211 Franklin Street

Cattaraugus COUNTY

City of Olean, NEW YORK

SITE MANAGEMENT PLAN

NYSDEC Site Number: C905038

Prepared for:

Silence Dogood, LLC

211 Franklin Street

Olean, New York

Prepared by:

Day Environmental, Inc.

1563 Lyell Avenue

Rochester, New York 14606

(585) 454-0210

Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date
1	2/16/2017	Reduction in scope and frequency to post-remediation monitoring program	3/21/2017*
2	4/6/2020	Cessation of post-remediation media monitoring and sampling (i.e., indoor air and groundwater) described in Section 4.4	3/31/2020*
		*Approval letters are included in this SMP Document, following this table	

OCTOBER 2015

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Region 9
270 Michigan Avenue, Buffalo, NY 14203-2915
P: (716) 851-7220 | F: (716) 851-7226
www.dec.ny.gov

March 21, 2017

Silence Dogood LLC
Jeffrey Belt
211 Franklin Street
Olean, NY 14760

Dear Mr. Belt (as the Certifying Party):

Site Management (SM) Periodic Review Report
(PRR) Response Letter
211 Franklin Street, Olean
Cattaraugus County, Site No.: C905038

The Department has reviewed your Periodic Review Report (PRR) and IC/EC Certification for following period: November 12, 2015 to February 10, 2017.

The Department hereby accepts the PRR and associated Certification. The frequency of Periodic Reviews for this site is 1 year, and your next PRR is due on March 12, 2018. You will receive a reminder letter and updated certification form 75-days prior to the due date. Regardless of receipt or not, of the reminder notice, the next PRR including the signed certification form, is still due on the date specified above.

In addition, the Department has reviewed your Consultant's (Day Environmental, Inc.'s) recommended modifications to Site Management, as detailed in the PRR and in correspondence dated February 16, 2017. The Department accepts the proposed modifications to the Site Management Plan (SMP) and monitoring schedule. Please retain these revisions with your Site documents for future reference.

If you have any questions or comments, please contact me at 716-851-7220 or e-mail: david.szymanski@dec.ny.gov.

Sincerely,

David Szymanski
Environmental Program Specialist – 1

DS/tm

ec: Chad Staniszewski - NYSDEC
Anthony Lopes - NYSDEC
Raymond L. Kampff - Day Environmental, Inc.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Region 9
270 Michigan Avenue, Buffalo, NY 14203
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March 31, 2020

Silence Dogood LLC
Jeffery Belt
President
211 Franklin Street
Olean, NY 14760

Re: Site Management (SM) Periodic Review Report (PRR) Addendum Response Letter
211 Franklin Street, Olean
Cattaraugus County, Site No.: **C905038**

Dear Mr. Belt (as the Certifying Party):

The NYSDEC and NYSDOH have reviewed your March 26, 2020 Periodic Review Report (PRR) Addendum and hereby accept the cessation of indoor air and groundwater sampling. Please continue to complete periodic monitoring and an annual review of the sub-slab depressurization system and an annual site-wide inspection.

If you have any questions, please contact me at 716-851-7220 or email: megan.kuczka@dec.ny.gov.

Sincerely,

Megan Kuczka
Environmental Program Specialist – 1

ec: Andrea Caprio – NYSDEC
Renata Ockerby - NYSDOH
Ray Kampff – Day Environmental, Inc.
Charles Hampton – Day Environmental, Inc.

CERTIFICATION STATEMENT

I, Barton F. Kline, certify that I am currently a NYS registered professional engineer, and that this Site Management Plan was prepared in accordance with known applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

B. F. Kline

Barton F. Kline, P.E.

OCTOBER 7, 2015

Date

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CATTARAUGUS COUNTY
CITY OF OLEAN, NEW YORK

SITE MANAGEMENT PLAN

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List of Acronyms

AS	Air Sparging
ASP	Analytical Services Protocol
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CAMP	Community Air Monitoring Plan
C/D	Construction and Demolition
CFR	Code of Federal Regulation
CLP	Contract Laboratory Program
COC	Certificate of Completion
CO2	Carbon Dioxide
CP	Commissioner Policy
DER	Division of Environmental Remediation
EC	Engineering Control
ECL	Environmental Conservation Law
ELAP	Environmental Laboratory Approval Program
ERP	Environmental Restoration Program
GHG	Green House Gas
GWE&T	Groundwater Extraction and Treatment
HASP	Health and Safety Plan
IC	Institutional Control
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCRR	New York Codes, Rules and Regulations
O&M	Operations and Maintenance
OM&M	Operation, Maintenance and Monitoring
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PID	Photoionization Detector
PRP	Potentially Responsible Party
PRR	Periodic Review Report
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RP	Remedial Party
RSO	Remedial System Optimization
SAC	State Assistance Contract

SCG	Standards, Criteria and Guidelines
SCO	Soil Cleanup Objective
SMP	Soil Management Plan
SOP	Standard Operating Procedures
SOW	Statement of Work
SPDES	State Pollutant Discharge Elimination System
SSD	Sub-slab Depressurization
SVE	Soil Vapor Extraction
SVI	Soil Vapor Intrusion
SVMS	Soil Vapor Mitigation System
TAL	Target Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristic Leachate Procedure
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VCA	Voluntary Cleanup Agreement
VCP	Voluntary Cleanup Program

ES EXECUTIVE SUMMARY

The following provides a brief summary of the controls implemented for the Site, as well as the inspections, monitoring, maintenance and reporting activities required by this Site Management Plan:

Site Identification:	211 Franklin Street, City of Olean, New York, NYSDEC Site Number C905038
Institutional Controls:	1. The property may be used for restricted commercial and restricted industrial uses; 2. All ECs must be operated and maintained as specified in this SMP. 3. All ECs must be inspected at a frequency and in a manner defined in the SMP. 4. The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Cattaraugus County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department. 5. Groundwater and other environmental or public health monitoring must be performed as defined in this SMP; 6. Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP; 7. All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP; 8. Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP; 9. Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP;

Site Identification: 211 Franklin Street, City of Olean, New York, NYSDEC Site Number C905038

	10. Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement. 11. The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries noted on Figure 13, and any potential impacts that are identified must be monitored or mitigated; and 12. Vegetable gardens and farming on the site are prohibited;	
Engineering Controls:	1. Cover system	
	2. All ECs as listed in Section 3.3 should be restated here.	
Inspections:		Frequency
1. Cover inspection 2. SSDS		Annually Annually
Monitoring:		
1. Groundwater Monitoring Wells MW-B, MW-C, MW-D, MW-E, MW-F, MW-G, MW-H, MW-I, MW-J, MW-K, MW-L, MW-M, and MW-N 2. Groundwater Monitoring Wells MW-F, MW-I, MW-J, MW-L, and MW-M [Note: Periodic groundwater monitoring at the Site ceased after March 2020. Refer to Section 4.4]		Quarterly for the first three quarters of the first year (i.e., 2016). Annually for years 2 and 3.
Maintenance:		
1. Cover System		As needed
2. SSDS		As needed

Site Identification: 211 Franklin Street, City of Olean, New York, NYSDEC Site Number C905038

Reporting:	
1. Groundwater Monitoring Data [Note: Periodic groundwater monitoring at the Site ceased after March 2020. Refer to Section 4.4]	Subsequent to Sampling Event
2. Periodic Review Report	Annually, or an alternate longer period of time allowed by the NYSDEC

Notes:

(1) The sampling duration and frequency, the sampling technique for monitoring events, the number of wells sampled during monitoring events, and the test parameters for samples collected during monitoring events, may be modified with the approval of the NYSDEC. The SMP will be modified to reflect changes in sampling plans approved by the NYSDEC.

Further descriptions of the above requirements are provided in detail in the latter sections of this Site Management Plan.

1.0 INTRODUCTION

1.1 General

This Site Management Plan (SMP) is a required element of the remedial program for 211 Franklin Street located in City of Olean, Cattaraugus County, New York (hereinafter referred to as the "Site"). See Figure 1. The Site is currently in the New York State (NYS) Brownfield Cleanup Program (BCP) Site No. C905038, which is administered by New York State Department of Environmental Conservation (NYSDEC).

Silence Dogood, LLC entered into a Brownfield Cleanup Agreement (BCA) as a volunteer on May 22, 2014 with the NYSDEC to remediate the site. A figure showing the site location and boundaries of this site is provided in Figure 2. The boundaries of the site are more fully described in the metes and bounds site description that is part of the Environmental Easement provided in Appendix D.

After completion of the remedial work, some contamination was left at this site, which is hereafter referred to as "remaining contamination". Institutional and Engineering Controls (ICs and ECs) have been incorporated into the site remedy to control exposure to remaining contamination to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC, and recorded with the Cattaraugus County Clerk, requires compliance with this SMP and all ECs and ICs placed on the site.

This SMP was prepared to manage remaining contamination at the site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Environmental Easement and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the Environmental Easement, which is grounds for revocation of the Certificate of Completion (COC);

- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the BCA (Index #C090538-05-14; Site #C905038) for the site, and thereby subject to applicable penalties.

All reports associated with the site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State. A list of contacts for persons involved with the site is provided in Appendix A of this SMP.

This SMP was prepared by Day Environmental, Inc. (DAY), on behalf of Silence Dogood, LLC (the Owner) in substantial accordance with the requirements of the NYSDEC's DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated May 2010 (DER-10), and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the ICs and/or ECs that are required by the Environmental Easement for the site.

1.2 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. Revisions will be necessary upon, but not limited to, the following occurring: a change in media monitoring requirements, upgrades to or shut-down of a remedial system, post-remedial removal of contaminated sediment or soil, or other significant change to the site conditions. In accordance with the Environmental Easement for the site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.3 Notifications

Notifications will be submitted by the property owner to the NYSDEC, as needed, in accordance with NYSDEC's DER – 10 for the following reasons:

- 60-day advance notice of any proposed changes in site use that are required under the terms of the BCA, 6NYCRR Part 375 and/or Environmental Conservation Law.
- 7-day advance notice of any field activity associated with the remedial program.
- 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan.
- Notice within 48-hours of any damage or defect to the foundation, structures or EC that reduces or has the potential to reduce the effectiveness of an EC, and likewise, any action to be taken to mitigate the damage or defect.
- Verbal notice by noon of the following day of any emergency, such as a fire; flood; or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser/Remedial Party has been provided with a copy of the Brownfield Cleanup Agreement (BCA), and all approved work plans and reports, including this SMP.
- Within 15 days after the transfer of all or part of the site, the new owner's name, contact representative, and contact information will be confirmed in writing to the NYSDEC.

Table 1 includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in Appendix A.

Table 1: Notifications*

Name	Contact Information
Megan Kuczka [NYSDEC DER Project Manager]	716-851-7220 / Megan.Kuczka@dec.ny.gov
Andrea Caprio [NYSDEC Regional HW Engineer]	716 851 7220 / Andrea.Caprio@dec.ny.gov

* Note: Notifications are subject to change and will be updated as necessary.

2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

2.1 Site Location and Description

The site is located in City of Olean, Cattaraugus County, New York and is identified as Section 94.040 Block 1and Lot 21 on the Cattaraugus County Tax Map (see Figure 2). The site is an approximately 5.79-acre area and is bounded by Franklin Road followed by a parking lot, athletic field and undeveloped land to the north-northwest, by a railroad Right-of-Way (ROW) followed by a residential neighborhood to the south-southeast, by a grass covered area followed by a residential neighborhood to the east-northeast, and by a railroad ROW followed by industrial properties to the west-northwest (see Figure 3 – Site Layout Map). The boundaries of the site are more fully described in Appendix D–Environmental Easement. The owner of the site parcel at the time of issuance of this SMP is:

Silence Dogood, LLC.

The metes and bounds as recorded in the environmental easement for the Site are included in Appendix D.

2.2 Physical Setting

2.2.1 Land Use

The Site consists of the following: an approximate 5.79-acre parcel of land developed with an approximate 280,000 square foot, two-story industrial building with a partial basement. The Site is zoned industrial and is currently utilized for industrial use. The Site is occupied by SolEpoxy Inc., which manufactures molding powders, coating powders, and formulated resins used to insulate electrical components.

The properties adjoining the Site and, in the neighborhood, surrounding the Site primarily include residential, and industrial properties. The properties immediately south-southeast of the Site

include a railroad ROW followed by residential properties; the properties immediately north-northwest of the Site include Franklin Street followed by commercial and vacant properties and parkland; the properties immediately east-northeast of the Site include grass-covered vacant properties followed by residential properties; and the properties to the west-southwest of the Site include a railroad ROW followed by commercial and industrial properties.

2.2.2 Geology

Figure 3 is a plan view showing the locations of cross-sections prepared for the project. Geologic cross-sections A-A' and B-B' are designated as Figure 4A and Figure 4B, respectively. These cross-sections illustrate the overburden types and corresponding depths identified in test borings and wells that were advanced as part of the cumulative studies. In addition, the depth of groundwater in the overburden that was measured at respective overburden groundwater monitoring wells on July 10, 2014 and September 30, 2014 are provided on these cross-sections. Site specific boring logs are provided in Appendix E.

Overburden

The overburden material at the Site generally consists of stratified drift deposits comprised of outwash and kame deposits consisting primarily of sand and gravel with lesser amounts of silt in some locations. With depth, lacustrine silts and clays (i.e., the remnants of glacial lakes and post-glacial lakes that formed as the glaciers retreated northward) are evident near the bottom of the outwash deposits in the valley floor and in proximity to the bedrock surface.

The ground surface at exterior portions of the Site to the northwest and northeast are covered by approximately 0.5 ft. of topsoil in landscaped areas or about 0.7 ft. of asphalt pavement. An approximate 0.5 ft. thick concrete pad was encountered below topsoil near the northwestern corner of the Site Building. Heterogeneous fill consisting primarily of reworked soil intermixed with lesser amounts of slag, bricks, and concrete underlies the topsoil and/or asphalt pavement, and this fill extends to depths of about 4 ft. to 5.5 ft. bgs or to approximate elevations of 1426 ft. to 1424.5 ft.

The ground surface in exterior portions of the Site to the southeast and southwest is typically covered with an approximate 0.5 ft. thick layer of gravel/stone fill that overlies a heterogeneous fill comprised of reworked soil (e.g., typically sand and gravel) intermixed with lesser amounts of slag, ash, bricks, concrete and glass that generally extends to depths ranging between 2 ft. and 5.5 ft. bgs or approximate elevations of 1428 ft. to 1424.5 ft. However, approximately 9.0 ft of fill (approximate elevation 1421 ft.) was located on the eastern portion of the exterior of the Site Building. This fill is a mixture of construction and demolition (C&D) –type debris and reworked soil, and was likely placed to backfill the basement of a former structure.

The concrete floor slab of the building on the Site is approximately 4 ft. higher in elevation than the ground surface of the exterior portions of the Site (i.e., the concrete floor ranged in elevation between about 1433.9 ft. and 1434.25 ft. in the locations of monitoring wells). The increase in elevation was created by the placement of fill material that generally consists of reworked soil fill (i.e., typically fine to medium sand and gravel that contains varying amounts of concrete, brick, cinders and ash). Greater amounts of cinders and ash appear to be in locations in proximity to former railroad lines that previously traversed the Site. The fill material beneath the building at the Site generally extends to depths ranging between 5 ft. and 8 ft. bgs or approximate elevations 1429 to 1426 ft. In some locations (i.e., particularly in the western portion of the building, which was the location of earliest industrial development on the Site) the fill extends to depths ranging between about 12 ft. and 15 ft. bgs or approximate elevations 1422 ft. to 1419 ft. The fill in this area appears to be a mixture of reworked soil and C&D type material. Degraded concrete was also identified near the bottom of this fill.

An open former basement area was encountered below the concrete slab in a test boring located in the central-west portion of the building on the Site. The concrete is approximately 0.9 ft. thick and underlain by a void extending to approximately 9.7 ft. bgs (i.e., approximate elevation 1424.3 ft.). This former basement area was a portion of a larger basement area that was infilled in 1996 with gravel and concrete. It is no longer accessible and is approximately 19 ft. to 25 ft.

Indigenous soil beneath the fill material at the Site generally consists of fine to medium sand and fine to coarse gravel deposits that extended to the bottom of the test borings. In some locations, alternating layers of medium to coarse sand were encountered within the sand and gravel deposits, and frequent cobbles were encountered between 1418 ft. and 1410 ft. Sandy clay or silty clay deposits were encountered below the sand and gravel deposits on the northern portion of the Site and within the southwest portion of the building at the Site.

Bedrock

Based on a review of "*Geology of Cattaraugus County"* by Irving Tesmer, 1975, bedrock is comprised of gray and black shale interbedded with gray siltstone and sandstone of the Conneaut Group, also referred to as the Chadakoin Formation. These sedimentary rocks are relatively flat lying and dip gently to the south at an approximate rate of 40 ft. per mile. Estimated depth to bedrock at the Site is greater than 200 ft. and was not encountered during previous subsurface investigations at the Site.

2.2.3 Hydrogeology

The Site is located within an area designated by the United State Department of the Interior Geological Survey (USGS) as a primary water supply aquifer (Olean). A primary water supply aquifer is defined as: "A highly productive aquifer that is being used as a source of water supply in major public-supply systems." According to USGS Water-Resources report 85-4157 *Hydrogeology of the Olean Area, Cattaraugus County, New York* dated 1987 prepared by Phillip J. Zarriello and Richard J. Reynolds, the total saturated thickness of the outwash aquifer in proximity of the Site ranges between approximately 20 ft. and 40 ft., and this aquifer is capable of producing water at rates in excess of 1,000 gallons per minute (GPM) depending on the size and construction of the supply well(s).

Regionally, groundwater flow is generally to the southwest, eventually discharging into the Allegheny River; however, in proximity of the Site, groundwater appears to flow generally to the south-southeast with a southwesterly component in the southern portion of the Site that is more

pronounced as the groundwater levels decrease seasonally. Groundwater flow at the Site is in the direction of Olean Creek, which is located about 2,000 ft. east of the Site. Olean Creek flows generally to the south and discharges into the Allegheny River approximately 8,300 ft. south-southwest of the Site.

As described in USGS Water-Resources report 85-4082 titled *Effect of Reduced Industrial Pumpage on the Migration of Dissolved Nitrogen in an Outwash Aquifer in Olean, New York* dated 1987 prepared by Marcel P. Bergeron, extensive pumping was undertaken in the 1970s and 1980s to contain a dissolved nitrogen spill and prevent contaminated groundwater from impacting the municipal water supply wells. Some of the wells that were pumped at rates as high as 10 million gallons per day included wells located adjacent to the southwest boundary of the Site. During this pumping, a 20 ft. to 30 ft. deep cone of depression was created. The continuous pumping has stopped and water levels have since returned to pre-pumping levels. It is suspected that the extensive pumping that occurred in proximity of the Site may have contributed to the vertical distribution of the petroleum-impact identified in test borings at the Site.

The depth to groundwater at the Site varies seasonally. The groundwater elevations ranged from about 1.9 ft (MW-L) to about 2.2 ft (MW-G, MW-M and MW-N) lower during the September 30, 2014 sampling event than they were during the July 10, 2014 sampling event. The groundwater elevations ranged between about 1412.5 ft (MW-B) and 1410.6 ft (MW-F and MW-G) on July 10, 2014 and between about 1410.3 ft (MW-B) and 1408.4 (MW-F and MW-G) on September 30, 2014. These groundwater elevations represent depths to groundwater ranging between about 17.6 ft. bgs and 21 ft. bgs on July 10, 2014 in monitoring wells positioned in exterior locations and about 23.1 ft. bgs and 23.4 ft. bgs in monitoring wells positioned in interior locations. On September 30, 2014, the depth of groundwater in exterior monitoring wells ranged between about 19.7 ft. bgs and 23.4 ft. bgs and between about 25.2 ft. bgs and 25.6 ft. bgs in interior monitoring wells. Groundwater contour maps developed for measurements taken on July 10, 2014 and September 30, 2014 are presented as Figure 5A and Figure 5B, respectively. Groundwater elevation data is provided in Table 8.

The average of the "slug in" and "slug out" hydraulic conductivities measured in select monitoring wells ranged between 1.63 ft/day or 5.7 x 10^{-4} cm/sec and 4.68 ft/day or 1.6 x 10^{-3} cm/sec. These values are consistent with the generalized soil permeability values for the greater Olean Area as presented in Zarriello and Reynolds 1987, which ranged between 0.6 inches/hour and 6 inches/hour.

The average hydraulic gradient between the monitoring wells installed in the northern portion of the Site ranged between about 0.001 ft/ft and 0.007 ft/ft. The hydraulic gradients were lower in monitoring wells installed in the southern portion of the Site, and the gradients in this portion of the Site appeared to vary seasonally as indicated by comparing the gradients measured on July 10, 2014 and September 30, 2014. Specifically, the hydraulic gradients measured in monitoring wells located in the southern portion of the Site on July 10, 2014 ranged between about 0.0007 ft/ft and 0.009 ft/ft, whereas the gradients measured on September 30, 2014 ranged between about 0.001 ft/ft and 0.002 ft/ft. Using the range of calculated hydraulic conductivities and average horizontal gradients and an estimated porosity of 0.3 (i.e., as referenced in Groundwater, by R. Allan Freeze and John A. Cherry, 1979), groundwater flow at the Site was calculated to range between about 0.0038 ft./day and 0.109 ft./day.

The Site is serviced by a public water system and public sanitary sewer system. The City of Olean obtains drinking water from groundwater supply wells located on Richmond Avenue (Well Site M18, which produced 278 million gallons of water in 2013), East River Road (Well Site M37, M38, which produced 325 million gallons of water in 2013), and from Olean Creek (296 million gallons of water were obtained from this location in 2013). The water intake for Olean Creek is located at the River Street water treatment plant, approximately 2,000 ft east of the Site, and hydraulically upgradient of the Site. Well Site M18 is located about 2.3 miles southeast of the Site (i.e., beyond Olean Creek), and Well Site M37/M38 are located about 2.45 miles southeast of the Site (i.e., beyond the confluence of Olean Creek and the Allegheny River).
Groundwater monitoring well construction logs are provided in Appendix E.

2.3 Investigation and Remedial History

The following narrative provides a remedial history timeline and a brief summary of the available project records to document key investigative and remedial milestones for the Site. Full titles for each of the reports referenced below are provided in Section 8.0 - References.

2.3.1 Past Uses and Ownership

Based on information obtained from Sanborn Fire Insurance (Sanborn) maps, historic records and historic directories from the City of Olean, industrial activities have been conducted at the Site since at least 1882 and these include the following:

- The Olean Chemical Company was located on the western portion of the site between at least 1882 until around 1898, and operations included the manufacturing and storage of muriatic, sulphuric, mixed acids and ammonia. An 1894 Sanborn map depicts various buildings, acid tanks, coal/coke storage structures, sulphur and soda storage structures, and acid pipelines at this facility. An oil house is depicted on an earlier Sanborn map, dated 1886, in the approximate location of one of the acid tanks depicted on the 1894 Sanborn map. Multiple railroad spur lines that connect the Olean Chemical Company buildings to railroad lines adjacent to the south and west are also depicted on the Site. The Olean Chemical Company was partially destroyed by fire circa 1898.
- A glass bottle manufacturing facility was constructed on the Olean Chemical Co. property (i.e., the western portion of the Site) circa 1906. The facility was destroyed after a fire and explosion the following year.
- Olean Metal Cabinet Works was constructed on the western portion of the Site circa 1932 and the facility operated until approximately 1934. As depicted on a 1932 Sanborn map, the building contained office space, carting (shipping) area, a factory floor, a spray-painting area, a coal room, a boiler room and storage areas.
- The Daystrom Corporation occupied the building on the western portion of the Site sometime after 1934, subsequently expanded the building, and operated until at least 1961, manufacturing metal furniture and metal wares. Daystrom Corporation conducted

painting, polishing, and plating operations in the central portion of the building, and a boiler room was located in the northwest portion of the building. In addition, historic documentation indicates that a 10,000-gallon tank, a press room building, a waste paper shed, and two unnamed buildings were removed in order to construct an addition on the south side of the main building. Daystrom Corporation constructed another addition on the eastern side of the building at the Site sometime between 1943 and 1949, and this addition was constructed over the Spruce Street ROW and a portion of the West Connell Avenue ROW.

- Hysol, a Division of the Dexter Corporation occupied the Site sometime after 1966, and operated until at least 1996, manufacturing plastics and epoxy resins. As depicted on a Sanborn map dated 1969, painting operations were completed in the central and southern portions of the building, and raw materials (including solvents) were stored in the southern portion of the building. A boiler room is also depicted in the southern portion of the building.
- The Henkel Corporation occupied the Site in 2010, and operated until 2011, manufacturing adhesives and sealants. Reportedly, solvents were stored/used at the facility, and raw material resins and 'off-spec' product waste were stored in tanks located in the southern and northwestern portion of the building, respectively. Heating oil for the facility was stored in one 10,000-gallon capacity underground storage tank.
    - Flammable liquids (MIBK, propylene glycol monoethyl ether, toluene, xylene, cyclohexane);
    - Hazardous waste liquids and solids (acetone, MIBK, MIBK rags);
    - Resin mixtures;
    - Aerosols;
    - Paint related materials;
    - Corrosive liquid (triethanolamine);
    - Mercury;
    - Caustic alkali liquids (sodium hydroxide/triethanolamine);
    - Amines (benzyl dimethylamine);
    - Aluminum powder; and

- Methanol mixture.

- SolEpoxy, Inc. has occupied the building at the Site since 2010, and currently manufactures epoxy resins for use by others to manufacture electric components at off-site locations.
- The Site is located within a 500-acre area which has been designated as a Brownfields Opportunity Area. This designation recognizes that environmental contamination may be present based on historical industrial uses.

2.3.2 Previous Reports and Documents

Environmental Resources' Management (ERM) 2007 Phase I ESA Report

At the time of the 2007 Phase I ESA Report prepared by ERM, the Site was occupied by Henkel Corporation for the manufacture of "molding powders, coating powders and formulated resins used in electrical components". The ERM 2007 Phase I ESA report was prepared for the Site as well as the properties identified as 119 and 202 Franklin Street.

Four recognized environmental conditions (RECs) were identified in the ERM 2007 Phase I ESA Report:

- "An approximate 500-acre area covering eleven current and former industrial properties, including the subject property, has been named by the City of Olean and the State of New York as a Brownfields Opportunity Area (BOA)…the BOA initiative includes creation of a statewide groundwater database to assist communities in evaluating groundwater issues related to the clean-up of contaminated properties…No soil or groundwater sampling has been performed to characterize site conditions on the subject property."
- "The site has been historically used for industrial manufacturing activities since prior to 1886. Historical uses of the subject property included bulk acid and soda storage (prior to 1904), wood alcohol production (circa 1910 to 1940), electroplating operations associated with metal furniture production (circa 1920 to 1960), and other manufacturing activities."
- "A 10,000-gallon diesel underground storage tank (UST) was removed in 1988. There is no documentation of closure of the UST or follow-up remediation…"
- "A 30,000-gallon UST that was used for disposal of waste resin and resin sample bottles was removed in 1988. The UST was filled with liquid resin to fill void space, allowed to

harden, cut up, and disposed of off-site as non-regulated waste. The tank was located inside a concrete vault. According to a March 4, 1988 letter from Hysol to the NYSDEC, water samples from the concrete vault exhibited detectable levels of zinc, mercury, and phthalates. In the letter, the Manager of Regulatory Affairs for Hysol speculates that the zinc, mercury, and phthalates may be related to the former furniture manufacturing and electroplating operations that were conducted on site before 1966. No analytical data is available."

DAY 2013 Phase I ESA Report

The DAY 2013 Phase I ESA Report was prepared for the Site as well as 119 and 202 Franklin Street and 120 West Connell Street, City of Olean, New York. The following RECs were identified:

- Historical Industrial Manufacturing Activities, specifically located on the Site (see history above).
- Historical Use of Storage Tanks consisting of the following:
    - Historical gasoline UST located near the northwest corner of the building, identified in a 1949 Sanborn map;
    - A 10,000-gallon No. 2 fuel oil/diesel UST, which was reportedly removed in the late 1980s;
    - A 10,000-gallon No. 2 fuel oil/diesel UST, installed in 1987, which had been empty and out-of-service since approximately 2011. [Note, this UST was reportedly present in the same location as the fuel oil UST that was removed in the late 1980s; see above];
    - Two aboveground 5,000-gallon storage tanks located in the southern portion of the assessed building. These tanks are currently empty, but previously contained resin. The tanks are surrounded by concrete containment walls, which are close to the northern exterior building wall. The concrete appeared to be darkly stained.
    - Two 10,000-gallon storage tanks, which are each located in a separate concrete vault/basement beneath the south/central portion of the assessed building. These tanks are empty, but formerly contained resin and castor oil. The ages of these

tanks are unknown. It is also not known whether different materials may have been stored in these tanks the past.

- Furthermore, a dark hardened material was observed on the ground surface on the south side of the building in the vicinity of the location of current and former interior storage tanks and the associated fill ports. These tanks formerly stored materials that were used by previous owners/occupants during large-scale formulated liquid resin production.
- Historical Use of Basements/Vaults:
    - Several apparent basement or vault areas are present beneath the central/southern portions of the building. These basements/vaults could not be entered because they are confined spaces, accessible only through manholes/manways. These basement/vault areas were not included on the facility maps provided. Therefore, the size and configuration of the basement/vaults could not be determined (i.e., it is not known whether the basement/vaults are interconnected, or whether additional basement/vault areas may be present). Two of the basement/vaults contained storage tanks (described above), and two of the basement/vaults contained about 1.5 feet of standing water. These basements/vaults are historical building features and the formers uses are not known.
- Historical Drain Discharges:
    - Concrete floor patches, suggesting the former presence of floor drains, trench drains, sumps, etc., were observed in numerous areas of the building. Floor staining was also observed in these areas as well. Information provided by the facility maintenance manager indicates 90% of the facility's floor drains were closed/sealed in the 1970s. Former operations at the facility, which may have discharged hazardous materials/petroleum products to drains, and the discharge point(s) of former drains, are not known.
    - A trench drain is located in the flammable storage room located near the northwestern corner of the building. According to facility maintenance manager, this drain is designed to contain spills in the flammable storage room. There is a valve within this drain to prevent spills from flowing to the end of the drain, which,

if open, would discharge to the ground outside the building wall. The condition/functionality of the valve was unknown.

- Potential for Contaminant Migration from Off-Site Sources
    - The historical use of the adjoining and nearby properties revealed a long history of industrial use of the area. An oil refinery (predecessor to ExxonMobil) was located to the northeast, north, northwest, west and southwest. The refinery complex contained oil storage tanks, processing equipment and pipelines. Additionally, a Sinclair Refining Company facility, which included petroleum storage tanks, adjoined the southwestern corner of the Site. Other industries, such as Acme Glass, Seaman Container Manufacturing, Wheeling Corrugating Co. and Empire Mills, were located in the vicinity of the Site and may have used, stored and disposed of hazardous/petroleum products/wastes.
    - Additionally, the NYSDEC spills database identified four spills at off-site properties within 0.25 miles of the Site.
    - The Site is also located within a 500-acre area which has been designated as a Brownfields Opportunity Area. This designation recognizes that environmental contamination may be present based on historical industrial uses.

<u>DAY 2013 Preliminary Phase II ESA Report</u>

The DAY 2013 Preliminary Phase II ESA Report was completed to investigate RECs previously identified in the DAY 2013 Phase I ESA Report. The scope of work included the installation of seven test borings, five located on the site and two located on 202 Franklin Street, the adjoining property to the north. Groundwater monitoring wells were installed in five of the test borings (four located at the Site).

Evidence of apparent contamination (i.e., petroleum-type odors, elevated photoionization detector [PID] readings) was encountered within the saturated soil in test-borings located on the western portion of the Site. Groundwater samples collected from groundwater monitoring wells located on the western portion of the Site had a chemical odor, gray/black color and reported petroleum sheen.

2.3.3 Summary of Remedial Investigation Findings

DAY 2015 Remedial Investigation Alternatives Analysis (RI/AA) Report

A Remedial Investigation (RI) was performed to characterize the nature and extent of contamination at the Site. The results of the RI are described in detail in the following report:

- *Remedial Investigation Alternatives Analysis Report*, 211 Franklin Street, City of Olean, Cattaraugus County, New York, BCP Site Number: C905038.

The RI/AA report summarizes studies previously conducted at the Site, and presents the results of Remedial Investigation (RI) activities, underground storage tank removal Interim Remedial Measure (IRM) activities, and presents various remedial alternatives developed to address contaminant impact identified at the Site.

Work completed as part of the RI was done in general accordance with the provisions outlined in a document titled *Remedial Investigation/Remedial Alternatives Analysis Work Plan, 211 Franklin Street, Olean, New York 14760, NYSDEC Site Number C905038-05-14* prepared by DAY dated May 2014 (the RIWP), and a document titled *Supplemental Remedial Investigation/Remedial Alternatives Analysis Work Plan, 211 Franklin Street, Olean, New York 14760, NYSDEC Site Number C905038-05-14* prepared by DAY dated October 2014 (the Supplemental RIWP). The scope of work included the following:

- Geophysical Survey: A geophysical survey was completed over four exterior areas around the perimeter of the Site to evaluate the potential presence of USTs and/or other buried anomalies. Two anomalies were identified and evaluated through test pits.
- Soil Vapor Screening: Sub-slab vapor samples, soil vapor samples and vapor samples from sanitary sewers were collected for analysis of VOCs.
- Basement/Vault/UST Assessment: Determining approximate dimensions and construction materials of each area identified and evaluating (as much as possible) the integrity. This

also included the advancement of test borings near the empty UST, sump pit and boiler room vault.

- Utilities Evaluation including review of utility maps.
- Surface Soil Sample: Surface soil samples were collected and submitted for laboratory analysis.
- Test Boring and Monitoring Well Installation: 34 test borings were advanced at the Site. A portion of the test borings were completed as groundwater monitoring wells. Soil and groundwater samples collected from these test borings and groundwater monitoring wells and submitted for laboratory analysis.
- Hydraulic Conductivity Testing.

Below is a summary of Site conditions when the RI was performed:

Surface Soil

As shown on Table 4 B, various PAHs were detected in surface soil samples. Benzo(a)pyrene was detected above the Restricted Commercial SCO in soil samples collected from SS-6, SS-7 and SS-8 The concentration of benzo(a)pyrene ranged from undetected to 2 mg/kg or parts per million (ppm) in the soil sample collected from SS-6.

As shown on Table 4c, total PCBs ranged from undetected to above the Restricted Commercial SCO in the soil sample collected from SS-5 at a concentration of 1.5 ppm.

As shown on Table 4d, various metals were detected in surface soil samples SS-1 through SS-8 and in the surface soil and near-surface soil samples tested from delineation test borings DTB-1 through DTB-8. The concentration ranges of metals detected at concentrations above the Restricted Commercial Use SCO are provided below:

- Arsenic: 5.6 ppm [DTB-3 (0-2")] to 33.8 ppm (SS-7).
- Cadmium: 0.031 ppm (SS-1) to 68.4 ppm [DTB-2 (0-2")].
- Copper: 17 ppm (SS-1) to 813 ppm [DTB-2 (0-2")].
- Mercury: 0.025 ppm (SS-3) to 3.5 ppm [DTB-4 (0-2")].
- Nickel: 18.4 ppm (SS-1) to 522 ppm (SS-5).

Soil/Fill

As shown on Tables 5A and 5C, various VOCs and pesticide/herbicide compounds were detected in soil/fill samples, however, all concentrations were below the relevant Restricted Commercial Use SCO.

As shown on Tables 5B and 5D, various PAHs and SVOCs were detected in soil/fill samples. The concentration ranges of PAHs and SVOCs detected at concentrations above the Restricted Commercial Use SCO are provided below:

- Benzo(a)anthracene: non-detect to 11 ppm [TB-107 (12.5')].
- Benzo(a)pyrene: non-detect to 12 ppm [TB-107 (12.5')].
- Benzo(b)fluoranthene: non-detect to 13 ppm [TB-107 (12.5')].
- Dibenzo(a,h)anthracene: non-detect to 2.2 ppm [TB-107 (12.5')].
- Indeno(1,2,3-cd)pyrene: non-detect to 7.7 ppm [TB-107 (12.5')].
- Hexachlorobenzene: non-detect to 17 ppm [MW-F (1.5')].

As shown on Table 5D various metals were detected in soil/fill samples. The concentration ranges of metals detected at concentrations above the Restricted Commercial Use SCO are provided below:

- Arsenic: non-detect to 129 ppm [MW-G (1-3')].
- Cadmium: 0.021 ppm [VLT-3 (SC)] to 15.3 ppm [MW-G (1-3')].
- Copper: 1.5 ppm [VLT-3 (SC)] to 3460 ppm [TB-110 (4')].
- Lead: 3.8 ppm [SUB-1] to 3030 ppm [MW-G (1-3')].
- Mercury: non-detect to 17.9 ppm [MW-G (1-3')].
- Nickel: 0.73 ppm [VLT-3 (SC)] to 472 ppm [TP-1 (2')].
- Zinc: 23 ppm [TB-104 (0-3')] to 11,400 ppm [TB-110 (4')].

The COCs in surface soil and soil/fill are associated with either waste materials (e.g., PCBs) or heterogeneous fill materials placed during the historic use of the Site (e.g., railroad ballast).

Site-Related Groundwater

As shown on Table 6D, the elevated concentrations of metals detected during the RI were either isolated to a single monitoring well or were only measured during one of the monitoring events, with the exception of iron, manganese and sodium which were typical of background conditions. Downgradient monitoring wells did not contain similarly elevated concentrations, suggesting that groundwater with elevated metal concentrations is not migrating. The concentration ranges of detected metals not attributable to background conditions are provided below:

- Barium: non-detect to 1910 micrograms per liter (µg/l or parts per billion) in sample collected from MW-I on September 30, 2014.
- Chromium: non-detect to 309 ppb in sample collected from MW-N on July 7, 2014.
- Magnesium: non-detect to 39,700 ppb in sample collected from MW-H on July 8, 2014.
- Selenium: non-detect to 15.1 ppb in sample collected from MW-J on July 10, 2014.
- Thallium: non-detect to 15.5 ppb in sample collected from MW-F on July 9, 2014.

The groundwater in the western portion of the Site is impacted with petroleum that originated from an off-site location, as evidenced by elevated PID readings, petroleum odors, stained soil and elevated concentrations of VOC and SVOC TICs. The petroleum-impacted groundwater does not degrade further as it migrates across the Site, suggesting that the Site is not contributing to the further degradation of the groundwater. As such, petroleum-impact and VOC/SVOC TICs are not identified as a COC for the Site.

Site-Related Soil Vapor Intrusion

As shown on Tables 6A and 6B, various chlorinated and/or non-chlorinated VOCs were detected in sub-slab vapor samples SV-1 through SV-26, sanitary vapor samples SanVap-1 through SanVap-6 and within the three exterior perimeter soil vapor samples evaluated during this study (i.e., SV-27 through SV-29). As presented on Table 6A and 6B, the detected on-site soil vapor TCE concentrations ranged between not detected and 2700 micrograms per cubic meter (µg/m^3) in SV-12, located in the central portion of the building. The detected on-site soil vapor PCE concentrations ranged between not detected and 550 µg/m^3 (SV-18). PCE and TCE were not detected in the perimeter soil vapor samples or in the sanitary sewer samples.

The specific source of the COCs detected in the soil vapor was not identified during the RI. Groundwater and soil/fill samples submitted for laboratory analysis did not contain elevated levels of VOCs.

Elevated concentrations of acetone and MIBK were also identified at the Site; however, these constituents continue to be used in the manufacturing process, and the highest concentrations measured were below the applicable Occupational Safety and Health Administration (OSHA) permissible levels. Therefore, remediation/mitigation of acetone and MIBK is not required. Subsequent to the RI/AA Report, DAY prepared a work plan titled *Soil Vapor Intrusion Evaluation Work Plan, 211 Franklin Street, Olean, New York, BCP Site #C905038*, dated April 2015, for the purpose of evaluating the potential for soil vapor intrusion into six discrete areas, identified as Area 1 through Area 6 (Figure 9), corresponding to soil vapor samples collected during the RI. As shown on Table 6C, thirty-two TO-15 List VOCs were detected in one or more of the indoor air and/or sub-slab soil vapor samples. Based on a review of indoor air samples with paired sub-slab vapor samples and comparison to the New York State Department of Health (NYSDOH) decision matrices provided in Section 3.4 of the NYSDOH guidance document, the areas identified as Area 1, Area 3 and Area 4 require either mitigation or monitoring, based on Carbon Tetrachloride (i.e., Area 1) or TCE (i.e., Area 3 and Area 4) concentrations detected in the indoor air and/or vapor samples. The areas identified as Area 2, Area 5, and Area 6 require further monitoring.

2.3.4 Summary of Remedial Actions

The following is a summary of the Remedial Actions performed at the Site:

1. UST Removal.
2. Sump Pit Closure
3. Empty UST Closure
4. Limited Excavation
5. Cover system
6. Installation of SSD system.

Remedial activities were completed at the Site between October 14, 2014 and August 11, 2015.

2.3.4.1. IRM 1: UST Removal

A 10,000-gallon UST formerly used to store diesel fuel was removed from the Site on October 14, 2014. The tank was registered as Tank No. 2 under the NYSDEC Petroleum Bulk Storage (PBS) Site #9-014605.

The UST was removed from the ground and observed to be in good condition. No evidence of impacts or PID readings greater than 0.0 ppm were observed. Six soil samples were submitted for analysis of VOCs, SVOCs and metals. All analytical results were below the Restricted Commercial SCOs with the exception of arsenic, which exceeded the Restricted Commercial SCO in four of the six soil samples and had a maximum concentration of 45.7 ppm [TR-6 (14)]. The excavated soil was used as backfill and the remainder of the excavation was backfilled with imported aggregate material provided by Richard Peck Construction.

2.3.4.2 IRM 2: Sump Pit Closure

The sump pit located in the southern room of the basement of the building at the Site is constructed of an apparent poured 2.7 feet (ft.) diameter concrete crock that extends to an approximate depth of 6.3 ft. below the surface of the basement floor (i.e., the elevation of the bottom of the sump pit is approximately 1417.1 ft.). The approximate location of the sump pit is depicted on Figure 3b.

The sump pit was closed on May 14, 2015 by Will Do Construction of Olean NY. Prior to closure, the underdrain pipe was sealed at the outfall to the sump pit using a J-plug and SolEpoxy Inc. maintenance personnel re-routed the condensate piping that formerly drained into the Sump Pit into a sanitary sewer connection. The sump crock was filled to the basement floor surface with approximately 1.4 cubic yards of flowable fill (i.e., a concrete mixture with a greater fine-aggregate content), obtained from the Wayne Concrete plant located near Ceres, NY.

2.3.4.3 IRM 3: Empty UST Closure

The empty UST is located in the south-central portion of the building in the approximate location depicted on Figure 3c. This UST is about 10.3 ft. in diameter, approximately 17.5 ft. long (i.e., an approximate capacity of 10,000 gallons), and about 1.8 ft. beneath the floor of the building. As such, the invert of the tank is approximately 12.1 ft. below the floor surface (approximate elevation 1421.9 ft) and the only access to the tank is an opening in the floor. The former use of this tank is not known.

The sump pit was closed on May 14, 2015 by Will Do Construction of Olean NY. Prior to closure, SolEpoxy Inc. maintenance personnel removed the piping from the interior of the tank, which was placed in the facility's scrap metal dumpster and subsequently recycled. The UST (and access port in the floor) were filled to approximately 2 inches below the ground surface with approximately 52.6 cubic yards of flowable fill (i.e., a concrete mixture with a greater fine-aggregate content), obtained from the Wayne Concrete plant located near Ceres, NY. A bag-mix type concrete was subsequently used to fill the remainder of the access port in the floor to the level of the existing floor.

2.3.4.4 Limited Soil Removal

The purpose of the limited soil removal was to provide adequate depth to place the 1-foot thick clean cover soil over exterior portions of the Site, to the edge of the Site boundary and maintain the existing grade over adjacent areas (i.e., sidewalks, parking areas, etc.). Additional soil was removed for grading purposes prior to placement of pavement (i.e., asphalt and concrete). The extent of the cover placement (i.e., soil, asphalt and concrete) is depicted on Figure 10.

Prior to the commencement of excavation and grading activities, an instrument survey was completed by D. Michael Canada, a licensed surveyor (New York State License No. 49215) to

layout property boundaries, and the extent of the limited soil removal areas were measured in the field using a measuring tape, with reference to the surveyed property boundaries.

Limited soil removal activities were completed by Wayne Companies of Ceres NY and their subcontractor, Southern Tier Landscaping Inc. of Olean NY between June 8, 2015 and June 23, 2015. The excavated soil was generally stockpiled for disposal. However, soil excavated adjacent to the sidewalk along an approximate 50-foot portion of the site perimeter was placed and graded over the adjacent lawn area to the south, with permission from the NYSEC project manager. Additionally, soil excavated along an approximate 20 foot portion of the site perimeter, located with the fenced Maintenance Department break yard near the southwest corner of the Site, was placed and graded over the adjacent lawn area to the south, with permission from the NYSEC project manager [Note: the lawn areas were subsequently covered as described below.]

Between June 18, 2015 and June 25, 2015, approximately 160.36 tons of soil were transported to the Waste Management, Inc. landfill in Chafee NY and disposed of as landfill cover. The soil was transported from the Site to the Chafee landfill by D&H Excavating of Arcade NY, a NYCRR Part 364 permitted waste hauler.

2.3.4.5 Installation of Cover System

Between June 11, 2015 and July 2, 2015, a cover system was installed over exterior portions of the Site. The cover system components included; a 1-foot thick layer of cover soil underlain with a demarcation layer; approximate 2-inch thick layer of asphalt pavement; or a 4-inch to 8-inch thick layer of concrete pavement.

The cover soil was imported from a stockpile of topsoil located at the Wayne Concrete plant located near Ceres, NY. The cover soil was tested in accordance with guidance outlined in Table 5.4(e)10 of the NYSDEC DER-10 guidance document, and approved for use by the NYSDEC project manager on June 15, 2015. Prior to the placement of the one-foot thick soil cover, the landscaping (i.e., trees and shrubs) located in the landscaping beds on the northwest side of the building was removed, excess soil was removed from the roots and spread on the existing ground surface (to be subsequently covered), and the vegetative materials were transported off-site for disposal. Also, limited areas located along the southwest side of the building were graded, using a bulldozer and excavator, to provide an even surface on which to place the cover soil. Generally, an approximate 8-inch thick layer of unscreened cover soil was placed over the demarcation layer, followed by an approximate 4- inch layer of screened (i.e., to remove coarse gravel and cobbles) cover soil. However, only unscreened material was placed on the eastern side of the Site. Subsequent to placement of the cover soil, the ground surface was seeded, or landscaping (i.e., sod or plants) was added to prevent erosion.

The asphalt and concrete materials used for site cover were also obtained from Wayne Concrete plant. The cover system components were installed by Wayne Companies of Ceres NY and their subcontractor, Southern Tier Landscaping Inc. of Olean NY. The approximate areas over which the cover system components were installed are depicted on Figure 9. The typical construction of the soil cover system is depicted on Figure 10.

2.3.4.5 Installation of SSD System

The SSDS installation was completed by Trec Environmental, Inc. between June 22, 2015 and August 11, 2015 and included completion of the following activities:

- Saw cut, removal, and stockpile concrete floor along approximately 330 linear feet of trench, and at four-point locations.
- Excavation and stockpile of soil/fill from within the trench and point locations to a depth of approximately one foot below the bottom of the concrete floor.
- Installation of pipe bedding (NYSDOT #2 gravel, clean/washed).
- Installation of approximately 330 linear feet of perforated PVC pipe along the trench.
- Installation of suction point assemblies at the four-point locations.
- Backfill the trench and point locations (NYSDOT #2 gravel, clean/washed).
- Installation of a vapor barrier (plastic sheeting).
- Repair and refinish floor slab to existing grade.
- Installation of suction piping and pipe laterals to the roof.
- Installation of vacuum fans (2) on the roof.
- Loading and transport of the stockpiled concrete debris and soil by D&H Excavating of Arcade NY for disposal at the Waste Management Landfill in Chafee, NY on August 5, 2015.

The locations of the SSDS System components are depicted on Figures 12.

2.4 Remedial Action Objectives

The Remedial Action Objectives (RAOs) for the Site as listed in the Decision Document dated September 1, 2015 are as follows:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.

- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

2.5 Remaining Contamination

2.5.1 Soil

Concentrations of individual constituents detected in specific surface soil samples and soil/fill samples are presented on Table 4A and 5A (VOCs), Table 4B and 5B (SVOCs), Table 4D and 5D (Metals and Cyanide) and Table 4C and 5C (PCBs and Pesticides), which summarize the analytical samples results of soil remaining at the Site after completion of the IRMs and indicates exceedance of Unrestricted Use SCOs and/or Restricted Commercial SCOs. Figure 6 presents the soil/fill samples that represent post-IRM Site conditions and designates samples containing one or more constituents at concentrations exceeding their respective Restricted Commercial Use SCOs. Figure 10 indicates the exterior areas of the site with a cover system consisting of a one-foot thick layer of cover soil underlain with a demarcation layer. The demarcation layer consists of snow fencing, landscaping fabric or similar. Remaining exterior areas have a cover system consisting of either asphalt pavement or concrete. Interior building areas have a cover system consisting of a concrete slab. As shown on Figure 6, contamination exceeding the Restricted Commercial Use SCOs remains in place following completion of the IRMs. Contaminants of concern in soil above the Restricted Commercial Use SCOs that remain in place following IRMs include benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, dibenzo(a,h)anthracene and

indeno(1,2,3-cd)pyrene, hexachlorobenzene, PCBs, arsenic, barium, cadmium, copper, lead, mercury, nickel and zinc.

2.5.3 Groundwater

Detectable levels of VOC TICs and SVOC TICs are present in groundwater at the Site; however, VOCs and SVOCs were not detected in the groundwater samples at concentrations greater than groundwater standards or guidance values. Various metals are present in groundwater at concentrations greater than their respective groundwater standards or guidance values, including barium, chromium, iron, magnesium, manganese, selenium, sodium and thallium. The concentrations of iron, manganese and sodium are typical of background conditions and, as such, apparently not attributable to contaminants at the Site. The most recent groundwater sample collected from monitoring well MW-N did not have hexavalent chromium or total chromium detected at concentrations greater than the laboratory detection limits of 10 ppb. As shown on Figure 7, a discernible plume in relation to metals was not identified at the Site and a source area of metal contamination was not identified. Localized areas of metal impacts appear to be present across the Site. Tables 6A through 6D and Figure 7 summarize the results of all samples of groundwater that exceed the SCGs after completion of the remedial action.

Note: An apparent plume of petroleum-impacted groundwater was identified in the western portion of the Site. However, this plume is attributable to an off-site source and the concentrations measured and the apparent degree of petroleum impact do not appear to increase as groundwater migrates through the Site.

2.5.5 Soil Vapor

The results of the soil vapor screening completed during the RI (refer to Table 7A and 7B) identified elevated concentrations of COCs in select sub-slab vapor samples [i.e., trichloroethene (TCE) and tetrachloroethene (PCE)]. These samples were generally located in the central portion of the facility (refer to Figure 8). Several additional isolated areas where elevated concentrations of COCs were detected in sub-slab vapor samples were also identified, and subsequent studies were completed (refer to Table 7c) to evaluate six outlying areas, referred to as Area 1 through

Area 6 (refer to Figure 9) to assess the need for subsequent mitigation in these locations. Based on a review of indoor air samples with paired sub-slab vapor samples and comparison to the New York State Department of Health (NYSDOH) decision matrices provided in Section 3.4 of the NYSDOH guidance document, the areas identified as Area 1, Area 3 and Area 4 require either mitigation or monitoring, based on Carbon Tetrachloride (i.e., Area 1) or TCE (i.e., Area 3 and Area 4) concentrations detected in the indoor air and/or vapor samples. The areas identified as Area 2, Area 5, and Area 6 require further monitoring.

Tables 7A through 7C and Figure 8 summarize the results of all samples of soil vapor that exceed the SCGs after completion of the remedial action.

3.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

3.1 General

Since remaining contamination exists at the site, Institutional Controls (ICs) and Engineering Controls (ECs) are required to protect human health and the environment. This IC/EC Plan describes the procedures for the implementation and management of all IC/ECs at the site. The IC/EC Plan is one component of the SMP and is subject to revision by the NYSDEC.

This plan provides:

- A description of all IC/ECs on the site;
- The basic implementation and intended role of each IC/EC;
- A description of the key components of the ICs set forth in the Environmental Easement;
- A description of the controls to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of IC/ECs, such as the implementation of the Excavation Work Plan (EWP) (as provided in Appendix B for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the site; and
- Any other provisions necessary to identify or establish methods for implementing the IC/ECs required by the site remedy, as determined by the NYSDEC.

3.2 Institutional Controls

A series of ICs is required by the Decision Document to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination; and, (3) limit the use and development of the site to Restricted Commercial and Restricted Industrial uses only. Adherence to these ICs on the site is required by the Environmental Easement and will be implemented under this SMP. ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement. The IC boundaries are shown on Figure 13. These ICs are:

- The property may be used for restricted commercial and restricted industrial uses;
- All ECs must be operated and maintained as specified in this SMP;
- All ECs must be inspected at a frequency and in a manner defined in the SMP.
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Cattaraugus County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department.
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP;
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP;
- Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement.
- The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries noted on Figure 13, and any potential impacts that are identified must be monitored or mitigated; and
- Vegetable gardens and farming on the site are prohibited;

3.3 Engineering Controls

3.3.1 Cover System

Exposure to remaining contamination at the site is prevented by a cover system placed over the site. This cover system is comprised of: a minimum of 12 inches of clean fill material/clean topsoil; asphalt pavement; concrete-covered sidewalks; and/or concrete building slabs. Figure 10 presents the location of the cover system and applicable demarcation layers. Figure 11 presents the construction plan of the topsoil cover system. The Excavation Work Plan (EWP) provided in Appendix B outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection of this cover are provided in the Monitoring and Sampling Plan included in Section 4.0 of this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and associated Community Air Monitoring Plan (CAMP) prepared for the site and provided in Appendix H.

3.3.2 Sub-slab Depressurization System (SSDS)

A sub-slab depressurization system (SSDS) has been installed for the purpose of providing mitigation for potential soil vapor intrusion within the central portion of the building area as depicted on Figure 12. The SSDS began operation on August 11, 2015. The SSDS system consists of four suction points and approximately 330 linear feet of perforated polyvinyl chloride (PVC) pipe installed within trenches, which are connected to suction piping and pipe laterals extending up to roof-mounted ventilation fans.

Procedures for operating and maintaining the SSDS are documented in the Operation and Maintenance Plan (Section 5.0 of this SMP), and a full set of record drawings for the SSDS are included in Appendix J – Operations and Maintenance Manual.

3.3.3 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.6 of NYSDEC DER-10.

3.3.3.1 - Cover System

The composite cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in accordance with this SMP in perpetuity.

3.3.3.2 - Sub-Slab Depressurization System (SSDS)

The active SSD system will not be discontinued unless prior written approval is granted by the NYSDEC and the NYSDOH. In the event that monitoring data indicates that the SSD system may no longer be required, a proposal to discontinue the SSD system will be submitted by the remedial party to the NYSDEC and NYSDOH.

4.0 MONITORING AND SAMPLING PLAN

4.1 General

This Monitoring and Sampling Plan describes the measures for evaluating the overall performance and effectiveness of the remedy. This Monitoring and Sampling Plan may only be revised with the approval of the NYSDEC. Details regarding the sampling procedures, data quality usability objectives, analytical methods, etc. for all samples collected as part of site management for the site are included in the Quality Assurance Project Plan provided in Appendix G.

This Monitoring and Sampling Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater, indoor air, soil vapor);
- Assessing compliance with applicable NYSDEC standards, criteria and guidance (SCGs), particularly groundwater standards and Part 375 SCOs for soil; and
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment;

To adequately address these issues, this Monitoring and Sampling Plan provides information on:

- Sampling locations, protocol and frequency;
- Information on all designed monitoring systems;
- Analytical sampling program requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and
- Annual inspection and periodic certification.

Reporting requirements are provided in Section 7.0 of this SMP.

4.2 Site – Wide Inspection

Site-wide inspections will be performed at a minimum of once per year. Modification to the frequency or duration of the inspections will require approval from the NYSDEC. Site-wide inspections will also be performed after all severe weather conditions that may affect ECs or monitoring devices. During these inspections, an inspection form will be completed as provided in Appendix I – Site Management Forms. The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection;
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection; and
- Confirm that site records are up to date.

Inspections of all remedial components installed at the site will be conducted. A comprehensive site-wide inspection will be conducted and documented according to the SMP schedule, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether ECs continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria; and
- If site records are complete and up to date; and
- Reporting requirements are outlined in Section 7.0 of this plan.

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the site, verbal notice to the NYSDEC must be given by noon of the following day. In addition, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the IC/ECs implemented at the site by a qualified environmental professional, as determined by the NYSDEC. Written confirmation must be provided to the NYSDEC within 7 days of the event that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

4.3 Treatment System Monitoring and Sampling

4.3.1 Remedial System Monitoring

Monitoring of the SSDS will be performed on a routine basis, as identified in Table 2 Remedial System Monitoring Requirements and Schedule (see below). Modification to the frequency or sampling requirements will require approval from the NYSDEC. Sub-slab monitoring was initially completed following SSDS start-up at various locations within the soil vapor mitigation area to demonstrate the effectiveness of the SSD system. Observance of a negative sub-slab pressure in relation to the building indoor air pressure (minimum differential of 0.002 inches water gauge) at each of the test point locations was considered indicative of a successfully installed and operating depressurization system. Since negative pressure throughout the sub-slab area of concern has been documented, as well as the corresponding vacuum pressures within the SSDS piping at the time of sub-slab testing, subsequent routine monitoring will be conducted by monitoring vacuum pressure at the inlet side of each of the two exhaust fans. Maintaining suction pipe vacuum pressures similar to those observed during the initial start-up and testing of the system will be considered indicative of maintained corresponding sub-slab vacuum conditions and continued SSDS effectiveness. SSD system components to be monitored include, but are not limited to, the components included in Table 2 below.

Table 2 – Remedial System Monitoring Requirements and Schedule

Remedial System Component	Monitoring Parameter	Operating Range	Monitoring Schedule
Fan Inlet 1	Vacuum Pressure	≥ 1.7 in.	Quarterly
Fan Inlet 2	Vacuum Pressure	≥ 1.2 in.	Quarterly

A complete list of components to be inspected is provided in the Inspection Checklist, provided in Appendix I - Site Management Forms. If any equipment readings are not within their specified operation range, any equipment is observed to be malfunctioning or the system is not performing within specifications; maintenance and repair, as per the Operation and Maintenance Plan, is required immediately.

4.4 Post-Remediation Media Monitoring and Sampling

Groundwater samples and indoor air samples were collected on a routine basis for an initial period of three years. Groundwater sampling locations, required analytical parameters and the initial groundwater monitoring schedule are provided in Table 8. The indoor air sampling completed at the Site (i.e., for evaluation of potential for soil vapor intrusion) is described below.

4.4.1 Groundwater Sampling

Groundwater monitoring was performed for an initial period of three years to assess the performance of the remedy. The frequency of sampling was quarterly for the first three quarters of

the first year then on an annual basis for the remaining two years. Modification to the frequency and sampling requirements is described in Section 4.4.4.

The network of monitoring wells has been installed to monitor upgradient, on-site, and downgradient groundwater conditions at the Site. The network of monitoring wells has been designed based on the following criteria:

Monitoring wells MW-B, MW-F, MW-G, MW-K and MW-M, are upgradient perimeter wells and/or provide information on contaminants that may be migrating onto the Site from adjoining properties.

Monitoring wells MW-E, MW-H, MW-I and MW-N provide information on contaminant concentrations within the Site.

Monitoring wells MW-C, MW-D, MW-J and MW-L are downgradient perimeter wells and provide information on contaminants that may be migrating from the Site.

Refer to Figure 3 for a Site plan showing the locations of each monitoring well associated with the Site. The encountered lithology types, monitoring well screened intervals, and monitoring well installation depths are presented on the monitoring well boring and the construction logs included in Appendix E. Although groundwater elevations vary seasonally, the groundwater flow patterns presented on Figures 5A and 5B indicate that groundwater flow is typically toward the southeast.

Table 8 summarizes each well's identification number, as well as the purpose, location, depth, diameter and screened interval of each well. As part of the groundwater monitoring, thirteen (13) on-site wells were sampled during the first three quarters of the first year to evaluate the effectiveness of the remedial system. The number of wells sampled as part of the groundwater monitoring was reduced from thirteen (13) to five after the first year. Monitoring wells MW-F, MW-I, MW-J, MW-L, and MW-M were sampled annually for the second and third years. Table

8 also provides information on analytical parameters analyzed, and historical groundwater elevations from measurements performed in July 2014 and September 2014.

Monitoring well construction logs are included in Appendix E of this document.

If biofouling or silt accumulation occurs in the on-site and/or off-site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced, if an event renders the wells unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC will be notified prior to any repair or decommissioning of any monitoring well for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent Periodic Review Report. Well decommissioning without replacement will be done only with the prior approval of the NYSDEC. Well abandonment will be performed in accordance with NYSDEC's guidance entitled, "CP-43: Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be replaced in kind in the nearest available location, unless otherwise approved by the NYSDEC.

The sampling frequency was modified with the approval of the NYSDEC, as described in Section 4.4.4.

