Fleming Lee Shue

February 7, 2025

Mr. Christopher Allan
New York State Department of Environmental Conservation
Hunters Point Plaza, 47-40 21st Street
Long Island City, NY 11101

Re: **Corrective Measures Work Plan**
Info Tech High School
21-16 44th Road, Long Island City, NY 11101
NYSDEC VCP Site Number V00366-2

Mr. Allan:

Fleming Lee Shue Environmental Engineering and Geology, D.P.C. (FLS) has prepared this Corrective Measures Work Plan (CAWP) for approval by the New York State Department of Environmental Conservation (NYSDEC) in response to its November 15, 2024 letter, NYSDEC rejected the 2024 Periodic Review Report. The primary purpose of this CMWP is to outline the scope of an indoor air sampling and sub-slab vapor monitoring sampling events to evaluate the efficiency of the sub-slab depressurization system (SSDS) located at the above-referenced property (Site). The Site is currently in Site Management in accordance with the New York State Department of Environmental Conservation (NYSDEC) approved Site Management Plan (SMP) dated September 2008 and the subsequent *Site Management Plan Modification Summary* dated June 2017.

1.0 Background

The Site consists of a four-story masonry and stucco structure currently utilized as Information Technology High School. The Site is a former drapery hardware manufacturer and distributor. The eastern portion of the factory was dedicated to cleaning, de-greasing, oil-extracting, powder coating, and painting of metal drapery hardware. Prior to this usage, the Site is believed to have contained a metal plating and finishing facility. Both operations are historically known for utilizing chlorinated degreasers.

Various Remedial investigations conducted by Leggette, Brashears & Graham Inc. (LBG) between 1997 and 2002 revealed the presence of VOCs in soil vapor under the building slab and in the groundwater beneath the Site. The source of VOCs was determined to be a former drum storage

area (outside the footprint of the current school) where localized contaminated soil was identified and removed from the Site. The Site's primary contaminants of concern are tetrachloroethylene (PCE) and trichloroethylene (TCE). Elevated concentrations of lead were also identified in soil beneath dry drains located under the buildings and in the courtyard.

Remedial excavation took place between December 2001 and August 2002 and included the removal of approximately 1,300 cubic yards of contaminated soils and a combination of soil and ash from the former drum area, the basement and first floor levels of the school, basement sumps, and the parking lot area.

Following remediation, LBG developed the SMP in 2008 and outlined five (5) primary engineering controls for the Site. These are: (1) a composite cover system within the building (first floor and basement) consisting of (from bottom to top) 1 foot of gravel, a 40-mil high density polyethylene (HDPE) liner, a protection board layer, and a steel mesh reinforced 8-inch thick concrete slab as well as a spray-on epoxy vapor barrier along the western basement wall adjacent to the first floor; (2) a sub-slab soil depressurization system (SSDS) installed in the gravel layer beneath the HDPE liner; (3) a vertical soil vapor extraction system consisting of four vertical SVE wells installed in the former drum storage area (decommissioned in 2010); (4) a groundwater pump and treat system extracting groundwater from RW-1 located in the former drum storage area (decommissioned in 2014); and (5) a positive-pressure heating ventilation and air conditioning (HVAC) system within the building.

FLS replaced LBG as the lead consultant for the Site in June 2017. The current SSDS is equipped with one (1) 15 HP blower to provide vacuum beneath the building, with a second 15 HP blower to be activated if the current blower fails. Monitoring of the SSDS is conducted on a semi-annual basis, approved by NYSDEC in its letter dated May 31, 2017. Monitoring events are currently conducted in the 1st and 3rd Quarters of each year, as reported in the most recent PRR, submitted to NYSDEC on April 30, 2024.

In its letter, dated November 14, 2024, NYSDEC rejected the PRR due to the following reasons (Attachment 1):

1) The PRR refers to sub-slab soil vapor concentrations monitored through the sampling of the Sub-Slab Depressurization System effluent. This is not an accurate method of monitoring sub-slab soil vapor concentrations. To monitor sub-slab soil vapor concentrations, representative sub-slab soil vapor samples must be collected with summa canisters at vapor monitoring points located throughout the building;
2) The PRR did not include the date of the restart of the SSDS after the effluent piping was re-routed on the roof. Please indicate the date of the system restart. Additionally, add details regarding whether system measurements were within the operating

parameters (i.e., completion of pressure field extension testing to check for detectable vacuum across the slab, indoor air sampling completed, manometer checked, etc.); and,

3) It does not appear that indoor air monitoring has occurred in the school building, as required by the SMP. Indoor air sampling must be conducted during the 2024-2025 heating season, and annually thereafter, to evaluate the effectiveness of the SSDS. During the annual indoor air sampling, pressure field extension testing must be completed to ensure that the entirety of the slab of the building is depressurized. Lastly, please explain why indoor air sampling and pressure field extension testing has not been conducted in accordance with the SMP.

