



*HydroEnvironmental*  
SOLUTIONS, INC.

June 14, 2011

Mr. Todd Ghiosay  
New York State Department of Environmental Conservation  
100 Hillside Avenue  
White Plains, New York 10603-2860

RE: Remedial Action Work Plan  
2101 and 2103 Palmer Avenue  
Larchmont, New York

NYSDEC Spill No. 1006787

Dear Mr. Ghiosay:

HydroEnvironmental Solutions, Inc. (HES) has compiled the following Scope of Work to complete a New York State Department of Environmental Conservation (NYSDEC) required Remedial Action Work Plan (RAW) at the above referenced site. The purpose of this RAW is to define protocol to complete a site cleanup so that the subject property will be in compliance with all applicable NYSDEC Regulations pertaining to a petroleum hydrocarbon (PHC) impacted site. Based on our April 2011 subsurface investigation (SI) and May 11, 2011 meeting with the NYSDEC Region 3 Office, the following environmental work will need to be completed at the site in order to comply with the NYSDEC Regulations related to conducting a site cleanup (Remedial Action Work Plan {RAW}) at a former industrial facility.

#### **Site Background**

The current owner of the subject property retained Tim Miller Associates, Inc. of Cold Spring, New York to conduct a Phase I Environmental Site Assessment (ESA) prior to the purchase of the subject site. The Phase I ESA was conducted in June 2006 and recommended no further environmental investigation for the subject site.

In September 2010, Wilder Balter, a prospective buyer of the property retained Tectonic Engineering and Surveying Consultants, PC (Tectonic) of Mountainville, New York to perform soil testing prior to the anticipated development of the subject site and to conduct a Limited

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Environmental Assessment of the parcel. During test pit excavation activities on September 20 and 21, 2010, Tectonic encountered PHC impacted soils and free-phase PHC seeping into several test pits. Subsequent to test pit excavation activities, Tectonic installed ten (10) test borings using a truck mounted Geoprobe in an attempt to delineate the extent of PHC impacts to the site.

Due to the findings of the Tectonic investigation and the anticipated sale of the property by the current owner, HES was retained to conduct a SI at the site. The site activities completed by HES included test pit excavation, field screening and collection of soil samples for the presence of petroleum vapors with a photoionization detector (PID), monitor well installation oversight and the collection of water level measurements and groundwater samples from the monitor wells for laboratory analysis. The SI report and results were submitted to the NYSDEC in May 2011. Thus, the following RAW was compiled for the subject property in response to the findings of the SI and the requirements of the NYSDEC pertaining to the presence of free-phase PHCs beneath the site. The site location is shown on **Figure 1**.

### **Scope of Work**

Based on our site visit, file review and the results of the SI, HES has compiled a comprehensive RAW that will bring the subject site into compliance with all NYSDEC Technical Regulations. The Scope of Work includes completion of the NYSDEC required environmental work; however, HES does not intend to commence with the proposed cleanup (RAW) until approval is obtained from the NYSDEC Project Manager for the subject site.

### **Remedial Action Work Plan**

For the final phase of work to be completed at 2101 and 2103 Palmer Avenue in Larchmont, New York, HES proposes to work with the NYSDEC and licensed environmental contractors and drillers, following the below outlined RAW to obtain formal spill closure of NYSDEC Spill Number 1006787:

#### **Task 1: Obtain NYSDEC RAW Approval**

HES will correspond with the NYSDEC Project Manager for the subject site to obtain written approval of the proposed RAW. This may require a site meeting and/or review of the proposed RAW with the NYSDEC.

#### **Task 2: NYSDEC Permitting, Dewatering Wells and System Installation and Equipment Rental**

A dewatering and excavation plan has been developed and is shown on **Figure 2**. In order to dewater the subject area, it will be necessary to pump a significant volume of

groundwater from the subsurface prior to, during and throughout the project. This will involve filing a Permit with the NYSDEC and seeking approval from local governing agencies to discharge treated groundwater to the Town of Larchmont sanitary or combined sewer system, or a nearby surface water body.

Based on the presence of the shallow groundwater table (<2 ftbg) site dewatering will be required in order to access the impacted soil beneath the site. Thus, a series of dewatering well points will be installed around the perimeter of the contamination plume as determined by the previously conducted SI at the site. The dewatering plan would consist of a licensed well driller installing approximately sixteen (16) one or two-inch PVC wells around the perimeter of the impacted area to at least ten feet into the observed water table. The generalized location of proposed dewatering wells is shown on **Figure 2**.

