SESI CONSULTING ENGINEERS
GEOTECHNICAL | ENVIRONMENTAL | SITE CIVIL

Principals
Anthony Castillo, PE
Fuad Dahan, PhD, PE, LSRP
Franz W. Laki, PE
John M. Nederfield, PE
Justin M. Protasiewicz, PE
Michael St. Pierre, PE

June 16, 2023 ***via email: greta.white@dec.ny.gov***

Ms. Greta White, P.G., Project Manager
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233

RE: Proposed Supplemental Groundwater RI
Grand Union Hotel Bowling Alley Site
140 and 148-150 Westchester Avenue
Port Chester, New York 10573
NYSDEC BCP Site #C360222
SESI Project No. Project #11895

Dear Ms. White:

On behalf of Port Chester OZ Fund III QOZB, LLC, (the Volunteer), SESI Consulting Engineers (SESI) has prepared this letter to request approval of proposed supplemental groundwater remedial investigation and bedrock characterization activities for the property identified as 140 Westchester Avenue and 148-150 Westchester Avenue, Port Chester, Westchester County, New York (herein the "Site"). The Site is identified as New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) Site No. C360222.

Introduction / Background

Due diligence Phase II groundwater sampling was conducted at the Site in May 2021 and identified concentrations of chlorinated volatile organic compounds (CVOCs) in groundwater samples collected from temporary well points. These sample results reported tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride (VC) at concentrations above the NYSDEC TOGS Class GA Ambient Water Quality Standards (AWQS).

In July 2022, upon acceptance into the BCP, and to further investigate groundwater at the Site, SESI conducted a Remedial Investigation (RI) which included groundwater sampling from four (4) monitoring wells. RI sampling confirmed CVOCs in groundwater, with PCE as high as 2,800 micrograms per liter (ug/L). PFAS, semi-volatile organic compounds (SVOCs) and metals were also identified above the AWQS. These results were documented in the March 2, 2023 *Proposed Supplemental Groundwater Remedial Investigation (PSGWRI).*

In March and April of 2023, upon approval of the PSGWRI, additional monitoring wells were installed at the Site and sampled in an attempt to further characterize and delineate groundwater contamination at the Site. In accordance with the PSGWRI, SESI oversaw the installation and sampling of five wells; two in the weathered / bedrock interface material and three into competent

bedrock. VOC, SVOCs and metals were all detected above the AWQS, however, the most significant exceedances were PCE and TCE in the bedrock wells, ranging from 1,400 ug/l to 4,000 ug/l and 250 ug/l to 730 ug/l, respectively. These results were documented in draft in the May 18, 2023 *Summary and Results of Supplemental Groundwater Remedial Investigation (RI)* (this summary was still being reviewed by the NYSDEC at the time of this workplan submission).

RI groundwater exceedances of CVOCs are presented on the attached **Figure 1**.

Findings/Current State

VOCs, SVOCs, Metals and PFAS were found across the Site in nearly all the RI and supplemental RI monitoring wells. Elevated concentrations of chlorinated solvents (i.e., PCE and TCE) in deeper wells indicate contamination in the bedrock aquifer at the Site. The following Proposed Scope of Work has been developed to further characterize bedrock and groundwater contamination at the Site.

Proposed Scope of Work

In order to better characterize the bedrock fractures and flow patterns at the Site, as well as further the delineation of groundwater contamination, SESI proposes install eight (8) test boreholes to conduct geophysical logging and possibly packer testing and sampling. SESI proposes to retain a licensed driller and geophysical contractor to implement the following scope.

