25 July 2007
File: 783-001

Mr. Robert Filkins
Senior Engineering Geologist, Remedial Bureau B
Division of Environmental Remediation, NYSDEC
625 Broadway, 12th Floor
Albany NY 12233-7016

Re: Former Mimi Cleaners: 58 Christie Place, Scarsdale, NY
VP Site No. V00306-3
Scope for Soil Gas Sampling Post Office Building

Dear Mr. Filkins:

HDR|LMS is pleased to provide this scope of work to perform soil gas sampling within the Post Office Building located at the corner of Christie Place and Chase Road as part of the off-site delineation of potential contaminated soil gas associated with the Former Mimi Cleaners (Site). Figure 1 shows an aerial photograph with the former Mimi Cleaners and the Scarsdale Post Office highlighted.

Sub-Slab Vapor and Soil Vapor Sampling

The Post Office Building is located to the east of the Site. The basement layout and proposed sampling locations are shown on Figure 2. Access has been provided by the property owner to conduct the proposed sampling. Based on our site reconnaissance, six (6) locations were chosen for sub-slab soil gas sampling. Two (2) soil vapor locations are located within the dirt floor area underneath the main lobby and the four (4) sub-slab vapor sample locations are within office and storage areas at the rear of the building.

The work plan for the vapor sampling is based on the New York State Department of Health (NYSDOH) *Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006*. Six samples within the building have been selected to provide an assessment of vapor conditions beneath the slab and also the dirt floor area. Final locations will be determined after consultation with the property owner.

For the sub-slab vapor sample locations permanent probes will be installed in a 1 or 2 inch diameter hole drilled through the concrete floor. The hole will be backfilled with sand to within approximately 1-inch of the floor surface. The probe will then be inserted into the sand with the top of the probe flush to the floor. The

