UB Orangeburg, LLC

Periodic Review Report

UB Orangeburg

1-45 Orangeburg Shopping Center

NYSDEC Site Number C344066

July 2018

Version 1

Periodic Review Report

UB Orangeburg
1-45 Orangeburg Shopping Center

Prepared for:
UB Orangeburg, LLC
321 Railroad Avenue
Greenwich, CT 06830

Prepared by:
Groundwater & Environmental Services, Inc.
16 Mt Ebo Road South
Brewster, New York 10509
TEL: 866-839-5195
www.gesonline.com

GES Project:
1102613

Date:
July 13, 2018

FOR

Jessica Thomas
Associate Remediation Specialist

Michael DeGloria 2018.07.13 12:43:46 -04'00'

Michael DeGloria, P.G.
Principal Project Manager

Genevieve F. Bock, P.E.
NE Region Engineering Manager

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Acronyms

Accutest	SGS/Accutest Laboratories of Dayton, New Jersey
BAS	bio-augmentation treatment system
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
COC	constituent of concern
CP	Commissioner Policy
DO	dissolved oxygen
DOT	Department of Transportation
DUSR	data usability summary report
ECs	engineering controls
EE	Environmental Easement
EPA	Environmental Protection Agency
GES	Groundwater & Environmental Services, Inc.
GWQS	groundwater quality standards
HVAC	heating, venting, and air conditioning
ICs	institutional controls
i.w.	inches of water
JLJ	JLJ Management Company
mg/L	milligrams per liter
mV	millivolts
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OM&M	operation, maintenance, and monitoring
ORP	oxidation-reduction potential
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
SMP	Site Management Plan
SSDS	sub-slab depressurization system
SVI	soil vapor intrusion
TOC	total organic carbon
ug/l	micrograms per liter
VOC	volatile organic compound

1 Executive Summary

This document is required as an element of the remedial program at the Orangeburg (Orangetown) Shopping Center, located in the Town of Orangetown (Orangeburg), County of Rockland, New York (hereinafter referred to as the "Site") under the New York State (NYS) Brownfield Cleanup Program (BCP) administered by the New York State Department of Environmental Conservation (NYSDEC). The Site remediation activities have been conducted in accordance with the Brownfield Cleanup Agreement (BCA) Index #A3-0563-0906, site #C344066. JLJ Management Company (hereinafter referred to as the "JLJ") entered into a BCA with the NYSDEC in January of 2007 to remediate a 1.33-acre portion of the approximately 11 acre property containing chlorinated solvent compounds above NYSDEC standards. The subject property was purchased from JLJ by UB Orangeburg, LLC in 2012. On March 28, 2012, the Certificate of Completion was officially transferred from JLJ to UB Orangeburg, LLC.

GES continues to implement the remedial activities outlined in the Site Management Plan (SMP) revised in October 2017. Groundwater concentrations of tetrachloroethene, trichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, 1,1-dichloroethene, vinyl chloride, and ethene (constituents of concern [COCs]) in well MW-5 have fluctuated over the monitoring period but indicate degradation of chlorinated compounds through the chlorinated solvents reductive transformation pathway.

No major non-compliance issues have been identified during the monitoring period of June 17, 2017 to June 17, 2018.

2 Site Overview

The approximate geographical coordinates for the Site are 41 degrees, 2 minutes, 41.6 seconds North (Latitude) by 73 degrees, 57 minutes, 10.4 seconds West (Longitude). The Site is comprised of one (1) parcel (Section, Lot & Block: 74.10-67-1) that covers an area of approximately 11 acres. Included are the following: a Site Location Map (**Figure 1**) for the general property location, a Site Map (**Figure 2**) showing the current key Site features at the subject Site, and a Detail Site Map (**Figure 3**) showing the current locations of active injection and monitoring well points near building #2.

Contamination was first observed at the Site after a damaged sewer line exiting the former Sparkle Cleaners Dry Cleaners was identified. The first remedial activity consisted of source removal activities and the repair of the sewer line in January of 2009. After completion of the remedial work described in Construction Completion Report #1: Source Removal (CCR-1), residual contamination was left in the subsurface at the Site, which is hereafter referred to as "remaining contamination". A SMP was prepared to manage remaining contamination until the Environmental Easement (EE) is extinguished in accordance with ECL Article 71, Title 36 (EE included as **Appendix A**). Components of the selected remedy consist of sub-slab depressurization systems (SSDSs) and a bio-augmented injection gallery.

- Because of the residual contaminated subsurface soil and contaminated groundwater, the SSDSs were designed to mitigate potential vapor intrusion from residual chlorinated volatile organic compound (VOC) contamination into the southern portion of building #2, which businesses include: former Sparkle Cleaners (currently vacant), former Deli Spot (currently vacant but under construction for a new tenant), and New China House. The SSDS is configured to create a negative pressure (relative to the indoor environment) within the area beneath the concrete floor slabs of the businesses within the southern portion of building #2, thereby minimizing the potential for migration of contaminant vapor into the indoor air of the tenant spaces. The system was installed between February and May 2010, and it was activated in May 2010. The system as originally designed did not achieve the performance standard and it was subsequently modified. Additional system performance testing was completed in June 2010 and a modified plan was prepared and approved by the NYSDEC in August 2010. Modifications were implemented between August and September 2010. The system was re-started with additional blowers in place on September 29, 2010 and operation was verified with another performance (vacuum response) test. Late in 2010, it was observed that ongoing heating, venting, and air conditioning (HVAC) issues in the building potentially affected system performance. These issues were the result of foundation leaking and back draft issues associated with furnaces and other fans. These issues were resolved in early 2011. The system was re-inspected in March to verify resolution of the issues. In late April 2011, three vapor-monitoring points were replaced in the New China Restaurant and another system check was performed. This test verified that the system achieved measured vacuum greater than 0.0025 inches of water column (i.w) across the slab in the three tenant spaces. The NYSDEC approved the temporary shut down of the SSDSs in August 2015 and the decommissioning of two (2) of the three (3) SSDS's (former Deli Spot and Sparkle Cleaners) in January 2017. SSDS removal activities were completed at the former Deli Spot tenant space in April 2017. A Sub-Slab Depressurization Configuration map is included as **Figure 4**.
- Because of the presence of contaminated groundwater and residual soil contamination under building #2, a bio-augmentation treatment system (BAS) was designed. This treatment promotes in-situ microbial degradation of contaminants in saturated soil and groundwater. Addition of a bio-stimulant (molasses) to subsurface soil and groundwater acts as an electron donor that stimulates metabolic reduction of chlorinated VOCs to ethene via microorganisms that have been detected as being present at the Site, as have bacteria of the genus Dehalococcoides (in MW-5 and MW-6) and Dehalobacter (in MW-5). Bioaugmentation injection points and manifold piping were installed after the source removal excavation between February and April 2010. A batch injection tank connects to the manifold via manual gate valves to direct electron donor solution (a 10% molasses solution) and control flow to the injection points. Additional injection points were installed during April and May of 2012 and January of 2014 in accordance to the Remedial Action Work Plan (RAWP). Baseline and post injection sampling (from a network of monitoring wells), monitoring, and laboratory analysis provide the means to monitor treatment effectiveness. The initial rounds of injections were completed in May, July, and November 2010 and monitored. The first round of treatment indicated bioaugmentation was enhancing biodegradation and dechlorination of the

contaminants. The results also suggested that additional injections of electron donor solution would enhance treatment.

As requested by the NYSDEC, sub-slab and indoor air testing was conducted during the 2016/2017 and 2017/2018 heating season with a final event scheduled to be conducted during the 2018/2019 heating season at the three (3) tenant spaces for the purpose of monitoring rebound following the shutdown of the SSDSs. If any potential impacts are identified, then conditions will be re-evaluated and monitoring will continue as described in the SMP.

Bio-augmentation monitoring and treatment of groundwater will continue, as determined by the NYSDEC, until residual groundwater concentrations are found to be consistently below NYSDEC standards or have become asymptotic at an acceptable level over an extended period. This treatment will continue until permission to discontinue is granted in writing by the NYSDEC. If groundwater contaminant concentrations become asymptotic at a level that is not acceptable to the NYSDEC, additional source removal, treatment, and/or control measures will be evaluated.

Conditions that warrant discontinuing the bio-augmentation treatment system include contaminant concentrations in groundwater that: (1) reach levels that are consistently below groundwater quality standards (GWQS), (2) have become asymptotic to a low level over an extended period of time as accepted by the NYSDEC, or (3) the NYSDEC has determined that the bio-augmentation treatment system has reached the limit of its effectiveness. This assessment will be based in part on post-remediation contaminant levels in groundwater collected from monitoring wells located throughout the Site. Monitoring wells formerly associated with the bio-augmentation system (MW-A, MW-B, MW-C, MW-D, and MW-F) were abandoned in August 2017 following approval from the NYSDEC. The existing systems will remain in place and operational until permission to discontinue their use is granted in writing by the NYSDEC.

On August 4, 2017 the NYSDEC approved the abandonment of monitoring wells MW-1, MW-6, MW-7, MW-9A, MW-9B, MW-9C, MW-10, MW-11A, MW-11B, MW-12A, MW-12B, MW-12C, MW-13A, MW-15A, MW-A, MW-B, MW-C, MW-D, and MW-F. GES completed well abandonment activities on August 23 and 24 and September 29, 2017.

One (1) 55-gallon drum of liquid, classified as “low level chlorinated solvents, non-Resource Conservation and Recovery Act (RCRA), non-Department of Transportation (DOT) regulated” was removed from the Site and transported by LORCO petroleum services to their disposal facility in Elizabeth, New Jersey. A copy of the non-hazardous waste manifest is included as **Appendix B**.

3 Evaluation of Remedy Performance and Effectiveness

3.1 Sub-Slab Depressurization System Evaluation

Quarterly operation, maintenance, and monitoring (OM&M) visits were not conducted during the reporting period due to the temporary shutdown of the SSDSs.

3.2 Bio-Augmentation System Evaluation

Baseline and post-injection sampling (from a network of monitoring wells), monitoring, and laboratory analysis provide the means to monitor treatment effectiveness. Overall, 12 injection events have been completed since August 2012. A total approximate volume of 8,015 gallons of 10% molasses solution has been injected since the initiation of this remedy. The last event was conducted on September 14, 2016 utilizing injection wells IP-3, IP-4, INJ-3D, and INJ-4D.

Geochemical targets for pH and total organic carbon (TOC) concentration in the BAS monitoring network wells are established to inform decision making regarding injection frequency and quantity. The optimal geochemical target range for TOC concentrations is 50 through 500 milligrams per liter (mg/L) and a pH between 6 and 8. Bio-parameter levels were within the target range at monitoring well MW-5 during each quarterly monitoring event during the period (June 2017, September 2017, December 2017, March 2018, and June 2018). Therefore, these bio-parameters will continue to be monitored and evaluated during the 2018/2019 monitoring period to determine if an additional bio-augmentation event is required.

Groundwater well logs updated during each quarterly sampling event are included as **Appendix C**. Please refer to **Figures 5** through **9** and **Table 1** and **2** for a summary of groundwater elevation and concentrations of the COCs at all sampled monitoring wells. **Figure 10** and **Tables 3** and **4** present the general chemistry analytical results and measured bioparameter readings including optimal geochemical target range for TOC concentrations (50 mg/L through 500 mg/L) and pH (6 to 8) at the monitoring wells. Groundwater trends observed at monitoring well MW-5 during the monitoring period are illustrated in **Figure 11**.

4 Institutional Control & Engineering Control Plan Compliance

4.1 Institutional Controls

Institutional Controls (ICs) at the Site (**Appendix D)** include compliance with the EE. The EE contains the following stipulations: no new drinking water wells can be installed and new business and residences must be connected to city water. The SMP stipulates all engineering controls (ECs) must be operated and maintained as specified in the SMP, all ECs on the controlled property must be inspected at a frequency and in a manner defined in the SMP, groundwater and other environmental monitoring must be performed as defined in this SMP, and data and information pertinent to site management of the control property must be reported at a frequency and in a manner specified in the SMP.

During the monitoring period all ICs have been in compliance with the EE. No new drinking wells have been installed and no new businesses have been built which would require a connection to city water. All ECs have been operated and maintained as specified in the SMP or otherwise approved by the NYSDEC. ECs are inspected in accordance to the required frequency set forth by the SMP. Groundwater and other environmental monitoring have been performed as defined in the SMP. Progress reports summarizing groundwater and other environmental monitoring were submitted to the NYSDEC and the New York State Department of Health (NYSDOH) as they are

completed. Approval to discontinue submittal of monthly progress reports was granted by the NYSDEC in a letter dated August 25, 2014.

GES completed well abandonment activities on August 23 and 24, and September 29, 2017 in accordance with Commissioner Policy (CP) 43 guidance document. Monitoring wells MW-1, MW-6, MW-7, MW-9A, MW-9B, MW-9C, MW-10, MW-11A, MW-11B, MW-12A, MW-12B, MW-12C, MW-13A, MW-15A, MW-A, MW-B, MW-C, MW-D, and MW-F were abandoned. Well abandonment activities are summarized in the October 2017 *Well Decommissioning Summary*.

Regulatory correspondences during the monitoring period are attached as **Appendix E**.

4.2 Engineering Controls

The SMP requires that three separate ECs be maintained at the Site: the SSDS, the bio augmentation system, and the composite cover system. Maintenance and inspections of the ECs at the Site are reported to the NYSDEC and NYSDOH as they are completed.

Maintenance and inspections of the composite cover system consisting of existing impermeable surfaces (concrete slabs and asphalt paving) were conducted during the monitoring period.

Historically, exposure to vapor intrusion within the southern portion of building #2 was mitigated by the operation of the SSDSs. This system was comprised of extraction piping, sub-slab ventilation blowers and associated appurtenances at former Sparkle Cleaners, the former Deli Spot, and New China House tenant spaces. The SSDSs created a negative pressure which intercepted potential soil vapor from beneath the concrete floor using eight branches (SSD-1 through SSD-8) and transferred extracted vapors using in-line blowers to discharge locations outside the building (above the roof). Thirteen (13) extraction points were installed between the three (3) tenant spaces. Additional extraction points were added to each tenant space after the SSDSs was initially installed. Fifteen (15) SSD vacuum monitoring points were also installed within the three (3) tenant spaces and can be measured to verify vacuum beneath the concrete slab. A manometer was installed on the suction side of the in-line blower on each of the SSD branches to provide a visual indicator that the SSDSs were operating properly.

The SSDSs have been temporarily shut-down since August 17, 2015 following receipt of NYSDEC approval. In May 2017, following NYSDEC approval, the former Deli Spot SSDS was permanently decommissioned.

Because of the presence of contaminated groundwater and residual soil contamination under building #2, a bio-augmentation treatment system was designed. This treatment promotes in-situ microbial degradation of contaminants in saturated soil and groundwater. Addition of a molasses solution to subsurface soil and groundwater acts as an electron donor that stimulates metabolic reduction of chlorinated VOCs to ethene. Bio-augmentation injection points and manifold piping were installed after the source removal excavation between February and April 2010. An additional nine (9) nested bio-augmentation injection points and four (4) additional monitoring wells were installed between April and May of 2012 and January of 2014 in accordance with the RAWP, submitted by Kleinfelder on December 19, 2011. Details regarding the installation of

additional monitoring points and nested injection wells can be referenced in the May 2012, January 2014, and February 2014 Monthly Progress Reports, submitted to the NYSDEC.

No molasses injection events were completed during the monitoring period. The BAS monitoring network will continue to be monitored via quarterly sampling of monitoring wells during the 2018/2019 monitoring period to determine future injection frequency and quantity.

IC and EC certifications are provided in **Appendix D**.

5 Monitoring Plan Compliance

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate contamination at the Site, the composite cover system, and all affected Site media identified in the SMP. Monitoring results and performance evaluation of the ECs are reported to the NYSDEC and the NYSDOH as they are completed.

Components and schedule of the monitoring plan are summarized in **Chart 1**.

Chart 1 – Monitoring/Inspection Schedule

Monitoring Program	Frequency	Matrix	Analysis
Composite Cover System	Annual (minimum) or during other (more frequent) inspections as time and conditions warrant	Soil	Visual Inspection of Cover
SSDS	Temporarily Shutdown/ Permanently Decommissioned	Soil Vapor	Negative Pressure
Bio-augmentation System	"As Needed", if TOC concentrations are below 50 mg/L	Groundwater	Total Organic Carbon
Groundwater	Quarterly	Groundwater	Chlorinated VOCs, ethene

5.1 Composite Cover Monitoring Compliance

On June 7, 2018, the composite cover system was inspected by a qualified environmental professional. The composite cover system was determined to be intact and impervious to surface water infiltration. The qualified environmental professional verified the existence of vapor monitoring points in the concrete slab located at the former Sparkle Cleaners location following construction activities. Photographs of the SSDS piping and vapor monitoring points are provided in **Appendix F**.

Additional inspections occurred during one or more of the following activities: quarterly groundwater sampling, well abandonment activities, and/or site visits.

5.2 Sub-Slab Depressurization System Monitoring Compliance

SSDSs inspections and monitoring were not conducted this year due to the temporary shutdown of the SSDSs in August 2015. SSDS removal activities were completed at the former Deli Spot tenant space in April 2017.