Deliverables for the groundwater monitoring program are specified in Section 7.0 – Reporting Requirements.

4.4.2 Soil Vapor Intrusion Sampling

Annual monitoring of the indoor air in Area 1 through Area 6 was completed for a period of three years to evaluate the potential for soil vapor intrusion. Prior to the collection of the samples, the chemical product inventory was updated for products used in the sample location and surrounding

areas of the building in accordance with the NYSDOH guidance document protocols. In conjunction with this testing, an outdoor (background) sample was collected from a location positioned upwind of the Site.

The sampling frequency was modified with the approval of the NYSDEC, as described in Section 4.4.4.

Deliverables for the soil vapor intrusion sampling program are specified in Section 7.0 – Reporting Requirements.

4.4.3 Monitoring and Sampling Protocol

All sampling activities were recorded in a field book and associated sampling log as provided in Appendix I - Site Management Forms. Other observations (e.g., groundwater monitoring well integrity, etc.) were noted on the sampling log. The sampling logs served as the inspection form for the monitoring network. Additional detail regarding monitoring and sampling protocols are provided in the site-specific Field Sampling Plan provided as Appendix F of this document.

4.4.4 Cessation of Post-Remediation Media Monitoring and Sampling

In accordance with the SMP Revision 1 monitoring schedule, groundwater and indoor air monitoring was completed for a period of three years to assess the effectiveness of the remedy. Based upon the reported results over this three-year period, the remedy was confirmed to be effective, and the annual PRR for the reporting period February 11, 2018 through February 10, 2019 included a recommendation for the cessation of groundwater and indoor air monitoring at the Site. In February 2020, the NYSDOH requested that additional indoor air samples and groundwater sample from one monitoring well be collected prior to the cessation of sampling. To this end, it was agreed that indoor air samples would be collected from Area 1 and Area 2 (i.e., located in the northern portion of the building at the Site), a background air sample would be collected from a location to be determined at the time of sampling, and the three air samples collected would be tested for VOCs to assess the current indoor air quality in these areas. Further, an additional groundwater sample was collected from monitoring well MW-F (i.e., located in the

shipping lot on the western portion of the Site) and that this sample be tested for VOCs and SVOC to assess the concentrations of chloroform and bis (2-ethylhexyl) phthalate (respectively) detected during the most-recent sampling event at this location. [Note: The concentration of chloroform detected in the June 2018 groundwater sample collected from monitoring well MW-F exceeded the groundwater standard of 7 parts per billion (ppb) and the concentration of bis (2-ethylhexyl) phthalate detected in the June 2016 and June 2017 groundwater samples collected from monitoring well MW-F exceeded the groundwater standard of 5 ppb for bis (2-ethylhexyl) phthalate.] The location of indoor air sample locations Area 1 and Area 2, are presented on Figure 9. The location of monitoring well MW-F is presented on Figure 13.

The indoor/background air samples and the groundwater sample described above were collected from the Site on March 9, 2020 using the sampling protocols outlined in this SMP. The results of the sampling/testing were transmitted to the NYSDEC in an addendum to the PRR for the reporting period February 11, 2019 through February 10, 2020, dated March 26, 2020. Following receipt and review of the data collected from the Site on March 9, 2020, the NYSDEC issued a letter dated March 31, 2020, stating, “The NYSDEC and NYSDOH have reviewed your March 26, 2020 Periodic Review Report (PRR) Addendum and hereby accept the cessation of indoor air and groundwater sampling.”

5.0 OPERATION AND MAINTENANCE PLAN

5.1 General

This Operation and Maintenance Plan provides a brief description of the measures necessary to operate, monitor and maintain the mechanical components of the remedy selected for the site.

This Operation and Maintenance Plan:

- Includes the procedures necessary to allow individuals unfamiliar with the site to operate and maintain the SSD systems;
- Will be updated periodically to reflect changes in site conditions or the manner in which the SSD systems are operated and maintained.

Further detail regarding the Operation and Maintenance of the SSD system is provided in Appendix J - Operation and Maintenance Manual. A copy of this Operation and Maintenance Manual, along with the complete SMP, is maintained at the site. This Operation and Maintenance Plan is not to be used as a stand-alone document, but as a component document of this SMP.

5.2 Remedial System (or other Engineering Control) Performance Criteria

5.2.1 SSD System Performance Criteria

The SSD system is intended to be operated indefinitely until such time as monitoring data indicates that the system is no longer required (e.g., VOC concentrations in sub-slab and indoor air have been reduced below applicable target levels), and approval is received by NYSDEC and NYSDOH to discontinue system operations.

The basic processes utilized in this system are summarized as follows:

- Sub-Slab Ventilation System – a series of vent points have been installed to induce a negative pressure beneath the floor in the vapor mitigation area of the building, this minimizing the potential for soil vapors to enter the building.

5.3 Operation and Maintenance of Sub-slab Depressurization System

The following sections provide a description of the operations and maintenance of the SSD system. Cut-sheets and as-built drawings for the SSD system are provided in Appendix J - Operations and Maintenance Manual.

5.3.1 System Start-Up and Testing

The only mechanical portion of the system is the set of fans. Start-up of any or all of these fans from a shutdown condition requires only that power be restored to the fan. It is expected that the fans will be continuously maintained in an operational condition, and these fans do not require any type of manual restart, so the fans will restart automatically once power is restored to the building or circuit. In the event that a fan is de-energized for work on the fan or associated ductwork, re-energizing of the fan will similarly re-enable that portion of the soil vapor mitigation system.

Equipment manufacturer and model number information is provided in the record drawings (See Appendix J).

5.3.2 Routine System Operation and Maintenance

The soil vapor intrusion mitigation system is designed for continuous, unmanned operation, and requires very little operation and maintenance labor. All components of this system are designed for years of uninterrupted service. Nonetheless, quarterly system checks and annual reviews will be performed to confirm that all are operating as intended, and to identify the need for any maintenance. These monitoring activities will be completed as described in, and documented on, the log forms in Appendix I.

5.3.3 Non-Routine Operation and Maintenance

As stated above, the soil vapor mitigation system is designed for continuous, unmanned operation. Non-routine maintenance would be limited to damage incurred to the system that would be likely to reduce system effectiveness and would result in either repair or replacement of the affected system component.

5.3.4 System Monitoring Devices and Alarms

The soil vapor mitigation system is designed for continuous, unmanned operation and does not have alarms. Quarterly system checks and annual reviews will indicate if maintenance and repairs are warranted. Operational problems will be noted in the Periodic Review Report to be prepared for that reporting period.

6.0 PERIODIC ASSESSMENTS/EVALUATIONS

6.1 Climate Change Vulnerability Assessment

Increases in both the severity and frequency of storms/weather events, an increase in sea level elevations along with accompanying flooding impacts, shifting precipitation patterns and wide temperature fluctuation, resulting from global climactic change and instability, have the potential to significantly impact the performance, effectiveness and protectiveness of a given site and associated remedial systems. Vulnerability assessments provide information so that the site and associated remedial systems are prepared for the impacts of the increasing frequency and intensity of severe storms/weather events and associated flooding.

This section provides a summary of vulnerability assessments that will be conducted for the site during periodic assessments, and briefly summarizes the vulnerability of the site and/or engineering controls to severe storms/weather events and associated flooding.

- Flood Plain: Based on review of a Flood Insurance Rate Map for a portion of the City of Olean, NY (Community Panel 360068 0001 B effective date November 1, 1978) acquired from the online FEMA Flood map services Center, the Site is identified with Zone B and Zone C designations. The northern portion of the Site is designated as being in Zone B, which is defined as "Areas of moderate flood hazard, area between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than 1 foot or where the contributing drainage are is less than one square mile; or areas protected by levees from the base flood". The southern portion of the Site is designated as being in Zone C, which is defined as "Area of minimal flood hazard". As such, the Site is considered outside the 100-year floodplain.
- Site Drainage and Storm Water Management: The existing Site development has adequate storm water management systems.

- Erosion: The majority of the Site is covered by the existing building. The grade of the Site is such that erosion will not occur during periods of severe rain events.
- High Wind: The majority of the Site is covered by the existing building. Remedial system components are not susceptible to damage from the wind itself or falling objects, such as trees or utility structures during periods of high wind.
- Electricity: The SSDS associated with mitigation of soil vapor intrusion, is a component of the remedy that could be susceptible to power loss and/or dips/surges in voltage during severe weather events, including lightning strikes. It is anticipated that such disruptions would be temporary and would have minimal effect on human health since business operations at the Site would also be shut down during such events due to the lack of electricity.
- Spill/Contaminant Release: No areas of the Site and/or remedial system are anticipated to be susceptible to a spill or other contaminant release due to storm-related damage caused by flooding, erosion, high winds, loss of power etc.

6.2 Green Remediation Evaluation

NYSDEC's DER-31 Green Remediation requires that green remediation concepts and techniques be considered during all stages of the remedial program including site management, with the goal of improving the sustainability of the cleanup and summarizing the net environmental benefit of any implemented green technology. This section of the SMP provides a summary of any green remediation evaluations to be completed for the site during site management, and as reported in the Periodic Review Report (PRR).

- Waste Generation: Waste generation is minimal since engineering controls and institutional controls are used as part of the remedy. In addition, groundwater sampling techniques utilized for this Site generate minimal quantities of waste. As such, it does not appear that additional waste reduction efforts are necessary at this time.

- Energy Usage: The SSDS is powered by electricity provided by an energy services company. The system has been engineered and designed to incorporate fans that operate near the peak efficiency points on their design curves for optimum efficiency while maintaining negative pressure beneath the portions of the building slab where mitigation of potential soil vapor intrusion is required. Other sources of electrical energy (hydro, solar, wind) may be cost prohibitive, may not be efficient, may not be available, or may not be reliable to solely maintain SSDS operation.

- Emissions: The only potential emissions associated with the remedy at the Site are from operation of the SSDS and from automobiles used for transportation to and from the site for inspections and/or sampling. These emissions are considered typical in relation to the type of remedy being implemented at the Site.

- Water usage: Potable water use at the Site as part of the remedy is minimal (e.g., decontamination water), and is procured from the City of Olean public water system. In addition, the analytical laboratory may provide minimal amounts of deionized water for certain types of samples associated with monitoring.

- Land and/or ecosystems: No disturbance or restoration of land and/or ecosystems is anticipated in relation to the remedy for the Site.

6.2.1 Timing of Green Remediation Evaluations

For any future major remedial system components installed/implemented at the Site, green remediation evaluations and corresponding modifications will be undertaken as part of a formal Remedial System Optimization (RSO), or at any time that the Project Manager feels appropriate (e.g. during significant maintenance events or in conjunction with storm recovery activities).

Modifications resulting from green remediation evaluations will be routinely implemented and scheduled to occur during planned/routine operation and maintenance activities. Reporting of these

modifications will be presented in the PRR, and incorporating the Green Remediation Metrics Form (Appendix I), as applicable.

6.2.2. Remedial Systems

Remedial systems will be operated properly considering the current site conditions to conserve materials and resources to the greatest extent possible. Consideration will be given to operating rates and use of reagents and consumables. Spent materials will be sent for recycling, as appropriate.

6.2.3 Building Operations

Structures including buildings and sheds will be operated and maintained to provide for the most efficient operation of the remedy, while minimizing energy use, waste generation and water consumption.

6.2.4 Frequency of System Checks, Sampling and Other Periodic Activities

Transportation to and from the Site and use of consumables in relation to visiting the Site in order to conduct system checks and or collect samples and shipping samples to a laboratory for analyses have direct and/or inherent energy costs. The schedule and/or means of these periodic activities have been prepared so that these tasks can be accomplished in a manner that does not impact remedy protectiveness, but reduces expenditure of energy or resources.

6.2.5 Metrics and Reporting

The remedy for the Site involves little to no waste generation, energy usage, water usage, transportation, and disturbance to land/ecosystems. As such, documentation and reporting in relation to green remediation during site management is not warranted.

6.3 Remedial System Optimization

A Remedial Site Optimization (RSO) study will be conducted any time that the NYSDEC or the remedial party requests in writing that an in-depth evaluation of the remedy is needed. An RSO may be appropriate if any of the following occur:

- The remedial actions have not met or are not expected to meet RAOs in the time frame estimated in the Decision Document;
- The management and operation of the remedial system is exceeding the estimated costs;
- The remedial system is not performing as expected or as designed;
- Previously unidentified source material may be suspected;
- Plume shift has potentially occurred;
- Site conditions change due to development, change of use, change in groundwater use, etc.;
- There is an anticipated transfer of the site management to another remedial party or agency; and
- A new and applicable remedial technology becomes available.

An RSO will provide a critique of a site's conceptual model, give a summary of past performance, document current cleanup practices, summarize progress made toward the site's cleanup goals, gather additional performance or media specific data and information and provide recommendations for improvements to enhance the ability of the present system to reach RAOs or to provide a basis for changing the remedial strategy.

The RSO study will focus on overall site cleanup strategy, process optimization and management with the intent of identifying impediments to cleanup and improvements to site operations to increase efficiency, cost effectiveness and remedial time frames. Green remediation technology and principals are to be considered when performing the RSO.

7.0. REPORTING REQUIREMENTS

7.1 Site Management Reports

All site management inspection, maintenance and monitoring events will be recorded on the appropriate site management forms provided in Appendix I. These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format to the NYSDEC in accordance with the requirements of Table 2 and summarized in the Periodic Review Report.

Table 3: Schedule of Monitoring/Inspection Reports

Task/Report	Reporting Frequency*
Periodic Review Report	Annually, or as otherwise determined by the Department
Inspection Report (Site Cover)	Annually
Groundwater Monitoring Results Letter	Quarterly for first year Semi-annually for years two to five
Indoor Air Monitoring Letter Summary	Annually

* The frequency of events will be conducted as specified until otherwise approved by the NYSDEC.

All monitoring/inspections reports will include, at a minimum:

- Date of event or reporting period;
- Name, company, and position of person(s) conducting monitoring/inspection activities;

- Description of the activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet);
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc.);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-identified format);
- Any observations, conclusions, or recommendations; and
- A determination as to whether contaminant conditions have changed since the last reporting event.

Routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting maintenance activities;
- Description of maintenance activities performed;
- Any modifications to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and,
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

Non-routine maintenance event reporting forms will include, at a minimum:

- Date of event;

- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- Description of non-routine activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

Data will be reported in digital format as determined by the NYSDEC. Currently, data is to be supplied electronically and submitted to the NYSDEC EQuIS^{TM} database in accordance with the requirements found at this link http://www.dec.ny.gov/chemical/62440.html.

7.2 Periodic Review Report

A Periodic Review Report (PRR) will be submitted to the Department beginning sixteen (16) months after the Certificate of Completion is issued. After submittal of the initial Periodic Review Report, the next PRR shall be submitted annually to the Department or at another frequency as may be required by the Department. In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in Appendix D, Environmental Easement. The report will be prepared in general accordance with NYSDEC's DER-10, and submitted within 30 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the site.
- Results of the required annual site inspections and severe condition inspections, if applicable.

- All applicable site management forms and other records generated for the site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted.

- A summary of any discharge monitoring data and/or information generated during the reporting period, with comments and conclusions.

- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor, etc.), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends.

- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted in digital format as determined by the NYSDEC. Currently, data is supplied electronically and submitted to the NYSDEC EQuIS^{TM} database in accordance with the requirements found at this link: http://www.dec.ny.gov/chemical/62440.html.

- A site evaluation, which includes the following:

  – The compliance of the remedy with the requirements of the site-specific RAWP, ROD or Decision Document;

  – The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;

  – Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring and Sampling Plan for the media being monitored;

  – Recommendations regarding any necessary changes to the remedy and/or Monitoring and Sampling Plan; and

- Trends in contaminant levels in the affected media will be evaluated to determine if the remedy continues to be effective in achieving remedial goals as specified by the Decision Document.
- The overall performance and effectiveness of the remedy.

7.2.1 Certification of Institutional and Engineering Controls

Following the last inspection of the reporting period, a Professional Engineer licensed to practice in New York State will prepare, and include in the Periodic Review Report, the following certification as per the requirements of NYSDEC DER-10:

"*For each institutional or engineering control identified for the site, I certify that all of the following statements are true:*

- *The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;*
- *The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;*
- *Nothing has occurred that would impair the ability of the control to protect the public health and environment;*
- *Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;*
- *Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;*
- *If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;*
- *Use of the site is compliant with the environmental easement;*
- *The engineering control systems are performing as designed and are effective;*

- *To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program and generally accepted engineering practices; and*
- *The information presented in this report is accurate and complete.*

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as Silence DoGood, LLC.

- *No new information has come to my attention, including groundwater monitoring data from wells located at the site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of off-site contamination are no longer valid; and*
- *The assumptions made in the qualitative exposure assessment remain valid.*

The signed certification will be included in the Periodic Review Report.

The Periodic Review Report will be submitted, in electronic format, to the NYSDEC Central Office, Regional Office in which the site is located and the NYSDOH Bureau of Environmental Exposure Investigation. The Periodic Review Report may need to be submitted in hard-copy format, as requested by the NYSDEC project manager.

7.3 Corrective Measures Work Plan

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a Corrective Measures Work Plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the Corrective Measures Work Plan until it has been approved by the NYSDEC.

7.4 Remedial Site Optimization Report

In the event that an RSO is to be performed (see Section 6.3), upon completion of an RSO, an RSO report must be submitted to the Department for approval. A general outline for the RSO report is provided in Appendix K. The RSO report will document the research/investigation and data gathering that was conducted, evaluate the results and facts obtained, present a revised conceptual site model and present recommendations. RSO recommendations are to be implemented upon approval from the NYSDEC. Additional work plans, design documents, HASPs etc., may still be required to implement the recommendations, based upon the actions that need to be taken. A final engineering report and update to the SMP may also be required.

The RSO report will be submitted, in electronic format, to the NYSDEC Central Office, Regional Office in which the site is located, Site Control and the NYSDOH Bureau of Environmental Exposure Investigation.

8.0 REFERENCES

6NYCRR Part 375, Environmental Remediation Programs. December 14, 2006.

NYSDEC DER-10 – "Technical Guidance for Site Investigation and Remediation".

NYSDEC, 1998. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. June 1998 (April 2000 addendum).

Phase I Environmental Site Assessment, Henkel Corporation, 211 Franklin Street, Olean, New York dated May 2007 prepared by Environmental Resources Management.

Phase 1 Environmental Site Assessment, 119, 202 & 211 Franklin Street and 120 West Connell Street, City of Olean, New York dated November 1, 2013 prepared by DAY.

Preliminary Phase II Environmental Site Assessment, 119 Franklin Street, 211 Franklin Street, 202 Franklin Street and 120 West Connell Street, Olean, New York dated October 27, 2013 prepared by DAY.

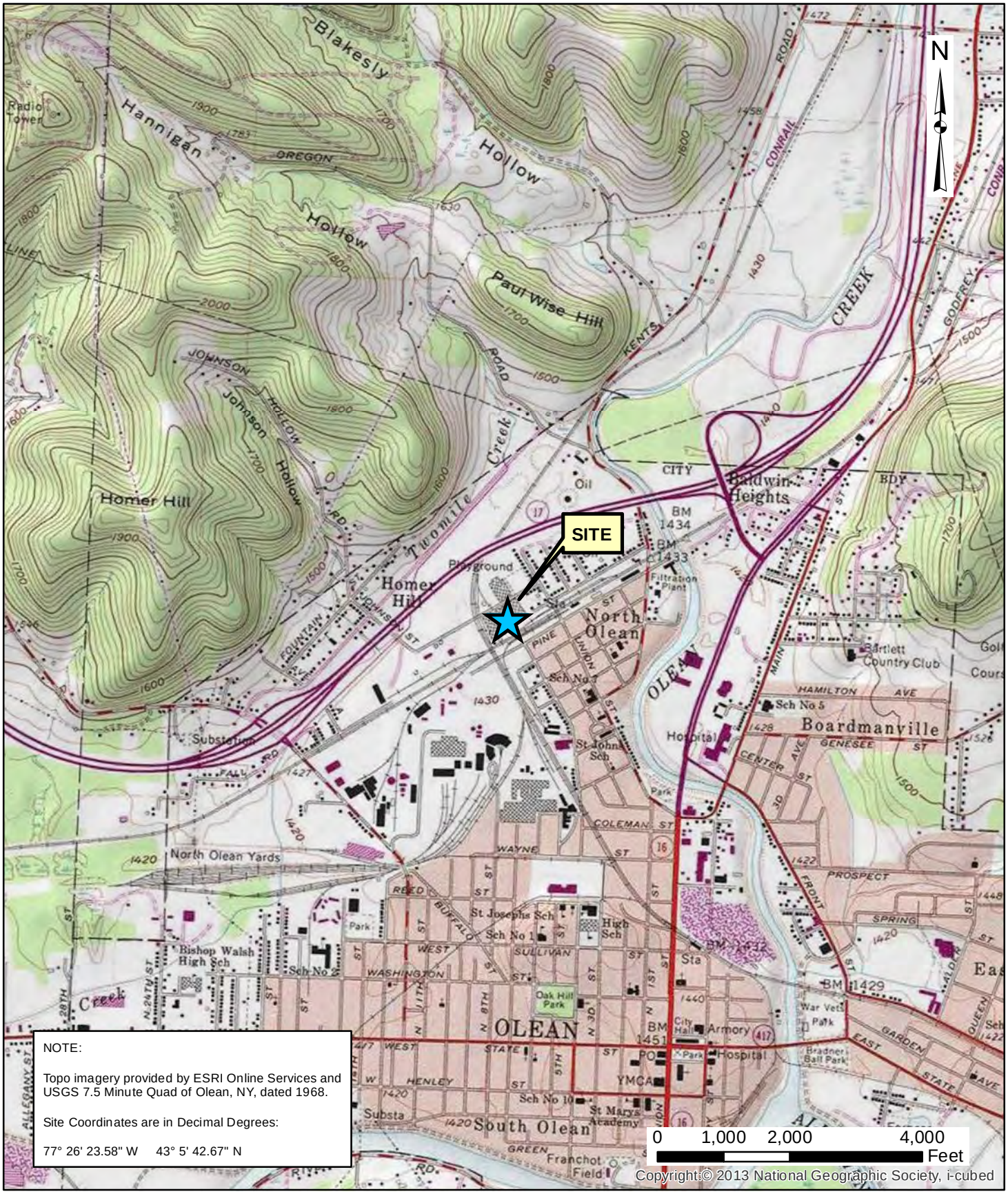
Remedial Investigation Alternatives Analysis Report, 211 Franklin Street, City of Olean, Cattaraugus County, New York, BCP Site Number C905038, dated January 2015 (revised April 20, 2015) prepared by DAY.

Supplemental Remedial Investigation/Remedial Alternatives Analysis Work Plan, 211 Franklin Street, Olean, New York 14760, NYSDEC Site Number C905038-05-14 dated October 2014 prepared by DAY.

Remedial Investigation/Remedial Alternatives Analysis Work Plan, 211 Franklin Street, Olean, New York 14760, NYSDEC Site Number C905038-05-14 dated May 2014 prepared by DAY.

Groundwater, by R. Allan Freeze and John A. Cherry, 1979

FIGURES

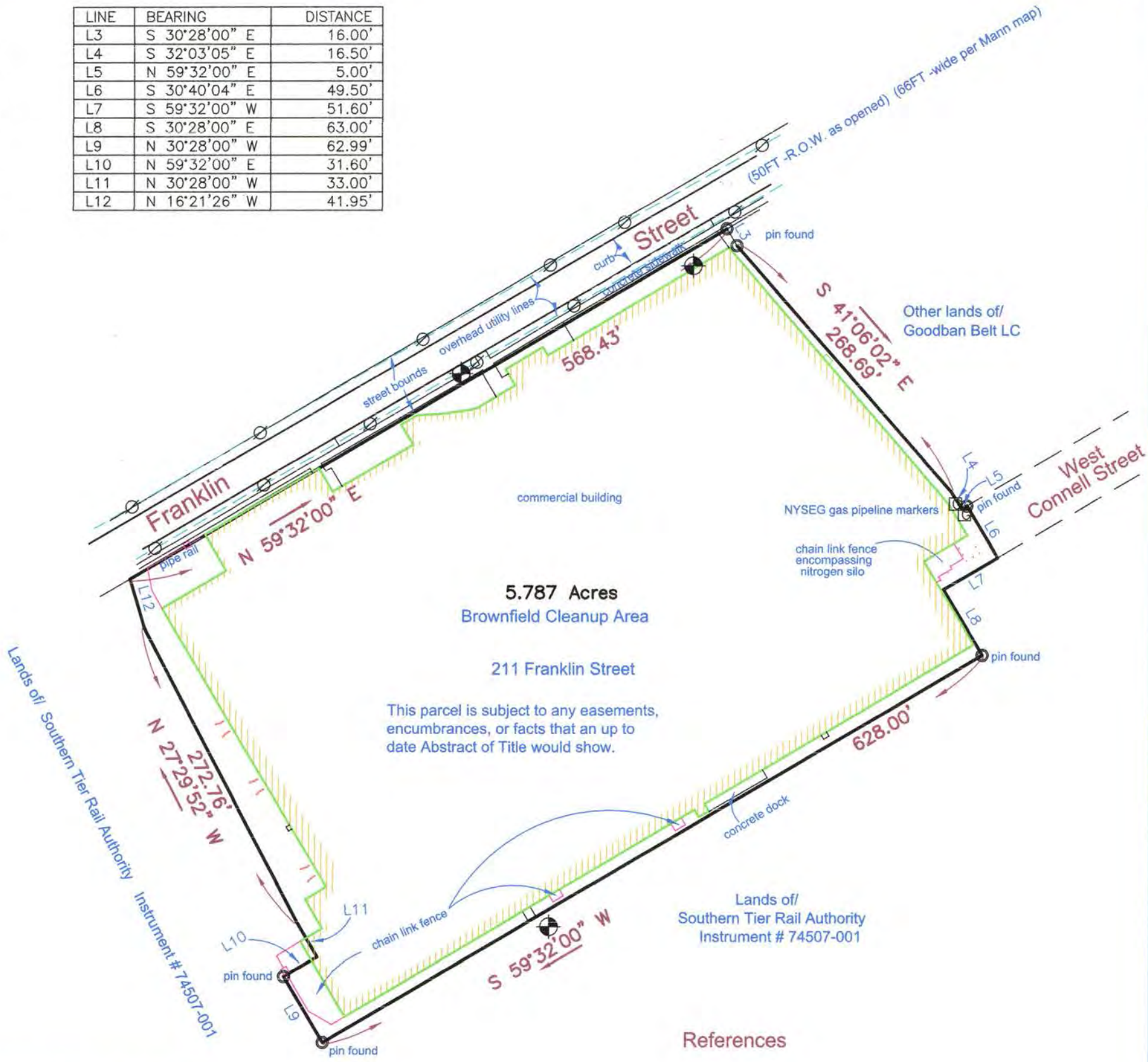


Date: 07-31-2015 Drawn By: CPS Scale: AS NOTED	day **DAY ENVIRONMENTAL, INC.** **Environmental Consultants** **Rochester, New York 14606** **New York, New York 10170**	Project Title: 211 FRANKLIN STREET OLEAN, NEW YORK BCP SITE NO. C905038 SITE MANAGEMENT PLAN Drawing Title: Site Location Map	Project No. 4884S-13 FIGURE 1

Document Path: E:\GIS\GIS Mapping\4884S-13Solep\211Franklin\4884S-BCP-9 -211_Franklin Locus.mxd

Last Date Saved: 31 Jul 2015

LINE	BEARING	DISTANCE
L3	S 30°28'00" E	16.00'
L4	S 32°03'05" E	16.50'
L5	N 59°32'00" E	5.00'
L6	S 30°40'04" E	49.50'
L7	S 59°32'00" W	51.60'
L8	S 30°28'00" E	63.00'
L9	N 30°28'00" W	62.99'
L10	N 59°32'00" E	31.60'
L11	N 30°28'00" W	33.00'
L12	N 16°21'26" W	41.95'



Environmental Easement description
211 Franklin Street

Beginning at the intersection of the south bounds of Franklin Street with the east bounds of lands of Southern Tier Rail Authority LLC, thence N 59-32-00 E along the south street bounds of Franklin Street, a distance of 568.43' to a point, thence through the lands of Goodban Belt, LLC:
1) S 41-06-02 E, a distance of 268.69' to a point
2) S 30-28-00 E, a distance of 16.00' to a point
3) S 32-03-05 E, a distance of 16.50' to a point on the north bounds of West Connell Street, thence N 59-32-00 E along the north bounds of West Connell Street, a distance of 5.00' to a point, thence S 30-40-04 E crossing West Connell Street, a distance. of 49.50' to a point, thence S 59-32-00 W along the south bounds of West Connell Street, a distance of 51.60' to a point, thence along the bounds of lands now or formerly of Southern Tier Rail Authority:
1) S 30-28-00 E, a distance of 63.00' to a point
2) S 59-32-00 W, a distance of 628.00' to a point
3) N 30-28-00 W, a distance of 63.00' to a point
4) N 59-32-00 E, a distance of 31.60' to a point
5) N 30-28-00 W, a distance of 33.00' to a point
6) N 27-29-52 W, a distance of 272.76' to a point
7) N 16-21-26 W, a distance of 41.95' to the point of beginning

Contains 5.787 acres+/-

300 200 100 0
1IN=100FT

91.44 60.96 30.48 0
1IN=30.48METERS

References

1) Title Search/
Dated: December 20, 2010
File #5005973
Policy #7430732-8296035
Frontier Abstract & Research Services, Inc.

2) Deed/
Henkel Corporation to Goodban Belt LLC
Instrument # 145975-001
Dated: August 31, 2010
Recorded: September 1, 2010

3) Survey/
for Dexter Corporation
Dated: August 2, 1979
by M.C. Ackerman, LS 23028

Typical Symbols
-hydrant
-utility pole
-light pole
-monitor well
d. -deed distance
m. measured distance

This survey is certified to the following/

1) New York State Department of Environmental Conservation

Map and Survey for:
Goodban Belt LLC
of lands at
211 Franklin Street

Copies Invalid Unless Embossed

Alteration of This Document is Illegal Under Sec. 7209 Subdivision 2 of The New York State Education Law.

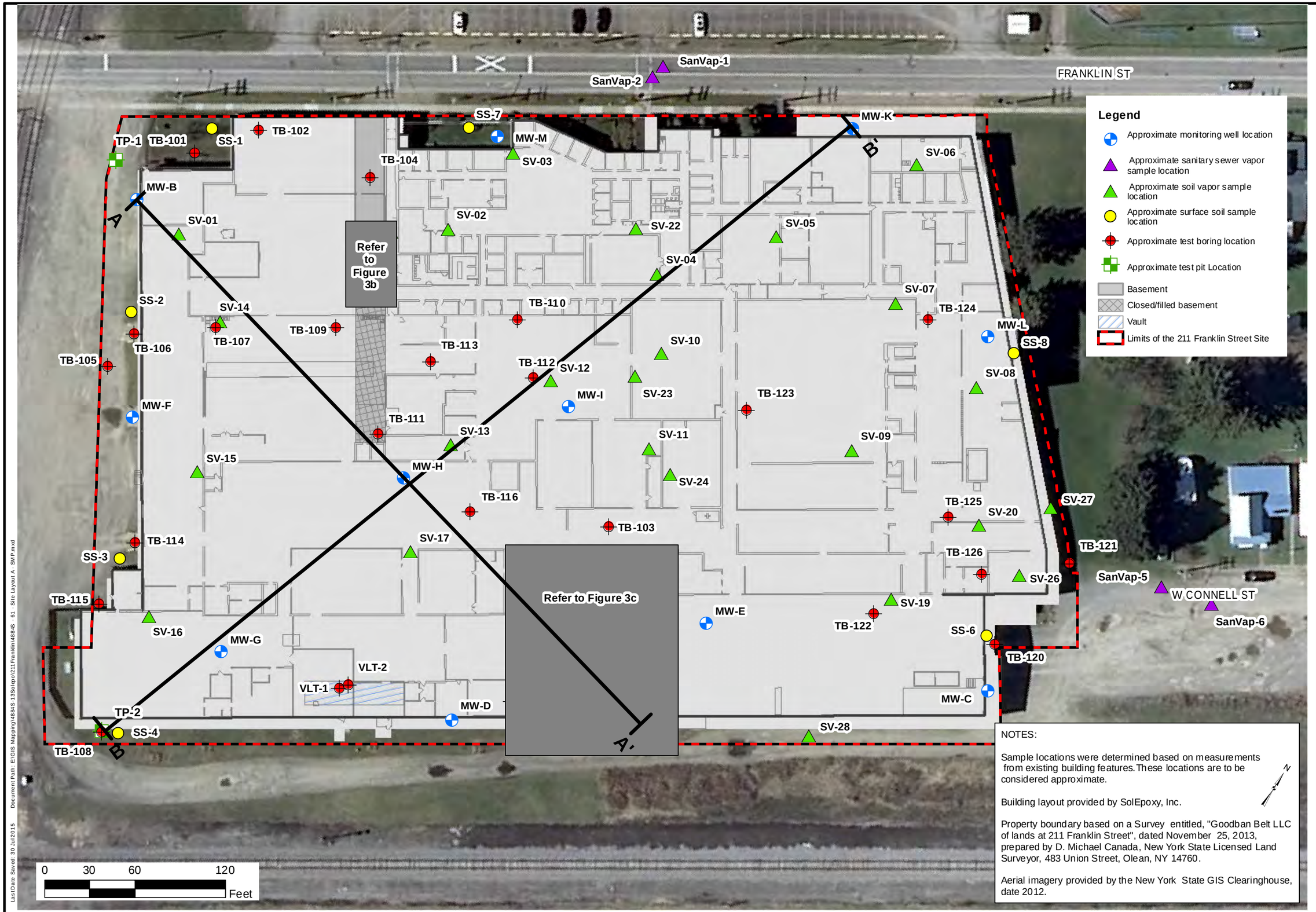
Part of Lots 4 & 6, Section 5 , Twp.# 2, Range # 4 of the Holland Land Co.'s Survey
Blocks 64 and 74 and part of Blocks 63, 65, 73, 75, 80, 81, and 82
Part of Franklin, Washington, Vine, and Spruce streets, and other lands
according to the "Mann Map of Olean Depot"
City of Olean
Cattaraugus County, New York
Date: November 25, 2013
Scale: 1IN = 100FT

Prepared By:
D. Michael Canada
New York State
Licensed Land Surveyor
483 North Union Street
Olean, NY 14760
N.Y.S. Lic. No.49215
716-379-7918

Job Number: 7526

SITE LAYOUT MAP FIGURE 2

Project: 4884S-13 BCP SITE NO. C905038 SITE MANAGEMENT PLAN



Legend

- Approximate monitoring well location
- Approximate sanitary sewer vapor sample location
- Approximate soil vapor sample location
- Approximate surface soil sample location
- Approximate test boring location
- Approximate test pit Location
- Basement
- Closed/filled basement
- Vault
- Limits of the 211 Franklin Street Site

NOTES:

Sample locations were determined based on measurements from existing building features. These locations are to be considered approximate.

Building layout provided by SolEpoxy, Inc.

Property boundary based on a Survey entitled, "Goodban Belt LLC of lands at 211 Franklin Street", dated November 25, 2013, prepared by D. Michael Canada, New York State Licensed Land Surveyor, 483 Union Street, Olean, NY 14760.

Aerial imagery provided by the New York State GIS Clearinghouse, date 2012.

DESIGNED BY	DRAWN BY	SCALE	DATE
RLK	CPS/CAH	AS NOTED	12-2014

DATE	DATE DRAWN	DATE ISSUED
12-2014	12-2014	07-30-2015

DAY ENVIRONMENTAL, INC.
Environmental Consultants
Rochester, New York 14606
New York, New York 10170

Project Title
211 FRANKLIN STREET
OLEAN, NEW YORK

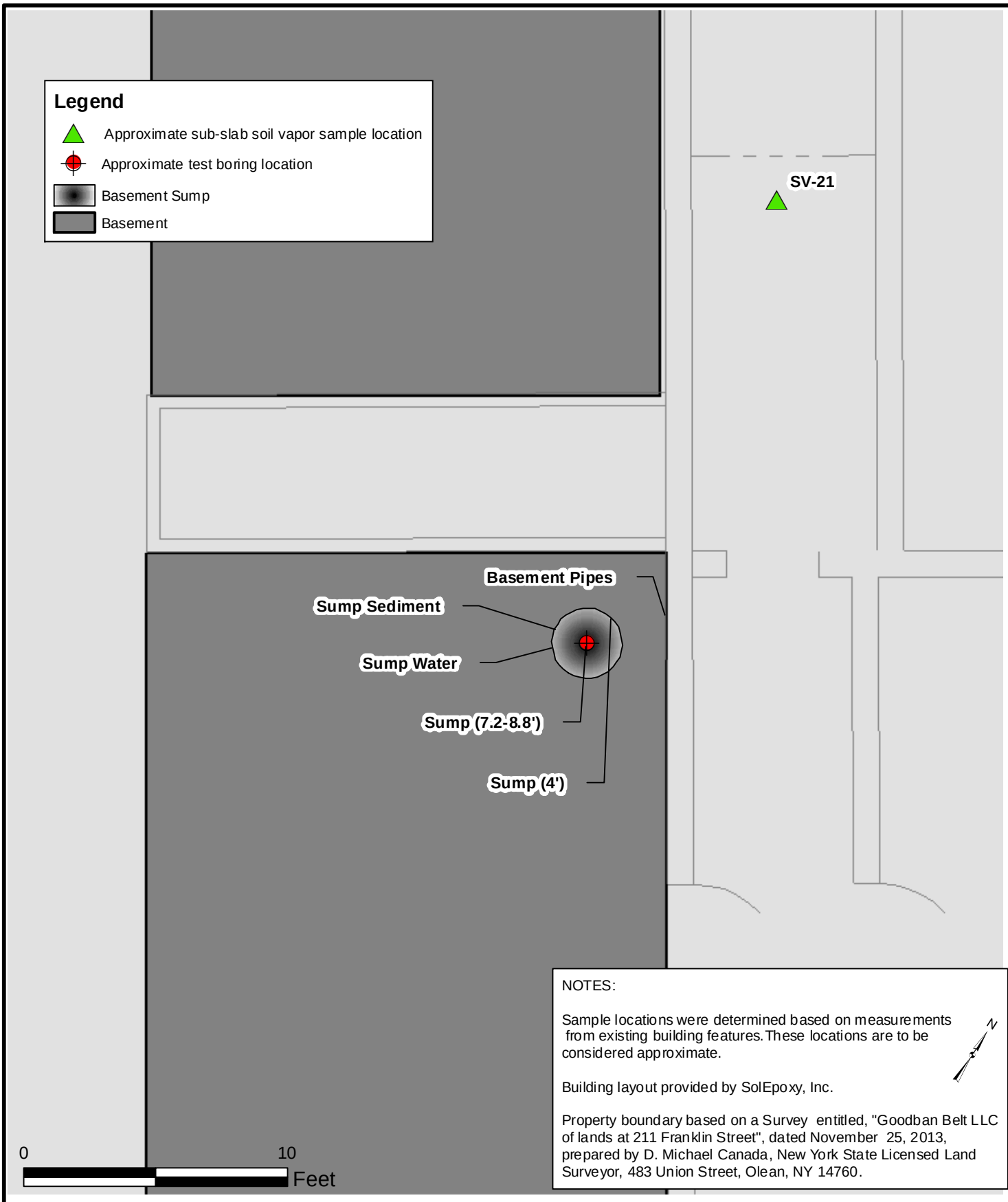
BCP SITE NO. C905038 SITE MANAGEMENT PLAN

Drawing Title
Site Layout Map with Sample Locations and Geologic Cross-Section Locations

Project No.
4884S-13

FIGURE 3a

Document Path: E:\GIS Mapping\4884S-13\Solgpx\211Franklin\4884S - 61 - Site Layout A - SMP.mxd
LastDate Saved: 30 Jul 2015



NOTES:

Sample locations were determined based on measurements from existing building features. These locations are to be considered approximate.

Building layout provided by SolEpoxy, Inc.

Property boundary based on a Survey entitled, "Goodban Belt LLC of lands at 211 Franklin Street", dated November 25, 2013, prepared by D. Michael Canada, New York State Licensed Land Surveyor, 483 Union Street, Olean, NY 14760.

Date: 07-30-2015

Drawn By: CAH

Scale: AS NOTED

day

DAY ENVIRONMENTAL, INC.

Environmental Consultants
Rochester, New York 14606
New York, New York 10170

Project Title:
211 FRANKLIN STREET
OLEAN, NEW YORK

BCP SITE NO. C905038 SITE MANAGEMENT PLAN

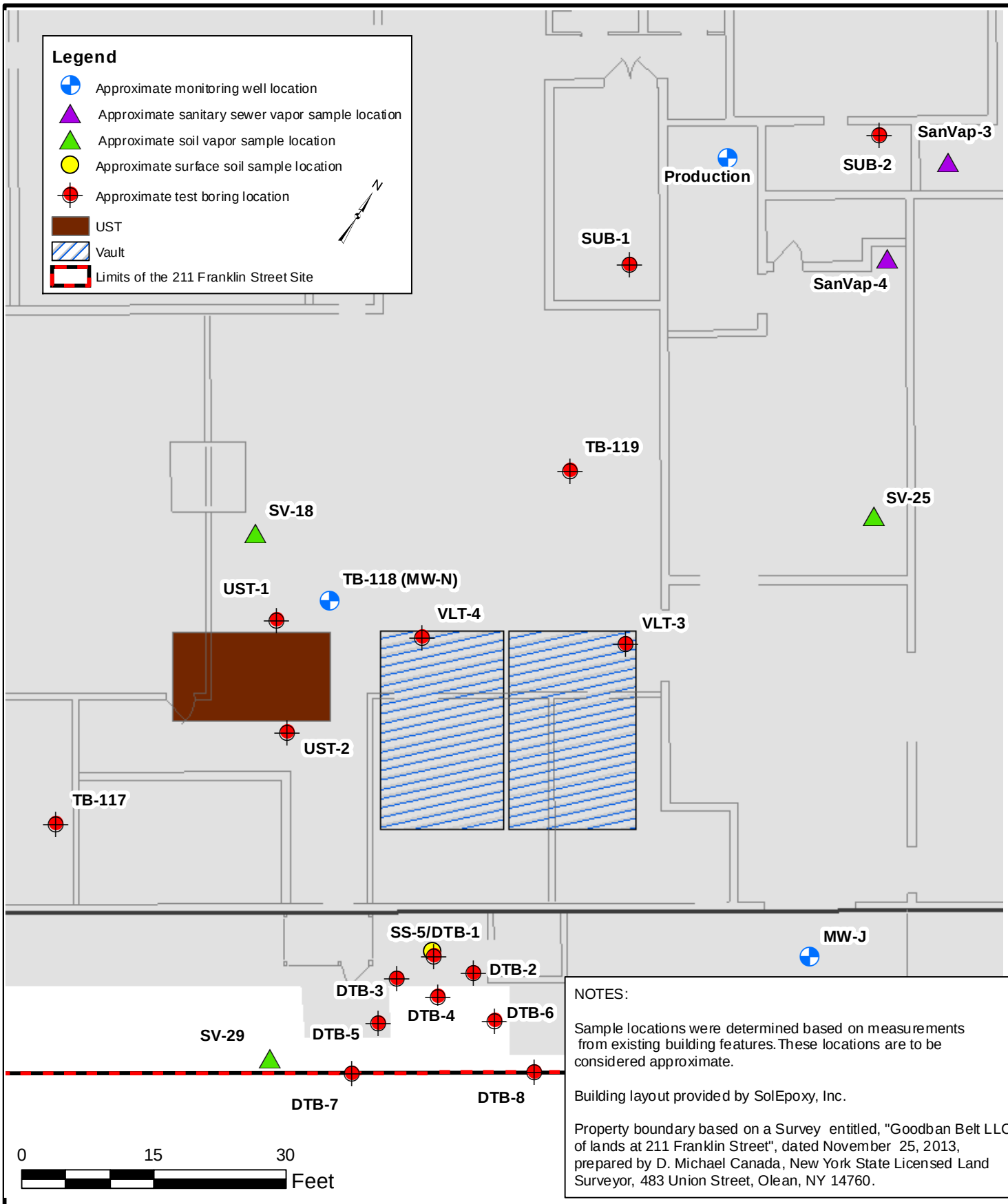
Drawing Title:
Site Plan: Basement Sump Area Locations

Project No.: 4884S-13

FIGURE 3b

Document Path: E:\GIS Mapping\4884S-13Solepo\211Franklin\4884S - 62 -Site Layout B -SMP.mxd

Last Date Saved: 30 Jul 2015



NOTES:

Sample locations were determined based on measurements from existing building features. These locations are to be considered approximate.

Building layout provided by SolEpoxy, Inc.

Property boundary based on a Survey entitled, "Goodban Belt LLC of lands at 211 Franklin Street", dated November 25, 2013, prepared by D. Michael Canada, New York State Licensed Land Surveyor, 483 Union Street, Olean, NY 14760.

Date: 07-30-2015

Drawn By: CAH

Scale: AS NOTED

day
DAY ENVIRONMENTAL, INC.
Environmental Consultants
Rochester, New York 14606
New York, New York 10170

Project Title: 211 FRANKLIN STREET
OLEAN, NEW YORK

BCP SITE NO. C905038 SITE MANAGEMENT PLAN

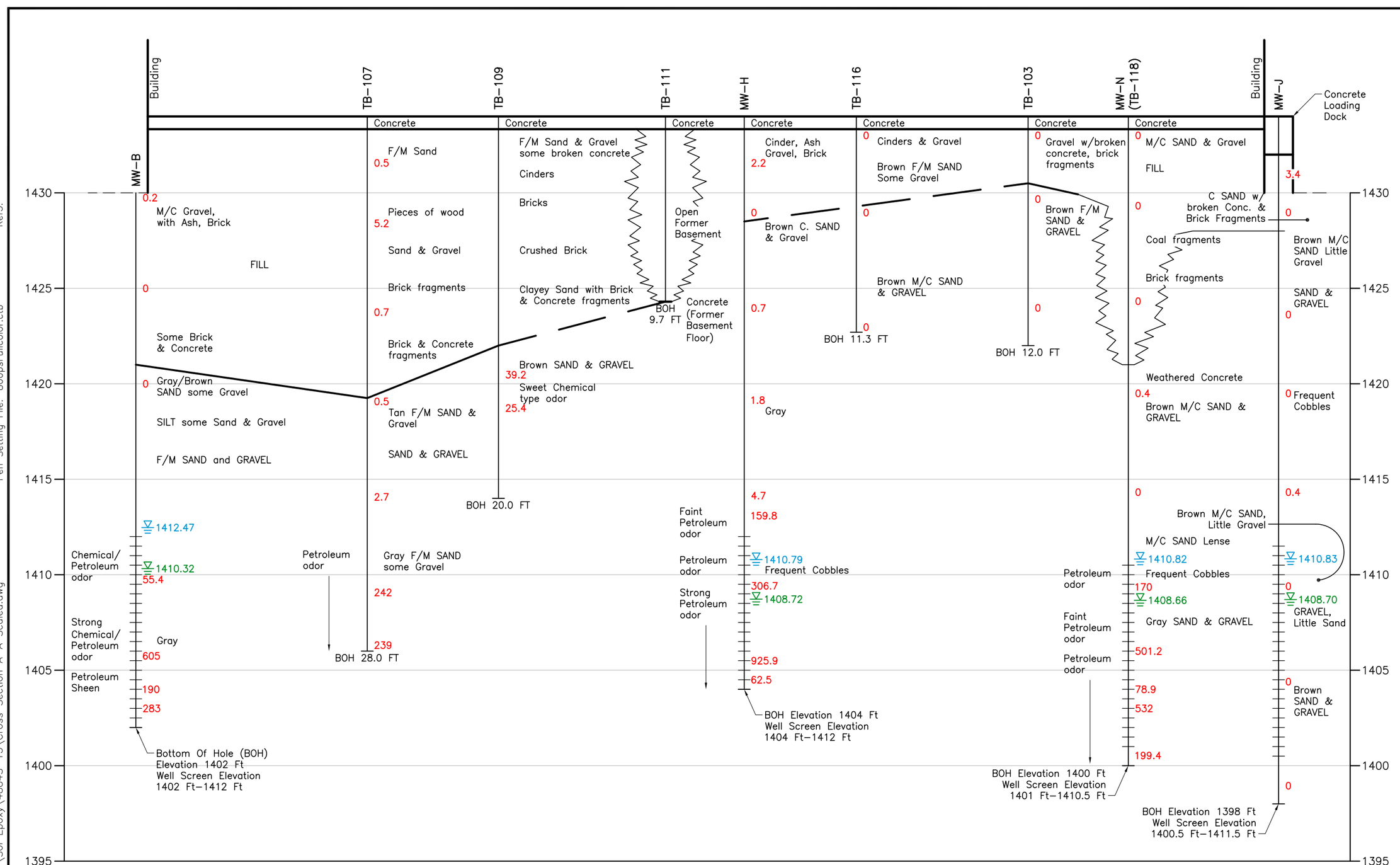
Drawing Title: Site Plan: Vault, UST and Exterior Delineation Area Locations

Project No.: 4884S-13

FIGURE 3c

Document Path: E:\GIS Mapping\4884S-13Solepo\211Franklin\4884S - 63 - Site Layout C - SMP.mxd

Last Date Saved: 30 Jul 2015



LEGEND

0 PID Reading Recorded In Parts Per Million (ppm)

1410.83 Groundwater Elevation Obtained On July 10, 2014

1408.70 Groundwater Elevation Obtained On September 30, 2014

GEOLOGIC CROSS SECTION A–A'

1" = 40'
1" = 5'

Ref1: Cross Section A-A.dwg
Ref2:
Ref3:

Xerox432AnsiB-2; 11 x 17
Layout Name: A-A SMP
Pen Setting File: 80psFullcolor.ctb

Time Plotted: Monday, August 03, 2015 8:29:14 AM
File Name: P:\Drawings\Sol Epoxy\4884S-13\Cross Section A-A Scaled.dwg

FIELD VERIFIED	RLK
DATE	7-2015
DRAWN BY	RJM
DATE DRAWN	8-3-2015
SCALE	As Noted
DATE ISSUED	8-3-2015

DAY ENVIRONMENTAL, INC.
ENVIRONMENTAL CONSULTANTS
ROCHESTER, NEW YORK 14606
NEW YORK, NEW YORK 10170

PROJECT TITLE
211 FRANKLIN STREET
OLEAN, NEW YORK

BCP SITE NO. C90538 SITE MANAGEMENT PLAN

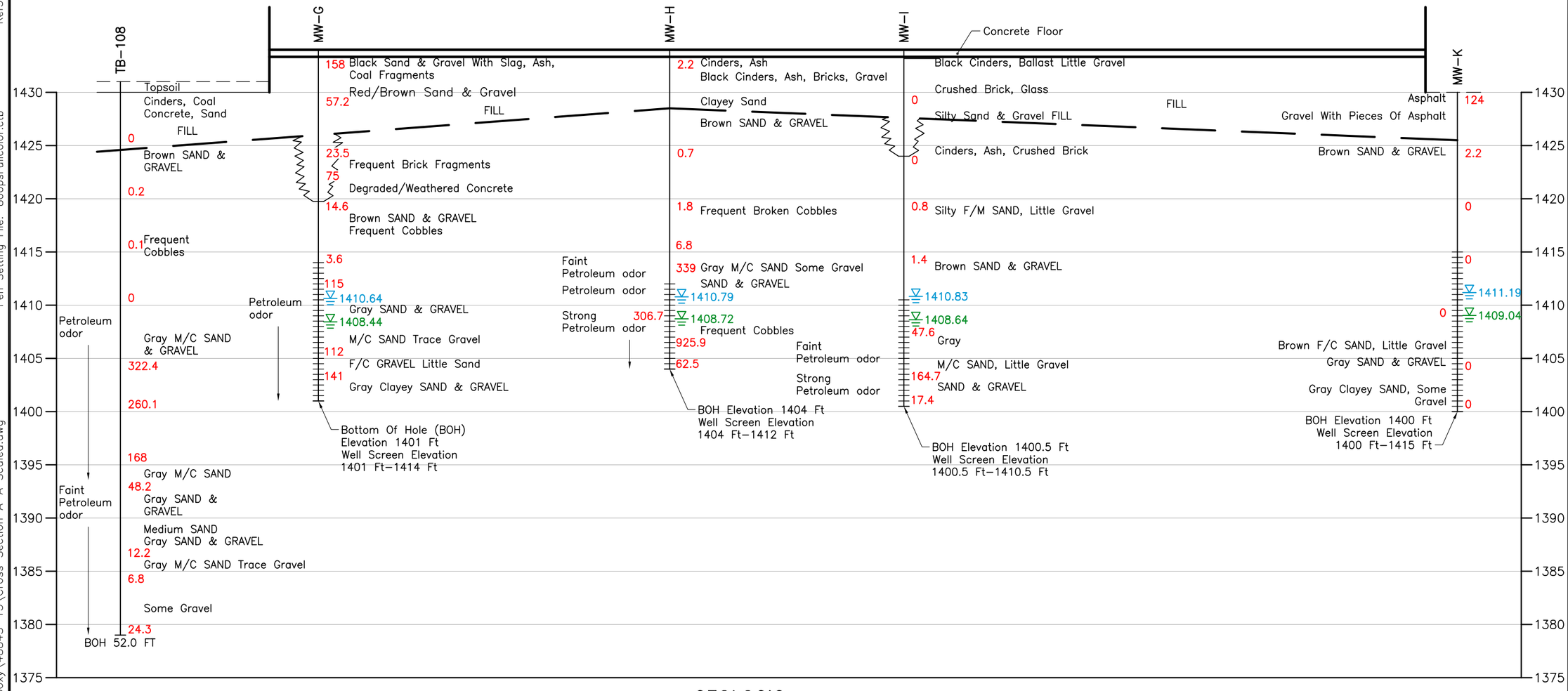
DRAWING TITLE
Geologic Cross Section A-A'

PROJECT NO.
4884S-13

FIGURE 4a

Ref1: Cross Section B-B.dwg
Ref2:
Ref3:

Xerox432AnsiB-2; 11 x 17
Layout Name: B-B SMP
Pen Setting File: 800psFullcolor.ctb



LEGEND

0	PID Reading Recorded In Parts Per Million (ppm)
1410.79	Groundwater Elevation Obtained On July 10, 2014
1408.72	Groundwater Elevation Obtained On September 30, 2014

GEOLOGIC CROSS SECTION B–B'

1" = 50'
1" = 10'

Time Plotted: Monday, August 03, 2015 8:32:01 AM
File Name: P:\Drawings\Sol Epoxy\4884S-13\Cross Section A-A Scaled.dwg

FIELD VERIFIED: RLK	DATE: 7-2015		
DRAWN BY: RJM	DATE DRAWN: 8-3-2015		
SCALE: As Noted	DATE ISSUED: 8-3-2015		

DAY ENVIRONMENTAL, INC.
ENVIRONMENTAL CONSULTANTS
ROCHESTER, NEW YORK 14606
NEW YORK, NEW YORK 10170

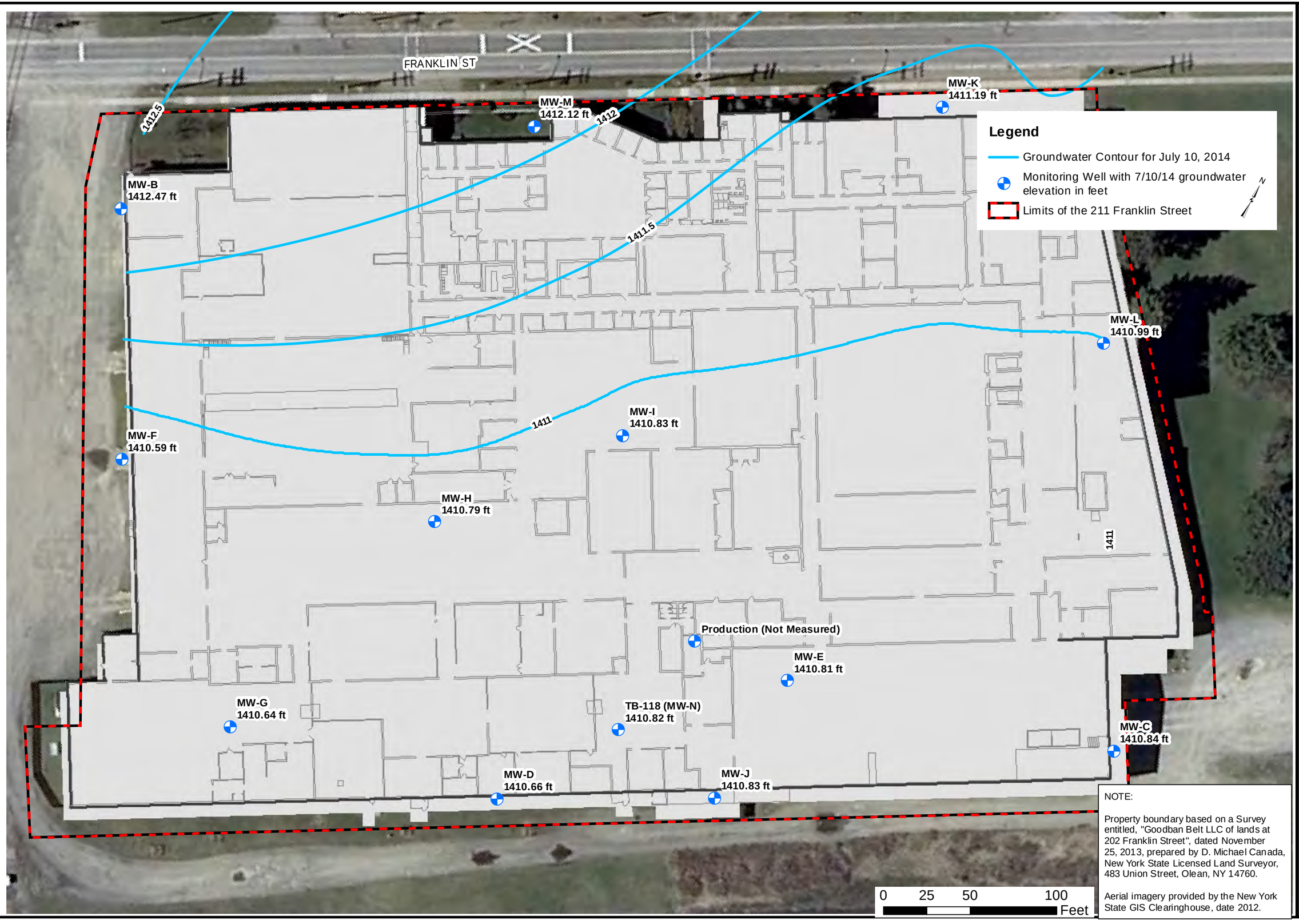
PROJECT TITLE
211 FRANKLIN STREET
OLEAN, NEW YORK

BCP SITE NO. C90538 SITE MANAGEMENT PLAN

DRAWING TITLE
Geologic Cross Section B-B'

PROJECT NO.
4884S-13

FIGURE 4b



Legend

- Groundwater Contour for July 10, 2014
- Monitoring Well with 7/10/14 groundwater elevation in feet
- Limits of the 211 Franklin Street

NOTE:

Property boundary based on a Survey entitled, "Goodban Belt LLC of lands at 202 Franklin Street", dated November 25, 2013, prepared by D. Michael Canada, New York State Licensed Land Surveyor, 483 Union Street, Olean, NY 14760.

Aerial imagery provided by the New York State GIS Clearinghouse, date 2012.

