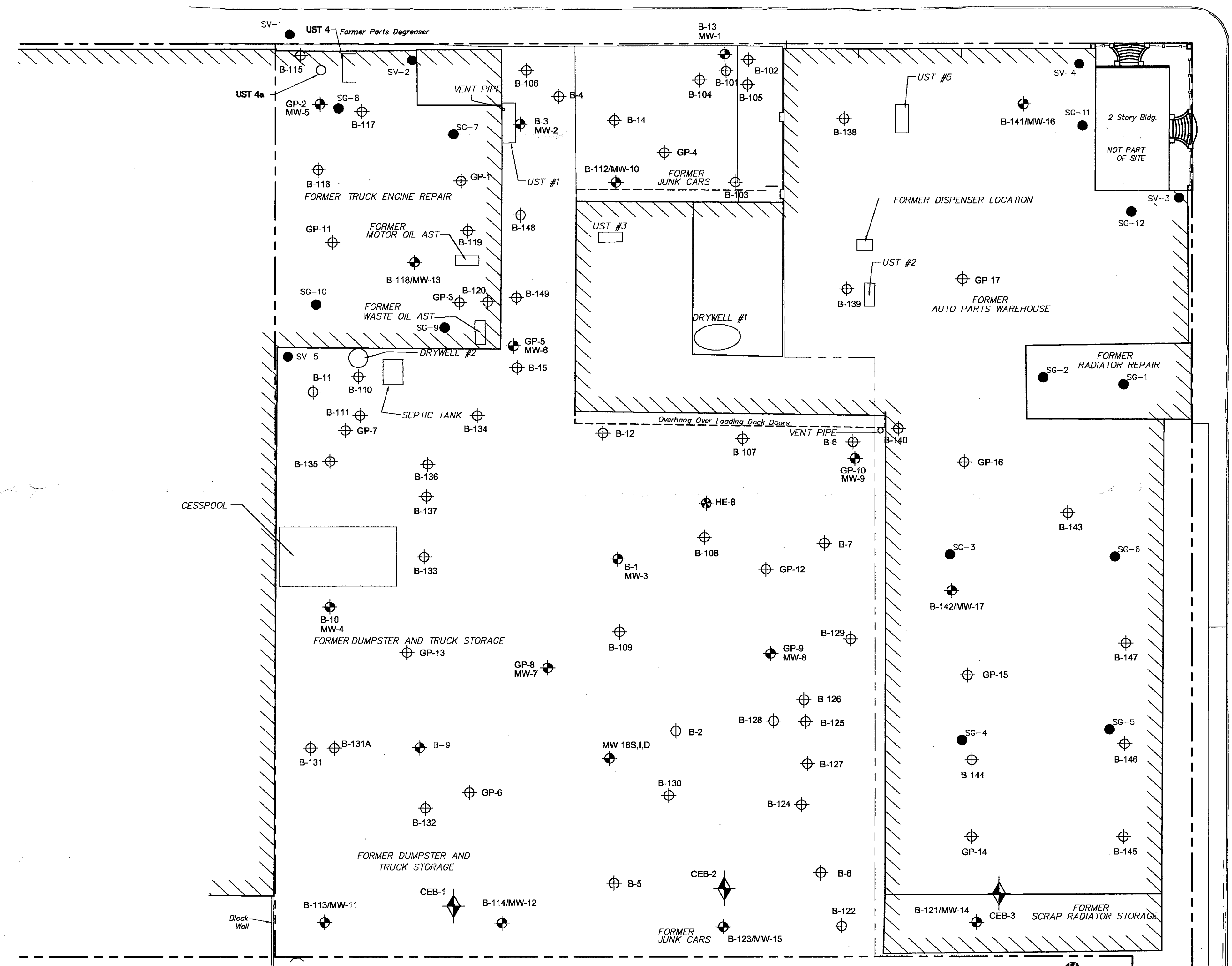
Sheet No.



3RD STREET

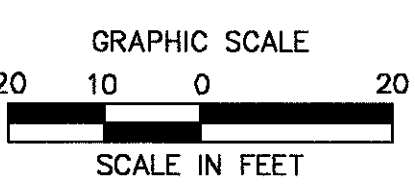
3RD AVENUE

4TH STREET BASIN  
(Tidal Water)



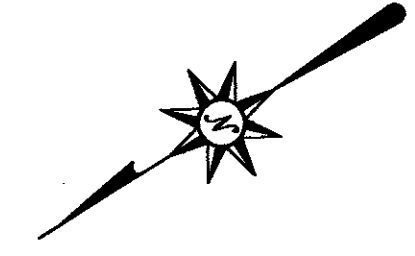
**LEGEND:**

- PROPERTY LINE
- SG-10 SOIL GAS SAMPLING POINT
- ⊕ B-10 GEOPROBE BORING WITH MONITORING WELL
- ⊕ GP-6 GEOPROBE BORING
- ◆ FWIA TEST BORING
- CANAL SEDIMENT SAMPLE LOCATION
- SV-1 POST-IRM SOIL GAS SAMPLING POINT



Oct 19, 2011 4:10pm D:\James K\104603\03C497\Civil\_Drawing\2010\_SMP-FER\_EPlan\EV03C49706.dwg  
 Layout: FER FIG 8