A SSDS Decommissioning Request was submitted to the NYSDEC and NYSDOH (the Departments) on January 3, 2017 requesting approval to decommission two (2) of the three (3) tenant spaces at the Orangetown Shopping Center. The request to decommission the former Deli Spot and former Sparkle Cleaners tenant spaces was approved by the Departments on January 20, 2017 with a contingency to collect yearly sub-slab and indoor air samples from the three (3) tenant spaces for the next two (2) heating seasons (2017/2018 and 2018/2019).

On December 4, 2017 a Soil Vapor Intrusion (SVI) investigation was completed. Ambient air and sub slab samples were collected from the former Deli Spot, former Sparkle Cleaners, and New China House. Sample locations are illustrated on **Figure 12**. Samples were submitted to SGS/Accutest Laboratories of Dayton, New Jersey (Accutest) and were analyzed for VOCs via Environmental Protection Agency (EPA) Methods VTO15NYLL and/or VTO15NYSVLL. Laboratory analytical results were compared to the NYSDOH *Guidance for Evaluating Soil Vapor Intrusion in the State of New York*, section 3.4.2, Indoor Air Matrices A, B, and C. Based on the comparison, the required remedial action for all three (3) tenant spaces was “no further action”. The SVI investigation is summarized in the *Soil Vapor Intrusion Summary* submitted to the NYSDEC in January 2018. Regulatory correspondences are attached in **Appendix E**. SVI investigation analytical results are summarized in **Table 5** and the comparison of analytical results to NYSDOH Indoor Air Matrices A, B, and C is included as **Table 6**.

5.3 Bio-Augmentation System Monitoring Compliance

Inspections and monitoring of the bio-augmentation system were completed as described in the SMP. A total of 12 injection events have been completed since August 2012. A total approximate volume of 8,015 gallons of 10% molasses solution has been injected since the initial event.

Quarterly groundwater monitoring and annual baseline sampling were completed at the Site. Monitoring wells MW-3, MW-8A, and MW-E are sampled on an annual basis and monitoring wells MW-4 and MW-5 are sampled quarterly. Updates to the groundwater sampling program were submitted as revisions to the SMP in October 2017.

Each quarter samples were submitted to Accutest for the following analysis: VOCs, ethene, nitrate, iron (total, ferrous and ferric), sulfate, and/or TOC. Analytical data provided by Accutest is included in **Appendix G** and are represented in **Tables 2** and **4**, and **Figures 5** through **9**. Each quarter the Category B laboratory analytical reports provided by Accutest were submitted to RemVer for review of data quality. Subsequent to the data review, RemVer provided a data usability summary report (DUSR), included in **Appendix H**.

Annual baseline sampling was completed at monitoring wells MW-3, MW-4, MW-5, MW-8A, and MW-10 on March 26, 2018. Analytical data provided by Accutest has been included in **Appendix G**. Results from the annual baseline sampling can be referenced in **Tables 2** and **4**.

6 Operation, Monitoring & Maintenance Plan Compliance

The OM&M Plans describe the measures necessary to operate, monitor, and maintain the mechanical components of the remedy selected for the Site. This section has two specific OM&M plans: one for the SSDS and one for the bio-augmentation treatment system.

Annually, copies of the OM&M forms generated from field activities at the Site are placed inside the on-Site hazardous communications box. Additionally, a copy of the Sub-Slab Depressurization Operation, Monitoring, and Maintenance Plan, Bio-augmentation System Operation, Maintenance, and Monitoring Plan and manuals provided by the equipment manufacturer are stored in the hazardous communications box for reference.

6.1 Sub-Slab Depressurization OM&M Compliance

The SSDSs remained temporarily shut down for the entire monitoring period. Due to the shut down of the SSDSs, OM&M's were not completed this year.

6.2 Bio-Augmentation OM&M Compliance

BAS OM&M visits were completed during quarterly sampling events as described in the Bio augmentation System Operation, Maintenance, and Monitoring Plan. Each visit included the following activities to evaluate performance and operation of the system: an inspection for security issues, vandalism, system damage, equipment or conveyance malfunction, connection integrity or environmental effects, gauging of BAS monitoring well network, collection of general groundwater chemistry parameters, visual inspection of piping stub-ups and BAS monitoring well road boxes, and inspection of well pads and injection road boxes and road pads. No non-compliance issues were identified during the reporting period.

7 Conclusions and Recommendations

7.1 SMP Compliance

During this monitoring period, all requirements set forth in the SMP have been completed. ICs described in the SMP are in place and in compliance. Monitoring and OM&M of the two (2) active ECs (composite cover and bio-augmentation system) were conducted during the monitoring period as specified in the SMP. OM&M of SSDSs have been suspended while the systems are temporarily shut down. Inspection of the composite cover system was completed at a minimum frequency of once annually. Monitoring and OM&M of the bio-augmentation system was completed on a quarterly basis during the quarterly groundwater sampling events.

7.2 Performance and Effectiveness of Remedy

The SSDSs have been temporarily shut-down since August 17, 2015. The NYSDEC approved the request to permanently decommission the SSDSs in the former Deli Spot and Sparkle Cleaners. SSDS removal activities were completed at the former Deli Spot in May 2017. As

requested by the NYSDEC, sub-slab and indoor air testing will be conducted for at least one (1) more heating season at the three (3) tenant spaces to monitor rebound following the shutdown of the SSDSs. The final event will be conducted during the 2018/2019 heating season. If any potential impacts are identified during the event then conditions will be evaluated and monitoring will continue.

Bio-augmentation injection events are generally scheduled when TOCs are outside the optimal geochemical range (50 mg/L to 500 mg/L) in monitoring well MW-5. During the monitoring period, TOC concentrations were within the geochemical range in monitoring well MW-5 during all quarterly sampling events. TOC concentrations in the monitoring well network can be referenced on **Table 4** and are graphically represented on **Figure 10**.

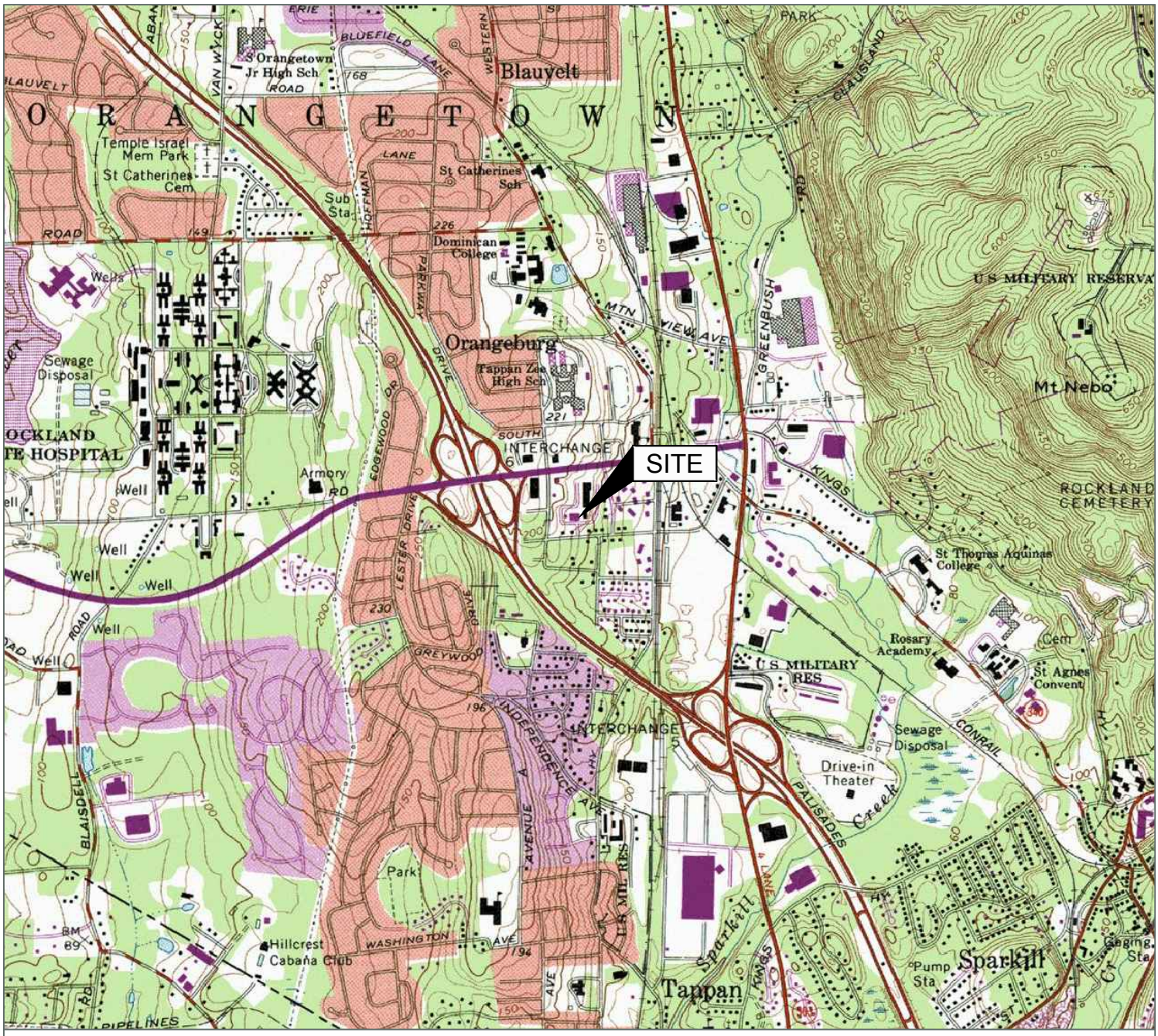
Based on the most recent groundwater data from June 2018, monitoring well MW-5 exhibits concentrations above GWQS for trichloroethene (9.8 micrograms per liter [ug/L]), cis-1,2-dichlorethene (758 ug/L), trans-1,2-dichloroethene (6.0 ug/L), and vinyl chloride (136 ug/L). Decreases in concentration of trichloroethene and increases in concentration of vinyl chloride and ethene suggest the degradation of chlorinated VOCs. In addition, monitoring well MW-5 exhibits low oxidation reduction potential (ORP) levels over the monitoring period, ranging from -22.6 to -110.6 millivolts (mV). This indicates that favorable reducing conditions have been maintained during the application of the bio-augmentation remedy within the targeted treatment area.

GES evaluated VOC concentrations in groundwater over the annual monitoring period. The results of this evaluation indicate that concentrations of COCs in groundwater generally remained stable or decreased in monitoring wells MW-3, MW-4, MW-8A, and MW-E. Concentrations of COCs in groundwater at MW-5 increased for cis-1,2-dischloroethene, vinyl chloride, and ethene and remained stable or decreased for tetrachloroethene, trichloroethene, and trans-1,2-dichloroethene over the monitoring period. For monitoring well MW-5, VOC concentration trends indicated reductive dechlorination is taking place in the area of the monitoring well by the observed increase in ethene and decreases in other chlorinated compounds.

Groundwater monitoring will be conducted on a quarterly basis to evaluate the effectiveness of the bioaugmentation remedy. The groundwater quality parameters (TOC, pH, dissolved oxygen [DO], ORP, temperature, pH, and conductivity) will also be collected during quarterly sampling events.

A final SVI Study will be conducted in approximately December 2018, during to the 2018/2019 heating season.

Figures



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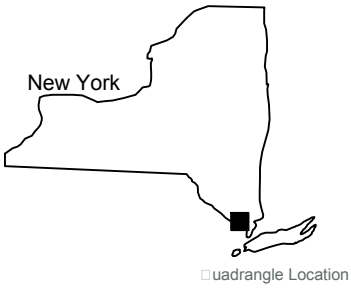

□uadrangle Location

Site Location Map

UB Orangeburg, LLC
1-45 Orangetown Shopping Center
Orangeburg, New York

Drawn
W.G.S.
Designed

Approved

Date
1-23-18
Figure
1

Scale In Feet
0 200

Groundwater & Environmental Services, Inc.

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Site Map

UB Orangeburg, LLC
1-45 Orangetown Shopping Center
Orangeburg, New York

Drawn W.G.S.
Designed
Approved

Date 7/3/18
Figure 2

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Groundwater & Environmental Services, Inc.

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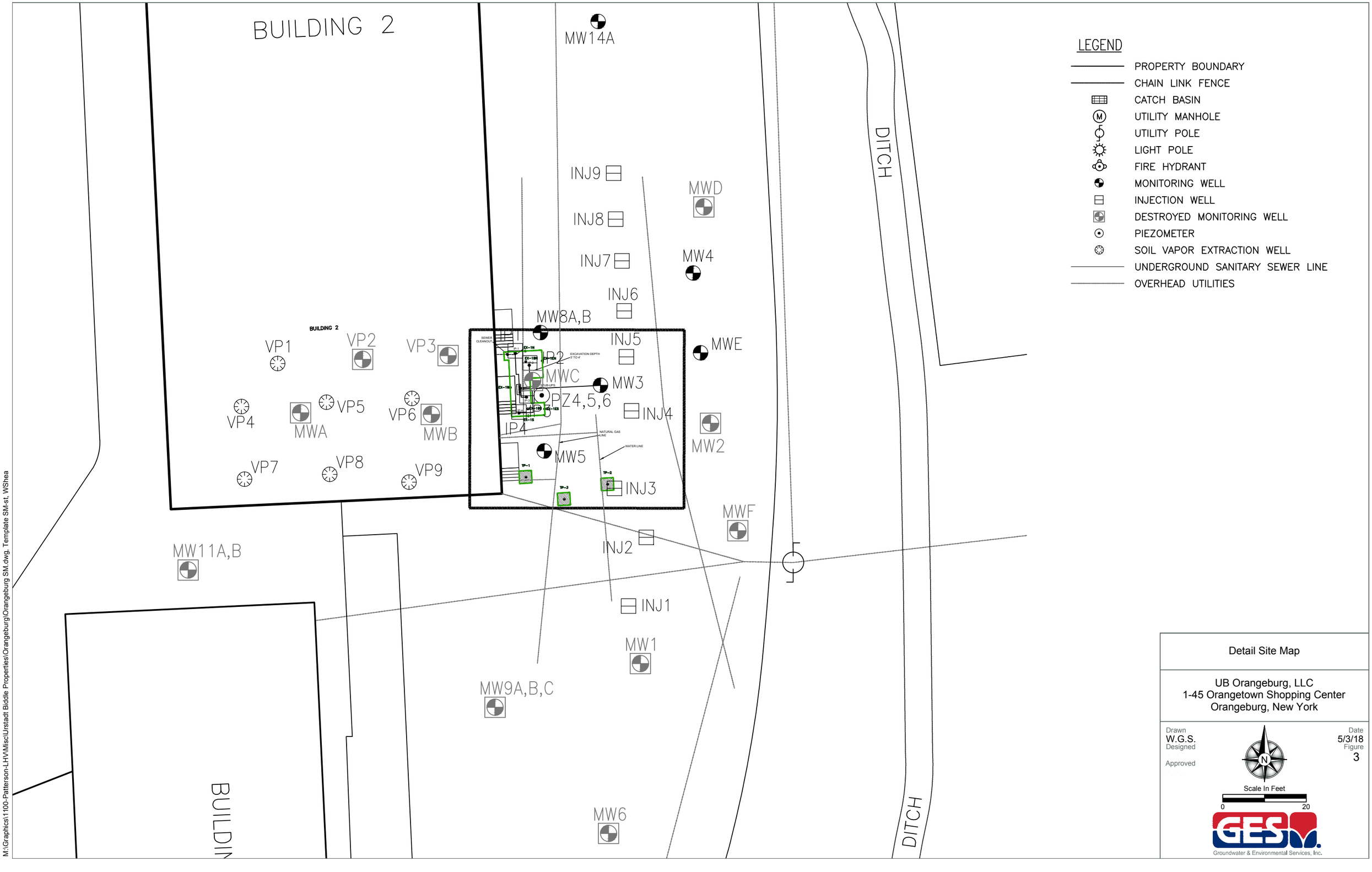

