CA RICH
ENVIRONMENTAL SPECIALISTS

Soil Vapor Investigation Work Plan
Former Fresh and Clean Laundry Site
22 Railroad Avenue
Glen Head, New York

June 2011

Prepared for:

A&G Homes, Inc.
6 Morris Avenue
Glen Cove, NY 11542

Prepared by:

CA RICH CONSULTANTS, INC.
17 Dupont Street
Plainview, NY 11803

CA RICH
ENVIRONMENTAL SPECIALISTS

e-mail: eweinstock@carichinc.com

June 24, 2011

NYSDEC
Division of Hazardous Waste Remediation
625 Broadway
Albany, NY 12207-2942

Attention: Joe Jones

Re: **Soil Vapor Investigation Work Plan**
Former Fresh and Clean Laundry Site
22 Railroad Avenue
Glen Head, New York

Dear Mr. Jones:

CA RICH Consultants, Inc. (CA RICH) is pleased to provide you with this Work Plan to perform a soil vapor investigation along with limited soil sampling at the former Fresh and Clean Laundry Site in Glen Head, NY. The upper floors are occupied by a book warehousing and distribution center and the lower floor (which has a street address of 1, 3, 5 School Street) is occupied by an antiques warehouse.

The former Fresh and Clean Laundry Site was identified as one of ten past users of perchloroethene (PCE) in the Glen Head area. Several earlier studies were performed in this location which centers along Glen Head Road between its intersections with Rail Road Avenue and Glen Cove Avenue (See Figure 1). The previous studies performed by the NYSDEC include:

NYSDEC, Preliminary Site Assessment Report, Glen Head Groundwater Plume Site, Village of Glen Head, New York (Sept. 2000)

NYSDEC, Site Characterization Report, Glen Head Groundwater Plume, Glen Head, Town of Oyster Bay, Nassau County, New York (Feb. 2007)

In addition to the two studies performed by the NYSDEC, Environmental Services, Inc. (ESI) prepared a Voluntary Investigation and Interim Remedial Measures Work Plan dated March 2004. The following tasks were completed in accordance with that plan: sampling and clean-out of the on-site cesspools; the performance of soil borings; and the installation and sampling of water table monitoring wells.

The work outlined in this investigation is intended to determine if a source of PCE soil vapor remains below the former Fresh and Clean laundry building and if other near by properties are potential sources of PCE. The NYSDEC will be notified of the planned field activities one week in advance.

Scope of Work

Sub-Slab Vapor Sampling

1) Using the NYSDOH guidelines as a reference, a pre-sampling building inspection will be performed at units 1, 3 and 5 School Street (the lower portion of the building). The inspection will focus on recording items such as: the construction of the building; cracks in the floors and walls of the basements; building mechanical & ventilation systems; petroleum product storage areas; garages; and recent renovations that may have involved paints, finishes, carpeting, caulking or adhesives.

The pre-sampling building inspection will also include an inventory of stored chemical products. Any chemicals used or stored at the business that may contain volatile organic solvents will be logged. The approximate volume stored, estimated usage and product constituents will be recorded. This inventory will be included in our final report.

2) At the four locations identified on Figure 2, a hole will be drilled into the concrete floor using a hammer drill with a carbide drill bit. A section of ¼ O.D. stainless steel tubing will be set not more than two inches below the slab. The placement of the tubing will be followed by either a bentonite or bees wax seal.

3) A clean plastic bucket will be placed over the top of the probe point. Helium will then be allowed to fill the bucket.

4) After the introduction of Helium, the tubing will be purged of at least three volumes of air using a vacuum pump. A Tedlar bag will be used to contain the purged soil vapor. The soil vapor will then be monitored with a portable Helium meter to confirm there is an adequate surface seal. If there is a Helium detection of greater than 10%, more bentonite or bees wax will be placed around the top of the tubing, and the process will be repeated.

5) The tubing will then be connected to a laboratory cleaned, 6-liter SUMMA canister. The regulator will be set by the laboratory to fill over a 2-hour time period, and sampled concurrent with an indoor air sample. This setting results in a fill rate that does not exceed the DOH required 0.2 liter per minute sampling rate. The canisters will be checked periodically to ensure they are working properly and that vacuum is being achieved. An outside ambient air sample will be collected concurrently with the indoor and sub-slab samples over an 8-hour time period.

6) The canister will be delivered to a NYS ELAP certified laboratory for the analysis of Volatile Organic Compounds (VOCs) using EPA method TO-15. A slight vacuum will remain in the canisters to confirm that they did not leak during transit. This analysis will include provision for detection limits on the order of 0.25 microgram per cubic meter (ug/m3.)

