SITE CHARACTERIZATION WORKPLAN

VENUS ESTATES
90-11 31ST STREET
QUEENS, NEW YORK 11369
NYS DEC SPILL NO. 0800899

H2M Project No.
GIAM 0901

APRIL 2011

Prepared For:

New York State
Department of Environmental Conservation
(NYS DEC)

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1.0 Introduction

Holzmacher, Mclendon & Murrell, P.C. (H2M) has been retained by Mr. Peter Giampilis (Venus Estates, Inc.) to provide environmental consulting services for the property located at 90-11 31st Avenue in Jackson Heights , New York. As a follow up to our December 3, 2010 conference call, the New York State Department of Environmental Conservation (NYSDEC) March 8, 2011 comment letter and our follow-up conference call of March 30, 2011, H2M has prepared this Site Characterization Work Plan (SCWP) for NYSDEC review and approval prior to implementation. The SCWP identifies those components discussed during our conference call to be utilized in determining whether 90-11 31st Avenue is the potential source of contamination previously identified.

2.0 Background

2.1 Site History & Description

Based upon information obtained from a site walkthrough and previous reports, the subject property is a storefront located in an area developed as a small urban strip mall that was constructed in 1932 and is identified as block 1388, Lot 36 on the tax map. The property is rectangular in shape and is predominantly covered by the existing structure, however there is a pedestrian sidewalk to the front and a small vegetated yard to the rear. The building has a basement beneath a portion of the main level utilized for storage and location of the building's boiler.

The leasehold space that is the subject of the environmental issue on-site is currently occupied by New York Dry Cleaners. The facility has not performed dry cleaning operations onsite in the past several years and operates as a drop shop where dry cleaning activities are performed offsite.

2.2 Geology & Hydrogeology

2.2.1 Geology

According to the United States Department of Agriculture, Soil Conservation Service – Soil Survey, New York is located in the Atlantic Coastal Plain physiographic province which is characterized by low hills of unconsolidated sands, gravel and silt. The subsurface deposits consist of the Upper Glacial deposits that are characterized by southward sloping deposits of sand, gravel and silt. The Upper Glacial deposits have a maximum thickness of 600-feet which are underlain by the Magothy, Raritan and Lloyd Formations. The Gardiners clay and the Jameco gravel separate the Upper Glacial deposits and the Magothy Formation along the south west portion of Long Island. The Borough of Queens is underlain by bedrock, although the majority of it is at several hundred feet below land surface.

2.2.2 Hydrogeology

The Borough of Queens is characterized by Alton stony loam (As) and the Miami stony loam (Ms) and bedrock. During prior investigative activities the depth to groundwater at the subject site was reported at approximately 31 to 34-feet below surface grade (bsg). Groundwater is anticipated to flow in a east-northeasterly direction, however groundwater flow can be affected by many subsurface variables.

Groundwater is not used as a potable water supply for the Borough of Queens. Potable water is supplied to the subject site by the New York City Bureau of Water. The Bureau obtains potable water from the Croton Reservoir located in Westchester County and other fresh water reservoirs in upstate New York.

2.3 Previous Investigations

Based on the use of the property historically as a dry cleaner, there have been several investigations conducted to evaluate the condition of the subject property with respect to historical operations. The following is a brief summary of these investigation activities as reported.

- The initial phase of investigation work was implemented in November 2007 by JJ Blake Technical Services that included the installation and sampling of five (5) soil borings to a depth of four (4) feet below ground surface (bgs). One soil sample was collected from each soil boring and laboratory analyzed for chlorinated volatile organic compounds (CVOCs). Tetrachloroethene (PCE) was the only targeted analyte detected in any of the soil samples collected above the laboratory method detection limit. PCE was detected at a concentration of 61 parts per billion (ppb), which is below the NYSDEC soil cleanup objectives. The boring from which this sample was collected was located adjacent to the sump in the basement. The sump is located in the southeast portion of the basement and discharges to the public sewer system.

- A second phase of work was implemented by GCI in February 2008 which included the collection of a groundwater sample from the front of the subject property within the pedestrian sidewalk, along 31st Avenue. The sample was collected from a temporary well with groundwater encountered at a depth interval of 31 to 34 feet bgs that was laboratory analyzed for VOCs. As a result, cis-1,2-dichlorethene (1,2-DCE) and PCE were detected at concentrations above their respective NYSDEC Groundwater Quality Standard of 5 ug/l. 1,2-DCE was detected at a concentration of 73 ug/l and PCE was detected at a concentration of 67 ug/l. Based on the results of

this investigation, GCI recommended that the report be submitted to the NYSDEC for a determination as to the need for further assessment and/or remedial actions.

