Geotechnical Engineers

MAG910273

CONSTRUCTION SITE DEWATERING
DISCHARGE PERMIT APPLICATION
UNDER MAG910000

454 BROOKLINE AVENUE

BOSTON MASSACHUSETTS

for

US Environmental Protection Agency
and Boston Water & Sewer Commission

November 3, 2006

Project No. 4591.9.00

McPHAIL ASSOCIATES, INC.

Geotechnical Engineers

November 3, 2006

US Environmental Protection Agency
RGP - NOC Processing
Municipal Assistance Unit
One Congress Street, Suite 1100
Boston, MA 02114

Attention: Mr. George Papadopoulos

Boston Water & Sewer Commission
980 Harrison Avenue
Boston, MA 0211

Attention: Mr. Francis McLaughlin

Reference: 454 Brookline Avenue; Boston, Massachusetts
Temporary Construction Dewatering Discharge Permit Application
Under Massachusetts General Permit No. MAG910000

This letter report was prepared by McPhail Associates, Inc. on behalf of J. Derenzo Co. in support of an application for permission from the US Environmental Protection Agency (EPA) and the City of Cambridge Department of Public Works (DPW) for the temporary discharge of groundwater into a storm drain line, and ultimately into the Charles River, for the purpose of construction dewatering at the above referenced location. Refer to **Figure 1** for the general site locus. The required US EPA Notice of Intent (NOI) and the City of Cambridge Permit to Dewater are included in **Appendix A**.

Applicant

J. Derenzo Co.
338 Howard Street
Brockton, MA 02302

Contact: Mr. Steve Winn
Telephone: 508-427-6441

Existing Site Conditions

Fronting onto Brookline Avenue to the north, the subject site consists of a rectangularly shaped parcel of about 37,000 square feet in area and is bounded to the east by Jimmy Fund Way, to the south by a 12-story medical building and to the west by a paved alleyway. The majority of the site is occupied by a one-story building with an adjoining two-story building. The remainder of the site consists of a paved parking lot, about 7,500 square feet in area, fronting onto Jimmy Fund Way.

The existing ground surface across the site slopes gently downwards to the north, varying from approximately Elevation +45 feet at the southwestern corner of the subject site to about Elevation +38 feet at the northeastern corner, across a horizontal distance of approximately 280 feet.

30 Norfolk Street
Cambridge, Massachusetts 02139
617 / 868-1420
617 / 868-1423 (Fax)

Ground surface elevations are referenced to the City of Boston Datum which is 5.65 feet below the National Vertical Geodetic Datum (NGVD).

Site Environmental Setting and Background Information

The site is not located within a Zone II of a public water supply, an Interim Wellhead Protection Area, a Potentially Productive Aquifer or a Zone A of a Class A surface water supply, as defined in the Massachusetts Contingency Plan (MCP). There are no surface water bodies located within the site boundaries. The nearest surface water body is Muddy River that is classified as a Class B Surface Water, located approximately 1,000 feet southwest from the site. Muddy River is a tributary to the Charles River. There are no known private or public drinking water supply wells located either within the site boundaries nor within 0.5 mile of the site, and groundwater at the subject site is not considered a current or potential source of drinking water.

The subject site address is listed by the Massachusetts DEP as a Disposal Site under Release Tracking Number (RTN) 3-13899 for a release of No. 2 fuel oil that was discovered on June 12, 1996 during the removal of a former underground fuel oil storage tank (UST) that was located adjacent to the existing building. Reportedly, the UST was removed along with petroleum-impacted soil. The current Massachusetts DEP database indicates that on December 10, 2004 a Class A-2 Response Action Outcome (RAO) Statement was submitted to the DEP for the release listed under the above RTN. Under the MCP, a Class A-2 RAO is predicated upon a condition of No Significant Risk for unrestricted usage of the disposal site and constitutes a Permanent Solution, as defined in the Massachusetts Contingency Plan (MCP) 310 CMR 40.0000.

During December 2004, GEI Consultants, Inc. (GEI) performed additional subsurface investigation at the site which consisted of eight borings designated as B-301 through B-308. The approximate boring locations performed by GEI are shown on the enclosed **Figure 2**. Details regarding the subsurface conditions encountered in the explorations are presented below.

In addition, GEI submitted two soil samples obtained from the subsurface explorations to Accutest Laboratory for analyses for extractable petroleum hydrocarbons (EPH), volatile organics (VOCs), semivolatile organics (SVOCs), RCRA-5 metals (arsenic, cadmium, chromium, lead and mercury), PCBs, reactive cyanide, reactive sulfide and pH. Results of the soil chemical testing are summarized in **Table 1** and included in **Appendix B** in an electronic format.

In summary, the soil chemical analyses results indicate that none of the VOCs were detected at concentrations in excess of the laboratory reported method detection limits (MDL), which are well below the applicable MCP risk-based soil cleanup standards. Of the SVOCs tested for, the samples exhibited the presence of low levels of the polynuclear aromatic hydrocarbons (PAHs) subset. None of the PAHs were detected at concentrations in excess of the applicable MCP risk-based cleanup standards. Of the EPH fractions, C11-C22 aromatics was detected at a concentration of 231 milligrams per kilogram (mg/kg), which is well below the MCP risk-based cleanup standard of 800 mg/kg.

Finally, none of the RCRA-5 metals were detected at concentrations in excess of the applicable MCP soil cleanup standards. It should be noted that total chromium was detected in one sample at a level in excess of the S-1 soil cleanup standard, but well below that S-2 and S-3 standard of 200 mg/kg. Under the MCP, the S-1 cleanup standard is used to assess the risk of harm to human health during a direct contact with the soil.

Under current site conditions and for the proposed future usage of the site, an exposure pathway that involves direct contact by human receptors is not considered applicable to the site.

Based on the above, it is concluded that the readily available soil chemical test data does not indicate the presence of a release of oil and/or hazardous material (OHM) at the site that requires implementation of a response action under the MCP.

Site History and Usage

According to readily available historic information, the site has been occupied by a the current medical building for nearly fifty years. During the early 1900s the site was occupied by a residence. Subsequently, during the 1940s and early 1950s the site was occupied by an auto body shop and a car dealership. A portion of the site, fronting onto Jimmy Fund Way continued to be occupied by a residence.

Reportedly, during the late 1950s the auto body shop and the car dealership vacated the site, and the buildings were utilized for medical research. In addition, during about mid-1950s the residential building was demolished and this portion of the site, fronting onto Jimmy Fund Way, has since been use as a paved parking lot to-date.

Abutting property to the south was occupied by residential buildings until about the mid-1960s. From about the mid-1960s to the late 1970s this property remained a vacant lot. Subsequently, during 1979 a central heating and power plant was constructed on the vacant lot to provide steam heat and power to the various medical buildings that surround the site.

Property located adjacent to the site, across from Jimmy Fund Way, has been occupied since 1973 by a medical research building. Prior usage of this property involved the presence of a warehouse for the storage of school supplies by the Boston School Department. Other nearby property, along Binney and Francis Streets have been occupied by medical buildings for over fifty years.

Proposed Site Development

It is understood that the proposed site development includes the construction of a multi-story new medical building of which the below-grade portion is understood to occupy a 200-foot by 180-foot rectangularly-shaped footprint and consists of six levels below-grade. The depth of the excavation for the lowest basement level is about 77 feet below the existing ground surface. The approximate limits of the proposed building footprint are shown on **Figure 2**.

Subsurface Conditions

A detailed description of the subsurface conditions underlying the site is presented in the boring logs that are contained in a report titled "Pre-Design Phase Geotechnical Investigation, Proposed Brookline Avenue Building, Dana-Farber Cancer Institute, Boston, Massachusetts" prepared by GEI Consultants, Inc. (GEI) and dated January 26, 2005. A copy of the GEI report is contained in **Appendix B** in an electronic format.

In summary, the ground surface across the site is underlain by fill material that is typically less than 5 feet in thickness. Locally, the fill extends to a depth of about 12 feet below grade. The fill is typically described as brown silty sand with varying amounts of gravel, brick, ash and cinder. According to GEI, none of the fill samples exhibited the presence of visual or olfactory evidence of petroleum-related or VOC-related contamination. In addition, GEI reported that samples of the fill were screened for the presence of total volatile organics (TVOC). None of the screened samples exhibited TVOC readings that are indicative of the presence of VOCs.

Beneath the fill, the explorations encountered a deposit of marine clay ranging from about 45 feet to 76 feet in thickness. None of the marine clay samples exhibited the presence of visual or olfactory evidence of petroleum-related or VOC-related contamination. A layer of outwash sand was encountered beneath the marine clay, with a thickness ranging from about 8 feet to 23 feet. Below the outwash sand, the explorations encountered a glacial till deposit ranging in thickness from about 2 feet to 32 feet. This material is described as very dense, gray silty sand with varying amounts of gravel and occasional boulders. Finally, the glacial till was deposited directly on the underlying bedrock surface.

As indicated in the boring logs contained in **Appendix B**, the depths to groundwater across the site ranges widely from about 13.5 feet to about 36 feet below grade. The observed groundwater is considered to be perched on the surface of the relatively impervious marine clay. It is anticipated that future groundwater levels across the site may vary from those reported herein due to factors such as normal seasonal changes, periods of heavy precipitation, and alterations of existing drainage patterns.