DESIGNED BY	RLK
DATE	11-2014
DRAWN BY	CAH
DATE DRAWN	11-2014
SCALE	AS NOTED
DATE IS SUED	07-31-2015

DAY ENVIRONMENTAL, INC.
Environmental Consultants
Rochester, New York 14606
New York, New York 10170

Project Title
211 FRANKLIN STREET
OLEAN, NEW YORK

BCP SITE NO. C905038 SITE MANAGEMENT PLAN

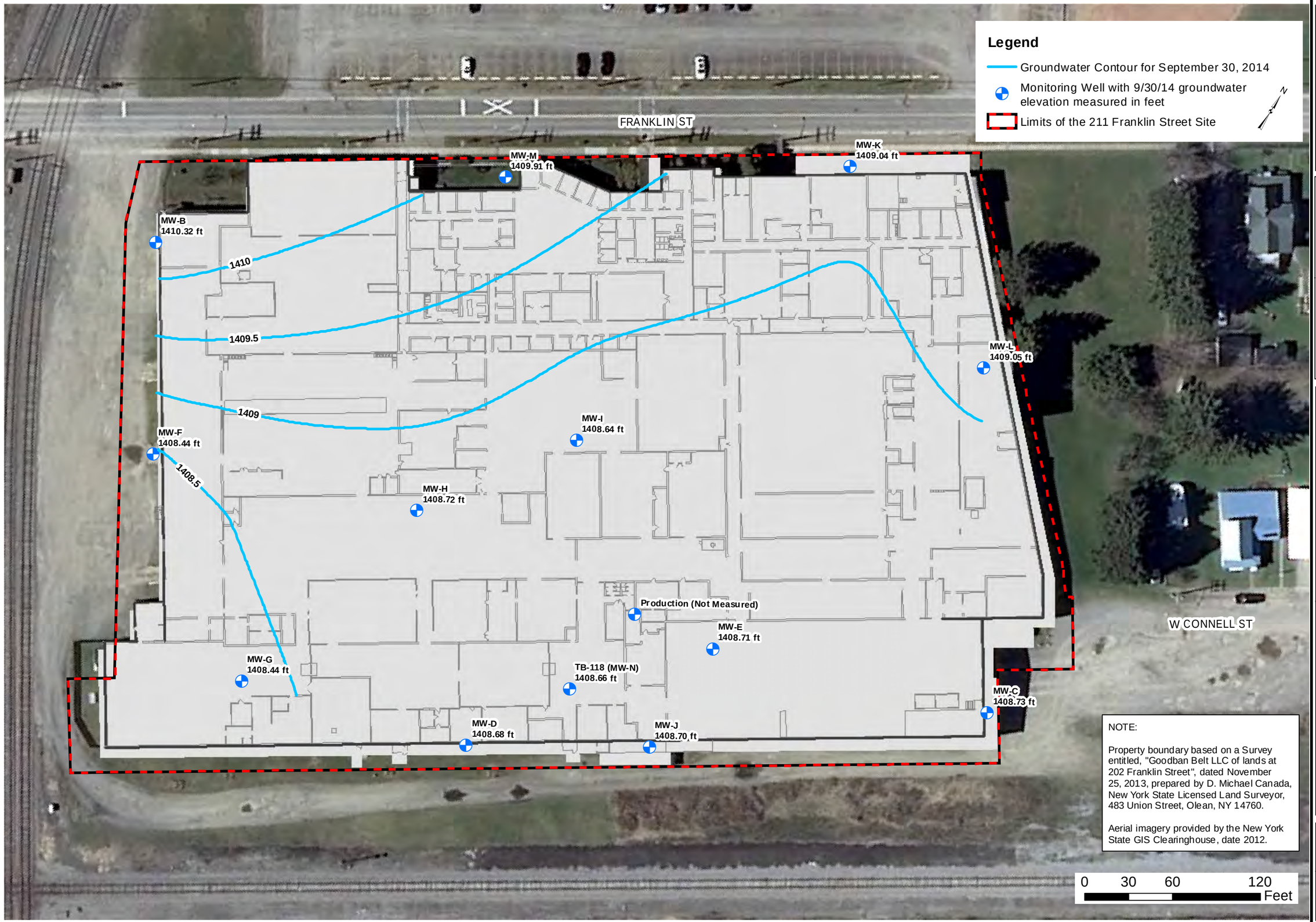
Drawing Title
Groundwater Contour Map: July 10, 2014

Project No.
4884S-13

FIGURE 5a

Document Path: E:\GIS Mapping\4884S-13\olepo\211Franklin\4884S - 64 - Groundwater Contour A - SMP.mxd

Last Date Saved: 31 Jul 2015



NOTE:

Property boundary based on a Survey entitled, "Goodban Belt LLC of lands at 202 Franklin Street", dated November 25, 2013, prepared by D. Michael Canada, New York State Licensed Land Surveyor, 483 Union Street, Olean, NY 14760.

Aerial imagery provided by the New York State GIS Clearinghouse, date 2012.

DESIGNED BY	RLK
DATE	11-2014
DRAWN BY	CAH/CPS
DATE DRAWN	11-2014
SCALE	AS NOTED
DATE IS SUED	07-31-2015

day
DAY ENVIRONMENTAL, INC.
Environmental Consultants
Rochester, New York 14606
New York, New York 10170

Project Title
211 FRANKLIN STREET
OLEAN, NEW YORK

BCP SITE NO. C905038 SITE MANAGEMENT PLAN

Drawing Title
Groundwater Contour Map: September 30, 2014

Project No.
4884S-13

FIGURE 5b

Last Date Saved: 31 Jul 2015 Document Path: E:\GIS Mapping\4884S-13\Sdepo\211Franklin\4884S - 65 - Groundwater Contour B - SMP.mxd

SS-1
Benzo(a)pyrene - U
Total PCBs - U
Arsenic - 12.6 ppm

TB-102 (11-12')
Arsenic - 30.0 ppm

TB-101 (40')
Arsenic - 17.7 ppm

TP-1 (2')
Arsenic - 35.5 ppm
Nickel - 472 ppm

SS-2
Benzo(a)pyrene - 0.31(J) ppm
Total PCBs - 0.179 ppm
Arsenic - 14.6 ppm

SS-7
Benzo(a)pyrene - 1.3 ppm
Total PCBs - U
Arsenic - 33.8 ppm

MW-K (1-2')
Benzo(a)pyrene - 1.2 ppm

SUMP (7.2 to 8.8')
Arsenic- 16.2 ppm

TB-110 (4')
Arsenic- 40.3 ppm
Cadmium- 11.8 ppm
Copper- 3,640 ppm
Lead- 2,890 ppm
Zinc- 11,400 ppm
Benzo(a)pyrene - 2.4 ppm

TB-124 (2-4')
Benzo(a)pyrene - 2.3 ppm

TB-107 (12.5')
Arsenic- 76.0 ppm
Copper- 1,200 ppm
Benz(a)anthracene- 11(D) ppm
Benzo(a)pyrene - 12(D) ppm
Benzo(b)fluoranthene- 13(D) ppm
Dibenz(a,h)anthracene- 2.2 ppm
Indeno(1,2,3-cd)pyrene- 7.7(D) ppm

SS-8
Benzo(a)pyrene - 1.4 ppm
Total PCBs - U
Arsenic - 25 ppm

MW-F (1.5')
Hexachlorobenzene - 17(D) ppm

TB-114 (3')
Arsenic- 120 ppm
Copper- 380 ppm

SS-3
Benzo(a)pyrene - 0.68 ppm
Total PCBs - U
Arsenic - 13 ppm

SUB-1 (0.4 to 0.7')
Arsenic- 22.5 ppm

SS-6
Benzo(a)pyrene - 2 ppm
Total PCBs - 0.32(J) ppm
Arsenic - 12.1 ppm

VLT-2 (soil)
Cadmium- 10.2 ppm
Nickel- 758 ppm

MW-G (1-3')
Arsenic- 129 ppm
Barium- 579 ppm
Cadmium- 15.3 ppm
Copper- 588 ppm
Lead- 3,030 ppm
Mercury- 17.90 ppm

TB-117 (0-2')
Cadmium- 10.0 ppm
Copper- 378 ppm

SS-4
Benzo(a)pyrene - 0.28(J) ppm
Total PCBs - 0.5 ppm
Arsenic - 20 ppm

Refer to Key Plan

Legend

- Limits of the 211 Franklin Street Site
- Approximate test pit location
- Approximate test boring location
- Approximate monitoring well location
- Approximate surface soil location

SS-8
Benzo(a)pyrene - 1.4 ppm
Total PCBs - U
Arsenic - 25 ppm

Sample Designation
ppm = parts per million
PCB= Polychlorinated Biphenyl
(J) = Estimated Value
(D) = Sample Diluted
(NT) = Not Tested
U = Not detected at a concentration above the analytical laboratory reporting limit.
25 = value exceeds Exceeds Restricted Commercial Use SCO value as referenced on Table x.

0 37.5 75 150 Feet

NOTES:

Sample locations were determined based on measurements from existing building features. These locations are to be considered approximate.

Building layout and utility locations provided by SolEpoxy, Inc.

Property boundary based on a Survey entitled, "Goodban Belt LLC of lands at 211 Franklin Street", dated November 25, 2013, prepared by D. Michael Canada, New York State Licensed Land Surveyor, 483 Union Street, Olean, NY 14760.

Aerial imagery provided by the New York State GIS Clearinghouse, date 2012.

DTB-3 (0-2")
Total PCBs - U
Arsenic - 5.6 ppm

SS-5/DTB-1 (0-2") (see Note 1)
Benzo(a)pyrene - 0.28(J) ppm
Total PCBs -1.5 ppm
Arsenic - 14 ppm
Cadmium - 16.3 ppm
Copper - 311 ppm
Nickel - 522 ppm

SS-5/DTB-1 (0.5-1")
Arsenic -21.2 ppm
Cadmium - 11.7 ppm
Copper - 328 ppm

DTB-4 (0-2")
Total PCBs - U
Arsenic - 14.3 ppm
Mercury- 3.5 ppm

DTB-4 (0.5-1')
Total PCBs - NT
Arsenic - 10.4 ppm
Mercury- 0.14 ppm

DTB-2 (0-2")
Total PCBs - U
Arsenic - 13.4 ppm
Cadmium - 18.6 ppm
Copper - 197 ppm

DTB-2 (0.5-1')
Total PCBs - NT
Arsenic - 18.2 ppm
Cadmium - 68.4 ppm
Copper - 813 ppm

DTB-5 (0-2")
Total PCBs - NT
Arsenic - 12.1 ppm

DTB-6 (0-2")
Total PCBs - NT
Arsenic - 9.4 ppm

DTB-6 (0.5-1')
Total PCBs - NT
Arsenic - 18.6 ppm

DTB-8 (0-2")
Total PCBs - NT
Arsenic - 12.1 ppm

DTB-7 (0-2")
Total PCBs - NT
Arsenic - 8.6 ppm

Note:
1: Soil samples DTB-1 (0.5-1') and DTB-1 (1-2') were collected from location SS-5 and tested for PCBs, which were not detected in either sample.

0 5 10 Feet

DESIGNED BY RLK | DRAWN BY CAH | DATE 03-2015 | DATE DRAWN 03-2015 | SCALE AS NOTED | DATE ISSUED 07-31-2015

DAY ENVIRONMENTAL, INC.
Environmental Consultants
Rochester, New York 14606
New York, New York 10170

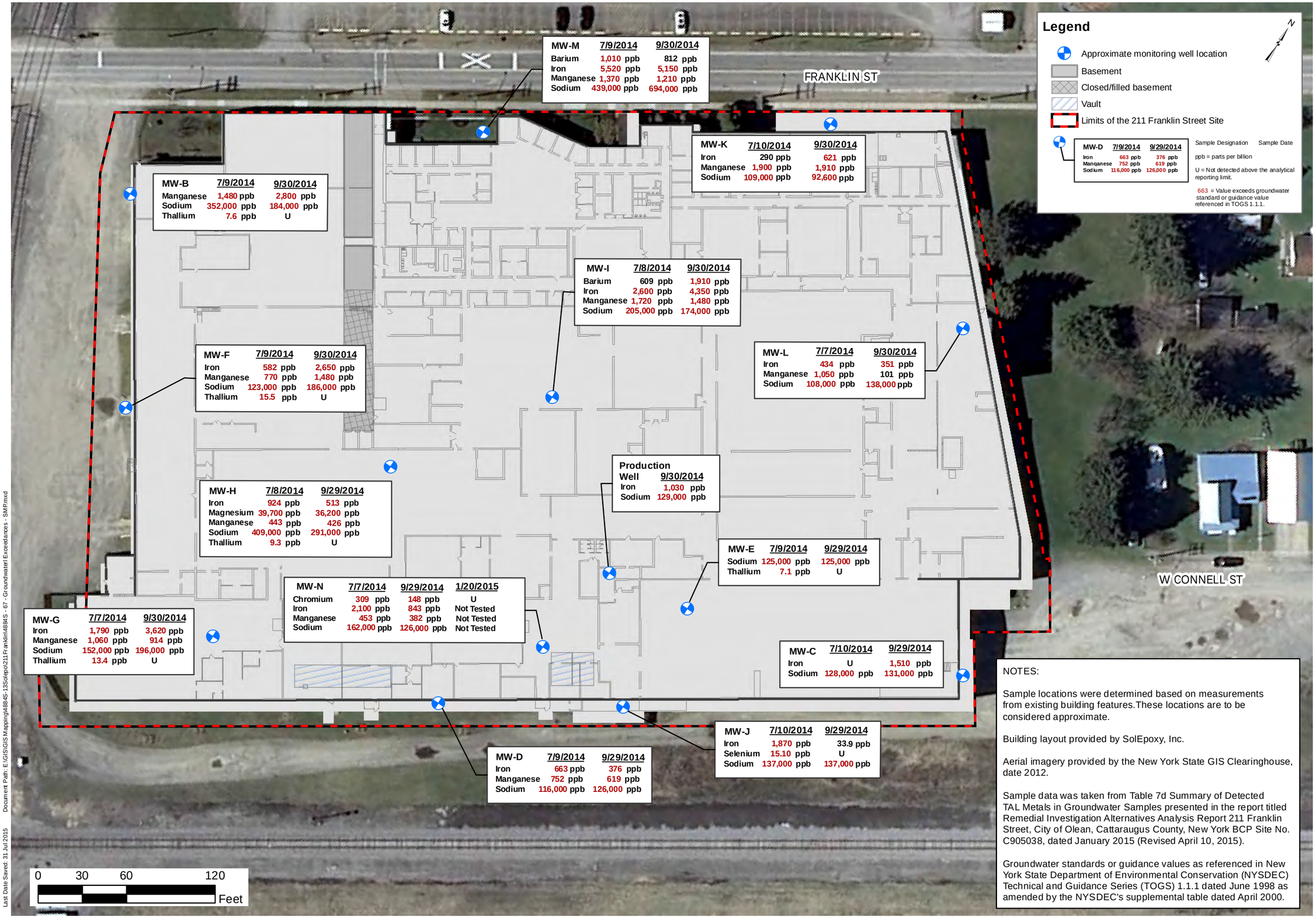
Project Title
211 FRANKLIN STREET
OLEAN, NEW YORK

BCP SITE NO. C905038 SITE MANAGEMENT PLAN

Drawing Title
Site Plan Showing Remaining Soil Samples
Exceeding Restricted Commercial Use SCO

Project No.
4884S-13

FIGURE 6



Legend

- Approximate monitoring well location
- Basement
- Closed/filled basement
- Vault
- Limits of the 211 Franklin Street Site

MW-D 7/9/2014 9/29/2014
Iron 663 ppb 376 ppb
Manganese 752 ppb 619 ppb
Sodium 116,000 ppb 126,000 ppb

Sample Designation Sample Date

ppb = parts per billion

U = Not detected above the analytical reporting limit.

663 = Value exceeds groundwater standard or guidance value referenced in TOGS 1.1.1.

NOTES:

Sample locations were determined based on measurements from existing building features.These locations are to be considered approximate.

Building layout provided by SolEpoxy, Inc.

Aerial imagery provided by the New York State GIS Clearinghouse, date 2012.

Sample data was taken from Table 7d Summary of Detected TAL Metals in Groundwater Samples presented in the report titled Remedial Investigation Alternatives Analysis Report 211 Franklin Street, City of Olean, Cattaraugus County, New York BCP Site No. C905038, dated January 2015 (Revised April 10, 2015).

Groundwater standards or guidance values as referenced in New York State Department of Environmental Conservation (NYSDEC) Technical and Guidance Series (TOGS) 1.1.1 dated June 1998 as amended by the NYSDEC's supplemental table dated April 2000.

DESIGNED BY	DRAWN BY	SCALE
RLK	CPS/ANM	AS NOTED

DATE	DATE DRAWN	DATE ISSUED
07-2015	07-2015	07-31-2015

day
DAY ENVIRONMENTAL, INC.
Environmental Consultants
Rochester, New York 14606
New York, New York 10170

Project Title
211 FRANKLIN STREET
OLEAN, NEW YORK

BCP SITE NO. C905038 SITE MANAGEMENT PLAN

Drawing Title
Site Plan showing Concentrations in Remaining Groundwater Samples that Exceed Standards or Guidance Values

Project No.
4884S-13

FIGURE 7

Document Path: E:\GIS\GIS Mapping\4884S-13Solepo\211Franklin\4884S - 67 - Groundwater Exceedances - SMP.mxd

Last Date Saved: 31 Jul 2015

SV-02
PCE - 5.6 ppb
TCE - 150 ppb

Area 1 (Sub-Slab)
PCE - U
TCE - 137.04 ppb

SV-22
PCE - U
TCE - 42.19 ppb

Area 2 (Sub-Slab)
PCE - 38.04 ppb
TCE - U

Area 3 (Sub-Slab)
PCE - 11.60 ppb
TCE - 57.5 ppb

SV-14
PCE - 8.8 ppb
TCE - 83 ppb

SV-10
PCE - 33 ppb
TCE - 81 ppb

SV-12
PCE - 22 ppb
TCE - 2,700 ppb

SV-23
PCE - 26.04 ppb
TCE - 601.91 ppb

SV-13
PCE - 8.7 ppb
TCE - 53 ppb

SV-11
PCE - 47 ppb
TCE - 370 ppb

Area 4 (Sub-Slab)
PCE - 4.68 ppb
TCE - 64.49 ppb

Area 5 (Sub-Slab)
PCE - 66.59 ppb
TCE - 37.67 ppb

Area 6 (Sub-Slab)
PCE - 77.31 ppb
TCE - 73.09 ppb

SV-18
PCE - 550 ppb
TCE - 380 ppb

SV-25
PCE - 11.26 ppb
TCE - 26.49 ppb

Legend

- Limits of the 211 Franklin Street Site
- Approximate extent of vapor mitigation
- 211 Franklin St, Soil Vapor Point, SMP1

SV-02
Show
Area 1 (Sub-Slab)

- SMP1

ppb = parts per billion
PCE = Tetrachloroethene
TCE = Trichloroethene
U = Not detected at a concentration above the analytical laboratory reporting limit.

NOTES:

Sample locations were determined based on measurements from existing building features. These locations are to be considered approximate.

Building layout and utility locations provided by SolEpoxy, Inc.

Property boundary based on a Survey entitled, "Goodban Belt LLC of lands at 211 Franklin Street", dated November 25, 2013, prepared by D. Michael Canada, New York State Licensed Land Surveyor, 483 Union Street, Olean, NY 14760.

Aerial imagery provided by the New York State GIS Clearinghouse, date 2012.

0 25 50 100
Feet

DESIGNED BY RLK
DATE 07-2015
DRAWN BY CAH
DATE DRAWN 07-2015
SCALE AS NOTED
DATE ISSUED 07-31-2015

DAY ENVIRONMENTAL, INC.
Environmental Consultants
Rochester, New York 14606
New York, New York 10170

Project Title
211 FRANKLIN STREET
OLEAN, NEW YORK

BCP SITE NO. C905038 SITE MANAGEMENT PLAN

Drawing Title
Site Plan Showing Area of Soil Vapor Intrusion Concern

Project No.
4884S-13

FIGURE 8

Last Date Saved: 02 Aug 2015
Document Path: \\Smedt_optiplex\gis\GIS Mapping\4884S-13\Solep\211Franklin\4884S - 68 - Soil Vapor Exceedances - SMP.mxd

Legend

- Periodic indoor air monitoring area
- Approximate extent of mitigation area via sub-slab depressurizaton system
- Limits of the 211 Franklin Street Site

Area 1

Area 2

Area 3

Area 4

Area 5

Area 6

0 30 60 120 Feet

NOTES:
Facility layout provided by SolEpoxy, Inc.

Property boundary based on a Survey entitled, "Goodban Belt LLC of lands at211 Franklin Street", dated November 25, 2013, prepared by D. Michael Canada,New York State Licensed Land Surveyor,483 Union Street, Olean, NY 14760.

Aerial imagery provided by the New York State GIS Clearinghouse, date 2012.

DESIGNED BY	DRAWN BY	SCALE	DATE
RLK	CAH	AS NOTED	07-2015

DATE DRAWN	DATE ISSUED
07-2015	07-31-2015

DAY ENVIRONMENTAL, INC.
Environmental Consultants
Rochester, New York 14606
New York, New York 10170

Project Title
211 FRANKLIN STREET
OLEAN, NEW YORK

BCP SITE NO. C905038 SITE MANAGEMENT PLAN

Drawing Title
Site Plan Showing Areas of Soil Vapor Intrusion Concern

Project No.
4884S-13

FIGURE 9

Franklin Street

Shipping Lot

Receiving Lot

Legend

- Limits of the 211 Franklin Street Site
- Approximate extent of building concrete floor slab cover (approx. thickness 4" - 12")
- Approximate extent of soil cover (minium thickness 12")
- Approximate extent of roller compacted concrete cover (approx. thickness 3" - 10")
- Approximate extent of concrete cover (approx. thickness 3" - 6")
- Approximate extent of asphalt cover (approx. thickness 2" - 4")

RECORD DRAWINGS

NOTE: DAY ENVIRONMENTAL. INC. AND THE LICENSED PROFESSIONAL ENGINEER CERTIFY TO THE BEST OF THEIR KNOWLEDGE THAT THIS DRAWING IS AN ACCURATE REPRESENTATI0N OF THE RECORDS OF CONSTRUCTION. THIS RECORD DRAWING HAS BEEN PREPARED IN PART BASED ON INFORMATION PROVIDED BY OTHERS, AND CONDITONS THAT EXISTED AT THE TIME OF PREPARATION. ACATUAL CONDITIONS SHOULD BE CONFIRMED PRIOR TO PERFORMING WORK THAT RELIESON INFORMATION CONTAINED IN THIS DRAWING.

NOTES:
Facility layout provided by SolEpoxy, Inc.

Property boundary based on a Survey entitled, "Goodban Belt LLC of lands at211 Franklin Street", dated November 25, 2013, prepared by D. Michael Canada,New York State Licensed Land Surveyor,483 Union Street, Olean, NY 14760.

Cover types and extents based on a drawing entitled, "ES-101909 Brownfield Remediation Completed Work", dated June 25, 2015, prepared by SolEpoxy, Inc.

Aerial imagery provided by the New York State GIS Clearinghouse, date 2012.

0 25 50 100 Feet

DESIGNED BY	DRAWN BY	SCALE	DATE	DATE DRAWN	DATE ISSUED
RLK	CAH	AS NOTED	08-2015	08-2015	08-19-2015

day
DAY ENVIRONMENTAL, INC.
Environmental Consultants
Rochester, New York 14606
New York, New York 10170

Project Title
211 FRANKLIN STREET
OLEAN, NEW YORK

BCP SITE NO. C905038 SITE MANAGEMENT PLAN

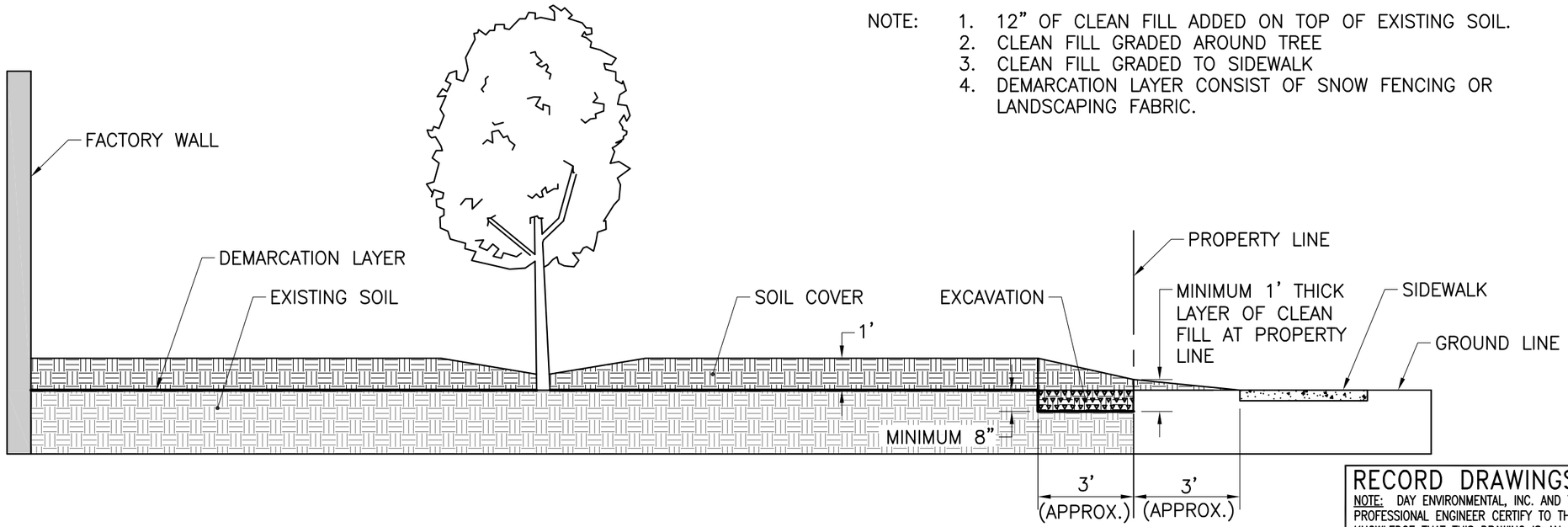
Drawing Title
Site Wide Cover System Plan

Project No.
4884S-13

FIGURE 10

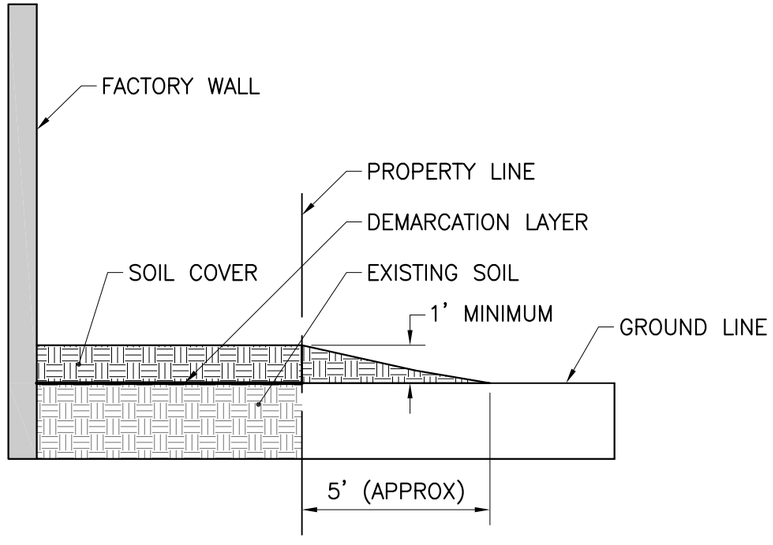
Last Date Saved: 07 Oct 2015 Document Path: E:\GIS Mapping\4884S-13\mxd\211Franklin4884S - 8F - Cover and Pavement Plan as built - SM.mxd

NOTE:
1. 12" OF CLEAN FILL ADDED ON TOP OF EXISTING SOIL.
2. CLEAN FILL GRADED AROUND TREE
3. CLEAN FILL GRADED TO SIDEWALK
4. DEMARCATION LAYER CONSIST OF SNOW FENCING OR LANDSCAPING FABRIC.



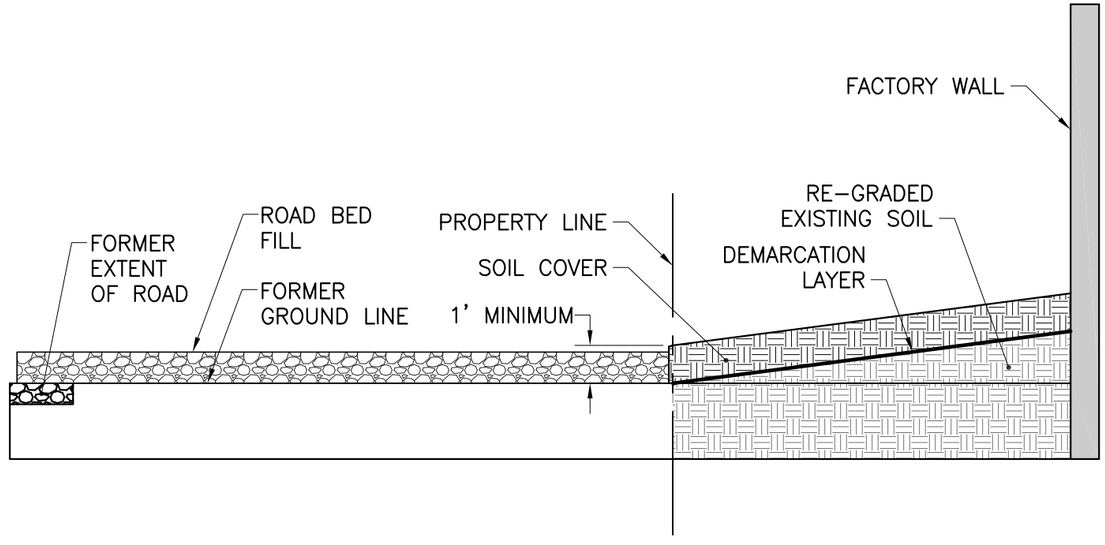
EXCAVATION AND COVER PLAN - TYPICAL NORTHWEST EDGE OF SITE

Not to Scale



COVER PLAN - TYPICAL NORTHEAST EDGE OF SITE

Not to Scale



GRADING AND COVER PLACEMENT - TYPICAL SOUTHEAST EDGE OF SITE

Not to Scale

NOTE:
Sections adapted from a CAD file provide by SolEpoxy entitled ES-101876 Site Plan parking.dwg.

RECORD DRAWINGS

NOTE: DAY ENVIRONMENTAL, INC. AND THE LICENSED PROFESSIONAL ENGINEER CERTIFY TO THE BEST OF THEIR KNOWLEDGE THAT THIS DRAWING IS AN ACCURATE REPRESENTATION OF THE RECORDS OF CONSTRUCTION. THIS RECORD DRAWING HAS BEPREPARED IN PART BASED ON INFORMATION PROVIDED BY OTHERS, AND CONDITIONS THAT EXISTED AT THE TIME OF PREPARATION. ACTUAL CONDITIONS SHOULD BE CONFIRMED PRIOR TO PERFORMING WORK THAT RELIES ON INFORMATION CONTAINED IN THIS DRAWING.

FIELD VERIFIED	DRAWN BY	SCALE	DATE
CAH	RJM/Tw	As Noted	7-2015

DATE DRAWN	DATE ISSUED
8-19-2015	8-19-2015

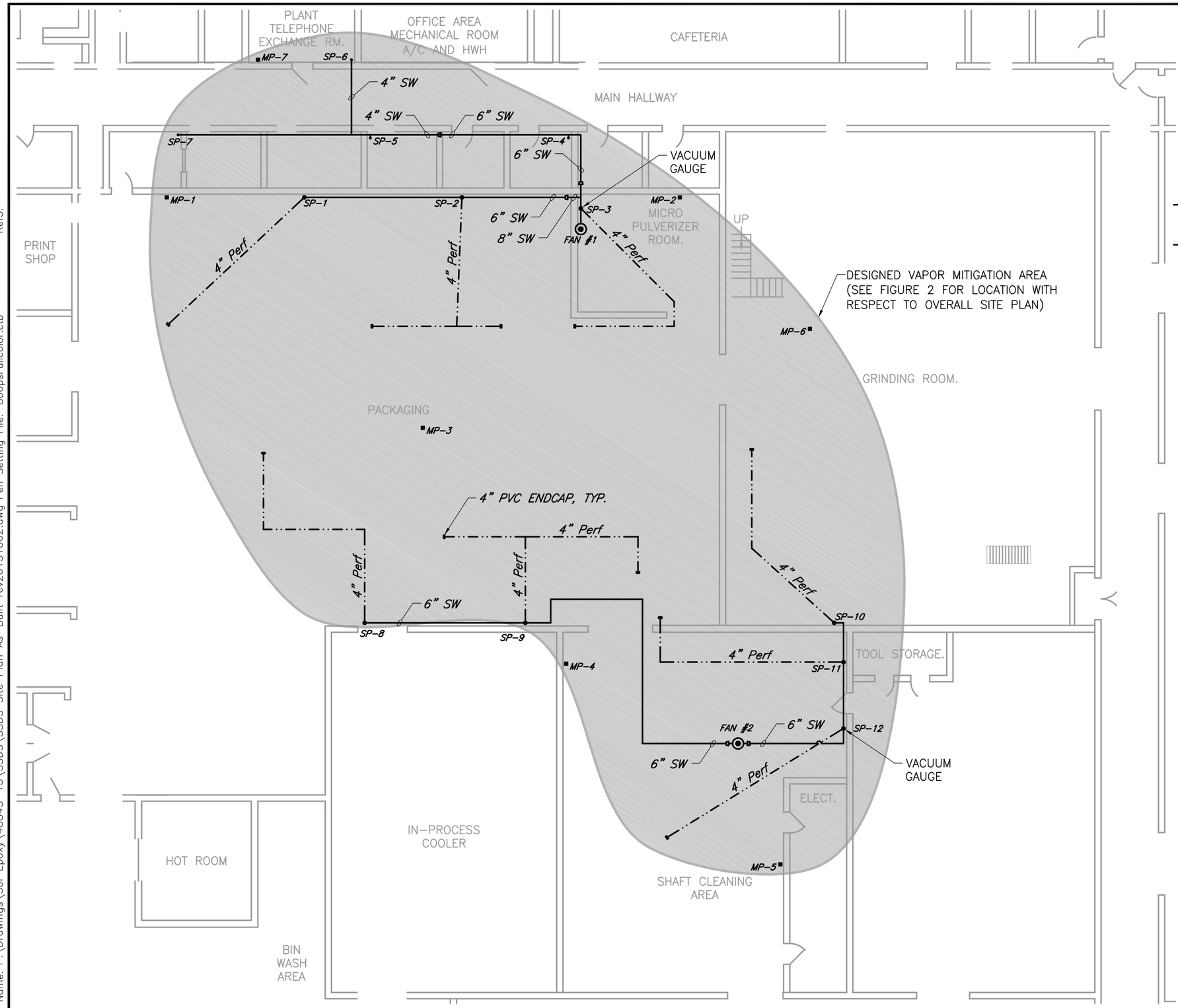
DAY ENVIRONMENTAL, INC.
ENVIRONMENTAL CONSULTANTS
ROCHESTER, NEW YORK 14606
NEW YORK, NEW YORK 10170

PROJECT TITLE
211 FRANKLIN STREET
OLEAN, NEW YORK
NYSDEC SITE NO. 905038 SITE MANAGEMENT PLAN

DRAWING TITLE
Typical Cover Details for Soil Cover

PROJECT NO.
4884S-13

FIGURE 11



LEGEND

- 4" Perf — SSDS Perforated Pipe
- 6" SW — SSDS Solid Wall Pipe
- SP-1* — SSDS Suction Point And Vertical Standpipe Location
- MP-2■ — SSDS Monitoring Point Location
- FAN #1 — Rooftop Exhaust Fan

NOTE:

Facility layout provided by SolEpoxy, Inc.

RECORD DRAWINGS

NOTE:

DAY ENVIRONMENTAL, INC. AND THE LICENSED PROFESSIONAL ENGINEER CERTIFY TO THE BEST OF THEIR KNOWLEDGE THAT THIS DRAWING IS AN ACCURATE REPRESENTATION OF THE RECORDS OF CONSTRUCTION. THIS RECORD DRAWING HAS BEEN PREPARED IN PART BASED ON INFORMATION PROVIDED BY OTHERS, AND CONDITIONS THAT EXISTED AT THE TIME OF PREPARATION. ACTUAL CONDITIONS SHOULD BE CONFIRMED PRIOR TO PERFORMING WORK THAT RELIES ON INFORMATION CONTAINED IN THIS DRAWING.

SUB-SLAB DEPRESSURIZATION SYSTEM (SSDS) AS-BUILT PLAN

SCALE: 1/16 = 1'-0"

0' 16' 32'

DESIGNED BY	BFK
DATE	5-2015
DRAWN BY	RJM/Tw
DATE DRAWN	8-18-2015
SCALE	As Noted
DATE ISSUED	8-18-2015

DAY ENVIRONMENTAL, INC.
ENVIRONMENTAL CONSULTANTS
ROCHESTER, NEW YORK 14606
NEW YORK, NEW YORK 10170

PROJECT TITLE
211 FRANKLIN STREET
OLEAN, NEW YORK

BCP SITE NO. C905038 SITE MANAGEMENT PLAN

DRAWING TITLE
Site Plan Depicting As-Built Sub-Slab Depressurization System (SSDS) Components

PROJECT NO.
4884S-13

FIGURE 12

Ref1:
Ref2:
Ref3:
Xerox4320AnsiB-2; 11 x 17
Layout Name: Layout1
Pen Setting File: 800psFullcolor.ctb
Time Plotted: Friday, October 02, 2015 7:42:27 AM
File Name: P:\Drawings\Sol Epoxy\4884S-13\SSDS\SSDS Site Plan As-Built rev20151002.dwg

MW-M

MW-K

MW-B

MW-L

MW-F

MW-I

MW-H

Production

MW-E

MW-G

TB-118 (MW-N)

MW-C

MW-D

MW-J

Legend

- Overburden groundwater monitoring well
- Approximate extent of mitigation area via sub-slab depressurizaton system
- Site and Institutional Control Boundaries
- Approximate extent of building concrete floor slab cover (approx. thickness 4" - 12")
- Approximate extent of soil cover (minium thickness 12")
- Approximate extent of roller compacted concrete cover (approx. thickness 3" - 10")
- Approximate extent of concrete cover (approx. thickness 3" - 6")
- Approximate extent of asphalt cover (approx. thickness 2" - 4")

N

0 25 50 100 Feet

NOTES:
Facility layout provided by SolEpoxy, Inc.

Property boundary based on a Survey entitled, "Goodban Belt LLC of lands at211 Franklin Street", dated November 25, 2013, prepared by D. Michael Canada,New York State Licensed Land Surveyor,483 Union Street, Olean, NY 14760.

Cover types and extents based on a drawing entitled, "ES-101909 Brownfield Remediation Completed Work", dated June 25, 2015, prepared by SolEpoxy, Inc.

Aerial imagery provided by the New York State GIS Clearinghouse, date 2012.

Last Date Saved: 02 Oct 2015 Document Path: E:\GIS Mapping\4884S-13\Site\ap\211 Franklin\4884S - 72 - Institutional Control Plan- SMP.mxd

DESIGNED BY RLK | DRAWN BY CAH | SCALE AS NOTED | DATE 07-2015 | DATE DRAWN 07-2015 | DATE ISSUED 07-31-2015

DAY ENVIRONMENTAL, INC.
Environmental Consultants
Rochester, New York 14606
New York, New York 10170

Project Title: 211 FRANKLIN STREET OLEAN, NEW YORK

BCP SITE NO. C905038 SITE MANAGEMENT PLAN

Drawing Title: Institutional Control Boundaries

Project No. 4884S-13

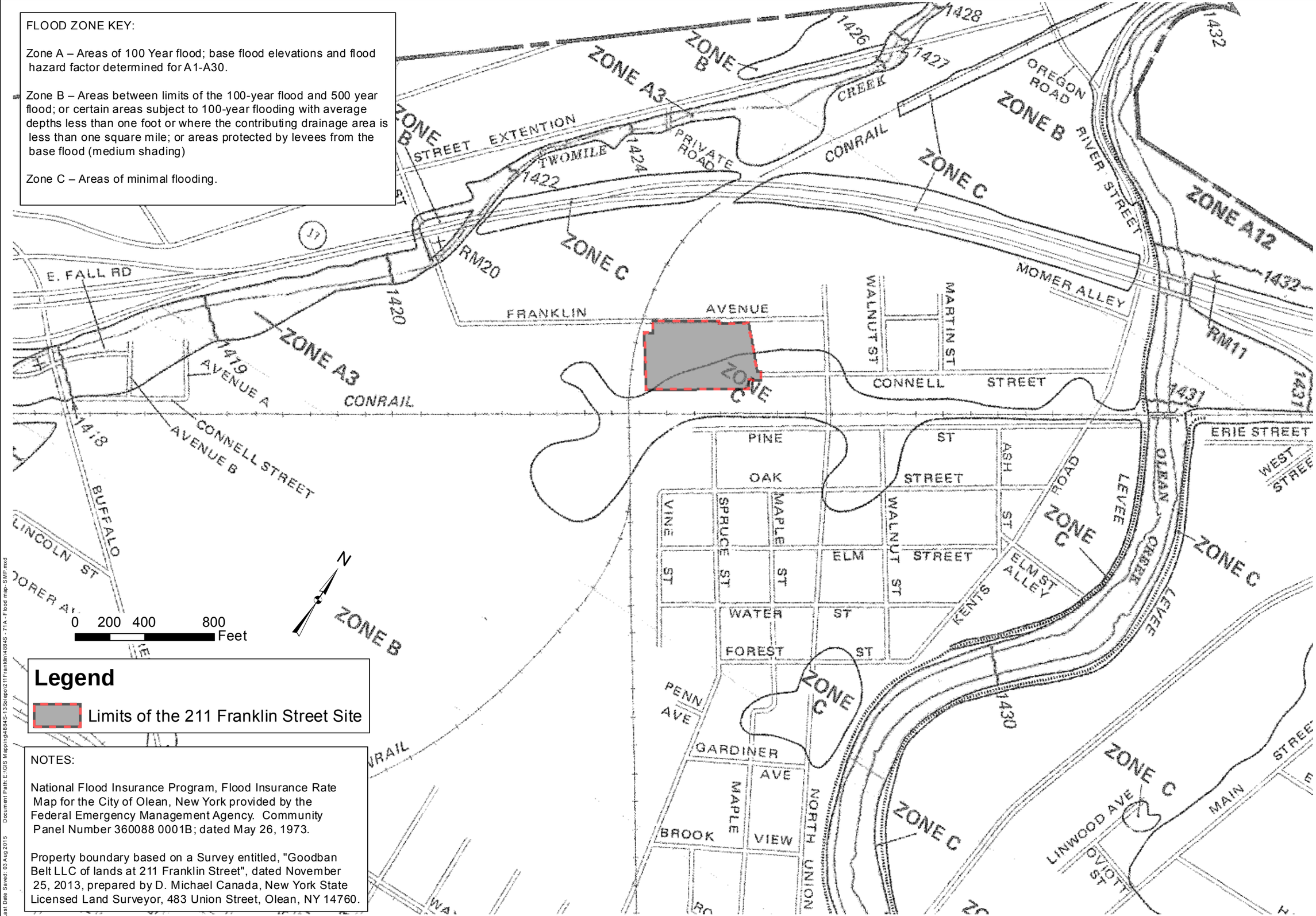
FIGURE 13

FLOOD ZONE KEY:

Zone A – Areas of 100 Year flood; base flood elevations and flood hazard factor determined for A1-A30.

Zone B – Areas between limits of the 100-year flood and 500 year flood; or certain areas subject to 100-year flooding with average depths less than one foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood (medium shading)

Zone C – Areas of minimal flooding.



Legend

Limits of the 211 Franklin Street Site

NOTES:

National Flood Insurance Program, Flood Insurance Rate Map for the City of Olean, New York provided by the Federal Emergency Management Agency. Community Panel Number 360088 0001B; dated May 26, 1973.

Property boundary based on a Survey entitled, "Goodban Belt LLC of lands at 211 Franklin Street", dated November 25, 2013, prepared by D. Michael Canada, New York State Licensed Land Surveyor, 483 Union Street, Olean, NY 14760.

Last Date Saved: 03 Aug 2015 Document Path: E:\GIS Mapping\4884S-13\Solep\211Franklin\4884S - 71A - Flood map - SMP.mxd

DESIGNED BY	DATE
RLK	08-2015
DRAWN BY	DATE DRAWN
CPS	08-2015
SCALE	DATE ISSUED
AS NOTED	08-03-2015

day
DAY ENVIRONMENTAL, INC.
Environmental Consultants
Rochester, New York 14606
New York, New York 10170

Project Title
211 FRANKLIN STREET
OLEAN, NEW YORK

NYSDEC BCP SITE NO 905038 SITE MANAGEMENT PLAN

Drawing Title
Flood Plain Map

Project No.
4884S-13

FIGURE 14

TABLES

TABLE 4A
211 FRANKLIN STREET
OLEAN, NEW YORK
BCP SITE NO. C905038

SUMMARY OF REMAINING VOLATILE ORGANIC COMPOUNDS (VOCS)
IN SURFACE SOIL SAMPLES

Contaminant	CAS Number	**A** Unrestricted Use (SCO)	**B** Commercial Use (SCO)	SS-1 6/27/2014	SS-2 6/27/2014	SS-3 6/27/2014	SS-4 6/27/2014	SS-5 6/27/2014	SS-6 6/27/2014	SS-7 6/27/2014	SS-8 6/27/2014
Acetone	67-64-1	0.05	500	UJ	UJ	UJ	UJ	UJ	UJ	0.004 J	0.004 J
Ethanol[1]	64-17-5	NA	NA	U	U	U	U	U	0.68	U	U
Total TICs				U	U	U	U	U	U	U	U
Total VOCs and TICs				**U**	**U**	**U**	**U**	**U**	**0.68**	**0.004**	**0.004**

Values are in milligrams per kilogram (mg/kg) or parts per million (ppm)

SCOs are as referenced in 6 NYCRR Part 375-6, Remedial Program Soil Cleanup Objectives, dated December 14, 2006

NA = Not Available

U = The analyte was analyzed for, but was not detected above the associated reported quantitation limit. Refer to the analytical laboratory report for the associated reported quantitation limit

J = The analyte was positively identified; the numerical value is an approximate concentration of the analyte in the sample.

[1] Analyte was not validated.

TABLE 4B
211 FRANKLIN STREET
OLEAN, NEW YORK
BCP SITE NO. C905038

SUMMARY OF REMAINING
SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCS) IN SURFACE SOIL SAMPLES

Contaminant	CAS Number	A Unrestricted Use (SCO)	B Commercial Use (SCO)	SS-1 6/27/2014		SS-2 6/27/2014		SS-3 6/27/2014		SS-4 6/27/2014		SS-5 6/27/2014		SS-6 6/27/2014		SS-7 6/27/2014		SS-8 6/27/2014	
1-Methylnaphthalene[1]	90-12-0	NA	NA	U		U		U		0.12 J		U		U		U		U	
2,4-Dimethylphenol	105-67-9	NA	NA	U		U		U		U		0.18 J		U		U		U	
2-Methylnaphthalene	91-57-6	NA	NA	U		U		U		0.17 J		U		U		U		U	
Acenaphthene	83-32-9	20	500	U		U		U		U		U		0.17 J		0.11 J		0.21 J	
Acenaphthylene	208-96-8	100	500	U		U		U		U		U		0.34 J		0.15 J		U	
Anthracene	120-12-7	100	500	U		U		0.12 J		0.081 J		0.078 J		0.55		0.4 J		0.4 J	
Benzo(a)anthracene	56-55-3	1	5.6	U		0.27 J		0.62		0.27 J		0.27 J		2	**A**	1.4	**A**	1.4	**A**
Benzo(a)pyrene	50-32-8	1	1	U		0.31 J		0.68		0.28 J		0.28 J		2	**AB**	1.3	**AB**	1.4	**AB**
Benzo(b)fluoranthene	205-99-2	1	5.6	U		0.43		0.97		0.42		0.51		3.3	**A**	1.7	**A**	1.9	**A**
Benzo(g,h,i)perylene	191-24-2	100	500	U		0.21 J		0.48		0.36 J		0.2 J		0.92		0.62		0.64	
Benzo(k)fluoranthene	207-08-9	0.8	56	U		0.16 J		0.39		0.17 J		0.19 J		1.2	**A**	0.73		0.77	
Bis(2-ethylhexyl)phthalate	117-81-7	NA	NA	U				0.085 J		0.1 J		0.51		U		U		0.092 J	
Butylbenzylphthalate	85-68-7	NA	NA	U				U		U		0.56		0.17 J		U		U	
Carbazole	86-74-8	NA	NA	U				0.079 J		U		U		0.38 J		0.18 J		0.3 J	
Chrysene	218-01-9	1	56	U		0.32 J		0.76		0.33 J		0.36 J		2.5	**A**	1.4	**A**	1.6	**A**
Dibenzo(a,h)anthracene	53-70-3	0.33	0.56	U		U		0.13 J		U		U		0.23 J		0.14 J		U	
Dibenzofuran	132-64-9	7	350	U		U		U		U		U		0.12 J		0.089 J		0.091 J	
Di-n-butylphthalate	84-74-2	NA	NA	U		0.093 J		0.076 J		0.78		0.78		0.35 J		0.2 J		0.22 J	
Fluoranthene	206-44-0	100	500	0.12 J		0.48		1.4		0.61		0.62		4.5		3.1		3.4	
Fluorene	86-73-7	30	500	U		U		U		U		U		0.17 J		0.12 J		0.17 J	
Hexachlorobenzene	118-74-1	NA	NA	U		0.34 J		U		U		0.077 J		0.31 J		U		U	
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	5.6	U		0.23 J		0.52	**A**	0.21 J		0.21 J		1.1	**A**	0.69	**A**	0.72	**A**
Phenanthrene	85-01-8	100	500	U		0.23 J		0.64		0.39 J		0.26 J		2.3		1.7		2.3	
Pyrene	129-00-0	100	500	0.088 J		0.4		0.95		0.45		0.41		3.5		2.3		2.8	
Total TICs				3.46		6.16		3.89		13.43		31.18		43.37		14.37		22.26	
Total SVOCs and TICs				**3.7**		**9.6**		**11.8**		**18.2**		**36.7**		**69.5**		**30.7**		**40.7**	

Values are in milligrams per kilogram (mg/kg) or parts per million (ppm)

SCOs are as referenced in 6 NYCRR Part 375-6, Remedial Program Soil Cleanup Objectives, dated December 14, 2006

[1] Analyte was not validated.

J = The analyte was positively identified; the numerical value is an approximate concentration of the analyte in the sample.

N = Considered To Be Positively Identified

NA = Not Available

U = The analyte was analyzed for, but was not detected above the associated reported quantitation limit. Refer to the analytical laboratory report for the associated reported quantitation limit

A = Exceeds Unrestricted Use SCO
B (Highlighted Value) = Exceeds Restricted Commercial Use SCO

TABLE 4C
211 FRANKLIN STREET
OLEAN, NEW YORK
BCP SITE NO. C905038

SUMMARY OF REMAINING DETECTED
PESTICIDE/HERBICIDE/PCBS IN SURFACE SOIL SAMPLES

Contaminant	CAS Number	**A** Unrestricted Use (SCO)	**B** Commercial Use (SCO)	SS-1 6/27/2014		SS-2 6/27/2014		SS-3 6/27/2014		SS-4 6/27/2014		SS-5 6/27/2014		SS-6 6/27/2014		SS-7 6/27/2014		SS-8 6/27/2014	
4,4´-DDE	72-55-9	0.0033	62	U		UJ		U		U		U		0.062 P	**A**	U		UJ	
4,4´-DDT	50-29-3	0.0033	47	UJ		UJ		UJ		0.035 NJ	**A**	0.096 NJ	**A**	U		0.048 J	**A**	0.017 J	**A**
alpha-BHC	319-84-6	0.02	3.4	U		U		U		0.0058 NJ		U		U		U		UJ	
alpha-Chlordane	5103-71-9	0.094	24	U		0.0058 NJ		0.015 J		0.0099 NJ		UJ		UJ		UJ		0.013 NJ	
Endosulfan I	959-98-8	2.4	200	U		U		U		0.0023 J		U		U		U		UJ	
Endrin	72-20-8	0.014	89	U		0.0039		U		0.019 J	**A**	U		U		U		UJ	
Heptachlor	76-44-8	0.042	15	U		U		U		0.0021		0.33	**A**	U		U		UJ	
Polychlorinated biphenyls	1336-36-3	0.1	1	U		0.179	**A**	U		0.5 P	**A**	1.5	**AB**	0.32 NJ	**A**	U		U	

Contaminant	CAS Number	**A** Unrestricted Use (SCO)	**B** Commercial Use (SCO)	DTB-1 (0.5-1') 11/25/2014		DTB-1 (1-2') 11/25/2014		DTB-2 (0-2") 11/25/2014		DTB-3 (0-2") 11/25/2014		DTB-4 (0-2") 11/25/2014	
4,4´-DDE	72-55-9	62	62	NT		NT		NT		NT		NT	
4,4´-DDT	50-29-3	47	47	NT		NT		NT		NT		NT	
alpha-BHC	319-84-6	3.4	3.4	NT		NT		NT		NT		NT	
alpha-Chlordane	5103-71-9	24	24	NT		NT		NT		NT		NT	
Endosulfan I	959-98-8	200	200	NT		NT		NT		NT		NT	
Endrin	72-20-8	89	89	NT		NT		NT		NT		NT	
Heptachlor	76-44-8	15	15	NT		NT		NT		NT		NT	
Polychlorinated biphenyls	1336-36-3	1	1	U		U		U		U		U	

Values are in milligrams per kilogram (mg/kg) or parts per million (ppm)

SCOs are as referenced in 6 NYCRR Part 375-6, Remedial Program Soil Cleanup Objectives, dated December 14, 2006

NA = Not Available

NT = Not Tested

P = Lower of Two Values Reported From Primary And Confirmation Analyses When > 25% Difference Detected

U = The analyte was analyzed for, but was not detected above the associated reported quantitation limit. Refer to the analytical laboratory report for the associated reported quantitation limit

A = Exceeds Restricted Commercial Use SCO

J = The analyte was positively identified; the numerical value is an approximate concentration of the analyte in the sample.

