PUBLIC INVOLVEMENT PLAN

PARKER STREET WASTE SITE
NEW BEDFORD, MASSACHUSETTS
Release Tracking Number: 4-15685

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Acronyms

ACM	Asbestos containing material
ARP	Acquired Residential Properties
ATSDR	U.S. Department of Health and Human Services Agency for Toxic Substances and Disease Registry
AUL	Activity and Use Limitation
CEP	Critical Exposure Pathway
CLEAN	Citizens Leading Environmental Action Network
CSA	Comprehensive Site Assessment
DPI	Department of Public Infrastructure
DRO	Diesel Range Organics
EPA	United States Environmental Protection Agency
EPCs	Exposure Point Concentrations
EPH	Extractable Petroleum Hydrocarbons
ERC	Environmental Risk Characterization
ES	Environmental Screening
GRO	Gasoline Range Organics
HI	Hazard Index
HVAC	Heating, ventilation and air conditioning
IATV	Indoor Air Threshold Values
IH	Imminent Hazard
IRA	Immediate Response Action
KMS	Keith Middle School
LTMMIP	Long-Term Monitoring and Maintenance Implementation Plan
MassDEP	Massachusetts Department of Environmental Protection
MCP	Massachusetts Contingency Plan
NBEA	New Bedford Educators Association, Inc.
NBHS	New Bedford High School
OHM	Oil and Hazardous Material
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
PIP	Public Involvement Plan
pg/g	picograms per gram
ppm	Parts Per Million
ppmv	Parts Per Million by Volume
PSWS	Parker Street Waste Site
RAM	Release Abatement Measure
RAO	Response Action Outcome
RAO-P	Response Action Outcome - Partial
RCRA	Resource Conservation and Recovery Act
RIP	Remedy Implementation Plan
RTN	Release Tracking Number
SRM	Substantial Release Migration
SVOC	Semivolatile Organic Compounds

TCE	Trichloroethylene
TEQ	Toxicity Equivalent
TFE	Total Fluid Extraction
TPH	Total Petroleum Hydrocarbon
TRC	TRC Environmental Corporation
TSCA	Toxic Substances Control Act
UCL	Upper Concentration Limit
ug/m^3	micrograms per cubic meter
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds
VHB	Vanasse Hangen Brustlin
VPH	Volatile Petroleum Hydrocarbons

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1.0 INTRODUCTION

This Public Involvement Plan (PIP) was developed for the Parker Street Waste Site (PSWS; the Site) in response to a request by a citizens group, Citizens Leading Environmental Action Network (CLEAN). On December 22, 2011, the City of New Bedford (the City) received public comments on its Application for Extension and Modification of the Special Project Designation Permit from CLEAN. As part of these comments, CLEAN requested that a formal PIP be developed and complied with in accordance with the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000. On February 7, 2012, the City issued a response to CLEAN's public comments that included a commitment to the development of a formal PIP.

This PIP outlines the steps that the City plans to take to keep the public informed of the assessment and response action activities performed by the City at the Site in compliance with the MCP, 40 CMR 40.1405(6). The Draft PIP was presented at a public meeting on May 2, 2012 at the Community Room of Keith Middle School. The public review period for the Draft PIP was 24 days from the date of the public meeting up to which time public comments could be submitted in writing to the City. This Final PIP and a summary of the public comments received, including a response to comments, will be made available at the Information Repositories identified herein. A Glossary of technical terms used in the PIP is included after Appendix D as a reference.

For the purposes of the PIP, the "Public" is comprised of all interested parties including, but not limited to, homeowners, students, teachers, groundskeepers, CLEAN, and the New Bedford Educators' Association (NBEA).

For the purposes of the PIP, the Site is considered the area that includes current and future response actions tracked by the Massachusetts Department of Environmental Protection (MassDEP) under Release Tracking Number (RTN) 4-15685. Response actions at this Site are conducted under a Special Project Designation per the MCP (310 CMR 40.0060) due to logistical complexities.

A glossary is included at the end of the document that defines specialized terms. The first time the term appears it is in bold.

2.0 SITE BACKGROUND

The following background information on the Site includes a site description and history, a summary of material **environmental assessments** performed by the City, and relevant public involvement history.

Various agencies are involved in the investigation and **remediation** of impacted areas, as well as the investigation of other potential impacts to the public as follows:

- The City is involved in the investigation and remediation of City-owned properties;
- The MassDEP, in concert with EPA, is involved in the investigation and remediation of private and/or state-owned properties;
- When certain condition are met, the EPA oversees the remediation of PCBs under the **Toxic Substances Control Act** (TSCA);
- The Massachusetts Department of Public Health Bureau of Environmental Health investigated potential health implications related to the PSWS;
- The U.S. Department of Health and Human Services' Agency for Toxic Substances and Disease Registry (ATSDR) is conducting a Public Health Assessment which involves reviewing the environmental sampling data from the site, evaluating the ways which people may come in contact with chemicals at the site, and then evaluating the potential for adverse health effects from exposures.

2.1 Site History and Description

The PSWS is tracked by MassDEP under RTN 4-15685, and currently includes the following locations:

- The Keith Middle School (KMS) property (approximately 6 acres);
- The wetland to the west of KMS, referred to as the KMS Wetland (approximately 5 acres);
- The New Bedford High School (NBHS) campus (approximately 35.4 acres);
- Several other City-owned parcels (e.g., Department of Public Infrastructure [DPI] storage area to the east of NBHS);
- Six City-owned residential properties, referred to as the Acquired Residential Properties (ARP), along Greenwood Street and Ruggles Street near the intersection with Hathaway Boulevard including 101, 102, and 111 Greenwood Street and 98, 108, and 118 Ruggles Street (approximately 1.2 acres);
- Several vacant parcels along Ruggles Street and Hathaway Boulevard owned by the City and referred to as the Nemasket Street Lots (Nemasket; approximately 1.7 acres);
- Several additional residential properties along Greenwood, Ruggles and Durfee Streets; and
- A commercial property located at the corner of Hathaway Boulevard and Durfee Street (319 Hathaway Boulevard).

A map illustrating the locations of these key features is included as Figure 1.

The above-described properties are variously impacted by polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and/or heavy metals (including but not limited to arsenic, lead, and cadmium) in soil and/or fill. Localized subsurface impacts of petroleum-related compounds or volatile organic compounds (VOCs) were also detected. The fill material includes historic urban fill, as described in the *Technical Update: Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil – In Support of the Massachusetts Contingency Plan"*(Mass DEP, 2002) and activities related to deposition at the PSWS. Localized groundwater impacts have been detected at the NBHS campus.

Based on review of historical USGS topographic maps from 1941 and 1949, wetlands were located at the Site prior to activity associated with the PSWS. In the 1941 (1936 survey data) map and 1949 (1948 survey data) map, the Site is still illustrated as wetland.

A review of historical aerial photographs indicates that the Site was subject to land disturbance or disposal activity from the 1930s through the late 1960s. New Bedford High School was constructed between 1970 and 1972. Soils displaced for construction of the building's foundation were reportedly transported across Hathaway Boulevard to what was then vacant land (the present-day location of the KMS). In 1994, soil at the location now occupied by KMS was used for grading to create the Former Andrea McCoy Soccer Field across Hathaway Boulevard from the NBHS[1]. During an environmental investigation of what is now the location of KMS in 2000, concentrations of PCBs above regulatory reporting criteria were detected, triggering a reporting condition to MassDEP.

Additional investigations of the surrounding area (NBHS, properties adjacent to KMS, and Walsh Field) were then undertaken by the BETA Group, Incorporated (BETA) on behalf of the City in connection with a conditional approval issued by the United States Environmental Protection Agency (EPA)[2]. BETA filed a Class A-3 partial **Response Action Outcome** (RAO-P) for the KMS in December 2006.

Additional RTNs for which response actions were conducted include the following (Note: RTNs for which an RAO-P report has been filed and where no additional response actions are required are marked with an *):

- RTN 4-15824* – Former Keith Junior High School/New McCoy Field underground storage tank (UST) release, closed by a Class A-1 RAO-P filed on June 28, 2010;
- RTN 4-21300 – **Immediate Response Action** (IRA) addressed PCB-impacted sediments in the wetland to the west of the KMS campus;

[1] McCoy Field PCB Approval Tech Support Document, USEPA dated August 24, 2005.
[2] PCB Risk-Based Cleanup and Disposal Approval, McCoy Field (New Keith Middle School), New Bedford, MA, USEPA August 24, 2005.

- RTN 4-21407* – Arsenic-impacted surface soil at the Varsity and Junior Varsity Baseball Diamond portions of the Walsh Field athletic complex, closed by a Class A-3 RAO-P filed on May 26, 2011;
- RTN 4-21823* –Lead-impacted soil at the Soccer Field portion of the Walsh Field athletic complex, closed by a Class A-3 RAO-P filed on May 26, 2011;
- RTN 4-21847 – IRA addressed PCB-impacted soil at the NBHS campus.
- RTN 4-21872 – IRA addressed metals-impacted surface soil at the NBHS campus.
- RTN 4-22409 – IRA addressing a Condition of **Substantial Release Migration** (SRM) / **Critical Exposure Pathway** (CEP) at the NBHS campus.
- RTN 4-23223 – IRA addressed PCB--impacted surface soil within the Ruggles Street right-of-way adjacent to the Nemasket Street Lots.
- RTN 4-23526 – IRA addressed PCB-impacted surface soil within Triangle Island TI-3 at the NBHS campus.

The aforementioned RTNs are linked to RTN 4-15685.

The Phase II **Comprehensive Site Assessment** (CSA) describing NBHS investigation activities was submitted to MassDEP in April 2011. The NBHS investigations identified the presence of fill variously impacted by PCBs, PAHs, dioxins, and metals. The fill material appears to be attributable to historical waste disposal activities associated with the Site.

Evaluation of the source of impacts associated with RTN 4-22409 at the NBHS campus is currently ongoing. VOCs, PCBs, and lubricating oil were detected beneath the Mechanical Room of the NBHS Building.

A Phase II CSA describing KMS Wetland investigation activities was submitted to MassDEP in January 2012. The City's root cause analysis has evaluated several potential mechanisms for the post-remedy PCB concentrations detected in sediment samples collected as part of the long-term monitoring program and further delineated during extensive follow-up sampling (RTN 4-21300). The potential causes are not on-going or active conditions.

At Walsh Field (RTN 4-21407), historical information, forensic review of historical aerial photographs, evaluation of soil analytical data, and review of soil boring information associated with environmental investigations conducted by TRC and others, including the EPA, near Walsh Field indicate that the area south of Parker Street contains widely distributed historic urban fill. The City filed a Class A-3 RAO-P for Walsh Field on May 26, 2011, documenting the historic ash fill on that property. The area south of Parker Street is distinctly different from areas located to the north of Parker Street and west of Liberty Street, where historic ash fill is mixed with other wastes. Also, the arsenic impacted soils of the baseball diamonds appears to have been imported to the fields during construction.

RTN 4-15824 involves a historic UST release on a limited portion of the current New McCoy Field property. The City filed a Class A-1 RAO-P with the MassDEP for the release on June 28,

2010. A portion of the remainder of the current New McCoy Field property contains widely distributed historic urban ash. The City filed a Class A-3 RAO-P for the New McCoy Field on March 26, 2011, documenting the historic urban fill on the property.

A Phase II CSA describing investigation activities at the ARP and the Nemasket Street lots was submitted to MassDEP in January 2012. The ARP and Nemasket investigations identified the presence of fill variously impacted by PCBs, PAHs, dioxins, and metals. The fill material appears to be attributable to historical waste disposal activities associated with the Site.

2.2 Summary of Material Environmental Assessments

Environmental assessment at the PSWS began with an environmental investigation of the current location of KMS (the Former McCoy Field) as a possible location for a middle school in 2000. During the investigation concentrations of PCBs were detected above regulatory reporting criteria, triggering a reporting condition to MassDEP. Following the detection of PCBs, environmental investigations were performed by BETA at this property, as well as the surrounding area in response to a conditional approval issued by the EPA.

The City prepared Fact Sheets that describe response actions conducted at specific portions of the Site in a manner that the public may find easier to understand. The Fact Sheets that the City has previously prepared are included in Appendix D, and the Fact Sheets are referenced in each of the following subsections that pertain to the subsection.

2.2.1 Keith Middle School (KMS) and Wetland to West of KMS

Following the completion of response actions and construction of the KMS, the KMS portion of the Site was closed with a Class A-3 RAO-P by BETA. The RAO-P for KMS did not include the wetland to the west of KMS, although a remedial action was undertaken in the wetland by BETA. The KMS Wetland response actions included the excavation of PCB-impacted sediments from areas of the wetland where a 1 milligram per kilogram (mg/kg) PCB sediment cleanup criteria approved by EPA was exceeded. The remedy was implemented and overseen by BETA in 2006; however the RAO-P was not filed following the wetland remediation. The City continues to conduct monitoring under an EPA approved **Long-Term Monitoring and Maintenance Implementation Plan** (LTMMIP)[3]. In May 2008, TRC performed wetland sediment sampling in accordance with the LTMMIP. One of the four sediment samples indicated a PCB concentration that was above reporting criteria set forth in the LTMMIP. The condition was reported to the MassDEP, and they approved an "assessment only" IRA and assigned RTN 4-21300.

Fact Sheets that were prepared for the KMS and KMS Wetland were issued on the following dates: June, 2010; September, 2010; and August, 2011.

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[3] *Long-Term Monitoring and Maintenance Implementation Plan (LTMMIP),* prepared by BETA, dated October 20, 2006.

The KMS Wetland portion of the Site environmental investigation activities, performed under RTN 4-21300, consisted of iterative soil and sediment sampling as well as surface water and groundwater sampling. Response Actions included the installation of a perimeter fence that surrounded the northern portion of the KMS Wetland in order to restrict access to the entire northern portion of the wetland. A **Method 3 Risk Characterization** approach, including a **Stage I Environmental Screening** (ES) and **Stage II Environmental Risk Characterization** (ERC), was utilized to evaluate potential risks to both human and ecological receptors from wetland sediment and surface water. The Method 3 Risk Characterization concluded the following:

- A Condition of **No Significant Risk** exists for both human and environmental receptors in the southern portion of the wetland (south of the land bridge);

- A Condition of No Significant Risk exists for Site groundwater;

- A Condition of No Significant Risk exists in the northern portion of the wetland under the current use scenario;

- A Condition of No Significant Risk exists for human receptors in the northern portion of the wetland under future use scenarios, with the exception of the ERC-SED-11A area;

- The ERC-SED-11A area contains PCB concentrations in sediment greater than one hundred times the corresponding MCP Method 1 S-1 soil standard, and the average PCB concentration in the remainder of the northern wetland;

- No individual soil or groundwater concentration, or soil or groundwater **Exposure Point Concentrations** (EPCs), exceeds its respective MCP **Upper Concentration Limit** (UCL);

- No nuisance conditions exist with respect to the Site; there has been no significant loss of active or passive uses of the property; no public resource is known to be impacted by the wetland; and soil and groundwater EPCs are less than their respective MCP UCLs. Therefore, a Condition of No Significant Risk to public welfare exists at the Site.

A Stage II ERC evaluated potential exposures to six indicator species and two indicator communities to PAHs, pesticides, PCBs and/or inorganics in sediment, potential exposures to five indicator species from PAHs, pesticides, PCBs and/or inorganics in surface soil, and potential exposures to the amphibian community from zinc in surface water. Assessment and measurement endpoints were selected to represent ecological attributes used to gauge the degree of potential impact. The results of the Stage II ERC indicated the following:

- For the Northern Wetland Sediments: there is a potential for adverse effects to benthic macroinvertebrates from PCB and PAH concentrations based on a reduction in midge larvae growth rates when exposed to the highest detected concentrations of those chemicals. A low potential for risk exists from the pesticide 4,4'-DDT due to its lower

ecological screening benchmark criteria, but reduced bioavailability (a function of the high organic carbon content of the sediment), and there is no apparent risk from lead or zinc based on lack of toxicity observed during testing.

- For the Northern Wetland Surface Soils (0-12 inches deep): a Condition of No Significant Risk exists for foraging carnivorous birds and mammals, and there are potential impacts to omnivorous birds and mammals and insectivorous mammals from concentrations of PCB congeners, lead and/or zinc.

- For the Northern Wetland Surface Water: zinc concentrations detected in 11 of 24 surface water samples collected from the northern wetland are above the acute/chronic national recommended water quality standard, which represents the Massachusetts Surface Water Standard for zinc [314 CMR 4.05(5)(e)]. However, the ecological risk characterization has demonstrated that amphibians are not at risk based on surface water site-specific testing. Six out of seven surface water samples collected in 2010 were below the Massachusetts standard for zinc.

The Phase II CSA for the KMS Wetland, submitted to MassDEP in January 2012, provides a complete discussion of environmental investigations, the nature and extent of impacts, and the risk characterization.

2.2.2 NBHS Campus

Fact Sheets that were prepared for the NBHS were issued on the following dates: February, 2010; March, 2010; June, 2010, July 2010, April 2011; August, 2011; and January, 2012.

In July 2001, Vanasse Hangen Brustlin, Incorporated (VHB) performed an environmental investigation at the NBHS Campus portion of the Site that consisted of the collection and analysis of 22 soil samples from fifteen locations. The sample results indicated the presence of PCBs at concentrations that exceeded regulatory criteria. Lead and PAHs were detected above MCP Method 1 standards, but VHB indicated in their opinion that the lead concentrations detected were consistent with urban background levels, and the PAH concentrations were attributed to wood and coal ash fill.

Between September 2004 and February 2006, environmental investigations at the NBHS Campus were performed by BETA that consisted of collecting soil samples from 343 soil boring locations, and the collection of 12 surface soil samples (0-6 inches). Fill was observed at 276 of the 343 soil boring locations. The sample analysis included PCBs, **Resource Conservation and Recovery Act** (RCRA) 8 metals, total lead, semivolatile organic compounds (SVOCs), herbicides, pesticides, and VOCs, as well as general petroleum analyses (i.e., Diesel Range Organics [DRO] and Gasoline Range Organics [GRO]). The investigation identified the following chemicals at the NBHS Campus: PCBs, arsenic, barium, cadmium, chromium, lead, mercury, PAHs [specifically: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, indeno(1,2,3-cd) pyrene, phenanthrene, and pyrene].

TRC conducted supplemental environmental investigations between July 2008 and May 2010 that included the collection of soil samples from 481 additional soil borings and surface soil locations at the NBHS Campus. The sample analysis included PCBs, PAHs, MCP Metals, VOCs, Extractable Petroleum Hydrocarbons (EPH), and Volatile Petroleum Hydrocarbons (VPH). These investigations were conducted to refine the delineation of impacted areas and to support remedial planning. An additional targeted soil investigation was conducted to evaluate the potential presence of chlorinated dioxins/dibenzofurans and dioxin-like PCB congeners.

IRA activities that have been conducted or initiated at the NBHS Campus are tracked by RTNs 4-21847, 4-21872, 4-22409, and 4-23526 and are briefly described as follows:

- RTN 4-21847 was initiated on March 19, 2009 following the detection of total PCBs at a concentration of 45.9 mg/kg in surface soil (0 to 1 foot in depth) at the HB-23 sample location area of the NBHS campus. TRC conducted additional soil sampling, prepared an **Imminent Hazard** (IH) evaluation, and approximately 63 cubic yards of impacted soil were removed. An IRA Completion Report was submitted on July 20, 2009.

- RTN 4-21872 was initiated on April 2, 2009 following the detections of arsenic and chromium at a concentration of 40 mg/kg and 1,960 mg/kg, respectively, in surface soil (0 to 1 foot in depth) at the HH-13 sample location area of the NBHS campus. Additional soil sampling and an IH evaluation indicated that an IH does not exist. An IRA Completion Report was submitted on June 1, 2009.

- RTN 4-23526 was initiated by an initial laboratory result from composite soil sample TREE-TI-3 (0-1) that indicated a total PCB Aroclor concentration of 100 mg/kg in the top foot of soil around a tree in the Triangle Island Area. On September 6, 2011, the condition was reported to the MassDEP via telephone by TRC and the City. MassDEP orally approved IRA assessment activities and assigned RTN 4-23526 on September 6, 2011. In addition, the EPA Region 1 PCB Coordinator was notified of the initial detection via teleconference on September 6, 2011.

  Based on the September 6, 2011 teleconference with the EPA Region 1 PCB Coordinator and following oral approval of additional assessment activities by MassDEP, a quality assurance review of the laboratory analytical data reports was conducted, a supplemental assessment was conducted, and an IH evaluation was initiated within 14 days of obtaining knowledge of the reporting condition per the MCP.

  As detailed in the IRA Completion Report[4] associated with the Triangle Island TI-3 Area, following receipt of a revised laboratory analytical data report associated with soil composite sample TREE-TI-3 and the delineation soil sample results representing the original northern, eastern, southern and western grab aliquots, TRC reported the results

[4] *Immediate Response Action Completion Report and Imminent Hazard Evaluation. Triangle Island TI-3 Area,* prepared by TRC, dated November 2, 2011.

via electronic mail to the EPA Region 1 PCB Coordinator on October 6, 2011. On October 28, 2011, TRC issued a clarification letter to EPA summarizing the discovery that a laboratory reporting error had occurred. The laboratory issued a corrected results report for composite soil sample TREE-TI-3 (0-1). In addition, the clarification letter summarized the results of supplemental investigation activities in support of determinations that: 1) no IH condition exists at the Triangle Island TI-3 area of the NBHS Campus, and 2) the soil associated with the Triangle Island TI-3 root mass did not represent a PCB Remediation Waste as defined in 40 CFR §761.3 and does not require EPA regulation under the Toxic Substances Control Act (TSCA).

- RTN 4-22409 was assigned to groundwater and aqueous seep samples collected near where groundwater appears to seep into the Mechanical Room of the NBHS building. The influence of the building structure and drainage system were evaluated relative to the fate and transport of groundwater beneath the building and an IH evaluation was conducted, which concluded that an IH condition was not present.

  The detection of chlorinated VOCs in groundwater, seep water and indoor air in the vicinity of the Mechanical Room were reported as potential SRM conditions to the MassDEP on January 29, 2010. MassDEP orally approved the IRAs at the site and assigned RTN 4-22409.

  Environmental investigations were conducted of indoor air, subslab soil vapors, groundwater, aqueous seeps, storm sewer infrastructure and sanitary sewer infrastructure to evaluate the potential SRM condition and the nature and extent of impacts near the Mechanical Room at NBHS. An IRA Plan was submitted to MassDEP on March 22, 2010, which described initial IRA activities and additional investigation activities and CEP mitigation measures to be implemented at NBHS.

  IRA Status Reports dated May 24, 2010 and November 29, 2010 described the results of investigation and mitigation activities. Based on groundwater sampling results from October and November 2010, the lateral and vertical extents of VOC impacts in the vicinity of the Mechanical Room were defined and an IRA Plan Modification was submitted to MassDEP on January 18, 2011. The IRA Plan Modification added the removal of chlorinated VOC-impacted groundwater in the vicinity of monitoring well MW-27 in the Mechanical Room by pumping and vacuum extraction (Total Fluid Extraction [TFE]) and off-site disposal to the previously approved IRA activities.

  MassDEP issued a written approval of the IRA Modification activities on February 23, 2011. TFE activities were initiated on February 25, 2011. To date a total of approximately 2,600 gallons of groundwater have been removed during five separate vacuum extraction events. Supplemental groundwater sampling, well gauging and indoor air sampling results are also described in the IRA Status Report dated May 31, 2011.

  Between December 2010 and April 2011, seepage mitigation activities were implemented by the City. Hydra Concrete Waterproofing (Hydra) of Holliston, Massachusetts applied

Contite® penetrating mortar to cracks within the Mechanical Room. Based on the most recent inspection, the penetrating mortar was successful in reducing the amount of seepage from the cracks throughout a large portion of the Mechanical Room.

In August 2011, a vacuum truck containing approximately 609 gallons of water from the July 28, 2011 TFE event was rejected by the disposal facility upon determining that the water contained PCBs, specifically Aroclor 1254. Subsequent testing indicated that Aroclor 1254, trichloroethylene (TCE), and lubricating oil were also present in the groundwater samples collected beneath the NBHS Mechanical Room. The City notified the MassDEP and the EPA Region 1 PCB Coordinator of the rejected shipment and detection of PCBs on August 2, 2011. The detection of PCBs required the waste material to be classified as PCB Remediation Waste and EPA regulation under TSCA. The containerized contents of the vacuum truck, the vacuum truck decontamination fluids and the cubic yard box containing the vacuum truck hose were transported offsite for disposal in accordance with TSCA requirements.

During high water conditions, an extensive underdrain system beneath the NBHS building diverts groundwater from beneath NBHS to the perimeter drains and then to the City storm sewer. One branch of the drain system is located immediately adjacent to MW-27R. The proximity of this drain to a location of groundwater impacts beneath the Mechanical Room floor represents a potential for impact migration from the vicinity of the Mechanical Room to the City storm sewer.

In order to mitigate potential critical exposure pathways, a combined hydraulic control and venting system was installed in the vicinity of MW-27R in March 2012.

The purpose of the hydraulic control system is to prevent impacted groundwater in the vicinity of 4-inch recovery well MW-27R from entering into the underdrain system that was originally installed beneath the NBHS. This system is a temporary remedy until a permanent remedy is identified.

The purpose of the localized sub-slab venting system is to prevent vapors from potentially migrating via the underdrain system. The venting system utilizes a blower that discharges via an existing unused exhaust stack to the outside air. Two 200-lb vapor phase carbon vessels have been installed immediately downstream of the blower to remove organic contaminants from the exhaust stream.

A Method 3 approach was selected to characterize human health risk at the NBHS Campus. For the purpose of characterizing human health risk, the NBHS Campus was treated as 11 separate exposure areas based on current known uses of those areas. The NBHS Campus was divided into the following **exposure points** based on current activities known to be occurring: HS-1(Children's Playground Area), HS-2 (Fenced Playing Field Area), HS-3 (Unfenced Playing Field Area), HS-4 (Gym Area), HS-5 (Flag Pole Area), HS-6 (House Area), HS-7 (Student Congregating Area), HS-8 (Junior High School Gym Class Area), HS-9 (Beneath Pavement/Building Areas), HS-10 (Tree Belts Area), and HS-11 (Miscellaneous Samples of

Unknown Location). The risk characterization performed also addresses the chlorinated dioxin/dibenzofuran and dioxin-like PCB congener soil sampling results, and the VOCs associated with the RTN 4-22409 IRA.

A Stage I ES was performed to assess potential risk to the environment. However, there is limited potential for environmental receptors (other than typical urban fauna such as pigeons or rodents) to be present at the Site due to the highly urbanized character of the Site location.

Based on the results of the environmental assessments and remedial activities at the NBHS Campus, the following conclusions were developed:

- The NBHS Campus is underlain by deposits of potentially impacted fill material associated with historical and undocumented waste management practices.

- Environmental media known to be potentially impacted include soil, groundwater, subslab soil vapor and indoor air.

- It is currently safe for people to occupy NBHS and use the campus around the school. The evaluation assumed that someone spends 8 hours per day, 5 days per week for 27 years in NBHS. There is No Significant Risk to the health of building occupants.

- Outside the high school, staff, students, and visitors use the campus for various activities, including walking across the campus, participating in outdoor gym classes, or cutting grass. TRC considered how people use the campus in evaluating whether people could potentially be exposed to chemicals in the surface soil (soil that is not beneath pavement). TRC determined that the potential exposures to surface soils in the 0 to 1 foot depth zone do not pose a significant risk, considering the possibility of inhaling dust, eating a small amount of surface soil, and coming into skin contact with surface soil. In reaching this conclusion, TRC considered the frequency and intensity that high school staff (such as faculty and maintenance personnel), students, and visitors may use the campus.

- No IH conditions exist at the NBHS Campus.

- A Condition of No Significant Risk does not exist for potential soil impacts at the Site under current and future use scenarios. Further remedial actions are needed to achieve Site closure.

- The exposure points where chemical concentrations did not pose a condition of No Significant Risk under current conditions, applicable to the top 3 feet of soil, are:

    - HS-3: lead (older child/teenage student, daycare child and adult staff)
    - HS-4: PCBs and lead (daycare child)
    - HS-5: lead (older child/teenage student and daycare child)
    - HS-6: benzo(a)pyrene and lead (older child/teenage student, daycare child and adult staff)

- HS-8: lead (daycare child)
- HS-10: lead (daycare child)

- Under future conditions, the 0 to 15 feet soil interval at exposure points HS-1, HS-2 and HS-7 is associated with a condition of No Significant Risk. The exposure points where chemical concentrations did not pose a condition of No Significant Risk under future conditions, applicable to the top 15 feet of soil, are:

  - HS-3: lead (older child/teenage student, daycare child, adult staff and construction worker)
  - HS-4: PCBs and lead (daycare child and construction worker)
  - HS-5: lead (daycare child and construction worker)
  - HS-6: benzo(a)pyrene and lead (older child/teenage student, daycare child, adult staff and construction worker)
  - HS-8: lead (daycare child)
  - HS-9: lead (older child/teenage student, daycare child and construction worker)
  - HS-10: lead (older child/teenage student, daycare child and construction worker)
  - Hot Spot SB-308 (3.5'): benzo(a)pyrene, dibenz(a,h)anthracene, benzo(a)anthracene, benzo(b)fluoranthene, indeno(1,2,3-cd)pyrene and lead (older child/teenage student, daycare child, adult staff and construction worker)
  - HS-11: lead (daycare child and construction worker)
  - Hot Spot MW-27: trichloroethene and vinyl chloride (construction worker)

- Exposure point HS-11 represents composite samples collected from the NBHS Campus by BETA in 2006, for which depth and location are unknown. These samples clearly demonstrate that pesticides and herbicides are not of concern at the NBHS area, and reinforce the finding that PAHs and metals are the principal impacts in soil at the NBHS Campus. TRC performed addition investigative work to identify potential data gaps, which were addressed by the additional soil sampling and analysis. The soil data from that additional sampling effort were included in the overall risk characterization.

- TRC performed soil sampling for polychlorinated dibenzo-p-dioxins (dioxins), polychlorinated dibenzofurans (furans) and dioxin-like PCBs (collectively referred to as dioxin-like compounds or congeners) in 2010 using a site-wide approach. The sampling locations targeted were previously sampled locations that TRC identified as being likely, under an estimated worst case scenario, to have the highest concentrations of dioxins, furans, and dioxin-like PCBs based on a review of all soil data. The site-wide EPCs for the various soil depth intervals, expressed as the contribution of Toxicity Equivalents (Total TEQs) for dioxin-like compounds, were used under an estimated worst case scenario in conjunction with the depth-specific EPCs calculated for each exposure area to evaluate cumulative potential risks and hazards. The biased sampling approach adopted for dioxin-like compounds was intended to avoid underestimating risk from exposure to dioxins in campus soil and, in all likelihood, results in overestimating risk. A Condition

of No Significant Risk exists for dioxin-like compounds, based upon a site-specific Method 3 risk characterization approach.

- The soil data reviewed by TRC indicate that PCBs are the only chlorinated dioxin/dibenzofuran precursor compounds at PSWS. There is no other indication in the extensive analytical data of the presence of any other chlorinated organic compounds with the potential to serve as chlorinated dioxin/dibenzofuran precursors in significant concentrations.

- Remedial actions are needed to achieve Site closure for groundwater from sub-slab monitoring well MW-27.

- Chlorinated VOC groundwater data from beneath the Mechanical Room of the NBHS building (MW-27 and MW-28) exceed MCP Method 1 GW-2 groundwater standards, indicating a potentially complete vapor intrusion pathway in this area of the building. No results greater than the MCP Method 1 GW-2 groundwater standards were found in groundwater located within 30 feet of the NBHS building at any location other than in the area of MW-27 and MW-28. Soil vapor concentrations at subslab soil vapor sampling point PVP-6, located beneath the Mechanical Room, do not exceed soil vapor screening criteria; however, indoor air concentrations in the Mechanical Room exceed Indoor Air Threshold Values (IATVs) due to the presence of a groundwater seep and/or products containing chemicals of potential concern (COPCs) in this room. VOC results in groundwater greater than the MCP Method 1 GW-2 groundwater standards beneath the Mechanical Room do not extend beyond the limits of the Mechanical Room, indicating that a vapor intrusion pathway is not present elsewhere in the NBHS building.

- The Mechanical Room is under a strong negative pressure with air from the room vented to the outside of the NBHS building, which works to prevent the migration of VOCs that enter the Mechanical Room from the groundwater seep to adjoining rooms. Therefore, VOCs detected in excess of IATVs in the indoor air of other areas of the NBHS building are present as a result of other indoor VOC sources (e.g., VOC-containing products in the auto shop, etc.), not as a consequence of vapor intrusion.

- A Condition of No Significant Risk exists for groundwater at the Site under current and future use scenarios, except as described above for VOCs in MW-27/28. The groundwater EPC for total lead in monitoring well MW-5 exceeds the MCP Method 1 GW-3 groundwater standard. However, the dissolved lead result for this well did not exceed the MCP Method 1 GW-3 groundwater standard.

- The EPC for benzo(a)pyrene in soil at a single sample location, SB-308 (3.5'), exceeds the MCP UCL of 300 mg/kg. No other soil EPC exceeds its respective MCP UCL. Individual concentrations detected in groundwater at the Site also did not exceed MCP UCLs.

- With regard to public welfare, no community in the vicinity of the Site is believed to be currently experiencing, or expected to experience, significant adverse impacts as a result of the degradation of public or private resources directly attributable to the soil and groundwater impacts at the Site. No other non-pecuniary effects are known to be present, or to be accruing, due to soil and groundwater impacts at this Site. Individual concentrations in groundwater at the Site did not exceed MCP UCLs. However, because benzo(a)pyrene in soil at SB-308 exceeded the MCP UCL of 300 mg/kg, a condition of No Significant Risk to public welfare does not exist at the Site.

- A Stage I Method 3 ERC indicated no significant soil exposure pathways exist at the Site and groundwater data indicate a condition of No Significant Risk to environmental receptors. Therefore, no further ecological investigation at the Site is warranted.

- Remedial actions need to be undertaken to achieve Site closure (the locations of remedial action are identified below in the discussion of the NBHS Campus RAM Plan Modification).

The Phase II CSA for the NBHS Campus submitted to MassDEP in April 2011, provides a complete discussion of environmental investigations, remedial actions, the nature and extent of impacts, and the risk characterization.

Following the NBHS Campus Phase II CSA, a **Release Abatement Measure** (RAM) was conducted at sample location HF-31. The HF-31 RAM was triggered when PCBs were detected at sample location HF-31D at a concentration of 71.6 mg/kg in the 1-3 foot sampling interval. The area of sample location HF-31 was identified for targeted soil removal to achieve a Condition of No Significant Risk under the MCP for the top three feet of soil. Following a 20-day comment period, a RAM Plan was submitted to the MassDEP on November 24, 2010.

MassDEP issued Conditional Approval to conduct the RAM on February 4, 2011. RAM activities including site preparation, soil excavation, offsite transportation and disposal of impacted soil material and backfilling activities were implemented between February 22, 2011 and February 24, 2011. A total of seven cubic yard boxes of PCB Remediation Waste and a total of approximately 168-tons of soil that were not PCB Remediation Waste were transported offsite for disposal. TRC submitted a RAM Completion Report to MassDEP on behalf of the City on March 29, 2011.

The response actions performed under the HF-31 Area RAM served to remove the EPA-regulated PCB Remediation Waste soil. This removal allowed remaining soil removal actions at NBHS to proceed as regulated under the MCP.

A NBHS Campus RAM Plan was submitted to MassDEP in April 2011. The MassDEP issued Conditional Approval to conduct the RAM on April 15, 2011 and RAM-related activities were initiated on April 16, 2011. As part of the Conditional Approval, a RAM Plan Modification was required prior to conducting activities "where pavement will be increased and/or for the installation of storm water utilities." A NBHS Campus RAM Plan Modification was submitted

to MassDEP in July 2011 and MassDEP issued a Conditional Approval of the RAM Plan Modification in August 2011.

The NBHS RAM Plan Modification remedial activities included: the excavation of impacted soil that contributes to EPCs in excess of MCP Method 1/Method 2 S-1 soil standards in the top 3 feet in landscaped areas as well as excavation of impacted soil with a benzo(a)pyrene UCL exceedance at sample location SB-308 (5 feet at SB-308); the expansion of paved surfaces in select areas to prevent direct contact exposure to impacted soil; the implementation of risk reduction methods at the former Junior High School Gym Class Area (HS-8) including covering the surface with a geotextile fabric and a protective layer of six inches of crushed stone to prevent fugitive dust generation and surrounding the area with an eight-foot high chain link security fence to protect against both current and future direct contact exposures, to support future use as a low-occupancy solar park. Approximate quantities of soil excavated are summarized below by sample(s) location/area:

- SS-32 – 7 cubic yards
- HF-40 – 112 cubic yards
- HF-43, HE-44 – 136 cubic yards
- HJ-42 – 42 cubic yards
- HD-19, HD-20, HD-21 – 298 cubic yards
- HF-14 – 353 cubic yards
- HH-13 – 171 cubic yards
- HA-19 – 160 cubic yards
- HB-39 *, HB-40 – 103 cubic yards
- HB-23, HC-22 – 357 cubic yards
- SS-36 – 118 cubic yards
- SB-360 – 193 cubic yards
- SB-308 -79 cubic yards
- SB-270 – 107 cubic yards
- Excavation in HS-5 (Flag Pole Area) – 2,299 cubic yards
- Excavation for paving in HS-10 – 1,307 cubic yards
- Excavation in northern area – 2,329 cubic yards

All remedial activities in the NBHS RAM Plan Modification were completed, with the exception of the risk reduction measures in the northern area (identified as HS-8), as described in the RAM Status Report submitted to MassDEP on February 3, 2012.

To date a total of approximately 7,885 cubic yards of soil were excavated and transported off-site for disposal.

2.2.3 Acquired Residential Properties and Nemasket Street Lots

A Fact Sheet that was prepared for the Acquired Residential Properties was issued on June, 2010.

Between December 2005 and June 2006, environmental investigations at the ARP portion of the Site were performed by BETA that consisted of collecting soil samples from 164 boring locations. The sample analysis included PCBs, RCRA 8 metals, PAHs, VOCs, and total petroleum hydrocarbons (TPH). The BETA reports for the ARP environmental investigations do not include information concerning observation of fill. The investigation identified the following at the ARP portion of the Site: PCBs RCRA 8 Metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver), and PAHs.

Between September 2004 and August 2005, BETA collected soil samples from 10 soil borings, including surface soil samples, at the Nemasket Street Lots (Nemasket). The sample analysis included PCBs, RCRA 8 metals, and SVOCs.

Following concrete foundation and foundation foam panel insulation sampling of the dwellings previously located at the ARP, the dwellings were demolished and the concrete foundations were disposed per the *Revised Modified Release Abatement Measure Plan, Greenwood Street and Ruggles Street Buildings Demolition Plan,* (RAM Plan) dated July 6, 2010. A complete description of work performed at the Site under the RAM Plan is included in the RAM Completion Report, dated September 24, 2010.

TRC conducted supplemental environmental investigations in June 2008 at 102 Greenwood Street only, and in December 2010 at all of the ARP. TRC also conducted additional sampling at Nemasket from October to December 2010 and March, April, June and July 2011. PCB congener and chlorinated dioxin/furan investigative sampling was performed in June 2011. These investigations were conducted to support remedial planning.

At the ARP, 75 borings were advanced, including surface soil sampling, and 17 test pits. The sample analysis included PCBs, SVOCs/PAHs, MCP Metals, EPH, and VPH.

At Nemasket, environmental investigations included conducting a **geophysical survey**. Prior to conducting the geophysical survey, the lots were cleared of all trees and shrubs, and surficial debris was placed in piles at the periphery of the site. The geophysical survey included collection of data using both ground penetrating radar and electromagnetic terrain conductivity techniques.

The results of the geophysical survey helped guide the location of subsequent environmental explorations (e.g., test pits) at Nemasket. These environmental investigations also included the collection of soil samples from 47 soil boring location, including surface soil sampling, and 23 test pits. The sample analysis included PCBs, PAHs, MCP Metals, hexavalent chromium, VOCs, EPH, and VPH.

The environmental investigations included the installation of six groundwater monitoring wells and the collection of groundwater samples from the six monitoring wells (MW-34 through MW-39) on January 11 and 13, 2011. All groundwater samples were submitted for laboratory analysis for PAHs, PCBs, and both total and dissolved MCP Metals. On December 1, 2011 groundwater samples were also collected from the three monitoring wells located on Nemasket (MW-37, MW-38, and MW-39) and analyzed for VOCs.

An IRA activity was triggered on April 14, 2011 by the detection of PCBs at a concentration of 11.61 mg/kg in surface soil at sample location RG-ROW-2 which is located in the Ruggles Street right-of-way, adjacent to the Nemasket Street Lots. The MassDEP orally approved IRA assessment activities and assigned RTN 4-23223. A risk assessment calculation indicated that no IH condition existed. An IRA Completion Report was submitted for this release on June 10, 2011.

A Method 3 approach was selected to characterize human health risk at the ARP and Nemasket Street Lots. Method 3 was selected to provide a site-specific evaluation of the potential risks and hazards associated with potential re-use options. For purposes of the current risk characterization, the Site was divided into the following potential exposure points: EP-1 - Acquired Residential Properties 101, and 111 Greenwood Street, and 98, 108, and 118 Ruggles Street; EP-2 - Acquired Residential Property 102 Greenwood Street; EP-3 - Nemasket Street Lots – Portion located inside the fence; and EP-4 - Nemasket Street Lots Portion in Ruggles Street right-of-way located outside the fence. A Stage I ES was also performed to assess potential risk to the environment.

Based on the results of the environmental assessments and remedial activities at the ARP and Nemasket Street Lots, the following conclusions were developed:

- The Site is underlain by deposits of impacted fill material associated with historical and undocumented waste management practices associated with the PSWS.

- No IH conditions currently exist at the Site.

- At the ARP and Nemasket, the following chemicals were detected in soils above MCP Method 1 soil standards in the 0 to 3 feet, and greater than 3 feet horizons: metals (including cadmium, chromium, lead and nickel), benzo(a)pyrene, PCBs.

- The sum of dioxin-like PCB Congener TEQs and dioxin TEQs (collectively, the "TEQ Summation") was above the MCP Method 1 standard in 23 of the 24 samples taken in the 0 to 1 foot below ground surface horizon at concentrations ranging from 21.8 picograms per gram (pg/g) (SB-98-4) to 1,123 pg/g (SB-NW-19). In the 1 to 3 foot below ground surface horizon the TEQ Summation for all 24 sampling locations exceeded the MCP Method 1 standard at concentrations ranging from 20.2 pg/g (SB-118-3) to 750 pg/g (SB-NM-20).

- The soil exposure points under future conditions for the top 3 feet of soil, assuming the fencing is removed and the Site is developed, are:

  - ARP EP-1 soil: lead, arsenic, total PCBs and dioxin TEQ (park visitor)
  - ARP EP-2 soil: lead, total PCBs and dioxin TEQ (park visitor and commercial worker)
  - Nemasket EP-3 soil : lead, arsenic, benzo(a)pyrene, total PCBs and dioxin TEQ (park visitor and commercial worker)

- The soil exposure points under future conditions, applicable to the top 15 feet of soil, are:

  - ARP EP-1 soil: lead, arsenic, benzo(a)pyrene, total PCBs and dioxin TEQ (park visitor, commercial worker and construction/utility worker)
  - ARP EP-2 soil: lead, arsenic, total PCBs and dioxin TEQ (park visitor, commercial worker and construction/utility worker)
  - Nemasket EP-3 soil: lead, arsenic, benzo(a)pyrene, total PCBs and dioxin TEQ (park visitor, commercial worker and construction/utility worker)
  - ARP Hot Spot SB-102-8D (5-7') soil: lead and total PCBs (park visitor, commercial worker and construction/utility worker)

- The groundwater exposure points under future conditions are:

  - ARP EP-2 groundwater: total PCBs (construction/utility worker). A condition of No Significant Risk does not exist for dermal contact by construction workers in connection with groundwater at EP-2 (MW-36).

- The total PCB soil EPC at SB-102-8D (5-7') exceeds the MCP UCL of 100 mg/kg. In addition, the 0 to 15 feet lead EPC at EP-3 exceeds the MCP UCL of 3,000 mg/kg. No other soil EPC exceeds its respective MCP UCL. Individual concentrations detected in groundwater at the Site also did not exceed MCP UCLs.

- With regard to public welfare, no community in the vicinity of the Site is believed to be currently experiencing, or expected to experience, significant adverse impacts as a result of the degradation of public or private resources directly attributable to the soil and groundwater impacts at the Site. No other non-pecuniary effects are known to be present, or to be accruing, due to soil and groundwater impacts at this Site. Individual concentrations in groundwater at the Site did not exceed MCP UCLs. However, total PCBs in SB-102-8D soil, and lead within the 0 to 15 feet soil interval at EP-3 exceed their respective MCP UCL. Based on this information a condition of No Significant Risk does not exist at the Site.

- A Stage I Method 3 ERC indicated that, based on the existing Site characteristics, important or significant wildlife habitats are not present within the Site and a balanced terrestrial/wetland community is unlikely to occur; therefore no significant soil exposure

pathways are likely to exist at the Site for ecological receptors. Since significant soil exposure pathways are not present at the Site, a condition of No Significant Risk to environmental receptors exists at the Site, and further ecological investigation is not warranted.

- Remedial actions are required to achieve Site closure.

The Phase II CSA for the ARP and Nemasket Street Lots portion of the Site submitted to MassDEP in January 2012, provides a complete discussion of environmental investigations, remedial actions, the nature and extend of impacts, and the risk characterization.

2.2.4 Dr. Paul F. Walsh Memorial Field

Fact Sheets that were prepared for Walsh Field were issued on the following dates: February, 2010; June, 2010, and August, 2011.

A RAO-P was filed on May 26, 2011 to document the achievement of a Class A-3 RAO-P under the MCP for Walsh Field as summarized below:

- Response actions have been conducted to achieve a level of No Significant Risk;
- The source of impacts at the Site have been controlled or eliminated;
- A Permanent Solution has been achieved;
- Impacts detected at the Site do not exceed an MCP UCL in soil and groundwater; and
- An **Activity and Use Limitation** (AUL) has been implemented to maintain a level of No Significant Risk.

Historical information, forensic review of historical aerial photographs, evaluation of soil analytical data, and review of soil boring information associated with environmental investigations conducted in the area of Walsh Field and New McCoy Field indicate that the area south of Parker Street contains widely distributed historic urban fill that is a background condition. Although the City filed a Class A-3 RAO-P and associated Notice of AUL for the Walsh Field, the City maintains that the area south of Parker Street is not affiliated with what is now understood to be the PSWS.

2.2.5 New Andrea McCoy Field (former Keith Junior High School)

As described previously, MassDEP tracks two separate releases at the New McCoy Field portion of the Site. Historic urban fill impacts at this location were managed under the RTN 4-15685 for the PSWS. RTN 4-15824 tracks petroleum impacts associated with a leaking UST that has been removed.

In June 2010, a RAO Statement Report was submitted to MassDEP for the historic UST release for the New McCoy Field portion of the Site tracked under RTN 4-15824. The RAO Statement Report documented that a Class A-1 RAO had been achieved based on and in accordance with the following (310 CMR 40.1035 & 40.1036(1):

- The source of soil impacts had been eliminated;
- A permanent solution had been achieved; and
- The soil impacts had been reduced below MCP Method 1 S-1 soil standards and background levels.

A RAO-P was filed on May 26, 2011 to document the achievement of a Class A-3 RAO-P under the MCP for the New McCoy Field portion of the Site impacted by historic fill as summarized below:

- Response actions have been conducted to achieve a level of no significant risk:
- The source of OHM at the Site has been eliminated or controlled;
- A Permanent Solution has been achieved;
- The level of OHM in the environment has not been reduced to background;
- An AUL has been implemented to maintain a level of no significant risk; and
- OHM at the Site do not exceed an UCL in soil and groundwater.

This RAO has been achieved without regard to the ash and coal origin of the fill layer and the consistency of analytical results with comparative coal and coal-related ash, and wood-related ash related analytical data.

2.2.6 NBHS Interior

The City has investigated and remediated PCB-containing building materials consistent with EPA regulations as summarized below.

Past investigations conducted by TRC and others have documented the presence of PCBs in indoor air at NBHS at concentrations greater than EPA benchmarks described below. PCBs have also been detected in samples of building materials and dust[5]. The following provides a summary of environmental investigations of air, dust, and bulk materials within NBHS,

[5] EPA's Action Level of 0.05 micrograms per cubic meter (ug/m^3) is considered a threshold for further evaluation. The risk-based Acceptable Long-Term Average Exposure Concentration of 0.3 µg /m^3 represents a long-term average concentration that corresponds to risk benchmarks established by the MassDEP assuming 25 years of daily workplace exposure. Short-term exposures at the EPA Action Level do not represent an immediate threat to health.

subsequent remedial actions, and additional bulk material sampling performed to identify other potential source materials.

In April 2006 BETA performed indoor air sampling within NBHS and detected PCBs in indoor air at concentrations above the EPA Threshold for Further Investigation of 0.05 micrograms per cubic meter (ug/m^3) at one of eight indoor air sample locations.

A subsequent larger indoor air sampling effort was undertaken by TRC in August 2006 which detected PCBs in indoor air at concentrations above the EPA Threshold for Further Investigation of 0.05 μg/m^3 in 12 of 28 air samples; one result from room B-240 was above the Acceptable Long-Term Average Exposure Concentration of 0.3 μg/m^3.

Sampling and analysis of dust within the duct work for the ventilation system, on building surfaces, and beneath lockers conducted in August 2006 also detected PCBs.

A remedial program was performed in the summer of 2007 that removed the dust from various surfaces including the internal surfaces of duct work. Repairs to the ventilation system were also performed under the direction of NBHS engineering staff and City school officials. The heating, ventilation and air-conditioning (HVAC) system was rebalanced in January/February 2008.

Also during the summer of 2007 remedial program, TRC undertook supplemental diagnostic PCB source sampling that included additional bulk sampling in two classrooms. This sampling was performed to evaluate the relative contributions of potential PCB sources present at these locations and to help evaluate potential remedial actions for PCB-containing building materials.

Indoor air sampling of 25 interior locations performed in February 2008 found that PCB concentrations in indoor air had decreased beneath the Acceptable Long-Term Average Exposure Concentration at room B-240, and showed significant reductions throughout the building. However, PCBs were still detected in excess of the EPA Threshold for Further Investigation of 0.05 ug/m^3.

A multi-phase source/sink sampling program was developed to further characterize possible PCB-containing building materials at the NBHS building. This sampling program was based on a September 12, 2007 site reconnaissance of NBHS conducted with representatives of the City, EPA, and TRC, and upon analytical results of prior sampling.

Removal and abatement actions were performed during the NBHS summer break 2009 and included the removal of cabinets in rooms A-205-4, A-319-3, and B-240 that had laminate adhesive that was classified as PCB Bulk Product Waste. Painted sheetrock and all materials in contact with the paint were also removed from the closet in room A-206-4, as were PCB-impacted furniture and gymnasium pads. Asbestos containing material (ACM) consisting of coated sinks and pipe insulation were also removed from target areas. Locations were secured where cabinetry was removed on an interim basis until new cabinetry was installed in December 2009.

During the summer break in 2010, unit ventilators (univents) within the B-block were removed and replaced, and painted sheetrock within rooms B-230, A-211-3, and A-213-4 was removed. PCB releases within light fixtures were identified during investigation activities performed during summer 2010. A full inventory of the light fixtures was performed to identify PCB-impacted fixtures.

In February 2011, additional indoor air sampling of 59 interior sample locations for PCBs was performed. The sampling locations included 20 of the same locations that were sampled in 2008. PCBs were detected in three samples (Room A-110-1, A-315-1, and A-203-2) at levels greater than the Acceptable Long-Term Average Exposure Concentration of 0.3 $\mu g/m^3$ total PCBs, and in five samples (Rooms A-112-2, A-311-2, A-307-3, A-212-4, and A-315-4) at a level greater than the EPA Threshold for Further Investigation of 0.05 $\mu g/m^3$ total PCBs.

During summer 2011, light fixtures impacted by releases from PCB-containing ballasts, all remaining PCB-containing ballasts, and polyurethane foam seat cushions in the main auditorium were removed. PCB-containing paint was removed from structural cinder block walls in rooms A-211-3, A-213-4 and B-230, and a deed restriction will be placed on the property to identify the location of paint in the pores of the concrete blocks in room A-213-4.

2.2.7 Other Properties

In 2005 and 2006, BETA performed environmental investigations at properties including 110 Greenwood Street, 119 Greenwood Street, 128 Ruggles Street, 319 Hathaway Boulevard (Corner Sports Store), and 288 Durfee Street. The investigation included the advancement of soil borings, and surface soil sampling. The sample analysis included PCBs, RCRA 8 metals, PAHs, TPH, and VOCs.

In 2006, 2007 and 2008, TRC performed environmental investigations at properties on Greenwood Street (numbers 119, 120, 124, 127, and 133), 128 Ruggles Street, Hathaway Boulevard (numbers 129 and 319), Summit Street (numbers 180, 228, 232, 238, 244, 249, and parcels #75-165 and #75-166), Durfee Street (numbers 284 and 288), and 363 Parker Street. The investigations included the advancement of soil borings and collection of soil samples. The sample analysis included PCBs, MCP Metals, and PAHs.

A RAO-P was filed for the 119 Greenwood Street Property in May 2011 to document the achievement of a Class B-1 RAO-P under the MCP. The findings of the Class B-1 RAO are summarized below:

- A Condition of No Significant Risk to health, safety, public welfare and the environment for all current and foreseeable future activities and uses exists at the property;
- An AUL is not necessary to maintain a level of No Significant Risk; and
- No UCL exceedences are present at the property.

2.3 Public Involvement History

Public meetings, grouped by year, were held once in each month listed:

- 2004 (May through December)
- 2005 (January, April, May, and August)
- 2006 (July, August, and November)
- 2007 (March, May, and September)
- 2008 (April and September)
- 2009 (January, April, and August)
- 2010 (April and September)
- 2011 (January, March, April, and September)
- 2012 (May)

The City has provided Portuguese and/or Spanish interpretation at three PIP meetings (August 2009, April and September 2010) and one neighborhood meeting where these services were requested by community members in advance of the meeting.

A community member suggested that the City print flyers with information about PIP meetings and distribute them to all students, teachers, and staff at KMS and NBHS in advance of PIP meetings to improve awareness of site activities. Accordingly, the City had flyers printed for the six PIP meetings in 2010 and 2011, and delivered them to the main offices at KMS and NBHS for school-wide distribution as least one week prior to each meeting. The City has not noted increased attendance at PIP meetings as a result of this effort, and has decided to discontinue flyer distribution.

In addition to the 30 public meetings hosted by the City, City representatives have held six meetings with NBHS staff from 2007 to the present. Some meetings have been focused on specific issues, while others have offered general updates on environmental work being conducted at the school. Between 2008 and the present, City representatives held 10 meetings with various homeowners, met with members of the Evangelical Church of the Nations (located at 129 Hathaway Boulevard) twice, and met with interested community members including CLEAN members at least four times. Starting in 2009, City representatives have participated in at least seven meetings hosted by EPA; all of these meetings have included MassDEP, as well as community members or scientists working with the community.