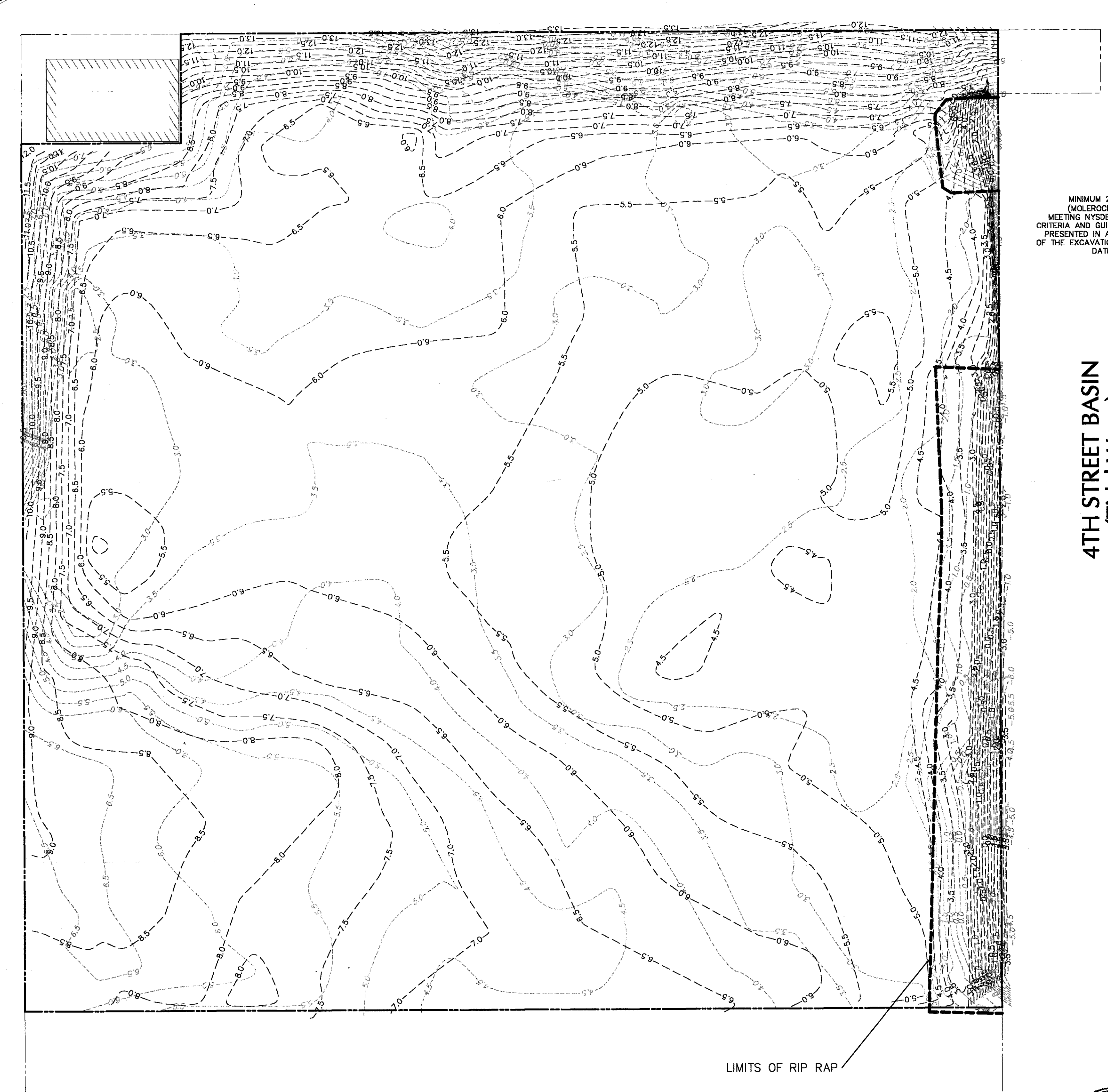




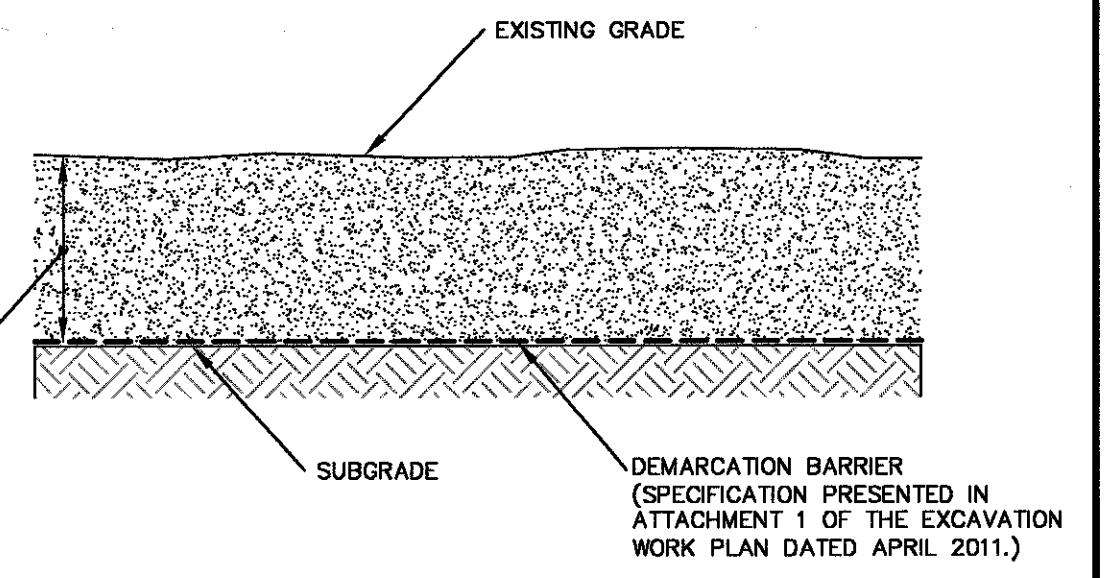
3RD AVENUE (80' R.O.W.)

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

4TH STREET BASIN  
 (Tidal Water)



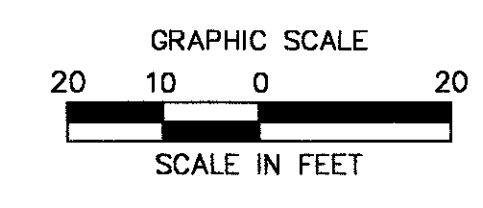
MINIMUM 2 FEET OF FILL  
 (MOLEROCK OR RIP RAP)  
 MEETING NYSDEC STANDARDS,  
 CRITERIA AND GUIDANCE VALUES  
 PRESENTED IN ATTACHMENT 1  
 OF THE EXCAVATION WORK PLAN  
 DATED APRIL 2011.



**COMPOSITE COVER SYSTEM DETAIL**

N.T.S.

LIMITS OF RIP RAP



**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 AND LIMITS OF COMPOSITE COVER SYSTEM
- 4.5--- EXISTING GROUND SURFACE CONTOUR (FEET)
- 4.5--- DEMARICATION BARRIER ELEVATION CONTOUR (FEET)



REVISIONS	No.	Date	Desc.

Designed	J.B.
Drawn	J.S.Y.
Checked	
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Scale	1"=20'
Project No.	03C497
Date	05/20/11
CAD File:	EV03C49702
Title	COMPOSITE COVER SYSTEM PLAN
Sheet No.	