NJ = The detection is tentative in identification and estimated in value. Although there is presumptive evidence of the analyte, the result should be used with caution as a potential false positive and/or elevated quantitative

TABLE 4D
211 FRANKLIN STREET
OLEAN, NEW YORK
BCP SITE NO. C905038

SUMMARY OF REMAINING DETECTED
TAL METALS AND CYANIDE IN SURFACE SOIL SAMPLES

Contaminant	CAS Number	**A** Unrestricted Use (SCO)	**B** Commercial Use (SCO)	SS-1 6/27/2014		SS-2 6/27/2014		SS-3 6/27/2014		SS-4 6/27/2014		SS-5 6/27/2014		SS-6 6/27/2014		SS-7 6/27/2014		SS-8 6/27/2014		DTB-1 (0.5-1') 11/25/2014		DTB-1 (1-2') 11/25/2014	
Aluminum	7429-90-5	NA	NA	13300		6630		6780		7110		7100		9500		8890		10900		8580		10300	
Antimony	7440-36-0	NA	NA	U N		8.6		3.4		3.5		20.7		41.8		2.1		5.3		1.9 *		2.6 *	
Arsenic	7440-38-2	13	16	12.6 N		14.6	**A**	13		20	**AB**	14	**A**	12.1		33.8	**AB**	25	**AB**	21.2 *	**AB**	11.9 *	
Barium	7440-39-3	350	400	53.8 N		193		78.4		168		136		122		335		143		128		165	
Beryllium	7440-41-7	7.2	590	0.58 N		0.36		0.2 b		0.63		0.35		0.42		0.51		0.59		0.54		0.72	
Cadmium	7440-43-9	2.5	9.3	0.031 bN		2.8	**A**	0.69		2.9	**A**	16.3	**AB**	1.9		1.1		0.56		11.7	**AB**	1.3	
Calcium	7440-70-2	NA	NA	1260		18700		83500		1570		1810		10500		2470		2440		3280		1720	
Chromium	7440-47-3	30	1,500	14.1 N		66.1	**A**	10		104	**A**	398	**A**	18.8		16.9		18.5		61.7 N	**A**	297 N	**A**
Cobalt	7440-48-4	NA	NA	12.3 N		5.9		4.9		24.2		11.2		8		7.2		8.4		11.2 *		8.6 *	
Copper	7440-50-8	50	270	17 N		127	**A**	183	**A**	254	**A**	311	**AB**	84.9	**A**	110	**A**	63.8	**A**	328 N*	**AB**	63.8 N*	**A**
Iron	7439-89-6	NA	NA	27800		25000		15600		37400		57700		21800		25700		31600		24100 *E		18300 *E	
Lead	7439-92-1	63	1000	18.4		84.1	**A**	66.6	**A**	785	**A**	151	**A**	61.2		422	**A**	177	**A**	183	**A**	171	**A**
Magnesium	7439-95-4	NA	NA	2260		4140		5130		1430		2030		4070		1580		1980		2430		1730	
Manganese	7439-96-5	1600	10,000	636		602		349		554		760		776		359		546		522		1270	
Mercury	7439-97-6	0.18	2.8	0.039 b		0.63	**A**	0.025 b		0.86	**A**	1.7	**A**	0.17		0.2	**A**	0.3	**A**	0.15 *		0.29 *	**A**
Nickel	7440-02-0	30	310	18.4		42	**A**	21.2		75.6	**A**	522	**AB**	27.4		23.4		19.4		118	**A**	24.3	
Potassium	7440-09-7	NA	NA	884		490		437		584		522		845		863		865		403 *		659 *	
Selenium	7782-49-2	3.9	1,500	0.58 bN		U		U		4	**A**	U		U		1.4 b		2.7		2.3		2.5	
Silver	7440-22-4	2	1,500	U		0.16 b		0.74 b		3.2	**A**	0.6 b		0.34 b		0.58 b		0.19 b		0.84 b		0.35 b	
Sodium	7440-23-5	NA	NA	10.1 b		76.2		87.5		38.5 b		21.3 b		51.1		84.8		27.2 b		35.3 *E		35.7 b*E	
Thallium	7440-28-0	NA	NA	U N		U		2.8		U		U		U		U		U		U		U	
Vanadium	7440-62-2	NA	NA	22 N		12.1		9.5		27.4		13.2		15.8		19.2		21.3		13.9		16.9	
Zinc	7440-66-6	109	10,000	56.9 N		210	**A**	321	**A**	583	**A**	529	**A**	465	**A**	246	**A**	186	**A**	748 *E	**A**	431 *E	**A**
Total Cyanide	NA	27	27	U		U		U		U		U		U		U		U		NT		NT	

Contaminant	CAS Number	**A** Unrestricted Use (SCO)	**B** Commercial Use (SCO)	DTB-2 (0-2") 11/25/2014		DTB-2 (0.5-1') 11/25/2014		DTB-3 (0-2") 11/25/2014		DTB-4 (0-2") 11/25/2014		DTB-4 (0.5-1') 11/25/2014		DTB-5 (0-2") 11/25/2014		DTB-6 (0-2") 11/25/2014		DTB-6 (0.5-1') 11/25/2014		DTB-7 (0-2") 11/25/2014		DTB-8 (0-2") 11/25/2014	
Aluminum	7429-90-5	NA	NA	10200		NT		3000		6380		NT		NT		NT		NT		NT		NT	
Antimony	7440-36-0	NA	NA	39.3 *		NT		14 *		74.4 *		NT		NT		NT		NT		NT		NT	
Arsenic	7440-38-2	13	16	13.4 *	**A**	18.2	**AB**	5.6 *		14.3 *	**A**	10.4		12.1		9.4		18.6	**AB**	8.6		12.1	
Barium	7440-39-3	350	400	202		NT		62.7		125		NT		NT		NT		NT		NT		NT	
Beryllium	7440-41-7	7.2	590	0.41		NT		0.13 b		0.28		NT		NT		NT		NT		NT		NT	
Cadmium	7440-43-9	2.5	9.3	18.6	**AB**	68.4	**AB**	3.2	**A**	8.8	**A**	1.9		8.6	**A**	3	**A**	5.7	**A**	1.7		4.4	**A**
Calcium	7440-70-2	NA	NA	3120		NT		1950		4130		NT		NT		NT		NT		NT		NT	
Chromium	7440-47-3	30	1,500	282 N	**A**	NT		37.2 N	**A**	77 N,J	**A**	NT		NT		NT		NT		NT		NT	
Cobalt	7440-48-4	NA	NA	8.1 *		NT		2.8 *		12.9 *,J		NT		NT		NT		NT		NT		NT	
Copper	7440-50-8	50	270	197 N*	**A**	813	**AB**	37.1 N*		185 N*,J	**A**	54.5	**A**	153	**A**	57.1	**A**	242	**A**	60.4	**A**	115	**A**
Iron	7439-89-6	NA	NA	25300 *E		NT		6590 *E		18900 *E		NT		NT		NT		NT		NT		NT	
Lead	7439-92-1	63	1000	273	**A**	NT		145	**A**	168	**A**	NT		NT		NT		NT		NT		NT	
Magnesium	7439-95-4	NA	NA	1910		NT		877		2170		NT		NT		NT		NT		NT		NT	
Manganese	7439-96-5	1600	10,000	685		NT		177		495		NT		NT		NT		NT		NT		NT	
Mercury	7439-97-6	0.18	2.8	1.8 *	**A**	0.38	**A**	1.5 *	**A**	3.5 *,J	**AB**	0.14		2.4	**A**	0.87	**A**	0.11		0.32	**A**	1.5	**A**
Nickel	7440-02-0	30	310	192	**A**	NT		53.9	**A**	113	**A**	NT		NT		NT		NT		NT		NT	
Potassium	7440-09-7	NA	NA	573 *		NT		209 *		493 *		NT		NT		NT		NT		NT		NT	
Selenium	7782-49-2	3.9	1,500	3		NT		0.63 b		2		NT		NT		NT		NT		NT		NT	
Silver	7440-22-4	2	1,500	1.9		NT		0.44 b		3.8	**A**	NT		NT		NT		NT		NT		NT	
Sodium	7440-23-5	NA	NA	38.8 b*E		NT		11.7 b*E		134 *E		NT		NT		NT		NT		NT		NT	
Thallium	7440-28-0	NA	NA	U		NT		U		U		NT		NT		NT		NT		NT		NT	
Vanadium	7440-62-2	NA	NA	12.4		NT		3.5		10		NT		NT		NT		NT		NT		NT	
Zinc	7440-66-6	109	10,000	1010 *E	**A**	NT		213 *E	**A**	853 *E	**A**	NT		NT		NT		NT		NT		NT	
Total Cyanide	NA	27	27	NT		NT		NT		NT		NT		NT		NT		NT		NT		NT	

Values are in milligrams per kilogram (mg/kg) or parts per million (ppm)

SCOs are as referenced in 6 NYCRR Part 375-6, Remedial Program Soil Cleanup Objectives, dated December 14, 2006

b = Trace Concentration Below Reporting Limit And Equal To Or Above Detection Limit

* = Relative Percent Difference for duplicate analyses is outside of the control limit

E = estimated concentration due to the presence of interferences

N = Matrix Spike Recovery Falls Outside Control Limit NA = Not Available NT = Not Tested

U = The analyte was analyzed for, but was not detected above the associated reported quantitation limit. Refer to the analytical laboratory report for the associated reported quantitation limit

A = Exceeds Unrestricted Use SCO

B (Highlighted Value) = Exceeds Restricted Commercial Use SCO

TABLE 5A
211 FRANKLIN STREET
OLEAN, NEW YORK
BCP SITE NO. C905038

SUMMARY OF REMAINING DETECTED
VOLATILE ORGANIC COMPOUNDS (VOCS) IN SOIL/FILL SAMPLES

Contaminant	CAS Number	A Unrestricted Use (SCO)	B Commercial Use (SCO)	MW-F (1.5') 6/17/2014	MW-G (1-3') 6/26/2014	MW-G (20') 6/26/2014	MW-K (1-2') 6/16/2014	MW-M (15') 6/16/2014	MW-N (14-16') 6/19/2014	TB-101 (27') 6/13/2014	TB-101 (40') 6/16/2014	TB-102 (11-12') 6/24/2014	TB-104 (0-3') 7/2/2014	TB-105 (27') 6/16/2014	TB-107 (12.5') 6/25/2014	TB-107 (27') 6/25/2014	TB-108 (28') 6/18/2014	TB-108 (52') 6/18/2014
1,2,3-Trichloropropane[1]	96-18-4	NA	NA	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
trans-1,4-Dichloro-2-butene[1]	110-57-6	NA	NA	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
4-Methyl-2-pentanone	108-10-1	NA	NA	U	0.0087	U	U	U	U	U	U	U	0.00094 J	U	U	U	U	U
Acetone	67-64-1	0.05	500	UJ	0.23 J **A**	0.0019 J	UJ	UJ	0.0018 J	UJ	UJ	0.004 J	0.0042 J	UJ	0.012 J	UJ	UJ	0.0033 J
Benzene	71-43-2	0.06	44	U	0.064 **A**	U	U	U	U	U	0.1 J	U	U	U	U	U	U	U
cis-1,2-Dichloroethene	156-59-2	0.25	500	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Dichlorodifluoromethane	75-71-8	NA	NA	UJ	UJ	UJ	UJ	U	U	U	U	0.017 J+	UJ	U	U	U	U	U
Ethylbenzene	100-41-4	1	390	U	U	U	U	U	U	U	0.026 NJ	U	U	U	U	U	U	U
Isopropylbenzene	98-82-8	NA	NA	U	UJ	U	U	U	U	U	U	U	U	U	U	U	U	U
Methylene chloride	75-09-2	0.05	500	U	0.083 **A**	U	U	U	U	U	U	0.0018 J+	U	U	0.0018 J+	U	U	U
n-Butylbenzene	104-51-8	12	500	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
n-Propylbenzene[1]	103-65-1	3.9	500	U	U	U	U	U	U	U	U	U	U	U	U	U	0.051 J	U
Naphthalene[1]	91-20-3	12	500	U	U	U	U	U	U	U	U	U	U	U	0.0013 J	U	U	U
sec-Butylbenzene[1]	135-98-8	11	500	U	U	U	U	U	U	0.14 J	U	U	U	0.097 J	U	U	0.098 J	0.0016
tert-Butylbenzene[1]	98-06-6	5.9	500	U	U	U	U	U	U	0.31	U	U	U	0.32	U	0.091	0.22	0.0046
Tetrachloroethene	127-18-4	1.3	150	U	U	U	U	U	U	U	U	U	U	U	U	U	0.047 J+	U
Tetrahydrofuran	109-99-9	NA	NA	U	U	U	U	U	U	U	U	U	U	U	U	U	0.48	U
Toluene	108-88-3	0.7	500	U	0.0052	U	U	U	U	U	0.07 J	U	U	U	U	U	0.15 J+	U
Trichloroethene	79-01-6	0.47	200	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,2,4-Trimethylbenzene[1]	95-63-6	3.6	190	U	U	U	U	U	U	U	U	U	U	U	U	U	0.15 J	U
1,3,5- Trimethylbenzene[1]	108-67-8	8.4	190	U	U	U	U	U	U	U	U	U	U	U	U	U	0.077 J	U
Xylene (mixed)	1330-20-7	0.26	500	U	U	U	U	U	U	U	0.128 J	U	U	U	U	U	0.354 NJ+ **A**	U
Total TICs				U	U	U	U	U	U	96.3	4.42	U	U	84.2	U	47.5	61.4	0.849
VOCs + TICs				**U**	**0.3909**	**0.0019**	**U**	**U**	**0.0018**	**96.75**	**4.744**	**0.0228**	**0.00514**	**84.617**	**0.0151**	**47.591**	**63.027**	**0.8585**

Contaminant	CAS Number	A Unrestricted Use (SCO)	B Commercial Use (SCO)	TB-109 (15') 6/25/2014	TB-110 (4') 6/25/2014	TB-112 (28') 6/23/2014	TB-113 (25') 6/25/2014	TB-114 (3') 6/17/2014	TB-115 (2-4') 6/24/2014	TB-117 (0-2') 7/2/2014	TB-119 (11-12') 6/24/2014	TB-120 (1-4') 6/24/2014	TB-121 (32') 6/18/2014	TB-122 (4-5') 6/17/2014	TB-124 (2-4') 6/24/2014	TB-126 (0-4') 7/2/2014	SUB-1 7/31/14	TP-1 (2') 8/4/14
1,2,3-Trichloropropane[1]	96-18-4	NA	NA	U	U	U	U	U	U	U	U	U	U	U	U	UJ	UJ	U
trans-1,4-Dichloro-2-butene[1]	110-57-6	NA	NA	U	U	U	U	U	U	U	U	U	U	U	U	UJ	UJ	U
4-Methyl-2-pentanone	108-10-1	NA	NA	U	U	U	U	U	U	120 D	U	U	U	U	U	UJ	UJ	U
Acetone	67-64-1	0.05	500	U J	0.0025 J	UJ	UJ	UJ	UJ	3.6 J **A**	0.0022 J	0.0067 J	0.0026 J	0.0034 J	UJ	0.032 J	0.0051 J	UJ
Benzene	71-43-2	0.06	44	U	U	U	U	U	U	U	U	U	U	U	U	UJ	UJ	U
cis-1,2-Dichloroethene	156-59-2	0.25	500	U	U	U	U	U	U	U	U	U	U	U	U	UJ	0.00082 J	U
Dichlorodifluoromethane	75-71-8	NA	NA	U	UJ	U	U	U	U	UJ	U	U	U	U	U	UJ	UJ	U
Ethylbenzene	100-41-4	1	390	U	U	U	U	U	U	0.5	U	U	U	U	U	UJ	UJ	U
Isopropylbenzene	98-82-8	NA	NA	U	U	U	U	U	U	0.22 J	U	U	U	U	U	UJ	UJ	U
Methylene chloride	75-09-2	0.05	500	U	U	U	U	U	U	U	0.004	0.0012 J+	0.0038	0.0054	0.0039 J+	0.0017 J	UJ	U
n-Butylbenzene	104-51-8	12	500	U	U	U	U	U	U	0.16 J	U	U	U	U	U	UJ	UJ	U
n-Propylbenzene[1]	103-65-1	3.9	500	U	U	U	U	U	U	0.3 J	U	U	U	U	U	UJ	UJ	U
Naphthalene[1]	91-20-3	12	500	U	U	U	U	U	U	0.068 J	U	U	U	U	U	UJ	0.0022 J	U
sec-Butylbenzene[1]	135-98-8	11	500	U	U	U	0.05	U	U	0.088 J	U	U	U	U	U	UJ	UJ	U
tert-Butylbenzene[1]	98-06-6	5.9	500	U	U	0.3	0.23	U	U	U	U	U	U	U	U	UJ	UJ	U
Tetrachloroethene	127-18-4	1.3	150	U	U	U	U	U	U	U	U	U	U	U	U	UJ	0.00028 J	U
Tetrahydrofuran	109-99-9	NA	NA	U	U	U	U	U	U	U	U	U	U	U	U	UJ	UJ	U
Toluene	108-88-3	0.7	500	U	U	U	U	U	U	0.088 J	U	U	U	U	U	UJ	0.0003 J	U
Trichloroethene	79-01-6	0.47	200	U	U	U	U	U	U	U	U	U	U	U	U	UJ	0.00054 J	U
1,2,4-Trimethylbenzene[1]	95-63-6	3.6	190	U	U	U	U	U	U	3.7 **A**	U	U	U	U	U	UJ	0.0003 J	U
1,3,5- Trimethylbenzene[1]	108-67-8	8.4	190	U	U	U	U	U	U	1.9	U	U	U	U	U	UJ	UJ	U
Xylene (mixed)	1330-20-7	0.26	500	U	U	U	U	U	U	3.7 **A**	U	U	U	U	U	UJ	0.00123 J	U
Total TICs				4.22	U	97.2	229.6	0.112	U	6.86	U	U	0.0077	U	U	U	0.011	0.0037
VOCs + TICs				**4.22**	**0.0025**	**97.5**	**229.88**	**0.112**	**U**	**141.184**	**0.0062**	**0.0079**	**0.0141**	**0.0088**	**0.0039**	**0.0337**	**0.02177**	**0.0037**

Values are in milligrams per kilogram (mg/kg) or parts per million (ppm)

SCOs are as referenced in 6 NYCRR Part 375-6, Remedial Program Soil Cleanup Objectives, dated December 14, 2006

NA = Not Available D = Diluted Sample

U = The analyte was analyzed for, but was not detected above the associated reported quantitation limit. Refer to the analytical laboratory report for the associated reported quantitation limit

NJ = The detection is tentative in identification and estimated in value. Although there is presumptive evidence of the analyte, the result should be used with caution as a potential false positive and/or elevated quantitative value.

J = The analyte was positively identified; the numerical value is an approximate concentration of the analyte in the sample.

J+ = The analyte was positively identified; the numerical value is an estimated quantity that may be biased high.

[1] Analyte not validated.
A = Exceeds Unrestricted Use

TABLE 5B
211 FRANKLIN STREET
OLEAN, NEW YORK
BCP SITE NO. C905038

SUMMARY OF REMAINING DETECTED
SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCS) IN SOIL/FILL SAMPLES

Contaminant	CAS Number	A Unrestricted Use (SCO)	B Commercial Use (SCO)	MW-F (1.5') 6/17/2014	MW-G (1-3') 6/26/2014	MW-G (20') 6/26/2014	MW-K (1-2') 6/16/2014	MW-N (14-16') 6/19/2014	TB-101 (27') 6/13/2014	TB-101 (40') 6/16/2014	TB-102 (11-12') 6/24/2014	TB-104 (0-3') 7/2/2014	TB-105 (27') 6/16/2014	TB-107 (12.5') 6/25/2014	TB-107 (27') 6/25/2014	TB-108 (28') 6/18/2014	TB-108 (52') 6/18/2014	TB-109 (15') 6/25/2014
1-Methylnaphthalene[1]	90-12-0	NA	NA	U	U	U	U	U	U	U	U	U	U	0.38	U	U	U	U
2-Methylnaphthalene	91-57-6	NA	NA	U	U	U	U	U	U	U	U	U	U	0.36 J	U	U	U	U
2,4-Dimethylphenol	105-67-9	NA	NA	U	12 D	U	U	U	U	U	U	U	U	U	U	UJ	UJ	U
2-Methylphenol	95-48-7	NA	NA	U	2	U	U	U	U	U	U	U	U	U	U	U	U	U
4-Methylphenol	106-44-5	NA	NA	U	9.1 D	U	U	U	U	U	U	U	U	U	U	U	U	U
Acenaphthene	83-32-9	20	500	U	U	U	0.1 J	U	U	U	U	0.15 J	U	1.2	U	U	U	U
Acenapthylene	208-96-8	100	500	U	U	U	0.27 J	U	U	U	U	U	U	0.81	U	U	U	U
Anthracene	120-12-7	100	500	U	U	U	0.35	U	UJ	U	U	0.42	U	4.4	U	U	U	U
Benz(a)anthracene	56-55-3	1	5.6	0.077 J	0.27 J	U	1	U	U	U	U	1.1 **A**	U	11 D **AB**	U	U	U	U
Benzo(a)pyrene	50-32-8	1	1	0.081 J	0.28 J	U	1.2 **AB**	U	U	U	U	0.87	U	12 D **AB**	U	U	U	U
Benzo(b)fluoranthene	205-99-2	1	5.6	0.12 J	0.52	U	1.7 **A**	U	U	U	U	0.95	U	13 D **AB**	U	U	U	U
Benzo(g,h,i)perylene	191-24-2	100	500	U	0.22 J	U	1	U	U	U	U	0.88	U	7.9 D	U	U	U	U
Benzo(k)fluoranthene	207-08-9	0.8	56	U	0.18 J	U	0.6	U	U	U	U	0.42	U	5 **A**	U	U	U	U
Bis(2-ethylhexyl)phthalate	117-81-7	NA	NA	U	U	U	0.095 J	U	0.098 J	U	0.12 J	0.16 J	U	U	U	U	U	U
Butylbenzylphthalate	85-68-7	NA	NA	U	U		U	U	U	U	U	0.1 J	U	U	U	U	U	U
Carbazole	86-74-8	NA	NA	U	U	U	0.33 J	U	U	U	U	0.11 J	U	1	U	U	U	U
Chrysene	218-01-9	1	56	0.097 J	0.37 J	U	1.3 **A**	U	U	U	U	0.98	U	12 D **A**	U	U	U	U
Dibenz(a,h)anthracene	53-70-3	0.33	0.56	U	U	U	0.077 J	U	U	U	U	0.15 J	U	2.2 **AB**	U	U	U	U
Dibenzofuran	132-64-9	7	350	U	U	U	U	U	U	U	U	0.1 J	U	0.85	U	U	U	U
Dimethylphthalate	131-11-3	NA	NA	U	0.29 NJ	U	U	U	U	U	U	U	U	U	U	U	U	U
Di-n-butylphthalate	84-74-2	NA	NA	1.3 DbJ	0.13 J	U	U	U	U	U	U	U	U	U	U	U	U	U
Fluoranthene	206-44-0	100	500	0.14 J	0.36 J	U	3.4	U	UJ	U	U	1.7 J	U	26 D	U	U	U	U
Fluorene	86-73-7	30	500	U	U	U	0.13 J	U	U	U	U	0.14 J	U	1.5	U	U	U	U
Hexachlorobenzene	118-74-1	0.33	6	17 D **AB**	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	5.6	U	0.23 J	U	1 **A**	U	U	U	U	0.61 **A**	U	7.7 D **AB**	U	U	U	U
Isophorone	78-59-1	NA	NA	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
N-Nitrosodiphenylamine	86-30-6	NA	NA	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Naphthalene	91-20-3	12	500	U	0.13 J	U	U	U	U	U	U	U	U	0.47	U	U	U	U
Phenanthrene	85-01-8	100	500	0.074 J	0.15 J	U	2.1	U	U	U	U	1.6	0.12 J	17 D	0.28 J	0.11 J	U	U
Phenol	108-95-2	0.33	500	U	2.7 **A**	U	U	U	U	U	U	0.083 NJ	U	U	U	U	U	U
Pyrene	129-00-0	100	500	0.14 J	0.33 J	U	2.6	U	U	U	U	1.8	U	26 D	U	U	U	U
Total TICs				32.65	25.08	5.86	7.14	6.47	41.65	12.65	8.89	6.96	40.44	72.5	72.4	65.91	4.799	14.74
Total SVOCs plus TICs				**51.679**	**54.34**	**5.86**	**24.392**	**6.47**	**41.748**	**12.65**	**9.01**	**19.283**	**40.56**	**223.27**	**72.68**	**66.02**	**4.799**	**14.74**

Contaminant	CAS Number	A Unrestricted Use (SCO)	B Commercial Use (SCO)	TB-110 (4') 6/25/2014	TB-112 (28') 6/23/2014	TB-113 (25') 6/25/2014	TB-114 (3') 6/17/2014	TB-115 (2-4') 6/24/2014	TB-117 (0-2') 7/2/2014	TB-119 (11-12') 6/24/2014	TB-120 (1-4') 6/24/2014	TB-121 (32') 6/18/2014	TB-122 (4-5') 6/17/2014	TB-124 (2-4') 6/24/2014	TB-126 (0-4') 7/2/2014	SUB-1 7/31/14	SUB-2 7/31/14	TP-1 (2') 8/4/14
1-Methylnaphthalene[1]	90-12-0	NA	NA	0.22 J	U	U	U	U	U	U	U	U	U	0.87	U	0.1 J	U	0.59
2-Methylnaphthalene	91-57-6	NA	NA	0.27 J	U	U	U	U	U	U	U	U	U	1.3	U	0.13 J	U	0.6
2,4-Dimethylphenol	105-67-9	NA	NA	U	UJ	U	U	U	U	U	U	UJ	UJ	U	U	U	U	U
2-Methylphenol	95-48-7	NA	NA	U	U	U	U	U	0.13 J	U	U	U	U	U	U	U	U	U
4-Methylphenol	106-44-5	NA	NA	U	U	U	U	U	0.21 J	U	U	U	U	U	U	U	U	U
Acenaphthene	83-32-9	20	500	0.37 J	U	U	U	U	U	U	U	U	U	1.4	U	U	0.079 J	1.2 J
Acenapthylene	208-96-8	100	500	0.38	U	U	U	U	U	U	U	U	U	U	U	U	U	0.1 NJ
Anthracene	120-12-7	100	500	1.2	UJ	U	0.15 J	U	U	U	U	U	U	3	U	U	U	0.28 J
Benz(a)anthracene	56-55-3	1	5.6	2.8 **A**	U	U	0.33 J	U	U	U	U	U	U	3.9 **A**	0.12 J	U	0.29 J	0.9
Benzo(a)pyrene	50-32-8	1	1	2.4 **AB**	U	U	0.26 J	U	U	U	U	U	U	2.3 **AB**	0.11 J	U	0.27 J	0.69
Benzo(b)fluoranthene	205-99-2	1	5.6	3.2 **A**	U	U	0.33 J	U	U	U	U	U	U	3.3 **A**	0.17 J	U	0.41	1
Benzo(g,h,i)perylene	191-24-2	100	500	1	U	U	0.13 J	U	U	U	U	U	U	1.2	0.09 J	U	0.19 J	0.59
Benzo(k)fluoranthene	207-08-9	0.8	56	1.4 **A**	U	U	0.14 J	U	U	U	U	U	U	1.4 **A**	U J	U	0.13 J	0.38 J
Bis(2-ethylhexyl)phthalate	117-81-7	NA	NA		U	0.11 J	U	0.16 J	U	0.11 J	0.11 J	U	U	U	0.081 J	U	0.28 J	U
Butylbenzylphthalate	85-68-7	NA	NA	U	U	U	U	U	U	U	U	U	U	U	0.18 J	U	0.17 J	U
Carbazole	86-74-8	NA	NA	0.55	U	U	U	U	U	U	U	U	U	1.6	U	U	U	0.12 J
Chrysene	218-01-9	1	56	2.8 **A**	U	U	0.32 J	U	U	U	U	U	U	3.6 **A**	0.14 J	U	0.31 J	1.1 **A**
Dibenz(a,h)anthracene	53-70-3	0.33	0.56	0.25 J	U	U	U	U	U	U	U	U	U	0.47 **A**	U	U	U	0.15 NJ
Dibenzofuran	132-64-9	7	350	0.5 J	U	U	U	U	U	U	U	U	U	2	U	U	U	0.23 J
Dimethylphthalate	131-11-3	NA	NA	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Di-n-butylphthalate	84-74-2	NA	NA	U	U	U	U	U	0.11 J	U	U	U	U	U	0.4	U	0.089 J	U
Fluoranthene	206-44-0	100	500	5.8	UJ	U	0.62	U	U	U	U	U	0.096 J	7.6 D	0.22 J	U	0.49	1.5
Fluorene	86-73-7	30	500	0.47	U	U	U	U	U	U	U	U	U	1.7	U	U	U	0.11 NJ
Hexachlorobenzene	118-74-1	0.33	NA		U	U	0.095 J	U	U	U	U	U	U	U	U	U	U	U
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	5.6	1.2 **A**	U	U	0.16 J	U	U	U	U	U	U	1.4 **A**	U	U	0.21 J	0.65 **A**
Isophorone	78-59-1	NA	NA	U	U	U	U	U	U	U	U	1.1 NJ	U	U	U	U	U	U
N-Nitrosodiphenylamine	86-30-6	NA	NA	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Naphthalene	91-20-3	12	500	0.43	U	U	U	U	U	U	U	U	U	1.7	U	0.1 J	U	0.41
Phenanthrene	85-01-8	100	500	5.2	0.099 J	0.31 J	0.59	U	U	U	U	U	U	11 D	0.12 J	0.085 J	0.36 J	1.5
Phenol	108-95-2	0.33	500	U	U	U	U	U	0.13 J	U	U	U	U	U	U	U	U	U
Pyrene	129-00-0	100	500	4.8	U	U	0.63	U	U	U	U	U	0.096 J	5.4 D	0.18 J	U	0.5	1.5
Total TICs				21.72	41.04	117.1	4.427	8.25	15.68	9.62	7.98	4.981	4.608	53.39	6.03	2.72	2.96	15.87
Total SVOCs plus TICs				**56.96**	**41.139**	**117.52**	**8.182**	**8.41**	**16.26**	**9.73**	**8.09**	**6.081**	**4.8**	**108.53**	**7.841**	**3.135**	**6.738**	**29.47**

Notes:
Values are in milligrams per kilogram (mg/kg) or parts per million (ppm)

SCOs are as referenced in 6 NYCRR Part 375-6, Remedial Program Soil Cleanup Objectives, dated December 14, 2006

[1] Analyte not validated.

b = Detected In Method Blank D = Diluted Sample NA = Not Available

U = The analyte was analyzed for, but was not detected above the associated reported quantitation limit. Refer to the analytical laboratory report for the associated reported quantitation limit

J = The analyte was positively identified; the numerical value is an approximate concentration of the analyte in the sample.

NJ = The detection is tentative in identification and estimated in value. Although there is presumptive evidence of the analyte, the result should be used with caution as a potential false positive and/or elevated quantitative value.

A = Exceeds Unrestricted Use SCO
B (Highlighted Value) = Exceeds Restricted Commercial Use SCO

TABLE 5C
211 FRANKLIN STREET
OLEAN, NEW YORK
BCP SITE NO. C905038

SUMMARY OF REMAINING DETECTED
PESTICIDE/HERBICIDE/PCBS IN SOIL/FILL SAMPLES

Contaminant	CAS Number	**A** Unrestricted Use (SCO)	**B** Commercial Use (SCO)	MW-G (1-3') 6/26/2014	TB-105 (27') 6/16/2014	TB-107 (12.5') 6/25/2014	TB-108 (28') 6/18/2014	TB-110 (4') 6/25/2014	TB-112 (28') 6/23/2014	TB-115 (2-4') 6/24/2014	TB-121 (32') 6/18/2014	TB-122 (4-5') 6/17/2014	TB-124 (2-4') 6/24/2014	SUB-1 7/31/14	SUB-2 7/31/14
4,4'-DDE	72-55-9	0.0033	62	U	UJ	U	U	U	UJ	U	U	U	U	NT	NT
4,4'-DDT	50-29-3	0.0033	47	0.047 NJ **A**	UJ	0.0082 J- **A**	U	U	UJ	U	U	U	U	NT	NT
4,4'-DDD	72-54-8	0.0033	92	0.04 P **A**	UJ	0.0073 NJ **A**	U	U	UJ	U	U	U	U	NT	NT
Aldrin	309-00-2	0.005	0.68	U	UJ	U	U	U	UJ	U	U	U	U	NT	NT
alpha-BHC	319-84-6	0.02	3.4	U	UJ	0.0024 J-	U	U	UJ	U	U	U	U	NT	NT
beta-BHC	319-85-7	0.036	3	U	UJ	U	U	U	UJ	U	U	U	U	NT	NT
Chlordane (alpha)	5103-71-9	0.094	24	UJ	UJ	UJ	U	0.1 J **A**	UJ	U	U	U	U	NT	NT
Chlordane (gamma)	5103-74-2	NA	NA	UJ	UJ	U	U	UJ	UJ	U	U	U	U	NT	NT
Endosulfan I	959-98-8	2.4	200	U	UJ	U	U	U	UJ	U	U	U	U	NT	NT
Endosulfan II	33213-65-9	2.4	200	U	UJ	U	U	U	UJ	U	U	U	U	NT	NT
Endosulfan sulfate	1031-07-8	2.4	200	U	UJ	0.12 J-	U	U	UJ	U	U	U	0.05	NT	NT
Endrin	72-20-8	0.014	89	U	UJ	U	U	U	UJ	U	U	U	U	NT	NT
Endrin aldehyde	7421-93-4	NA	NA	U	UJ	0.0057 J-	U	U	UJ	U	U	U	U	NT	NT
Endrin ketone	53494-70-5	NA	NA	U	UJ	0.019 J-	U	U	UJ	U	U	U	U	NT	NT
Heptachlor epoxide	1024-57-3	NA	NA	U	UJ	U	U	U	UJ	U	U	U	U	NT	NT
Lindane	58-89-9	0.1	9.2	U	UJ	U	U	U	UJ	U	U	U	U	NT	NT
Polychlorinated biphenyls	1336-36-3	0.1	1	U	UJ	UJ	U	U	UJ	U	U	U	U	U	U

Values are in milligrams per kilogram (mg/kg) or parts per million (ppm)

SCOs are as referenced in 6 NYCRR Part 375-6, Remedial Program Soil Cleanup Objectives, dated December 14, 2006

NA = Not Available

P = Lower of Two Values Reported From Primary And Confirmation Analyses When > 25% Difference Detected

U = The analyte was analyzed for, but was not detected above the associated reported quantitation limit. Refer to the analytical laboratory report for the associated reported quantitation limit

NJ = The detection is tentative in identification and estimated in value. Although there is presumptive evidence of the analyte, the result should be used with caution as a potential false positive and/or elevated quantitative value.

J = The analyte was positively identified; the numerical value is an approximate concentration of the analyte in the sample.

J- = The analyte was positively identified; the numerical value is an estimated quantity that may be biased low.

NT = Not Tested

A = Exceeds Unrestricted Use SCO

TABLE 5D
211 FRANKLIN STREET
OLEAN, NEW YORK
BCP SITE NO. C905038

SUMMARY OF REMAINING DETECTED
TAL METALS AND CYANIDE IN SOIL/FILL SAMPLES

Contaminant	CAS Number	A Unrestricted Use (SCO)	B Commercial Use (SCO)	MW-F (1.5') 6/17/2014	MW-G (1-3') 6/26/2014	MW-G (20') 6/26/2014	MW-K (1-2') 6/16/2014	MW-N (14-16') 6/19/2014	TB-101 (27') 6/13/2014	TB-101 (40') 6/16/2014	TB-102 (11-12') 6/24/2014	TB-104 (0-3') 7/2/2014	TB-105 (27') 6/16/2014	TB-107 (12.5') 6/25/2014	TB-107 (27') 6/25/2014	TB-108 (28') 6/18/2014	TB-108 (52') 6/18/2014
Aluminum	7429-90-5	NA	NA	4480 *	2350	5550	4450 *	4750	9660 *	8820 *	7700	2490	6510 *	6400	4900	4600	3600
Antimony	7440-36-0	NA	NA	17.40 N	5.20	U	0.44 b,N	U	0.44 J	U N	U	U	U N	0.43 J	U	U	U
Arsenic	7440-38-2	13	16	6.7	129.0 AB	6.4	4.8	5.2	13.0	17.7 AB	30.0 AB	5.0	6.5	76.0 AB	6.1	4.9	7.7
Barium	7440-39-3	350	400	311.0	579.0 AB	71.1	34.8	34.4	41.9	105.0	83.0 b	29.5	50.2	120.0 b	42.0 b	36.0 b	44.0 b
Beryllium	7440-41-7	7.2	590	0.18 b	0.70	0.17 b	0.18 b	0.20	0.31	0.40	0.33	0.17 b	0.30	0.32	0.19	0.20 J	0.16 J
Cadmium	7440-43-9	2.5	9.3	1.60	15.30 AB	0.15 b	0.13 b	0.08 b	0.34	0.08 b	0.18 J	0.69	0.12 b	3.00 A	0.12 J	0.09 J	0.03 J
Calcium	7440-70-2	NA	NA	27000	1670	56400	53400	44000	50200	17100	870	34300	32400	30000	110000	52000	34000
Chromium	7440-47-3	30	1,500	6.9	149.0 A	6.5	11.2	249.0 A	9.5	10.1	11.0	3.1	8.4	15.0	5.7	4.9	4.1
Cobalt	7440-48-4	NA	NA	3.4	17.2	4.9	3.0	4.5	6.1	7.9	4.1	1.4 b	6.1	13.0	3.3	4.1	3.9
Copper	7440-50-8	50	270	35.1	588.0 AB	15.2	19.4	27.6	48.5	17.3	32.0	21.8	14.8	1200.0 AB	15.0	15.0	9.7
Iron	7439-89-6	NA	NA	13000 *	55600	12600	8220 *	10700	18200 *	20600 *	28000	18300	15800 *	76000	11000	11000	9700
Lead	7439-92-1	63	1000	184.0 A	3030 AB	12.4	47.9	4.7	7.7	12.2	17.0	13.5	10.4	180.0 A	3.9	6.4	8.8
Magnesium	7439-95-4	NA	NA	4000 *	731	9850	4120 *	4020	5000 *	6460 *	2000 b	425	2970 *	5400 b	3900 b	5300 b	2500 b
Manganese	7439-96-5	1600	10,000	998	164	527	217	441	627	768	600	109	666	540	970	1000	640
Mercury	7439-97-6	0.18	2.8	0.20 A	17.90 AB	0.0087 b	0.0650	0.0081 b	0.0036 b	0.0035 b	0.0140 J	0.0032 b	U	0.0530	0.0041 J	0.0039 J	0.0029
Nickel	7440-02-0	30	310	9.8 *	274.0 A	9.9	10.3 *	35.3 A	14.1 *	16.2 *	12.0	3.4	11.6 *	11.0	8.5	8.8	7.4
Potassium	7440-09-7	NA	NA	468	338	582	400	526	523	1030	600	1970	748	1300	480	530	370
Selenium	7782-49-2	3.9	1,500	U	296.00 A	U	U	U	U	U	0.66 J	U	U	U	0.45 J	0.83 J	U
Silver	7440-22-4	2	1,500	0.120 b	3.000 A	U	U	U	U	0.140 b	0.130 J	U	0.083 b	1.200 J	U	U	U
Sodium	7440-23-5	NA	NA	83.1	214.0	58.5	109.0	46.0	115.0	99.1	91.0 b	536.0	83.8	730.0 b	100.0 b	69.0 b	71.0 b
Thallium	7440-28-0	NA	NA	U	0.5 b	1.7	1.1	1.4	U	U	U	2.1	U	1.1	1.3	U	U
Vanadium	7440-62-2	NA	NA	8.3 *	11.8	7.3	12.2 *	8.2	12.1 *	10.6 *	17.0	7.7	8.6 *	14.0	7.4	7.5	5.7
Zinc	7440-66-6	109	10,000	85 N*	818 A	135 A	37 N*	58	188 J A	52 N*	75 b	23	41 N*	650 b A	120 b A	56 b	31 b
Total Cyanide	NA	27	27	NT	U	NT	NT	NT	NT	NT		NT	U	U	NT	U	NT

Contaminant	CAS Number	A Unrestricted Use (SCO)	B Commercial Use (SCO)	TB-109 (15') 6/25/2014	TB-110 (4') 6/25/2014	TB-112 (28') 6/23/2014	TB-113 (25') 6/25/2014	TB-114 (3') 6/17/2014	TB-115 (2-4') 6/24/2014	TB-117 (0-2') 7/2/2014	TB-119 (11-12') 6/24/2014	TB-120 (1-4') 6/24/2014	TB-121 (32') 6/18/2014	TB-122 (4-5') 6/17/2014	TB-124 (2-4') 6/24/2014	TB-126 (0-4') 7/2/2014	SUB-1 7/31/14	TP-1 (2') 8/4/14
Aluminum	7429-90-5	NA	NA	5100	3850	4400	4300	5700	5900	14900	5000	7600	3000	8200	9100	9580	1810	2200
Antimony	7440-36-0	NA	NA	U	2.30	UJ	U	23.00	2.90	U	U	1.00 J	U	U	U	U	U	1.40
Arsenic	7440-38-2	13	16	4.2	40.3 AB	8.8	5.3	120.0 AB	6.1	11.6	6.4	8.1	4.3	9.4	15.0 A	15.8 A	22.5 AB	35.5 AB
Barium	7440-39-3	350	400	24.0 b	122.0	48.0 b	32.0 b	160.0 b	41.0 b	96.2	44.0 b	39.0 b	40.0 b	71.0 B	100.0 b	113.0	87.9	107.0
Beryllium	7440-41-7	7.2	590	0.17 J	0.17 b	0.18 J	0.17 J	0.20 J	0.22 J	0.40	0.20 J	0.33	0.14 J	0.36	0.40	0.49	0.11	1.10
Cadmium	7440-43-9	2.5	9.3	0.07 J	11.80 AB	0.03 J	0.10 J	1.50	0.38	10.00 AB	0.71	0.34	0.10 J	0.26	0.29	1.40	0.15	3.40 A
Calcium	7440-70-2	NA	NA	24000	523	36000	27000	2700	3500	2160	14000	16000	160000	13000	590	2750	5900	6030
Chromium	7440-47-3	30	1,500	5.6	7.9	6.8	4.5	8.0	12.0	16.7	51.0 A	8.9	3.6	10.0	13.0	14.6	3.3	24.1
Cobalt	7440-48-4	NA	NA	5.5	14.1	4.1	5.6	6.9	4.9	10.7	4.3	6.0	2.6	12.0	5.8	9.2	2.5	11.2
Copper	7440-50-8	50	270	26.0	3460.0 AB	21.0	20.0	380.0 AB	58.0 A	378.0 AB	21.0	57.0 A	7.3	49.0	47.0	51.3 A	24.0	133.0 A
Iron	7439-89-6	NA	NA	12000	91700	10000	9900	66000	19000	25600	12000	16000	7900	18000	17000	25900	12100	44500
Lead	7439-92-1	63	1000	4.5	2890.0 AB	6.7	5.5	480.0 A	43.0	37.8	8.3	15.0	5.0	37.0	52.0	56.2	3.8	255.0 A
Magnesium	7439-95-4	NA	NA	3500 b	851	3600 b	7200 b	1600 b	1700 b	2580	7100 b	3300 b	6600 b	3400 B	1400 b	2380	210	617
Manganese	7439-96-5	1600	10,000	500	166	590	740	480	330	435	1300	670	440	800	690	839	46	352
Mercury	7439-97-6	0.18	2.8	0.0038 J	0.4300 A	0.0031	0.0047 J	0.0990	0.1200	0.0320 b	0.0059 J	0.0300 J	0.0029 J	0.1300	0.0710	0.0490	0.0230	0.2300 A
Nickel	7440-02-0	30	310	12.0	6.0	9.5	11.0	9.9	24.0	92.0 A	22.0	14.0	5.8	19.0	13.0	30.5 A	13.9	472.0 AB
Potassium	7440-09-7	NA	NA	420	1690	490	480	1200	470	712	420	600	480	710	520	830	286	490
Selenium	7782-49-2	3.9	1,500	U	U	U	U	0.87 J	U	1.80	U	U	1.30 J	U	0.71 J	1.10 b	U	1.80
Silver	7440-22-4	2	1,500	0.064 J	6.000 A	U	0.065 J	1.200 J	0.170 J	U	U	U	U	0.140 J	0.190 J	U	U	U
Sodium	7440-23-5	NA	NA	34.0 b	156.0	86.0 b	100.0 b	330.0 b	190.0 b	168.0	44.0 b	650.0 b	91.0 b	73.0 B	29.0 bJ	55.0	44.2	283.0
Thallium	7440-28-0	NA	NA	U	U	U	U	0.3 J	U	U	U	U	3.0	U	U	U	0.9	0.5
Vanadium	7440-62-2	NA	NA	7.8	14.4	6.7	5.7	12.0	12.0	25.0	7.2	12.0	3.8	13.0	16.0	15.1	5.6	9.9
Zinc	7440-66-6	109	10,000	61 b	11400 AB	78 b	58 b	530 b A	110 b A	151 A	230 b A	120 b A	24 b	110 B A	73 b	137 A	75	457 A
Total Cyanide	NA	27	27	NT	U	U	NT	NT	U	NT		NT	U	U	U	NT	NT	NT

Values are in milligrams per kilogram (mg/kg) or parts per million (ppm)

SCOs are as referenced in 6 NYCRR Part 375-6, Remedial Program Soil Cleanup Objectives, dated December 14, 2006

b = Trace Concentration Below Reporting Limit And Equal To Or Above Detection Limit NT = Not Tested N = Matrix Spike Recovery Falls Outside Control Limit NA = Not Available U = Not Detected * = RPD Duplicate Analyses Outside Control Limit

TABLE 6A
211 FRANKLIN STREET
OLEAN, NY

NYSDEC BCP Site #C905038

Summary of Detected VOCs in mg/L or ppb

Groundwater Samples

Contaminant	X Groundwater Standard or Guidance Value	MW-B			MW-C		MW-D		MW-E		MW-F		MW-G		MW-H	
		7/9/2014	7/31/2014	9/30/2014	7/10/2014	9/29/2014	7/9/2014	9/29/2014	7/9/2014	9/29/2014	7/9/2014	9/30/2014	7/7/2014	9/30/2014	7/8/2014	9/29/2014
Chloroform	7	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Naphthalene	10	4.5 J	U	U	U	U	2.9 J	U	U	U	U	U	U	U	U	U
Methylcyclohexane	NA	U	U	2.7 J	U	U	U	U	U	U	U	U		U		U
n-Propylbenzene	5	0.99 J	U	U	U	U	U	U	U	U	U	U	U	U	U	U
tert-Butyl Alcohol	NA	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
tert-Butylbenzene	5	2.8 J	2.7 J	U	U	U	U	U	U	U	U	U	3.9 J	U	3.9 J	U
Toluene	5	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Total VOCs		8.29	2.7	2.7	0	U	2.9	U	U	U	U	U	3.9	U	3.9	U
Total TICs		175	140	75	U	U	26	U	23	U	23	7.1	108	212.1	91	83.1
Total VOCs and TICs		183.29	142.7	77.7	U	U	28.9	U	23	U	23	7.1	111.9	212.1	94.9	83.1

Contaminant	X Groundwater Standard or Guidance Value	MW-I		MW-J		MW-K		MW-L		MW-M		MW-N		Production Well	FB071014	FB092914	TB071014	TB093014
		7/8/2014	9/30/2014	7/10/2014	9/29/2014	7/10/2014	9/30/2014	7/7/2014	9/30/2014	7/9/2014	9/30/2014	7/7/2014	9/29/2014	9/30/2014	7/10/2014	9/29/2014	7/10/2014	9/30/2014
Chloroform	7	U	U	U	U	U	U	0.65 J	U	U	U	U	U	U	U	U	U	U
Naphthalene	10	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Methylcyclohexane	NA	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
n-Propylbenzene	5	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
tert-Butyl Alcohol	NA	U	U	U	U	U	U	U	U	4.5 J	U	U	U	U	U	U	U	U
tert-Butylbenzene	5	2.5 J	U	U	U	U	U	U	U	3.6 J	U	U	U	U	U	U	U	U
Toluene	5	U	U	U	U	U	U	0.74 J	U	U	U	U	U	U	U	U	U	U
Total VOCs		2.5	U	U	U	U	U	1.39	U	8.1	U	U	U	U	U	U	0	U
Total TICs		U	11.6	U	U	U	U	27.7	U	130	22	87	5.1	U	16.4	U	8.9	U
Total VOCs and TICs		2.5	11.6	U	U	U	U	29.09	U	138.1	22	87	5.1	U	16.4	U	8.9	U

Notes
U = Not Detected
NA = Not Available
VOC = Volatile Organic Compound
µg/L = micrograms per Liter or parts per billion (ppb).

Groundwater Standards or Guidance Values as referenced in New York State Department of Environmental Conservation (NYSDEC) Technical and Guidance Series (TOGS) 1.1.1 dated June 1998 as amended by the NYSDEC's supplemental table dated April 2000.

J = Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than the method detection limit. The concentration given is an approximate value.

TABLE 6B
211 FRANKLIN STREET
OLEAN, NY

NYSDEC BCP Site #C905038

Summary of Detected SVOCs in mg/L or ppb

Groundwater Samples

Contaminant	X Groundwater Standard or Guidance Value	MW-B		MW-C		MW-D		MW-E		MW-F		MW-G		MW-H	
		7/9/2014	9/30/2014	7/10/2014	9/29/2014	7/9/2014	9/29/2014	7/9/2014	9/29/2014	7/9/2014	9/30/2014	7/7/2014	9/30/2014	7/8/2014	9/29/2014
1-Methylnaphthalene	NA	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Di-n-butylphthalate	50	U	1.4 J	U	U	U	U	U	1.7 J	U	2.1 J	U	2.4 J	U	1.7 J
Fluorene	50	1.3 J	U	U	U	U	U	U	U	U	U	U	U	1.1 J	U
Total SVOCs		1.3	1.4	U	U	U	U	U	1.7	U	2.1	U	2.4	1.1	1.7
Total TICs		154	236.4	39.8	4.8	19.1	8.5	22	U	11	19.5	35.1	136.8	171.6	111.8
Total SVOCs and TICs		155.3	237.8	39.8	4.8	19.1	8.5	22	1.7	11	21.6	35.1	139.2	172.7	113.5

Contaminant	X Groundwater Standard or Guidance Value	MW-I		MW-J		MW-K		MW-L		MW-M		MW-N		Production Well	FB071014	FB092914
		7/8/2014	9/30/2014	7/10/2014	9/29/2014	7/10/2014	9/30/2014	7/7/2014	9/30/2014	7/9/2014	9/30/2014	7/7/2014	9/29/2014	9/30/2014	7/10/2014	9/29/2014
1-Methylnaphthalene	NA	U	U	U	U	U	U	U	U	2.1 J	U	U	U	U	U	
Di-n-butylphthalate	50	U	1.2 J	U	U	U	1.2 J	1 J	1.4 J	U	1.5 J	U	1.8 J	1.6 J	U	1.7 J
Fluorene	50	U	U	U	U	U	U	U	U	U	U	U	U	U	U	
Total SVOCs		U	1.2	U	U	U	1.2	1	1.4	2.1	1.5	U	1.8	1.6	U	1.7
Total TICs		18.2	16.6	U	11.3	52	72	4.9	4.2	26.6	49.6	79	22.9	U	14	14.5
Total SVOCs and TICs		18.2	17.8	U	11.3	52	73.2	5.9	5.6	28.7	51.1	79	24.7	1.6	14	16.2

Notes
NA = Not Available SVOC = Semi-Volatile Organic Compound TIC = Tentatively Identified Compound U = Not Detected
µg/L = micrograms per Liter or parts per billion (ppb).

Groundwater Standards or Guidance Values as referenced in New York State Department of Environmental Conservation (NYSDEC) Technical and Guidance Series (TOGS) 1.1.1 dated June 1998 as amended by the NYSDEC's supplemental table dated April 2000.

TABLE 6C
211 FRANKLIN STREET
OLEAN, NY

NYSDEC BCP Site #C905038

Summary of Detected Pesticides and Polychlorinated Biphenyls in mg/L or ppb

Groundwater Samples

Contaminant	X Groundwater Standard or Guidance Value	MW-B 07/09/14	MW-C 07/10/14	MW-D 07/09/14	MW-E 07/09/14	MW-F 07/09/14	MW-G 07/07/14	MW-H 07/08/14	MW-I 07/08/14	MW-J 07/10/14	MW-K 07/10/14	MW-L 07/07/14	MW-M 07/09/14	MW-N 07/07/14	FB071014 07/10/14
Pesticides	NA	U	U	U	U	U	U	U	U	U	U	U	U	U	U
PCBs	0.09	U	U	U	U	U	U	U	U	U	U	U	U	U	U

Notes

NA = Not Available

μg/L = micrograms per Liter or parts per billion (ppb).

Groundwater Standards or Guidance Values as referenced in New York State Department of Environmental Conservation (NYSDEC) Technical and Guidance Series (TOGS) 1.1.1 dated June 1998 as amended by the NYSDEC's supplemental table dated April 2000.

U = Not Detected

TABLE 6D
211 FRANKLIN STREET
OLEAN, NY

NYSDEC BCP Site #C905038

Summary of Detected Metals in mg/L or ppb

Groundwater Samples

Contaminant	X Groundwater Standard or Guidance Value	MW-B		MW-C		MW-D		MW-E		MW-F		MW-G		MW-H	
		7/9/2014	9/30/2014	7/10/2014	9/29/2014	7/9/2014	9/29/2014	7/9/2014	9/29/2014	7/9/2014	9/30/2014	7/7/2014	9/30/2014	7/8/2014	9/29/2014
Aluminum	NA	U	66.2 B	U	1220.0	U	U	U	U	U	347	U	1550.0	U	U
Arsenic	25	U	U	U	5.1 B	U	U	U	U	U	U	U	U	U	U
Barium	1,000	616	200	219	221	259	200 B	207	223	29.4 B	132 B	427	901	444.0	791.0
Calcium	NA	293,000	300,000	114,000	114,000	153,000	133,000	124,000	134,000	463,000	401,000	341,000	312,000	411,000	306,000
Chromium	50	0.86 B	U	U	1.8 B	U	U	0.9 B	3.5 B	U	0.72 B	0.77 B	3 B	2.0 B	1.1 B
Cobalt	NA	U	U	U	U	U	U	U	U	U	U	U	1.0 B	U	U
Copper	200	U	U	U	4.5 B	U	U	U	U	U	U	U	9 B	U	U
Iron	300	156 B	92.4 B	U	1510 X	663 X	376 X	110 B	84 B	582 X	2650 X	1790 X	3620 X	924 X	513 X
Lead	25	U	U	U	U	U	U	U	U	4.3 B	U	U	U	U	U
Magnesium	35,000	20,500	15,700	18,100	18,900	23,600	20,400	21,000	22,500	20,800	22,500	32,200	31,300	39,700 X	36,200 X
Manganese	300	1,480 X	2,800 X	U	122	752 X	619 X	U	U	770 X	1,480 X	1,060 X	914 X	443 X	426 X
Nickel	100	U	U	U	1.5 B	U	U	U	U	1.5 B	1.1 B	U	4.0 B	0.9 B	U
Potassium	NA	6,730 E	6,240	3,660	4,510	5,130 E	5,200	3,770 E	3,840	3,780	5,430	9,260 E	8,990	13,100 E	12,000
Selenium	10	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Sodium	20,000	352,000 X	184,000 X	128,000 X	131,000 X	116,000 X	126,000 X	125,000 X	125,000 X	123,000 X	186,000 X	152,000 X	196,000 X	409,000 X	291,000 X
Thallium	0.5	7.6 B X	U	U	U	U	U	7.1 B X	U	15.50 B X	U	13.4 B X	U	9.3 B X	U
Vanadium	NA	1.6 B	U	U	2.0 B	U	U	U	U	U	U	1.2 B	3.4 B	1.3 B	1.3 B
Zinc	2,000	6.3 B	U	6.2 B	10.9 B	U	U	U	U	818	91.2	5.7 B	34.6 B	5.4 B	U

Contaminant	X Groundwater Standard or Guidance Value	MW-I		MW-J		MW-K		MW-L		MW-M		MW-N		Production Well	FB071014	FB092914
		7/8/2014	9/30/2014	7/10/2014	9/29/2014	7/10/2014	9/30/2014	7/7/2014	9/30/2014	7/9/2014	9/30/2014	7/7/2014	9/29/2014	9/30/2014	7/10/2014	9/29/2014
Aluminum	NA	U	U	977	U	93.6 B	U	196 B	U	115 B	1310	434	326	U	U	U
Arsenic	25	U	U	U	U	U	U	U	U	U	7.0 B	U	U	4.8 B	U	U
Barium	1,000	609	1910 X	183 B	219	616	928	168 B	202	1010 X	812	241	179 B	289	U	26.7 B
Calcium	NA	215,000	170,000	127,000	143,000	146,000	136,000	122,000	144,000	272,000	325,000	161,000	128,000	129,000	168 B	8,380
Chromium	50	U	5.2 B	2.1 B	U	0.70 B	1.1 B	0.85 B	0.71 B	0.77 B	1.9 B	309.00 X	148.00 X	0.84 B	U	U
Cobalt	NA	U	U	U	U	U	1.2 B	2.2 B	U	U	U	U	U	U	U	U
Copper	200	U	U	6.0 B	U	U	U	U	U	U	5.2 B	4.3 B	U	U	3.6 B	U
Iron	300	2600 X	4350 X	1870 X	33.9 B	290	621 X	434 X	351 X	5520 X	5150 X	2100 X	843 X	1030 X	U	78.5 B
Lead	25	U	U	4.3 B	U	U	U	U	U	U	U	U	U	U	U	U
Magnesium	35,000	20,800	16,900	20,800	23,100	21,100	20,100	21,300	23,400	22,600	26,300	25,700	19,900	22,500	U	1,040
Manganese	300	1,720 X	1,480 X	131	U	1,900 X	1,910 X	1,050 X	101	1,370 X	1,210 X	453 X	382 X	91	U	U
Nickel	100	U	7.2 B	2.6 B	U	2.4 B	3.7 B	2.7 B	U	U	1.9 B	2.2 B	1.6 B	1.3 B	1.2 B	U
Potassium	NA	5,060 E	4,670	4,190	3,950	3,600	3,650	5,920 E	4,150	12,800 E	15,700	5,520 E	6,120	3,900	112 E	415 B
Selenium	10	U	U	15.10 B X	U	U	U	U	U	U	U	U	U	U	U	U
Sodium	20,000	205,000 X	174,000 X	137,000 X	137,000 X	109,000 X	92,600 X	108,000 X	138,000 X	439,000 X	694,000 X	162,000 X	126,000 X	129,000 X	348,000 X	1,500
Thallium	0.5	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Vanadium	NA	U	U	1.3 B	U	U	1.3 B	1.3 B	U	U	2.0 B	1.7 B	1.4 B	U	U	U
Zinc	2,000	6.5 B	U	20.1 B	6.2 B	7.3 B	6.2 B	8.4 B	U	5.1 B	10.9 B	14.2 B	7.3 B	369	5.8 B	5.0 B

Notes

U = Not Detected NA = Not Available B = indicates a concentration below thereporting limit and equal to or above the detection limit E = an estimated concentration due to the presence of interferences

1910 X = Exceeds Groundwater Standard or Guidance Value

All concentrations are in milligrams per Liter or parts per billion (ppb).

Groundwater Standards or Guidance Values as referenced in New York State Department of Environmental Conservation (NYSDEC) Technical and Guidance Series (TOGS) 1.1.1 dated June 1998 as amended by the NYSDEC's supplemental table dated April 2000.

TABLE 7A
211 FRANKLIN STREET
OLEAN, NEW YORK
BCP SITE NO. C905038

SUMMARY OF VOLATILE ORGANIC COMPOUNDS
IN
SOIL VAPOR SAMPLES COLLECTED MAY 29, 2014

Detected Constituent	NYSDOH Indoor Air Guidance Value (ug/m3)[1]	Sample Designation and Date																																	
		SV-01		SV-02		SV-03		SV-04		SV-05		SV-06		SV-07		SV-08		SV-09		SV-10		SV-11		SV-12		SV-13		SV-14		SV-15		SV-16		SV-17		SV-18		SV-19		SV-20	
		5/29/2014		5/29/2014		5/29/2014		5/29/2014		5/29/2014		5/29/2014		5/29/2014		5/29/2014		5/29/2014		5/29/2014		5/29/2014		5/29/2014		5/29/2014		5/29/2014		5/29/2014		5/29/2014		5/29/2014		5/29/2014		5/29/2014	
1,1-Dichloroethene	**1.4**	U		U		U		U		0.033	J	U		U		U		U		U		U		U		U		U		U		U		U		U	
1,4-Dichlorobenzene	**5.5**	0.19	J	1.2	J	1.6	J	**18**	J	1.7	J	5.4	J	0.29	J	0.33	J	0.72	J	0.62	J	0.27	J	U		0.42	J	0.59	J	1.1	J	0.11	J	0.16	J	0.28	J	0.28	J	U	
1,1,1-Trichloroethane	**20.6**	0.59	J	0.21	J	0.09	J	2.20	J	3.0		U		0.81	J	0.1	J	0.7	J	1.5		2	J	U		2.5		U		2		0.78	J	1.8	J	0.69	J	0.67	J	U	
1,1,2-Trichloro-1,2,2-trifluoroethane	**3.5**	**4.5**		**3.9**		2.3		**4.4**		**13**		1.4	J	**14**		**7.1**		**16**		**10**		**31**		**6.2**	J	**13**		3.2		**3.8**		2.6		**8.4**		**15**		**7.4**		**8.2**	J
2-Butanone (MEK)	**12**	4.8		1.5	J	1.1		**22.00**		1.1	J	8.4	J	2.9		2.4		**19**		**19**		2.7	J	3.3	J	5.2		2	J	**13**		0.98	J	0.99	J	2.6	J	1.6	J	**17**	J
2-Hexanone (MBK)	**NA**	0.57	J	0.43	J	0.23	J	2.50	J	U		U		0.5	J	0.36	J	3.4	J	4.5		1.6	J	U		1.8		U		2.2		0.21	J	U		U		0.32	J	3.4	J
4-Methyl-2-Pentanone (MIBK)	**6**	2.7	J	1.1	J	1.0	J	**13**	J	0.9	J	**7.5**	J	**6.3**		1.8		**9.70**	J	**19**		1.2	J	U		4.2		1.4	J	**31**		0.62	J	5.4		3.7	J	1.1	J	**7.3**	J
Acetone	**98.9**	29		11	J	15		**460**	D	30		**460.0**		44		17		**270**	D	**180**	D	16	J	29	J	93	D	34	J	**180**	D	6.5	J	5.3	J	46	J	32		**2600**	
Benzene	**9.4**	1.4	J	0.39	J	0.093	J	1.2	J	1.5		1.1	J	0.34	J	0.25	J	5.10		8.60		1.8	J	3.4	J	2.1		2.6	J	2.2		0.27	J	1.1	J	0.99	J	0.43	J	2.3	J
Bromodichloromethane	**NA**	U		U		U		U		U		U		U		0.16	J	U		1.4		1.2	J	U		U		U		U		U		U		11		U	
Carbon Disulfide	**4.2**	2.3		0.7	J	0.98		1.7	J	1.2		2.2	J	0.81	J	0.7		5		2.8		1.4	J	2.6	J	2.7		1.3	J	**4.3**		1.3		**8.9**		**5.1**		1.7		U	
Carbon Tetrachloride	**1.3**	0.59		0.69		0.53		0.49	J	**2.4**		U		0.22		0.45		U		**1.5**		**5.2**		**6.5**		0.77		U		**9.6**		**2.5**		0.8		**1.6**		0.51		U	
Chloroethane	**1.1**	U		U		U		U		U		U		U		U		U		U		U		U		0.62	J	U		U		U		0.14	J	U		U		U	
Chloroform	**1.1**	0.4	J	0.56	J	0.13	J	0.81	J	U		U		U		0.53	J	U		**11**		**14**		**7.7**	J	**10**		0.99	J	**1.3**		0.34	J	**3.4**		**29**		**74**		U	
Chloromethane	**3.7**	U		U		U		0.85	J	U		3.7	J	U		U		0.88	J	0.24	J	U		U		U		U		0.3	J	0.12	J	U		U		U		U	
cis-1,2-Dichloroethene	**1.9**	U		U		U		U		U		U		U		U		U		U		U		1.7	J	0.33	J	1.2	J	U		U		U		U		U		U	
Dibromochloromethane	**NA**	U		U		U		U		U		U		U		U		U		0.071	J	U		U		U		U		U		U		U		U		0.15	J	U	
Ethylbenzene	**5.7**	0.55	J	0.11	J	0.044	J	0.64	J	1.3	J	0.65	J	0.35	J	0.16	J	1.5	J	1.1		0.88	J	0.96		0.92	J	**270**		0.56	J	0.13	J	1.7	J	0.28	J	0.64	J	U	
m/p-Xylene	**22.2**	2.0	J	0.61	J	0.22	J	2.7	J	8.1		2.2	J	2.1	J	0.9	J	9.5	J	5		2	J	4.1	J	3.2	J	**690**		1.9	J	0.57	J	6.30	J	0.78	J	3.5	J	9.4	J
Methylene Chloride	**60**[2]	1.0	J	0.76	J	0.36	J	3.5	J	1.7		5	J	0.44	J	0.58	J	1.4	J	1.5		0.61	J	2.1	J	1.3		1.2	J	1.1		0.5	J	0.63	J	1.4	J	0.44	J	U	
Methyl tert-Butyl Ether	**11.5**	U		U		U		U		U		U		U		U		U		U		U		U		0.69	J	U		U		U		U		U		U	
o-Xylene	**7.9**	0.69	J	0.48	J	0.13	J	1.2	J	3.70		0.89	J	0.75	J	0.35	J	3.2	J	2.2		1	J	1.7	J	1.3	J	**140**		0.9	J	0.27	J	3.1		0.48	J	1.4	J	7.5	J
Styrene	**1.9**	U		U		0.034	J	U		U		U		U		U		U		U		3	J	U		U		U		U		U		U		0.65	J	U		U	
Tetrachloroethene	**30**[3]	6.5		5.6		0.84		5.4		9.2		1.6	J	6.6		0.6		1.2		**33**		**47**		22		8.7		8.8		1.2		6.5		2.4		**550**		6.7		U	
Toluene	**43**	2.0	J	0.85	J	0.38	J	3.9	J	19		3.9	J	1.2		0.61	J	9.4		6.30		1.8	J	5.7	J	3		**48**		3.1		1		2.3		1.2	J	1.7		1.7	J
trans-1,2-Dichloroethene	**NA**	U		0.053	J	0.023	J	U		0.14	J	U		0.094	J	0.11	J	U		0.026	J	0.16	J	0.63	J	1.1	J	0.79	J	0.04	J	U		0.053	J	0.81	J	U		U	
Trichloroethene	**5**[2]	1.7		**150**		**5.9**		2.4		4.8		U		U		U		U		**81**		**370**		**2700**	D	**53**		**83**		0.17		1.8		2		**380**		0.77		U	
Trichlorofluoromethane	**18.1**	**180**		**80**		**51**		**51**		14		9.9	J	3.4		7.2		4	J	8.1		**32**		**47**		**52**		**190**		**46**		9.6		16		11		8		5.8	J
Total TICs		278.7		162.4		35.4		188		215		U		277.4		165.5		1642		353		472		180		491.5		202		127.8		32.3		498		142		368.6		U	
Total VOCs + TICs		520.18		422.54		117.38		785.89		331.77		513.84		362.50		207.19		2002.7		751.46		1008.82		3024.59		752.66		1681.76		433.57		69.00		568.87		1193.56		522.91		2662.6	

NOTES

Volatile organic compound (VOC) concentrations are presented in micrograms per cubic meter (μ/m^3).

U = Not detected at concentration above analytical laboratory reporting limit. Refer to the analytical laboratory report for the associated reporting limit.

NA = Not Available.

J = Estimated Value.

D = Sample Diluted.

No NYSDOH criteria is available for soil vapor samples

[1]Unless otherwise noted the Indoor Air guidance value shown is the 90th percentile referenced in Table C2 of the NYSDOH document titled "Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York" dated October 2006.

[2] NYSDOH derived air guidance values in NYSDOH document titled "Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York" dated October 2006.

[3] Value identified in NYSDOH September 2013 Fact Sheet "Tetrachloroethene (PERC) in Indoor and Outdoor Air".