The installed dewatering wells will be connected to a manifold and pump system capable of drawing the water table down to the desired depth so that impacted soils may be removed for off-site disposal. All pumped groundwater would be treated for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and metals to NYSDEC Discharge Standards prior to discharging to the sewer system or surface water body. The treatment system will include a fractionation tank into which the pumped water would be discharged. A transfer pump would then direct the water through a carbon filter system prior to being discharged to the on-site sanitary sewer line. The location of the proposed excavation area and the groundwater treatment system are shown on **Figure 2**.

### **Task 3: Soil Excavation and Disposal**

Once the groundwater table is lowered to the desired depth (to below the vertical extent of contamination, a depth of approximately 8 ftbg), the impacted soils will be removed by excavation for proper off-site disposal. The location of the estimated proposed excavation area (based on delineation activities), is approximately 60 feet by 60 feet by 4 feet deep, as shown on **Figure 2**. Removed contaminated soil will be placed in waiting dumpsters for proper off-site disposal. HES will oversee the loading of each trailer to ensure that it is properly filled. Trailers will be taken off-site to a NYSDEC licensed facility for disposal. HES will be responsible for collecting the required soil samples for waste characterization as required by the accepting facility.

HES will define the limits of the excavation based on soil screening results and field observations. A properly calibrated PID will be used to determine when enough soil has been removed from the area of concern. All accessible soil with a PID reading greater than 20 parts per million (ppm) will be removed from the excavation. Any soil with a reading below this value will be left in place. Once excavation is completed in a particular direction, HES will collect an end-point soil sample from that area to document the quality of the remaining soil. HES will collect an appropriate number of end-point soil samples from excavation sidewalls (within 6-

inches of the perceived groundwater level) and the excavation bottom in accordance with NYSDEC protocol for laboratory analysis. These samples will be sent to a New York State certified laboratory for analysis as required by NYSDEC Regulations.

#### **Task 4: Groundwater Monitoring and Sampling**

Following completion of the soil remediation and backfilling activities, the existing four (4) 4-inch monitoring wells on-site will be sampled, provided excavation activities do not destroy the wells. If excavation destroys a well, then the well may need to be replaced, depending on well location in the cleanup area. This determination will be made following excavation completion and in consultation with the NYSDEC Project Manager.

Two weeks and six weeks after the cleanup completion, the four (4) on-site monitoring wells will be sampled following NYSDEC protocol. The groundwater will be purged using a submersible low-flow pump with a flow-through cell and the samples will be collected using a dedicated polyethylene bailer. Groundwater samples will be collected and analyzed for VOCs and SVOCs. These sampling rounds will include the collection and analysis of field and trip blanks per NYSDEC requirements.

#### **Task 5: NYSDEC Closure Reporting**

Following completion of the above outlined remedial cleanup, sampling and restoration activities, HES will compile a comprehensive Remedial Action Report (RAR) for submittal to the NYSDEC. The report will summarize the cleanup activities, soil and groundwater sampling results and will include recommendations based upon those results. If the end-point soil sampling and groundwater sampling results indicate that the soil and groundwater in the excavation area is below NYSDEC Commercial Recommended Soil Cleanup Objectives, then HES will request formal site closure from the NYSDEC.

***It should be noted that previous investigations revealed that groundwater flows onto the site from the two adjacent off-site parcels located south and east of the subject site. Additionally, HES determined that the two adjacent off-site parcels have contaminated and/or contributed to the PHC impacts observed on the subject site. Therefore, initially, as part of the proposed site cleanup, HES and the subject property owner approached the off-site property owners to contribute to the costs for investigation and cleanup of the impacted soil and groundwater beneath the subject site. However, to date, we have been met with resistance and a lack of admission of responsibility for the PHC impacts beneath both the subject property and the off-site parcels. Therefore, HES has compiled the RAW herein based solely on the cleanup of the subject site exclusive of the off-site contaminated and contributing adjacent parcels.***

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***HES proposes to cleanup the subject property and seek formal closure of NYSDEC Spill No. 1006787 based on the above outlined RAW, exclusive of the two upgradient adjacent contributing parcels and property owners.***

HES will contact the "Dig Safely New York" service prior to conducting the RAW. However, the property owner will be required to mark-out on-site utilities. HES will not be held responsible for damage or repair to unmarked or improperly marked utilities.