**FIGURE 10**

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### **Tables**

- Table 1: Track 4 Site-Specific Restricted Use Soil Cleanup Objectives
- Table 2: Quantities of Material Removed from Site
- Table 3: Documentation Sample Analytical Results
- Table 4: Imported Backfill Quantities
- Table 5: Backfill Analytical Results Compared to NYSDEC Standards, Criteria and Guidance Values
- Table 6: Soil Samples with Concentrations of Regulated Compounds Remaining above Track 4 Site –Specific Restricted Use Soil Cleanup Objectives
- Table 7: Soil Samples with Regulated Compounds Remaining Above Unrestricted Use SCOs
- Table 8: Soil Analytical Summary – Samples with Regulated Compounds Above Unrestricted Use SCOs

**TABLE 1**

**Track 4 Site-Specific Restricted Use 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
Chromium	400
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 2

Quantities of Material Removed from Site  
Whole Foods Market  
220 3rd Street  
Brooklyn, Kings County, New York  
NYSDEC SITE No. C224100

Material		Quantity
Soil	IRM's <sup>1</sup>	11,000 (tons)
	2010 Remediation <sup>2</sup>	7,152.08 (tons)
Concrete <sup>3</sup>		630 (cubic yards)
Wood <sup>4</sup>		7.67 (tons)
<b>Notes:</b>		
1. IRM excavations included UST's 1, 2, 3, and 5, Drywells 1 and 2, Septic Tank Cesspool and Hotspots 1, 2, 3, 4A, 4B, 5 and PCB.		
2. 2010 Remediation excavation included Hotspots 3A, 4C, 6, 7, 8, 9A, 9B, 9C 10A, 10B, 10C, 11, 12 and USTs 4 and 4A (5,166.13 tons) + 1,985.78 tons of surface soil piles.		
Soil disposal facility: Clean Earth of Carteret and Clean Earth of Philadelphia (see Appendix I of FER)		
3. Concrete disposal facility: Vanbro Corporation Recycling Facility of Staten Island, New York (see Appendix I of FER)		
4. Wood disposal facility: Environmental Logistics Services / APEX Sanitary Landfill (see Appendix I of FER)		



**Table 3**  
Documentation Sample Analytical Results  
Whole Foods Market  
220 3rd Street  
Brooklyn, Kings County, New York  
NYSDEC SITE NO. C224100

Sample ID	Track 4 Site Specific Restricted Use SCOs	Concentration of Compound in Sample														
		UST2N	UST2E	UST2S	UST2W	UST2B	UST3N	UST3E	UST3S	UST3W	UST3B	HS 4/5 B-1	HS 4/5 B-2	HS 4/5 N-1	HS 4/5 W-1	HS 4/5 W-2
<b>VOCs (ppm)</b>																
Benzene	44	<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	<0.060 UJ	<0.071 UJ	<0.074 UJ	<0.058 UJ	<0.056 UJ
Ethylbenzene	390	<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	<0.060 UJ	<0.071 UJ	<0.074 UJ	<0.058 UJ	<0.056 UJ
Toluene	500	<0.072 U	<0.076 U	<0.084 U	0.077	<0.063 U	<0.075 U	<0.064 U	<0.066 U	<0.064 U	0.091	<0.060 UJ	<0.071 UJ	<0.074 UJ	<0.058 UJ	<0.056 UJ
Total Xylenes	500	<0.140 U	<0.150 U	<0.170 U	<0.120 U	<0.130 U	<0.150 U	<0.130 U	<0.130 U	<0.130 U	0.310	--	--	--	--	--
Naphthalene	NE	<0.072 U	<0.076 U	<0.084 U	0.110	<0.063 U	0.120	<0.064 U	<0.066 U	0.150	0.380	--	--	--	--	--
1,2,4-Trimethylbenzene	190	<0.072 U	<0.076 U	<0.084 U	<0.060 U	<0.063 U	0.080	<0.064 U	<0.066 U	<0.064 U	0.280	--	--	--	--	--
n-Butylbenzene	NE	<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	0.220	--	--	--	--	--
<b>SVOCs (ppm)</b>																
Naphthalene	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.066 U	<0.090 U	<0.072 U	0.100 J	<0.076 U
2-Methylnaphthalene	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.061 U	<0.084 U	<0.067 U	<0.061 U	<0.071 U
Acenaphthylene	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.047 U	<0.065 U	0.063 J	0.052 J	<0.055 U
Acenaphthene	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.063 U	<0.087 U	0.230 J	0.130 J	<0.073 U
