SESI CONSULTING ENGINEERS

Geotechnical
Foundations
Land Planning
Geo-Structural
Environmental
Water Resources

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January 24, 2022

Mr. Javier Perez-Maldonado
Project Manager
NYSDEC
625 Broadway
Albany, New York 12233

RE: Proposed Sub-Slab Depressurization System Sampling
Former Sun Chemical Site
Staten Island, New York
SESI Project No. 10598

Dear Mr. Perez-Maldonado:

This letter summarizes the process of sampling the sub-slab depressurization system (SSDS) that was installed in the multi-tenant building on Site. Samples will be collected from sampling ports installed beneath the concrete slab with concurrent indoor air samples being collected inside the building. In addition, an ambient air sample will be collected from outside of the building. Prior to sample collection, a helium tracer gas test will be administered to each sampling port to confirm the seal around the sampling port is intact. The sampling will be performed by a trained environmental technician from our firm and will be in accordance with the New York State Department of Environmental Conservation (NYSDEC) "Guidance for Soil Vapor Intrusion" dated October 2006.

Indoor Air and Ambient Air Sampling

In order to assess the indoor air quality at the Site, indoor air samples will be collected using 6-liter Summa canisters and will be placed in the vicinity of corresponding sub slab samples. Prior to sample collection, a Building Questionnaire/Product Inventory form will be completed which will document any recent renovations, floor sketch, weather conditions, floor cracks, etc, and will include information on the space where the samples are being collected. In addition, the heating system will be operating for at least 24 hours prior to sampling. The flow regulators are anticipated to be set at a rate of approximately 12.5ml/min. The sample collection time will be approximately eight (8) hours. In addition, one (1) ambient air sample will be collected and placed outside of the Site building. The ambient air sample will be collected using a 6-liter Summa canister that is certified clean by an ELAP certified laboratory and the flow regulator is anticipated to be set at a rate of approximately 12.5ml/min. The sample collection time will be approximately eight (8) hours. A total of four (4) indoor air samples and one (1) ambient air sample are proposed to be collected. The proposed sample locations are provided in **Figure V-1**. All indoor air and ambient air samples will be analyzed for EPA Air Method Toxic Organics (TO-15) with select ion monitoring

(SIM) and will be compared to the New York State Department of Health (NYSDOH) "Soil Vapor/Indoor Air Matrices", dated May 2017. All samples will be sent to an ELAP certified laboratory and placed on a standard turnaround time. Indoor air and ambient air sampling activities will be performed and completed immediately prior to the helium gas tracer testing and soil vapor sampling.

Helium Tracer Gas Test

Before collecting a sub slab sample SESI will administer a helium tracer gas test to confirm ambient air is not infiltrating the sub slab sample. The process will involve placing a shroud over the sampling port. The shroud will have two ports, one connected to the sampling port and one connected to the helium gas. Helium will be introduced to into the shroud to enrich the area surrounding the sampling port. The helium detector will be used in the other port on the shroud attached to the sampling port and flow at or below 200 ml/min will be induced. If helium is detected below 10 percent of the atmosphere in the shroud, the test passes. If helium is detected above 10 percent of the total helium atmosphere, then the seal around the sampling port will be repaired and the port retested. The sampling will be conducted only after a less than 10% helium is detected in the sample port.

Soil Vapor Sample Collection

Once the helium tracer gas test is passed, the sampling of the sub slab sample ports can begin. Samples from the sub slab will be collected with 1-liter (or 2.7 liter) Summa canisters that are certified clean by an ELAP certified laboratory. Flow regulators will be set to collect the air samples at or below 200ml/min. It is anticipated that the sub slab sample flow regulators will be set at a rate of 200ml/min. As a result, the sample duration for the sub slab samples is anticipated to be approximately five (5) minutes if 1-liter canisters are utilized and 13.5 minutes if a 2.7-liter canister is utilized. Prior to sample collection, a low flow pump will be used to purge the stagnant air from the vapor point at or below a rate of 200 ml/min. The purge rate of the pump will be calibrated to match the purge rate of the flow regulator.

A total of four (4) sub slab vapor samples will be collected. Proposed sample locations are provided in **Figure V-1**. All sub slab samples will be analyzed for EPA TO-15 SIM and will be compared to the NYSDOH "Soil Vapor/Indoor Air Matrices", dated May 2017. All samples will be sent to an ELAP certified laboratory and placed on a standard turnaround time.