Proposed Construction Dewatering

Based upon the configuration of the proposed medical building, with its six levels of below grade structure, as well as the conditions encountered in the subsurface explorations, the foundation of the proposed building will locally extend into the underlying bedrock. At other locations across the site, the proposed building foundation will extend into the glacial till.

The below-grade portion of the structure will be constructed utilizing slurry walls that will be socketed into the underlying bedrock. The proposed slurry walls will provide a cut-off from groundwater. Groundwater perched within the interior portion of the slurry walls will require pumping and off-site discharge. The majority of the anticipated dewatering will occur during excavation subsequent to the installation of the proposed slurry walls. Additional dewatering may occur during installation of the foundation.

It is estimated that the typical continuous groundwater discharge required during the initial stages of the excavation phase of the construction project will be on the order of 35 to 60 gallons per minute (GPM). The quantity of groundwater discharge is based on the relatively pervious nature of the existing fill and the presence of the slurry wall surrounding the excavation which will act as a groundwater cut-off. A reduction in the rate of discharge is anticipated to occur during excavation of the less permeable marine clay and glacial till. A discharge rate in the range of 30 to 40 GPM is anticipated during this stage of excavation. These estimates of discharge do not include surface runoff which will be removed from the excavation during a limited duration of precipitation events.

Finally, it should be noted that on-site recharge is not considered feasible for the site. As indicated above, the slurry walls will not allow recharge within the building footprint, and the area situated outside the proposed building footprint is not considered sufficient for recharge of the anticipated volume of water pumped from the construction excavation.

A review of maps at the Boston Water & Sewer Commission indicate that a 15-inch diameter storm drain lines is located along Brookline Avenue adjacent to the site. The 15-inch line discharges into a 36-inch storm drain line at a junction located at the intersection of Brookline Avenue and Riverway, which discharges into Muddy River at Outfall No. SD 0161. Muddy River discharges into the Charles River at Charlesgate West.

Based on the results of groundwater chemical analyses discussed below, it is our opinion that no special treatment of the groundwater prior to discharge is required. However, the groundwater will be pumped from the excavation into a sedimentation tank in order to settle particulate matter out of the effluent prior to discharge to meet allowable discharge limits established in MAG910000.

The location of the storm drain and relevant catch basins in relation to the site are indicated on **Figure 3** which is based on a 100-scale Sewer System Map No. 20G dated September 19, 2003.

Chemical Analyses of Groundwater Samples

I. Dilution Factor Application for Metals

A Dilution Factor (DF) was calculated for the detected levels of total metals pursuant to the procedure contained in MAG910000, Appendix V. The purpose of the DF calculation is to establish Total Recoverable Limits for metals, taking into consideration the anticipated dilution of the detected analytes upon discharge into the Charles River. The calculated DF was then used to find the appropriate Dilution Range Concentrations (DRCs) contained in MAG910000, Appendix IV.

The DF that was utilized in finding the appropriate DRCs was calculated as follows:

$$DF = (Qd + Qs)/Qd$$

Where: Qd is the maximum discharge flow rate of 60 GPM = 0.1338 cubic feet per second (cfs), (1 GPM = 0.00223 cfs)

Qs is the receiving water flow rate (minimum for 7 consecutive days with a recurrence interval of 10 years)

The value for Qs used for identifying the DRCs contained in MAG 910000 Appendix IV is based on information provided by the US Geological Survey (USGS) - Massachusetts Stream Flow Data for the Charles River obtained at the nearest USGS gauging station located in Waltham. The Minimum Flow Rate reported by the USGS at the Waltham Gauging Station for 7 consecutive days with a recurrence interval of 10 years (7Q10 flow) is 31 cfs. However, since this survey station is located upstream of the proposed discharge location, and the flow rate of the Charles River at the proposed discharge location is anticipated to be less than the above 7Q10 value, a conservative assumption of one-half of the above 7Q10 value was used to calculate the DF. Therefore, the value for Qs is 15.5 cfs, thus resulting in DF = 116.8.

Based on this DF value, the applicable DRCs contained in MAG910000, Appendix IV, are equal to those shown for DF>100. A summary of the metals Total Recoverable Limits (TRL) is presented in **Table 2**.

II. Groundwater Chemical Test Results

On October 19, 2006 a McPhail Associates obtained a groundwater sample from monitoring well MW-2 that is located at the site. See **Figure 2** for the approximate well location.

The groundwater sample was submitted to a Massachusetts DEP-certified chemical testing laboratory for analyses for the following parameters:

1. Volatile Organic Compounds (EPA Method 624)
2. Polynulclear aromatic hydrocarbons (PAHs), (EPA Method 8270)
3. Total Petroleum Hydrocarbons (EPA Method 1664)
4. Total Metals (arsenic, antimony, beryllium, cadmium, chromium, copper, lead, nickel, mercury, silver, selenium, thallium and zinc) EPA Methods 6020, 6010 and 245.2;
5. pH, EPA Method 150.1;
6. Total Suspended Solids (TSS) EPA Method 160.2; and
7. Total Residual Chlorine (TRC) EPA Method 330.1

The groundwater chemical analyses results, summarized in **Table 2** and included in **Appendix C**, indicate the following:

1. None of the VOCs were detected in the tested sample at concentrations in excess of the laboratory reported method detection limits (MDL), which are well below the MAG910000 limits;

2. None of the PAHs were detected in the tested sample at concentrations in excess of the MDLs, which are well below the MAG910000 limits;

3. TPH was not detected in the tested sample at a concentration in excess of the MDL, which is well below the MAG910000 limit;

4. None of the total metals were detected in at concentrations in excess of the TRLs contained in MAG910000 Appendix IV limits. Arsenic, cadmium, chromium, copper, nickel, selenium, silver and zinc were detected at concentrations that are orders of magnitude below the TRLs. The remaining total metals (antimony, beryllium, lead, mercury and thallium) were not detected at concentrations in excess of the MDLs, which are well below the above referenced TRLs; and

5. Total suspended solids (TSS) was not detected at a level in excess of the MDL, which well below the MAG910000 limit of 30 mg/l, total residual chlorine (TRC) was not detected in the tested sample and pH was measured at 6.5 Standard Units, which is within the range of 6.5 - 8.3 SU for discharge into a Class B Surface Water.

McPHAIL ASSOCIATES, INC.

Geotechnical Engineers

Summary and Conclusions

Proposed development of the site includes the construction of a building that will occupy most of the site area and will contain a six-level below grade structure. Excavation for the below-grade structure will require the implementation of a temporary construction dewatering system and discharge of the effluent off-site.

Based on information provided to McPhail Associates by the Boston Water and Sewer Commission, it is anticipated that temporary discharge of the effluent from the construction site will be implemented utilizing a storm drain line located beneath Brookline Avenue that discharges into the Muddy River and ultimately into the Charles River.

The results of the groundwater chemical tests indicate that the effluent meets the discharge limits contained in MAG910000 and in Appendix IV of the MAG910000.

Based on the groundwater chemical test results, it is concluded that special treatment of the effluent is not required in order to meet the MAG910000 Discharge Limits. However, the effluent will be pumped through a sedimentation tank in order to remove the particulate matter and meet the TSS Limit contained in MAG910000. Sampling and chemical testing of the influent and effluent will be performed in accordance with the requirements contained in MAG910000.

We trust that the above satisfies your present requirements. Please do not hesitate to contact us should you have any questions or require additional information.

Very truly yours,

McPHAIL ASSOCIATES, INC.

Arie BarJosef, P.G.

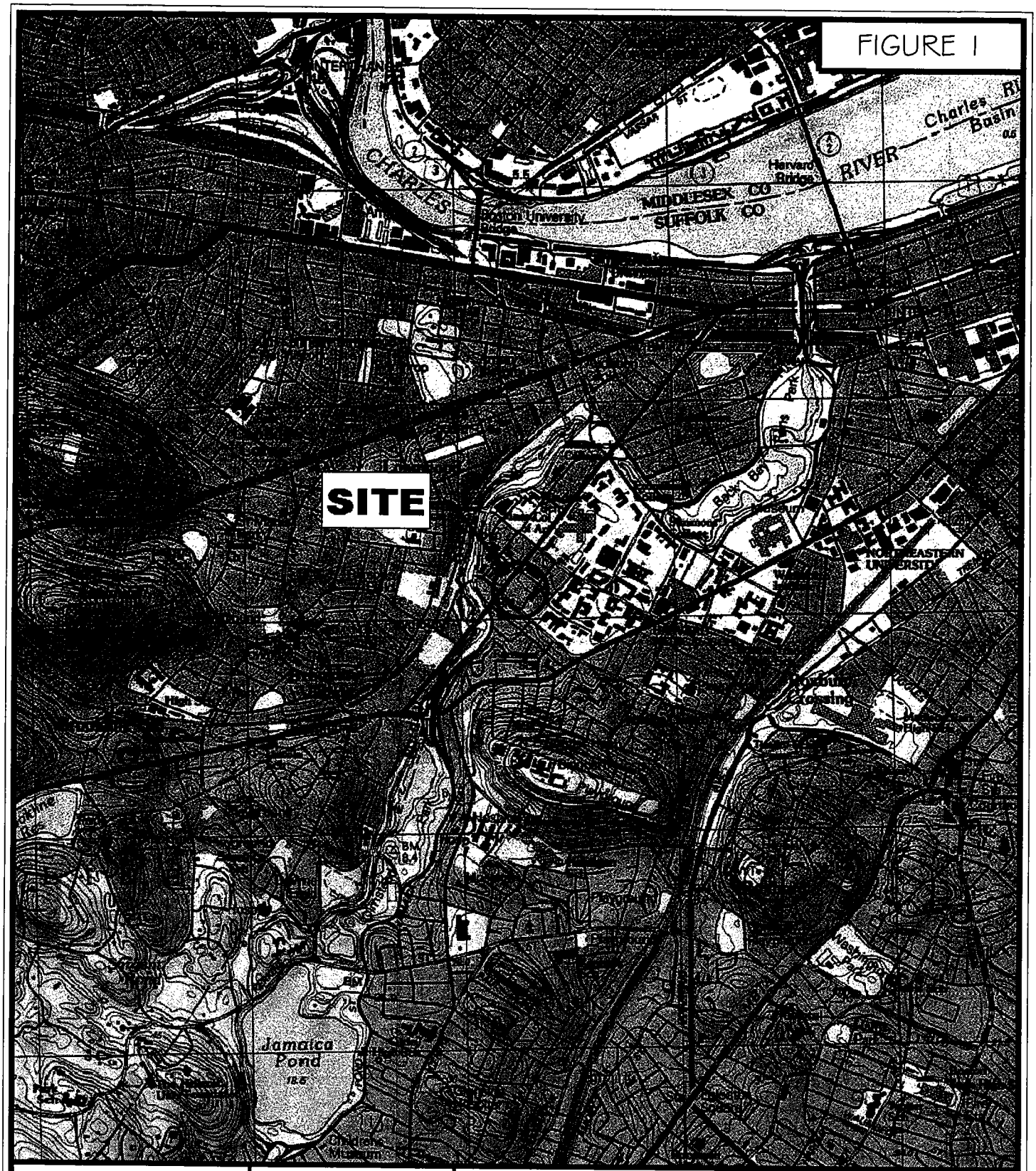
Gary M. O'Neil, P.E.

