TRC
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854

Main 978-970-5600
Fax 978-453-1885

Memorandum

To: The Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

From: David M. Sullivan, LSP, CHMM, TRC Environmental Corporation

Subject: URAM Submittal for Liberty Street Drainage Improvements
Parker Street Waste Site, New Bedford, Massachusetts

Date: July 14, 2010

CC: Molly Cote, Massachusetts Department of Environmental Protection
Scott Alfonse, Director of Environmental Stewardship, City of New Bedford
Cheryl Henlin, Dept. of Environmental Stewardship, City of New Bedford

Introduction

TRC Environmental Corporation (TRC) has prepared this memorandum to summarize the proposed Liberty Street Utility-Related Abatement Measure (URAM) associated with planned drainage improvements that the City of New Bedford's (City) Department of Public Infrastructure (DPI) intends to implement at the New Bedford High School (NBHS) portion of the Parker Street Waste Site (PSWS) in New Bedford, Massachusetts. The applicable Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) is 4-15685, which is assigned to the PSWS. Special Project status has been established for RTN 4-15685.

The work will be performed by the City in accordance with a URAM per the Massachusetts Contingency Plan (MCP; 310 CMR 40.0460). The URAM provides a regulatory vehicle for the installation of utilities at sites where contamination is present in soil and/or groundwater and will not limit or impede the implementation of future response actions or a full remedy. The URAM-related construction activities will be subject to MassDEP review and oversight and United States Environmental Protection Agency (EPA) review and oversight relative to the applicability of polychlorinated biphenyl (PCB) regulation.

Proposed Utility Construction Activity

The City is planning the installation of a storm water drainage system improvement that will extend along Liberty Street, the eastern portion of the NBHS campus, and the NBHS eastern faculty parking lot. The construction activities will include the installation of approximately 280 feet of 12-inch diameter polyvinyl chloride (PVC) sub-drain pipe along the eastern shoulder of Liberty Street to be

connected to a proposed drain manhole in Liberty Street, which will be connected to another proposed manhole with approximately 30 feet of 12-inch PVC pipe. The 12-inch PVC pipe will then extend approximately 125 feet to the southwest to an existing catch basin located in the eastern faculty parking lot of the NBHS campus. Construction activities in this location will displace approximately 109 cubic yards of potentially impacted soil. The soil will be temporarily stockpiled onsite and managed in compliance with the provisions of 310 CMR 40.0030 of the MCP pending characterization results that will be used to evaluate reuse, recycling, and disposal options. All utility construction will be performed on property owned by the City of New Bedford. The utility construction activities work area is bordered to the east by the City Yard, to the west by the NBHS, and to the north and south by Liberty Street, NBHS parking areas and open grassed areas.

Background

TRC reviewed previous analytical data, coordinated with the EPA and conducted additional subsurface soil sampling and analysis to facilitate the construction activities. The following summarizes those activities to date.

***Summary of Previous Data* –** As detailed in the City's *Information Regarding Liberty Street Drainage Construction Activity* letter to the EPA dated November 5, 2009, previous subsurface investigation sampling in the vicinity of the proposed construction project area was conducted by the BETA Group, Inc. (BETA) of Norwood, Massachusetts during 2006 and subsequently by TRC throughout 2008 and 2009. A copy of the November 5, 2009 letter to the EPA, including relevant boring logs and soil boring locations, is included as Attachment 1.

Previously, BETA advanced a total of eighteen (18) soil borings within approximately 250 feet of the proposed utility installation. However, soil samples from only five (5) soil borings were submitted for laboratory analysis, including HRG-17, HRI-17, HRJ.75-17, PG-4 and PG-5. Soil samples from these borings were analyzed for PCBs. Soil sample HRJ.75-17 was also analyzed for volatile organic compounds (VOCs) and total petroleum hydrocarbons (TPH). The laboratory results did not indicate the detection of any compounds above MCP Method 1 soil cleanup standards in any of the BETA samples submitted.

TRC advanced a total of forty-four (44) soil borings and five (5) surface soil samples within approximately 250 feet of the proposed utility construction area. TRC submitted a total of sixty-four (64) soil samples (including four field duplicate analyses) in the planned drainage improvement construction area for laboratory analysis of semi-volatile organic compounds (SVOCs), PCBs, and/or MCP metals including mercury. The SVOC analysis consisted of polycyclic aromatic hydrocarbon (PAH) analysis.

The laboratory results did not indicate the detection of PAHs and PCBs above MCP Method 1 soil cleanup standards in any of the soil samples submitted. The laboratory results for MCP metals and mercury exceeded the MCP Method 1 soil cleanup standards as follows:

- Arsenic at sampling locations SB-293 (31.6 mg/kg at 9 feet), SB-294 (40.6 mg/kg at 4 feet, and SB-320 (55.8 mg/kg at 5 feet);

- Barium at sampling location SB-294 (1,920 mg/kg at 4 feet), SB-360 (2,750 mg/kg [duplicate] at 1-3 feet), SB-360A (4,060 mg/kg at 1-3 feet), SB-360B (2,170 mg/kg at 1-3 feet), SB-360E (1,050 mg/kg at 1-3 feet) and SB-360F (1,250 mg/kg at 1-3 feet);
- Cadmium at sampling locations SB-219 (2.92 mg/kg at 4-feet), SB-293 (16.2 mg/kg at 9 feet), SB-294 (2.10 mg/kg at 4 feet, 3.14 mg/kg at 8.5 feet, and 2.75 at 12 feet), SB-320 (7.87 mg/kg at 5 feet) and SB-362 (5.77 mg/kg at 6.5 feet);
- Chromium at sampling locations SB-219 (35.9 mg/kg at 4 feet), SB-294 (36.5 mg/kg at 4 feet), SB-320 (107 mg/kg at 5 feet), SB-360 (39.2 mg/kg [duplicate] at 1-3 feet), SB-360A (54.0 mg/kg at 1-3 feet), SB-360F (74.7 mg/kg at 1-3 feet) and SB-362 (47.7 mg/kg at 6.5 feet);
- Lead at sampling locations SB-217 (418 mg/kg at 5feet), SB-219 (1,500 mg/kg at 4 feet), SB-293 (396 mg/kg at 6.5 feet, and 848 mg/kg at 9 feet), SB-294 (3,260 mg/kg at 4 feet, 790 mg/kg at 8.5 feet), SB-319 (483 mg/kg at 4 feet), SB-320 (2,240 mg/kg at 5 feet), SB-360 (39,600 mg/kg [duplicate] at 1-3 feet and 6,870 mg/kg at 5 feet), SB-360A (20,200 mg/kg at 1-3 feet), SB-360B (26,700 mg/kg at 1-3 feet), SB-360C (422 mg/kg [duplicate] at 1-3 feet), SB-360E (8,550 mg/kg at 1-3 feet), SB-360F (1,070 mg/kg at 1-3 feet), SB-360G (590 mg/kg at 1-3 feet), SB-360I (4,600 mg/kg at 1-3 feet), SB-360J (530 mg/kg at 1-3 feet), SB-360K (890 mg/kg at 1-3 feet), SB-360L (470 mg/kg at 1-3 feet), SB-360M (860 mg/kg at 1-3 feet), SB-360O (500 mg/kg at 1-3 feet), SB-360Q (1,200 mg/kg at 1-3 feet), SB-360R (650 mg/kg at 1-3 feet), SB-360S (380 mg/kg at 1 -3 feet), SB-360U (9,800 mg/kg at 1-3 feet), SB-360V (320 mg/kg at 1-3 feet), SB-360X (750 mg/kg [duplicate] at 1-3 feet), SB-362 (487 mg/kg at 1-3 feet, 448 mg/kg at 5 feet and 319 mg/kg at 6.5 feet) and SS-40 (819 mg/kg at 2 feet);
- Nickel at sampling locations SB-217 (26.3 mg/kg at 5 feet), SB-219 (28.9 mg/kg at 4 feet), SB-293 (25.9 mg/kg at 9 feet), SB-294 (31.8 mg/kg at 4 feet), and SB-320 (99.7 mg/kg at 5 feet), SB-360 (21.5 mg/kg at 5 feet) and SB-362 (40.3 mg/kg at 6.5 feet); and
- Zinc at sampling locations SB-293 (4,500 mg/kg at 9 feet) and SB-320 (3,570 at 5 feet).

As detailed in TRC's November 5, 2009 letter to the EPA, analytical results from soil samples collected from the NBHS campus indicated that there were no PCB concentrations exceeding 1 mg/kg within the proximity of the proposed drainage system. In addition, the sampling of groundwater monitoring wells within the NBHS property did not indicate the presence of PCB groundwater impacts in the vicinity of the construction area (or throughout the NBHS campus). Therefore, based on the various lines of evidence, the City's position to the EPA was that none of the soil that will be displaced during the implementation of URAM warrants regulation as PCB Remediation Waste or requires any classification or disposal under the federal Toxic Substances Control Act (TSCA).

Summary of Supplemental Investigation – On November 9, 2009, following review of the City's November 5, 2009 letter regarding the improvement project (Attachment 1), the opinion of the EPA Region 1 PCB Coordinator was that the data density for PCB analyses in soil in the vicinity of the proposed construction area was not sufficient to support a determination of the EPA's regulatory jurisdiction under 40 CFR Part 761. Consistent with additional coordination between the City and EPA, TRC submitted a *Supplemental Data Collection in Support of Liberty Street Drainage Improvements* memorandum to the EPA on behalf of the City on March 10, 2010 (Attachment 2).

The March 10, 2010 memorandum described proposed supplemental soil collection along the drainage improvement corridor to support an EPA regulatory determination and requested approval regarding the appropriateness of the proposed supplemental data density. The supplemental sampling called for the installation of an additional eight (8) soil borings (approximately every 50 feet along the proposed drain line) with the collection of two shallow soil samples (at 0-1 and 1-3 foot intervals) and one soil sample from the approximate depth of the drainage line per boring.

Following verbal approval of the sampling approach by EPA on May 5, 2010, TRC conducted soil sampling consistent with the approach described in the March 10, 2010 memorandum. Eight soil borings (SB-LSD-1 through SB-LSD-8), spaced approximately every 50-feet along the proposed project corridor depending on the presence of underground utilities and site access, were advanced using direct push GeoProbe® technology. Soil samples were collected by TRC personnel from the top 1-foot, 1 to 3 foot zone and the approximate depth of the proposed drainage line. Soil samples were submitted for laboratory PCB as Aroclors (SW-846 Method 8082) analysis.

As described in TRC's *Analytical Results from Supplemental Soil Data Collection Along Drainage Installation Route* memorandum to the EPA dated June 17, 2010, one soil sample [SB-LSD-5 (1-3)] exhibited a total concentration of PCB Aroclors greater than 1 mg/kg. The total concentration of PCB Aroclors in soil sample SB-LSD-5 (1-3) was 3.918 mg/kg. Twenty-one of the twenty-six soil samples (including the two field duplicates) exhibited detectable concentration of total PCB Aroclors less than 1 mg/kg. The PCB Aroclor detections that were less than 1 mg/kg ranged in concentration from 0.0607 mg/kg [SB-LSD-3 (1-3)] to 0.919 mg/kg [SB-LSD-7 (1-3)]. The analytical results were submitted for review by the EPA to determine the regulatory jurisdiction. The City will not proceed with implementation of the URAM without input from EPA as to the need for EPA approval. A copy of the June 17, 2010 memorandum is included herein as Attachment 3.

Additional Data Summary – Following submittal of the November 5, 2009 letter to the EPA, TRC installed one groundwater monitoring well (MW-17) in the vicinity of the utility construction area on February 15, 2010. The monitoring well was installed as part of ongoing Immediate Response Action (IRA) activities related to the detection of volatile organic compounds in seep water at the NBHS building. No soil samples were collected for laboratory analysis during the installation of monitoring well MW-17.

TRC was also recently informed of sampling activities and subsequent reporting conducted by Vanasse Hangen Brustlin, Incorporated (VHB) of Watertown, Massachusetts on July 23, 2001 throughout the NBHS campus. VHB collected a total of twenty-two (22) surface soil samples from fifteen (15) sample locations for laboratory PCB, Resource Conservation and Recovery Act (RCRA) 8 metals, SVOCs and extractable petroleum hydrocarbon (EPH) analysis. A total of three (3) of the surface soil sample locations (VSS-4 through VSS-6) are near to the proposed utility construction area and were analyzed for PCBs and RCRA-8 metals. The laboratory results did not indicate the detection of PCBs or metals above MCP Method 1 cleanup standards in any of these three (3) samples.

Soil Management Plan

The proposed utility construction activities will require the excavation of soil and asphalt (as needed) in order to install the drain pipe and catch basins. TRC has prepared a Soil Management Plan (SMP) intended to provide the City and/or Contractor with information regarding the requisite soil management requirements. These procedures are also designed to ensure that soil that is encountered during the project is managed in a manner that is protective of human health, safety, public welfare and the environment, as required by the MCP. Due to the depth of the proposed excavation and proximity to site groundwater it is anticipated that ground water management needs for this work are relatively limited. A Commonwealth of Massachusetts Licensed Site Professional (LSP) has been retained by the City to oversee the soil management activities during construction activities to ensure compliance with the applicable provisions of the MCP and related MassDEP policies and guidance. The SMP is included herein as Attachment 4.

DPI estimated that approximately 109 cubic yards of soil will be displaced by the pipe and fill surrounding the pipe and catch basins. The excavated soils will be stockpiled in a designated onsite location pending characterization for offsite disposal. Excavated soils will be placed on polyethylene sheeting (6-mil minimum) or similar pending offsite disposal.

The utility construction activities will also require the removal of approximately 3.7 cubic yards of asphalt, which will be transported offsite for recycling. The asphalt will be loaded directly into a truck for recycling. If required, the excavated asphalt will be stockpiled in a designated onsite location pending offsite recycling. Excavated asphalt will be placed on polyethylene sheeting (6-mil minimum) or similar pending offsite disposal.

Conclusion

It is anticipated that the drainage system installation will begin as soon as possible following EPA and MassDEP approval and no construction will start prior to that acknowledgement. Currently, the City anticipates a minimum of four weeks to complete the project.

The installation of the drainage system is a utility construction measure to be implemented in accordance with the MCP and will not impede the implementation of, or act as a remedy for, subsurface impacts at the PSWS. A final remedy is currently in the planning stages and will be subject to future regulatory submittals to the MassDEP and EPA and subject to all necessary approvals.

Attachment 1

Letter to EPA

(November 5, 2009)

ENVIRONMENTAL STEWARDSHIP DEPARTMENT/
NEW BEDFORD CONSERVATION COMMISSION

CITY OF NEW BEDFORD
SCOTT W. LANG, MAYOR

November 5, 2009

Kimberly N. Tisa, PCB Coordinator
United States Environmental Protection Agency
1 Congress Street, Suite 1100
Boston, Massachusetts 02114-2023

RE: Information Regarding Liberty Street Drainage Construction Activity
New Bedford High School
230 Hathaway Boulevard
New Bedford, Massachusetts

Dear Ms. Tisa:

The purpose of this letter is to provide notice to the United States Environmental Protection Agency (USEPA) that the City of New Bedford (City) is preparing for the installation of a drainage system running along the eastern shoulder of Liberty Street, joining two new manholes near the center of Liberty Street, then extending southwest along the driveway to an existing catch basin in the east-side parking lot of New Bedford High School (NBHS) (see Figure 1). Construction activity in this location will displace potentially contaminated soil on the order of approximately 109 cubic yards to be stockpiled onsite pending characterization results for off-site disposal. The purpose of this project is to improve storm water drainage along Liberty Street. The work will be performed by the City in accordance with a Utility-Related Abatement Measure (URAM) consistent with the requirements set forth in the Massachusetts Contingency Plan (MCP; 310 CMR 40.0460). The URAM provides a mechanism for the installation of utilities at sites where contamination is present in soil and/or groundwater and will in no way limit or impede the implementation of future response actions or a full remedy. The URAM-related construction activities will be subject to USEPA and Massachusetts Department of Environmental Protection (MassDEP) review and oversight.

Background

The utility construction activities are to take place on Liberty Street and the New Bedford High School east-side parking lot area located in New Bedford, Massachusetts. The utility construction activities will include the installation of approximately 280 feet of 12" PVC sub-drain pipe along the east shoulder of Liberty Street to be connected to a proposed drain man hole in Liberty Street, which will be connected to another proposed man hole with approximately 30 feet of 12" PVC pipe, then running 12" PVC pipe

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approximately 125 feet to the southwest to an existing catch basin located in the east-side parking lot at New Bedford High School. All utility construction will be performed on property owned by the City of New Bedford. The utility construction activities area is bordered to the east by the City Yard, to the west by the New Bedford High School and to the North and South by Liberty Street, and New Bedford High School parking areas and open grassy areas.

TRC conducted soil testing in the utility construction area in July and August 2008. The objective of TRC's soil testing was to further delineate the contaminated fill from the former Parker Street Waste Site (PSWS). TRC advanced a total of forty-six soil borings in the utility construction area. Fill was encountered at depths ranging from 18-inches at boring location HRI-17 to 68-inches at boring location SB-295. The relevant boring logs are provided as an attachment. Soil boring locations are identified on Figure 1.

TRC submitted a total of fifty-five soil samples from the forty-six borings and 5 surface samples in the utility construction area for laboratory analysis of semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and MCP metals and mercury. The SVOC analysis was limited to polycyclic aromatic hydrocarbons (PAHs) only. A summary of laboratory analytical results for the utility construction area is included in Table 1. Sampling locations are identified in Figure 1.

The laboratory results did not indicate the detection of PAHs and PCBs above MCP Method 1 soil cleanup standards in any of the samples submitted. The laboratory results for MCP metals and mercury exceeded the MCP Method 1 cleanup standards as follows:

- Arsenic at sampling locations SB-293 (31.6 mg/Kg at 9 feet), SB-294 (40.6 mg/Kg at 4 feet, and SB-320 (55.8 mg/Kg at 5 feet).
- Barium at sampling location SB-294 (1,920 mg/Kg at 4 feet), SB-360 (2,750 mg/Kg at 1-3 feet), SB-360A (4,060 mg/Kg at 1-3 feet), SB-360B (2,170 mg/Kg at 1-3 feet), SB-360E (1,050 mg/Kg at 1-3 feet) and SB-360F (1,250 mg/Kg at 1-3 feet).
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- Chromium at sampling locations SB-219 (35.9 mg/Kg at 4 feet), SB-294 (36.5 mg/Kg at 4 feet), SB-320 (107 mg/Kg at 5 feet), SB-360 (39.2 mg/Kg at 1-3 feet), SB-360A (54.0 mg/Kg at 1-3 feet), SB-360F (74.7 mg/Kg at 1-3 feet) and SB-363 (47.7 mg/Kg at 6.5 feet).
- Lead at sampling locations SB-217 (418 mg/kg at 5feet), SB-219 (1,500 mg/Kg at 4 feet), SB-293 (396 mg/Kg at 6.5 feet, and 848 mg/Kg at 9 feet), SB-294 (3,260 mg/Kg at 4 feet, 790 mg/Kg at 8.5 feet), SB-319 (483 mg/Kg at 4 feet), SB-320 (2,240 mg/Kg at 5 feet), SB-360 (39,600 mg/Kg at 1-3 feet (duplicate) and 6,870 mg/Kg at 5 feet), SB-360A (20,200 mg/Kg at 1-3 feet), SB-360B (26,700 mg/Kg at 1-3 feet), SB-360C (422 mg/Kg at 1-3 feet (duplicate)), SB-360E (8,550 mg/Kg at 1-3 feet), SB-360F (1,070 mg/Kg at 1-3 feet), SB-360G (590 mg/Kg at 1-3 feet), SB-360I (4,600 mg/Kg at 1-3 feet), SB-360J (530 mg/Kg at 1-3 feet), SB-360K (890 mg/Kg at 1-3 feet), SB-360L (470 mg/Kg at 1-3 feet), SB-360M (860

- mg/Kg at 1-3 feet), SB-360O (500 mg/Kg at 1-3 feet), SB-360Q (1,200 mg/Kg at 1-3 feet), SB-360R (650 mg/Kg at 1-3 feet), SB-360U (9,800 mg/Kg at 1-3 feet), SB-360X (750 mg/Kg at 1-3 feet (duplicate)), SB-362 (487 mg/Kg at 1-3 feet, 448 mg/Kg at 5 feet and 319 mg/Kg at 6.5 feet) and SS-40 (819 mg/Kg at 2 feet).
- Nickel at sampling locations SB-217 (26.3 mg/Kg at 5 feet), SB-219 (28.9 mg/Kg at 4 feet), SB-293 (25.9 mg/Kg at 9 feet), SB-294 (31.8 mg/Kg at 4 feet), and SB-320 (99.7 mg/Kg at 5 feet), SB-360 (21.5 mg/Kg at 5 feet) and SB-362 (40.3 mg/Kg at 6.5 feet).
- Zinc at sampling locations SB-293 (4,500 mg/Kg at 9 feet), and SB-320 (3,570 at 5 feet).

PCB Remediation Waste Determination

In the area of utility construction, fill material related to the PSWS is likely to be encountered. The City understands that some of the URAM activities may be jurisdictional under the USEPA's PCB regulations under 40 CFR Part 761. Table 1 provides information to facilitate the USEPA's evaluation of the regulatory applicability, particularly with regard to the applicability of the definition of PCB Remediation Waste under 40 CFR Part 761.3.

Extensive analytical testing of the soil has occurred at the NBHS property by TRC and the previous consultant (BETA Group, Incorporated). Analytical results from soil samples collected from the NBHS property indicate that there are no PCB concentrations exceeding 1 ppm (mg/kg) within the proximity of the proposed drainage system. The nearest sample with a detected concentration of PCBs exceeding 1 ppm was collected at sample location SS-28 (Total PCBs at 2.26 mg/kg), which is located east of the boy's gym approximately 350-feet south of the proposed drainage system.. Analytical results indicate that one soil sample has exhibited a PCB concentration in excess of 50 mg/kg (sample location HF-31D (1-3')) at a concentration of 71.6 mg/kg; however, this location is approximately 500-feet from the proposed drainage system and on the west side of the NBHS building. In addition, seven groundwater monitoring wells within the NBHS property have been sampled, with only one (MW-5, located within the NBHS boiler room) exhibiting a detectable concentration of PCBs at 0.0731 mg/kg.