2.0 Corrective Action

As mentioned above, previous evaluation of the sub-slab vapor concentrations by sampling the post-blower effluent and the lack of indoor air monitoring by NYCDOE was found to be out of compliance with the Operations, Maintenance and Monitoring guidelines outlined in the SMP. To address this, FLS propose to conduct semi-annual sub-slab soil vapor monitoring at the Site. FLS also proposes to replace NYCDOE as the primary lead for annual indoor air monitoring.

1. Semi-Annual Sub-Slab Monitoring

Following a discussion between NYSDEC and NYSDOH on January 14, 2025, it was determined that collection of soil vapor samples from the lateral sampling ports was not necessary to establish efficacy of the SSDS, and that semi-annual inspections of the SSDS should continue without change, per the approved SMP. Semi-Annual sub-slab monitoring events are currently conducted in 1st and 3rd Quarters each year. Per the SMP, and its subsequent revisions, monitoring of the SSDS will consist of a visual inspection of the complete system as currently constructed, including collection of a pressure reading, flow rate, temperature, and screening of sub-slab vapors with a Photoionization Detector (PID) at each individual SSDS lateral sample port. FLS has complied with the monitoring of the SSDS during semi-annual events, as outlined in the SMP. Readings from the 2023 reporting year are presented as Attachment 2. A layout of the SSDS is provided in Figure 1.

In addition to sub-slab monitoring, FLS will continue to collect an effluent sample to monitor emissions from the SSDS. The sample will be collected in a pre-cleaned laboratory certified Summa canister equipped with flow regulator set to collect the sample at a rate not to exceed 0.2 L/min. All sub-slab soil vapor samples will be collected simultaneously for a maximum duration of two (2) hours. Sample will be shipped under proper chain of custody protocol via courier to a New York State ELAP-certified laboratory. The sample will be analyzed for Volatile Organic Compounds (VOCs) via EPA Method TO-15. Following sampling, FLS will report the results of each sampling event in the annual PRR.

2. SSDS System Restart

On August 7, 2023, FLS was notified by the school that the effluent piping of the SSDS was damaged by scaffolding contractors during façade work on the building. On September 5, 2023, FLS conducted oversight of repairs to the SSDS effluent piping located on the roof of the building. The piping was rerouted from the roof parapet to the roof floor to avoid any conflicts with the future scaffolding use. The piping run was ultimately shortened by approximately 30 feet to the east due to observed operable air intakes near the exhaust in the adjacent building. This ensured that the stack emitted the exhaust more than the required 25 feet from operable air intakes. On September 5, 2023, following completion of the repair work to the effluent piping, the system was restarted per the SSDS start up procedure as outlined in Section 4.2.1.1.1 of the SMP.

3. Indoor Air Monitoring

Per the SMP, and its subsequent revisions, indoor air sampling will be conducted by the NYCDOE. In a review of past PRR submittals, FLS found that the NYC School Construction Authority (SCA) and NYCDOE had not conducted indoor air sampling since 2017. FLS has requested indoor air sampling results from SCA in each reporting period since 2020. In this time, SCA has responded only once, in which it indicated that indoor air sampling did not occur (April 2021).

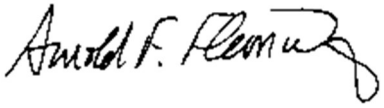
In order to expedite approval of the 2024 PRR and provide a good faith effort to evaluate indoor air concentrations within the Site, FLS will conduct the indoor air sampling during the 1st Quarter of 2025, in compliance with NYSDOH guidance for evaluating indoor air during the heating season. However, the Participant will not be taking over the responsibility for annual indoor air sampling into perpetuity. After this event, responsibility for indoor air sampling will revert to NYCDOE as outlined within the SMP.

