

May 6, 2009

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Ms. Dana Kaplan
Environmental Engineer
New York State Department of Environmental Conservation
47-40 21st Street
Long Island City, New York 11101

**RE: SSD System Determination Sampling Plan
Retail C, E1, E2 and F
Gateway Center at Bronx Terminal Market
Bronx, NY ("The Project")
BCP Site No. C203015
Langan Project No.: 5742506**

Dear Ms. Kaplan:

Per your request in an email correspondence dated November 21, 2008, we have prepared this sub-slab depressurization (SSD) system determination sampling plan for Gateway Center at Bronx Terminal Market (the "Site") on behalf of Bronx Terminal Market Development Partners. This plan outlines the relevant background, sampling and decision making process involved in determining if SSD systems will be required in Retail C, E1, E2 and F.

BACKGROUND

As part of the Site Remedial Investigation (RI) between September 27 and September 29, 2005, fifteen soil vapor samples were collected to evaluate the presence of volatile constituents and methane in the areas beneath the proposed and the existing Site buildings. Generally, two types of soil vapor impacts were identified; naturally-occurring methane and VOCs. Below is a summary of detections (compounds of concern) associated with Retail C, E1, E2, and F based on the RI.

Retail C

Samples SG-8, SG-9 and AG-AA2 were collected beneath Retail C. Analytical data showed detections of the following compounds:

- Freon 11
- Methyl tert-butyl ether
- 2,2,4-Trimethylpentane
- 4 Methyl-2-pentanone
- 1,2,4-Trimethylbenzene
- Carbon Disulfide
- M,p-xylene
- Ethanol
- Hexane
- Benzene
- Tetrachloroethene
- Cumene
- Cyclohexane
- O-xylene
- Acetone
- Chloroform
- Heptane
- Ethyl Benzene
- 4-ethyltoluene
- Toluene
- Methane

Retail E1

Sample SG-1 and SG-2 were collected beneath and immediately adjacent to Retail E1. Analytical data showed detections of the following compounds:

- Freon 12
- 2-butanone
- Methane
- Freon 11
- Chloroform
- Ethanol
- 1.1.1-Trichlorethane
- Acetone
- Tetrachloroethene

Retail E2

Samples SG-AA4 and SG-2 were collected immediately adjacent to Retail E2. Analytical data showed detections of the following compounds:

- Freon 12
- 2-butanone
- Methane
- Freon 11
- Chloroform
- Ethanol
- 1.1.1-Trichlorethane
- Acetone
- Tetrachloroethene

Retail F

Samples SG-3, SG-AA3, and SG-6, and SG-4 were collected beneath and immediately adjacent to Retail F. Analytical data showed detections of the following compounds:

- Freon 12
- 2-butanone
- Toluene
- Ethanol
- Cyclohexane
- 1,2,4-Trimethylbenzene
- Acetone
- Benzene
- Methane
- Hexane
- Heptane

The soil Vapor VOC and Methane Detection Map is provided as Attachment A and shows sample locations and compound concentrations.

As part of the implementation of the Remedial Work Plan (RWP), sub-slab components of SSD systems (depressurization pits and piping) were installed in Retail C, E1, E2 and F. The sub-slab

components were installed as a contingency, with the understanding that the requirement for SSD systems in these buildings would be based on post-construction sub-slab and indoor air samples. This document provides the sample locations, procedures, and evaluation criteria for SSD determination sampling.

SAMPLING PROCEDURES

Samples will be collected once the ground floor building envelope is complete and building HVAC systems are operational. Prior to sampling, an inspection will be performed in general accordance with Section 2.11 of the New York State Department of Health (NYSDOH) guidance document to identify and minimize conditions that may interfere with the sampling. Sampling will be completed in accordance with the following:

- Representative samples will be collected at a frequency of one indoor air and one sub-slab vapor sample per 25,000 square feet, with a minimum of 2 samples of each type per building. An ambient air sample will be collected on each sampling day to represent outdoor air conditions.
- Samples will be relatively evenly spaced throughout the building. A proposed sample location map is attached as Figure 1.
- Each sample will be documented on a sample log sheet that includes standard sampling information (sample identification, date and time of sample, sample height or depth, etc.).
- Field documentation will include weather conditions, indoor and outdoor plot sketches (sample location, buildings, surface cover, etc.) and identification of potential interferences (e.g., excavators, fuel oil tank, etc.).
- Sample flow rates will be set to conform to the specification of the sample collection method (EPA Method TO-15).
- Samples will be collected using summa canisters that are batch certified as clean by a laboratory and a laboratory-calibrated flow controller.

Specific sampling criteria for each sample type are described below.