Table 1 summarizes the analytical results associated with soil samples collected in close proximity to the proposed drainage system. None of the soil samples exhibited detectable concentrations of PCBs. It is anticipated that an estimated 109 cubic yards (yd^3) of soil will be permanently displaced by the pipe and fill surrounding the pipe and catchbasins during the installation of the storm drain system. Any soil displaced during installation of the drainage system, including that which will be returned to the excavation upon completion of the work, will be managed, transported and disposed of in accordance with all applicable United States Department of Transportation (DOT), USEPA and MassDEP regulations. This includes analysis for VOCs, SVOCs, PCBs, TPH and as-needed TCLP Metals to facilitate management and potential off-site disposal of stockpiled material. Although it is not anticipated that any of the soil that will be excavated will qualify for regulation as PCB Remediation Waste, any material meeting that definition under 40 CFR Part 761.3 will be sampled, transported and disposed of pursuant to USEPA Toxic

Substance Control Act (TSCA) regulations. In accordance with the Final Approval for Risk-Based Cleanup and Disposal letter from the USEPA to the City dated August 3, 2005, if PCB contamination regulated under TSCA or federal PCB regulations under 40 CFR Part 761 are encountered during implementation of this URAM, a remediation plan will be submitted for USEPA review and approval. All excavated soils will be staged on polyethylene sheeting (minimum 6-mil thickness) and covered with poly sheeting pending being returned to the excavation. That material which is permanently displaced as a result of the utility installation will be sampled for disposal characterization prior to transportation and disposal at an appropriate offsite facility.

Historical information, such as the timeframe for approval and construction of the NBHS (i.e., late 1960s – early 1970s), and thus the closure of the dump, and a detailed review of ownership records, aerial photographs, newspaper articles, historical maps and a variety of City records, indicate that PSWS-related waste disposal activities took place between 1950 and 1954. Furthermore, waste disposal activities in the wider PSWS impacted area (including Walsh Field and the former Keith Junior High School properties) ceased in the early 1960s. The construction date of the NBHS and evidence indicating cessation of waste deposition activity in the early 1960s, indicate that waste deposition from the PSWS concluded prior to April 1978. In addition, there is no evidence that areas have been extensively disturbed by construction activities after April 1978.

Conclusion

Based on these lines of evidence, it is the City's position that none of the soil that will be displaced during the implementation of utility construction activities qualifies to be regulated as PCB Remediation Waste or require classification and disposal under TSCA at this time. Historical information indicates that contamination related to the PSWS was disposed of prior to April 1978 and has remained in place since April 1978. Extensive investigation has determined that soil concentrations at NBHS do not exceed PCB concentrations of 50 mg/kg in the area of the proposed drainage system. Although one soil sample collected from the NHBS property has exhibited a PCB concentration in excess of 50 mg/kg, extensive investigation indicates that this exceedance is localized. Furthermore, the 50 mg/kg exceedance was detected at least 500-feet from the proposed pathway for the storm drain, indicating that although the drain pipe will cross the NBHS property it is unlikely that soil with PCB concentrations in excess of 50 mg/kg will be encountered in the area of the proposed work.

It is anticipated that the drainage system installation will begin as soon as possible following your concurrence on this installation plan and no construction will start prior to that acknowledgement. Currently the City anticipates a minimum of one to two weeks to complete the work. Furthermore, the installation of the drainage system is only an interim utility construction measure in accordance with the MCP and in no way will impede implementation of or act as a remedy for addressing soil contamination. A final remedy is currently in the planning stages and will be the subject of future regulatory submittals to the USEPA and MassDEP and subject to all necessary approvals.

If you have any question or concerns regarding this letter, please do not hesitate to contact me at (508) 991-6188.

Sincerely,

Scott Alfonse
Director

cc. Molly Cote, Massachusetts Department of Environmental Protection (by electronic PDF)
David J. Fredette, P.E., City of New Bedford (by electronic PDF)
David M. Sullivan, LSP, CHMM, TRC (by electronic PDF)

Attachments

Figure 1 – Sample Locations
Table 1 –Summary of Analytical Results for Soil Samples
Relevant Boring Logs

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Table 1
Summary of Analytical Detected Results for Soil Samples
New Bedford High School
New Bedford, MA

Analysis	Analyte	S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA	Sample Location: HRE-10	HRG-12A	HRG-14A	HRG-17	HRI-17	HRJ.75-17	PG-4	PG-5	NBHS-SS-4	SB-217		SB-218	
								Sample Depth (ft.): 1-3	1-3	1-3	1-3	1-3	1-2.5	0-0.5	0-0.5	0-0.5	5	11	4.5	10
								Sample Date: 3/31/2009	4/1/2009	4/1/2009	4/7/2009	4/7/2009	2/21/2006	2/22/2006 BETA	2/22/2006 BETA	8/6/2008	6/17/2008	6/17/2008	6/17/2008	6/17/2008
SVOCs																				
(mg/kg)	Acenaphthene	1,000	1,000	3,000	3,000	4	NA	0.177 U	0.175 U	0.177 U	0.182 U	0.196 U	NA	NA	NA	NA	0.229 U	0.184 U	NA	NA
	Acenaphthylene	600	10	600	10	1	NA	0.177 U	0.175 U	0.177 U	0.182 U	0.196 U	NA	NA	NA	NA	0.229 U	0.184 U	NA	NA
	Anthracene	1,000	1,000	3,000	3,000	1,000	NA	0.177 U	0.175 U	0.177 U	0.182 U	0.196 U	NA	NA	NA	NA	0.229 U	0.184 U	NA	NA
	Benzo(a)anthracene	7	7	40	40	7	NA	0.177 U	0.175 U	0.177 U	0.182 U	**0.613**	NA	NA	NA	NA	0.229 U	0.184 U	NA	NA
	Benzo(a)pyrene	2	2	4	4	2	NA	0.177 U	0.175 U	0.177 U	0.182 U	**1.97**	NA	NA	NA	NA	**0.643**	0.184 U	NA	NA
	Benzo(b)fluoranthene	7	7	40	40	7	NA	0.177 U	0.175 U	0.177 U	0.182 U	**1.89**	NA	NA	NA	NA	**0.410**	0.184 U	NA	NA
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	NA	0.177 U	0.175 U	0.177 U	0.182 U	**2.13**	NA	NA	NA	NA	**0.710**	0.184 U	NA	NA
	Benzo(k)fluoranthene	70	70	400	400	70	NA	0.177 U	0.175 U	0.177 U	0.182 U	**0.865**	NA	NA	NA	NA	**0.367**	0.184 U	NA	NA
	Chrysene	70	70	400	400	70	NA	0.177 U	0.175 U	0.177 U	0.182 U	**0.851**	NA	NA	NA	NA	**0.243**	0.184 U	NA	NA
	Dibenz(a,h)anthracene	0.7	0.7	4	4	1	NA	0.177 U	0.175 U	0.177 U	0.182 U	**2.01**	NA	NA	NA	NA	**0.810**	0.184 U	NA	NA
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	NA	0.177 U	0.175 U	0.177 U	0.182 U	**0.266**	NA	NA	NA	NA	0.229 U	0.184 U	NA	NA
	Fluorene	1,000	1,000	3,000	3,000	1,000	NA	0.177 U	0.175 U	0.177 U	0.182 U	**3.12**	NA	NA	NA	NA	**1.05**	0.184 U	NA	NA
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	NA	0.177 U	0.175 U	0.177 U	0.182 U	0.196 U	NA	NA	NA	NA	0.229 U	0.184 U	NA	NA
	2-Methylnaphthalene	80	300	80	500	0.7	NA	0.177 U	0.175 U	0.177 U	0.182 U	**1.16**	NA	NA	NA	NA	**0.380**	0.184 U	NA	NA
	Naphthalene	40	500	40	1,000	4	NA	0.177 U	0.175 U	0.177 U	0.182 U	0.196 U	NA	NA	NA	NA	0.229 U	0.184 U	NA	NA
	Phenanthrene	500	500	1,000	1,000	10	NA	0.177 U	0.175 U	0.177 U	0.182 U	**2.60**	NA	NA	NA	NA	**0.930**	0.184 U	NA	NA
	Pyrene	1,000	1,000	3,000	3,000	1,000	NA	0.177 U	0.175 U	0.177 U	0.182 U	**3.64**	NA	NA	NA	NA	**1.11**	0.184 U	NA	NA
	Dibenzofuran							NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																				
(mg/kg)	Aroclor 1016/1242	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	0.1 U	0.1 U	NA	NA	NA	NA	NA
	Aroclor 1016	2	2	3	3	2	1	0.0500 U	0.0520 U	0.0520 U	0.0524 U	0.0587 U	0.029 U	NA	NA	0.055 U	0.0653 U	0.0530 U	0.0581 U	0.0534 U
	Aroclor 1221	2	2	3	3	2	1	0.0500 U	0.0520 U	0.0520 U	0.0524 U	0.0587 U	0.029 U	0.2 U	0.2 U	0.055 U	0.0653 U	0.0530 U	0.0581 U	0.0534 U
	Aroclor 1232	2	2	3	3	2	1	0.0500 U	0.0520 U	0.0520 U	0.0524 U	0.0587 U	0.029 U	0.1 U	0.1 U	0.055 U	0.0653 U	0.0530 U	0.0581 U	0.0534 U
	Aroclor 1242	2	2	3	3	2	1	0.0500 U	0.0520 U	0.0520 U	0.0524 U	0.0587 U	0.029 U	NA	NA	0.055 U	0.0653 U	0.0530 U	0.0581 U	0.0534 U
	Aroclor 1248	2	2	3	3	2	1	0.0500 U	0.0520 U	0.0520 U	0.0524 U	0.0587 U	0.029 U	0.1 U	0.1 U	0.055 U	0.0653 U	0.0530 U	0.0581 U	0.0534 U
	Aroclor 1254	2	2	3	3	2	1	0.0500 U	0.0520 U	0.0520 U	**0.162** *	**0.094** *	**0.76**	0.1 U	0.1 U	0.055 U	0.0653 U	0.0530 U	**0.158 J**	0.0534 U
	Aroclor 1260	2	2	3	3	2	1	**0.521** *	0.0520 U	0.0520 U	0.0524 U	0.0587 U	0.029 U	0.1 U	0.1 U	0.055 U	0.0653 U	0.0530 U	**0.0843 J**	0.0534 U
	Aroclor 1262	2	2	3	3	2	1	NA	NA	NA	NA	NA	0.029 U	0.1 U	0.1 U	NA	NA	NA	NA	NA
	Aroclor 1268	2	2	3	3	2	1	NA	NA	NA	NA	NA	0.029 U	0.1 U	0.1 U	NA	NA	NA	NA	NA
	Total PCBs	2	2	3	3	2	1	**0.521**	0.0520 U	0.0520 U	**0.162**	**0.094**	**0.76**	0.2 U	0.2 U	0.055 U	0.0653 U	0.0530 U	**0.2423 J**	0.0534 U
PCB Homologs																				
(mg/kg)	Monochlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Trichlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Tetrachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pentachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Hexachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Heptachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Octachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nonachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Decachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total PCBs	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals																				
(mg/kg)	Mercury	20	20	30	30	20	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.111**	0.02 U	NA	NA
	Antimony	20	20	30	30	20	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.50 U	4.42 U	NA	NA
	Arsenic	20	20	20	20	20	N/A	2.65 U	2.62 U	2.66 U	2.72 U	**3.74**	NA	NA	NA	NA	**15.3**	**2.78**	NA	NA
	Barium	1,000	1,000	3,000	3,000	1,000	N/A	**19.3**	**28.1**	**6.91**	**9.14**	**106**	NA	NA	NA	NA	**513**	**20.1**	NA	NA
	Beryllium	100	100	200	200	100	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.87**	0.28 U	NA	NA
	Cadmium	2	2	30	30	2	N/A	0.27 U	0.27 U	0.27 U	0.28 U	**0.46**	NA	NA	NA	NA	**1.14**	0.28 U	NA	NA
	Chromium	30	30	200	200	30	N/A	**4.28**	**3.04**	**2.31**	**2.20**	**6.57**	NA	NA	NA	NA	**13.5**	**7.05**	NA	NA
	Lead	300	300	300	300	300	N/A	**11.3**	**4.12**	**1.75**	**11.6**	**218**	NA	NA	NA	NA	**418**	**1.98**	NA	NA
	Nickel	20	20	700	700	20	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	**26.3**	**3.64**	NA	NA
	Selenium	400	400	800	800	400	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.87 U	5.52 U	NA	NA
	Silver	100	100	200	200	100	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	**7.72**	**0.65**	NA	NA
	Thallium	8	8	60	60	8	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.13 U	3.32 U	NA	NA
	Vanadium	600	600	1,000	1,000	600	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	**23.3**	**10.9**	NA	NA
	Zinc	2,500	2,500	3,000	3,000	2,500	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	**560**	**11.4**	NA	NA

Table 1
Summary of Analytical Detected Results for Soil Samples
New Bedford High School
New Bedford, MA

Analysis	Analyte	Sample Location:						SB-219			SB-293			SB-294			SB-295		SB-318		SB-319		SB-320	
		Sample Depth (ft.):						4	4	9	6.5	9	12	4	8.5	12	5.5	9	4	8	4	7	5	8
		Sample Date:						6/17/2008	6/17/2008 Field Dup	6/17/2008	7/21/2008	7/21/2008	7/21/2008	7/21/2008	7/21/2008	7/21/2008	7/22/2008	7/22/2008	8/8/2008	8/8/2008	8/8/2008	8/8/2008	8/8/2008	8/8/2008
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA																	
SVOCs																								
(mg/kg)	Acenaphthene	1,000	1,000	3,000	3,000	4	NA	1.14 U	NA	0.185 U	0.222 U	0.719 U	NA	NA	NA	NA	NA	NA	NA	NA	0.224 U	0.206 U	NA	NA
	Acenaphthylene	600	10	600	10	1	NA	1.14 U	NA	0.185 U	0.222 U	0.719 U	NA	NA	NA	NA	NA	NA	NA	NA	0.224 U	0.206 U	NA	NA
	Anthracene	1,000	1,000	3,000	3,000	1,000	NA	1.14 U	NA	0.185 U	0.222 U	0.719 U	NA	NA	NA	NA	NA	NA	NA	NA	0.224 U	0.206 U	NA	NA
	Benzo(a)anthracene	7	7	40	40	7	NA	1.14 U	NA	0.185 U	0.222 U	0.719 U	NA	NA	NA	NA	NA	NA	NA	NA	0.224 U	0.206 U	NA	NA
	Benzo(a)pyrene	2	2	4	4	2	NA	1.14 U	NA	0.185 U	0.222 U	0.719 U	NA	NA	NA	NA	NA	NA	NA	NA	0.224 U	0.206 U	NA	NA
	Benzo(b)fluoranthene	7	7	40	40	7	NA	1.14 U	NA	0.185 U	0.222 U	0.719 U	NA	NA	NA	NA	NA	NA	NA	NA	0.224 U	0.206 U	NA	NA
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	NA	1.14 U	NA	0.185 U	0.222 U	0.719 U	NA	NA	NA	NA	NA	NA	NA	NA	0.224 U	0.206 U	NA	NA
	Benzo(k)fluoranthene	70	70	400	400	70	NA	1.14 U	NA	0.185 U	0.222 U	0.719 U	NA	NA	NA	NA	NA	NA	NA	NA	0.224 U	0.206 U	NA	NA
	Chrysene	70	70	400	400	70	NA	1.14 U	NA	0.185 U	0.222 U	0.719 U	NA	NA	NA	NA	NA	NA	NA	NA	0.224 U	0.206 U	NA	NA
	Dibenz(a,h)anthracene	0.7	0.7	4	4	1	NA	1.14 U	NA	0.185 U	0.222 U	0.719 U	NA	NA	NA	NA	NA	NA	NA	NA	0.224 U	0.206 U	NA	NA
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	NA	1.14 U	NA	0.185 U	0.222 U	0.719 U	NA	NA	NA	NA	NA	NA	NA	NA	0.224 U	0.206 U	NA	NA
	Fluorene	1,000	1,000	3,000	3,000	1,000	NA	1.14 U	NA	0.185 U	0.222 U	0.719 U	NA	NA	NA	NA	NA	NA	NA	NA	0.224 U	0.206 U	NA	NA
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	NA	1.14 U	NA	0.185 U	0.222 U	0.719 U	NA	NA	NA	NA	NA	NA	NA	NA	0.224 U	0.206 U	NA	NA
	2-Methylnaphthalene	80	300	80	500	0.7	NA	1.14 U	NA	0.185 U	0.222 U	0.719 U	NA	NA	NA	NA	NA	NA	NA	NA	0.224 U	0.206 U	NA	NA
	Naphthalene	40	500	40	1,000	4	NA	1.14 U	NA	0.185 U	0.222 U	0.719 U	NA	NA	NA	NA	NA	NA	NA	NA	0.224 U	0.206 U	NA	NA
	Phenanthrene	500	500	1,000	1,000	10	NA	1.14 U	NA	0.185 U	0.222 U	0.719 U	NA	NA	NA	NA	NA	NA	NA	NA	0.224 U	0.206 U	NA	NA
	Pyrene	1,000	1,000	3,000	3,000	1,000	NA	1.14 U	NA	0.185 U	0.222 U	0.719 U	NA	NA	NA	NA	NA	NA	NA	NA	0.224 U	0.206 U	NA	NA
	Dibenzofuran							NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																								
(mg/kg)	Aroclor 1016/1242	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1016	2	2	3	3	2	1	0.0657 U	0.068 U	0.0537 U	0.0684 U	0.202 UJ	NA	0.0649 U	0.162 UJ	NA	0.0798 U	0.0531 U	0.0569 U	0.0531 U	0.0630 U	0.0674 U	0.0672 U	0.238 UJ
	Aroclor 1221	2	2	3	3	2	1	0.0657 U	0.068 U	0.0537 U	0.0684 U	0.202 UJ	NA	0.0649 U	0.162 UJ	NA	0.0798 U	0.0531 U	0.0569 U	0.0531 U	0.0630 U	0.0674 U	0.0672 U	0.238 UJ
	Aroclor 1232	2	2	3	3	2	1	0.0657 U	0.068 U	0.0537 U	0.0684 U	0.202 UJ	NA	0.0649 U	0.162 UJ	NA	0.0798 U	0.0531 U	0.0569 U	0.0531 U	0.0630 U	0.0674 U	0.0672 U	0.238 UJ
	Aroclor 1242	2	2	3	3	2	1	0.0657 U	0.068 U	0.0537 U	0.0684 U	0.202 UJ	NA	0.0649 U	0.162 UJ	NA	0.0798 U	0.0531 U	0.0569 U	0.0531 U	0.0630 U	0.0674 U	0.0672 U	0.238 UJ
	Aroclor 1248	2	2	3	3	2	1	0.0657 U	0.068 U	0.0537 U	0.0684 U	0.202 UJ	NA	0.0649 U	0.162 UJ	NA	0.0798 U	0.0531 U	0.0569 U	0.0531 U	0.0630 U	0.0674 U	0.0672 U	0.238 UJ
	Aroclor 1254	2	2	3	3	2	1	0.0657 U	0.068 U	0.0537 U	0.0684 U	0.202 UJ	NA	0.0649 U	0.162 UJ	NA	0.0798 U	0.0531 U	0.0569 U	0.0531 U	0.0630 U	0.0674 U	0.0672 U	0.238 UJ
	Aroclor 1260	2	2	3	3	2	1	0.0657 U	0.068 U	0.0537 U	0.0684 U	0.202 UJ	NA	0.0649 U	0.162 UJ	NA	0.0798 U	0.0531 U	0.0569 U	0.0531 U	0.0630 U	0.0674 U	0.0672 U	0.238 UJ
	Aroclor 1262	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1268	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total PCBs	2	2	3	3	2	1	0.0657 U	0.068 U	0.0537 U	0.0684 U	0.202 UJ	NA	0.0649 U	0.162 UJ	NA	0.0798 U	0.0531 U	0.0569 U	0.0531 U	0.0630 U	0.0674 U	0.0672 U	0.238 UJ
PCB Homologs																								
(mg/kg)	Monochlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.020 U	NA	NA	NA	NA	NA	NA	NA
	Dichlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.020 U	NA	NA	NA	NA	NA	NA	NA
	Trichlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.020 U	NA	NA	NA	NA	NA	NA	NA
	Tetrachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.040 U	NA	NA	NA	NA	NA	NA	NA
	Pentachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.057**	NA	NA	NA	NA	NA	NA	NA
	Hexachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.040 U	NA	NA	NA	NA	NA	NA	NA
	Heptachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.060 U	NA	NA	NA	NA	NA	NA	NA
	Octachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.060 U	NA	NA	NA	NA	NA	NA	NA
	Nonachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 U	NA	NA	NA	NA	NA	NA	NA
	Decachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 U	NA	NA	NA	NA	NA	NA	NA
	Total PCBs	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.057**	NA	NA	NA	NA	NA	NA	NA
Metals																								
(mg/kg)	Mercury	20	20	30	30	20	N/A	**0.281**	NA	0.012 U	**0.212**	**0.389**	0.022 U	**1.34**	**0.118**	**0.041**	NA	NA	NA	NA	**0.434**	**0.025**	**0.623**	**0.158**
	Antimony	20	20	30	30	20	N/A	5.45 U	NA	4.44 U	R	R	4.62 U	R	R	4.73 U	NA	NA	NA	NA	5.36 U	4.93 U	**18.7**	16.4 U
	Arsenic	20	20	20	20	20	N/A	**17.3**	NA	2.78 U	**16.1**	**31.6**	2.89 U	**40.6**	**14.0**	**4.27**	NA	NA	NA	NA	**12.4**	**5.00**	**55.8**	10.3 U
	Barium	1,000	1,000	3,000	3,000	1,000	N/A	**337**	NA	**13.1**	**438**	**266**	**15.8**	**1,920**	**170**	**63.9**	NA	NA	NA	NA	**357**	**88.8**	**159**	**46.8**
	Beryllium	100	100	200	200	100	N/A	0.35 U	NA	0.28 U	**0.86**	**1.42**	0.29 U	**0.70**	0.93 U	0.30 U	NA	NA	NA	NA	**1.06**	**0.40**	0.32 U	1.03 U
	Cadmium	2	2	30	30	2	N/A	**2.92**	NA	0.28 U	**0.61**	**16.2**	0.29 U	**2.10**	**3.14**	**2.75**	NA	NA	NA	NA	**0.65**	0.31 U	**7.87**	1.03 U
	Chromium	30	30	200	200	30	N/A	**35.9**	NA	**4.88**	**14.3**	**23.8**	**4.74**	**36.5**	**14.5**	**9.77**	NA	NA	NA	NA	**14.5**	**28.1**	**107**	**8.55**
	Lead	300	300	300	300	300	N/A	**1,500**	NA	**2.84**	**396**	**848**	**3.20**	**3,260**	**790**	**257**	NA	NA	NA	NA	**483**	**13.7**	**2,240**	**15.1**
	Nickel	20	20	700	700	20	N/A	**28.9**	NA	**2.68**	**14.0**	**25.9**	**2.76**	**31.8**	**13.7**	**8.03**	NA	NA	NA	NA	**18.8**	**16.1**	**99.7**	**4.91**
	Selenium	400	400	800	800	400	N/A	6.82 U	NA	5.55 U	6.65 U	21.6 U	5.77 U	6.20 U	18.5 U	5.92 U	NA	NA	NA	NA	6.70 U	6.16 U	6.28 U	20.5 U
	Silver	100	100	200	200	100	N/A	**12.2**	NA	0.56 U	**2.97**	**21.5**	0.58 U	**16.0**	**6.15**	0.60 U	NA	NA	NA	NA	0.67 U	0.62 U	0.63 U	2.05 U
	Thallium	8	8	60	60	8	N/A	4.09 U	NA	3.33 U	R	R	3.47 U	R	R	3.55 U	NA	NA	NA	NA	4.02 U	3.70 U	3.77 U	12.3 U
	Vanadium	600	600	1,000	1,000	600	N/A	**28.5**	NA	**7.94**	**33.8**	**25.5**	**7.68**	**33.5**	18.5 U	**8.72**	NA	NA	NA	NA	**28.9**	**32.3**	**53.3**	**24.5**
	Zinc	2,500	2,500	3,000	3,000	2,500	N/A	**579**	NA	**9.00**	**185**	**4,500**	11.1	**894**	**2,050**	**1,000**	NA	NA	NA	NA	**203**	**51.1**	**3,570**	**149**