Based on the area of the Site, FLS proposes to collect six (6) indoor air samples. Two (2) indoor air samples will be collected at the cellar level of the building, and four (4) samples will be collected on the first floor in the slab on grade area of the building (Figure 2). In addition to indoor air samples, an ambient air sample will be collected as a control sample. All samples will be collected in pre-cleaned laboratory certified Summa canisters equipped with flow regulators set to collect the sample at a rate not to exceed 0.2 L/min. All indoor air and ambient air samples will be collected simultaneously for a maximum duration of eight (8) hours to simulate school hours. All indoor and ambient air samples will be shipped under proper chain of custody protocol via courier to a New York State ELAP-certified laboratory. All samples will be analyzed for Volatile Organic Compounds (VOCs) via EPA Method TO-15.

Upon approval of this work plan, FLS will proceed with coordinating the sampling event to conduct this event during the heating season. Following sampling and receipt of the results, FLS will prepare a Corrective Action Report. Please contact us with any comments or questions.

Sincerely,

Fleming-Lee Shue, Inc.

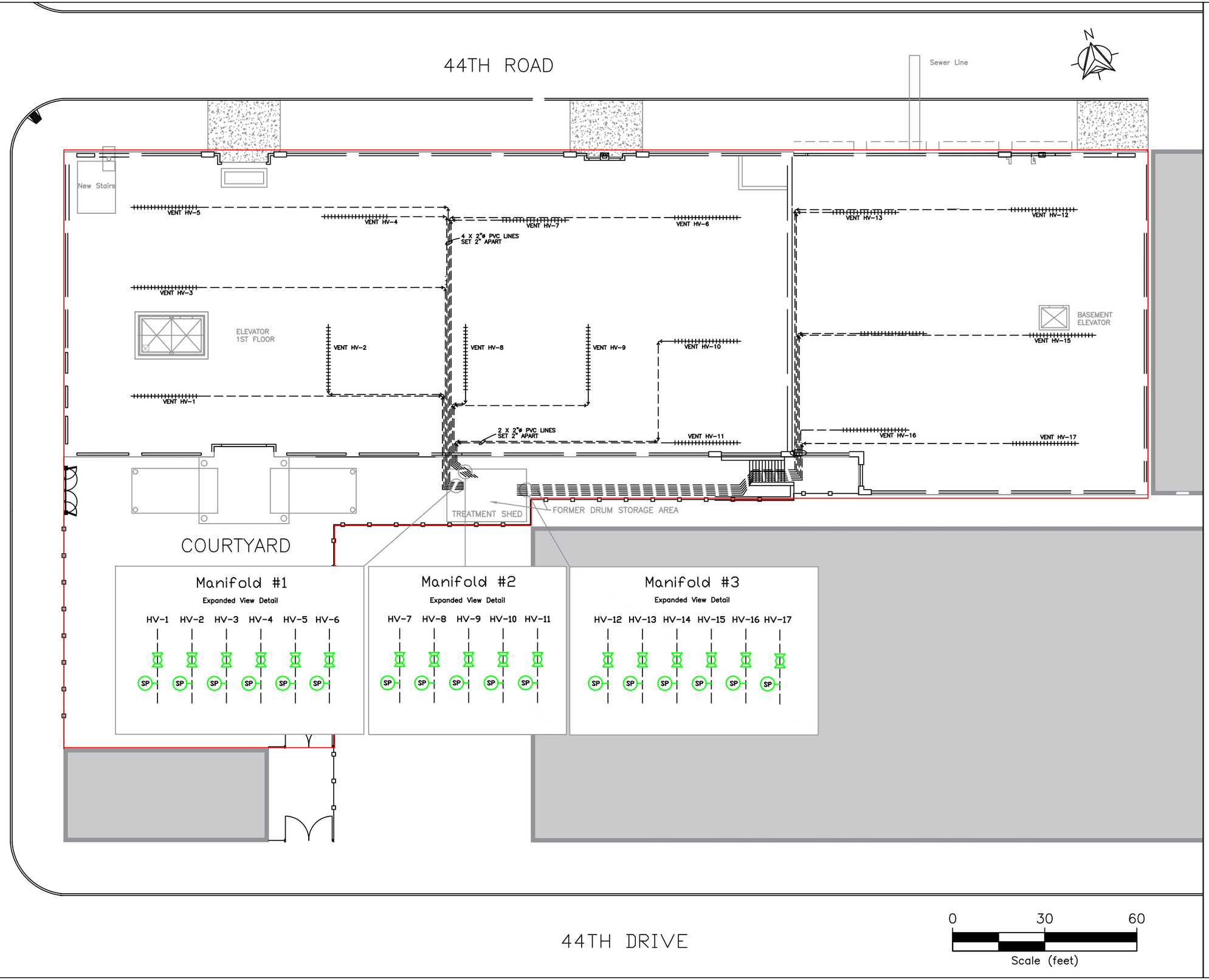


Arnold F. Fleming, P.E.
President

cc:	Cris-Sandra Maycock	NYSDEC
	Jane O'Connell	NYSDEC
	Scarlett McLaughlin	NYSDOH
	Daniel Tucholski	NYSDOH
	John Belanich	Bell Realty
	Ivan Starcic	Ridge Realty