Sub-Slab Sampling

Representative sampling points will be installed as follows:

- Monitoring points will be constructed by drilling an approximately ½-inch diameter hole through the slab.
- Inert tubing (i.e. polyethylene, Tygon™ or Teflon™), ¼-inch diameter, will be inserted into the hole to approximately 2-inches below the bottom of the slab. The sampling tube will not extend into groundwater or the capillary fringe;

- With the tubing in place, the hole will be packed with sand until approximately ½-inch below the vapor barrier. Above the sand, the hole will be sealed using non-VOC-containing hydrated bentonite slurry to isolate the sub-slab environment and ensure representative sampling (See Figure 2);
- The ¼-inch tubing will be finished with a Swagelok quick-connect ball valve fitting with a ¼-inch hose barb at the top of the slab;
- The fitting and barb shall be housed within a flush-mounted 4-6-inch diameter, bolt down, cast iron manhole cover. To allow for the installation of this manhole, the slab will be cored approximately 3 inches deep with a 6-inch diameter concrete coring machine. Concrete will be placed around the outer diameter of the manhole to set it in place.

The sub-slab vapor sampling procedure will follow the NYSDOH Guidance Document and include the following:

- A helium tracer gas test, per NYSDOH guidance, will be conducted prior to and after sample collection to document that the sampling point has a competent seal.
- Three volumes of air (the equivalent of the sample point tubing and sand pack) will be purged through the system using a low-flow vacuum pump at a rate equal to the sampling rate (maximum of 200-milliliters per minute (ml/min)).
- Samples will be collected over a 2-hour period.
- After sampling, the quick-connect ball valve fitting will be closed to prevent a preferential pathway from the sub-slab environment to the interior of the office building.

Indoor Air Samples

Indoor air sampling procedure will follow the NYSDOH Guidance Document and include the following:

- Representative air samples will be collected on the ground floor in the breathing zone (3 to 5 feet above the slab).
- The indoor air samples will be collected in the same general location as the sub-slab vapor samples.
- Samples will be collected over an 8-hour period at a flow rate below 200 ml/min
- To the extent practical, all personnel shall avoid lingering in the immediate area of the sampling device while samples are collected

Ambient Outdoor Air Samples

Outdoor air sampling procedure will follow the NYSDOH Guidance Document. Ambient outdoor air samples will be collected to characterize site-specific background outdoor air conditions. The procedure will include the following:

- Sample collection in the breathing zone (3 to 5 feet above the ground surface)
- Sample collection over an 8-hour period at a flow rate below 200 ml/min
- Sample collection will occur simultaneously with indoor air samples to evaluate the potential influence, if any, of outdoor air on the indoor air sampled.

SAMPLE ANALYSIS

In accordance with the requirements of the Site Management Plan (SMP), the samples will be analyzed for a target list of volatile chemicals based on previous environmental sampling (RI data) in the individual retail building slab areas. These volatile chemicals are identified as compounds of concern (COCs) in the Background section above. The concentration of methane does not warrant further action. One soil vapor sample in the area of the open air parking garage showed a high methane level; however, this area was excavated during the course of remediation and is capped with asphalt. Any remaining soil vapor in the area of the open air parking garage will be mitigated by natural ventilation.

DECISION-MAKING PROCESS

Our evaluation of sample results will be in accordance with the NYSDOH October 2006 Guidance for Evaluating Soil Vapor Intrusion in the State of New York (the "Guidance"). The Guidance establishes Air Guidance Values (AGV) and decision matrices for two of the COCs (1,1,1-Trichloroethane and Tetrachloroethene). The Guidance does not have standards, criteria, or guidance values for most COCs. The Guidance states that the 90th percentile values from the 2001 EPA BASE data for indoor air (Appendix C, Table C2) can be used as an initial benchmark in office and commercial buildings, but the decision to mitigate shall be considered on a case by case basis.

The decision to mitigate will be made in accordance with the Guidance as follows:

1. Results for 1,1,1-Trichloroethane or Tetrachloroethene will be compared with Decision Air Matrix 2. If mitigation is required, the remaining above-slab components of the SSD system will be installed.

2. The SSD system will not be installed in the any of the following situations
 - a. Indoor air concentrations are below the 90th percentile values
 - b. Indoor air concentrations are above sub-slab air concentrations
 - c. Indoor air concentrations are below outdoor ambient concentrations.

3. All other conditions will be evaluated on a case by case basis in accordance with the data evaluation procedure in the Guidance.

Post-construction sample results will be compiled and submitted to NYSDEC and NYSDOH in a letter report. Please contact us with any questions.

Sincerely,
Langan Engineering and Environmental Services, P.C.