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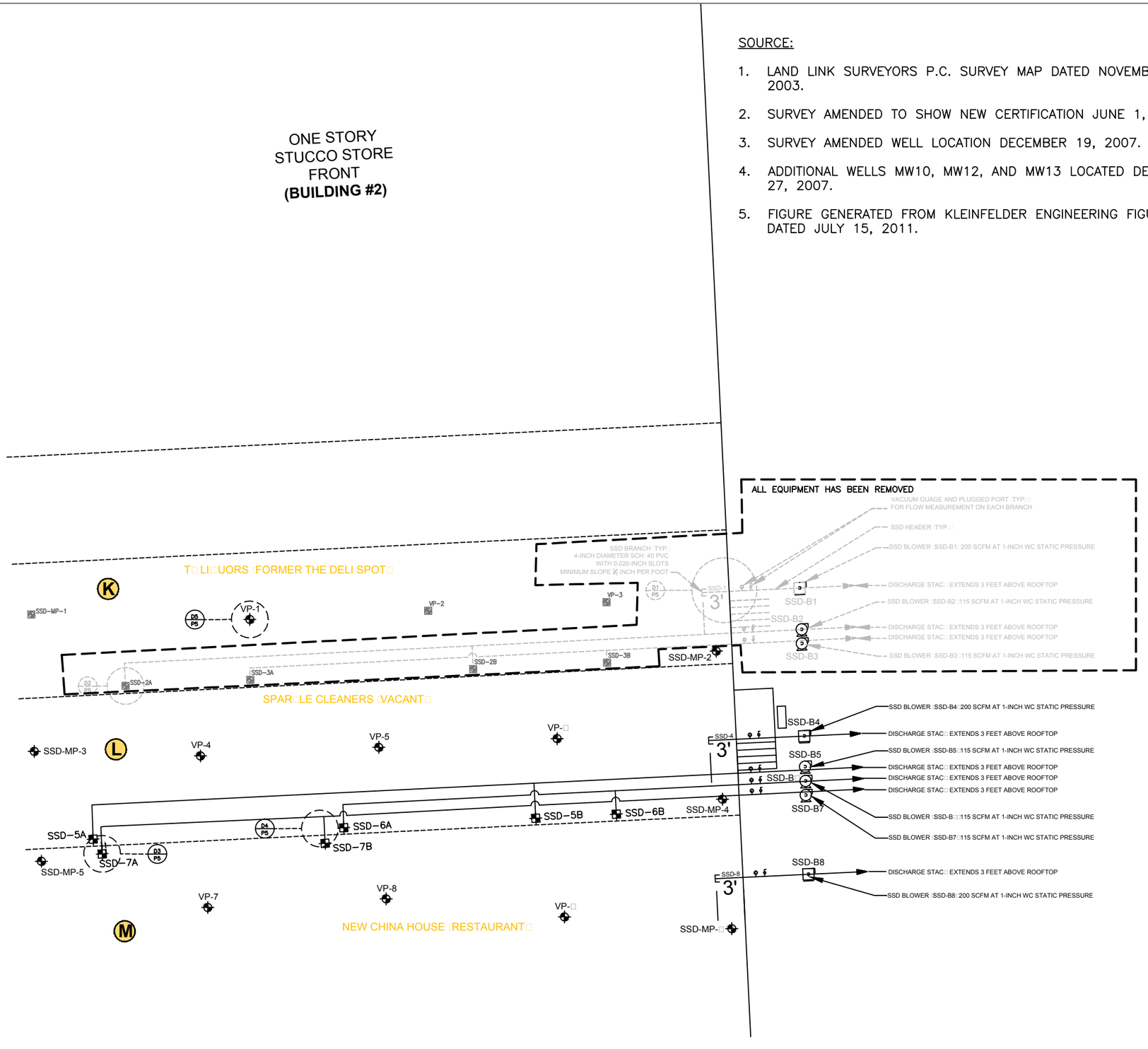

SOURCE:

1. LAND LINK SURVEYORS P.C. SURVEY MAP DATED NOVEMBER 4, 2003.
2. SURVEY AMENDED TO SHOW NEW CERTIFICATION JUNE 1, 2005.
3. SURVEY AMENDED WELL LOCATION DECEMBER 19, 2007.
4. ADDITIONAL WELLS MW10, MW12, AND MW13 LOCATED DECEMBER 27, 2007.
5. FIGURE GENERATED FROM KLEINFELDER ENGINEERING FIGURE DATED JULY 15, 2011.

LEGEND

- SSD-MP- — SUB-SLAB MONITORING PORT
- SUB-SLAB VAPOR EXTRACTION WELL
- D1 / P5 — DETAIL NUMBER / PLATE NUMBER
- SSD BLOWER (115 SCFM)
- SSD BLOWER (200 SCFM)
- VACUUM GAUGE
- PLUGGED PORT
- ABANDONED/DESTROYED WELL

COMMERCIAL STORE ID TABLE (BUILDING 2)

- (K) FORMER THE DELI SPOT
- (L) FORMER SPAR LE CLEANERS
- (M) NEW CHINA HOUSE

NOTES:

1. THE EXTRACTION PIPING INSIDE THE BUILDING IS ROUTED ABOVE THE SUB-CEILING OR ALONG THE EXTERIOR WALL.
2. DISCHARGE STACKS EXTEND 3 FEET ABOVE THE ROOFTOP (TYP.).

Sub-Slab Depressuri ation Con iguration

UB Orangeburg, LLC
1-45 Orangetown Shopping Center
Orangeburg, New York

Drawn W.G.S.
Designed
Approved
Date 2-1-18
Figure 4

Not to Scale

Groundwater & Environmental Services, Inc.

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LEGEND

- PROPERTY BOUNDARY
- CHAIN LINK FENCE
- CATCH BASIN
- UTILITY MANHOLE
- UTILITY POLE
- LIGHT POLE
- FIRE HYDRANT
- MONITORING WELL
- INJECTION WELL
- DESTROYED MONITORING WELL
- PIEZOMETER
- SOIL VAPOR EXTRACTION WELL

MW5	WELL IDENTIFICATION
131.05	GROUNDWATER ELEVATION (feet)
ND<1.0	TETRACHLOROETHENE CONCENTRATION (ug/L)
9.3	TRICHLOROETHENE CONCENTRATION (ug/L)
504	CIS–1,2–DICHLOROETHENE CONCENTRATION (ug/L)
5.2	TRANS–1,2–DICHLOROETHENE CONCENTRATION (ug/L)
ND<1.0	1,1–DICHLOROETHENE CONCENTRATION (ug/L)
39.7	VINYL CHLORIDE CONCENTRATION (ug/L)
6.2	ETHENE CONCENTRATION (ug/L)
ug/L	MICROGRAMS PER LITER
ND	NOT DETECTED
<#	WHERE AN ANALYTE IS NOT DETECTED, A METHOD DETECTION LIMIT IS GIVEN
NA	NOT ANALYZED FOR THAT COMPOUND

NOTE:

VALUE SHADED PURPLE EXCEEDS NYSDEC TOGS 1.1.1 GWQS.

Groundwater Monitoring Map
June 22, 2017

UB Orangeburg, LLC
1-45 Orangetown Shopping Center
Orangeburg, New York

Drawn: W.G.S.
Designed:
Approved:
Date: 7/5/18
Figure: 5

Scale In Feet
0 50

GES
Groundwater & Environmental Services, Inc.

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LEGEND

- PROPERTY BOUNDARY
- CHAIN LINK FENCE
- CATCH BASIN
- UTILITY MANHOLE
- UTILITY POLE
- LIGHT POLE
- FIRE HYDRANT
- MONITORING WELL
- INJECTION WELL
- DESTROYED MONITORING WELL
- PIEZOMETER
- SOIL VAPOR EXTRACTION WELL

MW5	WELL IDENTIFICATION
125.75	GROUNDWATER ELEVATION (feet)
1.2	TETRACHLOROETHENE CONCENTRATION (ug/L)
12.8	TRICHLOROETHENE CONCENTRATION (ug/L)
597	CIS–1,2–DICHLOROETHENE CONCENTRATION (ug/L)
7.8	TRANS–1,2–DICHLOROETHENE CONCENTRATION (ug/L)
ND<1.0	1,1–DICHLOROETHENE CONCENTRATION (ug/L)
37.0	VINYL CHLORIDE CONCENTRATION (ug/L)
7.0	ETHENE CONCENTRATION (ug/L)
ug/L	MICROGRAMS PER LITER
ND	NOT DETECTED
<#	WHERE AN ANALYTE IS NOT DETECTED, A METHOD DETECTION LIMIT IS GIVEN
NA	NOT ANALYZED FOR THAT COMPOUND

NOTE:

VALUE SHADED PURPLE EXCEEDS NYSDEC TOGS 1.1.1 GWQS.

Groundwater Monitoring Map
September 7, 2017

UB Orangeburg, LLC
1-45 Orangetown Shopping Center
Orangeburg, New York

Drawn W.G.S.
Designed
Approved
Date 7/5/18
Figure 6

Scale In Feet
0 50

Groundwater & Environmental Services, Inc.

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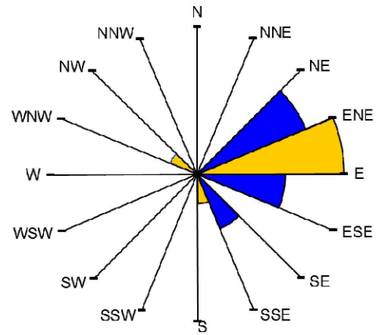
HISTORICAL GROUNDWATER FLOW DIRECTION



2013–2018 (16 READINGS)

LEGEND

	PROPERTY BOUNDARY
	CHAIN LINK FENCE
	CATCH BASIN
M	UTILITY MANHOLE
	UTILITY POLE
	LIGHT POLE
	FIRE HYDRANT
	MONITORING WELL
	INJECTION WELL
	DESTROYED MONITORING WELL
	PIEZOMETER
	SOIL VAPOR EXTRACTION WELL
MW5	WELL IDENTIFICATION
125.60	GROUNDWATER ELEVATION (feet)
ND<50	TETRACHLOROETHENE CONCENTRATION (ug/L)
11.1	TRICHLOROETHENE CONCENTRATION (ug/L)
608	CIS–1,2–DICHLOROETHENE CONCENTRATION (ug/L)
ND<5.0	TRANS–1,2–DICHLOROETHENE CONCENTRATION (ug/L)
ND<5.0	1,1–DICHLOROETHENE CONCENTRATION (ug/L)
23.4	VINYL CHLORIDE CONCENTRATION (ug/L)
2.2	ETHENE CONCENTRATION (ug/L)
ug/L	MICROGRAMS PER LITER
ND	NOT DETECTED
<#	WHERE AN ANALYTE IS NOT DETECTED, A METHOD DETECTION LIMIT IS GIVEN
NA	NOT ANALYZED FOR THAT COMPOUND

NOTE:

VALUE SHADED PURPLE EXCEEDS NYSDEC TOGS 1.1.1 GWQS.

NW4 CONTAINED AN INSUFFICIENT AMOUNT OF WATER AND COULD NOT BE SAMPLED.

Groundwater Monitoring Map
December 5, 2017

UB Orangeburg, LLC
1-45 Orangetown Shopping Center
Orangeburg, New York

Drawn W.G.S.
Designed
Approved

Date 1-23-18
Figure 7

Scale In Feet
0 50

Groundwater & Environmental Services, Inc.

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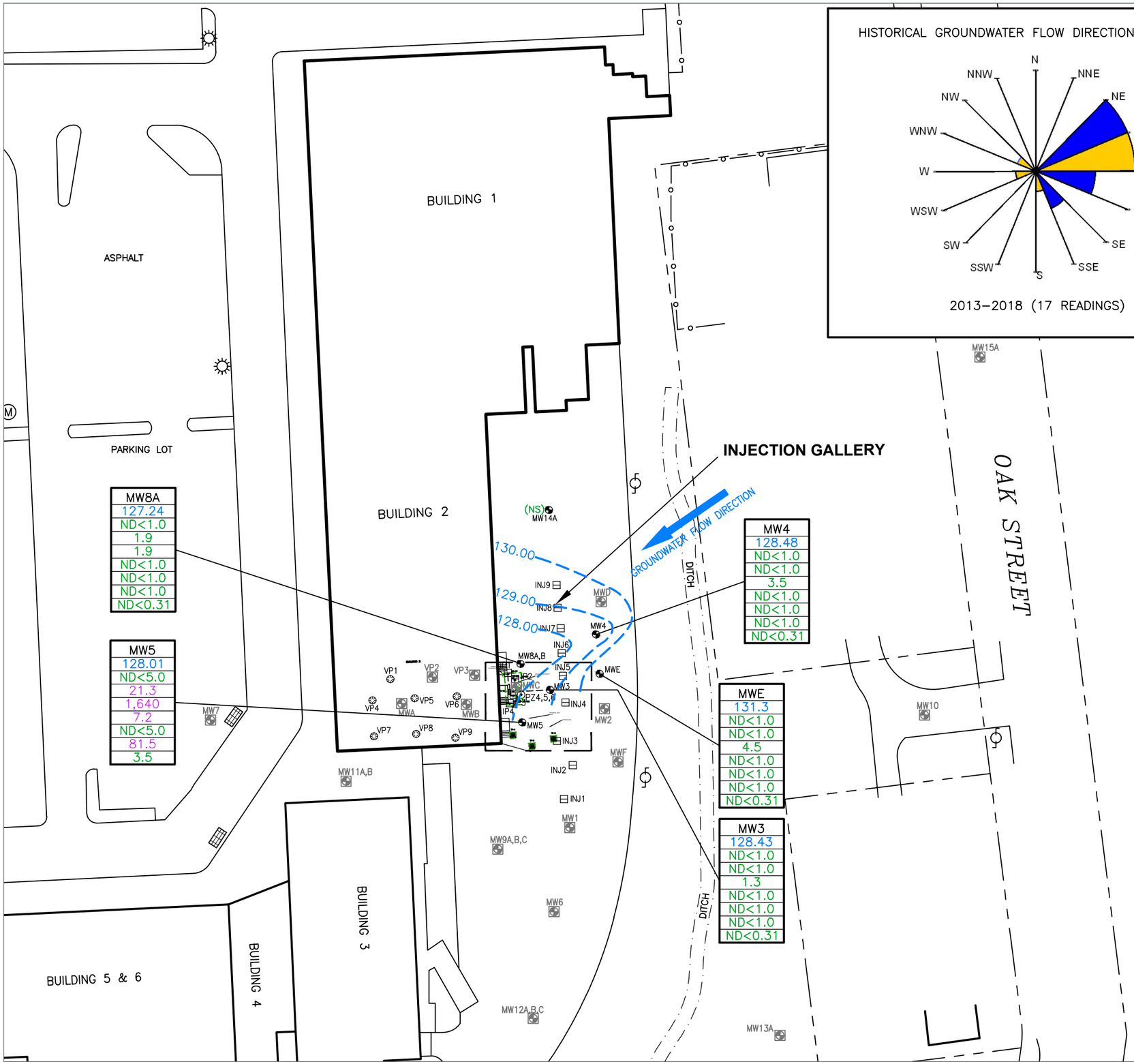
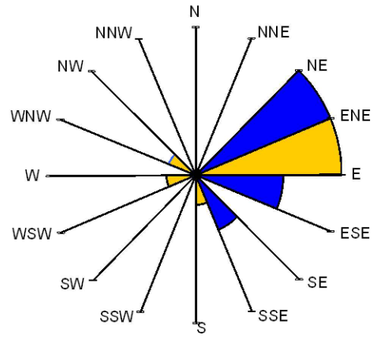


HISTORICAL GROUNDWATER FLOW DIRECTION FREQUENCY



2013–2018 (17 READINGS)

LEGEND

— - - —	PROPERTY BOUNDARY
——o——	CHAIN LINK FENCE
	CATCH BASIN
M	UTILITY MANHOLE
	UTILITY POLE
	LIGHT POLE
	FIRE HYDRANT
	MONITORING WELL
	INJECTION WELL
	DESTROYED MONITORING WELL
	PIEZOMETER
	SOIL VAPOR EXTRACTION WELL
MW5	WELL IDENTIFICATION
128.01	GROUNDWATER ELEVATION (feet)
ND<5.0	TETRACHLOROETHENE CONCENTRATION (ug/L)
21.3	TRICHLOROETHENE CONCENTRATION (ug/L)
1,640	CIS–1,2–DICHLOROETHENE CONCENTRATION (ug/L)
7.2	TRANS–1,2–DICHLOROETHENE CONCENTRATION (ug/L)
ND<5.0	1,1–DICHLOROETHENE CONCENTRATION (ug/L)
81.5	VINYL CHLORIDE CONCENTRATION (ug/L)
3.5	ETHENE CONCENTRATION (ug/L)
ug/L	MICROGRAMS PER LITER
ND	NOT DETECTED
<#	WHERE AN ANALYTE IS NOT DETECTED, A METHOD DETECTION LIMIT IS GIVEN
NS	NOT SAMPLED

NOTE:

VALUE SHADED PURPLE EXCEEDS NYSDEC TOGS 1.1.1 GWQS.

NW4 CONTAINED AN INSUFFICIENT AMOUNT OF WATER AND COULD NOT BE SAMPLED.