A public information repository was maintained at the New Bedford Free Public Library for several years. This repository was replaced in April 2007 by an electronic database that was established for the Site as part of the City of New Bedford's website.

Public comment periods (20-day minimum) have been offered on the following reports:

- Walsh Field RAM Plan – October 2009
- Revised Modified RAM Plan for demolitions on Ruggles and Greenwood Streets – June 2010

- NBHS RAM Plan for HF-31 excavation – October 2010
- NBHS IRA Plan Modification – February 2011
- NBHS RAM Plan for Campus soil – April 2011
- NBHS Phase II **Comprehensive Site Assessment** – April 2011
- Walsh Field RAO-P and AUL – April 2011
- New McCoy Field RAO-P and AUL – April 2011
- NBHS RAM Plan Modification for Campus Soil – July 2011
- ARP Nemasket Phase II Comprehensive Site Assessment – September 2011
- ARP Nemasket Phase III Remedial Action Plan – September 2011
- Wetland to the west of KMS Phase II Comprehensive Site Assessment – September 2011
- Application for Extension and Modification of Special Project Designation Permit, PSWS site – December 2011
- NBHS IRA Plan Modification – December 2011
- ARP Nemasket Revised Phase III Remedial Action Plan – April 2012 (temporarily suspended in May 2012 pending resolution of negotiations with EPA)
- Draft Public Involvement Plan – April 2012

Public comment periods have been advertised via a legal notice or display ad in the *Standard-Times* at the start of the comment period; weekly reminders included as part of the PSWS activities notice published in the *Standard-Times'* Sunday edition during the comment period; by sending out mailings (hard copy and electronic) to the PSWS mailing lists; and by announcements at public meetings when such meetings precede or overlap the comment period. Documents have been made available for review electronically via the City's PSWS website, and in hard copy at the Lawler Branch of the New Bedford Free Public Library on Rockdale Avenue.

Fact sheets were first developed to provide a summary of key points regarding different areas of the site in the spring and early summer of 2010. These fact sheets were translated into Portuguese and Spanish, and have been updated annually or when an RAO-P has been filed. A couple of fact sheets have also been issued to address specific topics at NBHS as requested by NBHS staff or the public. Fact sheets that have been issued by the City and TRC are available on the City's PSWS website, except those which were developed for private homeowners.

This Draft PIP was developed for the Site in response to a request by CLEAN, a citizens group. On December 22, 2011, the City received public comments from CLEAN related to the Special Project Permit that included a request that a PIP be developed and complied with in accordance with the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000. On February 7, 2012, the City issued a response to CLEAN's public comments that included a commitment to the development of a PIP. The City then contacted the following individuals and groups, and provided them with a questionnaire. They were provided an opportunity to either complete the questionnaire, or schedule a time to go through it over the telephone or by meeting in person. The individuals and groups that were contacted, and the date and means by which feedback was received, are as follows:

- a representative of CLEAN - meeting, Feb. 22, 2012,
- New Bedford Conservation Commission - meeting, Feb. 28, 2012,
- New Bedford Board of Health -telephone call, March 21, 2012,
- NBHS teacher and staff union representatives - meeting, March 20, 2012,
- Mayor of New Bedford - meeting, Feb. 24, 2012, and
- Ms. Karen Vilandry - e-mail correspondence, Feb. 26-27 and March 4, 2012.

A summary of comments received that were not covered in prior comment/response summaries that have been issued for the six PIP meetings from April 2010 through September 2011 are presented in Appendix A, in addition to the PIP response summaries. Some of the comment may have been addressed verbally during the prior PIP meetings

The Draft PIP was presented at a PIP meeting held on May 2, 2012 at 6:00 pm at the Community Room in the KMS. A copy of the sign-in sheet for meeting attendees is included in Appendix B. The Draft PIP was made available prior to the holding the meeting on the City's Website and a hardcopy was made available at the Department of Environmental Stewardship, Room 304, 133 William Street, New Bedford, Massachusetts. Public comments were due within 24 calendar days of the Draft PIP presentation, and relevant and material comments were incorporated into the Final PIP.

3.0 ADDRESSING PUBLIC COMMENTS

The processes for assessing and cleaning up sites at which a release of oil or hazardous materials (OHM) occurred are set forth in the MCP, which is designed to be protective of human health, safety, public welfare, and the environment. Once a release of OHM has been confirmed at a disposal site (Phase I of the remedial response action process), the process proceeds to:

- Comprehensive field investigation of the nature and extent of the contamination, and an evaluation of any risks posed to the public and the environment from the site (Phase II);
- Identification and evaluation of remedial response action alternatives and selection of feasible measures that will achieve a permanent cleanup at the site (Phase III);
- Implementation of the selected remedial response actions (Phase IV);
- If necessary, Operation and Maintenance (O&M) of a remedy and/or monitoring (Phase V); and
- Response Action Outcome (RAO).

At each phase of the MCP process, plans for work are developed, the work is conducted, and reports describing results and recommendations for the next step, if any, are prepared. The phased approach of the MCP is central to the response action planning process, since the reports at each phase provide the information necessary to make decisions about the disposal site.

As noted in Appendix A, the public has provided comments about the Site through previous PIP meetings and more recent communications. Appendix A provides a summary of comments that were not covered in response summaries, as well as comments and responses that have been issued for the six PIP meetings from April 2010 through September 2011. Some of the comment may have been addressed verbally during the prior PIP meetings.

The response action planning process is designed to address comments about the nature and extent of contamination; potential risks posed by the site to health, safety, public welfare, and the environment; and the adequacy of proposed cleanup measures. These comments will primarily be addressed throughout each phase of the MCP process. For example, the assessment of the extent of chemical impacts is considered in Phase II, as is the impact of the disposal site on health and the environment.

4.0 PUBLIC INVOLVEMENT ACTIVITIES

In accordance with the MCP (310 CMR 40.1400), activities undertaken to involve the public in response actions serve two purposes:

- To inform the public about the potential risks posed by the site and the status of response actions; and

- To provide opportunities for public involvement so that, to the extent possible, public comments can be addressed and incorporated in planning response actions.

To meet each of these objectives, the City proposes to undertake the following specific activities during the MCP process at the Site.

4.1 Informing The Public

The City will continue to provide site-specific information to the public by maintaining information repositories; maintaining a Site mailing list to distribute information about the Site; and providing advance notification to local officials and residents about Site activities.

4.1.1 Information Repositories

Local Information Repository and electronic database: The City has established and will continue to maintain a local information repository to provide easy access to information about the site assessment and cleanup process for the duration of the PIP process. The site information repository contains technical reports and documents summarizing results and recommendations, relevant correspondence, public information materials, the PIP, public meeting summaries, summaries of responses to comments received, and copies of public notices about the disposal site.

The local information repository for the Site is:

City of New Bedford
Department of Environmental Stewardship
133 William Street, Room 304
New Bedford, Massachusetts 02740

Contact: Cheryl Henlin
Telephone: (508) 961-4576
Hours: Monday through Friday, 8:00 a.m. to 4:00 p.m.

Site-related documents are also available electronically in Adobe Acrobat format (i.e., ".pdf" format) at the City's website. Computers are available to view the documents at the City's libraries.

Publicly Available Site Files: A file on the Site is maintained at the MassDEP Southeast Region file review office in Lakeville, Massachusetts. Appointments to view site files can be made by contacting:

MassDEP Southeast Region Main Office
20 Riverside Drive
Lakeville, MA 02347
File Review telephone: 508-946-2718
Service Center Main telephone: 508-946-2714
Service Center fax: 508-946-2865
Service Center email: Service.Center@state.ma.us

Electronic versions of more recent files are also available through the MassDEP's website at http://www.mass.gov/dep/.

4.1.2 Site Mailing List and Electronic Distribution List

The City will continue to maintain a mailing list for the Site. The Site mailing list includes members of CLEAN, other interested residents, site abutters, local and regional news media, municipal officials, state legislators, the MassDEP, and anyone else interested in receiving information about the Site. The mailing list is used to announce upcoming events, distribute fact sheets, notices of public comment periods, availability of documents in the information repositories, and other information about the Site.

The City also maintains an Electronic Distribution list. The Site Electronic Distribution List includes members of CLEAN, interested residents, site abutters, local news media, municipal officials, the MassDEP, and anyone else interested in receiving information about the Site by e-mail.

Anyone interested in being added to the Site Mailing List or Site Electronic Distribution List can call or write to:

City of New Bedford
Department of Environmental Stewardship
133 William Street, Room 304
New Bedford, Massachusetts 02740

Contact: Cheryl Henlin, Cheryl.Henlin@newbedford-ma.gov
Telephone: (508) 961-4576

4.1.3 Notification to Local Officials and Residents of Major Milestones and Events

The MCP requires community notification of major planning and implementation milestones at disposal sites. Major milestones include: 1) the start of field work, related response actions, involving heavy equipment and protective clothing (Level A, B, and C protection); 2) the

completion of each phase of the MCP process; and 3) the implementation of any Immediate Response Action Measures.

Notification of field work includes information on the type of work and the approximate duration. Notification of planned Site remediation activities to be performed on behalf of the City will continue to be posted weekly on the City's Website on the Friday prior to performing said activities, and in an advertisement in the *Standard Times* newspaper on the Sunday prior to performing said activities. If a new reportable condition is identified, information about it will be included in the aforementioned Notification, following notification to the MassDEP.

Notification at the end of a remedial phase will include a notification that the phase report is available on the City's Website and at the information repository. Such notification will include posting a notice on the City's Website, written notification to the City's Board of Health and Mayor's Office, and e-mails to those who requested to be on the Electronic Distribution List.

4.2 Soliciting Public Input

The City will continue to provide opportunities for public involvement and comment regarding site remedial decisions by holding public comment periods for the various MCP report deliverables. The City will also continue to prepare summaries of all comments received during the public comment periods, and responses to such comments.

4.2.1 Public Comment Periods

The City will continue to provide specific opportunities for the public to submit comments about documents concerning the Site. When key documents are available in draft form, they will be provided to the information repositories, including the following location:

The Lawler Library
745 Rockdale Avenue
New Bedford, Massachusetts 02740

Telephone: (508) 991-6216

Hours: Monday and Friday, 10:00am -6:00pm
Tuesday and Thursday, 12:00pm – 8:00pm
Saturday, 9:00am – 5:00 pm

Notice that the document is available for public comment will continue to be given by the following methods:

- A notice is posted on the City's Website;
- An advertisement is placed in the *Standard Times* on or before the start date of the comment period;

- A notice is posted on the New Bedford Public Schools website at http://www.newbedford.k12.ma.us/ when the public comment period concerns New Bedford High School, Keith Middle School, or the wetland to the west of Keith Middle School;

- A notice is mailed by regular mail to those who requested to be on the Mailing List.

- A notice is e-mailed to those who requested to be on the Electronic Distribution List.

The notice includes the title of the document, where it is available for review, information about how to submit comments to the City, and the length of the public comment period. The comment period is normally 20 calendar days, but may be longer if warranted by the complexity of a particular document or if requested by the public. Each document will include an executive summary that highlights key points of the document and written in non-technical language to the extent possible. Comment periods for RAMs or IRAs, if any, may be reduced or eliminated if the situation dictates that the RAM or IRA be implemented immediately. The City will continue to provide documents to the information repositories, as well as sending out notices of availability of any documents it prepares. Documents that will be available for public comment include:

- Draft PIP and any subsequent revisions;

- Phase II Comprehensive Site Assessment Report (including a Risk Assessment);

- Release Abatement Measure Plans;

- Immediate Response Action Plans,

- Phase III Remedial Action Plans;

- Phase IV **Remedy Implementation Plans** (RIP);

- RAO Statements and AULs.

4.2.2 Response to Comments

The City will continue to prepare a summary of comments received on each document made available for public comment, and the City's response to these comments. Some of the documents in Section 4.2.1 may not be required for the Site. Comments should be submitted to the City at the following address:

Cheryl Henlin
City of New Bedford
Department of Environmental Stewardship

133 William Street, Room 304
New Bedford, Massachusetts 02740

Telephone: (508) 961-4576

E-mail: Cheryl.Henlin@newbedford-ma.gov

4.2.3 Public Meetings

The City will continue to brief the public about the status of the Site. Public meetings will occur at the beginning of the PIP process (review of Draft PIP), and quarterly thereafter at a minimum.

Meetings will serve two purposes: 1) to provide community officials and the general public with a progress report regarding remedial response actions at the Site, and 2) to provide an opportunity for the public to question and comment on the Site.

City staff (including but not limited to the Mayor, City Councilors, and Department Heads or departmental representatives) will continue to initiate communications with the City's consultants and staff from partnering agencies (including but not limited to EPA, MassDEP, ATSDR, and the Massachusetts Department of Public Health) to determine public meeting dates.

Notices of a Public Meeting to be held by the City will continue to be provided a minimum of 14 days in advance of the public meeting by the following methods:

- A notice will be posted on the City's Website;
- An advertisement will be placed in the following newspapers: *Standard Times* (legal notice section) and *O Journal* (a weekly newspaper published in Portuguese);
- A notice will be posted on the New Bedford Public Schools' website at http://www.newbedford.k12.ma.us/;
- A notice will be mailed by regular mail to those who requested to be on the Mailing List;
- A notice will be e-mailed to those who requested to be on the Electronic Distribution List; and
- An automated telephone message will be made to everyone on the Keith Middle School and the New Bedford High Schools reverse 911 telephone number list.

At least two business days prior to the public meeting, the City will post a copy of the presentation slides so that interested individuals can print a copy of the presentation slides. If individuals do not have access to a printer, they may contact Cheryl Henlin at (508) 961-4576, or e-mail at Cheryl.Henlin@newbedford-ma.gov to request a copy and pick it up at the public meeting.

Local cable access stations in New Bedford and Acushnet will be notified of the public meetings and be invited to broadcast the same (no students from Fairhaven attend New Bedford Public Schools).

Following the Public Meetings, the City will prepare a summary of any questions or comments that are not addressed at the meeting, and a response to such questions or comments. The City will place a copy of the response summaries in the information repositories.

Separate meetings may also be held with NBHS Staff after school hours, and with other interested community groups to further facilitate public involvement. Representatives of MassDEP will be invited to attend the meetings. Representatives of interested groups should contact Cheryl Henlin at 508-961-4576 to set up a preliminary meeting and to discuss the group's desired frequency for such meetings.

5.0 SCHEDULE FOR PUBLIC INVOLVEMENT ACTIVITIES

The following is a tentative listing of currently scheduled public involvement activities.

Public comment periods

- Acquired Residential Properties/Nemasket Revised Phase III: April 13 (temporarily suspended in May 2012 pending resolution of negotiations with EPA)
- Acquired Residential Properties/Nemasket Class C RAO: to be determined based on above
- Draft Public Involvement Plan: April 25 – May 25, 2012
- KMS Wetland Phase III or Phase III in support of Class C RAO: August 31 – September 19

Proposed PIP Meeting Schedule

May 2, 2012

- Draft Public Involvement Plan
- Acquired Residential Properties/Nemasket Revised Phase III

August or September 2012 (date has not been scheduled yet)

- Acquired Residential Properties/Nemasket Revised Phase III (with or without Class C RAO)
- KMS Wetland Phase III (with or without Class C RAO)

6.0 RESPONSIBILITY FOR IMPLEMENTING THIS PLAN

The City will conduct both response actions and public involvement activities at the Site, in accordance with the MCP. If citizens are concerned that the PIP is not being implemented properly, then they should provide the City with specific information of the issues of concern with reference to specific sections of this PIP. MassDEP's Public Involvement Coordinator should be copied with this information using the contact information presented in Section 4.1.1. The City will continue to seek community involvement and comment in accordance with the MCP.

7.0 REVISIONS TO THIS PLAN

This PIP may be revised during the course of the remedial action process. If material revisions are proposed, the City will place copies of the proposed changes in the local information repository, will send a notice of the availability of recommended changes as identified in Section 4.2.1, and will hold a 20-day public comment period on any such proposed revised Plan. The City will review any comments received and revise the Plan as appropriate. If a revised Plan is created, the final version will be placed in the information repository.

FIGURE

LEGEND:

345 LOT NUMBERS

APPROXIMATE GRAPHIC SCALE

0' 120' 275' 550'

CITY OF NEW BEDFORD

SITE MAP

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

DRAWN BY: HWB
CHECKED BY: DNP
DATE: MAR 2012

FIGURE 1

FILE: T:\E_CAD\115058\APPROX PARKER ST WASTE SITE.dwg

APPENDIX A

RESPONSE TO COMMUNITY COMMENTS ABOUT THE SITE AND PRIOR PUBLIC MEETING QUESTIONS AND RESPONSES

RESPONSE TO COMMUNITY COMMENTS ABOUT THE SITE

A. Comments about the nature and extent of chemical impacts:

A1- Sampling results and any issues they may present need to be provided in a timely manner, particularly to NBHS students and their parents.

Response A1: The City will include information, if sampling results trigger a reporting condition, in the site activities notice that is published weekly on the City's Website on Fridays, and in an advertisement in the *Standard Times* newspaper Sunday issue following notification to the MassDEP. This information has been incorporated into Section 4.1.3.

A2 - When sample results that trigger a reporting condition are received, the public must be notified in a timely manner of the results.

Response A2: Refer to prior response.

B. Comments about potential exposure and neighborhood health issues:

B1 - The Massachusetts Department of Education Commissioner should be made aware of the community opinion that the condition of NBHS buildings hinders the educational progress of students attending NBHS and contributes to high student dropout rates and failures to graduate.

Response B1: As stated in prior responses to PIP Meeting comments, the current analytical data for New Bedford High School and risk characterizations, which have been conducted in accordance with Massachusetts Contingency Plan procedures, indicate that the school and its campus are safe to use. This comment has not been incorporated into the PIP since the City is unaware of any evidence to support the statement "that condition of the NBHS Building hinders the educational progress of students attending the NBHS and contributes to high dropout rates and failures to graduate."

B2 - The approach of remediating the top three feet of soil is inadequate, and creates public anxiety.

Response B2: This type of remediation approach has been used successfully at a vast number of sites throughout Massachusetts, and conforms to the Massachusetts Contingency Plan. It is unlikely that a community member performing landscaping activities (e.g., mowing, weeding and planting gardens) or recreational activities (e.g., playing at a playground or ballfield, picnicking or walking) would contact soils greater than 1 foot in depth. Having three feet of clean soil at the surface of a property provides a substantial margin of safety for each of these routine activities that community members might engage in. In addition to remediating the top three feet of soil, an activity and use limitation is used to prevent contact with soils deeper than three feet without the knowledge of and input from the Licensed Site Professional for the site. Activities that would involve contact with soils deeper than three feet include utility work, excavations for building foundations or additions, or the removal or large trees. Each of these activities would be performed by professionals using health and safety controls (e.g., perimeter dust monitoring and temporary fencing); community members would not participate in these

types of activities and would not be allowed to contact the soils during the soil disturbance. Soils located at greater than three feet below the surface would be managed such that, once the activity was complete, the soils would continue to be located greater than three feet below the surface, or the soils would be managed appropriately for off-site disposal. This comment has not been incorporated into the PIP because it relates to remedial methods rather than to the public involvement process.

C. Comments about the site remediation process:

C1 - The entity (the City, MassDEP, or EPA) that is taking responsibility for the investigation and remediation of all impacted areas has not been established.

Response C1: In general, the entity taking responsibility for the investigation and remediation of all impacted areas is as follows: the City is taking responsibility for the investigation and remediation of City-owned properties; and the MassDEP, in concert with EPA, is taking responsibility for the investigation and remediation of private and/or state-owned properties. This information has been incorporated into Section 2.0.

C2 - Where site investigative or remediation activities warrant an Order of Conditions from the City's Conservation Commission, the work performed must adhere to the Order of Conditions.

Response C2: The City will continue to adhere to any Order of Conditions from the City's Conservation Commission. This comment has not been incorporated into the PIP because it relates to remedial methods rather than to the public involvement process.

D. Comments about public involvement during the remedial action process:

D1 - A government organization (City, MassDEP, or EPA) or toxicologist should be made available to deliver accurate information about risks of exposure and deliver timely information at separate meetings with community organizations.

Response D1: A highly qualified doctoral-level risk assessment specialist reviews all Site data in a timely manner to assess if there are any unacceptable risks to exposure, and has attended all PIP Meetings (except the May 2012 meeting due to an unavoidable schedule conflict). The risk assessment specialist may attend the separate meetings discussed in Section 4.2.3 or be made available via teleconference for such meetings upon request.

D2 - PIP meetings must be transparent such that questions and comments are adequately responded to.

Response D2: The City has made every effort to respond adequately to all questions and comments posed during the PIP meetings with the only exception being certain matters that the City is not at liberty to discuss because they are the subject of ongoing litigation. The City's means of responding to comments are discussed in Sections 4.2.2 and 4.2.3.

D3 - PIP meetings must provide more information and opinion, not just data.

Response D3: The City makes every effort to provide an appropriate mix of information, opinion and data. The City is committed to providing the data that supports the information and opinion that are presented at PIP Meetings. This comment is addressed by Section 4.2.3.

D4 - Separate meetings should be held with community groups that include representatives of the City and MassDEP.

Response D4: The City is open to holding separate meetings with stakeholders in addition to public meetings. Representatives of the MassDEP will be invited to attend the meetings. This information has been incorporated into Section 4.2.3.

D5 - All NBHS students and personnel are not made aware of information concerning the Site, particularly students and residents of the nearby towns Acushnet and Fairhaven.

Response D5: As stated in Section 2.3, the City has held at least six meetings with NBHS staff from 2007 through the present; three of these meetings (August 2010, May 2011, and August 2011) were all-staff meetings. Information concerning the Site is available through the City's website, and through weekly notice publications in the *Standard-Times.* Posting fact sheets, reports, public comment response summaries, and other information specific to the issues at hand on the Internet provides NBHS students and personnel the broadest accessibility at all hours of the day. Per the School Department, students from Fairhaven do not attend New Bedford Public Schools.

D6 - The PIP Meetings should be held on a night that City Council members can attend.

Response D6: PIP Meetings are held on nights that the City Council does not have a scheduled meeting, although Councilors may have neighborhood meetings that conflict with PIP Meetings. Councilors will be included in future communications to determine PIP meeting dates, particularly Councilor Henry Bousquet, the Chairman of the Environmental Affairs Committee for the New Bedford City Council. Councilors are part of the PSWS mailing list and will continue to receive the same notice that community members receive. This information has been incorporated into Section 4.2.3.

D7 - The PIP Meeting should be held on a monthly basis in order to be kept up to date on ongoing activities at the Site.

Response D7: The City has recently held public meetings at Site milestones, as required by the MCP, and has committed to returning to a minimum of quarterly public meetings going forward. The City also provides information concerning planned weekly activities at the Site, and fact sheets are periodically prepared. This comment has not been incorporated into the PIP because PIP Meetings are being held at a sufficient frequency to provide key information to the public, particularly in light of the other means by which information is provided to the public.

D8 - The PIP Meetings should be conducted by the MassDEP and EPA due to their involvement with the Site, and should not be conducted by the City or the City's consultant, as their presentation of information and response to questions and concerns appears to be very limited and controlled.

Response D8: The PIP Meetings are conducted by the City and their consultant in order to share key information about the work that the City is performing at the Site in accordance with the MCP. Representatives of the MassDEP and EPA attend most PIP Meetings, and are frequent contributors to the dialog that takes place at the meetings. However, it would not be appropriate for MassDEP or EPA to speak on the City's behalf by conducting a meeting where the primary purpose is to discuss the City's work. The EPA has held their own public meetings to provide key information concerning the work they are performing. This comment has not been incorporated into the PIP because the City, as the author of the PIP, is intended to implement it, not other agencies; this information is indicated in Section 6.0.

D9 - Separate "closed session" meetings should be held that include community groups, the City, the City's consultant, and MassDEP.

Response D9: As documented in Section 2.3, the City has previously held such meetings. The Mayor is open to continuing to hold separate meetings with stakeholders in addition to public meetings as discussed in Section 4.2.3.

D10 - The PIP Meetings presentation slides should be made available at the meetings as a paper copy, and e-mailed prior to the meetings.

Response D10: The City will post the slides two business days before public meetings so that interested members of the public may print copies ahead of the meeting. If interested members of the public do not have access to a printer, or internet access, they may contact the City's Department of Environmental Stewardship to request a printed copy. This information has been incorporated into Section 4.2.3.

E. Other comments – The following comments have not been incorporated into the PIP because they cannot be addressed under the MCP, and therefore are not considered related to the PIP process.

E1 - Medical facilities and medical professionals must be made aware of potential exposures of chemicals from the Site.

Response E1: The Massachusetts Department of Public Health (MDPH) conducted two public health investigations of individuals in the Parker Street Waste Site area, and published draft reports for public comment in September 2011, referenced below and available to the public at the following web address: http://www.newbedford-ma.gov/McCoy/sitemap/bloodtesting.html . The study was conducted in response to a petition signed by NBHS teachers and neighbors of NBHS, requesting a study of the area near the Keith Middle School (KMS) and high school because of concerns related to historical contamination, notably polychlorinated biphenyls (PCBs). The scope of MDPH's studies included occupants of NBHS as well as residents living near the Parker Street Waste Site. MDPH sought participation of all interested current and former NBHS staff, teachers, students and residents within and near the Parker Street Waste Site by publicizing the study in English and Portuguese. The study included evaluation of cancer incidence information for NBHS occupants that was provided to MDPH by community members, cancer incidence data from the Massachusetts Cancer Registry, and non-cancer health concerns reported by community members.

In its study, MDPH reported that community members' exposure to PCBs, as reflected in blood serum concentrations, are within typical ranges detected in the U.S. population and, as a result, do not indicate unusual PCB exposures (see p. 59). In addition, the incidence of cancer types was as expected and no unusual or consistent trends in cancer incidence or non-cancer health effects were observed. Based on the lack of associations between possible chemical exposure at the Parker Street Waste Site and health effects, no formal notification of medical facilities or medical professionals appears to be warranted. Individuals are at liberty to share this information with their health care providers, if they feel the need to do so.

The City contacted MDPH to request on update on when MDPH expects to issue a final report. MDPH responded that they are using all resources available to them to respond to the comments they've received, and they expect to issue a final report by early summer 2012.

[Reference: Massachusetts Department of Public Health. 2011. *Health Consultation: Evaluation of Indoor Environmental Conditions and Potential Health Impacts*. New Bedford High School, 230 Hathaway Boulevard. New Bedford, MA. Prepared by the Bureau of Environmental Health. September 27, 2011.]

E2 - The assessment of taxes on properties does not take into account the Site impacts.

Response E2: Interested residents may contact the City Assessor's office at (508) 979-1440 to see if a tax abatement is warranted at a property.

E3 - Fact Sheets should be provided to NBHS Staff as hardcopy flyers.

Response E3: The City will work with the School Department to provide fact sheets related to NBHS, Keith Middle School (KMS), or the wetland to the west of KMS on the New Bedford Public Schools' website so that they are easily accessible to school staff. The City does not agree that providing hardcopy flyers to the approximately 400 staff at NBHS, who may have varying levels of interest in the environmental work occurring at the school, is a wise use of resources.

E4 - Separate meetings should be held with NBHS Staff during school hours, with hardcopy notices about the meeting distributed in advance to the NBHS Staff.

Response E4: Separate meetings have been held and can continue to be held with NBHS Staff at the request of the School Department (including but not limited to the Superintendent, Headmaster, House Masters, and union representatives) after students have left and within the time that teachers and staff remain on campus per their contracts; the distribution of hardcopy notices about the meeting in advance may be conducted at NBHS' discretion. Please contact Cheryl Henlin at (508) 961-4576 or Cheryl.Henlin@newbedford-ma.gov to arrange a meeting.

E5 - Recommendations identified in the September 2011 Massachusetts Department of Public Health report need to be implemented, particularly with regards to maintenance of the HVAC system, and updates on the progress of implementation should be shared with all NBHS staff periodically.

Response E5: Of the 49 recommendations proposed by the Massachusetts Department of Public Health (MDPH) for NBHS in MDPH's draft September 2011 report, 42 have been addressed or are being monitored on an ongoing basis. The remaining seven recommendations are longer-term items that are under evaluation by the School Department. A table reflecting the School Department's progress on addressing MDPH's recommendations was placed in each of the four House offices at NBHS in April 2012 for staff reference, and is also available through the Headmaster's office.

E6 - Records of HVAC maintenance at NBHS should be maintained in an area that is accessible to all NBHS personnel for review.

Response E6: Records of HVAC maintenance at NBHS are maintained in the Engineers' office; they are accessible to all NBHS personnel for review upon request. Interested staff should contact Manuel Velosa or Douglas Brites. For security reasons, the Engineers' office is locked when the Engineers are not present.

E7 - Oversized drawings in reports are difficult to understand when viewed on the computer.

Response E7: Hardcopies of the oversized drawing are available to be reviewed at the City's Department of Environmental Stewardship during business hours. Oversized drawings can be printed and mailed at the requestor's expense. Requestors might consider providing the desired file in Adobe Acrobat format (these files are publically available in Adobe Acrobat format through the City's Parker Street Waste Site website) to a printing shop of their choice to eliminate postage costs that would be incurred if the City were to print and then mail such files.

Parker Street Waste Site Public Information Plan Meeting
Keith Middle School Community Room
April 14, 2010
6:00 – 9:00pm

QUESTIONS RECEIVED AT THE MEETING

Questions received during the meeting related to the City's work and not answered that evening

NBHS

Why wasn't staff at the high school informed of the purpose of the monitoring wells* (regarding wells installed during February 2010)?
The Department of Environmental Stewardship communicated the intent of the groundwater investigation to the School Department via a Fact Sheet that was made available publicly. The installation and sampling of the wells did not present a health or safety issue to the high school staff or students. Wells were installed during the February school vacation period. Facility engineers were aware of the work to provide access to the building. The activity was listed as part of the weekly site activities notice published in the February 14, 2010 edition of the *Standard-Times* and which was also posted on the City's website.

*The purpose of monitoring wells is to collect groundwater samples.

When will the city do air quality testing on all three floors/everywhere in the high school? Regarding the "bunkers" (fresh air intake) that come out on the first floor (rooms 110-114), have these areas been sampled? If not, will they be?
In April 2006, BETA, the City's technical consultant at the time, collected indoor air samples for polychlorinated biphenyl (PCB) analysis from various locations on all three floors of the building. Later in 2006 and again in 2008, TRC, the City's current technical consultant, collected further indoor air samples for PCB analysis from various locations on all three floors of the building. Based on those results, the City has worked to identify and remove PCB-containing building materials from the school, which is ongoing work. TRC expects to conduct further air sampling for PCB analysis.

In April 2008, the Massachusetts Department of Public Health began an Indoor Air Quality Assessment at New Bedford High School, which is ongoing. Beginning in January 2010 and continuing through April 2010, TRC has collected air samples for volatile organic compounds (VOCs) analysis from various locations on the first floor of the building to help evaluate the potential for VOC impacts from the subsurface. Collecting samples on the first floor is widely recommended. VOCs would likely be detected at higher concentrations on the first floor than on the second or third floors if VOCs beneath the building are impacting indoor air. Based on the results of this sampling, the

City will determine if air quality testing in other areas of the building is necessary or appropriate.

The "bunker" referenced in the question refers to the cement enclosure outside of some first-floor room windows where fresh-air intakes for the unit ventilators for those rooms are below the ground surface. The cement enclosure is covered at the top by a metal grate to prevent individuals from falling and to prevent animal access (e.g., squirrels); the grate allows air to pass freely into and out of the cement enclosure. Leaves and soil build up in these enclosures over time. Air sampling within these enclosures would be the same as sampling outdoor air. The City believes more useful data will be gained by continuing to sample the air inside the building. There are no plans to collect air samples from the cement enclosure "bunkers".

What will be done about the impact of Liberty Street site (i.e., blowing dust) on the school? What is in the water pooling on Liberty Street?
The Department of Environmental Stewardship will coordinate with the City's Department of Public Infrastructure (DPI) to ensure that all soil currently stored on Liberty Street across from the high school is relocated before the start of the new school year in September 2010. Materials staged at the Liberty Street City Yard are construction-related materials, and are not related in any way to the Parker Street Waste Site. Building materials and equipment will continue to be stored at this location.

The City is aware of storm water drainage issues on Liberty Street and DPI engineers have plans for drainage improvements in this area.

What is the CFM rating for the new HS air vents?
The cubic feet per minute (CFM) rating of the new unit ventilators ranges from 750 CFM to 1,500 CFM, depending upon the unit.

How many times did you test groundwater under NBHS and come up clean prior to the work you performed for the VOCs?
Prior to the recent investigative work for volatile organic compound (VOCs) at New Bedford High School (NBHS), monitoring wells installed at the high school had been sampled once for PCBs, metals, and polyaromatic hydrocarbons (PAHs) and these results are presented in the Phase II report, which is posted on the City's website (www.newbedford-ma.gov/McCoy/parker_street_waste_site.html).

As described in the Phase II report, the analytical results for the groundwater samples did not indicate the detection of PCBs or PAHs at concentrations exceeding the MCP standards. Lead was not detected above the laboratory reporting limit in four out of five groundwater samples. The sample where lead was initially detected was determined to be below MCP standards. No other metals were detected.

How will the City address comments raised by CLEAN about dioxin sampling?
The City received comments on its March 3, 2010 *Memorandum regarding the Proposed New Bedford High School Investigation Technical Approach* from Ian Phillips, LSP, and Terrie Boguski, PE, technical advisors to CLEAN. The City will consider these comments in the development of future dioxin sampling plans if such plans are warranted based on the evaluation of sample results from the first five sample locations.

Is there data available for drinking water sampling at NBHS? Can it be incorporated into the next PIP meeting?
Drinking water sampling has never been conducted at New Bedford High School according to a chemist at the Quitticas Water Treatment Plant. Quitticas Water Treatment Plant employees are responsible for sampling New Bedford's drinking water supply for quality control. The high school receives its water from the City water supply, which is regulated under the Safe Drinking Water Act (SDWA).

Are air filters in the schools being changed every school vacation or on a regular basis? When does it happen? Please provide dates of the most recent filter changes.
Air filters at New Bedford High School are changed at least once a year. The most recent filter change dates are as follows:

Unit	Date changed	Unit	Date changed
AC-1	3/24/10	HV-16	4/27/09
AC-2	4/20/10	HV-17	4/27/09
AC-3	3/24/10	HV-18	Out of service
AC-4 (16x25x2 filter)	3/26/10	HV-19	Out of service
AC-4 (16x20x2 filter)	3/26/10	Green house – first floor	3/25/10
AC-5	3/26/10	Green house – second floor	4/1/10
HV-1	3/24/10	Green house – third floor	4/20/10
HV-2	12/4/09	Gold house – first floor	3/22/10
HV-3	12/4/09	Gold house – second floor	3/25/10
HV-4	Out of service	Gold house – third floor	4/12/10
HV-5	3/26/10	Tan house – first floor	3/22/10
HV-6	3/30/10	Tan house – second floor	8/19/09
HV-7	3/30/10	Tan house – third floor	9/9/09
HV-8	3/30/10	Blue house – first floor	3/22/10
HV-9	3/30/10	Blue house – second floor	3/22/10
HV-10	12/14/09	Blue house – third floor	3/29/10
HV-11	12/14/09	B-block – first floor	4/19/08
HV-12	4/12/10	B-block – second floor	3/1/08

Unit	Date changed	Unit	Date changed
HV-13	4/12/10	B-block – third floor	4/27/08
HV-14	4/12/10	D-block – first floor	3/23/10
HV-15	4/12/10	D-block – second floor	3/23/10

Nemasket Street Lots

Will the results of testing at the Nemasket lot have any impact on the Middle School, which abuts it?
The City does not anticipate that results of sampling at the Nemasket Street Lots will influence the Keith Middle School property, which is undergoing long term monitoring under the Long-Term Monitoring, Maintenance, and Implementation Plan (LTMMIP) approved by the Environmental Protection Agency (EPA).

The City's proposed investigation for the Nemasket Street Lots is an initial step of the process to evaluate this portion of the Parker Street Waste Site (PSWS), as described in the March 3, 2010 *Memorandum regarding the Proposed Nemasket Street Lots Investigation Approach* posted on the City's website. This process is consistent with prior environmental investigative activities undertaken by the City, where available data are used to help define necessary and appropriate steps for follow-up environmental investigation. The next stages of investigation, if necessary, are informed by the data collected from each prior investigative effort and are designed to address specific data gaps, test hypotheses*, or evaluate risk, as may be appropriate for the investigation at that time.

*A hypothesis (plural: hypotheses) is a theory or assumption that is tested or researched to determine whether it is correct.

How will clearing be done on Nemasket to ensure that people (particularly students and teachers) are safe? How will vegetation that is removed from the lot be handled? How will any eventual clean-up be done to ensure people are safe?
Clearing on the Nemasket lots will be done in a manner that ensures the safety of workers, neighbors, students and staff at the school, and visitors. An appropriately qualified contractor will be retained to clear small vegetative growth from the area using power equipment (a vehicle mounted brush hog). Larger growth will be addressed with chainsaws (manual labor). All vegetation will be cut/removed flush to the ground surface. Dust monitoring and dust suppression consistent with soil removal work conducted by TRC at other areas of the Parker Street Waste Site will be implemented as a precaution to monitor and minimize/ mitigate potential nuisance conditions. All vegetation will be removed from the site for disposal as solid waste or managed through off-site composting, subject to appropriate regulatory approval. Alternatively, the vegetative matter may be chipped and spread on the lots to stabilize exposed surfaces.

The City is currently preparing to investigate the Nemasket Street lots. No remedial plans are proposed at this time. For a complete description of the proposed work, please see the March 3, 2010 *Memorandum regarding the Proposed Nemasket Street Lots Investigation Approach* posted on the City's website (http://www.newbedford-ma.gov/McCoy/2010/Final_Nemasket_Memo_3.3.10.pdf).

Will the School Superintendent be notified about activities at Nemasket?
Yes, the Department of Environmental Stewardship will notify the School Superintendent about activities at Nemasket, in addition to the City's regular notifications via the local newspaper and on the City's website.

Should DPH, others be notified as the City starts testing and/or clean-up activities at Nemasket?
The Department of Environmental Stewardship will notify the Department of Public Health (DPH) and the City's Health Department about activities at Nemasket, in addition to the City's regular notifications via the local newspaper and on the City's website. The City's Health Department also receives notification per the Massachusetts Contingency Plan.

Will Nemasket be one of the most expensive areas to test?
Given the relatively small area of the Nemasket Lots, the City does not expect that this area will be the most expensive to test.

Acquired (Demolition) and Residential Properties
Is there a plan to ensure people in NBHS are protected during demolition?
Yes. Please refer to the *Modified Release Abatement Measure Plan*, dated September 2009, posted on the City's website (http://www.newbedford-ma.gov/McCoy/2009/Modified_RAM.pdf), which outlines provisions for on-site air monitoring that will be conducted to evaluate site working conditions to minimize exposures to workers and other people nearby, including residents. During demolition and site work, water spraying will be utilized to minimize dust.

Will there be a meeting to discuss the dangers of living adjacent, side by side, in front of the homes that are being demolished? Who will tell the residents of the dangers of living there during the demolition and when will the residents be contacted? Will the residents have at least one month's advance notice before the demolition?
There is no danger in living adjacent to homes that are scheduled to be demolished. The City would be pleased to conduct a meeting that will outline the goals and the safety of the proposed demolition activities. The City will contact the residents shortly regarding the scheduling of the meeting, which will be conducted by the City with assistance from their technical consultants. The City plans to demolish the buildings starting in late June 2010 (in approximately 2.5 months), as discussed during the April 14, 2010 PIP meeting. The City will also prepare a brief fact sheet describing what will be done and when, best management practices during the activities, and future plans for

the properties. Note that the Modified Release Abatement Measure (RAM) Plan prepared for the demolition work already underwent a 20-day public comment period.

When will the City assessors revise tax assessments on properties located in/near the site?
The City has no plans to revise tax assessments on properties located near the site.

Why don't the TRC consultants know the city's future plans around properties in/near the site?
TRC is responsible for performing assessment and remediation oversight and does not determine the City's plans for future uses of property owned by the City. Although the City has previously stated that it intends to use properties it owns on Greenwood and Ruggles Streets as a parking lot for Keith Middle School, these plans have not been finalized and will depend on the needs of the school. The plans will be discussed with the City's consultants and presented to residents when they have been finalized.

Will residents have an opportunity to sit down with the City/TRC and discuss the risks they face in their homes?
All residents where testing conducted by the City has taken place were offered the opportunity to meet and discuss the results of sampling with TRC or with Goldman Environmental, a firm hired by the City specifically to provide an independent evaluation and consultation with property owners. Many residents have already used these opportunities. Residents who have additional questions about the results of testing by the City on their property should contact the City's Environmental Stewardship Department at (508) 991-6188 or by email at Cheryl.Henlin@newbedford-ma.gov to request an appointment for a meeting. Requests will be handled on a case by case basis.

The City fines homeowners for not keeping their yards clean. When will the City adhere to its own laws and keep their city-owned lots clean? Cut the grass and remove trash, take pride.
The City removes trash from the residential properties that it acquired as necessary and seeks to maintain the properties appropriately given that the buildings are scheduled to be demolished.

Is the City also suing the individuals who gave out building permits and the building inspectors that allowed the building and expansion of homes or is the City just targeting the homeowners that pay taxes?
No, the City is not suing the individuals who issued building permits or the building inspectors. Private property owners brought suit against the City, and the City brought counterclaims against those parties only.

What are the remediation plans for private properties TRC sampled that have been found to have contamination?
Private properties sampled by TRC are under evaluation.

When the six houses the City bought are demolished, how will summer school students and staff be protected? Will demolition be scheduled for the summer (June-August)? Is there a plan in place for it?
Demolition will be conducted in a manner that ensures the safety of workers, neighbors, students and staff at the school, and visitors. The *Modified Release Abatement Measure Plan*, dated September 2009, posted on the City's website (http://www.newbedford-ma.gov/McCoy/2009/Modified_RAM.pdf), outlines provisions for on-site air monitoring that will be conducted to evaluate site working conditions to minimize exposures to workers and other people nearby, including residents. During demolition and site work, water spraying will be utilized to minimize dust.

The City plans to demolish the buildings starting in late June 2010 (in approximately 2.5 months), as discussed during the April 14, 2010 PIP meeting.

Wetlands

Is there a plan to clean up PCBs in the wetland behind KMS and what is the plan? When will it start? How would you clean the water?
The City is currently investigating the wetland. Any response actions that may be conducted in the wetland will be subject to review/approval by the Environmental Protection Agency and the Massachusetts Department of Environmental Protection and a public comment period.

How many wetland samples[1] came up positive[2]?
Twelve borings were installed and 41 sediment samples were collected (not including duplicates collected for quality control purposes). Of the 41 sediment samples collected, 20 samples had detections of polychlorinated biphenyls (PCBs). Of the 20 detections of PCBs, 14 were detected at a concentration greater than 1 milligram per kilogram (mg/kg). Metals were also detected at concentrations greater than comparison criteria. Please see the March 2010 *Immediate Response Action Status Report* for additional information (www.newbedford-ma.gov/McCoy/2010/L2009-500.pdf).

Notes:
1. The City clarified at the April 14, 2010 PIP meeting that the question is directed to polychlorinated biphenyl (PCB) results associated with the borings installed by TRC along the toe (or bottom) of the slope of the northern wetland behind the Keith Middle School.
2. Positive, in this case, means containing PCBs.

General Questions

Comment: Citizens would appreciate it if things were explained in simple language.
The City appreciates this comment and strives continually to improve project communication.

What is the City's plan to involve the community in all of these "evaluations" noted on the slides?
"Under Evaluation" was noted for following areas:

- Are volatile organic compounds (VOCs) infiltrating some sections of New Bedford High School (NBHS) more than others?
- Source of VOCs in groundwater beneath NBHS
- Remediation plans for soil around NBHS
- Plans for properties where houses will be demolished
- Source of polychlorinated biphenyls (PCBs) in Keith Middle School (KMS) wetlands
- How did KMS wetlands become re-contaminated?
- When will remediation of Nemasket Lots start?

The City will continue to make the most current information available to the public as it develops, including any Release Abatement Measure Plans and Immediate Response Action Plans. The availability of these plans for review on the City's website will be advertised in the *Standard-Times* and by email to individuals on the City's Parker Street Waste Site email distribution list, and the City will receive comments for a minimum of 20 days after the advertisement date. The City will continue to notify the community of site activities through the weekly notice in the Sunday *Standard-Times*, its website, the interagency (Environmental Protection Agency, Massachusetts Department of Environmental Protection, and the City of New Bedford) calendar accessible through the City's website, and via email for residents who have provided their emails to the Department of Environmental Stewardship (please email Cheryl Henlin at Cheryl.Henlin@newbedford-ma.gov if you would like to be added to or removed from the email list). Residents are welcome to contact the Department of Environmental Stewardship with their questions at any time.

I have two windows that have been broken by fallen apples and the kids are picking them up, eating them, then throwing them against my windows. Where can I send the bill? It's the City's apple tree and they are negligent in letting the apples fall all over the place. They need to keep it clean.
The City is not responsible for damage to private property.

Are the financial resources needed to complete the investigations in place already for:

a. **Nemasket**
b. **Wetlands behind Keith**
c. **High School**
d. **DPW Yard**

If not, for any or all of the above, where will the money come from and when will it be available?

The financial resources needed to complete the further planned investigations are in place.

Please provide a detailed accounting of money spent at the site and paid to BETA and TRC, the City's technical consultants, for services.

To date, the City of New Bedford has paid BETA approximately $1,166,700.00 for services. However, for a time, BETA billed the City of New Bedford as a subcontractor to VHB; the City of New Bedford paid VHB approximately $2,543,300.00. The total amount paid to BETA and VHB was approximately $3,710,000.00. Through February 2010, the City of New Bedford has paid TRC approximately $3,845,600.00 for services.

What is the School Building Authority's (SBA's) role at this site? Have they stated that they will reimburse the City of New Bedford for 90% of the costs associated with the Parker Street Waste Site?

The School Building Authority (SBA) has not assumed responsibility for testing and remediation at the Parker Street Waste Site, and their role has yet to be determined. The SBA has not stated that they will reimburse the City for 90% of the total costs associated with the site.

Questions received during the meeting related to the City's work which were answered (provided here for clarity)

NBHS

Were rooms at NBHS that were originally found to have elevated PCB levels in the air re-tested before allowing them to be reoccupied?
Yes, samples of air were collected from the rooms that were closed for further investigation and analyzed for polychlorinated biphenyls (PCBs) before they were "reopened."

Has PCB air sampling in the high school been done more recently than 2008?
Polychlorinated biphenyl (PCB) indoor air sampling at the high school was last conducted in February 2008. Based on those results, the City has worked to identify and remove PCB-containing building materials from the school, which is ongoing work. TRC expects to conduct further air sampling for PCB analysis.

What rooms were tested at the high school for VOCs?
Indoor air samples for volatile organic compound (VOC) analysis were collected from the following NBHS interior locations: Mechanical Room (B-114), Classroom B-116, Honors Dining (B-109), Cafeteria Storage Room, and Classroom A-3-113. See Table 3 in the *Immediate Response Action Plan for the New Bedford High School Substantial Release Migration/Critical Exposure Pathway* dated March 2010 and posted on the City's website (www.newbedford-ma.gov/McCoy/2010/Final_IRA_Plan_3.22.10.pdf).

Sub-slab soil gas samples (samples of air collected from probes inserted into the ground) were collected for VOC analysis from the following NBHS interior locations: Classrooms A-4-115, A-4-105, A-3-115, A-3-112, A-3-105, A-2-115, A-2-105, A-1-155, A-1-105, Woodshop D-105, and Auto Shop D-116. See Table 7 in the *Immediate Response Action Plan for the New Bedford High School Substantial Release Migration/Critical Exposure Pathway* dated March 2010 and posted on the City's website.

Water seeping into the Mechanical Room (B-114) was sampled for VOC analysis. See Table 1 in the *Immediate Response Action Plan for the New Bedford High School Substantial Release Migration/Critical Exposure Pathway* dated March 2010 and posted on the City's website.

The following monitoring wells installed inside the school were sampled for VOC analysis: MW-4 (Auto Shop, Room D-116), MW-5 (Boiler Room, C-101), and MW-6 (Room B-133). See Table 2 in the *Immediate Response Action Plan for the New Bedford High School Substantial Release Migration/Critical Exposure Pathway* dated March 2010 and posted on the City's website.

If dioxin is not detected in soil samples collected from the high school, will more samples be collected?
The collection of samples from five locations on the high school campus for dioxin analysis is an initial step of the process to evaluate dioxin in this portion of the Parker Street Waste Site (PSWS). This process is consistent with prior environmental investigative activities undertaken by the City, where available data are used to help define necessary and appropriate steps for follow-up environmental investigation. The next stages of investigation, if necessary, are informed by the data collected from each prior investigative effort and are designed to address specific data gaps, test hypotheses*, or evaluate risk, as may be appropriate for the investigation at that time. The evaluation process is described in greater detail in the March 3, 2010 *Memorandum regarding the Proposed New Bedford High School Investigation Technical Approach* posted on the City's website (http://www.newbedford-ma.gov/McCoy/2010/Final_NBHS_memo_3.3.10.pdf).

*A hypothesis (plural: hypotheses) is a theory or assumption that is tested or researched to determine whether it is correct.

Why are dioxin testing points not closer to the high school?
The selection of soil sampling locations for dioxin analysis was based on the review of soil data focusing principally on metals results, polyaromatic hydrocarbon (PAH), semi-volatile organic compound (SVOC) data, and polychlorinated biphenyl (PCB) (homolog or Aroclor) results and potential artifacts of burning including the presence of ash, metal enrichment, and the presence of PAHs. Soil samples with results indicating concentrations greater than regulatory limits for PCBs and/or PAHs and/or metals, guided the identification of locations for potential dioxin analyses as noted in the March 3, 2010 *Memorandum regarding the Proposed New Bedford High School Investigation Technical Approach* posted on the City's website (http://www.newbedford-ma.gov/McCoy/2010/Final_NBHS_memo_3.3.10.pdf).

Is the passageway in the high school between B240-B242 safe? (Why were the tiles removed and not replaced?)
Yes, the passageway between B-240 and B-242 is safe. The covering of exposed mastics, the adhesives used to attach floor tiles, is part of a program of maintenance measures to be implemented starting in 2010.

Walsh Field

If dibenzofurans were found at Walsh Field, why isn't all of Walsh Field being assessed for dioxin? Since chlorinated dibenzofurans have been identified at NBHS, why not look for them at Walsh Field?
As stated during the April 14, 2010 PIP meeting, there are no plans to conduct dioxin testing at Walsh Field.

Soil deposition at Walsh Field pre-dated the disposal of polychlorinated biphenyl (PCB) wastes at the Parker Street Waste Site (PSWS), as noted in the March 3, 2010 *Memorandum regarding the Proposed New Bedford High School Investigation Technical Approach* posted on the City's website (http://www.newbedford-ma.gov/McCoy/2010/Final_NBHS_memo_3.3.10.pdf). Without combustion activity in the presence of chlorinated organic precursor compounds such as PCBs, dioxin compound formation is not likely. Dioxin compound precursors at the PSWS are principally associated with PCBs. The available analytical data provide no indication of the presence of any other chlorinated organic compounds at Walsh Field in significant concentrations. The dibenzofuran identified at Walsh Field was not chlorinated.

Nemasket Street Lots

Has testing already been conducted at Nemasket Street Lots? Who is in charge of this investigation? When will assessment start? Will testing be done when KMS is on break?

Soil sampling and analysis was previously conducted on the Nemasket Street lots by the BETA Group, Incorporated (BETA) in 2005. The City plans to collect samples from the Nemasket Street lots under the joint Environmental Protection Agency (EPA) (under the Toxic Substances Control Act) and the Massachusetts Department of Environmental Protection (MassDEP) regulatory oversight. As noted during the April 14, 2010 PIP meeting, the City is targeting the start of the assessment for this spring/summer. Assessment may begin while Keith Middle School (KMS) is in session and will be conducted in such a way as to protect the health and safety of students, staff, and area residents consistent with previous investigative work.

General Questions

How will the boundaries of the entire site be determined if DPW yard isn't sampled? When will it be sampled?

The City will evaluate the results of the upcoming EPA sampling from nearby properties, which together with assessment activities undertaken by the City, will be used by the City to determine potential future investigation activities. There are no plans to investigate the DPW yard, as noted during the April 14, 2010 PIP meeting.

Questions for departments or agencies other than the City's Department of Environmental Stewardship

Questions for the School Board

(Forwarded to the School Board via e-mail on 4/20/10. Dr. Francis, the Superintendent, replied to several of these questions during the meeting, and Dr. Fletcher, a member of the School Committee, stated that all questions addressed to the School Board during the meeting would be brought before the School Committee for further discussion. The City will post the School Board's written responses on the City website separately when they are received.)

Can the School Board convene an assembly at the high school to explain everything [what's going on at the site] to the students?

Can the School Board guarantee everyone will be informed of activities related to the clean-up work, including testing and remediation activities and public meetings?

Were the I-alerts (reverse 911 system) done only in English?

What is being taught to students who live in or near the site about how to be safe? Are students being informed of ongoing activities regarding the Parker Street Waste Site?

Questions for MassDPH

(Forwarded to MassDPH via e-mail on 4/20/10. Suzanne Condon, a representative from MassDPH, replied to these questions during the PIP meeting. MassDPH also provided written responses, which are posted separately on the City's website.)

How is MassDPH gathering the data about the number/type of cancers at the high school?

I worked at the old Keith, spent many hours on Andrea McCoy field with my daughter while they played soccer for years, worked at the new Keith and currently work at NBHS, and I have fought breast cancer along with some of my female colleagues. Why haven't I or any of the women I work with been included in any medical samplings? What was the process used to alert people to participate in the study? Why wasn't the school department told to contact all the employees on these "hot" sites?

If results from blood tests were ready in February, why has it taken so long to make them available?

What is the responsibility of the MassDPH at this site? Is MassDPH coordinating with the city Health Dept.?

Did DPH provide information to residents in multiple languages about the health study?

Were letters dropped off?

Why has MassDPH done no urine, hair, or fecal testing for metals (specifically arsenic and lead) on children who have participated in sport activities on Walsh Field?

Will DPH only issue letters to individuals or will they also issue a summary document when the PCB blood serum test results are released?

Explain the role of ATSDR for entire site. What is a health consultation? Who is the point of contact/lead on this effort at ATSDR?

Questions for EPA

[Forwarded to EPA via e-mail on 4/20/10. Please note that EPA On-Scene Coordinator (OSC) Marcus Holmes replied to these questions during the PIP meeting. For further information, please contact OSCs Wing Chau (chau.wing@epa.gov; 617-918-1254), Marcus Holmes (holmes.marcus@epa.gov; 617-918-1630), or Sarah DeStefano (destefano.sarah@epa.gov; 617-918-1431).]

What are the plans to assess housing development properties for contamination?

Will the wetland behind Sintra Heights condos be tested? (The wetland floods the basement of the condos during heavy rain). And Potter Housing - also flooded by wetlands; will this area be tested?