JOBS\4591-RGP Application and NOI

Enclosures

cc:

FIGURE 1



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SCALE 1:25,000

PROJECT LOCATION PLAN

454 BROOKLINE AVENUE

BOSTON MASSACHUSETTS

FIGURE 2

BETH ISRAEL DEACONESS MEDICAL CENTER
(WEST CAMPUS)
3 STORY BRICK

BROOKLINE AVENUE
(PUBLIC-75' WIDE)

DEACONESS ROAD

NORTH

APPROXIMATE LIMITS OF
PROPOSED BUILDING FOOTPRINT

PROPOSED DISCHARGE LOCATION

454 BROOKINE AVE
2 STORY BRICK AND MASONRY

REDSTONE BUILDING
1 STORY BRICK

7 STORY GENRIE
MAYER BUILDING

3 STORY CONCRETE
PARKING GARAGE

15 STORY BUILDING
DANA BUILDING

"RICHARD AND SUSAN SMITH
RESEARCH LABORATORIES"
12 STORY STONE

M.A.T.E.P.

JIMMY FUND WAY
(PUBLIC-40' WIDE)

B307 B308 B302 B303 B301(PZ) B306 B305 B304 D204 D206 CC113 CC101 CC111 CC103 (PZ) CC104 CC110 CC105 CC109 T2(PZ) T5 T9 T11 T6(PZ) T13 T12 T4 HMM-1 (OW) HMM-2 (OW) HMM-3 MW-1 (OW) MW-2 (OW) MW-3 (OW) PZ-1 EC14 EC16 EC23 EC15 207 206 203 202 201 CC112

REFERENCE: THIS PLAN WAS PREPARED FROM A 40-SCALE DRAWING ENTITLED, "BORING LOCATION PLAN" DATED JANUARY 2005 AND PREPARED BY GEI CONSULTANTS

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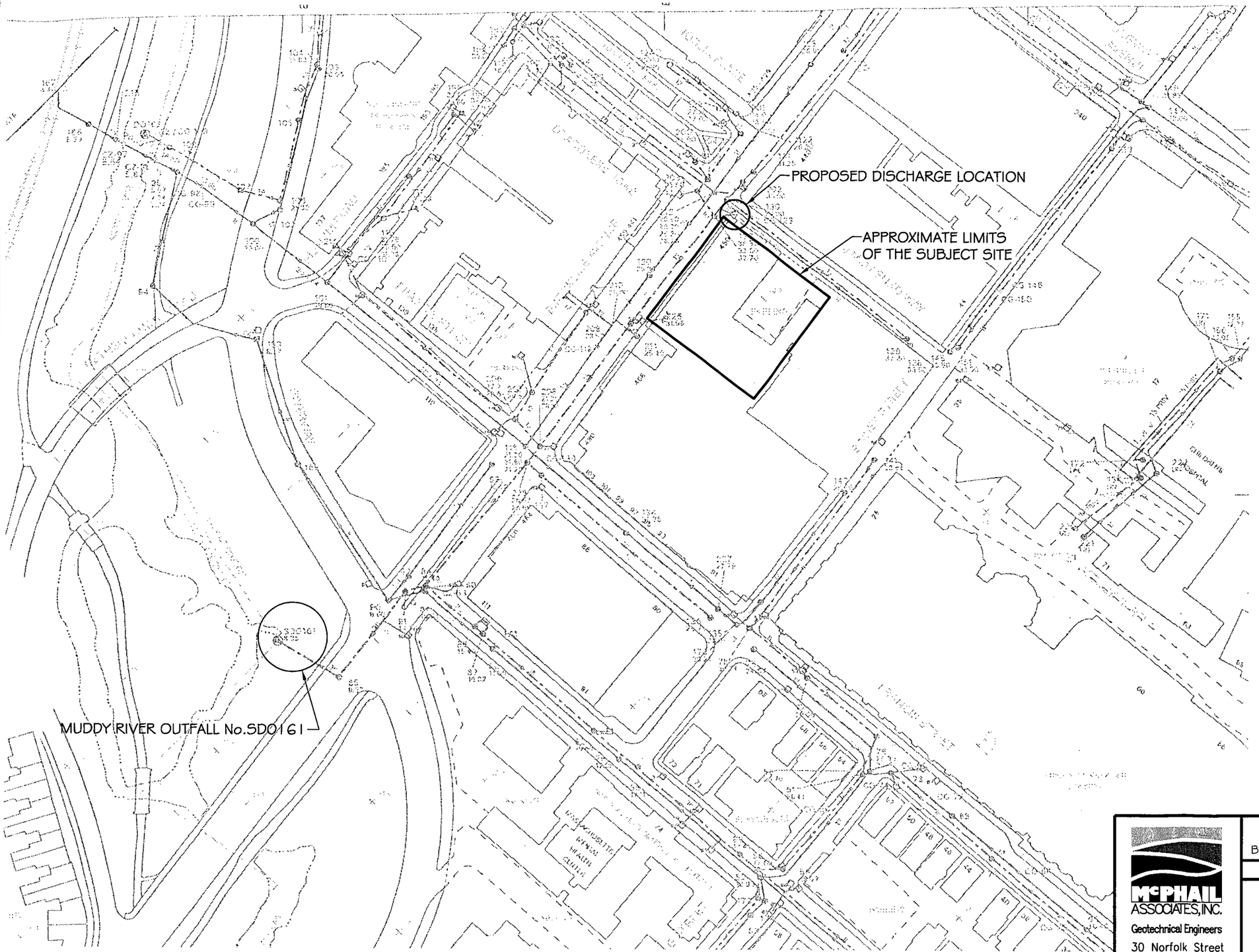
454 BROOKINE AVENUE
BOSTON MASSACHUSETTS

SITE PLAN
FOR
DANA-FARBER CANCER INSTITUTE
BY
McPHAIL ASSOCIATES, INC.
CONSULTING GEOTECHNICAL ENGINEERS

Date: OCTOBER 2006	Dwn: M.B.S.	Chkd: A.B.J.	Scale: 1" = 40'
Project No: 4591			

FILE NAME: 4591-F02

FIGURE 3



REFERENCE: THIS PLAN WAS PREPARED FROM A 100-SCALE DRAWING ENTITLED, "BOSTON WATER AND SEWER COMMISION SEWER SYSTEM MAP SHEET No.20G"

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454 BROOKLINE AVENUE

BOSTON MASSACHUSETTS

SEWER SYSTEM PLAN

FOR

DANA-FARBER CANCER INSTITUTE

BY

McPHAIL ASSOCIATES, INC.