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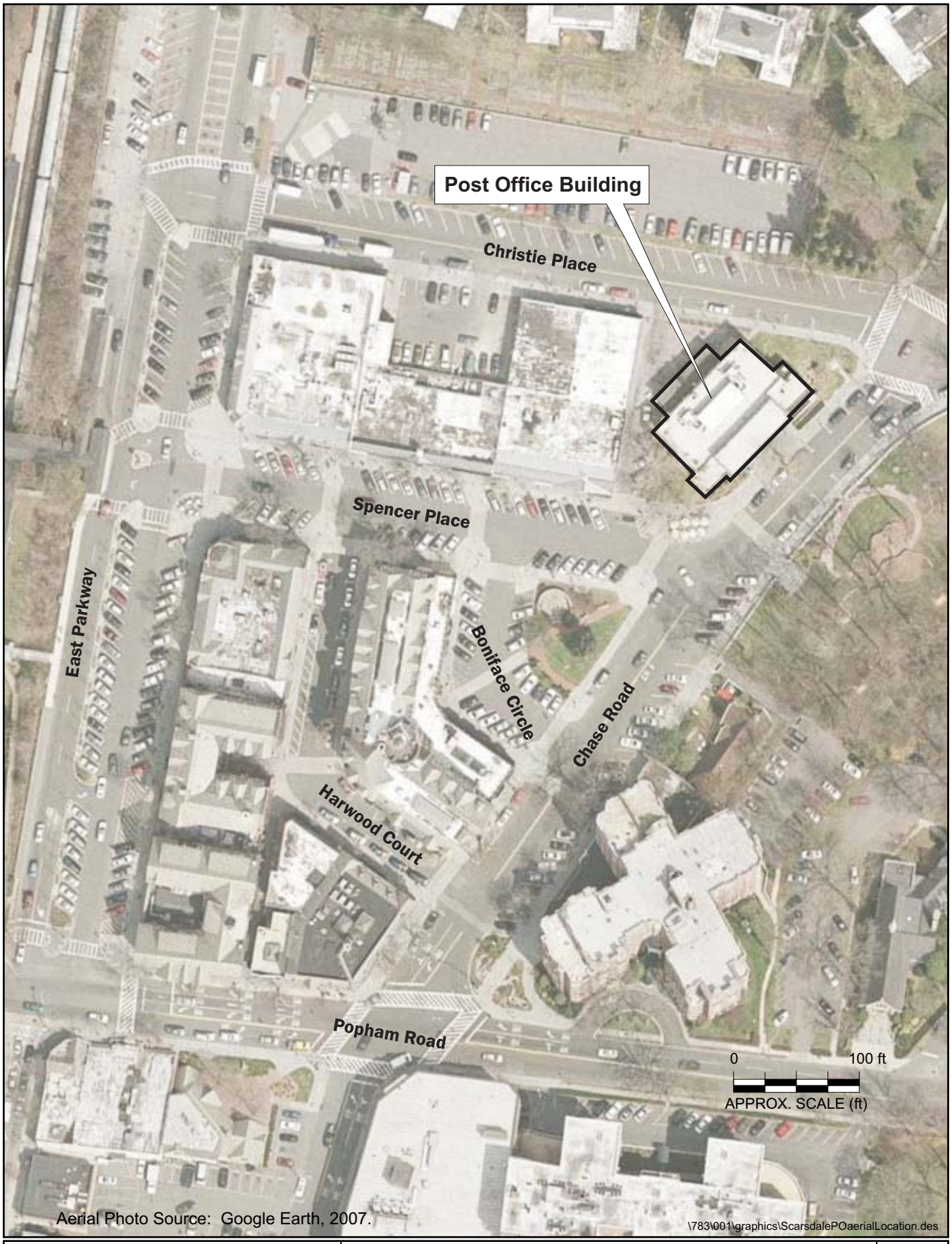
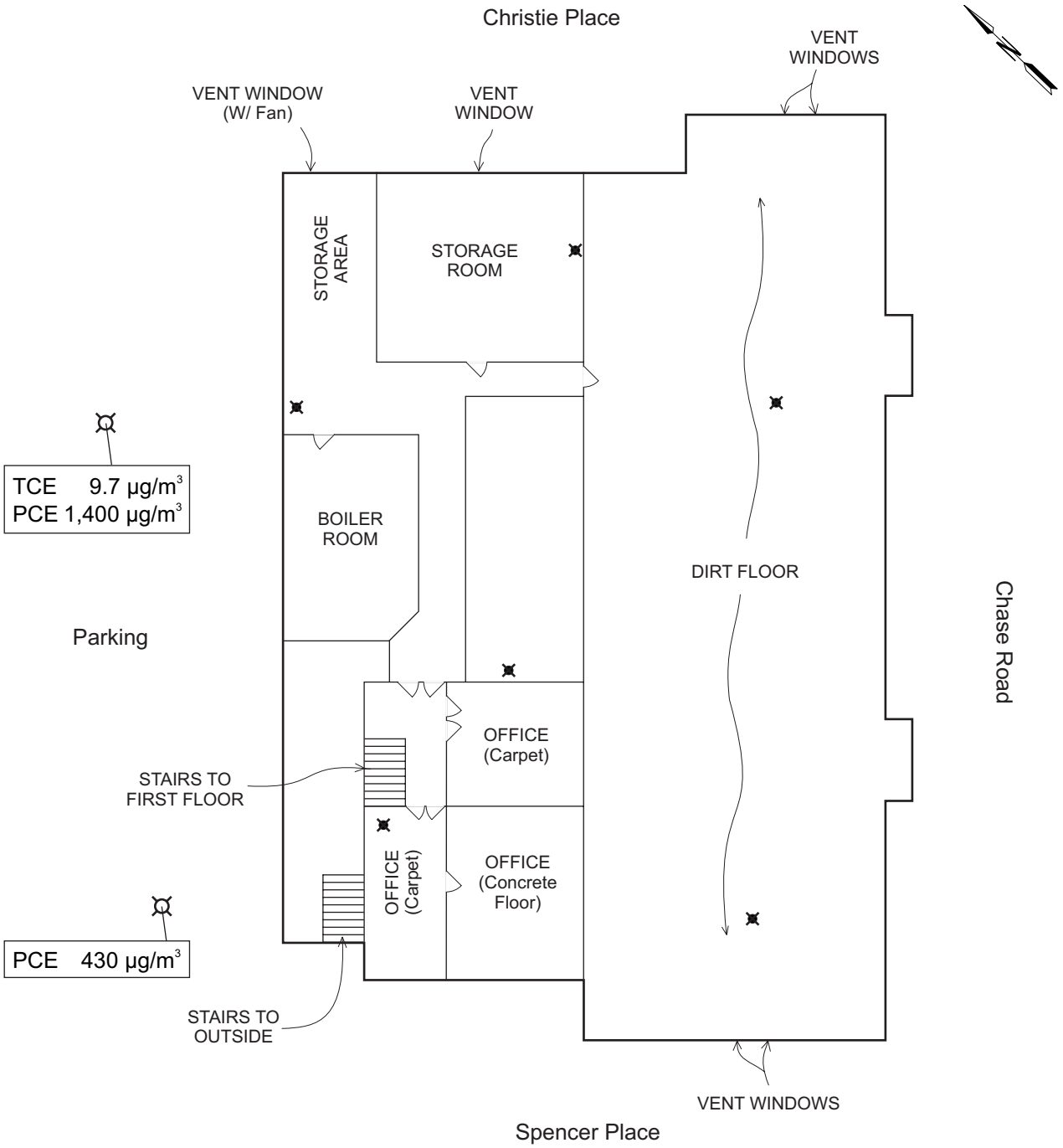