- In November and December 2008, at the direction of the NYSDEC, GCI conducted additional investigation activities that included the collection and analysis of additional soil samples from within and adjacent to the basement sump. Soil samples were collected from two (2) foot below grade and laboratory analyzed for VOCs. The results of the soil sampling indicated compliance with the NYSDEC Soil Cleanup Objectives and Cleanup Levels. In addition, three soil vapor samples and one ambient air sample within the basement were collected at the property. The ambient air sample collected from within the basement were reported to exhibit a trichloroethene (TCE) concentration of <0.2 parts per billion by volume (ppbv) in addition to a reported PCE concentration of 0.3 ppbv. Both concentrations indicate compliance with the New York State Department of Health (NYDOH) guidance values of 0.88 ppbv and 14.01 ppbv, respectively. The three (3) soil vapor samples collected from outside the front door (15 ppbv & 170 ppbv), outside the back door (1 ppbv & 160 ppbv) and beneath the basement floor (130 ppbv & 1,700 ppbv), indicated trichloroethene and PCE concentrations reported above the NYS DOH guidelines.

3.0 Scope of Work

As discussed in our December 3, 2010 conference call, a groundwater investigation will be performed to determine whether contamination is originating from an offsite source. Considering this, an H2M qualified personnel will direct the installation of three (3) temporary well points (TWP) to an approximate depth of 35-feet bsg at select locations around the subject property. There is the potential that these monitoring wells may be installed as permanent wells which will be dependent on the final cost proposals received from contractors.

3.1 Well Point Installation & Sampling

The three (3) proposed TWP's will be installed using a track mounted geoprobe which utilizes direct push drilling methodology. TWP construction will consist of 2-inch diameter PVC piping installed to an anticipated depth of 35-feet bsg with 15-feet of 0.010-slot screen installed from 20 to 35-feet bsg. The recovered soil columns will be logged and screened with a calibrated photoionization detector for the presence of volatile organic compounds. The proposed TWP locations are depicted on the attached **Figure 1**, and may be slightly altered depending on accessibility.

Following installation the TWP's will be allowed to stabilize for a period of 24-hour in which purge and sampling will be conducted using a stainless steel submersible style pump via low-flow methodology. During purge Water Quality Indicator Parameters will be recorded at 5-minute intervals at which time parameters have appeared to stabilize over three (3) consecutive readings groundwater samples for submission to a New York State Department of Health's Environmental Laboratory Approval Program (ELAP) certified laboratory under chain of custody for chlorinated volatile organic compound analysis (CVOCs) and related breakdown products via EPA Method 8260 or equivalent. A trip blank and field blank will be collected and analyzed for Quality Assurance/Quality Control (QA/QC) purposes.

A professional surveyor will be engaged to survey the three (3) TWPs in order to model groundwater flow direction beneath the subject site. Further, as discussed during our conference call, a record search will be performed in effort to locate any historical dry cleaners in the immediate surrounding areas. Following the completion of the groundwater investigation, the temporary well points will be removed and the bore hole properly abandoned.

3.2 Soil Sample Collection

In order to address the NYDEC General Comment #3 as outlined within the Departments correspondence letter dated March 8, 2011 and subsequent March 30, 2011 email from Kevin Sarnowicz, H2M is proposing to install soil boring TW-3 in the front sidewalk immediately adjacent to former soil sample SB-1, as underground utilities permit. The TW-3 soil boring will be logged and screened using a calibrated PID in which a soil sample will be collected from the 6-inch soil interval exhibiting the highest elevated PID reading. If PID readings are not observed above background levels a soil sample will be collected from the 6-inch soil interval immediately above the groundwater table or maximum depth achieved and subsequently submitted to a New York State Department of Health's ELAP certified laboratory under chain of custody for CVOC analysis related breakdown products via EPA Method 8260.

3.3 Community Air Monitoring Plan

Ambient air quality monitoring shall be performed during all intrusive investigation activities being conducted at the subject site for VOCs. Considering drilling methods are proposed to be conducted via direct push, air-borne particulate matter is not a concern during the proposed remedial investigation activities. As such, the Community Air Monitoring Program will consist of ambient air quality monitoring being performed downwind of any intrusive activities using a photo-ionization detector (PID). PID measurements will be recorded on 15-minute intervals within the breathing zone while intrusive activities are

being performed. If PID readings are observed in exceedance of 5 ppm above background levels, work will be halted and monitoring will continue until PID readings fall within 5 ppm of the background concentration.

The PID used for ambient air monitoring shall be calibrated at the start of each workday. Calibration will be performed in accordance with the manufacturer's requirements and will be documented by on-site field personnel.