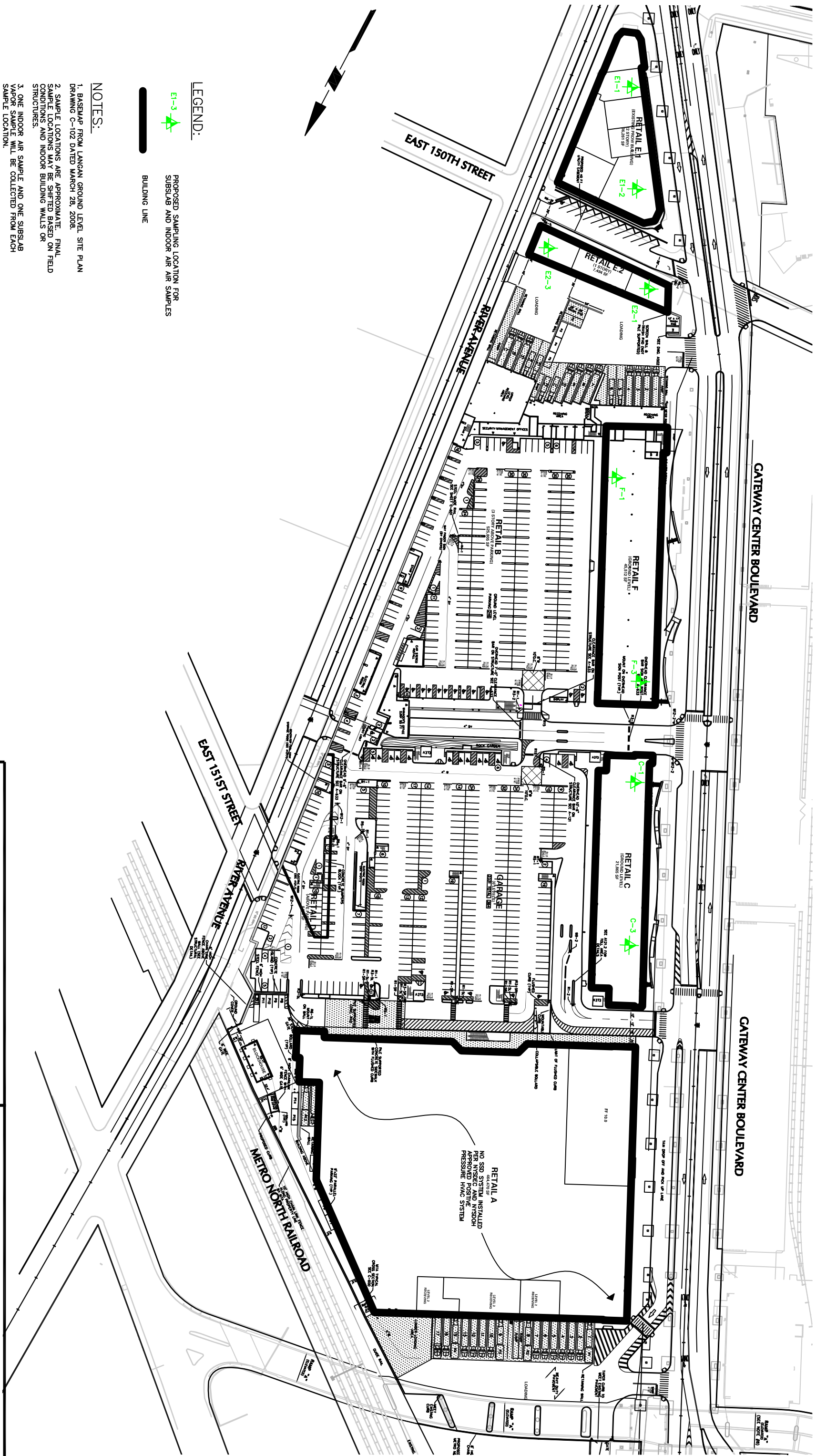


Joel B. Landes, P.E.
Senior Associate

Attachment: Figure 1: Proposed Sample Location Map
Figure 2- Monitoring Point Setup