If you have any questions regarding the Scope of Work, or the attached Cost Estimate, please contact me at (914) 276 – 2560.

Very truly yours,  
HydroEnvironmental Solutions, Inc.



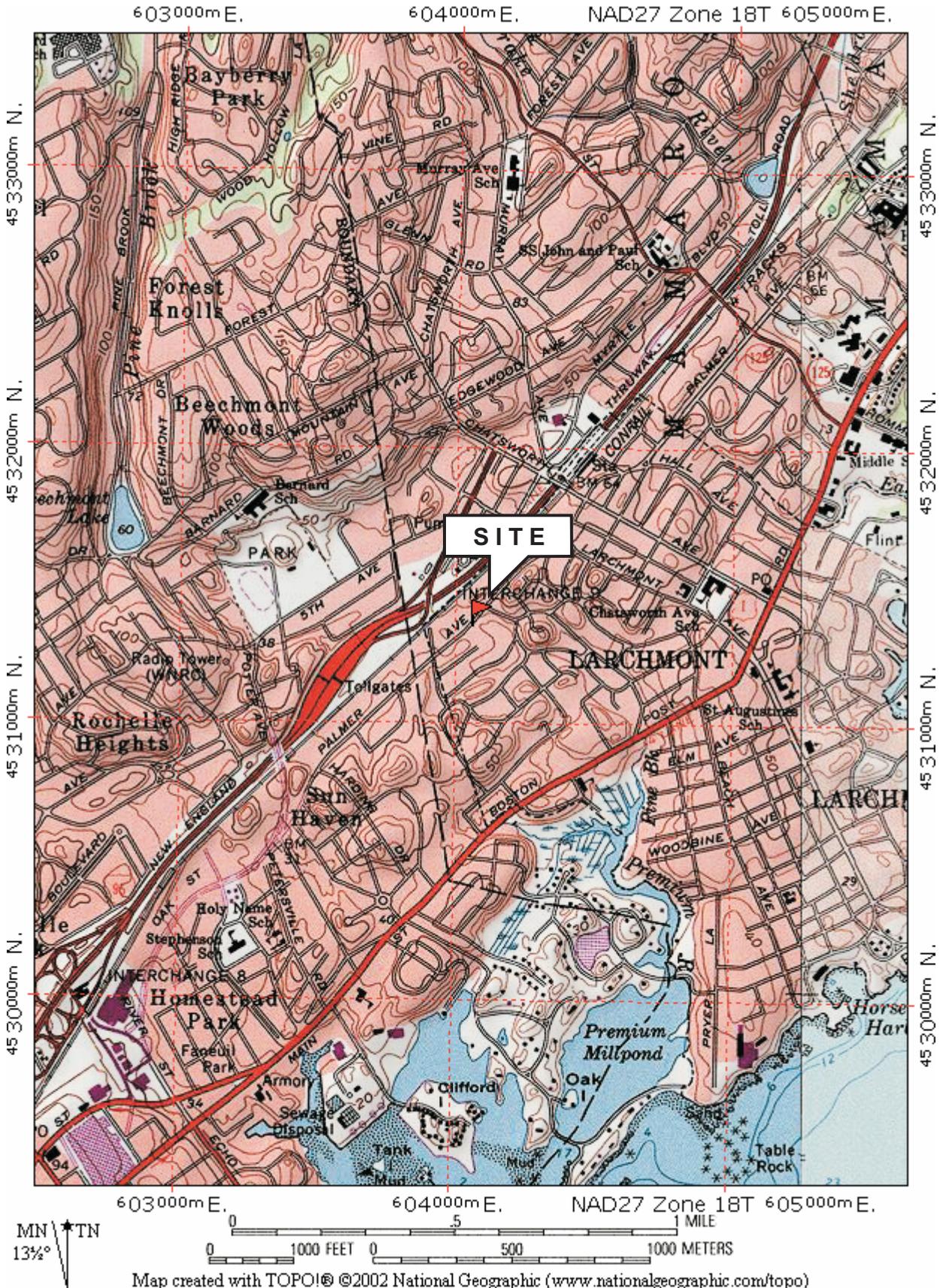
William A. Canavan, PG, CPG  
President

Enclosures

cc: Mr. Richard Esposito  
Mr. Douglas Esposito  
Jonathan Murphy, Esq. - Bleakley, Platt & Schmidt, LLC  
File

