PRELIMINARY INVESTIGATION

WORK PLAN

432 & 470 PEARL STREET, 277 FRANKLIN STREET PARCELS
BUFFALO, NY

December 2005 0099-002-100

Prepared for:

470 Pearl Street, LLC

SUPPLEMENTAL INVESTIGATION WORK PLAN

470 Pearl Street LLC

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1.0 INTRODUCTION

A group of companies own property at 275 Franklin Street, 277 Franklin Street, 470 Pearl Street, and 432 Pearl Street in the City of Buffalo (see Figure 1). 470 Pearl Street is the largest parcel with an aerial extent of 1.0 acre, 432 Pearl is 0.45 acres, 277 Franklin is 0.13 acres, and 275 Franklin is 0.14 acres. Recently, a building that housed a dry cleaning operation at 275 Franklin was demolished. Currently, the parcels are paved parking areas and do not contain buildings.

This group of companies, hereinafter referred to as 470 Pearl Street LLC, is interested in defining environmental conditions of the properties in sufficient detail to determine the eligibility of all or portions of the parcels to participate in the New York State Brownfield Cleanup Program (BCP). One of the properties, 275 Franklin Street, had a limited investigation performed due to the presence of a dry cleaner on the property. The limited investigation previously conducted at 275 Franklin Street found elevated concentrations of tetrachloroethylene (PCE), a dry cleaning fluid, in soil and groundwater on that parcel. Preliminary discussion with NYSDEC have determined that the 275 Franklin Street parcel will likely be deemed eligible for participation in the BCP. As such, 275 Franklin Street will require further investigation to determine the extent of vadose zone contamination and groundwater impacts, which will be addressed as part of the Remedial Investigation required under the BCP. This Work Plan addresses the investigation of environmental conditions on the surrounding group of parcels.

1.1 Background

Based on a limited review of the available Sanborn maps, it appears that 275 Franklin Street is the only parcel within the subject group of properties that contained businesses associated with a high probability of environmental conditions. This study will therefore involve a general assessment of upper soil/fill on 277 Franklin Street, 470 Pearl Street, and 432 Pearl Street to check for impacts or releases from non-specific sources. Subgrade soil vapor samples will also be collected from select locations to check for post-development subslab vapor intrusion potential resulting from parcel-specific impacts and/or volatilization from VOC-impacted groundwater potentially migrating from 275 Franklin Street.

2.0 SCOPE OF INVESTIGATION

Investigation of parcels at 277 Franklin, 470 Pearl Street, and 432 Pearl Street will include sampling and analysis to ascertain whether and to what approximate extent environmental conditions exist that may impact planned redevelopment on the parcels. Specifically, the work will involve:

- Collection and analysis of shallow soil/fill (i.e. upper 4 feet) to characterize SVOCs (base-neutral fraction only), PCBs, chromium, arsenic, lead and mercury. These parameters were selected as representing the most frequently encountered contaminants in Western New York environmental media.

- Collection and analysis of subslab (i.e. below parking lots) soil vapors to determine the possible presence of VOCs in concentrations exceeding NYSDOH vapor intrusion guidelines.

- Field screening (headspace testing) of all borings for indications of VOC impacts using a photoionization detector (PID). Select soil/fill samples may be analyzed for VOCs if elevated PID readings are recorded.

3.0 DESCRIPTION OF WORK

3.1 Soil Borings

Soil borings to facilitate sample collection will be performed as follows and as shown on Figure 2:

470 Pearl Street

- Five (5) direct push boreholes will be performed to the fill/native interface, at an estimated depth of approximately 2-4 feet below grade (based on the limited investigation on 275 Franklin). Borehole locations will be spaced to provide representative coverage across the parcel. Soil cores will be retrieved and examined by Benchmark's onsite Geologist. Visual and/or olfactory evidence of contamination will be recorded. Soil/fill samples will be collected from each location for analysis of Target Compound List (TCL) SVOCs, TCL PCBs, chromium, mercury, arsenic, and lead.

- Headspace testing will be performed from a representative soil/fill sample at each boring location using a PID equipped with a 10.7 eV lamp. Headspace testing will involve placement of a sample in a sealed baggie, after which it will be placed in a heated (approximately 70°F) area for approximately 20 minutes. The PID probe will then be inserted into the airspace within the bag and VOC content will be measured. Samples exhibiting headspace readings greater than 20 parts per million (ppm) will be analyzed for "full list" (TCL plus NYSDEC STARS List) VOCs. Irrespective of headspace results, if visual examination of the soil samples indicates oily, black or otherwise impacted soil zones, a separate sample will be collected and analyzed for Target Compound List VOCs.