enc**:**	Figure 1	SSDS Piping System Layout
	Figure 2	Proposed Indoor and Ambient Air Sampling Locations
	Attachment 1	NYSDEC PRR Response Letter
	Attachment 2	January 2023 and July 2023 OM&M Logs

FIGURES



Fleming Lee Shue

158 West 29th Street, 9th Fl.
New York, NY 10001

21-16 44th Road
Long Island City, NY

Figure 1

SSDS Piping System Layout

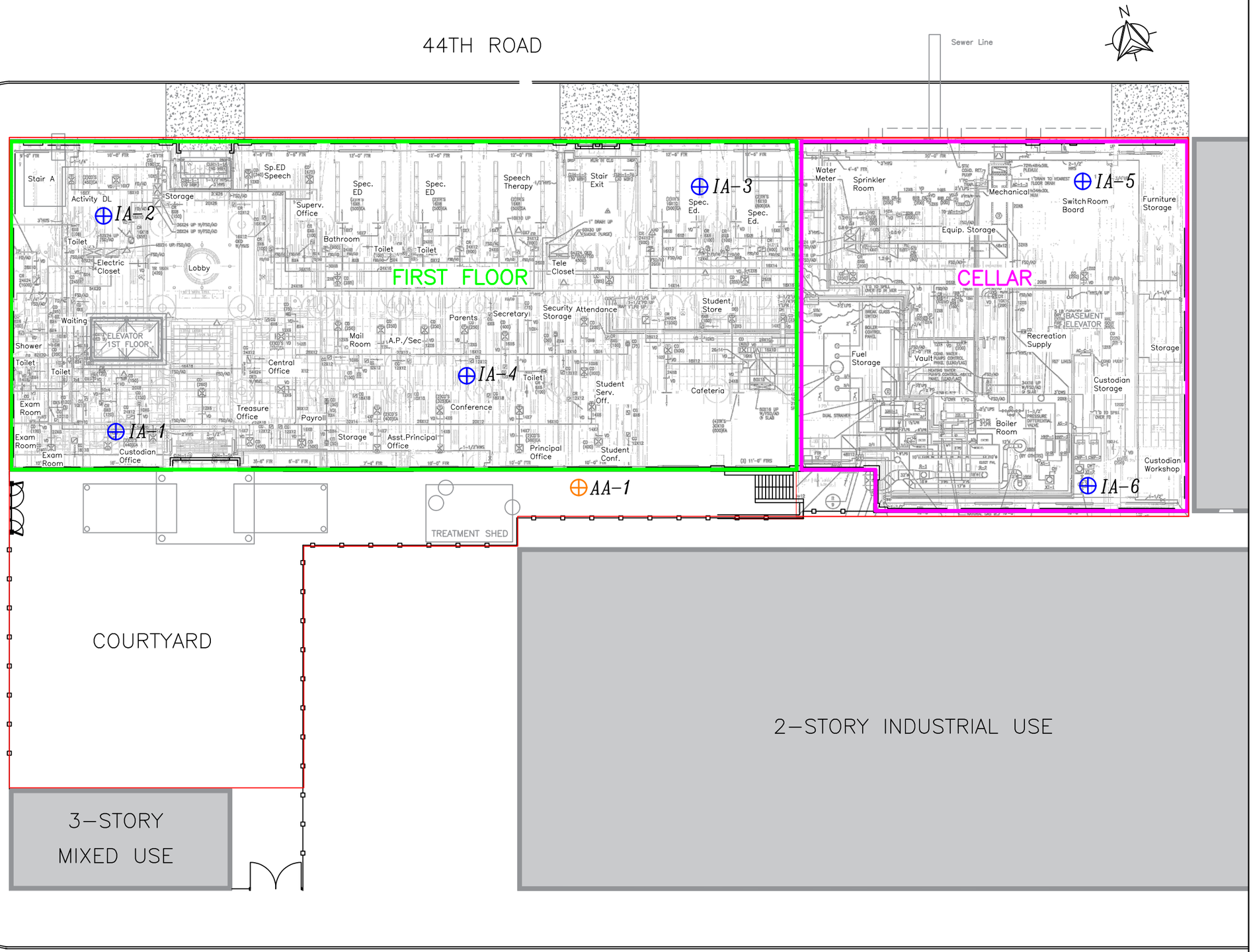
November 2024

Project Number
10012-006

LEGEND

- 2–Inch Diameter Slotted PVC Vent Line
- 2–Inch Diameter Solid PVC Vent Line
- SP — Sampling Port
- Ball Valve

FILE: P:\10012 - Bell Realty\006 - Info Tech Highschool\Figures\Corrective Measures Workplan\1 - SSDS Piping System Layout.dwg DATE: 11/27/2024



Notes: Mechanical First Floor and Cellar Plans prepared by Mottola Rini Engineers P.C. and N.F.Designs (02/05/02).

Fleming Lee Shue

158 West 29th Street, 9th Fl.
New York, NY 10001

21-16 44th Road
Long Island City, NY

Figure 2

Proposed Indoor and Ambient Air Sampling Locations

February 2025

Project Number
10012-006

LEGEND

- Indoor Air Sample Location
- Ambient Air Sample Location

Attachment 1

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Region 2
47-40 21st Street, Long Island City, NY 11101
P: (718) 482-4995
www.dec.ny.gov

November 14, 2024

Saritha Thumma
NYC DOE - Division of School Facilities
44-36 Vernon Boulevard
Long Island City, NY 11101

Re: Site Management (SM) Periodic Review Report (PRR) Response Letter
21-16 44th Road, LIC
Site No.: V00366

Dear Saritha Thumma,

The New York State Department of Environmental Conservation (NYSDEC) has reviewed the Periodic Review Report (PRR) and IC/EC Certification for following period: April 3, 2023 to April 03, 2024.

NYSDEC hereby rejects the PRR and associated Certification for the following reasons:

- The PRR refers to sub-slab soil vapor concentrations monitored through the sampling of the Sub-Slab Depressurization System (SSDS) effluent. This is not an accurate method of monitoring sub-slab soil vapor concentrations. To monitor sub-slab soil vapor concentrations, representative sub-slab soil vapor samples must be collected with Summa canisters at vapor monitoring points located throughout the building.
