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CITY OF SOMERVILLE
BOARD OF ALDERMEN
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143
(617) 625-6600

APPLICATION TO RENEW FLAMMABLES LICENSE

TRUSTEES OF TUFTS UNIVERSITY
DANA P. ANDRUS
520 BOSTON AVE
MEDFORD, MA 02155

License #:	**1041**
	City #F139
Fee:	**550.00**
Account ID:	**817**
Reference #:	**1041**

Review and update the information below. If you have workers compensation insurance, attach proof showing the insurer and policy number. Then sign the Acknowledgment and return this form with your fee to the City Clerk's Office.

INFORMATION ON FILE:	**CHANGES:** (Note below or explain on a separate sheet)
Business/DBA Name: For **TUFTS FACILITIES SERVICES DEPT.** Business Location: **62 TALBOT AVE** Business Phone: **617-627-3992**	20,000 GAL fuel oil tank Removed in Summer 2007- Paperwork Attached
License Holder: **TRUSTEES OF TUFTS UNIVERSITY** **DANA P. ANDRUS** **520 BOSTON AVE** **MEDFORD, MA 02155** **617-627-3992**	
Mailing Address: **TRUSTEES OF TUFTS UNIVERSITY** **520 BOSTON AVE** **MEDFORD, MA 02155**	
Business Type: **CORPORATION (INC. LLC)**	
FID: **042103634**	
Food Manager/Emergency Contact: **DANA ANDRUS** **617-627-3496**	

Conditions: *(to change any conditions, submit a new application. Contact the City Clerk's Office for more information)*

Hours: **MO-SU 5 AM - MIDNIGHT**

Description of Location and/or Other Conditions:

Originally granted 9/1/1964 for storing 20,000 gallons #2 fuel oil, 1,005 gallons class 1-2-3 flammables, 3,000 cubic ft compressed gases.

I hereby certify under the penalties of perjury that the following is true:
-All information shown above is true and accurate.
-Any changes above are subject to the approval of the BOARD OF ALDERMEN.
-I have filed all State tax returns and paid all State taxes required by law for this business.

Signature: Dana P. Andrus Date 5/8/2013

Print Name: DANA P. ANDRUS (Agent) Phone 617-627-3992

City of Somerville, Massachusetts
Finance Department, Treasury Division

CERTIFICATE OF GOOD STANDING

Exact name of taxpayer/applicant's business: Trustees of Tufts University

Address of taxpayer/applicant's business in Somerville: 62 Talbot Ave Somerville, MA 02144

Address of taxpayer/applicant's home in Somerville: 520 Boston Ave Medford, MA 02155

Taxpayer/applicant's phone: day: 617-627-3496 evening: 617-627-3030

I, (print name) Dana P. Andrus Agent, the undersigned Taxpayer, do hereby certify that all the information contained herein is true and correct and all taxes and fees due the City have been paid or that the Taxpayer has entered into an agreement to pay all taxes and fees and is current on said agreement.

SIGNED UNDER THE PAINS AND PENALTIES OF PERJURY, this 12TH day of April 23, 2013. Dana P. Andrus (Agent)
(Taxpayer's signature)

CITY'S ACKNOWLEDGEMENT

DATE OF ISSUANCE: _____ **INCLUDES RELEVANT POSTINGS THROUGH:** _____

TAXES AND ACCOUNT NUMBER(S) INCLUDED IN CERTIFICATE:

☐ Real Estate 99743155 # ~~09200254~~ ☐ Water/Sewer # 33909901 ☐ Personal Property # _____ ☐ Other: ___ # _____

NOTES:

CLERK'S INITIALS: _____ **ORIGINAL STAMP:** RECEIVED 4-5-13

Capaccio
Environmental Engineering, Inc.

COPY

Certified Mail RRR 7006 0100 0005 2869 0198 *"Helping Industry and the Environment Prosper"*

September 17, 2007

Bureau of Waste Site Cleanup
Massachusetts Department of Environmental Protection
Northeast Region
205B Lowell Street
Wilmington, MA 01887

RE: **Underground Storage Tank Closure Assessment Report**
Tufts University
Michael/Pearson Chemistry Building
62 Talbot Avenue
Somerville, Massachusetts

To Whom It May Concern:

Capaccio Environmental Engineering, Inc. (CAPACCIO) was contracted by Tufts University (TUFTS) to oversee the excavation and removal of an underground storage tank (UST) from the above-referenced location. The following Underground Storage Tank Closure Assessment Report summarizes the activities conducted in accordance with the *Commonwealth of Massachusetts Underground Storage Tank Closure Assessment Manual*, DEP Policy #WSC-402-96. A Site Location Map is included as Figure 1.