cc: Andrew Pattap- Related
Jason Hayes- Langan

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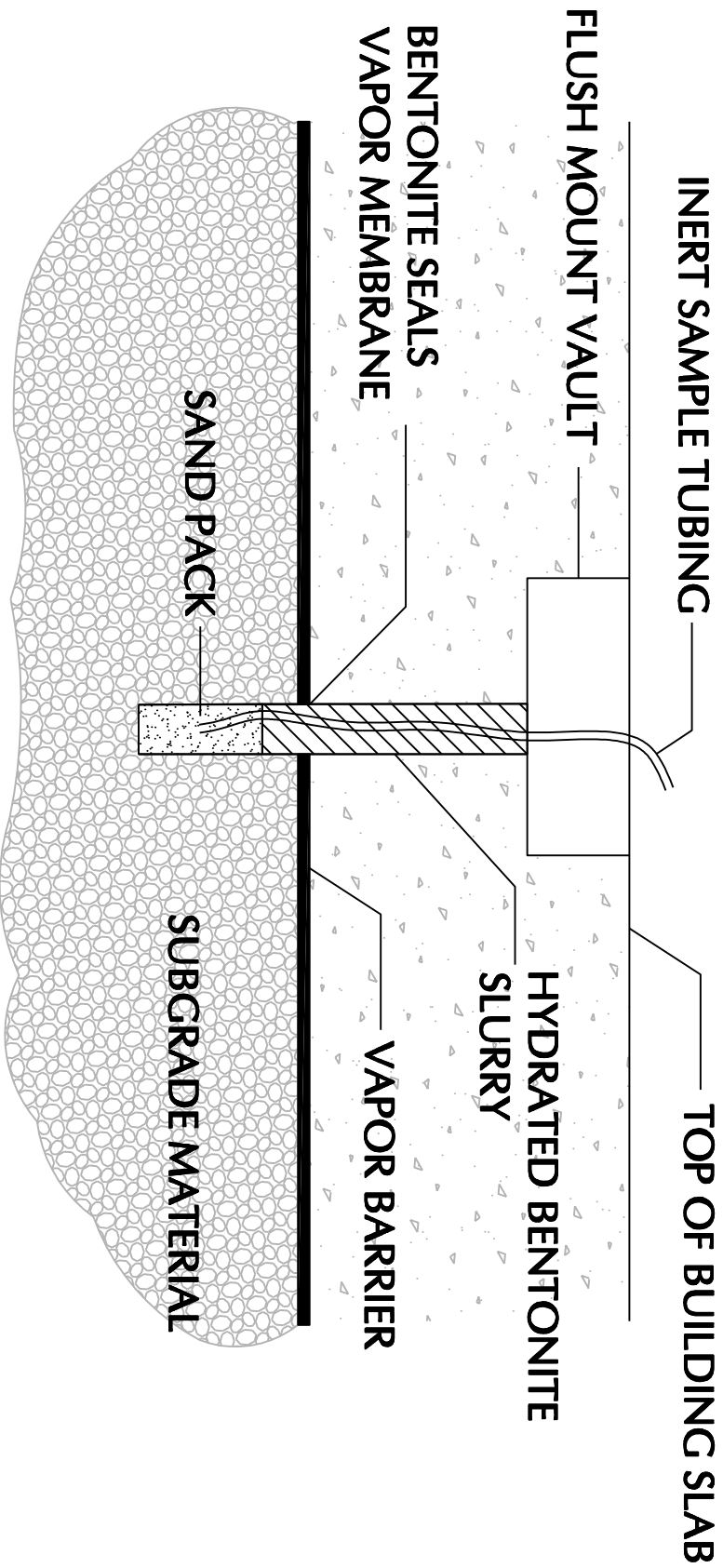


LEGEND:
 E1-3 PROPOSED SAMPLING LOCATION FOR SUBSLAB AND INDOOR AIR AIR SAMPLES
 BUILDING LINE


NOTES:
 1. BASEMAP FROM LANGAN GROUND LEVEL SITE PLAN DRAWING C-102 DATED MARCH 28, 2006.
 2. SAMPLE LOCATIONS ARE APPROXIMATE. FINAL SAMPLE LOCATIONS MAY BE SHIFTED BASED ON FIELD CONDITIONS AND INDOOR BUILDING WALLS OR STRUCTURES.
 3. ONE INDOOR AIR SAMPLE AND ONE SUBSLAB VAPOR SAMPLE WILL BE COLLECTED FROM EACH SAMPLE LOCATION.
 4. OUTDOOR/AMBIENT SAMPLES ARE NOT SHOWN ON THIS DRAWING, BUT WILL BE COLLECTED CONCURRENTLY WITH AN INDOOR OR SUBSLAB SAMPLING EVENT.

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 NJ Certificate of Authorization No: 24GAZ7996400

Project
PROPOSED INDOOR AIR/SUB-SLAB VAPOR SAMPLING LOCATIONS
 BRONX NEW YORK
 Project No. 170058501 Date 4/22/2009 Scale 1" = 125' Dwg. No. 1



- NOTES:**
1. INERT TUBING WILL BE INSTALLED APPROXIMATELY TWO INCHES INTO THE SANDPACK.
 2. HYDRATED BENTONITE SEAL WILL ACT TO SEAL THE VAPOR BARRIER MEMBRANE AND ISOLATE THE SUB-SLAB ENVIRONMENT.
 3. CORED HOLE TO SUBSURFACE WILL BE APPROXIMATELY 1/2" DIAMETER AND FLUSH MOUNT VAULT WILL BE APPROXIMATELY 6" DIAMETER.