3.4 Reporting

Upon receipt of the final analytical data, H2M will compare the results to The NYDEC Technical and Operational Guidance values, in addition to preparation of a brief letter report detailing the findings of the investigation. As discussed in our December 3, 2010 conference call, if analytical results from the most upgradient well indicate the source of groundwater impact to be occurring from an unknown off-site location, a request will be made that the NYSDEC close the spill number along with delisting of the subject site from the NYDEC's data base.

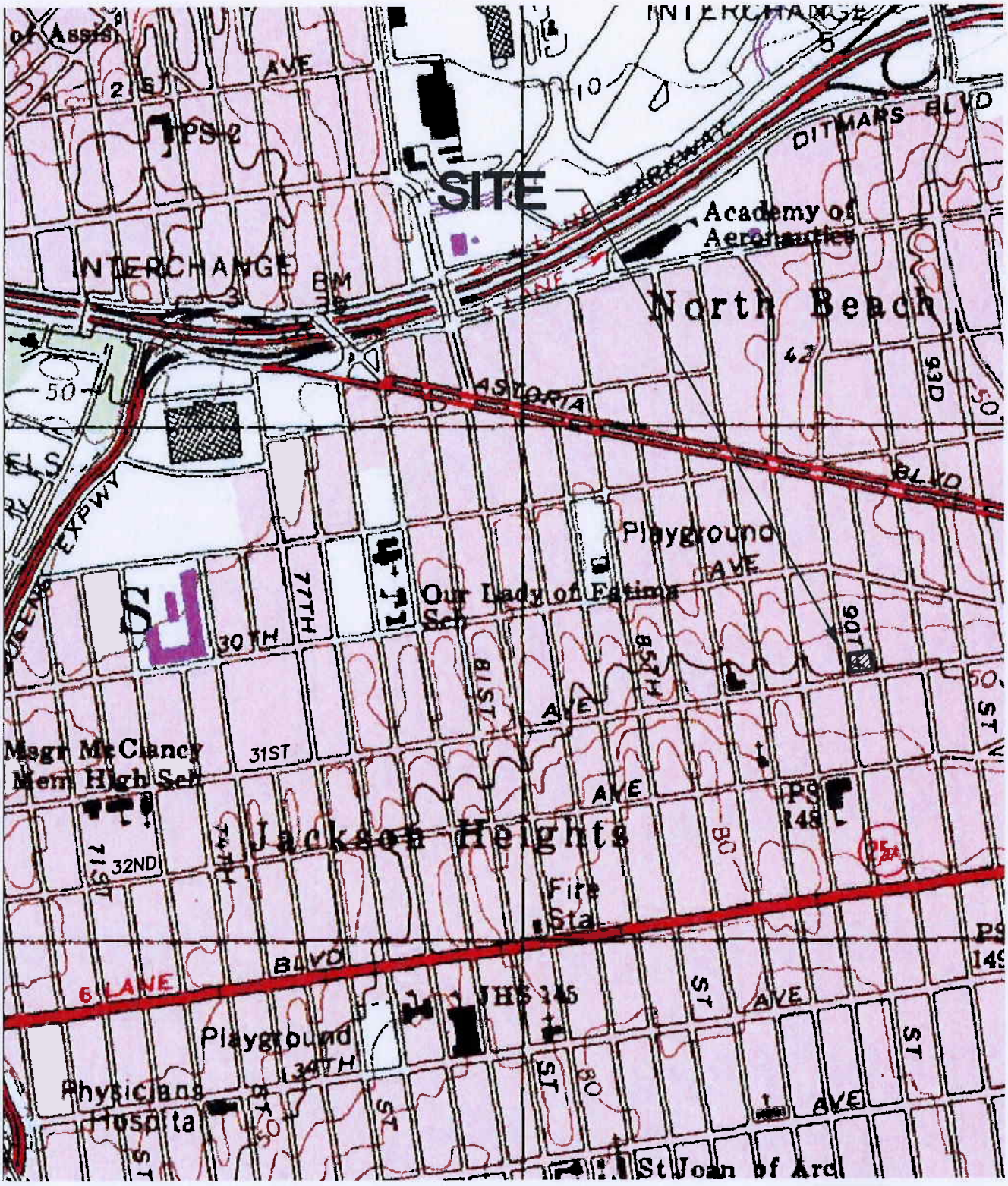
3.5 Site Characterization Schedule and Reporting

A schedule, in terms of the total number of weeks elapsed following NYDEC approval of this SCW for the investigative activities is as follows:

Activity	Est. Completion Date (weeks)
SCW Approval from NYDEC	0
Installation of four (4) temporary monitoring wells	4
Receipt of Final Laboratory Results	8
Site Characterization Report Submission	16

H2M requests a confirmation from the NYSDEC in writing that these proposed activities are consistent with our previous discussion. Upon receipt of approval, field activities will be scheduled. If you should have any questions or comments, please feel free to call or write this office.