PRELIMINARY SOIL SAMPLING

On April 27, 2007, CAPACCIO supervised the installation of two soil borings, SB-1 and SB-2, in the locations shown on Figure 2, utilizing a Geoprobe™. Based on the property topography and hence the apparent groundwater flow direction, soil boring SB-1 was completed on the downslope end of the UST and soil boring SB-2 was completed on the upslope end of the UST. These soil borings were completed in order to characterize the subsurface soil and groundwater conditions prior to excavation of the UST. Boring logs are included in Appendix 1. In reference to these logs, the sediments encountered typically consisted of brown medium to fine sand with varying amounts of silt and gravel to a depth of approximately four to six feet below grade when the sediments graded into silt and clay with varying amounts of sand and gravel. Continuous soil samples were collected for field screening purposes utilizing a photoionization detector (PID). PID readings were non-detectable from all samples on both of the soil borings. A moist layer from approximately eight to 8.5 feet below grade was observed, most likely the result of perched groundwater in a sandier lense of sediment.

Soil samples were collected from both soil borings at a depth of approximately 7.5 to eight feet below grade and submitted to R.I. Analytical, Inc. of Hudson, Massachusetts (Certification #MA-RI015). Soil boring SB-1 was analyzed for volatile organic compounds (VOCs) utilizing EPA Method 8260. A composite of soil boring SB-1 and SB-2 was additionally analyzed for total petroleum hydrocarbons (TPH) utilizing EPA Method 8100, semi-VOCs utilizing EPA Method 8270, polychlorinated biphenyls (PCBs),

and RCRA 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver), pH, conductivity, flashpoint, and cyanide and sulfur reactivity. A copy of the analytical data is attached as Appendix 2. In reference to these data, no VOCs, semi-VOCs, PCBs or TPH were detected above laboratory detection limits. The soil had a pH of 7.3, a conductivity of 54 µmhos/cm, was non-reactive and had a flashpoint greater than 200°F. The analyzed metals were all below the applicable Massachusetts Department of Environmental Protection (MADEP) Reportable Concentrations.

UST EXCAVATION

On July 25, 2007, CAPACCIO conducted field observations and screening during removal of a 20,000-gallon double-walled cathodically-protected steel (STI-P3™) UST located in the parking lot on the western side of the Michael/Pearson Chemistry Building, located on the TUFTS campus at 62 Talbot Avenue. The UST contained #2 fuel oil that was to be utilized as necessary for emergency heating of the laboratory. A Site Plan showing the location of the UST is included as Figure 2 and a detailed layout of the excavation area is included as Figure 3. Photographs are attached as Appendix 3. Piping to the UST was installed on the eastern side of the UST, approximately five feet below grade from the UST through the foundation of the Michael/Pearson Chemistry Building. The vent stack exited the southern side of the Michael/Pearson Chemistry Building adjacent to the loading area, approximately 15 feet above grade. All of the piping was contained within PVC secondary containment conduits. Per TUFTS, the UST was never utilized and there were no known releases from the UST or piping.

The UST was removed from service, evacuated and cleaned by Environmental Sampling Technology (EST) on July 23 and July 24, 2007. A total of 7,025 gallons of #2 fuel oil was evacuated and a total of four 55-gallon drums (800 pounds) of sludge were removed from the tank. The #2 fuel oil was transported by United Industrial Services for re-use. A copy of the work orders for removal of the virgin #2 fuel oil is attached as Appendix 4. The sludge was transported from the property by Clean Venture, Inc. and disposed of at General Chemical Corporation in Framingham, Massachusetts. A copy of the Uniform Hazardous Waste Manifest is included in Appendix 5.

The UST was excavated by EST personnel in accordance with the Commonwealth of Massachusetts, Department of Fire Services – Board of Fire Prevention Application and Permit for storage tank removal and transportation, attached as Appendix 6. While the UST and associated piping was uncovered, there were no obvious signs of corrosion, breakage or loose fittings on the system connections. There was no staining of soil around the fill pipe or UST connections. The piping, in PVC secondary containment, extended from the UST approximately ten feet before entering the building foundation. The piping was removed from the casing and the secondary containment casing was filled with hydraulic cement (Photos #7 ad #8). Soil from the top and surrounding the UST was excavated and temporarily stockpiled. CAPACCIO conducted field screening utilizing a photoionization detector (PID) in accordance with MADEP protocol. Soil headspace readings were taken from the following locations: soil removed during excavation activities; a few inches from the surface of the UST and associated piping; the floor adjacent to and beneath the UST; and, each of the excavation sidewalls. No PID readings above background were detected.