HDR | LMS Henningson, Durham & Richardson Architecture and Engineering, P.C. in association with HDR Engineering, Inc. One Blue Hill Plaza Pearl River, NY 10965	**Location of Post Office Building** **Former Mimi Dry Cleaners** **Scarsdale, NY**	**Figure 1**



Legend

- Proposed soil gas sample location
- June 2006 soil gas sample location

NOTE: Locations are approximate

0 20 ft

APPROX. SCALE
1 in. = 20 ft

Map source: Developed from field sketch and notes.

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Proposed Soil Gas Sampling Locations
Post Office Building
Former Mimi Dry Cleaners **Scarsdale, NY**

Figure 2

annular space from the top of the sand to the floor surface will be filled with cement. A threaded plug (removed with an Allen wrench) in the top of the probe will secure the probe until the sampling event.

Temporary soil vapor sample points will be installed in the dirt floor area of the Post Office basement. The implants will be installed to a depth of approximately four (4) feet below grade. Due to the limitations of the space, hand tools will be required to install the probes. If possible, a coring device (~2-in diameter) will be used to core down and remove the soil down to approximately 4 feet below grade. A stainless steel soil vapor point will be fitted with Teflon® tubing polyethelyne tubing and installed at the bottom of the boring. Sand will be used to backfill the hole to within ~2 feet from the surface. A bentonite-cement slurry will be used to backfill the remainder of the boring to complete the seal and prevent the infiltration of air from the basement down to the vapor implant. If removing the soil with a coring device is not possible or feasible by hand, the soil vapor implants will be installed by driving the point attached to Teflon® tubing to the required depth placed inside thin diameter steel rods. After reaching the required depth the rods are removed leaving the soil gas point and tubing in place. The surface around the soil vapor point will be sealed with a bentonite-cement grout mix until it is sampled. The tubing will be plugged with Permagum sealing compound.

On the day of the sampling, the threaded plug will be removed from the sub-slab vapor probe and a temporary NPT thread to compression fitting coupler will be used to connect the probe to a section of Teflon® tubing outfitted with compression fittings. The tubing and point will be purged and attached to a Summa canister. For the soil vapor points in the dirt floor area, the Permagum plug will be removed or the tubing will be cut below the plug and the soil gas point will be purged and then attached to the Summa canister with a compression fitting for sampling. For the purging process, the tubing will be connected to a personal air sampling pump which will be run at a flowrate of <0.2 L/min to purge a minimum of three volumes of air from the core hole through the floor or the soil vapor implant area. After purging, the tubing will be connected to a laboratory-supplied Summa Canister (6-L capacity). Vacuum on the canister will be recorded, and the valve on the canister will be opened to collect the sub-slab vapor. The flow control valve on the Summa canister will be set by the laboratory to collect the sample over a nominal 8-hour period (12.5 ml/min).

During the sampling, the vacuum on the canister will be periodically recorded. At the end of the targeted 8-hour sampling period, but before the vacuum on the canister is completely exhausted, the canister valve will be closed. The final vacuum reading will be recorded, the tubing will be disconnected, and the canister will be prepared for shipment.

The field notes and documentation for the sampling will include the following:

- sample identification,

- date and time of sample collection,
- sampling depth,
- identity of samplers,
- sampling methods and devices,
- volume of soil vapor extracted,
- canisters vacuum before and after samples collected,
- apparent moisture content (dry, moist, saturated, etc.) of the sampling zone, and
- chain of custody protocols and records used to track samples from sampling point to analysis.

The final sampling locations will be noted on the sketched building floor plan. Photographs of each sampling location will be taken during installation. Samples will be shipped via overnight courier under proper chain-of-custody to a NYSDOH-certified laboratory for VOC analyses by EPA T0-15. Based on an 8-hour sample collection the practical quantitation limit is less than 1 $\mu g/m^3$. Analytical results of the sub-slab sampling investigation will be summarized and submitted to NYSDEC and NYSDOH in a data summary report.

Schedule

The work is planned to commence in August 2007. The vapor probes will be installed this summer and they will be sampled during the beginning of the heating season (e.g. November). The use of the building heat will be noted and weather data from a nearby weather station will be obtained.

If you have any questions, please feel free to contact me at (845) 735-8300.

Sincerely,

Bradley C. Williams, Ph.D.
Project Manager

Cc: R. Cozzy, NYSDEC
J. Crua, NYSDOH
M Rivera, NYSDOH
S. Russo, Esq. Sive, Paget & Riesel. P.C.

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