 <p>LANGAN ENGINEERING & ENVIRONMENTAL SERVICES</p>			
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NEW JERSEY	FLORIDA	NEVADA	
NJ Certificate of Authorization No. 24GAZ7996400			
Project SUB-SLAB SAMPLING POINT GATEWAY CENTER AT BRONX TERMINAL MARKET BRONX		Date 2/5/2009	Scale NTS
Project No. 5742506	Date 2/5/2009	Scale NTS	Dwg. No. 2

June 18, 2009

Ms. Sondra Martinkat
New York City Department of Environmental Conservation
Division of Environmental Remediation, Region 2
47-40 21st Street
Long Island City, NY 11101-5407

**RE: SSD System Determination Sampling Plan Addendum 1
Retail C, E1, E2, and F
Gateway Center at Bronx Terminal Market
Bronx, New York ("The Project")
BCP Site No. C203015
Langan Project 5742506**

Dear Ms. Martinkat:

Langan Engineering & Environmental Services, P.C. (Langan) is pleased to submit Addendum 1 to the SSD System Determination Sampling Plan, dated May 6, 2009 for Gateway Center at Bronx Terminal Market (the Site). This addendum provides our Sampling Plan modifications and responses to the NYSDEC comment letter dated June 11, 2009.

DEP Comment 1

Attachment 1 was not included with the sampling plan.

Response

The referenced attachment is a soil vapor volatile organic compound (VOC) and methane detection map and shows sample locations and compound concentrations for the Site prior to the implementation of the Remedial Work Plan. The map is provided as Attachment A.

DEP Comment 2

It is not clear from the text that sampling would include methane. Sampling must include methane.

Response

Methane is a compound of concern in all buildings (C, E1, E2, and F) and sampling for methane is included in the plan. In addition, a review of previous soil vapor samples associated with Retail C (SG-8, SG-9) found 2-butanone (MEK) detections; this compound will be added to the Retail C list. MEK is already in the Sampling Plan for the other buildings.

DEP Comment 3

The post construction sampling locations should be representative, which may or may not include the extreme ends of the buildings. Please verify that these are considered representative.

Response

The sampling locations are representative for conditions associated with commercial structures Retail E1, E2 and F. These sample locations were selected as representative of these continuous (no obstructions) sub-slab spaces that are connected by a layer of pervious gravel and perforated piping, below a continuous vapor barrier membrane. Upon further consideration, for Retail C, we have added Sample Location C-3, considering that the sub-slab space under this building is divided into three areas by two grade beams running in an east-west orientation. With the addition of C-3, sampling will be undertaken within each of the three areas. At all sampling locations both indoor air and sub slab soil vapor samples will be collected simultaneously for an approximate period of 8 hours. The revised sample location map is provided as Attachment B.

DEP Comment 4

Indoor and outdoor air will be sampled for 8 hours, but the sub slab sampling was not specified for eight hours and only two. Is there a rationale for the two hour sampling when the eight hour samples are preferred?

Response

Eight hour samples will be collected for indoor and outdoor air samples, and sub slab samples.

DEP Comment 5

When reporting results, a site-conceptual model needs to be included.

Response

A site-conceptual model will be included in the results report.

DEP Comment 6

Since there will be several penetrations through the vapor barrier, part of the Site Management Plan (SMP) should include an annual inspection of those penetrations patches to ensure their continued integrity. Please update the annual inspection form in the SMP accordingly and submit it to the Department for approval.

Response

The annual inspection will include inspection of penetration patches around penetrations through the vapor barrier to ensure their continued integrity. The annual inspection form in the SMP has been updated accordingly and is provided as Attachment C.

DEP Comment 7

The sampling plan needs to mention the time of year that the sampling will take place.

Response

We anticipate that the sampling will occur in summer 2009. Seasonal guidelines applying to residential soil vapor sampling do not apply to these commercial buildings, as seasonal variation of the door and window operation is not expected and the HVAC will be in continuous year-round operation, maintaining approximately the same internal temperature.

DEP Comment 8

In the Decision Matrix section, the first paragraph can stay, but then replace the first sentence in the next paragraph with: "The decision to mitigate will be made by the Department and the NYSDOH in accordance with the Guidance." Then remove Bullet No. 2a,b, and c.

Response

The following is the revised "Decision-Making Process" Section:

Our evaluation of sample results will be in accordance with the NYSDOH October 2006 Guidance for Evaluating Soil Vapor Intrusion in the State of New York (the "Guidance"). The Guidance establishes Air Guidance Values (AGV) and decision matrices for two of the COCs (1,1,1-Trichloroethane and Tetrachloroethene). The Guidance does not have standards, criteria, or guidance values for most COCs. The Guidance states that the 90th percentile values from the 2001 EPA BASE data for indoor air (Appendix C, Table C2) can be used as an initial benchmark in office and commercial buildings, but the decision to mitigate shall be considered on a case by case basis.

The decision to mitigate will be made by the Department and the NYSDOH in accordance with the Guidance as follows:

1. Results for 1,1,1-Trichloroethane or Tetrachloroethene will be compared with Decision Air Matrix 2. If mitigation is required, the remaining above-slab components of the SSD system will be installed.
2. All other conditions will be evaluated on a case by case basis in accordance with the data evaluation procedure in the Guidance.

We hope that this letter has adequately addressed your comments and we look forward to working with you on completion of this project. Please contact us with any questions or comments.