Flourene	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.049 U	<0.068 U	0.110 J	0.140 J	<0.057 U
Phenanthrene	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.075 J	0.079 J	0.5	0.49	<0.052 U
Anthracene	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.063 U	<0.087 U	0.170 J	0.230 J	<0.073 U
Fluoranthene	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.160 J	0.087 J	0.390 J	1.1	<0.056 U
Pyrene	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.180 J	0.084 J	0.55	0.95	<0.061 U
Benzo(a)anthracene	5.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.090 J	<0.071 U	0.160 J	0.370 J	<0.060 U
Chrysene	56	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.100 J	<0.066 U	0.160 J	0.41	<0.056 U
Benzo(b)fluoranthene	5.69	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.110 U	<0.150 U	0.160 J	0.41	<0.120 U
Benzo(k)fluoranthene	56	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.043 U	<0.058 U	<0.047 U	0.140 J	<0.049 U
Benzo(a)pyrene	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.087 J	<0.065 U	0.150 J	0.370 J	<0.055 U
Indeno(1,2,3-cd)pyrene	5.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.039 U	<0.054 U	<0.043 U	0.230 J	<0.045 U
Dibenzo(a,h)anthracene	0.56	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.043 U	<0.058 U	<0.047 U	<0.042 U	<0.049 U
Benzo(g,h,i)perylene	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.043 U	<0.058 U	0.110 J	0.270 J	<0.049 U
<b>RCRA Metals Total, (ppm)</b>																
Arsenic	16	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	1.9 B (N)	7.2 B (N)	6.5 B (N)	3.6 B (N)	3.4 B (N)
Barium	400	119 J	97.6 J	120 J	369 J	104 J	481 J	91.3 J	82.7 J	80.6 J	61.8 J	40.6 (*)	53.4 (*)	93.0 (*)	71.3 (*)	46.2 (*)
Beryllium	590	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	9.3	<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	<0.80 U	<1.7 U	<1.3 U	<1.1 U	<1.1 U
Chromium	400*	9.8 J	7.9 J	6.8 J	9.5 J	14.3 J	10.8 J	11.4 J	14.5 J	8.9 J	8.2 J	10.0 (N)	19.0 (N)	14.2 (N)	11.6 (N)	18.8 (N)
Copper	270	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead	1000	594 J	335 J	314 J	364 J	239 J	1,140 J	237 J	214 J	283 J	214 J	37.8 (*)	45.9 (*)	82.1 (*)	394 (*)	13.1 (*)
Manganese	10000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	310	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium	1500	<22.1 U	<21.3 U	<31.9 U	<20.4 U	<23.2 U	<20.8 U	<20.8 U	<24.1 U	<23.5 U	<24.3 U	<1.3 U	<2.7 U	<2.1 U	<1.7 U	<1.7 U
Silver	1500	<4.1 U	<4.0 U	21.3	<3.8 U	<4.3 U	<3.9 U	<3.9 U	<4.5 U	<4.4 U	<4.6 U	<0.26 U (N)	<0.54 U (N)	<0.42 U (N)	<0.34 U (N)	<0.34 U (N)
Mercury	2.8	0.59	0.65	1.0	0.51	0.40	1.0	0.49	0.5	1.6	0.77	0.17	0.15	0.37	0.37	0.085
Zinc	10000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>PCB's (ppm)</b>																
	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**NOTES**  
Track 4 Site Specific Restricted Use SCOs (6NYCRR Part 375, Table 375-6.8(b))  
SHADE indicates exceedance of Track 4 Site Specific Restricted Use Standard.  
ppm = parts per million  
NE = None Established by the NYSDEC  
NA = Not Analyzed  
ND = Not Detected  
\* = The SCO for this compound is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.  
U = (Organic/Inorganic 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.  
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 Qualifiers) The analyte was not detected above the reported sample quantitation limit (QL).  
(\*) = (flag) In description = dry weight  
(H) = (Organic Flags) Alternate Peak Selection upon Analytical Review  
(N) = (Inorganic Flags) MS, MSD: Spike Recovery Exceeds the Upper or Lower Control Limits  
(M) = (Organic Flags) Manually Integrated Compound