432 Pearl Street

- Three (3) direct push boreholes will be performed to the fill/native interface, a depth of approximately 2-4 feet below grade. Test hole locations will be spaced to provide representative coverage across the parcel as shown on Figure 2. Soil/fill samples will be collected for analysis of SVOCs, PCBs, chromium, mercury, arsenic, and lead. Headspace testing will be performed at each location, with soil/fill samples analyzed for VOCs based on the same field screening/visual criteria as described for 470 Pearl Street.

277 Franklin Street

- One (1) borehole will be advanced to the native soil/fill interface at the approximate location shown on Figure 2. Soil/fill samples will be collected for analysis of SVOCs, PCBs, chromium, mercury, arsenic, and lead. A sample may be collected for VOC analysis depending on headspace testing results and field observations.

3.2 Soil Sample Collection Procedures

At each soil sample location, a stainless steel spoon will be used to obtain a representative sample from the direct push sleeve. A new sleeve will be used for each sample. Only soil/fill will be analyzed during this analysis. Soil/fill for VOC field screening and/or laboratory testing will be collected by transferring representative aliquots to sample containers with minimal disturbance. Soil/fill slated for all other testing will be homogenized in a stainless steel bowl prior to transfer to laboratory containers. All samples will be containerized in laboratory-supplied, pre-cleaned sample jars, cooled to 4^{o} C in the field, transported under chain-of-custody command to the analytical laboratory for analysis.

The analytical program is summarized in Table 1. FOPs for headspace testing, soil sample labeling, storage and shipment are included in Appendix A.

3.3 Subgrade Vapor Sampling

A total of four samples will be collected and analyzed for subgrade vapors. As shown on Figure 2, two samples will be collected from 470 Pearl Street, one from 432 Pearl Street, and one from 277 Franklin. Street.

At each location, Benchmark personnel will drill an approximately 3/4-inch diameter hole through the asphalt (est. 4-6 inches thick) using a hand-held drill. Approximately 6 inches of soil will then be drilled from beneath the hole. An appropriately sized silicone stopper fitted with a ¼-inch hollow Teflon tube will then be inserted into the core hole and sealed using modeling clay. A 6-liter Summa canister fitted with an 8-hour regulator will be attached to the opposite end of the Teflon tubing. Three volumes will be purged from the sampling line before initiating Summa canister sampling. Purging will be performed with a vacuum pump or syringe. Traffic cones will be used to mark and protect the canisters.

Concurrent with the subgrade vapor samples, one outdoor field-located air sample will be collected from a ground level location upwind of the properties, as determined on the day of subgrade vapor sampling field activities.

All Summa canister valves will remain closed until the borings are complete, purged, and all of the canisters are in their respective positions. The valves will then be opened for the 8-hour collection period. Following sample collection, the Summa canisters will be shipped to an NYSDOH-approved laboratory for analysis of USEPA Target Compound List (TCL) Volatile Organic Compounds in accordance with USEPA Method TO-15. All openings will be repaired with asphalt cold patch.

3.4 Reporting

Upon completion of the sampling program, Benchmark will prepare a written report describing the investigation results and findings. A site map and boring/sampling logs will be included in the report. Analytical results will be summarized in spreadsheet format with comparisons to appropriate standards, guidance and criteria.

TABLES

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 1

ANALYTICAL PROGRAM SUMMARY

470 Pearl Street, LLC

Matrix	Parameter	Estimated No. Samples
Soil	Chromium, Arsenic, Mercury, Lead	9
	SVOCs - Base Neutrals Only	9
	VOCs - full list	6
	PCBs	9
Air	TCL VOCs via TO-15	4