- The eight boreholes will be located as four pairs with one borehole being drilled to 30 feet below ground surface (ft-bags) and one being drilled to 60 ft-bgs at each pair.
- Four boreholes will have casing set into the top 5 feet of competent rock, with a 4” open borehole to 30 ft-bgs.
    - These boreholes will provide geophysical information as it relates to the depths of the previously installed wells.
    - The 30 ft-bgs boreholes will be drilled using air rotary.
- Four co-located boreholes will have casing set to 30 ft-bgs, with a 4” open borehole to 60 ft-bgs.
    - The 60 ft-bgs boreholes will be drilled to 30 ft-bgs using air rotary to set casing, the casing will be set and grout will be left to cure overnight.
    - 3” rock coring will then be conducted from 30 ft-bgs to 60 ft-bgs. Cores will be logged for the determination of Rock Quality Designation (RQD).
    - Upon completion of the rock coring, the borehole will be redrilled using air rotary to create a 4” borehole.
    - It is anticipated that 60 ft-bgs will be adequate to characterize the deeper bedrock fractures and achieve vertical delineation.
- The borehole pairs will be installed as described to prevent known shallow contamination from migrating to deeper depths.
- During the advancement of the boreholes, visual observations will be made to determine if any non-aqueous phase liquid (NAPL) is encountered; if there is any indication of NAPL, drilling will stop and an interphase probe will be used to assess the presence of NAPL. If NAPL is encountered, depth to product will be recorded and the drilling will be stopped to restrict the spreading/migration of contamination, and options for continuing the borehole will be considered (double casing, etc.).

- Upon completion of the drilling of the boreholes, continuous geophysical logging for the following parameters will be conducted.
    - Fluid Temperature / Fluid Conductivity
    - 3-Arm Caliper
    - Electric Log with Natural Gamma
    - Single Point Resistance and Spontaneous Potential (SPR/SP)
    - Single Point Resistance
    - Acoustic / Optical Televiewer
    - Ambient and Stressed Heat Pulse Flowmeter (as part of the stressed HPFM, an attempt will be made to achieve pumping equilibrium; pump rates and draw down will be recorded).
- Conduct packer sampling as needed.
    - Review geophysics data and identify fractures in deeper boreholes for possible packer sampling.
    - It is anticipated that up to two intervals in each of the deeper boreholes will be isolated for packer testing.
    - Packer intervals will be purged and samples collected for VOC, SVOC, metals and PFAS analysis.
- Convert boreholes to permanent monitoring wells as needed.
    - If the findings from the geophysics and packer sampling suggest that any of the boreholes would be beneficial permanent wells, the boreholes will be converted at the appropriate depths and screen length to support future sampling.
    - If the boreholes are not to be converted to permanent wells, they will be grouted to the surface and the ground surface restored.
    - If it is determined at a later date that permanent monitoring wells will be installed in the vicinity of the sealed boreholes, care will be taken to ensure that the wells are representative of previous investigations, yet are not installed in an area where the fractures have been impacted by the grouting of boreholes.
- Drums will be available onsite during the investigation activities for the containerization of drill cuttings as well as purge/pumping water. The drums will be maintained onsite and characterized and removed from the site for disposal at a later date.
- Prepare a summary report to document findings.
    - Geophysics and packer sampling results will be evaluated and documented in a summary letter.
    - Recommendations for permanent wells and next steps will be included in the summary report.

The proposed borehole locations are on the attached **Figure 1.** SESI will direct and oversee all Site activities. All field activities will be conducted in accordance with the previously approved *March 2022 Remedial Investigation Work Plan* and associated documents, including, but not limited to, the Community Air Monitoring Plan (CAMP) and Health and Safety Plan (HASP).

We respectfully request concurrence with the proposed investigative activities before initiating the additional groundwater RI work described herein. Should you have any questions, please do not hesitate to contact me at 201.452.2735.