FIGURES



REFERENCE:
U.S.G.S (7.5 MINUTE SERIES)
CENTRAL PARK QUADRANGLE
NEW YORK-NEW JERSEY 1995

FIGURE 1
SITE LOCATION MAP
FORMER DRY CLEANERS
90-11 31st AVENUE
QUEENS, NEW YORK

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Melville, NY
Parsippany, NJ

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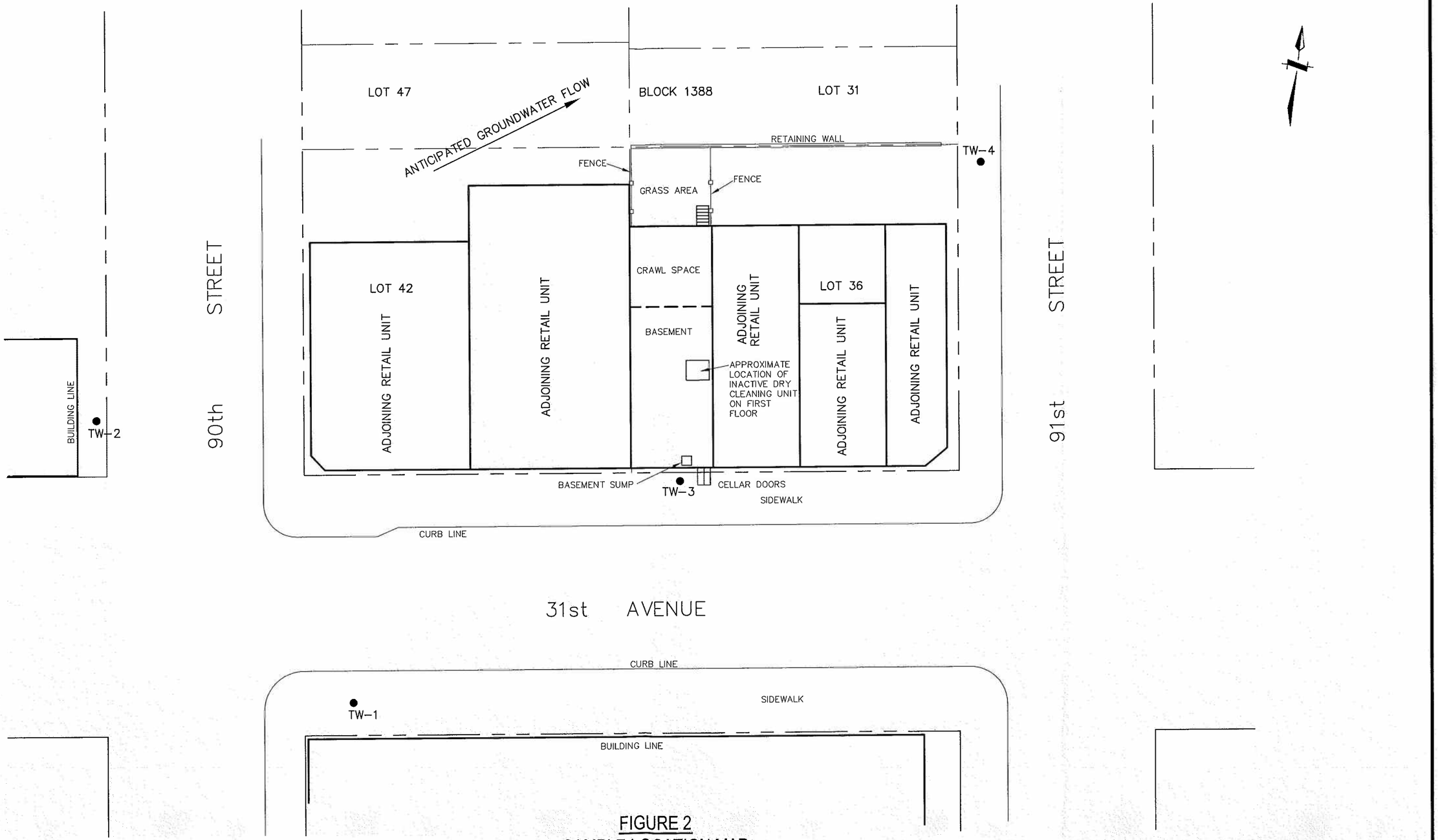

FIGURE 2
SAMPLE LOCATION MAP
FORMER DRY CLEANERS
90-11 31st AVENUE
QUEENS, NEW YORK

PROJECT #:	GIAM 0901
DATE:	JAN. 7, 2011

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H:\GIAM - Peter Giampilis\GIAM0901\FIG 2 SAMPLE LOCATION.dwg Last Modified: Apr 21, 2011 - 9:17am Plotted on: Apr 21, 2011 - 9:17am By: mwirth