The Commonwealth of Massachusetts
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SECRETARY

JOHN AUERBACH
COMMISSIONER

Answers to Questions Raised at PIP Meeting Related to Parker Street Waste Site
At Keith Middle School, New Bedford on April 14, 2010

1. How is MassDPH gathering the data about the number/type of cancers at the high school?

   MDPH has been gathering data about the occurrence of cancer at the high school in a number of different ways. Staff from the Community Assessment Program (CAP) within the Bureau of Environmental Health (BEH) accompanied staff from the BEH Indoor Air Quality Program to the high school during their building inspections to meet with and listen to the health concerns of staff, including cancer concerns. In addition, two lists of names of former high school staff and students who have been diagnosed with cancer were provided to MDPH by the local New Bedford health department and via an email from CLEAN. Diagnoses reported to MDPH are being confirmed using data available from the MDPH Massachusetts Cancer Registry (MCR) and Registry of Vital Records and Statistics.

   In addition to a review of reported cancer diagnoses in the high school, CAP is also conducting a review of cancer incidence in the neighborhoods in closest proximity to the high school. Individuals with a diagnosis of cancer are reported to the MCR based on their residence at diagnosis; therefore CAP is evaluating the incidence of specific types of cancer among residents who live in the census tract where the Parker Street Waste Site is located as well as in four adjacent census tracts. Unfortunately, information on place of work is not reported to the MCR.

   Both of these evaluations will be summarized in reports that will be shared with the area residents and school staff, respectively, once they are completed.

2. I worked at the old Keith, spent many hours on Andrea McCoy field with my daughter while they played soccer for years, worked at the new Keith and currently work at NBHS, and I have fought breast cancer along with some of my female colleagues. Why haven't I or any of the women I work with been included in any medical samplings? What was the process used to alert people to participate in the study? Why wasn't the school department told to contact all the employees on these "hot" sites?

   MDPH made significant efforts to inform school staff as well as neighbors of the Parker Street Waste Site of the availability of participating in an exposure assessment interview which could

then lead to an analysis of blood serum for PCBs. When this initiative first began, MDPH worked to spread the word through radio interviews in New Bedford (on GLOBO, 97.3FM) and press releases/interviews (through the New Bedford Standard Times). We also prepared notices for the schools. It is our understanding that school officials posted DPH's notices in the teachers' lounges at the high school and Keith Middle School as well as made announcements to staff. MDPH provided updates to the New Bedford Teachers' Union and attended a public meeting at the Keith Middle School to outline plans for the interviews and serum testing.

3. If results from blood tests were ready in February, why has it taken so long to make them available?

   The MDPH state laboratory provided the laboratory data to the BEH at the end of February. Once CAP received the results for the 91 individuals who chose to participate in the serum testing program, each individual's lab and interview data were evaluated to provide an interpretation of the information specific to each person. For each individual, BEH must analyze their results and compare them to the latest national survey data, the National Health and Nutrition Examination Survey (NHANES) data, which represents a random sample of the U.S. population. As mentioned, BEH reviewed the information provided by each participant during their exposure assessment interview when questions were asked about potential sources of exposure to PCBs. An individualized letter is being prepared for each participant. BEH anticipates mailing these letters to participants in late April/early May.

4. What is the responsibility of the MassDPH at this site? Is MassDPH coordinating with the city Health Dept.?

   Although MDPH does not have regulatory authority at the Parker Street Waste Site, MDPH is committed to helping address people's concerns in a number of ways. MDPH/BEH interviewed 124 concerned individuals and conducted serum PCB testing for those 91 individuals who chose to participate in the serum testing program. In addition, BEH is evaluating the incidence of cancer in the high school as well as in five census tracts containing and surrounding the Parker Street Waste Site. The BEH Indoor Air Quality Program has inspected the high school through multiple site visits and is evaluating environmental conditions in the building.

   BEH has been working closely with the New Bedford Health Department over the last few years on all of these activities. The New Bedford Health Department helped BEH secure space at the Normandin Middle School to conduct the exposure assessment interviews and the majority of the blood draws for the serum PCB testing occurred at the New Bedford Health Department. The Health Director was also instrumental in securing the services of the MDPH/IAQ Program to inspect the high school as well as other schools within the school system.

5. Did DPH provide information to residents in multiple languages about the health study? Were letters dropped off?

   MDPH did participate in an interview on New Bedford's Portuguese radio station (GLOBO 97.3 FM) before the start of the exposure assessment interviews, to publicize the interviews and serum PCB testing opportunity. Also, OJornal, a Portuguese-language paper, published an article on MDPH's activities including contact information for those interested in participating. At a PIP meeting before the interviews began, an interpreter was present for Portuguese-speaking residents. MDPH has used a translator, when necessary, for all correspondence to Portuguese-speaking participants.

6. Why has MassDPH done no urine, hair, or fecal testing for metals (specifically arsenic and lead) on children who have participated in sport activities on Walsh Field?

   MDPH has a cooperative agreement with the federal health agency, the Agency for Toxic Substances and Disease Registry (ATSDR), to coordinate work in Massachusetts involving hazardous waste sites. In response to a petition request from Wasted Away (now CLEAN), ATSDR is currently conducting a public health assessment (PHA) of the Parker Street Waste Site, including Walsh Field. In this assessment, ATSDR is reviewing the environmental sampling data from the site, evaluating the ways by which people may come into contact with contamination at the site, and then evaluating the potential for adverse health effects from exposures. MDPH feels that a determination regarding the need for and nature of the type of health evaluation involving biomonitoring (for example, testing for metals in people) should be based on the findings of the public health assessment.

7. Will DPH only issue letters to individuals or will they also issue a summary document when the PCB blood serum test results are released?

   MDPH will mail confidential letters to individuals with their own PCB serum results. In addition, MDPH will be preparing a summary report on the results of the participants as a group. This summary report will be made available to the public and a meeting to review the information will likely be scheduled in the early summer.

8. Explain the role of ATSDR for entire site. What is a health consultation? Who is the point of contact/lead on this effort at ATSDR?

   Please see the response to question 6. The point of contact at ATSDR is Andy Dudley who is a health assessor in ATSDR's Atlanta office.

School Board Answers to Questions Raised at April 14, 2010 PIP Meeting

1. Can the School Board convene an assembly at the high school to explain everything [what's going on at the site] to the students?

As an alternative to convening an assembly, Dr. Mary Louise Francis, the Superintendent, will work with school staff to get the word out to students as to what's going on at the site via the school newsletter and other available means.

2. Can the School Board guarantee everyone will be informed of activities related to the clean-up work, including testing and remediation activities and public meeting?

New Bedford Public Schools will support the dissemination of information regarding activities related to the clean-up work, including testing and remediation activities and public meetings through its regular newsletters, as well as via the New Bedford Public Schools website. Use of our call alert system is a possibility, as well.

3. Were the I-alerts (reverse 911 system) done only in English?

Currently the i-Alert system messages are provided only in English at some of our schools. In others, however, the messages are provided in three languages. We are currently working towards messages being provided only in the language listed in our student information system as being the primary language spoken at home. That is projected for implementation by next school year.

4. What is being taught to students who live in or near the site about how to be safe? Are students being informed of ongoing activities regarding the Parker Street Waste Site?

Information will be provided to students who live in or near the site about how to be safe. Dr. Francis will work with New Bedford Public Schools staff in the dissemination of that information, in addition to details pertaining to ongoing activities regarding the Parker Street Waste Site.

Parker Street Waste Site Public Information Plan Meeting
Keith Middle School Community Room
September 22, 2010
6:00 – 9:00pm

Please note: All questions submitted to the Department of Environmental Stewardship regarding the Parker Street Waste Site between October 6, 2010 and the next PIP meeting will be answered as part of the next PIP meeting, which is targeted for January 2011. This policy will not apply to questions and comments which are submitted as part of a public comment period on a specific document.

Public Comments and Questions received during the meeting related to the City's work and not answered that evening

New Bedford High School

- **Is there a report as to how much money has been used for all the remediation taking place at New Bedford High School (NBHS)?**

The following table includes both assessment and remediation expenses for NBHS.

NBHS Interior		
Service provided	**Vendor**	**Cost (2001-June 30, 2010)**
Interior Sampling	BETA	$18,455.55
Polychlorinated biphenyl (PCB) Source/Sink Mapping, Interior Sampling/Oversight, Specifications/Bid preparation	TRC	$715,504.29
Heating, ventilation, and air conditioning (HVAC) duct Cleaning/Exhaust fans	Indoor Air Technologies	$475,554.00
Removal of PCB & Asbestos-Containing Building Materials (ACM)	Triumvirate Environmental	$55,425.00
Cabinets and Shelving	Richard Losordo	$86,410.00
Univents (fabrication, delivery)	DDS Industries	$125,700.00
Removal and Replacement of PCB and ACM containing building materials	WES Construction	$144,210.00
	Total Interior	**$1,621,258.84**
NBHS Exterior		
Service provided	**Vendor**	**Cost (2001-June 30, 2010)**
Soil Sampling	BETA	$14,854.27
Samples from TRC dumpster	Phoenix	$225.00

	Environmental	
Soil Excavation, Transport	D.W. White	$12,055.43
Soil Transfer, Container Rental	Normans Enterprises	$12,950.00
Soil Transport: Shawmut Transfer Station to CWM Chemical in New York	Triumvirate Environmental	$27,108.45
Sewer line camera inspection	City's Dept. of Public Infrastructure	$1,759.68
Exterior Investigation Follow-up/Remedial Planning	TRC	$1,001,828.72
	Total Exterior	**$1,070,781.55**
Total Interior and Exterior Assessment and Remediation expenses		**$2,692,040.39**

- **Comment: (I am concerned that) two air monitoring samples were above action limits for volatile organic compounds (VOCs).**

This comment references slide 18 of the presentation, which states that two air monitoring results were above screening limits established by the Massachusetts Department of Environmental Protection (Indoor Air Threshold Values for the Evaluation of a Vapor Intrusion Pathway, Attachment C, updated June 26, 2008). The two locations where these air samples were collected in April 2010 (mechanical room and lecture room D-120) were re-sampled in August 2010. Analytical results for the most recent sampling are currently undergoing quality control review, but the results were below indoor air screening levels at both locations. The new data will be provided in a forthcoming updated fact sheet for New Bedford High School.

Note that exceeding a screening level does not necessarily indicate the existence of a significant risk. In fact, the chemical concentrations detected in April 2010, evaluated together, are not associated with significant risk to human health.

- **Comment: We should give serious consideration to building a new school on a different site.**

The current analytical data for New Bedford High School and risk characterizations which have been conducted in accordance with Massachusetts Contingency Plan procedures indicate that the school and its campus are safe to use.

- **There is no barrier at New Bedford High School like the slab underneath Keith. What makes you think that teachers, students and others are safe?**

See response to the previous question. In addition, please note that an “exposure pathway” (the route a substance takes from its source to its end point, and how people can come into contact with it) to indoor air has not been identified in areas occupied by teachers or students. The City’s investigations to date suggest the following: 1) the only area of the school where subsurface contamination volatile organic compound (VOC)

impacts have been found is the mechanical room; and 2) the only room in the school where indoor air impacts have resulted from subsurface conditions is the mechanical room.

- **Is there a correlation between dioxins and PCB levels in the soils? If there is no correlation, can we truly rule out the possibility of dioxins elsewhere on the site?**

Dioxin compounds may be formed as part of a burning/combustion process under appropriate conditions. Data collected to date indicate that ash is present in impacted fill at the Parker Street Waste Site (PSWS). The soil data indicate that polychlorinated biphenyls (PCBs) are the only chlorinated dioxin/dibenzofuran precursor compounds at PSWS. There is no other indication in the available analytical data of the presence of any other chlorinated organic compounds with the potential to serve as chlorinated dioxin/dibenzofuran precursors in significant concentrations, based on analysis for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, and PCBs conducted by the prior consultant and TRC.

The TRC soil sampling program was designed to collect samples from biased high ("worst case") concentrations for chlorinated dioxins/dibenzofurans in soils at the site. Based on an evaluation of the entire analytical results database, soil sample locations with concentrations greater than regulatory limits for PCBs, PAHs, and/or metals were selected for review. Sample locations were selected based on the presence of ash/cinders, metals enrichment, and PAHs; PCB concentrations greater than regulatory limits; and to provide geographic coverage. The biased sampling approach was intended to avoid underestimating risk from exposure to dioxins in campus soil and, in all likelihood, results in overestimating risk.

Regarding a correlation, the intent was to support a qualitative correlation (e.g., to document the co-occurrence of PCBs). The soil sampling locations were chosen, at least in part, because they had some of the higher PCB concentrations observed in soil on the New Bedford High School (NBHS) campus. Note that a rigorous statistical correlation would require the collection of a large number of additional samples over a wider concentration range to attempt to quantify any correlation between PCBs and dioxins/furans. TRC chose an efficient approach of targeting potential high concentration chlorinated dioxin/dibenzofuran areas in lieu of a larger sampling program that would not be expected to influence decisions about how to protect public health and how to comply with the Massachusetts Contingency Plan in general.

One observation from the work is that levels of dioxins in site soil were consistent with background concentrations for soils in urban areas, even in the presence of PCB detections. The City's consultant continues to evaluate all data collected from the site. Observations pertaining to dioxins and other contaminants that are generated will be documented in the Phase II report being prepared for NBHS.

- **The dioxins found near the flagpole are a big concern, yet the area is not fenced off. Can you respond to this?**

Erecting a fence around the flag pole area is not necessary. The current analytical data for New Bedford High School and risk characterizations which have been conducted in accordance with Massachusetts Contingency Plan procedures indicate that the school and its campus are safe to use. The risk characterization included the dioxin, dibenzofuran, and polychlorinated biphenyl congener soil data.

- **Clear windows are important for kids. Can we consider window replacements to promote a healthy, sunny environment?**

Concerns about the type of windows (clear vs. frosted) which are installed in the building would be best addressed to the School Department. Any window replacement undertaken by the City of New Bedford for polychlorinated biphenyl (PCB) impacts associated with the window installation materials will share this goal of promoting a healthier environment, and would be managed accordingly.

- **At what point would the soil around NBHS be safe for planting food crops, such as through a gardening or greenhouse program?**

Planting of food crops in site soil for human or animal consumption at New Bedford High School will be restricted under the future Activity and Use Limitation (AUL). The use of enclosed planters or raised beds filled with pre-characterized soil and separated from underlying site soil would be suitable for a gardening program.

<u>New McCoy/Nemasket/Keith Middle School</u>

- **What were the exact findings from the Nemasket lot that the city references in the lawsuit? Where exactly were the samples taken from, and at what depth? Do these findings represent an imminent hazard for this community?**

The City is not at liberty to discuss the details of matters in litigation. For sample locations and associated sample depths, please see the figure and data tables posted on the City of New Bedford's Parker Street Waste Site Website, Nemasket Street Lots page as "Nemasket Street Lot Sampling Data - August - September, 2005 (BETA)". The Nemasket Street Lots do not represent an Imminent Hazard to the community under the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000).

<u>Acquired Properties</u>

- **The lawns of the acquired, now owned by the City of New Bedford, properties have yet to see a lawnmower except for the land that abuts my property, and I think that is because my husband and I called the environmental stewardship office everyday for a week. My question is when do they plan to cut that grass?**

The Department of Public Facilities (DPF) will cut the grass as needed through the end of October. It has not been mowed yet because the Department of Public Infrastructure (DPI) needed to remove debris that would obstruct or potentially damage the equipment used to mow the grass at these parcels, and DPI was waiting for the Department of Environmental Stewardship to provide guidance on whether the silt fence and hay bales on the acquired properties would be removed at this time. Late in the week of September 20th, the Department of Environmental Stewardship notified DPI that the silt fence and hay bales will be remaining on site until the next phase of work. DPI was able to allocate personnel to clear debris from the sites on Friday, October 1st. The Department of Environmental Stewardship notified DPF that the properties are ready to be mowed on October 1st. Department of Environmental Stewardship staff will meet with DPF staff on site October 7th to address DPF's remaining questions.

- **I have heard about this supposed time line for the city to do something with those properties [acquired properties]; what is the time line and what are they going to do?**

The City has committed to providing a Phase II report to the Massachusetts Department of Environmental Protection (MassDEP) for the acquired properties by May 20, 2011. The preparation of this report may require further investigation activities. The City has not yet determined what the final use of these parcels will be.

General

- **How much money was appropriated for this project overall? How much has been spent and what happens if we run out of funds?**

Initial appropriation, including expenses associated with the construction of Keith Middle School: $103,687,860.00

Spent as of June 30, 2010: $81,343,176.61

The financial resources needed to complete the further planned investigations are in place.

- **We are concerned about health, contamination, and financial issues here. We have already spent a lot of money on this and we don't see an end. Am I correct that on October 6th you will present a dollar amount of how much has been spent, including on past and present consultants?**

Yes – the $81,343,176.61 quoted in the previous question includes past and present consultants' expenses through June 30, 2010, as well as construction expenses for Keith Middle School.

<u>Public Comments and Questions received during the meeting related to the City's work which were answered (provided here for clarity)</u>

<u>Walsh</u>

- **Has there been testing for dioxins or dibenzofurans in Walsh Field? If so, what happened?**

The City has not conducted testing for dioxins at Walsh Field. The City did test for dibenzofurans and detected them in sample WFB-4, located in the varsity outfield. This sample location was excavated and removed from the site during the fall of 2009.

<u>New Bedford High School</u>

- **How much more money will be needed for long term maintenance? Why not build a new school?**

Without knowing the full extent of future work, the City is not able to accurately estimate that cost. The current school is safe to use.

- **Regarding the inventory of ballasts – would it be better to replace them all with more energy efficient lights? Is this more affordable?**

In 2005/2006, the School Department replaced the majority of the school's fluorescent ballasts. The new bulbs increased energy efficiency. The City conducted an inventory in August and September 2010 to determine how many polychlorinated biphenyl (PCB)-containing ballasts remain, and to better understand the safest and most cost-effective way to handle the remaining fixtures. The City will provide updates via the weekly site activities notice (published Sundays in the *Standard-Times*) and the online EPA-MassDEP-City of New Bedford Site Activities Calendar (linked to the "This Week's Site Activities" subpage of the Parker Street Waste Site website) as future plans regarding the fluorescent ballasts become established.

- **Two volatile organic compound (VOC) samples were above limits. Given that the testing was done during school vacation, do you really think there would be interference in the air skewing the results (from solvents etc)?**

Yes. As referenced on slide 18 of the presentation, two results were above screening limits established by the Massachusetts Department of Environmental Protection (Indoor Air Threshold Values for the Evaluation of a Vapor Intrusion Pathway, Attachment C, updated June 26, 2008). Although students and most academic staff are not in the building during school vacations, maintenance staff are often busy with projects throughout the building, such as cleaning floors, desks, and other surfaces, which can lead to such detections. Certain classes, such as the automotive shop near classroom D-120 at New Bedford High School, also use materials such as brake cleaners that contain VOCs, the residues of which may persist for some time. Sometimes the products that are

regularly used in the school for maintenance or educational purposes are detected during air sampling, making it hard to distinguish between a chemical being used intentionally and a chemical that is present in the environment around the building. Chemicals can off-gas even from closed containers. Nevertheless, the school is currently safe to use.

- **Is the list on your slides of upcoming interior remediation work complete? Is that the complete scope?**

The list referenced in the question can be found on slide 11 of the presentation, and includes the following items: foam furnishings, light fixtures/old ballasts, painted surfaces, submit removal and abatement plan to the Environmental Protection Agency (EPA) during the winter 2010/2011. These are the current areas of interior work that the City expects to address next summer; the list is subject to change based on consultations with EPA.

- **Can you explain the difference between polychlorinated biphenyls (PCBs) and dioxins*, and why we are so concerned about dioxins?**

Given evidence in the scientific literature, both PCBs and dioxins have the potential to impact human health depending on the level of exposure. Dioxins can affect multiple organ systems, and many regulatory authorities have concluded that PCBs and dioxins may cause cancer in humans. The Environmental Protection Agency's current estimate of dioxin cancer potency greatly exceeds its estimate of PCB cancer potency. Given the concern about dioxin toxicity, TRC targeted its soil sampling with the goal of identifying the highest concentrations of dioxins that might be present anywhere on the high school campus. This approach avoids underestimating risk from exposure to dioxins in campus soil and, in all likelihood, results in overestimating risk. The City used these dioxin concentration data in conjunction with the Massachusetts Department of Environmental Protection's recommended risk assessment methodology and concluded that there is no significant risk to individuals using the high school campus.

*"dioxin" refers to 2,3,7-8-tetrachlorodibenzo-*p*-dioxin plus all compounds that are structurally-related to 2,3,7,8-tetrachlorodibenzo-p-dioxin.

- **Did you test for polychlorinated biphenyl (PCB) levels in the daycare room (physical infrastructure, not air)?**

In addition to the air samples recently collected, three different materials have been sampled in the daycare room (room A-227-4) including vinyl base cove (1.39 mg/kg total PCBs), laminate adhesive (non detect at a laboratory reporting limit of 0.940 mg/kg) and paint (4.184 mg/kg total PCBs). None of these results indicates a need for remedial action for the materials tested.

- **Was dioxin testing done outside the daycare room on the playground area?**

No, dioxin samples were collected from five locations on the west side of the school building where, based on existing analytical data, the City would be likely to find the highest concentrations of dioxins present on campus.

- **Is HF-31 the only location with polychlorinated biphenyl (PCB) concentrations in soil in excess of 50 parts per million (ppm) on the high school's campus?**

Yes, HF-31 is the only location on the high school campus where a soil concentration of total PCBs over 50 ppm has been detected through sampling of in-place soil.

- **Regarding the ventilation and heating systems – under what circumstances would all of these unit ventilators be replaced? How adequate are the ventilation systems in the classrooms?**

The 31 unit ventilators (or univents) that were replaced this summer contained a polychlorinated biphenyl (PCB) and asbestos lining. All of the other univents in the school have been visually inspected, and they do not contain the same lining, so other univents can be replaced at the School Department's discretion. With respect to the ventilation system overall, it is the City's understanding that the building Energy Management System which was installed in 2009 has led to significant improvements in providing adequate ventilation to all areas of the school, including classrooms.

- **Regarding vapors, when will the critical exposure pathway be mitigated? Twelve months seems too long.**

A critical exposure pathway (CEP) does not necessarily indicate the existence of a significant risk. Indeed, at New Bedford High School, the City has evaluated the risk, and found that there is no significant risk. The vapors which have been detected are below Massachusetts Department of Environmental Protection (MassDEP) screening standards, but because they were detectable, regulations consider this a CEP, and it is appropriate for the City to investigate and evaluate mitigation measures. Since the CEP for volatile organic compounds (VOCs) was first identified in January 2010 (as discussed in the April PIP presentation, which is available on the Parker Street Waste Site website under "Public Involvement Plan Meetings"), the City collected numerous additional samples of indoor air, subslab soil gas, groundwater and seep water since notifying MassDEP of the issue. A description of all phases of this work conducted to date has been provided both in the April 2010 PIP presentation (activities leading up to the reporting of the issue, and response actions conducted since reporting through April 2010) and the September 2010 PIP presentation (activities from April, August, and September), both of which are available on the City's "Public Involvement Plan Meeting" webpage. Also, note that the City took precautionary steps to mitigate potential vapor intrusion by sealing floor cracks and plugging floor drains to eliminate potential vapor pathways, and has undertaken an evaluation of seep mitigation measures. The City

has committed to submitting a Modified Immediate Response Action (IRA) Plan to the Massachusetts Department of Environmental Protection (MassDEP) by January 21, 2011.

- **For the dense non-aqueous phase liquid (DNAPL, a liquid that does not dissolve in water) that was observed in the groundwater monitoring well being installed in the mechanical area, what exact element was found?**

Trichloroethylene (TCE) and related volatile organic compounds were detected in a sample of this liquid. TCE was the primary compound detected.

- **Are contaminated materials being taken away from this site in a way that does not negatively affect other communities?**

Yes, impacted materials such as soil and building materials, which have been removed from the New Bedford High School campus, have been disposed of at licensed facilities which are permitted to receive such waste located in Michigan (EQ in Bellville, MI), New York (CWM Chemical Services, LLC in Model City, NY), or locally (Crapo Hill Landfill in New Bedford/Dartmouth, MA) depending on the type and level of impact.

Note also that the City is not just protecting the other communities. During removal from inside the school, we are protecting the users of the facility. The interior removals are performed under containment, and monitoring is done outside the containment to ensure that contamination is not spread. Following the removal, inspection and testing are performed to ensure that the area is safe to reoccupy. In addition, all of the materials removed are double wrapped with polyethylene sheeting to ensure that the contaminated materials are not spread during storage and transport to the disposal facility (see sections 2.5 through 2.7 of the March 2010 *Removal and Abatement Plan*). All of this work is conducted under the supervision of trained professionals.

During removal of impacted soils conducted outdoors, environmental monitoring is conducted for dust and vapors, and dust suppression is employed under oversight by environmental field professionals. The environmental monitoring and dust suppression approaches are described in plans that receive written approval of the Massachusetts Department of Environmental Protection (MassDEP).

<u>General</u>

- **Is the City going to collect samples at Sintra Heights?**

No, the City of New Bedford will not collect samples at Sintra Heights.

- **The fact sheet on environmental monitoring at Keith Middle School includes a statement that it is safe to occupy the school and use the campus. Can the same statement be made about New Bedford High School?**

Yes. Please see the City of New Bedford's fact sheet entitled "Environmental Investigation of the New Bedford High School Building and Campus" (July 2010), available on the City's Parker Street Waste Site website or directly at: http://www.newbedford-ma.gov/McCoy/2010/Final_NBHS_Fact_Sheet_with_dioxin_7.6.10.pdf.

Questions for agencies other than the City's Department of Environmental Stewardship

For the Environmental Protection Agency (EPA)/Massachusetts Department of Environmental Protection (MassDEP)
Forwarded to EPA/MassDEP via e-mail on 9/28/10. Please note that David Johnston of MassDEP replied to several questions during the PIP meeting, and EPA has responded to other community members directly.

For the Agency for Toxic Substances and Disease Registry (ATSDR)
Forwarded to ATSDR via e-mail on 9/28/10. Please note that Bill Sweet and Tarah Somers addressed questions as part of the PIP meeting. For further information, please contact Bill Sweet at (617) 918-1940 or sweet.william@epa.gov or Tarah Somers at (617) 918-1493 or somers.tarah@epa.gov.

Parker Street Waste Site Public Information Plan Meeting
Keith Middle School Community Room
January 19, 2011
6:00 – 9:00pm

Public Comments and Questions received during the meeting related to the City's work and not answered that evening

New Bedford High School (NBHS)

1. How many windows are there in the school?

A count of the total number of windows at the school will be included as part of the specifications that a contractor is currently developing for the School Department to replace the windows.

2. Even if the levels of contamination are considered low by Environmental Protection Agency (EPA) standards, what is their combined effect? Could small cocktails combine to become a larger problem?

Indoor air samples collected from the high school have been analyzed primarily for total polychlorinated biphenyls (PCBs), but some have also been analyzed for volatile organic compounds (VOCs). TRC quantified risk to building occupants from combined exposure to all VOCs and PCBs detected in indoor air and concluded that there is no significant risk.

3. Do the cracks in the cement floor in the Mechanical Room need to be part of a RAM plan? How much work do you have left to do to seal the cracks? Do the 120 feet already addressed represent the majority of the work to be done?

The crack- and joint-sealing work that is being conducted in the Mechanical Room is part of the *Immediate Response Action Plan* that was submitted to the Massachusetts Department of Environmental Protection (MassDEP) on March 22, 2010. The approximately 120 feet of cracks and joints that were sealed during the December 2010 school vacation represent the majority of the work to be done under the present scope of work with the vendor. The vendor will return to the school during the February 2011 school vacation to seal other cracks and joints through which groundwater has been seeping into the Mechanical Room. Follow- up inspections and additional sealing will occur as necessary.

4. Is there an asbestos management plan, one that includes informing parents and teachers and others about work being done?

This question has been forwarded to the City's School Department for a response. The Environmental Stewardship Department will post the School Department's response when it is received.

5. Who from the City is responsible for ensuring that all contractors present on site are qualified and currently certified/licensed to do the required work (e.g. asbestos abatement)?

All workers and contractors who performed asbestos abatement work at New Bedford High School during summer 2010 had the proper licenses for the work they performed. For this project, the City's General Contractor (WES Construction) was responsible for ensuring that their abatement subcontractor (American Environmental, Inc.) was properly certified to conduct asbestos removal and abatement. The Massachusetts Division of Occupational Safety (MADOS)

also came to the Site to verify that the subcontractor had current certifications. On June 29, 2010, during the preparation phase for abatement work and prior to the commencement of work, MADOS verified that American Environmental, Inc., had current certifications but identified one of American's workers who did not possess the proper certification to be on Site. On July 2, 2010, MADOS returned to the Site, and that worker had been removed from the Site. MADOS issued a notice of violation to both American Environmental, Inc., and to the worker.

6. Are you familiar with MA Division of Occupational Safety (MADOS) report on oversight at the Little Whalers daycare center?

The City's Environmental Stewardship Department does not have a copy of a report from MADOS and has contacted MADOS to request a copy.

7. Why isn't the high school getting 100% of the City's attention? Could we reallocate time and resources to the high school, where kids are every day, and make it a priority over the Nemasket Street Lots, which are vacant?

The high school and the Nemasket Street Lots are both part of a larger site (the Parker Street Waste Site or PSWS). The City's response action obligations under the Massachusetts Contingency Plan (MCP) require evaluation and remediation of contamination that may represent a threat to human health and the environment; this information is used for the City's risk assessment. The City has conducted risk assessments that demonstrate that there is no significant risk to occupants of the high school from exposure to indoor air and outdoor surface soil. It is safe for staff and students to occupy the high school.

In continuing to adhere to these MCP provisions, the City is not able to evaluate the high school exclusively while not performing work on other parts of the site for which we have assumed responsibility. The City has and will continue to take all necessary actions as required by the MCP.

<u>Acquired Residential Properties</u>

8. I am concerned about how my property is affected by the work being done – when will you have a sense of the results and a sense of what will happen next? As you work, are you taking into consideration the impacts on and needs of the people who live there?

TRC is receiving and evaluating the data from sampling that was conducted in December 2010. The results from this sampling effort will guide the City's next steps. When performing work, the City and its contractors take appropriate measures to protect residents' health and safety (e.g., dust monitoring, decontamination of equipment, etc). The City provides notification to residents living in the neighborhood that includes Ruggles and Greenwood Streets via U.S. mail when work is scheduled.

9. Are the Acquired Properties under Environmental Protection Agency (EPA) jurisdiction, along with the wetlands?

Both EPA and the Massachusetts Department of Environmental Protection (MassDEP) have jurisdiction at the Acquired Residential Properties. The City is awaiting a formal response from EPA in response to this question (see TRC's letter to EPA dated October 19, 2010 on the Acquired Properties page of the Parker Street Waste Site website).

10. Are the Acquired Properties owned by the City or the School Department?
The Acquired Properties are owned by the City.

11. Is it the City's responsibility to maintain these lots?
The Acquired Properties are maintained by the Department of Public Facilities (DPF). Their contact information was provided in the PIP meeting (slide 5).

12. What will happen if money to handle these lots runs out?
The financial resources needed to complete further planned investigations will come from a bond or an appropriation. The City is also evaluating other sources of funding.

Nemasket Street Lots

13. Are the Nemasket Street Lots owned by the City or the School Department?
The Nemasket Street Lots are owned by the City.

14. Who paid for the Nemasket Street Lots?
The City obtained the Nemasket Street Lots through a deed-in-lieu of tax foreclosure under G.L. c. 60, Section 77C, dated June 11, 2009 and recorded in the Bristol County (S.D.) Registry of Deeds at Book 9479, Page 311. The amount of outstanding taxes on the parcels in question was approximately $15,000.00 for all of the lots.

15. Can you make the geophysical (ground-penetrating radar) report and electromagnetic survey that were conducted at the Nemasket Street Lots available?
Yes, these reports are now available on the Nemasket Street Lots page of the Parker Street Waste Site website.

16. Do you have the results from the samples collected from soil borings at the Nemasket Street Lots in December 2010 yet?
Final results are not yet available.

17. What compounds did the City have soil samples analyzed for at the Nemasket Street Lots?
The City had soil samples from across the property analyzed for some or all of the following compounds: polychlorinated biphenyls (PCBs), heavy metals, and polyaromatic hydrocarbons (PAHs). The City also submitted some soil samples for the following analyses: volatile organic compounds (VOCs), volatile petroleum hydrocarbons (VPH) and extractable petroleum hydrocarbons (EPH).

Keith Middle School

18. When was the dam constructed in the river located to the north of Keith Middle School? Are there plans for the dam's construction, and if so, at which City office can they be reviewed?
The City is not aware of a dam located in the vicinity of Keith Middle School.

General

19. There are costs associated with everything that has been presented today – how much money has been spent to date (as of January 19, 2011), including all portions of the project? How much do you anticipate spending through 2011? Where will the money come from for future work?

The project expenses through December 31, 2010, which include expenses associated with the construction of Keith Middle School, total $84,036,331.18 (Note: Expenses are reconciled monthly by the City's auditors, and are audited by a third party after the close of each fiscal year. The expenses for January 2011 are not yet available, and the expenses reported here may be adjusted by the third-party auditor after the close of fiscal year 2011 in June 2011). The Keith bond, through which the Parker Street Waste Site project is funded, is managed by Mr. Lawrence Oliveira, Chief Administrator of Finance and Operations for the City's School Department; Mr. Oliveira can be reached at (508) 997-4511 ext. 3268.

Without knowing the full extent of future work, the City is not able to accurately estimate spending through 2011. Funding for currently planned investigations will come from the bond for the project.

20. Has the perimeter of the Parker Street Waste Site expanded beyond Summit Street to the west, Durfee Street to the north, Liberty Street to the east, and Parker Street to the south? Are chemicals which are present at the Parker Street Waste Site likely to migrate? I live off of Durfee Street one block from Liberty Street. Should my property be tested? My house was built in 1911.

The City has not received any information that would indicate that the boundaries of the Parker Street Waste Site have expanded. The chemical compounds that are characteristic of the site, such as polychlorinated biphenyls (PCBs), polyaromatic hydrocarbons (PAHs), and metals, migrate little if at all in groundwater since they tend to stick to soil materials. The volatile organic compound (VOC) impacts detected in groundwater at the high school campus are localized. With respect to whether you should have your property tested, the City is not in a position to advise homeowners regarding decisions about their private properties.

21. When will the City Yard be tested? Shouldn't it be considered a priority, given the number of people that live around there?

The City will evaluate the results of the sampling conducted by the Environmental Protection Agency (EPA) from properties near the City Yard, which together with assessment activities undertaken by the City, will be used by the City to determine potential future investigation activities.

22. Why do we keep referring back to BETA's data, and combining it with TRC's data?

The BETA Group, Inc. (BETA), as the City's previous environmental consultant, collected sampling data which helps to inform the City of the nature and extent of chemical impacts in combination with the data that TRC has collected. TRC's review of the BETA data thus far has shown the data to be usable for waste site cleanup decisions based on review of the analytical laboratory reports. BETA's laboratory sample analyses were conducted by laboratories that are certified by the Massachusetts Department of Environmental Protection. Note that the Environmental Protection Agency (EPA) reviewed the BETA data and found it acceptable to support the decision to construct the Keith Middle School and other approvals that pre-date TRC

involvement. The Massachusetts Contingency Plan requires that decisions be made upon all available data.

23. How many rooms were remediated at the High School during summer 2010?
The unit ventilators were replaced in thirty rooms, and sheetrock was replaced in three rooms.

24. Are there any more classrooms that need to be remediated at the High School?
Yes. Remedial actions planned for summer 2011 include removing paint on structural columns and walls found in rooms B-230, A-211-3, and A-213-4. Polychlorinated biphenyl (PCB) - containing building products that are scheduled to be removed during summer 2011 include light fixtures impacted by releases from PCB-containing ballasts located throughout the building, including some classrooms, and polyurethane foam (PUF) seat cushions in the main auditorium.

25. Can TRC bring a hydrologist to the next meeting to clarify the direction of the water flow (whether water flows north out of the wetlands located to the west of Keith Middle School, or whether water is flowing south into the wetlands)?
TRC has already addressed this question as part of the April 2010 PIP meeting (slide 63); a hydrologist's attendance at the next meeting is not required. The studies that have been conducted to date at the Site have shown that water flows north out of the wetlands located to the west of Keith Middle School and that water is not flowing south to the Parker Street Waste Site from Sullivan's Ledge or other points located north of the Site.

At Sullivan's Ledge *"…on a regional scale, groundwater flow in the overburden, shallow bedrock and deep bedrock is to the north…"* based on the EPA Record of Decision Summary, Sullivan's Ledge Superfund Site page 6 (EPA, 1989). The PSWS is south of Sullivan's Ledge so no groundwater should flow from Sullivan's Ledge to PSWS. Surface water also flows from PSWS north towards the vicinity of Sullivan's Ledge.

26. When will the Parker Street Waste Site be closed out? When is the end date for all of this work?
Walsh Field and the New Andrea McCoy Field will be completed this year. Assuming favorable outcomes for the soil and groundwater remediation at NBHS, that portion of the site is on a schedule to be closed late 2011 or early 2012. As noted during the January 19, 2011 public information plan (PIP) meeting, the work proposed for the interior of the high school in summer 2011 will remove the last of the known federally-regulated polychlorinated biphenyl (PCB) building materials requiring removal, thus completing that component of the project.

The City is currently in the data collection phases for the Acquired Residential Properties and the Nemasket Street Lots, and plans on publishing Phase II reports by May and August 2011 (as noted during the PIP meeting). We hope to advise the community as to the status of a timeline on or about that time. The wetland area is also still under evaluation and a Phase II report is also expected by August 2011, the results of which will also inform the path forward for that portion of the site. All of the above assumes regulatory approvals will be forthcoming in a timely manner and will not delay proposed work. An end date for all site work has not been determined yet.

Public Comments and Questions received during the meeting related to the City's work which were answered (provided here for clarity)

New Bedford High School (NBHS)

27. Are there any plans in place to deal with the windows and caulking that have PCBs, and if so, when will that plan be implemented?

Yes, the School Department is working on plans to replace the windows at New Bedford High School. The caulking and glazing have been sampled for polychlorinated biphenyls (PCBs); both materials contain low levels of PCBs and do not require removal under the Toxic Substances Control Act (TSCA). When the windows are replaced, the Department of Environmental Stewardship will work with the School Department to ensure that caulking and glazing are handled and disposed of properly. The work is expected to start during 2011.

28. Will work be done to remove cushions that have been impacted by polychlorinated biphenyls (PCBs) in the auditorium?

Yes, this work was discussed during the PIP presentation (see slide 23) and will be discussed in greater detail as part of an upcoming plan to be submitted to the Environmental Protection Agency. The report will be made available through the City's website and will be available in hard copy at the City's Environmental Stewardship Department once it has been finalized.

29. Where, specifically, were the ballasts with polychlorinated biphenyls (PCBs) found?

PCB-containing ballasts were found in every Block of New Bedford High School at varying frequencies. They were observed in classrooms, hallways, offices, and storage areas. The plan that is being prepared to submit to the Environmental Protection Agency will include additional details.

30. What, exactly, were the results of polychlorinated biphenyl (PCB) air testing in the day care center?

One air sample and a duplicate sample were collected in room A-227-4, the day care center, in August 2010. The results were 0.00763 micrograms per cubic meter ($\mu g/m^3$) for total PCBs and 0.00540 $\mu g/m^3$, respectively. The Environmental Protection Agency (EPA) Project Threshold for Further Investigation for PCBs is 0.05 $\mu g/m^3$, and the Acceptable Long-Term Average Exposure Concentration for PCBs is 0.3 $\mu g/m^3$.

These results are discussed in full in the memorandum entitled *Polychlorinated Biphenyl Indoor Air Sampling Results* (January 10, 2011), which is available on the City of New Bedford's Parker Street Waste Site website (New Bedford High School page→ Air Handling System Cleaning and Indoor Air Monitoring for PCBs→ Day care room PCB Indoor Air Sampling Results – January, 2011) and at the Environmental Stewardship Department, City Hall (Room 304).

31. Even if the polychlorinated biphenyl (PCB) levels found in the day care center are low by Environmental Protection Agency (EPA) standards, how do they affect air quality and what is their cumulative impact on young children?

The concentrations are below levels that are associated with significant risk as defined by both the Massachusetts Department of Environmental Protection (MassDEP) and EPA. EPA approved an indoor concentration benchmark of 0.3 micrograms per cubic meter ($\mu g/m^3$) that protects occupants against cancer and noncancer health effects. The concentration detected in the day

care center of 0.0065 µg/m^3 is about 46 times lower than this benchmark. Please note that this concentration is the average of two duplicate samples with results of 0.00763 µg/m^3 and 0.0054 µg/m^3. Even the higher of these duplicate results is about 39 times lower than the EPA approved benchmark. The benchmark of 0.3 µg/m^3 was calculated assuming somewhat older people who occupy the building more frequently and for longer durations than the young children using the daycare center. However, indoor air concentrations in the daycare center are about 9-10 times lower than an EPA benchmark recently calculated for daycare children from 1 to < 3 years old of 0.07 µg/m^3 (http://www.epa.gov/pcbsincaulk/maxconcentrations.pdf). This benchmark accounts for a child's combined exposure to PCBs at a daycare center as well as in their diet and other sources of PCB exposure.

32. What are the Environmental Protection Agency's (EPA's) guidelines regarding ballasts under the Toxic Substances Control Act (TSCA)? What kind of action, if any, will be taken with regard to the fluorescent light ballasts?

Please see EPA's website at http://www.epa.gov/wastes/hazard/tsd/pcbs/pubs/ballasts.htm. As discussed by Kim Tisa (EPA) at the public meeting, EPA states that non-leaking ballasts containing PCBs can continue to be used, but if they are leaking, the ballasts need to be removed. EPA recommends that all polychlorinated biphenyl (PCB)-containing ballasts be removed, even if they are still functional. EPA has been working with the City on identifying ballasts for removal. The first step in this process has been to conduct a full inventory of the school's ballasts, which TRC completed during summer/fall 2010. The City is developing a plan to be submitted to EPA to remove PCB-containing ballasts and replace impacted light fixtures during the school's summer break in 2011.

33. Please describe the "separate-phase droplets" that were observed in a groundwater monitoring well (noted on slide 16 of the presentation)?

Similar to the way a salad dressing separates when it is not used for a while, the droplets were a material that was present in the groundwater, but that existed in a separate phase (i.e., they did not dissolve or otherwise mix with the water). The droplets were observed in purge water (water that was pumped out) from the monitoring well. Analytical results of the material are presented in Modified IRA Plan posted on the City's website.

34. According to the presentation, 15 of 17 wells had no volatile organic compounds (VOCs) detected – what about the ones that did? Where were those located? Have you determined the source of groundwater contamination? Has TRC tested for trichloroethylene (TCE) in other parts of the school?

In September 2010, 15 of the 17 wells sampled did not exhibit VOCs in excess of Method 1 GW-2 standards. Eight of the 15 wells had no VOC detections. The two wells with VOC detections above GW-2 standards were located in the Mechanical Room. TRC is continuing to evaluate the source of the groundwater contamination. TRC has tested for TCE in other parts of the school through sub-slab soil gas sampling.

35. Do you have any information on the asbestos that was removed from the high school during summer 2010?

Yes. Please see an excerpt of e-mail correspondence between the Department of Environmental Stewardship and Eddie Johnson, President of CLEAN, from August 2010, on the New Bedford High School page of the Parker Street Waste Site website under Indoor Studies→Building Materials Assessment and Remediation.

36. Was soil sample location HF-31 in front of the girls' gym, which contains polychlorinated biphenyls (PCBs), tested for dioxins? Were dioxins detected above regulatory standards? When will remediation outside of the girls' gym take place?

Soil sample location HF-31 was sampled for dioxins, the results of which were posted on the City's website with the other dioxin analysis results.

TRC performed soil sampling for polychlorinated dibenzo-p-dioxins (dioxins), polychlorinated dibenzofurans (furans) and dioxin-like polychlorinated biphenyls (PCBs) (collectively referred to as dioxin-like compounds or congeners) in 2010 using a site-wide approach. The site-wide exposure point concentrations (EPCs) for the various soil depth intervals, expressed as the contribution of Toxicity Equivalents (Total TEQs) for dioxin-like compounds, were used under an estimated worst case scenario in conjunction with the depth-specific EPCs calculated for each exposure area to evaluate cumulative potential risks and hazards. Under a site-specific Method 3 risk characterization approach and worst case scenario, a condition of No Significant Risk is indicated for dioxin and dioxin-like compounds.

Note that the City is targeting February 2011 school vacation to remove this soil for off-site disposal, pending receipt of the Massachusetts Department of Environmental Protection's approval of the work and favorable weather conditions.

<u>NBHS Upcoming Work</u>

37. What are the next steps to handle the contamination in the high school building?

With respect to building materials, the City is preparing a work plan to submit to the Environmental Protection Agency that will cover the removal and remediation of foam seating from the auditorium, the removal and remediation of polychlorinated biphenyl (PCB)-containing ballasts and PCB-impacted light fixtures, and the remediation of certain painted surfaces that contain PCBs. With respect to impacted groundwater under the Mechanical Room, the City expects to contract with a vendor to use a specially made truck called a "vactor" which will essentially vacuum groundwater out through the 4-inch diameter well that was installed in December 2010.

38. Why are painted surfaces being remediated? What is the chemical of concern?

Some painted surfaces contain polychlorinated biphenyls (PCBs) at concentrations that require abatement per the Toxic Substances Control Act.

39. When you test the interior air quality, are you testing specifically for polychlorinated biphenyls (PCBs) or are you also testing for other compounds like lead and other heavy metals?

All the testing we have done has been specific to PCBs and volatile organic compounds (VOCs). Metals such as lead are not volatile (i.e., they would not be present in the form of a vapor).

40. Why wouldn't you also look for other compounds when conducting indoor air sampling?

The indoor air sampling has addressed the contaminants of potential concern (polychlorinated biphenyls and volatile organic compounds).

41. The Massachusetts Department of Environmental Protection (MassDEP) recently issued a letter to the City about more dioxin work that needs to be done at New Bedford High School – can we discuss it tonight, to inform the public about its findings?

MassDEP discussed the letter that was issued to the City on January 13, 2011. This letter is posted on the City's Parker Street Waste Site website on the New Bedford High School page under Outdoor Studies (http://www.newbedford-ma.gov/McCoy/2011/DEP%20to%20City_addl%20dioxin%20sampling_01-13-2011.pdf).

42. The City first tested for dioxins based on certain precursors – specifically, what precursors did the City look at?

The City focused on polychlorinated biphenyls (PCBs).

43. Why wasn't chlorine looked at as a precursor? Is it possible to start testing for chlorine, and then to test for dioxins wherever chlorine is found?

The presence of chlorine would not be a good indicator. Note that there are significant interferences associated with chlorine such as winter road salt and pathway deicing compounds. Please refer to the March 2010 memorandum for additional information concerning the sampling rationale for dioxins at NBHS (http://www.newbedford-ma.gov/McCoy/2010/Final_NBHS_memo_3.3.10.pdf).

44. Is it correct to say that the City collected samples from five locations at New Bedford High School and found dioxin in all of them? Based on the chemicals that have been found throughout the entire Parker Street Waste Site, what other dioxin precursors have been found and at what locations? For example, hexavalent chromium was found at the high school - could that be a dioxin precursor?

Dioxin was detected at all five sampling locations that were sampled. The City provided its consultant with all of the data available for the Parker Street Waste Site, and based on his analysis of that data, the City's consultant recommended the five locations which were sampled as the areas where the City would be most likely to detect dioxin in the whole of the Parker Street Waste Site.

Hexavalent chromium is not used as an indicator of the presence or absence of dioxins or furans. Hexavalent chromium is not a contaminant of potential concern at the site. When detected, the concentrations are an order of magnitude lower than those associated with Massachusetts Contingency Plan cleanup standards.

45. Could you define what a dioxin is? Other than polychlorinated biphenyls (PCBs), are there other chemicals with similar chemical structures that could become dioxins? Are dioxins are greater a risk to humans than PCBs?

The term dioxin is commonly used to refer to the compound 2,3,7,8-tetrachlorodibenzo-p-dioxin. It is also sometimes referred to as 2,3,7,8-TCDD. Dioxin is found everywhere in the environment and is released through natural processes, such as forest fires, and through industrial processes, such as combustion of industrial waste or chemical manufacturing.

Some possible chemical precursors other than PCBs include chorobenzenes and chlorophenols, which were largely non-detect or detected very infrequently at NBHS. These chemicals were detected at concentrations that were well below corresponding soil standards.

The Environmental Protection Agency and other governmental entities have concluded that dioxin exhibits greater cancer potency than the most potent of all PCB congeners. However, risk is a function of both cancer potency and the degree to which a person is exposed. As a result, both dioxin and PCBs can be detected at a single location, but if PCBs are detected at a much higher concentration than dioxin, PCBs might pose a significant risk while dioxin does not.

46. What has all work on the High School only, including testing, consulting, remediating, etc. cost through June 30, 2010? What has it cost to date (as of January 19, 2011)?

Please see the response summary for the September 2010 PIP meeting for costs through June 30, 2010. The following table, which has been updated from the September 2010 response summary, includes both assessment and remediation expenses for NBHS through the most recent billing received from vendors, which does not include expenses for all work conducted through January 19, 2011.

NBHS Interior		
Service provided	**Vendor**	**Invoiced Costs (2001-January 2011)**
Interior Sampling	BETA	$18,455.55
Polychlorinated biphenyl (PCB) Source/Sink Mapping, Interior Sampling/Oversight, Specifications/Bid preparation	TRC	$1,034,184.36
Heating, ventilation, and air conditioning (HVAC) duct Cleaning/Exhaust fans	Indoor Air Technologies	$475,554.00
Removal of PCB & Asbestos-Containing Building Materials (ACM)	Triumvirate Environmental	$55,425.00
Cabinets and Shelving	Richard Losordo	$86,410.00
Univents (fabrication, delivery)	DDS Industries	$125,700.00
Removal and Replacement of PCB and ACM containing building materials	WES Construction	$724,668.50
Disposal of PCB-containing ballasts	Triumvirate Environmental	$310.00
Concrete crack- and joint-sealing in Mechanical Room	Hydra Concrete	$5,183.00
	Total Interior	**$2,525,890.41**
NBHS Exterior		
Service provided	**Vendor**	**Invoiced Costs (2001-January 2011)**
Soil Sampling	BETA	$14,854.27
Samples from TRC dumpster	Phoenix Environmental	$225.00

Soil Excavation, Transport	D.W. White	$12,055.43
Soil Transfer, Container Rental	Normans Enterprises	$12,950.00
Soil Transport: Shawmut Transfer Station to CWM Chemical in New York	Triumvirate Environmental	$27,108.45
Sewer line camera inspection	City's Dept. of Public Infrastructure	$1,759.68
Exterior Investigation Follow-up/Remedial Planning	TRC	$1,314,770.71
	Total Exterior	**$1,383,723.54**
Total Interior and Exterior Assessment and Remediation expenses (2001-January 2011)		**$3,909,613.95**

47. Were all bulletin boards in the High School replaced in summer 2010? Will there be future monitoring for bulletin boards and other building materials that might break down over time?

Only bulletin boards that required removal based on sampling data were replaced. The City's Department of Environmental Stewardship will recommend a maintenance plan to the School Department so that materials might be periodically inspected and replaced as needed.

Acquired Residential Properties

48. Was the City required by the State to put up a fence around the properties on Ruggles and Greenwood Streets? Is a fence necessary at this site, as a means of managing an imminent hazard?

The fence was originally erected as a safety measure in preparation for demolition work. It currently helps to deter illegal dumping and other negative activities that may otherwise occur on the vacant lots. The fence will be retained until the properties have been fully characterized and remediated if necessary. Polychlorinated biphenyls (PCBs) have been detected in the top foot of soil in a limited number of locations on the Acquired Residential Properties above 10 milligrams per kilogram (mg/kg), which in the absence of the fence, would require reporting to MassDEP as a condition that "could pose" and Imminent Hazard under the Massachusetts Contingency Plan, specifically, 310 CMR 40.0321(2)(b).

Nemasket Street Lots

49. From your point of view (addressed to Dave Sullivan as the City's Licensed Site Professional), is there anything that you found at the Nemasket Street Lots that represents an imminent hazard? If so, does it trigger reporting obligations to the Massachusetts Department of Environmental Protection (MassDEP) or to the Environmental Protection Agency (EPA)?

Polychlorinated biphenyls (PCBs) have been detected in the top foot in a number of locations on Nemasket Street Lots above 10 mg/kg, which in the absence of the fence, would require reporting to MassDEP as a condition that "could pose" and Imminent Hazard under the Massachusetts Contingency Plan, specifically, 310 CMR 40.0321(2)(b). MassDEP is aware of the conditions at the Nemasket Street Lots.

50. Is there a pathway for water to migrate from the north and northwest sides of the Nemasket Street Lots into the wetlands to the west of Keith Middle School (KMS), where polychlorinated biphenyls (PCBs) have been detected at 16 parts per million in the past? Could there be groundwater feeding into that particular area?

See response to question 25 and/or slide 60 of the April 2010 PIP presentation (available under Public Information Plan Meetings on the Parker Street Waste Site website). Groundwater elevation data collected indicates groundwater flow is toward the east-southeast at the Nemasket Street Lots, away from KMS and the New Bedford High School (NBHS) building, but could pass just east of the NBHS gym building. Also note that during the investigations conducted to date by TRC, no water was observed in the swale on the western end of the lots.

Monitoring wells MW-35 and MW-36 at the Acquired Residential Properties are along this trajectory and based on preliminary data, which are undergoing data evaluation and validation at this time, are non-detect for PAHs and below MCP Method 1 GW-2/GW-3 groundwater standards for total and dissolved metals and PCBs. Monitoring wells MW-25 and MW-26, located within the NBHS campus, have been non-detect for volatiles. Thus, groundwater from the Nemasket Lot could migrate toward the NBHS campus, but no impacts are evident based on monitoring.

Note also the TRC installed three monitoring wells at the Nemasket Street Lots, which were sampled on January 13, 2011. The preliminary data, which are undergoing data evaluation and validation at this time, show all non-detect results for PAHs and PCBs. All metals detections are orders of magnitude below MCP groundwater cleanup standards. Lead was non-detect in all three wells.

Based on the above-summarized information, groundwater is not serving as a pathway between the Nemasket Street Lots and the KMS wetland.

<u>Keith Middle School</u>

51. When the river was dammed north of Keith Middle School, could it have caused water to be diverted into the wetlands behind Keith Middle School? If so, how do we know there isn't water flowing south from the river into the wetlands west of Keith Middle School?

The City is not aware of the dam that is referenced in the question. The studies that the City has conducted to date show that water flows north from the wetlands located west of Keith Middle School toward streams in that area.

<u>General</u>

52. There are many people who don't have computer access, so they can't access the facts and figures we're talking about. Could you simplify these facts in your presentation, for the benefit of the public (including those watching on cable access)?

The City appreciates this comment, and strives to keep information accessible to the public. Computer access is available at the City's public libraries, or people are welcome to make an appointment to review documents at the City's Department of Environmental Stewardship by calling Cheryl Henlin at 508-961-4576.

53. Does the Boys and Girls Club need to submit a cleanup plan, given that contamination was found there (even if it was not polychlorinated biphenyls [PCBs])? If so, what is the cleanup plan? When will it be carried out, and who needs to approve it?