Following removal, CAPACCIO visually inspected the UST for corrosion and staining. The UST was 10 feet in diameter and 30 feet in length. The integrity of the UST appeared to be intact with no corrosion, staining or pitting (Photos #4 and #5). Groundwater was not encountered during excavation of the UST and the dimensions of the completed excavation were approximately 40 feet by 25 feet to a depth of approximately 16 feet in the center to approximately 8 feet along the sidewalls.

SOIL ANALYTICAL DATA

In accordance with MADEP protocol, if headspace readings do not indicate the presence of volatile compounds or if the readings at the screening locations are equivalent to ambient air readings for UST closures where fuel oil was stored, a minimum of one composite sample from the sidewalls and floor of the excavation is recommended to be collected. In order to provide conservative information, CAPACCIO collected six soil samples. Four soil samples were collected from the northern (NW), western (WW), southern (SW) and eastern (EW) sidewalls of the excavated area. The samples were collected via backhoe at a depth of approximately eight feet below grade and approximately six to twelve inches into the sidewall. Soil samples B-1 and B-2 were collected from the bottom of the excavation at a depth of approximately 16 feet below grade. Each of the six samples were submitted to R.I. Analytical, Inc. where the four soil samples were composited by the laboratory into one sample (NW,EW,SW,WW) to be representative of the excavation sidewalls and the two bottom samples were composited by the laboratory into one sample (B-1,B-2) to be representative of the bottom of the excavation.

Both soil samples NW,EW,SW,WW and B-1,B-2 were analyzed for volatile petroleum hydrocarbons (VPH) and extractable petroleum hydrocarbons (EPH), both with targeted VOC and polyaromatic hydrocarbon (PAH) compounds, via the MADEP methods. The VPH and EPH soil analytical data is presented in Table 1 (VPH and EPH) and Table 2 (PAHs) and the analytical report is included in Appendix 7. In reference to these data, all analyzed compounds were non-detectable from the composite sidewall sample. VPH and the associated targeted compounds were also non-detectable in the composite bottom sample. Each of the EPH fractions in the composite bottom sample were non-detectable with the exception of the C_{11}-C_{22} aromatic fraction, which was recorded at a concentration of 27 parts per million (ppm), well below the applicable MADEP Soil Standards (S-1/GW-2). Several polyaromatic hydrocarbon (PAH) compounds were detected in the composite bottom sample at concentrations ranging from the laboratory detection limit of 0.4 ppm [indeno(1,2,3-cd)pyrene and benzo(g,h,i)perylene] to 1.5 ppm (fluoranthene), again, well below the applicable MADEP Soil Standards as well as the background concentrations for natural soil as documented by the MADEP in *Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil.*

DISPOSAL DOCUMENTATION

Due to the lack of hydrocarbon impact detected during the UST removal, a total of approximately 100 yards of excavated pea gravel and soil was transported by Caruso Companies of Revere, Massachusetts to their Northgate yard in Revere, Massachusetts for use recycling. Disposal documentation is included in Appendix 8. The excavation was backfilled with approximately 220 cubic yards of flowable fill provided by Aggregate Industries of Saugus, Massachusetts.

Following removal, the UST was transported by the James G. Grant Company, Inc. to their facility in Readville, Massachusetts. Documentation for delivery of the UST is included as Appendix 9.

CONCLUSIONS

No PID readings above background were detected during excavation of the UST, there were no visible signs of hydrocarbon impact and no soil concentrations that are above the applicable MADEP Soil Standards. Based on this, there is no MADEP-defined reportable condition associated with the excavation of the 20,000-gallon Michael/ Pearson Chemistry Building fuel oil tank.

If you have any questions or require additional information, please do not hesitate to contact me at (508) 970-0033, ext. 18.

Sincerely,
Capaccio Environmental Engineering, Inc.