CONSULTING GEOTECHNICAL ENGINEERS

Date: OCTOBER 2006	Dwn: M.B.S.	Chkd: A.B.J.	Scale: 1" = 100'
Project No: 4591			

FILE NAME: 4591-F03

Table 1
CHEMICAL TEST RESULTS - SOIL SAMPLES
Job Number 4591
(All results in milligrams per kilogram (mg/kg) unless noted)

Sample Designation	MCP Method 1 Risk Standards	044310-SS1	04431-SS2
Sample Type	S-1 / S-2* For GW-2 and GW-3	Composite	Composite
Sample Depth			
Material		Fill	Fill
pH	No Standard	8.0	8.5
Ignitability	No Standard	>150	>150
Reactive Sulfide	No Standard	ND	ND
Reactive Cyanide	No Standard	ND	ND
Total Metals			
Arsenic	20	5	5.9
Cadmium	2	ND	ND
Chromium	30 / 200*	17.2	70.4
Lead	300	22.3	209
Mercury	20	ND	ND
TCLP Lead (mg/l)			0.038
Volatile Organic Compounds		All ND	All ND
Polynuclear Aromatic Hydrocarbons			
Fluoranthene	1,000	1.32	1.15
Benzo (a) anthracene	7	0.69	0.53
Benzo (a) pyrene	2	0.68	0.5
Benzo (b) fluoranthene	7	0.66	0.51
Benzo (k) fluoranthene	70	0.46	0.37
Chrysene	7	0.79	0.69
Benzo (ghi) perylene	1,000	0.35	ND
Phenanthrene	1,000	0.79	0.57
Indeno (1,2,3-cd) Pyrene	7	0.36	ND
Pyrene	1,000	1.12	1.06
Total PAH		**7.22**	**5.38**
PCBs	2	ND	ND
Extractable petroleum hydrocarbons (EPH)			
C9-C18 aliphatics	1,000	ND	19.7
C19-C36 aliphatics	2,500	75.4	56.5
C11-C22 aromatics	800	231	71.7

Note:
1. * Denotes S-2/GW-2,3 Cleanup Standard

ND - none detected
Blank - not analyzed
NA - not applicable

Table 2
CHEMICAL TEST RESULTS--GROUNDWATER SAMPLE
454 Brookline Avenue
Boston, Massachusetts
Job Number 4591

Well designation	MW-2	MAG910000 Effluent Limits	Dilution - FW***
Date Sampled	10/19/2006		DF = (Qd + Qs)/Qd = 116.8
pH EPA Method 150.1 Standard Units	6.5	6.5 - 8.3	DF=Dilution Factor
Total Suspended Solids (mg/l)	ND	30 (monthly average)	Qd=Maximum discharge flow rate (cfs)
Total Residual Chlorine (mg/l)	ND	0.02 (monthly average)	Qs=Receiving water flow 7Q10# (cfs)
Polynuclear Aromatic Hydrocarbons (PAHs), EPA Method 625 (ug/l)	All ND	Varies from 10 to 100	
Volatile Organics (VOCs), EPA Method 624 (ug/l)	All ND	Varies from 3.2 to 100	
Total Petroleum Hydrocarbons (TPH) MADEP Method (mg/l)	ND	5.0	
Total Metals (mg/l) (see Note 3)		mg/l (monthly avg.)	Total Recoverable Limits (mg/l)
Antimony	ND	0.0056	0.141
Arsenic	0.0014	0.01	0.54
Beryllium	ND	N/S	N/S
Cadmium	0.002	0.0002	0.02
Chromium	0.0006	0.048	1.71##
Copper	0.0052	0.0052	0.52
Lead	ND	0.0013	0.132
Mercury	ND	0.0009	0.0023
Nickel	0.0157	0.029	2.38
Selenium	0.01	0.005	0.408
Silver	0.0017	0.012	0.115
Thallium	ND	N/S	N/S
Zinc	0.193	0.066	1.48

Notes

1. Maximum Limit - Total Petroleum Hydrocarbons 5 mg/l (5,000 ug/l)
2. Maximum BTEX 0.1 mg/l
3. Total Metals - EPA Method 200.7, Mercury EPA Method 245.2
4. ***Dillution Factor for Fresh Water for Tortal Metals per MAG910000 Appendix V.
5. #--Qs = 31 cfs. 0.5Qs was used - see text.
6. ##-- The larger of trivalent and hexavalent chromium

ND--not detected above laboratory detection limit
Blank--not analyzed

McPHAIL ASSOCIATES, INC.

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APPENDIX A

US EPA Notice of Intent
and
Boston Water and Sewer Commission Permit

B. Suggested Form for Notice of Intent (NOI) for the Remediation General Permit

1. General site information. Please provide the following information about the site:

<table>
<tr><td colspan="2">a) Name of facility/site:
454 Brookline Avenue Project c/o J. Derenzo Co.</td><td colspan="4">Facility/site address:
454 Brookline Avenue</td></tr>
<tr><td>Location of facility/site:
longitude: 326637 latitude: 468958</td><td>Facility SIC code(s):
N/A</td><td colspan="4">Street:
454 Brookline Avenue</td></tr>
<tr><td colspan="2">b) Name of facility/site owner: Dana Farber Cancer Institute</td><td colspan="4">Town: Boston</td></tr>
<tr><td colspan="2" rowspan="2">Email address of owner:</td><td rowspan="2">State:
MA</td><td rowspan="2">Zip:
02115</td><td rowspan="2">County:
Suffolk</td><td></td></tr>
<tr><td colspan="2">Telephone no.of facility/site owner: (866) 408-3324</td></tr>
<tr><td colspan="2">Fax no. of facility/site owner:</td><td colspan="4" rowspan="2">Owner is (check one): 1. Federal____ 2. State/Tribal____
3. Private ✓ 4. other, if so, describe:</td></tr>
<tr><td colspan="2">Address of owner (if different from site):</td></tr>
<tr><td colspan="6">Street: 44 Binney Street</td></tr>
<tr><td colspan="2">Town: Boston</td><td>State: MA</td><td>Zip: 02115</td><td colspan="2">County: Suffolk</td></tr>
<tr><td colspan="2" rowspan="2">c) Legal name of operator:
J. Derenzo Co.</td><td colspan="4">Operator telephone no: (508) 427-6441</td></tr>
<tr><td colspan="3">Operator fax no.: (508) 427-6488</td><td colspan="2">Operator email:
swinn@jderenzo.com</td></tr>
<tr><td colspan="6">Operator contact name and title: Steve Winn, Project Manager</td></tr>
</table>

Address of **operator** (if different from owner):	Street: 338 Howard Street		
Town: Brockton	State: MA	Zip: 02302	County: Plymouth

d) Check "yes" or "no" for the following:
1. Has a prior NPDES permit exclusion been granted for the discharge? Yes___ No ✓, if "yes," number:
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Yes___ No ✓, if "yes," date and tracking #:
3. Is the discharge a "new discharge"as defined by 40 CFR 122.2? Yes ✓ No___
4. For sites in Massachusetts, is the discharge covered under the MA Contingency Plan (MCP) and exempt from state permitting? Yes ✓ No__

e) Is site/facility subject to any State permitting or other action which is causing the generation of discharge? Yes___ No ✓
If "yes," please list:
1. site identification # assigned by the state of NH or MA:
2. permit or license # assigned:
3. state agency contact information: name, location, and telephone number:

f) Is the site/facility covered by any other EPA permit, including:
1. multi-sector storm water general permit? Y___ N ✓, if Y, number:
2. phase I or II construction storm water general permit? Y___ N ✓, if Y, number:
3. individual NPDES permit? Y___ N ✓, if Y, number:
4. any other water quality related permit? Y___ N ✓, if Y, number:

2. Discharge information. Please provide information about the discharge, (attaching additional sheets as needed) including:

a) Describe the discharge activities for which the owner/applicant is seeking coverage:
Temporary construction dewatering. Effluent will be treated (sedimentation) prior to discharge (see text)

b) Provide the following information about each discharge:	1) Number of discharge points: 1	2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft^3/s)? Max. flow 0.15 Average flow 0.08 Is maximum flow a **design value**? Y ✓ N___ For average flow, include the units and appropriate notation if this value is a design value or estimate if not available.

3) Latitude and longitude of each discharge within 100 feet: pt.1:long. 32633 lat. 46893 ; pt.2: long._____ lat._____; pt.3: long._____ lat._____; pt.4:long._____ lat._____; pt.5: long._____ lat._____; pt.6:long._____ lat._____; pt.7: long._____ lat._____; pt.8:long._____ lat._____; etc.

4) If hydrostatic testing, total volume of the discharge (gals):	5) Is the discharge intermittent ✓ or seasonal _____? Is discharge ongoing Yes ____ No _____?
c) Expected dates of discharge (mm/dd/yy): start 12/01/06 end 12/01/07	
d) Please attach a line drawing or flow schematic showing water flow through the facility including: 1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s).	

3. Contaminant information. In order to complete this section, the applicant will need to take a minimum of one sample of the untreated water and have it analyzed for **all** of the parameters listed in Appendix III. Historical data, (i.e., data taken no more than 2 years prior to the effective date of the permit) may be used if obtained pursuant to: i. Massachusetts' regulations 310 CMR 40.0000, the Massachusetts Contingency Plan ("Chapter 21E"); ii. New Hampshire's Title 50 RSA 485-A: Water Pollution and Waste Disposal or Title 50 RSA 485-C: Groundwater Protection Act; or iii. an EPA permit exclusion letter issued pursuant to 40 CFR 122.3, provided the data was analyzed with test methods that meet the requirements of this permit. Otherwise, a new sample shall be taken and analyzed.

a) Based on the analysis of the sample(s) of the untreated influent, the applicant must check the box of the sub-categories that the potential discharge falls within.