Groundwater Monitoring Map
March 2□, 2018

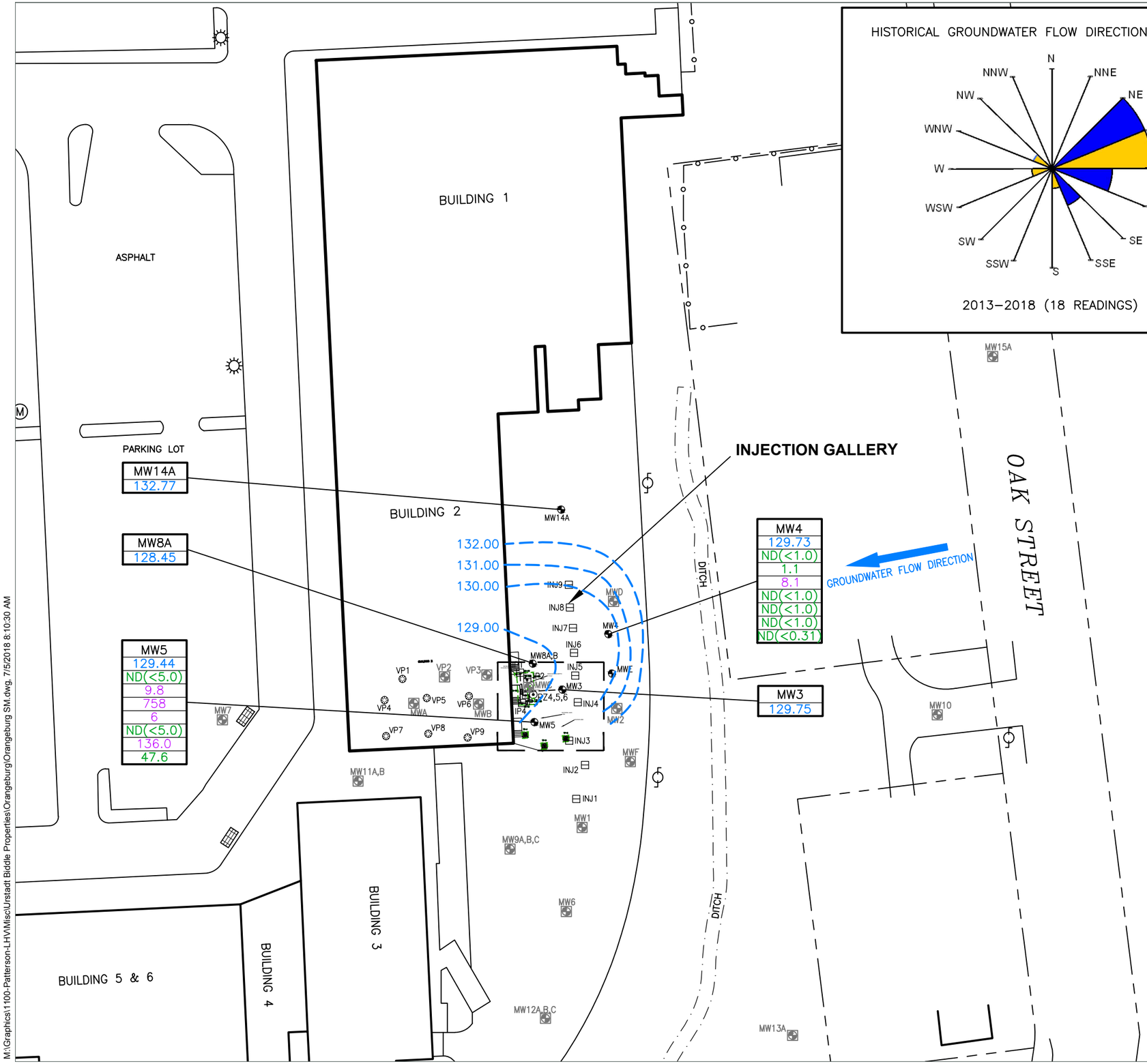
UB Orangeburg, LLC
1-45 Orangetown Shopping Center
Orangeburg, New York

Drawn W.G.S.
Designed
Approved

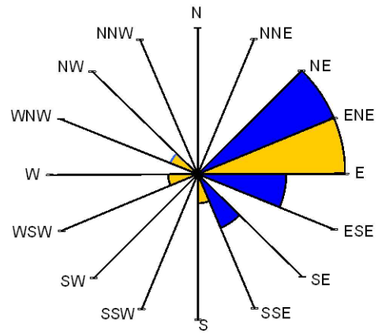
Date 5/22/18
Figure 8

Scale In Feet
0 50

Groundwater & Environmental Services, Inc.



HISTORICAL GROUNDWATER FLOW DIRECTION FREQUENCY



2013–2018 (18 READINGS)

LEGEND

	PROPERTY BOUNDARY
	CHAIN LINK FENCE
	CATCH BASIN
M	UTILITY MANHOLE
	UTILITY POLE
	LIGHT POLE
	FIRE HYDRANT
	MONITORING WELL
	INJECTION WELL
	DESTROYED MONITORING WELL
	PIEZOMETER
	SOIL VAPOR EXTRACTION WELL
MW5	WELL IDENTIFICATION
129.44	GROUNDWATER ELEVATION (feet)
ND(<5.0)	TETRACHLOROETHENE CONCENTRATION (ug/L)
9.8	TRICHLOROETHENE CONCENTRATION (ug/L)
758	CIS–1,2–DICHLOROETHENE CONCENTRATION (ug/L)
6	TRANS–1,2–DICHLOROETHENE CONCENTRATION (ug/L)
ND(<5.0)	1,1–DICHLOROETHENE CONCENTRATION (ug/L)
136.0	VINYL CHLORIDE CONCENTRATION (ug/L)
47.6	ETHENE CONCENTRATION (ug/L)
ug/L	MICROGRAMS PER LITER
ND	NOT DETECTED
<#	WHERE AN ANALYTE IS NOT DETECTED, A METHOD DETECTION LIMIT IS GIVEN
NS	NOT SAMPLED

NOTE:

VALUE SHADED PURPLE EXCEEDS NYSDEC TOGS 1.1.1 GWQS.

Groundwater Monitoring Map
June 7, 2018

UB Orangeburg, LLC
1-45 Orangetown Shopping Center
Orangeburg, New York

Drawn W.G.S.
Designed
Approved

Date 7/5/18
Figure 9

Scale In Feet
0 50

Groundwater & Environmental Services, Inc.

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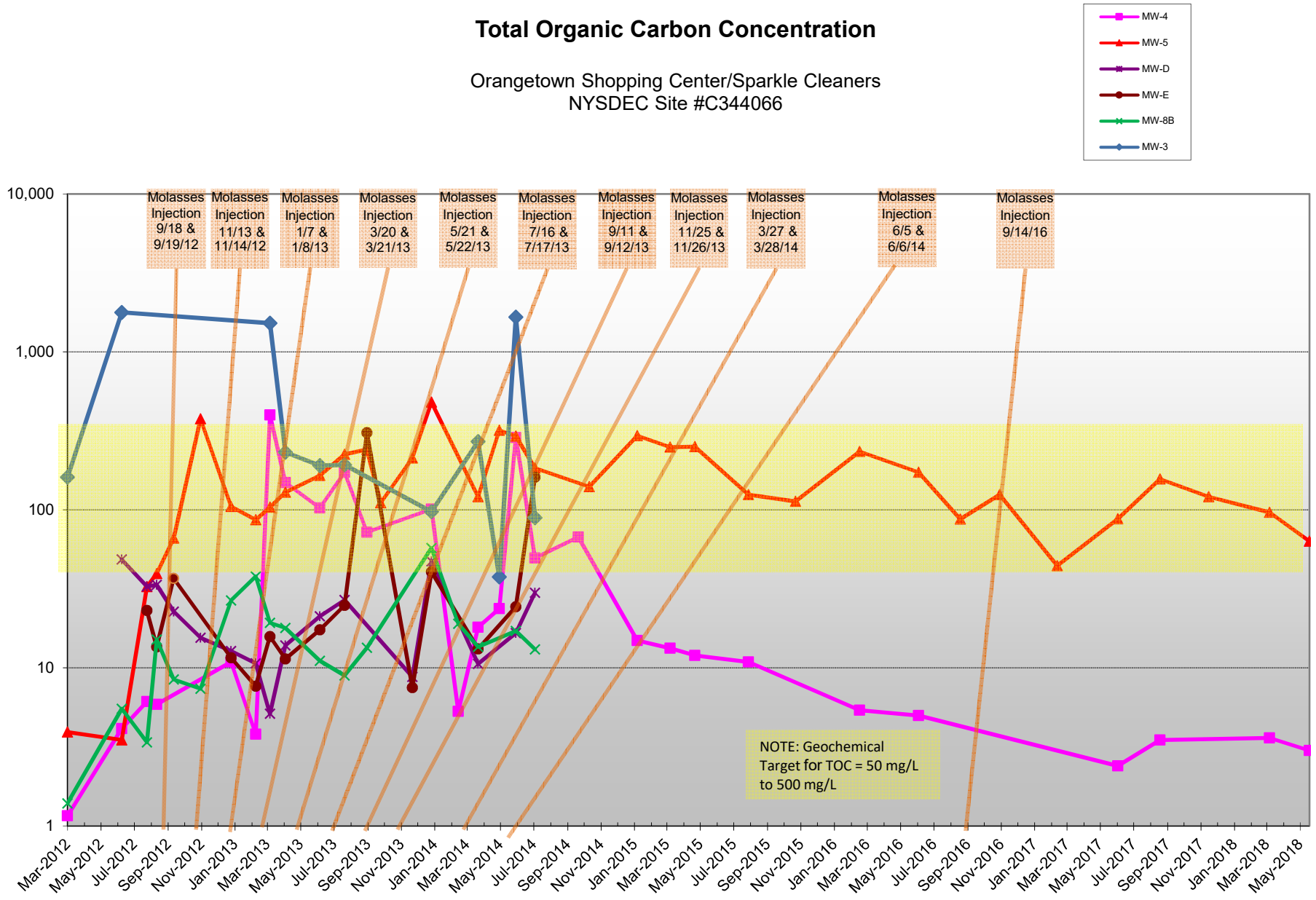
Figure 10

Total Organic Carbon Concentration

Orangetown Shopping Center/Sparkle Cleaners
NYSDEC Site #C344066

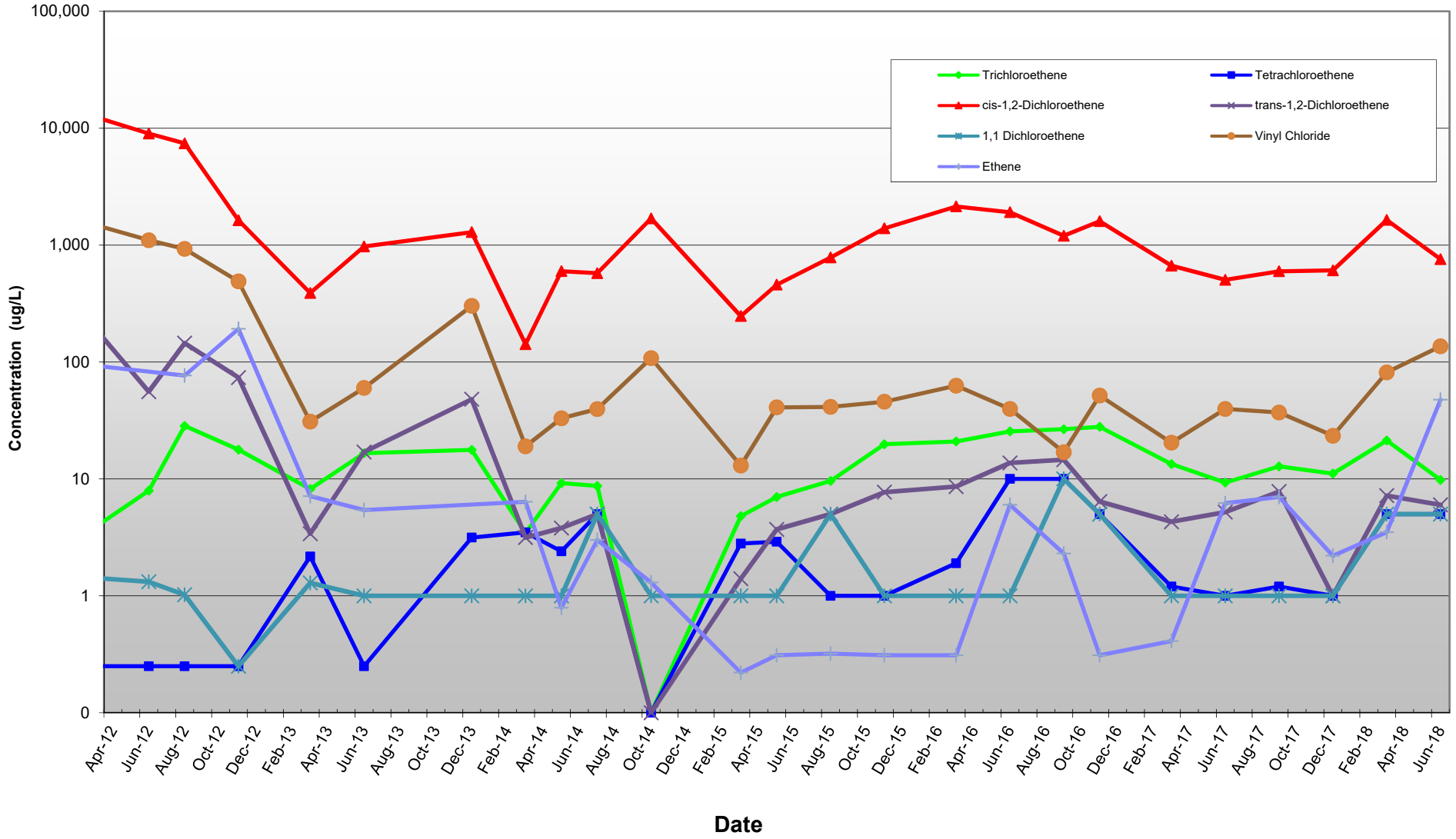


Date

Figure 11

MW-5
Chlorinated Solvent Reductive Transformation Pathway

Orangetown Shopping Center/Sparkle Cleaners
NYSDEC Site #C344066



ONE STORY
STUCCO STORE
FRONT
(BUILDING #2)

SOURCE:

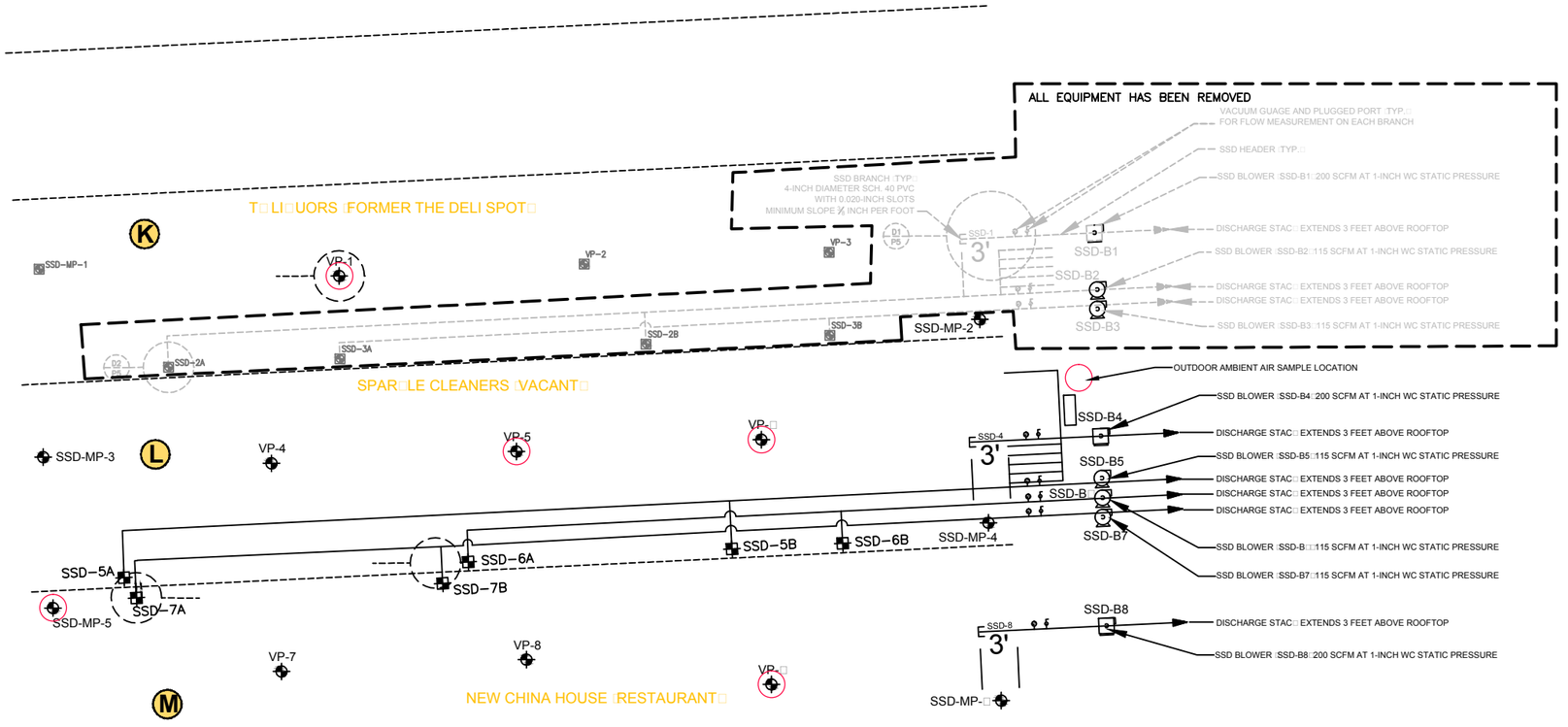
1. LAND LINK SURVEYORS P.C. SURVEY MAP DATED NOVEMBER 4, 2003.
2. SURVEY AMENDED TO SHOW NEW CERTIFICATION JUNE 1, 2005.
3. SURVEY AMENDED WELL LOCATION DECEMBER 19, 2007.
4. ADDITIONAL WELLS MW10, MW12, AND MW13 LOCATED DECEMBER 27, 2007.
5. FIGURE GENERATED FROM KLEINFELDER ENGINEERING FIGURE DATED JULY 15, 2011.