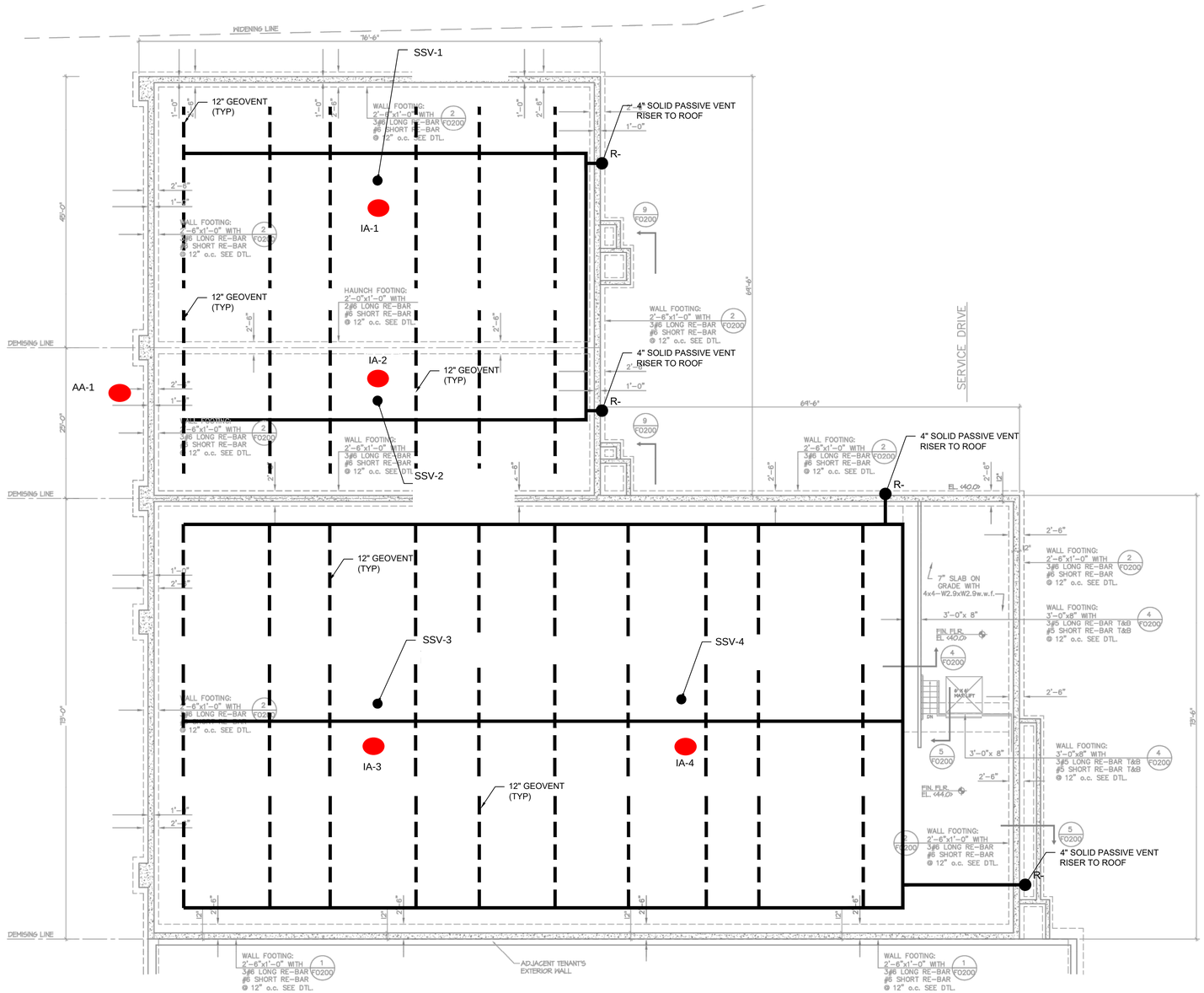
Please feel free to contact me if you have any questions regarding the above.

Sincerely,

SESI CONSULTING ENGINEERS

Fuad Dahan, PhD, P.E., LSRP
Principal

FIGURES



NYS Education Law
Unauthorized alterations or additions to this plan are a violation of section 7209 (2) of the New York State Education Law. Copies of this map not having the seal of the engineer shall not be valid.

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REFERENCE:
SITE INFORMATION TAKEN FROM DRAWING "JOB #3 FOUNDATION PLAN" PREPARED BY JOSEPH M. MORACE. DATED 03/09/19. LATEST REVISION DATE 07/24/2020

Scale: 1"= 10'
0 5 10 20 30 40

rev	date	description	by

dwg by: yy
chk by: AA
scale: AS NOTED
date: 07/30/2020

SESI
CONSULTING ENGINEERS D.P.C.
SOILS / FOUNDATIONS
SITE DESIGN
ENVIRONMENTAL
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STATEN ISLAND, NEW YORK

title:
SUB SLAB VENTING SYSTEM

job no. 10598
drawing no.
V-1

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