Highlighted value exceeds referenced NYSDOH indoor air guidance value

TABLE 7B
211 FRANKLIN STREET
OLEAN, NEW YORK
BCP SITE NO. C905038

SUMMARY OF VOLATILE ORGANIC COMPOUNDS
In
SOIL VAPOR and SANITARY SEWER VAPOR SAMPLES COLLECTED NOVEMBER 19, 2014 AND DECEMBER 3, 2014

Detected Constituent	NYSDOH Indoor Air Guidance Value (ug/m3)[1]	Sample Designation and Date																																	
		SV-21		SV-22		SV-23		SV-24		SV-25		SV-26		SV-27		SV-28		SV-29		San Vap -1		San Vap -2		San Vap -3		San Vap -4		San Vap -5		San Vap -6							
		11/19/2014		11/19/2014		11/19/2014		11/19/2014		11/19/2014		11/19/2014		12/3/2014		12/3/2014		12/3/2014		11/19/2014		11/19/2014		11/19/2014		11/19/2014		11/19/2014		11/19/2014							
1,2-Dichloroethane	**0.9**	U		**11.13**	D	U	D	U	D	U		U	D	U		U		U		U		U	D	U	D	U		U		U	D				
1,1,1-Trichloroethane	**20.6**	U		U	D	3.49	JD	U	D	15.33		U	D	U		U		U		U		U	D	U	D	U		U		U	D				
1,2,4-Trimethylbenzene	**9.5**	3.93		U	D	6.88	D	**9.93**	D	7.03		U	D	U		U		U		4.13		7.87	JD	**36.18**	D	7.18	D	2.51		U	D				
1,3,5-Trimethylbenzene	**3.7**	1.77	J	U	D	U	D	**4.33**	JD	4.82		U	D	U		1.67	J	U		U		U	D	U	D	U		U		U	D				
2-Butanone (MEK)	**12**	3.95		**25.51**	D	8.61	D	10.09	D	**30.08**		U	D	U		4.98		U		5.16		U	D	U	D	U		U		8.85	D				
2-Hexanone (MBK)	**NA**	U		U	D	U	D	U	D	7.42		U	D	U		U		U		U		U	D	U	D	U		U		U	D				
4-Ethyltoluene	**NA**	2.21	J	U	D	U	D	4.82	JD	3.10		U	D	U		U		U		2.46		U	D	29.94	JD	4.62	JD	2.06	J	U	D				
4-Isopropyltoluene	**NA**	U		U	D	U	D	U	D	U		U	D	U		2.25	J	2.36	J	U		U	D	61.71	D	U		U		U	D				
4-Methyl-2-Pentanone (MIBK)	**6**	**15.33**		**14.34**	D	**12.54**	D	**17.05**	D	U		U	D	U		U		U		2.13		U	D	U	D	U		1.52	J	3.03	JD				
Acetone	**98.9**	70.10		86.02	D	**120.00**	D	**151.84**	D	**155.17**		**6368.43**	D	10.60		9.79		5.37		13.26		18.44	D	**102.66**	D	27.33	D	6.72		15.83	D				
Benzene	**9.4**	1.69		U	D	5.87	D	4.08	D	**10.50**		U	D	1.56	J	1.63		1.50	J	1.34	J	U	D	U	D	U		U		2.81	JD				
Bromodichloromethane	**NA**	U		U	D	U	D	U	D	U		U	D	U		U		U		U		U	D	U	D	U		6.70		4.29	JD				
Carbon Disulfide	**4.2**	2.15		U	D	**8.15**	D	**5.98**	D	3.55		U	D	2.24		U		U		U		U	D	U	D	U		U		U	D				
Carbon Tetrachloride	**1.3**	U		U	D	**11.07**	D	U	D	**2.52**	J	U	D	U		U		U		U		U	D	U	D	U		U		U	D				
Chloroform	**1.1**	U		U	D	**17.72**	D	U	D	U		U	D	U		U		U		U		**24.14**	D	**47.55**	D	**28.33**	D	**15.82**		**14.11**	D				
Cyclohexane	**NA**	U		10.15	D	U	D	U	D	22.51		U	D	1.48	J	1.55	J	U		1.62	J	15.28	D	U	D	8.67	D	U		3.72	D				
Dibromochloromethane	**NA**	U		U	D	U	D	U	D	U		U	D	U		U		U		U		U	D	47.03	JD	U		5.45		U	D				
Dichlorodifluoromethane	**16.5**	2.52		14.59	D	10.68	D	U	D	2.37	J	U	D	2.82		2.67		2.67		2.57		U	D	U	D	U		2.62		U	D				
Ethanol	**210**	10.54		64.48	D	18.25	D	**352.58**	D	35.07		187.79	D	3.85		3.39		3.05		14.20		12.37	D	38.65	D	42.61	D	3.34		29.60	D				
Ethyl acetate	**5.4**	**6.52**		**1030.54**	D	**14.85**	D	3.24	JD	**6.05**		U	D	U		U		U		**241.78**		**87.56**	D	**77.47**	D	**10.09**	D	**15.35**		**439.60**	D				
Ethylbenzene	**5.7**	U		U	D	U	D	U	D	5.20		U	D	U		U		U		U		U	D	U	D	U		U		U	D				
Hexane	**10.2**	2.89		**28.38**	D	**12.41**	D	**11.00**	D	**25.45**		U	D	5.61		**24.68**		2.08		9.66		6.20	JD	**15.97**	JD	6.98	D	U		U	D				
Isopropyl alcohol	**NA**	8.20		31.41	D	5.40	D	9.62	D	8.81		U	D	U		1.28		U		5.77		12.66	D	91.29	D	14.13	D	4.49		15.21	D				
Isopropylbenzene	**NA**	U		U	D	U	D	U	D	U		U	D	2.31	J	2.46		2.31	J	U		U	D	28.56	JD	U		U		U	D				
m/p-Xylene	**22.2**	7.15		U	D	11.27	D	13.87	D	**24.84**		U	D	U		U		U		U		U	D	U	D	8.67	D	U		U	D				
Methylene Chloride	**60**[2]	U		12.50	D	4.10	D	U	D	U		U	D	U		U		U		3.09		U	D	U	D	10.00	D	1.42		3.96	D				
Methyl tert-Butyl Ether (MTBE)	**11.5**	U		U	D	U	D	U	D	U		U	D	U		1.15	J	U		U		U	D	U	D	U		U		U	D				
Naphthalene	**NA**	U		U	D	U	D	6.39	D	U		U	D	U		1.94	J	U		U		U	D	61.78	D	U		U		U	D				
n-Butylbenzene	**NA**	U		U	D	U	D	U	D	U		U	D	U		U		U		U		U	D	69.16	D	U		U		U	D				
n-Heptane	**NA**	2.75		10.66	D	6.72	D	14.51	D	43.44		U	D	U		U		U		1.68	J	U	D	U	D	U		U		U	D				
o-Xylene	**7.9**	2.90		U	D	4.94	D	5.90	D	**8.19**		U	D	U		U		U		1.78	J	U	D	**25.80**	JD	4.25	JD	1.82	J	U	D				
sec-Butylbenzene	**NA**	U		U	D	U	D	U	D	U		U	D	U		U		U		U		U	D	50.50	D	U		U		U	D				
Tetrachloroethene	**30**[3]	U		U	D	26.04	D	24.55	D	11.26		U	D	U		U		U		U		U	D	U	D	U		U		U	D				
Toluene	**43**	5.16		**57.57**	D	11.89	D	9.86	D	**69.99**		U	D	1.51	J	1.84	J	1.84	J	12.83		11.29	D	28.79	D	9.86	D	2.26		29.05	D				
Trichloroethene	**5**[2]	2.85		**42.19**	D	**601.91**	D	**11.93**	D	**26.49**		U	D	U		U		U		U		U	D	U	D	U		U		U	D				
Trichlorofluoromethane	**18.1**	**38.83**		U	D	**59.57**	D	**18.43**	D	2.81		U	D	U		U		U		U		U	D	U	D	U		U		U	D				
Total VOCs		191.44		1439.47		982.36		690.00		532.00		6556.22		31.98		61.28		21.18		323.46		195.81		813.04		182.72		72.08		570.06					

NOTES

Volatile organic compound (VOC) concentrations are presented in micrograms per cubic meter (μ/m^3).

U = Not detected at concentration above analytical laboratory reporting limit. Refer to the analytical laboratory report for the associated reporting limit.

NA = Not Available.

J = Estimated Value.

D = Sample Diluted.

No NYSDOH criteria is available for soil vapor samples

[1] Unless otherwise noted the Indoor Air guidance value shown is the 90th percentile referenced in Table C2 of the NYSDOH document titled "Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York" dated October 2006.

[2] NYSDOH derived air guidance values in NYSDOH document titled "Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York" dated October 2006.

[3] Value identified in NYSDOH September 2013 Fact Sheet "Tetrachloroethene (PERC) in Indoor and Outdoor Air".

Highlighted value exceeds referenced NYSDOH indoor air guidance value

TABLE 7C
211 FRANKLIN STREET
OLEAN, NEW YORK
BCP SITE NO. C905038

SUMMARY OF VOLATILE ORGANIC COMPOUNDS
In
SOIL VAPOR, INDOOR AIR, AND BACKGROUND OUTDOOR AIR SAMPLES COLLECTED APRIL 16, 2015

Detected Constituent	NYSDOH Indoor Air Guidance Value (ug/m3)[1]	Sample Designation and Date																								Outdoor Background	
		Area 1				Area 2				Area 3				Area 4				Area 5				Area 6					
		IA		SS		IA		SS		IA		SS		IA		SS		IA		SS		IA		SS			
		4/16/2015		4/16/2015		4/16/2015		4/16/2015		4/16/2015		4/16/2015		4/16/2015		4/16/2015		4/16/2015		4/16/2015		4/16/2015		4/16/2015		4/16/2015	
1,1,1-Trichloroethane	**20.6**	1.9	D	U (63.29)		0.55		5.95	J	0.98		U (4.38)		1.04		U (2.77)		U (1.36)		12.93		1.15		U (6.77)		1.31	
1,1,2-Trichlorotrifluoroethane	**3.5**	U (2.29)		U (134.13)		0.84		U (12.57)		U (0.66)		U (9.35)		0.84		U (2.90)		U (2.9)		U (2.90)		0.84		U (14.49)		0.69	J
1,2,4-Trimethylbenzene	**9.5**	U (1.44)		U (88.98)		U (0.41)		**19.66**		0.84		8.55		1.52		5.75		U (0.41)		4.08		0.69		U (9.59)		1.67	
1,3,5-Trimethylbenzene	**3.7**	U (1.39)		U (77.18)		U (0.40)		U (7.23)		0.54		U (5.36)		0.64		1.67	J	U (0.40)		U (1.66)		U (0.40)		U (8.31)		0.74	
2-Butanone (MEK)	**12**	U (1.85)		U (59.57)		1.83		U (5.57)		4.98		U (4.13)		6.52		U (1.28)		U (1.28)		4.95		**20.05**		11.35		2.45	
4-Isopropyltoluene	**NA**	2.43	D	U (101.42)		U (0.35)		U (9.50)		U (0.35)		U (7.03)		U (0.35)		U (2.19)		U (0.35)		U (2.19)		U (0.35)		U (10.95)		U (0.35)	
4-Methyl-2-Pentanone (MIBK)	**6**	U (1.20)		U (52.87)		0.61		U (4.96)		1.52		U (3.68)		3.07		U (1.14)		1.19	J	U (1.14)		**13.93**		**25.20**		0.49	
Acetone	**98.9**	93.39	D	U (39.68)		29.23		**143.76**		**335.06**	D	44.91		**280.40**	D	25.43		**107.88**	D	25.66		**200.32**	D	**145.90**		29.23	
Benzene	**9.4**	2.11	D	U (59.02)		0.73		U (5.52)		**12.41**		U (4.08)		8.29		U (1.27)		2.36		U (1.27)		**13.91**		U (6.35)		0.8	
Carbon Disulfide	**4.2**	U (1.72)		U (68.16)		0.5	J	6.63	J	0.5	J	U (4.73)		0.53	J	U (1.47)		U (0.49)		2.58		U (0.49)		U (7.35)		U (0.49)	
Carbon Tetrachloride	**1.3**	0.87	D	U (101.28)		0.63		U (9.50)		0.69		U (7.05)		0.82		U (2.19)		U (2.19)		**5.72**		0.75		U (10.95)		0.75	
Chloroform	**1.1**	U (1.44)		U (91.01)		0.44	J	U (8.57)		U (0.41)		U (6.33)		U (0.41)		2.19	J	**1.27**		22.73		U (0.41)		U (9.83)		U (0.41)	
cis-1,2-Dichloroethene	**1.9**	U (1.37)		**7,930**	D	U (0.39)		U (6.54)		2.38		**8.29**		U (0.39)		**319.6**	D	U (0.39)		U (1.50)		U (0.39)		U (7.53)		U (0.39)	
Cyclohexane	**NA**	U (0.95)		U (67.81)		U (0.27)		U (6.37)		0.83		U (4.72)		U (0.27)		U (1.46)		U (1.46)		U (1.46)		U (0.27)		U (7.30)		0.83	
Dichlorodifluoromethane	**16.5**	4.48	D	U (104.83)		2.82		U (9.84)		2.62		U (7.27)		2.77		U (2.26)		2.47		2.72		3.61		U (11.27)		3.41	
Ethanol	**210**	178.74	D	U (40.91)		45.06	D	31.49		87.49	D	22.25		79.57	D	11.86		41.29		8.81		84.47	D	**659.92**		25.45	
Ethyl acetate	**5.4**	U (1.15)		U (73.87)		**12.97**		U (6.92)		**23.85**		U (5.12)		U (0.33)		U (1.59)		**10.45**		5.26		U (0.33)		U (7.93)		U (0.33)	
Ethylbenzene	**5.7**	2.26	D	U (90.61)		0.43		U (8.50)		0.82		**472.56**		1.13		U (1.96)		U (1.96)		U (1.96)		0.65		U (19.55)		U (0.37)	
Hexane	**10.2**	U (1.53)		U (49.36)		**11.00**		5.22	J	6.98		U (3.43)		**10.72**		U (1.06)		8.07		U (1.06)		1.62	J	7.23	J	2.93	
Isopropyl alcohol	**NA**	9.74	D	U (54.48)		8.22		U (5.10)		12.86		32.64		15.14		U (1.18)		U (1.18)		3.14		14.92		11.66		28.96	
m/p-Xylene	**22.2**	5.59	D	U (162.14)		1.04		U (15.22)		1.95		**1,031**		3.25		U (11.27)		U (3.5)		U (3.50)		1.6		**26.66**		1.00	
Methylene Chloride	**60**[2]	10.87	D,B	U (65.63)		3.16	B	10.42		3.78	B	6.25		5.94	B	2.22		2.05		U (1.42)		4.2	B	U (7.08)		14.51	B
Naphthalene	**NA**	3.46	J	U (89.00)		0.58	J	22.77		U (0.51)		U (6.18)		0.63	J	U (3.83)		U (0.51)		U (1.92)		U (0.51)		U (9.58)		U (0.51)	
n-Butylbenzene	**NA**	2.87	D	U (94.96)		U (0.46)		U (8.89)		U (0.46)		U (6.59)		U (0.46)		U (2.05)		U (0.46)		U (2.05)		U (0.46)		U (10.21)		U (0.46)	
n-Heptane	**NA**	2.57	D	U (74.59)		U (0.75)		U (7.01)		12.17		U (5.16)		10.49		U (1.61)		1.8	J	U (1.61)		9.79		U (8.03)		0.74	
o-Xylene	**7.9**	2.11	D	U (80.64)		U (0.40)		U (7.54)		0.74		**389.75**		0.87		U (5.59)		U (1.74)		U (1.74)		0.61		U (8.67)		U (0.40)	
sec-Butylbenzene	**NA**	2.29	D	U (85.62)		U (0.35)		U (8.01)		U (0.35)		U (5.93)		U (0.35)		U (1.84)		U (0.35)		U (1.84)		U (0.35)		U (9.22)		U (0.35)	
Styrene	**1.9**	U (1.02)		U (66.78)		U (0.29)		U (6.25)		U (0.29)		U (4.64)		0.43		U (1.44)		U (0.29)		U (1.44)		0.51		U (7.23)		U (0.29)	
Tetrachloroethene	**30**[3]	U (0.28)		U (107.14)		U (0.08)		**38.04**		0.14	J	11.60		0.41		4.68		U (0.08)		**66.59**		0.27		**77.31**		0.88	
Toluene	**43**	5.12	D	U (63.59)		1.13		10.95		7.00		37.63		11.14		2.52		2.48		2.14		4.63		22.95		3.99	
Trichloroethene	**5**[2]	U (0.22)		**137.04**	D	0.32		U (0.06)		0.32		**57.5**		0.38		**64.49**		U (0.06)		**37.67**		0.21		**73.09**		U (0.06)	
Trichlorofluoromethane	**18.1**	**74.18**	D	U (91.04)		10.45		**20.29**		**21.07**		**66.87**		**21.35**		**29.17**		3.99		**30.9**		14.16		U (9.78)		2.42	

NOTES

Volatile organic compound (VOC) concentrations are presented in micrograms per cubic meter (μ/m^3).

U = Not detected at concentration above analytical laboratory detection limit indicated in parenthesis

NA = Not Available.

D = Sample Diluted.

B = Analyte is found in the associated blank as well as in the sample

No NYSDOH criteria is available for soil vapor samples

J = Estimated Value

[1] Unless otherwise noted the Indoor Air guidance value shown is the 90th percentile referenced in Table C2 of the NYSDOH document titled "Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York" dated October 2006.

[2] NYSDOH derived air guidance values in NYSDOH document titled "Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York" dated October 2006.

[3] Value identified in NYSDOH September 2013 Fact Sheet "Tetrachloroethene (PERC) in Indoor and Outdoor Air".

74.18 Highlighted value exceeds referenced NYSDOH indoor air guidance value

Constituent in Red Text = identified at the Site during the Chemical Inventory that was completed between April 13, 2015 and April 14, 2015

TABLE 8
211 FRANKLIN STREET
OLEAN, NEW YORK
BCP SITE NO. C905038
SUMMARY OF MONITORING WELL LOCATION DETAILS, CONSTRUCTION, GROUNDWATER ELEVATIONS AND ANALYTICAL PARAMETERS FOR LONGTERM MONITORING

Monitoring Well ID Sample Locations	Well Location	UTM NAD 83 Coordinates (ft) (northing/ easting)	Well Diameter (inches)	Elevation (above mean sea level)						Analytical Parameters to be Analyzed **Year 1**	Analytical Parameters to be Analyzed **Year 2 and Year 3**
				Casing	Surface	Screen Top	Screen Bottom	Groundwater 7/10/2014	Groundwater 9/30/2014		
MW-B[1]	On-site perimeter (up-gradient)	763238.7 1186876.9	1	1429.82	1430.06	1412.06	1402.06	1412.47	1410.32	TCL VOCs & TICs TCL SVOCs & TICs TAL Metals	None
MW-C[1]	On-site perimeter (down-gradient)	763269.0 1187528.8	1	1430.1	1430.56	1412.56	1402.56	1410.84	1408.73	TCL VOCs & TICs TCL SVOCs & TICs TAL Metals	None
MW-D[1]	On-site perimeter (down-gradient)	763074.0 1187262.9	1	1431.53	1431.61	1411.61	1401.61	1410.66	1408.68	TCL VOCs & TICs TCL SVOCs & TICs TAL Metals	None
MW-E[1]	On-site	763206.5 1187346.0	1	1434.03	1434.18	1411.18	1401.18	1410.81	1408.71	TCL VOCs & TICs TCL SVOCs & TICs TAL Metals	None
MW-F[2]	On-site perimeter (up-gradient)	763116.7 1186950.5	2	1429.48	1429.85	1412.35	1402.35	1410.59	1408.44	TCL VOCs & TICs TCL SVOCs & TICs TAL Metals	See Note 3
MW-G[1]	On-site perimeter (up-gradient)	763017.2 1187086.7	2	1433.65	1433.95	1413.95	1400.95	1410.64	1408.44	TCL VOCs & TICs TCL SVOCs & TICs TAL Metals	None
MW-H[1]	On-site	763178.9 1187126.7	2	1433.61	1433.95	1411.95	1403.95	1410.79	1408.72	TCL VOCs & TICs TCL SVOCs & TICs TAL Metals	None
MW-I[2]	On-site	763277.9 1187194.3	2	1433.51	1433.89	1410.39	1400.39	1410.83	1408.64	TCL VOCs & TICs TCL SVOCs & TICs TAL Metals	See Note 3
MW-J[2]	On-site perimeter (down-gradient)	763125 1187345.7	2	1433.93	1434.25	1411.75	1400.75	1410.83	1408.7	TCL VOCs & TICs TCL SVOCs & TICs TAL Metals	See Note 3
MW-K[1]	On-site perimeter (up-gradient)	763535.3 1187249.6	2	1429.64	1429.98	1414.98	1399.98	1411.19	1409.04	TCL VOCs & TICs TCL SVOCs & TICs TAL Metals	None
MW-L[2]	On-site perimeter (down-gradient)	763466.4 1187402.8	2	1433.81	1434.21	1412.21	1400.21	1411.19	1409.05	TCL VOCs & TICs TCL SVOCs & TICs TAL Metals	See Note 3
MW-M[2]	On-site perimeter (up-gradient)	763399.8 1187052.6	2	1432.57	1430.45	1412.45	1402.45	1412.12	1409.91	TCL VOCs & TICs TCL SVOCs & TICs TAL Metals	See Note 3
MW-N[1]	On-site	763132.5 1187282.1	2	1433.92	1434.25	1410.75	1400.75	1410.82	1408.66	TCL VOCs & TICs TCL SVOCs & TICs TAL Metals	None

Notes:

1 = Monitoring well to be sampled for the first three quarters of first year, then measured only for static water level during remaining monitoring events.

2 = Monitoring well to be sampled for the first three quarters of the first year, and annually for years 2 and 3.

3 = Analytical parameters include TCL VOCs & TICs, TCL SVOCs & TICs, antimony, arsenic, barium, chromium, magnesium, thallium, and vanadium

Detection Limits and Minimum Reporting Limits to be achieved by ELAP-certified Laboratory are those provided in DEC document entitled "Exhibit C Target Compound Lists (TCLs) and Contract Required Quantitation Limits (CRQLs), provided in Appendix X.

APPENDIX A – LIST OF SITE CONTACTS

Name	Phone/Email Address
Silence Dogood, LLC c/o Jeff Belt [Site Owner and Remedial Party]	716 913-7878 / jeff.belt@solepoxy.com
Barton F. Kline, P.E. [Qualified Environmental Professional]	585 454 0210 x106 / bkline@daymail.net
Megan Kuczka [NYSDEC DER Project Manager]	716 851 7220 / Megan.Kuczka@dec.ny.gov
Andrea Caprio [NYSDEC Regional HW Engineer]	716-851-7220 / Andrea.Caprio@dec.ny.gov
Phillips Lytle LLP c/o Adam S. Walters [Remedial Party Attorney]	716 847 7023 / awalters@phillipslytle.com

APPENDIX B – EXCAVATION WORK PLAN (EWP)

B-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the site owner or their representative will notify the NYSDEC. Table 1 includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in Appendix A

Table 1: Notifications*

Megan Kuczka [NYSDEC DER Project Manager]	716-851-7220 / Megan.Kuczka@dec.ny.gov
Andrea Caprio [NYSDEC Regional HW Engineer]	716 851 7220 / Andrea.Caprio@dec.ny.gov

* Note: Notifications are subject to change and will be updated as necessary.

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent of excavation, plans/drawings for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control;
- A summary of environmental conditions anticipated to be encountered in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this EWP;

- A summary of the applicable components of this EWP;
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120;
- A copy of the contractor's health and safety plan (HASP), in electronic format, if it differs from the HASP provided in Appendix H of this SMP;
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

A community air monitoring plan will also be included in the notification when excavation activities are planned in areas where contaminated materials (e.g., soil, fill, etc.) may be disturbed.

B-2 SOIL SCREENING METHODS

Visual, olfactory and instrument-based (e.g. photoionization detector) soil screening will be performed by a qualified environmental professional during all excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed when invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal and material that requires testing to determine if the material can be reused on-site as soil beneath a cover or if the material can be used as cover soil. Further discussion of off-site disposal of materials and on-site reuse is provided in Section B7 of this Appendix.

B-3 SOIL STAGING METHODS

Depending upon the quantity of material excavated, impacted materials may be located directly into trucks for transport and off-Site for disposal, placed within roll-off containers and/or placed in a soil stockpile. Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC.

B-4 MATERIALS EXCAVATION AND LOAD-OUT

A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and remedial party (if applicable) and its contractors are responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the site.

Loaded vehicles leaving the site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

A truck wash will be operated on-site, as appropriate. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the site until the activities performed under this section are complete Truck wash waters will be collected and disposed of off-site in an appropriate manner.

Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials.

B-5 MATERIALS TRANSPORT OFF-SITE

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

Truck transport routes will be obtained by the transporter prior to transporting contaminated material off-Site.. All trucks loaded with site materials will exit the vicinity of the site using only these approved truck routes. This will be the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to

major highways; (e) promoting safety in access to highways; and (f) overall safety in transport; [(g) community input [where necessary]

Trucks will be prohibited from stopping and idling in the neighborhood outside the project site.

Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development.

Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

B-6 MATERIALS DISPOSAL OFF-SITE

As determined by characterization results, soil, fill or solid waste deemed to be impacted that is excavated and removed from the Site will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of material from this site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of materials from this site will not occur without formal NYSDEC approval.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does not meet Unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

B-7 MATERIALS REUSE ON-SITE

In the event that excavation activities at the Site encounter potentially contaminated materials the materials may be re-used on-Site in accordance with guidelines set forth below in this EWP. Chemical criteria for on-Site re-use of material that have been approved by NYSDEC are those set forth in 6 NYCRR Part 375 Table 375-6.8(a) and Table 375-6.8(b). The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-site. Contaminated on-site material, including historic fill and contaminated soil, that is acceptable for reuse on-site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

In order to qualify for on-Site re-use as cover or off-Site re-use, the material must:

- Be free of extraneous debris or solid waste
- Consist of soil or other unregulated materials as set forth in 6NYCRR Part 360.
- Be tested at the rate outlined in Table B-7-A

Table C-7-A

Required number of Soil Samples to determine re-use suitability of excavated on-Site soils

Contaminant	VOCs	SVOCs Inorganics PCBs/Pesticides	
Soil Quantity (yd^3)	Discrete Samples	Composite	Discrete Samples/Composite
0-50	1	1	3-5 discrete samples
50-100	2	1	

100-200	3	1	from different locations in the fill or soil to be re-used will comprise a composite sample for analysis
200-300	4	1	
300-400	4	2	
400-500	5	2	
500-800	6	2	
800-1000	7	2	
>1000	Add an additional 2 VOC and 1 composite for each additional 1000 cubic yards or consult with NYSDEC DER Project Manager		

Based on the testing outcome, soil may be re-used on-site as cover or off-site in the following manner:

- Soil that meets the Unrestricted Use SCOs set forth in 6 NYCRR Part 375 Table 375-6.8(a) may be re-used without restriction on-Site (backfill, cover, etc) or off-Site.
- Soil that meets the Restricted Commercial Use SCOs [set forth in 6 NYCRR Part 375 Table 375-6.8(b)] may be re-used on-Site without restriction (backfill, cover, etc.).
- Soil that exceeds Restricted Commercial Use SCOs [set forth in 6 NYCRR Part 375 Table 375-6.8(b)] may be re-used on-Site; however, it must be 1) placed below the existing cover system, or 2) placed below a new cover system meeting NYSDEC requirements. The location where it is re-used must be documented.

Any demolition material proposed for reuse on-site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-site.

B-8 FLUIDS MANAGEMENT

All liquids to be removed from the site, including but not limited to, excavation dewatering, decontamination waters and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the site, and will be managed off-site, unless prior approval is obtained from NYSDEC.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed under a SPDES permit.

B-9 COVER SYSTEM RESTORATION

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the RAWP. The existing cover system is comprised of a minimum of 12 inches of clean soil, asphalt pavement, concrete covered sidewalks and concrete building.. The demarcation layer, consisting of orange snow fencing material or black geotextile material will be replaced to provide a visual reference to the top of the remaining contamination zone, the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in this SMP. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the remaining contamination. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in an updated SMP.

B-10 BACKFILL FROM OFF-SITE SOURCES

All materials proposed for import onto the site will be approved by the qualified environmental professional and will be in compliance with provisions in this SMP prior to receipt at the site. A

Request to Import/Reuse Fill or Soil form, which can be found at http://www.dec.ny.gov/regulations/67386.html, will be prepared and submitted to the NYSDEC project manager allowing a minimum of 5 business days for review.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards for imported backfill and cover soil at this Site are the Restricted Commercial SCOs as referenced in 6 NYCRR 375-638(b). Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC. Solid waste will not be imported onto the site.

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

B-11 STORMWATER POLLUTION PREVENTION

Barriers and hay bale checks will be installed and inspected on a daily basis and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

B-12 EXCAVATION CONTINGENCY PLAN

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to NYSDEC’s Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the Periodic Review Report.

B-13 OTHER NUISANCES

A plan will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances.

APPENDIX C
RESPONSIBILITIES of
OWNER and REMEDIAL PARTY

Responsibilities

The responsibilities for implementing the Site Management Plan ("SMP") for the 211 Franklin Street site (the "site"), number C905038, are divided between the site owner(s) and a Remedial Party, as defined below. The owner(s) is/are currently listed as:

Silence Dogood, LLC (the "owner").

Solely for the purposes of this document and based upon the facts related to a particular site and the remedial program being carried out, the term Remedial Party ("RP") refers to any of the following: certificate of completion holder, volunteer, applicant, responsible party, and, in the event the New York State Department of Environmental Conservation ("NYSDEC") is carrying out remediation or site management, the NYSDEC and/or an agent acting on its behalf. The RP is:

Silence Dogood, LLC, 211 Franklin Street Olean, NY

Nothing on this page shall supersede the provisions of an Environmental Easement, Consent Order, Consent Decree, agreement, or other legally binding document that affects rights and obligations relating to the site.

Site Owner's Responsibilities:

1) The owner shall follow the provisions of the SMP as they relate to future construction and excavation at the site.

2) In accordance with a periodic time frame determined by the NYSDEC, the owner shall periodically certify, in writing, that all Institutional Controls set forth in a(n) Environmental Easement remain in place and continue to be complied with. The owner shall provide a written certification to the RP, upon the RP's request, in order to allow the RP to include the certification in the site's Periodic Review Report (PRR) certification to the NYSDEC.

3) In the event the site is delisted, the owner remains bound by the Environmental Easement and shall submit, upon request by the NYSDEC, a written certification that the Environmental Easement is still in place and has been complied with.

4) The owner shall grant access to the site to the RP and the NYSDEC and its agents for the purposes of performing activities required under the SMP and assuring compliance with the SMP.

5) The owner is responsible for assuring the security of the remedial components located on its property to the best of its ability. In the event that damage to the remedial components or vandalism is evident, the owner shall notify the site's RP and the NYSDEC in accordance with the timeframes indicated in Section 1.3 -Notifications.

6) In the event some action or inaction by the owner adversely impacts the site, the owner must notify the site's RP and the NYSDEC in accordance with the time frame indicated in 1.3 - Notifications and (ii) coordinate the performance of necessary corrective actions with the RP.

7) The owner must notify the RP and the NYSDEC of any change in ownership of the site property (identifying the tax map numbers in any correspondence) and provide contact information for the new owner of the site property. 6 NYCRR Part contains notification requirements applicable to any construction or activity changes and changes in ownership. Among the notification requirements is the following: Sixty days prior written notification must be made to the NYSDEC. Notification is to be submitted to the NYSDEC Division of Environmental Remediation's Site Control Section. Notification requirements for a change in use are detailed in Section 2.4 of the SMP. A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html.

8) Until such time as the NYSDEC deems the vapor mitigation system unnecessary, the owner shall operate the system, pay for the utilities for the system's operation, and report any maintenance issues to the RP and the NYSDEC.

9) In accordance with the tenant notification law, within 15 days of receipt, the owner must supply a copy of any vapor intrusion data, that is produced with respect to structures and that exceeds NYSDOH or OSHA guidelines on the site, whether produced by the NYSDEC, RP, or owner, to the tenants on the property. The owner must otherwise comply with the tenant and occupant notification provisions of Environmental Conservation Law Article 27, Title 24.

Remedial Party Responsibilities

1) The RP must follow the SMP provisions regarding any construction and/or excavation it undertakes at the site.

2) The RP shall report to the NYSDEC all activities required for remediation, operation, maintenance, monitoring, and reporting. Such reporting includes, but is not limited to, periodic review reports and certifications, electronic data deliverables, corrective action work plans and reports, and updated SMPs.

3) Before accessing the site property to undertake a specific activity, the RP shall provide the owner advance notification that shall include an explanation of the work expected to be completed. The RP shall provide to (i) the owner, upon the owner's request, (ii) the NYSDEC, and (iii) other entities, if required by the SMP, a copy of any data generated during the site visit and/or any final report produced.

4) If the NYSDEC determines that an update of the SMP is necessary, the RP shall update the SMP and obtain final approval from the NYSDEC. Within 5 business days after NYSDEC approval, the RP shall submit a copy of the approved SMP to the owner(s).

5) The RP shall notify the NYSDEC and the owner of any changes in RP ownership and/or control and of any changes in the party/entity responsible for the operation, maintenance, and monitoring of and reporting with respect to any remedial system (Engineering Controls). The RP shall provide contact information for the new party/entity. Such activity constitutes a Change of Use pursuant to 375-1.11(d) and requires 60-days prior notice to the NYSDEC. A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html .

6) The RP shall notify the NYSDEC of any damage to or modification of the systems as required under Section 1.3 - Notifications of the SMP.

7) The RP is responsible for the proper maintenance of any installed vapor intrusion mitigation systems associated with the site, as required in Section 5 or Appendix J (Operation , Monitoring and Maintenance Manual) of the SMP.

8) Prior to a change in use that impacts the remedial system or requirements and/or responsibilities for implementing the SMP, the RP shall submit to the NYSDEC for approval an amended SMP.

9) Any change in use, change in ownership, change in site classification (*e.g.*, delisting), reduction or expansion of remediation, and other significant changes related to the site may result in a change in responsibilities and, therefore, necessitate an update to the SMP and/or updated legal documents. The RP shall contact the Department to discuss the need to update such documents.

Change in RP ownership and/or control and/or site ownership does not affect the RP's obligations with respect to the site unless a legally binding document executed by the NYSDEC releases the RP of its obligations.

Future site owners and RPs and their successors and assigns are required to carry out the activities set forth above.

APPENDIX D – ENVIRONMENTAL EASEMENT

James K. Griffith
CATTARAUGUS COUNTY CLERK
Cattaraugus County Center 303 Court Street
Little Valley, NY 14755
(716) 938-9111
Fax: (716) 938-2773

Instrument Number
243528-001

No. of Pages: (including this cover page)	10
Receipt No.	243528
Date:	9/9/2015
Time:	12:25 PM

Delivered By:
PHILLIPS LYTLE LLP

Return To:
PHILLIPS LYTLE LLP
201 WEST THIRD ST., STE 205
JAMESTOWN, NY 14701
ENV

Document Type: EASEMENT/RIGHT OF WAY

Parties To Transaction: SILENCE DOGOOD TO NYSDEC

Town/City: CO - City of Olean

Deed Information		Mortgage Information	
Taxable Consideration:	$0.00	Taxable Mortgage Amount:	
State Transfer Tax:	$0.00	Basic Mortgage Tax:	
		Special Mortgage Tax:	
RETT No.:	00375	Additional Mortgage Tax:	

State of New York
Cattaraugus County Clerk

Mortgage Serial No.:

This sheet constitutes the Clerk endorsement required by Section 316-A(5) & Section 319 of the Real Property Law of the State of New York.

James K. Griffith

Cattaraugus County Clerk

Please do not remove this page.

243528-001

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 12th day of AUGUST, 2015 between Owner(s) Silence Dogood LLC, having an office at 211 Franklin Street, Olean, New York 14760, County of Cattaraugus, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 211 Franklin Street in the City of Olean, County of Cattaraugus and State of New York, known and designated on the tax map of the County Clerk of Cattaraugus as tax map parcel numbers: Section 94.040 Block 1 Lot 21, being the same as that property conveyed to Grantor by deed dated December 20, 2013 and recorded in the Cattaraugus County Clerk's Office in Instrument No. 209005-001. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 5.787 +/- acres, and is hereinafter more fully described in the Land Title Survey dated November 25, 2013, last revised on March 18, 2015 prepared by D. Michael Canada, NYSLLS, which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is

209005-001

extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Index Number: C905038-05-14, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement").

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Cattaraugus County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential or Restricted Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i) and (ii), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation

Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved by the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5) the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by

Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: C905038
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of

this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

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IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

Silence Dogood LLC:

By: _____

Print Name: Jeff Bert

Title: Manager Date: Aug 6 2015

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF Cattaraugus

On the 6 day of August, in the year 2015, before me, the undersigned, personally appeared Jeff Bert, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Kathryn L Bowen
Notary Public - State of New York

KATHRYN L. BOWEN #01B06079820
Notary Public, State of New York
Qualified in Cattaraugus Co.
My Commission Expires 9/3/20 18

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: _____
Robert W. Schick, Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 12TH day of AUGUST, in the year 2015, before me, the undersigned, personally appeared Robert W. Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

PATRICK EUGENE FOSTER
NOTARY PUBLIC, STATE OF NEW YORK
QUALIFIED IN KINGS COUNTY
NO. 02FO6278032
COMMISSION EXPIRES 03/18/2017

SCHEDULE "A" PROPERTY DESCRIPTION

Environmental Easement Description
211 Franklin Street

Beginning at the intersection of the south bounds of Franklin Street with the east bounds of lands of Southern Tier Rail Authority LLC, thence N 59-32-00 E along the south street bounds of Franklin Street, a distance of 568.43' to a point, thence through the lands of Silence Dogood LLC:

1) **S 30-28-00 E, a distance of 16.00' to a point**
2) **S 41-06-02 E, a distance of 268.69' to a point**
3) **S 32-03-05 E, a distance of 16.50' to a point on the north bounds of West Connell Street, thence N 59-32-00 E along the north bounds of West Connell Street, a distance of 5.00' to a point, thence S 30-40-04 E crossing West Connell Street, a distance of 49.50' to a point, thence S 59-32-00 W along the south bounds of West Connell Street, a distance of 51.60' to a point, thence along the bounds of lands now or formerly of Southern Tier Rail Authority:**

1) **S 30-28-00 E, a distance of 63.00' to a point**
2) **S 59-32-00 W, a distance of 628.00' to a point**
3) **N 30-28-00 W, a distance of 63.00' to a point**
4) **N 59-32-00 E, a distance of 31.60' to a point**
5) **N 30-28-00 W, a distance of 33.00' to a point**
6) **N 27-29-52 W, a distance of 272.76' to a point**
7) **N 16-21-26 W, a distance of 41.95' to the point of beginning.**

Contains 5.787 acres +/-

APPENDIX E –MONITORING WELL BORING AND CONSTRUCTION LOGS

day
DAY ENVIRONMENTAL, INC.
ENVIRONMENTAL CONSULTANTS
AN AFFILIATE OF DAY ENGINEERING, P.C.

Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, NY
DAY Representative: Z. Tennies
Drilling Contractor: Applus
Sampling Method: Direct Push & Split Spoon

Test Boring MW-B

Ground Elevation: Datum:
Date Started: 9/10/2013 Date Ended: 9/11/2013
Borehole Depth: 28.0' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date): 20.61' (9/11/13) through augers

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)	PID Reading (ppm)	Sample Description	Notes
1		S-1	0-2	100			0.2	Brown, medium to coarse Gravel, some Ash/Brick, damp (FILL)	
2									
3		S-2	2-4	25	14		0.0	Brown, some Red Brick, trace Sand, damp (FILL)	
4							0.0		
5		S-3	4-6	25	14		0.0		
6							0.0		
7		S-4	6-8	20	5		0.0	...some Brick and Concrete material, damp (FILL)	
8							0.0		**Test boring advanced to 8 feet bgs via direct-push methods and completed to 28 feet bgs with H S A and split spoon samples**
9							0.1		
10							0.0		
11	16 32	S-5	10-12	82.5	74		0.0	Very dense, Gray-Brown, coarse SAND, some fine to coarse Gravel, moist	
12	42 40						0.2	Very dense, Gray-Brown, SILT, fine to coarse Sand, some fine to coarse Gravel, moist	
13	10 35	S-6	12-14	60	65		0.3	Very dense, Gray-Brown, fine to coarse SAND, some fine to coarse Grave,	
14	30 32						0.0	trace Silt, moist	
15	19 23 28	S-7	14-16	72.5	51		0.1 1.5		
16	43 50	S-8	16-16.5	10	50		2.6 0.0	Gray, Silty fine to medium SAND and medium to coarse Gravel, moist	

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) Stratification lines represent approximate boundaries. Transitions may be gradual.
3) PID readings are referenced to a benzene standard measured in the headspace above the sample using a MiniRae 2000 equipped with a 10.6 eV lamp.
4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-B

1563 LYELL AVENUE
ROCHESTER, NEW YORK 14606
(585) 454-0210
FAX (585) 454-0825
www.dayenvironmental.com
420 LEXINGTON AVENUE, SUITE 300
NEW YORK, NEW YORK 10170
(212) 986-8645
FAX (212) 986-8657

day
DAY ENVIRONMENTAL, INC.
ENVIRONMENTAL CONSULTANTS
AN AFFILIATE OF DAY ENGINEERING, P.C.

Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, NY
DAY Representative: Z. Tennies
Drilling Contractor: Applus
Sampling Method: Direct Push & Split Spoon

Test Boring MW-B

Ground Elevation: Datum:
Date Started: 9/10/2013 Date Ended: 9/11/2013
Borehole Depth: 28.0' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date): 20.61' (9/11/13) through augers

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)	PID Reading (ppm)	Sample Description	Notes
17									
18	37						41.9	Very dense, Gray-Brown, silty fine to coarse SAND, some medium to coarse	
19	50	S-9	18-19.5	60	50+	117		Gravel, moist, chemical/petroleum odor	
	50/4						55.4		
20									
							8.5		
21	37	S-10	20-21	45	50+	84.5			
	50/4						31.1		
22									
	14						122		
23	24	S-11	22-24	80	51	750		Gray, fine to coarse SAND and fine to coarge GRAVEL, wet, strong chemical/	
	27						359	petroleum odor	
24	20								
	24						605		
	24	S-12	24-25.8	75			237	...trace Silt	**Petroleum sheen observed at 25.0'**
25	50						305		
	50.3					278	190		
26									
	37						701		
	50/4	S-13	26-27	43	50+	67.2	283		
27									
28								Bottom of Hole @ 28.0'	
29									
30									
31									
32									

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) Stratification lines represent approximate boundaries. Transitions may be gradual.
3) PID readings are referenced to a benzene standard measured in the headspace above the sample using a MiniRae 2000 equipped with a 10.6 eV lamp.
4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-B

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day
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AN AFFILIATE OF DAY ENGINEERING, P.C.

Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, NY
DAY Representative: Z. Tennies
Drilling Contractor: Applus
Sampling Method: Split Spoon

Test Boring MW-C

Ground Elevation: Datum:
Date Started: 9/11/2013 Date Ended: 9/11/2013
Borehole Depth: 28.0' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date): 22.73' (9/12/13) through augers

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)	PID Reading (ppm)	Sample Description	Notes
1	4	S-1		100	11		0.2	Gray-Brown, some crushed Rock, some fine to coarse Sand, damp (FILL)	
	5						0.0		
	6						0.2		
2	6								
	5	S-2		50	11		0.0		
3	6						0.0		
	5						0.0		
4	6								
	6	S-3		43	13		0.0	Dense, Brown, Silty medium to coarse SAND, some medium to coarse Gravel, damp	
5	7						0.0		
	6						0.0		
6	8								
	4	S-4		56	11		0.0	...very dense, trace fine Gravel, moist	
7	4						0.0		
	7						0.0		
8	7							...some fine Gravel	
	4	S-5		39	10		0.0	Dense, Brown, medium to coarse SAND and fine to medium GRAVEL, little Silt,	
9	6						0.0	moist	
	4						0.0		
10	5								
	10	S-6		59	34		0.0	...very dense, Gray-Brown	
11	14						0.0		
	20						0.0		
12	25								
	10	S-7		58	43		0.0		
13	20						0.0		
	23						0.0		
14	25								
	8	S-8		59	67		0.2		
15	28						0.0		
	39						0.0		
16	45						0.0		

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) Stratification lines represent approximate boundaries. Transitions may be gradual.
3) PID readings are referenced to a benzene standard measured in the headspace above the sample using a MiniRae 2000 equipped with a 10.6 eV lamp.
4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-C

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AN AFFILIATE OF DAY ENGINEERING, P.C.

Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, NY
DAY Representative: Z. Tennies
Drilling Contractor: Applus
Sampling Method: Split Spoon

Test Boring MW-C

Ground Elevation: Datum:
Date Started: 9/11/2013 Date Ended: 9/11/2013
Borehole Depth: 28.0' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date): 22.73' (9/12/13) through augers

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)	PID Reading (ppm)	Sample Description	Notes
17	35 44 50/4	S-9		58	94		0.0 0.4 0.0	Very dense, Gray-Brown, medium to coarse SAND and fine to coarse GRAVEL, little Silt, moist	
18									
19	17 39 40	S-10		46	79		0.0 0.0 0.0		
20	25								
21	10 11 10	S-11		58	21		0.0 0.0 0.0		
22	9								
23	10 8 10	S-12		27	18		0.0 0.0 0.0	Medium dense, Gray-Brown, fine to coarse SAND, some fine to coarse GRAVEL, little Silt, wet	
24	18								
25	15 20 23	S-13		73	43		0.8 0.2 0.0	Very dense, Gray-Brown, fine to coarse SAND and fine to medium GRAVEL, trace Silt	
26	17						0.2		
27	18 20 17	S-14		65	37		0.0 0.0 0.0	...some fine rounded Gravel	
28	9								
29								End of Boring @ 28.0'	
30									
31									
32									

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) Stratification lines represent approximate boundaries. Transitions may be gradual.
3) PID readings are referenced to a benzene standard measured in the headspace above the sample using a MiniRae 2000 equipped with a 10.6 eV lamp.
4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-C

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ENVIRONMENTAL CONSULTANTS

DAY ENVIRONMENTAL, INC.

AN AFFILIATE OF DAY ENGINEERING, P.C.

Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, NY
DAY Representative: Z. Tennies
Drilling Contractor: Applus
Sampling Method: Split Spoon

Test Boring MW-D

Ground Elevation: Datum:
Date Started: 9/12/2013 Date Ended: 9/12/2013
Borehole Depth: 30.0' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date): 23.7' (9/12/13) through augers

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)	PID Reading (ppm)	Sample Description	Notes
1	7 5	S-1	0-2	32	11		0.0	Brown, Sand and Gravel, little Roots, damp (FILL)	
2	6 5						0.0		
3	4 4	S-2	2-4	56	9		0.0	Loose Brown, coarse SAND, some fine to medium Gravel, trace Silt, damp	
4	5 5						0.0		
5	7 6	S-3	4-6	33	14		0.0	...medium dense	
6	8 12						0.0		
7	15 18	S-4	6-8	61	39		0.0	Dense, Brown, fine to coarse SAND and coarse GRAVEL, trace Silt, damp	
8	21 30						0.0		
9	15 22	S-5	8-10	46	52		0.0	...very dense	
10	30 40						0.0		
11									
12									
13									
14									
15									
16	9 17	S-6	15-16	58	58		0.0	...some Silt, moist	
	41						0.0		

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) Stratification lines represent approximate boundaries. Transitions may be gradual.
3) PID readings are referenced to a benzene standard measured in the headspace above the sample using a MiniRae 2000 equipped with a 10.6 eV lamp.
4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-D

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Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, NY
DAY Representative: Z. Tennies
Drilling Contractor: Applus
Sampling Method: Split Spoon

Test Boring MW-D

Ground Elevation: Datum:
Date Started: 9/12/2013 Date Ended: 9/12/2013
Borehole Depth: 30.0' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date): 23.73' (9/12/13) through augers

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)	PID Reading (ppm)	Sample Description	Notes
17	35						0.0 0.0	Very dense, Brown, medium to coarse SAND and fine to coarse GRAVEL, some Silt, moist	
18									
19									
20									
21									
22									
23	17 32 36 31	S-7	22-24	73	68		0.0 0.0 0.0 0.0		
24									
25	31 45 50/5	S-8	24-26	44			0.0 0.0 0.0 0.0	...Gray-Brown, little Silt	
26									
27	18 25 32 20	S-9	26-28	55	57		37.6 157 153 60.1	Very dense, Dark Gray, fine to coarse SAND and fine to coarse Gravel, some Silt, wet ...petroleum odor	
28									
29	8 17 23 27	S-10	28-30	70	40		184 279 170 236	...Dense, fine to coarse SAND and medium to coarse GRAVEL, petroleum odor	
30									
31								End of Boring @ 30.0'	
32									

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) Stratification lines represent approximate boundaries. Transitions may be gradual.
3) PID readings are referenced to a benzene standard measured in the headspace above the sample using a MiniRae 2000 equipped with a 10.6 eV lamp.
4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-D

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Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, NY
DAY Representative: Z. Tennies
Drilling Contractor: Applus
Sampling Method: Direct Push & Split Spoon

Test Boring MW-E

Ground Elevation: Datum:
Date Started: 9/12/2013 Date Ended: 9/13/2013
Borehole Depth: 33.0' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date): 26.63' (9/13/13) through augers

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)	PID Reading (ppm)	Sample Description	Notes
1							0.0	CONCRETE	Monitoring Well MW-E
								Brown, Sand and Gravel, with some Red Brick and Concrete, damp (FILL)	
2		S-1	0-4	51			0.0		
3							0.0		
4							0.0		
5							0.0		
6		S-2	4-8	73			0.0		
7							0.0		
8							0.0		
9							0.0		
10		S-3	8-12	75			0.0		
11							0.0	Brown, medium to coarse SAND and fine GRAVEL, moist	
12							0.0		
13							0.0		
14		S-4	12-16	85			0.0		
15							0.0	Brown, Silty medium to coarse SAND, some fine Gravel, moist	
16									

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) Stratification lines represent approximate boundaries. Transitions may be gradual.
3) PID readings are referenced to a benzene standard measured in the headspace above the sample using a MiniRae 2000 equipped with a 10.6 eV lamp.
4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-E

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Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, NY
DAY Representative: Z. Tennies
Drilling Contractor: Applus
Sampling Method: Direct Push & Split Spoon

Test Boring MW-E

Ground Elevation: Datum:
Date Started: 9/12/2013 Date Ended: 9/13/2013
Borehole Depth: 33.0' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date): 26.63' (9/13/13) through augers

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)	PID Reading (ppm)	Sample Description	Notes
17									**Test boring advanced to 16.6 feet bgs via direct push methods and completed to 33.0 feet bgs with H S A with split spoon samples colelcted at 5-foot intervals**
18			16-20						
19									
20		S-5	20-21	10.5			0.0	Brown, Silty fine to coarse SAND, some fine Gravel, moist	
21									
22									
23									
24									
25									
26		S-6	25-27					...wet	
27									
28									
29									
30							0.6	...Gray-Brown, some fine to coarse Gravel	
31		S-7	30-32				0.2 0.4		
32								Bottom of Hole @ 33.0'	

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
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4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-E

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Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Nothnagle Drilling
Sampling Method: Auger & Macrocore

Test Boring MW-F

Ground Elevation: -- Datum: --
Date Started: 6/17/2014 Date Ended: 6/17/2014
Borehole Depth: 28.0' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date): 19.39' (6/17/14) through augers

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)		Sample Description	Notes
1							129	CONCRETE SLAB Gray-Brown, medium to coarse Sand, some angular Gravel (FILL)	
2	NA	S-1	0-4	68	NA		142	Brown/Black, Sand and Gravel, little crushed red Bricks, trace Silt, moist (FILL)	
3									
4							79.1	Tan, coarse Sand and Gravel, trace Silt, moist (FILL)	
5	NA	S-2	4-8	57	NA		121	Gray, fine Sand, damp (FILL) Brown/Tan, coarse SAND and GRAVEL some broken Cobbles, trace Silt, damp	**Faint Petroleum Odor** **No Petroleum Odor Evident**
6							115		
7							122		
8							19.4	...Gray, some fine Sand	
9							18.2		
10	NA	S-3	8-12	61	NA		8.5		
11							15.2		
12							5.5	...medium to coarse SAND and GRAVEL, trace Silt	
13									
14	NA	S-4	12-16	36	NA		3.7		
15									
16									

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
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3) PID readings are referenced to a benzene standard measured in the headspace above the sample using a MiniRae 2000 equipped with a 10.6 eV lamp.
4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-F

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Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Nothnagle Drilling
Sampling Method: Auger & Macrocore

Test Boring MW-F

Ground Elevation: -- Datum: --
Date Started: 6/17/2014 Date Ended: 6/17/2014
Borehole Depth: 28.0' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date): 19.39' (6/17/14) through augers

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)		Sample Description	Notes
17							2.0	Brown, SAND and GRAVEL, little broken Cobbles, trace Silt, moist	
18	NA	S-5	16-20	50	NA		1.2	...wet	
19							50.6	...gray	
20							44.9		Petroleum Odor
21								...coarse SAND and GRAVEL	
22	NA	S-6	20-24	29	NA		76.8		
24							81.9		
25							81.5		
26	NA	S-7	24-28	50	NA		241		
27							315		
28								Bottom of Test Boring @ 28.0'	
29									
30									
31									
32									

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) Stratification lines represent approximate boundaries. Transitions may be gradual.
3) PID readings are referenced to a benzene standard measured in the headspace above the sample using a MiniRae 2000 equipped with a 10.6 eV lamp.
4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-F

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Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: C. Hampton
Drilling Contractor: Nothnagle Drilling
Sampling Method: Auger & Macrocore

Test Boring MW-G

Ground Elevation: --
Datum: --
Date Started: 6/26/2014
Date Ended: 6/26/2014
Borehole Depth: 33.0'
Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date):

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)		Sample Description	Notes
1							357	CONCRETE	
	NA	S-1	0-4	60	NA	347	158	Black Sand and fine to medium Gravel, Slag, Ash, Coal fragments (FILL)	**"Burnt" odor**
2									
							86.9		
3									
							63.2	Red/Brown, medium to coarse Sand and fine to medium Gravel, trace Silt, damp (FILL)	
4									
							21.3		
5									
	NA	S-2	4-8	50	NA	82.5	57.2		
6								...little Silt	
							41.4		
7									
							69.4		
8									
							57.9		
9	NA	S-3	8-10	40	NA	1322		...trace Clay	
							52.2		
10									
							23.5		
11	NA	S-3	10-12	60	NA	488			
							75.0	...frequent Brick fragments	
12									
								...Concrete, degraded/weathered	**Macrocore refusal at 12', auger to 14'**
13									
14									
							483	Brown, fine to coarse SAND and fine to coarse GRAVEL, damp	
15	NA	S-4	14-18	50	NA	135			
							103	...trace broken Cobbles	
16									
							14.6		

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
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4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-G

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Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Nothnagle Drilling
Sampling Method: Auger & Macrocore

Test Boring MW-G

Ground Elevation: -- Datum: --
Date Started: 6/26/2014 Date Ended: 6/26/2014
Borehole Depth: 33.0' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date):

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)		Sample Description	Notes
17									
18							1495		
19	NA	S-6	18-20	70	NA	19.6	8999		
20							3.6		
21									
22	NA	S-6	20-24	40	NA	144	0.0		
							0.0	...wet	
24							115		
25							91.2		
26	NA	S-7	24-28	70	NA	1467	143	...gray	**Petroleum Odors 24' - 32'**
27							223		
28							112	Gray, medium to coarse SAND, trace Gravel, wet	
29						608	130	Gray, fine to coarse GRAVEL, little coarse Sand, wet Gray, Clayey medium to coarse SAND and fine to coarse GRAVEL trace Silt,	
30	NA	S-8	28-33	60	NA		136	wet	
31						1264	141		
32								No Sample 32-33' Bottom of Test Boring @ 33.0'	

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) Stratification lines represent approximate boundaries. Transitions may be gradual.
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4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-G

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Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Nothnagle Drilling
Sampling Method: Auger & Split Spoon

Test Boring MW-H

Ground Elevation: -- Datum: --
Date Started: 6/20/2014 Date Ended: 6/22/2014
Borehole Depth: 30.0' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date): 16.77' (6/22/14) through augers

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)	PID Reading (ppm)	Sample Description	Notes
1	2	S-1	0-2	50	16	0.0	0.1	CONCRETE (0.3 feet thick)	
	4						0.0	Cinders and Ash	
	12						0.0	Black, Cinders and Sand, some Ash, trace crushed red Brick (FILL)	
2	3							CONCRETE SLAB	
3	2	S-2	2-4	45	3	1.0	2.2	Black, Cinders, little Ash, trace red Bricks, trace Gravel (FILL)	
	2						1.4	...broken Gravel layer	
	1						0.6	Brown, medium to coarse Sand, little Gravel, trace Cinders, trace Clay (FILL)	
4	1								
5	2	S-3	4-6	70	5	0.0	0.0	...some crushed red Brick	
	4						0.0		
	1						0.0	...clayey medium to coarse Sand	
6	8							Brown, coarse SAND and GRAVEL, trace Silt, damp	
7	8	S-4	6-8	90	18	0.0	0.0	...medium dense	
	11						0.0		
	7						0.0		
8	5								
9	2	S-5	8-10	5	20	0.6	0.1	...medium to coarse SAND and GRAVEL, little Silt	
	9						0.0		
	11						0.0		
10	16								
11	6	S-6	10-12	75	47	0.6	0.7	...dense	
	25						0.6		
	22						0.4		
12	26						0.6		
13	42	S-7	12-14	35	50	0.4	0.7		
	50/3						1.1		
14									
15	10	S-8	14-16	65	51	0.4	3.7		
	26						1.8		
	25						1.4		
16	38								

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) Stratification lines represent approximate boundaries. Transitions may be gradual.
3) PID readings are referenced to a benzene standard measured in the headspace above the sample using a MiniRae 2000 equipped with a 10.6 eV lamp.
4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-H

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Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Nothnagle Drilling
Sampling Method: Auger & Macrocore

Test Boring MW-H

Ground Elevation: -- Datum: --
Date Started: 6/20/2014 Date Ended: 6/22/2014
Borehole Depth: 30.0' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date): 16.77 (6/22/14) through augers

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)	PID Reading (ppm)	Sample Description	Notes
17	19	S-9	16-18	90	40	0.3	0.7	...Gray, little broken Cobbles	
	20						0.8		
18	20						0.0		
	21						0.3		
19	8	S-10	18-20	25	32	0.2	6.8	...wet	
	12						3.7		
20	20						0.4		
	16						4.7		
21	4	S-11	20-22	58	21	150	4.7	Gray, medium to coarse SAND, some Gravel, trace Silt	**Faint Petroleum Odor**
	5						339		
22	16						159.8		**Petroleum Odor**
	13								
23	13	S-12	22-24	45	30	186.7	13.7	...medium to coarse SAND and GRAVEL	
	14						89.9		
24	16						64.4		
	15								
25	13	S-13	24-26	55	58	487.6	33.9		
	31						306.7	...some broken Cobbles	**Strong Petroleum Odor**
26	27						64.0		
	25								
27	21	S-14	26-28	58		321	27.4		
	20						162.9		
28	18						393.8		
	16								
29	9	S-15	28-30	80	67	344.5	67.9		
	32						925.9		
30	35						62.5		
	29								
31								Bottom of Test Boring @ 30.0'	
32									

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) Stratification lines represent approximate boundaries. Transitions may be gradual.
3) PID readings are referenced to a benzene standard measured in the headspace above the sample using a MiniRae 2000 equipped with a 10.6 eV lamp.
4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-H

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DAY ENVIRONMENTAL, INC.
ENVIRONMENTAL CONSULTANTS
AN AFFILIATE OF DAY ENGINEERING, P.C.

Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Nothnagle Drilling
Sampling Method: Auger & Macrocore

Test Boring MW-I

Ground Elevation: -- Datum: --
Date Started: 6/24/2014 Date Ended: 6/24/2014
Borehole Depth: 33.5' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date): 22.88' (6/24/14) through augers

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)		Sample Description	Notes
1							0.0	CONCRETE FLOOR / SUB-BASE	
							0.0	Black, Cinders/Ballast, little Concrete, little Gravel, trace Silt (FILL)	
2	NA	S-1	0-4	1.31	NA	0.0			
							0.0	...some crushed red Brick, little Silt	
3									
							0.0		
4									
							0.0	...some broken Concrete, trace Glass (FILL)	
5									
							0.0		
6	NA	S-2	4-8	1.64	NA	0.0		Brown, silty medium to coarse Sand and sub-angular to sub-rounded Gravel,	
							0.0	broken Cobbles (sub-rounded) (FILL)	
7									
							0.0		
8									
							0.0		
9									
							0.0		
10	NA	S-3	8-12	3.15	NA	0.0		Black, Cinders/Ash, trace crushed red Brick	
							0.0	Tan/Brown, medium to coarse SAND and GRAVEL, trace Silt, damp	
11									
							0.0		
12									
							0.8		
13									
							1.7		
14	NA	S-4	12-16	2.64	NA	1.7			
							2.0		
15									
							0.8	...Brown, silty fine to medium SAND, little Gravel	
16									

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) Stratification lines represent approximate boundaries. Transitions may be gradual.
3) PID readings are referenced to a benzene standard measured in the headspace above the sample using a MiniRae 2000 equipped with a 10.6 eV lamp.
4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-I

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Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Nothnagle Drilling
Sampling Method: Auger & Macrocore

Test Boring MW-I

Ground Elevation: -- Datum: --
Date Started: 6/24/2014 Date Ended: 6/24/2014
Borehole Depth: 33.5' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date): 22.88' (6/24/14) through augers

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)		Sample Description	Notes
17	NA	S-5	16-18	1.51	NA	0.7	0.2 1.2 0.8	Brown, medium to coarse SAND, some sub-rounded Gravel, trace Silt, damp	
18									
19	NA	S-5	18-20	0.6	NA	1.3	1.0		**Frequent Cobbles during Augering**
20									
21							1.4		
22	NA	S-6	20-24	2.07	NA	1.2	2.1 1.5		
23							1.3	...medium to coarse SAND and sub-angular GRAVEL, wet	
24									
25							1.2		
26	NA	S-7	24-28	1.04	NA	78.3	2.1		
27							47.6	...Gray	**Faint Petroleum Odor**
28							64.6	...medium to coarse SAND, little Gravel	**Petroleum Odor**
29									
30	NA	S-8	28-32		NA	175.7	67.9	...medium to coarse SAND and GRAVEL, little Silt	
31							164.7		
32							17.4		

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
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4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-I

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Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Nothnagle Drilling
Sampling Method: Auger & Macrocore

Test Boring MW-I

Ground Elevation: -- Datum: --
Date Started: 6/24/2014 Date Ended: 6/24/2014
Borehole Depth: 33.5' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date): 22.88' (6/24/14) through augers

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)		Sample Description	Notes
33									Petroleum odor ↓
34								Bottom of Test Boring @ 33.5'	
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									
46									
47									
48									

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
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4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-I

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Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Nothnagle Drilling
Sampling Method: Auger & Macrocore

Test Boring MW-J

Ground Elevation: -- Datum: --
Date Started: 6/19/2014 Date Ended: 6/19/2014
Borehole Depth: 36.0' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date): 23.63' (6/19/14) through Augers

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)		Sample Description	Notes
1								CONCRETE SLAB	**Advanced through Slab/Concrete using Coring Device**
2							0.5	Gray-Brown, coarse Sand and broken Concrete, little Gravel (FILL)	
3	NA	S-1	2-4	38	NA	0.4	3.4	Brown-Black, fine to medium Sand, little Gravel, little Cinders, trace red Brick, trace Silt (FILL)	
4							0.2		
5							0.0	...Brown, medium to coarse Sand	
6	NA	S-2	4-8	61	NA	0.0	0.0		
7							0.0	Brown, medium to coarse SAND, little Gravel, trace Silt, moist	
8							0.0		
9							0.0		
10	NA	S-3	8-12	46	NA	0.0	0.0	...medium to coarse SAND and GRAVEL	
11							0.0	...medium to coarse some sub-rounded Gravel	
12							0.0		
13							0.0	Brown, coarse SAND and GRAVEL, little broken Cobbles	
14	NA	S-4	12-16	45	NA	0.0	0.0		
15							0.0		
16							0.0		

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
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4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-J

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Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Nothnagle Drilling
Sampling Method: Auger & Macrocore

Test Boring MW-J

Ground Elevation: -- Datum: --
Date Started: 6/19/2014 Date Ended: 6/19/2014
Borehole Depth: 36.0' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date): 23.63' (6/19/14) through augers

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)		Sample Description	Notes
17							0.0		
							0.0		
18	NA	S-5	16-20	63	NA	0.2		Frequent Cobbles during augering	
							0.9		
19							0.4		
20									
							0.0		
21							0.0		
22	NA	S-6	20-24	67	NA	0.0			
							0.0		
							0.0		
24								Brown, medium to coarse SAND, little Gravel, trace Silt, wet	
							0.0		
25								Brown, sub-rounded to angular GRAVEL, little Sand, wet	
							0.0		
26	NA	S-7	24-28	26	NA	0.0		...some coarse SAND	
							0.0		
27							0.0		
28									
							0.0		
29							0.0		
				58				...medium to coarse SAND and sub-rounded to angular GRAVEL	
30	NA	S-8	28-32		NA	0.0	0.0		
31							0.0		
32							0.0		

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
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4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-J

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Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Nothnagle Drilling
Sampling Method: Auger & Macrocore

Test Boring MW-J

Ground Elevation: -- Datum: --
Date Started: 6/19/2014 Date Ended: 6/19/2014
Borehole Depth: 36.0' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date): 23.63' (6/19/14) through augers

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)		Sample Description	Notes
33								Brown, medium to coarse SAND, little Gravel, wet	
34	NA	S-9	32-36	52	0.0	0.0	0.0	Brown, coarse SAND and GRAVEL, trace Silt, wet	
35									
36								Bottom of Test Boring @ 36.0'	
37									
38									
39									
40									
41									
42									
43									
44									
45									
46									
47									
48									

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) Stratification lines represent approximate boundaries. Transitions may be gradual.
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4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-J

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Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: C. Hampton
Drilling Contractor: Nothnagle Drilling
Sampling Method: Auger & Macrocore

Test Boring MW-K

Ground Elevation: --
Datum: --
Date Started: 6/16/2014
Date Ended: 6/16/2014
Borehole Depth: 30.0'
Borehole Diameter: 6"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date):

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)		Sample Description	Notes
1								ASPHALT	
2	NA	S-1	0-4	50	NA	2.1	124	Black and Tan, crushed Rock with pieces of Asphalt, damp (FILL)	
3									
4							12.2	Brown, fine Gravel, some coarse Sand, damp (FILL)	
5							98.9	Brown, medium to coarse SAND and fine to coarse GRAVEL moist	
6	NA	S-2	4-8	40	NA		2.2		
7							1.5		
8									
9	NA	S-3	8-10	70	NA		0.0		
10							0.0		
11							0.0		
12	NA	S-3	10-14	55	NA		0.4		
13							0.0		
14							0.0		
15	NA	S-4	14-18	60	NA	NA	0.2		
16							0.0		

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5) Headspace PID readings may be influenced by moisture

Test Boring MW-K

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Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Nothnagle Drilling
Sampling Method: Auger & Macrocore

Test Boring MW-K

Ground Elevation: -- Datum: --
Date Started: 6/16/2014 Date Ended: 6/16/2014
Borehole Depth: 30.0' Borehole Diameter: 6"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date):

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)		Sample Description	Notes
17							0.5		
18	NA	S-5	18-20	50	NA		0.0	...wet	
19							0.0		
20							0.0		
21	NA	S-6	20-24	50	NA		0.0	...little brokenCobbles	
22							0.0		
24							0.2	Brown, medium to coarse SAND, little Gravel, wet	
25	NA	S-7	24-28	60	NA		0.0	Brown, coarse SAND and fine to coarse GRAVEL, trace Silt, wet	
26									
27							0.0	Gray, Clayey medium to coarse SAND, some fine to coarse Gravel, wet	
28	NA	S-8	28-30	70	NA		0.0		
29							0.0		
30								Bottom of Test Boring @ 30.0'	
31									
32									

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) Stratification lines represent approximate boundaries. Transitions may be gradual.
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4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-K

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Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: T. Default
Drilling Contractor: Nothnagle Drilling
Sampling Method: Split Spoon

Test Boring MW-L

Ground Elevation: -- Datum: --
Date Started: 6/18/2014 Date Ended: 6/18/2014
Borehole Depth: 34.0' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date):

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)	PID Reading (ppm)	Sample Description	Notes
1	9	S-1	0-2	55	17		2.0	CONCRETE FLOOR Brown, fine to medium Sand, little Gravel, trace Silt (FILL)	
	8						2.1		
2	9						2.0		
	3	S-2	2-4	45	4		1.0	...Brick fragments	
3	2						0.9		
	2						1.1		
4	5								
	6	S-3	4-6	20	11		4.7		
5	4								
	7								
6	7								
	7	S-4	6-8	50	11		3.7		
7	5						3.1		
	6						3.3		
8	8								
	4	S-5	8-10	50	13		1.2		
9	8						1.0		
	5								
10	6								
	5	S-6	10-12	65	22		0.9		
11	9						0.7		
	13						0.8	Medium dense, brown, fine to medium SAND, little Gravel, little Silt, trace Clay,	
12	20							damp	
	24	S-7	12-14	60	52		0.4		
13	28						0.5	...very dense	
	24								
14	20								
	11	S-8	14-16	70	56		0.5		
15	31						0.4		
	25						0.8		
16	35								

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
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4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-L

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Project #: 4884S-13
Project Address: 211 Franklin Street
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DAY Representative: Z. Tennies
Drilling Contractor: Nothnagle Drilling
Sampling Method: Auger & Macrocore

Test Boring MW-L

Ground Elevation: -- Datum: --
Date Started: 6/18/2014 Date Ended: 6/18/2014
Borehole Depth: 34.0' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date):

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)	PID Reading (ppm)	Sample Description	Notes
17	30 40 40 50	S-9	16-18	60	50+	-	0.4 0.5 0.9		
18	16 25 35 31	S-10	18-20	45	50+	-	0.3 0.9	Brown, medium SAND and fine to coarse GRAVEL, trace Silt, damp	
19	13 22 20 18	S-11	20-22	50	44	-	0.1 0.3 0.1		
20	20 14 11 9	S-12	22-24	25	25	130	0.0	...medium dense, wet	
21	6 4 5 4	S-13	24-26	15	9	-	264	...loose	
22	1 2 1 1	S-14	26-28	25	3	-	38	...medium to coarse SAND and fine to medium GRAVEL	
23	11 15 22 23	S-15	28-30	45	37	-	0.0	...dense	
24	11 24 13 14	S-16	30-32	50	37		0.3 0.2		
25									
26									
27									
28									
29									
30									
31									
32									

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) Stratification lines represent approximate boundaries. Transitions may be gradual.
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4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-L

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Project #: 4884S-13
Project Address: 211 Franklin Street
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DAY Representative: Z. Tennies
Drilling Contractor: Nothnagle Drilling
Sampling Method: Auger & Macrocore

Test Boring MW-L

Ground Elevation: -- Datum: --
Date Started: 6/18/2014 Date Ended: 6/18/2014
Borehole Depth: 34.0' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date):

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)	PID Reading (ppm)	Sample Description	Notes
33	6 12 9 5	S-17	32-34	65	21	NA	0.5 0.5 0.5	Medium dense, some fine to coarse SAND, medium to coarse Gravel, wet	
34								Bottom of Test Boring @ 34.0'	
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									
46									
47									
48									

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) Stratification lines represent approximate boundaries. Transitions may be gradual.
3) PID readings are referenced to a benzene standard measured in the headspace above the sample using a MiniRae 2000 equipped with a 10.6 eV lamp.
4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-L

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ENVIRONMENTAL CONSULTANTS

DAY ENVIRONMENTAL, INC.

AN AFFILIATE OF DAY ENGINEERING, P.C.

Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: C. Hampton
Drilling Contractor: Nothnagle Drilling
Sampling Method: Auger & Split Spoon

Test Boring MW-M

Ground Elevation: -- Datum: --
Date Started: 6/16/2014 Date Ended: 6/16/2014
Borehole Depth: 28.0' Borehole Diameter: 6"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date):

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)	PID Reading (ppm)	Sample Description	Notes
1	2	S-1	0-2	60	5		0.0	TOPSOIL	
	2							Brown, Sandy Silt, little Brick, little Gravel, trace Slag, moist (FILL)	
	3						0.0		
2	2								
3	1	S-2	2-4	70	2		0.0		
	1							Brown, Silty Clay, little Gravel, trace Sand, moist (FILL)	
	1						0.0		
4	1								
5	1	S-3	4-6	50	11		0.0		
	5								
	6						0.0	Medium dense, brown, medium to coarse SAND and fine to coarse GRAVEL, some	
6	8							Silt, damp	
7	5	S-4	6-8	40	15		0.0		
	8								
	7						0.0		
8	9								
9	4	S-5	8-10	70	15		0.0		
	7							...little Clay, little Silt	
	8						0.0		
10	4								
11	4	S-6	10-12	50	33		0.0		
	17							...dense, trace Silt, trace Clay	
	16						0.0		
12	18								
13	10	S-7	12-14	60	37		0.0		
	19								
	18						0.0		
14	20								
15	20	S-8	14-16	50	47	NA	159		
	21						1.4		
	26						0.4		
16	23								

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) Stratification lines represent approximate boundaries. Transitions may be gradual.
3) PID readings are referenced to a benzene standard measured in the headspace above the sample using a MiniRae 2000 equipped with a 10.6 eV lamp.
4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-M

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ENVIRONMENTAL CONSULTANTS
AN AFFILIATE OF DAY ENGINEERING, P.C.

Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Nothnagle Drilling
Sampling Method: Auger & Macrocore

Test Boring MW-M

Ground Elevation: -- Datum: --
Date Started: 6/16/2014 Date Ended: 6/16/2014
Borehole Depth: 28.0' Borehole Diameter: 6"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date):

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)	PID Reading (ppm)	Sample Description	Notes
17	34 13 18 20	S-9	16-18	60	31		0.0 0.0		
18	10 26 36 35	S-10	18-20	70	50+		5.4 122 73.6	...very dense, wet, some brokenCobbles ....Gray/Black, little broken Cobbles, little Silt	**Petroleum Odor**
20	1 26 31 30	S-11	20-22	65	50+		21.1 68.4 16.5	...some Clay	**...black staining**
22	8 25 15 6	S-12	22-24	70	40		178 495 324		**...less staining** **...black staining**
24	5 9 20 19	S-13	24-26	45	29		279 173 1079	...little Sand	**...less staining**
26	5 5 9 8	S-14	26-28	80	14		34.5	Gray, Silty CLAY, some fine to medium Sand, wet	
28								Bottom of Test Boring @ 28.0'	
29									
30									
31									
32									

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) Stratification lines represent approximate boundaries. Transitions may be gradual.
3) PID readings are referenced to a benzene standard measured in the headspace above the sample using a MiniRae 2000 equipped with a 10.6 eV lamp.
4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring MW-M

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AN AFFILIATE OF DAY ENGINEERING, P.C.

Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies/C. Hampton
Drilling Contractor: Nothnagle Drilling
Sampling Method: Auger & Split Spoon

Test Boring TB-118 (MW-N)

Ground Elevation: -- Datum: --
Date Started: 6/18/2014 Date Ended: 6/19/2014
Borehole Depth: 34.0' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date): 22.85 (6/19/14) through augers

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)	PID (ppm)	Sample Description	Notes
1	1 2 4	S-1	0-2	25	NA		0.0	CONCRETE FLOOR - 2 Layers (0.85 feet thick) Brown, medium to coarse Sand and Gravel, little Silt, damp (FILL)	
2							0.0		
3	3 2 2 3	S-2	2-4	10	NA		0.0	...some Gravel	
4									
5	2 2 1 1	S-3	4-6	50	NA	0.0	0.0 0.0		
6									
7	1 1 1 1	S-4	6-8	50	NA	0.0	0.0 0.0	...little Clay, Coal fragments	
8									
9	1 1 2 1	S-5	8-10	30	NA	0.0	0.0 0.0	...some broken Cobbles, Brick fragments	
10									
11	1 1 7 15	S-6	10-12	80	NA	0.0	0.0 0.0		
12									
13	5 12 25 33	S-7	12-14	50	NA	0.0	0.0 0.0	weathered Concrete	
14									
15	8 22 23 26	S-8	14-16	70	NA	0.0	0.0 0.4	Brown, medium to coarse SAND and fine to coarse GRAVEL, trace Silt, moist	
16									

Notes:
1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) Stratification lines represent approximate boundaries. Transitions may be gradual.
3) PID readings are referenced to a benzene standard measured in the headspace above the sample using a MiniRae 2000 equipped with a 10.6 eV lamp.
4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring TB-118 (MW-N)

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Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Nothnagle Drilling
Sampling Method: Auger & Macrocore

Test Boring TB-118 (MW-N)

Ground Elevation: -- Datum: --
Date Started: 6/19/2014 Date Ended: 6/19/2014
Borehole Depth: 34.0' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date): 22.85 (6/19/14) through augers

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)	PID (ppm)	Sample Description	Notes
17		S-9	16-18	90	NA	0.0	0.0 0.2 0.1		
18 19 20		S-10	18-20	60	NA	0.0	0.0 0.0 0.0	...little Silt	
20 21 22		S-11	20-22	70	NA	0.0	0.5 0.3 0.1		
22 23 24		S-12	22-24	80	NA		0.1 1.6 0.0	Medium to coarse SAND, lense ...wet	
24 25 26		S-13	24-26	60	NA	3702	0.7 2.5 170	...frequent Cobbles ...Gray	**Petroleum Odor**
26 27 28		S-14	26-28	75	NA	6578	28.6 12.4 30.5 501.2	Gray, medium to coarse SAND and GRAVEL, trace Silt, wet	**Faint Petroleum odor**
28 29 30		S-15	28-30	45	NA	35.8	165 92.1 73.8		**Petroleum odor**
30 31 32		S-16	30-32	55	NA	656.2	78.9 58.6 532		

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
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3) PID readings are referenced to a benzene standard measured in the headspace above the sample using a MiniRae 2000 equipped with a 10.6 eV lamp.
4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring TB-118 (MW-N)

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Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Nothnagle Drilling
Sampling Method: Auger & Macrocore

Test Boring TB-118 (MW-N)

Ground Elevation: -- Datum: --
Date Started: 6/18/2014 Date Ended: 6/18/2014
Borehole Depth: 34.0' Borehole Diameter: 4"
Completion Method: ■ Well Installed ☐ Backfilled with Grout ☐ Backfilled with Cuttings
Water Level (Date): 22.85 (6/19/14) through augers

Depth (ft)	Blows per 0.5 ft.	Sample Number	Sample Depth (ft)	% Recovery	N-Value or RQD%	Headspace PID (ppm)	PID (ppm)	Sample Description	Notes
33 34	NA	S-17	33-34	60	295.3	127.2 139.6 199.4		...coarse SAND and GRAVEL	Petroleum odor ↓
35								Bottom of Test Boring @ 34.0'	
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									
46									
47									
48									

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) Stratification lines represent approximate boundaries. Transitions may be gradual.
3) PID readings are referenced to a benzene standard measured in the headspace above the sample using a MiniRae 2000 equipped with a 10.6 eV lamp.
4) NA = Not Available or Not Applicable
5) Headspace PID readings may be influenced by moisture

Test Boring TB-118 (MW-N)

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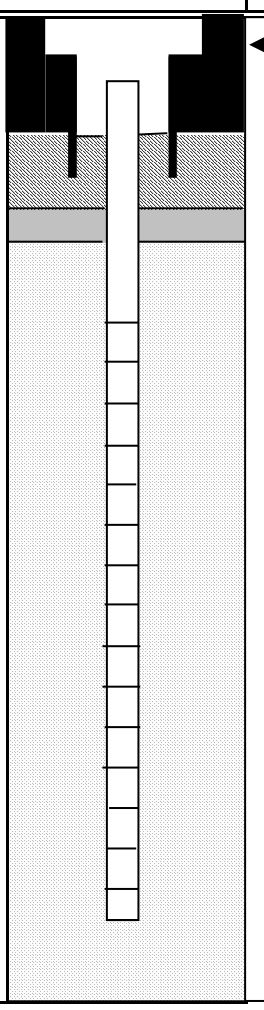
MONITORING WELL CONSTRUCTION DIAGRAM

Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Applus

MONITORING WELL MW-B

Monitoring Point Elevation 1429.82 Datum: NAVD 88
Date Started: 9/11/2013 Date Ended: 9/11/2013

Refer to Test Boring Log MW-B for Soil Description



Flush Mounted Roadbox
0.24 Depth to Top of Riser Pipe (ft)
2.0 Depth to Bottom of Concrete Surface Patch (ft)
Backfill Type Concrete
16.0 Depth to Top of Bentonite Seal (ft)
17.0 Depth to Bottom of Bentonite Seal (ft)
18.0 Depth to Top of Well Screen (ft)
4.0 Diameter of Borehole (in)
Backfill Type Sand
1.0 Inside Diameter of Well (in)
Type of Pipe PVC
Screen slot size 10 Slot
28.0 Depth to Bottom of Well Screen (ft)
28.0 Depth to Bottom of Borehole (ft)

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) NA = Not Available or Not Applicable

MONITORING WELL MW- B

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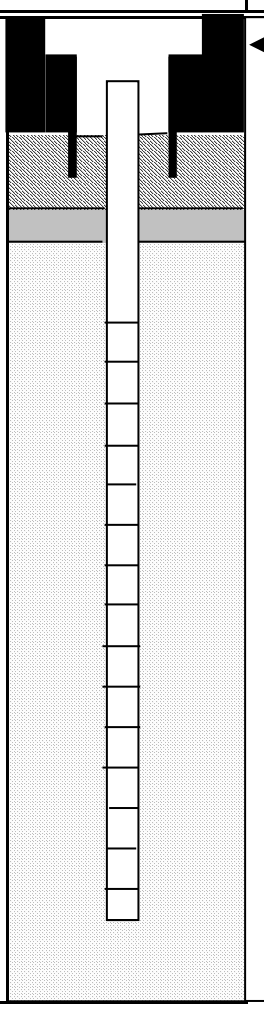
MONITORING WELL CONSTRUCTION DIAGRAM

Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Applus

MONITORING WELL MW-C

Monitoring Point Elevation 1430.1 Datum: NAVD 88
Date Started: 9/11/2013 Date Ended: 9/12/2013

Refer to Test Boring Log MW-C for Soil Description



Flush Mounted Roadbox
0.46 Depth to Top of Riser Pipe (ft)

2.0 Depth to Bottom of Bentonite Surface Patch (ft)
Backfill Type Bentonite/Soil
16.0 Depth to Top of Bentonite Seal (ft)
17.0 Depth to Bottom of Bentonite Seal (ft)

18.0 Depth to Top of Well Screen (ft)

4.0 Diameter of Borehole (in)

Backfill Type Sand

1.0 Inside Diameter of Well (in)

Type of Pipe PVC
Screen slot size 10 Slot

28.0 Depth to Bottom of Well Screen (ft)

28.0 Depth to Bottom of Borehole (ft)

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) NA = Not Available or Not Applicable

MONITORING WELL MW- C

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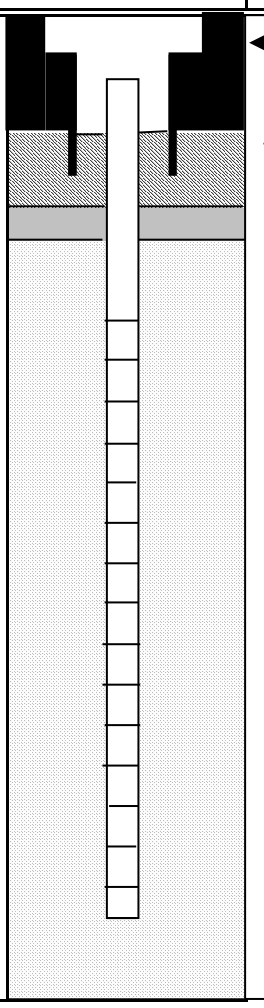
MONITORING WELL CONSTRUCTION DIAGRAM

Project #:	4884S-13				**MONITORING WELL MW-D**
Project Address:	211 Franklin Street				
	Olean, New York	Monitoring Point Elevation	1431.53	Datum:	NAVD 88
DAY Representative:	Z. Tennies	Date Started:	9/12/2013	Date Ended:	9/12/2013
Drilling Contractor:	Applus				

Refer to Test Boring Log MW-D for Soil Description



Flush Mounted Roadbox

0.08 Depth to Top of Riser Pipe (ft)

2.0 Depth to Bottom of Bentonite Surface Patch (ft)

Backfill Type Soil

18.0 Depth to Top of Bentonite Seal (ft)

19.0 Depth to Bottom of Bentonite Seal (ft)

20.0 Depth to Top of Well Screen (ft)

4.0 Diameter of Borehole (in)

Backfill Type Sand

1.0 Inside Diameter of Well (in)

Type of Pipe PVC

Screen slot size 10 Slot

30.0 Depth to Bottom of Well Screen (ft)

30.0 Depth to Bottom of Borehole (ft)

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.

2) NA = Not Available or Not Applicable

MONITORING WELL MW- D

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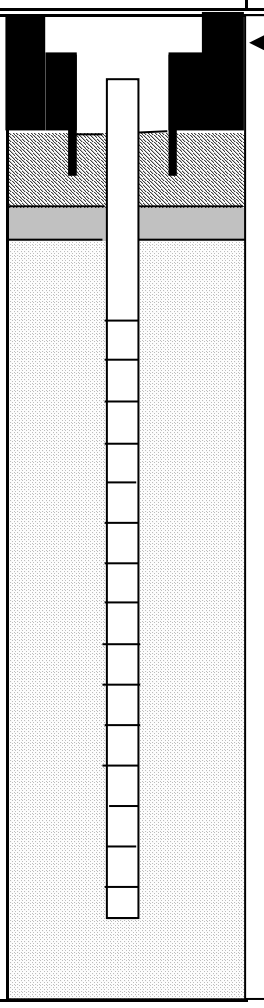
MONITORING WELL CONSTRUCTION DIAGRAM

Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Applus

MONITORING WELL MW-E

Monitoring Point Elevation 1434.03 Datum: NAVD 88
Date Started: 9/13/2013 Date Ended: 9/13/2013

Refer to Test Boring Log MW-E for Soil Description



Flush Mounted Roadbox
0.15 Depth to Top of Riser Pipe (ft)

2.0 Depth to Bottom of Bentonite Surface Patch (ft)
Backfill Type Concrete/Soil
21.0 Depth to Top of Bentonite Seal (ft)
22.0 Depth to Bottom of Bentonite Seal (ft)

23.0 Depth to Top of Well Screen (ft)

4.0 Diameter of Borehole (in)

Backfill Type Sand

1.0 Inside Diameter of Well (in)

Type of Pipe PVC
Screen slot size 10 Slot

33.0 Depth to Bottom of Well Screen (ft)

33.0 Depth to Bottom of Borehole (ft)

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) NA = Not Available or Not Applicable

MONITORING WELL MW- E

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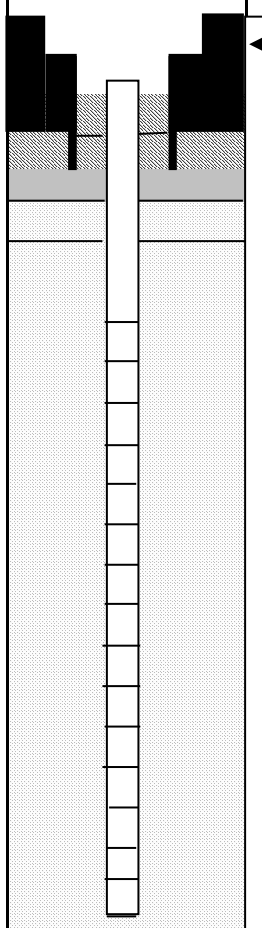
MONITORING WELL CONSTRUCTION DIAGRAM

Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Nothnagle Drilling

MONITORING WELL MW-F

Monitoring Point Elevation 1429.48 Datum: NAVD 88
Date Started: 6/17/2014 Date Ended: 6/17/2014

Refer to Test Boring Log MW-F for Soil Description



Flush Mounted Roadbox
0.37 Depth to Top of Riser Pipe (ft)
1.0 Depth to Bottom of Cement Surface Patch (ft)
Backfill Type Grout / Bentonite

15.0 Depth to Top of Bentonite Seal (ft)
16.0 Depth to Bottom of Bentonite Seal (ft)

17.5 Depth to Top of Well Screen (ft)

4.0 Diameter of Borehole (in)

Backfill Type Sand, Silica Quartz

2.0 Inside Diameter of Well (in)

Type of Pipe PVC
Screen slot size 10 Slot

27.5 Depth to Bottom of Well Screen (ft)
28.0 Depth to Bottom of Borehole (ft)

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) NA = Not Available or Not Applicable

MONITORING WELL MW-F

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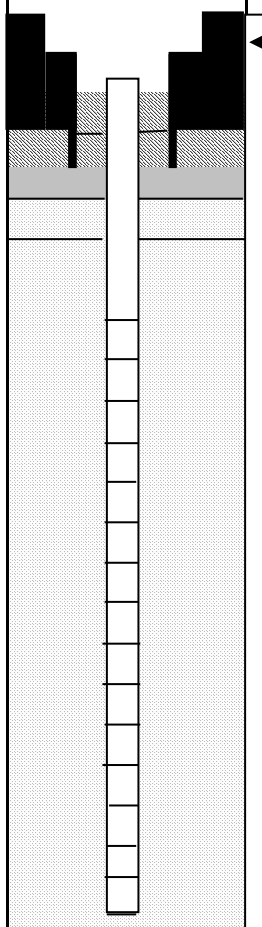
MONITORING WELL CONSTRUCTION DIAGRAM

Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Nothnagle Drilling

MONITORING WELL MW-G

Monitoring Point Elevation 1433.65 Datum: NAVD 88
Date Started: 6/26/2014 Date Ended: 6/26/2014

Refer to Test Boring Log MW-G for Soil Description



Flush Mounted Roadbox
0.30 Depth to Top of Riser Pipe (ft)
1.0 Depth to Bottom of Cement Surface Patch (ft)
Backfill Type Grout / Bentonite

16.0 Depth to Top of Bentonite Seal (ft)
18.0 Depth to Bottom of Bentonite Seal (ft)

20.0 Depth to Top of Well Screen (ft)

6.0 Diameter of Borehole (in)

Backfill Type Sand, Silica Quartz

2.0 Inside Diameter of Well (in)

Type of Pipe PVC
Screen slot size 10 Slot

33.0 Depth to Bottom of Well Screen (ft)
33.0 Depth to Bottom of Borehole (ft)

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) NA = Not Available or Not Applicable

MONITORING WELL MW-G

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ENVIRONMENTAL CONSULTANTS
AN AFFILIATE OF DAY ENGINEERING, P.C.

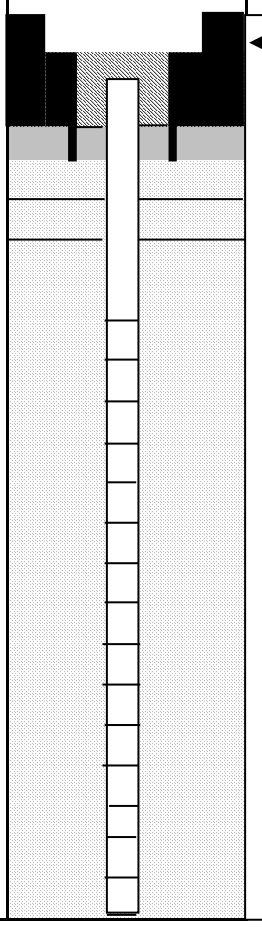
MONITORING WELL CONSTRUCTION DIAGRAM

Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Nothnagle Drilling

MONITORING WELL MW-H

Monitoring Point Elevation 1433.61 Datum: NAVD 88
Date Started: 6/23/2014 Date Ended: 6/23/2014

Refer to Test Boring Log MW-H for Soil Description



Flush Mounted Roadbox
0.34 Depth to Top of Riser Pipe (ft)
1.0 Depth to Bottom of Cement Surface Patch (ft)
Backfill Type Grout / Bentonite

19.0 Depth to Top of Bentonite Seal (ft)
20.0 Depth to Bottom of Bentonite Seal (ft)

22.0 Depth to Top of Well Screen (ft)

4.0 Diameter of Borehole (in)

Backfill Type Sand, Silica Quartz

2.0 Inside Diameter of Well (in)

Type of Pipe PVC
Screen slot size 10 Slot

30.0 Depth to Bottom of Well Screen (ft)
30.0 Depth to Bottom of Borehole (ft)

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) NA = Not Available or Not Applicable

MONITORING WELL MW-H

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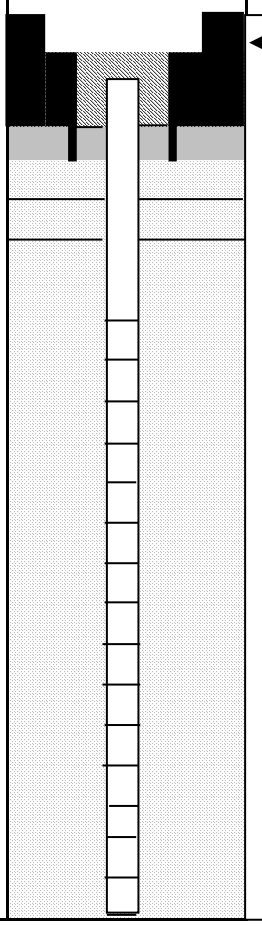
MONITORING WELL CONSTRUCTION DIAGRAM

Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Nothnagle Drilling

MONITORING WELL MW-I

Monitoring Point Elevation 1433.51 Datum: NAVD 88
Date Started: 6/24/2014 Date Ended: 6/24/2014

Refer to Test Boring Log MW-I for Soil Description



Flush Mounted Roadbox
0.38 Depth to Top of Riser Pipe (ft)
1.0 Depth to Bottom of Cement Surface Patch (ft)
Backfill Type Grout / Bentonite

20.5 Depth to Top of Bentonite Seal (ft)
21.5 Depth to Bottom of Bentonite Seal (ft)

23.5 Depth to Top of Well Screen (ft)

4.0 Diameter of Borehole (in)

Backfill Type Sand, Silica Quartz

2.0 Inside Diameter of Well (in)

Type of Pipe PVC
Screen slot size 10 Slot

33.5 Depth to Bottom of Well Screen (ft)
33.5 Depth to Bottom of Borehole (ft)

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) NA = Not Available or Not Applicable

MONITORING WELL MW-I

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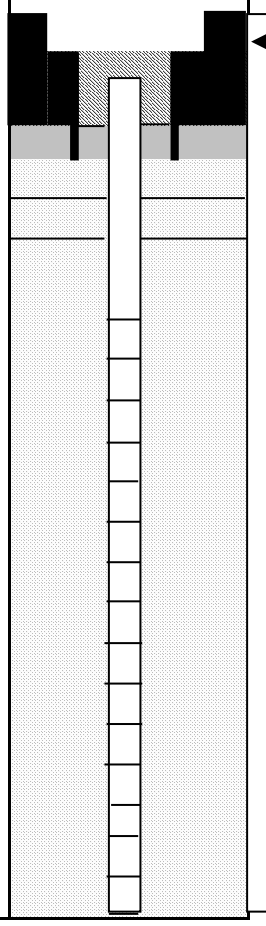
MONITORING WELL CONSTRUCTION DIAGRAM

Project #:	4884S-13				**MONITORING WELL MW-J**
Project Address:	211 Franklin Street				
	Olean, New York	Monitoring Point Elevation	1433.93	Datum:	NAVD 88
DAY Representative:	Z. Tennies	Date Started:	6/19/2014	Date Ended:	6/19/2014
Drilling Contractor:	Nothnagle Drilling				

Refer to Test Boring Log MW-J for Soil Description



Flush Mounted Roadbox

0.32 Depth to Top of Riser Pipe (ft)

1.0 Depth to Bottom of Cement Surface Patch (ft)

Backfill Type Grout / Bentonite

20.5 Depth to Top of Bentonite Seal (ft)

21.5 Depth to Bottom of Bentonite Seal (ft)

22.5 Depth to Top of Well Screen (ft)

4.0 Diameter of Borehole (in)

Backfill Type Sand, Silica Quartz

2.0 Inside Diameter of Well (in)

Type of Pipe PVC

Screen slot size 10 Slot

33.5 Depth to Bottom of Well Screen (ft)

36.0 Depth to Bottom of Borehole (ft)

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.

2) NA = Not Available or Not Applicable

MONITORING WELL MW-J

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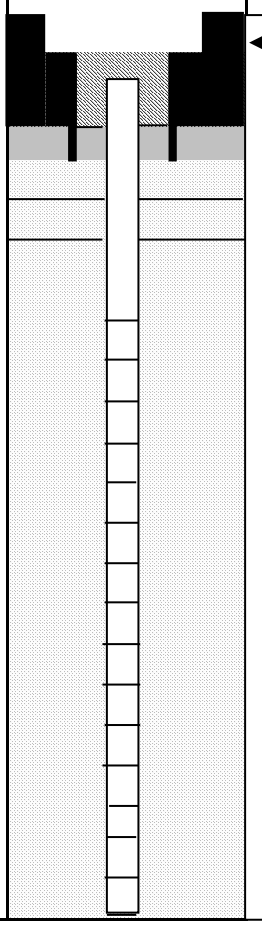
MONITORING WELL CONSTRUCTION DIAGRAM

Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Nothnagle Drilling

MONITORING WELL MW-K

Monitoring Point Elevation 1429.64 Datum: NAVD 88
Date Started: 6/16/2014 Date Ended: 6/16/2014

Refer to Test Boring Log MW-K for Soil Description



Flush Mounted Roadbox
0.34 Depth to Top of Riser Pipe (ft)
1.0 Depth to Bottom of Cement Surface Patch (ft)
Backfill Type Grout / Bentonite

10.5 Depth to Top of Bentonite Seal (ft)
13.0 Depth to Bottom of Bentonite Seal (ft)

15.0 Depth to Top of Well Screen (ft)

6.0 Diameter of Borehole (in)

Backfill Type Sand, Silica Quartz

2.0 Inside Diameter of Well (in)

Type of Pipe PVC
Screen slot size 10 Slot

30.0 Depth to Bottom of Well Screen (ft)
30.0 Depth to Bottom of Borehole (ft)

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) NA = Not Available or Not Applicable

MONITORING WELL MW-K

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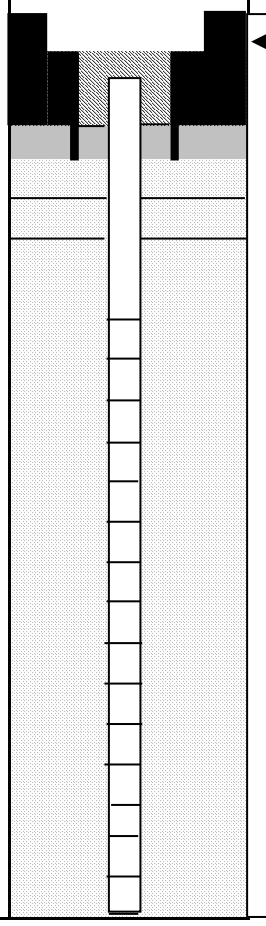
MONITORING WELL CONSTRUCTION DIAGRAM

Project #:	4884S-13				**MONITORING WELL MW-L**
Project Address:	211 Franklin Street				
	Olean, New York	Monitoring Point Elevation	1433.81	Datum:	NAVD 88
DAY Representative:	Z. Tennies	Date Started:	6/18/2014	Date Ended:	6/18/2014
Drilling Contractor:	Nothnagle Drilling				

Refer to Test Boring Log MW-L for Soil Description



Flush Mounted Roadbox

0.40 Depth to Top of Riser Pipe (ft)

1.0 Depth to Bottom of Cement Surface Patch (ft)

Backfill Type Grout / Bentonite

18.8 Depth to Top of Bentonite Seal (ft)

19.8 Depth to Bottom of Bentonite Seal (ft)

22.0 Depth to Top of Well Screen (ft)

6.0 Diameter of Borehole (in)

Backfill Type Sand, Silica Quartz

2.0 Inside Diameter of Well (in)

Type of Pipe PVC

Screen slot size 10 Slot

34.0 Depth to Bottom of Well Screen (ft)

34.0 Depth to Bottom of Borehole (ft)

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.

2) NA = Not Available or Not Applicable

MONITORING WELL MW-L

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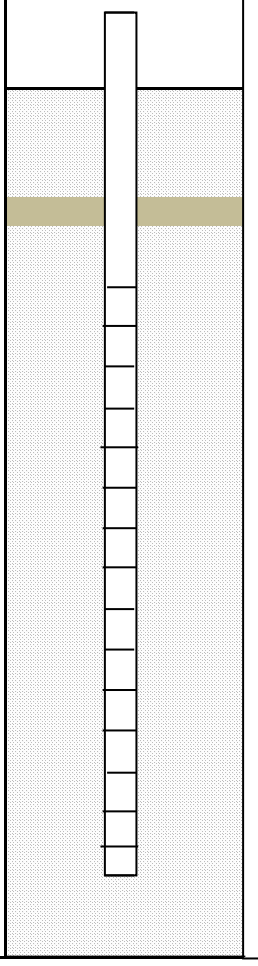
MONITORING WELL CONSTRUCTION DIAGRAM

Project #: 4884S-13
Project Address: 211 Franklin Street
Olean, New York
DAY Representative: Z. Tennies
Drilling Contractor: Nothnagle Drilling

MONITORING WELL MW-M

Monitoring Point Elevation 1432.57 Datum: NAVD 88
Date Started: 6/17/2014 Date Ended: 6/17/2014

Refer to Test Boring Log MW-M for Soil Description



2.12 Height of Stickup (ft)

← Ground Surface
1.0 Depth to Bottom of Cement Surface Patch (ft)
Backfill Type Grout / Bentonite
14.0 Depth to Top of Bentonite Seal (ft)
16.0 Depth to Bottom of Bentonite Seal (ft)

18.0 Depth to Top of Well Screen (ft)

6.0 Diameter of Borehole (in)

Backfill Type Sand, Silica Quartz

2.0 Inside Diameter of Well (in)

Type of Pipe PVC
Screen slot size 10 Slot

28.0 Depth to Bottom of Well Screen (ft)

28.0 Depth to Bottom of Borehole (ft)

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.
2) NA = Not Available or Not Applicable

MONITORING WELL MW-

S:\Fieldforms\Monitoring Well Installation Log (revised November 2013)

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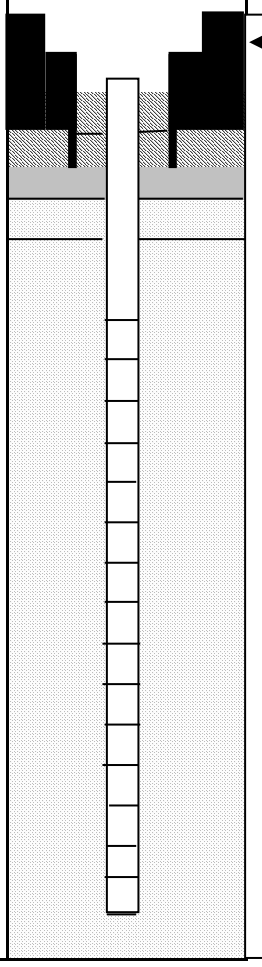
MONITORING WELL CONSTRUCTION DIAGRAM

Project #:	4884S-13		**MONITORING WELL MW-N**
Project Address:	211 Franklin Street		
	Olean, New York	Monitoring Point Elevation 1433.92	Datum: NAVD 88
DAY Representative:	Z. Tennies	Date Started: 6/20/2014	Date Ended: 6/20/2014
Drilling Contractor:	Nothnagle Drilling		

Refer to Test Boring Log MW-N for Soil Description



Flush Mounted Roadbox

0.33 Depth to Top of Riser Pipe (ft)

1.0 Depth to Bottom of Cement Surface Patch (ft)

Backfill Type Grout / Bentonite

20.5 Depth to Top of Bentonite Seal (ft)

21.5 Depth to Bottom of Bentonite Seal (ft)

23.5 Depth to Top of Well Screen (ft)

2.0 Diameter of Borehole (in)

Backfill Type Sand, Silica Quartz

2.0 Inside Diameter of Well (in)

Type of Pipe PVC

Screen slot size 10 Slot

33.5 Depth to Bottom of Well Screen (ft)

34.0 Depth to Bottom of Borehole (ft)

Notes: 1) Water levels were made at the times and under conditions stated. Fluctuations of groundwater levels may occur due to seasonal factors and other conditions.

2) NA = Not Available or Not Applicable

MONITORING WELL MW-N

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APPENDIX F – FIELD SAMPLING PLAN

Groundwater Sampling Methodology

- In order to minimize the potential re-suspension of solids in the bottom of the well, well depths will not be measured prior to or during low-flow purging and sampling. Well depth information will be obtained from: 1) measurements collected during well development; 2) from well logs; or 3) will be measured after sampling is completed.

- Subsequent to obtaining static water level measurements and monitoring the wells for free LNAPL, the following low-flow purge and sample techniques will be used to collect a groundwater sample from each well:

o A portable bladder pump connected to new disposable polyethylene tubing will be lowered and positioned at or slightly above the mid-point of the water column within the well screen when the screened interval is set in relatively homogeneous material. When the screened interval is set in heterogeneous materials, the pump will be positioned adjacent to the zone of highest hydraulic conductivity (as defined by geologic samples). Care will be taken to install and lower the bladder pump slowly in order to minimize disturbance of the water column.

o The pump will be connected to a control box that is operated on compressed gas (nitrogen, air, etc.) and is capable of varying pumping rates. An in-line flow-through cell attached to a Horiba U-22 water quality meter (or similar equipment) will be connected to the bladder pump effluent tubing to measure water quality data.

o The pump will be started at a pumping rate of 100 ml/min or less (for pumps that can not achieve a flow rate this low, the pump will be started at the lowest pump rate possible). The water level in the well will be measured and the pump rate will be adjusted (i.e., increased or decreased) until the drawdown is stabilized. In order to establish the optimum flow-rate for purging and sampling, the water level in the well will be measured on a periodic basis (i.e., every one or two minutes) using an electronic water level meter or an oil/water interface meter. When the water level in the well has stabilized (i.e., use goal of <0.33 ft. of constant drawdown), the water level measurements will be collected less frequently.

o While purging the well at the stabilized water level, water quality indicator parameters will be monitored on a three to five minute basis with the Horiba U-22 water quality meter (or similar equipment). Water quality indicator parameters will be considered stabilized when the parameter readings listed below are generally achieved after three consecutive readings:

  - pH (+ 0.1);

- specific conductance (+ 3%);
- dissolved oxygen (+ 10 %);
- oxidation-reduction potential (+ 10 mV);
- temperature (+ 10%); and
- turbidity (+ 10%, when turbidity is greater than 10 NTUs)

- Following stabilization of the water quality parameters, the flow-through cell will be disconnected and a groundwater sample will be collected from the bladder pump effluent tubing. The pumping rate during sampling will remain at the established purging rate or it may be adjusted downward to minimize aeration, bubble formation, or turbulent filling of sample containers. A pumping rate below 250 ml/min will be used when collecting VOC samples.

- The procedures and equipment used during the purging and groundwater sampling, and the field measurement data obtained, will be documented in the field and recorded on Monitoring Well Sampling Logs.

- During sampling, the following parameters will be measured using a water quality meter(s) and will later be presented on Monitoring Well Sampling Logs:

  - Dissolved Oxygen (DO)
  - Conductivity
  - Oxidation/Reduction Potential (redox)
  - pH
  - Temperature
  - Turbidity

The procedures and equipment used during the purging and groundwater sampling, and the field measurement data obtained, will be documented in the field and recorded on Monitoring Well Sampling Logs.

In addition to the samples collected from the long-term groundwater monitoring system, one trip blank sample, one field blank sample and one MS/MSD sample will be collected and submitted under chain-of-custody control to a NYSDOH ELAP-certified analytical laboratory and tested via ASP protocol for the following:

- TCL VOCs plus TICS
- TCL SVOCs plus TICs
- TAL metals (first 3 quarterly sampling events)
- antimony, arsenic, barium, chromium, magnesium, thallium, and vanadium (annual sampling events completed during years 2 - 3)
- Trip blank will only be tested for TCL VOCs plus TICs.

ANALYTICAL METHOD REFERENCE (*Include document title, method name/number, revision number, date)*
1a. SW846 Method 8260C GCMS Volatiles, August 2006
2a. SW846 Method 8270D GCMS Semivolatiles, August 2006
3a. SW846 Method 6010C, ICP-AES Metals, August 2008
4a. SW846 Methods 7470/7471 CVAA Mercury, February 2007
5a. SW846 Method 9012, Cyanide, November, 2004
ANALYTICAL LABORATORY SOPs (*Include document title, date, revision number, and originator=s name)*
1b. 90.0012, Revision 13, 9/7/12
2b. 70.0011, Revision 11, 7/18/12
3b. 100.0111, Revision 14, 1/28/15
4b. 100.0012, Revision 11, 2/12/15
5b. 100.0004, Revision 9, 5/13/13
FIELD SAMPLING SOPs (*Include document title, date, revision number, and originator's name)*
1c. Field Sampling and Decontamination SOP, Day Environmental, Inc.
2c. NYSDEC DER-10/Technical Guidance for Site Investigation and Remediation

APPENDIX G – QUALITY ASSURANCE PROJECT PLAN

QAPP TABLE OF CONTENTS

1.0 INTRODUCTION

This project-specific Quality Assurance Project Plan (QAPP) was prepared in accordance with Section 2.4 of the New York State Department of Environmental Conservation (NYSDEC) document titled *DER-10, Technical Guidance for Site Investigation and Remediation* dated May 2010 (DER-10). This QAPP provides quality assurance/quality control (QA/QC) protocols and guidance that are to be followed when conducting sampling and analysis as part of the long term monitoring program, or during intrusive work requiring media monitoring, at the property addressed as 211 Franklin Street, Olean, New York (Site). The QAPP also provides procedures to be used during sampling of environmental media, other field activities, and the analytical laboratory testing of samples. The components of the QAPP are provided herein.

1.1 Project Scope and Project Goals

The QAPP applies to the aspects of the project associated with the collection of field data, the collection and analytical laboratory testing of field samples and QA/QC samples, and the evaluation of the quality of the data that is generated. Specifically, the investigation will include a geophysical survey, passive soil gas testing, utility assessment, surface soil sampling, soil borings and subsurface soil sampling, monitoring well installation and groundwater sampling, aquifer physical characteristic evaluations, an underground storage tank (UST) excavation and removal, and a basement/vault assessment that may include confined space entry. A summary of the anticipated number, type, and test parameters to be submitted for analytical laboratory testing is provided in Table 1. Detailed discussions of the project scope and project goals are provided in the RI/RAA Work Plan. In general, the project goal is to obtain sufficient information to characterize the nature and extent of contamination at the Site sufficiently to develop remedial alternatives for the Site.

2.0 QUALITY ASSURANCE/QUALITY CONTROL

As part of this QAAP, QA/QC protocol and procedures have been developed and are described below. The objective of the QA/QC protocol and procedures is to ensure that the information, data, and decisions associated with this project are technically sound and properly documented. The QA/QC protocol and procedures also pertain to the collection, evaluation, and review of activities and data that are part of this project.

2.1 Operation and Calibration of On-Site Monitoring Equipment

On-site monitoring equipment will play a significant role in meeting the long term monitoring objectives and to determine the appropriate personal protective equipment (PPE) as noted in the health and safety plan (HASP). The on-site, monitoring equipment may include volatile organic compound (VOC) monitors, particulate monitors, air quality monitors, oil/water interface probes, an electronic static water level indicator; water quality monitors, and global position system (GPS) instrumentation. Operation and calibration of on-site monitoring equipment that are anticipated for use during the RI are discussed below.

*2.1.1 **VOC Monitoring Equipment***

Real-time monitoring for VOCs will be conducted to evaluate the onsite groundwater monitoring wells prior to sample collection, and to monitoring chemical containers and background VOC levels when completing the chemical product inventory prior to the periodic indoor air monitoring events.. The primary field instrument for monitoring VOCs during the RI will be a photoionization detector (PID). It is anticipated that a Minirae 2000 PID (or equivalent) equipped with a 10.7 eV lamp, or a MiniRae PPB RAE PID will be used during this project. An accredited firm/testing laboratory will calibrate the equipment on a yearly basis. During fieldwork, the PID will be calibrated on a daily basis in accordance with the manufacturer's specifications. Isobutylene gas will be used to calibrate the PID prior to use and as necessary during fieldwork.

*2.1.2 **Particulate Monitoring Equipment***

Particulate monitoring will be conducted during intrusive activities as noted in the Community Air Monitoring Plan (CAMP) portion of the HASP. It is anticipated that the particulate air monitoring will be conducted using a real-time aerosol monitor (RATM) particulate meter. An accredited firm/testing laboratory will calibrate the equipment on a yearly basis. During fieldwork, the particulate meter will be regularly calibrated in accordance with the manufacturer's specifications. Measurements will be collected along the upwind perimeter of the intrusive investigation activities to determine the amount of particulates naturally occurring in the air (i.e., background concentrations) as per the requirements of the CAMP.

*2.1.3 **Carbon Monoxide and Oxygen Monitoring Equipment***

Carbon Monoxide (CO) and Oxygen (O_2) monitoring will be conducted during intrusive activities in interior locations as noted in the Community Air Monitoring Plan (CAMP) portion of the HASP. An accredited firm/testing laboratory will calibrate the equipment on a yearly basis. During fieldwork, the particulate meter (such as a RAE QRAE II, or similar) will be regularly calibrated in accordance with the manufacturer's specifications. Measurements will be collected along the perimeter of the intrusive investigation activities to determine the background concentrations of O_2 and CO as per the requirements of the CAMP.

*2.1.4 **Global Positioning System Equipment***

A GPS unit will be used to obtain the precise locations of sampling points and significant site features. It is anticipated that a Trimble GeoXH will be used during this project. The GPS location accuracy of less than 1 horizontal foot is the data quality objective for this project. The GPS unit will be calibrated as needed in accordance with the manufacturer's specifications. The GPS location data will be projected using a coordinate system and datum relevant to the region of the Site (e.g., NAD 1983 State Plane New York West).

2.1.5 Miscellaneous Field Monitoring Equipment

Several other pieces of miscellaneous field monitoring equipment will be used as part of the project including:

- An electronic static water level indicator;
- An oil/water interface meter, and;
- A Horiba U-22 water quality meter that measures pH, specific conductivity, temperature, dissolved oxygen, oxygen-reduction potential, and turbidity.

These meters will be calibrated, operated, and maintained in accordance with the manufacturer's instructions.

2.2 Indoor Air Sampling

Indoor air sampling will be conducted, in the approximate locations depicted on Figure 9 of the SMP, to evaluate soil vapors that may be present below the floor slab of the manufacturing facility at the Site. The sampling will be conducted in accordance with the New York State Department of Health (NYSDOH) Guidance for evaluation Soil Vapor Intrusion in the State of New York, Dated October 2006. Indoor air samples will be collected concurrently over an 8-hour period (i.e., to replicate the typical period of

occupancy of the building) using Summa Canisters. In addition, one outdoor background air sample will be collected over the same approximate 8-hour period from an exterior location positioned approximately five feet above the ground surface, from a location positioned upwind of the Site (the specific location will be determined during the sampling event). The summa canisters designated to collect the indoor air and outdoor background air samples will be configured for low-level/SIM sample analysis. The Suma Canister air/vapor intake rates will be controlled with pre-calibrated regulators supplied by the analytical laboratory. In addition, vacuum gauges will be connected to the regulators in order to monitor the Summa Canister for proper operation (i.e., slow changes in vacuum) on an hourly basis. The Summa Canister samples collected will be delivered under chain-of-custody control to a NYSDOH ELAP-certified laboratory for analysis of VOCs using USEPA Method TO-15.

2.3 Well Development

In the event that it is necessary to re-develop one or more of the existing monitoring wells prior to completing a periodic groundwater monitoring event, the following procedure will be followed. Monitoring wells will be developed by utilizing either a new dedicated disposable bailer with dedicated cord, and/or a pump and dedicated disposable tubing depending on the field conditions. No fluids will be added to the wells during development without prior approval of the NYSDEC, and well development equipment will be decontaminated prior to development of each well.

The well development procedure is listed below:

- Obtain pre-development static water level and oil/water interface reading for presence of LNAPL or DNAPL using a Heron Model HO1.L oil/water interface probe or similar instrument;
- Calculate water/sediment volume in the well;
- Obtain initial field water quality measurements (e.g., pH, specific conductivity, turbidity, temperature, and PID readings). The pH, specific conductivity, turbidity and temperature readings will be obtained using Horiba U-22 water quality meter (or similar equipment);
- Select development method and set up equipment depending on method used;
- Alternate water agitation methods (e.g., moving a bailer or pump tubing up and down inside the screened interval) and water removal methods (e.g., pumping or bailing) in order to suspend and remove solids from the well;
- Obtain field water quality measurements for every two to five gallons of water removed. Record water quantities and rates removed;

- Stop development when the following water quality criteria are met and at least 10 well volumes have been removed;
    - Water is clear and free of sediment and turbidity is less than 50 nephelometric turbidity units (NTUs);
    - pH is ±0.1 standard unit between readings;
    - Specific conductivity is ±3% between readings, and;
    - Temperature is ±10% between readings.
    - Obtain post-development water level readings; and
    - Document development procedures, measurements, quantities, etc.

Pertinent information for each well will be recorded on well development logs

2.4 Groundwater Sampling Procedure

Groundwater samples will be collected by utilizing a low-flow pump. Each groundwater monitoring event will consist of the following activities, which will be documented as necessary to provide a record of the work completed:

- Prior to purging and sampling, static water level measurements will be taken from each well included in the long-term groundwater monitoring system using an oil/water interface meter. The presence of LNAPL will be evaluated by using visual observations and the oil/water interface meter at each well location.

- In order to minimize the potential re-suspension of solids in the bottom of the well, well depths will not be measured prior to or during low-flow purging and sampling. Well depth information will be obtained from: 1) measurements collected during well development; 2) from well logs; or 3) will be measured after sampling is completed.

- Subsequent to obtaining static water level measurements and monitoring the wells for free LNAPL, the following low-flow purge and sample techniques will be used to collect a groundwater sample from each well:

    - A portable bladder pump connected to new disposable polyethylene tubing will be lowered and positioned at or slightly above the mid-point of the water column within the well screen when the screened interval is set in relatively homogeneous material. When the screened interval is set in heterogeneous materials, the pump will be positioned adjacent to the zone of highest hydraulic conductivity (as defined by geologic samples). Care will be taken to install and lower the bladder pump slowly in order to minimize disturbance of the water column.

- The pump will be connected to a control box that is operated on compressed gas (nitrogen, air, etc.) and is capable of varying pumping rates. An in-line flow-through cell attached to a Horiba U-22 water quality meter (or similar equipment) will be connected to the bladder pump effluent tubing to measure water quality data.

- The pump will be started at a pumping rate of 100 ml/min or less (for pumps that can not achieve a flow rate this low, the pump will be started at the lowest pump rate possible). The water level in the well will be measured and the pump rate will be adjusted (i.e., increased or decreased) until the drawdown is stabilized. In order to establish the optimum flow-rate for purging and sampling, the water level in the well will be measured on a periodic basis (i.e., every one or two minutes) using an electronic water level meter or an oil/water interface meter. When the water level in the well has stabilized (i.e., use goal of <0.33 ft. of constant drawdown), the water level measurements will be collected less frequently.

- While purging the well at the stabilized water level, water quality indicator parameters will be monitored on a three to five minute basis with the Horiba U-22 water quality meter (or similar equipment). Water quality indicator parameters will be considered stabilized when the parameter readings listed below are generally achieved after three consecutive readings:

  - pH (+ 0.1);
  - specific conductance (+ 3%);
  - dissolved oxygen (+ 10 %);
  - oxidation-reduction potential (+ 10 mV);
  - temperature (+ 10%); and
  - turbidity (+ 10%, when turbidity is greater than 10 NTUs)

- Following stabilization of the water quality parameters, the flow-through cell will be disconnected and a groundwater sample will be collected from the bladder pump effluent tubing. The pumping rate during sampling will remain at the established purging rate or it may be adjusted downward to minimize aeration, bubble formation, or turbulent filling of sample containers. A pumping rate below 250 ml/min will be used when collecting VOC samples.

- The procedures and equipment used during the purging and groundwater sampling, and the field measurement data obtained, will be documented in the field and recorded on Monitoring Well Sampling Logs.

- During sampling, the following parameters will be measured using a water quality meter(s) and will later be presented on Monitoring Well Sampling Logs:

  - Dissolved Oxygen (DO)
  - Conductivity
  - Oxidation/Reduction Potential (redox)
  - pH
  - Temperature
  - Turbidity

The procedures and equipment used during the purging and groundwater sampling, and the field measurement data obtained, will be documented in the field and recorded on Monitoring Well Sampling Logs.

3.0 EQUIPMENT DECONTAMINATION PROCEDURES

In order to reduce the potential for cross-contamination of samples collected during this project, the following procedures will be implemented to ensure that the data collected (primarily the laboratory data) is acceptable.

It is anticipated that most of the materials used to assist in obtaining samples will be disposable one-time use materials (e.g., sampling containers, pump tubing, latex gloves, etc.). However, when equipment must be re-used (e.g., static water level indicator, split bladder pump, etc.), it will be decontaminated by at least one of the following methods:

- Steam clean the equipment within a dedicated decontamination area; or
- Rough wash in tap water; wash in mixture of tap water and Alconox-type soap; double rinse with deionized or distilled water; and air dry and/or dry with clean paper towel.

The effectiveness of the equipment decontamination of non-dedicated sampling equipment such as the low flow bladder pump will be evaluated via analytical laboratory testing of field blanks (e.g., rinsate samples). Decontamination liquids and disposable equipment and PPE will be containerized and left on-site until a proper disposal method is determined.

4.0 SAMPLE HANDLING AND CUSTODY REQUIREMENTS

During sampling activities, personnel will wear disposable latex or nitrile gloves. Between collection of samples, personnel performing the sampling will discard used latex gloves and put on new gloves to preclude cross-contamination between samples. As few personnel as possible will handle samples or be in charge of their custody prior to shipment to the analytical laboratory.

New laboratory-grade sample containers will be used to collect samples. Sufficient volume will be collected to ensure that the laboratory has adequate sample volume to perform the specified analyses. Samples with zero headspace will be collected when VOC analysis is going to be performed. Samples will be kept on ice in a cooler for shipment to the analytical laboratory.

Samples will be preserved as specified by the analytical laboratory for the type of parameters and matrices being tested. The required amount of preservatives will be added by the analytical laboratory to the sample containers prior to delivery to the Site. The sample preservation requirements and holding times will be in accordance with the NYSDEC ASP requirements.

4.1 Chain-Of-Custody

Samples that are collected for subsequent testing as part of this project will be handled using chain-of-custody control. Chain-of-custody documentation will accompany samples from their inception to their analysis, and copies of chain-of-custody documentation will be included with the laboratory's report. The chain-of-custody will include the date and time the sample was collected, the sample identity and sampling location, the requested analysis, and any request for accelerated turnaround time.

4.2 Sample Labels

Sample labels for field samples and QC samples with adhesive backing will be placed on sample containers in order to identify the sample. Sample information will be clearly written on the sample labels using waterproof ink. Sufficient sample information will be provided on the label to allow for cross-reference with the field sampling records or sample logbook.

The following information will be provided on each sample label:

Name of company;
Initials of sampler;
Date and time of collection;

Sample identification;
Intended analyses; and
Preservation required.

4.3 Custody Seals

Custody seals are preprinted adhesive-backed seals that are designed to break if disturbed. Seals will be signed and dated before being placed on the shipping cooler. Seals will be placed on one or more location on each shipping cooler as necessary to ensure security. Shipping tape will be placed over the seals on the coolers to ensure that the seals are not accidentally broken during shipment. Sample receipt personnel at the laboratory will check and document whether the seals on the shipping coolers are intact when received.