# FIGURE 1 SITE LOCATION MAP

## 2101 and 2103 Palmer Avenue Larchmont, New York



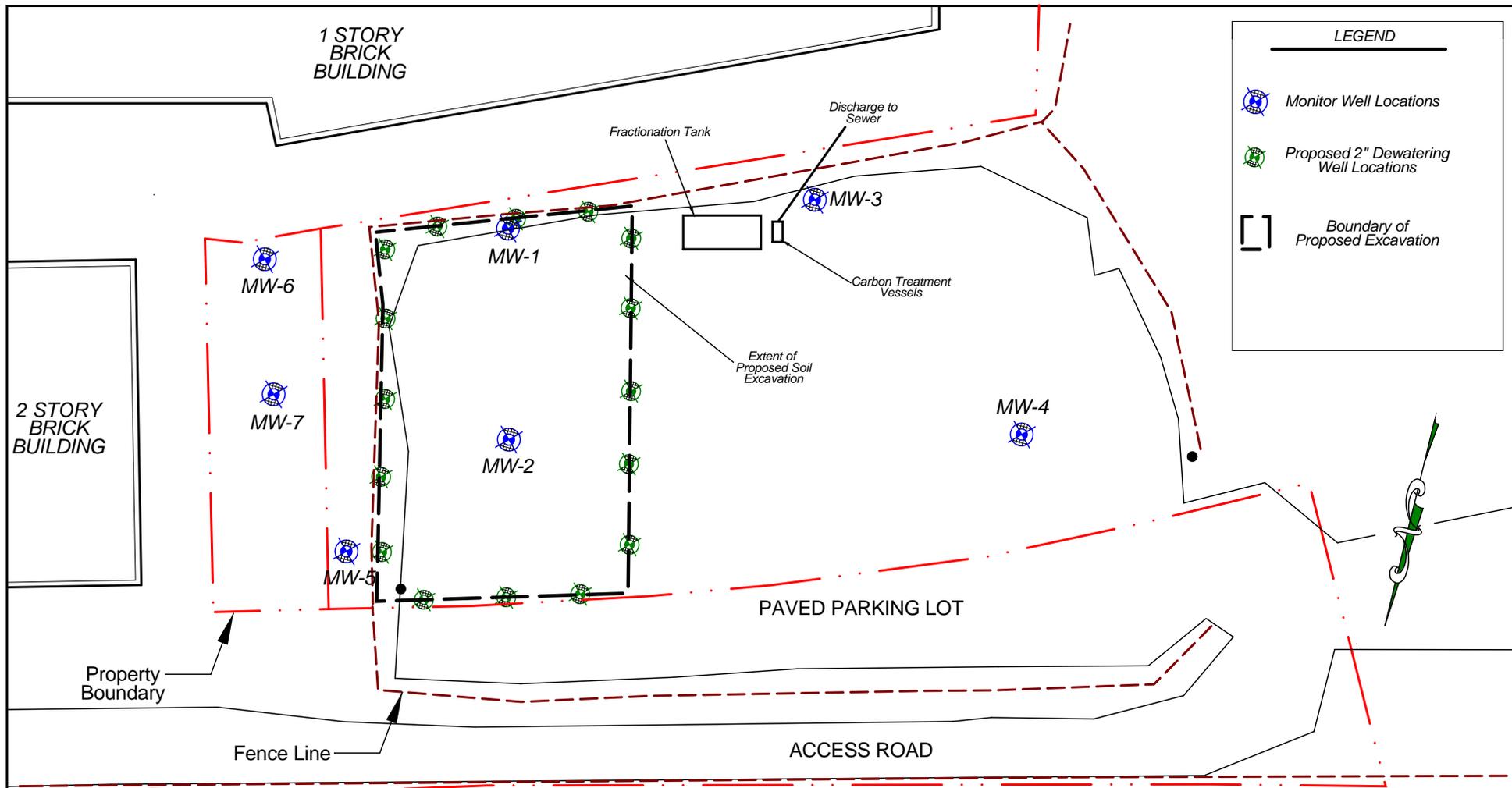


FIGURE 2

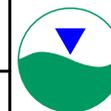
2101 & 2103 PALMER AVENUE  
LARCHMONT, NEW YORK

GENERALIZED  
SITE PLAN SHOWING  
PROPOSED DEWATERING  
WELLS AND SOIL  
EXCAVATION AREA



SUBSURFACE  
INVESTIGATION

MAY 2011



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