LEGEND

- SSD-MP-□ — SUB-SLAB MONITORING PORT
- SUB-SLAB VAPOR EXTRACTION WELL
- D1 / P5 — DETAIL NUMBER / PLATE NUMBER
- SSD BLOWER □115 SCFM□
- SSD BLOWER □200 SCFM□
- VACUUM GAUGE
- PLUGGED PORT
- ABANDONED/DESTROYED WELL
- Sub-slab and/or Ambient Air Sample Location

COMMERCIAL STORE ID TABLE □BUILDING □2□

- (K) FORMER THE DELI SPOT
- (L) FORMER SPAR□LE CLEANERS
- (M) NEW CHINA HOUSE



NOTES:

1. THE EXTRACTION PIPING INSIDE THE BUILDING IS ROUTED ABOVE THE SUB-CEILING OR ALONG THE EXTERIOR WALL.
2. DISCHARGE STACKS EXTEND 3 FEET ABOVE THE ROOFTOP (TYP.).

Sub-Slab and Ambient Air Sampling Map
December 5, 2017

UB Orangeburg, LLC
1-45 Orangetown Shopping Center
Orangeburg, New York

Drawn W.G.S.
Designed
Approved
Date 2-1-18
Figure 12

Not to Scale

Groundwater & Environmental Services, Inc.

M:\Graphics\1100-Patterson-LHV\Misc\Urstadt Biddle Properties\Orangeburg\Engineering\Orangeburg □LF-details□dwg, Template B, WShea

Tables

Table 1
GROUNDWATER GAUGING

Orangetown Shopping Center
NYSDEC Site # C344066

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	GW Elevation (ft)	Photoionizing Detector Reading (ppm)
MW-3	3/22/2012	166.67	38.37	128.30	0.9
	6/28/2012	166.67	41.68	124.99	0.3
	8/13/2012	166.67	-	-	0
	8/31/2012	166.67	43.20	123.47	0
	10/1/2012	166.67	42.55	124.12	0
	11/19/2012	166.67	42.47	124.20	0
	1/14/2013	166.67	42.85	123.82	0
	2/28/2013	166.67	42.40	124.27	0
	3/26/2013	166.67	39.30	127.37	0
	4/23/2013	166.67	40.00	126.67	0
	6/25/2013	166.67	36.63	130.04	-
	12/11/2013	166.67	42.39	124.28	-
	1/15/2014	166.67	42.27	124.40	-
	3/5/2014	166.67	38.76	127.91	0
	4/10/2014	166.67	38.76	127.91	0
	5/19/2014	166.67	34.95	131.72	0
	6/18/2014	166.67	35.58	131.09	0
	7/23/2014	166.67	39.60	127.07	0
	10/10/2014	166.67	DRY	-	0
	3/27/2015	166.67	34.02	132.65	0
	5/11/2015	166.67	40.10	126.57	0
	8/17/2015	166.67	42.50	124.17	0
	11/11/2015	166.67	36.14	130.53	0
	3/7/2016	166.67	41.40	125.27	0
	6/23/2016	166.67	42.50	124.17	0
	9/7/2016	166.67	42.07	124.60	0
	11/18/2016	166.67	42.61	124.06	0
	3/3/2017	166.67	40.92	125.75	0
	6/22/2017	166.67	35.79	130.88	0.2
	12/5/2017	166.67	41.17	125.50	0
	3/26/2018	166.67	38.24	128.43	0
MW-4	3/21/2012	165.88	37.50	128.38	4.0
	6/28/2012	165.88	42.15	123.73	0.8
	8/13/2012	165.88	43.75	122.13	0
	8/31/2012	165.88	44.55	121.33	0
	10/1/2012	165.88	46.20	119.68	0
	11/19/2012	165.88	45.60	120.28	0
	1/14/2013	165.88	44.30	121.58	0
	2/28/2013	165.88	42.12	123.76	0
	3/26/2013	165.88	38.85	127.03	0
	4/23/2013	165.88	39.65	126.23	20.0
	6/25/2013	165.88	35.85	130.03	-
	12/11/2013	165.88	46.05	119.83	-
	1/15/2014	165.88	45.41	120.47	-
	3/5/2014	165.88	43.31	122.57	0

Table 1
GROUNDWATER GAUGING

Orangetown Shopping Center
NYSDEC Site # C344066

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	GW Elevation (ft)	Photoionizing Detector Reading (ppm)
MW-4 (cont.)	4/10/2014	165.88	38.21	127.67	0
	5/19/2014	165.88	34.18	131.70	0
	6/18/2014	165.88	34.52	131.36	0
	7/23/2014	165.88	37.45	128.43	0
	10/10/2014	165.88	44.53	121.35	0
	1/26/2015	165.88	42.90	122.98	0
	3/27/2015	165.88	38.82	127.06	0
	5/11/2015	165.88	37.76	128.12	0
	8/17/2015	165.88	44.30	121.58	0
	11/11/2015	165.88	45.58	120.30	0
	3/7/2016	165.88	41.30	124.58	0
	6/23/2016	165.88	43.81	122.07	0
	9/7/2016	165.88	46.77	119.11	0
	11/18/2016	165.88	46.44	119.44	0
	3/3/2017	165.88	40.48	125.40	0
	6/22/2017	165.88	35.16	130.72	0.1
	9/7/2017	165.88	43.74	122.14	0
	12/5/2017	165.88	45.80	120.08	0
	3/26/2018	165.88	37.40	128.48	0
	6/7/2018	165.88	36.15	129.73	0
MW-5	3/21/2012	166.70	39.70	127.00	22.6
	6/28/2012	166.70	40.31	126.39	0.6
	8/13/2012	166.70	40.27	126.43	0.7
	8/31/2012	166.70	40.30	126.40	0
	10/1/2012	166.70	40.40	126.30	1.0
	11/19/2012	166.70	40.42	126.28	0
	1/14/2013	166.70	40.25	126.45	0
	2/28/2013	166.70	40.35	126.35	1.7
	3/26/2013	166.70	39.85	126.85	6.9
	4/23/2013	166.70	40.27	126.43	0
	6/25/2013	166.70	37.11	129.59	-
	12/11/2013	166.70	40.65	126.05	-
	1/15/2014	166.70	37.22	129.48	-
	3/5/2014	166.70	40.11	126.59	0
	4/10/2014	166.70	39.41	127.29	0
	5/19/2014	166.70	34.98	131.72	0
	6/18/2014	166.70	35.42	131.28	0
	7/23/2014	166.70	38.44	128.26	0
	10/10/2014	166.70	40.55	126.15	0
	1/26/2015	166.70	39.01	127.69	0
	3/27/2015	166.70	34.77	131.93	0
	5/11/2015	166.70	38.76	127.94	0
	8/17/2015	166.70	41.32	125.38	0
	11/11/2015	166.70	40.81	125.89	0
	3/7/2016	166.70	40.60	126.10	0

Table 1
GROUNDWATER GAUGING

Orangetown Shopping Center
NYSDEC Site # C344066

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	GW Elevation (ft)	Photoionizing Detector Reading (ppm)
MW-5 (cont.)	6/23/2016	166.70	41.26	125.44	0
	9/7/2016	166.70	41.16	125.54	0
	11/18/2016	166.70	41.26	125.44	0
	3/3/2017	166.70	40.75	125.95	0
	6/22/2017	166.70	35.65	131.05	0
	9/7/2017	166.70	40.95	125.75	0
	12/5/2017	166.70	41.10	125.60	0
	3/26/2018	166.70	38.64	128.06	0
	6/7/2018	166.70	37.26	129.44	0
MW-6	3/22/2012	166.14	36.85	129.29	0
	6/28/2012	166.14	41.41	124.73	0
	8/13/2012	166.14	41.11	125.03	0
	11/19/2012	166.14	47.15	118.99	0
	3/26/2013	166.14	39.65	126.49	0
	6/25/2013	166.14	36.61	129.53	-
	12/11/2013	166.14	49.83	116.31	-
	3/5/2014	166.14	41.53	124.61	0
	5/19/2014	166.14	34.71	131.43	0
	7/23/2014	166.14	36.50	129.64	0
	3/27/2015	166.14	39.22	126.92	0
MW-7	3/21/2012	171.49	39.30	132.19	0
	6/29/2012	171.49	42.18	129.31	0
	8/13/2012	171.49	46.97	124.52	0
	11/19/2012	171.49	47.80	123.69	0
	3/26/2013	171.49	44.98	126.51	0
	4/23/2013	171.49	42.73	128.76	-
	6/25/2013	171.49	38.30	133.19	-
	12/11/2013	171.49	47.27	124.22	-
	3/5/2014	171.49	46.16	125.33	0
	5/19/2014	171.49	37.32	134.17	0
	7/23/2014	171.49	39.74	131.75	0
	3/27/2015	171.49	44.72	126.77	0
MW-8A	3/21/2012	166.15	41.90	124.25	38.0
	6/28/2012	166.15	42.00	124.15	43.5
	8/13/2012	166.15	DRY	-	34.6
	8/31/2012	166.15	41.80	124.35	24.0
	10/1/2012	166.15	42.10	124.05	12.2
	11/19/2012	166.15	42.40	123.75	39.4
	1/14/2013	166.15	42.95	123.13	0
	2/28/2013	166.15	42.60	123.55	37.6
	3/26/2013	166.15	-	-	0.1
	4/23/2013	166.15	42.05	124.10	35.5
	6/25/2013	166.15	39.95	126.20	-
	12/11/2013	166.15	41.80	124.35	-
	1/15/2014	166.15	42.68	123.47	-

Table 1
GROUNDWATER GAUGING

Orangetown Shopping Center
NYSDEC Site # C344066

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	GW Elevation (ft)	Photoionizing Detector Reading (ppm)
MW-8A (cont.)	3/5/2014	166.15	42.63	123.52	0
	4/10/2014	166.15	39.67	126.48	0
	5/19/2014	166.15	42.83	123.32	0
	6/18/2014	166.15	37.12	129.03	0
	7/23/2014	166.15	42.05	124.10	0
	10/10/2014	166.15	DRY	-	0
	3/27/2015	166.15	40.31	125.84	0
	5/11/2015	166.15	42.08	124.07	0
	8/17/2015	166.15	42.30	123.85	0
	11/11/2015	166.15	41.82	124.33	0
	3/7/2016	166.15	41.80	124.35	0
	6/23/2016	166.15	41.91	124.24	0
	9/7/2016	166.15	41.90	124.25	0
	11/18/2016	166.15	41.80	124.35	0
	3/3/2017	166.15	41.72	124.43	0
	6/22/2017	166.15	36.69	129.46	0
	12/5/2017	166.15	41.45	124.70	0
	3/26/2018	166.15	38.91	127.24	0
MW-8B	3/21/2012	166.08	39.13	126.95	14.6
	6/28/2012	166.08	42.55	123.53	5.1
	8/13/2012	166.08	45.30	120.78	0.7
	8/31/2012	166.08	46.40	119.68	0
	10/1/2012	166.08	49.40	116.68	0.1
	11/19/2012	166.08	48.45	117.63	0
	1/14/2013	166.08	47.07	119.01	0
	2/28/2013	166.08	44.00	122.08	0
	3/26/2013	166.08	40.32	125.76	4.6
	4/23/2013	166.08	40.08	126.00	30.2
	6/25/2013	166.08	37.20	128.88	-
	12/11/2013	166.08	49.63	116.45	-
	1/15/2014	166.08	49.63	116.45	-
	3/5/2014	166.08	45.07	121.01	0
	4/10/2014	166.08	39.69	126.39	0
	5/19/2014	166.08	35.55	130.53	0
	6/18/2014	166.08	36.05	130.03	0
	7/23/2014	166.08	38.95	127.13	0
	10/10/2014	166.08	47.21	118.87	0
	3/27/2015	166.08	40.21	125.87	0
	5/11/2015	166.08	39.15	126.93	0
	8/17/2015	166.08	45.32	120.76	0
	11/11/2015	166.08	41.56	124.52	0
	3/7/2016	166.08	42.85	123.23	0
	6/23/2016	166.08	45.85	120.23	0
	9/7/2016	166.08	DRY	-	0
	11/18/2016	166.08	DRY	-	0
	3/3/2017	166.08	42.11	123.97	0
	6/22/2017	166.08	36.56	129.52	0

Table 1
GROUNDWATER GAUGING

Orangetown Shopping Center
NYSDEC Site # C344066

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	GW Elevation (ft)	Photoionizing Detector Reading (ppm)
MW-10	3/21/2012	137.86	9.37	128.49	0
	6/29/2012	137.86	12.58	125.28	0
	8/13/2012	137.86	15.38	122.48	0
	11/19/2012	137.86	18.00	119.86	0
	3/26/2013	137.86	9.90	127.96	0
	6/25/2013	137.86	8.05	129.81	-
	12/11/2013	137.86	19.71	118.15	-
	3/5/2014	137.86	9.33	128.53	0
	4/10/2014	137.86	9.33	128.53	0
	5/19/2014	137.86	5.75	132.11	0
	7/23/2014	137.86	9.87	127.99	0
	10/10/2014	137.86	18.12	119.74	0
	3/27/2015	137.86	9.55	128.31	0
	5/11/2015	137.86	9.92	127.94	0
	8/17/2015	137.86	15.80	122.06	0
	11/11/2015	137.86	21.47	116.39	0
	3/7/2016	137.86	12.46	125.40	0
	6/23/2016	137.86	16.04	121.82	0
	9/7/2016	137.86	20.19	117.67	0
	11/18/2016	137.86	23.55	114.31	0
	3/3/2017	137.86	11.55	126.31	0
	6/22/2017	137.86	8.47	129.39	0
MW-E	12/5/2017	NSD	-	-	-
	3/26/2018	NSD	-	-	-
MW-14A	12/5/2017	NSD	33.68	-	0
	3/26/2018	NSD	34.61	-	0

Notes:

DRY = No water in well to gauge
\- = Not available or measured
ft = Feet
ppm = parts per million
NSD = No Survey Data

Table 2
CONSTITUENTS OF CONCERN

Orangetown Shopping Center
NYSDEC Site # C34406

Monitoring Well	Date	Tetrachloro-ethene (ug/l)	Trichloro-ethene (ug/l)	cis-1,2-Dichloro-ethene (ug/l)	trans-1,2-Dichloro-ethene (ug/l)	1,1-Dichloro-ethene (ug/l)	Vinyl Chloride (ug/l)	Ethene (ug/l)
NY TOGS 1.1.1 GWQS		5	5	5	5	5	2	NA
MW-3	3/22/2012	ND<5.00 J	ND<5.00 J	60.1	ND<5.00 J	ND<5.00 J	23.4	6.28 B
	6/28/2012	ND<5.00	ND<5.00	143	ND<5.00	ND<5.00	47.5	NA
	8/13/2012	NS	NS	NS	NS	NS	NS	NS
	8/31/2012	NS	NS	NS	NS	NS	NS	NS
	10/1/2012	NS	NS	NS	NS	NS	NS	NS
	11/19/2012	NS	NS	NS	NS	NS	NS	NS
	1/14/2013	NS	NS	NS	NS	NS	NS	NS
	2/28/2013	NS	NS	NS	NS	NS	NS	NS
	3/26/2013	ND<0.250	0.327 J	2.62	0.269 J	ND<0.250	2.26	ND<2.5
	4/23/2013	NS	NS	NS	NS	NS	NS	NS
	6/25/2013	ND<0.250	ND<0.200	7.02	0.617 J	ND<0.250	3.43	ND<2.5
	12/11/2013	NS	NS	NS	NS	NS	NS	NS
	1/15/2014	NS	NS	NS	NS	NS	NS	NS
	3/5/2014	NS	NS	NS	NS	NS	NS	NS
	4/10/2014	NS	NS	NS	NS	NS	NS	NS
	5/19/2014	ND<1.0	ND<1.0	12.6	ND<1.0	ND<1.0	2.2	ND<0.31
	7/24/2014	ND<1.0	ND<1.0	1.2	ND<1.0	ND<1.0	ND<1.0	ND<0.31
	10/10/2014	NS	NS	NS	NS	NS	NS	NS
	3/27/2015	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<0.31
	5/11/2015	ND<1.0	ND<1.0	8.6	ND<1.0	ND<1.0	2.9	ND<0.31
	8/17/2015	ND<1.0	ND<1.0	2.8	ND<1.0	ND<1.0	3.6	ND<0.31
	11/11/2015	ND<1.0	ND<1.0	7.8	ND<1.0	ND<1.0	ND<1.0	ND<0.31
	3/7/2016	ND<1.0	1.1	NA	NA	NA	6.1	ND<0.31
	6/23/2016	ND<1.0	1.7	14.8	ND<1.0	ND<1.0	ND<1.0	ND<0.31
	9/7/2016	ND<1.0	ND<1.0	15.9	ND<1.0	ND<1.0	18.8	ND<0.31
	11/18/2016	NS	NS	NS	NS	NS	NS	NS
	3/3/2017	ND<1.0	ND<1.0	6.7	ND<1.0	ND<1.0	3.2	ND<0.31
	6/22/2017	ND<1.0	ND<1.0	7.9	ND<1.0	ND<1.0	2.2	0.21
	3/26/2018	ND(<1.0)	ND(<1.0)	1.3	ND(<1.0)	ND(<1.0)	ND(<1.0)	ND(<0.31)
MW-4	3/21/2012	ND<0.500	5.28	276	0.680 J	ND<0.500	1.59	ND<2.50
	6/28/2012	ND<0.500	7.71	495	4.29	ND<0.500	21.9	NA
	8/13/2012	ND<1.00	4.51	197	1.16	ND<1.00	8.66	ND<5
	8/31/2012	NS	NS	NS	NS	NS	NS	NS
	10/1/2012	NS	NS	NS	NS	NS	NS	NS
	11/19/2012	ND<1.00	3.48	200	ND<1.00	ND<1.00	13.1	ND<5
	1/14/2013	NS	NS	NS	NS	NS	NS	NS
	2/28/2013	NS	NS	NS	NS	NS	NS	NS
	3/26/2013	ND<0.250	1.20	39.8	0.634 J	ND<0.250	57.7	8.3
	4/23/2013	NS	NS	NS	NS	NS	NS	NS
	6/25/2013	ND<0.250	ND<0.200	3.88	0.288 J	ND<0.250	2.84	6.09
	12/11/2013	NS	NS	NS	NS	NS	NS	NS
	1/15/2014	NS	NS	NS	NS	NS	NS	NS
	3/5/2014	ND<1.00	ND<1.00	4.25	0.336 J	ND<1.00	5.03	ND<5.00
	4/10/2014	NS	NS	NS	NS	NS	NS	NS
	5/19/2014	ND<1.0	3.4	104	ND<1.0	ND<1.0	35.1	0.43
	7/24/2014	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	1.2	ND<0.31
	10/10/2014	ND<1.0	ND<1.0	2.3	ND<1.0	ND<1.0	1.8	ND<0.31
	3/27/2015	ND<1.0	ND<1.0	3.4	ND<1.0	ND<1.0	5.8	ND<0.31
	5/11/2015	ND<1.0	ND<1.0	2.1	ND<1.0	ND<1.0	1.7	ND<0.31