4.4 Sample Identification

The following format will be used on the labels affixed to sample containers to identify samples:

The sample test location will be provided using the following test location designations:

IA-xx Indoor Air Sample

MW-Axx/xx/xx Groundwater sample with monitoring well letter and month / day /year

TBxx/xx/xx- Trip Blank sample with month/day /year

FBxx/xx/xx- Field Blank sample (rinsate) with month/day /year

As an example, assuming the first project sample is a groudwater sample collected from a monitoring well MW-B on July 1, 2020, the sample will be designated as MW-A_07/01/20.

4.5 Transportation of Samples

Samples will be handled, packaged and shipped in accordance with applicable regulations, and in a manner that does not diminish their quality or integrity. Samples will be delivered to the laboratory within the holding times indicated for the specific analysis and sample media.

5.0 ANALYTICAL LABORATORY QUALITY ASSURANCE/QUALITY CONTROL

The ELAP-certified analytical laboratory test results will be reported in NYSDEC Analytical Services Protocol (ASP) Category B deliverable reports. Analytical laboratory test results for soil samples will be reported on a dry-weight basis. The ELAP-certified analytical laboratory will make every effort to analyze the samples using the lowest practical quantitation limits (PQLs) possible for air and groundwater samples . In addition, analytical laboratory results will be provided to the NYSDEC using the NYSDEC's Equis Format.

The ELAP-certified analytical laboratory will provide internal QA/QC checks that are required by NYSDEC ASP and/or USEPA contract laboratory protocol (CLP) protocol, such as analyses performed, spike blanks, internal standards, surrogate samples, calibration standards, and reference standards. Laboratory results will be compared to data quality indicators in accordance with the ELAP-certified analytical laboratory QAP/SOP and the NYSDEC ASP.

In order to provide control over the collection, analysis, review, and interpretation of analytical laboratory data, the following QA/QC samples will be included as part of this project.

- During each periodic groundwater monitoring event, one trip blank sample, one field blank sample (i.e., equipment rinsate sample) and one matrix spike/matrix spike duplicate (MS/MSD) sample will be collected and submitted under chain-of-custody control and tested via ASP protocol for TCL VOCs plus TICS, TCL SVOCs plus TICs and TAL metals (except the trip blank, which would only be tested for TCL VOCs plus TICs).
- During each periodic indoor air monitoring event, one outdoor background air sample will be collected over the same approximate 8-hour period from an upwind exterior location positioned approximately five feet above the ground surface (the specific location will be determined during the sampling event). The outdoor background air sample will be tested using the low-level technique analysis for USEPA Method TO-15.

5.1 Data Usability Summary Report

A qualified data validator will be retained to complete a data usability summary report (DUSR) on the Category B deliverables analytical laboratory data that is generated as part of the long term monitoring program. The DUSR will be conducted in accordance with the provisions set forth in Appendix 2B of *DER-10, Technical Guidance for Site Investigation and Remediation* dated May 2010. The findings of the DUSR will be

incorporated in the periodic review report and will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method.

5.2 Reporting

Analytical and QC data will be included in the periodic review report. The periodic review report will summarize the environmental work and provide evaluation of the data that is generated, including the validity of the results in the context of QA/QC procedures.

6.0 RECORD KEEPING AND DATA MANAGEMENT

SMP monitoring activities will be documented in a bound field book on a daily basis. Information that will be recorded in the field book will include:

- Dates and time work is performed;
- Details on work being performed;
- Details on field equipment being used;
- Field evidence of contamination such as staining, odors, degree of saturation, etc.
- Field meter measurements collected during monitoring activities;
- Sampling locations and depths measured in tenths of feet;
- Measurements of sample locations, and test locations, excavations, etc.;
- Personnel and equipment on-site;
- Weather conditions; and
- Other pertinent information as warranted.

In addition, the field notes will be converted into logs for each sampling and monitoring event completed as part of the SMP.

Differential GPS, swing ties from existing surveyed site structures, and/or a licensed surveyor will be used to collect spatial data. The spatial data will be plotted using integrated GIS and/or computer-aided design (CAD) mapping.

7.0 ACRONYMS

ASP	Analytical Services Protocol
ASTM	American Society for Testing and Materials
CAD	Computer-Aided Design
CAMP	Community Air Monitoring Plan
CLP	Contract Laboratory Protocol
DNAPL	Dense Non-Aqueous Phase Liquid
DUSR	Data Usability Summary Report
ELAP	Environmental Laboratory Approval Program
GPS	Global Positioning System
HASP	Health and Safety Plan
IDW	Investigation-Derived Waste
LFL	Lower Flammable Limit
LNAPL	Light Non-Aqueous Phase Liquid
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NAD	North American Datum
NAPL	Non-Aqueous Phase Liquid
NTU	Nephelometric Turbidity Units
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OSHA	Occupational Safety and Health Administration
PID	Photoionization Detector
PPE	Personal Protective Equipment
PQL	Practical Quantitation Limit
PVC	Polyvinyl Chloride
QAP	Quality Assurance Plan
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
RQL	Reported Quantitation Limit
RTAM	Real-Time Aerosol Monitor
SOP	Standard Operating Procedure
SMP	Site Management Plan
SVOC	Semi-Volatile Organic Compounds
TCL	Target Compound List
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

APPENDIX H – HEALTH AND SAFETY PLAN

TABLE OF CONTENTS

ATTACHMENTS

1.0 INTRODUCTION

Day Environmental, Inc. (DAY) prepared this Health and Safety Plan (HASP) to outline policies and procedures to protect workers and the public from potential environmental hazards during the remediation activities to be conducted at the property addressed 211 Franklin Street, City of Olean, County of Cattaraugus, New York (the Site). Figure 1 depicts the general location of the Site.

Although the HASP focuses on the specific work activities planned for the Site, it must remain flexible due to the nature of this work. Conditions may change and unforeseen situations can arise that require deviations from the original HASP.

1.1 SITE HISTORY/OVERVIEW

The Site is located in an industrial-use area in the City of Olean, Cattaraugus County, New York. The Site is bounded to the north by Franklin Street with vacant land, a parking lot and playground/baseball field beyond, to the east by vacant land and residential housing beyond, to the south by railroad lines and West Pine Street beyond, and to the west by railroad lines and industrial use properties beyond. The Site is improved with a building that operates as a manufacturing facility for resins, epoxies and related materials. Specific information regarding current structures is provided below.

- ☐ 211 Franklin Street (SBL #94.040-1-21): An approximate 5.54-acre parcel of land, improved with an approximate 280,000-square foot, two-story industrial building with a partial basement.

Day Environmental, Inc. (DAY) completed various studies at the Site, which are summarized in a document titled Remedial Investigation/Alternatives Analysis (RIAA) Report, 211 Franklin Street, City of Olean, Cattaraugus County, New York, BCP #C905038 dated January 2015 (revised April 10, 2015). The contaminants of concern (COCs) identified at the Site during the studies completed to date are listed below in Section 4.1.

PLANNED ACTIVITIES COVERED BY HASP

This HASP is intended to be used during on-Site activities that have the potential to disturb subsurface media that contains residual contamination. Currently, identified activities include:

- ☐ Repairing existing asphalt-paved, concrete covered and soil cover system;
- ☐ Conducting long-term groundwater monitoring;

This HASP can be modified to cover other site activities as deemed appropriate. The owner of the property, its contractors, and other site workers will be responsible for the development and/or implementation of health and safety provisions associated with site activities.

2.0 KEY PERSONNEL AND MANAGEMENT

The Project Manager (PM) and Site Safety Officer (SSO) are responsible for formulating health and safety requirements, and implementing the HASP.

2.1 PROJECT MANAGER

The PM has the overall responsibility for the project and will coordinate with the SSO to ensure that the goals of the project are attained in a manner consistent with the HASP requirements.

2.2 SITE SAFETY OFFICER

The SSO has responsibility for administering the HASP relative to site activities, and will be in the field while activities are in progress. The SSO's operational responsibilities will be monitoring, including personal and environmental monitoring, ensuring personal protective equipment (PPE) maintenance, and identification of protection levels. The air monitoring data obtained by the SSO will be available for review by regulatory agencies and other on-site personnel.

2.3 EMPLOYEE SAFETY RESPONSIBILITY

Each employee is responsible for personal safety as well as safety of others in the area. The employee will use the equipment provided in a safe and responsible manner as directed by the SSO.

2.4 KEY SAFETY PERSONNEL

The following individuals are anticipated to share responsibility for health and safety of DAY representatives at the Site.

DAY Project Manager	Raymond Kampff
DAY Site Safety Officer	Samantha Shoemaker or Charles Hampton

3.0 SAFETY RESPONSIBILITY

Contractors, consultants, state or local agencies including the site owner, or other parties, and their employees that enter the Site will be responsible for their own safety while on-site and must adopt this HASP to cover their own work, or prepare their own HASP that is as protective as this HASP and is reviewed by the NYSDEC and the New York State Department of Health (NYSDOH).

4.0 JOB HAZARD ANALYSIS

There are many hazards associated with environmental work on a site, and this HASP discusses some of the anticipated hazards for this Site. The hazards listed below deal specifically with those hazards associated with the management of potentially contaminated media (e.g. soil, fill, etc.).

4.1 CHEMICAL HAZARDS

Chemical substances can enter the unprotected body by inhalation, skin absorption, ingestion, or injection (i.e., a puncture wound, etc.). A contaminant can cause damage to the point of contact or can act systemically, causing a toxic effect at a part of the body distant from the point of initial contact.

A list of selected constituents that have been detected at the Site (and the media in which detected) at concentrations that exceed soil or groundwater standards criteria and guidance (SCG) values (or have the potential to exceed NYSDOH indoor air standards), are presented below. This list also presents the Occupational Safety and Health Administration (OSHA) permissible exposure limits (PELs), National Institute for Occupational Safety and Health (NIOSH) recommended exposure limits (RELs), and NIOSH immediately dangerous to life or health (IDLH) levels.

CONSTITUENT	MEDIA	OSHA PEL	NIOSH REL	IDLH
tert-butylbenzene	Groundwater	NA	NA	NA
Acetone	Groundwater	2400 mg/m^3	590 mg/m^3	2500 ppm
Arsenic	Soil	0.01 mg/m^3	0.002 mg/m^3	5 mg/m^3
Barium	Groundwater	0.5 mg/m^3	0.5 mg/m^3	50 mg/m^3
Beryllium	Groundwater	0.002 mg/m^3	0.0005 mg/m^3	4 mg/m^3
Benzo(a)anthracene	Soil	0.2 mg/m^3	0.1 mg/m^3	80 mg/m^3
Benzo(a)pyrene	Soil	0.2 mg/m^3	0.1 mg/m^3	80 mg/m^3
Benzo(b)fluoranthene	Soil			
Cadmium	Soil	0.005 mg/m^3	NA	9 mg/m^3
Chromium	Groundwater	1 mg/m^3	0.5 mg/m^3	250 mg/m^3
Copper	Soil	1 mg/m^3	1 mg/m^3	100 mg/m^3
Dibenzo(a,h)anthracene	Soil			
Hexachlorobenzene	Soil	10 mg/m^3	10 mg/m^3	3000 mg/m^3
Indeno(1,2,3-cd)pyrene	Soil			
Iron[1]	Groundwater	10 mg/m^3	5 mg/m^3	2500 mg/m^3
Lead	Soil	0.05 mg/m^3	0.05 mg/m^3	100 mg/m^3

[1] Iron Oxide dust and fume (as Fe)

Magnesium	Groundwater	15 mg/m^3	NA	750 mg/m^3
Manganese	Groundwater	5 mg/m^3	1 mg/m^3	500 mg/m^3
Mercury	soil	0.1 mg/m^3	0.1 mg/m^3	10 mg/m^3
Sodium	Groundwater	NA	NA	NA
Nickel	Soil	1 mg/m^3	0.015 mg/m^3	10 mg/m^3
Polychlorinated Biphenyls (PCBs)	Soil	0.5 mg/m^3	0.001 mg/m^3	5 mg/m^3
Selenium	Groundwater	0.2 mg/m^3	0.2 mg/m^3	1 mg/m^3
Tetrachloroethene (PCE)	Soil vapor	678 mg/m^3	NA	1070 mg/m^3
Thallium	Groundwater	0.1 mg/m^3	0.1 mg/m^3	15 mg/m^3
Trichloroethene (TCE)	Soil vapor	537 mg/m^3	NA	5370 mg/m^3
Zinc	Soil	5 mg/m^3	5 mg/m^3	500 mg/m^3

NA = Not Available

The potential routes of exposure for these analytes and chemicals include inhalation, ingestion, skin absorption and/or skin/eye contact. The potential for exposure through any one of these routes will depend on the activity conducted. The most likely routes of exposure for these activities that are performed during environmental activities at the Site include inhalation and skin/eye contact.

4.2 Physical Hazards

There are physical hazards associated with this project, which might compound the chemical hazards. Hazard identification, training, adherence to the planned environmental measures, and careful housekeeping can prevent many problems or accidents arising from physical hazards. Potential physical hazards associated with this project and suggested preventative measures include:

- ☐ Slip/Trip/Fall Hazards – Some areas may have wet or frozen surfaces that will greatly increase the possibility of inadvertent slips. Caution must be exercised when using steps and stairs due to slippery surfaces in conjunction with the fall hazard. Good housekeeping practices are essential to minimize the trip hazards.
- ☐ Small Quantity Flammable Liquids – Small quantities of flammable liquids will be stored in "safety" cans and labeled according to contents.
- ☐ Electrical Hazards – Electrical devices and equipment shall be de-energized prior to working near them. All extension cords will be kept out of water, protected from crushing, and observed regularly to ensure structural integrity. Temporary electrical circuits will be protected with ground fault circuit interrupters. Only qualified electricians are authorized to work on electrical circuits. Heavy equipment (e.g., excavator, backhoe, drill rig) shall not be operated within 10 feet of high voltage lines, unless proper protection form the high voltage lines is provided by the appropriate utility company.

- ☐ Noise – Work around large equipment often creates excessive noise. The effects of noise can include:
  - Workers being startled, annoyed, or distracted.
  - Physical damage to the ear resulting in pain, or temporary and or/permanent hearing loss.
  - Communication interference that may increase potential hazards due to the inability to warn of danger and proper safety precautions to be taken.

  Proper hearing protection will be worn as deemed necessary. In general, feasible administrative or engineering controls shall be utilized when on-site personnel are subjected to noise exceeding an 8-hour time weighted average (TWA) sound level of 90 decibels on the A-weighted scale (dBA). In addition, whenever employee noise exposures equal or exceed an 8-hour TWA sound level of 85 dBA, employers shall administer a continuing, effective hearing conservation program as described in the OSHA Regulation 29 Code of Federal Rules (CFR) Part 1910.95.
- ☐ Heavy Equipment – Each morning before start-up, heavy equipment will be checked to ensure safety equipment and devices are operational and ready for immediate use.
- ☐ Subsurface and Overhead Hazards – Before any excavation activity, efforts will be made to determine whether underground utilities and potential overhead hazards will be encountered. Underground utility clearance must be obtained prior to subsurface work.

4.2 ENVIRONMENTAL HAZARDS

Environmental factors such as weather, wild animals, insects, snakes and irritant plants can pose a hazard when performing outdoor tasks. The SSO shall make reasonable efforts to alleviate these hazards should they arise.

4.3.1 Heat Stress

The combination of warm ambient temperature and protective clothing increases the potential for heat stress. In particular,

- ☐ Heat rash
- ☐ Heat cramps
- ☐ Heat exhaustion
- ☐ Heat stroke

Site workers will be encouraged to increase consumption of water or electrolyte-containing beverages such as Gatorade® when the potential for heat stress exists. In addition, workers are encouraged to take rests whenever they feel any adverse effects that may be heat-related. The frequency of breaks may need to be increased upon worker recommendation to the SSO.

4.3.2 Exposure to Cold

With outdoor work in the winter months, the potential exists for hypothermia and frostbite. Protective clothing greatly reduces the possibility of hypothermia in workers. However, personnel will be instructed to wear warm clothing and to stop work to obtain more clothing if they become too cold. Employees will also be advised to change into dry clothes if their clothing becomes wet from perspiration or from exposure to precipitation.

5.0 SITE CONTROLS

5.1 SITE CONTROL ZONES

In the area where contaminated materials present the potential for worker exposure (work zone), personnel entering the area must wear the mandated level of protection for the area. A "transition zone" shall be established where personnel can begin and complete personal and equipment decontamination procedures. This can reduce potential off-site migration of contaminated media. Contaminated equipment or clothing will not be allowed outside the transition zone (e.g., on clean portions of the Site) unless properly containerized for disposal. Operational support facilities will be located outside the transition zone (i.e., in a "support zone"), and normal work clothing and support equipment are appropriate in this area. If possible, the support zone should be located upwind of the work zone and transition zone.

5.2 GENERAL

The following items will be requirements to protect the health and safety of workers during implementation of activities that disturb contaminated material.

- ☐ Eating, drinking, chewing gum or tobacco, smoking, or any practice that increased the probability of hand to mouth transfer and ingestion of contamination shall not occur in the work zone and/or transition zone during disturbance of contaminated material.
- ☐ Personnel admitted in the work zone shall be properly trained in health and safety techniques and equipment usage.
- ☐ No personnel shall be admitted in the work zone without the proper safety equipment.
- ☐ Proper decontamination procedures shall be followed before leaving the Site.

6.0 PROTECTIVE EQUIPMENT

This section addresses the various levels of PPE, which are or may be required at this job site. Personnel entering the work zone and transition zone shall be trained in the use of the anticipated PPE to be utilized.

6.1 ANTICIPATED PROTECTION LEVELS

The following table summarizes the protection levels (refer to Section 6.2) anticipated for tasks to be implemented during this project.

TASK	PROTECTION LEVEL	COMMENTS/MODIFICATIONS
Site mobilization	D	
Site preparation	D	
Intrusive work (e.g., soil excavation, etc.)	C/Modified D/D	Based on air monitoring, and SSO discretion.
Decontamination Area	Modified D/D	
Site breakdown and demobilization	D	

It is anticipated that work conducted as part of this project will be performed in Level D or modified Level D PPE. If conditions are encountered that require Level A or Level B PPE, the work will immediately be stopped. The appropriate government agencies (e.g., City, NYSDEC, NYSDOH, CCHD, etc.) will be notified and the proper health and safety measures will be implemented (e.g., develop and implement engineering controls, upgrade in PPE, etc.). If conditions are encountered that require Level C PPE, the work will be temporarily suspended and the work site will be evaluated to limit exposure prior to implementing Level C PPE.

6.2 PROTECTION LEVEL DESCRIPTIONS

This section lists the minimum requirements for each protection level. Modifications to these requirements can be made upon approval of the SSO. If Level A, Level B, and/or Level C PPE is required, Site personnel that enter the work zone and/or transition zone must be properly trained and certified in the use of those levels of PPE.

6.2.1 Level D

Level D consists of the following:

- ☐ Safety glasses
- ☐ Hard hat when working with heavy equipment
- ☐ Steel-toed or composite-toed work boots

- ☐ Protective gloves during sampling or handling of potentially contaminated media
- ☐ Work clothing as prescribed by weather

6.2.2 Modified Level D

Modified Level D consists of the following:

- ☐ Safety glasses with side shields
- ☐ Hard hat when working with heavy equipment
- ☐ Steel-toed or composite-toed work boots
- ☐ Protective gloves during sampling or handling of potentially contaminated media
- ☐ Outer protective wear, such as Tyvek coverall [Tyveks (Sarans) and polyvinyl chloride (PVC) acid gear will be required when workers have a potential to be exposed to impacted liquids or impacted particulates].

6.2.3 Level C

Level C consists of the following:

- ☐ Air-purifying respirator with appropriate cartridges
- ☐ Outer protective wear, such as Tyvek coverall [Tyveks (Sarans) and PVC acid gear will be required when workers have a potential to be exposed to impacted liquids or particulates].
- ☐ Hard hat when working with heavy equipment
- ☐ Steel-toed or composite-toed work boots
- ☐ Nitrile, neoprene, or PVC overboots, if appropriate
- ☐ Nitrile, neoprene, or PVC gloves, if appropriate
- ☐ Face shield (when projectiles or splashes pose a hazard)

6.2.4 Level B

Level B protection consists of the items required for Level C protection with the exception that an air-supplied respirator is used in place of the air-purifying respirator. Level B PPE is not anticipated to be required during this project. If the need for level B PPE becomes evident, activities in the affected area will be stopped until conditions are further evaluated, and any necessary modifications to the HASP have been approved by the PM and SSO. Subsequently, the appropriate safety measures (including Level B PPE) must be implemented prior to commencing site activities.

6.2.5 Level A

Level A protection consists of the items required for Level B protection with the addition of a fully-encapsulating, vapor-proof suit capable of maintaining positive pressure. Level A PPE is not anticipated to be required during this project. If the need for level A PPE becomes evident, activities in the affected area will be stopped until conditions are further evaluated, and any necessary modifications to the HASP have been approved by the PM and SSO. Subsequently, the appropriate safety measures (including Level A PPE) must be implemented prior to commencing site activities.

6.3 RESPIRATORY PROTECTION

Any respirator used will meet the requirements of the OSHA 29 CFR 1910.134. Both the respirator and cartridges specified shall be fit-tested prior to use in accordance with OSHA regulations (29 CFR 1910). Air purifying respirators shall not be worn if contaminant levels exceed designated use concentrations. The workers will wear respirators with approval for: organic vapors less than 1,000 ppm; and dusts, fumes and mists with a TWA less than 0.05 milligrams per cubic meter (mg/m^3).

No personnel who have facial hair, which interferes with respirator sealing surface, will be permitted to wear a respirator and will not be permitted to work in areas requiring respirator use.

Only workers who have been certified by a physician as being physically capable of respirator usage shall be issued a respirator. Personnel unable to pass a respiratory fit test or without medical clearance for respirator use will not be permitted to enter or work in areas that require respirator protection.

7.0 DECONTAMINATION PROCEDURES

This section describes the procedures necessary to ensure that both personnel and equipment are free from contamination when they leave the work site.

7.1 PERSONNEL DECONTAMINATION

Personnel involved with activities that involve disturbing contaminated media will follow the decontamination procedures described herein to ensure that material which workers may have contacted in the work zone and/or transition zone does not result in personal exposure and is not spread to clean areas of the Site. This sequence describes the general decontamination procedure. The specific stages can vary depending on the Site, the task, and the protection level, etc.

1. Leave work zone and go to transition zone
2. Remove soil/debris from boots and gloves
3. Remove boots
4. Remove gloves
5. Remove Tyvek suit and discard, if applicable
6. Remove and wash respirator, if applicable

1.1 Go to support zone

7.2 EQUIPMENT DECONTAMINATION

Decontamination procedures for equipment are presented as Section 4.0 of the Quality Assurance Project Plan (QAPP).

7.3 DISPOSAL

Disposable clothing will be disposed in accordance with applicable regulations. Liquids (e.g., decontamination water, etc.) or solids (e.g., soil) generated by remedial activities will be disposed in accordance with applicable regulations.

8.0 AIR MONITORING

During activities that have the potential to disturb contaminated soil, fill material, or groundwater, air monitoring will be conducted in order to determine airborne particulate and contamination levels. This ensures that respiratory protection is adequate to protect personnel against the chemicals that are encountered and that chemical contaminants are not migrating off-site. Additional air monitoring may be conducted at the discretion of the SSO. Readings will be recorded and be available for review.

The following chart describes the direct reading instrumentation that will be utilized and appropriate action levels.

Monitoring Device	Action Level	Response/Level of PPE
PID Volatile Organic Compound Meter	< 1 ppm in breathing zone, sustained 5 minutes	Level D
	1-25 ppm in breathing zone, sustained 5 minutes	Cease work, implement measures to reduce air emissions when the work is performed, etc. If levels can not be brought below 1 ppm in the breathing zone, then upgrade PPE to Level C
	26-250 ppm in breathing zone, sustained 5 minutes	Level B, Stop work, evaluate the use of engineering controls, etc.
	>250 ppm in breathing zone	Level A, Stop work, evaluate the use of engineering controls, etc.
RTAM Particulate Meter	< 100 $\mu g/m^3$ over an integrated period not to exceed 15 minutes.	Continue working
	> 100 $\mu g/m^3$	Cease work, implement dust suppression, change in way work performed, etc. If levels can not be brought below 150 $\mu g/m^3$, then upgrade PPE to Level C

8.1 PARTICULATE MONITORING

During activities where contaminated materials (e.g., soil, fill, etc.) may be disturbed, air monitoring will include real-time monitoring for particulates using a real-time aerosol monitor (RTAM) particulate meter at the perimeter of the work zone in accordance with the Final DER-10 Technical Guidance for Site Investigation and Remediation dated May 2010. DER-10 uses an action level of 100 $\mu g/m^3$ (0.10 mg/m^3) over background

conditions for an integrated period not to exceed 15 minutes. If the action level is exceeded, or if visible dust is encountered, then work shall be discontinued until corrective actions are implemented. Corrective actions may include dust suppression, change in the way work is performed, and/or upgrade of personal protective equipment.

8.2 VOLATILE ORGANIC COMPOUND MONITORING

During activities where contaminated materials may be disturbed, a photoionization detector (PID) will be used to monitor total VOCs in the ambient air. The PID will prove useful as a direct reading instrument to aid in determining if current respiratory protection is adequate or needs to be upgraded. The SSO will take measurements before operations begin in an area to determine the amount of VOCs naturally occurring in the air. This is referred to as a background level. Levels of VOCs will periodically be measured in the air at active work sites, and at the transition zone when levels are detected above background in the work zone.

8.3 COMMUNITY AIR MONITORING PLAN

During activities that have the potential to disturb contaminated soil, fill material, or groundwater, this Community Air Monitoring Plan (CAMP) will be implemented. The CAMP includes real-time monitoring for VOCs and particulates (i.e., dust) at the downwind perimeter of each designated work area when activities with the potential to release VOCs or dust are in progress at the Site. This CAMP is based on the NYSDOH Generic CAMP included as Appendix 1A of the NYSDEC document titled *"DER-10, Technical Guidance for Site Investigation and Remediation"* dated May 2010. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences/businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of project activities.

Exterior Investigations

The most significant nearby receptor for exterior work is the residential housing located along North Union Street to the east of the Site. Due to proximity of the houses, at least one of the CAMP stations will be placed between the area of intrusive activities and the receptor. In addition, one CAMP monitoring station will be placed on the downwind Site perimeter, and the upwind Site perimeter will be periodically monitored to obtain background levels. [Note: The specific locations will be determined based upon wind conditions at the time of fieldwork.] A Site Plan depicting potential exterior CAMP station locations is provided on Figure 2.

Interior Investigations

During intrusive work within interior locations, VOCs, particulates and oxygen and carbon monoxide levels will be monitored using temporary monitoring stations at the perimeter of the work zone. Stations will be placed at the discretion of the SSO to best

evaluate potential contamination leaving the work zone or building. No exterior CAMP monitoring will be completed concurrent with interior work.

The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air. Reliance on the CAMP should not preclude simple, common sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Continuous monitoring will be conducted during ground intrusive activities involving potentially contaminated soil, fill material or groundwater. Ground intrusive activities include, but are not limited to, installation of buried utilities, soil excavation, repairs to the cover system, etc.

Periodic monitoring for VOCs will be conducted during non-intrusive activities involving potentially contaminated soil, fill material or groundwater where deemed appropriate (e.g., during collection of groundwater samples, management of derived wastes, etc.).

8.3.1 VOC Monitoring, Response Levels, and Actions

VOCs must be monitored at the downwind perimeter of the immediate work area (i.e., the work zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- ☐ If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 ppm above background for the 15-minute average, work activities must be temporarily halted and monitoring must be continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

- ☐ If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source or vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less (but in no case less than 20 feet), is below 5 ppm over background for the 15-minute average.

- ☐ If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

The 15-minute readings must be recorded and made available for NYSDEC and NYSDOH personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

8.3.2 Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind perimeter of the work zone at temporary particulate monitoring stations. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during work activities.

- ☐ If the downwind PM-10 particulate level is 100 micrograms per cubic meter ($\mu g/m^3$) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 µg/m3 above the upwind level and provided that no visible dust is migrating from the work area.
- ☐ If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 $\mu g/m^3$ above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 $\mu g/m^3$ of the upwind level and in preventing visible dust migration.

Readings will be recorded and made available for review.

8.4 CARBON MONOXIDE AND OXYGEN MONITORING PLAN

Carbon monoxide (CO) and oxygen (O) concentrations will be monitored continuously during activities completed indoors which require the use of equipment that produces exhaust fumes. The monitoring will be completed using a RAE QRAE II unit, or similar, set up at temporary monitoring stations at the perimeters of the work zone and/or in proximity of potential receptors. Concentrations of CO greater than 50 ppm will require discontinuing the work, installation of venting systems or implementing of other engineering controls, and continued monitoring. Areas where concentrations of CO are in exceedance of 100 ppm shall be evacuated immediately. OSHA does not have a PEL for O however, minimum acceptable breathing air contains at least 19.5% O. Concentrations of O below the minimum acceptable value for breathing air will require discontinuing the work, installation of venting systems or implementing of other engineering controls, and continued monitoring. Work will continue only when

concentrations are within the acceptable ranges.adings will be recorded and made available for review.

9.0 EMERGENCY CONTINGENCY PLAN

This section presents the emergency contingency plan (ECP) describing the procedures to be performed in the event of an emergency (e.g., fire, spill, tank/drum release, etc.). To provide first-line assistance to field personnel in the case of illness or injury, the following items will be made immediately available on the Site:

- ☐ First-aid kit;
- ☐ Portable emergency eye wash; and
- ☐ Supply of clean water.

9.1 EMERGENCY TELEPHONE NUMBERS

The following telephone numbers are listed in case there is an emergency at the Site:

Fire/Police Department:	911
Poison Control Center:	(800) 222-1222

9.2 EVACUATION

During activities involving potential disturbance of contaminated soil, fill material, or groundwater, a log of each individual entering and leaving the Site will be kept for emergency accounting practices. Although unlikely, it is possible that a site emergency could require evacuating personnel from the Site. If required, the SSO will give the appropriate signal for site evacuation (i.e., hand signals, alarms, etc.).

All personnel shall exit the Site and shall congregate in an area designated by the SSO. The SSO shall ensure that all personnel are accounted for. If someone is missing, the SSO will alert emergency personnel. The appropriate government agencies will be notified as soon as possible regarding the evacuation, and any necessary measures that may be required to mitigate the reason for the evacuation.

NYSDEC	
Region 9: Environmental Remediation	(716) 851-7220
Spill Hotline	(800) 457-7362
NYSDOH	
Public Health Duty Officer	(866) 881-2809
CCHD	
24 Hour Hotline	(716) 373-8010

SOL EPOXY Mark Wendel	(716) 378-8546
DAY ENVIRONMENTAL, INC. Raymond Kampff	(585) 454-0210 x108
NEAREST HOSPITAL:	Olean General Hospital 515 Main Street, Olean, NY 14760 (716) 373-2600 (Main) (716) 375-2675 (Emergency Department)
Directions to the Hospital:	Head northeast on Franklin Street toward North Union Street for approximately 0.1 miles. Turn right on N. Union Street and proceed approximately 0.8 miles. Continue onto Main Street and travel approximately 0.1 miles, then turn left into Olean General Hospital. (Figure 1).

9.3 MEDICAL EMERGENCY

In the event of a medical emergency involving illness or injury to one of the on-site personnel, Emergency Medical Services (EMS) and the appropriate government agencies should be notified immediately. The area in which the injury or illness occurred shall not be entered until the cause of the illness or injury is known. The nature of injury or illness shall be assessed. If the victim appears to be critically injured, administer first aid and/or cardio-pulmonary resuscitation (CPR) as needed. If appropriate, instantaneous real-time air monitoring shall be done in accordance with air monitoring outlined in Section 8.0 of this HASP.

9.4 CONTAMINATION EMERGENCY

It is unlikely that a contamination emergency will occur; however, if such an emergency does occur, the specific work area shall be shut down and immediately secured. If an emergency rescue is needed, notify Police, Fire Department and EMS units immediately. Advise them of the situation and request and expedient response. The appropriate government agencies shall be notified immediately. The area in which the contamination occurred shall not be entered until the arrival of trained personnel who are properly equipped with the appropriate PPE and monitoring instrumentation as outlined in Section 8.0 of this HASP.

9.5 FIRE EMERGENCY

In the event of a fire on-site, all non-essential site personnel shall be evacuated to a safe, secure area. The Fire Department will be notified immediately, and advised of the situation and the identification of any hazardous materials involved. The appropriate government agencies shall be notified as soon as possible.

The four classes of fire along with their constituents are as follows:

Class A:	Wood, cloth, paper, rubber, many plastics, and ordinary combustible materials.
Class B:	Flammable liquids, gases and greases.
Class C:	Energized electrical equipment.
Class D:	Combustible metals such as magnesium, titanium, sodium, potassium.

Small fires on-site may be actively extinguished; however, extreme care shall be taken while in this operation. Approaches to the fire shall be done from the upwind side if possible. Distance from on-site personnel to the fire shall be close enough to ensure proper application of the extinguishing material but far enough away to ensure that the personnel are safe. The proper extinguisher shall be utilized for the Class(es) of fire present on the site. If possible, the fuel source shall be cut off or separated from the fire. Care must be taken when performing operations involving the shut-off of valves and manifolds, if present.

Examples of proper extinguishing agent as follows:

Class A:	Water Water with 1% AFFF Foam (Wet Water) Water with 6% AFFF or Fluorprotein Foam ABC Dry Chemical
Class B:	ABC Dry Chemical Purple K Carbon Dioxide Water with 6% AFFF Foam
Class C:	ABC Dry Chemical Carbon Dioxide
Class D:	Metal-X Dry Powder

No attempt shall be made against large fires these shall be handled by the Fire Department.

9.6 SPILL OR AIR RELEASE

In the event of a spill or air release of hazardous materials on-site, the specific area of the spill or release shall be shut down and immediately secured. The area in which the spill or release occurred shall not be entered until the cause can be determined and site safety can be evaluated. Non-essential site personnel shall be evacuated to a safe and

secure area. The appropriate government agencies shall be notified as soon as possible. The spilled or released material shall be immediately indentified and appropriate containment measures shall be implemented, if possible. Real-time air monitoring shall be implemented as outlined in Section 8.0 of this HASP. If the materials are unknown, Level B protection is mandatory. If warranted, samples of the materials shall be acquired to facilitate identification.

9.7 LOCATING CONTAINERIZED WASTE AND/OR UNDERGROUND STORAGE TANKS

In the event that unanticipated containerized waster (e.g., drums) and/or USTs are located during Site activities, the work will be stopped in the specific area until Site safety can be evaluated and addressed. Non-essential Site personnel shall not work in the immediate area until conditions including possible exposure hazards are addressed. The appropriate government agencies shall be notified as soon as possible. The SSO shall monitor the area as outlined in Section 8.0 of this HASP.

Prior to any handling, unanticipated containers and/or tanks will be visually assessed by the SSO to gain as much information as possible about their contents. As a precautionary measure, personnel shall assume that unlabeled containers and/or tanks contain hazardous materials until their contents are characterized. To the extent possible based upon the nature of the containers encountered, actions may be taken to stabilize the area and prevent migration (e.g., placement of berms, etc.). Subsequent to initial visual assessment and any required stabilization, properly trained personnel will sample, test, remove, and dispose of any containers and/or tanks, and their contents. After visual assessment and air monitoring, if the material remains unknown, Level B protection is mandatory.

10.0 ABBREVIATIONS

AFFF	Aqueous Film Forming Foams
bgs	Below Ground Surface
CAMP	Community Air Monitoring Program
CCHD	Cattaraugus County Health Department
CFR	Code of Federal Regulations
CPR	Cardio-Pulmonary Resuscitation
DAY	Day Environmental, Inc.
dBA	Decibels on the A-Weighted Scale
ECP	Emergency Contingency Plan
EMS	Emergency Medical Service
ESA	Environmental Site Assessment
HASP	Health and Safety Plan
IDLH	Immediately Dangerous to Life or Heath
mg/m^3	Milligram Per Meter Cubed
NIOSH	National Institute for Occupational Safety and Health
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OSHA	Occupational Safety and Health Administration
PCB	Polychlorinated Biphenyl
PEL	Permissible Exposure Limit
PID	Photoionization Detector
PM	Project Manager
PM-10	Particulate Matter Less Than 10 Micrometers In Diameter
PPE	Personal Protection Equipment
ppm	Parts Per Million
PVC	Polyvinyl Chloride
QAPP	Quality Assurance Project Plan
REC	Recognized Environmental Condition
REL	Recommended Exposure Limit
RI/RAA	Remedial Investigation/remedial Alternatives Analysis
RTAM	Real-Time Aerosol Monitor
SCG	Standards, Criteria and Guidance
SCO	Soil Cleanup Objective
SSO	Site Safety Officer
SVOC	Semi-Volatile Organic Compound
TIC	Tentatively Identified Compound
TAL	Target Analyte List
TCL	Target Compound List
TPH	Total Petroleum Hydrocarbons
TWA	Time-Weighted Average
$\mu g/m^3$	Micrograms Per Meter Cubed
VOC	Volatile Organic Compound

ATTACHMENT 1

Figure 1 – Route for Emergency Services

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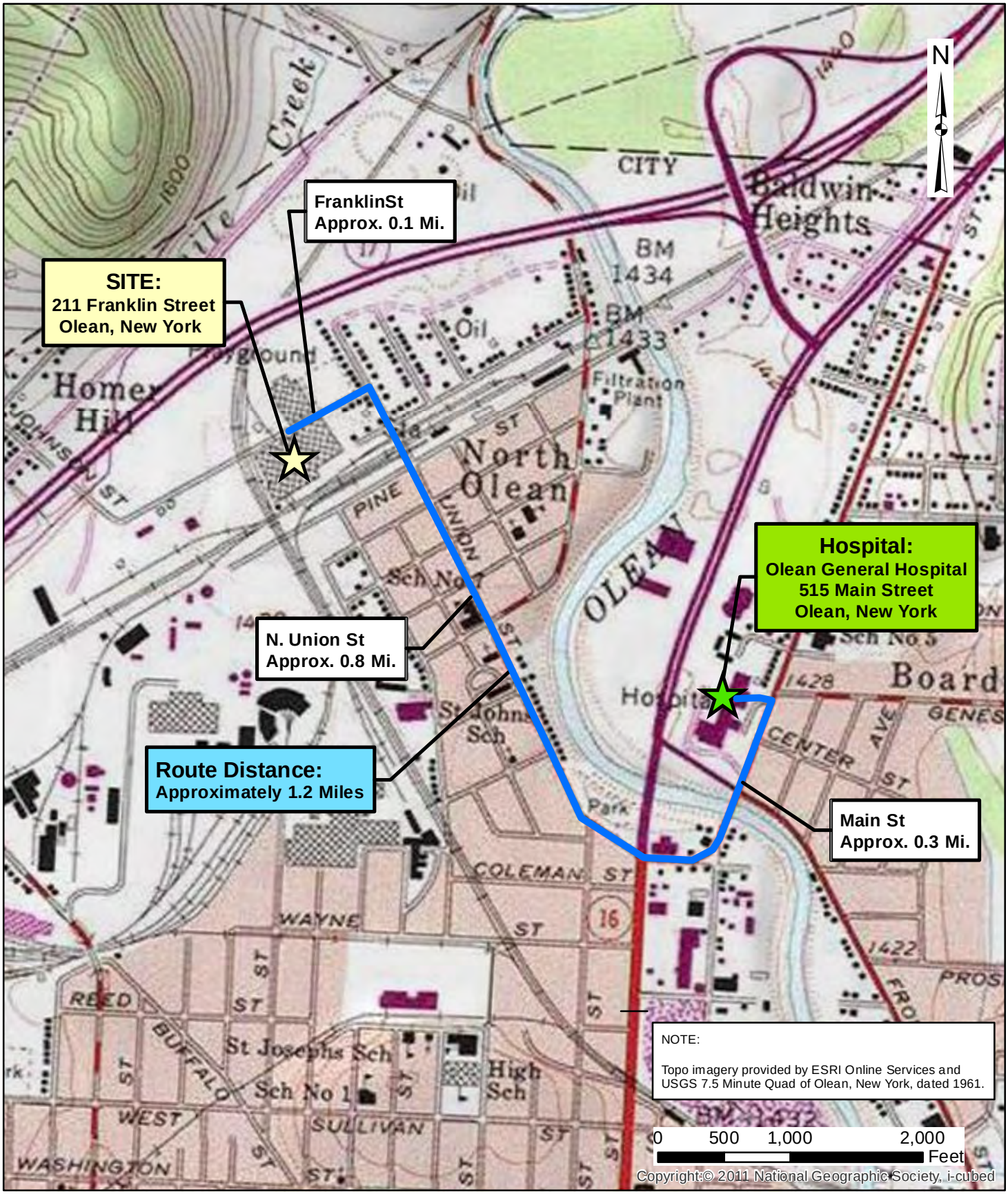
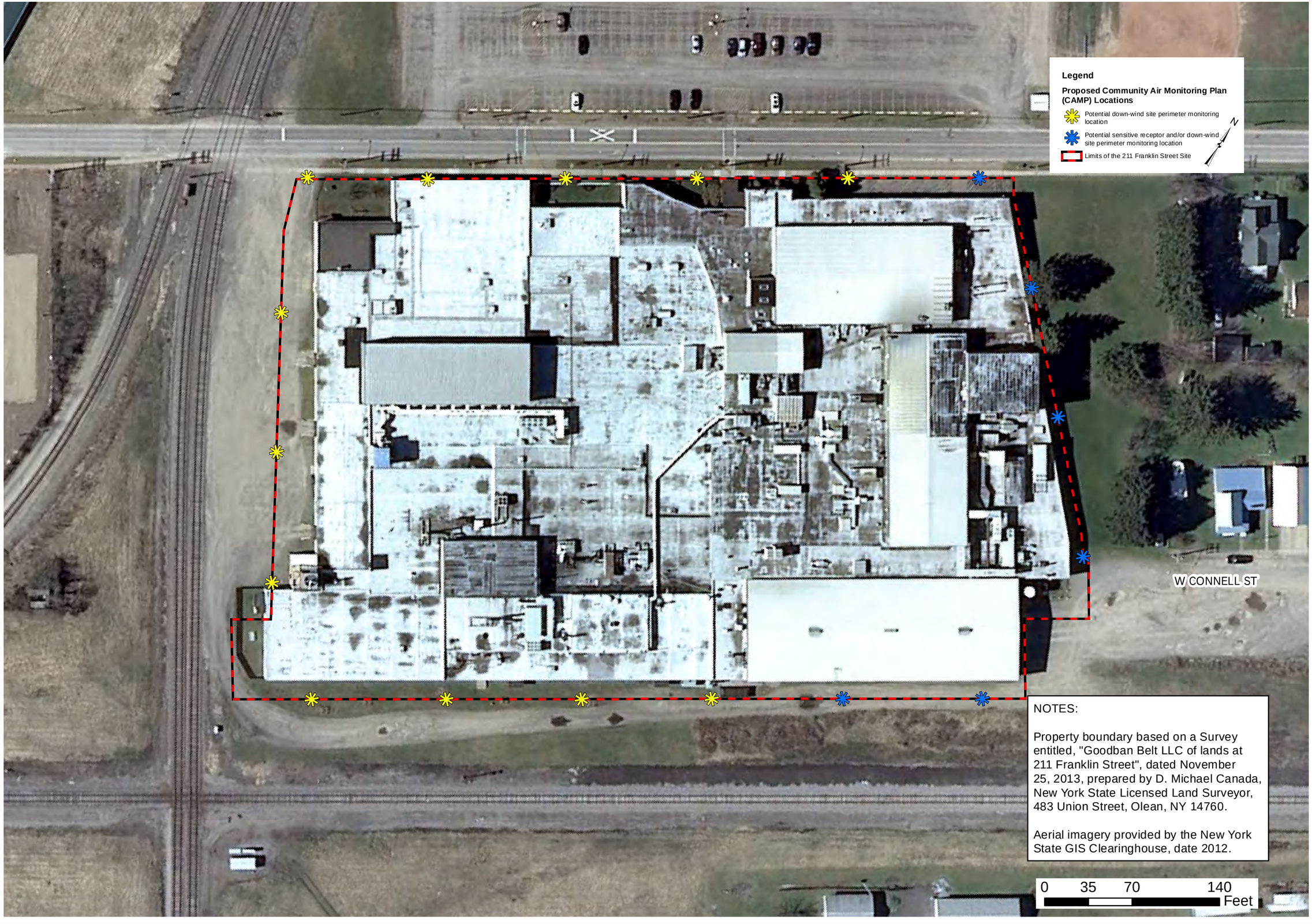


Date: 11-1-2013	day DAY ENVIRONMENTAL, INC. Environmental Consultants Rochester, New York 14606 New York, New York 10170	Project Title: 211 FRANKLIN STREET OLEAN, NEW YORK HEALTH AND SAFETY PLAN	Project No.: 4884S-13
Drawn By: RJM		Drawing Title: Route to Emergency Services	FIGURE 1
Scale: AS NOTED			

ATTACHMENT 2

Figure 2 – Site Plan Depicting Tentative CAMP Station Locations



Last Date Saved: 02 Dec 2013 Document Path: \\Smelt-win7pc\GIS\GIS Mapping\4884S-13S\dep\211Franklin\4884S - 25 - CAMP Monitoring Locations.mxd

DESIGNED BY	DATE
RLK	11-2013
DRAWN BY	**DATE DRAWN**
CAH	11-2013
SCALE	**DATE ISSUED**
AS NOTED	11-26-2013

day
DAY ENVIRONMENTAL, INC.
Environmental Consultants
Rochester, New York 14606
New York, New York 10170

Project Title
211 FRANKLIN STREET
OLEAN, NEW YORK

Drawing Title
HEALTH AND SAFETY PLAN

Proposed Community Air Monitoring Plan Locations

Project No.
4884S-13

FIGURE 2

APPENDIX I
SITE MANAGEMENT FORMS

Site-Wide Inspection Form

211 Franklin Street

City of Olean, New York

NYSDEC Site Number: C905038

Date of Inspection Site Visit:

Personnel Performing Inspection Site Visit:

Affiliation of Personnel:

1. **Check integrity of impermeable portions (e.g., concrete) of cover system, include whether any sloughing, cracks, settlement, damage, etc.**

Discuss observations and any corrective actions:

2. **Check integrity of impermeable portions (e.g., concrete) of cover system, include whether any sloughing, cracks, settlement, damage, etc.**

Discuss observations and any corrective actions:

3. **Check integrity of impermeable portions (e.g., concrete) of cover system, include whether any sloughing, cracks, settlement, damage, etc.**

Discuss observations and any corrective actions:

4. **Check Integrity of impermeable portions (e.g., concrete) of cover system, include whether any sloughing, cracks, settlement, damage, etc.**

Discuss observations and any corrective actions:

Summary of Green Remediation Metrics for Site Management

Site Name: _____ Site Code: _____
Address: _____ City: _____
State: _____ Zip Code: _____ County: _____

Initial Report Period (Start Date of period covered by the Initial Report submittal)
Start Date: _____

Current Reporting Period
Reporting Period From: _____ To: _____

Contact Information
Preparer's Name: _____ Phone No.: _____
Preparer's Affiliation: _____

I. Energy Usage: Quantify the amount of energy used directly on-site and the portion of that derived from renewable energy sources.

	Current Reporting Period	**Total to Date**
Fuel Type 1 (e.g. natural gas (cf))		
Fuel Type 2 (e.g. fuel oil, propane (gals))		
Electricity (kWh)		
Of that Electric usage, provide quantity:		
Derived from renewable sources (e.g. solar, wind)		
Other energy sources (e.g. geothermal, solar thermal (Btu))		

Provide a description of all energy usage reduction programs for the site in the space provided on Page 3.

II. Solid Waste Generation: Quantify the management of solid waste generated on-site.

	Current Reporting Period (tons)	**Total to Date (tons)**
Total waste generated on-site		
OM&M generated waste		
Of that total amount, provide quantity:		
Transported off-site to landfills		
Transported off-site to other disposal facilities		
Transported off-site for recycling/reuse		
Reused on-site		

Provide a description of any implemented waste reduction programs for the site in the space provided on Page 3.

III. Transportation/Shipping: Quantify the distances travelled for delivery of supplies, shipping of laboratory samples, and the removal of waste.

	Current Reporting Period (miles)	**Total to Date (miles)**
Standby Engineer/Contractor		
Laboratory Courier/Delivery Service		
Waste Removal/Hauling		

Provide a description of all mileage reduction programs for the site in the space provided on Page 3. Include specifically any local vendor/services utilized that are within 50 miles of the site.

IV. Water Usage: Quantify the volume of water used on-site from various sources.

	Current Reporting Period (gallons)	**Total to Date (gallons)**
Total quantity of water used on-site		
Of that total amount, provide quantity:		
Public potable water supply usage		
Surface water usage		
On-site groundwater usage		
Collected or diverted storm water usage		

Provide a description of any implemented water consumption reduction programs for the site in the space provided on Page 3.

V. Land Use and Ecosystems: Quantify the amount of land and/or ecosystems disturbed and the area of land and/or ecosystems restored to a pre-development condition (i.e. Green Infrastructure).

	Current Reporting Period (acres)	**Total to Date (acres)**
Land disturbed		
Land restored		

Provide a description of any implemented land restoration/green infrastructure programs for the site in the space provided on Page 3.

Description of green remediation programs reported above (Attach additional sheets if needed)
Energy Usage:
Waste Generation:
Transportation/Shipping:
Water usage:
Land Use and Ecosystems:
Other:

CERTIFICATION BY CONTRACTOR
I, _____ (**Name**) do hereby certify that I am _____ (**Title**) of the Company/Corporation herein referenced and contractor for the work described in the foregoing application for payment. According to my knowledge and belief, all items and amounts shown on the face of this application for payment are correct, all work has been performed and/or materials supplied, the foregoing is a true and correct statement of the contract account up to and including that last day of the period covered by this application. _____ **Date** **Contractor**

SSDS INSPECTION LOG FORM

QUARTERLY INSPECTION	Fan #1				Fan #2			
Date								
Inspector								
Static Pressure (in. H_2O vacuum)								
Static Pressure Required* (in. H_2O vacuum)	≥ 1.7 in.	≥ 1.7 in.	≥ 1.7 in.	≥ 1.7 in.	≥ 1.2 in.	≥ 1.2 in.	≥ 1.2 in.	≥ 1.2 in.

ANNUAL INSPECTION	Fan #1	Fan #2
Date		
Inspector		
Fan Operation Confirmed		
Exhaust Point Free of Obstruction		
Fan Checked for : Vibration/Noise		
Damage		
Secure Mounting		
Secure Power Connection		
Piping Checked for: Damage		
Secure Mounting		
Transition Seals Secure		

*Static pressures reading(s) below these values require systems repair, maintenance and/or engineering evaluation to confirm continued effectiveness.

LOW-FLOW GROUNDWATER PURGING AND SAMPLING LOG

WELL MW-

SECTION 1 - SITE AND WELL INFORMATION

SITE LOCATION _____ **JOB #** _____

PROJECT NAME: _____ **DATE:** _____

SAMPLE COLLECTOR(S): _____ **WEATHER:** _____

PID READING IN WELL HEADSPACE (PPM): _____ **MEASURING POINT (for water levels):** _____

CASING TYPE: _____ **WELL DIAMETER (INCHES):** _____

SCREENED INTERVAL [FT BGS]: _____ **INITIAL WATER LEVEL (SWL) [FT]:** **SWL / Date Measured** _____ / _____

WELL DEPTH [FT BGS]: _____ **DEPTH OF PUMP INTAKE [FT BGS]:** _____
(Do NOT Measure Well depth Prior To Purging And Sampling)

LNAPL: _____ **DNAPL:** _____ **OTHER OBSERVATIONS:** _____

SECTION 2 – SAMPLING EQUIPMENT

CONTROL BOX: _____ **TUBING TYPE:** _____

WATER QUALITY METER: _____ **WATER LEVEL METER:** _____

PUMP TYPE: _____ **PURGE GAS:** _____

CONTROL BOX DISCHARGE RATE: _____ **CONTROL BOX REFILL RATE:** _____

STABILIZED PUMP RATE (ml/min): _____ **STABILIZED DRAWDOWN WATER LEVEL [FT]:** _____

SECTION 3 – WATER QUALITY DATA MONITORING

Time	Pumping Rate (ml/min)	Water Level (ft)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Conductivity (mS/cm)	pH	Temp. (C^0)	Total Vol. Pumped (ml)
	SAMPLE OBSERVATIONS:								

SECTION 4 - SAMPLE IDENTIFICATION AND ANALYTICAL LABORATORY PARAMETERS

SAMPLE ID #	DATE / TIME	SAMPLING METHOD	ANALYTICAL SCAN(S)

APPENDIX J

O&M MANUAL

OPERATION AND MAINTENANCE MANUAL

1.0 Introduction

This Operation and Maintenance (O&M) Manual describes the measures necessary to operate, monitor and maintain the mechanical components of the active engineering controls at the Site. The only active engineering control at the Site is the Sub-Slab Depressurization System (SSDS) for mitigation of potential soil vapor intrusion. As such, this O&M Plan:

- Includes the steps necessary to allow individuals unfamiliar with the Site to operate and maintain the soil vapor intrusion mitigation system;
- Includes an operation and maintenance contingency plan; and
- Will be revised on a periodic basis, as necessary, to keep the O&M Manual up to date, and to reflect any changes in equipment and/or system operations occurring over time. No significant changes to the SSDS process or equipment may be made without prior approval of NYSDEC and NYSDOH.

A copy of this O&M Manual, along with the complete Site Management Plan (SMP), will be kept at the Site. This O&M Plan is not to be used as a stand-alone document, but as a component document of the SMP.

2.0 Engineering Control System Operation and Maintenance

The soil vapor intrusion mitigation system is intended to be operated indefinitely until such time as monitoring data indicates that the system is no longer required (e.g., VOC concentrations in sub-slab air, soil, and groundwater are below applicable target levels), and approval is received by NYSDEC and NYSDOH to discontinue system operations.

The record drawings for the SSDS are included as Figures J-1 through J-3 in this appendix. The basic process utilized in this system is explained in detail in the Remedial Action Work Plan, and in the Final Engineering Report (see Section 4.8). In summary, the SSDS consists of a series of trenches and sub-slab vent points that were installed to induce a negative pressure beneath the portion of the building at the Site where elevated concentrations of chlorinated VOCs were previously reported in soil gas samples collected during the Remedial Investigation (RI). The purpose of the induced sub-slab negative pressure created by the SSDS is to prevent the migration of vapors into the building.

2.1 Inspections

The soil vapor intrusion mitigation system is designed for continuous, unmanned operation, and requires very little operation and maintenance labor. All components of

this system are designed for years of uninterrupted service. Nonetheless, quarterly and annual system checks will be performed to confirm that all are operating as intended, and to identify the need for any maintenance. These monitoring activities will be completed as described in, and documented on, the attached SSDS Inspection Log form. Minimum static pressures indicated on this form represent 80% of the test values observed upon systems start-up, below which systems repair, maintenance and/or engineering evaluation will be required to confirm continued effectiveness.

2.2 System Start-Up and Testing

The only mechanical portion of the system is the set of two roof-mounted fans (refer to Figure J-1 for fan locations). Start-up of these fans from a shutdown condition requires only that power be restored to each fan. It is expected that the fans will be continuously maintained in an operational condition, and none of these fans require any type of manual restart, so the fans will restart automatically once power is restored to the building or circuit. In the event that a fan is de-energized for work on the fan or associated ductwork, re-energizing of the fan will similarly re-enable that portion of the soil vapor mitigation system.

Equipment manufacturer and model number information is provided in the record drawings (see Figure J-3). Manufacturer's cut sheets and equipment manuals for select system components are provided at the end of this O&M Manual.

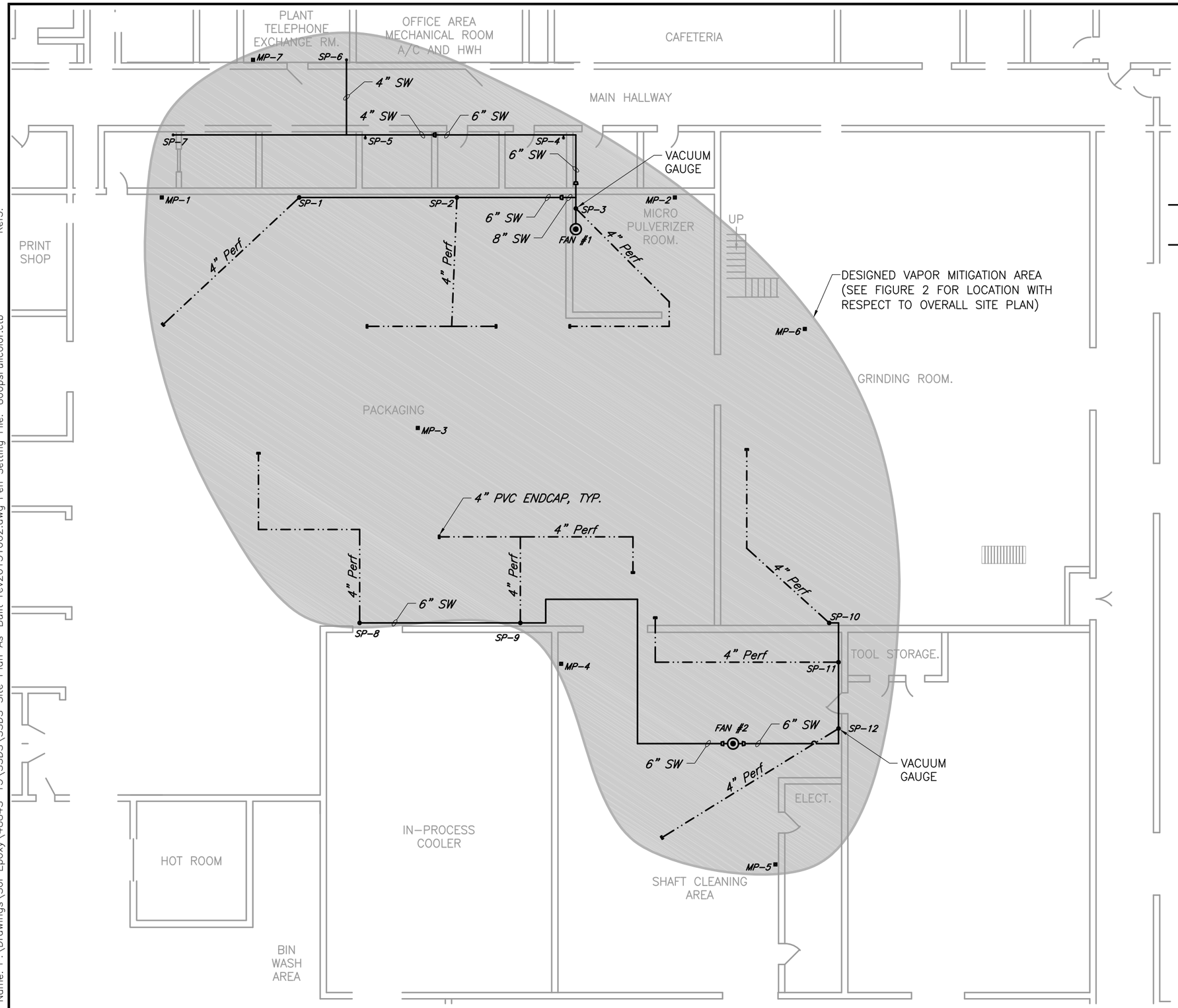
2.3 Routine Operation & Maintenance Procedures

As previously mentioned, the soil vapor intrusion mitigation system is designed for continuous unattended operation, and requires minimal operations oversight. There are no routine operating or maintenance procedures for this system, as the fans require no routine or preventative maintenance, and there are no consumable items in the system.

3.0 Performance Monitoring

Overall system performance of the soil vapor intrusion mitigation system engineering controls will be evaluated based on the ability of the system to maintain operating parameters within expected ranges. Monitoring of the engineering controls shall be completed as detailed in Section 2.1 to periodically confirm that the equipment operation and system effectiveness is maintained. It is not intended that the soil vapor intrusion mitigation system achieve any significant contaminant reduction within Site media (soils, soil vapor and/or groundwater), and as such, monitoring of Site media for remedial performance monitoring purposes (i.e. reduction of contaminants) does not apply to this remedial system.

FIGURES



LEGEND

- 4" Perf — SSDS Perforated Pipe
- 6" SW — SSDS Solid Wall Pipe
- SP• — SSDS Suction Point And Vertical Standpipe Location
- MP-2■ — SSDS Monitoring Point Location
- ◉ — Rooftop Exhaust Fan

NOTE:

Facility layout provided by SolEpoxy, Inc.

RECORD DRAWINGS

NOTE:

DAY ENVIRONMENTAL, INC. AND THE LICENSED PROFESSIONAL ENGINEER CERTIFY TO THE BEST OF THEIR KNOWLEDGE THAT THIS DRAWING IS AN ACCURATE REPRESENTATION OF THE RECORDS OF CONSTRUCTION. THIS RECORD DRAWING HAS BEEN PREPARED IN PART BASED ON INFORMATION PROVIDED BY OTHERS, AND CONDITIONS THAT EXISTED AT THE TIME OF PREPARATION. ACTUAL CONDITIONS SHOULD BE CONFIRMED PRIOR TO PERFORMING WORK THAT RELIES ON INFORMATION CONTAINED IN THIS DRAWING.