Gasoline Only	VOC Only	Primarily Metals	Urban Fill Sites ✓	Contaminated Sumps	Mixed Contaminants	Aquifer Testing
Fuel Oils (and Other Oils) only	VOC with Other Contaminants	Petroleum with Other Contaminants	Listed Contaminated Sites	Contaminated Dredge Condensates	Hydrostatic Testing of Pipelines/Tanks	Well Development or Rehabilitation

b) Based on the analysis of the untreated influent, the applicant must indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1. Total Suspended Solids	✓		1	Grab	160.2		ND			
2. Total Residual Chlorine	✓		1	Grab	330.1		ND			
3. Total Petroleum Hydrocarbons	✓		1	grab	1664		ND			
4. Cyanide	✓		1	grab	9014		ND			
5. Benzene	✓		1	grab	624,		ND			
6. Toluene	✓		1	grab	624,		ND			
7. Ethylbenzene	✓		1	grab	624,		ND			
8. (m,p,o) Xylenes	✓		1	grab	624,		ND			
9. Total BTEX[4]	✓		1	grab	624,		ND			

[4] BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
10. Ethylene Dibromide (1,2- Dibromo-methane)										
11. Methyl-tert-Butyl Ether (MtBE)	✓		1	grab	8260		ND			
12. tert-Butyl Alcohol (TBA)	✓						ND			
13. tert-Amyl Methyl Ether (TAME)	✓		1	grab	8260		ND			
14. Naphthalene	✓		1	grab	625,		ND			
15. Carbon Tetra-chloride	✓		1	grab	624,		ND			
16. 1,4 Dichlorobenzene	✓		1	grab	624,		ND			
17. 1,2 Dichlorobenzene	✓		1	grab	624		ND			
18. 1,3 Dichlorobenzene	✓		1	grab	624		ND			
19. 1,1 Dichloroethane	✓		1	grab	624		ND			
20. 1,2 Dichloroethane	✓		1	grab	624,		ND			
21. 1,1 Dichloroethylene	✓		1	grab	8260		ND			
22. cis-1,2 Dichloro-ethylene	✓		1	grab	624,		ND			
23. Dichloromethane (Methylene Chloride)	✓		1	grab	624,		ND			
24. Tetrachloroethylene	✓		1	grab	624,		ND			

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily Value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
25. 1,1,1 Trichloroethane	✓		1				ND			
26. 1,1,2 Trichloroethane	✓		1				ND			
27. Trichloroethylene	✓		1				ND			
28. Vinyl Chloride	✓		1				ND			
29. Acetone	✓		1	grab	624	1.0	ND			
30. 1,4 Dioxane	✓		1				ND			
31. Total Phenols	✓		1				ND			
32. Pentachlorophenol	✓		1				ND			
33. Total Phthalates [5] (Phthalate esthers)	✓						ND			
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	✓									
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)							ND			
a. Benzo(a) Anthracene	✓		1	grab	8270	0.5	ND			
b. Benzo(a) Pyrene	✓		1	grab	8270	0.5	ND			
c. Benzo(b)Fluoranthene	✓		1	grab	8270	0.5	ND			
d. Benzo(k) Fluoranthene	✓		1	grab	8270	0.5	ND			
e. Chrysene	✓		1	grab	8270	0.5	ND			

[5] The sum of individual phthalate compounds.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
f. Dibenzo(a,h) anthracene	✓		1	grab	8270	0.05	ND			
g. Indeno(1,2,3-cd) Pyrene	✓		1	grab	8270	0.05	ND			
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	✓		1				ND			
h. Acenaphthene	✓		1	grab	8270	5.5	ND			
i. Acenaphthylene	✓		1	grab	8270	5.5	ND			
j. Anthracene	✓		1	grab	8270	5.5	ND			
k. Benzo(ghi) Perylene	✓		1	grab	8270	5.5	ND			
l. Fluoranthene	✓		1	grab	8270	5.5	ND			
m. Fluorene	✓		1	grab	8270	5.5	ND			
n. Naphthalene-	✓		1	grab	8270	5.5	ND			
o. Phenanthrene	✓		1	grab	8270	5.5	ND			
p. Pyrene	✓		1	grab	8270	5.5	ND			
37. Total Polychlorinated Biphenyls (PCBs)	✓		1	grab						
38. Antimony	✓		1	grab	6010		ND			
39. Arsenic		✓	1	grab	6010		1.4E-6	Neg.		
40. Cadmium		✓	1	grab	6010		2E-6	Neg.		
41. Chromium III		✓	1	grab	6010		6E-7	Neg.		
42. Chromium VI			1	grab	6010					

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
43. Copper		✓	1	grab	6010	0.00001	5.2E-6	Neg.		
44. Lead	✓		1	grab	6010	0.00001	ND			
45. Mercury	✓		1	grab	6010		ND			
46. Nickel		✓	1	grab	6010		1.6E-6	Neg.		
47. Selenium	✓		1	grab	6010		ND			
48. Silver		✓	1	grab	6010		1.7E-6			
49. Zinc	✓		1	grab	6010		2E-3	Neg.		
50. Iron										
Other (describe):										

c) For discharges where **metals** are believed present, please fill out the following:

Step 1: Do any of the metals in the influent have a **reasonable potential** to exceed the effluent limits in Appendix III (i.e., the limits set at zero to five dilutions)? Y___ N ✓	If yes, which metals?
Step 2: For any metals which have **reasonable potential** to exceed the **Appendix III** limits, calculate the **dilution factor (DF)** using the formula in Part I.A.3.c) (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metals:_____ DF: 116.	Look up the limit calculated at the corresponding dilution factor in **Appendix IV.** Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y___ N ✓ If "Yes," list which metals:

4. Treatment system information. Please describe the treatment system using separate sheets as necessary, including:

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:
See text.

b) Identify each applicable treatment unit (check all that apply):	Frac. tank ✓	Air stripper	Oil/water separator	Equalization tanks	Bag filter ✓	GAC filter
	Chlorination	Dechlorination	Other (please describe): Cyanide destruction by hipochlorine, pH manipulation (see text)			

c) Proposed **average** and **maximum flow rates** (gallons per minute) for the discharge and the **design flow rate**(s) (gallons per minute) of the treatment system:
Average flow rate of discharge 30-40 Maximum flow rate of treatment system 60 Design flow rate of treatment system 150

d) A description of chemical additives being used or planned to be used (attach MSDS sheets):

5. Receiving surface water(s). Please provide information about the receiving water(s), using separate sheets as necessary:

a) Identify the discharge pathway:	Direct____	Within facility__	Storm drain ✓	River/brook____	Wetlands____	Other (describe):

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:
The effluent will be discharged into a storm drain which discharges into Muddy River and ultimately into the Charles River.

c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:
1. For multiple discharges, number the discharges sequentially.
2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water
The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

d) Provide the state water quality classification of the receiving water B,

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 15.5 cfs
Please attach any calculation sheets used to support stream flow and dilution calculations.

f) Is the receiving water a listed 303(d) water quality impaired or limited water? Yes___ No✓ If yes, for which pollutant(s)?

Is there a TMDL? Yes___ No✓ If yes, for which pollutant(s)?

6. Results of Consultation with Federal Services: Please provide the following information according to requirements of Part I.B.4 and Appendices II and VII.

a) Are any listed threatened or endangered species, or designated critical habitat, in proximity to the discharge? Yes___No✓
Has any consultation with the federal services been completed ? No✓ or is consultation underway? Yes No✓
What were the results of the consultation with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service (~~check~~ one):
a "no jeopardy" opinion? ___or written concurrence___ on a finding that the discharges are not likely to adversely affect any endangered species or critical habitat?

b) Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility or site or in proximity to the discharge?
Yes___ No✓ Have any state or tribal historic preservation officer been consulted in this determination (Massachusetts only)? Yes___ No✓

7. Supplemental information. :

Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit.
See enclosed text, figures, tables, laboratory data sheets

8. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility/Site Name: 454 Brookline Avenue Project c/o J. Derenzo Co.

Operator signature:

Title: Project Manager

Date: 11/03/06

Boston Water and Sewer Commission's Dewatering Discharge Permit Application

Facility/Business Name: 454 Brookline Avenue c/o J. Derenzo Co.

Mailing Address: 338 Howard Street, Brockton, MA 02302

Authorized Representative concerning information provided herein:

Name: Mr. Steve Winn **Title:** Proj. Mgr.

Phone #: 508-427-6441 **Beeper #:** _____ **Fax #:** _____

Owner of property being dewatered: Dana-Farber Cancer Institute

---

Location of Discharge:

Street 454 Brookline Avenue **Neighborhood** JP/Fenway **Phone #** _____

Discharge is to a: Sanitary Sewer Combined Sewer **Storm Drain** (Circle One)

BWSC Outfall #: SD0161 **Receiving Waters:** Muddy River

Temporary Discharges: 12/1/2006 **To** 12/30/2007 **(Provide anticipated dates of discharge)**

__ Groundwater Remediation __ Tank Removal/Installation X Foundation Excavation

__ Utility/Manhole Pumping __ Test Pit __ Trench Excavation

__ Accum. Surface Water __ Hydrogeologic Testing __ Other _____

Permanent Discharges:

__ Foundation Drainage __ Crawl Space/Footing Drain.

__ Accumulated Surface Water __ Non-contact/Uncontaminated Cooling

__ Non-contact/Uncontaminated Process __ Other _____

---

1. **Attach a Site Plan showing the source of the discharge and the location of the point of discharge (i.e. the sewer pipe or catch basin). Include meter type, meter number, size, make and start reading. All discharges are assessed current sewer charges.**

2. **If discharging to a sanitary or combined sewer, attach a copy of MWRA's Sewer Use Discharge permit or application.**

3. **If discharging to a separate storm drain attached a copy of EPA's NPDES Permit or NOI application, or NPDES Permit exclusion letter for the discharge, as well as other relevant information.**

4. **Dewatering Drainage Permit will be denied or revoked if applicant fails to obtain the necessary permits from MWRA or EPA.**

Submit to: **Mr. Francis M. McLaughlin** **Phone: 617-989-7000**
Manager, Engineering Customer Services Fax: 617-989-7716
Boston Water and Sewer Commission
980 Harrison Ave.
Boston, MA 02119

BWSC Use Only

Date Received: _____ **Comments:**

McPHAIL ASSOCIATES, INC.