Table 2
CONSTITUENTS OF CONCERN

Orangetown Shopping Center
NYSDEC Site # C34406

Monitoring Well	Date	Tetrachloro-ethene (ug/l)	Trichloro-ethene (ug/l)	cis-1,2-Dichloro-ethene (ug/l)	trans-1,2-Dichloro-ethene (ug/l)	1,1-Dichloro-ethene (ug/l)	Vinyl Chloride (ug/l)	Ethene (ug/l)
NY TOGS 1.1.1 GWQS		5	5	5	5	5	2	NA
MW-4	8/17/2015	ND<1.0	ND<1.0	1	ND<1.0	ND<1.0	1.8	ND<0.31
(cont)	11/11/2015	ND<1.0	ND<1.0	4	ND<1.0	ND<1.0	ND<1.0	ND<0.31
	3/7/2016	ND<1.0	ND<1.0	13.6	ND<1.0	ND<1.0	2.1	ND<0.31
	6/23/2016	ND<1.0	ND<1.0	12.9	ND<1.0	ND<1.0	3.3	0.97
	9/7/2016	NS	NS	NS	NS	NS	NS	NS
	11/18/2016	ND<1.0	1.3	3.6	ND<1.0	ND<1.0	ND<1.0	NA
	3/3/2017	ND<1.0	ND<1.0	14.6	ND<1.0	ND<1.0	ND<1.0	ND<0.31
	6/22/2017	ND<1.0	1.9	20.6	ND<1.0	ND<1.0	1.0	0.21
	9/7/2017	ND<1.0	ND<1.0	19.1	ND<1.0	ND<1.0	2.4	0.40
	12/5/2017	NA	NA	NA	NA	NA	NA	NA
	3/26/2018	ND(<1.0)	ND(<1.0)	3.5	ND(<1.0)	ND(<1.0)	ND(<1.0)	ND(<0.31)
	6/7/2018	ND(<1.0)	1.1	8.1	ND(<1.0)	ND(<1.0)	ND(<1.0)	ND(<0.31)
MW-5	3/21/2012	ND<0.500	3.86	12,500	195	1.42	1,490	92.9
	6/28/2012	ND<0.500	7.93	9,000	55.7	1.32	1,100	NA
	8/13/2012	ND<1.00	28.4	7,410	145	1.02	928	76.6
	8/31/2012	NS	NS	NS	NS	NS	NS	NS
	10/1/2012	NS	NS	NS	NS	NS	NS	NS
	11/19/2012	ND<1.00	17.8	1,630	73.6	ND<1.00	489	192
	1/14/2013	NS	NS	NS	NS	NS	NS	NS
	2/28/2013	NS	NS	NS	NS	NS	NS	NS
	3/26/2013	2.17	8.19	389	3.40	1.29	30.9	7.12
	4/23/2013	NS	NS	NS	NS	NS	NS	NS
	6/25/2013	ND<2.50	16.6	972	17.0	ND<2.50	60.0	5.41
	12/11/2013	3.15 J	17.7	1,290	48.0	ND<10.0	302	NA
	1/15/2014	NS	NS	NS	NS	NS	NS	NS
	3/5/2014	3.49 J	3.45 J	142	3.15 J	ND<10.0	19.0	6.37
	4/10/2014	NS	NS	NS	NS	NS	NS	NS
	5/19/2014	2.4	9.2	598	3.8	ND<1.0	33.0	0.79
	7/24/2014	ND<5.0	8.7	575	ND<5.0	ND<5.0	39.6	3.00
	10/10/2014	ND<10	ND<10	1,690	ND<10	ND<10	108	1.3
	3/27/2015	2.8	4.8	247	1.4	ND<1.0	13	0.22
	5/11/2015	2.9	7.0	458	3.7	ND<1.0	40.9	ND<0.31
	8/17/2015	ND<5.0	9.6	783	ND<5.0	ND<5.0	41.3	0.32
	11/11/2015	ND<5.0	19.8	1,390	7.7	ND<5.0	45.7	ND<0.31
	3/7/2016	1.9	20.9	2,140	8.6	ND<1.0	62.7	ND<0.31
	6/23/2016	ND<10	25.5	1,910	13.7	ND<10	39.7	6
	9/7/2016	ND<10	26.6	1,200	14.6	ND<10	16.9	2.3
	11/18/2016	ND<5.0	27.9	1,600	6.4	ND<5.0	51.6	ND<0.31
	3/3/2017	1.2	13.4	666	4.3	ND<1.0	20.4	0.41
	6/22/2017	ND<1.0	9.3	504	5.2	ND<1.0	39.7	6.2
	9/7/2017	1.2	12.8	597	7.8	ND<1.0	37.0	7.0
	12/5/2017	ND < 5.0	11.1	608	ND < 5.0	ND < 5.0	23.4	2.2
	3/26/2018	ND(<5.0)	21.3	1,640	7.2	ND(<5.0)	81.5	3.5
	6/7/2018	ND(<5.0)	9.8	758	6.0	ND(<5.0)	136	47.6
MW-8A	3/21/2012	NS	NS	NS	NS	NS	NS	NS
	6/28/2012	1.20	46.2	786	8.66	ND<0.500	29.4	NA
	8/13/2012	NS	NS	NS	NS	NS	NS	NS
	8/31/2012	NS	NS	NS	NS	NS	NS	NS

Table 2
CONSTITUENTS OF CONCERN

Orangetown Shopping Center
NYSDEC Site # C34406

Monitoring Well	Date	Tetrachloro-ethene (ug/l)	Trichloro-ethene (ug/l)	cis-1,2-Dichloro-ethene (ug/l)	trans-1,2-Dichloro-ethene (ug/l)	1,1-Dichloro-ethene (ug/l)	Vinyl Chloride (ug/l)	Ethene (ug/l)
NY TOGS 1.1.1 GWQS		5	5	5	5	5	2	NA
MW-8A	10/1/2012	NS	NS	NS	NS	NS	NS	NS
(cont)	11/19/2012	NS	NS	NS	NS	NS	NS	NS
	1/14/2013	NS	NS	NS	NS	NS	NS	NS
	2/28/2013	NS	NS	NS	NS	NS	NS	NS
	3/26/2013	NS	NS	NS	NS	NS	NS	NS
	4/23/2013	NS	NS	NS	NS	NS	NS	NS
	6/25/2013	ND<0.250	14.8	358	4.17	ND<0.250	59.3	NA
	12/11/2013	ND<1.00	ND<1.00	7.70	0.300 J	ND<1.00	0.665 J	NA
	1/15/2014	NS	NS	NS	NS	NS	NS	NS
	3/5/2014	NS	NS	NS	NS	NS	NS	NS
	4/10/2014	NS	NS	NS	NS	NS	NS	NS
	5/19/2014	NS	NS	NS	NS	NS	NS	NS
	7/24/2014	NS	NS	NS	NS	NS	NS	NS
	10/10/2014	NS	NS	NS	NS	NS	NS	NS
	3/27/2015	ND<1.0	3.4	17.4	ND<1.0	ND<1.0	ND<1.0	NS
	3/27/2015	NS	NS	NS	NS	NS	NS	NS
	8/17/2015	NS	NS	NS	NS	NS	NS	NS
	11/11/2015	ND<1.0	ND<1.0	2.4	ND<1.0	ND<1.0	ND<1.0	NA
	3/7/2016	ND<1.0	ND<1.0	3.2	ND<1.0	ND<1.0	3.2	NA
	9/7/2016	ND<1.0	1.3	2.1	ND<1.0	ND<1.0	2.2	NA
	11/18/2016	ND<1.0	1.3	2.8	ND<1.0	ND<1.0	4.4	NA
	3/3/2017	ND<1.0	1.3	ND<1.0	ND<1.0	ND<1.0	4	NA
	6/22/2017	ND<1.0	7.4	26.9	ND<1.0	ND<1.0	1.6	ND<0.31
	3/26/2018	ND(<1.0)	1.9	1.9	ND(<1.0)	ND(<1.0)	ND(<1.0)	ND(<0.31)
MW-E	6/28/2012	NS	NS	NS	NS	NS	NS	NS
	8/13/2012	ND<1.00 U	ND<1.00 U	7.63	ND<1.00 U	ND<1.00 U	6.75	ND<5 U
	8/31/2012	NS	NS	NS	NS	NS	NS	NS
	10/1/2012	NS	NS	NS	NS	NS	NS	NS
	11/19/2012	NS	NS	NS	NS	NS	NS	NS
	1/14/2013	NS	NS	NS	NS	NS	NS	NS
	2/28/2013	NS	NS	NS	NS	NS	NS	NS
	3/26/2013	ND<0.250 U	0.275 J	2.36	ND<0.230 U	ND<0.250 U	1.51	ND<2.5 U
	4/23/2013	NS	NS	NS	NS	NS	NS	NS
	6/25/2013	ND<0.250 U	0.780 J	20.9	0.760 J	ND<0.250 U	8.86	ND<2.5 U
	12/11/2013	ND<1.00 U	0.371 J	2.94	0.256 J	ND<1.00 U	1.48	NA
	3/26/2018	ND(<1.0)	ND(<1.0)	4.5	ND(<1.0)	ND(<1.0)	ND(<1.0)	ND(<0.31)

Notes:

µg/L = Micrograms/liter
BDL = Below Detection Limit
DRY = No water for sampling
GWQS = Groundwater Quality Standards
NA = Not Available or not analyzed for that specific compound
ND = Not detected (# is method detection limit)
NS = Not sampled
TOGS = Technical and Operational Guidance Series 1.1.1
J = Estimated Value

Table 3
GENERAL GROUNDWATER CHEMISTRY

Orangetown Shopping Center
NYSDEC Site # C344066

Monitoring Well	Date	pH	Temperature (°C)	Specific Conductivity (uS/cm or umhos/cm)	Dissolved Oxygen (mg/L)	Oxygen Reduction Potential (mV)	Turbidity (NTUs)
MW-3	03/26/2018	6.30	10.42	1,987	1.07	-97.6	NA
MW-4	03/21/2012	7.31	15.25	1,400	1.09	147.0	6.2
	06/28/2012	6.69	19.46	764	3.61	47.9	28.1
	08/13/2012	6.59	17.75	1,621	6.21	9.1	152.1
	08/31/2012	6.07	17.45	1,450	1.08	-21.4	NA
	11/19/2012	6.32	11.63	1,126	1.59	70.6	85.28
	01/14/2013	6.36	14.62	1,486	1.75	-56.9	NA
	02/28/2013	6.51	13.92	2,014	1.45	-35.1	NA
	03/26/2013	5.90	14.32	2,212	2.16	-49.0	64.7
	04/23/2013	6.54	13.31	1,685	2.02	-24.1	NA
	06/25/2013	6.51	18.03	1,982	0.82	-70.1	55.5
	08/09/2013	6.18	17.27	1,872	1.43	-39.3	NA
	09/19/2013	6.22	14.79	2,101	0.55	-72.5	143.3
	01/15/2014	6.11	14.74	10,411	0.91	-26.4	NA
	03/05/2014	6.01	12.86	3,755	1.70	-52.2	22.4
	05/19/2014	6.28	18.76	1,300	13.01	-54.8	21.8
	06/18/2014	7.23	17.09	2,770	1.73	-29.6	NA
	07/24/2014	6.32	14.92	2,284	0.89	-155.1	9.47
	10/10/2014	6.64	19.02	2,345	1.50	-34.8	20.30
	01/26/2015	6.49	12.42	5,329	2.80	-118.7	NA
	03/27/2015	6.78	12.84	2,480	0.82	-213.0	NA
	05/11/2015	6.60	17.24	2,328	2.78	-142.2	NA
	08/17/2015	6.51	15.91	4,455	0.52	-121.9	NA
	11/11/2015	6.48	14.20	2,059	1.40	-71.1	NA
	03/07/2016	6.78	14.73	1,882	1.07	-13.5	NA
	06/23/2016	6.18	18.79	1,936	0.35	-38.5	NA
	09/07/2016	NA	NA	NA	NA	NA	NA
	11/18/2016	NA	NA	NA	NA	NA	NA
	03/03/2017	6.66	10.53	1,639	1.58	-70.2	NA
	06/22/2017	6.52	19.31	1,714	0.68	79.9	NA
	09/07/2017	6.46	16.09	1,743	0.62	71.2	NA
	12/05/2017	6.39	14.36	2,056	5.75	-48.5	NA
	03/26/2018	6.60	10.12	1,650	1.39	-69.9	NA
	06/07/2018	6.57	15.80	1,720	4.90	179.9	NA
MW-5	03/21/2012	7.37	16.16	3,900	3.06	-30.0	0.0
	06/28/2012	6.88	22.10	1,399	1.74	28.6	29.6
	08/13/2012	6.43	19.91	2,188	1.54	-17.6	88.0
	08/31/2012	6.25	20.12	1,580	2.22	-22.5	NA
	10/01/2012	6.19	17.02	2,433	1.36	3.8	NA
	11/19/2012	6.60	14.24	13,900	1.27	70.4	1025
	01/14/2013	6.38	15.36	8,535	0.95	-103.6	NA
	02/28/2013	6.67	14.21	5,230	2.06	-63.4	NA
	03/26/2013	6.91	13.16	6,468	1.02	-27.6	171.6
	04/23/2013	6.85	14.40	6,231	1.56	-71.2	NA
	06/25/2013	6.82	20.21	8,587	0.82	-87.2	77.7
	08/09/2013	6.75	17.51	7,434	1.88	-71.7	NA
	09/19/2013	6.56	16.06	7,413	0.94	-118.8	87.9
	10/14/2013	6.51	15.93	3,671	3.55	-66.8	104.3
	12/11/2013	6.59	11.53	8,003	5.48	-135.6	52.0
	01/15/2014	6.63	12.97	19,214	1.45	-123.4	NA
	03/05/2014	6.61	11.20	14,120	0.21	-73.3	203.7