- The PRR did not include the date of the restart of the SSDS after the effluent piping was re-routed on the roof. Please indicate the date of the system restart. Additionally, add details regarding whether system measurements were within the operating parameters (i.e., completion of pressure field extension testing to check for detectable vacuum across the slab, indoor air sampling completed, manometer checked, etc.).
- It does not appear that indoor air monitoring has occurred in the school building, as required by the Site Management Plan (SMP). Indoor air sampling must be conducted during the 2024-2025 heating season, and annually thereafter, to evaluate the effectiveness of the SSDS. During
the annual indoor air sampling, pressure field extension testing must be completed to ensure that the entirety of the slab of the building is depressurized. Lastly, please explain why indoor air sampling and pressure field extension testing has not been conducted in accordance with the SMP.

You are required to submit a Corrective Measures Work Plan (CMWP), including a schedule for completion of the work planned, within 30 days of receipt of this letter. The

cover letter for the CMWP must include a response to each of the comments provided herein.

If you have any questions, please contact me at 718-482-4065 or christopher.allan@dec.ny.gov.

Sincerely,

Christopher Allan
Project Manager

ec: J. O'Connell, C. Maycock - NYSDEC
S. McLaughlin, D. Tucholski - NYSDOH
A. Fleming, M. Hutson – Fleming - Lee Shue Inc.
J. Belanich - Virginia S. Peterson as Trustee and all Successors

Attachment 2

Info Tech High School Monitoring Field Sheet

Date	1/12/2024	**Inspector**	LS
Time	10:00		

General

Weather	cloudy
Temperature (F)	43
Relative humidity (%)	57
Dew point (F)	29
Barometeric pressure (in Hg)	30.21
Wind speed (mph)	4
Wind direction	south
Alarms triggered?	no
System leaks?	no

Air Sample Location	PID (ppm)
Calibration	0.0 / 99.8
Background	0.0
Upwind	0.0
Treatment Shed	0.0
Downwind	0.0