**Table 3**  
Documentation Sample Analytical Results  
Whole Foods Market  
220 3rd Street  
Brooklyn, Kings County, New York  
NYSDEC SITE NO. C224100

Sample ID	Track 4 Site Specific Restricted Use SCOs	Concentration of Compound in Sample											
		HS-1/2-3	HS-1/2-4	HS-1/2-5	HS-1/2-6	HS-1/2-7	EX1-2, B-1	EX1-2, B-2	PCB-1N	PCB-1E	PCB-1S	PCB-1W	PCB-1B
<b>VOCs (ppm)</b>													
Benzene	44	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	<0.0017 UJ	<0.0020 UJ	NA	NA	NA	NA	NA
Ethylbenzene	390	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	<0.0017 UJ	<0.0020 UJ	NA	NA	NA	NA	NA
Toluene	500	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	<0.0021 UJ	<0.0024 UJ	NA	NA	NA	NA	NA
o-Xylene	500	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	--	--	NA	NA	NA	NA	NA
Naphthalene	NE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	<0.00061 UJ	<0.00071 UJ	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	190	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	<0.0019 UJ	<0.0023 UJ	NA	NA	NA	NA	NA
n-Butylbenzene	NE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	<0.0018 UJ	<0.0021 UJ	NA	NA	NA	NA	NA
<b>SVOCs (ppm)</b>													
Naphthalene	500	< 0.330	< 0.330	< 0.330	< 0.330	< 0.330	<0.067 UJ	<0.080 UJ	NA	NA	NA	NA	NA
2-Methylnaphthalene	NE	--	--	--	--	--	<0.063 UJ	<0.075 UJ	NA	NA	NA	NA	NA
Acenaphthylene	500	< 0.330	< 0.330	< 0.330	< 0.330	< 0.330	<0.048 UJ	0.067 J	NA	NA	NA	NA	NA
Acenaphthene	500	< 0.330	< 0.330	< 0.330	< 0.330	< 0.330	<0.065 UJ	<0.078 UJ	NA	NA	NA	NA	NA
Flourene	500	< 0.330	< 0.330	< 0.330	< 0.330	< 0.330	<0.051 UJ	0.140 J	NA	NA	NA	NA	NA
Phenanthrene	500	0.993	1.810	< 0.330	0.523	< 0.330	<0.046 UJ	0.810 J	NA	NA	NA	NA	NA
Anthracene	500	< 0.330	0.434	< 0.330	< 0.330	< 0.330	<0.065 UJ	0.270 J	NA	NA	NA	NA	NA
Fluoranthene	500	1.370	2.470	< 0.330	1.480	< 0.330	<0.050 UJ	1 J	NA	NA	NA	NA	NA
Pyrene	500	0.802	1.180	< 0.330	1.570	< 0.330	<0.054 UJ	0.880 J	NA	NA	NA	NA	NA
Benzo(a)anthracene	5.6	0.381	0.640	< 0.330	0.499	< 0.330	<0.053 UJ	0.530 J	NA	NA	NA	NA	NA
Chrysene	56	0.359	0.598	< 0.330	0.596	< 0.330	<0.050 UJ	0.500 J	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	5.69	0.333	0.434	< 0.330	0.519	< 0.330	<0.110 UJ	0.540 J	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	56	< 0.330	0.393	< 0.330	0.462	< 0.330	<0.044 UJ	0.250 J	NA	NA	NA	NA	NA
Benzo(a)pyrene	1	< 0.330	< 0.330	< 0.330	0.886	< 0.330	<0.048 UJ	0.450 J	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	5.6	< 0.330	< 0.330	< 0.330	0.604	< 0.330	<0.040 UJ	0.230 J	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	0.56	< 0.330	< 0.330	< 0.330	< 0.330	< 0.330	<0.044 UJ	0.076 J (M)	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	500	< 0.330	< 0.330	< 0.330	1.450	< 0.330	<0.044 UJ	0.270 J	NA	NA	NA	NA	NA
<b>RCRA Metals Total, (ppm)</b>													
Arsenic	16	--	--	--	--	--	3.2 J	7.7 J	NA	NA	NA	NA	NA
Barium	400	--	--	--	--	--	17.6 J	72.6 J	NA	NA	NA	NA	NA
Beryllium	590	--	--	--	--	--	ND	ND	NA	NA	NA	NA	NA
Cadmium	9.3	--	--	--	--	--	<1.1 U	<1.2 U	NA	NA	NA	NA	NA
Chromium	400	--	--	--	--	--	10.4 J	8.2 J	NA	NA	NA	NA	NA
Copper	270	--	--	--	--	--	ND	ND	NA	NA	NA	NA	NA
Lead	1000	--	--	--	--	--	9.4 B	199	NA	NA	NA	NA	NA
Manganese	10000	--	--	--	--	--	ND	ND	NA	NA	NA	NA	NA
Nickel	310	--	--	--	--	--	ND	ND	NA	NA	NA	NA	NA
Selenium	1500	--	--	--	--	--	1.8 J	<1.9 U (N)	NA	NA	NA	NA	NA
Silver	1500	--	--	--	--	--	<0.36 UJ	<0.38 UJ	NA	NA	NA	NA	NA
Mercury	2.8	--	--	--	--	--	0.029 B	1.1	NA	NA	NA	NA	NA
Zinc	10000	--	--	--	--	--	ND	ND	NA	NA	NA	NA	NA
<b>PCB'S (ppm)</b>	1	NA	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1