Table 3
GENERAL GROUNDWATER CHEMISTRY

Orangetown Shopping Center
NYSDEC Site # C344066

Monitoring Well	Date	pH	Temperature (°C)	Specific Conductivity (uS/cm or umhos/cm)	Dissolved Oxygen (mg/L)	Oxygen Reduction Potential (mV)	Turbidity (NTUs)
MW-5	04/10/2014	6.54	15.05	10,980	1.59	-65.5	NA
(cont)	05/19/2014	6.76	16.82	10,036	0.96	-41.4	43.0
	06/18/2014	7.94	17.14	14,984	1.00	-90.4	NA
	07/24/2014	6.72	15.85	1,271	0.51	-113.5	35.3
	10/10/2014	6.82	17.40	1,477	0.50	-66.9	147.6
	01/26/2015	6.59	9.46	17,539	1.30	-133.8	NA
	03/27/2015	7.17	12.35	15,077	0.51	-211.1	NA
	05/11/2015	6.67	24.60	16,764	0.41	-156.9	NA
	08/17/2015	6.56	16.29	9,737	0.21	-118.1	NA
	11/11/2015	6.57	13.80	9,937	1.57	-101.0	NA
	03/07/2016	7.92	14.53	2,299	1.34	-70.5	NA
	06/23/2016	6.35	17.55	11,200	0.70	-62.1	NA
	09/07/2016	5.87	17.18	11,010	0.81	-78.9	NA
	11/18/2016	6.62	15.34	6,687	0.20	-11.5	NA
	03/03/2017	6.39	10.48	6,571	0.87	-63.8	NA
	06/22/2017	6.66	18.33	10,841	0.04	-110.6	NA
	09/07/2017	6.43	17.19	10,140	0.95	-75.7	NA
	12/05/2017	6.36	14.53	6,257	4.28	-83.8	NA
	03/26/2018	6.41	10.60	5,702	1.19	-61.1	NA
	06/07/2018	6.54	15.78	8.579	4.28	-22.6	NA
MW-8A	03/26/2018	6.41	10.56	2,980	1.10	-69.6	NA
MW-E	03/26/2018	NA	NA	NA	NA	NA	NA

Notes:

mg/L	= Milligrams per Liter
uS/cm	= Micro-Siemens per centimeter
umhos/cm	= Micro-mhos/centimeter
mV	= Millivolts
Spec.Cond.	= Specific conductance
°C	= Degrees Celsius
pH	= Potential of Hydrogen

Table 4
GENERAL CHEMISTRY ANALYTICAL RESULTS

Orangetown Shopping Center/Sparkle Cleaners
NYSDEC Site # C344066

Monitoring Well	Date	Iron, Ferric (mg/l)	Iron, Ferrous (mg/l)	Iron, Total (mg/l)	Nitrate Nitrogen (mg/l)	Sulfate (mg/l)	Total Organic Carbon (mg/l)	Ethene (mg/l)
NY TOGS 1.1.1 GWQS		NA	NA	NA	NA	NA	NA	NA
MW-3	3/26/2018	6.5	0.21	6.71	0.14	13.3	5.8	ND(<0.31)
MW-4	3/21/2012	0.0560	ND<50.0 J	0.0560	0.993	24.9	1.16	ND<0.00250
	6/28/2012	NA	NA	NA	NA	NA	4.13 B	NA
	8/13/2012	NA	7.01	6.97	NA	28.9	NA	ND<0.005
	8/31/2012	NA	NA	NA	NA	NA	5.87	NA
	10/1/2012	NS	NS	NS	NS	NS	NS	NS
	11/19/2012	NA	NA	NA	NA	NA	NA	ND<0.005
	1/14/2013	NA	NA	NA	NA	NA	10.9	NA
	2/28/2013	NA	NA	NA	NA	NA	3.8	NA
	3/26/2013	0.300	10.6	10.3	NA	12.2	399 B	0.0083
	4/23/2013	NA	NA	NA	NA	NA	149	NA
	6/25/2013	1.70	12.1	13.8	NA	ND<0.6	103	0.00609
	12/11/2013	NS	NS	NS	NS	NS	NS	NS
	1/15/2014	NA	NA	NA	NA	NA	101	NA
	3/5/2014	ND<0.100	NA	4.03 B	NA	27.4	5.31	ND<0.00500
	4/10/2014	NA	NA	NA	NA	NA	18.1	NA
	5/19/2014	4.1	ND<0.20	4.23	ND<0.11	10.6	23.7	0.00043
	6/18/2014	NA	NA	NA	NA	NA	287	NA
	7/24/2014	3.4	2.41	5.81	ND<0.10	ND<10	49.5	ND<0.00031
	10/10/2014	NA	NA	NA	ND<0.10	ND<10	67.4	ND<0.00031
	1/26/2015	NA	NA	NA	NA	NA	14.9	NA
	3/27/2015	3.3	0.50	3.83	ND<0.10	ND<10	13.3	ND<0.00031
	5/11/2015	3.4	ND<0.20	3.60	0.23	20.9	12.0	ND<0.00031
	8/17/2015	NA	1.8	NA	ND<0.11	12	10.9	ND<0.00031
	11/11/2015	NA	NA	NA	NA	NA	NA	ND<0.00031
	3/7/2016	2.2	ND<0.20	2.2	ND<0.11	32.6	5.0	ND<0.00031
	6/23/2016	15.9	1.1	17	ND<0.11	33.4	5.4	0.00097
	9/7/2016	NA	NA	NA	NA	NA	NA	NA
	11/18/2016	NA	NA	NA	NA	NA	NA	NA
	3/3/2017	2.4	ND<0.20	2.4	0.13	43.7	3.1	ND<0.00031
	6/22/2017	4.6	ND<0.20	4.620	0.62	29.5	2.4	0.21
	9/7/2017	NA	NA	NA	NA	NA	3.5	0.40
	12/5/2017	NA	NA	NA	NA	NA	NA	NA
	3/26/2018	6.7	ND(<0.20)	6.710	ND(<0.010)	32.1	3.6	ND(<0.00031)
	6/7/2018	NA	NA	NA	NA	NA	3.0	ND(<0.00031)
MW-5	3/21/2012	2.27	0.253 J	2.52	ND<0.0500	7.65	3.92	0.0929
	6/28/2012	NA	NA	NA	NA	NA	3.5 B	NA
	8/13/2012	NA	3.37	4.1	NA	10.1	NA	0.0766
	8/31/2012	NA	NA	NA	NA	NA	39.5	NA
	10/1/2012	NA	NA	NA	NA	NA	66.1	NA
	11/19/2012	0.430	6.74	7.17	NA	26.5	377	0.192
	1/14/2013	NA	NA	NA	NA	NA	105	NA
	2/28/2013	NA	NA	NA	NA	NA	86.6	NA
	3/26/2013	4.10	12.5	16.6	NA	15.9	104 B	0.00712
	4/23/2013	NA	NA	NA	NA	NA	129 B	NA
	6/25/2013	0.900	9.03	8.13	NA	1.47	165	0.00541
	12/11/2013	ND<0.100	NA	3.75	NA	12.8	213	NA
	1/15/2014	NA	NA	NA	NA	NA	480	NA

Table 4
GENERAL CHEMISTRY ANALYTICAL RESULTS

Orangetown Shopping Center/Sparkle Cleaners
NYSDEC Site # C344066

Monitoring Well	Date	Iron, Ferric (mg/l)	Iron, Ferrous (mg/l)	Iron, Total (mg/l)	Nitrate Nitrogen (mg/l)	Sulfate (mg/l)	Total Organic Carbon (mg/l)	Ethene (mg/l)
NY TOGS 1.1.1 GWQS		NA	NA	NA	NA	NA	NA	NA
MW-5	3/5/2014	5.80	NA	16.5 B	NA	1.69	NA	0.00637
(cont)	4/10/2014	NA	NA	NA	NA	NA	121	NA
	5/19/2014	13.6	4.4	18	ND<0.15	14.0	319	0.00079
	6/18/2014	NA	NA	NA	NA	NA	293	NA
	7/24/2014	13.7	2	15.70	ND<0.10	ND<10	184	ND<0.00030
	10/10/2014	NA	NA	NA	ND<0.10	12.0	NA	0.0013
	10/30/2014	NA	NA	NA	NA	NA	140	0.0013
	1/26/2015	NA	NA	NA	NA	NA	295	NA
	3/27/2015	31.0	1.9	32.9	ND<0.10	94.6	250	0.00022
	5/11/2015	NS	5.8	NS	ND<0.11	ND<200	251	ND<0.00031
	8/17/2015	8.3	3.5	11.8	ND<0.11	ND<10	125	0.83
	11/11/2015	8.9	0.9	9.8	0.02	ND<10	113	ND<0.00031
	3/7/2016	61.1	18	79.1	ND<0.11	ND<10	234	ND<0.00031
	6/23/2016	14.6	3.9	18.5	ND<0.11	23.7	173	0.0006
	9/7/2016	4.3	9.8	14.1	0.23	ND<10	87.4	0.0023
	11/18/2016	3.3	3.1	6.41	ND<0.11	ND<10	125.0	ND<0.00031
	3/3/2017	11.6	19	30.6	ND<0.010	ND<10	44.4	0.00041
	6/22/2017	19.0	13.5	32,500	ND<0.11	5.8	87.8	6.2
	9/7/2017	NA	NA	NA	NA	NA	157.0	7.0
	12/5/2017	NA	NA	NA	NA	NA	121	2.2
	3/26/2018	7.6	5.1	12.7	0.011	6.6	96.6	3.5
	6/7/2018	NA	NA	NA	NA	NA	63.3	47.6
MW-8	3/26/2018	26.2	ND(<0.20)	26.2	0.38	19.0	4.9	ND(<0.31)
MW-E	3/26/2018	1,030	0.64	1030.64	2.7	45.9	9.4	ND(<0.31)

Notes:

mg/L = Milligrams per liter (parts per million)
NA = Not available/not analyzed for that specific compound
ND = Not detected (# is method detection limit)
J* = Holding time for this test is immediate
HF = Field parameter with holding time of 15 minutes
B1 = Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
B = Analyte was detected in associated method blank
NYSDEC = New York State Department of Conservation
TOGS = Technical and Operational Guidance Series 1.1.1
GWQS = Groundwater Quality Standards or Guidance Values

Table 5
SVI STUDY ANALYTICAL RESULTS SUMMARY

UB Orangeburg
1-45 Orangetown Shopping Center
Orangeburg, New York

Client Sample ID:	OUTSIDE	SSD-MP-2	SSD-MP-2	VP-1	VP-1	VP-6	VP-6	VP-5	VP-5	VP-9	VP-9	SSD-MP-5	SSD-MP-5	REGULATORY GUIDANCE		
Lab Sample ID:	JC56815-1	JC56815-2	JC56815-3	JC56815-4	JC56815-5	JC56815-6	JC56815-7	JC56815-8	JC56815-9	JC56815-10	JC56815-11	JC56815-12	JC56815-13	NYSDOH 2003 Soil Vapor Indoor 95th Percentile (1)	NYSDOH 2003 Soil Vapor Intrusion Air Guidance Value (2)	EPA 2001 BASE 90th Percentile (3)
Date Sampled:	12/5/2017	12/5/2017	12/5/2017	12/5/2017	12/5/2017	12/5/2017	12/5/2017	12/5/2017	12/5/2017	12/5/2017	12/5/2017	12/5/2017	12/5/2017			
Matrix:	Ambient Air Comp.	Soil Vapor Comp.	Ambient Air Comp.	Soil Vapor Comp.	Ambient Air Comp.	Soil Vapor Comp.	Ambient Air Comp.	Soil Vapor Comp.	Ambient Air Comp.	Soil Vapor Comp.	Ambient Air Comp.	Soil Vapor Comp.	Ambient Air Comp.			
Acetone	5.2	50.1	153	99.3	171	62.9	73.9	61.5	74.4	191	637	242	829	140	NS	98.9
1,3-Butadiene	ND (0.22)	ND (0.44)	ND (0.38)	ND (0.44)	ND (0.38)	ND (0.44)	ND (0.22)	ND (0.44)	ND (0.22)	ND (0.44)	ND (0.22)	ND (0.44)	ND (0.22)	NS	NS	<3.0
Benzene	0.77	1	1.5	1.4	1.4	0.96	0.73	0.99	0.86	1.2	1.3	1.4	1.1	29	NS	9.4
Bromodichloromethane	ND (0.33)	ND (0.67)	ND (0.56)	ND (0.67)	ND (0.57)	ND (0.67)	ND (0.33)	ND (0.67)	ND (0.33)	ND (0.67)	0.45	ND (0.67)	ND (0.33)	NS	NS	NS
Bromoform	ND (0.21)	ND (0.41)	ND (0.34)	ND (0.41)	ND (0.35)	ND (0.41)	ND (0.21)	ND (0.41)	ND (0.21)	ND (0.41)	ND (0.21)	ND (0.41)	ND (0.21)	NS	NS	NS
Bromomethane	ND (0.39)	ND (0.78)	ND (0.66)	ND (0.78)	ND (0.66)	ND (0.78)	ND (0.39)	ND (0.78)	ND (0.39)	ND (0.78)	ND (0.39)	ND (0.78)	ND (0.39)	0.9	NS	<1.7
Bromoethene	ND (0.44)	ND (0.87)	ND (0.74)	ND (0.87)	ND (0.74)	ND (0.87)	ND (0.44)	ND (0.87)	ND (0.44)	ND (0.87)	ND (0.44)	ND (0.87)	ND (0.44)	NS	NS	NS
Benzyl Chloride	ND (0.52)	ND (1.0)	ND (0.88)	ND (1.0)	ND (0.88)	ND (1.0)	ND (0.52)	ND (1.0)	ND (0.52)	ND (1.0)	ND (0.52)	ND (1.0)	ND (0.52)	NS	NS	<6.8
Carbon disulfide	ND (0.31)	ND (0.62)	ND (0.53)	ND (0.62)	ND (0.53)	ND (0.62)	ND (0.31)	ND (0.62)	ND (0.31)	3	0.72	ND (0.62)	ND (0.31)	NS	NS	4.2
Chlorobenzene	ND (0.46)	ND (0.92)	ND (0.78)	ND (0.92)	ND (0.78)	ND (0.92)	ND (0.46)	ND (0.92)	ND (0.46)	ND (0.92)	ND (0.46)	ND (0.92)	ND (0.46)	<0.25	NS	<0.9
Chloroethane	ND (0.26)	ND (0.53)	ND (0.45)	ND (0.53)	ND (0.45)	ND (0.53)	ND (0.26)	ND (0.53)	ND (0.26)	ND (0.53)	ND (0.26)	ND (0.53)	ND (0.26)	0.6	NS	<1.1
Chloroform	ND (0.49)	1.4	ND (0.83)	ND (0.98)	1.2	2.2	ND (0.49)	ND (0.98)	ND (0.49)	1.9	2	ND (0.98)	ND (0.49)	4.6	NS	1.1
Chloromethane	0.7	1.9	1.5	2.3	1.4	0.52	0.85	0.43	0.83	ND (0.41)	1.3	0.58	1	5.2	NS	3.7
3-Chloropropene	ND (0.31)	ND (0.63)	ND (0.53)	ND (0.63)	ND (0.53)	ND (0.63)	ND (0.31)	ND (0.63)	ND (0.31)	ND (0.63)	ND (0.31)	ND (0.63)	ND (0.31)	NS	NS	NS
2-Chlorotoluene	ND (0.52)	ND (1.0)	ND (0.88)	ND (1.0)	ND (0.88)	ND (1.0)	ND (0.52)	ND (1.0)	ND (0.52)	ND (1.0)	ND (0.52)	ND (1.0)	ND (0.52)	NS	NS	NS
Carbon tetrachloride	0.29	0.63	0.63	0.47	0.42	ND (0.25)	0.32	0.48	0.31	0.51	0.48	0.55	0.32	1.1	NS	<1.3
Cyclohexane	ND (0.34)	ND (0.69)	ND (0.59)	ND (0.69)	ND (0.59)	ND (0.69)	ND (0.34)	ND (0.69)	ND (0.34)	ND (0.69)	ND (0.34)	ND (0.69)	ND (0.34)	19	NS	NS
1,1-Dichloroethane	ND (0.40)	ND (0.81)	ND (0.69)	ND (0.81)	ND (0.69)	ND (0.81)	ND (0.40)	ND (0.81)	ND (0.40)	ND (0.81)	ND (0.40)	ND (0.81)	ND (0.40)	<0.25	NS	<0.7
1,1-Dichloroethylene	ND (0.080)	ND (0.16)	ND (0.13)	ND (0.16)	ND (0.13)	ND (0.16)	ND (0.080)	ND (0.16)	ND (0.080)	ND (0.16)	ND (0.080)	ND (0.16)	ND (0.080)	<0.25	NS	<1.4
1,2-Dibromoethane	ND (0.38)	ND (0.77)	ND (0.64)	ND (0.77)	ND (0.65)	ND (0.77)	ND (0.38)	ND (0.77)	ND (0.38)	ND (0.77)	ND (0.38)	ND (0.77)	ND (0.38)	<0.25	NS	<1.5
1,2-Dichloroethane	ND (0.40)	ND (0.81)	ND (0.69)	ND (0.81)	ND (0.69)	ND (0.81)	ND (0.40)	ND (0.81)	ND (0.40)	ND (0.81)	ND (0.40)	ND (0.81)	ND (0.40)	<0.25	NS	<0.9
1,2-Dichloropropane	ND (0.46)	ND (0.92)	ND (0.79)	ND (0.92)	ND (0.79)	ND (0.92)	ND (0.46)	ND (0.92)	ND (0.46)	ND (0.92)	ND (0.46)	ND (0.92)	ND (0.46)	<0.25	NS	<1.6
1,4-Dioxane	ND (0.36)	ND (0.72)	ND (0.61)	ND (0.72)	ND (0.61)	ND (0.72)	ND (0.36)	ND (0.72)	ND (0.36)	ND (0.72)	ND (0.36)	ND (0.72)	ND (0.36)	NS	NS	NS
Dichlorodifluoromethane	1.3	3	3	1.3	2.3	2.4	1.5	2.4	1.5	2.4	2	2.5	1.5	26	NS	16.5
Dibromochloromethane	ND (0.43)	ND (0.85)	ND (0.71)	ND (0.85)	ND (0.72)	ND (0.85)	ND (0.43)	ND (0.85)	ND (0.43)	ND (0.85)	ND (0.43)	ND (0.85)	ND (0.43)	NS	NS	NS
trans-1,2-Dichloroethylene	ND (0.40)	ND (0.79)	ND (0.67)	ND (0.79)	ND (0.67)	ND (0.79)	ND (0.40)	ND (0.79)	ND (0.40)	ND (0.79)	ND (0.40)	ND (0.79)	ND (0.40)	NS	NS	NS
cis-1,2-Dichloroethylene	ND (0.080)	ND (0.16)	ND (0.13)	ND (0.16)	ND (0.13)	4.4	ND (0.080)	3.5	ND (0.080)	ND (0.16)	ND (0.080)	ND (0.16)	ND (0.080)	1.2	NS	<1.9
cis-1,3-Dichloropropene	ND (0.45)	ND (0.91)	ND (0.77)	ND (0.91)	ND (0.77)	ND (0.91)	ND (0.45)	ND (0.91)	ND (0.45)	ND (0.91)	ND (0.45)	ND (0.91)	ND (0.45)	<0.25	NS	<2.3
m-Dichlorobenzene	ND (0.30)	ND (0.60)	ND (0.50)	ND (0.60)	ND (0.51)	ND (0.60)	ND (0.30)	ND (0.60)	ND (0.30)	ND (0.60)	ND (0.30)	ND (0.60)	ND (0.30)	1	NS	<2.4
o-Dichlorobenzene	ND (0.12)	ND (0.24)	ND (0.20)	ND (0.24)	ND (0.20)	ND (0.24)	ND (0.12)	ND (0.24)	ND (0.12)	ND (0.24)	ND (0.12)	ND (0.24)	ND (0.12)	0.9	NS	<1.2
p-Dichlorobenzene	ND (0.30)	ND (0.60)	ND (0.50)	ND (0.60)	ND (0.51)	ND (0.60)	ND (0.30)	ND (0.60)	ND (0.30)	ND (0.60)	ND (0.30)	ND (0.60)	ND (0.30)	2.6	NS	5.5
trans-1,3-Dichloropropene	ND (0.45)	ND (0.91)	ND (0.77)	ND (0.91)	ND (0.77)	ND (0.91)	ND (0.45)	ND (0.91)	ND (0.45)	ND (0.91)	ND (0.45)	ND (0.91)	ND (0.45)	<0.25	NS	<1.3
Ethanol	7.9	95.5 E	529 E	115	652 E	125 E	57.8	149 E	63.5	186	232	202	281	NS	NS	210
Ethylbenzene	ND (0.43)	ND (0.87)	ND (0.74)	ND (0.87)	ND (0.74)	ND (0.87)	ND (0.43)	ND (0.87)	ND (0.43)	ND (0.87)	ND (0.43)	ND (0.87)	ND (0.43)	13.0	NS	5.7
Ethyl Acetate	4.7	2.3	5	4	10	ND (0.72)	4.3	5.8	3.4	16	32	23	31	NS	NS	5.4
4-Ethyltoluene	ND (0.49)	ND (0.98)	ND (0.84)	ND (0.98)	ND (0.84)	ND (0.98)	ND (0.49)	ND (0.98)	ND (0.49)	ND (0.98)	ND (0.49)	ND (0.98)	ND (0.49)	NS	NS	NS
Freon 113	ND (0.38)	ND (0.77)	0.67	ND (0.77)	ND (0.65)	ND (0.77)	ND (0.38)	ND (0.77)	ND (0.38)	ND (0.77)	0.54	ND (0.77)	ND (0.38)	NS	NS	3.5
Freon 114	ND (0.35)	ND (0.70)	ND (0.58)	ND (0.70)	ND (0.59)	ND (0.70)	ND (0.35)	ND (0.70)	ND (0.35)	ND (0.70)	ND (0.35)	ND (0.70)	ND (0.35)	NS	NS	NS
Heptane	ND (0.41)	ND (0.82)	ND (0.70)	ND (0.82)	ND (0.70)	ND (0.82)	ND (0.41)	ND (0.82)	ND (0.41)	1.1	0.78	1.3	0.74	NS	NS	NS
Hexachlorobutadiene	ND (0.48)	ND (0.96)	ND (0.79)	ND (0.96)	ND (0.82)	ND (0.96)	ND (0.48)	ND (0.96)	ND (0.48)	ND (0.96)	ND (0.48)	ND (0.96)	ND (0.48)	11.0	NS	<6.8
Hexane	2.3	3.2	2.3	0.81	1.1	ND (0.70)	0.49	ND (0.70)	0.67	ND (0.70)	1.5	0.95	0.49	NS	NS	NS
2-Hexanone	ND (0.41)	ND (0.82)	ND (0.70)	ND (0.82)	ND (0.70)	ND (0.82)	ND (0.41)	ND (0.82)	ND (0.41)	ND (0.82)	ND (0.41)	ND (0.82)	ND (0.41)	NS	NS	NS
Isopropyl Alcohol	0.88	2.9	8.8	3.9	16	5.2	4.4	6.1	4.4	12	47.9	14	59.5	NS	NS	250
Methylene chloride	3.4	19	5.6	ND (0.69)	0.87	ND (0.69)	0.59	ND (0.69)	0.56	ND (0.69)	3.5	0.69	0.56	45.0	60	10
Methyl ethyl ketone	0.65	18	1.6	29.8	2.8	3.2	1.3	2.7	0.86	4.4	1.9	4.7	2.4	39.0	NS	NS