System Effluent

Flow rate (cfm)	141.17
Temperature (F)	132.9
Effluent sample time	11:58
Effluent PID (ppm)	0.0

System 1

Monitoring Point	Vacuum (in w.c.)	Flow (cfm)	Temperature (F)	PID (ppm)
HV-1	-0.138	3.44	53.9	0.0
HV-2	-0.387	7.09	54.3	0.0
HV-3	-0.090	2.71	53.3	0.0
HV-4	-0.211	4.11	53.8	0.0
HV-5	-0.142	2.23	53.4	0.0
HV-6	-0.653	9.09	53.4	0.0
Header	-40.38			0.0

System 2

Monitoring Point	Vacuum (in w.c.)	Flow (cfm)	Temperature (F)	PID (ppm)
HV-7	-0.444	9.21	55.1	0.0
HV-8	-5.414	17.15	55.2	0.0
HV-9	-5.848	14.65	54.3	0.0
HV-10	-5.853	11.15	54.4	0.0
HV-11	-2.412	15.92	55	0.0
Header	-42.3			0.0

System 3

Monitoring Point	Vacuum (in w.c.)	Flow (cfm)	Temperature (F)	PID (ppm)
HV-12	-27.74	24.9	54.1	0.0
HV-13	-32.49	21.11	55.8	0.0
HV-14	-26.85	9.34	53.7	0.0
HV-15	-0.051	0.33	53.3	0.0
HV-16	-0.305	4.28	54.5	0.0
HV-17	-0.034	1.15	53.7	0.0
Header	-44.39			0.0

	Blower #4	Blower #2B
Post-blower pressure (psi)	0.977	
Post-blower flow (cfm)	141.17	
Post-blower temperature (F)	132.9	
Post-blower PID (ppm)	0.0	
Water in V.L.S. (gal)	-	
Disconnect operational	Yes	

Notes

Semi Annual OMM conducted

Info Tech High School Monitoring Field Sheet

Date	7/25/2023	**Inspector**	BJH / LS
Time	8:00		

General

Weather	sunny
Temperature (F)	76-87
Relative humidity (%)	65.3
Dew point (F)	68
Barometeric pressure (in Hg)	30.09
Wind speed (mph)	5
Wind direction	NE
Alarms triggered?	N
System leaks?	N

Air Sample Location	PID (ppm)
Calibration	0.0 / 100.0
Background	0.0
Upwind	0.0
Treatment Shed	0.0
Downwind	0.0

System Effluent

Flow rate (cfm)	88.31
Temperature (F)	135.7
Effluent sample time	10:26
Effluent PID (ppm)	0.0

System 1

Monitoring Point	Vacuum (in w.c.)	Flow (cfm)	Temperature (F)	PID (ppm)
HV-1	-0.018	1.15	84.8	0.0
HV-2	-0.138	6.18	83.4	0.1
HV-3	-20.000	1.74	83.4	0.0
HV-4	-3049	4.49	83.9	0.0
HV-5	-0.028	2.24	83.8	0.0
HV-6	-0.24	8.91	83.5	0.1
Header	-19.76	-	-	0.0

System 2

Monitoring Point	Vacuum (in w.c.)	Flow (cfm)	Temperature (F)	PID (ppm)
HV-7	-0.422	12.65	83.3	0.0
HV-8	-1.659	26.73	83.1	0.1
HV-9	-1.876	30.67	83.2	0.0
HV-10	-1.882	24.48	83.3	0.0
HV-11	-0.721	20.26	83.5	0.1
Header	-18.24	-	-	0.0

Info Tech High School Monitoring Field Sheet

System 3

Monitoring Point	Vacuum (in w.c.)	Flow (cfm)	Temperature (F)	PID (ppm)
HV-12	-3.762	27.89	85.8	0.0
HV-13	-29.62	22.9	88	0.2
HV-14	-0.446	13.7	87.6	0.0
HV-15	-0.036	2.26	88.5	0.1
HV-16	-0.137	6.37	88.7	0.1
HV-17	-0.142	5.99	89.6	0.0
Header	-21.66	-	-	0.1

	Blower #4	Blower #2B
Post-blower pressure ("w.c.)	0.417	-
Post-blower flow (cfm)	88.31	-
Post-blower temperature (F)	135.7	-
Post-blower PID (ppm)	0	-
Water in V.L.S. (gal)	-	-
Disconnect operational	Y	-

Notes

Semi Annual OMM conducted