Sincerely,

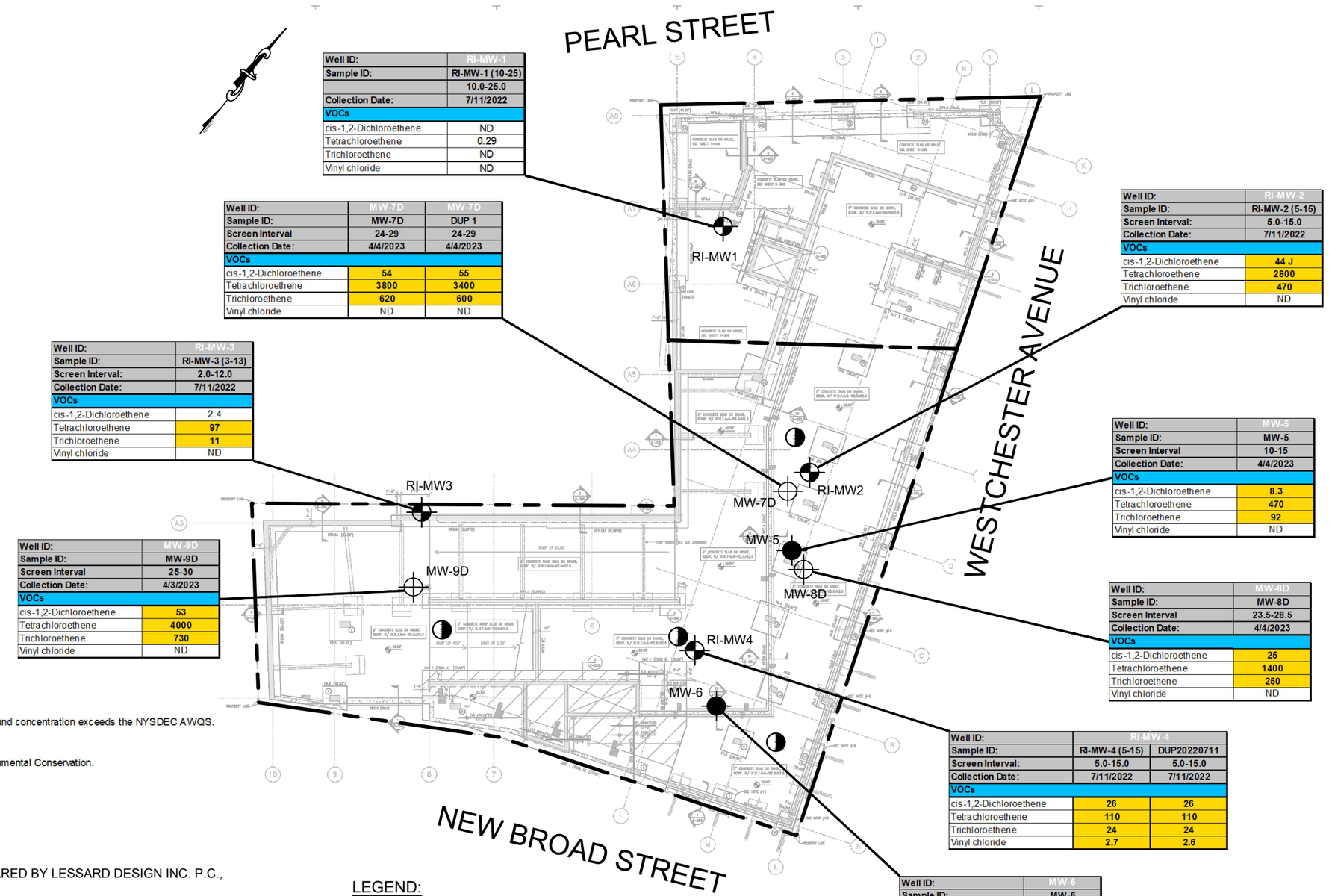
SESI CONSULTING ENGINEERS

James Vander Vliet, PE
Senior Project Engineer

959 Route 46E Fl 3 Ste 300
Parsippany, NJ 07054

info@sesi.org
www.sesi.org

phone 973.808.9050
fax 973.808.9099



Well ID:	RI-MW-1
Sample ID:	RI-MW-1 (10-25)
	10.0-25.0
Collection Date:	7/11/2022
VOCs	
cis-1,2-Dichloroethene	ND
Tetrachloroethene	0.29
Trichloroethene	ND
Vinyl chloride	ND

Well ID:	MW-7D	MW-7D
Sample ID:	MW-7D	DUP 1
Screen Interval	24-29	24-29
Collection Date:	4/4/2023	4/4/2023
VOCs		
cis-1,2-Dichloroethene	54	55
Tetrachloroethene	3800	3400
Trichloroethene	620	600
Vinyl chloride	ND	ND

Well ID:	RI-MW-2
Sample ID:	RI-MW-2 (5-15)
Screen Interval:	5.0-15.0
Collection Date:	7/11/2022
VOCs	
cis-1,2-Dichloroethene	44 J
Tetrachloroethene	2800
Trichloroethene	470
Vinyl chloride	ND