7) One indoor air sample will be collected concurrently with the sub-slab soil vapor samples. The indoor air sample will be collected using laboratory cleaned, 6-liter SUMMA canisters placed approximately three feet above the floor. The canister will be placed in a safe location in the basement away from contact with workers. The regulator will be set by the laboratory to fill over an 8-hour time period. A slight vacuum will remain in the canisters to confirm that they did not leak during transit.

Soil Vapor Sampling

1) A series of four soil gas samples will be collected at a depth of 8 feet below grade at the locations illustrated on Figure 3. CA RICH will contact Nassau County and the Town of Oyster Bay to request permission to drill along Rail Road Avenue and School Street. If access cannot be obtained, we will ask the Department to assist us in obtaining access for collecting soil gas samples. We will also call "Dig Safely New York" and request a utility mark-out for this location.

2) To collect the samples, a 2¼-inch diameter hole will be drilled into the pavement using a vehicle-mounted Geoprobe sampling device. After the desired depth has been achieved, the probing rods will be pulled up a short distance to release the expendable drive point at the bottom of the rods. A pre-cleaned, stainless steel soil vapor probe attached to a ¼-inch diameter stainless steel riser will be inserted into the rods. The probe will be set in place with clean sand as the rods are removed from the ground. This will be followed with a bentonite seal at the surface.

3) A clean plastic bucket will be placed over the top of the probe point. Helium will then be allowed to fill the bucket.

4) After the introduction of Helium, the tubing will be purged of at least three volumes of air using a vacuum pump. The soil vapor will then be monitored with a portable Helium meter to confirm there is an adequate surface seal. If there is a Helium detection of greater than 10%, more bentonite will be placed around the top of the tubing, and the process will be repeated.

5) Soil vapor samples will then be collected using laboratory-issued 6-liter SUMMA canisters. The canisters will be calibrated by the laboratory to fill over a 2-hour period. After the canisters are filled, they will be delivered to an ELAP-approved laboratory for the analysis of VOCs using analytical method TO-15.

6) Once the soil vapor samples have been obtained, the probes will be removed from the ground. An asphalt or concrete patch will be placed over the top of the hole to match the existing pavement.

Soil Sampling

1) Two soil samples will be collected at the locations illustrated on Figures 2 and 3. One will be collected from a floor drain identified in the basement of the former Fresh and Clean Laundry building and the other will be collected from a cesspool connected to the maintenance building located between the school and the former Fresh and Clean Laundry building.

2) CA RICH will contact the Glen Head Elementary School and ask for permission to sample the cesspool at the maintenance building. If access cannot be obtained, we will ask the Department to assist us in obtaining access for collecting the soil sample.

3) A pre-cleaned, hand-operated auger will be lowered into the ground and rotated into the sediment. The auger will then be lifted up and the sediment from the auger head will be transferred into a laboratory-issued soil jar using a dedicated wooden tongue depressor. A portion of the soil will be screened with a Photo-Ionization Detector (PID).

4) The samples will be placed in an iced-cooler and transported to an ELAP-approved laboratory for analysis of VOCs using EPA method 8260.

Quality Assurance/Quality Control (QA/QC)

1) A Data Usability Summary Report (DUSR) will be prepared to accompany the report. Field sampling will include the collection of one duplicate sample per 20 field samples. Based upon the number of samples proposed, it is anticipated that one duplicate soil and one duplicate soil vapor sample will be collected. The duplicate soil vapor sample will be collected concurrently with the designated field sample via a "Y" connection.

2) A trip blank, field blank, matrix spike and matrix spike duplicate will be collected for the soil sample.

Reporting

After the laboratory data has been received, a Soil Vapor Investigation and Limited Soil Sampling Report will be prepared that includes the following.

- A description of the work performed;
- Tables of laboratory data;
- An areal plot of the soil gas and soil sample results;
- A DUSR; and
- Copies of the laboratory data reports.

Schedule

The field portion of this work will require approximately one month to complete. The laboratory and reporting portion of this work will require approximately two months to complete after the samples are collected.

If you have any questions regarding this work plan, please do not hesitate to call our office.

Respectfully,

CA RICH CONSULTANTS, INC.