The City has not been involved with assessment work at this property. Please contact Jim Murphy (617-918-1028, Murphy.jim@epa.gov) or Kelsey O'Neil (617-918-1799, oneil.kelsey@epa.gov) with any further questions regarding the Environmental Protection Agency's work.

54. Are there any properties near the Boys and Girls Club that will require cleanup?

Please contact Jim Murphy (617-918-1028, Murphy.jim@epa.gov) or Kelsey O'Neil (617-918-1799, oneil.kelsey@epa.gov) with any further questions regarding the Environmental Protection Agency's work.

55. What is the total acreage of the Parker Street Waste Site now, given additional testing that's been done by the Massachusetts Department of Environmental Protection and the Environmental Protection Agency? Are the properties that have been tested by other agencies considered park of the Parker Street Waste Site, or are they considered separate contaminated sites?

The properties that have been tested by other agencies are not considered part of the Parker Street Waste Site by the City.

56. For the next meeting, could we take time as part of the agenda for the City to report back on tonight's unanswered questions, so they are reported publicly and not just by computer?

The response summaries that are generated following each meeting are lengthy, and the responses are posted on the City's website. A printed copy may be obtained by contacting Cheryl Henlin at (508) 961-4576.

New Bedford School Department's Response to question 4 from the January 19, 2011 Public Involvement Plan (PIP) meeting response summary

4. **Is there an asbestos management plan, one that includes informing parents and teachers and others about work being done?**

The principal or headmaster of each school maintains a copy of an asbestos management plan for their school in accordance with the Asbestos Hazard Emergency Response Act (AHERA). For New Bedford High School, please contact Mr. Andrew Kulak, Headmaster, at (508) 997-4511 x2301.

Parker Street Waste Site Public Involvement Plan Meeting
Keith Middle School Community Room
March 2, 2011
6:00-9:00pm

Questions and Comments received during the meeting related to the City's work which were not answered that evening

New Bedford High School Phase II Comprehensive Site Assessment

1. **How can the City/TRC say 0-1 ft soil is okay at the school campus if 0-3 ft needs to be excavated from some locations?**

   In general, chemical concentrations are higher in soil that is 1-3 ft below the ground surface than in soil that is 0-1 ft below the ground surface. As a result, TRC's risk analysis indicated that a Condition of No Significant Risk exists for 0-1 ft soils. When TRC included the deeper soils in the risk analysis, this conclusion changed such that a Condition of No Significant Risk does not exist in some areas of the high school campus; these are the areas that have been recommended for excavation. The presence of this 1-foot top layer in this condition provides a measure of protection from exposure to deeper soils for day-to-day activities until the implementation of the proposed remedy.

2. **Can the City/TRC provide more information about groundwater flow across the high school campus, such as a cross-section showing water flow through soil strata?**

   The general flow direction and a discussion of site hydrogeology was provided in groundwater contour Figure 3-1, and Section 3.2.2 of the Phase II Comprehensive Site Assessment, New Bedford High School Campus, dated January 2011. In summary, based on groundwater elevation monitoring conducted in March 2009 to determine groundwater flow direction and gradient across the study area, groundwater flows predominantly to the southeast at a gradient of about $2x10^{-3}$ ft/hr. The groundwater aquifer is unconfined and is present about 10 feet below ground surface. The unconfined aquifer is composed of ash fill, organic peat, and/or glacial outwash sediments (listed from the ground surface down, as typically observed). A geologic profile (a cross-section showing water flow through soil strata) is not necessary to support our investigative findings and/or remediation objectives.

Release Abatement Measure Plan: Soil Excavation and Removal (NBHS campus)

3. **Comment: I am concerned that the expanded parking lot proposed for the northern portion of the campus (4 acres) will be too large.**

   The proposed expanded parking lot area will be approximately 175,000 square feet (approximately 4 acres, as noted during the March 2, 2011 PIP meeting). The proposed parking lot will include approximately 13,834 square feet of basketball courts. The current parking lot area in the north of the NBHS campus is 81,512 square feet, approximately half of the proposed future paved area. The expanded parking lot will include engineering controls to reduce runoff.

4. **Why don't nearby residents have input on when NBHS excavation work is scheduled? I would prefer that work not be conducted during school vacations, on weekends, or on holidays when my family is home.**

   The safety of people using the school's campus and neighboring residents is a top priority for the City. The City has in the recent past received strong input from the surrounding community regarding the performance of remedial actions while students are present. In consideration of this input and to minimize potential safety hazards presented by heavy equipment and trucks, the City intends to conduct this work during a time when school is not in session. The City is coordinating with NBHS administrators in establishing a schedule. Other than nuisance noise and minor traffic delays, nearby residents are not expected to be directly impacted by excavation work occurring at the high school. The City will monitor dust levels during all excavation work and will use dust suppression as necessary to be protective of people's health.

5. **What is the total square footage of the NBHS campus? What is the total square footage of the areas that will be capped (paved) or that will have a building on top of them?**

   The total square footage of the NBHS campus, bounded by Liberty and Parker Streets, Hathaway Boulevard, and the Hetland Rink Property, is 1,543,090 square feet (35 acres). The NBHS building footprint occupies 232,110 square feet of the total area.

   The total square footage of areas to be paved is approximately 243,700 square feet to add to the 742,525 square feet of existing exterior impervious surfaces (*i.e.*, areas that are paved or that have a building on top of them). This additional paving will result in a total area of approximately 986,225 square feet that are paved or covered by the building.

6. **How much will it cost to build the expanded parking lot at the northern portion of the high school campus?**

   The cost to build the northern parking lot area has not been determined as the design of the northern parking lot and associated drainage infrastructure has not been finalized. The City will provide an update when finalized.

<u>New Bedford High School General</u>

7. **What will the maintenance plan be for heating, ventilation, and air conditioning units at NBHS in the future?**

   At this time, no environmental maintenance plan for heating, ventilation, and air conditioning units is required. School Department staff conduct periodic filter changes and repairs as units require mechanical maintenance.

8. **What is the likelihood of vapor intrusion under the building and under the gyms?**

   TRC has collected soil gas, groundwater and indoor air data from locations to the north, south, east and west of the Mechanical Room. Based on this data, there appears is no evidence of vapor intrusion under the building and gyms located beyond the Mechanical Room. While we have not collected indoor air or subsurface samples from the gym, we have not detected

significant groundwater impacts in samples collected from locations to the north, south and west of the gym. Since groundwater at the site flows from north to south, this is regarded to be sufficient evidence that there is not likely to be groundwater or soil vapor impacts in the vicinity of the gym. Lacking evidence of groundwater or soil vapor impacts beyond the Mechanical Room, there is no reason to further investigate in this area. TRC will continue to evaluate data needs as future data are collected.

9. **If vactor work is ineffective at reducing the levels of trichlorethene noted under the Mechanical Room, are there plans to take up the flooring in the Mechanical Room and put down any kind of barrier? Are there other options for remediating volatile organic compounds (VOCs)?**

   There currently are no plans to take up the flooring in the mechanical room and install a barrier. The City's consultant has advised that current remediation activities, including sealing the cracks in the floor, and evacuating groundwater from the area that exhibits elevated concentrations of VOCs, will be effective in reducing VOCs in the groundwater and vapor intrusion in the Mechanical Room.

   The City will evaluate the effectiveness of the vactoring effort through the sampling and analysis of groundwater after each vactoring event. If ongoing data collection indicates the need for supplemental efforts to achieve the remedial objectives in this area, the City will evaluate options at that time.

10. **Will ongoing air testing be conducted in the Mechanical Room?**

    Additional air testing will be conducted in the Mechanical Room following completion of the mitigation activities in this area.

11. **Comment: I think the City should continue to sample groundwater monitoring well MW-27R for more than one year (four quarterly sampling rounds) after achieving concentrations of chemicals in groundwater that are allowed under the Massachusetts Contingency Plan. (Note: Four quarterly sampling rounds are the minimum amount required by the Massachusetts Department of Environmental Protection).**

    Following the achievement of satisfactory groundwater results, four quarterly groundwater monitoring events are recommended by MassDEP to demonstrate the achievement of cleanup goals. Once the City obtains favorable results from four groundwater monitoring events, the obligation for monitoring is satisfied. In the opinion of the City's consultant, four consecutive quarters of post-remediation monitoring should be more than satisfactory based on experience with other sites.

<u>Site General</u>

12. **What is the cost of all consultants paid to date? What is the cost of all assessment work to date? What were the total expenses under the bond for this project as of January 31, 2011 (or February 28, 2011 if available)? Has City Council approved additional funding for this project?**

The City of New Bedford paid its previous consultant, BETA, approximately $1,166,700.00 for services. However, for a time, BETA billed the City of New Bedford as a subcontractor to VHB; the City of New Bedford paid VHB approximately $2,543,300.00. The total amount paid to BETA and VHB was approximately $3,710,000.00. (Note: This information is also included in the "City Responses to April 2010 PIP Questions" summary, which is available on the City's Parker Street Waste Site website under "Public Involvement Plan Meetings.")

Through January 2011, the City of New Bedford has paid TRC approximately $6,776,960.00 for services.

Please see the response summary for the January 2011 PIP meeting for costs (reported as bills received) as of January 19, 2011. The following table, which has been updated from the January 2011 response summary, includes both assessment and remediation expenses for NBHS through the most recent billing received from vendors, which does not include expenses for all work conducted through March 2, 2011.

NBHS Interior		
Service provided	**Vendor**	**Invoiced Costs (2001-March 2011)**
Interior Sampling	BETA	$18,455.55
Polychlorinated biphenyl (PCB) Source/Sink Mapping, Interior Sampling/Oversight, Specifications/Bid preparation	TRC	$1,164,703.33
Heating, ventilation, and air conditioning (HVAC) duct Cleaning/Exhaust fans	Indoor Air Technologies	$475,554.00
Removal of PCB & Asbestos-Containing Building Materials (ACM)	Triumvirate Environmental	$55,425.00
Cabinets and Shelving	Richard Losordo	$86,410.00
Univents (fabrication, delivery)	DDS Industries	$125,700.00
Removal and Replacement of PCB and ACM containing building materials	WES Construction	$767,603.00
Disposal of PCB-containing ballasts	Triumvirate Environmental	$310.00
Concrete crack- and joint-sealing in Mechanical Room	Hydra Concrete	$5,183.00
Vactor work/drum disposal	Triumvirate Environmental	$4,578.34
	Total Interior	**$2,698,739.22**

NBHS Exterior		
Service provided	**Vendor**	**Invoiced Costs (2001-March 2011)**
Soil Sampling	BETA	$14,854.27
Samples from TRC dumpster	Phoenix Environmental	$225.00
Soil Excavation, Transport	D.W. White	$12,055.43
Soil Transfer, Container Rental	Normans Enterprises	$12,950.00
Soil Transport: Shawmut Transfer Station to CWM Chemical in New York	Triumvirate Environmental	$27,108.45
Sewer line camera inspection	City's Dept. of Public Infrastructure	$1,759.68
Exterior Investigation Follow-up/Remedial Planning	TRC	$1,422,110.76
Liberty St. Drainage excavated soil Transportation & Disposal	Clean Harbors	$12,959.22
HF-31 Transportation & Disposal (PCB-impacted soil)	Triumvirate Environmental	$5,054.44
HF-31 Disposal (soil regulated under the Massachusetts Contingency Plan)	Greater New Bedford Regional Refuse Management District	$2,012.04
HF-31 backfill	Medeiros & Sons	$1,124.09
Temporary fencing for HF-31	Valtran	$748.00
Poly sheeting to line trucks for soil transport to Crapo Hill Landfill	Frank Corp.	$720.00
	Total Exterior	**$1,513,681.36**
Total Interior and Exterior Assessment and Remediation expenses (2001-March 2011)		**$4,212,420.60**

The project expenses through February 28, 2011, which include expenses associated with the construction of Keith Middle School, total $85,275,104.24. There has been no request to City Council to approve additional funding for this project.

13. **Did the Massachusetts Department of Public Health's study impact current actions at all?**

MDPH has only issued reports to individual participants regarding serum PCB data so far; MDPH has not yet issued a summary report on findings, which would be accessible to the City as well as to all community members. It is not anticipated that the MDPH study results would impact remediation decisions.

The following update was provided to the City by MDPH via e-mail following the PIP meeting:
In the late spring, MDPH/BEH (Bureau of Environmental Health) plans to conduct two public meetings: an afternoon session on indoor air and serum PCB data and cancer incidence with regard

to school personnel and an evening presentation on cancer and serum PCB testing data in the PSWS neighborhood. The exact date has not been set.

14. Please provide more information on John Levy's (a Boston University [BU] professor) health study in New Bedford.

Dr. Jon Levy, in collaboration with other researchers, has just begun a three-year study in New Bedford to investigate patterns of attention deficit hyperactivity disorder and cardiovascular disease and possible stressors associated with these conditions. They will study both chemical stressors and non-chemical stressors, such as diet, family history of disease, low birth weight, and socioeconomic status. See the *Standard-Times* article from February 13, 2011 for more information:
http://www.southcoasttoday.com/apps/pbcs.dll/article?AID=/20110213/NEWS/102130328/-1/NEWS01.
The following link connects to Dr.Levy's biography and other information at BU's website:
http://sph.bu.edu/index.php?option=com_sphdir&id=239&Itemid=617263&INDEX=16846.

15. How much time elapsed between the completion of remediation work in the Keith Middle School wetlands and the discovery of additional polychlorinated biphenyl (PCB) impacts?

Eighteen months elapsed between the completion of the wetland remediation work at the Keith Middle School (KMS) and the discovery of PCBs in sediments above MCP reporting criteria. The remediation of PCB impacts to the KMS Wetland was completed under the direction of BETA in December 2006. The results of sediment sampling for PCBs, performed by TRC in accordance with the Long-Term Monitoring and Maintenance Implementation Plan (LTMMIP), received on June 9, 2008 indicated that sediments contained a concentration of total PCBs at 16.56 mg/Kg. Subsequent sampling is documented in TRC prepared reports addressing this detection; these reports are available on the City of New Bedford's Parker Street Waste Site website on the "Wetlands" page.

Parker Street Waste Site Public Involvement Plan Meeting
Keith Middle School Auditorium
April 12, 2011
6:00-8:00pm

Questions and Comments received during the meeting related to the City's work which were not answered that evening

Site General

1. **Comment: I am very concerned about the number of health issues I'm aware of among former students and staff of New Bedford High School, as well as residents who live in the neighborhood. The pace of remediation is not sufficient to address current health needs. It seems like more could be done now so that these health problems don't continue. I also think blood, fecal, and hair tests should be done to see if community members are or have been affected by lead or arsenic at Walsh Field.**

   As discussed in the March 2011 PIP question response summary, the Massachusetts Department of Public Health/ Bureau of Environmental Health plans to conduct two public meetings in the late spring of 2011 to discuss the health studies that they have conducted: an afternoon session on indoor air, blood serum polychlorinated biphenyl (PCB) data, and cancer incidence with regard to school personnel; and an evening presentation on cancer and serum PCB testing data in the Parker Street Waste Site neighborhood. The exact dates have not been set.

   The Agency for Toxic Substances and Disease Registry hopes to present their health consultation for Walsh Field at the next PIP meeting.

2. **Comment: New Bedford High School seems to be a common denominator in too many health issues. I want to see the Commissioner of Public Health for Massachusetts at the next meeting so we can address these issues. We need the appropriate state and federal officers here to address that cancer clusters and the illnesses we have.**

   The City will invite the Commissioner of Public Health to attend the next PIP meeting.

3. **How can the surface water from the wetlands west of Keith Middle School be flowing north when the Phase II Comprehensive Site Assessment for New Bedford High School states that the groundwater flow is generally to the south? Surface water appears to be flowing south into the wetlands west of Keith Middle School rather than flowing north as the City says it does; could water flowing from the Sullivan's Ledge Superfund Site have contaminated (or still be contaminating) the wetlands west of Keith Middle School? Has the City identified any other sources of contamination for these wetlands?**

   Surface water flow through the wetland is controlled by topography and the elevation of surface water in the wetland relative to the culvert that crosses Durfee Street. During wet periods (i.e., periods of rain and snowmelt), water flows into the wetland primarily through two mechanisms: direct runoff across the ground into the wetland and flow from storm water drains surrounding

the KMS that collect both runoff from paved areas surrounding the school and from the roof of KMS. Some runoff may collect in channels and be conveyed into the wetland. When water in the wetland rises above the elevation of the outfall of the culvert at the north end of the wetland crossing Durfee Street (the outfall appears to be at a higher elevation than the inlet), surface water flows through the culvert and along the channel north of Durfee Street into Apponagansett Swamp to the north. The wetland is approximately 15 feet higher in elevation as compared to the swamp, hence water flows downgradient into Apponagansett Swamp.

The southward movement of groundwater beneath the wetland and New Bedford High School can be explained based upon an understanding of groundwater flow systems. Groundwater is recharged primarily by precipitation infiltrating into the soil but can also occur through other mechanisms such as irrigating lawns. Significant recharge areas often occur along the highest points of a watershed boundary. As a result, groundwater is typically highest beneath the topographically higher areas of the watershed and groundwater flows from these areas to areas of lower elevation. One such probable recharge area is located along Rockdale Avenue west of the wetland. A large part of this area consists of unpaved soils and landscaped areas that would promote infiltration. This is consistent with higher groundwater elevations west of the wetland and a southeast to southerly flow direction towards the topographically lower parts of the watershed. Another topographically high area, similar to the area along Rockdale Avenue, is located northwest of the KMS wetland on the northwest side of the Route 140/Interstate 195 interchange. However, recharge in this area is likely contributing to the northeasterly groundwater flow direction at Sullivan's Ledge as noted in the EPA's Record of Decision for the Sullivan's Ledge Superfund Site, which states that, "on a regional scale, groundwater flow in the overburden, shallow bedrock and deep bedrock is to the north…". Due to these divergent groundwater flow patterns, groundwater from the Sullivan's Ledge Site is not flowing towards (and thus is not impacting) the wetland.

The City continues to evaluate the cause of the presence of contamination in the wetland; however, Sullivan's Ledge is not the source of the impacts.

4. **Four other elementary schools in New Bedford were built around the same time as New Bedford High School (Pulaski, Carney Academy, Hayden-McFadden, and Gomes). Will the City of New Bedford be conducting similar sampling for polychlorinated biphenyls at these schools as they've done at NBHS?**

   This question has been forwarded to the City's School Department for a response. The Environmental Stewardship Department will post the School Department's response when it is received.

5. **Comment: I would like to see the Army Corps of Engineers, members of the City's Conservation Commission, and other key politicians attend PIP meetings to help answer questions.**

   The City will invite representatives of the Army Corps of Engineers and the City's Conservation Commission to attend the next PIP meeting. Members of City Council and the School Committee have been present at many recent PIP meetings.

6. **Is the City aware that they have been named as a potentially responsible party by the Environmental Protection Agency? (See the letter from Mr. Arthur Johnson, III, Chief, EPA Region 1 Emergency Planning and Response Branch, to City Solicitor Irene Schall dated September 29, 2010; the letter is included as part of EPA's Removal Action Administrative Record File and Index for the Parker Street Waste Site, which became available in January 2011.)**

   EPA sent a letter to the City entitled "Notice of Potential Liability and Invitation to Perform or Finance Proposed Cleanup Activities for the Parker Street Waste Site, New Bedford, MA." In this letter, EPA notified the City of the City's potential liability regarding the Parker Street Waste Site, and notified the City of EPA's planned removal activities, which the City was invited to perform or finance.

7. **Comment: By the next PIP meeting, I would like to see the City provide a timeframe for when the City Yard (located east of Walsh Field) will be tested.**

   The City does not currently have a timeframe for testing the City Yard, and will not be able to provide a timeframe by the next PIP meeting. However, the City is aware of its responsibility to delineate the nature and extent of contamination of the Parker Street Waste Site and to show whether it is appropriate to include the City Yard within the site boundaries.

8. **The Environmental Protection Agency has said that the Parker Street Waste Site now includes 114 acres. Does the City agree with EPA's position?**

   No, the City disagrees with EPA's position.

New Bedford School Department's Response to question 4 from the April 12, 2011 Public Involvement Plan (PIP) meeting response summary

4. **Four other elementary schools in New Bedford were built around the same time as New Bedford High School (Pulaski, Carney Academy, Hayden-McFadden, and Gomes). Will the City of New Bedford be conducting similar sampling for polychlorinated biphenyls at these schools as they've done at NBHS?**

   No sampling had been planned for the four elementary schools built around the same time as New Bedford High School, but the matter will be discussed by the Superintendent with the new School Department business manager, who is starting August 15th.

Parker Street Waste Site Public Involvement Plan Meeting
Keith Middle School Community Room
September 21, 2011
6:00-9:00pm

Questions and Comments received during the meeting related to the City's work which were not answered that evening

Wetland (Phase II report)

1. **I can't remember mention of an area containing 700 parts per million (ppm) total polychlorinated biphenyls (PCBs) in previous PIP presentations.**

   Slide 50 from the April 14, 2010 PIP meeting directs people to the March 2010 Immediate Response Action (IRA) Status Report for the most current data at that time for the Keith Middle School wetland. Duplicate sediment samples were collected at location SED-11A-B for quality control purposes; total PCB concentrations of 705 ppm and 805 ppm were reported for this location on Table 5 of this Status Report. Since this sampling location is located within the fenced area and under standing water, it does not pose a direct contact risk to people who are using the campus.

2. **Comment: When the City says "no risk," that is because there is a fence around the wetland. The contamination is still there and I feel that it is still a risk.**

   The term "No Significant Risk" used by the City comes from the Massachusetts Contingency Plan (MCP). While impacted sediment remains within the wetland, it does not currently pose a risk to anyone using the school campus or living in the adjacent neighborhoods because the fence keeps people from coming into contact with the impacted areas.

3. **Is sampling location SED-11A-B the source of wider contamination in the wetlands? If not, what is the source of the (re-)contamination?**

   No, sampling location SED-11A-B does not appear to be the source of impacts detected in the wetland. The draft *Phase II Comprehensive Site Assessment (CSA) for the Wetland to the West of the Keith Middle School* states that the wetland initially became impacted due to the placement of fill material associated with the construction of New Bedford High School (NBHS) (see the Executive Summary and pages 1-1 and 10-1). As also described in the Phase II CSA, sediment sampling conducted subsequent to the 2005-2006 sediment remediation detected the presence of polychlorinated biphenyls (PCBs) in sediment above reporting thresholds and cleanup criteria. The City's root cause analysis has evaluated several potential mechanisms for the post-remedy PCB concentrations detected in sediment samples collected as part of the long-term monitoring program and further delineated during extensive follow-up sampling. The details of the root cause analysis were communicated to the City under attorney client privilege. However, the potential causes are not on-going or active conditions, and the delineation of the nature and

extent of contamination provided in the Phase II CSA is suitable for planning and implementing the next phase of response actions.

4. **I can't remember information on groundwater in previous PIP presentations on the wetland.**

   Generally, discussions regarding groundwater were noted in numerous PIP presentations as part of the reviews of the routine groundwater monitoring performed under the *Long Term Monitoring and Maintenance Implementation Plan* (see the following PIP presentations for examples: April 2010 [slide 46], September 2010 [slide 39], and January 2011 [slide 33]). Groundwater data for the Keith Middle School (KMS) Wetland were included in the Immediate Response Action (IRA) Status Report dated March 2010, and IRA Completion Report dated October 2010. As Massachusetts Contingency Plan groundwater standards were not exceeded for polychlorinated biphenyls (PCBs) or dissolved metals in groundwater, and the primary concern are soil and sediment impacts at the KMS Wetland, the PIP presentations focused on impacts to soil and sediment.

<u>Acquired Residential Properties and the Nemasket Street Lots (Phase II and III reports)</u>

5. **What are the levels of dioxins found in the Nemasket Street lots?**

   Dioxins, expressed in the Phase II report as total toxicity equivalents (TEQs), were measured in soil at 10 locations on the Nemasket Street properties. Total TEQ concentrations ranged from 6.4×10^{-5} milligrams per kilogram (mg/kg) at location SB-NM-20 (0-1 foot depth) to 1.1×10^{-3} mg/kg at location SB-NM-19 (0-1 foot depth). All measured concentrations for dioxin TEQs in soil were above the Massachusetts Contingency Plan Method 1 S-1 soil standards. Further details on the dioxin sampling conducted for the Nemasket Street properties can be found in Section 4.1.5 of the Phase II report.

6. **Comment: Data presented in the PIP meeting appears to be incomplete compared to what the City knows and has planned. This seems particularly true for elevated levels of contaminants.**

   There is not sufficient time at PIP meetings to cover each report or document that the City has issued since the previous meeting in the level of detail provided in the reports themselves. The City seeks to make PIP meetings accessible to all community members by providing an overview of technical details. All final data from the City's sampling will continue to be posted on the City's website as it becomes available; in most cases these data are incorporated into reports which are submitted to the Massachusetts Department of Environmental Protection (MassDEP), and are thus also available through MassDEP's website. Planning documents, such as Release Abatement Measure (RAM) Plans, and milestone documents, such as Phase II Comprehensive Site Assessments (CSA) and Response Action Outcome (RAO) reports, are also made available for public review before submittal to MassDEP. Specific questions regarding the City's data or

reports can be directed to Cheryl Henlin at (508) 961-4576 or via e-mail at Cheryl.Henlin@newbedford-ma.gov.

7. **Why didn't TRC collect samples in the road areas in the Acquired Residential / Nemasket areas (i.e., in Ruggles and Greenwood Streets, and in Hathaway Boulevard)?**

   Soil sampling has taken place in the City's rights-of-way along portions of Hathaway Boulevard and Ruggles Street. The City is presently evaluating approaches to managing the roadways within the site in an inclusive manner.

8. **When will the City tell us what it plans to do to remediate contaminated land in the Acquired Residential/Nemasket areas? What will the extent of remediation be (depth of soil to be excavated)? Neighbors have an interest in what the City's future plans are because this is a residential neighborhood and they live here.**

   By the current project schedule, which has been submitted to the Massachusetts Department of Environmental Protection for the Special Project Designation annual report, the City would have issued a Phase IV report, which will discuss the specifics of a remedial design, by February 2012. However, the City received a request to extend the comment periods on the Phase II and III reports by a minimum of one month, which will at this time delay the submission of the Phase IV report until March 2012.

New Bedford High School

9. **Where are the PCBs coming from in the closed classrooms of the high school?**

   The City is currently evaluating this situation and will provide information as it becomes available.

10. **What is the total tonnage of soil removed from New Bedford High School (NBHS) to date? What is the projected additional tonnage of soil that will be removed from NBHS?**

    Approximately 11,258 tons of soil have been removed from NBHS to date. The tonnage of soil remaining to be excavated cannot be determined until a final design for the proposed solar park at the northern end of campus has been agreed upon.

11. **Is the plan to place solar panels at NBHS open to public review? Soil under proposed solar panels on the NBHS campus may be capped in place (i.e., paving or a soil cap) and would therefore be considered as "remediated" but the soil underneath will still be contaminated.**

    No, the plan to place solar panels at NBHS is not open for public review.

12. **What is the estimated cost of replacing all the windows at NBHS? Would that window replacement also include the windows in the fire doors and windows between offices/hallways inside the building?**

    The City has not developed a scope of work for this activity yet, so an estimated cost of replacing the windows at NBHS has not been developed.

13. **Comment: I feel that more soil samples need to be taken in the areas where high concentrations of dioxins have been found on NBHS grounds, to determine the extent of the contamination. Especially at sample location HB-22.**

    The City plans on delineating and removing dioxin impacted soils at sample location HB-22. The City feels that dioxin impacts at the NBHS campus have been adequately characterized and has no plans for additional dioxin sampling.

<u>Site General</u>

14. **What is the cost of all consultants paid to date?**

    As previously explained in the Public Involvement Plan (PIP) Meeting response summaries for the April 2010 and March 2011 PIP meetings, the City paid BETA and VHB approximately $3,710,000.00. For services through August 2011, the City has paid TRC approximately $8,598,103.00.

15. **What was the initial amount of money that was appropriated for the Parker Street Waste Site (PSWS) cleanup? To date, how much money has been spent? How much money is left in the budget?**

    The initial appropriation for the Parker Street Waste Site project, which included expenses associated with the construction of the Keith Middle School, was $103,687,860.00. To date, $90,025,349.35 has been spent; of that amount, the City estimates that $32,642,062.00 can be attributed to remediation costs. A total of $13,662,510.65 remains in the bond.

16. **When is the City Yard going to be tested?**

    The City does not currently have a timeframe for testing the City Yard. The City is aware of its responsibility to delineate the nature and extent of contamination at the Parker Street Waste Site and to show whether it is or is not appropriate to include the City Yard within the site boundaries.

17. **Comment: It would be really helpful if the City and TRC would share their master schedule of their plans for the Parker Street Waste Site (PSWS) with the public. For upcoming PIP**

meetings, there should be a clear schedule for all upcoming work within PSWS, including all submittals for the various parcels.

In August 2011, the City submitted a schedule of upcoming work to the Massachusetts Department of Environmental Protection as part of the Special Project Designation annual report; this schedule is available on the City of New Bedford's Parker Street Waste Site website, and was discussed during the PIP meeting. Site activities notices are published weekly in the Sunday edition of the *Standard-Times* and are also available on the City's website.

18. **Comment: I feel as though the Department of Public Health and the Department of Education are ignoring the contamination at NBHS.**

    The Massachusetts Department of Public Health (MDPH) released two Health Consultations on September 27, 2011, with respect to New Bedford High School and the Parker Street Waste Site neighborhood. MDPH held public meetings the same day to go over the reports and to answer questions, and they are holding a public comment period on these documents through November 9, 2011. Also, MDPH staff has participated in previous PIP meetings.

    The City maintains regular communication with the Massachusetts School Building Authority, which replaced the former school building assistance program administered by the Department of Education (now the Department of Elementary and Secondary Education) in 2004, with respect to funding for this project. The City's Department of Environmental Stewardship also has regular conference calls with the Superintendent, the School Department business manager, and NBHS' headmaster, to ensure that the School Department's administration is aware of any contamination identified on school property and is involved with the planning on how to address it.

APPENDIX B

SIGN-IN SHEET FOR PUBLIC MEETING

In addition to the few who used the following sign-in sheet, the City noted the following people as being present for at least part of the meeting. Speakers are denoted with an asterisk.

EPA: Kim Tisa

MassDEP: Leonard Pinaud, David Johnston, Molly Cote

City of New Bedford: Mayor Jonathan Mitchell*, City Councilor Henry Bousquet, Attorney Shephard Johnson, Mikaela McDermott, Cheryl Henlin*

TRC: David Sullivan*

Community: Brenda Mattos, Tom Derosier, John Day, Eddie Johnson, Edwin Rivera, Ian Phillips (LSP), Kirby Webster

Media: Cable Access, WBSM, *Standard-Times*

Public Involvement Plan Meeting – Parker Street Waste Site Project - City of New Bedford, 5/2/2012

NAME (please print)	ADDRESS (mailing and/or e-mail)	PHONE NUMBER (optional)	Check the box to be added to the City's PSWS mailing list
KAREN VILALDRY	KAV704@YAHOO.COM	508 951 1184	☐
Karie-Ann Soto	KLSoto0302@comcast.net		☐
Deidre Ramos		(508) 404-9608	☐
Kelsey O'Neil		617-918-1083	☐
Jim Murto		617.918-1027	☐
Carol Strupczewski			☐
Luz Torres			☐
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APPENDIX C

SUMMARY OF PIP PLAN PUBLIC COMMENTS AND RESPONSES

Environmental Stewardship Department/

New Bedford Conservation Commission

City of New Bedford
JONATHAN F. MITCHELL, MAYOR

Parker Street Waste Site Public Involvement Plan Public Comment Period
Comment/Response Summary

1. **Detailed periodic updates of issues and response actions, as was provided in Section 2.0 of the Public Involvement Plan, should be provided periodically for each separate area of the Parker Street Waste Site, and targeted to the appropriate audience.**

   The goal of public meetings to date has been to provide such periodic updates, and has been supplemented by fact sheets. Fact sheets are publically available on the City's Parker Street Waste Site website in English, Spanish, and Portuguese. The City recognizes that broader interest exists in issues involving the Parker Street Waste Site beyond targeted audiences (for example, in addition to New Bedford High School [NBHS] students, their families, teachers, and staff, community members may also be interested in issues at NBHS). Posting fact sheets specific to the issues at hand on the Internet provides broad accessibility at all hours of the day. Hard copies are also available at the City's Department of Environmental Stewardship and at all City-sponsored Parker Street Waste Site-related public meetings.

   The City has also committed to including an executive summary for all future regulatory submittals that will be publically reviewed as part of the submitted document. This summary will, to the extent possible, be written in non-technical language to help communicate the key points of these documents. This has been incorporated into Section 4.2.1.

   Community members are always welcome to contact the City's Department of Environmental Stewardship (508-991-6188 or Cheryl.Henlin@newbedford-ma.gov) with any questions they may have.

2. **Fact sheets that summarize technical information in lay terms should be provided, similar to the factsheets previously produced, every other month to describe the activities that have occurred since the last factsheet, even if there have been no milestones.**

   As discussed in Section 2.3 of the draft PIP, fact sheets summarizing technical information in lay terms have been provided specific to the issues at hand for various portions of the Parker Street Waste Site. The most recent fact sheets were issued in January 2012 (NBHS unit ventilator issue), August 2011 (NBHS school building and campus soil update; Wetland to the west of KMS update), and September 2010 (KMS Long-Term Monitoring and Maintenance Plan overview). Going forward, the City has committed to updating these fact sheets at least annually to continue to provide a broad overview of site status. Given the City's commitment to conducting quarterly PIP

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(508) 991-6188 Tel. · (508) 961-3045 Fax

meetings at a minimum and offering other meetings with stakeholders as addressed in Section 4.2.3 of the PIP, bi-monthly fact sheets will not be issued.

The City has also committed to including an executive summary for all future regulatory submittals that will be publically reviewed as part of the submitted document to help communicate the key points of these documents. This has been incorporated into Section 4.2.1.

3. **The number of PIP meetings should be decreased in their current form, and held more frequently in smaller meetings with targeted audiences.**

   At the May 2nd PIP meeting, the Mayor announced that he is open to holding meetings with stakeholders in addition to the public meeting commitments detailed in the draft PIP. There is still value in holding quarterly PIP meetings, as these meetings are recorded by local cable access and are thus accessible to a broader viewership. This has been incorporated into Section 4.2.3.

4. **Technical meetings, in which agencies and consultants would present and discuss detailed data generated from testing, should be held and attended by representatives of Citizens Leading Environmental Action Network (CLEAN), New Bedford Educators Association (NBEA), and other interested community groups.**

   This comment is addressed in response 3.

5. **CLEAN requests that a new Draft PIP be issued for public comment, given that the issues with the current draft PIP are substantial.**

   The City respectfully disagrees with this comment. The final PIP will address public comments as discussed in this response summary and the response summary for Appendix A. Section 7.0 of the PIP describes how further revisions to the Plan can be made as necessary.

6. **Overall, the PIP Plan proposes to continue the City's public involvement in a manner nearly identical to the way it is currently performed. CLEAN and others feel the current level of public involvement is unacceptable given the Community Comments about the Site.**

   The Public Involvement Plan (PIP) provides opportunities for meaningful public engagement through public comment periods, public meetings, and by documenting other means of information sharing. The content of the City's public outreach has been consistent with, or in many cases exceeds, that required by the Massachusetts Contingency Plan (MCP).Since the means of public involvement were not previously included in a formalized PIP offered for public comment, the observation is understandable. Nevertheless, at the May 2nd PIP meeting, the Mayor announced that he is willing to hold meetings with stakeholders in addition to the public meetings detailed in the draft PIP, another measure exceeding the requirements of the MCP. Community Comments that are recorded in Appendix A that are relevant to the public involvement process are addressed in the PIP as per the MCP and comparable with PIP programs across the Commonwealth.

7. **The PIP should have proposed specific measures to address the Community Comments in Appendix A. In fact, Section 40.1405(5)(d) of the Massachusetts Contingency Plan requires the City to provide an explanation as to why a comment is not incorporated into the PIP.**

   Section 40.1405(5)(d) of the MCP states that "*a summary of comments received on the draft Public Involvement Plan shall be developed that contains the comments received, identifies comments that have been incorporated, and provides an explanation for comments that were not incorporated into the final Public Involvement Plan.*" The comments received during the public comment period are addressed by this response summary in the manner required by the MCP. The comments received during the preparation of the draft Public Involvement Plan are recorded in Appendix A of the Plan, also in the manner required by the MCP. A response summary for comments included in Appendix A has been incorporated into the final PIP.

8. **CLEAN feels strongly that the City needs to state what they <u>will</u> do in terms of public involvement. The PIP Plan uses the term "may" to describe whether public involvement activities are to be performed or have already been addressed. The intent of the PIP is to describe what the City <u>will</u> do, not what it <u>may</u> do.**

   Following are citations from the draft PIP that use the word "may." A brief response is offered for each instance:

   Citation 1 - Section 4.2.1 - *The comment period is normally 20 calendar days, but may be longer if warranted by the complexity of a particular document or if requested by the public. Comment periods for RAMs or IRAs, if any, may be reduced or eliminated if the situation dictates that the RAM or IRA be implemented immediately.*

   City Response 1 - This section is addressed in the response to comment #12, below.

   Citation 2 - Section 4.2.1 - *Documents that may be available for public comment include…*
   City Response 2- The "may" has been changed to "will" and is incorporated as such.

   Citation 2A - Section 4.2.3 – *At the public meeting, the City may make a hardcopy of the presentation slides available.*

   City Response 2A - This statement has been addressed as part of #11, below.

   Citation 2B - Section 4.2.3 – *Separate meetings may also be held with NBHS Staff after school hours to further facilitate public involvement.*

   City Response 2B - This statement is addressed as part of the meetings offered by the Mayor in addition to PIP meetings, as described in #6, above.

   Citation 3 - Section 7 - *This PIP may be revised during the course of the remedial action process.*

   City Response 3 - The section continues on to explain the process for revising the plan; at this point, it is unclear whether any revisions to the plan will be necessary, so it is

appropriate to use the word "may" instead of "will." This is consistent with the MCP under 310 CMR 1405(7)(c), which anticipates the potential for PIP revisions.

9. **The PIP should state who will be notified in the event that a new reportable condition is identified and the timeliness and method of the notification.**

   If a new reportable condition is identified, the City will include information about it in the site activities notice that is published in the Sunday edition of the *Standard-Times* for the Sunday following notification to MassDEP. This information has been incorporated into Section 4.1.3 of the final PIP.

10. **The 2nd, 3rd, and 4th bullets under Section D of Appendix A of the PIP must be addressed regarding the public meetings. CLEAN recommends that the City commit to one or more (as needed) meetings to describe the content of the public presentation to a smaller group.**

    The bulleted items referenced in the question are as follows:

    - PIP meetings must be transparent such that questions and comments are adequately responded to.

      Response: The City has made every effort to respond adequately to all questions and comments, with the only exception being certain matters that the City is not at liberty to discuss because they are the subject of ongoing litigation.

    - PIP meetings must provide more information and opinion, not just data.

      Response: The City makes every effort to provide an appropriate mix of information, opinion and data. The City is committed to providing the data that supports the information and opinion that are presented at PIP Meetings.

    - Separate meetings should be held with community groups that include representatives of the City and MassDEP.

      Response: As noted in response to Comment #3, the City is open to holding additional separate meetings with stakeholder groups in addition to public meetings. A City representative will attend, and MassDEP will be invited to attend the meetings.

11. **Hard copies of the slides <u>will</u> be made available a minimum of two days prior to public meeting.**

    The City made a commitment as part of the response summary for the May 2012 PIP meeting to provide an electronic copy of slides via the City's Parker Street Waste Site website two business days before public meetings. The response, #5 from the summary, is provided again here for convenience:

    The City will post slides two business days before future public meetings so that interested individuals may print their own copies ahead of time. If community members do not have access to a printer, they may contact Cheryl Henlin at 508-961-4576 or

Cheryl.Henlin@newbedford-ma.gov to request that the City provide a printed copy at the public meeting.

This information has been incorporated into Section 4.2.3.

12. **CLEAN recommends that extensions be granted upon request for any documents with greater than 10 pages of text (excluding laboratory reports).**

    Per the Massachusetts Contingency Plan (MCP) [310 CMR 40.1405(6)(e)], any public comment period may be extended, if requested by the public, for a minimum of an additional 20 days, regardless of document length. The City will continue to abide by this guideline. This comment is addressed in Section 4.2.1 of the Public Involvement Plan; no change was required.

13. **CLEAN recommends that, upon request, oversized drawings will be printed and sent to the person/organization requesting them.**

    Oversized drawings can be printed and mailed at the requestor's expense. For example, Bristol County Blueprint can print electronic files for approximately $9.50 (black and white) to $18.00 (color) for a 24" x 36" print, which is an average size for oversize drawings that are included with reports. Additional fees from the print shop for processing electronic files or for scanning hard copy files would apply. Requestors might consider providing the desired file in Adobe Acrobat format (these files are publically available in Adobe Acrobat format through the City's Parker Street Waste Site website) to a printing shop of their choice to eliminate postage costs that would be incurred if the City were to print and then mail such files.

    A similar comment was submitted as part of the community interview process, and it is not addressed in the Public Involvement Plan as it is considered to be beyond the scope of the PIP process.

APPENDIX D

FACT SHEETS

ENVIRONMENTAL FACT SHEET

CITY OF NEW BEDFORD'S ENVIRONMENTAL INVESTIGATION OF A WETLAND ADJACENT TO THE KEITH MIDDLE SCHOOL

CITY OF NEW BEDFORD/TRC, JUNE 2010

This fact sheet describes what has been done to determine that it is safe for people to use or work at the campus of Keith Middle School and use their private property that is close to the wetland while investigations are occurring. The fact sheet also discusses the issues currently being studied at the northern wetland, a description of investigation findings, and the next steps to address the findings. Terms in bold are defined in the Glossary of Terms at the end of the Fact Sheet.

It is safe for people to use the campus at Keith Middle School and to work in their yards.

The City hired a contractor to remove **polychlorinated biphenyl (PCB)** impacted sediment (soil that is under the water) from the wetland adjacent to the Keith Middle School in 2006. As part of the *Long-Term Maintenance and Monitoring Implementation Plan* that was developed for the Keith Middle School property in October 2006, the City is required to collect sediment samples for **PCB** analysis from randomly-selected locations along the bottom of the **cap** slope once a year. In May 2008, one of these sediment samples had **PCB** levels that were higher than the U.S. Environmental Protection Agency (EPA) action level and higher than a level requiring the City to notify the Massachusetts Department of Environmental Protection (MassDEP). The City installed a locked, chain-link perimeter fence as shown in Figure 1 to prevent human contact with the wetland while the City's environmental consultant, TRC Environmental Corporation (TRC), conducts further environmental assessment at the wetland. The fence reminds people to keep away from the wetland until work is completed. Meanwhile, it is safe for maintenance staff and other officials to work on the land area (to mow grass, etc.) inside the fence as needed, and it is safe for maintenance staff and residents to use the property that is next to the fence.

Studies Being Conducted

On behalf of the City, TRC developed an **Immediate Response Action** Plan that discussed how additional samples will be collected to evaluate the wetland sediments. TRC collected additional sediment samples over several sampling events in 2008 and 2009.

TRC also started an ecological screening in March 2009 to learn whether **PCBs** and metals that have been detected in the wetland are impacting **organisms** using the wetland or plants growing in the wetland. TRC collected water, sediment, and surface soil samples as part of this screening. The results of this screening will be presented in a report.

Description of Investigation Findings

Samples collected to date indicate that PCB concentrations greater than 1 mg/kg are present in sediment in the northern wetland (the wetland area north of the land bridge as shown in Figure 1). Samples collected from sediment in the southern wetland indicate that PCB concentrations are below 1 mg/kg.

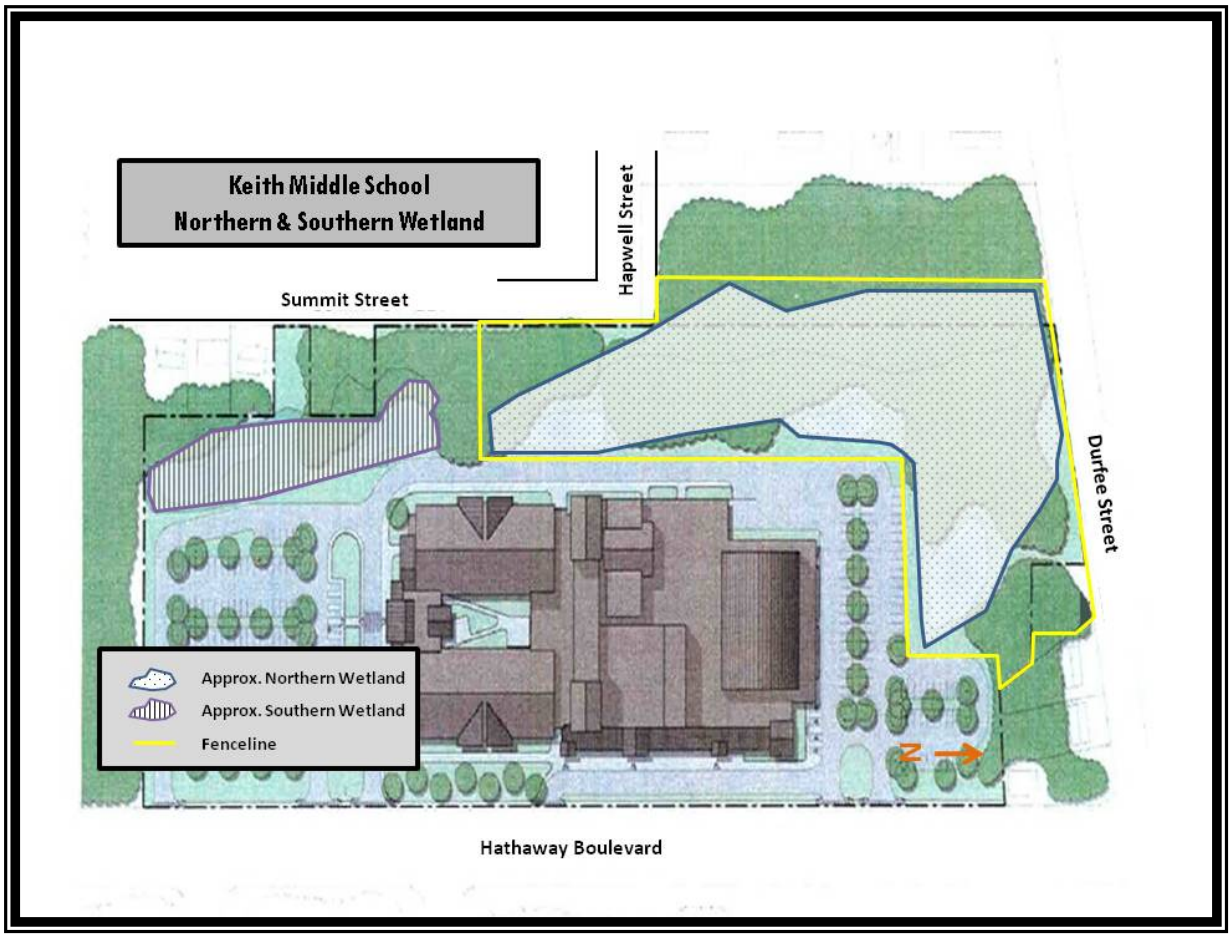
The Next Steps

TRC will continue its investigation of the wetland to protect human health and the environment. The City will continue to post all wetland investigation reports and chemical concentration data at its website.

For More Information

Data related to the study underway at the wetlands are posted at the City's website http://www.newbedford-ma.gov/McCoy/sitemap/sitemap.html; filed under the "Wetlands Remediation" heading. Details about TRC's investigation of the wetland are provided in the August 2008 *Immediate Response Action Plan* for RTN 4-21300 and IRA Plan status reports dated October 2008, April 2009, September 2009, and March 2010. The other sampling and inspections that are part of the *Long-Term Maintenance and Monitoring Implementation Plan* at Keith Middle School are the subjects of a separate fact sheet also posted at the City's website. If you have additional questions, please contact Cheryl Henlin, City of New Bedford Environmental Stewardship Department, at (508) 991-6188 or email cheryl.henlin@newbedford-ma.gov.

Figure 1



GLOSSARY OF TERMS

Cap – The three feet of clean backfill in landscaped areas and the two feet of clean backfill in paved areas, as well as the fabric underneath these soil layers, that was brought to the site when the school was being built in 2006. This fabric and the soil on top of it keep people from coming into contact with soil impacted by PCBs, heavy metals, and polyaromatic hydrocarbons. The cap is inspected three times a year by a qualified engineer, and is maintained according to the EPA-approved Long-Term Monitoring and Maintenance Implementation Plan.

Polychlorinated biphenyls (PCBs) - Mixtures of up to 209 individual chlorinated compounds. There are no known natural sources of PCBs. Some PCBs can exist as vapor in air to a limited extent. PCBs have no known smell or taste. PCBs have been used as coolants and lubricants in transformers, capacitors, and other electrical equipment because they do not burn easily and are good insulators. The manufacture of PCBs was stopped in the U.S. in 1977. Products made before 1977 that may contain PCBs include: certain building materials, such as caulking, paint, adhesive and fluorescent lighting fixtures; electrical devices containing PCB capacitors and transformers; and hydraulic oils.

Organism - An individual form of life that is capable of growing, processing nutrients, and usually reproducing such as animals (fish, birds) and the microscopic forms of life that live in the water.

Immediate Response Action – An assessment and/or remedial action that is started as soon as possible after an issue has been identified to address time-critical site conditions.

ENVIRONMENTAL FACT SHEET

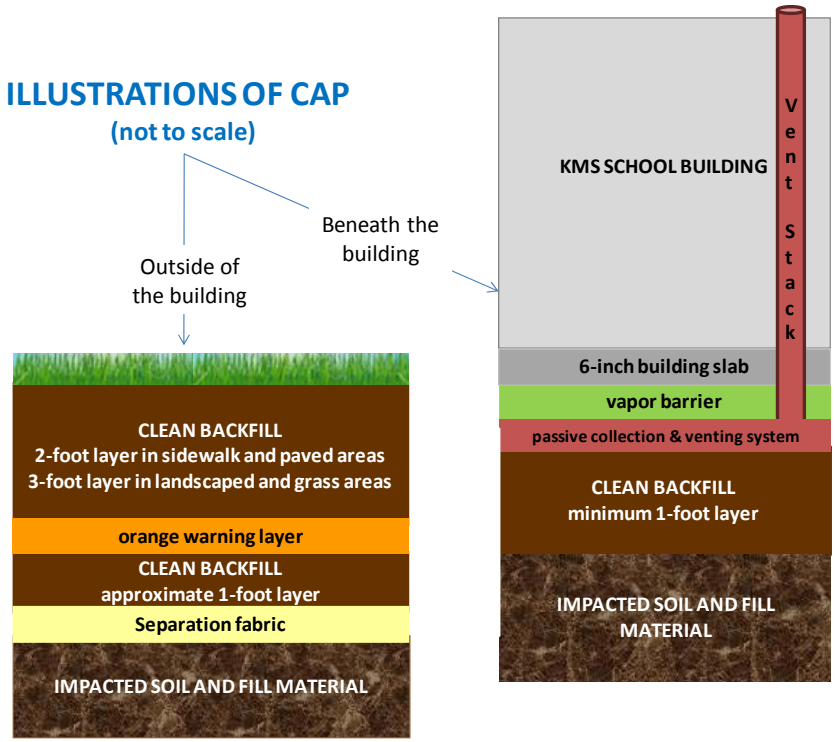
CITY OF NEW BEDFORD'S ENVIRONMENTAL MONITORING AT THE KEITH MIDDLE SCHOOL

CITY OF NEW BEDFORD/TRC, SEPTEMBER 2010

Keith Middle School was built on a portion of the Parker Street Waste Site. The City monitors school site conditions to ensure the protection of the health of building occupants, as required by the U.S. Environmental Protection Agency (EPA). The City's environmental consultant, TRC Environmental Corporation (TRC), implements the monitoring plan. This fact sheet describes how the **cap** was built, what is monitored at the school and campus, findings from these activities to date, and the next steps to address the findings. Terms in bold are defined in the Glossary of Terms at the end of the Fact Sheet.

It is safe for people to occupy Keith Middle School and use the school's campus.

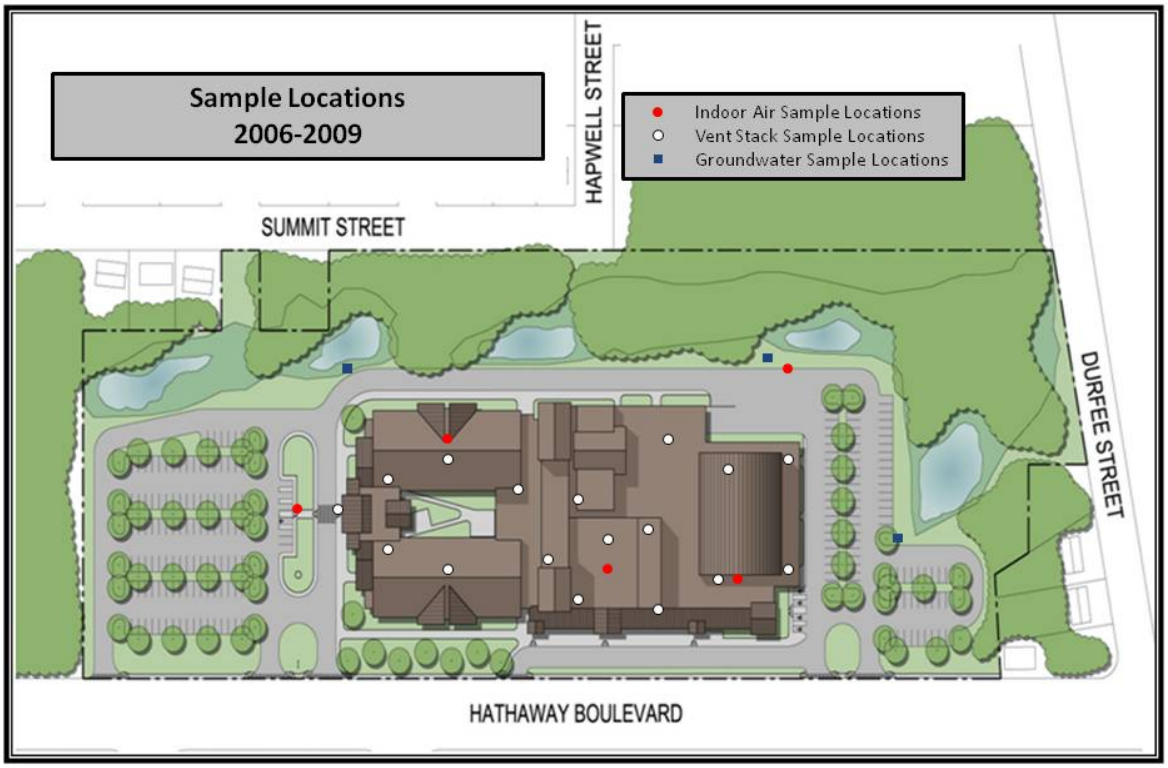
When Keith Middle School was built, a **cap** was installed beneath and around the building to prevent students, staff, and visitors from being exposed to impacted soil and fill. Under the building, this **cap** includes a vapor barrier that prevents vapors that may accumulate under the building from entering the building and affecting indoor air quality. With this barrier, vapors are vented through vent stacks (pipes that pass safely through the building walls up to the roof) from beneath the **cap** to the outdoor environment. Around the building, the **cap** of clean backfill prevents people from contacting impacted soil and fill. An orange warning barrier installed in the clean backfill provides a warning for anyone performing excavation to stop work.