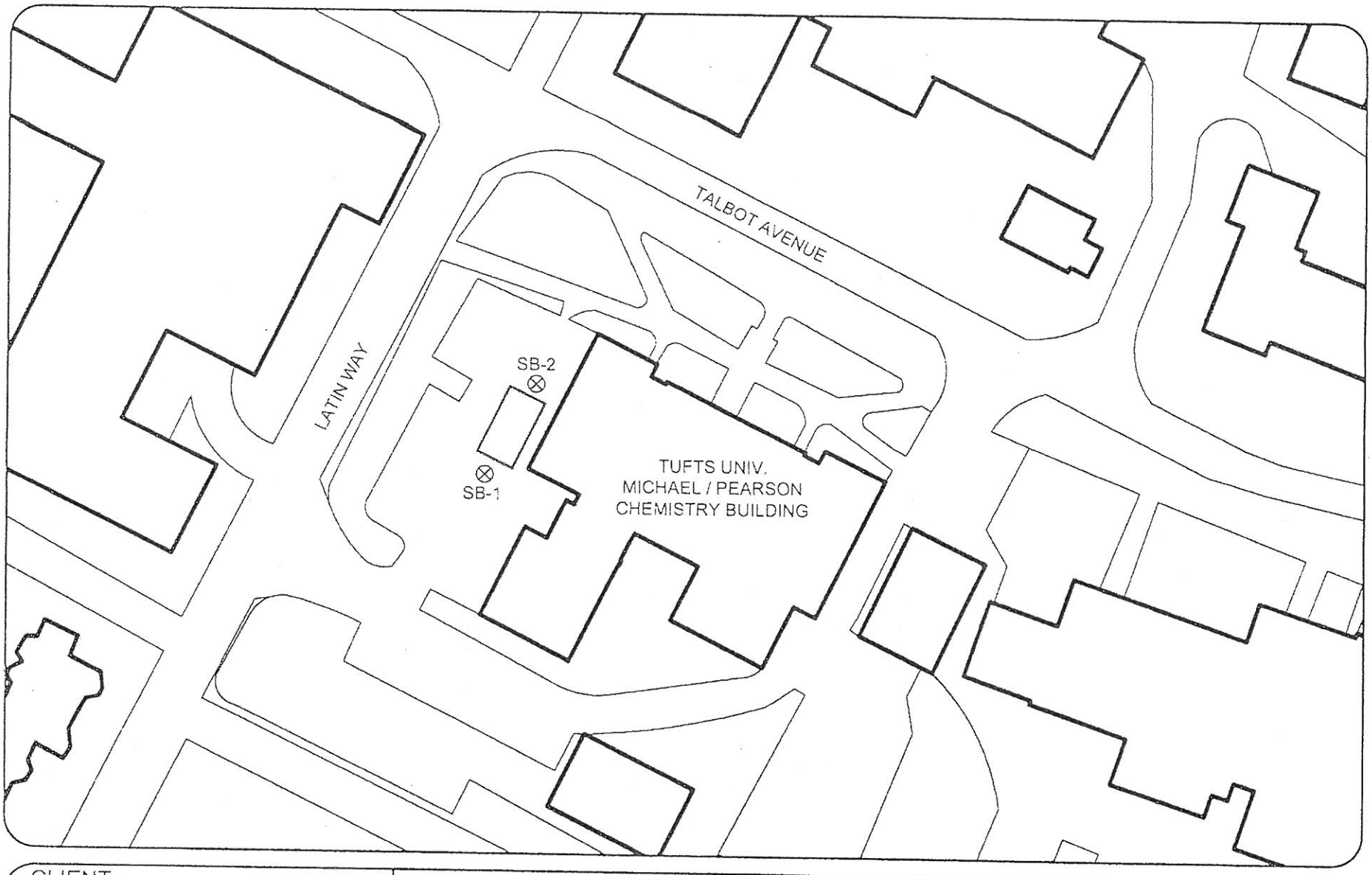
Dawn Horter

Dawn Horter, CPG, LSP
Senior Hydrogeologist

pc: Elliott Miller, Tufts University – Facilities Department
Ronald Esposito, Tufts University – Facilities Department
Nicholas Magliano, Tufts University – Environmental Health and Safety Department
Wayne Bates, Capaccio Environmental Engineering, Inc.
Massachusetts Department of Fire Services
Somerville Fire Department
MF – 05-034-UST

Enclosures:

Table 1	Summary of Soil Analytical Data – VPH and EPH
Table 2	Summary of Soil Analytical Data - PAHs
Figure 1	Site Location Map
Figure 2	Site Plan
Figure 3	Excavation Plan
Appendix 1	Soil Boring Logs
Appendix 2	Soil Analytical Data – April 27, 2007
Appendix 3	Photographs
Appendix 4	Fuel Oil Disposal Documentation
Appendix 5	Tank Sludge Disposal Documentation
Appendix 6	Tank Removal and Transportation Permit
Appendix 7	Soil Analytical Data
Appendix 8	Soil Disposal Documentation
Appendix 9	Tank Disposal Documentation



CLIENT: Tufts University Michael / Pearson Chemistry Building	Figure 2 - Site Plan	NORTH ↑	SIZE: A
TITLE: 62 Talbot Avenue Somerville, MA	SCALE: 1" = 70'-0"	DR BY: TJL	
	JOB # 05-034UST	CK BY: DH	
	DATE: 08-21-07	REV: 01	