Table 5
SVI STUDY ANALYTICAL RESULTS SUMMARY

UB Orangeburg
1-45 Orangetown Shopping Center
Orangeburg, New York

Client Sample ID:	OUTSIDE	SSD-MP-2	SSD-MP-2	VP-1	VP-1	VP-6	VP-6	VP-5	VP-5	VP-9	VP-9	SSD-MP-5	SSD-MP-5	REGULATORY GUIDANCE		
Lab Sample ID:	JC56815-1	JC56815-2	JC56815-3	JC56815-4	JC56815-5	JC56815-6	JC56815-7	JC56815-8	JC56815-9	JC56815-10	JC56815-11	JC56815-12	JC56815-13	NYSDOH 2003 Soil Vapor Indoor 95th Percentile (1)	NYSDOH 2003 Soil Vapor Intrusion Air Guidance Value (2)	EPA 2001 BASE 90th Percentile (3)
Date Sampled:	12/5/2017	12/5/2017	12/5/2017	12/5/2017	12/5/2017	12/5/2017	12/5/2017	12/5/2017	12/5/2017	12/5/2017	12/5/2017	12/5/2017	12/5/2017			
Matrix:	Ambient Air Comp.	Soil Vapor Comp.	Ambient Air Comp.	Soil Vapor Comp.	Ambient Air Comp.	Soil Vapor Comp.	Ambient Air Comp.	Soil Vapor Comp.	Ambient Air Comp.	Soil Vapor Comp.	Ambient Air Comp.	Soil Vapor Comp.	Ambient Air Comp.			
Methyl Isobutyl Ketone	ND (0.41)	ND (0.82)	ND (0.70)	0.86	ND (0.70)	ND (0.82)	ND (0.41)	ND (0.82)	ND (0.41)	ND (0.82)	ND (0.41)	ND (0.82)	ND (0.41)	5.3	NS	NS
Methyl Tert Butyl Ether	ND (0.36)	ND (0.72)	ND (0.61)	ND (0.72)	ND (0.61)	ND (0.72)	ND (0.36)	ND (0.72)	ND (0.36)	ND (0.72)	ND (0.36)	ND (0.72)	ND (0.36)	71.0	NS	11.5
Methylmethacrylate	ND (0.41)	ND (0.82)	ND (0.70)	ND (0.82)	ND (0.70)	ND (0.82)	ND (0.41)	ND (0.82)	ND (0.41)	ND (0.82)	ND (0.41)	ND (0.82)	ND (0.41)	1.1	NS	NS
Propylene	0.88	ND (0.86)	2.4	1.6	2.1	ND (0.86)	0.84	ND (0.86)	0.86	ND (0.86)	1.6	1.1	1.1	NS	NS	NS
Styrene	ND (0.43)	ND (0.85)	ND (0.72)	ND (0.85)	ND (0.72)	ND (0.85)	ND (0.43)	ND (0.85)	ND (0.43)	ND (0.85)	ND (0.43)	ND (0.85)	ND (0.43)	2.3	NS	1.9
1,1,1-Trichloroethane	ND (0.27)	ND (0.55)	ND (0.45)	0.71	ND (0.46)	ND (0.55)	ND (0.27)	ND (0.55)	ND (0.27)	ND (0.55)	ND (0.27)	ND (0.55)	ND (0.27)	6.9	NS	20.6
1,1,2,2-Tetrachloroethane	ND (0.34)	ND (0.69)	ND (0.57)	ND (0.69)	ND (0.58)	ND (0.69)	ND (0.34)	ND (0.69)	ND (0.34)	ND (0.69)	ND (0.34)	ND (0.69)	ND (0.34)	<0.25	NS	NS
1,1,2-Trichloroethane	ND (0.27)	ND (0.55)	ND (0.45)	ND (0.55)	ND (0.46)	ND (0.55)	ND (0.27)	ND (0.55)	ND (0.27)	ND (0.55)	ND (0.27)	ND (0.55)	ND (0.27)	<0.25	NS	<1.5
1,2,4-Trichlorobenzene	ND (0.37)	ND (0.74)	ND (0.62)	ND (0.74)	ND (0.63)	ND (0.74)	ND (0.37)	ND (0.74)	ND (0.37)	ND (0.74)	ND (0.37)	ND (0.74)	ND (0.37)	6.3	NS	<6.8
1,2,4-Trimethylbenzene	ND (0.49)	3.6	0.84	3.9	ND (0.84)	ND (0.98)	0.54	ND (0.98)	ND (0.49)	3.9	0.98	1.8	1.1	18	NS	9.5
1,3,5-Trimethylbenzene	ND (0.49)	1.1	ND (0.84)	1.1	ND (0.84)	ND (0.98)	ND (0.49)	ND (0.98)	ND (0.49)	1.2	ND (0.49)	ND (0.98)	ND (0.49)	6.5	NS	NS
2,2,4-Trimethylpentane	ND (0.47)	ND (0.93)	ND (0.79)	ND (0.93)	ND (0.79)	ND (0.93)	ND (0.47)	ND (0.93)	ND (0.47)	ND (0.93)	0.51	ND (0.93)	ND (0.47)	NS	NS	NS
Tertiary Butyl Alcohol	ND (0.30)	ND (0.61)	ND (0.52)	1.3	0.55	ND (0.61)	ND (0.30)	ND (0.61)	ND (0.30)	0.91	0.49	ND (0.61)	0.39	NS	NS	NS
Tetrachloroethylene	0.33	0.39	0.62	4.9	1.1	46	0.43	24	0.5	6.6	3.7	4.7	0.88	4.1	30	15.9
Tetrahydrofuran	ND (0.29)	10	ND (0.50)	22	ND (0.50)	ND (0.59)	ND (0.29)	ND (0.59)	ND (0.29)	1.3	ND (0.29)	1.2	ND (0.29)	9.4	NS	NS
Toluene	1.5	2.1	3.6	3.4	2.5	2.6	1.8	2.6	1.7	6.8	7.2	8.3	7.5	110	NS	43
Trichloroethylene	ND (0.11)	ND (0.21)	ND (0.18)	1.2	0.26	3.5	ND (0.11)	2.5	ND (0.11)	0.75	0.16	ND (0.21)	ND (0.11)	0.8	2	4.2
Trichlorofluoromethane	0.79	2.1	2.1	1.2	1.3	1.3	0.9	1.3	0.9	1.3	1.5	1.5	0.9	30	NS	18.1
Vinyl chloride	ND (0.051)	ND (0.10)	ND (0.084)	ND (0.10)	ND (0.087)	ND (0.10)	ND (0.051)	ND (0.10)	ND (0.051)	0.66	ND (0.051)	ND (0.10)	ND (0.051)	<0.25	NS	<1.9
Vinyl Acetate	ND (0.35)	ND (0.70)	ND (0.60)	ND (0.70)	ND (0.60)	ND (0.70)	ND (0.35)	ND (0.70)	ND (0.35)	ND (0.70)	ND (0.35)	ND (0.70)	ND (0.35)	NS	NS	NS
m,p-Xylene	0.83	1.5	1.8	1.7	ND (0.74)	1.1	0.83	1	0.87	1.7	1.3	1.7	1.1	21.0	NS	22.2
o-Xylene	ND (0.43)	ND (0.87)	ND (0.74)	ND (0.87)	ND (0.74)	ND (0.87)	ND (0.43)	ND (0.87)	ND (0.43)	ND (0.87)	0.56	ND (0.87)	0.43	13.0	NS	7.9
Xylenes (total)	0.83	1.5	1.8	1.7	ND (0.74)	1.1	0.83	1	0.87	1.7	1.9	1.7	1.5	NS	NS	NS

Results and Standards expressed in micrograms per cubic meter (µg/m3)
NS = No Standard
ND = Not detected above laboratory reporting limits
E = The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
B = Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants. Data users should consider anything <10x the blank value as artifact.
(1) 95th percentile indoor air values from "Table C1. NYSDOH 2003: Study of Volatile Organic Chemicals in Air of Fuel Oil Heated Homes', published in the NYSDOH Soil Vapor Intrusion Guidance Document, Appendix C" (October 2006)
(2) NYSDOH Air Guidance Values (AGVs) presented in the Final Guidance for evaluating Soil Vapor Intrusion in the State of New York, dated October 2006 ("NYSDOH Vapor Intrusion Guidance Document"); however, Tetrachloroethene (PCE) guidance was revised to 30 ug/m3 in September of 2013 and the trichloroethylene (TCE) Air Guideline Value was reduced to 2 ug/m3 in August of 2015
(3) 90th percentile indoor air values from "Table C-2. EPA 2001: Building Assessment and Survey Evaluation (BASE) Database, SUMMA canister method" published in the NYSDOH Soil Vapor Intrusion Guidance Document, Appendix C" (October 2006)

Table 6
SVI STUDY CONSTITUENTS OF CONCERN COMPARISON SUMMARY

UB Orangeburg
1-45 Orangetown Shopping Center
Orangeburg, New York

Samples			Chemical Compound								Action Required		
Sample Date	Sample Location	Sample Type	TCE	c12-DCE	11 - DCE	Carbon Tetrachloride	PCE	1,1,1-TCA	Methylene Chrloride	Vinyl Chloride	Matrix A (TCE, c12-DCE, 11-DCE, Carbon Tetrachloride)	Matrix B (PCE, 111-TCA, Methylene Chloride)	Matrix C (Vinyl Chloride)
12/5/2017	Deli VP-1	Ambient	0.26	ND<0.13	ND<0.13	0.42	1.1	ND<0.46	0.87	ND<0.087	No further action	No further action	No further action
		Sub-slab	1.2	ND<0.16	ND<0.16	0.47	4.9	0.71	ND<0.69	ND<0.10			
12/5/2017	Deli SSD-MP-2	Ambient	ND<0.18	ND<0.13	ND<0.13	0.63	0.62	ND<0.45	5.6	ND<0.084	No further action	No further action	No further action
		Sub-slab	ND<0.21	ND<0.16	ND<0.16	0.63	0.39	ND<0.55	19	ND<0.10			
12/5/2017	China SSD-MP-5	Ambient	ND<0.11	ND<0.080	ND<0.080	0.32	0.88	ND<0.27	0.56	ND<0.051	No further action	No further action	No further action
		Sub-slab	ND<0.21	ND<0.16	ND<0.16	0.55	4.7	ND<0.55	0.69	ND<0.10			
12/5/2017	China VP-9	Ambient	0.16	ND<0.080	ND<0.080	0.48	3.7	ND<0.27	3.5	ND<0.051	No further action	No further action	No further action
		Sub-slab	0.75	ND<0.16	ND<0.16	0.51	6.6	ND<0.55	ND<0.69	0.66			
12/5/2017	Sparkle VP-6	Ambient	ND<0.11	ND<0.080	ND<0.080	0.32	0.43	ND<0.27	0.59	ND<0.051	No further action	No further action	No further action
		Sub-slab	3.5	4.4	ND<0.16	ND<0.25	46	ND<0.55	ND<0.69	ND<0.10			
12/5/2017	Sparkle VP-5	Ambient	ND<0.11	ND<0.080	ND<0.080	0.31	0.50	ND<0.27	0.56	ND<0.051	No further action	No further action	No further action
		Sub-slab	2.5	3.5	ND<0.16	0.48	24	ND<0.55	ND<0.69	ND<0.10			

Note:
Results and Standards expressed in micrograms per cubic meter (µg/m3)
ND = Not detected above laboratory detection limits
Constituents of concern were determind by the NYSDOH Guidance for Evalutating Soil Vapor Intrusion in the State of New York, dated May 2017