Environmental monitoring being conducted

The City prepared and EPA approved a *Long-Term Monitoring and Maintenance Implementation Plan* that requires monitoring of the **cap**, indoor air, vent stacks, groundwater, and wetland sediment. The plan includes maintenance activities to ensure that the **cap** continues to prevent exposure to impacted soil. Under the plan, the City must periodically monitor groundwater, inspect and sample sediment from the wetland, and collect indoor air and vent stack air samples. The indoor air and vent stack air samples are analyzed for **volatile organic compounds (VOCs)** and **polychlorinated biphenyls (PCBs)** to assure that these chemicals are not moving from soil or groundwater beneath the school building to indoor air. The sediment samples are analyzed for **PCBs**.

Indoor air. TRC and BETA Group Inc. (BETA), the City's previous environmental consultant, have collected 21 rounds of indoor air monitoring data prior to and since the school was occupied in December 2006 (5 rounds in 2006, 8 rounds in 2007, 3 rounds in 2008, 3 rounds in 2009, and 2 rounds in 2010; the most recent round was conducted at the end of August 2010 and the samples are being processed at the laboratory). Based on TRC's completed evaluations, these indoor air concentration data indicate that there is no significant risk to the health of building occupants based on criteria established by the Massachusetts Department of Environmental Protection. TRC's evaluation included all chemicals detected in indoor air and was conducted in accordance with Massachusetts Contingency Plan guidelines, which require the assumption that someone spends 8 hours per day, 5 days per week for 27 years in locations where chemicals were detected. All indoor air concentrations of PCBs were detected at low concentrations or not at all, and are below an action level established by the EPA. TRC samples the outdoor air near the school each time that it samples the indoor air, and **VOCs** and **PCBs** have also been detected in outdoor air at very low concentrations or not at all. See the figure for air sample locations.



Vent Stack Air. TRC and a prior consultant have collected 22 rounds of vent gas data prior to and since the school was occupied in December 2006 (6 rounds in 2006, 8 rounds in 2007, 3 rounds in 2008, 3 rounds in 2009, and 2 rounds in 2010; the samples from the most recent round [August 2010] are currently being processed at the laboratory). **VOCs** are consistently detected in the vent stacks. **PCBs** are infrequently detected in the vent stacks. Detections of **VOCs**, and to a lesser extent **PCBs**, in vent stack air are expected due to the nature of soil impacts under the **cap** and the materials that were used to construct the vent stacks. These detections indicate that the passive ventilation system (air is moving

without a fan) is performing as designed. Vent stack air samples are collected from the vent stacks shown on the figure on a rotation so that only some vent stacks are sampled each time.

Groundwater. Groundwater sampling under the plan began in the spring of 2008. TRC has collected 5 rounds of groundwater samples starting in 2008 (2 rounds in 2008, 2 rounds in 2009, and 1 round in 2010). All TRC groundwater samples were analyzed for **VOCs**, **PCBs**, and metals; all of the results were below state regulatory groundwater standards. See the figure for the groundwater sampling locations.

Wetland Sediment. Sediment samples collected from the wetland adjacent to the Keith Middle School are the subject of a separate fact sheet, which, along with this fact sheet, is posted at the City's website under "Fact Sheets."

The Next Steps

TRC will continue monitoring conditions at the Keith Middle School to protect human health and the environment, and the City will continue to post all results at its website. TRC's monitoring includes updated evaluations based on each new round of monitoring data to ensure protection of the health of people using the building.

For More Information

All monitoring data and inspection reports are posted at the City's website http://www.newbedford-ma.gov/McCoy/sitemap/sitemap.html; filed under the "Keith Middle School" heading. The report from the April 2010 monitoring round is expected to be posted on the City's website in September. If you have additional questions, please contact Cheryl Henlin, City of New Bedford Environmental Stewardship Department, at (508) 991-6188 or email cheryl.henlin@newbedford-ma.gov.

GLOSSARY OF TERMS

Cap – The three feet of clean backfill in landscaped areas and the two feet of clean backfill in paved areas, as well as the fabric underneath these soil layers, that was brought to the site when the school was being built in 2006. This fabric and the soil on top of it keep people from coming into contact with soil impacted by PCBs and metals. The cap is inspected three times a year by a qualified engineer, and is maintained according to the EPA-approved Long-Term Monitoring and Maintenance Implementation Plan.

Polychlorinated biphenyls (PCBs) - Mixtures of up to 209 individual chlorinated compounds. There are no known natural sources of PCBs. Some PCBs can exist as vapor in air to a limited extent. PCBs have no known smell or taste. PCBs have been used as coolants and lubricants in transformers, capacitors, and other electrical equipment because they do not burn easily and are good insulators. The manufacture of PCBs was stopped in the U.S. in 1977. Products made before 1977 that may contain PCBs include: certain building materials, such as caulking, paint, adhesive and fluorescent lighting fixtures; electrical devices containing PCB capacitors and transformers; and hydraulic oils.

Volatile organic compounds (VOCs) - VOCs include a variety of chemical compounds given off as gases from certain solids or liquids. VOCs are given off by a wide array of products numbering in the thousands. Examples include: paints and lacquers, paint strippers, cleaning supplies, pesticides, building materials and furnishings, office equipment such as copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions. Fuels/petroleum products contain VOCs. All of these products can release VOCs when in use, and, to some degree, when stored.

ENVIRONMENTAL FACT SHEET

City of New Bedford's Environmental Investigation of a Wetland Adjacent to the Keith Middle School

City of New Bedford/TRC, August 2011

This fact sheet describes what the City has done to determine that it is safe for people to play and work at the campus of Keith Middle School and to use their private property near the wetland while environmental work at the wetland continues. The fact sheet also summarizes findings from the investigation of the northern wetland (the wetland area north of the land bridge as shown in Figure 1) and the next steps to address the findings. Terms in bold are defined in the Glossary of Terms at the end of the fact sheet.

It is safe for people to use the campus at Keith Middle School and to work in their nearby yards.

The City hired a contractor to remove **polychlorinated biphenyl (PCB)** impacted sediment (soil that is under water) from the wetland adjacent to the Keith Middle School. Removal occurred in 2006. As part of the *Long-Term Maintenance and Monitoring Implementation Plan* that was developed for the Keith Middle School property in October 2006, the City collects sediment samples for **PCB** analysis from randomly-selected locations along the bottom of the **cap** slope once a year. In May 2008, one of these sediment samples from the northern wetland had **PCB** levels that were higher than the U.S. Environmental Protection Agency (EPA) action level and the level that, when detected, must be reported to the Massachusetts Department of Environmental Protection (MassDEP). The City notified EPA and MassDEP of the finding. In December 2009, the City completed installation of a locked, chain-link perimeter fence as shown in Figure 1 to prevent human contact with the northern wetland while the City's environmental consultant, TRC Environmental Corporation (TRC), conducts further environmental work at the wetland. The fence reminds people to keep away from the northern wetland until work is completed. Meanwhile, it is safe for maintenance staff and other officials to work on the land area (mow the grass, etc.) inside the fence as needed, and it is safe for maintenance staff and residents to use the land that is outside the fence.

Findings from Studies Conducted to Date

On behalf of the City, TRC developed an **Immediate Response Action (IRA)** Plan to evaluate the wetland sediments. TRC collected additional sediment samples in 2008 and 2009, and collected samples from the base of the **cap** slope in 2010 and 2011. TRC issued an **IRA** Completion Report in October 2010 that described the **IRA** investigation and the perimeter fence installation.

TRC conducted an ecological assessment to learn whether **PCBs** and metals are affecting wetland **organisms** or wildlife. TRC collected water, sediment, and surface soil samples and reported results in the *Stage I Environmental Screening and Stage II Environmental Risk Characterization* published in November 2010. A condition of No Significant Risk, as defined by the Massachusetts Contingency Plan, exists for the southern wetland area (south of the land bridge), where **PCB** concentrations in soil and sediment samples are less than 1 milligram per kilogram (mg/kg). **PCB** concentrations in soil and sediment in the northern wetland exceed 1 mg/kg, and further remediation is proposed. EPA reviewed the report and requested clarification of information presented within the report, which TRC has provided.

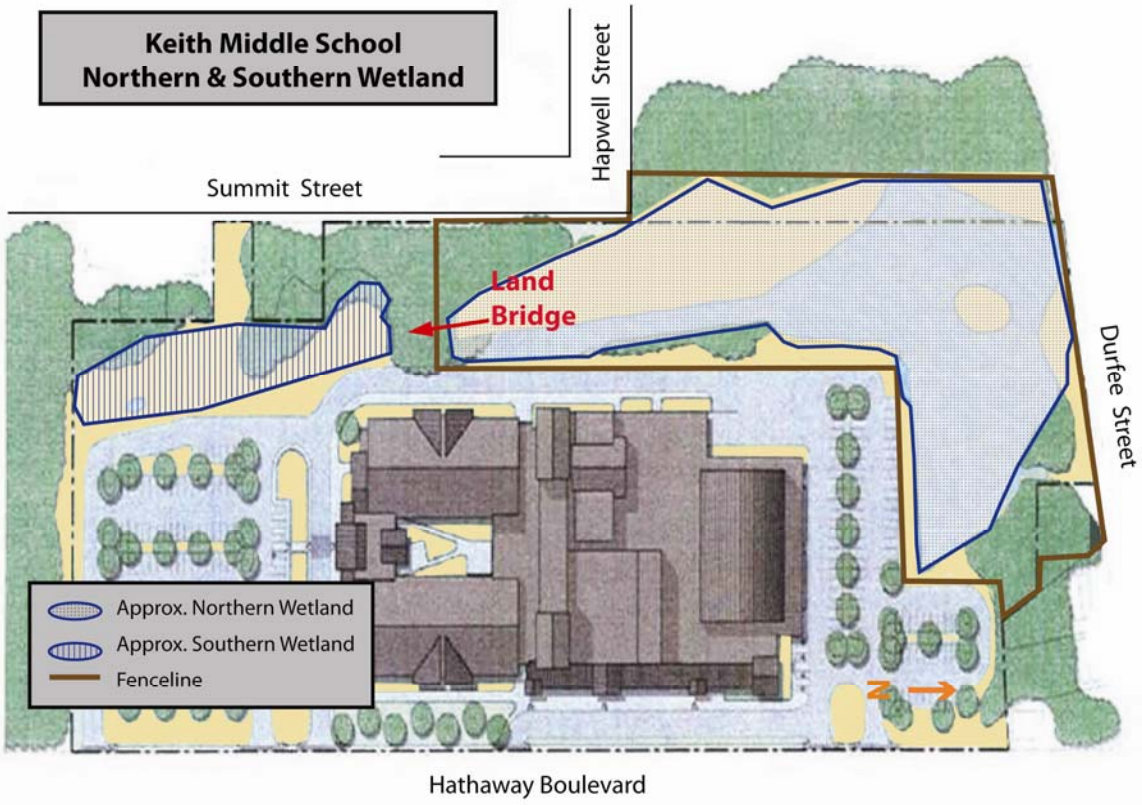
The Next Steps

TRC, working in conjunction with the City, will release a draft Phase II Comprehensive Site Assessment report that discusses the nature and extent of chemical impacts in the wetland by August 31, 2011. The draft report will be available for public comment for a minimum of 20 days prior to submittal to MassDEP. The City will continue to post at its website all reports and chemical concentration data for the wetland.

For More Information

Data related to the wetland are posted at the City's website http://www.newbedford-ma.gov/McCoy/sitemap/sitemap.html; filed under the "Wetlands" button. Details about TRC's investigation of the wetland are provided in the August 2008 ***Immediate Response Action*** *Plan* for Release Tracking Number 4-21300, **IRA** Status Reports dated October 2008, April 2009, September 2009, and March 2010, and the **IRA** Completion report dated October 2010. The other sampling and inspections that are part of the *Long-Term Maintenance and Monitoring Implementation Plan* at Keith Middle School are the subjects of a separate fact sheet also posted at the City's website. If you have additional questions, please contact Cheryl Henlin, City of New Bedford Environmental Stewardship Department, at (508) 991-6188 or by email at cheryl.henlin@newbedford-ma.gov.

Figure 1



GLOSSARY OF TERMS

Cap – The three feet of clean backfill in landscaped areas and the two feet of clean backfill in paved areas, as well as the fabric underneath these soil layers, that was brought to the site when the school was being built in 2006. This fabric and the soil on top of it keep people from coming into contact with soil impacted by **PCBs**, heavy metals, and polyaromatic hydrocarbons. The cap is inspected three times a year by a qualified engineer, and is maintained according to the EPA-approved Long-Term Monitoring and Maintenance Implementation Plan.

Polychlorinated biphenyls (PCBs) – Mixtures of up to 209 individual chlorinated compounds. There are no known natural sources of PCBs. Some PCBs can exist as vapor in air to a limited extent. PCBs have no known smell or taste. PCBs have been used as coolants and lubricants in transformers, capacitors, and other electrical equipment because they do not burn easily and are good insulators. The manufacture of PCBs was stopped in the U.S. in 1977. Products made before 1977 that may contain PCBs include: certain building materials, such as caulking, paint, adhesive and fluorescent lighting fixtures; electrical devices containing PCB capacitors and transformers; and hydraulic oils.

Organism – An individual form of life that is capable of growing, processing nutrients, and usually reproducing such as animals (fish, birds) and the microscopic forms of life that live in the water.

Immediate Response Action (IRA) – An assessment and/or remedial action that is started as soon as possible after an issue has been identified to address time-critical site conditions.

ENVIRONMENTAL FACT SHEET

CITY OF NEW BEDFORD'S INVESTIGATION OF GROUNDWATER SEEPS IN THE BASEMENT OF NEW BEDFORD HIGH SCHOOL

City of New Bedford/TRC, January 2010

The City's environmental consultant (TRC Environmental Corporation) is investigating groundwater (water located beneath the ground in spaces in the soil) which enters, or "seeps" into, the basement of New Bedford High School through small cracks in the foundation in rooms used by maintenance staff. This fact sheet describes TRC's investigation, its implications for building occupants, the next steps in the investigation, and where interested individuals can obtain more detailed information.

What are volatile organic compounds, or VOCs?
Volatile organic compounds (VOCs) are emitted as gases from certain solids or liquids. VOCs include a variety of chemicals. VOCs are emitted by a wide array of products numbering in the thousands. Examples include: paints and lacquers, paint strippers, cleaning supplies, pesticides, building materials and furnishings, office equipment such as copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions. Organic chemicals are widely used as ingredients in household products. Paints, varnishes, and wax all contain organic solvents, as do many cleaning, disinfecting, cosmetic, degreasing, and hobby products. Fuels are made up of organic chemicals. All of these products can release organic compounds while you are using them, and, to some degree, when they are stored.

What investigation has been completed to date?

TRC collected groundwater and basement water samples near where groundwater seeps into the basement of the high school. Analytical results for these samples suggest the potential for chlorinated volatile organic compounds (VOCs) to be present in indoor air in the building. Therefore, TRC conducted additional sampling, including indoor air sampling, on an expedited basis. On January 30th and 31st, TRC sampled indoor air from several locations within the high school near the groundwater seep and in other areas of the building, including classrooms. The results confirm the presence of chlorinated VOCs in the school. While the chlorinated VOCs detected in indoor air appear to be related to groundwater contamination, the detection of other VOCs in indoor air samples that have not been detected in groundwater is more likely associated with indoor sources such as cleaning materials or outdoor sources such as vehicle exhaust that gets entrained in the high school ventilation system. TRC's preliminary risk assessment of the indoor air concentration data indicates that there is no significant risk to the health of building occupants based on criteria established by the Massachusetts Department of Environmental Protection (MassDEP). However, the presence of detectable concentrations of VOCs in indoor air requires further investigation and possibly remedial action.

Is it safe for people to occupy the high school?

Yes, it is safe to occupy the high school, including rooms where samples were collected, based on TRC's assessment of indoor air quality data collected to date. TRC performed risk calculations using the VOC concentration data for indoor air in combination with the same procedures used to evaluate indoor air quality at the Keith Middle School. TRC concluded that there is no significant risk to the health of building occupants based on criteria established by

MassDEP. TRC's risk calculations included all of the VOCs detected in indoor air, regardless of whether they were detected in basement, or seep water. Indoor air was sampled in a manner that was intended to detect the highest concentrations that might exist in the high school by collecting samples: (1) at a time of year when migration of VOCs into the building is likely to be highest; (2) from locations near where groundwater enters the building; and (3) during the weekend when ventilation within the building is likely to be somewhat lower than it is during the week. Risks were calculated separately for each room that was sampled, based on the assumption that someone spends 8 hours per day, 5 days per week for 27 years in that one room.

What are the next steps?
TRC will continue its expedited investigation of the low level VOCs detected in the high school's indoor air and will proceed rapidly over the coming weeks. TRC's investigation will include the following elements:

- collection of additional indoor air samples in the building
- an inventory of potential interior sources of chemicals observed in the recent indoor air samples, such as routinely used/stored cleaning materials or paints;
- an evaluation of potential outdoor sources (for example, vehicle exhaust potentially entrained by the ventilation system);
- an investigation of vapor concentrations beneath the floor of the high school; and
- an investigation to determine whether these compounds are present in the groundwater beneath the high school.

The inventory of potential indoor sources was performed earlier this week, and vapor samples are scheduled to be collected from beneath the floor in the next few weeks.

TRC will evaluate subsequent rounds of indoor air concentration data in the same way and on an expedited basis. TRC is focused on characterizing the nature and extent of the VOCs identified in the indoor air samples, continuing to evaluate potential risk associated with these chemicals, and, if necessary, providing recommendations for remedial measures.

Where can I get more information?
All chemical concentration data for groundwater, seep water, and indoor air will be posted at the City's website http://www.newbedford-ma.gov/McCoy/Keithmiddleschool.html. If you have additional questions, please contact Scott Alfonse, City of New Bedford Environmental Stewardship Department, at (508) 991-6188 or email scott.alfonse@newbedford-ma.gov.

Summary of Analytical Results for Groundwater Samples -- January 2010
New Bedford High School
New Bedford, Massachusetts

Analysis	Analyte	Sample ID:		MW-4	MW-5		MW-6	MW-7
		Sample Date:		1/6/2010	1/6/2010	1/6/2010	1/7/2010	1/7/2010
		GW-2	GW-3			Field Dup		
VOCs								
(ug/L)	Acetone	50,000	50,000	50 U	50 U	50 U	50 U	50 U
	tert-Amyl Methyl Ether (TAME)	NS	NS	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	Benzene	2,000	10,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromobenzene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromochloromethane	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromodichloromethane	6	50,000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Bromoform	700	50,000	10 U	10 U	10 U	10 U	10 U
	Bromomethane	7	800	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	2-Butanone (MEK)	50,000	50,000	20 U	20 U	20 U	20 U	20 U
	n-Butylbenzene	7,000(1)	50,000(1)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	sec-Butylbenzene	7,000(1)	50,000(1)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	tert-Butylbenzene	7,000(1)	50,000(1)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	tert-Butyl Ethyl Ether (TBEE)	NS	NS	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	Carbon Disulfide	NS	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Carbon Tetrachloride	2	5,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Chlorobenzene	200	1,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Chlorodibromomethane	20	50,000	10 U	10 U	10 U	10 U	10 U
	Chloroethane	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Chloroform	50	20,000	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Chloromethane	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	2-Chlorotoluene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	4-Chlorotoluene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dibromo-3-chloropropane (DBCP	NS	NS	10 U	10 U	10 U	10 U	10 U
	1,2-Dibromoethane (EDB)	2	50,000	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	Dibromomethane	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dichlorobenzene	2,000	2,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,3-Dichlorobenzene	2,000	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,4-Dichlorobenzene	200	8,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Dichlorodifluoromethane (Freon 12)	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,1-Dichloroethane	1,000	20,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dichloroethane	5	20,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1-Dichloroethylene	80	30,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	cis-1,2-Dichloroethylene	100	50,000	1.0 U	**3.7**	**4.1**	1.0 U	**20**
	trans-1,2-Dichloroethylene	90	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dichloropropane	3	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,3-Dichloropropane	NS	NS	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	2,2-Dichloropropane	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1-Dichloropropene	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	cis-1,3-Dichloropropene	10(2)	200(2)	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	trans-1,3-Dichloropropene	10(2)	200(2)	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Diethyl Ether	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U

Summary of Analytical Results for Groundwater Samples -- January 2010
New Bedford High School
New Bedford, Massachusetts

Analysis	Analyte	Sample ID:		MW-4	MW-5		MW-6	MW-7
		Sample Date:		1/6/2010	1/6/2010	1/6/2010	1/7/2010	1/7/2010
		GW-2	GW-3			Field Dup		
	Diisopropyl Ether (DIPE)	NS	NS	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	1,4-Dioxane	6,000	50,000	50 U	50 U	50 U	50 U	50 U
	Ethylbenzene	20,000	5,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Hexachlorobutadiene	1	3,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	2-Hexanone (MBK)	NS	NS	10 U	10 U	10 U	10 U	10 U
	Isopropylbenzene (Cumene)	7,000(1)	50,000(1)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	p-Isopropyltoluene (p-Cymene)	7,000(1)	50,000(1)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Methyl tert-Butyl Ether (MTBE)	50,000	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Methylene Chloride	10,000	50,000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	4-Methyl-2-pentanone (MIBK)	50,000	50,000	10 U	10 U	10 U	10 U	10 U
	Naphthalene	1,000	20,000	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	n-Propylbenzene	7,000(1)	50,000(1)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Styrene	100	6,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1,1,2-Tetrachloroethane	10	50,000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,1,2,2-Tetrachloroethane	9	50,000	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	Tetrachloroethylene	50	30,000	1.0 U	1.0 U	1.0 U	1.0 U	**63**
	Tetrahydrofuran	NS	NS	10 U	10 U	10 U	10 U	10 U
	Toluene	50,000	40,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2,3-Trichlorobenzene	NS	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,2,4-Trichlorobenzene	2,000	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1,1-Trichloroethane	4,000	20,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1,2-Trichloroethane	900	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Trichloroethylene	30	5,000	1.0 U	1.0 U	1.0 U	1.0 U	**6.8**
	Trichlorofluoromethane (Freon 11)	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,2,3-Trichloropropane	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,2,4-Trimethylbenzene	7,000(1)	50,000(1)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,3,5-Trimethylbenzene	7,000(1)	50,000(1)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Vinyl Chloride	2	50,000	2.0 U	2.0 U	2.0 U	2.0 U	**3.4**
	m+p Xylene	9,000	5,000	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	o-Xylene	9,000	5,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Notes:

ug/L - micrograms per liter.

NS - No MassDEP standards exist for this compound.

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.

VOCs - Volatile Organic Compounds.

(1) - MassDEP Method 1 standards for C9-C10 aromatic hydrocarbons used.

(2) - MassDEP Method 1 standards for 1,3-Dichloropropene used.

Summary of Analytical Results for Indoor Air Samples -- January 2010
New Bedford High School
New Bedford, Massachusetts

	Analyte	Risk Management Criteria				Sample ID: / Sample Date:										
		HI = 0.2	HI = 1.0	ELCR = 1 x 10^{-6}	ELCR = 1 x 10^{-5}	TRC-IA-1 1/31/2010		TRC-IA-2 1/31/2010		TRC-IA-3 1/31/2010		TRC-IA-4 1/31/2010		TRC-IA-5 1/31/2010	
TO-15 (ug/m3)	1,1,1-Trichloroethane	1,100	5,500	NS	NS	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U
	1,1,2,2-Tetrachloroethane	19	95	0.041	0.41	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U
	1,1,2-Trichloroethane	15	75	0.15	1.5	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U
	1,1-Dichloroethane	100	500	NS	NS	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U
	1,1-Dichloroethene	40	200	NS	NS	0.792	U	0.792	U	0.792	U	0.792	U	0.792	U
	1,2,4-Trichlorobenzene	40	200	NS	NS	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U
	1,2,4-Trimethylbenzene	10[a]	50[a]	NS	NS	0.982	U	0.982	U	0.982	U	0.982	U	**3.18**	
	1,2-Dibromoethane	1.8	9	0.011	0.11	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U
	1,2-Dichlorobenzene	40	200	NS	NS	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U
	1,2-Dichloroethane	11	55	0.09	0.9	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U
	1,2-Dichloropropane	0.8	4	0.13	1.3	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U
	1,3,5-Trimethybenzene	10[a]	50[a]	NS	NS	0.982	U	0.982	U	0.982	U	0.982	U	0.982	U
	1,3-Dichlorobenzene	40	200	NS	NS	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U
	1,4-Dichlorobenzene	160	800	0.35	3.5	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U
	1,4-Dioxane	24	120	0.59	5.9	0.720	U	0.720	U	0.720	U	0.720	U	0.720	U
	2-Butanone	1,000	5,000	NS	NS	**1.01**		0.589	U	0.589	U	0.589	U	**1.89**	
	2-Hexanone	NS	NS	NS	NS	0.819	U	0.819	U	0.819	U	0.819	U	0.819	U
	Acetone	160	800	NS	NS	**3.4**		**3.57**		**29.6**		**3.68**		2.37	U
	Benzene	6	30	0.3	3	**0.983**		0.638	U	0.638	U	0.638	U	**2.55**	
	Bromodichloromethane	14	70	0.14	1.4	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U
	Bromoform	14	70	2.2	22	2.06	U	2.06	U	2.06	U	2.06	U	2.06	U
	Bromomethane	1	5	NS	NS	0.776	U	0.776	U	0.776	U	0.776	U	0.776	U
	Carbon disulfide	NS	NS	NS	NS	0.622	U	0.622	U	0.622	U	0.622	U	0.622	U
	Carbon tetrachloride	86	430	0.16	1.6	1.26	U	1.26	U	1.26	U	1.26	U	1.26	U
	Chlorobenzene	4	20	NS	NS	0.920	U	0.920	U	0.920	U	0.920	U	0.920	U
	Chloroethane	NS	NS	NS	NS	0.527	U	0.527	U	0.527	U	0.527	U	0.527	U
	Chloroform	130	650	0.11	1.1	0.976	U	0.976	U	0.976	U	0.976	U	0.976	U
	Chloromethane	NS	NS	NS	NS	**1.11**		**1.03**		**0.92**		**1.16**		**1.29**	
	cis-1,2-Dichloroethene	7	3.5	NS	NS	**4.33**		0.792	U	0.792	U	0.792	U	**3.54**	
	cis-1,3-Dichloropropene	4	20	0.6	6	0.907	U	0.907	U	0.907	U	0.907	U	0.907	U
	Dibromochloromethane	14	70	0.1	1	1.70	U	1.70	U	1.70	U	1.70	U	1.70	U
	Dichlorodifluoromethane	NS	NS	NS	NS	**2.00**		**2.02**		**2.08**		**2.13**		**3.36**	
	Ethylbenzene	200	1,000	NS	NS	0.868	U	0.868	U	**3.06**		0.868	U	**1.80**	
	Hexachlorobutadiene	0.14	0.7	0.11	1.1	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U
	Methylene chloride	600	3,000	5	50	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U

Summary of Analytical Results for Indoor Air Samples -- January 2010
New Bedford High School
New Bedford, Massachusetts

Analyte	Risk Management Criteria: HI = 0.2	HI = 1.0	ELCR = 1 x 10^{-6}	ELCR = 1 x 10^{-5}	TRC-IA-1 1/31/2010	TRC-IA-2 1/31/2010	TRC-IA-3 1/31/2010	TRC-IA-4 1/31/2010	TRC-IA-5 1/31/2010
4-Methyl-2-pentanone	600	3,000	NS	NS	0.819 U	0.819 U	0.819 U	0.819 U	**1.21**
Methyl tert butyl ether	600	3,000	NS	NS	0.720 U	0.720 U	0.720 U	0.720 U	0.720 U
p/m-Xylene	20	100	NS	NS	1.74 U	1.74 U	**9.61**	1.74 U	**7.55**
o-Xylene	20	100	NS	NS	0.868 U	0.868 U	**2.03**	0.868 U	**2.44**
Styrene	200	1,000	4.1	41	0.851 U	0.851 U	0.851 U	0.851 U	0.851 U
Tetrachloroethene	920	4,600	0.23	2.3	1.36 U	1.36 U	1.36 U	1.36 U	1.36 U
Tetrahydrofuran	NS	NS	NS	NS	0.589 U	0.589 U	0.589 U	0.589 U	0.589 U
Toluene	1,000	5,000	NS	NS	**1.97**	0.753 U	**4.18**	0.753 U	**13.1**
trans-1,2-Dichloroethene	14	70	NS	NS	**2.30**	0.792 U	0.792 U	0.792 U	**1.72**
trans-1,3-Dichloropropene	4	20	0.6	6	0.907 U	0.907 U	0.907 U	0.907 U	0.907 U
Trichloroethene	36	180	1.4	14	**2.20**	1.07 U	1.07 U	1.07 U	**1.12**
Trichlorofluoromethane	NS	NS	NS	NS	1.12 U	1.12 U	1.12 U	1.12 U	**4.92**
Vinyl chloride	20	100	0.27	2.7	**0.57**	0.511 U	0.511 U	0.511 U	**0.531**
Naphthalene	0.61	3.05	NS	NS	1.05 U	1.05 U	1.05 U	1.05 U	1.05 U
1,1,1,2-Tetrachloroethane	NS	NS	NS	NS	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U
Isopropylbenzene	NS	NS	NS	NS	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U
1,2,3-Trichloropropane	NS	NS	NS	NS	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U
Bromobenzene	NS	NS	NS	NS	1.28 U	1.28 U	1.28 U	1.28 U	1.28 U
Dibromomethane	NS	NS	NS	NS	1.42 U	1.42 U	1.42 U	1.42 U	1.42 U
tert-Amyl Methyl Ether	NS	NS	NS	NS	0.835 U	0.835 U	0.835 U	0.835 U	0.835 U
2-Chlorotoluene	NS	NS	NS	NS	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U
4-Chlorotoluene	NS	NS	NS	NS	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U
2,2-Dichloropropane	NS	NS	NS	NS	0.923 U	0.923 U	0.923 U	0.923 U	0.923 U
1,1-Dichloropropene	NS	NS	NS	NS	0.907 U	0.907 U	0.907 U	0.907 U	0.907 U
Diisopropyl ether	NS	NS	NS	NS	0.835 U	0.835 U	0.835 U	0.835 U	0.835 U
tert-Butyl Ethyl Ether	NS	NS	NS	NS	0.835 U	0.835 U	0.835 U	0.835 U	0.835 U
1,2,3-Trichlorobenzene	NS	NS	NS	NS	1.48 U	1.48 U	1.48 U	1.48 U	1.48 U
Ethyl ether	NS	NS	NS	NS	0.606 U	0.606 U	0.606 U	0.606 U	0.606 U
n-Butylbenzene	NS	NS	NS	NS	1.10 U	1.10 U	1.10 U	1.10 U	1.10 U
sec-Butylbenzene	NS	NS	NS	NS	1.10 U	1.10 U	1.10 U	1.10 U	1.10 U
tert-Butylbenzene	NS	NS	NS	NS	1.10 U	1.10 U	1.10 U	1.10 U	1.10 U
1,2-Dibromo-3-chloropropane	NS	NS	NS	NS	1.93 U	1.93 U	1.93 U	1.93 U	1.93 U
p-Isopropyltoluene	NS	NS	NS	NS	1.10 U	1.10 U	1.10 U	1.10 U	1.10 U
n-Propylbenzene	NS	NS	NS	NS	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U
1,3-Dichloropropane	NS	NS	NS	NS	0.923 U	0.923 U	0.923 U	0.923 U	0.923 U

Summary of Analytical Results for Indoor Air Samples -- January 2010
New Bedford High School
New Bedford, Massachusetts

	Analyte	Risk Management Criteria				Sample ID: / Sample Date:				
		HI = 0.2	HI = 1.0	ELCR = 1 x 10^{-6}	ELCR = 1 x 10^{-5}	TRC-IA-1 1/31/2010	TRC-IA-2 1/31/2010	TRC-IA-3 1/31/2010	TRC-IA-4 1/31/2010	TRC-IA-5 1/31/2010
TO-15-SIM										
(ug/m3)	cis-1,2-Dichloroethene	7	3.5	NS	NS	**4.27**	**0.087**	0.079 U	0.079 U	**3.58**
	Tetrachloroethene	920	4,600	0.23	2.3	0.136 U	0.136 U	0.136 U	0.136 U	0.136 U
	trans-1,2-Dichloroethene	14	70	NS	NS	**2.38**	0.079 U	0.079 U	0.079 U	**1.62**
	Trichloroethene	36	180	1.4	14	**2.10**	0.107 U	0.107 U	0.107 U	**1.04**
	Vinyl chloride	20	100	0.27	2.7	**0.562**	0.051 U	0.051 U	0.051 U	**0.498**

Notes:

ug/m3 - micrograms per cubic meter.

ug/L - micrograms per liter.

NS - No risk management criteria exist for this compound.

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 criteria.

TO - Toxic orgaincs.

SIM - selected ion monitoring.

ELCR - Excess lifttime cancer risk.

HI - Hazard index.

Risk Management Criteria - MassDEP Indoor Air Threshold Values for the Evaluation of a Vapor Intrusion Pathway, Attachment C, updated June 26, 2008.

(b) - The rish management criteria for C5-C8 used.

Summary of Analytical Results for Basement Water Samples -- December 2009 and January 2010
New Bedford High School
New Bedford, Massachusetts

Analysis	Analyte		Sample ID:	NBHSBRM	BRM-S-1			BRM-S-2			BRM-S-3				FIP-S-1		
			Sample Date:	2/20/2009	12/2/2009	1/7/2010	1/30/2010	12/2/2009	1/7/2010	1/30/2010	12/2/2009	1/7/2010	1/30/2010	1/30/2010	12/2/2009	1/7/2010	1/30/2010
		GW-2	GW-3											Field Dup			
VOCs																	
(ug/L)	Acetone	50,000	50,000	NA	50 U	50 U	5.0 U	50 U	50 U	5.0 U	50 U	50 U	5.0 U	5.0 U	50 U	50 U	5.0 U
	tert-Amyl Methyl Ether (TAME)	NS	NS	NA	0.50 U	0.50 U	2.0 U	0.50 U	0.50 U	2.0 U	0.50 U	0.50 U	2.0 U	2.0 U	0.50 U	0.50 U	2.0 U
	Benzene	2,000	10,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromobenzene	NS	NS	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromochloromethane	NS	NS	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromodichloromethane	6	50,000	NA	1.0 U	5.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
	Bromoform	700	50,000	NA	5.0 U	10 U	1.0 U	5.0 U	10 U	1.0 U	5.0 U	10 U	1.0 U	1.0 U	5.0 U	10 U	1.0 U
	Bromomethane	7	800	NA	2.0 U	2.0 U	5.0 U	2.0 U	2.0 U	5.0 U	2.0 U	2.0 U	5.0 U	5.0 U	2.0 U	2.0 U	5.0 U
	2-Butanone (MEK)	50,000	50,000	NA	20 U	20 U	10 U	20 U	20 U	10 U	20 U	20 U	10 U	10 U	20 U	20 U	10 U
	n-Butylbenzene	7,000[1]	50,000[1]	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	sec-Butylbenzene	7,000[1]	50,000[1]	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	tert-Butylbenzene	7,000[1]	50,000[1]	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	tert-Butyl Ethyl Ether (TBEE)	NS	NS	NA	0.50 U	0.50 U	2.0 U	0.50 U	0.50 U	2.0 U	0.50 U	0.50 U	2.0 U	2.0 U	0.50 U	0.50 U	2.0 U
	Carbon Disulfide	NS	NS	NA	3.0 U	5.0 U	1.0 U	3.0 U	5.0 U	1.0 U	3.0 U	5.0 U	1.0 U	1.0 U	3.0 U	5.0 U	1.0 U
	Carbon Tetrachloride	2	5,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Chlorobenzene	200	1,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**9.5**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Chlorodibromomethane	20	50,000	NA	0.50 U	10 U	1.0 U	0.50 U	10 U	1.0 U	0.50 U	10 U	1.0 U	1.0 U	0.50 U	10 U	1.0 U
	Chloroethane	NS	NS	NA	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
	Chloroform	50	20,000	NA	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
	Chloromethane	NS	NS	NA	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
	2-Chlorotoluene	NS	NS	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	4-Chlorotoluene	NS	NS	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dibromo-3-chloropropane (DBCP)	NS	NS	NA	5.0 U	10 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U
	1,2-Dibromoethane (EDB)	2	50,000	NA	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
	Dibromomethane	NS	NS	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dichlorobenzene	2,000	2,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,3-Dichlorobenzene	2,000	50,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**1.6**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,4-Dichlorobenzene	200	8,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**6.8**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Dichlorodifluoromethane (Freon 12)	NS	NS	NA	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
	1,1-Dichloroethane	1,000	20,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dichloroethane	5	20,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1-Dichloroethylene	80	30,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	cis-1,2-Dichloroethylene	100	50,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**54**	**180**	**24**	**23**	1.0 U	**5.6**	**7.2**
	trans-1,2-Dichloroethylene	90	50,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**14**	**57**	**8.2**	**8.1**	1.0 U	**1.0**	**1.4**
	1,2-Dichloropropane	3	50,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,3-Dichloropropane	NS	NS	NA	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
	2,2-Dichloropropane	NS	NS	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1-Dichloropropene	NS	NS	NA	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
	cis-1,3-Dichloropropene	10[2]	200[2]	NA	0.50 U	5.0 U	0.50 U	0.50 U	5.0 U	0.50 U	0.50 U	5.0 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U
	trans-1,3-Dichloropropene	10[2]	200[2]	NA	0.50 U	5.0 U	0.50 U	0.50 U	5.0 U	0.50 U	0.50 U	5.0 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U
	Diethyl Ether	NS	NS	NA	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Diisopropyl Ether (DIPE)	NS	NS	NA	0.50 U	0.50 U	2.0 U	0.50 U	0.50 U	2.0 U	0.50 U	0.50 U	2.0 U	2.0 U	0.50 U	0.50 U	2.0 U
	1,4-Dioxane	6,000	50,000	NA	50 U	50 U	100 U	50 U	50 U	100 U	50 U	50 U	100 U	100 U	50 U	50 U	100 U
	Ethylbenzene	20,000	5,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Hexachlorobutadiene	1	3,000	NA	1.0 U	1.0 U	0.50 U	1.0 U	1.0 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U
	2-Hexanone (MBK)	NS	NS	NA	10 U	10 U	1.0 U	10 U	10 U	1.0 U	10 U	10 U	1.0 U	1.0 U	10 U	10 U	1.0 U
	Isopropylbenzene (Cumene)	7,000[1]	50,000[1]	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	p-Isopropyltoluene (p-Cymene)	7,000[1]	50,000[1]	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Methyl tert-Butyl Ether (MTBE)	50,000	50,000	NA	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U
	Methylene Chloride	10,000	50,000	NA	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
	4-Methyl-2-pentanone (MIBK)	50,000	50,000	NA	10 U	10 U	5.0 U	10 U	10 U	5.0 U	10 U	10 U	5.0 U	5.0 U	10 U	10 U	5.0 U
	Naphthalene	1,000	20,000	NA	5.0 U	2.0 U	5.0 U	5.0 U	2.0 U	5.0 U	5.0 U	2.0 U	5.0 U	5.0 U	5.0 U	2.0 U	5.0 U
	n-Propylbenzene	7,000[1]	50,000[1]	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Styrene	100	6,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1,1,2-Tetrachloroethane	10	50,000	NA	1.0 U	5.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
	1,1,2,2-Tetrachloroethane	9	50,000	NA	0.50 U	0.50 U	2.0 U	0.50 U	0.50 U	2.0 U	0.50 U	0.50 U	2.0 U	2.0 U	0.50 U	0.50 U	2.0 U
	Tetrachloroethylene	50	30,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Summary of Analytical Results for Basement Water Samples -- December 2009 and January 2010
New Bedford High School
New Bedford, Massachusetts

Analysis	Analyte		Sample ID:	NBHSBRM	BRM-S-1			BRM-S-2			BRM-S-3				FIP-S-1		
			Sample Date:	2/20/2009	12/2/2009	1/7/2010	1/30/2010	12/2/2009	1/7/2010	1/30/2010	12/2/2009	1/7/2010	1/30/2010	1/30/2010	12/2/2009	1/7/2010	1/30/2010
		GW-2	GW-3											Field Dup			
	Tetrahydrofuran	NS	NS	NA	10 U	10 U	5.0 U	10 U	10 U	5.0 U	10 U	10 U	5.0 U	5.0 U	10 U	10 U	5.0 U
	Toluene	50,000	40,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2,3-Trichlorobenzene	NS	NS	NA	5.0 U	5.0 U	2.0 U	5.0 U	5.0 U	2.0 U	5.0 U	5.0 U	2.0 U	2.0 U	5.0 U	5.0 U	2.0 U
	1,2,4-Trichlorobenzene	2,000	50,000	NA	5.0 U	1.0 U	2.0 U	5.0 U	1.0 U	2.0 U	5.0 U	1.0 U	2.0 U	2.0 U	5.0 U	1.0 U	2.0 U
	1,1,1-Trichloroethane	4,000	20,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1,2-Trichloroethane	900	50,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Trichloroethylene	30	5,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**6.0**	**1.2**	**1.3**	1.0 U	1.0 U	1.0 U
	Trichlorofluoromethane (Freon 11)	NS	NS	NA	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,2,3-Trichloropropane	NS	NS	NA	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
	1,2,4-Trimethylbenzene	7,000[1]	50,000[1]	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,3,5-Trimethylbenzene	7,000[1]	50,000[1]	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Vinyl Chloride	2	50,000	NA	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	**2.1**	**34**	**1.4**	**1.3**	2.0 U	2.0 U	**1.3**
	m+p Xylene	9,000	5,000	NA	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	o-Xylene	9,000	5,000	NA	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U
EPH																	
(ug/L)	C9-C18 Aliphatics	5,000	50,000	NA	150 U	NA	NA	150 U	NA	NA	150 U	NA	NA	NA	150 U	NA	NA
	C19-C36 Aliphatics	NS	50,000	NA	**190**	NA	NA	150 U	NA	NA	150 U	NA	NA	NA	150 U	NA	NA
	C11-C22 Aromatics	50,000	5,000	NA	100 U	NA	NA	100 U	NA	NA	100 U	NA	NA	NA	100 U	NA	NA
	Acenaphthene	NS	6,000	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Acenaphthylene	10,000	40	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Anthracene	NS	30	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Benzo(a)anthracene	NS	1,000	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Benzo(a)pyrene	NS	500	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Benzo(b)fluoranthene	NS	400	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Benzo(g,h,i)perylene	NS	20	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Benzo(k)fluoranthene	NS	100	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Chrysene	NS	70	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Dibenz(a,h)anthracene	NS	40	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Fluoranthene	NS	200	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Fluorene	NS	40	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Indeno(1,2,3-cd)pyrene	NS	100	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	2-Methylnaphthalene	2,000	20,000	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Naphthalene	1,000	20,000	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Phenanthrene	NS	10,000	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Pyrene	NS	20	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
PAHs																	
(ug/L)	Acenaphthene	NS	6,000	NA	0.30 U	NA	NA	0.30 U	NA	NA	0.30 U	NA	NA	NA	0.30 U	NA	NA
	Acenaphthylene	10,000	40	NA	0.30 U	NA	NA	0.30 U	NA	NA	0.30 U	NA	NA	NA	0.30 U	NA	NA
	Anthracene	NS	30	NA	0.20 U	NA	NA	0.20 U	NA	NA	0.20 U	NA	NA	NA	0.20 U	NA	NA
	Benzo(a)anthracene	NS	1,000	NA	0.050 U	NA	NA	0.050 U	NA	NA	0.050 U	NA	NA	NA	0.050 U	NA	NA
	Benzo(a)pyrene	NS	500	NA	0.10 U	NA	NA	0.10 U	NA	NA	0.10 U	NA	NA	NA	0.10 U	NA	NA
	Benzo(b)fluoranthene	NS	400	NA	0.050 U	NA	NA	0.050 U	NA	NA	0.050 U	NA	NA	NA	0.050 U	NA	NA
	Benzo(g,h,i)perylene	NS	20	NA	0.50 U	NA	NA	0.50 U	NA	NA	0.50 U	NA	NA	NA	0.50 U	NA	NA
	Benzo(k)fluoranthene	NS	100	NA	0.20 U	NA	NA	0.20 U	NA	NA	0.20 U	NA	NA	NA	0.20 U	NA	NA
	Chrysene	NS	70	NA	0.20 U	NA	NA	0.20 U	NA	NA	0.20 U	NA	NA	NA	0.20 U	NA	NA
	Dibenz(a,h)anthracene	NS	40	NA	0.20 U	NA	NA	0.20 U	NA	NA	0.20 U	NA	NA	NA	0.20 U	NA	NA
	Fluoranthene	NS	200	NA	0.50 U	NA	NA	0.50 U	NA	NA	0.50 U	NA	NA	NA	0.50 U	NA	NA
	Fluorene	NS	40	NA	1.0 U	NA	NA	1.0 U	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	NA
	Indeno(1,2,3-cd)pyrene	NS	100	NA	0.20 U	NA	NA	0.20 U	NA	NA	0.20 U	NA	NA	NA	0.20 U	NA	NA
	2-Methylnaphthalene	2,000	20,000	NA	1.0 U	NA	NA	1.0 U	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	NA
	Naphthalene	1,000	20,000	NA	1.0 U	NA	NA	1.0 U	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	NA
	Phenanthrene	NS	10,000	NA	0.050 U	NA	NA	0.050 U	NA	NA	0.050 U	NA	NA	NA	0.050 U	NA	NA
	Pyrene	NS	20	NA	1.0 U	NA	NA	1.0 U	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	NA
PCBs																	
(ug/L)	Aroclor 1016	5	10	1.0 U	0.0500 U	NA	NA	0.0500 U	NA	NA	0.0500 U	NA	NA	NA	0.0500 U	NA	NA
	Aroclor 1221	5	10	1.0 U	0.0500 U	NA	NA	0.0500 U	NA	NA	0.0500 U	NA	NA	NA	0.0500 U	NA	NA
	Aroclor 1232	5	10	1.0 U	0.0500 U	NA	NA	0.0500 U	NA	NA	0.0500 U	NA	NA	NA	0.0500 U	NA	NA
	Aroclor 1242	5	10	1.0 U	0.0500 U	NA	NA	0.0500 U	NA	NA	0.0500 U	NA	NA	NA	0.0500 U	NA	NA
	Aroclor 1248	5	10	1.0 U	0.0500 U	NA	NA	0.0500 U	NA	NA	0.0500 U	NA	NA	NA	0.0500 U	NA	NA
	Aroclor 1254	5	10	1.0 U	0.0500 U	NA	NA	0.0500 U	NA	NA	0.0500 U	NA	NA	NA	0.0500 U	NA	NA
	Aroclor 1260	5	10	1.0 U	0.0500 U	NA	NA	0.0500 U	NA	NA	0.0500 U	NA	NA	NA	0.0500 U	NA	NA
	Total PCB Amount	5	10	1.0 U	0.0500 U	NA	NA	0.0500 U	NA	NA	0.0500 U	NA	NA	NA	0.0500 U	NA	NA

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New Bedford High School
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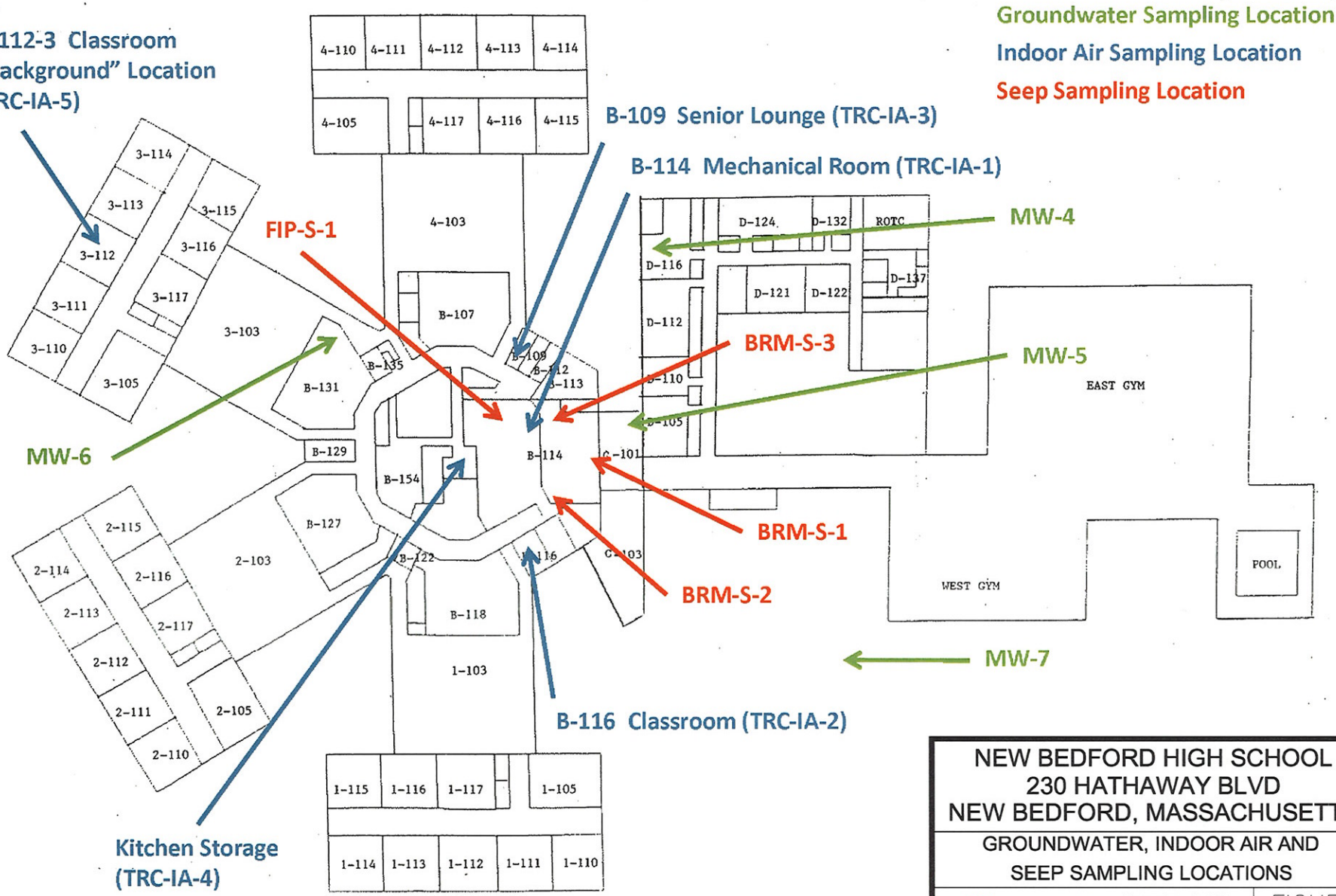
Analysis	Analyte		Sample ID:	NBHSBRM	BRM-S-1			BRM-S-2			BRM-S-3				FIP-S-1		
			Sample Date:	2/20/2009	12/2/2009	1/7/2010	1/30/2010	12/2/2009	1/7/2010	1/30/2010	12/2/2009	1/7/2010	1/30/2010	1/30/2010	12/2/2009	1/7/2010	1/30/2010
		GW-2	GW-3											Field Dup			
Metals, dissolved																	
(ug/L)	Antimony	NS	8,000	NA	40 U	NA	NA	40 U	NA	NA	40 U	NA	NA	NA	40 U	NA	NA
	Arsenic	NS	900	NA	**6.5**	NA	NA	**8.9**	NA	NA	**8.4**	NA	NA	NA	**6.0**	NA	NA
	Barium	NS	50,000	NA	**79**	NA	NA	**73**	NA	NA	**67**	NA	NA	NA	50 U	NA	NA
	Beryllium	NS	200	NA	2.5 U	NA	NA	2.5 U	NA	NA	2.5 U	NA	NA	NA	2.5 U	NA	NA
	Cadmium	NS	4	NA	2.5 U	NA	NA	2.5 U	NA	NA	2.5 U	NA	NA	NA	2.5 U	NA	NA
	Chromium	NS	300	NA	5.0 U	NA	NA	5.0 U	NA	NA	5.0 U	NA	NA	NA	5.0 U	NA	NA
	Lead	NS	10	NA	7.5 U	NA	NA	7.5 U	NA	NA	7.5 U	NA	NA	NA	7.5 U	NA	NA
	Mercury	NS	20	NA	0.10 U	NA	NA	0.10 U	NA	NA	0.10 U	NA	NA	NA	0.10 U	NA	NA
	Nickel	NS	200	NA	5.0 U	NA	NA	5.0 U	NA	NA	5.0 U	NA	NA	NA	5.0 U	NA	NA
	Selenium	NS	100	NA	25 U	NA	NA	25 U	NA	NA	25 U	NA	NA	NA	25 U	NA	NA
	Silver	NS	7	NA	2.5 U	NA	NA	2.5 U	NA	NA	2.5 U	NA	NA	NA	2.5 U	NA	NA
	Thallium	NS	3,000	NA	30 U	NA	NA	30 U	NA	NA	30 U	NA	NA	NA	30 U	NA	NA
	Vanadium	NS	4,000	NA	25 U	NA	NA	25 U	NA	NA	25 U	NA	NA	NA	25 U	NA	NA
	Zinc	NS	900	NA	**160**	NA	NA	**43**	NA	NA	**48**	NA	NA	NA	**25**	NA	NA
Metals, total																	
(ug/L)	Antimony	NS	8,000	40.0 U	40 U	NA	NA	40 U	NA	NA	40 U	NA	NA	NA	40 U	NA	NA
	Arsenic	NS	900	5.0 U	**9.2**	NA	NA	**11**	NA	NA	**10**	NA	NA	NA	**5.8**	NA	NA
	Barium	NS	50,000	**288**	**98**	NA	NA	**76**	NA	NA	**140**	NA	NA	NA	50 U	NA	NA
	Beryllium	NS	200	2.0 U	2.5 U	NA	NA	2.5 U	NA	NA	2.5 U	NA	NA	NA	2.5 U	NA	NA
	Cadmium	NS	4	**3.7**	2.5 U	NA	NA	2.5 U	NA	NA	2.5 U	NA	NA	NA	2.5 U	NA	NA
	Chromium	NS	300	**30.0**	5.0 U	NA	NA	5.0 U	NA	NA	5.0 U	NA	NA	NA	5.0 U	NA	NA
	Lead	NS	10	**50.8**	7.5 U	NA	NA	7.5 U	NA	NA	**220**	NA	NA	NA	7.5 U	NA	NA
	Mercury	NS	20	**0.36**	0.10 U	NA	NA	0.10 U	NA	NA	0.10 U	NA	NA	NA	0.10 U	NA	NA
	Nickel	NS	200	**26.0**	5.0 U	NA	NA	5.0 U	NA	NA	5.0 U	NA	NA	NA	5.0 U	NA	NA
	Selenium	NS	100	30.0 U	25 U	NA	NA	25 U	NA	NA	25 U	NA	NA	NA	25 U	NA	NA
	Silver	NS	7	3.0 U	2.5 U	NA	NA	2.5 U	NA	NA	2.5 U	NA	NA	NA	2.5 U	NA	NA
	Thallium	NS	3,000	30.0 U	30 U	NA	NA	30 U	NA	NA	30 U	NA	NA	NA	30 U	NA	NA
	Vanadium	NS	4,000	25.0 U	25 U	NA	NA	25 U	NA	NA	25 U	NA	NA	NA	25 U	NA	NA
	Zinc	NS	900	**1,870**	**260**	NA	NA	**51**	NA	NA	**150**	NA	NA	NA	**21**	NA	NA

Notes:
ug/L - micrograms per liter.
NA - Sample not analyzed for the listed analyte.
NS - No MassDEP standards exist for this compound.
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.
VOCs - Volatile Organic Compounds.
EPH - Extractable Petroleum Hydrocarbons.
PAHs - Polynuclear Aromatic Hydrocarbons.
PCBs - Polychlorinated Biphenyls.
(1) - MassDEP Method 1 standardsfor C9-C10 aromatic hydrocarbons used.
(2) - MassDEP Method 1 standards for 1,3-Dichloropropene used.