**NOTES**  
Track 4 Site Specific Restricted Use SCOs (6NYCRR Part 375, Table 375-6.8(b))  
SHADE indicates exceedance of Track 4 Site Specific Restricted Use Standard.  
ppm = parts per million  
NE = None Established by the NYSDEC  
NA = Not Analyzed  
ND = Not Detected  
\* = The SCO for this compound is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.  
U = (Organic/Inorganic 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.  
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 Qualifiers) The analyte was not detected above the reported sample quantitation limit (QL).  
(\*) = (flag) In description = dry weight  
(H) = (Organic Flags) Alternate Peak Selection upon Analytical Review  
(N) = (Inorganic Flags) MS, MSD: Spike Recovery Exceeds the Upper or Lower Control Limits  
(M) = (Organic Flags) Manually Integrated Compound

**Table 3**  
Documentation Sample Analytical Results  
Whole Foods Market  
220 3rd Street  
Brooklyn, Kings County, New York

Sample ID	Track 4 Site Specific Restricted Use SCOs	NYSDEC SITE NO. C224100 Concentration of Compound in Sample										
		Hotspot 3A Bottom 1	Hotspot 3A Bottom 2	Hotspot4C Bottom 1	Hotspot4C Bottom 2	Hotspot 7 Bottom 1	Hotspot 7 Bottom 2	Hotspot 7 Bottom 3	Hotspot 8 Bottom	Hotspot 9A Bottom	Hotspot 9B Bottom	Hotspot 9C Bottom
<b>VOCs (ppm)</b>												
Benzene	44	<0.0014 U	<0.0017 U	<0.0018 U	<0.0017 U	<0.0016	<0.0013	<0.0011	0.3	<0.0019 U	<0.0019 U	<0.0021
Ethylbenzene	390	<0.0014 U	<0.0017 U	0.00087 J	<0.0017 U	<0.0016	<0.0013	<0.0011	3.3	<0.0019 U	<0.0019 U	0.00092 J
Toluene	500	<0.0014 U	<0.0017 U	<0.0018 U	<0.0017 U	0.00077 J	<0.0013	<0.0011	<0.170 U	<0.0019 U	<0.0019 U	<0.0021
o-Xylene	500	<0.0042 U	<0.0052 U	<0.0055 U	<0.0051 U	<0.0031	<0.0025	<0.0022	1.1	<0.0036 U	<0.0039	<0.0041
Naphthalene	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	190	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>SVOCs (ppm)</b>												
Naphthalene	500	<0.480 U	<0.580 U	<0.610 U	<0.570 U	<0.051	0.0529	<0.037	8.6	<0.390 U	<0.061	3.75
2-Methylnaphthalene	NE	<0.480 U	<0.580 U	<0.610 U	<0.570 U	<0.051	<0.082	<0.037	0.580 J	<0.390 U	<0.061	0.585
Acenaphthylene	500	<0.480 U	<0.580 U	<0.610 U	<0.570 U	<0.051	<0.082	<0.037	<0.580 U	<0.390 U	<0.061	0.116
Acenaphthene	500	<0.480 U	<0.580 U	<0.610 U	<0.570 U	<0.051	0.110	<0.037	0.540 J	<0.390 U	<0.061	1.17
Flourene	500	<0.480 U	<0.580 U	<0.610 U	<0.570 U	<0.051	0.0272 J	<0.037	<0.580 U	<0.390 U	<0.061	0.604
Phenanthrene	500	<0.480 U	0.270 J	<0.610 U	<0.570 U	<0.051	0.058	<0.037	0.110 J	<0.390 U	0.0323 J	1.78
Anthracene	500	<0.480 U	<0.580 U	<0.610 U	<0.570 U	<0.051	0.0183 J	<0.037	<0.580 U	<0.390 U	<0.061	0.885
Fluoranthene	500	<0.480 U	0.360 J	0.100 J	<0.570 U	<0.051	0.031 J	<0.037	<0.580 U	<0.390 U	0.0415 J	0.856
Pyrene	500	<0.480 U	0.340 J	0.160 J	<0.570 U	<0.051	0.0469	<0.037	<0.580 U	<0.390 U	0.0402 J	1.19
Benzo(a)anthracene	5.6	<0.048 U	0.160	0.083	<0.057 U	<0.051	<0.082	<0.037	0.027 J	<0.039 U	<0.061	0.239
Chrysene	56	<0.480 U	0.140 J	<0.610 U	<0.570 U	<0.051	<0.082	<0.037	<0.580 U	<0.390 U	<0.061	0.210
Benzo(b)fluoranthene	5.69	<0.048 U	0.190	0.086	<0.057 U	<0.051	<0.082	<0.037	<0.058 U	<0.039 U	<0.061	0.138
Benzo(k)fluoranthene	56	<0.048 U	<0.058 U	0.034 J	<0.057 U	<0.051	<0.082	<0.037	<0.058 U	<0.039 U	<0.061	0.125
Benzo(a)pyrene	1	<0.048 U	0.120	0.050 J	<0.057 U	<0.051	<0.082	<0.037	<0.058 U	<0.039 U	<0.061	0.283
Indeno(1,2,3-cd)pyrene	5.6	<0.048 U	<0.058 U	<0.061 U	<0.057 U	<0.051	<0.082	<0.037	<0.058 U	<0.039 U	<0.061	0.103
Dibenzo(a,h)anthracene	0.56	<0.048 U	<0.058 U	<0.061 U	<0.057 U	<0.051	<0.082	<0.037	<0.058 U	<0.039 U	<0.061	0.0308
Benzo(g,h,i)perylene	500	<0.480 U	<0.580 U	<0.610 U	<0.570 U	<0.051	<0.082	<0.037	<0.580 U	<0.390 U	<0.061	0.170
<b>RCRA Metals Total, (ppm)</b>												
Arsenic	16	9.9	7.4	7.3	9.8	9.3	5.4	3.1	7.7	2.0	26.5	10.7
Barium	400	88.5	101	71	43.9 J	47.1	43.5	34.9	59.3 J	31.5 J	165	48.2
Beryllium	590	0.63	1	0.82	0.93	0.76	0.56	0.42	1.1	0.45 J	<0.38	0.78
Cadmium	9.3	<1.4 U	<1.7 U	<1.8 U	<1.7 U	<0.74	<0.60	<0.57	<1.8 U	<1.2 U	<0.95	<1
Chromium	400	18.3	32.3	33.4	36.8	29.3	12	16.6	39.2	11.5	22.5	34.8
Copper	270	31.8	38.3	16	16.1	15.9	8.8	14.9	151	11.2	17.9	18.2
Lead	1000	122	119	48	16.6	14.9	20.2	11.1	20.5	11.2	41.1	17.9
Manganese	10000	239	284	350	392	400	438	227	408	124	194	355
Nickel	310	22.1	42.8	27.1	29.8	26.9	10.4	21	33.7	14.2	13.8	28.8
Selenium	1500	<2.8 U	<3.4 U	<3.5 U	<3.3 U	<3.0	<2.4	<2.3	<3.5 U	<2.3 U	<3.8	<4.1
Silver	1500	<2.8 U	<3.4 U	<3.5 U	<3.3 U	<0.74	<0.60	<0.57	<3.5 U	<2.3 U	<0.95	<1
Mercury	2.8	0.39	1.2	<0.058 U	0.054	0.12	0.061	0.10	<0.052 U	0.034 J	0.063	<0.057
Zinc	10000	108 B	105	79.2	74.6	70.1	28.7	32.1	97.8	33.5	58.1	75.3
<b>PCB'S (ppm)</b>												
	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**NOTES**  
Track 4 Site Specific Restrictred Use SCOs (6NYCRR Part 375, Table 375-6.8(b))  
SHADE indicates exceedance of Track 4 Site Specific Restricted Use Standard.  
ppm = parts per million  
NE = None Established by the NYSDEC  
NA = Not Analyzed  
ND = Not Detected  
\* = The SCO for this compound is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.  
U = (Organic/Inorganic 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.  
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 Qualifiers) The analyte was not detected above the reported sample quantitation limit (QL).  
(\*) = (flag) In description = dry weight  
(H) = (Organic Flags) Alternate Peak Selection upon Analytical Review  
(N) = (Inorganic Flags) MS, MSD: Spike Recovery Exceeds the Upper or Lower Control Limits  
(M) = (Organic Flags) Manually Integrated Compound