Table 1
Summary of Analytical Detected Results for Soil Samples
New Bedford High School
New Bedford, MA

Analysis	Analyte	Sample Location:						SB-360					SB-360A	SB-360B	SB-360C		SB-360D	SB-360E	SB-360F	SB-360G	SB-360I
		Sample Depth (ft.):						0-1	1-3	1-3	5	8	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3
		Sample Date:						3/4/2009	3/4/2009	3/4/2009	3/4/2009	3/4/2009	3/24/2009	3/24/2009	3/24/2009	3/24/2009	3/24/2009	3/24/2009	3/24/2009	3/24/2009	5/21/2009
										Field Dup						Field Dup					
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA														
SVOCs																					
(mg/kg)	Acenaphthene	1,000	1,000	3,000	3,000	4	NA	0.206 U	0.229 U	0.236 U	0.301 U	0.230 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Acenaphthylene	600	10	600	10	1	NA	0.206 U	0.229 U	0.236 U	0.301 U	0.230 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Anthracene	1,000	1,000	3,000	3,000	1,000	NA	0.206 U	0.229 U	0.236 U	0.301 U	0.230 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)anthracene	7	7	40	40	7	NA	0.206 U	0.229 U	0.236 U	0.301 U	0.230 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)pyrene	2	2	4	4	2	NA	**0.270**	0.229 U	0.236 U	0.301 U	0.230 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(b)fluoranthene	7	7	40	40	7	NA	**0.281**	0.229 U	0.236 U	0.301 U	0.230 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	NA	**0.376**	0.229 U	0.236 U	0.301 U	0.230 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(k)fluoranthene	70	70	400	400	70	NA	0.206 U	0.229 U	0.236 U	0.301 U	0.230 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chrysene	70	70	400	400	70	NA	0.206 U	0.229 U	0.236 U	0.301 U	0.230 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dibenz(a,h)anthracene	0.7	0.7	4	4	1	NA	**0.331**	0.229 U	0.236 U	0.301 U	0.230 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	NA	0.206 U	0.229 U	0.236 U	0.301 U	0.230 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluorene	1,000	1,000	3,000	3,000	1,000	NA	**0.611**	0.229 U	**0.367**	0.301 U	0.230 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	NA	0.206 U	0.229 U	0.236 U	0.301 U	0.230 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2-Methylnaphthalene	80	300	80	500	0.7	NA	0.206 U	0.229 U	0.236 U	0.301 U	0.230 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	40	500	40	1,000	4	NA	0.206 U	0.229 U	0.236 U	0.301 U	0.230 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Phenanthrene	500	500	1,000	1,000	10	NA	**0.441**	**0.234**	**0.256**	0.301 U	0.230 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pyrene	1,000	1,000	3,000	3,000	1,000	NA	**0.502**	0.229 U	**0.334**	0.301 U	0.230 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dibenzofuran							NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																					
(mg/kg)	Aroclor 1016/1242	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1016	2	2	3	3	2	1	0.0575 U	0.0706 U	0.0632 U	0.0822 U	0.0578 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1221	2	2	3	3	2	1	0.0575 U	0.0706 U	0.0632 U	0.0822 U	0.0578 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1232	2	2	3	3	2	1	0.0575 U	0.0706 U	0.0632 U	0.0822 U	0.0578 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1242	2	2	3	3	2	1	0.0575 U	0.0706 U	0.0632 U	0.0822 U	0.0578 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1248	2	2	3	3	2	1	0.0575 U	0.0706 U	0.0632 U	0.0822 U	0.0578 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1254	2	2	3	3	2	1	**0.634** *	0.0706 U	0.0632 U	0.0822 U	0.0578 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1260	2	2	3	3	2	1	**0.163** *	0.0706 U	0.0632 U	0.0822 U	0.0578 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1262	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1268	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total PCBs	2	2	3	3	2	1	**0.797**	0.0706 U	0.0632 U	0.0822 U	0.0578 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB Homologs																					
(mg/kg)	Monochlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Trichlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Tetrachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pentachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Hexachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Heptachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Octachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nonachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Decachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total PCBs	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals																					
(mg/kg)	Mercury	20	20	30	30	20	N/A	**0.261**	**0.074**	**0.044**	**0.275**	**0.016**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Antimony	20	20	30	30	20	N/A	4.94 U	5.50 U	5.66 U	7.23 U	5.51 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Arsenic	20	20	20	20	20	N/A	3.09 U	**12.4**	**11.3**	**14.5**	3.45 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	1,000	1,000	3,000	3,000	1,000	N/A	6.17 U	**867**	**2,750**	**760**	**10.0**	**4,060**	**2,170**	**403**	**488**	**376**	**1,050**	**1,250**	NA	NA
	Beryllium	100	100	200	200	100	N/A	0.31 U	**1.45**	**1.12**	**0.97**	0.35 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	2	2	30	30	2	N/A	0.31 U	**0.59**	**0.48**	**1.21**	0.35 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chromium	30	30	200	200	30	N/A	0.62 U	**15.9**	**39.2**	**16.6**	**4.30**	**54.0**	**17.2**	**12.8**	**13.2**	**10.7**	**21.0**	**74.7**	NA	NA
	Lead	300	300	300	300	300	N/A	0.93 U	**8,110**	**39,600**	**6,870**	**5.53**	**20,200**	**26,700**	**350**	**422**	**148**	**8,550**	**1,070**	**590**	**4,600**
	Nickel	20	20	700	700	20	N/A	0.62 U	**18.8**	**14.6**	**21.5**	**4.54**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	400	400	800	800	400	N/A	6.17 U	6.87 U	7.08 U	9.03 U	6.89 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Silver	100	100	200	200	100	N/A	0.62 U	0.69 U	0.71 U	0.91 U	0.69 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Thallium	8	8	60	60	8	N/A	3.70 U	4.13 U	4.25 U	5.42 U	4.14 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Vanadium	600	600	1,000	1,000	600	N/A	6.17 U	**37.1**	**24.7**	**49.4**	6.89 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	2,500	2,500	3,000	3,000	2,500	N/A	**1.59**	**712**	**577**	**423**	**30.7**	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 1
Summary of Analytical Detected Results for Soil Samples
New Bedford High School
New Bedford, MA

Analysis	Analyte	S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA	Sample Location: SB-360J Sample Depth (ft.): 1-3 Sample Date: 5/21/2009	SB-360K 1-3 5/21/2009	SB-360L 1-3 5/21/2009	SB-360M 1-3 7/6/2009	SB-360O 1-3 7/6/2009	SB-360Q 1-3 7/6/2009	SB-360R 1-3 7/6/2009	SB-360S 1-3 7/6/2009	SB-360U 1-3 7/6/2009	SB-360V 1-3 7/6/2009	SB-360W 1-3 7/6/2009	SB-360X 1-3 8/19/2009	SB-360X 1-3 8/19/2009 Field Dup
SVOCs																				
(mg/kg)	Acenaphthene	1,000	1,000	3,000	3,000	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Acenaphthylene	600	10	600	10	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Anthracene	1,000	1,000	3,000	3,000	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)anthracene	7	7	40	40	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)pyrene	2	2	4	4	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(b)fluoranthene	7	7	40	40	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(k)fluoranthene	70	70	400	400	70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chrysene	70	70	400	400	70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dibenz(a,h)anthracene	0.7	0.7	4	4	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluorene	1,000	1,000	3,000	3,000	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2-Methylnaphthalene	80	300	80	500	0.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	40	500	40	1,000	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Phenanthrene	500	500	1,000	1,000	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pyrene	1,000	1,000	3,000	3,000	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dibenzofuran							NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																				
(mg/kg)	Aroclor 1016/1242	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1016	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1221	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1232	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1242	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1248	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1254	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1260	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1262	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1268	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total PCBs	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB Homologs																				
(mg/kg)	Monochlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Trichlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Tetrachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pentachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Hexachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Heptachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Octachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nonachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Decachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total PCBs	2	2	3	3	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals																				
(mg/kg)	Mercury	20	20	30	30	20	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Antimony	20	20	30	30	20	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Arsenic	20	20	20	20	20	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	1,000	1,000	3,000	3,000	1,000	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Beryllium	100	100	200	200	100	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	2	2	30	30	2	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chromium	30	30	200	200	30	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	300	300	300	300	300	N/A	**530**	**890**	**470**	**860**	**500**	**1,200**	**650**	**380**	**9,800**	**320**	**210**	**630**	**750**
	Nickel	20	20	700	700	20	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	400	400	800	800	400	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Silver	100	100	200	200	100	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Thallium	8	8	60	60	8	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Vanadium	600	600	1,000	1,000	600	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	2,500	2,500	3,000	3,000	2,500	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 1
Summary of Analytical Detected Results for Soil Samples
New Bedford High School
New Bedford, MA

Analysis	Analyte	S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA	Sample Location:	SB-361			SB-362				SS-40		SS-41		SS-53	SS-54
								Sample Depth (ft.):	0-1	1-3	6.5	0-1	1-3	5	6.5	0.5	2	0.5	2	0-0.5	0-0.5
								Sample Date:	3/4/2009	3/4/2009	3/4/2009	3/4/2009	3/4/2009	3/4/2009	3/4/2009	8/8/2008	8/8/2008	8/8/2008	8/8/2008	12/2/2008	12/2/2008
SVOCs																					
(mg/kg)	Acenaphthene	1,000	1,000	3,000	3,000	4	NA		0.174 U	0.176 U	0.178 U	0.192 U	0.221 U	0.214 U	0.507 U	0.195 U	0.210 U	0.188 U	0.175 U	0.207 U	0.211 U
	Acenaphthylene	600	10	600	10	1	NA		0.174 U	0.176 U	0.178 U	0.192 U	0.221 U	0.214 U	0.507 U	0.195 U	0.210 U	0.188 U	0.175 U	0.207 U	0.211 U
	Anthracene	1,000	1,000	3,000	3,000	1,000	NA		0.174 U	0.176 U	0.178 U	0.192 U	0.221 U	0.214 U	0.507 U	0.195 U	**0.362**	0.188 U	0.175 U	0.207 U	0.211 U
	Benzo(a)anthracene	7	7	40	40	7	NA		0.174 U	0.176 U	0.178 U	0.192 U	0.221 U	0.214 U	0.507 U	0.195 U	**1.15**	0.188 U	0.175 U	**0.228**	0.211 U
	Benzo(a)pyrene	2	2	4	4	2	NA		0.174 U	0.176 U	0.178 U	**0.395**	0.221 U	**0.246**	0.507 U	0.195 U	**1.11**	0.188 U	0.175 U	**0.216**	0.211 U
	Benzo(b)fluoranthene	7	7	40	40	7	NA		0.174 U	0.176 U	0.178 U	**0.348**	0.221 U	**0.215**	0.507 U	0.195 U	**1.25**	0.188 U	0.175 U	**0.269**	0.211 U
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	NA		0.174 U	0.176 U	0.178 U	**0.410**	0.221 U	**0.244**	0.507 U	0.195 U	**0.851**	0.188 U	0.175 U	0.207 U	0.211 U
	Benzo(k)fluoranthene	70	70	400	400	70	NA		0.174 U	0.176 U	0.178 U	0.192 U	0.221 U	0.214 U	0.507 U	0.195 U	**0.494**	0.188 U	0.175 U	0.207 U	0.211 U
	Chrysene	70	70	400	400	70	NA		0.174 U	0.176 U	0.178 U	0.192 U	0.221 U	0.214 U	0.507 U	0.195 U	**1.17**	0.188 U	0.175 U	**0.207**	0.211 U
	Dibenz(a,h)anthracene	0.7	0.7	4	4	1	NA		0.174 U	0.176 U	0.178 U	**0.417**	0.221 U	**0.272**	0.507 U	0.195 U	**0.217**	0.188 U	0.175 U	0.207 U	0.211 U
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	NA		0.174 U	0.176 U	0.178 U	0.192 U	0.221 U	0.214 U	0.507 U	0.195 U	**2.40**	0.188 U	0.175 U	**0.732**	0.211 U
	Fluorene	1,000	1,000	3,000	3,000	1,000	NA		0.174 U	0.176 U	0.178 U	**0.696**	**0.343**	**0.431**	0.507 U	0.195 U	0.210 U	0.188 U	0.175 U	0.207 U	0.211 U
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	NA		0.174 U	0.176 U	0.178 U	0.192 U	0.221 U	0.214 U	0.507 U	0.195 U	**0.929**	0.188 U	0.175 U	0.207 U	0.211 U
	2-Methylnaphthalene	80	300	80	500	0.7	NA		0.174 U	0.176 U	0.178 U	**0.192**	0.221 U	0.214 U	0.507 U	0.195 U	0.210 U	0.188 U	0.175 U	0.207 U	0.211 U
	Naphthalene	40	500	40	1,000	4	NA		0.174 U	0.176 U	0.178 U	0.192 U	0.221 U	0.214 U	0.507 U	0.195 U	0.210 U	0.188 U	0.175 U	0.207 U	0.211 U
	Phenanthrene	500	500	1,000	1,000	10	NA		0.174 U	0.176 U	0.178 U	**0.621**	**0.264**	**0.501**	0.507 U	0.195 U	**1.71**	0.188 U	0.175 U	**0.252**	0.211 U
	Pyrene	1,000	1,000	3,000	3,000	1,000	NA		0.174 U	0.176 U	0.178 U	**0.793**	**0.270**	**0.530**	0.507 U	0.195 U	**2.49**	0.188 U	0.175 U	**0.567**	0.211 U
	Dibenzofuran								NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
PCBs																					
(mg/kg)	Aroclor 1016/1242	2	2	3	3	2	1		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1016	2	2	3	3	2	1		0.053 U	0.0531 U	0.0532 U	0.057 U	0.0615 U	0.0599 U	0.155 U	0.0589 U	0.0613 U	0.0539 U	0.0516 U	0.0618 U	0.0594 U
	Aroclor 1221	2	2	3	3	2	1		0.053 U	0.0531 U	0.0532 U	0.057 U	0.0615 U	0.0599 U	0.155 U	0.0589 U	0.0613 U	0.0539 U	0.0516 U	0.0618 U	0.0594 U
	Aroclor 1232	2	2	3	3	2	1		0.053 U	0.0531 U	0.0532 U	0.057 U	0.0615 U	0.0599 U	0.155 U	0.0589 U	0.0613 U	0.0539 U	0.0516 U	0.0618 U	0.0594 U
	Aroclor 1242	2	2	3	3	2	1		0.053 U	0.0531 U	0.0532 U	0.057 U	0.0615 U	0.0599 U	0.155 U	0.0589 U	0.0613 U	0.0539 U	0.0516 U	0.0618 U	0.0594 U
	Aroclor 1248	2	2	3	3	2	1		0.053 U	0.0531 U	0.0532 U	0.057 U	0.0615 U	0.0599 U	0.155 U	0.0589 U	0.0613 U	0.0539 U	0.0516 U	0.0618 U	0.0594 U
	Aroclor 1254	2	2	3	3	2	1		0.053 U	0.0531 U	0.0532 U	**0.509** *	**0.0904** *	**0.154** *	0.155 U	0.0589 U	**0.444 J**	0.0539 U	0.0516 U	**0.293 J**	**0.0959 J**
	Aroclor 1260	2	2	3	3	2	1		0.053 U	0.0531 U	0.0532 U	0.057 U	0.0615 U	0.0599 U	0.155 U	0.0589 U	**0.174 J**	0.0539 U	0.0516 U	**0.136 J**	**0.123 J**
	Aroclor 1262	2	2	3	3	2	1		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1268	2	2	3	3	2	1		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total PCBs	2	2	3	3	2	1		0.053 U	0.0531 U	0.0532 U	**0.509**	**0.0904**	**0.154**	0.155 U	0.0589 U	**0.618 J**	0.0539 U	0.0516 U	**0.429 J**	**0.2189 J**
PCB Homologs																					
(mg/kg)	Monochlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Trichlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Tetrachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pentachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Hexachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Heptachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Octachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nonachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Decachlorobiphenyl	N/A	N/A	N/A	N/A	N/A	N/A		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total PCBs	2	2	3	3	2	1		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals																					
(mg/kg)	Mercury	20	20	30	30	20	N/A		**0.016**	0.012 U	0.016 U	**0.213**	**0.088**	**0.120**	**0.183**	**0.032**	**0.654**	**0.037**	0.018 U	**0.070**	**0.063**
	Antimony	20	20	30	30	20	N/A		4.18 U	4.22 U	4.27 U	4.60 U	5.30 U	5.13 U	12.2 U	4.68 U	5.04 U	4.50 U	4.18 U	4.97 U	5.06 U
	Arsenic	20	20	20	20	20	N/A		2.61 U	2.64 U	2.67 U	**5.37**	**9.86**	**6.59**	**12.6**	2.93 U	**7.24**	**2.97**	2.62 U	3.11 U	**3.55**
	Barium	1,000	1,000	3,000	3,000	1,000	N/A		**12.1**	**6.42**	**8.99**	**173**	**271**	**269**	**135**	**13.4**	**410**	**9.05**	**6.93**	**60.4**	**40.2**
	Beryllium	100	100	200	200	100	N/A		0.27 U	0.27 U	0.27 U	0.29 U	**1.11**	**0.70**	**1.56**	0.30 U	**0.43**	0.29 U	0.27 U	0.32 U	0.32 U
	Cadmium	2	2	30	30	2	N/A		0.27 U	0.27 U	0.27 U	**0.84**	**0.59**	**1.35**	**5.77**	0.30 U	**1.53**	0.29 U	0.27 U	**0.34**	**0.33**
	Chromium	30	30	200	200	30	N/A		**2.70**	**1.68**	**3.02**	**15.0**	**21.5**	**18.8**	**47.7**	**5.66**	**15.4**	**5.21**	**3.01**	**10.6**	**9.16**
	Lead	300	300	300	300	300	N/A		**11.7**	**2.12**	**3.67**	**277**	**487**	**448**	**319**	**13.9**	**819**	**9.69**	**12.1**	**67.2**	**54.4**
	Nickel	20	20	700	700	20	N/A		**2.19**	**1.90**	**2.79**	**9.37**	**18.0**	**10.5**	**40.3**	**3.01**	**10.7**	**2.93**	**2.45**	**4.99**	**4.42**
	Selenium	400	400	800	800	400	N/A		5.22 U	5.27 U	5.34 U	5.75 U	6.62 U	6.42 U	15.2 U	5.85 U	6.29 U	5.62 U	5.23 U	6.21 U	6.33 U
	Silver	100	100	200	200	100	N/A		0.53 U	0.53 U	0.54 U	0.58 U	0.67 U	0.65 U	1.52 U	**0.82**	**1.05**	**1.04**	**0.52**	0.63 U	0.64 U
	Thallium	8	8	60	60	8	N/A		3.13 U	3.16 U	3.21 U	3.45 U	3.97 U	3.85 U	9.12 U	3.51 U	3.78 U	3.38 U	3.14 U	3.73 U	3.80 U
	Vanadium	600	600	1,000	1,000	600	N/A		5.22 U	5.27 U	5.34 U	**18.3**	**25.1**	**19.4**	**17.8**	**9.43**	**20.9**	**7.92**	5.23 U	**15.5**	**17.2**
	Zinc	2,500	2,500	3,000	3,000	2,500	N/A		**12.6**	**6.73**	**12.0**	**191**	**99.6**	**264**	**703**	**16.4**	**506**	**11.3**	**11.9**	**47.5**	**47.4**

D APPROXIMATE LOCATION OF PROPOSED DRAINAGE

APPROXIMATE GRAPHIC SCALE

0’ 25’ 50’ 100’

NEW BEDFORD HIGH SCHOOL
LIBERTY STREET DRAINAGE CONSTRUCTION AREA
NEW BEDFORD, MASSACHUSETTS

SAMPLE LOCATIONS

TRC
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
(978) 970–5600

DRAWN BY: HWB
CHECKED BY: AW
DATE: NOV 2009

FIGURE 1

FILE: T:\E_CAD\115058\LIBERTY ST DRAINAGE SAMP LOCS–2.dwg

ATTACHMENT A

SOIL BORING LOGS

TRC
Wannalancit Mills
650 Suffolk Street
Lowell MA
Telephone: 978-970-5600
Fax: 978-453-1995

BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford (NBHS)/115058
BORING/WELL NUMBER HRE-10
TRC GEOLOGIST J. Saunders
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 3/31/09
LOCATION NBHS - Between A-block and eastern bus stop
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push/5400 Truck Rig
NOTES Samples analyzed for PCBs, PAHs and Metals (Pb, Cd, Cr, As, Ba)

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 89.25
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
	NA	48/30	S-1		4" Dark brown SILT and fine SAND, trace fine to medium gravel, dry, no odor, no staining.			
1					10" Dark tan-brown fine SAND, little silt, trace medium to coarse sand, slightly moist, no odor, no staining.			
					16" Light tan-brown fine SAND (thin darker laminations at 16 inches), slightly moist, no odor, no staining.			
2						0.0	HRE-10(1-3) 1630	No Monitoring Well Installed
3								
4					End of Boring - Terminated at 4 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford (NBHS)/115058
BORING/WELL NUMBER HRG-12A
TRC GEOLOGIST J. Saunders
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 4/1/09
LOCATION NBHS - Approximately 20-25 feet East of HRG-12
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push/5400 Truck Rig
NOTES Samples analyzed for PCBs, PAHs, and Metals (Pb, Cd, Cr, As, Ba)

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 89.26
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
	NA	48/42	S-1		8" Dark brown SILT and fine SAND, trace roots and gravel, slightly moist, no odor, no staining.		HRG-12A(0-1) 1535	
1					28" Tan to brown fine to medium SAND, little to some silt, slightly moist, no odor, no staining.			
2						0.0	HRG-12A(1-3) 1540	No Monitoring Well Installed
3					5" Gray-brown SILT and fine SAND, slightly moist, no odor, no staining.			
					1" FILL (ash), slightly moist, no odor, no staining.			
4					End of Boring - Terminated at 4 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford (NBHS)/115058
BORING/WELL NUMBER HRG-14A
TRC GEOLOGIST J. Saunders
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 4/1/09
LOCATION NBHS - Approximately 20 feet West of HRG-14
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push/5400 Truck Rig
NOTES Samples analyzed for PCBs, PAHs, and Metals (Pb, Cd, Cr, As, Ba)

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 89.30
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
	NA	48/38	S-1		6" Dark brown SILT and fine SAND, trace roots, grass and fine gravel, slightly moist, no odor, no staining.			
1					32" Tan to brown fine SAND, little silt, trace fine to coarse sand, slightly moist, no no staining.		HRG-14A(0-1) 1550	
2						0.0	HRG-14A(1-3) 1555	No Monitoring Well Installed
3								
4					End of Boring - Terminated at 4 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford (NBHS)/115058
BORING/WELL NUMBER HRG-17
TRC GEOLOGIST J. Saunders
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 4/7/09
LOCATION NBHS - Northwest portion of band practice field
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push/5400 Truck Rig
NOTES Samples analyzed for PCBs, PAHs, and Metals (Pb, As, Cr, Cd, Ba)

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 88.82
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
	NA	48/36	S-1		12" Dark Brown SILT and fine SAND, trace roots and fine to medium gravel, slightly moist, no odor, no staining.	0.0	HRG-17(1-3) 1200 Plus MS/Dup	No Monitoring Well Installed
1					18" Tan-brown fine SAND, trace to little silt and medium sand, trace metal and fine gravel, slightly moist, no odor, no staining.			
2								
3					6" Dark brown SILT, little fill (coal, brick, possible ash), trace fine gravel, slightly moist to moist, no odor, no staining.			
4					End of Boring - Terminated at 4 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford (NBHS)/115058
BORING/WELL NUMBER HRI-17
TRC GEOLOGIST J. Saunders
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 4/7/09
LOCATION NBHS - Mid-North portion of band practice field
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push/5400 Truck Rig
NOTES Samples analyzed for PCBs, PAHs, and Metals (Pb, Cd, Cr, As, Ba)

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 88.11
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
	NA	48/38	S-1		6" Dark brown SILT and fine SAND, trace roots and fine gravel, slightly moist, no odor, no staining.	0.0	HRI-17(1-3) 1145	No Monitoring Well Installed
1					14" Tab-brown fine SAND, little silt, trace medium to coarse sand and fine gravel, no odor, no staining.			
2					18" FILL (ash, little coal, trace slag, brick and glass), moist, no odor, no staining.			
3								
4					End of Boring - Terminated at 4 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER: City of New Bedford/115058
BORING/WELL NUMBER: SB-217
TRC GEOLOGIST: J. Saunders
DRILLING CONTRACTOR/FOREMAN: New England Geotech/Bill Meadows
DATE DRILLED: 6/17/08
LOCATION: Transect B - Approx. 140' north of SB-216
SAMPLING METHOD: 48" Macrocore
DRILLING METHOD: Direct Push 5400 Truck Rig

SCREEN TYPE/SLOT: NA
FILTER PACK TYPE: NA
SEAL TYPE: NA
DEPTH TO WATER (Approximate Feet): 8
TOTAL DEPTH (Feet): 12
GROUND ELEVATION (Feet, NAVD 88): 90.51
REFERENCE ELEVATION (Feet, NAVD 88): NA

NOTES: Sampled for PCBs, SB-217 (5) also sampled for PCB homologs, metals & PAHs. (Hold SB-217 (2.5), Hold SB-217 (11) for metals & PAHs)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	TRC ID	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
0		48/36"		S-1		0-6" Tan fine SAND, moist, no odor, no staining.	0.0		
1						6-30" Dark-brown fine to medium SAND, little silt, trace fine to coarse gravel and fill (coal, glass and slag), slightly moist, no odor, no staining.			
2									
3								SB-217 (2.5) 1220	
4						30-36" Rusty-brown FILL (ash, coal, slag and glass with a fine sand matrix), moist, no odor, no staining.			
		48/18"		S-2		0-12" Rusty-brown FILL (ash, coal, slag and glass with a fine sand matrix).	0.0		
5								SB-217 (5) 1225	
6									No monitoring well installed
7						12-18" Black organic SILT (peat), wet, no odor, no staining.			
8		48/24"		S-3		0-24" Gray to tan-brown fine SAND, little silt and medium sand, trace fine to medium gravel, mottling, dense, wet, no odor, no staining.	0.0		▽
9									
10									
11								SB-217 (11) 1235	
12						End of Boring @ 12 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford/115058
BORING/WELL NUMBER SB-218
TRC GEOLOGIST J. Saunders
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 6/17/08
LOCATION Transect B - Approx 200' north of SB-217
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push 5400 Truck Rig
NOTES Sampled for PCBs. (Hold SB-218 (2.5))

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) 8
TOTAL DEPTH (Feet) 12
GROUND ELEVATION (Feet, NAVD 88) 90.03
REFERENCE ELEVATION (Feet, NAVD 88) NA

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	TRC ID	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
0		48/24"		S-1		0-12" Dark-brown fine SAND, some silt, trace fine gravel and fill (coal, slag and brick), wet (from rain), no odor, no staining.	0.0		
2						12-20" Tan to brown fine SAND, little silt, moist, no odor, no staining.		SB-218 (2.5) 1325	
4						20-24" Dark-brown to black fine SAND, some silt and fill (coal, slag, ash and plastic), moist, no odor, no staining.			
		48/24"		S-2		0-2" Dark-brown to black fine SAND, some silt and fill (coal, slag, ash and plastic), moist, no odor, no staining.	0.0	SB-218 (4.5) 1330	
5						2-4" Gray ashy FILL material.			
6						4-12" Brown to gray fine SAND, some silt, moist, no odor, no staining.			No monitoring well installed
						12-16" Pulverized GRAVEL.			
7						16-24" Orange-tan fine SAND, some silt, trace fine gravel, mottling, very moit to wet, no odor, no staining.			
8		48/40"		S-3		0-40" Tan to orange-brown fine to medium SAND, little coarse sand, trace fine to coarse gravel, dense, wet, no odor, no staining.	0.0		▽
10								SB-218 (10) 1340	
12						End of Boring @ 12 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford/115058
BORING/WELL NUMBER SB-219
TRC GEOLOGIST J. Saunders
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 6/17/08
LOCATION Transect B - Approx. 130' north of SB-218
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push 5400 Truck Rig

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) 7
TOTAL DEPTH (Feet) 11
GROUND ELEVATION (Feet, NAVD 88) 90.67
REFERENCE ELEVATION (Feet, NAVD 88) NA

NOTES Sampled for PCBs, SB-219 (4) also sampled for metals & PAHs. (Hold SB-219 (2), Hold SB-219 (9) for metals & PAHs)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	TRC ID	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
0		48/24"		S-1		0-18" Dark-brown fine SAND, some silt, trace fine to coarse gravel and fill (coal and ash), moist. no odor, no staining.	0.0		
1									
2								SB-219 (2) 1350	
3						18-24" Dark rusty-brown fine SAND and FILL (ash, coal and glass), moist, no odor, no staining.			
4		48/40"		S-2		0-40" Gray to brown fine SAND, little medium to coarse sand, trace fine gravel, mottling, wet, dense, no odor, no staining.	0.0	SB-219 (4) 1355 SB-219-D 1255 DUP	
5									No monitoring well installed
6									
7									▽
8		48/30"		S-3		0-30" Gray fine to medium SAND, little coarse sand and fine to medium gravel, dense, wet, no odor, no staining.	0.0		
9						Note: Encountered refusal at 11-feet.		SB-219 (9) 1405	
10									
11						End of Boring @ 11 feet (refusal at 11-feet)			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford/115058
BORING/WELL NUMBER SB-293
TRC GEOLOGIST C. Foster
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 7/21/08
LOCATION North end of NBHS east side parking lot
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push 5400 Truck Rig
NOTES Samples for PCBs, PAHs & metals. (Hold SB-293 (12))

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) 6
TOTAL DEPTH (Feet) 12
GROUND ELEVATION (Feet) 88.70
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
0		48/48"	S-1		0-6" ASPHALT	0.0		
1					6-26" Tan fine to coarse SAND, little fine gravel.			
2								
3					26-42" Dark-brown to black fine to coarse SAND, some fine gravel, trace fill (slag, brick and coal).			
4		48/26"	S-2		42-48" Black FILL (slag, ash, some coal), some fine to coarse sand.	0.0		
5					0-14" Black FILL (slag, increased ash, some coal) with some mottled coloration, moist at approximately 6-feet.			
6								▽ No monitoring well installed
7					14-26" Dark-brown organic PEAT, some silt and clay.		SB-293 (6.5) 1250 Plus MS/MSD	
8		48/46"	S-3		0-16" PEAT, saturated.	0.0		
9							SB-293 (9) 1300	
10					16-46" Gray fine to medium SAND, some silt, saturated.			
11								
12					End of Boring @ 12 feet		SB-293 (12) 1305	

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford/115058
BORING/WELL NUMBER SB-294
TRC GEOLOGIST C. Foster
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 7/21/08
LOCATION Southern end of NBHS east side parking lot
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push 5400 Truck Rig
NOTES Sampled for PCBs & metals. (Hold SB-294 (12))

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) 6
TOTAL DEPTH (Feet) 12
GROUND ELEVATION (Feet) 87.67
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
0		48/48"	S-1		0-8" ASPHALT.	0.0		
1					8-34" Tan fine to coarse SAND, some fine gravel, trace silt.			
2								
3					34-48" Dark-brown to black fine to coarse SAND and FILL (ash with trace slag, coal, metal and glass).			
4		48/0"	S-2		Note: Pushed fill and peat with no recovery (two attempts from 4 to 8).	NA	SB-294 (4) 1320	
5								
6								▽ No monitoring well installed
7								
8		48/26"	S-3		0-12" Organic PEAT, wet.	0.0	SB-294 (8.5) 1340	
9								
10					12-26" Gray fine to medium SAND, some silt, saturated.			
11								
12					End of Boring @ 12 feet		SB-294 (12) 1345	

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford/115058
BORING/WELL NUMBER SB-295
TRC GEOLOGIST C. Foster
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 7/22/08
LOCATION North end of NBHS east lot (behind auditorium)
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push 5400 Truck Rig

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) 6
TOTAL DEPTH (Feet) 12
GROUND ELEVATION (Feet) 87.69
REFERENCE ELEVATION (Feet)

NOTES Sampled for PCBs, SB-295 (5.5) also sampled for PCB homologs. (Hold SB-295 (12))

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
0		48/42"	S-1		0-4" ASPHALT	0.0		
1					4-18" Tan fine to coarse SAND, some fine gravel.			
2					18-20" Dark-brown SILT, some fine sand.			
					20-26" Tan fine to medium SAND.			
3					26-40" Dark-brown to black fine to coarse SAND, trace fine gravel and fill (bricks, coal and glass).			
4					40-42" Tan fine to coarse SAND.			
		48/46"	S-2		0-4" Tan fine to coarse SAND.	0.0		
5					4-20" Ashy FILL (coal, slag, glass and cinders), moist to wet.			
6					20-46" Dark-brown organic PEAT with roots, some silt and clay, moist.		SB-295 (5.5) 0955	No monitoring well installed
7								
8		48/40"	S-3		0-4" Dark-brown organic PEAT with roots, some silt and clay, moist.	0.0		
9					4-40" Gray fine to medium SAND, some silt, trace fine gravel, saturated.		SB-295 (9) 1005	
10								
11								
12					End of Boring @ 12 feet		SB-295 (12) 1015	

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford/115058
BORING/WELL NUMBER SB-318
TRC GEOLOGIST C. Foster
DRILLING CONTRACTOR/FOREMAN New England Geotech/Hayes Rembijas
DATE DRILLED 8/8/08
LOCATION Northern end of Liberty St (near NE entrance to NBHS)
SAMPLING METHOD 60" Macrocore
DRILLING METHOD 6600 DT Truck Rig
NOTES Sampled for PCBs. (Hold SB-318 (11) and (14))

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) 8
TOTAL DEPTH (Feet) 15
GROUND ELEVATION (Feet) 90.63
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
0		60/28"	S-1		0-4" ASPHALT	0.0		
1					4-18" Brown fine to coarse SAND.			
2								
3					18-20" Pulverized GRAVEL.			
4					2-24" Dark-brown SILT, trace mottling with tan coloration.		SB-318 (4) 0910	
					24-28" Tan fine to medium SAND.			
5		60/48"	S-2		0-48" Tan fine to coarse SAND, some fine gravel, trace silt, wet at approximately 8-feet.	0.0		
6								
7								
8							SB-318 (8) 0920	▽ No monitoring well installed
9								
10		60/50"	S-3		0-50" Tan fine to coarse SAND, some silt, some fine gravel.	0.0		
11							SB-318 (11) 0925	
12								
13								
14							SB-318 (14) 0930	
15					End of Boring @ 15 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford/115058
BORING/WELL NUMBER SB-319
TRC GEOLOGIST C. Foster
DRILLING CONTRACTOR/FOREMAN New England Geotech/Hayes Rembijas
DATE DRILLED 8/8/08
LOCATION Approx. 200' south of SB-318 within Liberty St.
SAMPLING METHOD 60" Macrocore
DRILLING METHOD 6600 DT Truck Rig
NOTES Sampled for PCBs, PAHs & metals. (Hold SB-319 (10) and (13))

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) 8
TOTAL DEPTH (Feet) 15
GROUND ELEVATION (Feet) 89.31
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
0		60/30"	S-1		0-4" ASPHALT.	0.0		
1					4-20" Tan fine to coarse SAND, some fine gravel.			
2								
3								
4					20-30" Tan to blackish mottled FILL (ash, coal, slag and cinders).		SB-318 (4) 0955	
5		60/36"	S-2		0-8" Organic SILT, wet.	0.0		
6					8-28" Dark-brown to gray fine to medium SAND, some silt.			
7							SB-319 (7) 1010	No monitoring well installed
8								▽
9					28-36" Tan to rusty fine to medium SAND, some silt, trace fine gravel, wet.			
10		60/38"	S-3		Note: Refusal on first attempt at 5.5-feet. 0-38" Tan fine to coarse SAND, some silt and fine gravel, saturated.	0.0	SB-319 (10) 1015	
11								
12								
13							SB-319 (13) 1025	
14								
15					End of Boring @ 15 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford/115058
BORING/WELL NUMBER SB-320
TRC GEOLOGIST C. Foster
DRILLING CONTRACTOR/FOREMAN New England Geotech/Hayes Rembijas
DATE DRILLED 8/8/08
LOCATION Approx. 200' south of SB-319 within Liberty St.
SAMPLING METHOD 60" Macrocore
DRILLING METHOD 6600 DT Truck Rig
NOTES Sampled for PCBs & metals. (Hold SB-320 (10) and (13))

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) 8
TOTAL DEPTH (Feet) 15
GROUND ELEVATION (Feet) 88.59
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
0		60/32"	S-1		0-4" ASPHALT.	0.0		
1					4-10" Gray sub-base fine to coarse SAND.			
2					10-16" Brown fine to coarse SAND, trace fine gravel.			
3					16-32" Tan mottled FILL (ash, glass, coal, slag, cinders and green material (possibly copper)), some silt.			
4								
5		60/42"	S-2		0-4" Tan mottle FILL (ash, glass, coal, slag, cinders and gree material (possibly copper)), some silt.	0.0	SB-320 (5) 1040	
6					4-24" Organic SILT/PEAT, some clay, moist.			
7								No monitoring well installed
8					24-42" Gray to rusty fine to coarse SAND, some silt, wet.		SB-320 (8) 1050	▽
9								
10		60/40"	S-3		0-40" Tan fine to medium SAND, some fine gravel and silt, saturated.	0.0	SB-320 (10) 1100	
11								
12								
13							SB-320 (13) 1110	
14								
15					End of Boring @ 15 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford (NBHS)/115058
BORING/WELL NUMBER SB-360
TRC GEOLOGIST J. Saunders
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 3/4/09
LOCATION NBHS - Between Northern light pole and Liberty Street
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push/5400 Truck Rig
NOTES Samples analyzed for PCBs, Metals, and PAHs

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) 5
TOTAL DEPTH (Feet) 8
GROUND ELEVATION (Feet) 87.49
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
0	NA	48/30	S-1		12" Dark brown organic TOPSOIL, trace roots, grass, and coal.		SB-360(0-1) 1050	
1					18" FILL material (silty matrix with ash, coal, slag, trace glass), slightly moist, no odor, no staining.			
2						0.0	SB-360(1-3) 1055 SB-360D(1-3) 1030	
3								
4	NA	48/40	S-2		10" FILL material (ash, coal, and slag), wet, no odor, no staining.			No Monitoring Well Installed
5					20" Dark brown organic PEAT/SILT, moist to wet, no odor, no staining.		SB-360(5) 1100	▽
6						0.0		
7					2" Gray fine SAND, wet, no odor, no staining.			
8					End of Boring - Terminated at 8 feet (No recovery form 8-12 feet (liner stuck in core barrel)		SB-360(8) 1110	

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER New Bedford/115058
BORING/WELL NUMBER SB-360A
TRC GEOLOGIST J. Saunders
DRILLING CONTRACTOR/FOREMAN New England Geotech/D. Regan
DATE DRILLED 3/24/2009
LOCATION NBHS - 4' North of SB-360
SAMPLING METHOD 48" Macrocore Continuous
DRILLING METHOD Direct Push AMS 9100 Track Rig
NOTES Sampled for Pb, Ba, and Cr

SCREEN TYPE/SLOT N/A
FILTER PACK TYPE N/A
SEAL TYPE N/A
DEPTH TO WATER (Approximate Feet) N/A
TOTAL DEPTH (Feet) 3
GROUND ELEVATION (Feet) 97.78
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		36/28	S-1		0-8" Dark-brown organic TOPSOIL, trace roots, grass and fine gravel, slightly moist, no odor, no staining.			
1					8-28" FILL (ash, coal, trace slag and glass), moist, no odor, no staining.	0.0	SB-360A (1-3) 1340 Plus MS/DUP	No monitoring well installed
2								
3					End of Boring @ 3 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER New Bedford/115058
BORING/WELL NUMBER SB-360B
TRC GEOLOGIST J. Saunders
DRILLING CONTRACTOR/FOREMAN New England Geotech/D. Regan
DATE DRILLED 3/24/2009
LOCATION NBHS - 4' East of SB-360
SAMPLING METHOD 36" Macrocore Continuous
DRILLING METHOD Direct Push AMS 9100 Track Rig
NOTES Sampled for Pb, Ba, and Cr

SCREEN TYPE/SLOT N/A
FILTER PACK TYPE N/A
SEAL TYPE N/A
DEPTH TO WATER (Approximate Feet) N/A
TOTAL DEPTH (Feet) 3
GROUND ELEVATION (Feet) 97.78
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		36/28	S-1		0-8" Dark-brown organic TOPSOIL, trace roots, grass and fine gravel, slightly moist, no odor, no staining.			
1					8-28" FILL (ash, coal, slag, trace glass and cinders), moist, no odor, no staining.	0.0	SB-360B (1-3) 1420	No monitoring well installed
2								
3					End of Boring @ 3 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER New Bedford/115058
BORING/WELL NUMBER SB-360C
TRC GEOLOGIST J. Saunders
DRILLING CONTRACTOR/FOREMAN New England Geotech/D. Regan
DATE DRILLED 3/24/2009
LOCATION NBHS - 4' South of SB-360
SAMPLING METHOD 36" Macrocore Continuous
DRILLING METHOD Direct Push AMS 9100 Track Rig
NOTES Sampled for Pb, Ba, and Cr

SCREEN TYPE/SLOT N/A
FILTER PACK TYPE N/A
SEAL TYPE N/A
DEPTH TO WATER (Approximate Feet) N/A
TOTAL DEPTH (Feet) 3
GROUND ELEVATION (Feet) 97.78
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		36/27	S-1		0-9" Dark-brown organic TOPSOIL, trace roots, grass and fine gravel, slightly moist, no odor, no staining.			
1					9-27" FILL (ash, coal, slag and trace glass), moist, no odor, no staining.	0.0	SB-360C (1-3) 1325 SB-360CC(1-3) DUP 0900	No monitoring well installed
2								
3					End of Boring @ 3 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER New Bedford/115058
BORING/WELL NUMBER SB-360D
TRC GEOLOGIST J. Saunders
DRILLING CONTRACTOR/FOREMAN New England Geotech/D. Regan
DATE DRILLED 3/24/2009
LOCATION NBHS - 4' West of SB-360
SAMPLING METHOD 36" Macrocore Continuous
DRILLING METHOD Direct Push AMS 9100 Track Rig
NOTES Sampled for Pb, Ba, and Cr