Notes:
1. All sampling locations are approximate.
2. Drawing is not to scale.

NEW BEDFORD HIGH SCHOOL
230 HATHAWAY BLVD
NEW BEDFORD, MASSACHUSETTS

GROUNDWATER, INDOOR AIR AND SEEP SAMPLING LOCATIONS

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

FIGURE 1

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

FILE: T:\E_CAD\115058\NBHS\GW INDOOR AIR SAMP.dwg

ENVIRONMENTAL FACT SHEET

CITY OF NEW BEDFORD'S INVESTIGATION OF GROUNDWATER SEEPS IN THE BASEMENT OF NEW BEDFORD HIGH SCHOOL

CITY OF NEW BEDFORD/TRC, MARCH 2010

The City's environmental consultant (TRC Environmental Corporation) is investigating groundwater (water located beneath the ground in spaces in the soil) which enters, or "seeps" into New Bedford High School basement rooms used by maintenance staff through small cracks in the foundation. This fact sheet describes TRC's investigation, its implications for building occupants, and the next steps in the investigation. More details about TRC's investigation, including all chemical concentration data, are provided in the *Immediate Response Action Plan* for RTN 4-22409, which will be posted on the City's website.

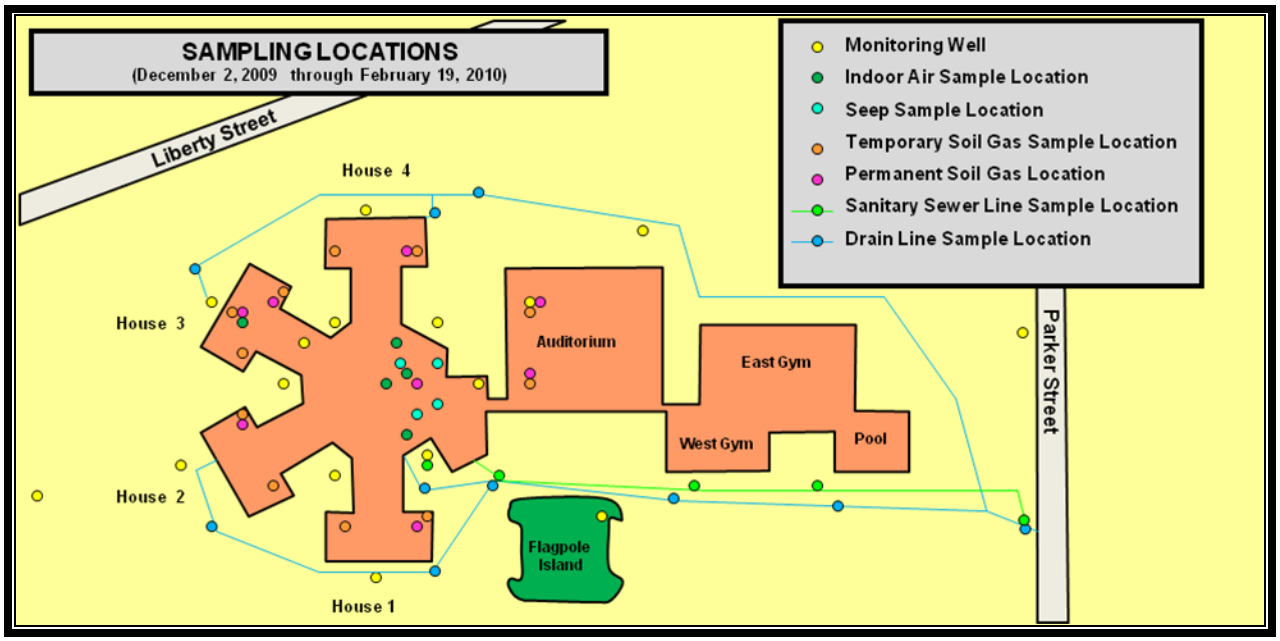
WHAT INVESTIGATION HAS BEEN COMPLETED TO DATE?

What are volatile organic compounds, or VOCs?
Volatile organic compounds (VOCs) are emitted as gases from certain solids or liquids. VOCs include a variety of chemicals. VOCs are emitted by a wide array of products numbering in the thousands. Examples include: paints and lacquers, paint strippers, cleaning supplies, pesticides, building materials and furnishings, office equipment such as copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions. Organic chemicals are widely used as ingredients in household products. Paints, varnishes, and wax all contain organic solvents, as do many cleaning, disinfecting, cosmetic, degreasing, and hobby products. Fuels are made up of organic chemicals. All of these products can release organic compounds while you are using them, and, to some degree, when they are stored.

January 2010. TRC collected (1) groundwater samples from monitoring wells under and near the high school, and (2) seep water samples from the basement of the high school. Analytical results for these samples suggest the potential for chlorinated volatile organic compounds (VOCs) to be present in indoor air in the building. Therefore, TRC conducted indoor air sampling on an expedited basis from several locations within the high school near the groundwater seep and in other areas of the building, including classrooms. The City reported the results of this sampling in a February 2010 Fact Sheet posted on its website. TRC detected chlorinated VOCs in the school's indoor air. Some of the VOCs in indoor air might come from groundwater while others might be associated with other sources, such as cleaning products and vehicle exhaust. TRC's preliminary risk assessment of these data indicated that there is no significant risk to the health of building occupants based on criteria established by the Massachusetts Department of Environmental Protection (MassDEP).

February 2010. Despite the finding of no significant risk, further assessment of the presence of detectable concentrations of VOCs in indoor air will be conducted. Therefore, TRC continued its investigation during the February school vacation period by:

- → Sampling 16 groundwater monitoring wells, 10 storm water sewer manholes, and 5 sanitary sewer manholes
- → Sampling soil gas from beneath the slab of the building at 11 locations, concentrating on classroom locations (Collecting soil gas beneath the slab provides some indication of whether VOCs beneath the building are migrating as vapors to indoor areas of the high school)
- → Conducting an inventory of chemicals used in the building
- → Completing an inventory of first floor drains and cracks in the floor of the A and B blocks to identify where steps can be taken to prevent vapor migration into the building
- → Checking for proper ventilation system performance



NOTE: A more detailed figure showing all sample identification numbers is included in the *Immediate Response Action Plan* for RTN 4-22409, which will be posted on the City's website.

IS IT SAFE FOR PEOPLE TO OCCUPY THE HIGH SCHOOL?

Yes, it is safe to occupy the high school, including rooms where samples were collected, based on TRC's assessment of indoor air quality data collected to date, which is described in the February 2010 newsletter. The new data collected in February 2010 do not change this conclusion.

WHAT ARE THE NEXT STEPS?

TRC will continue its expedited investigation of the low level VOCs detected in the high school's indoor air during the April school vacation period. TRC's investigation will include the following elements:

→ Collection of additional indoor air samples in the high school

→ Further investigation of vapor concentrations beneath the floor of the high school; and

→ Further investigation to determine whether these compounds are present in the groundwater beneath and near the high school

TRC is focused on characterizing the nature and extent of the VOCs identified in the indoor air samples and continuing to evaluate potential risk associated with exposure to these chemicals.

WHERE CAN I GET MORE INFORMATION?

All chemical concentration data for groundwater, seep water, soil gas, and indoor air are posted at the City's website http://www.newbedford-ma.gov/McCoy/Keithmiddleschool.html; filed under the "New Bedford High School (NBHS)" heading. Also, for additional detailed information, please see the *Immediate Response Action Plan* for RTN 4-22409 which will be posted on the City's website. If you have additional questions, please contact Cheryl Henlin, City of New Bedford Environmental Stewardship Department, at (508) 991-6188 or email cheryl.henlin@newbedford-ma.gov.

Summary of Analytical Results for Groundwater Samples -- January and February 2010
New Bedford High School
New Bedford, Massachusetts

Analysis	Analyte		Sample ID:	MW-4		MW-5			MW-6		MW-7			MW-8A	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	MW-HH-13	MW-HRC-33
			Sample Date:	1/6/2010	2/17/2010	1/6/2010	1/6/2010	2/17/2010	1/7/2010	2/18/2010	1/7/2010	2/17/2010	2/17/2010	2/18/2010	2/19/2010	2/18/2010	2/19/2010	2/19/2010	2/18/2010	2/19/2010	2/18/2010	2/18/2010	2/18/2010	2/18/2010	2/17/2010
		GW-2	GW-3				Field Dup						Field Dup												
VOCs																									
(ug/L)	Acetone	50,000	50,000	50 U	5.0 U	50 U	50 U	5.0 U	50 U	5.0 U	50 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	tert-Amyl Methyl Ether (TAME)	NS	NS	0.50 U	2.0 U	0.50 U	0.50 U	2.0 U	0.50 U	2.0 U	0.50 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Benzene	2,000	10,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromobenzene	NS	NS	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Bromochloromethane	NS	NS	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Bromodichloromethane	6	50,000	5.0 U	1.0 U	5.0 U	5.0 U	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromoform	700	50,000	10 U	2.0 U	10 U	10 U	2.0 U	10 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Bromomethane	7	800	2.0 U	5.0 U	2.0 U	2.0 U	5.0 U	2.0 U	5.0 U	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	2-Butanone (MEK)	50,000	50,000	20 U	5.0 U	20 U	20 U	5.0 U	20 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	n-Butylbenzene	7,000[1]	50,000[1]	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	sec-Butylbenzene	7,000[1]	50,000[1]	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	tert-Butylbenzene	7,000[1]	50,000[1]	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	tert-Butyl Ethyl Ether (TBEE)	NS	NS	0.50 U	2.0 U	0.50 U	0.50 U	2.0 U	0.50 U	2.0 U	0.50 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Carbon Disulfide	NS	NS	5.0 U	2.0 U	5.0 U	5.0 U	2.0 U	5.0 U	2.0 U	5.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Carbon Tetrachloride	2	5,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Chlorobenzene	200	1,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Chlorodibromomethane	20	50,000	10 U	1.0 U	10 U	10 U	1.0 U	10 U	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Chloroethane	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Chloroform	50	20,000	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Chloromethane	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	2-Chlorotoluene	NS	NS	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	4-Chlorotoluene	NS	NS	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,2-Dibromo-3-chloropropane (DBCI	NS	NS	10 U	5.0 U	10 U	10 U	5.0 U	10 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,2-Dibromoethane (EDB)	2	50,000	0.50 U	2.0 U	0.50 U	0.50 U	2.0 U	0.50 U	2.0 U	0.50 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Dibromomethane	NS	NS	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,2-Dichlorobenzene	2,000	2,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,3-Dichlorobenzene	2,000	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,4-Dichlorobenzene	200	8,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Dichlorodifluoromethane (Freon 12)	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,1-Dichloroethane	1,000	20,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dichloroethane	5	20,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1-Dichloroethylene	80	30,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	cis-1,2-Dichloroethylene	100	50,000	1.0 U	1.0 U	**3.7**	**4.1**	**5.9**	1.0 U	1.0 U	**20**	**30**	**30**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	trans-1,2-Dichloroethylene	90	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dichloropropane	3	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,3-Dichloropropane	NS	NS	0.50 U	2.0 U	0.50 U	0.50 U	2.0 U	0.50 U	2.0 U	0.50 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	2,2-Dichloropropane	NS	NS	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,1-Dichloropropene	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	cis-1,3-Dichloropropene	10[2]	200[2]	5.0 U	0.50 U	5.0 U	5.0 U	0.50 U	5.0 U	0.50 U	5.0 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	trans-1,3-Dichloropropene	10[2]	200[2]	5.0 U	0.50 U	5.0 U	5.0 U	0.50 U	5.0 U	0.50 U	5.0 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	Diethyl Ether	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Diisopropyl Ether (DIPE)	NS	NS	0.50 U	2.0 U	0.50 U	0.50 U	2.0 U	0.50 U	2.0 U	0.50 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,4-Dioxane	6,000	50,000	50 U	250 U	50 U	50 U	250 U	50 U	250 U	50 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U
	Ethylbenzene	20,000	5,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Hexachlorobutadiene	1	3,000	1.0 U	0.60 U	1.0 U	1.0 U	0.60 U	1.0 U	0.60 U	1.0 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U
	2-Hexanone (MBK)	NS	NS	10 U	5.0 U	10 U	10 U	5.0 U	10 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Isopropylbenzene (Cumene)	7,000[1]	50,000[1]	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	p-Isopropyltoluene (p-Cymene)	7,000[1]	50,000[1]	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Methyl tert-Butyl Ether (MTBE)	50,000	50,000	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Methylene Chloride	10,000	50,000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	4-Methyl-2-pentanone (MIBK)	50,000	50,000	10 U	5.0 U	10 U	10 U	5.0 U	10 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Naphthalene	1,000	20,000	2.0 U	5.0 U	2.0 U	2.0 U	5.0 U	2.0 U	5.0 U	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	n-Propylbenzene	7,000[1]	50,000[1]	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Styrene	100	6,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1,1,2-Tetrachloroethane	10	50,000	5.0 U	1.0 U	5.0 U	5.0 U	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1,2,2-Tetrachloroethane	9	50,000	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Tetrachloroethylene	50	30,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**63**	**60**	**64**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Tetrahydrofuran	NS	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Toluene	50,000	40,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2,3-Trichlorobenzene	NS	NS	5.0 U	2.0 U	5.0 U	5.0 U	2.0 U	5.0 U	2.0 U	5.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,2,4-Trichlorobenzene	2,000	50,000	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,1,1-Trichloroethane	4,000	20,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1,2-Trichloroethane	900	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Trichloroethylene	30	5,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**6.8**	**5.8**	**6.5**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Trichlorofluoromethane (Freon 11)	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,2,3-Trichloropropane	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,2,4-Trimethylbenzene	7,000[1]	50,000[1]	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,3,5-Trimethylbenzene	7,000[1]	50,000[1]	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U

Summary of Analytical Results for Groundwater Samples -- January and February 2010
New Bedford High School
New Bedford, Massachusetts

Analysis	Analyte		Sample ID:	MW-4		MW-5			MW-6		MW-7			MW-8A	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	MW-HH-13	MW-HRC-33
			Sample Date:	1/6/2010	2/17/2010	1/6/2010	1/6/2010	2/17/2010	1/7/2010	2/18/2010	1/7/2010	2/17/2010	2/17/2010	2/18/2010	2/19/2010	2/18/2010	2/19/2010	2/19/2010	2/18/2010	2/19/2010	2/18/2010	2/18/2010	2/18/2010	2/18/2010	2/17/2010
		GW-2	GW-3				Field Dup						Field Dup												
	Vinyl Chloride	2	50,000	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	**3.4**	**9.2**	**9.9**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	m+p Xylene	9,000	5,000	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	o-Xylene	9,000	5,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Notes:

ug/L - micrograms per liter.

NS - No MassDEP standards exist for this compound.

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.

VOCs - Volatile Organic Compounds.

(1) - MassDEP Method 1 standards for C9-C10 aromatic hydrocarbons used.

(2) - MassDEP Method 1 standards for 1,3-Dichloropropene used.

Summary of Analytical Results for Basement Water Samples -- December 2009 and January 2010
New Bedford High School
New Bedford, Massachusetts

Analysis	Analyte		Sample ID:	NBHSBRM	BRM-S-1			BRM-S-2			BRM-S-3				FIP-S-1		
			Sample Date:	2/20/2009	12/2/2009	1/7/2010	1/30/2010	12/2/2009	1/7/2010	1/30/2010	12/2/2009	1/7/2010	1/30/2010	1/30/2010	12/2/2009	1/7/2010	1/30/2010
		GW-2	GW-3											Field Dup			
VOCs																	
(ug/L)	Acetone	50,000	50,000	NA	50 U	50 U	5.0 U	50 U	50 U	5.0 U	50 U	50 U	5.0 U	5.0 U	50 U	50 U	5.0 U
	tert-Amyl Methyl Ether (TAME)	NS	NS	NA	0.50 U	0.50 U	2.0 U	0.50 U	0.50 U	2.0 U	0.50 U	0.50 U	2.0 U	2.0 U	0.50 U	0.50 U	2.0 U
	Benzene	2,000	10,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromobenzene	NS	NS	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromochloromethane	NS	NS	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromodichloromethane	6	50,000	NA	1.0 U	5.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
	Bromoform	700	50,000	NA	5.0 U	10 U	1.0 U	5.0 U	10 U	1.0 U	5.0 U	10 U	1.0 U	1.0 U	5.0 U	10 U	1.0 U
	Bromomethane	7	800	NA	2.0 U	2.0 U	5.0 U	2.0 U	2.0 U	5.0 U	2.0 U	2.0 U	5.0 U	5.0 U	2.0 U	2.0 U	5.0 U
	2-Butanone (MEK)	50,000	50,000	NA	20 U	20 U	10 U	20 U	20 U	10 U	20 U	20 U	10 U	10 U	20 U	20 U	10 U
	n-Butylbenzene	7,000[1]	50,000[1]	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	sec-Butylbenzene	7,000[1]	50,000[1]	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	tert-Butylbenzene	7,000[1]	50,000[1]	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	tert-Butyl Ethyl Ether (TBEE)	NS	NS	NA	0.50 U	0.50 U	2.0 U	0.50 U	0.50 U	2.0 U	0.50 U	0.50 U	2.0 U	2.0 U	0.50 U	0.50 U	2.0 U
	Carbon Disulfide	NS	NS	NA	3.0 U	5.0 U	1.0 U	3.0 U	5.0 U	1.0 U	3.0 U	5.0 U	1.0 U	1.0 U	3.0 U	5.0 U	1.0 U
	Carbon Tetrachloride	2	5,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Chlorobenzene	200	1,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**9.5**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Chlorodibromomethane	20	50,000	NA	0.50 U	10 U	1.0 U	0.50 U	10 U	1.0 U	0.50 U	10 U	1.0 U	1.0 U	0.50 U	10 U	1.0 U
	Chloroethane	NS	NS	NA	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
	Chloroform	50	20,000	NA	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
	Chloromethane	NS	NS	NA	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
	2-Chlorotoluene	NS	NS	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	4-Chlorotoluene	NS	NS	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dibromo-3-chloropropane (DBCP)	NS	NS	NA	5.0 U	10 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U
	1,2-Dibromoethane (EDB)	2	50,000	NA	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
	Dibromomethane	NS	NS	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dichlorobenzene	2,000	2,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,3-Dichlorobenzene	2,000	50,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**1.6**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,4-Dichlorobenzene	200	8,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**6.8**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Dichlorodifluoromethane (Freon 12)	NS	NS	NA	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
	1,1-Dichloroethane	1,000	20,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dichloroethane	5	20,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1-Dichloroethylene	80	30,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	cis-1,2-Dichloroethylene	100	50,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**54**	**180**	**24**	**23**	1.0 U	**5.6**	**7.2**
	trans-1,2-Dichloroethylene	90	50,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**14**	**57**	**8.2**	**8.1**	1.0 U	**1.0**	**1.4**
	1,2-Dichloropropane	3	50,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,3-Dichloropropane	NS	NS	NA	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
	2,2-Dichloropropane	NS	NS	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1-Dichloropropene	NS	NS	NA	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
	cis-1,3-Dichloropropene	10[2]	200[2]	NA	0.50 U	5.0 U	0.50 U	0.50 U	5.0 U	0.50 U	0.50 U	5.0 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U
	trans-1,3-Dichloropropene	10[2]	200[2]	NA	0.50 U	5.0 U	0.50 U	0.50 U	5.0 U	0.50 U	0.50 U	5.0 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U
	Diethyl Ether	NS	NS	NA	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Diisopropyl Ether (DIPE)	NS	NS	NA	0.50 U	0.50 U	2.0 U	0.50 U	0.50 U	2.0 U	0.50 U	0.50 U	2.0 U	2.0 U	0.50 U	0.50 U	2.0 U
	1,4-Dioxane	6,000	50,000	NA	50 U	50 U	100 U	50 U	50 U	100 U	50 U	50 U	100 U	100 U	50 U	50 U	100 U
	Ethylbenzene	20,000	5,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Hexachlorobutadiene	1	3,000	NA	1.0 U	1.0 U	0.50 U	1.0 U	1.0 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U
	2-Hexanone (MBK)	NS	NS	NA	10 U	10 U	1.0 U	10 U	10 U	1.0 U	10 U	10 U	1.0 U	1.0 U	10 U	10 U	1.0 U
	Isopropylbenzene (Cumene)	7,000[1]	50,000[1]	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	p-Isopropyltoluene (p-Cymene)	7,000[1]	50,000[1]	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Methyl tert-Butyl Ether (MTBE)	50,000	50,000	NA	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U
	Methylene Chloride	10,000	50,000	NA	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
	4-Methyl-2-pentanone (MIBK)	50,000	50,000	NA	10 U	10 U	5.0 U	10 U	10 U	5.0 U	10 U	10 U	5.0 U	5.0 U	10 U	10 U	5.0 U
	Naphthalene	1,000	20,000	NA	5.0 U	2.0 U	5.0 U	5.0 U	2.0 U	5.0 U	5.0 U	2.0 U	5.0 U	5.0 U	5.0 U	2.0 U	5.0 U
	n-Propylbenzene	7,000[1]	50,000[1]	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Styrene	100	6,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1,1,2-Tetrachloroethane	10	50,000	NA	1.0 U	5.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
	1,1,2,2-Tetrachloroethane	9	50,000	NA	0.50 U	0.50 U	2.0 U	0.50 U	0.50 U	2.0 U	0.50 U	0.50 U	2.0 U	2.0 U	0.50 U	0.50 U	2.0 U

Summary of Analytical Results for Basement Water Samples -- December 2009 and January 2010
New Bedford High School
New Bedford, Massachusetts

Analysis	Analyte		Sample ID:	NBHSBRM	BRM-S-1			BRM-S-2			BRM-S-3				FIP-S-1		
			Sample Date:	2/20/2009	12/2/2009	1/7/2010	1/30/2010	12/2/2009	1/7/2010	1/30/2010	12/2/2009	1/7/2010	1/30/2010	1/30/2010	12/2/2009	1/7/2010	1/30/2010
		GW-2	GW-3											Field Dup			
	Tetrachloroethylene	50	30,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Tetrahydrofuran	NS	NS	NA	10 U	10 U	5.0 U	10 U	10 U	5.0 U	10 U	10 U	5.0 U	5.0 U	10 U	10 U	5.0 U
	Toluene	50,000	40,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2,3-Trichlorobenzene	NS	NS	NA	5.0 U	5.0 U	2.0 U	5.0 U	5.0 U	2.0 U	5.0 U	5.0 U	2.0 U	2.0 U	5.0 U	5.0 U	2.0 U
	1,2,4-Trichlorobenzene	2,000	50,000	NA	5.0 U	1.0 U	2.0 U	5.0 U	1.0 U	2.0 U	5.0 U	1.0 U	2.0 U	2.0 U	5.0 U	1.0 U	2.0 U
	1,1,1-Trichloroethane	4,000	20,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1,2-Trichloroethane	900	50,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Trichloroethylene	30	5,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**6.0**	**1.2**	**1.3**	1.0 U	1.0 U	1.0 U
	Trichlorofluoromethane (Freon 11)	NS	NS	NA	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,2,3-Trichloropropane	NS	NS	NA	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
	1,2,4-Trimethylbenzene	7,000[1]	50,000[1]	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,3,5-Trimethylbenzene	7,000[1]	50,000[1]	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Vinyl Chloride	2	50,000	NA	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	**2.1**	**34**	**1.4**	**1.3**	2.0 U	2.0 U	**1.3**
	m+p Xylene	9,000	5,000	NA	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	o-Xylene	9,000	5,000	NA	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U
EPH																	
(ug/L)	C9-C18 Aliphatics	5,000	50,000	NA	150 U	NA	NA	150 U	NA	NA	150 U	NA	NA	NA	150 U	NA	NA
	C19-C36 Aliphatics	NS	50,000	NA	**190**	NA	NA	150 U	NA	NA	150 U	NA	NA	NA	150 U	NA	NA
	C11-C22 Aromatics	50,000	5,000	NA	100 U	NA	NA	100 U	NA	NA	100 U	NA	NA	NA	100 U	NA	NA
	Acenaphthene	NS	6,000	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Acenaphthylene	10,000	40	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Anthracene	NS	30	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Benzo(a)anthracene	NS	1,000	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Benzo(a)pyrene	NS	500	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Benzo(b)fluoranthene	NS	400	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Benzo(g,h,i)perylene	NS	20	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Benzo(k)fluoranthene	NS	100	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Chrysene	NS	70	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Dibenz(a,h)anthracene	NS	40	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Fluoranthene	NS	200	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Fluorene	NS	40	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Indeno(1,2,3-cd)pyrene	NS	100	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	2-Methylnaphthalene	2,000	20,000	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Naphthalene	1,000	20,000	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Phenanthrene	NS	10,000	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
	Pyrene	NS	20	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA	NA
PAHs																	
(ug/L)	Acenaphthene	NS	6,000	NA	0.30 U	NA	NA	0.30 U	NA	NA	0.30 U	NA	NA	NA	0.30 U	NA	NA
	Acenaphthylene	10,000	40	NA	0.30 U	NA	NA	0.30 U	NA	NA	0.30 U	NA	NA	NA	0.30 U	NA	NA
	Anthracene	NS	30	NA	0.20 U	NA	NA	0.20 U	NA	NA	0.20 U	NA	NA	NA	0.20 U	NA	NA
	Benzo(a)anthracene	NS	1,000	NA	0.050 U	NA	NA	0.050 U	NA	NA	0.050 U	NA	NA	NA	0.050 U	NA	NA
	Benzo(a)pyrene	NS	500	NA	0.10 U	NA	NA	0.10 U	NA	NA	0.10 U	NA	NA	NA	0.10 U	NA	NA
	Benzo(b)fluoranthene	NS	400	NA	0.050 U	NA	NA	0.050 U	NA	NA	0.050 U	NA	NA	NA	0.050 U	NA	NA
	Benzo(g,h,i)perylene	NS	20	NA	0.50 U	NA	NA	0.50 U	NA	NA	0.50 U	NA	NA	NA	0.50 U	NA	NA
	Benzo(k)fluoranthene	NS	100	NA	0.20 U	NA	NA	0.20 U	NA	NA	0.20 U	NA	NA	NA	0.20 U	NA	NA
	Chrysene	NS	70	NA	0.20 U	NA	NA	0.20 U	NA	NA	0.20 U	NA	NA	NA	0.20 U	NA	NA
	Dibenz(a,h)anthracene	NS	40	NA	0.20 U	NA	NA	0.20 U	NA	NA	0.20 U	NA	NA	NA	0.20 U	NA	NA
	Fluoranthene	NS	200	NA	0.50 U	NA	NA	0.50 U	NA	NA	0.50 U	NA	NA	NA	0.50 U	NA	NA
	Fluorene	NS	40	NA	1.0 U	NA	NA	1.0 U	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	NA
	Indeno(1,2,3-cd)pyrene	NS	100	NA	0.20 U	NA	NA	0.20 U	NA	NA	0.20 U	NA	NA	NA	0.20 U	NA	NA
	2-Methylnaphthalene	2,000	20,000	NA	1.0 U	NA	NA	1.0 U	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	NA
	Naphthalene	1,000	20,000	NA	1.0 U	NA	NA	1.0 U	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	NA
	Phenanthrene	NS	10,000	NA	0.050 U	NA	NA	0.050 U	NA	NA	0.050 U	NA	NA	NA	0.050 U	NA	NA
	Pyrene	NS	20	NA	1.0 U	NA	NA	1.0 U	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	NA
PCBs																	
(ug/L)	Aroclor 1016	5	10	1.0 U	0.0500 U	NA	NA	0.0500 U	NA	NA	0.0500 U	NA	NA	NA	0.0500 U	NA	NA
	Aroclor 1221	5	10	1.0 U	0.0500 U	NA	NA	0.0500 U	NA	NA	0.0500 U	NA	NA	NA	0.0500 U	NA	NA

Summary of Analytical Results for Basement Water Samples -- December 2009 and January 2010
New Bedford High School
New Bedford, Massachusetts

Analysis	Analyte		Sample ID:	NBHSBRM	BRM-S-1			BRM-S-2			BRM-S-3				FIP-S-1		
			Sample Date:	2/20/2009	12/2/2009	1/7/2010	1/30/2010	12/2/2009	1/7/2010	1/30/2010	12/2/2009	1/7/2010	1/30/2010	1/30/2010	12/2/2009	1/7/2010	1/30/2010
		GW-2	GW-3											Field Dup			
	Aroclor 1232	5	10	1.0 U	0.0500 U	NA	NA	0.0500 U	NA	NA	0.0500 U	NA	NA	NA	0.0500 U	NA	NA
	Aroclor 1242	5	10	1.0 U	0.0500 U	NA	NA	0.0500 U	NA	NA	0.0500 U	NA	NA	NA	0.0500 U	NA	NA
	Aroclor 1248	5	10	1.0 U	0.0500 U	NA	NA	0.0500 U	NA	NA	0.0500 U	NA	NA	NA	0.0500 U	NA	NA
	Aroclor 1254	5	10	1.0 U	0.0500 U	NA	NA	0.0500 U	NA	NA	0.0500 U	NA	NA	NA	0.0500 U	NA	NA
	Aroclor 1260	5	10	1.0 U	0.0500 U	NA	NA	0.0500 U	NA	NA	0.0500 U	NA	NA	NA	0.0500 U	NA	NA
	Total PCB Amount	5	10	1.0 U	0.0500 U	NA	NA	0.0500 U	NA	NA	0.0500 U	NA	NA	NA	0.0500 U	NA	NA
Metals, total																	
(ug/L)	Antimony	NS	8,000	40.0 U	40 U	NA	NA	40 U	NA	NA	40 U	NA	NA	NA	40 U	NA	NA
	Arsenic	NS	900	5.0 U	**9.2**	NA	NA	**11**	NA	NA	**10**	NA	NA	NA	**5.8**	NA	NA
	Barium	NS	50,000	**288**	**98**	NA	NA	**76**	NA	NA	**140**	NA	NA	NA	50 U	NA	NA
	Beryllium	NS	200	2.0 U	2.5 U	NA	NA	2.5 U	NA	NA	2.5 U	NA	NA	NA	2.5 U	NA	NA
	Cadmium	NS	4	**3.7**	2.5 U	NA	NA	2.5 U	NA	NA	2.5 U	NA	NA	NA	2.5 U	NA	NA
	Chromium	NS	300	**30.0**	5.0 U	NA	NA	5.0 U	NA	NA	5.0 U	NA	NA	NA	5.0 U	NA	NA
	Lead	NS	10	**50.8**	7.5 U	NA	NA	7.5 U	NA	NA	**220**	NA	NA	NA	7.5 U	NA	NA
	Mercury	NS	20	**0.36**	0.10 U	NA	NA	0.10 U	NA	NA	0.10 U	NA	NA	NA	0.10 U	NA	NA
	Nickel	NS	200	**26.0**	5.0 U	NA	NA	5.0 U	NA	NA	5.0 U	NA	NA	NA	5.0 U	NA	NA
	Selenium	NS	100	30.0 U	25 U	NA	NA	25 U	NA	NA	25 U	NA	NA	NA	25 U	NA	NA
	Silver	NS	7	3.0 U	2.5 U	NA	NA	2.5 U	NA	NA	2.5 U	NA	NA	NA	2.5 U	NA	NA
	Thallium	NS	3,000	30.0 U	30 U	NA	NA	30 U	NA	NA	30 U	NA	NA	NA	30 U	NA	NA
	Vanadium	NS	4,000	25.0 U	25 U	NA	NA	25 U	NA	NA	25 U	NA	NA	NA	25 U	NA	NA
	Zinc	NS	900	**1,870**	**260**	NA	NA	**51**	NA	NA	**150**	NA	NA	NA	**21**	NA	NA
Metals, dissolved																	
(ug/L)	Antimony	NS	8,000	NA	40 U	NA	NA	40 U	NA	NA	40 U	NA	NA	NA	40 U	NA	NA
	Arsenic	NS	900	NA	**6.5**	NA	NA	**8.9**	NA	NA	**8.4**	NA	NA	NA	**6.0**	NA	NA
	Barium	NS	50,000	NA	**79**	NA	NA	**73**	NA	NA	**67**	NA	NA	NA	50 U	NA	NA
	Beryllium	NS	200	NA	2.5 U	NA	NA	2.5 U	NA	NA	2.5 U	NA	NA	NA	2.5 U	NA	NA
	Cadmium	NS	4	NA	2.5 U	NA	NA	2.5 U	NA	NA	2.5 U	NA	NA	NA	2.5 U	NA	NA
	Chromium	NS	300	NA	5.0 U	NA	NA	5.0 U	NA	NA	5.0 U	NA	NA	NA	5.0 U	NA	NA
	Lead	NS	10	NA	7.5 U	NA	NA	7.5 U	NA	NA	7.5 U	NA	NA	NA	7.5 U	NA	NA
	Mercury	NS	20	NA	0.10 U	NA	NA	0.10 U	NA	NA	0.10 U	NA	NA	NA	0.10 U	NA	NA
	Nickel	NS	200	NA	5.0 U	NA	NA	5.0 U	NA	NA	5.0 U	NA	NA	NA	5.0 U	NA	NA
	Selenium	NS	100	NA	25 U	NA	NA	25 U	NA	NA	25 U	NA	NA	NA	25 U	NA	NA
	Silver	NS	7	NA	2.5 U	NA	NA	2.5 U	NA	NA	2.5 U	NA	NA	NA	2.5 U	NA	NA
	Thallium	NS	3,000	NA	30 U	NA	NA	30 U	NA	NA	30 U	NA	NA	NA	30 U	NA	NA
	Vanadium	NS	4,000	NA	25 U	NA	NA	25 U	NA	NA	25 U	NA	NA	NA	25 U	NA	NA
	Zinc	NS	900	NA	**160**	NA	NA	**43**	NA	NA	**48**	NA	NA	NA	**25**	NA	NA

Notes:

ug/L - micrograms per liter.

NA - Sample not analyzed for the listed analyte.

NS - No MassDEP standards exist for this compound.

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

VOCs - Volatile Organic Compounds.

EPH - Extractable Petroleum Hydrocarbons.

PAHs - Polynuclear Aromatic Hydrocarbons.

PCBs - Polychlorinated Biphenyls.

(1) - MassDEP Method 1 standards for C9-C10 aromatic hydrocarbons used.

(2) - MassDEP Method 1 standards for 1,3-Dichloropropene used.

Summary of Analytical Results for Indoor Air Samples -- January 2010
New Bedford High School
New Bedford, Massachusetts

Analysis	Analyte	Risk Management Criteria				Sample ID: / Sample Date:	TRC-IA-1 1/31/2010	TRC-IA-2 1/31/2010	TRC-IA-3 1/31/2010	TRC-IA-4 1/31/2010	TRC-IA-5 1/31/2010
		HI = 0.2	HI = 1.0	ELCR = 1 x 10^{-6}	ELCR = 1 x 10^{-5}						
TO-15											
(ug/m3)	1,1,1-Trichloroethane	1,100	5,500	NS	NS		1.09 U	1.09 U	1.09 U	1.09 U	1.09 U
	1,1,2,2-Tetrachloroethane	19	95	0.041	0.41		1.37 U	1.37 U	1.37 U	1.37 U	1.37 U
	1,1,2-Trichloroethane	15	75	0.15	1.5		1.09 U	1.09 U	1.09 U	1.09 U	1.09 U
	1,1-Dichloroethane	100	500	NS	NS		0.809 U	0.809 U	0.809 U	0.809 U	0.809 U
	1,1-Dichloroethene	40	200	NS	NS		0.792 U	0.792 U	0.792 U	0.792 U	0.792 U
	1,2,4-Trichlorobenzene	40	200	NS	NS		1.48 U	1.48 U	1.48 U	1.48 U	1.48 U
	1,2,4-Trimethylbenzene	10[a]	50[a]	NS	NS		0.982 U	0.982 U	0.982 U	0.982 U	**3.18**
	1,2-Dibromoethane	1.8	9	0.011	0.11		1.54 U	1.54 U	1.54 U	1.54 U	1.54 U
	1,2-Dichlorobenzene	40	200	NS	NS		1.20 U	1.20 U	1.20 U	1.20 U	1.20 U
	1,2-Dichloroethane	11	55	0.09	0.9		0.809 U	0.809 U	0.809 U	0.809 U	0.809 U
	1,2-Dichloropropane	0.8	4	0.13	1.3		0.924 U	0.924 U	0.924 U	0.924 U	0.924 U
	1,3,5-Trimethybenzene	10[a]	50[a]	NS	NS		0.982 U	0.982 U	0.982 U	0.982 U	0.982 U
	1,3-Dichlorobenzene	40	200	NS	NS		1.20 U	1.20 U	1.20 U	1.20 U	1.20 U
	1,4-Dichlorobenzene	160	800	0.35	3.5		1.20 U	1.20 U	1.20 U	1.20 U	1.20 U
	1,4-Dioxane	24	120	0.59	5.9		0.720 U	0.720 U	0.720 U	0.720 U	0.720 U
	2-Butanone	1,000	5,000	NS	NS		**1.01**	0.589 U	0.589 U	0.589 U	**1.89**
	2-Hexanone	NS	NS	NS	NS		0.819 U	0.819 U	0.819 U	0.819 U	0.819 U
	Acetone	160	800	NS	NS		**3.40**	**3.57**	**29.6**	**3.68**	2.37 U
	Benzene	6	30	0.3	3		**0.983**	0.638 U	0.638 U	0.638 U	**2.55**
	Bromodichloromethane	14	70	0.14	1.4		1.34 U	1.34 U	1.34 U	1.34 U	1.34 U
	Bromoform	14	70	2.2	22		2.06 U	2.06 U	2.06 U	2.06 U	2.06 U
	Bromomethane	1	5	NS	NS		0.776 U	0.776 U	0.776 U	0.776 U	0.776 U
	Carbon disulfide	NS	NS	NS	NS		0.622 U	0.622 U	0.622 U	0.622 U	0.622 U
	Carbon tetrachloride	86	430	0.16	1.6		1.26 U	1.26 U	1.26 U	1.26 U	1.26 U
	Chlorobenzene	4	20	NS	NS		0.920 U	0.920 U	0.920 U	0.920 U	0.920 U
	Chloroethane	NS	NS	NS	NS		0.527 U	0.527 U	0.527 U	0.527 U	0.527 U
	Chloroform	130	650	0.11	1.1		0.976 U	0.976 U	0.976 U	0.976 U	0.976 U
	Chloromethane	NS	NS	NS	NS		**1.11**	**1.03**	**0.92**	**1.16**	**1.29**
	cis-1,2-Dichloroethene	7	35	NS	NS		**4.33**	**0.087**	0.079 U	0.079 U	**3.58**
	cis-1,3-Dichloropropene	4	20	0.6	6		0.907 U	0.907 U	0.907 U	0.907 U	0.907 U
	Dibromochloromethane	14	70	0.1	1		1.70 U	1.70 U	1.70 U	1.70 U	1.70 U
	Dichlorodifluoromethane	NS	NS	NS	NS		**2.00**	**2.02**	**2.08**	**2.13**	**3.36**
	Ethylbenzene	200	1,000	NS	NS		0.868 U	0.868 U	**3.06**	0.868 U	**1.80**
	Hexachlorobutadiene	0.14	0.7	0.11	1.1		2.13 U	2.13 U	2.13 U	2.13 U	2.13 U
	Methylene chloride	600	3,000	5	50		1.74 U	1.74 U	1.74 U	1.74 U	1.74 U
	4-Methyl-2-pentanone	600	3,000	NS	NS		0.819 U	0.819 U	0.819 U	0.819 U	**1.21**
	Methyl tert butyl ether	600	3,000	NS	NS		0.720 U	0.720 U	0.720 U	0.720 U	0.720 U
	p/m-Xylene	20	100	NS	NS		1.74 U	1.74 U	**9.61**	1.74 U	**7.55**
	o-Xylene	20	100	NS	NS		0.868 U	0.868 U	**2.03**	0.868 U	**2.44**
	Styrene	200	1,000	4.1	41		0.851 U	0.851 U	0.851 U	0.851 U	0.851 U

Summary of Analytical Results for Indoor Air Samples -- January 2010
New Bedford High School
New Bedford, Massachusetts

Analysis	Analyte	Risk Management Criteria				Sample ID: / Sample Date:	TRC-IA-1 1/31/2010	TRC-IA-2 1/31/2010	TRC-IA-3 1/31/2010	TRC-IA-4 1/31/2010	TRC-IA-5 1/31/2010
		HI = 0.2	HI = 1.0	ELCR = 1 x 10^{-6}	ELCR = 1 x 10^{-5}						
	Tetrachloroethene	920	4,600	0.23	2.3		0.136 U	0.136 U	0.136 U	0.136 U	0.136 U
	Tetrahydrofuran	NS	NS	NS	NS		0.589 U	0.589 U	0.589 U	0.589 U	0.589 U
	Toluene	1,000	5,000	NS	NS		**1.97**	0.753 U	**4.18**	0.753 U	**13.1**
	trans-1,2-Dichloroethene	14	70	NS	NS		**2.38**	0.079 U	0.079 U	0.079 U	**1.72**
	trans-1,3-Dichloropropene	4	20	0.6	6		0.907 U	0.907 U	0.907 U	0.907 U	0.907 U
	Trichloroethene	36	180	1.4	14		**2.20**	0.107 U	0.107 U	0.107 U	**1.12**
	Trichlorofluoromethane	NS	NS	NS	NS		1.12 U	1.12 U	1.12 U	1.12 U	**4.92**
	Vinyl chloride	20	100	0.27	2.7		**0.57**	0.051 U	0.051 U	0.051 U	**0.531**
	Naphthalene	0.61	3.05	NS	NS		1.05 U	1.05 U	1.05 U	1.05 U	1.05 U
	1,1,1,2-Tetrachloroethane	NS	NS	NS	NS		1.37 U	1.37 U	1.37 U	1.37 U	1.37 U
	Isopropylbenzene	10[a]	50[a]	NS	NS		0.982 U	0.982 U	0.982 U	0.982 U	0.982 U
	1,2,3-Trichloropropane	NS	NS	NS	NS		1.20 U	1.20 U	1.20 U	1.20 U	1.20 U
	Bromobenzene	NS	NS	NS	NS		1.28 U	1.28 U	1.28 U	1.28 U	1.28 U
	Dibromomethane	NS	NS	NS	NS		1.42 U	1.42 U	1.42 U	1.42 U	1.42 U
	tert-Amyl Methyl Ether	NS	NS	NS	NS		0.835 U	0.835 U	0.835 U	0.835 U	0.835 U
	2-Chlorotoluene	NS	NS	NS	NS		1.03 U	1.03 U	1.03 U	1.03 U	1.03 U
	4-Chlorotoluene	NS	NS	NS	NS		1.03 U	1.03 U	1.03 U	1.03 U	1.03 U
	2,2-Dichloropropane	NS	NS	NS	NS		0.923 U	0.923 U	0.923 U	0.923 U	0.923 U
	1,1-Dichloropropene	NS	NS	NS	NS		0.907 U	0.907 U	0.907 U	0.907 U	0.907 U
	Diisopropyl ether	NS	NS	NS	NS		0.835 U	0.835 U	0.835 U	0.835 U	0.835 U
	tert-Butyl Ethyl Ether	NS	NS	NS	NS		0.835 U	0.835 U	0.835 U	0.835 U	0.835 U
	1,2,3-Trichlorobenzene	NS	NS	NS	NS		1.48 U	1.48 U	1.48 U	1.48 U	1.48 U
	Ethyl ether	NS	NS	NS	NS		0.606 U	0.606 U	0.606 U	0.606 U	0.606 U
	n-Butylbenzene	10[a]	50[a]	NS	NS		1.10 U	1.10 U	1.10 U	1.10 U	1.10 U
	sec-Butylbenzene	10[a]	50[a]	NS	NS		1.10 U	1.10 U	1.10 U	1.10 U	1.10 U
	tert-Butylbenzene	10[a]	50[a]	NS	NS		1.10 U	1.10 U	1.10 U	1.10 U	1.10 U
	1,2-Dibromo-3-chloropropane	NS	NS	NS	NS		1.93 U	1.93 U	1.93 U	1.93 U	1.93 U
	p-Isopropyltoluene	10[a]	50[a]	NS	NS		1.10 U	1.10 U	1.10 U	1.10 U	1.10 U
	n-Propylbenzene	10[a]	50[a]	NS	NS		0.982 U	0.982 U	0.982 U	0.982 U	0.982 U
	1,3-Dichloropropane	NS	NS	NS	NS		0.923 U	0.923 U	0.923 U	0.923 U	0.923 U

Notes:

ug/m3 - micrograms per cubic meter.

NS - No risk management criteria exist for this compound.

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 criteria.

TO - Toxic organics.

ELCR - Excess lifetime cancer risk.

HI - Hazard index.

Risk Management Criteria - MassDEP Indoor Air Threshold Values for the Evaluation of a Vapor Intrusion Pathway, Attachment C, updated June 26, 2008.

(a) - The risk management criteria for C9-C10 aromatics used.

Summary of Analytical Results for Storm Sewer Samples -- February 2010
New Bedford High School
New Bedford, Massachusetts

Analysis	Analyte		Sample ID:	HS-D-1		HS-D-2	HS-D-3	HS-D-4	HS-D-5	HS-D-6	HS-D-7	HS-D-8	HS-D-9	HS-ST-1
			Sample Date:	2/3/2010	2/3/2010	2/3/2010	2/3/2010	2/3/2010	2/3/2010	2/3/2010	2/3/2010	2/3/2010	2/3/2010	2/3/2010
		GW-2	GW-3		Field Dup									
VOCs														
(ug/L)	Acetone	50,000	50,000	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
	tert-Amyl Methyl Ether (TAME)	NS	NS	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	Benzene	2,000	10,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromobenzene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromochloromethane	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromodichloromethane	6	50,000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Bromoform	700	50,000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Bromomethane	7	800	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	2-Butanone (MEK)	50,000	50,000	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
	n-Butylbenzene	7,000(1)	50,000(1)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	sec-Butylbenzene	7,000(1)	50,000(1)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	tert-Butylbenzene	7,000(1)	50,000(1)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	tert-Butyl Ethyl Ether (TBEE)	NS	NS	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	Carbon Disulfide	NS	NS	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
	Carbon Tetrachloride	2	5,000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Chlorobenzene	200	1,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Chlorodibromomethane	20	50,000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Chloroethane	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Chloroform	50	20,000	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**3.0**	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Chloromethane	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	2-Chlorotoluene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	4-Chlorotoluene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dibromo-3-chloropropane (DBCP	NS	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,2-Dibromoethane (EDB)	2	50,000	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	Dibromomethane	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dichlorobenzene	2,000	2,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,3-Dichlorobenzene	2,000	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,4-Dichlorobenzene	200	8,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Dichlorodifluoromethane (Freon 12)	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,1-Dichloroethane	1,000	20,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dichloroethane	5	20,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1-Dichloroethylene	80	30,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	cis-1,2-Dichloroethylene	100	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**1.0**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	trans-1,2-Dichloroethylene	90	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dichloropropane	3	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,3-Dichloropropane	NS	NS	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	2,2-Dichloropropane	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1-Dichloropropene	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	cis-1,3-Dichloropropene	10(2)	200(2)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	trans-1,3-Dichloropropene	10(2)	200(2)	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Diethyl Ether	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Diisopropyl Ether (DIPE)	NS	NS	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
	1,4-Dioxane	6,000	50,000	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U

Summary of Analytical Results for Storm Sewer Samples -- February 2010
New Bedford High School
New Bedford, Massachusetts

Analysis	Analyte		Sample ID:	HS-D-1		HS-D-2	HS-D-3	HS-D-4	HS-D-5	HS-D-6	HS-D-7	HS-D-8	HS-D-9	HS-ST-1
			Sample Date:	2/3/2010	2/3/2010	2/3/2010	2/3/2010	2/3/2010	2/3/2010	2/3/2010	2/3/2010	2/3/2010	2/3/2010	2/3/2010
		GW-2	GW-3		Field Dup									
	Ethylbenzene	20,000	5,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Hexachlorobutadiene	1	3,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	2-Hexanone (MBK)	NS	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Isopropylbenzene (Cumene)	7,000(1)	50,000(1)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	p-Isopropyltoluene (p-Cymene)	7,000(1)	50,000(1)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Methyl tert-Butyl Ether (MTBE)	50,000	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Methylene Chloride	10,000	50,000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	4-Methyl-2-pentanone (MIBK)	50,000	50,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Naphthalene	1,000	20,000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	n-Propylbenzene	7,000(1)	50,000(1)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Styrene	100	6,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1,1,2-Tetrachloroethane	10	50,000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,1,2,2-Tetrachloroethane	9	50,000	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	Tetrachloroethylene	50	30,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Tetrahydrofuran	NS	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Toluene	50,000	40,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2,3-Trichlorobenzene	NS	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,2,4-Trichlorobenzene	2,000	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1,1-Trichloroethane	4,000	20,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**3.3**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1,2-Trichloroethane	900	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Trichloroethylene	30	5,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Trichlorofluoromethane (Freon 11)	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,2,3-Trichloropropane	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,2,4-Trimethylbenzene	7,000(1)	50,000(1)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,3,5-Trimethylbenzene	7,000(1)	50,000(1)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Vinyl Chloride	2	50,000	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	m+p Xylene	9,000	5,000	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	o-Xylene	9,000	5,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Notes:

ug/L - micrograms per liter.

NS - No MassDEP standards exist for this compound.

U - Compound was not detected at specified quantitation limit.

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

VOCs - Volatile Organic Compounds.

(1) - MassDEP Method 1 standards for C9-C10 aromatic hydrocarbons used.

(2) - MassDEP Method 1 standards for 1,3-Dichloropropene used.

Summary of Analytical Results for Sanitary Sewer Samples -- February 2010
New Bedford High School
New Bedford, Massachusetts

Analysis	Sample ID:	LS-MH-1	SS-MH-1	SS-MH-2	SS-MH-3	SS-MH-4	
	Sample Date:	2/17/2010	2/17/2010	2/17/2010	2/17/2010	2/17/2010	2/17/2010
	Analyte						Field Dup
VOCs							
(ug/L)	Acetone	**630**	500 U	50 U	50 U	50 U	50 U
	tert-Amyl Methyl Ether (TAME)	0.50 U	5.0 U	0.50 U	0.50 U	0.50 U	0.50 U
	Benzene	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromobenzene	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromochloromethane	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromodichloromethane	1.0 U	10 U	5.0 U	1.0 U	**1.3**	1.0 U
	Bromoform	10 U	100 U	10 U	10 U	10 U	10 U
	Bromomethane	5.0 U	50 U	10 U	5.0 U	5.0 U	5.0 U
	2-Butanone (MEK)	20 U	200 U	20 U	20 U	20 U	20 U
	n-Butylbenzene	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	sec-Butylbenzene	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	tert-Butylbenzene	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	tert-Butyl Ethyl Ether (TBEE)	0.50 U	5.0 U	0.50 U	0.50 U	0.50 U	0.50 U
	Carbon Disulfide	2.0 U	20 U	50 U	2.0 U	2.0 U	2.0 U
	Carbon Tetrachloride	1.0 U	10 U	10 U	1.0 U	1.0 U	1.0 U
	Chlorobenzene	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	Chlorodibromomethane	5.0 U	50 U	5.0 U	5.0 U	5.0 U	5.0 U
	Chloroethane	2.0 U	20 U	2.0 U	2.0 U	2.0 U	2.0 U
	Chloroform	2.0 U	20 U	**7.8**	2.0 U	**7.8**	2.0 U
	Chloromethane	2.0 U	20 U	2.0 U	2.0 U	2.0 U	2.0 U
	2-Chlorotoluene	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	4-Chlorotoluene	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dibromo-3-chloropropane (DBCP)	5.0 U	50 U	10 U	5.0 U	5.0 U	5.0 U
	1,2-Dibromoethane (EDB)	0.50 U	5.0 U	0.50 U	0.50 U	0.50 U	0.50 U
	Dibromomethane	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dichlorobenzene	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,3-Dichlorobenzene	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,4-Dichlorobenzene	**19**	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	Dichlorodifluoromethane (Freon 12)	2.0 U	20 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,1-Dichloroethane	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dichloroethane	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1-Dichloroethylene	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	cis-1,2-Dichloroethylene	1.0 U	10 U	1.0 U	**3.1**	1.0 U	**2.6**
	trans-1,2-Dichloroethylene	1.0 U	10 U	1.0 U	**1.4**	1.0 U	**1.2**
	1,2-Dichloropropane	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,3-Dichloropropane	0.50 U	5.0 U	0.50 U	0.50 U	0.50 U	0.50 U
	2,2-Dichloropropane	1.0 U	10 U	10 U	1.0 U	1.0 U	1.0 U
	1,1-Dichloropropene	2.0 U	20 U	2.0 U	2.0 U	2.0 U	2.0 U

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Analysis	Sample ID:	LS-MH-1	SS-MH-1	SS-MH-2	SS-MH-3	SS-MH-4	
	Sample Date:	2/17/2010	2/17/2010	2/17/2010	2/17/2010	2/17/2010	2/17/2010
	Analyte						Field Dup
	cis-1,3-Dichloropropene	0.50 U	5.0 U	5.0 U	0.50 U	0.50 U	0.50 U
	trans-1,3-Dichloropropene	0.50 U	5.0 U	5.0 U	0.50 U	0.50 U	0.50 U
	Diethyl Ether	2.0 U	20 U	2.0 U	2.0 U	2.0 U	2.0 U
	Diisopropyl Ether (DIPE)	0.50 U	5.0 U	0.50 U	0.50 U	0.50 U	0.50 U
	1,4-Dioxane	50 U	500 U	50 U	50 U	50 U	50 U
	Ethylbenzene	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	Hexachlorobutadiene	5.0 U	50 U	1.0 U	5.0 U	5.0 U	5.0 U
	2-Hexanone (MBK)	10 U	100 U	10 U	10 U	10 U	10 U
	Isopropylbenzene (Cumene)	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	p-Isopropyltoluene (p-Cymene)	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	Methyl tert-Butyl Ether (MTBE)	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	Methylene Chloride	20 U	200 U	5.0 U	20 U	20 U	20 U
	4-Methyl-2-pentanone (MIBK)	10 U	100 U	10 U	10 U	10 U	10 U
	Naphthalene	5.0 U	50 U	2.0 U	5.0 U	5.0 U	5.0 U
	n-Propylbenzene	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	Styrene	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1,1,2-Tetrachloroethane	1.0 U	10 U	5.0 U	1.0 U	1.0 U	1.0 U
	1,1,2,2-Tetrachloroethane	0.50 U	5.0 U	0.50 U	0.50 U	0.50 U	0.50 U
	Tetrachloroethylene	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	Tetrahydrofuran	10 U	100 U	10 U	10 U	10 U	10 U
	Toluene	**3.3**	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2,3-Trichlorobenzene	5.0 U	50 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,2,4-Trichlorobenzene	5.0 U	50 U	1.0 U	5.0 U	5.0 U	5.0 U
	1,1,1-Trichloroethane	1.0 U	10 U	5.0 U	1.0 U	1.0 U	1.0 U
	1,1,2-Trichloroethane	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	Trichloroethylene	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	Trichlorofluoromethane (Freon 11)	2.0 U	20 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,2,3-Trichloropropane	2.0 U	20 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,2,4-Trimethylbenzene	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,3,5-Trimethylbenzene	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
	Vinyl Chloride	2.0 U	20 U	2.0 U	2.0 U	2.0 U	2.0 U
	m+p Xylene	2.0 U	20 U	2.0 U	2.0 U	2.0 U	2.0 U
	o-Xylene	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U

Notes:

ug/L - micrograms per liter.