Geotechnical Engineers

APPENDIX B

GEI Geotechnical Investigation Report

McPHAIL ASSOCIATES, INC.

Geotechnical Engineers

APPENDIX C

Groundwater Chemical Test Data

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive
Westborough, Massachusetts 01581-1019
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: McPhail Associates

Address: 30 Norfolk Street

Cambridge, MA 02139

Attn: Mr. Ambrose Donovan

Project Number: 4591

Site: 454 BROOKLINE AVE

Laboratory Job Number: L0615129

Date Received: 19-OCT-2006

Date Reported: 26-OCT-2006

Delivery Method: Alpha

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0615129-01	WELL MW-2	BOSTON

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized by: Kathleen M. O'Brien
Technical Representative

ALPHA ANALYTICAL LABORATORIES
NARRATIVE REPORT

Laboratory Job Number: L0615129

The samples were received in accordance with the chain of custody and no significant deviations were encountered during preparation or analysis unless otherwise noted below.

Volatile Organics

The LCS % recovery for Acrolein is above the acceptance criteria for the method.

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0615129-01
WELL MW-2
Sample Matrix: WATER

Date Collected: 19-OCT-2006 00:00
Date Received : 19-OCT-2006
Date Reported : 26-OCT-2006

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 4-Amber,3-Plastic,2-Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Solids, Total Suspended	ND	mg/l	5.0	4	160.2		1024 15:50	DW
Chlorine, Total Residual	ND	mg/l	0.05	4	330.1		1020 20:50	DP
pH	6.5	SU	-	4	150.1		1019 18:35	DP
TPH	ND	mg/l	4.00	74	1664A	1023 15:30	1024 12:30	AT
Total Metals								
Antimony, Total	ND	mg/l	0.0005	1	6020	1020 18:00	1021 01:20	BM
Arsenic, Total	0.0014	mg/l	0.0005	1	6020	1020 18:00	1021 01:20	BM
Beryllium, Total	ND	mg/l	0.0005	1	6020	1020 18:00	1021 01:20	BM
Cadmium, Total	0.0020	mg/l	0.0005	1	6020	1020 18:00	1021 01:20	BM
Chromium, Total	0.0006	mg/l	0.0005	1	6020	1020 18:00	1021 01:20	BM
Copper, Total	0.0052	mg/l	0.0005	1	6020	1020 18:00	1021 01:20	BM
Lead, Total	ND	mg/l	0.0005	1	6020	1020 18:00	1021 01:20	BM
Mercury, Total	ND	mg/l	0.0002	1	7470A	1023 20:00	1024 11:51	DM
Nickel, Total	0.0157	mg/l	0.0005	1	6020	1020 18:00	1021 01:20	BM
Selenium, Total	0.010	mg/l	0.001	1	6020	1020 18:00	1021 01:20	BM
Silver, Total	0.0017	mg/l	0.0005	1	6020	1020 18:00	1021 01:20	BM
Thallium, Total	ND	mg/l	0.0005	1	6020	1020 18:00	1021 01:20	BM
Zinc, Total	0.0193	mg/l	0.0100	1	6020	1020 18:00	1021 01:20	BM
Volatile Organics by GC/MS 624				5	624		1024 15:58	MM
Methylene chloride	ND	ug/l	5.0					
1,1-Dichloroethane	ND	ug/l	1.5					
Chloroform	ND	ug/l	1.5					
Carbon tetrachloride	ND	ug/l	1.0					
1,2-Dichloropropane	ND	ug/l	3.5					
Dibromochloromethane	ND	ug/l	1.0					
1,1,2-Trichloroethane	ND	ug/l	1.5					
2-Chloroethylvinyl ether	ND	ug/l	10.					
Tetrachloroethene	ND	ug/l	1.5					
Chlorobenzene	ND	ug/l	3.5					
Trichlorofluoromethane	ND	ug/l	5.0					
1,2-Dichloroethane	ND	ug/l	1.5					
1,1,1-Trichloroethane	ND	ug/l	2.0					
Bromodichloromethane	ND	ug/l	1.0					

Comments: Complete list of References and Glossary of Terms found in Addendum I

Laboratory Sample Number: L0615129-01
WELL MW-2

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Volatile Organics by GC/MS 624 cont'd				5	624		1024 15:58	MM
trans-1,3-Dichloropropene	ND	ug/l	1.5					
cis-1,3-Dichloropropene	ND	ug/l	1.5					
Bromoform	ND	ug/l	1.0					
1,1,2,2-Tetrachloroethane	ND	ug/l	1.0					
Benzene	ND	ug/l	1.0					
Toluene	ND	ug/l	1.0					
Ethylbenzene	ND	ug/l	1.0					
Chloromethane	ND	ug/l	10.					
Bromomethane	ND	ug/l	5.0					
Vinyl chloride	ND	ug/l	2.0					
Chloroethane	ND	ug/l	2.0					
1,1-Dichloroethene	ND	ug/l	1.0					
trans-1,2-Dichloroethene	ND	ug/l	1.5					
cis-1,2-Dichloroethene	ND	ug/l	1.0					
Trichloroethene	ND	ug/l	1.0					
1,2-Dichlorobenzene	ND	ug/l	5.0					
1,3-Dichlorobenzene	ND	ug/l	5.0					
1,4-Dichlorobenzene	ND	ug/l	5.0					
p/m-Xylene	ND	ug/l	2.0					
o-xylene	ND	ug/l	1.0					
Xylene (Total)	ND	ug/l	2.0					
Styrene	ND	ug/l	1.0					
Acetone	ND	ug/l	10.					
Carbon disulfide	ND	ug/l	5.0					
2-Butanone	ND	ug/l	10.					
Vinyl acetate	ND	ug/l	20.					
4-Methyl-2-pentanone	ND	ug/l	10.					
2-Hexanone	ND	ug/l	10.					
Acrolein	ND	ug/l	8.0					
Acrylonitrile	ND	ug/l	10.					
Surrogate(s)	Recovery		QC Criteria					
Pentafluorobenzene	106	%	80-120					
Fluorobenzene	106	%	80-120					
4-Bromofluorobenzene	117	%	80-120					
PAH by GC/MS SIM 8270M				1	8270C-M	1023 19:45	1024 21:57	RL
Acenaphthene	ND	ug/l	0.19					
2-Chloronaphthalene	ND	ug/l	0.19					
Fluoranthene	ND	ug/l	0.19					
Naphthalene	ND	ug/l	0.19					
Benzo(a)anthracene	ND	ug/l	0.19					
Benzo(a)pyrene	ND	ug/l	0.19					
Benzo(b)fluoranthene	ND	ug/l	0.19					
Benzo(k)fluoranthene	ND	ug/l	0.19					
Chrysene	ND	ug/l	0.19					
Acenaphthylene	ND	ug/l	0.19					
Anthracene	ND	ug/l	0.19					
Benzo(ghi)perylene	ND	ug/l	0.19					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0615129-01
WELL MW-2

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
PAH by GC/MS SIM 8270M cont'd				1	8270C-M	1023 19:45	1024 21:57	RL
Fluorene	ND	ug/l	0.19					
Phenanthrene	ND	ug/l	0.19					
Dibenzo(a,h)anthracene	ND	ug/l	0.19					
Indeno(1,2,3-cd)Pyrene	ND	ug/l	0.19					
Pyrene	ND	ug/l	0.19					
1-Methylnaphthalene	ND	ug/l	0.19					
2-Methylnaphthalene	ND	ug/l	0.19					
Perylene	ND	ug/l	0.19					
Biphenyl	ND	ug/l	0.19					
Benzo(e)Pyrene	ND	ug/l	0.19					
Surrogate(s)	Recovery		QC Criteria					
Nitrobenzene-d5	81.0	%	23-120					
2-Fluorobiphenyl	73.0	%	43-120					
4-Terphenyl-d14	81.0	%	33-120					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0615129