**Table 3**  
Documentation Sample Analytical Results  
Whole Foods Market  
220 3rd Street  
Brooklyn, Kings County, New York

Sample ID	Track 4 Site Specific Restricted Use SCOs	NYSDEC SITE NO. C224100 Concentration of Compound in Sample										
		Hotspot 10A Bottom	Hotspot 10B Bottom	Hotspot 10C Bottom	Hotspot 11 Bottom 1	Hotspot 11 Bottom 2	Hotspot 12 Bottom	EP-1	EP-2	EP-3	EP-4	EP-5
<b>VOCs (ppm)</b>												
Benzene	44	<0.0016	<0.0020 U	<0.0017	<0.0019 U	<0.0025 U	0.0051	<0.00118	<0.00115	<0.00119	<0.00118	<0.00114
Ethylbenzene	390	<0.0016	<0.0020 U	<0.0017	<0.0019 U	<0.0025 U	<0.0031 U	<0.00236	<0.00229	<0.00238	<0.00235	<0.00228
Toluene	500	<0.0016	<0.0020 U	<0.0017	<0.0019 U	<0.0025 U	0.0015 J	<0.00118	<0.00115	<0.00119	<0.00118	<0.00114
Total Xylenes	500	<0.0033	<0.0059 U	<0.0034	<0.0019 U	<0.0074 U	<0.0093 U	<0.00236	<0.00229	<0.00238	<0.00235	<0.00228
Naphthalene	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	190	NA	NA	NA	NA	NA	NA	<0.00118	<0.00115	<0.00119	<0.00118	<0.00114
n-Butylbenzene	NE	NA	NA	NA	NA	NA	NA	<0.00118	<0.00115	<0.00119	<0.00118	<0.00114
<b>SVOCs (ppm)</b>												
Naphthalene	500	0.306	<0.670 U	<0.052	<0.620 U	<0.820 U	<1 U	<0.157	<0.0765	<0.0795	<0.0783	0.204
2-Methylnaphthalene	NE	0.00572	<0.670 U	<0.052	<0.620 U	<0.820 U	<1 U	<0.157	<0.0765	<0.0795	<0.0783	<0.152
Acenaphthylene	500	0.0337 J	<0.670 U	<0.052	<0.620 U	<0.820 U	<1 U	<0.157	<0.0765	<0.0795	<0.0783	<0.152
Acenaphthene	500	0.171	<0.670 U	<0.052	<0.620 U	<0.820 U	<1 U	<0.157	<0.0765	<0.0795	<0.0783	0.220
Flourene	500	0.104	<0.670 U	<0.052	<0.620 U	<0.820 U	<1 U	<0.314	<0.153	<0.159	<0.157	<0.304
Phenanthrene	500	0.409	0.390 J	<0.052	<0.620 U	<0.820 U	<1 U	0.607	<0.153	0.342	0.362	2.6
Anthracene	500	0.239	0.150 J	<0.052	<0.620 U	<0.820 U	<1 U	0.764	<0.153	<0.159	<0.157	0.617
Fluoranthene	500	0.300	0.470 J	<0.052	<0.620 U	<0.820 U	<1 U	0.957	<0.0765	0.419	0.566	2.67
Pyrene	500	0.435	0.520 J	<0.052	<0.620 U	<0.820 U	<1 U	1.05	<0.153	0.416	0.471	2.21
Benzo(a)anthracene	5.6	0.0938	0.400	<0.052	<0.062 U	<0.082 U	<0.100 U	<0.157	<0.0765	0.164	0.375	1.34
Chrysene	56	0.0917	0.360 J	<0.052	<0.620 U	<0.820 U	<1 U	0.714	<0.153	0.25	0.388	1.35
Benzo(b)fluoranthene	5.69	0.0542	0.370	<0.052	<0.062 U	<0.082 U	<0.100 U	<0.786	<0.382	<0.397	<0.392	<0.761
Benzo(k)fluoranthene	56	0.0524 J	0.240	<0.052	<0.062 U	<0.082 U	<0.100 U	<0.314	<0.153	0.189	<0.157	<0.304
Benzo(a)pyrene	1	0.118	0.350	<0.052	<0.062 U	<0.082 U	<0.100 U	0.831	<0.0765	0.177	0.231	0.945
Indeno(1,2,3-cd)pyrene	5.6	0.0442	0.160	<0.052	<0.062 U	<0.082 U	<0.100 U	0.625	<0.153	<0.159	0.211	0.586
Dibenzo(a,h)anthracene	0.56	<0.054	<0.067 U	<0.052	<0.062 U	<0.082 U	<0.100 U	<0.314	<0.153	<0.159	<0.157	<0.304
Benzo(g,h,i)perylene	500	0.0718	0.140 J	<0.052	<0.620 U	<0.820 U	<1 U	0.478	<0.0765	<0.0795	<0.0783	0.427
<b>RCRA Metals Total, (ppm)</b>												
Arsenic	16	12.7	9.3	10.6	8.1	5.8	3.9	NA	NA	NA	NA	NA
Barium	400	66.9	116	85.7	46.3 J	71.4 J	48.9 J	NA	NA	NA	NA	NA
Beryllium	590	0.32	1.2	0.35	0.77	0.88 J	0.55 J	NA	NA	NA	NA	NA
Cadmium	9.3	<0.78	<1.9 U	<0.76	0.32 J	<2.4 U	<3.1 U	NA	NA	NA	NA	NA
Chromium	400	30.4	29.9	36.3	25.3	34.5	21.6	NA	NA	NA	NA	NA
Copper	270	29.5	20.5	29.7	17.1 B	15	9.5 J B	NA	NA	NA	NA	NA
Lead	1000	134	39.8 B	209	24.5	17.5	37.6	NA	NA	NA	NA	NA
Manganese	10000	212	450	222	403	410	146	NA	NA	NA	NA	NA
Nickel	310	22.5	33.4	36.9	23.7	34.2	11.4 J	NA	NA	NA	NA	NA
Selenium	1500	<3.1	<3.9 U	<3.1	<3.7 U	<4.8 U	<6.1 U	NA	NA	NA	NA	NA
Silver	1500	<0.78	<3.9 U	<0.76	<3.7 U	<4.8 U	<6.1 U	NA	NA	NA	NA	NA
Mercury	2.8	0.44	0.84	0.11	<0.054 U	<0.079 U	<0.1 U	NA	NA	NA	NA	NA
Zinc	10000	66.5	136 B	69.4	64.3	81.1	31.3	NA	NA	NA	NA	NA
<b>PCB'S (ppm)</b>												
	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**NOTES**  
Track 4 Site Specific Restricted Use SCOs (6NYCRR Part 375, Table 375-6.8(b))  
SHADE indicates exceedance of Track 4 Site Specific Restricted Use Standard.  
ppm = parts per million  
NE = None Established by the NYSDEC  
NA = Not Analyzed  
ND = Not Detected  
\* = The SCO for this compound is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.  
U = (Organic/Inorganic 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.  
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 Qualifiers) The analyte was not detected above the reported sample quantitation limit (QL).  
(\*) = (flag) In description = dry weight  
(H) = (Organic Flags) Alternate Peak Selection upon Analytical Review  
(N) = (Inorganic Flags) MS, MSD: Spike Recovery Exceeds the Upper or Lower Control Limits  
(M) = (Organic Flags) Manually Integrated Compound

**Table 4**  
Imported Backfill Quantities  
Whole Foods Market  
220 3rd Street  
Brooklyn, Kings County, New York  
NYSDEC SITE No. C224100

<b>Material (Units)</b>	<b>Quantity</b>
Mole Rock (cubic yards)	18,929
Rip Rap (tons)	570.14
<b>Notes:</b> Mole Rock virgin borrow source: New York City Transit Authority Tunnel Project (see Appendix K of FER) Rip Rap borrow source: New York Sand and Stone, LLC (see Appendix K of FER)	

**Table 5**  
**Backfill Analytical Results Compared to NYSDEC Standards, Criteria and Guidance Values**  
 Whole Foods Market  
 220 3rd Street  
 Brooklyn, Kings County, New York  
 NYSDEC SITE No. C224100