U - Compound was not detected at specified quantitation limit.

Values in Bold indicate the compound was detected.

VOCs - Volatile Organic Compounds.

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New Bedford, Massachusetts

Analysis	Sample ID: / Sample Date: / Analyte	TVP-1 2/15/2010	TVP-2 2/15/2010	TVP-3 2/15/2010	TVP-4 2/15/2010	TVP-5 2/15/2010	TVP-6 2/15/2010	TVP-7 2/15/2010	TVP-8 2/15/2010	TVP-9 2/15/2010	TVP-9 2/15/2010 Field Dup	TVP-10 2/15/2010	TVP-11 2/15/2010
TO-15													
(ug/m3)	1,1,1-Trichloroethane	10.9 U	1.09 U	2.72 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	**12.7**	10.9 U
	1,1,2,2-Tetrachloroethane	13.7 U	1.37 U	3.43 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	13.7 U
	1,1,2-Trichloroethane	10.9 U	1.09 U	2.72 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	10.9 U
	1,1-Dichloroethane	8.09 U	0.809 U	2.02 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	8.09 U
	1,1-Dichloroethene	7.92 U	0.792 U	1.98 U	0.792 U	0.792 U	0.792 U	0.792 U	0.792 U	0.792 U	0.792 U	**2.20**	7.92 U
	1,2,4-Trichlorobenzene	14.8 U	1.48 U	3.71 U	1.48 U	1.48 U	1.48 U	1.48 U	1.48 U	1.48 U	1.48 U	1.48 U	14.8 U
	1,2,4-Trimethylbenzene	9.82 U	**1.78**	2.46 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	**7.24**	**1.86**	**16.1**	9.82 U
	1,2-Dibromoethane	15.4 U	1.54 U	3.84 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	15.4 U
	1,2-Dichlorobenzene	12.0 U	1.20 U	3.00 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	12.0 U
	1,2-Dichloroethane	8.09 U	0.809 U	2.02 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	8.09 U
	1,2-Dichloropropane	9.24 U	0.924 U	2.31 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	9.24 U
	1,3,5-Trimethybenzene	9.82 U	0.982 U	2.46 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	**1.39**	0.982 U	**3.19**	9.82 U
	1,3-Dichlorobenzene	12.0 U	1.20 U	3.00 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	12.0 U
	1,4-Dichlorobenzene	12.0 U	1.20 U	3.00 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	12.0 U
	1,4-Dioxane	7.20 U	0.720 U	1.80 U	0.720 U	0.720 U	0.720 U	0.720 U	0.720 U	0.720 U	0.720 U	0.720 U	7.20 U
	2-Butanone	**17.3**	**4.06**	**36.3**	**5.42**	**2.93**	**3.88**	**5.08**	**5.68**	**2.57**	**3.42**	**19.1**	5.89 U
	2-Hexanone	8.19 U	0.819 U	2.05 U	0.819 U	0.819 U	0.819 U	0.819 U	0.819 U	0.819 U	0.819 U	0.819 U	8.19 U
	Acetone	**1,100**	**94.8**	**665**	**137**	**31.0**	**52.9**	**46.7**	**167**	**24.1**	**33.5**	**325**	**4,730**
	Benzene	**84.7**	**1.36**	**33.6**	**3.93**	**1.54**	**0.964**	**1.42**	**1.60**	**1.74**	**1.95**	**4.38**	6.38 U
	Bromodichloromethane	13.4 U	1.34 U	3.35 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	13.4 U
	Bromoform	20.6 U	2.06 U	5.16 U	2.06 U	2.06 U	2.06 U	2.06 U	2.06 U	2.06 U	2.06 U	2.06 U	20.6 U
	Bromomethane	7.76 U	0.776 U	1.94 U	0.776 U	0.776 U	0.776 U	0.776 U	0.776 U	0.776 U	0.776 U	0.776 U	7.76 U
	Carbon disulfide	6.22 U	0.622 U	**3.04**	0.622 U	0.622 U	0.622 U	0.622 U	0.622 U	0.622 U	0.622 U	0.622 U	6.22 U
	Carbon tetrachloride	12.6 U	1.26 U	3.14 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	12.6 U
	Chlorobenzene	9.20 U	0.920 U	2.30 U	0.920 U	0.920 U	0.920 U	0.920 U	0.920 U	0.920 U	0.920 U	0.920 U	9.20 U
	Chloroethane	5.27 U	0.527 U	**1.83**	0.527 U	0.527 U	0.527 U	0.527 U	0.527 U	0.527 U	0.527 U	**0.678**	5.27 U
	Chloroform	9.76 U	0.976 U	2.44 U	0.976 U	0.976 U	**2.28**	0.976 U	0.976 U	0.976 U	0.976 U	0.976 U	9.76 U
	Chloromethane	4.13 U	0.413 U	**3.06**	**0.442**	0.413 U	0.413 U	0.413 U	**0.454**	0.413 U	0.413 U	**0.792**	4.13 U
	cis-1,2-Dichloroethene	7.92 U	0.792 U	1.98 U	0.792 U	0.792 U	0.792 U	0.792 U	0.792 U	0.792 U	0.792 U	0.792 U	7.92 U
	cis-1,3-Dichloropropene	9.07 U	0.907 U	2.27 U	0.907 U	0.907 U	0.907 U	0.907 U	0.907 U	0.907 U	0.907 U	0.907 U	9.07 U
	Dibromochloromethane	17.0 U	1.7 U	4.26 U	1.7 U	1.7 U	1.7 U	1.7 U	1.70 U	1.70 U	1.70 U	1.70 U	17.0 U
	Dichlorodifluoromethane	9.88 U	**2.15**	2.47 U	**2.44**	**2.21**	**2.26**	**2.32**	**2.45**	**2.26**	**2.65**	**2.35**	9.88 U
	Ethylbenzene	8.68 U	0.868 U	**4.09**	0.868 U	0.868 U	0.868 U	0.868 U	0.868 U	**1.38**	**1.67**	**6.21**	8.68 U
	Hexachlorobutadiene	21.3 U	2.13 U	5.33 U	2.13 U	2.13 U	2.13 U	2.13 U	2.13 U	2.13 U	2.13 U	2.13 U	21.3 U
	Methylene chloride	17.4 U	1.74 U	4.34 U	1.74 U	1.74 U	1.74 U	1.74 U	1.74 U	1.74 U	1.74 U	1.74 U	17.4 U
	4-Methyl-2-pentanone	8.19 U	**1.31**	**9.43**	**5.19**	0.819 U	**1.44**	**2.04**	**2.83**	0.819 U	0.819 U	**24.2**	8.19 U
	Methyl tert butyl ether	7.20 U	0.720 U	1.80 U	0.720 U	0.720 U	0.720 U	0.720 U	0.720 U	0.720 U	0.720 U	0.720 U	7.20 U
	p/m-Xylene	17.4 U	**1.91**	**7.83**	**2.03**	1.74 U	1.74 U	1.74 U	1.74 U	**5.22**	**5.55**	**39.8**	**23.7**
	o-Xylene	8.68 U	0.868 U	2.17 U	0.868 U	0.868 U	0.868 U	0.868 U	0.868 U	**2.54**	**2.35**	**12.8**	**13.5**
	Styrene	8.51 U	0.851 U	**3.33**	0.851 U	0.851 U	0.851 U	0.851 U	0.851 U	0.851 U	0.851 U	0.851 U	8.51 U
	Tetrachloroethene	13.6 U	**1.79**	3.39 U	1.36 U	**1.48**	**10.3**	**2.90**	**2.18**	**5.17**	**4.69**	**2.20**	**39.2**
	Tetrahydrofuran	5.89 U	0.589 U	1.47 U	0.589 U	0.589 U	0.589 U	0.589 U	0.589 U	0.589 U	0.589 U	**30.7**	5.89 U
	Toluene	**21.6**	**2.57**	**21.3**	**2.97**	**1.19**	**0.764**	**0.761**	**3.67**	**3.12**	**3.92**	**17.6**	7.53 U
	trans-1,2-Dichloroethene	7.92 U	0.792 U	1.98 U	0.792 U	0.792 U	0.792 U	0.792 U	0.792 U	0.792 U	0.792 U	0.792 U	7.92 U
	trans-1,3-Dichloropropene	9.07 U	0.907 U	2.27 U	0.907 U	0.907 U	0.907 U	0.907 U	0.907 U	0.907 U	0.907 U	0.907 U	9.07 U
	Trichloroethene	**22.6**	1.07 U	**15.0**	1.07 U	1.07 U	1.07 U	1.07 U	1.07 U	1.07 U	1.07 U	1.07 U	10.7 U

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Analysis	Sample ID:	TVP-1	TVP-2	TVP-3	TVP-4	TVP-5	TVP-6	TVP-7	TVP-8	TVP-9		TVP-10	TVP-11
	Sample Date:	2/15/2010	2/15/2010	2/15/2010	2/15/2010	2/15/2010	2/15/2010	2/15/2010	2/15/2010	2/15/2010	2/15/2010 Field Dup	2/15/2010	2/15/2010
	Analyte												
	Trichlorofluoromethane	11.2 U	**1.17**	2.81 U	**1.21**	1.12 U	1.12 U	1.12 U	**1.26**	1.12 U	**1.18**	**1.21**	11.2 U
	Vinyl chloride	5.11 U	0.511 U	1.28 U	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U	5.11 U
	Naphthalene	10.5 U	1.05 U	**3.31**	1.05 U	1.05 U	1.05 U	1.05 U	1.05 U	**3.84**	1.05 U	**3.22**	10.5 U
	1,1,1,2-Tetrachloroethane	13.7 U	1.37 U	3.43 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	13.7 U
	Isopropylbenzene	**198**	0.982 U	**36.0**	**7.45**	0.982 U	0.982 U	0.982 U	**39.3**	0.982 U	0.982 U	0.982 U	9.82 U
	1,2,3-Trichloropropane	12.0 U	1.20 U	3.01 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	12.0 U
	Bromobenzene	12.8 U	1.28 U	3.21 U	1.28 U	1.28 U	1.28 U	1.28 U	1.28 U	1.28 U	1.28 U	1.28 U	12.8 U
	Dibromomethane	14.2 U	1.42 U	3.55 U	1.42 U	1.42 U	1.42 U	1.42 U	1.42 U	1.42 U	1.42 U	1.42 U	14.2 U
	tert-Amyl Methyl Ether	8.35 U	0.835 U	2.09 U	0.835 U	0.835 U	0.835 U	0.835 U	0.835 U	0.835 U	0.835 U	0.835 U	8.35 U
	2-Chlorotoluene	10.3 U	1.03 U	2.59 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	10.3 U
	4-Chlorotoluene	10.3 U	1.03 U	2.59 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	10.3 U
	2,2-Dichloropropane	9.23 U	0.923 U	2.31 U	0.923 U	0.923 U	0.923 U	0.923 U	0.923 U	0.923 U	0.923 U	0.923 U	9.23 U
	1,1-Dichloropropene	9.07 U	0.907 U	2.27 U	0.907 U	0.907 U	0.907 U	0.907 U	0.907 U	0.907 U	0.907 U	0.907 U	9.07 U
	Diisopropyl ether	8.35 U	0.835 U	2.09 U	0.835 U	0.835 U	0.835 U	0.835 U	0.835 U	0.835 U	0.835 U	0.835 U	8.35 U
	tert-Butyl Ethyl Ether	8.35 U	0.835 U	2.09 U	0.835 U	0.835 U	0.835 U	0.835 U	0.835 U	0.835 U	0.835 U	0.835 U	8.35 U
	1,2,3-Trichlorobenzene	14.8 U	1.48 U	3.71 U	1.48 U	1.48 U	1.48 U	1.48 U	1.48 U	1.48 U	1.48 U	1.48 U	14.8 U
	Ethyl ether	6.06 U	0.606 U	1.51 U	0.606 U	0.606 U	0.606 U	0.606 U	0.606 U	0.606 U	0.606 U	0.606 U	6.06 U
	n-Butylbenzene	11.0 U	1.10 U	2.74 U	1.10 U	1.10 U	1.10 U	1.10 U	1.10 U	1.10 U	1.10 U	**1.71**	11.0 U
	sec-Butylbenzene	11.0 U	1.10 U	2.74 U	1.10 U	1.10 U	1.10 U	1.10 U	1.10 U	1.10 U	1.10 U	1.10 U	11.0 U
	tert-Butylbenzene	11.0 U	1.10 U	2.74 U	1.10 U	1.10 U	1.10 U	1.10 U	**3.66**	1.10 U	1.10 U	**1.91**	11.0 U
	1,2-Dibromo-3-chloropropane	19.3 U	1.93 U	4.83 U	1.93 U	1.93 U	1.93 U	1.93 U	1.93 U	1.93 U	1.93 U	1.93 U	19.3 U
	p-Isopropyltoluene	11.0 U	1.10 U	2.74 U	1.10 U	1.10 U	1.10 U	1.10 U	1.10 U	1.10 U	1.10 U	1.10 U	11.0 U
	n-Propylbenzene	9.82 U	0.982 U	2.46 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	**1.85**	9.82 U
	1,3-Dichloropropane	9.23 U	0.923 U	2.31 U	0.923 U	0.923 U	0.923 U	0.923 U	0.923 U	0.923 U	0.923 U	0.923 U	9.23 U

Notes:

ug/m^3 - micrograms per cubic meters.

U - Compound was not detected at specified quantitation limit.

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

TO - Toxic organics.

FACT SHEET

CITY OF NEW BEDFORD'S ENVIRONMENTAL INVESTIGATION OF THE NEW BEDFORD HIGH SCHOOL BUILDING AND CAMPUS

City of New Bedford/TRC, June 2010

This fact sheet describes what has been done to determine that it is safe for people to occupy the New Bedford High School and use the campus. The fact sheet identifies the issues currently being studied at New Bedford High School, summarizes the investigation findings to date, and presents the next steps planned for the ongoing investigations. Terms in bold are defined in the Glossary of Terms at the end of the Fact Sheet.

It is safe for people to occupy New Bedford High School and use the campus around the school.

Inside the high school, TRC Environmental Corporation (TRC), the City's environmental consultant, evaluated the levels of **polychlorinated biphenyls (PCBs)** and **volatile organic compounds (VOCs)** in indoor air and determined that there is no significant risk to the health of building occupants. This evaluation was based on criteria established by the Massachusetts Department of Environmental Protection (MassDEP), as well as criteria for PCBs approved by the U.S. Environmental Protection Agency (EPA). The evaluation assumed that someone spends 8 hours per day, 5 days per week for 27 years in New Bedford High School.

Outside the high school, staff, students, and visitors use the campus for various reasons. Activities include people walking across the campus, participating in outdoor gym classes, or cutting grass. TRC considered how people use the campus in evaluating whether people could potentially be exposed to chemicals in the surface soil (soil that is not beneath pavement). TRC determined that the potential exposures to surface soil do not pose a significant risk, considering the possibility of inhaling dust, eating a small amount of surface soil, and coming into skin contact with surface soil. In reaching this conclusion, TRC considered how often and at what intensity high school staff (such as faculty and maintenance personnel), students, and visitors may use the campus.

Studies Being Conducted

On behalf of the City, TRC is conducting three studies related to the building and campus: 1) evaluation of building materials and furnishings that may contain **PCBs**, development of plans to address these materials and furnishing, and removal of certain materials and furnishings; 2) investigation of groundwater (water located beneath the ground in spaces in the soil) that may enter, or "seep" into New Bedford High School rooms used by maintenance staff; and 3) assessment of soil at the New Bedford High School, including recent sampling for dioxin and dioxin-like compounds.

Description of Investigation Findings

Building materials and furnishings. Some building materials at the high school contain **PCBs** at levels regulated by EPA. The City is investigating and removing certain PCB-containing materials. **PCBs** have

been detected in indoor air, but these levels were reduced after cleaning and adjusting the ventilation system, and removing **PCB**-impacted dust in 2007 and 2008. The City is continuing to investigate potential sources of **PCBs** detected in indoor air and options for removing sources.

Investigation of groundwater seeping into basement rooms. TRC is investigating groundwater containing **VOCs** that seeps into the high school mechanical room used by maintenance staff. TRC has focused its investigation on whether **VOCs** may be entering the high school from beneath the school. As part of this investigation, TRC sampled indoor air during February and April of this year. Sampling occurred when the building ventilation system was not operating, when concentrations of **VOCs** in indoor air are expected to be higher than during normal ventilation conditions. Low concentrations of **VOCs** were detected in air during each round of sampling; however, they do not pose a significant risk to the health of building occupants based on criteria established by the Massachusetts Department of Environmental Protection (MassDEP). The City continues to investigate the sources of these **VOCs**. Some might come from beneath the building, while others might come from **VOC**-containing products used inside the building, such as cleaning materials. Despite TRC's evaluation, which determined that there is no significant risk, further assessment of the presence of **VOCs** in indoor air is underway to confirm these findings.

Assessment of surface soil on the high school campus. TRC has collected approximately 273 soil samples from within the top foot of soil at the high school campus. Samples were tested for **arsenic**, **lead** and other metals, **PCBs** and **polyaromatic hydrocarbons (PAHs)**. These chemicals also were detected in soil samples collected from depths greater than one foot below the ground surface and from soil under pavement (over 1,000 soil samples have been collected from NBHS to date). People would not contact the soil below the top foot or below pavement unless an extensive excavation or disruption of paved areas occurred as part of a future redevelopment or maintenance project. Results of soil samples collected for dioxin and dioxin-like compounds are forthcoming.

<u>The Next Steps</u>

Building materials and furnishings. The City has already begun removing building materials that require removal under EPA's regulations. It will complete this work during the 2010 and 2011 summer vacation periods in accordance with plans approved by the EPA.

Groundwater seep. TRC will continue to address potential **VOC** movement to the indoor air as follows:

- Complete the assessment of seep mitigation options for the Mechanical Room seep;
- Evaluate the effects of ventilation system operation on the levels of **VOCs** in indoor air in NBHS;
- Repeat indoor air testing in selected locations;
- Evaluate options for remediation of groundwater containing **VOCs** near the NBHS; and
- Perform additional sampling of other media (e.g., soil vapors and groundwater) as appropriate.

High School Campus Soil. The City is developing a plan to address impacted soil on the high school campus.

For More Information

Data related to the three studies underway at the high school are posted at the City's website http://www.newbedford-ma.gov/McCoy/sitemap/sitemap.html in the "New Bedford High School (NBHS)" section. Details about TRC's investigation of materials containing PCBs are provided in the March 2010 *Removal and Abatement Plan: New Bedford High School Building Interior PCB Removal & Abatement Plan*. Details about TRC's investigation of groundwater seeps are provided in a Fact Sheet (*Groundwater Seep Investigation Fact Sheet and Sampling Results – March 2010)* and the March 2010 *Immediate Response Action Plan* for RTN 4-22409. Details about the investigation of soil on the campus are provided in *Parker Street Waste Site - Interim Phase II Comprehensive Site Assessment*.

All of these documents are posted on the City's website. If you have additional questions, please contact Cheryl Henlin, City of New Bedford Environmental Stewardship Department, at (508) 991-6188 or email cheryl.henlin@newbedford-ma.gov

GLOSSARY OF TERMS

Arsenic – A chemical element which occurs naturally in the environment. Arsenic was historically used for a variety of purposes, including wood preservatives, herbicides (weed killer), pesticides, and medicine.

Dioxin – This term is commonly used to refer to the compound 2,3,7,8-tetrachlorodibenzo-*p*-dioxin. It is also sometimes referred to as 2,3,7,8-TCDD. Dioxin is found everywhere in the environment and is released through natural processes, such as forest fires and volcanic eruptions, and through industrial processes, such as combustion of industrial waste or chemical manufacturing.

Dioxin-like compound – These compounds are commonly detected in the environment along with dioxin.

Lead – A chemical element which occurs naturally in the environment. Lead is used in building construction, lead-acid batteries, bullets and shot, weights, and is part of solder, pewter, and alloys, and was formerly utilized in paints.

Polyaromatic hydrocarbons (PAHs) – A group of over 100 different chemicals formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances like tobacco or charbroiled meat. PAHs are usually found as a mixture containing two or more of these compounds, such as soot. Some PAHs are manufactured. PAHs are found in coal tar, crude oil, creosote, and roofing tar, but a few are used in medicines or to make dyes, plastics, and pesticides or are components of petroleum.

Polychlorinated biphenyls (PCBs) - Mixtures of up to 209 individual chlorinated compounds. There are no known natural sources of PCBs. Some PCBs can exist as a vapor in air to a limited extent. PCBs have no known smell or taste. PCBs have been used as coolants and lubricants in transformers, capacitors, and other electrical equipment because they do not burn easily and are good insulators. The manufacture of PCBs was stopped in the U.S. in 1977. Products made before 1977 that may contain PCBs include: certain building materials, such as caulking, paint, adhesive and fluorescent lighting fixtures; electrical devices containing PCB capacitors and transformers; and hydraulic oils.

Volatile organic compounds (VOCs) – VOCs include a variety of chemical compounds given off as gases from certain solids or liquids. VOCs are given off by a wide array of products numbering in the thousands. Examples include: paints and lacquers, paint strippers, cleaning supplies, pesticides, building materials and furnishings, office equipment such as copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions. Fuels/petroleum products contain VOCs. All of these products can release VOCs when in use, and, to some degree, when stored.

FACT SHEET

CITY OF NEW BEDFORD'S ENVIRONMENTAL INVESTIGATION OF THE NEW BEDFORD HIGH SCHOOL BUILDING AND CAMPUS

City of New Bedford/TRC, July 2010

This fact sheet describes what has been done to determine that it is safe for people to occupy the New Bedford High School and use the campus. The fact sheet identifies the issues currently being studied at New Bedford High School, summarizes the investigation findings to date, and presents the next steps planned for the ongoing investigations. Terms in bold are defined in the Glossary of Terms at the end of the Fact Sheet.

It is safe for people to occupy New Bedford High School and use the campus around the school.

Inside the high school, TRC Environmental Corporation (TRC), the City's environmental consultant, evaluated the levels of **polychlorinated biphenyls (PCBs)** and **volatile organic compounds (VOCs)** in indoor air and determined that there is no significant risk to the health of building occupants. This evaluation was based on criteria established by the Massachusetts Department of Environmental Protection (MassDEP), as well as criteria for PCBs approved by the U.S. Environmental Protection Agency (EPA). The evaluation assumed that someone spends 8 hours per day, 5 days per week for 27 years in New Bedford High School.

Outside the high school, staff, students, and visitors use the campus for various reasons. Activities include people walking across the campus, participating in outdoor gym classes, or cutting grass. TRC considered how people use the campus in evaluating whether people could potentially be exposed to chemicals in the surface soil (soil that is not beneath pavement). TRC determined that the potential exposures to surface soils do not pose a significant risk, considering the possibility of inhaling dust, eating a small amount of surface soil, and coming into skin contact with surface soil. In reaching this conclusion, TRC considered how often and at what intensity high school staff (such as faculty and maintenance personnel), students, and visitors may use the campus.

Studies Being Conducted

On behalf of the City, TRC is conducting three studies related to the building and campus: 1) evaluation of building materials and furnishings that may contain **PCBs**, development of plans to address these materials and furnishing, and removal of certain materials and furnishings; 2) investigation of groundwater (water located beneath the ground in spaces in the soil) that may enter, or "seep" into New Bedford High School rooms used by maintenance staff; and 3) assessment of soil at the New Bedford High School.

Description of Investigation Findings

Building materials and furnishings. Some building materials at the high school contain **PCBs** at levels regulated by EPA. The City is investigating and removing certain PCB-containing materials. **PCBs** have been detected in indoor air, but these levels were reduced after cleaning and adjusting the ventilation

system, and removing **PCB**-impacted dust in 2007 and 2008. The City is continuing to investigate potential sources of **PCBs** detected in indoor air and options for removing sources.

Investigation of groundwater seeping into basement rooms. TRC is investigating groundwater containing **VOCs** that seeps into the high school mechanical room used by maintenance staff. TRC has focused its investigation on whether **VOCs** may be entering the high school from beneath the school. As part of this investigation, TRC sampled indoor air during February and April of this year. Sampling occurred when the building ventilation system was not operating, when concentrations of **VOCs** in indoor air are expected to be higher than during normal ventilation conditions. Low concentrations of **VOCs** were detected in air during each round of sampling; however, they do not pose a significant risk to the health of building occupants based on criteria established by the Massachusetts Department of Environmental Protection (MassDEP). The City continues to investigate the sources of these **VOCs**. Some might come from beneath the building, while others might come from **VOC**-containing products used inside the building, such as cleaning materials. Despite TRC's evaluation, which determined that there is no significant risk, further assessment of the presence of **VOCs** in indoor air is underway to confirm these findings.

Assessment of surface soil on the high school campus. TRC has collected approximately 273 soil samples from within the top foot of soil at the high school campus. Samples were tested for **arsenic**, **lead** and other metals, **PCBs** and **polyaromatic hydrocarbons (PAHs)**; these results have been compared with Massachusetts Department of Environmental Protection (MassDEP) soil cleanup standards. A subset of these samples was tested for **dioxin** and **dioxin-like compounds**. The **dioxin** and **dioxin-like compounds** are also compared to MassDEP soil cleanup standards, and in this case MassDEP's background concentration for **dioxin** in soil, since the results are close to, and in several cases below, what MassDEP considers background.

These chemicals also were detected in soil samples collected from depths greater than one foot below the ground surface and from soil under pavement (over 1,000 soil samples have been collected from NBHS to date). People would not contact the soils below the top foot or below pavement unless an extensive excavation or disruption of paved areas occurred as part of a future redevelopment or maintenance project.

The Next Steps

Building materials and furnishings. The City has already begun removing building materials that require removal under EPA's regulations. It will complete this work during the 2010 and 2011 summer vacation periods in accordance with plans approved by the EPA.

Groundwater seep. TRC will continue to address potential **VOC** movement to the indoor air as follows:

- Complete the assessment of seep mitigation options for the Mechanical Room seep;
- Evaluate the effects of ventilation system operation on the levels of **VOCs** in indoor air in NBHS;
- Repeat indoor air testing in selected locations;
- Evaluate options for remediation of groundwater containing **VOCs** near the NBHS; and
- Perform additional sampling of other media (e.g., soil vapors and groundwater) as appropriate.

High School Campus Soil. The City is developing a plan to address impacted soil on the high school campus, which includes soil removal and consolidation activities, and placing activity and use limitations (AULs) on portions of the property. These measures will achieve a condition of No Significant Risk for soil exposures for the NBHS campus.

For More Information

Data related to the three studies underway at the high school are posted at the City's website http://www.newbedford-ma.gov/McCoy/sitemap/sitemap.html in the "New Bedford High School (NBHS)" section. Details about TRC's investigation of materials containing PCBs are provided in the March 2010 *Removal and Abatement Plan: New Bedford High School Building Interior PCB Removal & Abatement Plan*. Details about TRC's investigation of groundwater seeps are provided in a Fact Sheet (*Groundwater Seep Investigation Fact Sheet and Sampling Results – March 2010)* and the March 2010 *Immediate Response Action Plan* for RTN 4-22409. Details about the investigation of soil on the campus are provided in *Parker Street Waste Site - Interim Phase II Comprehensive Site Assessment*. Data regarding the soil samples TRC collected for dioxin analysis are provided as part of the July 2010 *Memorandum: Explanation of Dioxin Toxic Equivalents (TEQs).*

All of these documents are posted on the City's website. If you have additional questions, please contact Cheryl Henlin, City of New Bedford Environmental Stewardship Department, at (508) 991-6188 or email cheryl.henlin@newbedford-ma.gov

GLOSSARY OF TERMS

Arsenic – A chemical element which occurs naturally in the environment. Arsenic was historically used for a variety of purposes, including wood preservatives, herbicides (weed killer), pesticides, and medicine.

Dioxin – This term is commonly used to refer to the compound 2,3,7,8-tetrachlorodibenzo-*p*-dioxin. It is also sometimes referred to as 2,3,7,8-TCDD. Dioxin is found everywhere in the environment and is released through nature processes, such as forest fires and volcanic eruptions, and through industrial processes, such as combustion of industrial waste or chemical manufacturing.

Dioxin-like compound – These compounds are commonly detected in the environment along with dioxin and can cause adverse effects in the same way as dioxin, although most are less harmful than dioxin.

Lead – A chemical element which occurs naturally in the environment. Lead is used in building construction, lead-acid batteries, bullets and shot, weights, and is part of solder, pewter, and alloys, and was formerly utilized in paints.

Polyaromatic hydrocarbons (PAHs) – A group of over 100 different chemicals formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances like tobacco or charbroiled meat. PAHs are usually found as a mixture containing two or more of these compounds, such as soot.

Some PAHs are manufactured. PAHs are found in coal tar, crude oil, creosote, and roofing tar, but a few are used in medicines or to make dyes, plastics, and pesticides or are components of petroleum.

Polychlorinated biphenyls (PCBs) - Mixtures of up to 209 individual chlorinated compounds. There are no known natural sources of PCBs. Some PCBs can exist as a vapor in air to a limited extent. PCBs have no known smell or taste. PCBs have been used as coolants and lubricants in transformers, capacitors, and other electrical equipment because they do not burn easily and are good insulators. The manufacture of PCBs was stopped in the U.S. in 1977. Products made before 1977 that may contain PCBs include: certain building materials, such as caulking, paint, adhesive and fluorescent lighting fixtures; electrical devices containing PCB capacitors and transformers; and hydraulic oils.

Volatile organic compounds (VOCs) – VOCs include a variety of chemical compounds given off as gases from certain solids or liquids. VOCs are given off by a wide array of products numbering in the thousands. Examples include: paints and lacquers, paint strippers, cleaning supplies, pesticides, building materials and furnishings, office equipment such as copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions. Fuels/petroleum products contain VOCs. All of these products can release VOCs when in use, and, to some degree, when stored.

FACT SHEET

CITY OF NEW BEDFORD'S INDOOR AIR SAMPLING AT NEW BEDFORD HIGH SCHOOL

Polychlorinated Biphenyl Indoor Air Sampling Results

City of New Bedford/TRC, April 25, 2011

During the February 2011 school vacation, TRC collected 61 air samples for polychlorinated biphenyl (PCB) analysis at New Bedford High School. TRC collected fifty-nine air samples from inside the building, and two samples were collected outside to compare ambient air levels during the sampling event. The sample locations were selected in collaboration with the United States Environmental Protection Agency (EPA) based on previous sampling (20 of the 26 locations that were sampled in 2008 were re-sampled in 2011), the performance of the air handling system, and the presence of lighting fixtures with potential PCB-containing ballasts and/or residues from releases from PCB ballasts detailed in a plan dated November 23, 2010 and posted on the City's website (NBHS→Indoor Studies→Air Handling System Cleaning and Indoor Air Monitoring for PCBs). Validation of the newly collected data was completed in April 2011.

What do the results show?

The PCB indoor air monitoring results are summarized in the attached figures showing the rooms sampled and the associated results. PCBs were detected in three samples (Rooms A-110-1, A-315-1, and A-203-2) at levels greater than 0.3 $\mu g/m^3$ total PCBs, which is the Acceptable Long-Term Average Exposure Concentration that was established by the EPA for the Keith Middle School (KMS) and New Bedford High School (NBHS) PCB air monitoring programs. This value of 0.3 $\mu g/m^3$ total PCBs is based on an occupational exposure (8 hours per day, 250 days per year, for 25 years). PCBs were detected in five samples (Rooms A-112-2, A-311-2, A-307-3, A-212-4, and A-315-4) at levels greater than 0.05 $\mu g/m^3$, which is the level established by the EPA to conduct further investigation regarding the potential sources of PCBs. The rest of the air samples either had PCB detections below the levels discussed above, or PCBs were not detected at all. Of the 18 locations that had also been sampled in 2008, 13 locations had PCB concentrations in 2011 that were at similar levels or lower than levels that were detected in 2008.

What was done during the April 2011 school vacation?

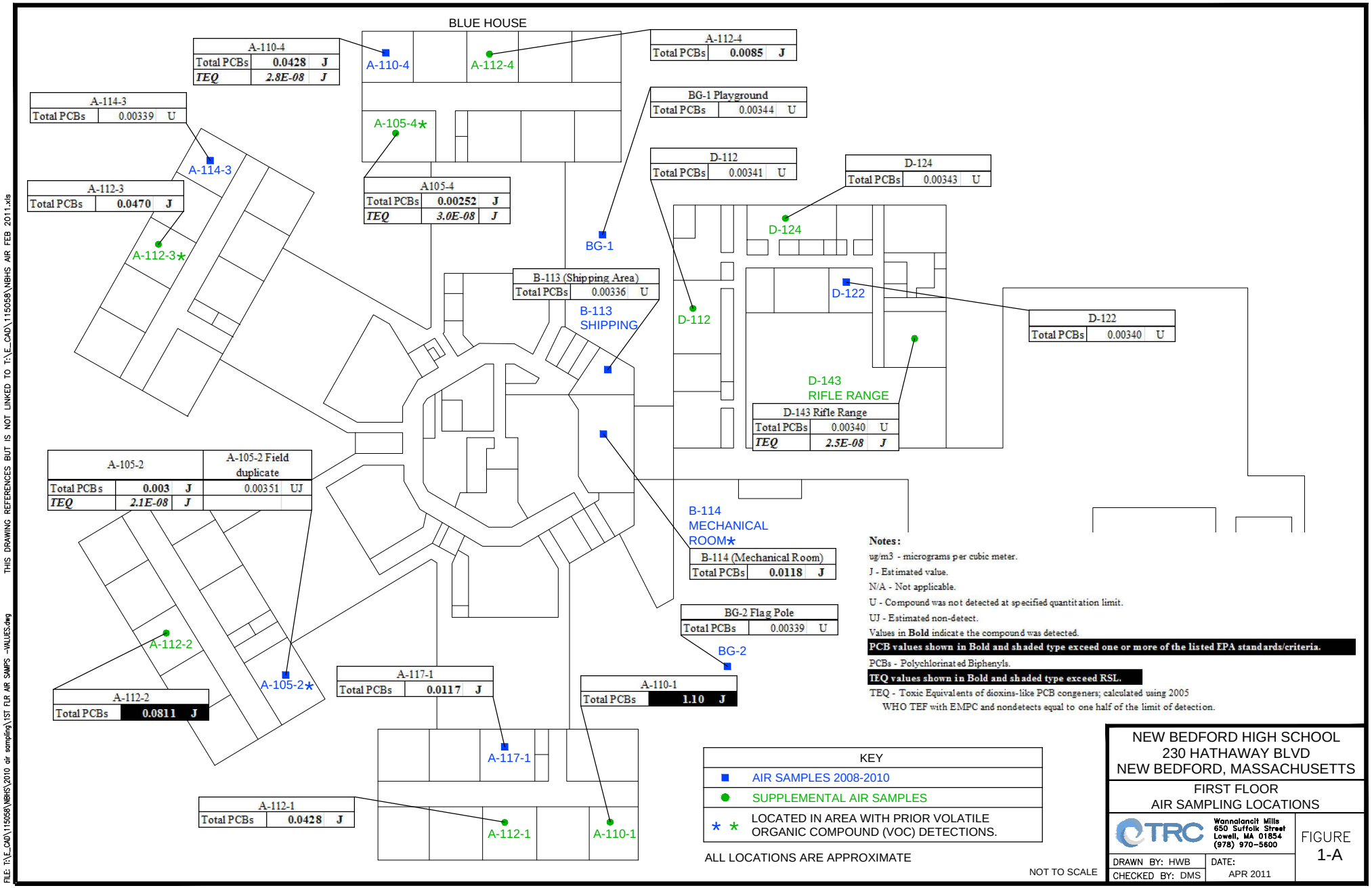
TRC identified light fixtures where old ballasts with PCB oil appear to have leaked, leaving a residue on the metal tray that encloses the wiring and ballast. The light fixture trays were removed from Rooms A-110-1, A-315-1, A-203-2, and A-307-3. TRC also worked with School Department staff to evaluate air-flow in the three rooms where PCBs were detected at levels higher than 0.3 $\mu g/m^3$ and adjusted the unit ventilators so that they would take in more outdoor air. Air samples were re-collected during the April vacation in the eight rooms where PCBs were detected at levels higher than 0.05 $\mu g/m^3$. As a precaution, rooms A-110-1, A-315-1, and A-203-2 will be closed until testing determines levels are below 0.3 $\mu g/m^3$ total PCBs. Preliminary analytical results (pre-validation) for the air samples that were collected during April vacation are expected from the laboratory by the end of this week. It is safe for students and staff to continue using rooms A-112-2, A-311-2, A-307-3, A-212-4, and A-315-4 while the potential sources are under evaluation.

What will be done going forward?

The City and TRC will work to identify any necessary adjustments to the air handling system at the high school and to determine a remediation schedule. Almost 3,000 light fixtures are scheduled for replacement as part of the summer 2011 environmental work (see the March 2011 *Removal and Abatement Plan: NBHS Interior PCBs* on the City's website), including the fixtures noted above.

For More Information

This fact sheet and the full set of validated data tables associated with the February 2011 school vacation sampling are posted on the City's website (http://www.newbedford-ma.gov/McCoy/sitemap/sitemap.html) under "New Bedford High School" (Indoor Studies→Air Handling System Cleaning and Indoor Air Monitoring for PCBs). A memorandum containing a summary of the fluorescent light ballast survey results was issued in February 2011 and is also posted on the City's website (NBHS→Indoor Studies→Building Materials Assessment and Remediation). If you have additional questions, please contact Cheryl Henlin, City of New Bedford Environmental Stewardship Department, at (508) 991-6188 or email cheryl.henlin@newbedford-ma.gov



Notes:

ug/m3 - micrograms per cubic meter.

J - Estimated value.

N/A - Not applicable.

U - Compound was not detected at specified quantitation limit.

UJ - Estimated non-detect.

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

PCB values shown in Bold and shaded type exceed one or more of the listed EPA standards/criteria.

PCBs - Polychlorinated Biphenyls.

TEQ values shown in Bold and shaded type exceed RSL.

TEQ - Toxic Equivalents of dioxins-like PCB congeners; calculated using 2005 WHO TEF with EMPC and nondetects equal to one half of the limit of detection.

NEW BEDFORD HIGH SCHOOL
230 HATHAWAY BLVD
NEW BEDFORD, MASSACHUSETTS

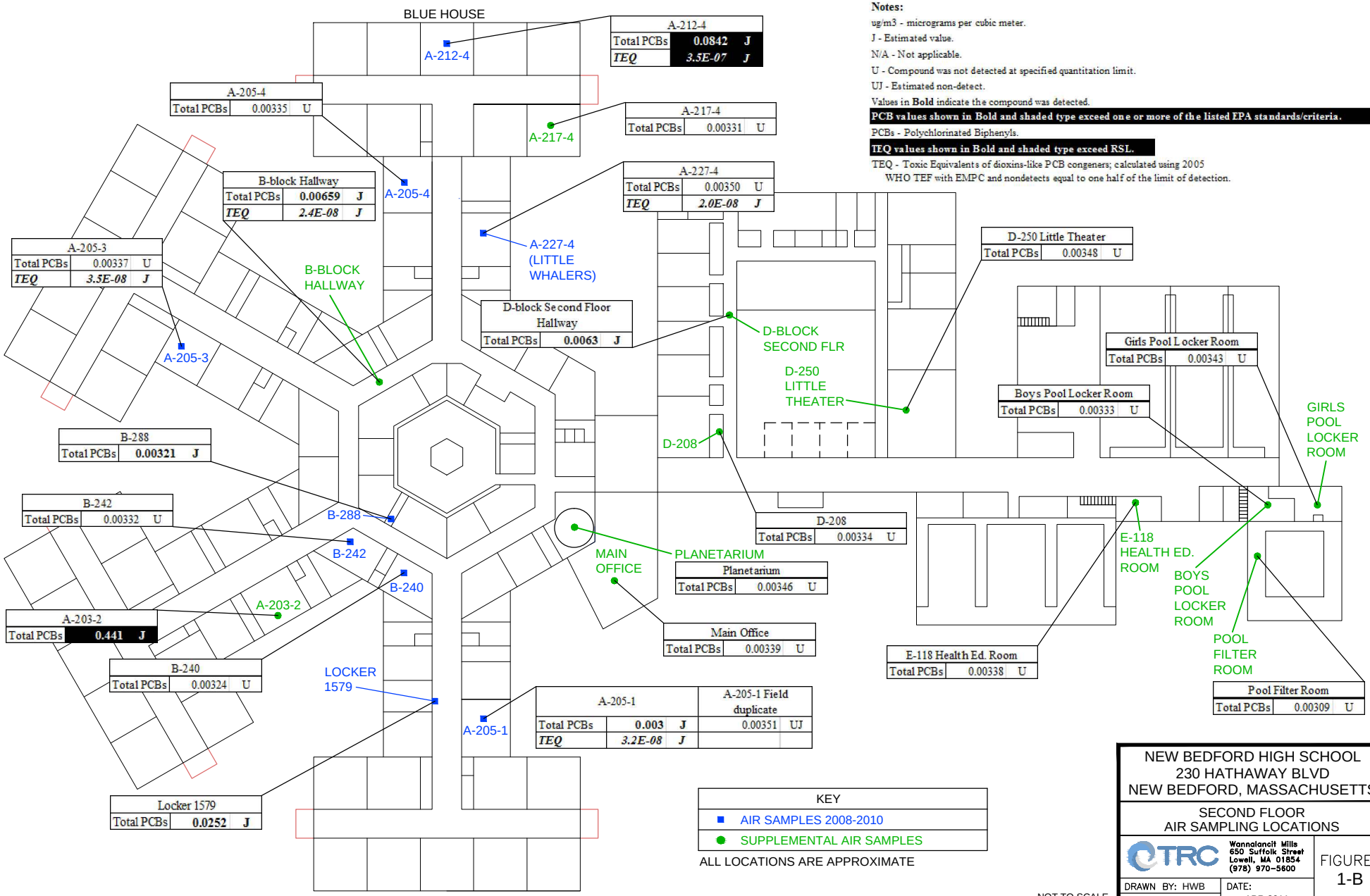
FIRST FLOOR
AIR SAMPLING LOCATIONS

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

DRAWN BY: HWB
CHECKED BY: DMS
DATE: APR 2011

FIGURE 1-A

FILE: T:\E_CAD\115058\NBHS\2010 air sampling\1ST FLR AIR SAMPS -VALUES.dwg THIS DRAWING REFERENCES BUT IS NOT LINKED TO T:\E_CAD\115058\NBHS AIR FEB 2011.xls



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ug/m3 - micrograms per cubic meter.

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PCBs - Polychlorinated Biphenyls.

TEQ values shown in Bold and shaded type exceed RSL.

TEQ - Toxic Equivalents of dioxins-like PCB congeners; calculated using 2005 WHO TEF with EMPC and nondetects equal to one half of the limit of detection.

NEW BEDFORD HIGH SCHOOL
230 HATHAWAY BLVD
NEW BEDFORD, MASSACHUSETTS

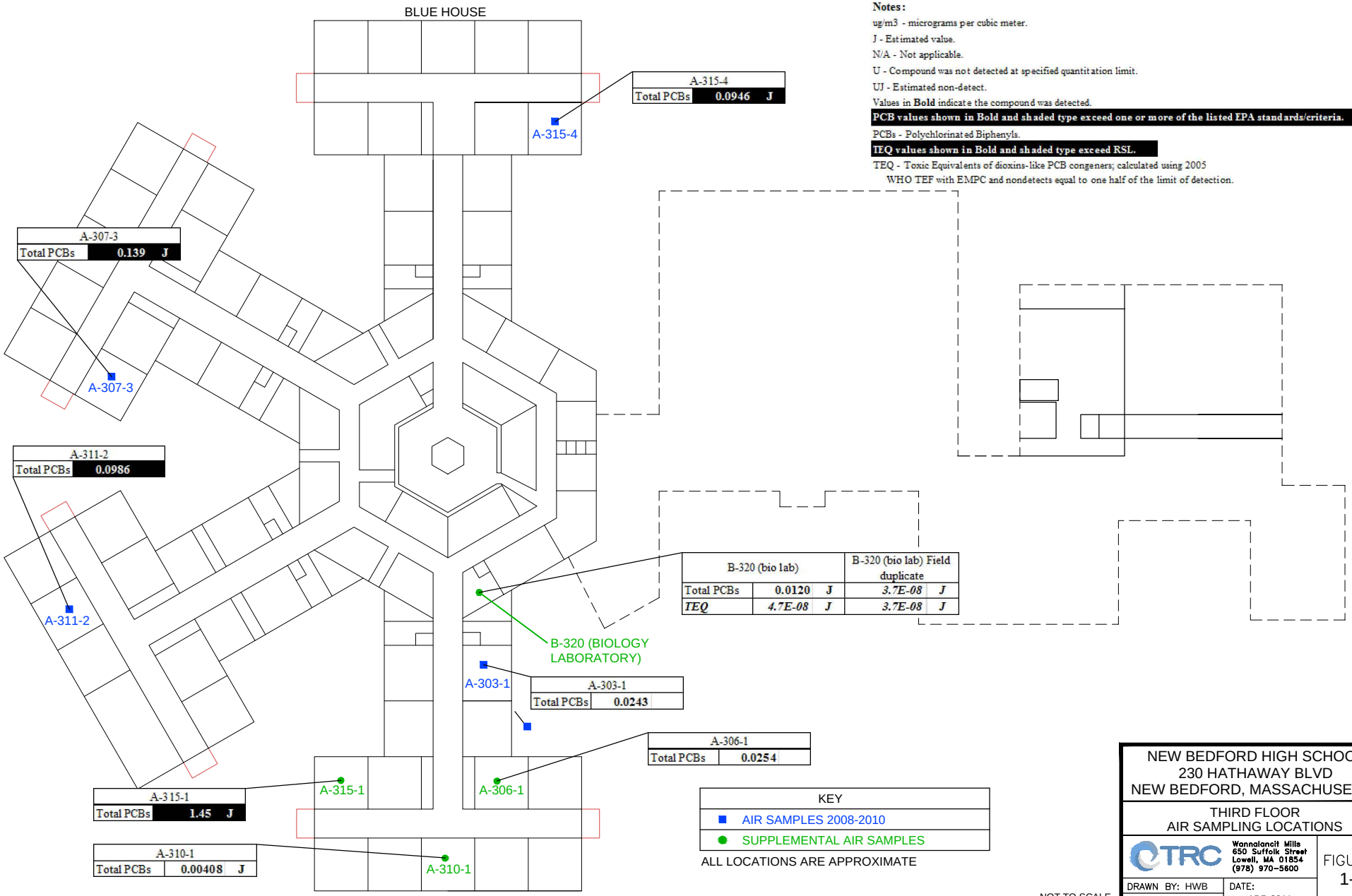
SECOND FLOOR
AIR SAMPLING LOCATIONS

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

DRAWN BY: HWB
CHECKED BY: DMS
DATE: APR 2011

FIGURE 1-B

FILE: T:\E_CAD\115058\NBHS\2010 air sampling\2ND FLR AIR SAMPS -VALUES.dwg THIS DRAWING REFERENCES BUT IS NOT LINKED TO T:\E_CAD\115058\NBHS AIR FEB 2011.xls



Notes:

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J - Estimated value.

N/A - Not applicable.

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PCB values shown in Bold and shaded type exceed one or more of the listed EPA standards/criteria.

PCBs - Polychlorinated Biphenyls.

TEQ values shown in Bold and shaded type exceed RSL.

TEQ - Toxic Equivalents of dioxins-like PCB congeners; calculated using 2005 WHO TEF with EMPC and nondetects equal to one half of the limit of detection.

NEW BEDFORD HIGH SCHOOL
230 HATHAWAY BLVD
NEW BEDFORD, MASSACHUSETTS

THIRD FLOOR
AIR SAMPLING LOCATIONS

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

DRAWN BY: HWB
CHECKED BY: DMS
DATE: APR 2011

FIGURE 1-C

FILE: T:\E_CAD\115058\NBHS\2010 air sampling\3RD FLR AIR SAMPS -VALUES.dwg THIS DRAWING REFERENCES BUT IS NOT LINKED TO T:\E_CAD\115058\NBHS AIR FEB 2011.xls

FACT SHEET

CITY OF NEW BEDFORD'S ENVIRONMENTAL INVESTIGATION OF THE NEW BEDFORD HIGH SCHOOL BUILDING AND CAMPUS

City of New Bedford/TRC, August 2011

This fact sheet describes what the City has done to determine that it is safe for people to occupy the New Bedford High School and use the campus. It summarizes findings since those reported in the April 2011 fact sheet and presents the next steps for the ongoing work. Terms in bold are defined in the Glossary of Terms at the end of the Fact Sheet.

It is safe for people to occupy New Bedford High School and use the campus around the school.

Inside the high school, TRC Environmental Corporation (TRC), the City's environmental consultant, evaluated the levels of **polychlorinated biphenyls (PCBs)** and **volatile organic compounds (VOCs)** in indoor air and determined that there is no significant risk to the health of building occupants in all rooms that were sampled except Rooms A-110-1, A-203-2, and A-315-1, where PCBs were detected in excess of the Acceptable Long-Term Exposure Concentration (ALTEC) of 0.3 micrograms per cubic meter ($\mu g/m^3$). These rooms remain closed as a precaution pending removal of light fixtures and other PCB-containing materials from the high school during the summer of 2011. This evaluation was based on criteria established by the Massachusetts Department of Environmental Protection (MassDEP), as well as U.S. Environmental Protection Agency (EPA) criteria. The evaluation assumed that someone spends 8 hours per day, 5 days per week for 27 years in New Bedford High School.

Outside the high school, staff, students, and visitors use the campus for various reasons. Activities include people walking across the campus, participating in athletic programs, or cutting grass. TRC considered how people use the campus in evaluating whether people could potentially be exposed to chemicals in the surface soil (soil that is not beneath pavement). TRC determined that the potential exposures to surface soils do not pose a significant risk, considering the possibility of inhaling dust, eating a small amount of surface soil, and coming into skin contact with surface soil. In reaching this conclusion, TRC considered how often and at what intensity high school staff (such as faculty and maintenance personnel), students, and visitors may use the campus.

Studies Being Conducted

On behalf of the City, TRC has undertaken three studies related to the building and campus: 1) evaluation of building materials and furnishings that may contain **PCBs**, development of plans to address these materials and furnishings, and removal of certain materials and furnishings; 2) investigation of groundwater (water located beneath the ground in spaces in the soil) that may enter, or "seep" into the New Bedford High School mechanical room used by maintenance staff; and 3) assessment and remediation of soil at the New Bedford High School.

Description of Investigation Findings

Building materials and furnishings. Some building materials at the high school contain **PCBs** at levels regulated by EPA. The City has investigated and removed certain PCB-containing materials. **PCBs** have been detected in indoor air. The levels were reduced after cleaning and adjusting the ventilation system, and removing **PCB**-impacted dust in 2007 and 2008. Additional indoor air sampling (61 samples collected) was conducted in February 2011. This sampling targeted locations with light fixtures that contain old ballasts from which **PCB** oil appears to have leaked, leaving a residue on the metal tray that encloses the wiring and ballast. **PCBs** were detected in three rooms (A-110-1, A-315-1 and A-203-2) in excess of 0.3 $\mu g/m^3$. As a precaution, these rooms were closed until testing determines the levels are below 0.3 $\mu g/m^3$ total **PCBs**.

PCBs were detected in five rooms (A-112-2, A-311-2, A-307-3, A-212-4 and A-315-4) above the EPA level to conduct further potential source investigation of 0.05 $\mu g/m^3$. It is safe for the students and staff to continue using rooms A-112-2, A-311-2, A-307-3, A-212-4 and A-315-4 while investigations are being conducted.

Almost 3,000 light fixtures are being replaced as part of the summer 2011 work, as well as auditorium cushion replacement and targeted paint removal.

Groundwater seeps. The City initiated groundwater seep mitigation activities in the high school mechanical room in December 2010. As of June 2011, TRC has collected samples from 4 seep locations, 34 monitoring wells, 15 storm and sanitary sewer manholes, 17 indoor air locations and 12 subslab vapor locations, and initiated mitigation and remediation activities within the mechanical room.

TRC has conducted five groundwater vacuum extraction events as of July 2011 under a January 2011 Immediate Response Action (IRA) Plan Modification. The groundwater sampling results have indicated that the extractions have been effective in reducing the chlorinated VOC concentrations. In addition, the application of the waterproofing mortar has been successful in eliminating seepage throughout a large portion of the mechanical room. However, a small amount of seepage remains as of June 2011.

TRC has continued to investigate whether **VOCs** may be entering the high school from beneath the school. Low concentrations of **VOCs** were detected in air during sampling; however, they do not pose a significant risk to the health of building occupants based on criteria established by MassDEP. The City continues to investigate the sources of these **VOCs**, including **VOC**-containing cleaning products used inside the building.

Recently, the City has learned of the presence of **PCBs** in materials extracted from beneath the Mechanical Room floor, and is evaluating how this will impact remedial planning and close-out. It is safe for staff to continue working in this area since indoor air levels for **PCBs** for the Mechanical Room are below EPA action levels.

Assessment of high school campus soil. TRC submitted a Final Phase II Comprehensive Site Assessment (CSA) for the high school to MassDEP in April 2011. The Final Phase II CSA included the results of investigations conducted by VHB, BETA and TRC through November 2010 in order to support remedial

planning activities. The Final Phase II CSA included collection and laboratory analyses of soil, groundwater, indoor air and soil gas samples to characterize the nature and extent of impacts at the high school campus.

TRC has advanced approximately 481 soil borings, including surface soil samples, across the high school campus. Samples were tested for **arsenic**, **lead** and other metals, **PCBs**, **polyaromatic hydrocarbons (PAHs),** extractable petroleum hydrocarbons (EPH), volatile petroleum hydrocarbons and/or **VOCs**; these results have been compared with MassDEP soil standards. A subset of these samples was tested for **dioxin** and **dioxin-like compounds**. The **dioxin** and **dioxin-like compounds** are also compared to MassDEP soil standards, and in this case MassDEP's background concentration for **dioxin** in soil, since the results are close to, and in several cases below, MassDEP's published background levels.