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total Suspended for sample(s) 01 (L0615052-01, WG258070-2)					
Solids, Total Suspended	ND	ND	mg/l	NC	20
Chlorine, Total Residual for sample(s) 01 (L0615129-01, WG257807-3)					
Chlorine, Total Residual	ND	ND	mg/l	NC	
pH for sample(s) 01 (L0615129-01, WG257640-2)					
pH	6.5	6.5	SU	0	
TPH for sample(s) 01 (L0615129-01, WG257987-3)					
TPH	ND	ND	mg/l	NC	34
Total Metals for sample(s) 01 (L0615070-02, WG257746-1)					
Lead, Total	0.0174	0.0174	mg/l	0	20
Total Metals for sample(s) 01 (L0615129-01, WG257992-3)					
Mercury, Total	ND	ND	mg/l	NC	20
Volatile Organics by GC/MS 624 for sample(s) 01 (L0615129-01, WG258258-2)					
Methylene chloride	ND	ND	ug/l	NC	30
1,1-Dichloroethane	ND	ND	ug/l	NC	30
Chloroform	ND	ND	ug/l	NC	30
Carbon tetrachloride	ND	ND	ug/l	NC	30
1,2-Dichloropropane	ND	ND	ug/l	NC	30
Dibromochloromethane	ND	ND	ug/l	NC	30
1,1,2-Trichloroethane	ND	ND	ug/l	NC	30
2-Chloroethylvinyl ether	ND	ND	ug/l	NC	30
Tetrachloroethene	ND	ND	ug/l	NC	30
Chlorobenzene	ND	ND	ug/l	NC	30
Trichlorofluoromethane	ND	ND	ug/l	NC	30
1,2-Dichloroethane	ND	ND	ug/l	NC	30
1,1,1-Trichloroethane	ND	ND	ug/l	NC	30
Bromodichloromethane	ND	ND	ug/l	NC	30
trans-1,3-Dichloropropene	ND	ND	ug/l	NC	30
cis-1,3-Dichloropropene	ND	ND	ug/l	NC	30
Bromoform	ND	ND	ug/l	NC	30
1,1,2,2-Tetrachloroethane	ND	ND	ug/l	NC	30
Benzene	ND	ND	ug/l	NC	30
Toluene	ND	ND	ug/l	NC	30
Ethylbenzene	ND	ND	ug/l	NC	30
Chloromethane	ND	ND	ug/l	NC	30
Bromomethane	ND	ND	ug/l	NC	30
Vinyl chloride	ND	ND	ug/l	NC	30
Chloroethane	ND	ND	ug/l	NC	30
1,1-Dichloroethene	ND	ND	ug/l	NC	30
trans-1,2-Dichloroethene	ND	ND	ug/l	NC	30
cis-1,2-Dichloroethene	ND	2.9	ug/l	NC	30
Trichloroethene	ND	ND	ug/l	NC	30
1,2-Dichlorobenzene	ND	ND	ug/l	NC	30

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0615129

Continued

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Volatile Organics by GC/MS 624 for sample(s) 01 (L0615129-01, WG258258-2)					
1,3-Dichlorobenzene	ND	ND	ug/l	NC	30
1,4-Dichlorobenzene	ND	ND	ug/l	NC	30
p/m-Xylene	ND	ND	ug/l	NC	30
o-Xylene	ND	ND	ug/l	NC	30
XYLENE (TOTAL)	ND	ND	ug/l	NC	30
Styrene	ND	ND	ug/l	NC	30
Acetone	ND	ND	ug/l	NC	30
Carbon disulfide	ND	ND	ug/l	NC	30
2-Butanone	ND	ND	ug/l	NC	30
Vinyl acetate	ND	ND	ug/l	NC	30
4-Methyl-2-pentanone	ND	ND	ug/l	NC	30
2-Hexanone	ND	ND	ug/l	NC	30
Acrolein	ND	ND	ug/l	NC	30
Acrylonitrile	ND	ND	ug/l	NC	30
Surrogate(s)	Recovery				QC Criteria
Pentafluorobenzene	106	99.0	%		80-120
Fluorobenzene	106	102	%		80-120
4-Bromofluorobenzene	117	111	%		80-120

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0615129

Parameter	% Recovery	QC Criteria
Chlorine, Total Residual LCS for sample(s) 01 (WG257807-2)		
Chlorine, Total Residual	100	
pH LCS for sample(s) 01 (WG257640-1)		
pH	100	
TPH LCS for sample(s) 01 (WG257987-2)		
TPH	95	64-132
Total Metals LCS for sample(s) 01 (WG257746-4)		
Antimony, Total	91	80-120
Arsenic, Total	95	80-120
Beryllium, Total	97	80-120
Cadmium, Total	101	80-120
Chromium, Total	98	80-120
Copper, Total	95	80-120
Lead, Total	99	80-120
Nickel, Total	97	80-120
Selenium, Total	95	80-120
Silver, Total	91	80-120
Thallium, Total	93	80-120
Zinc, Total	98	80-120
Total Metals LCS for sample(s) 01 (WG257992-1)		
Mercury, Total	104	85-115
Volatile Organics by GC/MS 624 LCS for sample(s) 01 (WG258258-3)		
Methylene chloride	106	10-221
1,1-Dichloroethane	115	59-155
Chloroform	105	51-138
Carbon tetrachloride	114	70-140
1,2-Dichloropropane	115	10-210
Dibromochloromethane	102	53-149
1,1,2-Trichloroethane	102	52-150
2-Chloroethylvinyl ether	101	10-305
Tetrachloroethene	100	64-148
Chlorobenzene	101	37-160
Trichlorofluoromethane	98	17-181
1,2-Dichloroethane	107	49-155
1,1,1-Trichloroethane	116	52-162
Bromodichloromethane	112	35-155
trans-1,3-Dichloropropene	92	17-183
cis-1,3-Dichloropropene	104	10-227
Bromoform	99	45-169
1,1,2,2-Tetrachloroethane	96	46-157
Benzene	111	37-151
Toluene	106	47-150
Ethylbenzene	105	37-162
Chloromethane	110	10-273

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0615129

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by GC/MS 624 LCS for sample(s) 01 (WG258258-3)		
Bromomethane	133	10-242
Vinyl chloride	100	10-251
Chloroethane	104	14-230
1,1-Dichloroethene	96	10-234
trans-1,2-Dichloroethene	107	54-156
cis-1,2-Dichloroethene	108	60-140
Trichloroethene	121	71-157
1,2-Dichlorobenzene	100	18-190
1,3-Dichlorobenzene	100	59-156
1,4-Dichlorobenzene	103	18-190
p/m-Xylene	104	40-160
o-Xylene	102	40-160
XYLENE (TOTAL)	104	40-160
Styrene	103	40-160
Acetone	131	40-160
Carbon disulfide	102	40-160
2-Butanone	118	40-160
Vinyl acetate	73	40-160
4-Methyl-2-pentanone	101	40-160
2-Hexanone	97	40-160
Acrolein	173	40-160
Acrylonitrile	113	40-160
Surrogate(s)		
Pentafluorobenzene	98	80-120
Fluorobenzene	101	80-120
4-Bromofluorobenzene	99	80-120
PAH by GC/MS SIM 8270M LCS for sample(s) 01 (WG258017-2)		
Acenaphthene	75	46-118
2-Chloronaphthalene	80	
Fluoranthene	86	
Anthracene	102	
Pyrene	82	26-127
Surrogate(s)		
Nitrobenzene-d5	86	23-120
2-Fluorobiphenyl	76	43-120
4-Terphenyl-d14	85	33-120
Total Metals SPIKE for sample(s) 01 (L0615070-02, WG257746-2)		
Antimony, Total	92	80-120
Arsenic, Total	99	80-120
Beryllium, Total	95	80-120
Cadmium, Total	110	80-120
Chromium, Total	97	80-120
Copper, Total	94	80-120
Lead, Total	99	80-120

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0615129

Continued

Parameter	% Recovery	QC Criteria
Total Metals SPIKE for sample(s) 01 (L0615070-02, WG257746-2)		
Nickel, Total	95	80-120
Selenium, Total	92	80-120
Silver, Total	94	80-120
Thallium, Total	94	80-120
Zinc, Total	100	80-120
Total Metals SPIKE for sample(s) 01 (L0615129-01, WG257992-2)		
Mercury, Total	116	70-130
Volatile Organics by GC/MS 624 SPIKE for sample(s) 01 (L0615039-01, WG258258-1)		
Methylene chloride	112	10-221
1,1-Dichloroethane	134	59-155
Chloroform	113	51-138
Carbon tetrachloride	138	70-140
1,2-Dichloropropane	128	10-210
Dibromochloromethane	104	53-149
1,1,2-Trichloroethane	54	52-150
2-Chloroethylvinyl ether	108	10-305
Tetrachloroethene	110	64-148
Chlorobenzene	106	37-160
Trichlorofluoromethane	119	17-181
1,2-Dichloroethane	116	49-155
1,1,1-Trichloroethane	133	52-162
Bromodichloromethane	115	35-155
trans-1,3-Dichloropropene	96	17-183
cis-1,3-Dichloropropene	104	10-227
Bromoform	93	45-169
1,1,2,2-Tetrachloroethane	99	46-157
Benzene	122	35-151
Toluene	112	47-150
Ethylbenzene	113	37-162
Chloromethane	126	10-273
Bromomethane	113	10-242
Vinyl chloride	124	10-251
Chloroethane	126	14-230
1,1-Dichloroethene	108	10-234
trans-1,2-Dichloroethene	114	54-156
cis-1,2-Dichloroethene	102	60-140
Trichloroethene	126	71-157
1,2-Dichlorobenzene	102	18-190
1,3-Dichlorobenzene	103	59-156
1,4-Dichlorobenzene	104	18-190
p/m-Xylene	112	40-160
o-Xylene	110	40-160
XYLENE (TOTAL)	112	40-160
Styrene	108	40-160
Acetone	113	40-160
Carbon disulfide	111	40-160

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0615129

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by GC/MS 624 SPIKE for sample(s) 01 (L0615039-01, WG258258-1)		
2-Butanone	116	40-160
Vinyl acetate	75	40-160
4-Methyl-2-pentanone	104	40-160
2-Hexanone	96	40-160
Acrolein	160	40-160
Acrylonitrile	123	40-160
Surrogate(s)		
Pentafluorobenzene	95	80-120
Fluorobenzene	99	80-120
4-Bromofluorobenzene	100	80-120