SCREEN TYPE/SLOT N/A
FILTER PACK TYPE N/A
SEAL TYPE N/A
DEPTH TO WATER (Approximate Feet) N/A
TOTAL DEPTH (Feet) 3
GROUND ELEVATION (Feet) 97.78
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		36/24	S-1		0-6" Dark-brown organic TOPSOIL, trace roots and grass, slightly moist, no odor, no staining.			
1					6-24" FILL (ash, coal, trace slag, glass and brick), moist, no odor, no staining.	0.0	SB-360D (1-3) 1410	
2								No monitoring well installed
3					End of Boring @ 3 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER New Bedford/115058
BORING/WELL NUMBER SB-360E
TRC GEOLOGIST J. Saunders
DRILLING CONTRACTOR/FOREMAN New England Geotech/D. Regan
DATE DRILLED 3/24/2009
LOCATION NBHS - 8' North of SB-360
SAMPLING METHOD 36" Macrocore Continuous
DRILLING METHOD Direct Push AMS 9100 Track Rig
NOTES Sampled for Pb, Ba, and Cr (Hold)

SCREEN TYPE/SLOT N/A
FILTER PACK TYPE N/A
SEAL TYPE N/A
DEPTH TO WATER (Approximate Feet) N/A
TOTAL DEPTH (Feet) 3
GROUND ELEVATION (Feet) 97.78
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		36/30	S-1		0-8" Dark-brown organic TOPSOIL, trace roots and grass, slightly moist, no odor, no staining.			
1					8-30" FILL (ash, coal, trace slag and glass), moist, no odor, no staining.	0.0	SB-360E (1-3) 1350	
2								
3					End of Boring @ 3 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER New Bedford/115058
BORING/WELL NUMBER SB-360F
TRC GEOLOGIST J. Saunders
DRILLING CONTRACTOR/FOREMAN New England Geotech/D. Regan
DATE DRILLED 3/24/2009
LOCATION NBHS - 8' East of SB-360
SAMPLING METHOD 36" Macrocore Continuous
DRILLING METHOD Direct Push AMS 9100 Track Rig
NOTES Sampled for Pb, Ba, and Cr (Hold)

SCREEN TYPE/SLOT N/A
FILTER PACK TYPE N/A
SEAL TYPE N/A
DEPTH TO WATER (Approximate Feet) N/A
TOTAL DEPTH (Feet) 3
GROUND ELEVATION (Feet) 97.78
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		36/30	S-1		0-10" Dark-brown organic TOPSOIL, trace roots, grass and fine gravel, slightly moist, no odor, no staining.			
1					10-30" FILL (ash, coal, slag and glass), moist, no odor, no staining.	0.0	SB-360F (1-3) 1430	No monitoring well installed
2								
3					End of Boring @ 3 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER New Bedford/115058
BORING/WELL NUMBER SB-360G
TRC GEOLOGIST J. Saunders
DRILLING CONTRACTOR/FOREMAN New England Geotech/D. Regan
DATE DRILLED 3/24/2009
LOCATION NBHS - 8' South of SB-360
SAMPLING METHOD 36" Macrocore Continuous
DRILLING METHOD Direct Push AMS 9100 Track Rig
NOTES Sampled for Pb, Ba, and Cr (Hold)

SCREEN TYPE/SLOT N/A
FILTER PACK TYPE N/A
SEAL TYPE N/A
DEPTH TO WATER (Approximate Feet) N/A
TOTAL DEPTH (Feet) 3
GROUND ELEVATION (Feet) 97.78
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
1		36/26	S-1		0-13" Dark-brown organic SILT and fine SAND, trace roots, glass and fine gravel, slightly moist, no odor, no staining.	0.0	SB-360G (1-3) 1310	No monitoring well installed
2					13-26" FILL (ash, coal, slag and trace glass), moist, no odor, no staining.			
3					End of Boring @ 3 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER New Bedford/115058
BORING/WELL NUMBER SB-360H
TRC GEOLOGIST J. Saunders
DRILLING CONTRACTOR/FOREMAN New England Geotech/D. Regan
DATE DRILLED 3/24/2009
LOCATION NBHS - 8' West of SB-360
SAMPLING METHOD 36" Macrocore Continuous
DRILLING METHOD Direct Push AMS 9100 Track Rig
NOTES Sampled for Pb, Ba, and Cr (Hold)

SCREEN TYPE/SLOT N/A
FILTER PACK TYPE N/A
SEAL TYPE N/A
DEPTH TO WATER (Approximate Feet) N/A
TOTAL DEPTH (Feet) 3
GROUND ELEVATION (Feet) 97.78
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		36/24	S-1		0-8" Dark-brown organic TOPSOIL, trace roots, grass and fine gravel, slightly moist, no odor, no staining.			
1					8-24" FILL (ash, coal, trace brick, glass, and slag), moist, no odor, no staining.	0.0	SB-360H (1-3) 1500	No monitoring well installed
2								
3					End of Boring @ 3 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford (NBHS)/115058
BORING/WELL NUMBER SB-360I
TRC GEOLOGIST K. Kitchin
DRILLING CONTRACTOR/FOREMAN New England Geotech/Hayes Rembijas
DATE DRILLED 5/21/09
LOCATION NBHS - 4' North of SB-360E
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push / 6600 Truck Rig
NOTES Sampled for total Pb

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 87.39
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		48/36	S-1		0-8" Dark-brown organic TOPSOIL, trace fine gravel, grass, roots and coal, damp, no odor, no staining.			
1					8-36" FILL (ash, glass, coal and trace slag), damp, no odor, no staining.		SB-360I (1-3) 1120	
2						0.0		No monitoring well installed
3								
4					End of Boring @ 4 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford (NBHS)/115058
BORING/WELL NUMBER SB-360J
TRC GEOLOGIST K. Kitchin
DRILLING CONTRACTOR/FOREMAN New England Geotech/Hayes Rembijas
DATE DRILLED 5/21/09
LOCATION NBHS - 4' East of SB-360F
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push / 6600 Truck Rig
NOTES Sampled for total Pb

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 87.36
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		48/38	S-1		0-6" Dark-brown organic TOPSOIL, little fine-coarse gravel, trace grass and roots, damp, no odor, no staining.			
1					6-38" FILL (ash, glass, coal and trace brick), moist to wet (perched), no odor, no staining.		SB-360J (1-3) 1145	
2						0.0		No monitoring well installed
3								
4					End of Boring @ 4 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford (NBHS)/115058
BORING/WELL NUMBER SB-360K
TRC GEOLOGIST K. Kitchin
DRILLING CONTRACTOR/FOREMAN New England Geotech/Hayes Rembijas
DATE DRILLED 5/21/09
LOCATION NBHS - 8' North of SB-360E
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push / 6600 Truck Rig
NOTES Sampled for total Pb (Hold)

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 87.71
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
0		48/30	S-1		0-10" Dark-brown organic TOPSOIL, trace grass, roots, fine gravel, coal and brick, damp, no odor, no staining.			
1							SB-360K (1-3) 1140	
					10-30" FILL (ash, brick, coal, fine gravel, trace porcelain), damp to moist, no odor, no staining.			
2						0.0		No monitoring well installed
3								
4					End of Boring @ 4 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford (NBHS)/115058
BORING/WELL NUMBER SB-360L
TRC GEOLOGIST K. Kitchin
DRILLING CONTRACTOR/FOREMAN New England Geotech/Hayes Rembijas
DATE DRILLED 5/21/09
LOCATION NBHS - 8' East of SB-360F
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push / 6600 Truck Rig
NOTES Sampled for total Pb (Hold)

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 87.80
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		48/38	S-1		0-8" Dark-brown organic TOPSOIL, trace fine gravel, grass, roots, glass and coal, damp, no odor, no staining.			
1					8-38" FILL (ash, coal, glass and brick debris), moist, no odor, no staining.		SB-360L (1-3) 1155	
2						0.0		No monitoring well installed
3								
4					End of Boring @ 4 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford -115058
BORING/WELL NUMBER SB-360M
TRC GEOLOGIST E. Wachtel
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 7-6-09
LOCATION NBHS - 4' North of SB-360K
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push 5400 Truck Rig
NOTES Sampled for Pb only

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 87.25
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
0		48/35"	S-1		0-20" Dark-brown organic TOPSOIL.	0.0		
1								
2							SB-360M (1-3) 0900 Plus MS/DUP	No monitoring well installed
					20-35" FILL material (white ash, coal fragments and glass, bottom 2" crushed brick and glass)			
3								
4					End of Boring @ 4 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford -115058
BORING/WELL NUMBER SB-360N
TRC GEOLOGIST E. Wachtel
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 7-6-09
LOCATION NBHS - 4' East of SB-360L
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push 5400 Truck Rig
NOTES Sampled for Pb only (Hold)

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 87.88
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		48/15"	S-1		0-10" Dark-brown organic TOPSOIL with crushed granite 4" from top.	0.0		
1								
2							SB-360N (1-3) 0945	No monitoring well installed
3					10-15" FILL material (white ash, coal and trace porcelain at bottom).			
4					End of Boring @ 4 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford -115058
BORING/WELL NUMBER SB-360O
TRC GEOLOGIST E. Wachtel
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 7-6-09
LOCATION NBHS - 4' South of SB-360G
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push 5400 Truck Rig
NOTES Sampled for Pb only

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 87.36
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		48/20"	S-1		0-8" Dark-brown organic TOPSOIL.	0.0		
1								
					8-20" FILL (white ash, coal fragments, metal wire and coal slag), bottom 3-inches are wet.		SB-360O (1-3) 0910	No monitoring well installed
2								
3								
4					End of Boring at 4 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford -115058
BORING/WELL NUMBER SB-360Q
TRC GEOLOGIST E. Wachtel
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 7-6-09
LOCATION NBHS - 4' North of SB-360M
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push 5400 Truck Rig
NOTES Sampled for Pb only (Hold)

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 87.16
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
0		48/21"	S-1		0-10" Dark-brown fine organic TOPSOIL with trace glass.	0.0		
1								
2					10-15" Dark-brown fine TOPSOIL with some medium sand.		SB-360Q (1-3) 0850	No monitoring well installed
3					15-21" Brown fine-coarse SAND and FILL (glass, white ash, some coal and crushed brick at bottom).			
4					End of Boring @ 4 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford -115058
BORING/WELL NUMBER SB-360R
TRC GEOLOGIST E. Wachtel
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 7-6-09
LOCATION NBHS - 4' East of SB-360N
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push 5400 Truck Rig
NOTES Sampled for Pb only (Hold)

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 87.99
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
0		48/15"	S-1		0-10" Dark-brown organic TOPSOIL with trace glass.	0.0	SB-360R (1-3) 0940	No monitoring well installed
1								
2								
3					10-11" Gray GRANITE.			
					11-15" FILL (white ash and coal), rust staining.			
4					End of Boring @ 4 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford -115058
BORING/WELL NUMBER SB-360S
TRC GEOLOGIST E. Wachtel
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 7-6-09
LOCATION NBHS - 4' South of SB-360O
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push 5400 Truck Rig
NOTES Sampled for Pb only (Hold)

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) 3 Perched
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 87.37
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
1		48/20"	S-1		0-8" Dark-brown organic TOPSOIL.	0.0		
2					8-20" FILL (ash, slate fragments, coal slag and some glass), bottom 6" are wet.		SB-360S (1-3) 0920	No monitoring well installed
3								
4					End of Boring @ 4 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford -115058
BORING/WELL NUMBER SB-360U
TRC GEOLOGIST E. Wachtel
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 7-6-09
LOCATION NBHS - 4' North of SB-360Q
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push 5400 Truck Rig
NOTES Sampled for Pb only (Hold)

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 87.19
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
0		48/34"	S-1		0-24" Dark-brown organic TOPSOIL.	0.0		
1								
2							SB-360U (1-3) 0840	No monitoring well installed
3					24-34" FILL (white ash, glass, coal and some slag, crushed brick at bottom).			
4					End of Boring @ 4 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford -115058
BORING/WELL NUMBER SB-360V
TRC GEOLOGIST E. Wachtel
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 7-6-09
LOCATION NBHS - 4' East of SB-360R
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push 5400 Truck Rig
NOTES Sampled for Pb only (Hold)

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) 3.5 Perched
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 88.03
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
0		48/24"	S-1		0-10" Dark-brown organic TOPSOIL.	0.0		
1								
2					10-24" FILL (white ash, coal, glass and slate fragments), wet at bottom 2-inches.		SB-360V (1-3) 0930	No monitoring well installed
3								
4					End of Boring @ 4 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford -115058
BORING/WELL NUMBER SB-360W
TRC GEOLOGIST E. Wachtel
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 7-6-09
LOCATION NBHS - 4' South of SB-360S
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push 5400 Truck Rig
NOTES Sampled for Pb only (Hold)

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 87.37
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		48/20"	S-1		0-14" Dark-brown organic TOPSOIL.	0.0		
1								
2							SB-360W (1-3) 0925	No monitoring well installed
3					14-20" FILL (white ash, coal, some coal slag and trace glass).			
4					End of Boring @ 4 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford - 115058
BORING/WELL NUMBER SB-360X
TRC GEOLOGIST Kevin Kitchin
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 8/19/09
LOCATION NBHS - 10' North of SB-360U
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push - 5400 Truck Rig
NOTES Sampled for Total and TCLP Pb (Hold TCLP analysis).

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 87.28
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		48/36"	S-1		0-8" Dark-brown organic TOPSOIL, trace fine gravel, grass and roots, dry to damp, no odor, no staining.	0.0		
1					8-36" FILL (ash, coal, glass, brick, slag and trace metal), damp, no odor, no staining.			
2							SB-360X (1-3) 0915 Plus MS/DUP SB-360XD (1-3) DUP 0815	No monitoring well installed
3								
4					End of Boring @ 4 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford - 115058
BORING/WELL NUMBER SB-360Y
TRC GEOLOGIST Kevin Kitchin
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 8/19/09
LOCATION NBHS - 20' North of SB-360U
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push - 5400 Truck Rig
NOTES Sampled for Total & TCLP lead analysis (Hold All).

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 87.45
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
1		48/30"	S-1		0-8" Dark-brown organic TOPSOIL, trace grass, roots and fine gravel, damp, no odor, no staining.	0.0		
2					8-30" FILL (ash, coal, glass and fine-medium gravel), damp to moist, no odor, no staining.		SB-360Y (1-3) 0935	No monitoring well installed
3								
4					End of Boring @ 4 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford - 115058
BORING/WELL NUMBER SB-360Z
TRC GEOLOGIST Kevin Kitchin
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 8/19/09
LOCATION NBHS - 30' North of SB-360U
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push - 5400 Truck Rig
NOTES Sampled for Total & TCLP lead analysis (Hold All).

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 87.50
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
1		48/31"	S-1		0-10" Dark-brown organic TOPSOIL, trace grass, roots and fine gravel, damp, no odor, no staining.	0.0		
2					10-31" FILL (ash, coal, glass and metal fragments), damp, no odor, no staining.		SB-360Z (1-3) 0950	No monitoring well installed
3								
4					End of Boring @ 4 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford - 115058
BORING/WELL NUMBER SB-360AA
TRC GEOLOGIST Kevin Kitchin
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 8/19/09
LOCATION NBHS - 40' North of SB-360U
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push - 5400 Truck Rig
NOTES Sampled for Total & TCLP lead analysis (Hold All).

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 87.62
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
1		48/28"	S-1		0-8" Dark-brown organic TOPSOIL, trace grass, roots and fine gravel, damp, no odor, no staining.	0.0		
2					8-28" FILL (ash, coal and glass), little fine- medium sand with gravel, damp, no odor, no staining.		SB-360AA (1-3) 0955	No monitoring well installed
3								
4					End of Boring @ 4 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford - 115058
BORING/WELL NUMBER SB-360BB
TRC GEOLOGIST Kevin Kitchin
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 8/19/09
LOCATION NBHS - 50' North of SB-360U
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push - 5400 Truck Rig
NOTES Sampled for Total & TCLP lead analysis (Hold All).

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 87.95
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
0		48/30"	S-1		0-8" Dark-brown organic TOPSOIL, trace grass, roots and fine gravel, damp, no odor, no staining.	0.0		
1					8-30" FILL (fine sand and silt matrix with little ash, coal and trace glass), pulverized gravel from 28-30-in.		SB-360BB (1-3) 1015	No monitoring well installed
2								
3								
4					End of Boring @ 4 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford - 115058
BORING/WELL NUMBER SB-360CC
TRC GEOLOGIST Kevin Kitchin
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 8/19/09
LOCATION NBHS - 60' North of SB-360U
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push - 5400 Truck Rig
NOTES Sampled for Total & TCLP lead analysis (Hold All).

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 88.01
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		48/32"	S-1		0-8" Dark-brown organic TOPSOIL, trace grass, roots and fine gravel.	0.0		
1					8-32" FILL (silty sand matrix with glass, ash, coal and trace metal), damp, no odor, no staining.			
2							SB-360CC (1-3) 1030	No monitoring well installed
3								
4					End of Boring @ 4 feet			

TRC
Wannalancit Mills
650 Suffolk Street
Lowell MA
Telephone: 978-970-5600
Fax: 978-453-1995

BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford - 115058
BORING/WELL NUMBER SB-360DD
TRC GEOLOGIST Kevin Kitchin
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 8/19/09
LOCATION NBHS - 70' North of SB-360U
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push - 5400 Truck Rig
NOTES Sampled for Total & TCLP lead analysis (Hold All).

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 88.26
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		48/40"	S-1		0-10" Dark-brown organic TOPSOIL, trace fine gravel, grass and roots.	0.0		
1					10-40" FILL (coal, ash, glass, plastic, brick and trace metal), concentrations of fill increases with depth, damp, no odor, no staining.			
2							SB-360DD (1-3) 1045	No monitoring well installed
3								
4					End of Boring @ 4 feet			

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Telephone: 978-970-5600
Fax: 978-453-1995

BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford - 115058
BORING/WELL NUMBER SB-360EE
TRC GEOLOGIST Kevin Kitchin
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 8/19/09
LOCATION NBHS - 80' North of SB-360U
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push - 5400 Truck Rig
NOTES Sampled for Total & TCLP lead analysis (Hold All).

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 88.57
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		48/40"	S-1		0-8" Dark-brown organic TOPSOIL, trace fine gravel, grass and roots.	0.0		
1					8-40" FILL (silty sand matrix with brick, ash, coal, glass and trace porcelain), damp, no odor, no staining.			
2							SB-360EE (1-3) 1105	No monitoring well installed
3								
4					End of Boring @ 4 feet			

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650 Suffolk Street
Lowell MA
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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford - 115058
BORING/WELL NUMBER SB-360FF
TRC GEOLOGIST Kevin Kitchin
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 8/19/09
LOCATION NBHS - 90' North of SB-360U
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push - 5400 Truck Rig
NOTES Sampled for Total & TCLP lead analysis (Hold All).

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) NA
TOTAL DEPTH (Feet) 4
GROUND ELEVATION (Feet) 88.79
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		48/38"	S-1		0-6" Brown organic TOPSOIL, trace grass, roots and trace fine gravel.	0.0		
1					6-28" Tan to brown fine-medium SAND and GRAVEL, little silt, damp, no odor, no staining.			
2							SB-360FF (1-3) 1115	No monitoring well installed
3					28-38" FILL (ash, cinders and coal).			
4					End of Boring @ 4 feet			

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650 Suffolk Street
Lowell MA
Telephone: 978-970-5600
Fax: 978-453-1995

BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford (NBHS)/115058
BORING/WELL NUMBER SB-361
TRC GEOLOGIST J. Saunders
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 3/4/09
LOCATION NBHS - East Side of A-Block, South of bus stop
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push/5400 Truck Rig
NOTES Samples analyzed for PCBs, Metals, and PAHs

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) 6.5
TOTAL DEPTH (Feet) 10
GROUND ELEVATION (Feet) 89.92
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
	NA	48/42	S-1		6" Dark brown organic TOPSOIL, trace grass and roots.			
					4" Dark gray-brown fine SAND, trace fine gravel, slightly moist, no odor, no staining.		SB-361(0-1) 1540	
1					32" Light gray fine SAND, little silt, trace medium to coarse sand and fine gravel, slightly moist, no odor, no staining.			
2						0.0	SB-361(1-3) 1545	
3								
4	NA	48/36	S-2		36" Tan to gray-brown fine SAND, little silt, trace medium to coarse sand, pulverized gravel at 26-28", moist to wet, no odor, no staining.			
5								No Monitoring Well Installed
6						0.0		
7							SB-361(6.5) 1550	
8	NA	24/18	S-3		18" Dark orange brown fine to medium SAND, little to some pulverized gravel, trace silt, wet, no odor, no staining.			
9						0.0		
10					End of Boring - Terminated at 10 feet.		SB-361(10) 1555 HOLD	

TRC
Wannalancit Mills
650 Suffolk Street
Lowell MA
Telephone: 978-970-5600
Fax: 978-453-1995

BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER City of New Bedford (NBHS)/115058
BORING/WELL NUMBER SB-362
TRC GEOLOGIST J. Saunders
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 3/4/09
LOCATION NBHS - Grassy area East of Eastern NBHS bus stop
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push/5400 Truck Rig
NOTES Samples analyzed for PCBs, Metals, and PAHs

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) 5
TOTAL DEPTH (Feet) 6.5
GROUND ELEVATION (Feet) 89.33
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
0	NA	48/30	S-1		16" dark brown organic TOPSOIL, 1-inch layer of pulverized gravel at 8-9", trace roots and grass, slightly moist, no odor, no staining.		SB-362(0-1) 1200	
1					4" Pulverized GRAVEL.			
					10" FILL material (ash, coal, and slag), slightly moist, no odor, no staining.	0.0	SB-362(1-3) 1205 Plus MS/MSD	
2								
3								No Monitoring Well Installed
4	NA	30/24	S-2		16" FILL material (ash, coal, slag, trace glass), moist to wet, no odor, no staining.			
5							SB-362(5) 1210	▽
					8" Dark brown to black organic PEAT, moist, no odor, no staining.	0.0		
6								
					End of Boring - Refusal at 6.5 feet (2 attempts)		SB-362(6.5) 1215	

Attachment 2

Supplemental Data Collection Memorandum

(March 10, 2010)

TRC
Wannalancit Mills
650 Suffolk Street
Lowell, Massachusetts 01854

Main 978.970.5600
Fax 978.453.1995

Memorandum

To: Kimberly Tisa, United States Environmental Protection Agency.