SUB-SLAB DEPRESSURIZATION SYSTEM (SSDS) AS-BUILT PLAN

SCALE: 1/16 = 1'-0"

0' 16' 32'

DESIGNED BY	BFK
DATE	7-2015
DRAWN BY	RJM
DATE DRAWN	8-14-2015
SCALE	As Noted
DATE ISSUED	8-14-2015

DAY ENVIRONMENTAL, INC.
ENVIRONMENTAL CONSULTANTS
ROCHESTER, NEW YORK 14606
NEW YORK, NEW YORK 10170

PROJECT TITLE
211 FRANKLIN STREET
OLEAN, NEW YORK

BCP SITE NO. C905038 OPERATION & MAINTENANCE PLAN

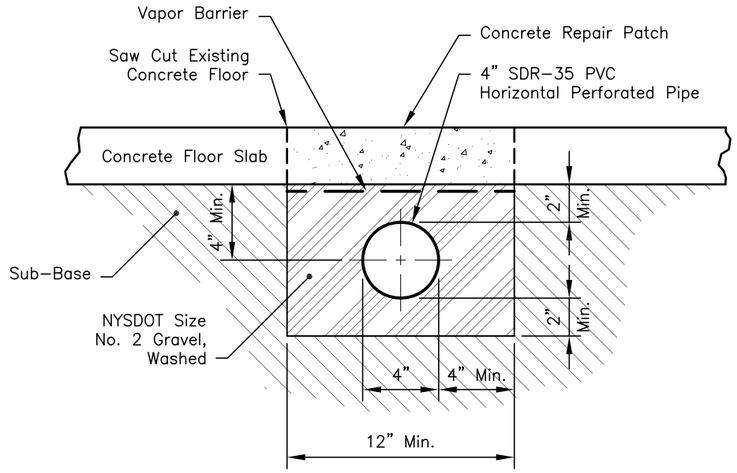
DRAWING TITLE
Site Plan Depicting As-Built Sub-Slab Depressurization System (SSDS) Components

PROJECT NO.
4884S-13

J-1

Ref1:
Ref2:
Ref3:

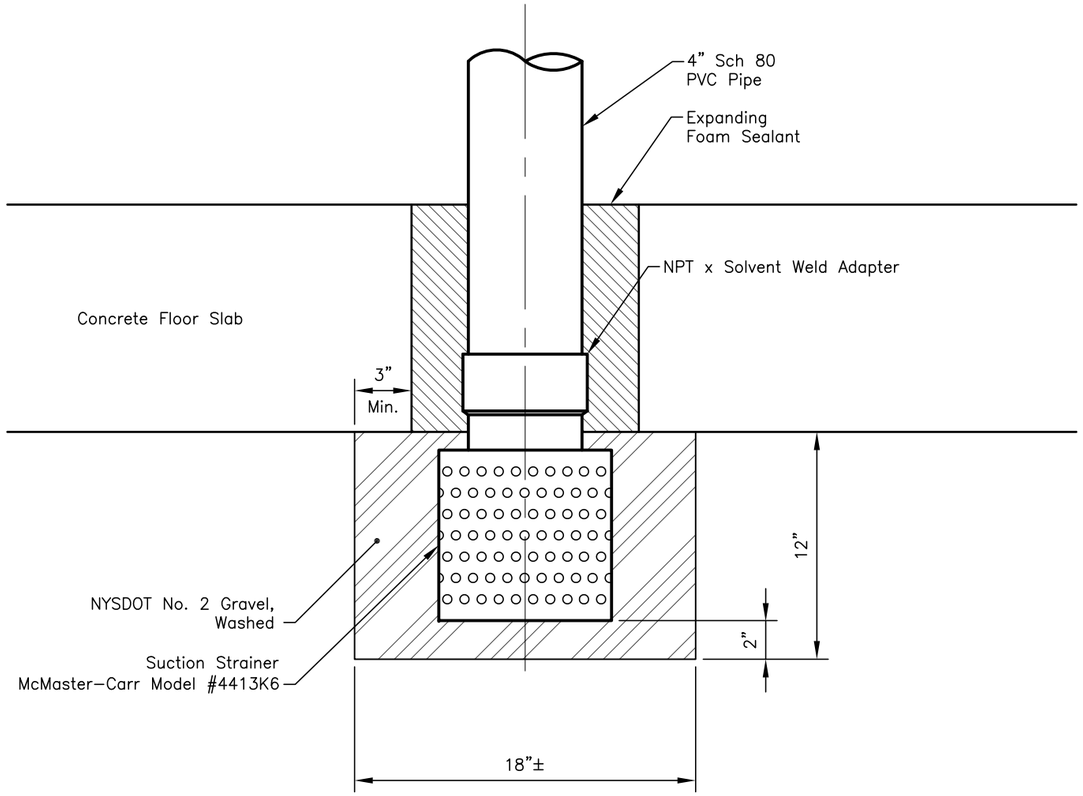
Time Plotted: Friday, October 02, 2015 2:07:58 PM
File Name: P:\Drawings\Sol Epoxy\4884S-13\SSDS\SSDS Site Plan As-Built rev20151002.dwg Pen Setting File: 800psFullcolor.ctb
Layout Name: Layout2
Xerox4320AnsiB-2; 11 x 17



1 Fig. 8

TYPICAL SECTION 4" PERFORATED PVC PIPE

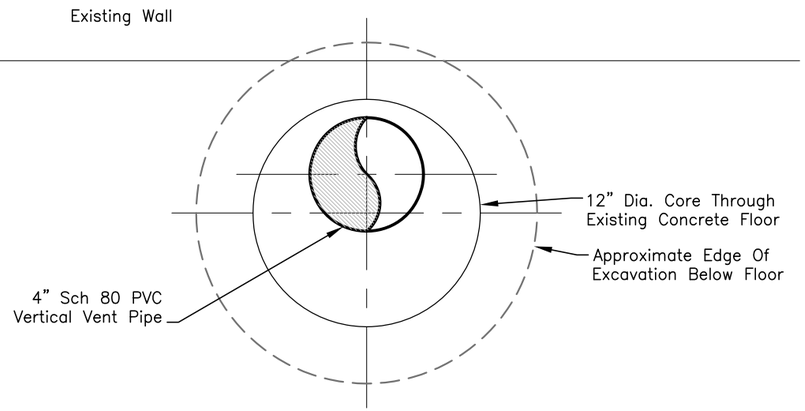
1 1/2" = 1'-0"



3 Fig. 8

TYPICAL SECTION SUB-SLAB DEPRESSURIZATION VENT

1 1/2" = 1'-0"



2 Fig. 8

PLAN VIEW VERTICAL VENT

1 1/2" = 1'-0"

RECORD DRAWINGS

NOTE:

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DESIGNED BY	DRAWN BY	SCALE	DATE
BFK	RJM/Tw	As Noted	5-2015
		DATE DRAWN	8-14-2015
		DATE ISSUED	8-19-2015

DAY ENVIRONMENTAL, INC.
ENVIRONMENTAL CONSULTANTS
ROCHESTER, NEW YORK 14606
NEW YORK, NEW YORK 10170

PROJECT TITLE
211 FRANKLIN STREET
OLEAN, NEW YORK

BCP SITE NO. C905038 OPERATION & MAINTENANCE PLAN

DRAWING TITLE
Sub-Slab Depressurization System (SSDS) Details

PROJECT NO.
4884S-13

J-2

Notes:

1. Horizontal Pipe Below Slab: 4" Perforated (Perf.) PVC SDR-35 rubber gasketed pipe, standard perforation pattern (1/2" holes @ 5" spacing, 2 rows of holes @ 120 degree angle). Solid wall fittings. Perforated pipe constructed level with one row of perforations to underside of pipe. Solid end caps installed at the end of each perforated pipe run.

2. Aboveground Pipe and Fittings: Solid wall PVC schedule 80 solvent weld joint pipe. Secure pipe to walls, and provide firestops as needed. Insulate all pipe in unheated spaces.

3. Gravel: NYSDOT Standard Specification, Subsection 703-0201, Size 2, washed, or Engineered-approved equal (submit for approval prior to use).

4. Vapor Barrier: minimum thickness 6 mil reinforced polyethylene sheeting.

5. Fan: Fantech Model REC10XLT; 115V, 4.86A (max). Fan exhaust located at least 12-inches above the surface of the roof, and at least 10-feet away from nearest building opening or air intake. Fan to be provided with disconnect.

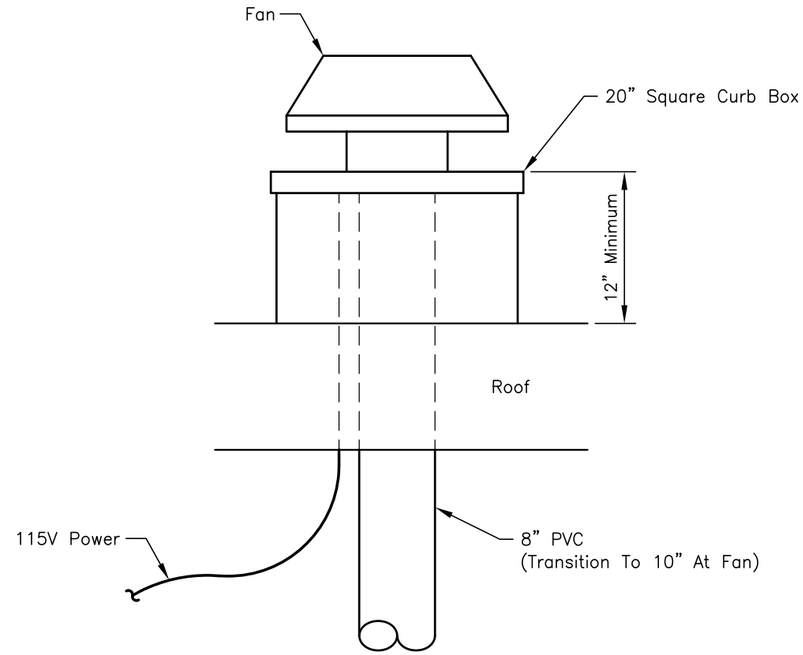
6. Vacuum Gauge: 0 to 3 inches water column, Dwyer Model 2003. One gauge installed on each fan system at accessible standpipe location.

7. The following signage shall be posted at or inside the fan shutoff switch panel, disconnect and/or circuit breaker:

   SUB-SLAB DEPRESSURIZATION SYSTEM
   DO NOT SHUTOFF OR ALTER

8. The following signage shall be posted on aboveground piping:

   COMPONENT OF SUB-SLAB DEPRESSURIZATION SYSTEM
   DO NOT ALTER OR DISCONNECT



5 / Fig. 9 FAN DETAIL
Scale: 1" = 1'-0"

RECORD DRAWINGS

NOTE:

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DESIGNED BY	DRAWN BY	SCALE	DATE
BFK	RJM/Tw	As Noted	5-2015
		DATE DRAWN	8-14-2015
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DAY ENVIRONMENTAL, INC.
ENVIRONMENTAL CONSULTANTS
ROCHESTER, NEW YORK 14606
NEW YORK, NEW YORK 10170

PROJECT TITLE
211 FRANKLIN STREET
OLEAN, NEW YORK

BCP SITE NO. C905038 OPERATION & MAINTENANCE PLAN

DRAWING TITLE
Sub-Slab Depressurization System (SSDS) Detail & Notes

PROJECT NO.
4884S-13

J-3

SSDS INSPECTION LOG FORM

SSDS INSPECTION LOG FORM

QUARTERLY INSPECTION	Fan #1				Fan #2			
Date								
Inspector								
Static Pressure (in. H_2O vacuum)								
Static Pressure Required* (in. H_2O vacuum)	≥ 1.7 in.	≥ 1.7 in.	≥ 1.7 in.	≥ 1.7 in.	≥ 1.2 in.	≥ 1.2 in.	≥ 1.2 in.	≥ 1.2 in.

ANNUAL INSPECTION	Fan #1	Fan #2
Date		
Inspector		
Fan Operation Confirmed		
Exhaust Point Free of Obstruction		
Fan Checked for : Vibration/Noise		
Damage		
Secure Mounting		
Secure Power Connection		
Piping Checked for: Damage		
Secure Mounting		
Transition Seals Secure		

*Static pressures reading(s) below these values require systems repair, maintenance and/or engineering evaluation to confirm continued effectiveness.

MANUFACTURER'S CUT SHEETS AND EQUIPMENT MANUALS

Item #: 405262
Rev Date: 2015-05-12

Installation Manual

RE(C) Series

Exterior Roof / Wall Centrifugal Fans

Fantech Inc. certifies that the RE(C) Series shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

United States
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Tel.: 800.747.1762 • Fax: 800.487.9915

Canada
50 Kanalflakt Way, Bouctouche, NB, E4S 3M5
Tel.: 800.565.3548 • Fax: 877.747.8116

fantech

				
Note	Warning / Important note	Information	Technical information	Practical tip

1. The compactness and adaptability of Models RE(C) fans permit easy installation. The straight-thru air flow fans are shipped fully assembled and can be mounted at any angle. For various mounting and ducting options. (see **Typical Installations**)

2. Because this unit has rotating parts, safety precautions should be exercised during the installation, operation, and maintenance phase.

3. **CAUTION:** "For General Ventilation Use Only. Do Not Use To Exhaust Hazardous Or Explosive Material and Vapors."

4. Remove unit from package and inspect within 15 days after receipt. If damaged, report damage to carrier. Do Not operate this unit with visible damage to the blower or impeller assembly.

5. Ensure centrifugal impeller has free rotation. If impeller hits orifice, check screws holding motor bracket. Adjustment can be made by loosening motor bracket screws, then pull up on motor bracket while tightening screws. Tighten all screws before operating unit.

WEAR HAND PROTECTION AND STAY CLEAR OF SHARP EDGES.

6. Screen guards must be installed when fan will be within reach of personnel, within (7) feet of the working area, or when advisable for safety.

WARNINGS

DO NOT CONNECT POWER SUPPLY until fan is completely installed. Make sure electrical service to the fan is in the locked "OFF" position.

1. All units are suitable for use with solid-state speed control.

2. WARNING! TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS – OBSERVE THE FOLLOWING:

   a. Use this unit only in the manner intended by the manufacturer. If you have any questions, contact your manufacturer's representative.

   b. CAUTION: Before installation, servicing or cleaning unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.

   c. Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction.

   d. Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment to prevent back drafting. Follow the heating equipment manufacturer's guideline and safety standards such as those published by the National Fire Association (NFPA), and the American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE), and the local code authorities.

   e. When cutting or drilling into wall and ceiling, do not damage electrical wiring and other hidden utilities.

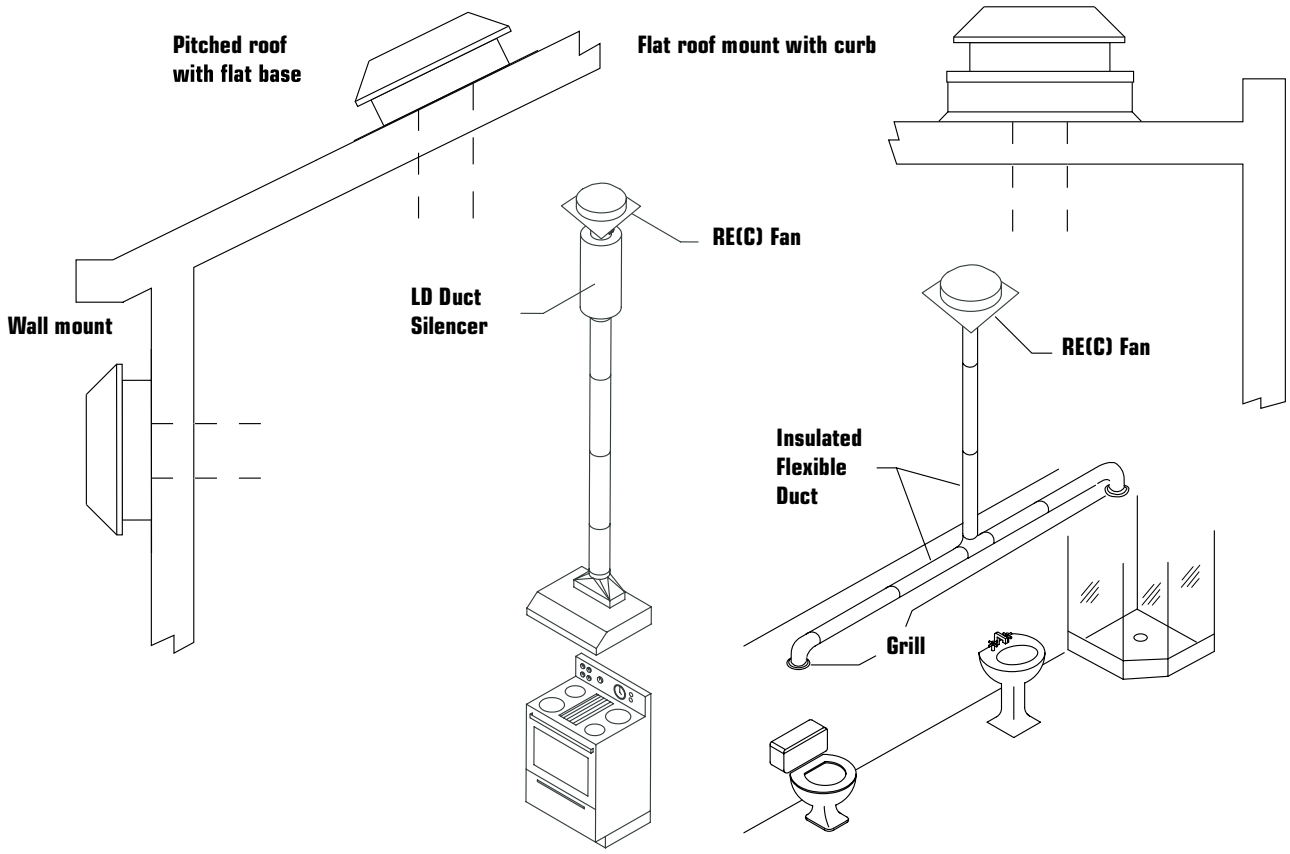
   f. Ducted fans must always be vented to the outdoors.

   g. If this unit is to be installed over a tub or shower, it must be marked as appropriate for the application and be connected to a GFCI (Ground Fault Circuit Interrupter) - protected branch circuit.

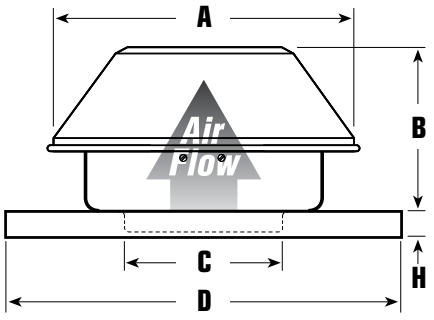
   h. NEVER place a switch where it can be reached from a tub or shower.

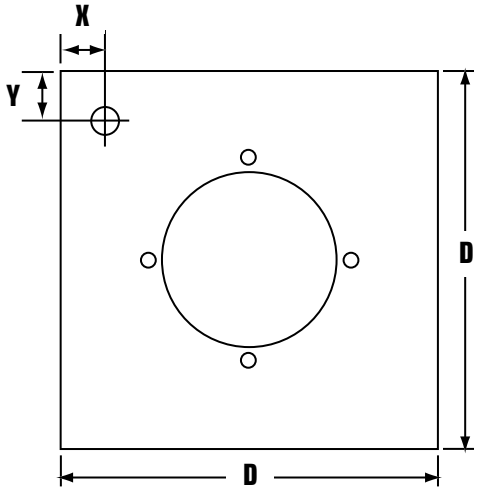
3. WARNING! Check voltage at the fan to see if it corresponds to the motor name plate.

Typical Installations



Dimensions





Model	A	B	C	D	X	Y	Max RPM	Max Watts	Max Amps
RE(C) 54*	10 15/16	6	5	15 1/2	2 3/4	6 11/16	3040	19	0.18
RE(C) 6	13 15/16	6 1/4	6	15 1/2	3 9/16	2 1/2	2700	87	0.80
RE(C) 8XL	16 9/16	5 15/16	8	20	6 9/16	2 15/16	2800	153	1.40
RE(C) 10XL	20 13/16	11 1/2	10	20	3	3	3250	394	3.60
RE(C) 10XLT	20 13/16	12 11/16	10	20	3	3	2950	531	4.86

All demensions in inches.
"H" dimensions is 1 1/2 on model REC only
* Optional 4" reducer for dimension C

Installation Instructions

Suitable sealing such as tar or similar material (not included) should be used to prevent leakage. To prepare for installation, determine the size and type of ducting, if any, to be used. Make an opening in the roof just large enough to accommodate ducting and electrical supply.

Flat Base Mounting

1. Base may be mounted directly on deck beneath roof shingles or upper edge of base plate may be slid underneath shingles.
2. Securely screw or bolt base plate to roof through the four corner mounting points.
3. Through the opening, attach ductwork to fan inlet orifice by using Fantech FC clamps or duct tape.
4. Refer to wiring diagram in this guide to complete electrical connections.
5. Once secured and wired, generously apply tar or other sealant around edges of base to prevent leakage. Be sure to replace any lifted shingles.

Curb Mounting

1. Outside dimensions of flanged curb should be approximately 3/8" smaller than the outside dimensions of base. Flanged curbs are available from Fantech.
2. Center curb around roof opening and securely attach to roof. It is advisable to put a bead of sealant around the inside edge of curb.
3. Before mounting base on curb, place a layer of sealant along the top edge of the curb.
4. Place unit on curb and securely attach with bolts or screws.
5. Through the opening, attach ductwork to fan inlet orifice by using Fantech FC clamps or duct tape.
6. Refer to wiring diagram in this guide to complete electrical connections.
7. Once secured and wired, generously apply tar or other sealant around edges of base to prevent leakage. Be sure to replace any lifted shingles.

Wiring

SPECIAL WIRING PRECAUTIONS:

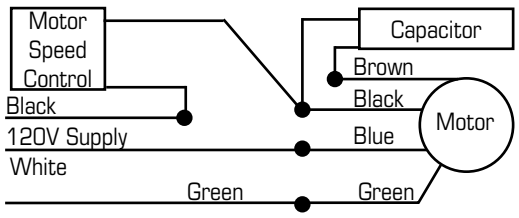
All installation should be wired according to the following diagrams. Failure to comply will cause the motor to "hum" or not work.

All units are pre-wired, just bring incoming supply into marked ports on terminal strip.

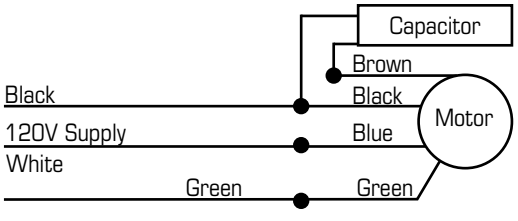
1. Turn off power at service entrance before wiring this fan.
2. Read the fan data plate to determine the current draw. Check that available supply is suitable.
3. Remove top enclosure of fan and the wiring box lid. A 7/8" hole is provided for electrical service entry. Be certain to use proper connector type for securing conduit or cable.
4. Connect electrical supply inside wiring terminal per diagram below.
5. Replace wiring box lid and top enclosure.

! Maximum torque that can be applied to the terminal block screws is 0.79 Nm (7 lb-in).

With motor speed controller



Without motor speed controller



Warranty

Five (5) Year Warranty

This warranty supersedes all prior warranties

DURING ENTIRE WARRANTY PERIOD:
Fantech will repair or replace any part which has a factory defect in workmanship or material. Product may need to be returned to the Fantech factory, together with a copy of the bill of sale and identified with RMA number.

FOR FACTORY RETURN YOU MUST:

- Have a Return Materials Authorization (RMA) number. This may be obtained by calling Fantech either in the USA at 1.800.747.1762 or in CANADA at 1.800.565.3548. Please have bill of sale available.
- The RMA number must be clearly written on the outside of the carton, or the carton will be refused.
- All parts and/or product will be repaired/replaced and shipped back to buyer; no credit will be issued.

OR

The Distributor may place an order for the warranty part and/or product and is invoiced. The Distributor will receive a credit equal to the invoice only after product is returned prepaid and verified to be defective.

FANTECH WARRANTY TERMS DO NOT PROVIDE FOR REPLACEMENT WITHOUT CHARGE PRIOR TO INSPECTION FOR A DEFECT. REPLACEMENTS ISSUED IN ADVANCE OF DEFECT INSPECTION ARE INVOICED, AND CREDIT IS PENDING INSPECTION OF RETURNED MATERIAL. DEFECTIVE MATERIAL RETURNED BY END USERS SHOULD NOT BE REPLACED BY THE DISTRIBUTOR WITHOUT CHARGE TO THE END USER, AS CREDIT TO DISTRIBUTOR'S ACCOUNT WILL BE PENDING INSPECTION AND VERIFICATION OF ACTUAL DEFECT BY FANTECH.

THE FOLLOWING WARRANTIES DO NOT APPLY:

- Damages from shipping, either concealed or visible. Claim must be filed with freight company.
- Damages resulting from improper wiring or installation.
- Damages or failure caused by acts of God, or resulting from improper consumer procedures, such as:
    1. Improper maintenance
    2. Misuse, abuse, abnormal use, or accident, and
    3. Incorrect electrical voltage or current.
- Removal or any alteration made on the Fantech label control number or date of manufacture.
- Any other warranty, expressed, implied or written, and to any consequential or incidental damages, loss or property, revenues, or profit, or costs of removal, installation or reinstallation, for any breach of warranty.

WARRANTY VALIDATION

- The user must keep a copy of the bill of sale to verify purchase date.
- These warranties give you specific legal rights, and are subject to an applicable consumer protection legislation. You may have additional rights which vary from state to state.

Limitation of Warranty and Liability

This warranty does not apply to any Fantech product or part which has failed as a result of faulty installation or abuse, incorrect electrical connections or alterations made by others, or use under abnormal operating conditions or misapplication of the product or parts. We will not approve for payment any repair not made by us or our authorized agent without prior written consent. The foregoing shall constitute our sole and exclusive warranty and our sole exclusive liability, and is in lieu of any other warranties, whether written, oral, implied or statutory. There are no warranties which extend beyond the description on the page hereof. In no event, whether as a result of breach of contract, or warranty or alleged negligence, defect incorrect advice or other causes, shall Fantech be liable for special or consequential damages, including, but not limited to, loss of profits or revenue, loss of use of equipment or any other associated equipment, cost of capital, cost of substitute equipment, facilities or services, downtime costs, or claims of customers of purchase for such damages. Fantech neither assumes or authorizes any person to assume for it any other liability in connection with the sale of product(s) or part(s). Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages so the above limitations and exclusions may not apply to you.

Warning

Fantech products are designed and manufactured to provide reliable performance, but they are not guaranteed to be 100% free from defects. Even reliable products will experience occasional failures and this possibility should be recognized by the user. If these products are used in a life support ventilation system where failure could result in loss or injury, the user should provide adequate backup ventilation, supplementary natural ventilation, failure alarm system, or acknowledge willingness to accept the risk of such loss or injury.

Notes

Notes

Fantech reserves the right to make technical changes.
For updated documentation please refer to www.fantech.net

Fantech®

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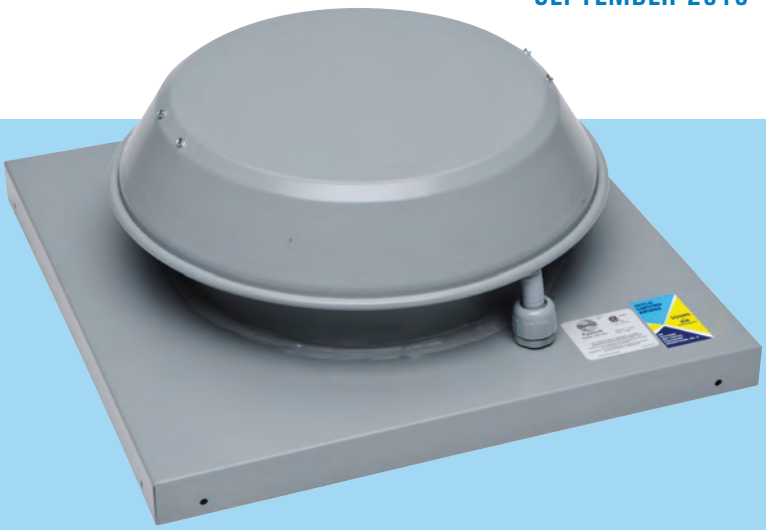
SEPTEMBER 2010

RE(C) SERIES

EXTERIOR ROOF/WALL CENTRIFUGAL FANS



Low Profile Design

Fantech's RE/REC Series direct drive centrifugal fans provide an excellent solution for residential or commercial ventilation applications where the fan must be mounted on the exterior of the building. Two base styles are available: RE models with a flat base for direct flashing to the roof or REC models with flanged base for curb mounting. RE models can also be mounted on an exterior wall when roof access is not suitable.

With duct diameters from 4" to 10", air performance from 116 to 1008 CFM, and 100% speed controllability, these multi-purpose fans can be used to move air from one or more venting points. Interior noise is not an issue because the fan motor is located outside the building envelope.

AMCA CERTIFIED RATINGS — SOUND AND AIR PERFORMANCE — AIR MOVEMENT AND CONTROL ASSOCIATION, INC.

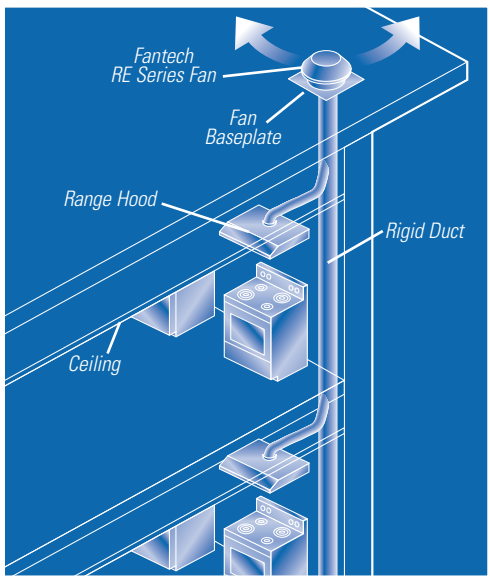
Fantech, Inc. and Systemair, Inc. certify that the RE & REC Series shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

C SP US

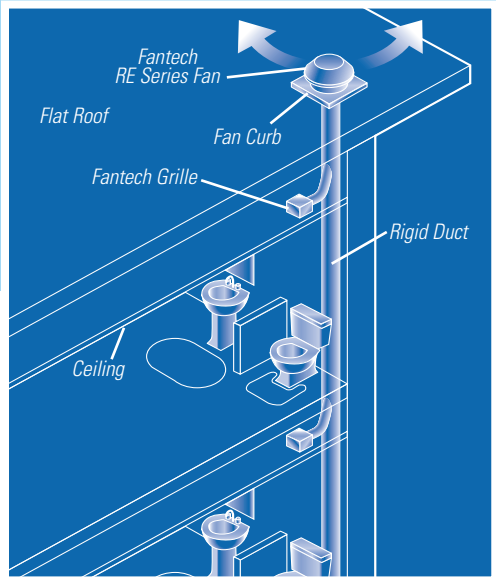
FIVE YEAR WARRANTY

Easy Installation

RE Fans are simple to install; no installation extras are required. Simply mount the fan on the roof or wall, then connect the electrical supply to the easily accessible terminal box. The top cover is removable for access to the motor and wiring connections.



MULTIPLE KITCHEN APPLICATION



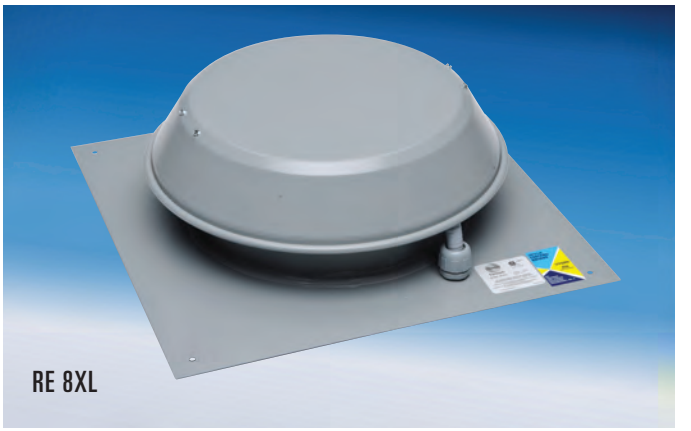
MULTIPLE BATH APPLICATION

BUILT TOUGH INSIDE AND OUT:

- Galvanized steel housing features baked powder-coat finish (can be painted to match decor)
- Unique external rotor motor has built-in thermal overload protection with automatic reset
- Permanently lubricated sealed ball bearings
- 100% speed controllable for highly efficient and economical airflow
- Excellent heat dissipation for long motor life
- Suitable for airstream temperatures of up to 140° F
- CSA Certified
- Five-year warranty

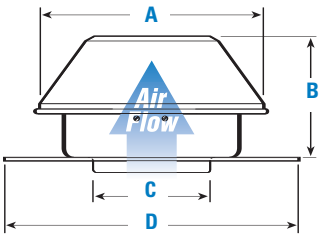
RE(C) SERIES

ROOF/WALL MOUNTED CENTRIFUGAL FANS

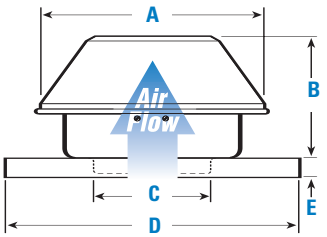


DIMENSIONAL DATA

RE Series – Side View



REC Series – Side View



Model	A†	B	C	D	E
RE 54**	10 15/16	6	5	15 1/2	—
REC 54**	10 15/16	6	5	15 1/2	1½
RE 6	13 15/16	6 1/4	6	15 1/2	—
REC 6	13 15/16	6 1/4	6	15 1/2	1½
RE 8XL	16 9/16	5 15/16	8	20	—
REC 8XL	16 9/16	5 15/16	8	20	1½
RE 10XL	20 13/16	11 1/2	10	20	—
REC 10XL	20 13/16	11 1/2	10	20	1½
RE 10XLT	20 13/16	12 11/16	10	20	—
REC 10XLT	20 13/16	12 11/16	10	20	1½

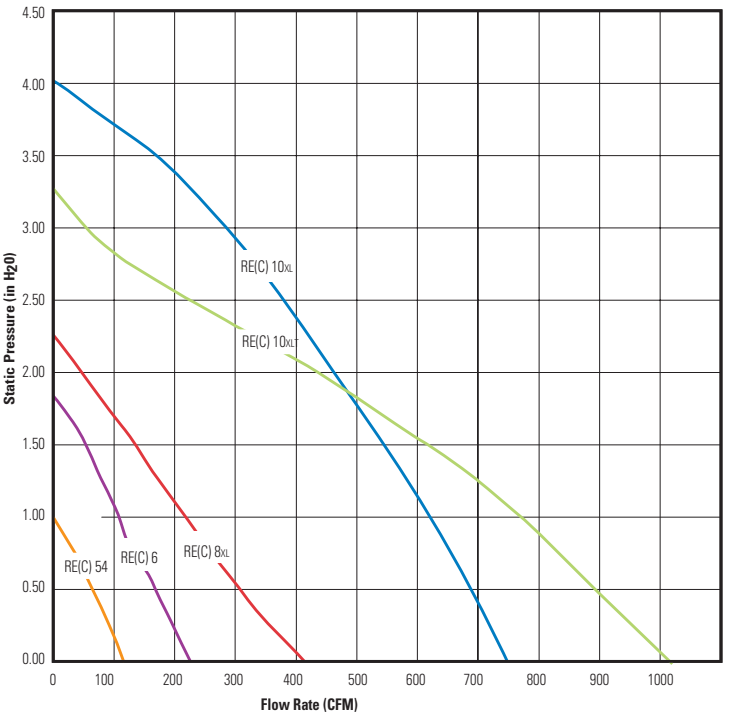
All dimensions in inches.

† Male duct connector is 1/8" smaller than duct size.

*** Supplied with 5" to 4" reducer*

Fantech, Inc. and Systemair, Inc. certify that the RE & REC Series shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

AIR PERFORMANCE GRAPH



PERFORMANCE DATA (For sound performance data refer to publication RE(C)-1010.)

Fan Model	RPM	Voltage	Rated Watts	Max. Amps	Static Pressure in Inches W.G. 0"	0.125"	0.25"	0.375"	0.5"	0.75"	1.0"	1.25"	1.5"	2.0"	2.5"	Max. Ps	Duct Dim.	Sones†
RE 54	3040	115	19	0.18	116	105	92	79	65	36	1	—	—	—	—	—	4"	*3.5
RE 6	2700	115	87	0.80	227	213	199	184	169	134	106	80	51	—	—	1.84"	6"	*7.5
RE 8XL	2800	115	153	1.40	409	382	356	331	307	259	212	170	130	43	—	2.23"	8"	*8.9
RE 10XL	3250	115	394	3.60	753	738	721	705	690	656	622	586	548	467	383	4.03"	10"	‡16.4
RE 10XLT	2950	115	531	4.86	1008	979	949	919	890	831	766	695	609	429	217	3.17"	10"	‡21.0

Performance certified is for installation type A - Free inlet, Free outlet. Speed (RPM) shown is nominal. Performance is based on actual speed of test.
Performance ratings do not include the effects of appurtenances (accessories).

† The sound ratings shown are loudness values in fan sones at 5ft. (1.5m) in hemispherical free field calculated per AMCA Standard 301. Values shown are for installation Type A: free inlet hemispherical fan sone levels.

** Sone value shown was calculated at 0.5" (static pressure in inches W.G.).*

‡ Sone value shown was calculated at 0.75" (static pressure in inches W.G.).

Fantech

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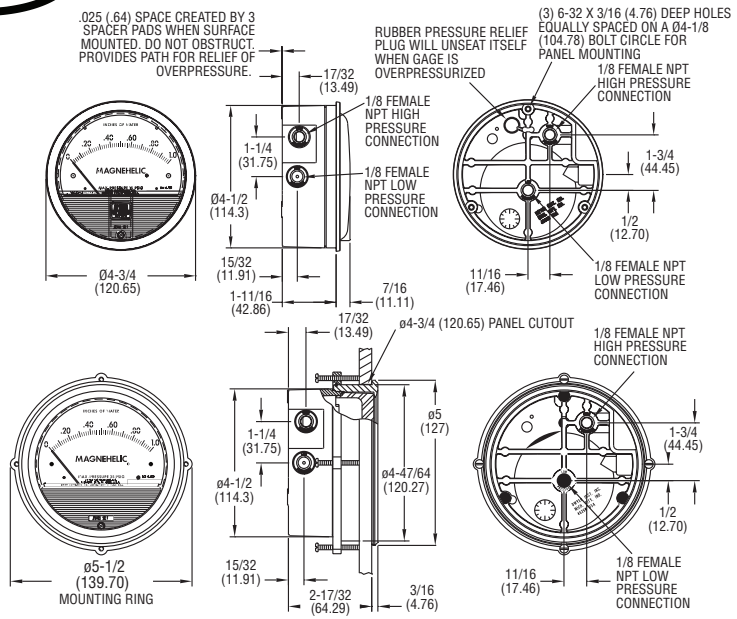
Item #: 450443
Rev Date: 092410

Bulletin A-27

Magnehelic® Differential Pressure Gage



**The blowout plug is not used on models above 180 inches of water pressure, medium or high pressure models, or on gages which require an elastomer other than silicone for the diaphragm.*

STANDARD GAGE ACCESSORIES: Two 1/8″ NPT plugs for duplicate pressure taps, two 1/8″ pipe thread to rubber tubing adapters and three flush mounting adapters with screws.

MP AND HP GAGE ACCESSORIES: Mounting ring and snap ring retainer substituted for 3 adaptors, 1/4" compression fittings replace 1/8" pipe thread to rubber tubing adaptors.

OVERPRESSURE PROTECTION: Standard Magnehelic® Differential Pressure Gages are rated for a maximum pressure of 15 psig and should not be used where that limit could be exceeded. Models employ a rubber plug on the rear which functions as a relief valve by unseating and venting the gage interior when over pressure reaches approximately 25 psig (excludes MP and HP models). To provide a free path for pressure relief, there are four spacer pads which maintain .023″ clearance when gage is surface mounted. Do not obstruct the gap created by these pads.

SPECIFICATIONS

Service: Air and non-combustible, compatible gases. (Natural Gas option available.)
Wetted Materials: Consult factory.
Housing: Die cast aluminum case and bezel, with acrylic cover. (MP model has polycarbonate cover).
Accuracy: ±2% of full scale (±3% on - 0, -100 Pa, -125 Pa, 10MM and ±4% on -00, - 00N, -60 Pa, -6MM ranges), throughout range at 70°F (21.1°C).
Pressure Limits: -20″ Hg to 15 psig.† (-0.677 bar to 1.034 bar); MP option: 35 psig (2.41 bar), HP option: 80 psig (5.52 bar).
Overpressure: Relief plug opens at approximately 25 psig (1.72 bar), standard gages only. The blowout plug is not used on models above 180 inches of water pressure, medium or high pressure models, or on gages which require an elastomer other than silicone for the diaphragm.
Temperature Limits: 20 to 140°F (-6.67 to 60°C). *Low temperature models available as special option.
Size: 4″ (101.6 mm) diameter dial face.
Mounting Orientation: Diaphragm in vertical position. Consult factory for other position orientations.
Process Connections: 1/8″ female NPT duplicate high and low pressure taps - one pair side and one pair back.
Weight: 1 lb 2 oz (510 g), MP & HP 2 lb 2 oz (963 g).
Agency Approvals: RoHS.

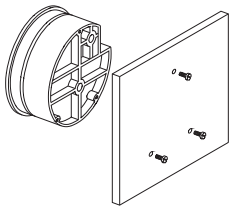
†For applications with high cycle rate within gage total pressure rating, next higher rating is recommended. See Medium and High pressure options.

Note: May be used with hydrogen when ordering Buna-N diaphragm. Pressure must be less than 35 psi.

INSTALLATION

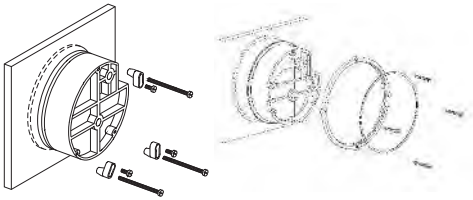
Select a location free from excessive vibration and where the ambient temperature will not exceed 140°F (60°C). Also, avoid direct sunlight which accelerates discoloration of the clear plastic cover. Sensing lines may be run any necessary distance. Long tubing lengths will not affect accuracy but will increase response time slightly. Do not restrict lines. If pulsating pressures or vibration cause excessive pointer oscillation, consult the factory for ways to provide additional damping.
All standard Magnehelic® Differential Pressure Gages are calibrated with the diaphragm vertical and should be used in that position for maximum accuracy. If gages are to be used in other than vertical position, this should be specified on the order. Many higher range gages will perform within tolerance in other positions with only rezeroing. Low range models of 0.5" w.c. plus 0.25" w.c. and metric equivalents must be used in the vertical position only.

SURFACE MOUNTING



Locate mounting holes, 120° apart on a 4-1/8" dia. circle. Use No. 6-32 machine screws of appropriate length.

FLUSH MOUNTING



Provide a 4-9/16" dia. (116 mm) opening in panel. Provide a 4-3/4" dia. (120 mm) opening for MP and HP models. Insert gage and secure in place with No. 6-32 machine screws of appropriate length, with adapters, firmly secured in place.

PIPE MOUNTING

To mount gage on 1-1/4" - 2" pipe, order optional A-610 pipe mounting kit.

TO ZERO GAGE AFTER INSTALLATION

Set the indicating pointer exactly on the zero mark, using the external zero adjust screw on the cover at the bottom. Note that the zero check or adjustment can only be made with the high and low pressure taps both open to atmosphere.

OPERATION

Positive Pressure: Connect tubing from source of pressure to either of the two high pressure ports. Plug the port not used. Vent one or both low pressure ports to atmosphere.
Negative Pressure: Connect tubing from source of vacuum or negative pressure to either of the two low pressure ports. Plug the port not used. Vent one or both high pressure ports to atmosphere.
Differential Pressure: Connect tubing from the greater of two pressure sources to either high pressure port and the lower to either low pressure port. Plug both unused ports.
When one side of the gage is vented in dirty, dusty atmosphere, we suggest an A-331 Filter Vent Plug be installed in the open port to keep inside of gage clean.

A. For portable use of temporary installation use 1/8" pipe thread to rubber tubing adapter and connect to source of pressure with flexible rubber or vinyl tubing.
B. For permanent installation, 1/4" O.D., or larger, copper or aluminum tubing is recommended.

MAINTENANCE

No lubrication or periodic servicing is required. Keep case exterior and cover clean. Occasionally disconnect pressure lines to vent both sides of gage to atmosphere and re-zero. Optional vent valves should be used in permanent installations. The Series 2000 is not field serviceable and should be returned if repair is needed (field repair should not be attempted and may void warranty). Be sure to include a brief description of the problem plus any relevant application notes. Contact customer service to receive a return goods authorization number before shipping.

WARNING

Attempted field repair may void your warranty. Recalibration or repair by the user is not recommended.

TROUBLE SHOOTING TIPS

Gage won't indicate or is sluggish.

1. Duplicate pressure port not plugged.
2. Diaphragm ruptured due to overpressure.
3. Fittings or sensing lines blocked, pinched, or leaking.
4. Cover loose or "O"ring damaged, missing.
5. Pressure sensor, (static tips, Pitot tube, etc.) improperly located.
6. Ambient temperature too low. For operation below 20°F (-7°C), order gage with low temperature, (LT) option.

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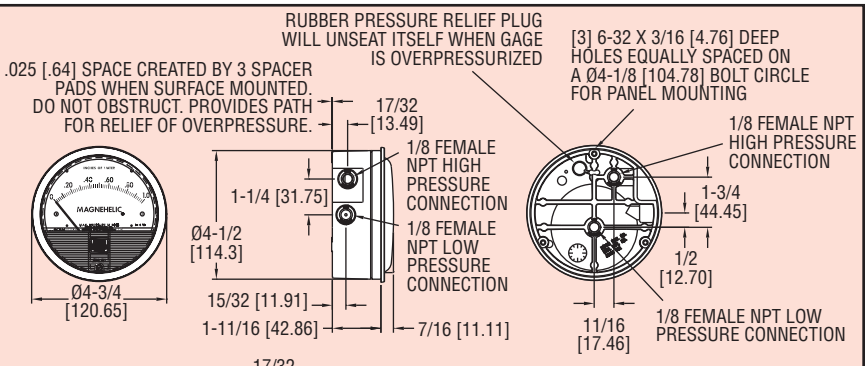
Series 2000

Magnehelic® Differential Pressure Gages

Indicate Positive, Negative or Differential, Accurate within 2%



Scan here to watch product video

Select the Dwyer® Magnehelic® gage for high accuracy – guaranteed within 2% of full-scale – and for the wide choice of 81 models available to suit your needs precisely. Using Dwyer's simple, frictionless Magnehelic® gage movement, it quickly indicates low air or non-corrosive gas pressures – either positive, negative (vacuum) or differential. The design resists shock, vibration and over-pressures. No manometer fluid to evaporate, freeze or cause toxic or leveling problems. It's inexpensive, too.

The Magnehelic® gage is the industry standard to measure fan and blower pressures, filter resistance, air velocity, furnace draft, pressure drop across orifice plates, liquid levels with bubbler systems and pressures in fluid amplifier or fluidic systems. It also checks gas-air ratio controls and automatic valves, and monitors blood and respiratory pressures in medical care equipment.

MOUNTING

A single case size is used for most models of Magnehelic® gages. They can be flush or surface mounted with standard hardware supplied. Although calibrated for vertical position, many ranges above 1″ may be used at any angle by simply re-zeroing. However, for maximum accuracy, they must be calibrated in the same position in which they are used. These characteristics make Magnehelic® gages ideal for both stationary and portable applications. A 4-9/16″ hole is required for flush panel mounting. Complete mounting and connection fittings, plus instructions, are furnished with each instrument.❶

SPECIFICATIONS

Service: Air and non-combustible, compatible gases (natural gas option available). **Note:** May be used with hydrogen. Order a Buna-N diaphragm. Pressures must be less than 35 psi.
Wetted Materials: Consult factory.
Housing: Die cast aluminum case and bezel, with acrylic cover. Exterior finish is coated gray to withstand 168 hour salt spray corrosion test.
Accuracy: ±2% of FS (±3% on - 0, -100 Pa, -125 Pa, 10MM and ±4% on - 00, -60 Pa, -6MM ranges), throughout range at 70°F (21.1°C).
Pressure Limits: -20 in Hg to 15 psig† (-0.677 to 1.034 bar); MP option: 35 psig (2.41 bar); HP option: 80 psig (5.52 bar).
Overpressure: Relief plug opens at approximately 25 psig (1.72 bar), standard gages only.❷
Temperature Limits: 20 to 140°F* (-6.67 to 60°C). -20°F (-28°C) with low temperature option.
Size: 4″ (101.6 mm) diameter dial face.
Mounting Orientation: Diaphragm in vertical position. Consult factory for other position orientations.
Process Connections: 1/8″ female NPT duplicate high and low pressure taps - one pair side and one pair back.
Weight: 1 lb 2 oz (510 g), MP & HP 2 lb 2 oz (963 g).
Standard Accessories: Two 1/8″ NPT plugs for duplicate pressure taps, two 1/8″ pipe thread to rubber tubing adapter, and three flush mounting adapters with screws. (Mounting and snap ring retainer substituted for three adapters in MP & HP gage accessories.)
Agency Approval: RoHS. **Note:** -SP models not RoHS approved.

†For applications with high cycle rate within gage total pressure rating, next higher rating is recommended. See Medium and High pressure options.

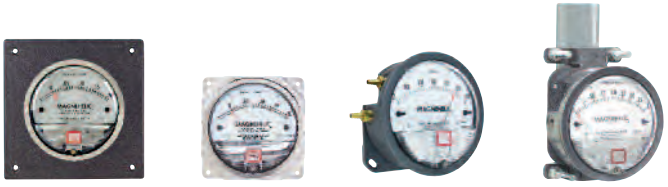
ACCESSORIES

Model A-432 Portable Kit
Combine carrying case with any Magnehelic® gage of standard range, except high pressure connection. Includes 9 ft (2.7 m) of 3/16″ ID rubber tubing, standhang bracket and terminal tube with holder **$48.00**

Model A-605 Air Filter Gage Accessory Kit
Adapts any standard Magnehelic® gage for use as an air filter gage. Includes aluminum surface mounting bracket with screws, two 5 ft (1.5 m) lengths of 1/4″ aluminum tubing two static pressure tips and two molded plastic vent valves, integral compression fittings on both tips and valves **36.25**

A-605B Air Filter Gage Accessory Kit, Air filter kit with two plastic open/close valves, two 4″ steel static tips, plastic tubing and mounting flange **27.50**

A-605C Air Filter Gage Accessory Kit, Air filter kit with two plastic open/close valves, two plastic static tips, plastic tubing and mounting flange **22.25**



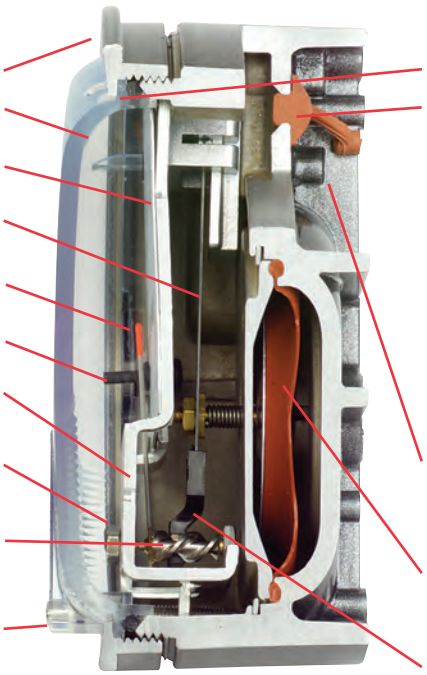
Flush, Surface, Integrated Plate or Pipe Mounted

Enclosure Mounted

❶See page 7 (Magnehelic® Gage Mounting Accessories)
❷Over Protection Note: See page 5 (Series 2000)

Series 2000

Magnehelic® Gage Models & Ranges



Bezel provides flange for flush mounting in panel.

Clear plastic face is highly resistant to breakage. Provides undistorted viewing of pointer and scale.

Precision litho-printed scale is accurate and easy to read.

Calibrated range spring is flat spring steel. Small amplitude of motion assures consistency and long life. It reacts to pressure on diaphragm. Live length adjustable for calibration.

Red tipped pointer of heat treated aluminum tubing is easy to see. It is rigidly mounted on the helix shaft.

Pointer stops of molded rubber prevent pointer over-travel without damage.

"Wishbone" assembly provides mounting for helix, helix bearings and pointer shaft.

Jeweled bearings are shock-resistant mounted; provide virtually friction-free motion for helix. Motion damped with high viscosity silicone fluid.

Helix is precision made from an alloy of high magnetic permeability. Mounted in jeweled bearings, it turns freely, following the magnetic field to move the pointer across the scale.

Zero adjustment screw is conveniently located in the plastic cover, and is accessible without removing cover. O-ring seal provides pressure tightness.

O-ring seal for cover assures pressure integrity of case.

OVERPRESSURE PROTECTION
Blowout plug is comprised of a rubber plug on the rear which functions as a relief valve by unseating and venting the gage interior when over pressure reaches approximately 25 psig (1.7 bar). To provide a free path for pressure relief, there are four spacer pads which maintain 0.023″ clearance when gage is surface mounted. Do not obstruct the gap created by these pads.
The blowout plug is not used on models above 180″ of water pressure, medium or high pressure models, or on gages which require an elastomer other than silicone for the diaphragm.
The blowout plug should not be used as a system overpressure control. High supply pressures may still cause the gage to fail due to over pressurization, resulting in property damage or serious injury. Good engineering practices should be utilized to prevent your system from exceeding the ratings or any component.

Die cast aluminum case is precision made and iridite-dipped to withstand 168 hour salt spray corrosion test. Exterior finished in baked dark gray hammerloid. One case size is used for all standard pressure options, and for both surface and flush mounting.

Silicone rubber diaphragm with integrally molded O-ring is supported by front and rear plates. It is locked and sealed in position with a sealing plate and retaining ring. Diaphragm motion is restricted to prevent damage due to overpressures.

Samarium Cobalt magnet mounted at one end of range spring rotates helix without mechanical linkages.

Model	Range Inches of Water	Price
2000-00N†••	.05-0-.2	$77.45
2000-00†••	0-.25	73.00
2000-0†•	0-.50	63.50
2001	0-1.0	63.50
2002	0-2.0	63.50
2003	0-3.0	63.50
2004	0-4.0	63.50
2005	0-5.0	63.50
2006	0-6.0	63.50
2008	0-8.0	63.50
2010	0-10	63.50
2012	0-12	63.50
2015	0-15	63.50
2020	0-20	63.50
2025	0-25	63.50
2030	0-30	63.50
2040	0-40	63.50
2050	0-50	63.50
2060	0-60	63.50
2080	0-80	63.50
2100	0-100	63.50
2120	0-120	63.50
2150	0-150	63.50
2160	0-160	63.50
2180*	0-180	148.50
2250*	0-250	148.50
Zero Center Ranges		
2300-00†••	0.125-0-0.125	$74.00
2300-0†•	.25-0-.25	74.00
2301	.5-0-.5	74.00
2302	1-0-1	74.00
2304	2-0-2	74.00
2310	5-0-5	74.00
2320	10-0-10	74.00
2330	15-0-15	74.00

Model	Range PSI	Price
2201	0-1	$67.95
2202	0-2	67.95
2203	0-3	67.95
2204	0-4	67.95
2205	0-5	67.95
2210*	0-10	127.95
2215*	0-15	127.95
2220*	0-20	127.95
2230**	0-30	207.50

Model	Range, CM of Water	Price
2000-15CM	0-15	$63.50
2000-20CM	0-20	63.50
2000-25CM	0-25	63.50
2000-50CM	0-50	63.50
2000-80CM	0-80	63.50
2000-100CM	0-100	63.50
2000-150CM	0-150	67.95
2000-200CM	0-200	67.95
2000-250CM	0-250	67.95
2000-300CM	0-300	67.95
Zero Center Ranges		
2300-4CM	2-0-2	$78.45
2300-10CM	5-0-5	78.45
2300-30CM	15-0-15	78.45

†These ranges calibrated for vertical scale position.
• Accuracy +/-3%
•• Accuracy +/-4%
*MP option standard
**HP option standard

Model	Range MM of Water	Price
2000-6MM†••	0-6	$73.00
2000-10MM†•	0-10	63.50
2000-15MM	0-15	63.50
2000-25MM	0-25	63.50
2000-30MM	0-30	63.50
2000-50MM	0-50	63.50
2000-80MM	0-80	63.50
2000-100MM	0-100	63.50
2000-125MM	0-125	63.50
2000-150MM	0-150	63.50
2000-200MM	0-200	63.50
2000-250MM	0-250	63.50
2000-300MM	0-300	63.50
Zero Center Ranges		
2300-6MM†••	3-0-3	$99.00
2300-10MM†•	5-0-5	74.00
2300-20MM†•	10-0-10	74.00

Model	Range, Pa	Price
2000-60NPA†••	10-0-50	$77.45
2000-60PA†••	0-60	73.00
2000-100PA†•	0-100	63.50
2000-125PA†•	0-125	63.50
2000-250PA	0-250	63.50
2000-300PA	0-300	63.50
2000-500PA	0-500	63.50
2000-750PA	0-750	63.50
2000-1000PA	0-1000	63.50
Zero Center Ranges		
2300-60PA†••	30-0-30	$74.00
2300-100PA†•	50-0-50	74.00
2300-120PA	60-0-60	74.00
2300-200PA	100-0-100	74.00
2300-250PA	125-0-125	74.00
2300-300PA	150-0-150	74.00
2300-500PA	250-0-250	74.00
2300-1000PA	500-0-500	74.00

Model	Range, kPa	Price
2000-0.5KPA	0-0.5	$63.50
2000-1KPA	0-1	63.50
2000-1.5KPA	0-1.5	63.50
2000-2KPA	0-2	63.50
2000-2.5KPA	0-2.5	63.50
2000-3KPA	0-3	63.50
2000-4KPA	0-4	63.50
2000-5KPA	0-5	63.50
2000-8KPA	0-8	63.50
2000-10KPA	0-10	63.50
2000-15KPA	0-15	63.50
2000-20KPA	0-20	63.50
2000-25KPA	0-25	63.50
2000-30KPA	0-30	63.50
Zero Center Ranges		
2300-1KPA	.5-0-.5	$74.00
2300-2KPA	1-0-1	74.00
2300-2.5KPA	1.25-0-1.25	74.00
2300-3KPA	1.5-0-1.5	74.00

Dual Scale Air Velocity Units
For use with pitot tube

Model	Range in W.C./ Velocity F.P.M.	Price
2000-00AV†••	0-.25/ 300-2000	$98.00
2000-0AV†•	0-.50/ 500-2800	88.50
2001AV	0-1.0/ 500-4000	67.95
2002AV	0-2.0/ 1000-5600	67.95
2005AV	0-5.0/ 2000-8800	67.95
2010AV	0-10/ 2000-12500	67.95

Dual Scale English/Metric Models

Model	Range, in w.c.	Range, Pa or kPa	Price
2000-00D†••	0-.25	0-62 Pa	$73.00
2000-0D†•	0-0.5	0-125 Pa	67.95
2001D	0-1.0	0-250 Pa	67.95
2002D	0-2.0	0-500 Pa	67.95
2003D	0-3.0	0-750 Pa	67.95
2004D	0-4.0	0-1.0 kPa	67.95
2005D	0-5.0	0-1.25 kPa	67.95
2006D	0-6.0	0-1.5 kPa	67.95
2008D	0-8.0	0-2.0 kPa	67.95
2010D	0-10	0-2.5 kPa	67.95
2015D	0-15	0-3.7 kPa	67.95
2020D	0-20	0-5 kPa	88.50
2025D	0-25	0-6.2 kPa	88.50
2050D	0-50	0-12.4 kPa	88.50
2060D	0-60	0-15 kPa	88.50

VELOCITY AND VOLUMETRIC FLOW UNITS
Scales are available on the Magnehelic® that read in velocity units (FPM, m/s) or volumetric flow units (SCFM, m^3/s, m^3/h). Stocked velocity units with dual range scales in inches w.c. and feet per minute are shown above. For other ranges contact the factory.
When ordering volumetric flow scales please specify the maximum flow rate and its corresponding pressure. Example: 0.5 in w.c. = 16,000 CFM.

ACCESSORIES
A-321, Safety Relief Valve **$36.50**
A-448, 3-piece magnet kit for mounting Magnehelic® gage directly to magnetic surface **10.75**
A-135, Rubber gasket for panel mounting **1.50**
A-401, Plastic Carry Case **26.25**

A-310A 3-Way Vent Valves **17.50**
In applications where pressure is continuous and the Magnehelic® gage is connected by metal or plastic tubing which cannot be easily removed, we suggest using Dwyer A-310A vent valves to connect gage. Pressure can then be removed to check or re-zero the gage.

APPENDIX K

REMEDIAL SYSTEM OPTIMIZATION TABLE OF CONTENTS

REMEDIAL SYSTEM OPTIMIZATION FOR 211 FRANKLIN STREET, OLEAN, NEW YORK, BCP Site: C905038

TABLE OF CONTENTS