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH MS/MSD ANALYSIS

Laboratory Job Number: L0615129

Parameter	MS %	MSD %	RPD	RPD Limit	MS/MSD Limits
PAH by GC/MS SIM 8270M for sample(s) 01 (L0615129-01, WG258017-4)					
Acenaphthene	86	82	5	40	46-118
2-Chloronaphthalene	91	86	6	40	
Fluoranthene	110	110	0	40	
Anthracene	120	120	0	40	
Pyrene	100	100	0	40	26-127
Surrogate(s)					
Nitrobenzene-d5	94	91	3		23-120
2-Fluorobiphenyl	88	84	5		43-120
4-Terphenyl-d14	112	114	2		33-120

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0615129

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Blank Analysis for sample(s) 01 (WG258070-1)								
Solids, Total Suspended	ND	mg/l	5.0	4	160.2		1024 15:50	DW
Blank Analysis for sample(s) 01 (WG257807-1)								
Chlorine, Total Residual	ND	mg/l	0.05	4	330.1		1020 20:50	DP
Blank Analysis for sample(s) 01 (WG257987-1)								
TPH	ND	mg/l	4.00	74	1664A	1023 15:30	1024 12:30	AT
Blank Analysis for sample(s) 01 (WG257746-3)								
Total Metals								
Antimony, Total	ND	mg/l	0.0005	1	6020	1020 18:00	1021 00:30	BM
Arsenic, Total	ND	mg/l	0.0005	1	6020	1020 18:00	1021 00:30	BM
Beryllium, Total	ND	mg/l	0.0005	1	6020	1020 18:00	1021 00:30	BM
Cadmium, Total	ND	mg/l	0.0005	1	6020	1020 18:00	1021 00:30	BM
Chromium, Total	ND	mg/l	0.0005	1	6020	1020 18:00	1021 00:30	BM
Copper, Total	ND	mg/l	0.0005	1	6020	1020 18:00	1021 00:30	BM
Lead, Total	ND	mg/l	0.0005	1	6020	1020 18:00	1021 00:30	BM
Nickel, Total	ND	mg/l	0.0005	1	6020	1020 18:00	1021 00:30	BM
Selenium, Total	ND	mg/l	0.001	1	6020	1020 18:00	1021 00:30	BM
Silver, Total	ND	mg/l	0.0005	1	6020	1020 18:00	1021 00:30	BM
Thallium, Total	ND	mg/l	0.0005	1	6020	1020 18:00	1021 00:30	BM
Zinc, Total	ND	mg/l	0.0100	1	6020	1020 18:00	1021 00:30	BM
Blank Analysis for sample(s) 01 (WG257992-4)								
Total Metals								
Mercury, Total	ND	mg/l	0.0002	1	7470A	1023 20:00	1024 11:47	DM
Blank Analysis for sample(s) 01 (WG258258-4)								
Volatile Organics by GC/MS 624				5	624		1024 14:46	MM
Methylene chloride	ND	ug/l	5.0					
1,1-Dichloroethane	ND	ug/l	1.5					
Chloroform	ND	ug/l	1.5					
Carbon tetrachloride	ND	ug/l	1.0					
1,2-Dichloropropane	ND	ug/l	3.5					
Dibromochloromethane	ND	ug/l	1.0					
1,1,2-Trichloroethane	ND	ug/l	1.5					
2-Chloroethylvinyl ether	ND	ug/l	10.					
Tetrachloroethene	ND	ug/l	1.5					
Chlorobenzene	ND	ug/l	3.5					
Trichlorofluoromethane	ND	ug/l	5.0					
1,2-Dichloroethane	ND	ug/l	1.5					
1,1,1-Trichloroethane	ND	ug/l	2.0					

Laboratory Job Number: L0615129

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Blank Analysis for sample(s) 01 (WG258258-4)							
Volatile Organics by GC/MS 624 cont'd				5 624		1024 14:46	MM
Bromodichloromethane	ND	ug/l	1.0				
trans-1,3-Dichloropropene	ND	ug/l	1.5				
cis-1,3-Dichloropropene	ND	ug/l	1.5				
Bromoform	ND	ug/l	1.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	1.0				
Benzene	ND	ug/l	1.0				
Toluene	ND	ug/l	1.0				
Ethylbenzene	ND	ug/l	1.0				
Chloromethane	ND	ug/l	10.				
Bromomethane	ND	ug/l	5.0				
Vinyl chloride	ND	ug/l	2.0				
Chloroethane	ND	ug/l	2.0				
1,1-Dichloroethene	ND	ug/l	1.0				
trans-1,2-Dichloroethene	ND	ug/l	1.5				
cis-1,2-Dichloroethene	ND	ug/l	1.0				
Trichloroethene	ND	ug/l	1.0				
1,2-Dichlorobenzene	ND	ug/l	5.0				
1,3-Dichlorobenzene	ND	ug/l	5.0				
1,4-Dichlorobenzene	ND	ug/l	5.0				
p/m-Xylene	ND	ug/l	2.0				
o-xylene	ND	ug/l	1.0				
Xylene (Total)	ND	ug/l	2.0				
Styrene	ND	ug/l	1.0				
Acetone	ND	ug/l	10.				
Carbon disulfide	ND	ug/l	5.0				
2-Butanone	ND	ug/l	10.				
Vinyl acetate	ND	ug/l	20.				
4-Methyl-2-pentanone	ND	ug/l	10.				
2-Hexanone	ND	ug/l	10.				
Acrolein	ND	ug/l	8.0				
Acrylonitrile	ND	ug/l	10.				
Surrogate(s)	Recovery		QC Criteria				
Pentafluorobenzene	94.0	%	80-120				
Fluorobenzene	97.0	%	80-120				
4-Bromofluorobenzene	106	%	80-120				
Blank Analysis for sample(s) 01 (WG258017-1)							
PAH by GC/MS SIM 8270M				1 8270C-M	1023 19:45	1024 21:10	RL
Acenaphthene	ND	ug/l	0.20				
2-Chloronaphthalene	ND	ug/l	0.20				
Fluoranthene	ND	ug/l	0.20				
Naphthalene	ND	ug/l	0.20				
Benzo(a)anthracene	ND	ug/l	0.20				
Benzo(a)pyrene	ND	ug/l	0.20				
Benzo(b)fluoranthene	ND	ug/l	0.20				

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0615129

Continued

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Blank Analysis for sample(s) 01 (WG258017-1)								
PAH by GC/MS SIM 8270M cont'd				1	8270C-M	1023 19:45	1024 21:10	RL
Benzo(k)fluoranthene	ND	ug/l	0.20					
Chrysene	ND	ug/l	0.20					
Acenaphthylene	ND	ug/l	0.20					
Anthracene	ND	ug/l	0.20					
Benzo(ghi)perylene	ND	ug/l	0.20					
Fluorene	ND	ug/l	0.20					
Phenanthrene	ND	ug/l	0.20					
Dibenzo(a,h)anthracene	ND	ug/l	0.20					
Indeno(1,2,3-cd)Pyrene	ND	ug/l	0.20					
Pyrene	ND	ug/l	0.20					
1-Methylnaphthalene	ND	ug/l	0.20					
2-Methylnaphthalene	ND	ug/l	0.20					
Perylene	ND	ug/l	0.20					
Biphenyl	ND	ug/l	0.20					
Benzo(e)Pyrene	ND	ug/l	0.20					
Surrogate(s)	Recovery		QC Criteria					
Nitrobenzene-d5	86.0	%	23-120					
2-Fluorobiphenyl	76.0	%	43-120					
4-Terphenyl-d14	85.0	%	33-120					

REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.

4. Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.

5. Methods for the Organic Chemical Analysis of Municipal and Industrial Wastewater. Appendix A, Part 136, 40 CFR (Code of Federal Regulations).

74. Method 1664,Revision A: N-Hexane Extractable Material (HEM; Oil & Grease) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, EPA-821-R-98-002, February 1999.

GLOSSARY OF TERMS AND SYMBOLS

REF	Reference number in which test method may be found.
METHOD	Method number by which analysis was performed.
ID	Initials of the analyst.
ND	Not detected in comparison to the reported detection limit.
NI	Not Ignitable.
ug/cart	Micrograms per Cartridge.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 10/19

ALPHA Job #: L0615129

Eight Walkup Drive Westborough, MA 01581
TEL: 508-898-9220 FAX: 508-898-9193

Client Information

Client: McPhail
Address: Cambridge
Phone:
Fax:
Email:
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: 454 Brookline Ave
Project Location: Boston
Project #: 4591.
Project Manager: Arie
ALPHA Quote #:

Turn-Around Time

☐ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 10/26/06 Time:

Report Information - Data Deliverables

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program: OSEA Criteria: RGP

MCP PRESUMPTIVE CERTAINTY - THESE QUESTIONS MUST BE ANSWERED

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Are Drinking Water Samples Submitted?
☐ Yes ☐ No Have you met minimum field QC requirements?

Other Project Specific Requirements/Comments/Detection Limits:

RGP detection limits required

SAMPLE HANDLING

Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: PAH 1170	VOC 624 + 10 Oxygenates	pH 150.1	TOTAL TSS 160.2	TPH 1664	Sample Specific Comments	TOTAL # BOTTLES
5129.1	Well MW-2 (10-19-06)			H_2O	BB	X	X	X	X	X		10

QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY

IS YOUR PROJECT MCP ?

	A	B	C	D	E	F						
Container Type	V	P	G	P	A							
Preservative	A	B	A	C	A							

Relinquished By:	Date/Time	Received By:	Date/Time
	10/19/06		10/19/06 1
	10/19 2000		10/19 2000

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

FORM NO: 01-01 (rev. 14-May-04)