From: David M. Sullivan, LSP, CHMM, TRC Environmental Corporation

CC Cheryl Henlin and Scott Alfonse, City of New Bedford

Subject: Supplemental Data Collection in Support of Liberty Street Drainage Improvements

Date: March 10, 2010

Introduction

TRC Environmental Corporation (TRC) has prepared this memorandum to summarize the proposed Liberty Street Utility-Related Abatement Measure (URAM) associated with proposed drainage improvements that the City of New Bedford's (City) Department of Public Infrastructure (DPI) wishes to pursue at the New Bedford High School (NBHS) portion of the Parker Street Waste Site (PSWS).

On November 9, 2009, following review of the City's November 5, 2009 letter regarding the drainage improvement project, you indicated the data density for polychlorinated biphenyls (PCBs) analyses in soil was not sufficient to support an affirmative response concerning your regulatory jurisdiction. Consistent with subsequent e-mail correspondence, the City requests your input regarding an appropriate data collection density along this project corridor to support your regulatory determination.

Summary of Previous Data

To facilitate your evaluation, TRC has prepared the attached map that illustrates the proposed route of the Liberty Street drainage improvement with all the available PCB soil data posted on it to help illustrate the available PCB analytical data coverage in the area. Note that none of the available PCB results are greater than 1 milligram per kilogram (mg/kg) and many of the results are non-detect, which is encouraging.

Data Density Evaluation

TRC completed an internal comparison between the New Andrea McCoy Field (McCoy Field) force main route and the proposed Liberty drainage improvement routing. The comparison revealed that more data are available for the McCoy Field utility routing relative to the Liberty Street routing.

However, there is no "standard" sample density for work of this kind, although the present McCoy Field routing is an obvious "benchmark" for the site at this time.

Please consider the following:

- **McCoy Field Route Sample Density** – There are approximately 27 individual soil boring sample points (including both TRC and BETA points) within approximately 30-feet of the McCoy Field force main route. This includes approximately 49 individual PCB Aroclor soil samples ranging in depth from 0 to 9.5-feet below grade. The majority of those (39 out of 49) were collected from less than or equal to 4-feet below grade.

- **Liberty Street Route Sample Density** – Based on the attached figure, four locations are located within approximately 50-feet of the proposed Liberty Street drainage improvement route. This includes eight samples from depths ranging from 4 to 10-feet below grade.

- **McCoy/Liberty Route Lengths** – The McCoy force main is approximately 800 feet long, which is approximately twice the length of the Liberty Street drain (based on the information provided by DPI).

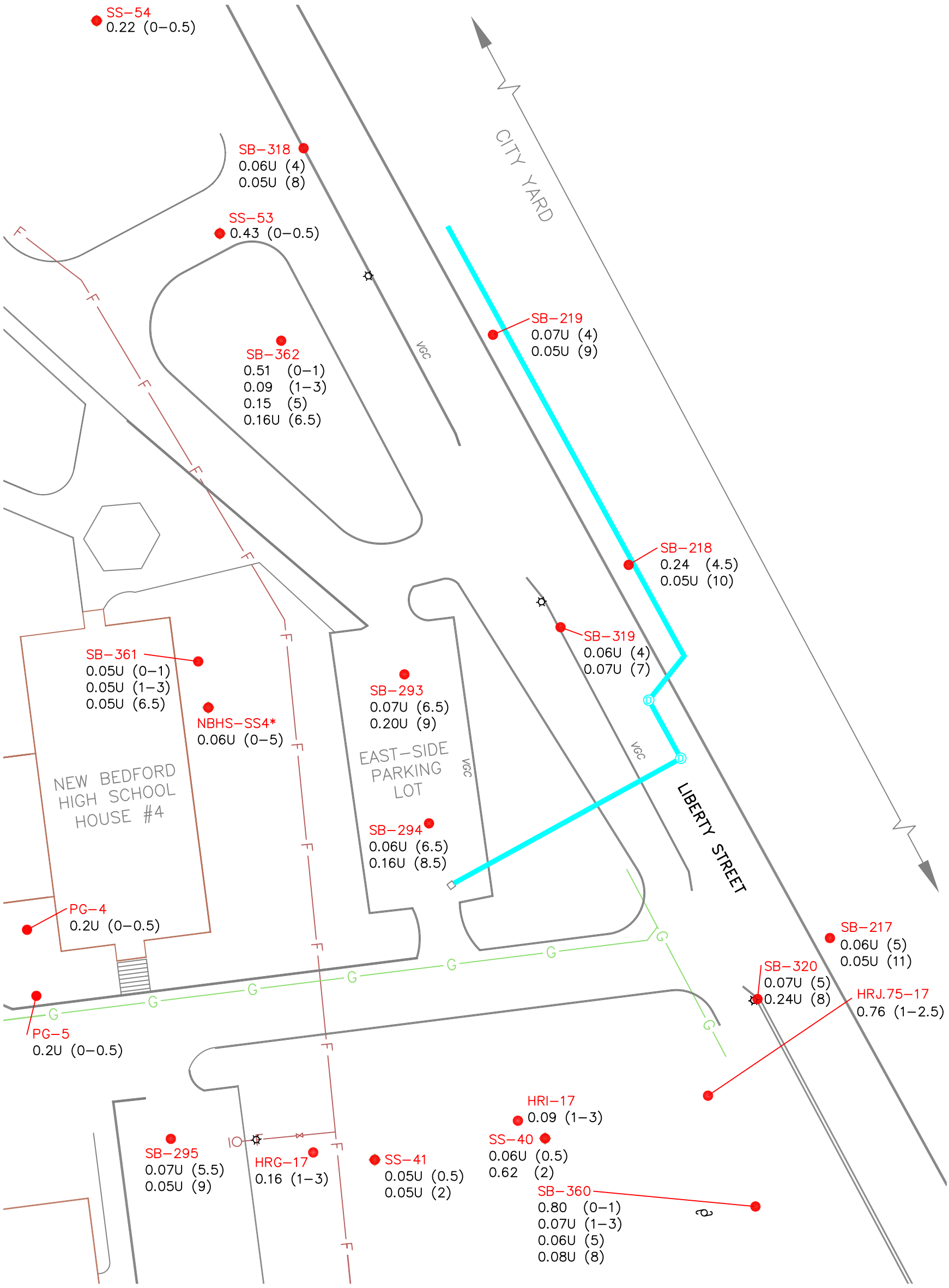
- **McCoy/Liberty Comparison** – The Liberty route has comparatively fewer samples and also has fewer samples in/near the surface soil. The relative lack of surface soil samples is due to the fact that the areas in question are under pavement or within the City Yard where surface soil sampling was not conducted.

Recommendations

TRC estimates that an additional eight borings (approximately every 50-feet along the proposed drain line) with two shallow samples per boring (at 0-1 and 1-3 foot intervals) and one sample from the approximate depth of drainage line installation should be sufficient. This proposed characterization program would generate a total of 16 additional shallow samples and eight additional deeper samples, which would produce the same linear density of coverage as the McCoy Field utility route and an approximately equal shallow to deep sample coverage ratio.

For this effort, we are only recommending the collection of PCB data along the route to facilitate EPA's regulatory determination. TRC estimates that the field effort would be less than one day.

Thanks for your attention on this matter. We look forward to discussing this memorandum with you at your earliest convenience.



LEGEND:

- APPROXIMATE LOCATION OF PROPOSED DRAINAGE
- APPROXIMATE LOCATION OF FIRE LINE
- APPROXIMATE LOCATION OF GAS LINE

TOTAL PCB CONCENTRATION

mg/Kg	DEPTH IN FEET
0.80	(0–1)
0.07U	(1–3)
0.06U	(5)
0.08U	(8)

U = NOT DETECTED

APPROXIMATE GRAPHIC SCALE

0’ 25’ 50’ 100’

NEW BEDFORD HIGH SCHOOL
LIBERTY STREET DRAINAGE CONSTRUCTION AREA
NEW BEDFORD, MASSACHUSETTS

PCB SAMPLE LOCATION DATA MAP

TRC
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
(978) 970–5600

DRAWN BY: HWB
CHECKED BY: DNP
DATE: NOV 2009

FIGURE 1

FILE: T:\E_CAD\115058\LIBERTY ST PCB SAMP LOC.dwg

Attachment 3

Supplemental Analytical Results Memorandum

(June 17, 2010)

TRC
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854

Main 978-970-5600
Fax 978-453-1885

Memorandum

To:	Kimberly N. Tisa, United States Environmental Protection Agency
From:	David M. Sullivan, LSP, CHMM, TRC Environmental Corporation
Subject:	Liberty Street Drainage Improvements Analytical Results from Supplemental Soil Data Collection Along Drainage Installation Route New Bedford, Massachusetts
Date:	June 17, 2010
CC:	Scott Alfonse, Cheryl Henlin, City of New Bedford, Department of Environmental Stewardship Molly Cote, Massachusetts Department of Environmental Protection Jeffry Saunders, Malcolm Beeler, TRC Environmental Corporation

This memorandum transmits the tabulated polychlorinated biphenyl (PCB) data obtained from supplemental soil sample collection related to the proposed Liberty Street Utility-Related Abatement Measure (URAM). The proposed URAM will support proposed drainage improvements that the City of New Bedford's (City) Department of Public Infrastructure (DPI) plans to implement at the New Bedford High School (NBHS) portion of the Parker Street Waste Site (PSWS).

TRC Environmental Corporation (TRC) performed supplemental soil sampling along the proposed drainage line route per the City's February 25, 2010 letter to the United States Environmental Protection Agency. The soil sampling was conducted by TRC via direct-push on May 12, 2010.

The analytical data are summarized on the attached Table 1. The supplemental soil sample locations (soil borings SB-LSD-1 through SB-LSD-8) and corresponding analytical data are also illustrated on Figure 1 in addition to previously collected soil samples in the vicinity of the proposed drainage line. 1.

Only one soil sample [SB-LSD-5 (1-3)] exhibited a total concentration of PCB Aroclors greater than 1 milligram per kilogram (mg/kg). The total concentration of PCB Aroclors in SB-LSD-5 (1-3) was 3.918 mg/kg. Twenty-one of the twenty-six soil samples (including the two field duplicates) exhibited detectable concentrations of total PCB Aroclors less than 1 mg/kg. The PCB Aroclor detections that were less than 1 mg/kg ranged in concentration from 0.0607 mg/kg [SB-LSD-3 (1-3)] to 0.919 mg/kg [SB-LSD-7 (1-3)].

We look forward to discussing the results with you at your earliest convenience.

Summary of Analytical Results for Soil Samples - May 2010
Liberty Street
New Bedford, Massachusetts

Analysis	Analyte							Sample Location:	SB-LSD-1			SB-LSD-2				SB-LSD-3			SB-LSD-4		
								Sample Depth (ft.):	0-1	1-3	3-4	0-1	1-3	1-3	3-4	0-1	1-3	4-5	0-1	1-3	3.5-4.5
								Sample Date:	5/12/2010	5/12/2010	5/12/2010	5/12/2010	5/12/2010	5/12/2010 Field Dup	5/12/2010	5/12/2010	5/12/2010	5/12/2010	5/12/2010	5/12/2010	5/12/2010	5/12/2010
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1*	TSCA															
PCBs																						
(mg/kg)	Aroclor 1016	2	2	3	3	2	1		0.0544 U	0.0521 U	0.0567 U	0.0569 U	0.0570 U	0.0560 U	0.0563 U	0.0551 U	0.0555 U	0.0599 U	0.0559 U	0.0564 U	0.0608 U
	Aroclor 1221	2	2	3	3	2	1		0.0544 U	0.0521 U	0.0567 U	0.0569 U	0.0570 U	0.0560 U	0.0563 U	0.0551 U	0.0555 U	0.0599 U	0.0559 U	0.0564 U	0.0608 U
	Aroclor 1232	2	2	3	3	2	1		0.0544 U	0.0521 U	0.0567 U	0.0569 U	0.0570 U	0.0560 U	0.0563 U	0.0551 U	0.0555 U	0.0599 U	0.0559 U	0.0564 U	0.0608 U
	Aroclor 1242	2	2	3	3	2	1		0.0544 U	0.0521 U	0.0567 U	0.0569 U	0.0570 U	0.0560 U	0.0563 U	0.0551 U	0.0555 U	0.0599 U	0.0559 U	0.0564 U	0.0608 U
	Aroclor 1248	2	2	3	3	2	1		0.0544 U	0.0521 U	0.0567 U	0.0569 U	0.0570 U	0.0560 U	0.0563 U	0.0551 U	0.0555 U	0.0599 U	0.0559 U	0.0564 U	0.0608 U
	Aroclor 1254	2	2	3	3	2	1		**0.0685 J**	0.0521 U	**0.611 J**	**0.131 J**	**0.510 J**	**0.478 J**	**0.523 J**	**0.0615 J**	0.0555 U	0.0599 U	**0.0759 J**	**0.163 J**	0.0608 U
	Aroclor 1260	2	2	3	3	2	1		0.0544 U	0.0521 U	**0.227 J**	0.0569 U	**0.221 J**	**0.210 J**	**0.215 J**	0.0551 U	**0.0607 J**	0.0599 U	0.0559 U	**0.109 J**	0.0608 U
	Total PCBs	2	2	3	3	2	1		**0.0685 J**	0.0521 U	**0.838 J**	**0.131 J**	**0.731 J**	**0.688 J**	**0.738 J**	**0.0615 J**	**0.0607 J**	0.0599 U	**0.0759 J**	**0.272 J**	0.0608 U

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

J - Estimated value.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.

PCBs - Polychlorinated Biphenyls.

RC - Reportable Concentration.

TSCA - Toxic Substances Control Act criteria.

* - For reference purposes only.

Summary of Analytical Results for Soil Samples - May 2010
Liberty Street
New Bedford, Massachusetts

Analysis	Analyte	Sample Location:						SB-LSD-5			SB-LSD-6			SB-LSD-7				SB-LSD-8		
		Sample Depth (ft.):						0-1	1-3	3.5-4.5	0-1	1-3	3.5-5	0-1	1-3	1-3	3.5-4.5	0-1	1-3	3.5-4.5
		Sample Date:						5/12/2010	5/12/2010	5/12/2010	5/12/2010	5/12/2010	5/12/2010	5/12/2010	5/12/2010	5/12/2010 Field Dup	5/12/2010	5/12/2010	5/12/2010	5/12/2010
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1*	TSCA													
PCBs																				
(mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.0588 U	0.0540 U	0.0517 U	0.0540 U	0.0623 U	0.0582 U	0.0610 U	0.0585 U	0.0581 U	0.0500 U	0.0563 U	0.0569 U	0.0551 U
	Aroclor 1221	2	2	3	3	2	1	0.0588 U	0.0540 U	0.0517 U	0.0540 U	0.0623 U	0.0582 U	0.0610 U	0.0585 U	0.0581 U	0.0500 U	0.0563 U	0.0569 U	0.0551 U
	Aroclor 1232	2	2	3	3	2	1	0.0588 U	0.0540 U	0.0517 U	0.0540 U	0.0623 U	0.0582 U	0.0610 U	0.0585 U	0.0581 U	0.0500 U	0.0563 U	0.0569 U	0.0551 U
	Aroclor 1242	2	2	3	3	2	1	0.0588 U	0.0540 U	0.0517 U	0.0540 U	0.0623 U	0.0582 U	0.0610 U	0.0585 U	0.0581 U	0.0500 U	0.0563 U	0.0569 U	0.0551 U
	Aroclor 1248	2	2	3	3	2	1	0.0588 U	0.0540 U	0.0517 U	0.0540 U	0.0623 U	0.0582 U	0.0610 U	0.0585 U	0.0581 U	0.0500 U	0.0563 U	0.0569 U	0.0551 U
	Aroclor 1254	2	2	3	3	2	1	**0.458 J**	**3.01 J**	**0.0645 J**	**0.117 J**	**0.277 J**	0.0582 U	**0.365 J**	**0.676 J**	**0.676 J**	**0.0819 J**	**0.256 J**	**0.105 J**	**0.150 J**
	Aroclor 1260	2	2	3	3	2	1	**0.252 J**	**0.908 J**	0.0517 U	**0.096 J**	**0.146 J**	0.0582 U	**0.129 J**	**0.243 J**	**0.221 J**	0.0500 U	**0.102 J**	0.0569 U	**0.0944 J**
	Total PCBs	2	2	3	3	2	1	**0.710 J**	**3.918 J**	**0.0645 J**	**0.213 J**	**0.423 J**	0.0582 U	**0.494 J**	**0.919 J**	**0.897 J**	**0.0819 J**	**0.358 J**	**0.105 J**	**0.2444 J**

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

J - Estimated value.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.

PCBs - Polychlorinated Biphenyls.

RC - Reportable Concentration.

TSCA - Toxic Substances Control Act criteria.

* - For reference purposes only.

SS–54
0.22 (0–0.5)

SB–318
0.06U (4)
0.05U (8)

SS–53
0.43 (0–0.5)

SB–362
0.51 (0–1)
0.09 (1–3)
0.15 (5)
0.16U (6.5)

SB–LSD–8
0.358 (0–1)
0.105 (1–3)
0.2444 (3.5–4.5)

SB–219
0.07U (4)
0.05U (9)

SB–LSD–7
0.494 (0–1)
0.919 (1–3)
0.919\0.897 (3.5–4.5)

SB–LSD–6
0.213 (0–1)
0.423 (1–3)
0.0582U (3.5–5)

SB–218
0.24 (4.5)
0.05U (10)

SB–LSD–5
0.710 (0–1)
3.918 (1–3)
0.0645 (3.5–4.5)

SB–LSD–4
0.0759 (0–1)
0.272 (1–3)
0.0608U (3.5–4.5)

SB–LSD–3
0.0615 (0–1)
0.0607 (1–3)
0.0599U (4–5)

SB–LSD–2
0.131 (0–1)
0.731\0.688 (1–3)
0.738 (3–4)

SB–361
0.05U (0–1)
0.05U (1–3)
0.05U (6.5)

NBHS–SS4*
0.06U (0–5)

SB–293
0.07U (6.5)
0.20U (9)

SB–319
0.06U (4)
0.07U (7)

SB–294
0.06U (6.5)
0.16U (8.5)

SB–LSD–1
0.0685 (0–1)
0.0521U (1–3)
0.838 (3–4)

PG–4
0.2U (0–0.5)

SB–217
0.06U (5)
0.05U (11)

SB–320
0.07U (5)
0.24U (8)

PG–5
0.2U (0–0.5)

HRG–17
0.16 (1–3)

HRI–17
0.09 (1–3)

HRJ.75–17
0.76 (1–2.5)

SB–295
0.07U (5.5)
0.05U (9)

SS–41
0.05U (0.5)
0.05U (2)

SS–40
0.06U (0.5)
0.62 (2)

SB–360
0.80 (0–1)
0.07U (1–3)
0.06U (5)
0.08U (8)

LIBERTY STREET
CITY YARD
EAST–SIDE PARKING LOT
NEW BEDFORD HIGH SCHOOL HOUSE #4

LEGEND:

- APPROXIMATE LOCATION OF PROPOSED DRAINAGE LINE
- APPROXIMATE LOCATION OF DRAIN LINE
- APPROXIMATE LOCATION OF FIRE LINE
- APPROXIMATE LOCATION OF GAS LINE
- APPROXIMATE LOCATION OF ELECTRIC LINE
- APPROXIMATE LOCATION OF WATER LINE

TOTAL PCB CONCENTRATION

mg/Kg	DEPTH IN FEET
0.80	(0–1)
0.07U	(1–3)
0.06U	(5)
0.08U	(8)

U = NOT DETECTED

APPROXIMATE GRAPHIC SCALE
0’ 25’ 50’ 100’

NEW BEDFORD HIGH SCHOOL
LIBERTY STREET DRAINAGE CONSTRUCTION AREA
NEW BEDFORD, MASSACHUSETTS

SUPPLEMENTAL
PCB SAMPLE LOCATION MAP

TRC
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
(978) 970–5600

DRAWN BY: HWB
CHECKED BY: JBS
DATE: JUNE 2010

FIGURE 1

FILE: T:\E_CAD\115058\LIBERTY ST SUPPLEMENTAL PCB SAMP LOC.dwg

TRC
Wannalancit Mills
650 Suffolk Street
Lowell MA
Telephone: 978-970-5600
Fax: 978-453-1995

BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 115058/City of New Bedford
BORING/WELL NUMBER SB-LSD-1
TRC GEOLOGIST J. Houlden
DRILLING CONTRACTOR/FOREMAN New England Geotech/Dan Regan
DATE DRILLED 5/12/2010
LOCATION Liberty Street - Off east corner of faculty parking lot
SAMPLING METHOD 60" Macrocore
DRILLING METHOD Direct Push - 6620 DT Track Rig
NOTES Sampled for PCB aroclors

SCREEN TYPE/SLOT
FILTER PACK TYPE
SEAL TYPE
DEPTH TO WATER (Approximate Feet)
TOTAL DEPTH (Feet) 5
GROUND ELEVATION (Feet) 88.14
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		60/28	S-1		0-7" TOPSOIL with grass at surface.	0.0		
					7-12" White pulverized ROCK.		SB-LSD-1 (0-1) 0915	
1					12-14" Pulverized BRICK.			
					14-28" Gray to black SANDY SILT, some fill mixed in (Brick, ash, slag, some coal).		SB-LSD-1 (1-3) 0920	
2								
3							SB-LSD-1 (3-4) 0925	
4								
5					End of Boring @ 5 feet (Drove two liners to get necessary recovery for sampling)			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 115058/City of New Bedford
BORING/WELL NUMBER SB-LSD-2
TRC GEOLOGIST J. Houlden
DRILLING CONTRACTOR/FOREMAN New England Geotech/Dan Regan
DATE DRILLED 5/12/2010
LOCATION Liberty Street -Approximately 35' East of SB-LSD-1
SAMPLING METHOD 60" Macrocore
DRILLING METHOD Direct Push - 6620 DT Track Rig
NOTES Sampled for PCB aroclors