Capaccio
Environmental Engineering, Inc.
293 Boston Post Road-West
Marlborough, MA 01752
(508) 970-0033 * www.capaccio.com
"Helping Industry and the Environment Prosper"

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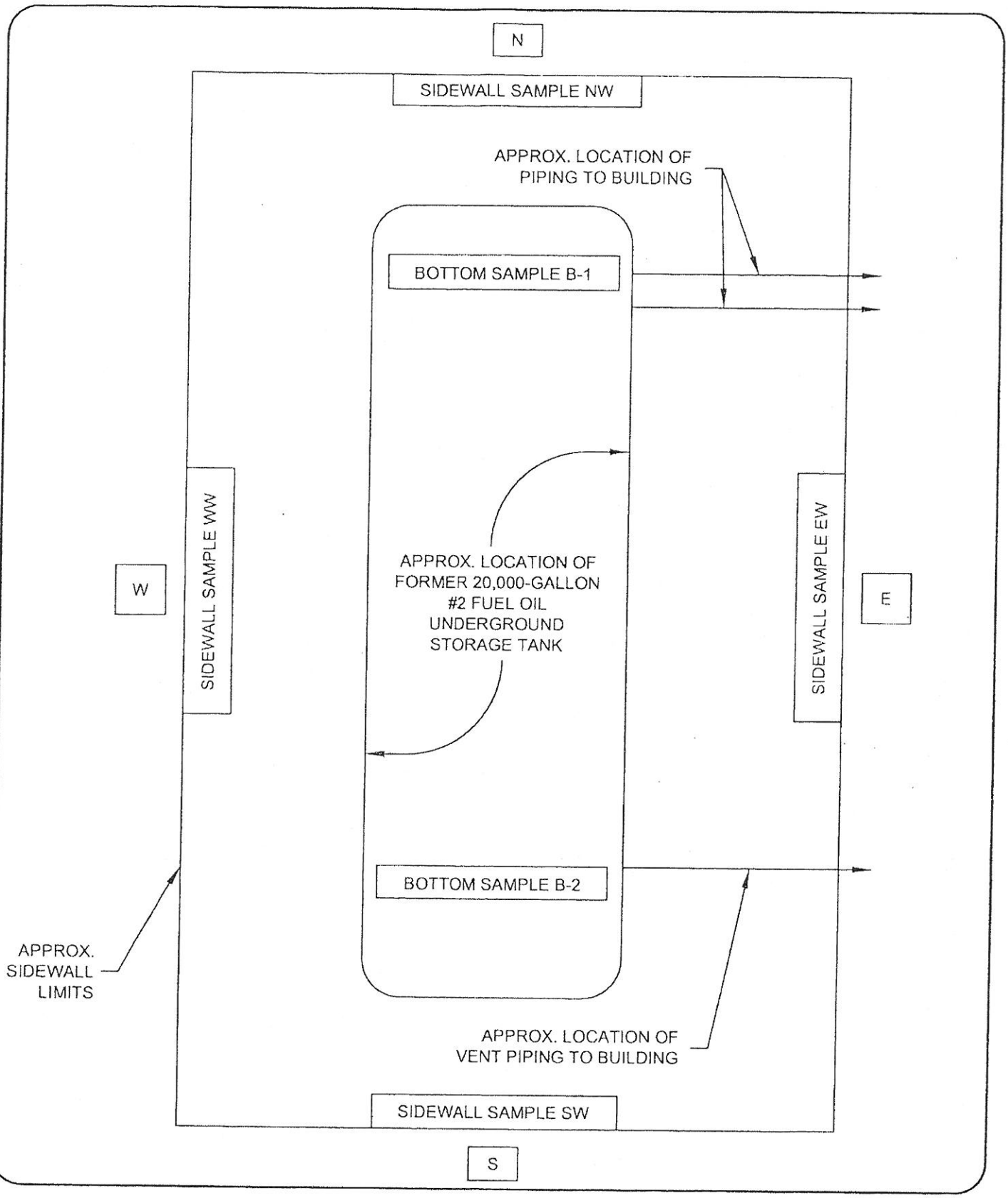

CLIENT: Tufts University Michael / Pearson Chemistry Building		Figure 3 - Excavation Plan	Capaccio Environmental Engineering, Inc. 293 Boston Post Road-West Marlborough, MA 01752 (508) 970-0033 * www.capaccio.com "Helping Industry and the Environment Prosper"
TITLE: 62 Talbot Avenue Somerville, MA	NORTH	SCALE: 1" = 5'-0"	DR BY: TJL
		JOB # 05-034UST	CK BY: DH/WEB
		DATE: 08-22-07	REV: 01
			SIZE: A