The Final Phase II CSA includes a risk characterization of the high school campus. TRC determined that the potential exposures to surface soils in the 0 to 1 foot depth zone do not pose a significant risk, considering the possibility of inhaling dust, eating a small amount of surface soil, and coming into skin contact with surface soil. Various compounds were also detected in soil samples collected from depths greater than one foot below the ground surface and from soil under pavement (over 1,000 soil samples have been collected from NBHS to date). People would not contact the soils below the top foot or below pavement unless an extensive excavation or disruption of paved areas occurred as part of a future redevelopment or maintenance project.

<u>The Next Steps</u>

Building materials and furnishings. The City has already begun removing building materials that require removal under EPA's regulations. It will complete this work during the 2011 summer vacation period in accordance with plans approved by the EPA. The planned activities include the removal and abatement of wall paints, auditorium chairs and fluorescent light fixtures.

Groundwater seep. The City continues to implement groundwater seep mitigation within the mechanical room. The City is also currently evaluating potential remedial alternatives for the impacted groundwater beneath the mechanical room.

High School Campus Soil. TRC submitted a Release Abatement Measure (RAM) Plan on behalf of the City in April 2011 for soil removal, regrading and paving activities. Implementation began during the April 2011 school vacation week. RAM-related activities have continued intermittently through June 2011 as work has been conducted on weekends and holidays.

The remedy underwent further engineering design to accommodate potential future use modifications (e.g., the City has chosen to use of some portions of the campus to generate electric power through solar panel installation, also referred to as a solar park), which is described in the recently submitted Modified RAM Plan. These measures will achieve a condition of No Significant Risk for soil exposures for the high school campus.

The City also conducted additional sampling for **dioxin** and **dioxin-like compounds**. TRC collected nine soil samples the week of June 5, 2011 and the results will be posted on the City's website following

validation. The results will be used to update TRC's evaluation of risk to those using the high school campus.

For More Information

Data related to the three studies underway at the high school are posted at the City's website http://www.newbedford-ma.gov/McCoy/sitemap/sitemap.html in the "New Bedford High School (NBHS)" section. Details about TRC's investigation of materials containing PCBs are provided in the March 2011 *Removal and Abatement Plan: New Bedford High School Building Interior PCB Removal & Abatement Plan*. Details about TRC's investigation of groundwater seeps are provided in a Fact Sheet (*Groundwater Seep Investigation Fact Sheet and Sampling Results – March 2010)*, the March 2010 *Immediate Response Action Plan* for RTN 4-22409, the January 2011 *Immediate Response Action Plan Modification* for RTN 4-22409 and all associated status reports. Details about the investigation of soil on the campus are provided in *Phase II Comprehensive Site Assessment* and *Release Abatement Measure – Soil Excavation and Removal* for the high school campus. Data regarding the first set of soil samples TRC collected for dioxin analysis are provided as part of the July 2010 *Memorandum: Explanation of Dioxin Toxic Equivalents (TEQs).*

If you have additional questions, please contact Cheryl Henlin, City of New Bedford Environmental Stewardship Department, at (508) 991-6188 or email cheryl.henlin@newbedford-ma.gov

GLOSSARY OF TERMS

Arsenic – Naturally occurring chemical element used historically for a variety of purposes, including wood preservatives, herbicides (weed killer), pesticides, and medicine.

Dioxin – Term is commonly used to refer to the compound 2,3,7,8-tetrachlorodibenzo-*p*-dioxin. It is also sometimes referred to as 2,3,7,8-TCDD. Dioxin is found everywhere in the environment and is released through nature processes, such as forest fires and volcanic eruptions, and through industrial processes, such as combustion of industrial waste or chemical manufacturing.

Dioxin-like compound – Compounds commonly detected in the environment along with dioxin and can cause adverse effects like dioxin. Most are less harmful than dioxin.

Lead – Naturally occurring chemical element used in building construction, lead-acid batteries, bullets and shot, weights, and is part of solder, pewter, and alloys, and utilized in paints.

Polyaromatic hydrocarbons (PAHs) – A group of over 100 different chemicals formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances like tobacco or charbroiled meat. PAHs are usually found as a mixture containing two or more of these compounds, such as soot. Some PAHs are manufactured and found in coal tar, crude oil, creosote, and roofing tar, but a few are used in medicines or to make dyes, plastics, and pesticides or are components of petroleum.

Polychlorinated biphenyls (PCBs) - Mixtures of up to 209 individual chlorinated compounds, with no known natural sources. Some PCBs can exist as a vapor in air to a limited extent. PCBs have no known smell or taste. PCBs have been used as coolants and lubricants in electrical equipment because they do not burn easily and are good insulators. PCB manufacture was stopped in the U.S. in 1977. Products made before 1977 that may contain PCBs include: certain building materials, such as caulking, paint, adhesive and fluorescent lighting fixtures; electrical devices containing PCB capacitors and transformers; and hydraulic oils.

Volatile organic compounds (VOCs) – VOCs include a variety of chemical compounds given off as gases from certain solids or liquids. VOCs are given off by a wide array of products numbering in the thousands. Examples include: paints, lacquers, strippers, cleaning supplies, pesticides, building materials and furnishings, office equipment (e.g., copiers and printers), correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions. Fuels/petroleum also contain VOCs. These products can release VOCs when in use, and, to some degree, when stored.

FACT SHEET

CITY OF NEW BEDFORD'S ENVIRONMENTAL INVESTIGATION OF THE NEW BEDFORD HIGH SCHOOL UNIVENT DUST ISSUE

City of New Bedford/TRC, January 2012

Recently, white dust has been observed near certain unit ventilators (univents) in some B-Block classrooms at New Bedford High School. This fact sheet summarizes what is known so far concerning this dust.

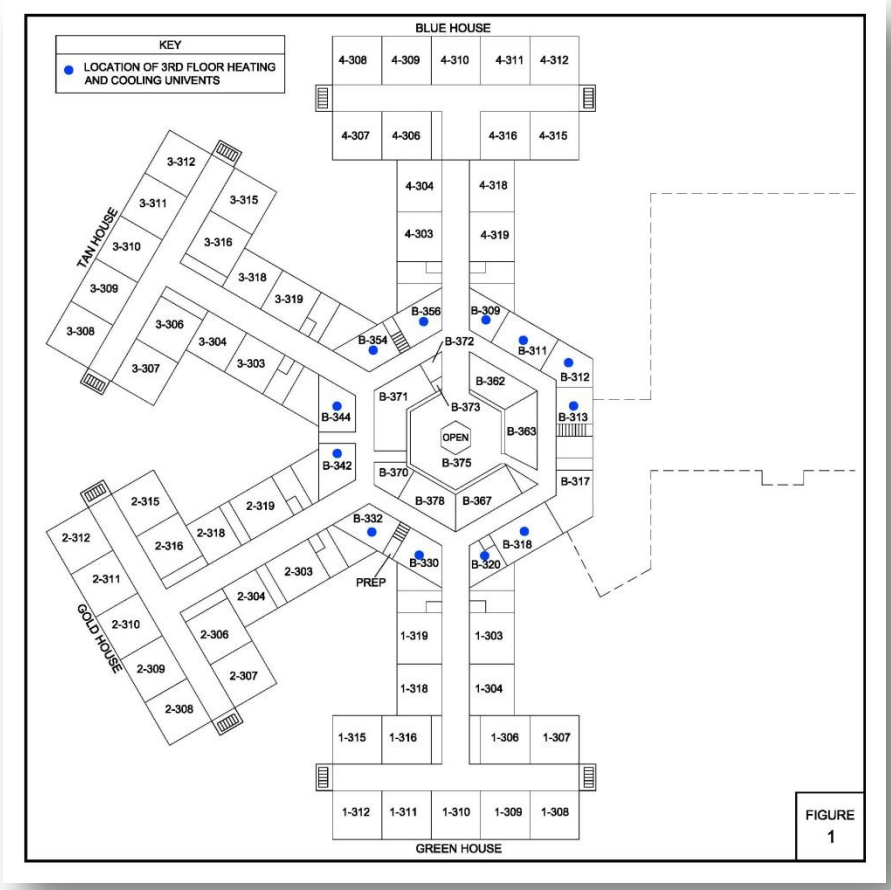
A sample of the white dust was submitted to a laboratory. The laboratory identified the dust as mostly **aluminum oxide,** using microscopic testing. Additional details concerning the testing performed and the results are provided later in this Fact Sheet. Terms in bold are defined in the Glossary of Terms at the end of the Fact Sheet.

Aluminum metal that is exposed to moisture and air will develop a thin coating of material, such as **aluminum oxide,** at its surface. The production of **aluminum oxide** is similar to the more familiar situation where iron in the presence of moisture and air will produce rust. This thin coating, or oxide layer on the aluminum, is soft and can produce a dust if disturbed. The dust has been observed with some of the univents in B-Block. These univents were installed in the summer of 2010 to replace old units that contained an internal coating with polychlorinated biphenyls (PCBs) and improve ventilation. These univents have aluminum metal strips, called fins, to transfer heat or cold from the water circulating in the univents to the air in the room. Each unit also has a fan to move the warmed or cooled air from the fins into the room. Although some formation of **aluminum oxide** is expected over time, a few of the univents inspected had some oxide buildup on the fins. This oxide buildup on the univent fins and its disturbance by the univent fan appears to be the cause of the white dust noticed in the classrooms.

<u>Aluminum oxide is not a health hazard.</u>

Aluminum oxide is a typical component of indoor dust when aluminum metal is present. Unfortunately, there are no indoor air standards or guidelines for aluminum oxide for school buildings or residences. However, the current occupational standard established by the American Conference of Governmental Industrial Hygienists for an 8-hour work day (called a **Threshold Limit Value or TLV)** is 1 milligram of **aluminum oxide** dust per cubic meter (mg/m^3) of air. This amount of **aluminum oxide** in air would cause a visible dust cloud, as opposed to the intermittent bursts of a smaller number of particles observed in the classrooms. The **aluminum oxide** dust is made of large particles that quickly settle onto nearby surfaces rather than staying in the air where they could be inhaled. **Aluminum oxide** dust is considered primarily a nuisance and does not pose a health threat.

Figure 1 shows the location of the rooms where the **aluminum oxide** dust has been observed on the outside of the univent and on other surfaces in the room.



Evaluation of Cause

The change of a metal to a metal oxide, in this case aluminum metal to **aluminum oxide,** occurs when a metal is exposed to moisture and air. This process occurs more rapidly if there is **galvanic corrosion** occurring between two different metals. **Galvanic corrosion** is a process that occurs when one metal corrodes preferentially when both metals are in electrical contact. The damaged metal is converted into its oxide form. We are presently evaluating if the affected univents may have **galvanic corrosion** occurring between the aluminum fins and copper coils that is creating the **aluminum oxide** dust, as well as other potential causes (e.g., moisture buildup). The investigative team includes a Certified Industrial Hygienist (CIH) with experience in indoor air quality, building ventilation and forensic investigations; a mechanical engineering ventilation specialist; School Department staff (engineering, custodial, and maintenance staff); and a technical representative from the univent manufacturer. This team is tasked with determining why the oxide is forming at a faster rate in some of the units.

Steps Taken and Related Findings

The dust was sampled and analyzed using several microscopic techniques and x-ray diffraction. These procedures identified the type of dust particles present in the sample as well as its composition. The analysis showed that 85-percent of the dust sample was **aluminum oxide** and 5-percent iron oxide (rust), with the remaining 10-percent identified as other constituents that are typically found in dust. The univents were also inspected and units with white dust were identified. The univents will be checked by an electrician for proper grounding, followed by the removal of select components for a

detailed inspection and evaluation. In the interim, the School Department will install a filter fabric to intercept nuisance dust until the cause of the dust production is identified and corrected.

Microscopic Analysis Details

The laboratory data report (attached) was obtained using the following equipment and methods:

- Polarized Light Microscopy (PLM)
- epi-Reflected Light Microscopy (RLM)
- Stereo Microscopy
- Scanning Electron Microscopy (SEM)
- Energy-dispersive X-Ray Spectrometry (EDX)

The analysis was performed by a nationally-recognized laboratory specializing in industrial hygiene and indoor air analysis (EMSL Analytical, Incorporated of Cinnaminson, New Jersey).

The Next Steps

The City will continue to investigate the source of the **aluminum oxide** dust and work with the school and installer to correct problems with the univents. Some of the univents have been shut down until the problem is corrected. Although the dust is a nuisance, it is not a health hazard and can be cleaned with normal cleaning procedures.

For More Information

If you have additional questions, please contact Cheryl Henlin, City of New Bedford Environmental Stewardship Department, at (508) 991-6188 or email cheryl.henlin@newbedford-ma.gov.

GLOSSARY OF TERMS

Aluminum oxide – A chemical that occurs naturally in the environment when aluminum metal is exposed to air and moisture. It is used as an abrasive (such as in woodworker's sand paper) and is used as an inert filler in many materials.

Galvanic corrosion – A chemical process in which one metal corrodes preferentially when both metals are in electrical contact and also in contact with an electrolyte solution such as salt water. The same galvanic reaction is used in batteries to generate electricity.

Threshold Limit Value (TLV) – Recommended workplace exposure guidelines that are based on health effects data collected by the American Conference of Governmental Industrial Hygienists**.** TLVs are air concentrations that workers can be exposed to without adverse health effects**.**

EMSL Analytical, Inc.

200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 858-4800

Attn.: *Dave Sullivan*
TRC Environmental
650 Suffolk St.
Lowell, MA 01854

Phone: 978-656-3565

EMSL Case No.: 361200061
Sample(s) Received: 1/07/2012
Date of Analysis: 1/11/2012
Date Printed: 1/11/2012
Reported By: M. Johnson
Email: dsullivan@trcsolutions.com

- Laboratory Report -

Full Particle Identification

Project: NBHS/115058.820.3

Conclusions:

- Sample "NBHS-UV-1" is composed primarily of aluminum oxide. Rust (iron oxides), paper pulp, quartz, and calcite/ dolomite were identified as minor components.

Procurement of Samples and Analytical Overview:

The material for analysis (one bulk sample) arrived at EMSL Analytical (Cinnaminson, NJ) on January 7, 2012. The package arrived in satisfactory condition with no evidence of damage to the contents. The purpose of the analysis is to determine the identification of the individual components. The data reported herein has been obtained using the following equipment and methodologies.

Methods & Equipment:
Polarized Light Microscopy (PLM)
epi-Reflected Light Microscopy (RLM)
Stereo Microscopy
Scanning Electron Microscopy (SEM)
Energy-dispersive X-Ray Spectrometry (EDX)

Analyzed by: 1/11/2012

Melanie Johnson
Materials Analyst

Date

Reviewed/Approved: 1/11/2012

Dana D'Ulisse
Approved Signatory

Eugenia Mirica, Ph.D.
Laboratory Manager

Date

EMSL Analytical, Inc.

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Sample #:	NBHS-UV-1		*Description:*	Particulate From Unit Ventilator	
Nuisance Particulate:		(%)	Biological Particulate:		(%)
Asbestos:	(Total)	ND	Mold:	(Total)	ND
MMVF's:	Fibrous Glass	<1	Pollen:	(Total)	ND
	Mineral Wool	ND	Diatoms:	(Total)	ND
	Ceramic Fibers	ND	Insect Fragments:	(Total)	ND
Glass:	Fragments	<1			

Common Particulate:		(%)			(%)
Cellulosic:	Processed	ND		Rust (Iron Oxides)	5
	Natural	<1		Aluminum Oxide	85
	Wood	<1		Zinc Oxide	ND
	Paper Pulp	1		Paint Dust	ND
	Starch	ND		Quartz	1
				Calcite/ Dolomite	1
Synthetic:	(Total)	ND		Gypsum/ Anhydrite	<1
				Clay/ Feldspars	ND
	Human Hair	ND		Plaster	ND
	Animal Hair	ND		Cement	ND
	Skin Fragments	ND			
Unidentified:	Inert Organics	1	Unidentified:	Inorganics	1

Additional Particulate:	
	None

LOD ~1%

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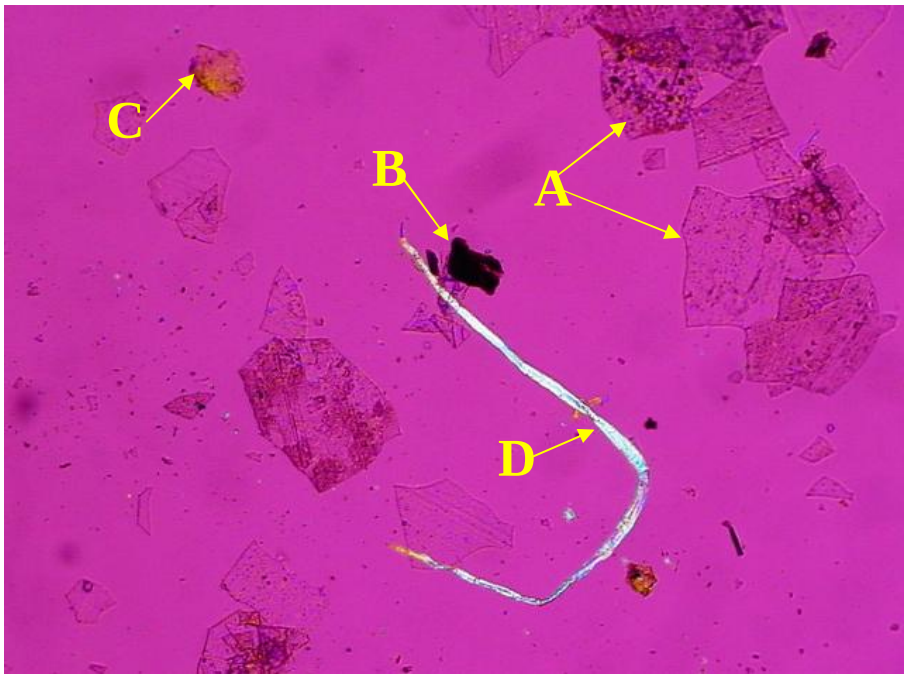

Figure 1: PLM image of the material in sample "NBHS-UV-1"
A: Aluminum Oxide
B: Rust (Iron Oxides)
C: Quartz
D: Paper Pulp

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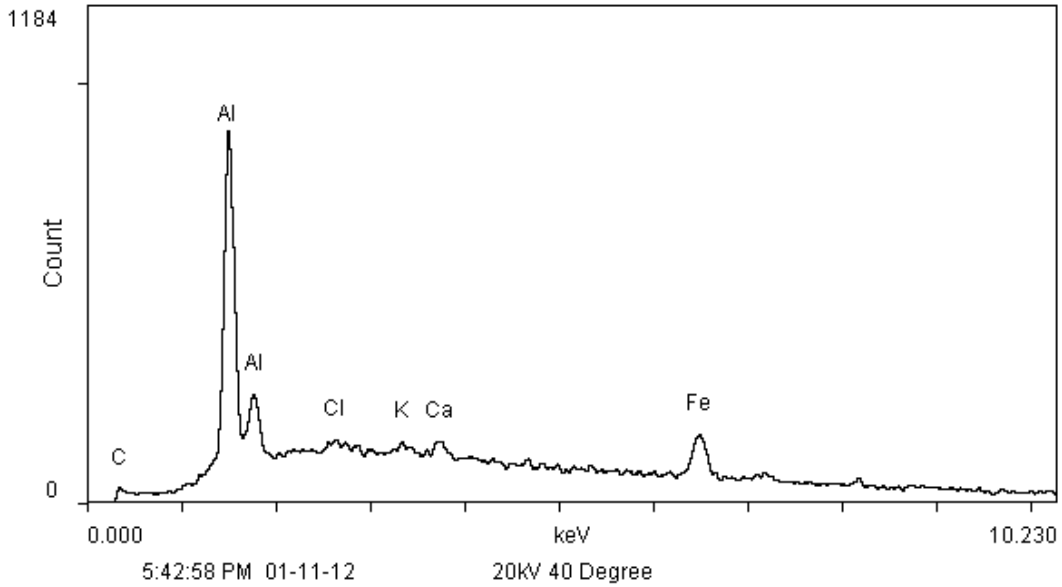

Figure 2: SEM/ EDX elemental spectrum of sample "NBHS-UV-1" indicating the presence of aluminum (Al) oxide, rust (iron (Fe) oxides), calcite/ dolomite ($CaCO_3$/ $CaMg(CO_3)_2$), and organic/carbon (C) based particulate (cellulose, etc.). The sample was coated with gold (Au) prior to analysis to minimize electron charging.

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Descriptions & Definitions:

None Detected (ND) denotes the absence of analyte in the subsample analyzed. Trace levels of the analyte may be present in the sample below the limit of detection (LOD).

Limit of Detection (LOD): The minimum concentration that can be theoretically achieved for a given analytical procedure in the absence of matrix or sample processing effects. Particle analysis is limited to a single occurrence of an analyte particle in the sub-sample analyzed.

Limit of Quantitation (LOQ): The minimum concentration of an analyte that can be measured within specified limits of precision and accuracy during routine laboratory operating conditions

Concentrations for bulk samples are derived from Visual Area Estimation (VAE) unless otherwise noted. Air sample concentrations are calculated to particles per unit volume.

VAE technique estimates the relative projected area of a certain type of particulate from a mixture of particulate by comparison to data derived from analysis of calibration materials having similar texture and particulate content. Due to bi-dimensional nature of the measurements, in some cases the particle thickness could affect the results.

Important Terms, Conditions, and Limitations:

Sample Retention: Samples analyzed by EMSL will be retained for 60 days after analysis date. Storage beyond this period is available for a fee with written request prior to the initial 30 day period. Samples containing hazardous/toxic substances which require special handling may be returned to the client immediately. EMSL reserves the right to charge a sample disposal or return shipping fee.

Change Orders and Cancellation: All changes in the scope of work or turnaround time requested by the client after sample acceptance must be made in writing and confirmed in writing by EMSL. If requested changes result in a change in cost the client must accept payment responsibility. In the event work is cancelled by a client, EMSL will complete work in progress and invoice for work completed to the point of cancellation notice. EMSL is not responsible for holding times that are exceeded due to such changes.

Warranty: EMSL warrants to its clients that all services provided hereunder shall be performed in accordance with established and recognized analytical testing procedures and with reasonable care in accordance with applicable federal, state and local laws. The foregoing express warranty is exclusive and is given in lieu of all other warranties, expressed or implied. EMSL disclaims any other warranties, express or implied, including a warranty of fitness for particular purpose and warranty of merchantability.

Limits of Liability: In no event shall EMSL be liable for indirect, special, consequential, or incidental damages, including, but not limited to, damages for loss of profit or goodwill regardless of the negligence (either sole or concurrent) of EMSL and whether EMSL has been informed of the possibility of such damages, arising out of or in connection with EMSL's services thereunder or the delivery, use, reliance upon or interpretation of test results by client or any third party. We accept no legal responsibility for the purposes for which the client uses the test results. EMSL will not be held responsible for the improper selection of sampling devices even if we supply the device to the user. The user of the sampling device has the sole responsibility to select the proper sampler and sampling conditions to insure that a valid sample is taken for analysis. Any resampling performed will be at the sole discretion of EMSL, the cost of which shall be limited to the reasonable value of the original sample delivery group (SDG) samples. In no event shall EMSL be liable to a client or any third party, whether based upon theories of tort, contract or any other legal or equitable theory, in excess of the amount paid to EMSL by client thereunder.

The data and other information contained in this report, as well as any accompanying documents, represent only the samples analyzed. They are reported upon the condition that they are not to be reproduced wholly or in part for advertising or other purposes without the written approval from the laboratory.

ENVIRONMENTAL FACT SHEET

CITY OF NEW BEDFORD'S DEMOLITION ACTIVITIES AT 101, 102, AND 111 GREENWOOD STREET AND 98, 108, AND 118 RUGGLES STREET

CITY OF NEW BEDFORD/TRC, JUNE 2010

This fact sheet describes the results of environmental investigations that have been conducted at the six properties acquired by the City, what to expect during demolition, an estimated timeframe for demolition, and best management practices that will be applied during demolition to protect the health and safety of people living, working, and/or visiting at properties next to the acquired properties. Terms in bold are defined in the Glossary of Terms at the end of the Fact Sheet.

Results of environmental investigations

The City's previous environmental consultant, BETA Group, Inc. (BETA), collected soil samples at all six properties from December 2005 through June 2006. The City's current environmental consultant, TRC Environmental Corporation (TRC), collected more soil samples at 102 Greenwood Street in June 2008. Several of the soil samples had chemical concentrations above their applicable Massachusetts Contingency Plan (MCP) soil cleanup standards. Detected chemicals included **polyaromatic hydrocarbons (PAHs)**, metals, **polychlorinated biphenyls (PCBs)**, and **total petroleum hydrocarbons (TPH)**. Three properties, 101 and 102 Greenwood Street and 118 Ruggles Street, had at least one soil sample with levels of **PCBs** that were more than 50 milligrams per kilogram (mg/kg), which requires the Environmental Protection Agency (EPA) to oversee site activities under the Toxic Substances Control Act (TSCA). Although not required, the City installed one chain-link, locked fence around 102 Greenwood Street and another chain-link, locked fence around the remaining five properties to limit access.
In March and April 2010, samples of the concrete foundations were collected to determine whether the foundations had been impacted by PCBs potentially present in the surrounding soil, and to help evaluate how the foundations will be managed. PCBs were detected in the subgrade concrete foundation at 102 Greenwood Street at concentrations that would require EPA regulation, and will be disposed of at a licensed disposal facility. At 118 Ruggles Street, PCBs were also detected in a layer of insulating foam on the outside of the foundation at concentrations that would require EPA regulation, but not in the foundation itself. The City plans to separate the foam from the foundation and dispose of it at a licensed disposal facility. If the City is not able to remove the foam from the foundation, the foundation will be sent off-site for disposal. The foundations at the other four properties do not require EPA regulation. These foundations will be crushed on-site and left in place per Massachusetts Department of Environmental Protection (MassDEP) guidelines for recycling concrete.

What to expect during demolition and estimated timeframes

After receiving approval of demolition plans from MassDEP and EPA, the City anticipates demolition activities will be completed within five weeks of continuous work, ending no later than mid-August 2010 (assuming a start date no later than July 12th). This schedule includes up to one week to bring heavy equipment and other materials to the site (mobilization), two weeks for demolition, and two weeks for backfilling and restoration. Prior to demolition, debris around the yards will be removed. Shrubs and trees requiring removal will be cut to ground level and removed. The City's Department of Public Infrastructure (DPI), working with the Department of Environmental Stewardship and TRC, will demolish the buildings. The demolition materials (other than concrete foundation materials) will be placed directly into roll off containers and disposed of at New Bedford Waste Services' facility on

Shawmut Avenue in New Bedford. Foundation materials will be managed as discussed previously. Backfill material that has been tested to ensure that it meets Massachusetts soil cleanup standards will be delivered to the site, and an excavator will be used to spread, compact, and grade the material so that the footprints of the houses are filled in to match the existing surrounding grade. The City will cover the disturbed areas with approximately 3- to 4-inches of loam, and will spread grass seed or hydroseed.

Best management practices

*Equipment Decontamination***.** Equipment that comes into direct contact with concrete determined to be actual or potential **PCB Remediation Waste** or with soil will be dry brushed and swabbed with a solvent prior to leaving the site. This includes decontaminating equipment when it is moved between 102 Greenwood Street and the other five properties. The excavator will move around the properties on steel plates as much as possible to minimize contact with soil around the houses.

*Dust monitoring***.** TRC will conduct real-time dust monitoring upwind and downwind of the work area during building demolitions, foundation removal, basement slab breaking, and backfilling activities. TRC will also place one dust monitor between the work zone and the nearest property (e.g., residence, school, etc.) regardless of the wind direction. If dust levels exceed the EPA National Ambient Air Quality Standard at sampling locations for 15 minutes or longer, City staff will increase dust suppression activities (i.e., water sprays).

*Volatile organic compound (VOC) air monitoring***. VOC** air monitoring will be performed using an instrument called a photo-ionization detector (PID). Since **VOCs** have not been detected in soil, they are not expected to be detected in air in significant quantities during demolition, but field monitoring of the breathing zone for **VOCs** will be conducted as a precaution. TRC will also periodically monitor VOCs at the dust monitoring stations during instrument checks.

For More Information

The full Revised Modified Release Abatement Measure Plan for the acquired properties, which includes a more complete discussion of the items highlighted in this fact sheet, is posted at the City's website http://www.newbedford-ma.gov/McCoy/sitemap/sitemap.html; filed under the "Acquired Properties" heading. The results of the concrete foundation sampling are presented in the memorandum titled "Residential Foundation Sampling Results" (May 2010), which is also available on the City's website. Future plans for the properties are under evaluation. If you have additional questions, please contact Cheryl Henlin, City of New Bedford Environmental Stewardship Department, at (508) 991-6188 or email cheryl.henlin@newbedford-ma.gov.

GLOSSARY OF TERMS

Polyaromatic hydrocarbons (PAHs) - A group of over 100 different chemicals formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances like tobacco or charbroiled meat. PAHs are usually found as a mixture containing two or more of these compounds, such as soot. Some PAHs are manufactured. PAHs are found in coal tar, crude oil, creosote, and roofing tar, but a few are used in medicines or to make dyes, plastics, and pesticides or are components of petroleum.

Polychlorinated biphenyls (PCBs) – Mixtures of up to 209 individual chlorinated compounds. There are no known natural sources of PCBs. Some PCBs can exist as a vapor in air to a limited extent. PCBs have no known smell or taste. PCBs have been used as coolants and lubricants in transformers, capacitors, and other electrical equipment because they do not burn easily and are good insulators. The manufacture of PCBs was stopped in the U.S. in 1977. Products made before 1977 that may contain PCBs include: certain building materials, such as caulking, paint, adhesive and fluorescent lighting fixtures; electrical devices containing PCB capacitors and transformers; and hydraulic oils.

PCB Remediation Waste –Materials (in this case, foam and concrete foundations) whose source of PCBs is the release from a source containing PCBs at a concentration greater than 50 mg/kg (in this case, soil) and not from manufacture.

Total petroleum hydrocarbons (TPH) – A large family of several hundred chemical compounds that originally come from crude oil. Scientists divide TPH into groups of petroleum hydrocarbons that act alike in soil or water. Some chemicals that may be found in TPH are hexane, jet fuels, mineral oils, benzene, toluene, xylenes, naphthalene, and fluorene, as well as other petroleum products and gasoline components. However, it is likely that samples of TPH will contain only some, or a mixture, of these chemicals. (Source: ATSDR ToxFAQs for TPH, August 1999)

Volatile organic compounds (VOCs) - VOCs include a variety of chemical compounds given off as gases from certain solids or liquids. VOCs are given off by a wide array of products numbering in the thousands. Examples include: paints and lacquers, paint strippers, cleaning supplies, pesticides, building materials and furnishings, office equipment such as copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions. Fuels/petroleum products contain VOCs. All of these products can release VOCs when in use, and, to some degree, when stored.

ENVIRONMENTAL FACT SHEET

Paul F. Walsh Field Varsity Baseball Field and Spectator Area

Parker and Hunter Streets, New Bedford, MA

City of New Bedford/TRC, February 2010

Is it safe for people to use the varsity baseball field and spectator area at Walsh Field given the City's ongoing investigation of historic waste disposal in this area and the potential for soil contamination?

Yes. The City's environmental consultant, TRC Environmental (TRC), evaluated whether the exposed surface soils at the varsity field and adjacent spectator area at Walsh Field, shown in Figure 1, posed risk for baseball players, coaches, other baseball staff, and spectators. Exposed surface soils are within the top foot of the ground surface and not covered by pavement or clean fill material. To evaluate potential exposures, TRC collected soil samples from within one foot of the ground surface and had them analyzed for chemicals identified at the Parker Street Waste Site. Results were compared to two sets of values established by the Massachusetts Department of Environmental Protection (MassDEP): (1) soil cleanup standards for residential use, and (2) natural background concentrations of chemicals in soil, which represent natural, undisturbed conditions. This comparison is shown in Table 1. In the top foot of soil, the concentration for arsenic exceeds the MassDEP residential standard, which is an acceptable exposure concentration for residential areas. However, the standard is based, in part, on an assumption that the property is used for residences. If the property was used for residences, people living there would be present more frequently and over a longer period of time than those who currently use the varsity field and spectator area. Therefore, results were also used to evaluate risk associated with current use of the varsity field and spectator area. Based on this evaluation, concentrations of all chemicals in the top foot of soil are not associated with significant risk as defined by MassDEP. The conclusion of "no significant risk" for the top foot of soil at the field and spectator area is based on standard procedures and criteria established and published by the MassDEP. "No significant risk" is a level of risk that requires no further action under Massachusetts regulations**.** However, higher chemical concentrations have been detected more than one foot below the ground surface and beneath clean fill material that will require additional remedial action during the summer of 2010.

What chemicals have been found at the varsity baseball field and spectator area at Walsh Field and how deep are they located?

In 2009, TRC detected arsenic concentrations at the varsity baseball field that warranted swift removal of soil and placement of clean fill material in accordance with MassDEP regulations and guidance. Subsequent to this cleanup, TRC collected additional soil samples from the varsity field and spectator area to determine if additional cleanup action is needed. TRC has collected 159 soil samples from within the top foot of soil at the varsity baseball field and spectator area in which arsenic and other metals have been detected and, less frequently, polychlorinated biphenyls (PCBs) and polyaromatic hydrocarbons (PAHs). All of these chemicals have been detected in the top foot of soil at concentrations that do not pose a significant risk to the health of people using the varsity field. These chemicals also were detected in an additional 350 soil samples collected from depths greater

than one foot below ground surface and from areas made inaccessible by pavement or clean fill material. These samples were collected to find out where the chemicals are located. People would not contact these soils unless an extensive excavation or disruption of paved areas occurred as part of a future redevelopment.

How might people be exposed to soil at the varsity field and spectator area at Walsh Field and why did TRC conclude that they would not be exposed to contamination that could harm their health?
Baseball players, coaches, and others using the field might contact the surface layer of soil on the varsity field if it sticks to their skin as a result of direct contact or excessive dust, enters the air as dust and is inhaled, or is eaten. Spectators similarly may contact the surface layer of soil in the spectator area adjacent to the varsity field, but fencing prevents spectators from entering the varsity field. TRC evaluated the degree to which people using the varsity field and spectator area could be exposed to chemicals in exposed surface soil (soil that is not beneath pavement or clean fill material). Whether chemicals pose a risk to people using the property depends on the amount of chemical they are exposed to and the chemical's potential to impact health. TRC determined that the exposure concentrations for exposed surface soils do not pose a significant risk for people using the varsity field and spectator area. Higher chemical concentrations have been detected more than one foot below the ground surface or beneath clean fill material that will require additional remedial action, but players and spectators will not come into contact with these chemicals.

How can we be certain that the work performed by the City is complete and accurate?
The City uses a highly qualified and experienced environmental consulting team to gather and interpret data from Walsh Field. Dave Sullivan serves as TRC's project manager. Mr. Sullivan is a Certified Hazardous Materials Manager (CHMM) and is a Licensed Site Professional, or LSP. LSPs are the scientists and engineers licensed by the Commonwealth of Massachusetts to oversee the assessment and cleanup of contamination that has been released into the environment. LSPs are governed by the Board of Registration of Hazardous Waste Site Cleanup Professionals. The consulting team also includes Dr. Donna Vorhees, of the Science Collaborative. Dr. Vorhees holds a master's degree and doctoral degree in Environmental Health from the Harvard School of Public Health and has particular expertise in PCBs. The work performed by the City's consulting team is coordinated by the scientists and engineers with the City's Environmental Stewardship Department, and is closely overseen by scientists and engineers at federal and state regulatory agencies, where applicable, including the U.S. Environmental Protection Agency, the MassDEP, and the Massachusetts Department of Public Health.

Who should I contact if I have additional questions?
Cheryl Henlin, City of New Bedford Environmental Stewardship Department, at (508) 991-6188 or email cheryl.henlin@newbedford-ma.gov
Molly Cote, MassDEP at (508) 946-2792 or email molly.cote@state.ma.us
Kim Tisa, USEPA at (617) 918-1527 or email tisa.kimberly@epa.gov

Table 1. Comparison of Chemical Concentrations in Soil with Massachusetts Department of Environmental Protection Standards and Natural Background (mg/kg, dw) [1]

Varsity Field and Spectator Area, Walsh Field, New Bedford High School

Chemical	Lowest Applicable MassDEP Residential Standard	MassDEP Natural Background Concentration that represents undisturbed, natural conditions [2]	Exposure Point Concentration (EPC), which is the average concentration in exposed surface soil across the varsity field and the spectator area	
			VARSITY FIELD (0 to 1 foot) below the ground surface	SPECTATOR AREA (0 to 1 feet) below the ground surface
Polycyclic Aromatic Hydrocarbons (PAHs)				
Anthracene	1,000	1	All results below MassDEP natural background	
Benzo(a)anthracene	7	2	All results below MassDEP natural background	
Benzo(a)pyrene	2	2	All results below MassDEP natural background	
Benzo(b)fluoranthene	7	2	All results below MassDEP natural background	
Benzo(g,h,i)perylene	1,000	1	All results below MassDEP natural background	
Benzo(k)fluoranthene	70	1	All results below MassDEP natural background	
Chrysene	70	2	All results below MassDEP natural background	
Fluoranthene	1,000	4	All results below MassDEP natural background	
Indeno(1,2,3-cd)pyrene	7	1	All results below MassDEP natural background	
Phenanthrene	500	3	All results below MassDEP natural background	
Pyrene	1,000	4	All results below MassDEP natural background	
Total PCBs				
PCBs	2	not available	0.056	0.049
Metals				
Arsenic	20	20	**46** [3]	All results below MassDEP natural background
Barium	1,000	50	74 [4]	73 [4]
Beryllium	100	0.4	All results below MassDEP natural background	Not detected in any sample
Cadmium	2	2	All results below MassDEP natural background	
Chromium III	1000	30	26	All results below MassDEP natural background
Lead	300	100	58	86
Mercury	20	0.3	All results below MassDEP natural background	
Nickel	20	20	14	All results below MassDEP natural background
Silver	100	0.6	0.76	1.5 [4]
Vanadium	600	30	23	All results below MassDEP natural background
Zinc	2,500	100	52	All results below MassDEP natural background

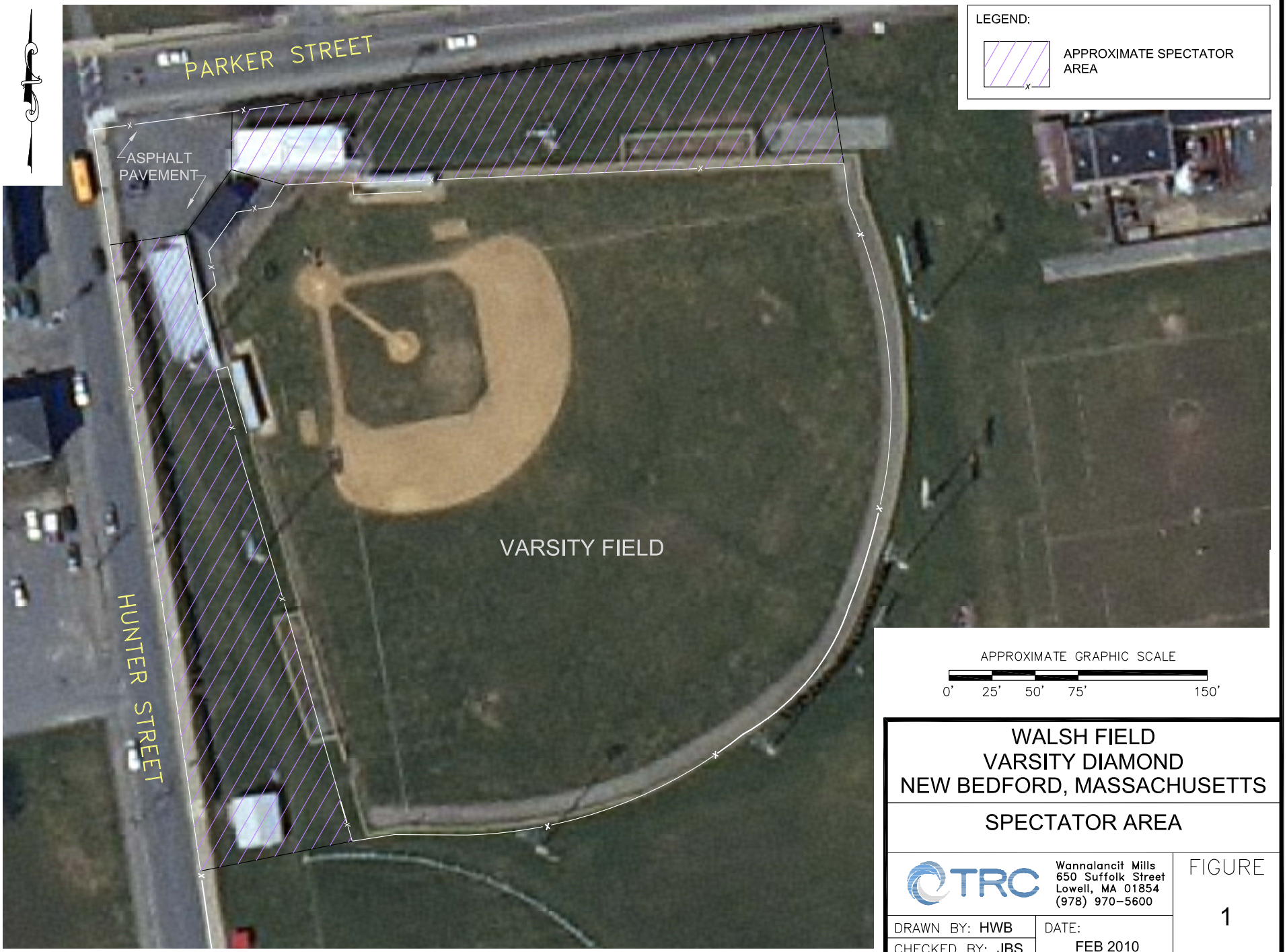
Notes:

[1] mg/kg, dw = milligram per kilogram, dry weight

[2] Source of MassDEP natural background concentrations: MassDEP. 2002. Technical Update: Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil Updates: Section 2.3 Guidance for Disposal Site Risk Characterization – In Support of the Massachusetts Contingency Plan (1992).

[3] Bold, underlined concentration exceeds the applicable MassDEP standard. However, given current uses of the varsity field and spectator area, the concentrations of all chemicals in the top foot of soil are not associated with significant risk as defined by MassDEP.

[4] Underlined concentrations exceed MassDEP's background concentration, but are not associated with significant risk as defined by MassDEP.



WALSH FIELD
VARSITY DIAMOND
NEW BEDFORD, MASSACHUSETTS

SPECTATOR AREA

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

FIGURE 1

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

FILE: T:\E_CAD\115058\WALSH VARSITY SPECTATORS.dwg

ENVIRONMENTAL FACT SHEET

CITY OF NEW BEDFORD'S INVESTIGATION AND CLEANUP OF WALSH FIELD

CITY OF NEW BEDFORD/TRC, JUNE 2010

This fact sheet describes what has been done to determine that it is safe for people to use Walsh Field, current conditions, and work planned for the summer of 2010. Terms in bold are defined in the Glossary of Terms at the end of the Fact Sheet.

It is safe for people to use Walsh Field.

The City's previous environmental consultant, BETA Group Inc. (BETA), and its current environmental consultant, TRC Environmental (TRC), collected soil samples at Walsh Field from 2006 through 2009. The sampling results identified several areas of impacted soils in surface soil and soil deeper than one foot where soil was removed and brought to an appropriate disposal facility. The soil was replaced with clean backfill.

Current conditions

Surface Soil (one foot or less). TRC determined that the potential exposures to surface soil (soil that is not beneath pavement or clean fill material) for students, staff, and visitors who use the field do not pose a significant risk, as defined by the Massachusetts Department of Environmental Protection (MassDEP). People using the field might contact the surface layer of soil if it sticks to their skin as a result of direct contact or excessive dust, enters the air as dust and is inhaled, or is eaten. TRC considered the degree to which people using the field could potentially be exposed to chemicals in surface soil in reaching its determination of no significant risk.

Soil Deeper than one foot. Samples from soils more than one foot below the ground surface and beneath clean fill material at the Varsity Baseball Field showed detections of **arsenic** and other metals and **polyaromatic hydrocarbons (PAHs)** at levels above MassDEP clean-up standards. People would not contact this soil unless an extensive excavation occurred as part of a future redevelopment and/or maintenance project.

Polychlorinated biphenyls (PCBs) have never been detected above regulatory thresholds in surface soil or soil deeper than one foot at Walsh Field.

The Next Steps

The City anticipates completing response actions to excavate and dispose of soil deeper than one foot at the Varsity baseball field during the summer of 2010. The City will continue to post notice of all investigation reports and response action activities at its website.

For More Information

The full details of response actions that have taken place on the Varsity and Junior Varsity baseball diamonds and the soccer field are available as part of the *Immediate Response Action* reports associated with those areas. Response actions for all portions of the field, including the Varsity, JV, and soccer fields, are discussed in the *Release Abatement Measure Plan* (October 2009) and the *Interim Phase II Comprehensive Site Assessment* (July 2009). Details regarding proposed future plans to continue to

ensure the health and safety of people using Walsh Field are discussed in the *Interim Phase III Remedial Action Plan* (July 2009), which is currently under review by MassDEP. All documents are posted on the City's website http://www.newbedford-ma.gov/McCoy/sitemap/sitemap.html under "Walsh Field". If you have additional questions, please contact Cheryl Henlin, City of New Bedford Environmental Stewardship Department, at (508) 991-6188 or email cheryl.henlin@newbedford-ma.gov

GLOSSARY OF TERMS

Arsenic – A chemical element which occurs naturally in the environment. Arsenic was historically used for a variety of purposes, including wood preservatives, herbicides (weed killer), pesticides, and medicine.

Polyaromatic hydrocarbons (PAHs) – A group of over 100 different chemicals formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances like tobacco or charbroiled meat. PAHs are usually found as a mixture containing two or more of these compounds, such as soot. Some PAHs are manufactured. PAHs are found in coal tar, crude oil, creosote, and roofing tar, but a few are used in medicines or to make dyes, plastics, and pesticides or are components of petroleum.

Polychlorinated biphenyls (PCBs) - Mixtures of up to 209 individual chlorinated compounds. There are no known natural sources of PCBs. Some PCBs can exist as a vapor in air to a limited extent. PCBs have no known smell or taste. PCBs have been used as coolants and lubricants in transformers, capacitors, and other electrical equipment because they do not burn easily and are good insulators. The manufacture of PCBs was stopped in the U.S. in 1977. Products made before 1977 that may contain PCBs include: certain building materials, such as caulking, paint, adhesive and fluorescent lighting fixtures; electrical devices containing PCB capacitors and transformers; and hydraulic oils.

ENVIRONMENTAL FACT SHEET

CITY OF NEW BEDFORD'S INVESTIGATION AND CLEANUP OF WALSH FIELD

CITY OF NEW BEDFORD/TRC, AUGUST 2011

This fact sheet describes what the City has done to determine that it is safe for people to use Walsh Field. It describes current conditions, restrictions on activities and uses, completion of remedial actions, and the long-term obligations for keeping it safe for use.

It is safe for people to use Walsh Field.

The City's previous environmental consultant, BETA Group Inc. (BETA), and its current environmental consultant, TRC Environmental (TRC), collected hundreds of soil samples at Walsh Field from 2006 through 2009. Several areas of impacted soil were removed, brought to an appropriate disposal facility, and replaced with clean backfill.

The clean-up activities supported the filing of a Class A Response Action Outcome (RAO) site "closure report", which was submitted to the Massachusetts Department of Environmental Protection (MassDEP) for Walsh Field on June 1, 2011. A Class A RAO means:

- The source material has been reduced through excavation;
- Remaining impacts are controlled by an Activity and Use Limitation (AUL); and
- No further remedial actions are required to maintain a condition of no significant risk.

Current Conditions and Restriction on Activities and Uses

Top 3 feet of soil. TRC determined that the potential exposures to the top 3 feet of accessible soil (soil that is not beneath pavement or clean fill material) for students, staff, and visitors who use the field do not pose a significant risk, as defined by MassDEP. TRC considered the degree to which people using the field could potentially be exposed to chemicals in surface soil in reaching its determination of no significant risk.

Soil deeper than 3 feet or beneath paving. For soils that are deeper than 3 feet or beneath paving, exposure is prevented by the AUL. The AUL prohibits:

- Residential use;
- Excavations more than 3 feet deep in landscaped areas or areas immediately beneath paved surfaces or building floors without a site-specific evaluation by a Licensed Site Professional (LSP);
- Relocation of any soil from depths greater than 3 feet from the Site to another location within the Site without LSP review and approval; and
- Planting of food crops for human consumption (raised beds are permitted subject to LSP approval).

Long Term Obligations

The effectiveness of the AUL depends on the City meeting the following long-term obligations and conditions:

- Maintaining the physical integrity of all asphalt pavement, concrete pavement, sidewalks, and track surfaces or other paved surfaces;
- Maintaining the physical integrity of all interior building floors;
- Preparing a Health and Safety Plan (HASP) for activities below 3 feet in landscaped areas or immediately beneath paved surfaces/building floors;
- Conducting a site-specific evaluation with a LSP before excavating or disturbing soil/fill below 3 feet and /or below paving and building floors; and
- Preventing the removal of soil from anywhere on the property (the full property is subject to the AUL) to an off-property location without LSP review and approval.

For More Information

The full details of response actions and the site closure for the Walsh Field are discussed in the *Release Abatement Measure Plan Completion Report* (February 2011) and the *Response Action Outcome Statement* (June 2011). All documents are posted on the City's website http://www.newbedford-ma.gov/McCoy/sitemap/sitemap.html under "Walsh Field". If you have additional questions, please contact Cheryl Henlin, City of New Bedford Environmental Stewardship Department, at (508) 991-6188 or email cheryl.henlin@newbedford-ma.gov.

GLOSSARY OF TERMS

Glossary of Terms

Activity and Use Limitation – A remedial tool that defines allowed uses, prohibited uses, and the Owner's ongoing obligations at a Site; these uses and obligations apply to the property once the document is recorded with the property deed at the Registry of Deeds, and will always apply to the property even if the Owner changes.

Comprehensive Site Assessment – An environmental investigation that collects, develops and evaluates information to support conclusions and opinions with regard to: 1. the source, nature, extent, and potential impacts of releases of oil and/or hazardous material; 2. the risk of harm posed by a Site to health, safety, public welfare and the environment; and 3. the need to conduct remedial actions at the Site.

Critical Exposure Pathway – The routes by which oil and/or hazardous material(s) released at a Site are transported, or are likely to be transported, to people through vapor-phase emissions of measurable concentrations of oil and/or hazardous materials into the living or working space of a pre-school, daycare, school or occupied residential dwelling; or ingestion.

Environmental Assessment – Investigations, monitoring, surveys, testing, and other information-gathering activities to indentify: 1. the existence, source, nature and extent of a release or threat of a release of oil and/or hazardous material; and 2. the extent of risk or danger to the public health, safety, welfare and the environment.

Stage I Environmental Screening – The characterization of the exposure of site biota (plants, animals, etc.) and habitats by the evaluation of whether there is current or potential future exposure of environmental receptors using the available evidence that includes historical records, site data, field observations, statements by the present and past residents or employees, and any other relevant sources. The overall purpose of a Stage I Environmental Screening is to evaluate the need for a quantitative (i.e., data-based) Stage II Environmental Risk Characterization (ERC). Exposure pathways that are clearly unlikely to result in environmental harm are not evaluated further. Exposure pathways where harm is readily apparent are carried through the Stage II ERC process.

Stage II Environmental Risk Characterization - The second component of an environmental risk assessment (following a Stage I or screening ERC) that is used to determine whether there is significant risk or environmental harm or evidence of environmental harm.

Exposure Point – A location of potential contact between a human or environmental receptor and a release of oil and/or hazardous material. An Exposure Point may describe an area or zone of potential exposure, as well as a single discrete point.

Exposure Point Concentrations – The concentration of oil or hazardous material in a specific medium (i.e., soil, water, air) which a human or environmental receptor may contact at an Exposure Point.

Geophysical Survey - An investigation of subsurface conditions using both ground penetrating radar and electromagnetic terrain conductivity techniques that is used to locate potential buried objects and materials.

Imminent Hazard – A hazard (for example, a concentration of a chemical) which would pose a significant risk of harm to health, safety, public welfare or the environment if it were present for even a short period of time.

Immediate Response Action – A response action that assesses a release, threat of release and/or site conditions and, where appropriate, contains, isolates, removes or secures that release or threat of release of oil and/or hazardous material in order to: 1. abate, prevent or eliminate an Immediate Hazard to health, safety, public welfare or the environment; and or 2. respond to other time-critical releases, threat of a release and/or site conditions.

Long-Term Monitoring and Maintenance Implementation Plan – A plan designed to monitor and maintain the long-term effectiveness of a remedial action.

Method 3 Risk Characterization - One of three possible methods used by MassDEP to characterize the risk of harm to health, safety, public welfare and the environment. A Method 3 risk characterization follows MassDEP procedures to determine the risk associated with current and reasonably foreseeable site activities and uses using site-specific information, rather than a comparison to soil and groundwater standards developed by MassDEP (i.e., Methods 1 and 2).

No Significant Risk - A level of control of each identified substance of concern at a site or in the surrounding environment such that no such substance of concern shall present a significant risk of harm to health, safety, public welfare or the environment during any foreseeable period of time.

Release Abatement Measure – A response action intended to reduce risks at a disposal site and/or increase the cost effectiveness of response actions by undertaking certain accelerated remedial actions to stabilize, treat, control, minimize or eliminate releases until such time as a Response Action Outcome is achieved, or until comprehensive remedial actions can be implemented.

Remediation – The act or process of containing or removing oil and/or hazardous material.

Remedy Implementation Plan – A document that describes the plan for the accomplishment of a comprehensive remedial action, and includes the documentation of engineering concepts and design criteria to be used for the design and construction of the remedial action.

Resource Conservation and Recovery Act - The principal federal law in the United States that governs the disposal of solid waste and hazardous waste.

Response Action Outcome – The classification applied to a disposal site where response actions taken at a site are sufficient to achieve a Condition of No Significant Risk.

Substantial Release Migration – A condition at the Site where: 1. releases to the groundwater have migrated or are expected to migrate more than 200 feet per year; and 2. releases to the groundwater or to the vadose zone (the zone the extends from the top of the ground surface to the water table) have resulted or are within one year likely to result in the discharge of vapors into school buildings or occupied residential dwellings.

Toxic Substances Control Act – A United States law that regulates the introduction of new or already existing chemicals, and specifically regulates polychlorinated biphenyls (PCB) products.

Upper Concentration Limit - A concentration of oil and/or hazardous material in soil or groundwater published by MassDEP which, if exceeded, indicates the potential risk to public welfare and the environment under future conditions. The Upper Concentration Limits in soil and groundwater are typically 10 times the highest Method 1 standard, but do not exceed 100,000 ug/L in groundwater or 10,000 mg/kg in soil.