SCREEN TYPE/SLOT
FILTER PACK TYPE
SEAL TYPE
DEPTH TO WATER (Approximate Feet)
TOTAL DEPTH (Feet) 5
GROUND ELEVATION (Feet) 88.53
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		60/32	S-1		0-10" TOPSOIL, some medium gravel, glass and fill in last inch.	0.0	SB-LSD-2 (0-1) 0935	
1					10-20" Dark-brown fine-medium SAND, some fine gravel, little fill (glass, ash, brick).		SB-LSD-2 (1-3) 0940 SB-LSD-2D (1-3) 0950	
2								
3					20-24" Tan to orange-tan fine SILTY SAND.		SB-LSD-2 (3-4) 0945	
4					24-32" FILL (coal, ash, brick).			
5					End of Boring @ 5 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 115058/City of New Bedford
BORING/WELL NUMBER SB-LSD-3
TRC GEOLOGIST J. Houlden
DRILLING CONTRACTOR/FOREMAN New England Geotech/Dan Regan
DATE DRILLED 5/12/2010
LOCATION Liberty Street - Immediately west of sidewalk
SAMPLING METHOD 60" Macrocore
DRILLING METHOD Direct Push - 6620 DT Track Rig
NOTES Sampled for PCB aroclors

SCREEN TYPE/SLOT
FILTER PACK TYPE
SEAL TYPE
DEPTH TO WATER (Approximate Feet)
TOTAL DEPTH (Feet) 5
GROUND ELEVATION (Feet) 88.99
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		60/32	S-1		0-7" TOPSOIL.	0.0	SB-LSD-3 (0-1) 1000	
1					7-14" Tan to brown fine-coarse SAND, some fine gravel, little fill.			
2					14-27" Gray to brown fine-coarse SAND and FILL (ash, coal, brick), some fine-medium gravel.		SB-LSD-3 (1-3) 1005 Plus MS/MSD	
3								
4					27-32" FILL (coal, ash, brick), some fine-coarse gravel, wet.		SB-LSD-3 (4-5) 1010	
5					End of Boring @ 5 feet			

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Lowell MA
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Fax: 978-453-1995

BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 115058/City of New Bedford
BORING/WELL NUMBER SB-LSD-4
TRC GEOLOGIST J. Houlden
DRILLING CONTRACTOR/FOREMAN New England Geotech/Dan Regan
DATE DRILLED 5/12/2010
LOCATION Liberty Street - Immediately north of fence for city yard
SAMPLING METHOD 60" Macrocore
DRILLING METHOD Direct Push - 6620 DT Track Rig
NOTES Sampled for PCB aroclors

SCREEN TYPE/SLOT
FILTER PACK TYPE
SEAL TYPE
DEPTH TO WATER (Approximate Feet)
TOTAL DEPTH (Feet) 5
GROUND ELEVATION (Feet) 89.89
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		60/28	S-1		0-3" TOPSOIL.	0.0		
1					3-8" Tan to brown fine-medium SILTY SAND, some medium-coarse gravel, little fill (ash).		SB-LSD-4 (0-1) 1035	
2					8-12" Dark-brown fine-medium SAND, some silt, medium gravel and fill (ash, coal) mixed in.		SB-LSD-4 (1-3) 1040	
3					12-28" FILL in silt and sand matrix (coal, ash, brick, wood, glass), some medium gravel.		SB-LSD-4 (3.5-4.5) 1045	
4								
5					End of Boring @ 5 feet			

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Wannalancit Mills
650 Suffolk Street
Lowell MA
Telephone: 978-970-5600
Fax: 978-453-1995

BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 115058/City of New Bedford
BORING/WELL NUMBER SB-LSD-5
TRC GEOLOGIST J. Houlden
DRILLING CONTRACTOR/FOREMAN New England Geotech/Dan Regan
DATE DRILLED 5/12/2010
LOCATION Liberty Street - East side, approx. 40' North of SC-LSD-4
SAMPLING METHOD 60" Macrocore
DRILLING METHOD Direct Push - 6620 DT Track Rig
NOTES Sampled for PCB aroclors

SCREEN TYPE/SLOT
FILTER PACK TYPE
SEAL TYPE
DEPTH TO WATER (Approximate Feet)
TOTAL DEPTH (Feet) 5
GROUND ELEVATION (Feet) 89.73
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		60/34	S-1		0-3" TOPSOIL.	0.6		
1					3-13" Brown fine-coarse SILTY SAND, some medium gravel and fill (ash, coal, brick).		SB-LSD-5 (0-1) 1105	
2					13-23" Tan fine SILTY SAND, some fine gravel.		SB-LSD-5 (1-3) 1110	
3							SB-LSD-5 (3.5-4.5) 1115	
4					23-34" Tan to dark-brown fine-coarse SAND, little fill (coal, ash).			
5					End of Boring @ 5 feet			

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650 Suffolk Street
Lowell MA
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Fax: 978-453-1995

BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 115058/City of New Bedford
BORING/WELL NUMBER SB-LSD-6
TRC GEOLOGIST J. Houlden
DRILLING CONTRACTOR/FOREMAN New England Geotech/Dan Regan
DATE DRILLED 5/12/2010
LOCATION Liberty Street - East side, Approx. 50' north of SB-LSD-5
SAMPLING METHOD 60" Macrocore
DRILLING METHOD Direct Push - 6620 DT Track Rig
NOTES Sampled for PCB aroclors

SCREEN TYPE/SLOT
FILTER PACK TYPE
SEAL TYPE
DEPTH TO WATER (Approximate Feet)
TOTAL DEPTH (Feet) 5
GROUND ELEVATION (Feet) 90.13
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		60/30	S-1		0-3" Gray to brown fine-coarse SAND, some fine gravel.	0.6		
1					3-10" Brown fine-coarse SILTY SAND, some fine-medium gravel, little fill.		SB-LSD-6 (0-1) 1130	
2					10-20" FILL (ash, coal, little wood debris) in brown silty sand matrix.		SB-LSD-6 (1-3) 1135	
3								
4					20-24" Pulverized ROCK.			
					24-30" Dark-brown fine-medium SILTY SAND, some fill and fine-medium gravel, moist.		SB-LSD-6 (3.5-5) 1140	
5					End of Boring @ 5 feet			

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Fax: 978-453-1995

BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 115058/City of New Bedford
BORING/WELL NUMBER SB-LSD-7
TRC GEOLOGIST J. Houlden
DRILLING CONTRACTOR/FOREMAN New England Geotech/Dan Regan
DATE DRILLED 5/12/2010
LOCATION Liberty Street - East side, approx. 50' north of SB-LSD-6
SAMPLING METHOD 60" Macrocore
DRILLING METHOD Direct Push - 6620 DT Track Rig
NOTES Sampled for PCB aroclors

SCREEN TYPE/SLOT
FILTER PACK TYPE
SEAL TYPE
DEPTH TO WATER (Approximate Feet)
TOTAL DEPTH (Feet) 5
GROUND ELEVATION (Feet) 90.09
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		60/32	S-1		0-2" TOPSOIL.	0.0		
					2-6" Brown fine-medium SILTY SAND, little fill mixed in.		SB-LSD-7 (0-1) 1200	
1					6-30" FILL (ash, coal, some brick) in brown silty sand matrix, some fine-coarse gravel throughout, pulverized rock from 16-17-inches.			
2							SB-LSD-7 (1-3) 1205 SB-LSD-7D (1-3) DUP 1215	
3							SB-LSD-7 (3.5-4.5) 1210	
4								
					30-32" Tan to brown fine SILTY SAND, little fill, moist.			
5					End of Boring @ 5 feet			

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650 Suffolk Street
Lowell MA
Telephone: 978-970-5600
Fax: 978-453-1995

BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 115058/City of New Bedford
BORING/WELL NUMBER SB-LSD-8
TRC GEOLOGIST J. Houlden
DRILLING CONTRACTOR/FOREMAN New England Geotech/Dan Regan
DATE DRILLED 5/12/2010
LOCATION Liberty Street - East side, approx. 70' north of SB-LSD-7
SAMPLING METHOD 60" Macrocore
DRILLING METHOD Direct Push - 6620 DT Track Rig
NOTES Sampled for PCB aroclors

SCREEN TYPE/SLOT
FILTER PACK TYPE
SEAL TYPE
DEPTH TO WATER (Approximate Feet)
TOTAL DEPTH (Feet) 5
GROUND ELEVATION (Feet) 90.73
REFERENCE ELEVATION (Feet)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		60/45	S-1		0-5" TOPSOIL.	0.0	SB-LSD-8 (0-1) 1220	
1					5-45" Brown fine-medium SILTY SAND, some fine gravel, little medium-coarse gravel, fill mixed in throughout (ash, coal, glass, little brick) some pulverized rock. Silty Sand fines towards bottom.			
2							SB-LSD-8 (1-3) 1225	
3							SB-LSD-8 (3.5-4.5) 1230	
4								
5					End of Boring @ 5 feet			

Attachment 4

Soil Management Plan

SOIL MANAGEMENT PLAN

Liberty Street Drainage Construction Activity

New Bedford, Massachusetts
Release Tracking Numbers 4-15685

Prepared for:

City of New Bedford
133 William Street
New Bedford, Massachusetts 02740

Prepared by:

TRC
Wannalancit Mills
650 Suffolk Street
Lowell, Massachusetts 01854

July 2010

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1.0 INTRODUCTION

The City of New Bedford's (City) Department of Public Infrastructure (DPI) intends to perform utility construction activities along the eastern portion of Liberty Street, the eastern portion of the New Bedford High School (NBHS) campus, and the eastern NBHS faculty parking lot area located in New Bedford, Massachusetts (the "Site"). The utility construction activities will be conducted pursuant to the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000 and related policies/guidance), under a Utility-related Abatement Measure (URAM) in accordance with 310 CMR 40.0460. The applicable Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) is 4-15685, which is assigned to the Parker Street Waste Site (PSWS). Special Project status has been established for RTN 4-15685.

The utility construction activity will include the installation of approximately 280 feet of 12-inch polyvinyl chloride (PVC) sub-drain pipe along the east shoulder of Liberty Street to be connected to a proposed drain manhole in Liberty Street, which will be connected to another proposed manhole with approximately 30 feet of 12-inch PVC pipe. The 12-inch PVC pipe will then extend approximately 125 feet southwest to an existing catch basin located in the east faculty parking lot at the NBHS campus.

The utility construction activities will require the excavation of soil in order to install the drain pipe and catch basins. It is anticipated that approximately 109 cubic yards of soil will be displaced by the pipe and fill surrounding the pipe and catch basins. The excavated soils will be stockpiled in a designated onsite location pending characterization for offsite disposal. Excavated soils will be placed on polyethylene sheeting (6-mil minimum) or similar pending offsite disposal.

The utility construction activities will also require the removal of approximately 3.7 cubic yards of asphalt, which will be transported offsite for recycling. The asphalt will be loaded directly into a truck for recycling. If required, the excavated asphalt will be stockpiled in a designated onsite location pending offsite recycling. Excavated asphalt will be placed on polyethylene sheeting (6-mil minimum) or similar pending offsite disposal.

The soil associated with the excavation activities may contain concentrations of polychlorinated biphenyls (PCBs), polynuclear aromatic hydrocarbons (PAHs) and heavy metals above MCP Method 1 S-1 soil cleanup levels. A summary of soil analytical data collected during investigative work is included in Section 1.3. Relevant soil borings can also be reviewed in Appendix A to this plan.

This soil management plan (SMP) is intended to provide the City and/or Contractor with information regarding the requisite soil management requirements. These procedures are also designed to ensure that soil that is encountered is managed in a manner that is protective of human health, safety, public welfare and the environment, as required by the MCP. Due to the depth of most of the excavations and proximity to site groundwater it is anticipated that ground water management needs for this work are relatively limited. A Commonwealth of Massachusetts Licensed Site Professional (LSP) has been retained by the City to oversee the soil

management activities during Site construction activities to ensure compliance with the applicable provisions of the MCP and related MassDEP policies and guidance.

1.1 Contact Information

The owner (the "Owner") of the project is:

City of New Bedford
133 William Street
New Bedford, Massachusetts 02740
Contact: Ms. Cheryl Henlin
(508) 961-4576

The Owner's LSP for this project is:

David M. Sullivan, LSP, CHMM
LSP License Number: 1488
TRC Environmental Corporation
Wannalancit Mills
650 Suffolk Street
Lowell, Massachusetts 01854
(978) 656-3565

1.2 Roles and Responsibilities

The City and/or its Contractor will furnish all labor, equipment and materials required to complete the work including soil excavation, stockpiling, dust control, and offsite transportation of soil, structure demolition materials, and asphalt from the Site. The City and/or its Contractor will also be responsible for obtaining all necessary Federal, state and local permits required for this work (e.g., DigSafe® and other necessary permits that may be required by the City).

The City and/or its Contractor will not be responsible for notifying the MassDEP Bureau of Waste Site Cleanup (BWSC), as required by the MCP at 310 CMR 40.0462, to implement this work. Such notification will be obtained by the LSP by submitting a URAM Transmittal Form (BWSC-119) to MassDEP thereby notifying them of the planned utility construction activities.

Under a separate contract/authorization, the LSP and/or the LSP's designee (hereafter referred to collectively as "the LSP") will be responsible for notifying the MassDEP as required under the MCP to implement the proposed utility construction activities. The LSP will periodically inspect the utility construction activities to ensure consistency with this SMP document and applicable MCP and MassDEP policies. Specifically, the LSP's role will include, but may not be limited to, inspection and oversight of the following activities:

- Soil excavation
- Soil sampling
- Stockpiling/temporary roll-off containment
- Loading

- Offsite transportation
- MCP related decontamination activities

The LSP will also collect any samples required to characterize soil for offsite disposal and will procure the required laboratory analyses of these samples.

The LSP will prepare and sign MCP Bills of Lading (BOLs) and/or Material Shipping Records (MSR) required for the offsite shipment of excavated soil from the Site. The Contractors will be responsible for preparing any Hazardous Waste Manifests, if needed, for the offsite transportation and disposal of any soil that meets the regulatory criteria for classification as a Hazardous Waste.

In addition, in accordance with the Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) standard (29 CFR 1910.120 and 1926.65), the LSP will prepare a Site-Specific Health and Safety Plan (HASP) for this project for the protection of TRC personnel. The HASP will specify proper health and safety procedures to be implemented, and the necessary personal protective equipment to be used to protect workers from exposure to contaminated soil and groundwater during excavation. The City and/or Contractor will prepare a separate HASP prior to initiating work and must adhere to the requirements of that HASP during performance of the work. The City and/or Contractor's employees assigned to the Site should have, at a minimum, 40-hour OSHA HAZWOPER training and current 8-hour OSHA HAZWOPER refresher training as appropriate. The City and/or Contractor's onsite foreman responsible for project personnel should also have OSHA Site Supervisor Training.

1.3 Existing Site Conditions

The utility construction activities are to take place along Liberty Street, the eastern portion of the NBHS campus, and the eastern faculty parking lot area located in New Bedford, Massachusetts. The utility construction activities will include the installation of approximately 280 feet of 12-inch PVC sub-drain pipe along the eastern shoulder of Liberty Street to be connected to a proposed drain manhole in Liberty Street, which will be connected to another proposed manhole with approximately 30 feet of 12-inch PVC pipe. The 12-inch PVC pipe will then extend approximately 125 feet to the southwest to an existing catch basin located in the eastern faculty parking lot of the NBHS campus. All utility construction will be performed on property owned by the City of New Bedford. The utility construction activities area is bordered to the east by the City Yard, to the west by the New Bedford High School, and to the north and south by Liberty Street, NBHS parking areas and open grassed areas.

As detailed in the City's *Information Regarding Liberty Street Drainage Construction Activity* letter to the EPA dated November 5, 2009, previous subsurface investigation sampling in the vicinity of the proposed construction project area was conducted by the BETA Group, Inc. (BETA) of Norwood, Massachusetts during 2006 and subsequently by TRC throughout 2008 and 2009.

BETA advanced a total of eighteen (18) soil borings within approximately 250 feet of the proposed utility installation. However, soil samples from only five (5) soil borings were

submitted for laboratory analysis, including HRG-17, HRI-17, HRJ.75-17, PG-4 and PG-5. Soil samples from these borings were analyzed for PCBs. Soil sample HRJ.75-17 was also analyzed for volatile organic compounds (VOCs) and total petroleum hydrocarbons (TPH). The laboratory results did not indicate the detection any compounds above MCP Method 1 cleanup standards in any of the samples submitted.

TRC was also recently informed of sampling activities and subsequent reporting conducted by Vanasse Hangen Brustlin, Incorporated (VHB) of Watertown, Massachusetts on July 23, 2001 throughout the NBHS campus. VHB collected a total of twenty-two (22) surface soil samples from fifteen (15) sample locations for laboratory PCB, Resource Conservation and Recovery Act (RCRA) 8 metals, SVOCs and extractable petroleum hydrocarbon (EPH) analysis. A total of three (3) of the surface soil sample locations (VSS-4 through VSS-6) are near to the proposed utility construction area and were analyzed for PCBs and RCRA-8 metals. The laboratory results did not indicate the detection of PCBs or metals above MCP Method 1 cleanup standards in any of these three (3) samples.

TRC advanced a total of forty-four (44) soil borings and five (5) surface soil samples within approximately 250 feet of the proposed utility construction area. TRC submitted a total of sixty-four (64) soil samples (including four field duplicate analyses) in the utility construction area for laboratory analysis of semi-volatile organic compounds (SVOCs), PCBs, and/or MCP metals including mercury. The SVOC analysis was limited to polycyclic aromatic hydrocarbons (PAHs) only.

The laboratory results did not indicate the detection of PAHs and PCBs above MCP Method 1 soil cleanup standards in any of the soil samples submitted. The laboratory results for MCP metals and mercury exceeded the MCP Method 1 soil cleanup standards as follows:

- Arsenic at sampling locations SB-293 (31.6 mg/kg at 9 feet), SB-294 (40.6 mg/kg at 4 feet, and SB-320 (55.8 mg/kg at 5 feet);
- Barium at sampling location SB-294 (1,920 mg/kg at 4 feet), SB-360 (2,750 mg/kg [duplicate] at 1-3 feet), SB-360A (4,060 mg/kg at 1-3 feet), SB-360B (2,170 mg/kg at 1-3 feet), SB-360E (1,050 mg/kg at 1-3 feet) and SB-360F (1,250 mg/kg at 1-3 feet);
- Cadmium at sampling locations SB-219 (2.92 mg/kg at 4-feet), SB-293 (16.2 mg/kg at 9 feet), SB-294 (2.10 mg/kg at 4 feet, 3.14 mg/kg at 8.5 feet, and 2.75 at 12 feet), SB-320 (7.87 mg/kg at 5 feet) and SB-362 (5.77 mg/kg at 6.5 feet);
- Chromium at sampling locations SB-219 (35.9 mg/kg at 4 feet), SB-294 (36.5 mg/kg at 4 feet), SB-320 (107 mg/kg at 5 feet), SB-360 (39.2 mg/kg [duplicate] at 1-3 feet), SB-360A (54.0 mg/kg at 1-3 feet), SB-360F (74.7 mg/kg at 1-3 feet) and SB-362 (47.7 mg/kg at 6.5 feet);
- Lead at sampling locations SB-217 (418 mg/kg at 5feet), SB-219 (1,500 mg/kg at 4 feet), SB-293 (396 mg/kg at 6.5 feet, and 848 mg/kg at 9 feet), SB-294 (3,260 mg/kg at 4 feet, 790 mg/kg at 8.5 feet), SB-319 (483 mg/kg at 4 feet), SB-320 (2,240 mg/kg at 5 feet), SB-360 (39,600 mg/kg [duplicate] at 1-3 feet and 6,870 mg/kg at 5 feet), SB-360A (20,200 mg/kg at 1-3 feet), SB-360B (26,700 mg/kg at 1-3 feet), SB-360C (422 mg/kg [duplicate] at 1-3 feet), SB-360E (8,550 mg/kg at 1-3 feet), SB-360F (1,070 mg/kg at 1-3

feet), SB-360G (590 mg/kg at 1-3 feet), SB-360I (4,600 mg/kg at 1-3 feet), SB-360J (530 mg/kg at 1-3 feet), SB-360K (890 mg/kg at 1-3 feet), SB-360L (470 mg/kg at 1-3 feet), SB-360M (860 mg/kg at 1-3 feet), SB-360O (500 mg/kg at 1-3 feet), SB-360Q (1,200 mg/kg at 1-3 feet), SB-360R (650 mg/kg at 1-3 feet), SB-360S (380 mg/kg at 1 -3 feet), SB-360U (9,800 mg/kg at 1-3 feet), SB-360V (320 mg/kg at 1-3 feet), SB-360X (750 mg/kg [duplicate] at 1-3 feet), SB-362 (487 mg/kg at 1-3 feet, 448 mg/kg at 5 feet and 319 mg/kg at 6.5 feet) and SS-40 (819 mg/kg at 2 feet);

- Nickel at sampling locations SB-217 (26.3 mg/kg at 5 feet), SB-219 (28.9 mg/kg at 4 feet), SB-293 (25.9 mg/kg at 9 feet), SB-294 (31.8 mg/kg at 4 feet), and SB-320 (99.7 mg/kg at 5 feet), SB-360 (21.5 mg/kg at 5 feet) and SB-362 (40.3 mg/kg at 6.5 feet); and
- Zinc at sampling locations SB-293 (4,500 mg/kg at 9 feet) and SB-320 (3,570 at 5 feet).

As detailed in the November 5, 2009 letter to the EPA, analytical results from soil samples collected from the NBHS campus indicated that there were no PCBs concentrations exceeding 1 ppm (mg/kg) within the proximity of the proposed drainage system. In addition, sampling of groundwater monitoring wells within the NBHS property did not indicate the presence of PCB groundwater impacts in the vicinity of the construction area (or throughout the NBHS campus). Therefore, based on the various lines of evidence, the City's position to the EPA was that none of the soil that will be displaced during the implementation of URAM qualifies to be regulated as PCB Remediation Waste or require classification and disposal under the federal Toxic Substances Control Act (TSCA).