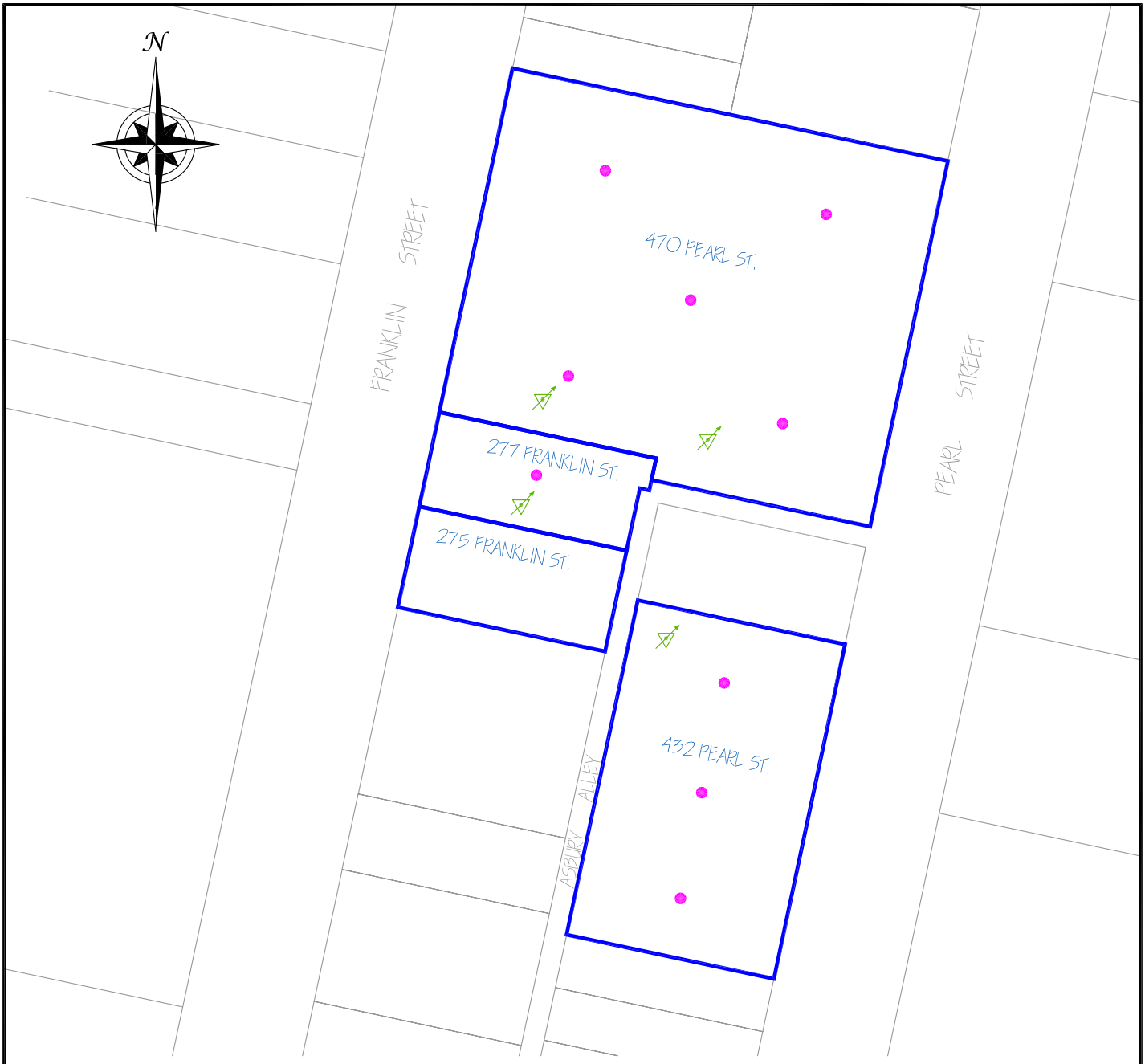
Notes:

1. Dedicated sampling equipment will be used for groundwater/surface water sample collection
2. Estimated number of VOC samples is subject to change based on field screening and observations.

FIGURES

FIGURE 2

G:\CAD\Benchmark\470 Pearl Street, LLC\Figure 2- Site Plan.dwg



LEGEND:

PROPERTY BOUNDARY

B-1 PROPOSED SOIL SAMPLE LOCATION

V-1 PROPOSED SUBSLAB VAPOR SAMPLE LOCATION

80' 0' 80' 160'

SCALE: 1 INCH = 80 FEET
SCALE IN FEET
(approximate)

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

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PROJECT NO.: 2099-002-100

DATE: DECEMBER 2005

DRAFTED BY: BCH

SITE PLAN

470 PEARL STREET, LLC SITE
BUFFALO, NEW YORK

PREPARED FOR
470 PEARL STREET, LLC

APPENDIX A

FIELD OPERATING PROCEDURES (FOPS)