Sincerely,

Langan Engineering & Environmental Services, P.C.



Jason Hayes
Project Manager

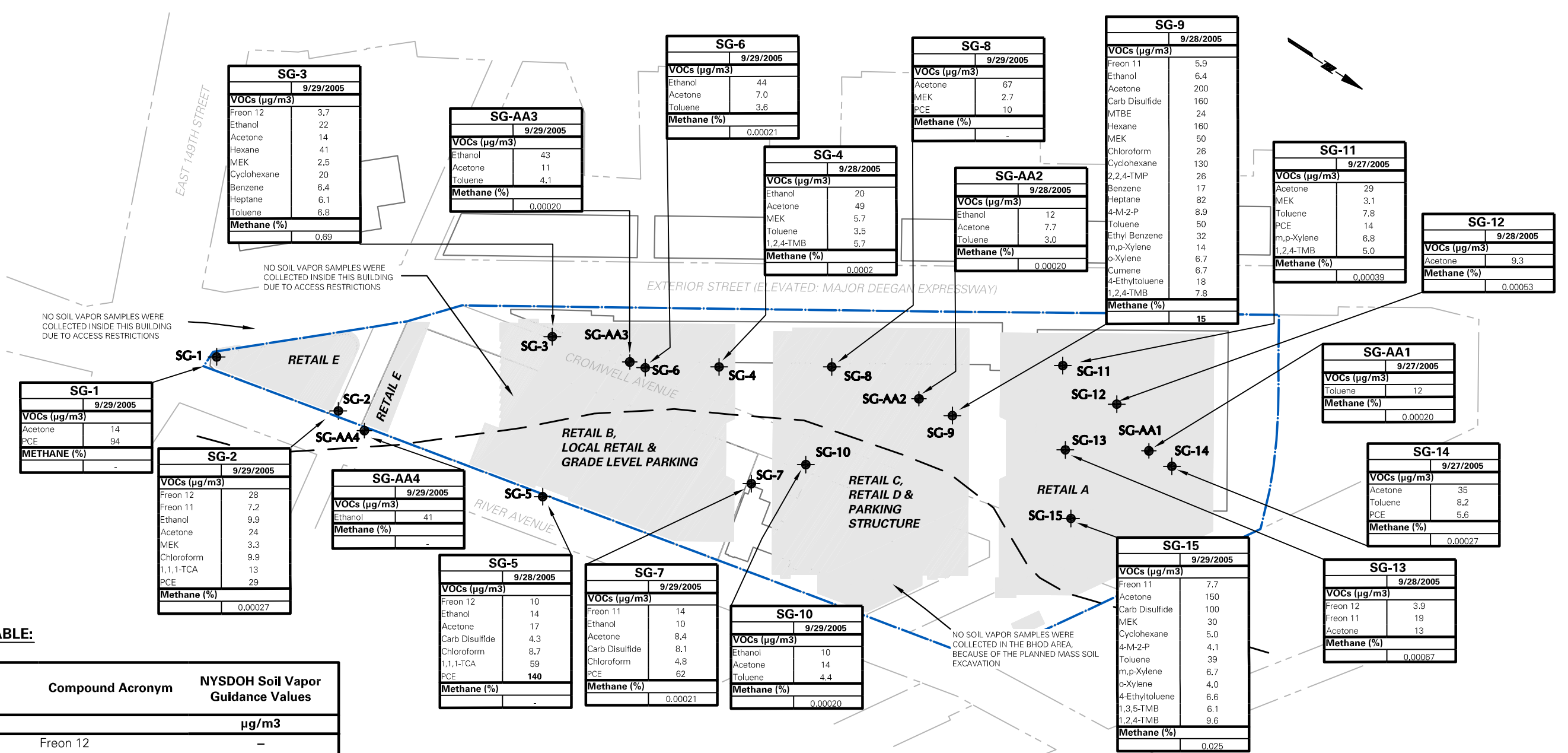


Joel B. Landes, P.E.
Senior Associate

CC: Bridget Callaghan – NYSDOH
Andrew Pattap- Related

Enclosure(s): Attachment A- Soil Vapor VOC and Methane Detection Map
Attachment B- Proposed Indoor/Sub-Slab Vapor Sampling Locations (revised)
Attachment C – SMP Annual Inspection Form (revised)

ATTACHMENT A
SOIL VAPOR VOC AND METHANE DETECTION MAP



SOIL VAPOR LEVELS TABLE:

Sample Compound	Compound Acronym	NYSDOH Soil Vapor Guidance Values
		µg/m3
VOAs		
Freon 12	Freon 12	-
Chloroethane	Chloroethane	-
Freon 11	Freon 11	-
Ethanol	Ethanol	-
Acetone	Acetone	-
Carbon Disulfide	Carb Disulfide	-
Methyl tert-butyl ether	MTBE	-
Hexane	Hexane	-
2-Butanone (Methyl Ethyl Ketone)	MEK	-
Chloroform	Chloroform	-
1,1,1-Trichloroethane	1,1,1-TCA	100
Cyclohexane	Cyclohexane	-
2,2,4-Trimethylpentane	2,2,4-TMP	-
Benzene	Benzene	-
Heptane	Heptane	-
4-Methyl-2-pentanone	4-M-2-P	-
Toluene	Toluene	-
Tetrachloroethene	PCE	100
Ethyl Benzene	Ethyl Benzene	-
m,p-Xylene	m,p-Xylene	-
o-Xylene	o-Xylene	-
Cumene	Cumene	-
4-Ethyltoluene	4-Ethyltoluene	-
1,3,5-Trimethylbenzene	1,3,5-TMB	-
1,2,4-Trimethylbenzene	1,2,4-TMB	-

LEGEND:

- EXISTING BUILDING
- PROPOSED BUILDING LOCATION
- SITE BOUNDARY
- HISTORIC SHORELINE
- SOIL VAPOR INVESTIGATION LOCATION
- AMBIENT AIR LOCATION

NOTES:

1. BACKGROUND SITE CONFIGURATION BASED ON SURVEY DONE BY CONTROL POINT ASSOCIATES, INC. DATED NOVEMBER 2003.
2. LANGAN COLLECTED THE SOIL VAPOR SAMPLES IN SEPTEMBER 2005.

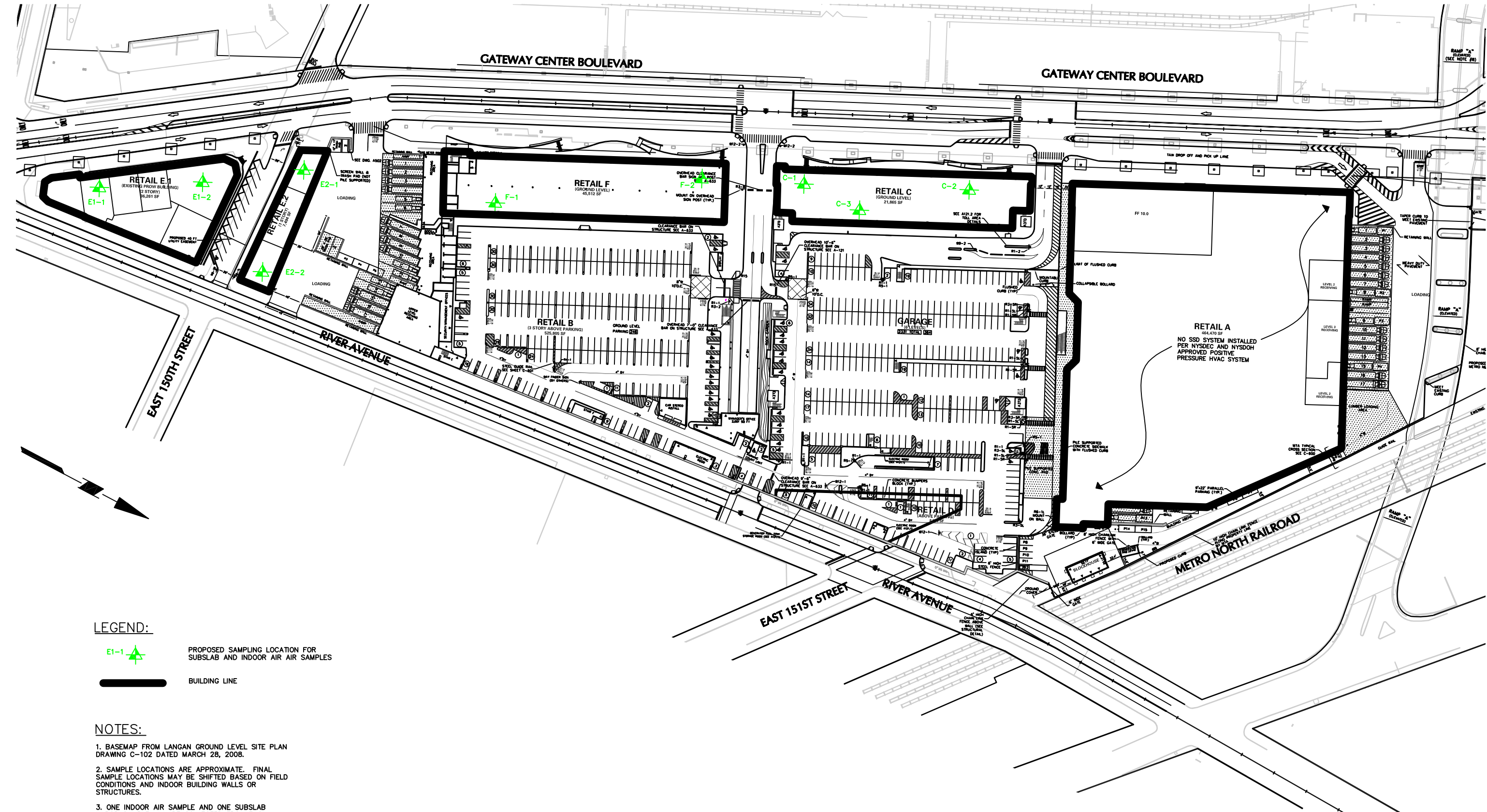
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NEW JERSEY PENNSYLVANIA **NEW YORK** CONNECTICUT FLORIDA