Well ID:	RI-MW-3
Sample ID:	RI-MW-3 (3-13)
Screen Interval:	2.0-12.0
Collection Date:	7/11/2022
VOCs	
cis-1,2-Dichloroethene	2.4
Tetrachloroethene	97
Trichloroethene	11
Vinyl chloride	ND

Well ID:	MW-5
Sample ID:	MW-5
Screen Interval	10-15
Collection Date:	4/4/2023
VOCs	
cis-1,2-Dichloroethene	8.3
Tetrachloroethene	470
Trichloroethene	92
Vinyl chloride	ND

Well ID:	MW-9D
Sample ID:	MW-9D
Screen Interval	25-30
Collection Date:	4/3/2023
VOCs	
cis-1,2-Dichloroethene	53
Tetrachloroethene	4000
Trichloroethene	730
Vinyl chloride	ND

Well ID:	MW-8D
Sample ID:	MW-8D
Screen Interval	23.5-28.5
Collection Date:	4/4/2023
VOCs	
cis-1,2-Dichloroethene	25
Tetrachloroethene	1400
Trichloroethene	250
Vinyl chloride	ND

Well ID:	RI-MW-4	
Sample ID:	RI-MW-4 (5-15)	DUP20220711
Screen Interval:	5.0-15.0	5.0-15.0
Collection Date:	7/11/2022	7/11/2022
VOCs		
cis-1,2-Dichloroethene	26	26
Tetrachloroethene	110	110
Trichloroethene	24	24
Vinyl chloride	2.7	2.6

Well ID:	MW-6
Sample ID:	MW-6
Screen Interval	2.5-7.5
Collection Date:	4/3/2023
VOCs	
cis-1,2-Dichloroethene	13
Tetrachloroethene	1.9
Trichloroethene	1.6
Vinyl chloride	5.4

Analyte	Units	NYSDEC AWQS
VOCs		
cis-1,2-Dichloroethene	ug/l	5
Tetrachloroethene	ug/l	5
Trichloroethene	ug/l	5
Vinyl chloride	ug/l	2

NOTES:
1. Screen interval is measured in ft bgs.
= Orange highlight indicates the compound concentration exceeds the NYSDEC AWQS.

ABBREVIATIONS:
NYSDEC = New York State Department of Environmental Conservation.
AWQS = Ambient Water Quality Standards.
VOC = Volatile Organic Compound
ug/l = Micrograms per liter.
ft bgs = Feet below ground surface.
J = Estimated concentration.

REFERENCE
"FOUNDATION PLAN - S-200" PREPARED BY LESSARD DESIGN INC. P.C., DATED 04/19/2023.

NOTE:
THIS PLAN IS FOR LOCATING SOIL BORINGS ONLY.
OTHER SITE WORK SHOWN HERE IS NOT INTENDED FOR CONSTRUCTION.

LEGEND:

- PROPERTY/SITE BOUNDARY
- RI-MW1 - MONITORING WELL NUMBER & APPROX. LOCATION (JULY 2022)
- MW-5 - MW-5 SHALLOW MONITORING WELL NUMBER & APPROX. LOCATION (MARCH 2023)
- MW-8D - MW-8D DEEP MONITORING WELL NUMBER & APPROX. LOCATION (MARCH 2023)
- PROPOSED BOREHOLE PAIRS (30 FT-BGS AND 60 FT-BGS)

SCALE: 1"=30'
0 30 60

N:\ACAD\11895\RI\11895.DWG.SUPPLEMENT RI BOREHOLE LOCATIONS PLAN.DWG 06/14/23 12:35:57PM, yelena.zolotova, LAYOUT:FIG-1

dwg by: AW
chk by: JVV
scale: AS NOTED
date: 06/14/2023

SESI CONSULTING ENGINEERS
GEOTECHNICAL | ENVIRONMENTAL | SITE CIVIL
959 route 46e, 3rd floor, parsippany, nj 07054 ph: 973.808.9050

project: REMEDIAL INVESTIGATION REPORT
140, 148-150 WESTCHESTER AVENUE
PORT CHESTER, NEW YORK 10573

title: SUPPLEMENT RI BOREHOLE LOCATIONS PLAN

job no: 11895
drawing no:

FIG-1