Sample ID	NYSDEC Standards, Criteria, and Guidance Values	Concentration of Compound in Sample						
		CF-1	CF-2	CF-3	CF-4	CF-5	CF-6	CF-7
<b>VOCs (ppm)</b>	Varies	ND	ND	ND	ND	ND	ND	ND
<b>SVOCs (ppm)</b>								
Bis(2-ethylhexyl)phthalate	NE	<0.36 U	<0.36 U	<0.34 U	<0.35 U	<0.35 U	<0.35 U	<0.35 U
Butyl benzyl phthalate	NE	<0.36 U	<0.36 U	<0.34 U	<0.35 U	<0.35 U	<0.35 U	<0.35 U
<b>RCRA Metals Total, (ppm)</b>								
Aluminium	NE	10300	12200	11100	10100	12600	11100	10900
Arsenic	16	<1.1 U	1.0 J	0.85 J	<1.0 U	<1.1 U	<1.1 U	<1.1 U
Barium	400	140	151	144	140	150	167	139
Beryllium	47	0.33 J	0.48	0.39 J	0.39 J	0.44	0.42 J	0.58
Cadmium	7.5	<1.1 U	<1.0 U	<1.0 U	<1.0 U	<1.1 U	<1.1 U	1.4
Calcium	NE	3670	5250	4250	5550	5730	4540	4780
Chromium, Total	NE	28.2	33.4	29	27.1	35.3	33.6	28.2
Chromium, Hexavalent	19	<2.2 U	<2.2 U	<2.1 U	<2.1 U	<2.1 U	<2.1 U	<2.1 U
Cobalt	NE	10.1 J	11.3	13	11.5	11.7	9.8 J	10.4 J
Copper	270	29.4	31.2	47.2	31.8	32.2	29.7	69.5
Iron	NE	23900	28200	26500	22300	29200	25700	24100
Lead	450	5.8	8.1	6.2	7.4	5.8	6.9	9.2
Magnesium	NE	5980	7140	6460	5780	7500	6360	6130
Manganese	2000	212	264	230	212	267	240	229
Mercury	0.73	<0.034 U	<0.034 U	<0.031 U	0.051	<0.032 U	<0.034 U	<0.035 U
Nickel	130	19.9	22.5	24	17.3	22.8	19.9	20.7
Potassium	NE	5570	6330	6040	5110	6190	6340	5630
Sodium	NE	205 J	258 J	238 J	194 J	232 J	230 J	417 J
Vanadium	NE	55.2	65.0	59.3	55.70	66.6	58.8	55.8
Zinc	2430	47.2	57.9	51	49.10	61.2	49.6	447
<b>PCB's (ppm)</b>	1	<0.074 U	<0.072 U	<0.070 U	<0.071 U	<0.071 U	<0.070 U	<0.071 U
<b>Total Cyanide</b>	27	ND	ND	ND	ND	ND	ND	ND
<b>Herbicides</b>	Varies	NA	NA	NA	NA	NA	NA	NA
<b>Pesticides</b>	Varies	ND	ND	ND	ND	ND	ND	ND
<b>NOTES</b>								
ppm = parts per million								
NE = None Established by the NYSDEC								
NA = Not Analyzed								
ND = Not Detected								
U = (Organic/Inorganic 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 6**

Soil 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

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 Site-Specific Restricted Use SCO's (6 NYCRR Part 375, Table 375-6.8 (b), December 14, 2006)  
 ppm = parts per million  
 For sample locations see Figure 5 of Final Engineering Report  
 (-5.5' to -9.5') = elevation of Contamination remaining at concentrations above the Track 4 Site Specific Restricted Use SCOs.  
 Elevations are referenced to a BL Companies Datum. Add 4.795 feet to adjust to U.S.C.G.S. 1929 Datum.  
 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

**Table 6**

Soil 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

Sample ID	Track 4 Site-Specific Restricted Use SCOs	B123/0-4 (2 TO -1)	B140/S2 (1 TO -3)	Hotspot 9B Bottom	UST3N	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	11-May-10	12-Sep-05	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 (ppm)</b>													
Benzo(a)anthracene	5.6	<0.42 UJ	0.24 J	<0.020	NA	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	<0.019	NA	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	<0.020	NA	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	<0.023	NA	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	<0.021	NA	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	26.5	7.6 B	9.09	7.56	11.8	5.58	6.98	6.12	6.74	8.79
Barium	400	232 J	72.2	165	481 J	266	122	102	87.3	386	140	127	46.6
Lead	1000	169 J	146 J	41.1	1140 J	305	725	464	126	395	199	275	1,290
Mercury	2.8	0.058	4.2	0.063	1.0	<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 Site-Specific Restricted Use SCO's (6 NYCRR Part 375, Table 375-6.8 (b), December 14, 2006)

ppm = parts per million

For sample locations see Figure 5 of Final Engineering Report

(-5.5' to -9.5') = elevation of Contamination remaining at concentrations above the Track 4 Site Specific Restricted Use SCOs.

Elevations are referenced to a BL Companies Datum. Add 4.795 feet to adjust to U.S.C.G.S. 1929 Datum.

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



**Table 6**

Soil 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

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 (ppm)</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 Site-Specific Restricted Use SCO's (6 NYCRR Part 375, Table 375-6.8 (b), December 14, 2006)  
 ppm = parts per million  
 For sample locations see Figure 5 of Final Engineering Report  
 (-5.5' to -9.5') = elevation of Contamination remaining at concentrations above the Track 4 Site Specific Restricted Use SCOs.  
 Elevations are referenced to a BL Companies Datum. Add 4.795 feet to adjust to U.S.C.G.S. 1929 Datum.  
 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

**Table 6**

Soil 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

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')	E-5 (2' to 4')	E-6 (2' to 4')	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	30-Apr-09	30-Apr-09
<b>SVOCs (ppm)</b>												
Benzo(a)anthracene	5.6	<3.63	1.2	2.7 J	4.1	2.5 J	<1.9	<3.63	1.5 J	<3.66	3.1	<4.13
Benzo(a)pyrene	1	<3.63	1	2.9 J	3.5	2.6 J	<1.9	<3.63	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	<1.9	<3.63	<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	<1.9	<3.63	<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	<1.9	<3.63	<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	7.77	7.35	13.1	24.7	8.50	7.30
Barium	400	542	413	291	189	166	98.3	129	280	217	251	181
Lead	1000	969	618	976	509	329	254	383	563	433	476	1,210
Mercury	2.8	<0.110	<0.113	<0.110	0.32	<0.111	<0.115	<0.108	<0.110	<0.111	<0.113	0.13

**NOTES**

Only compounds detected above site specific criteria are listed  
 Shading indicates exceedance of Track 4 Site-Specific Restricted Use SCO's (6 NYCRR Part 375, Table 375-6.8 (b), December 14, 2006)  
 ppm = parts per million  
 For sample locations see Figure 5 of Final Engineering Report  
 (-5.5' to -9.5') = elevation of Contamination remaining at concentrations above the Track 4 Site Specific Restricted Use SCOs.  
 Elevations are referenced to a BL Companies Datum. Add 4.795 feet to adjust to U.S.C.G.S. 1929 Datum.  
 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

**Table 7**

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 7**  
 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

**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  
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 \* = (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 7**  
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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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  
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**Table 7**  
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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ppm = parts per million  
NE = None Established by the NYSDEC  
NA = Not Analyzed  
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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											
		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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Whole Foods Market  
220 3rd Street  
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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

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		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

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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 8**  
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. ||