GATEWAY CENTER AT BRONX TERMINAL MARKET
**SOIL VAPOR VOC AND METHANE
DETECTION MAP**
BRONX NEW YORK

Project No. 5742506 Date 10/13/05 Scale 1"=200' Fig. No. 7

**ATTACHMENT B
PROPOSED INDOOR/SUB-SLAB VAPOR SAMPLING
LOCATIONS (REVISED)**



LEGEND:

- ▲ E1-1 PROPOSED SAMPLING LOCATION FOR SUBSLAB AND INDOOR AIR AIR SAMPLES
- BUILDING LINE

NOTES:

1. BASEMAP FROM LANGAN GROUND LEVEL SITE PLAN DRAWING C-102 DATED MARCH 28, 2008.
2. SAMPLE LOCATIONS ARE APPROXIMATE. FINAL SAMPLE LOCATIONS MAY BE SHIFTED BASED ON FIELD CONDITIONS AND INDOOR BUILDING WALLS OR STRUCTURES.
3. ONE INDOOR AIR SAMPLE AND ONE SUBSLAB VAPOR SAMPLE WILL BE COLLECTED FROM EACH SAMPLE LOCATION.
4. OUTDOOR/AMBIENT SAMPLES ARE NOT SHOWN ON THIS DRAWING, BUT WILL BE COLLECTED CONCURRENTLY WITH AN INDOOR OR SUBSLAB SAMPLING EVENT.



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NJ Certificate of Authorization No: 24GA27996400

Project
PROPOSED INDOOR AIR/SUB-SLAB VAPOR SAMPLING LOCATIONS

BRONX NEW YORK

Project No. 170058501 Date 6/17/2009 Scale 1"=125' Dwg. No. 1

ATTACHMENT C
SMP ANNUAL INSPECTION FORM (REVISED)

SITE WIDE INSPECTION CHECKLIST

Site Name: _____ Location: _____ Project Number: _____

Inspector Name: _____ Date: _____ Weather Conditions: _____

Reason for Inspection (i.e., routine, severe condition, etc.): _____ Annual Inspection _____

Check one of the following: **Y**: Yes **N**: No **NA**: Not Applicable

		Y	N	NA	Normal Situation	Remarks
General						
1	What are the current site conditions?	--	--	--	--	
2	Are all applicable site records (e.g., documentation of construction activity, SSD or HVAC system maintenance and repair, most current easement, etc.) complete and up to date?				Y	
Easement						
3	Has site use (restricted commercial) remained the same?				Y	
4	Does it appear that all environmental easement restrictions have been followed?				Y	
Impermeable Cap						
5	Are there any indications of a breach in the capping system at the time of this inspection?				N	
6	Are there any cracks in the building slabs?				N	
7	Are there any cracks in the building walls?				N	
8	Is there any construction activity, or indication of any construction activity within the past certification year (including any tenant improvements), that included the breaching of the capping system, on-site at the time of this inspection?				N	
9	If YES to number 7, is there documentation that the Site Management Plan, HASP, and CAMP for the site was/is being followed?				NA if N to 6/ Y if Y to 6	
SSD Systems						
10	Are all visible SSD system components intact and operational at the time of this inspection?				Y	

SITE WIDE INSPECTION CHECKLIST

Check one of the following: **Y:** Yes **N:** No **NA:** Not Applicable

		Y	N	NA	Normal Situation	Remarks
	Vapor Barrier					
11	Are all penetration patches around penetrations through the vapor barrier intact and competent?				Y	
	HVAC Systems					
12	Are the Retail A Positive Pressure HVAC system components intact and operational at the time of this inspection?				Y	
	Groundwater Monitoring Well Network					
13	Are all wells within the groundwater monitoring network intact and secured at the time of this inspection?				Y	
14	Have the minimum number of groundwater monitoring events been conducted for the certification year (i.e., quarterly for first year)?				Y	

*** If the answer to any of the above questions indicate non-compliance with any IC/ECs for the site, additional remarks must be provided and, where applicable, documentation attached to this checklist detailing additional inspection and repair activities.

Additional remarks _____

Minimum Inspection Schedule: Site-wide inspections will be conducted annually, per certification year, at a minimum. Additional inspections will also be conducted at times of severe condition events. All inspection events will utilize this checklist.