Eric Weinstock

Eric A. Weinstock
Vice President

cc: Miriam Villani, Esq.
Joe Caruso

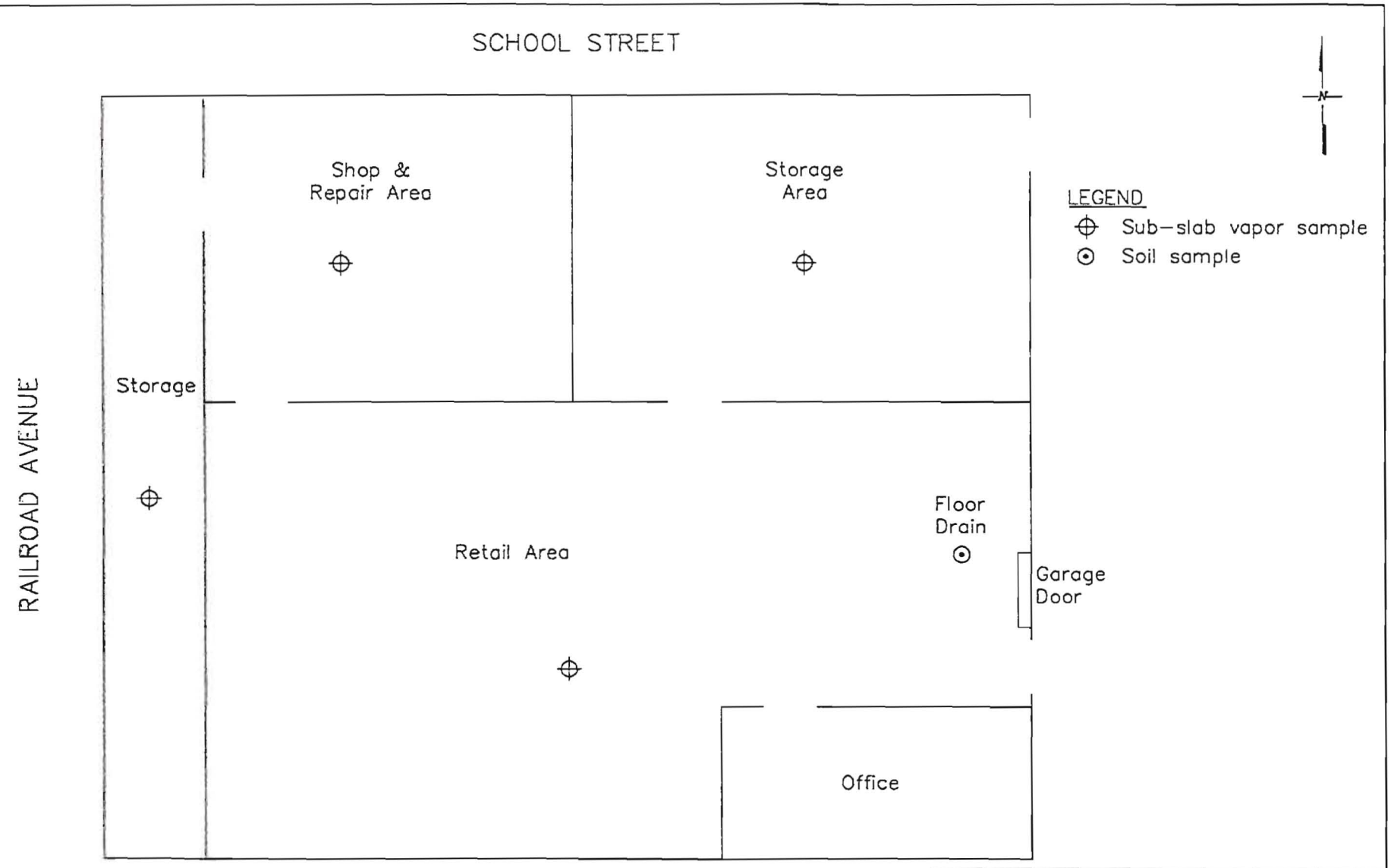
FIGURES

CA RICH CONSULTANTS, INC.

Environmental Specialists Since 1982
17 Dupont Street, Plainview, NY 11803

TITLE: **SITE LOCATION MAP**		DATE: **3/13/11**
		SCALE: **NTS**
FIGURE: **1**	**Former Fresh and Clean Laundry Site** **22 Railroad Avenue** **Glen Head, New York**	DRAWN BY: **J.T.C.**
DRAWING:		APPR. BY: **E.A.W.**

Adapted from Google Earth Map 2011.



Current Tenant "The Tag Sale Warehouse"

CA RICH CONSULTANTS, INC.