On November 9, 2009, following review of the City's November 5, 2009 letter regarding the improvement project, the EPA Region 1 PCB Coordinator indicated that the data density for PCB analyses in soil in the vicinity of the proposed construction area was not sufficient to support a determination of the EPA's regulatory jurisdiction pursuant to the PCB regulations under 40 CFR Part 761. Consistent with additional coordination between the City and EPA, TRC submitted a *Supplemental Data Collection in Support of Liberty Street Drainage Improvements* memorandum to the EPA on behalf of the City on March 10, 2010.

The March 10, 2010 memorandum described proposed supplemental soil collection along the project corridor to support an EPA regulatory determination and requested approval regarding the appropriateness of the proposed supplemental data density. The supplemental sampling called for the installation of an additional eight (8) soil borings (approximately every 50 feet along the proposed drain line) with the collection of two shallow soil samples (at 0-1 and 1-3 foot intervals) and one soil sample from the approximate depth of the drainage line per boring.

Following verbal approval of the sampling approach by EPA on May 5, 2010, TRC conducted soil sampling consistent with the approach described in the March 10, 2010 memorandum. Eight soil borings (SB-LSD-1 through SB-LSD-8), spaced approximately every 50-feet along the proposed project corridor depending on the presence of underground utilities and site access, were advanced using direct push GeoProbe® technology. Soil samples were collected by TRC personnel from the top 1-foot, 1 to 3 foot zone and the approximate depth of the proposed drainage line. Soil samples were submitted for laboratory PCB as Aroclors (SW-846 Method 8082) analysis.

As described in TRC's *Analytical Results from Supplemental Soil Data Collection Along Drainage Installation Route* memorandum to the EPA dated June 17, 2010, one soil sample [SB-LSD-5 (1-3)] exhibited a total concentration of PCB Aroclors greater than 1 mg/kg. The total concentration of PCB Aroclors in soil sample SB-LSD-5 (1-3) was 3.918 mg/kg. Twenty-one of the twenty-six soil samples (including the two field duplicates) exhibited detectable concentration of total PCB Aroclors less than 1 mg/kg. The PCB Aroclor detections that were less than 1 mg/kg ranged in concentration from 0.0607 mg/kg [SB-LSD-3 (1-3)] to 0.919 mg/kg [SB-LSD-7 (1-3)]. The analytical results are currently under review by the EPA to determine the regulatory jurisdiction. The City will not proceed with implementation of the URAM without EPA approval.

Following submittal of the November 5, 2009 letter to the EPA, TRC installed one groundwater monitoring well (MW-17) in the vicinity of the utility construction area on February 15, 2010. The monitoring well was installed as part of ongoing Immediate Response Action (IRA) activities related to the interior of NBHS. No soil samples were collected for laboratory analysis during the installation of monitoring well MW-17.

In Massachusetts, the excavation and management of contaminated soil at disposal sites is regulated by the MCP. The purpose of the MCP is "to provide for the protection of health, safety, public welfare and the environment" by instituting a uniform mechanism for identifying contaminated soils and implementing appropriate response actions.

1.3.1 Utility-related Abatement Measures (310 CMR 40.0460)

The utility related construction activities will be performed as a URAM in accordance with the provisions of the MCP at 310 CMR 40.0460. This SMP specifies the planned soil excavation activities, identifies the site conditions and describe material disposal requirements. Within 120 days following notification to the MassDEP of the intention to conduct URAM activities, and every six months thereafter, the LSP will submit a URAM Status Report for submission to MassDEP as required by the MCP, if necessary. A URAM Completion Report will be submitted within 60 days of the completion of all response actions associated with the URAM activities as required by 310 CMR 40.0466.

1.3.2 Management Procedures for Remediation Waste (310 CMR 40.0030)

The MCP establishes requirements and procedures for the management of remediation waste including contaminated media and debris and non-containerized waste. This section of the MCP also outlines procedures for documenting and tracking any offsite transportation and disposal of regulated soil from a disposal site using a MCP BOL. The BOL requirements and procedures will apply to any contaminated soils transported from the Site, provided the soils are not otherwise characterized as hazardous waste pursuant to 310 CMR 30.000, the *Massachusetts Hazardous Waste Regulations*.

1.3.3 Interim Waste Management Policy for Petroleum-Contaminated Soils (WSC-94-400)

This policy outlines management practices for reuse, recycling, disposal, storage and transport of petroleum-contaminated soils if encountered during utility construction activities, and presents related guidance. The policy's goals include encouraging management practices that provide for the destruction of VOCs or minimize the potential for migration/release of contaminants, and encouraging recycling of contaminated soils (e.g., asphalt batch recycling). The policies include guidelines for testing, storage, reuse/recycling, and establish acceptance criteria at recycling facilities.

1.3.4 Reuse and Disposal of Contaminated Soil at Massachusetts Landfills (COMM-97-001)

This policy outlines procedures for reuse or disposal of contaminated soils at Massachusetts-permitted landfills. The policy includes guidelines for testing, transport, record keeping, reporting, and establishes acceptance criteria for lined and unlined landfills.

1.3.5 Bill of Lading (BWSC Forms 012A, 012B and 012C)

The BOL tracks the transportation and final disposition of Remediation Wastes generated during the performance of response actions under the MCP. BOLs may be used to record the shipment of contaminated soil from the Site to a reuse, recycle and/or disposal facility approved by the Owner and LSP. BOLs will be stamped and signed by the LSP.

1.3.6 Hazardous Waste Manifest

A Hazardous Waste Manifest is a MassDEP-approved form used to track the origin, quantity, composition, transportation and final destination of hazardous waste. Hazardous Waste Manifests should be utilized for shipping of any wastes subject to the Massachusetts Hazardous Waste Regulations (310 CMR 30.000). The Contractor will prepare any Hazardous Waste Manifest required for transport of the materials from this Site. The hazardous waste disposal facility to be used for disposal of any such material will be subject to approval by the Owner and/or LSP. Other requirements apply as described in 310 CMR 30.310. It is not anticipated that the generation of hazardous waste will be a part of this project.

Note that the reference to MassDEP policies COMM-97-001 and WSC-94-400 does not preclude the use of out-of-state facilities that offer similar reuse (e.g., landfill daily cover) or recycling (e.g., asphalt batch) opportunities. Such opportunities may be evaluated and/or utilized on a case by case basis assuming facility acceptance criteria can be met and the facility is currently within its regulatory jurisdiction for the reuse and/or recycling services provided.

1.3.7 40 CFR Part 761

Certain EPA regulations address the management of PCB impacted soil and other materials. Approval from EPA for the activities described in the URAM, insofar as EPA's jurisdiction extends, has been sought by the City and will be implemented on a case by case basis.

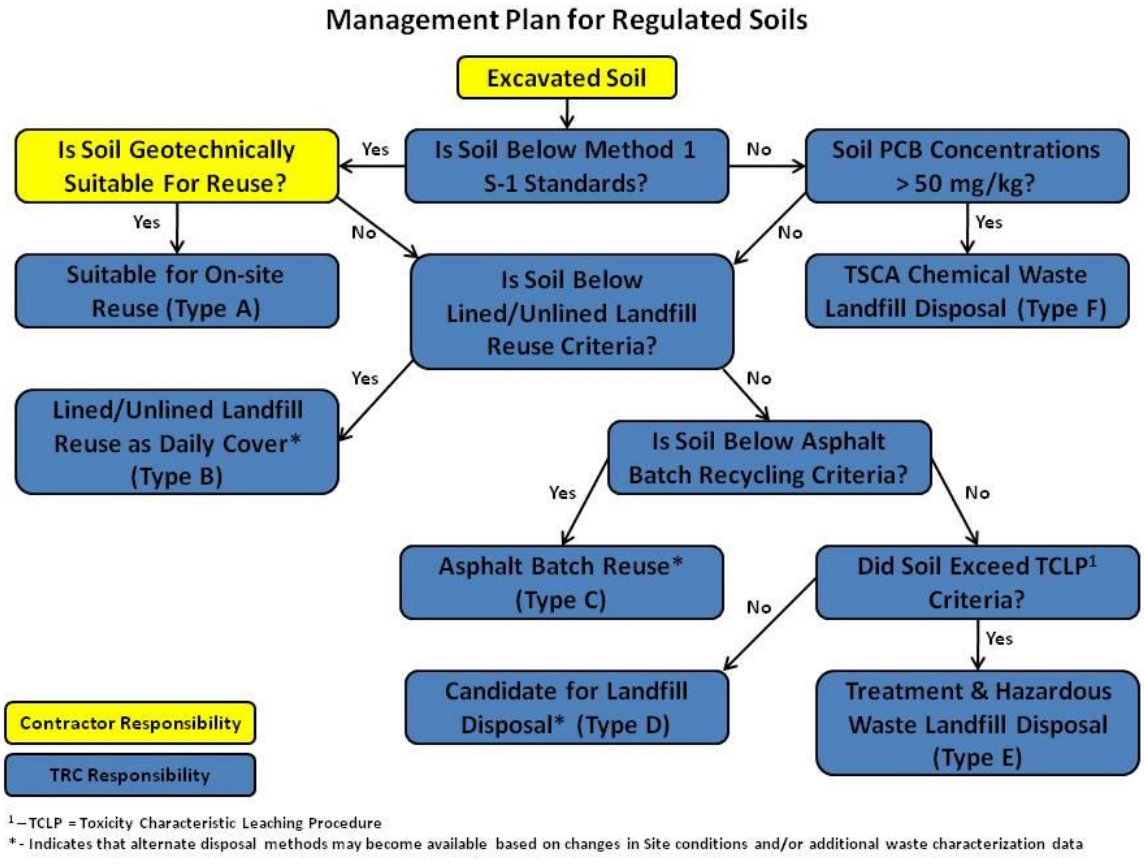
Based on laboratory analytical results detailed above, it is the City's opinion that soil material likely to be encountered during implementation of drainage system construction does not

constitute PCB Remediation Waste pursuant to EPA's PCB regulations under 40 CFR Part 761. However, if based on sampling described herein soil material is determined to be PCB Remediation Waste, the City will work closely with the EPA Region 1 PCB Coordinator to evaluate management options. The soil material will be temporarily stockpiled on polyethylene sheeting (6 mil minimum) or loaded directly into line roll-offs and transported offsite for disposal to an appropriate facility following EPA approval.

2.0 EXCAVATION OVERSIGHT

TRC personnel will provide periodic oversight during utility related construction activities when soil is being excavated, backfilled, transported, or when excavation dewatering activities are occurring. The soil oversight personnel will be screening soil with pre-characterization analytical data and providing as needed clarification regarding the soil category to the City and/or Contractor to ensure soil is segregated to the appropriate stockpile pending final reuse, recycling and/or disposal determinations.

It is currently anticipated that some of the soil to be excavated during utility related construction activities will be utilized to backfill the excavations. Excess soils will be characterized prior to disposal. Typical soil management options for a utility related construction project at a listed Disposal Site may include onsite reuse; offsite reuse/recycling; disposal at an approved and appropriately licensed, non-hazardous waste, lined or unlined landfill; and disposal at an approved and appropriately licensed hazardous waste landfill. The determination of the reuse, recycling, or disposal option for soils from different portions of the excavation will consider physical and chemical characteristics of the soil and the reuse capacity within the construction project, as shown in the following flow diagram:



Typical soil management options for a construction project at a listed Disposal Site may allow soil to be returned to the approximate location from which it came providing that it is chemically

and geotechnically suitable for reuse as backfill, with the geotechnical suitability determined by the City, Contractor, and/or project Architect/Engineer. Chemical suitability is determined by the LSP. Soil that is suitable for onsite reuse may be returned directly to the excavation or stockpiled for later reuse in a nearby location. Soil that has been deemed unsuitable for reuse onsite will be segregated and stockpiled for offsite management (offsite reuse and/or disposal).

2.1 Soil Classification

Soil displaced by utility related construction activities will be classified by the following criteria. If the criteria are not in agreement, then the classification will be made based on the highest ranked factor.

1) Pre-characterization data;
2) Physical observations of ash-bearing "fill" material; and
3) Physical observations of other anthropogenic "fill" material.

Soil at a listed Disposal Site displaced by utility related construction activities may be segregated into one or more of the following classifications:

- Type A – Pre-characterized soils for reuse onsite; excess Type-A soil is also suitable for offsite reuse as cover material at a lined or unlined landfill facility. Onsite reuse is restricted to the location from which the soils were excavated. Any other placement requires prior approval of the LSP;
- Type B – Suitable for unlined or lined landfill re-use (chemically unsuited for reuse onsite); may also include soils suitably treated to allow for unlined and lined landfill re-use;
- Type C – Suitable for asphalt batch recycling (geotechnically unsuited for reuse onsite and/or chemically unsuited for reuse onsite or offsite);
- Type D – Non-hazardous waste landfill disposal (chemically unsuited for on or offsite reuse, and offsite recycling); and
- Type E – Soil requiring segregation and offsite treatment prior to disposal as a hazardous waste.
- Type F – Soil requiring disposal at TSCA chemical waste landfill

The above outlined classification process is expected to produce the following six soil types:

Type A soils – Soil eligible for reuse onsite.

Type B soils have been characterized as unsuitable for onsite reuse or the soil may be geotechnically unsuitable for onsite reuse as deemed by the City and/or Contractor. These soils can be transported offsite for reuse as cover material at a lined or unlined landfill facility (depending upon acceptance criteria comparisons). If these soils indicate concentrations below their applicable offsite facility acceptance criteria, they will be segregated and transported offsite for re-use at a lined or unlined landfill facility.

Type C soils are unsuitable for reuse onsite. These soils are suitable for recycling at an offsite asphalt batch facility.

Type D soils are unsuitable for on- or offsite reuse and offsite recycling. These soils do not indicate a failure of Toxicity Characteristic Leachate Procedure (TCLP) analysis. Therefore, these soils may be segregated and transported offsite for disposal at a non-hazardous waste landfill.

Type E soils have been characterized as unsuitable for reuse onsite. These soils failed TCLP analysis and will need to be segregated for offsite disposal as hazardous waste.

Type F soils have been characterized as unsuitable for reuse on-site. These soils contain concentrations of PCBs greater than 50 mg/kg and will need to be segregated for off-site disposal at a TSCA chemical waste landfill.

Soil type determinations will be made by the LSP following the collection of suitable characterization data.

3.0 ONSITE SOIL MANAGEMENT

The utility construction activities will require the excavation of soil in order to install the drain pipe and catch basins. It is anticipated that approximately 109 cubic yards of soil will be displaced by the pipe and fill surrounding the pipe and catch basins. It is currently anticipated that the soil to be excavated during utility construction activities will be temporarily stockpiled and a portion of the soil will be utilized to backfill the excavations upon completion of the installation of the drain pipe. As soil boring logs indicate that a substantial volume of the soil required to be excavated for the installation of utilities may not contain impacted fill material, soils may be segregated during excavation in order to minimize the amount of fill impacted soils. To the extent practicable, soils will be returned to the excavation in the order it was removed.

3.1 Onsite Stockpile Disposition

The onsite stockpiles will be staged on polyethylene sheeting (minimum 6-mil thickness) and covered with sheeting at all times with the exception of periods when adding or removing soil to or from the piles. The stockpiles should be designed such that storm water runoff does not impact the soil and any water draining from the soil does not migrate from the polyethylene sheeting to the ground surface. The stockpiles shall be inspected and estimates of total volumes made on a daily basis. If roll-offs will be used, they will be lined with polyethylene and covered to prevent leakage and storm water accumulation. Soil may be stockpiled at an alternative City owned location at the discretion of the City.

3.2 Offsite Reuse, Recycling and/or Disposal

Excavated soil that will be transported from the Site will be characterized as appropriate for offsite disposal at a suitable facility. Several suitable offsite facilities are being considered, but the facility locations have not been finalized. The laboratory results of pre-characterization sampling will be used for offsite disposal characterization to the extent possible. The existing Site data will be supplemented as necessary to satisfy facility-specific acceptance criteria. The sample laboratory data will be compared against Massachusetts reuse, recycle, and disposal criteria in accordance to MassDEP Policy# COMM-97-001 and Interim Policy #WSC-94-400.

Transportation of all materials from the site will be performed using a MassDEP Bill of Lading (BOL), Material Shipping Record (MSR) or Hazardous Waste Manifest, as appropriate, and will be performed within 120 days of stockpiling in accordance with 310 CMR 40.0030 of the MCP.

3.3 Decontamination of Vehicles Transporting Soils

Vehicles used for the utility construction may require decontamination. In the event vehicle decontamination is required, soils and mud will be removed from vehicles prior to their departure from the Site. A decontamination pad will be constructed by the City and/or Contractor prior to soil removal activities. The method of soil removal will likely be a combination of brushing the wheels to remove loose soils and/or passing vehicles through a decontamination station. Any liquids generated by vehicle decontamination will be drummed and transported offsite for disposal.

In addition, the City and/or Contractor shall be responsible for ensuring that tracking of potentially contaminated soil onto public roadways is prevented.

Decontamination procedures may be modified at the discretion of the LSP if differing site conditions or regulatory requirements are encountered. Any modifications will be documented.

3.4 Supplementary Stockpile Characterization

Prior to transport and disposal of stockpiled soils, soils stockpiled for disposal will be evaluated to determine whether sufficient analytical data is available to satisfy the requirements of the selected disposal or recycling facility. As deemed necessary, soil samples will be collected and analyzed according to the analytes and the sampling frequency specified by the selected disposal facility.

The City, at its option, may stockpile soils displaced by the project, if any, at the Shawmut Avenue Transfer Station.

3.5 Environmental Monitoring

TRC personnel will be onsite during the drainage system construction and as needed for soil management, and will conduct environmental monitoring activities as described herein.

3.5.1 Field Screening Associated with Soil Removal

Field screening of soil will be conducted as part of the URAM to monitor soil conditions and excavation progress.

3.5.1.1 Jar-Headspace Field Screening of Soils

VOCs are not a concern at the Site based on prior sampling and analysis of soil. As a precaution, soil samples disturbed or excavated as described herein to accomplish demolition activity will be periodically screened via the MassDEP jar-headspace method for the potential presence of VOCs based on professional judgment. TRC is prepared to sample and analyze soil for which field observations suggest potential VOC impact.

3.5.2 Air Monitoring

On-site air monitoring will be conducted to evaluate Site working conditions to minimize exposures to workers and nearby residents. During demolition and site work, water spraying will be utilized to prevent fugitive dust.

3.5.2.1 Air Monitoring

Air monitoring will be performed using a combination of real-time dust and VOC monitoring utility construction activities.

3.5.2.1.1 Real-Time Dust Monitoring

Dust suppression in the form of water sprays will be implemented liberally and proactively throughout all URAM-related activities involving the excavation and management of potentially impacted soils. Dust suppression will be implemented in advance of and throughout real-time dust monitoring. The use of dust monitoring equipment will be used to determine the effectiveness of dust suppression activities and help determine the need for instituting additional safety measures.

It is anticipated that impacted material will be encountered during the utility construction activities. When potentially impacted soils are encountered during URAM-related soil excavation and management activities, real-time field screening of breathing zone dust levels will be conducted using direct reading instruments that are designed to monitor air quality on a real-time basis. A second instrument will be used to monitor dust levels downwind of the excavation, while a third instrument will be used as a precaution to monitor dust levels between the work zone and the nearest property (e.g., residence, school, etc.) regardless of the wind direction.

The dust monitoring units will be TSI Dustrak™ units, or equivalent, equipment with size-selective inlet for particles of 10 micrometers in diameter or less (PM_{10}). Background samples will be collected for at least 15 minutes at each location prior to the start of site activities. The continuous dust monitor uses a light scattering photometer to quantify particles and converts the counts to a concentration in units of milligrams per cubic meter (mg/m^3). This instrumentation has an accuracy of 0.001 mg/m^3 (1 ug/m^3). The dust monitoring instruments will be placed in weatherproof cases with an omni-directional probe to minimize wind interference. The dust monitoring instruments will be zeroed daily before use and at the end of the day. Data will be logged at 60-second intervals and will be monitored periodically by field personnel during RAM-related excavation activities. Data will be downloaded daily.

If sustained ambient dust levels exceed the EPA National Ambient Air Quality Standard (NAAQS) of 150 $\mu g/m^3$ at downwind sampling locations (a sustained reading would consist of a reading lasting 15 minutes or longer), dust suppression activities will be increased with a greater usage of water sprays.

3.5.2.1.2 VOC Air Monitoring

VOC air monitoring will be performed using a photo-ionization detector (PID) to monitor for the presence of VOCs within the work area breathing zone. Based on previously existing site data, significant VOC emissions are not expected during construction, but field monitoring of the breathing zone for VOCs will be conducted as a precaution. Periodically (e.g., during routine checks of the real-time dust monitoring instrumentation), TRC will collect PID measurements in locations upwind and downwind of demolition or soil disturbance activities, as well as in the location used to monitor dust levels between the work zone and the nearest property (e.g., residence, school, etc.) regardless of the wind direction.

3.5.3 Action Levels

Instrument readings from breathing zones within the work zone will be used to help evaluate the need for instituting additional safety measures or upgrading personal protective equipment (PPE) levels.

The ambient Action Level for dust is based on the EPA 24 hour NAAQS for PM_{10} particulate of 150 ug/m^3. The modeling conducted to support the derivation of the 150 µg/m^3 dust level indicates that the PCB concentration would need to be at least 2000 mg/kg in soil before the EPA Acceptable Long-Term Average Exposure Concentration of 0.3 ug/m^3 employed for Keith Middle School (KMS) and New Bedford High School (NBHS) indoor air monitoring is exceeded. This assumes the PCB concentration is a uniform 2,000 mg/kg and the dust level is sustained. The assumptions and concentration basis are both very conservative; therefore, the action level for real-time dust monitoring is expected to be protective, especially over the short duration of the planned work.

If PID readings are sustained above 5 parts per million by volume (ppmv) in the breathing zone for at least five minutes, all on-site workers will be moved to an upwind location and TRC's office health and safety coordinator and/or corporate health and safety manager will be contacted to evaluate suitable response actions. Any upgrade in respiratory protection will be coordinated with the corporate health and safety manager and/or the office health and safety coordinator.