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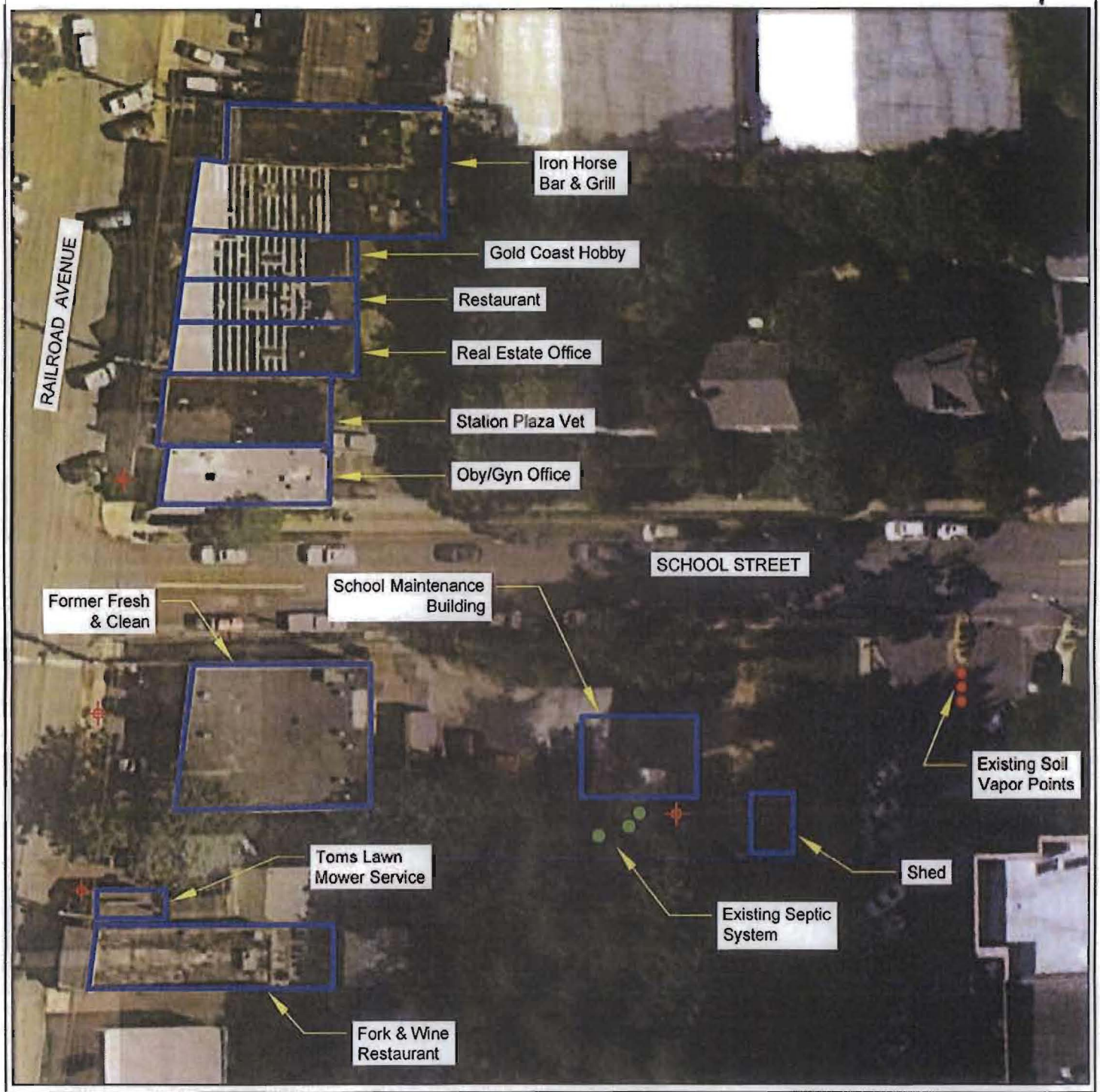
TITLE: Site Plan with Proposed Soil Vapor Sample Locations	DATE: 6/24/2011
	SCALE: As Shown
FIGURE: 2	DRAWN BY: J.T.C.
DRAWING NO: 2011-M5	Former Fresh & Clean Laundry Site Glen Head, NY
	APPR. BY: E.A.W.



LEGEND

- Proposed soil vapor point
- Existing soil vapor point
- Existing septic system

0 30 60
Approximate Graphic Scale In Feet

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TITLE: Site Plan with Proposed Soil Vapor Locations	DATE: 3/13/2011
	SCALE: As Shown
FIGURE: 3	DRAWN BY: J.T.C.
DRAWING NO: 2011-M6	Former Fresh & Clean Laundry Site Glen Head, NY
	APPR. BY: E.A.W.

TABLES

Table 1
Sample Container Details for Sediment Soil Vapor
Fresh and Clean Laundary Site
Glen Head, New York

Location	Sample Matrix and Parameters	Container Type and Preservative	Holding Time*
Cesspool and Floor Drain	**Sediment Samples**		
	VOCs by 8260 plus TICs	one- 2 oz jar and ice	14 Days
Trip and Field Blanks	**Water Samples**		
	VOCs by 8260 plus TICs	two- 40 mil vials and ice	14 Days
Soil Vapor Probes	**Soil Vapor Samples**		
	VOCs by TO-15	one- 6 liter SUMMA Canister	30 Days

*Holding Time is calculated from collection date