

**Utility Platers/Kingston Diagnostics**  
**ULSTER COUNTY, NEW YORK**

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**Site Management Plan**

**NYSDEC Site Number: C356035**

**Prepared for:**

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I Deborah J. Thompson certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with DER Technical Guidance for Site Investigation and Remediation (DER-10).

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**Revisions to Final Approved Site Management Plan:**

Revision #	Submitted Date	Summary of Revision	DEC Approval Date

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**SEPTEMBER 2010**

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# **SITE MANAGEMENT PLAN**

## **1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM**

### **1.1 INTRODUCTION**

This document is required as an element of the remedial program at Utility Platers/Kingston Diagnostics (hereinafter referred to as the “Site”, Figure 1) under the New York State (NYS) Brownfield Cleanup Program (BCP) administered by New York State Department of Environmental Conservation (NYSDEC). The site was remediated in accordance with Brownfield Cleanup Agreement (BCA) Index# W3-1131-09-02, Site # C356035, which was executed on March 2009. The contiguous property, formerly Kingston Diagnostics, was accepted into the BCP as an amendment to Site C356035 in November 2009 (BCA Index # W3-1144-0910). Both parcels are hereafter referred to as “the Site”.

#### **1.1.1 General**

Northeast Retail Leasing & Management Company, LLC (Northeast) entered into a BCA with the NYSDEC to remediate an approximate 1.73-acre combined parcel historically known as Utility Platers (1.02-acres) and Kingston Diagnostics (0.71-acre) located in the city of Kingston, Ulster County, New York. This BCA required the Remedial Party, Northeast, to investigate and remediate contaminated media at the Site. A Metes and Bounds survey showing the site location and boundaries are provided in Appendix B and the Environmental Easement document is attached as Appendix C. The boundaries of the Site are more fully described in the Metes and Bounds site description that is part of the Environmental Easement.

After completion of the remedial work described in the Remedial Action Work Plan (RAWP), some contamination was left in the subsurface at this Site, which is hereafter referred to as ‘remaining contamination.’ This Site Management Plan (SMP) was prepared to manage remaining contamination at the Site until the Environmental

Easement is extinguished in accordance with ECL Article 71, Title 36. All reports associated with the Site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

This SMP was prepared by DT Consulting Services, Inc. (DTCS), on behalf of Northeast, in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, dated May 2010, and the guidelines provided by NYSDEC. This SMP addresses the means for implementing the Institutional Controls (ICs) and Engineering Controls (ECs) that are required by the Environmental Easement for the Site.

### **1.1.2 Purpose**

The Site contains residual contamination left after completion of the remedial action. Engineering Controls have been incorporated into the site remedy to control exposure to remaining contamination during the use of the Site to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC, and recorded with the Ulster County Clerk, will require compliance with this SMP and all ECs and ICs placed on the Site. The ICs place restrictions on site use, and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs. This SMP specifies the methods necessary to ensure compliance with all ECs and ICs required by the Environmental Easement. 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.

This SMP provides a detailed description of all procedures required to manage remaining contamination at the Site after completion of the Remedial Action, including: (1) implementation and management of all Engineering and Institutional Controls; (2) media monitoring; (3) operation and maintenance of all treatment, collection, containment, or recovery systems; (4) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports; and (5) defining criteria for termination of treatment system operations.

To address these needs, this SMP includes three plans: (1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs; (2) a Monitoring Plan for implementation of Site Monitoring; (3) an Operation and

Maintenance Plan for implementation of remedial collection, containment, treatment, and recovery systems (including, where appropriate, preparation of an Operation and Maintenance Manual for complex systems).

This plan also includes a description of Periodic Review Reports for the periodic submittal of data, information, recommendations, and certifications to 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 # W3-1131-09-02/BCA Amendment Index No. W3-1144-09-10; Site #C356035 for the Site, and thereby subject to applicable penalties.

### **1.1.3 Revisions**

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. 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.

## **1.2 SITE BACKGROUND**

### **1.2.1 Site Location and Description**

The Site is located in the City of Kingston, County of Ulster, New York and is identified as Section, Block and Lot Number 48.314-1-11.1 on the City of Kingston Tax Map. The Site is an approximately 1.73-acre area bounded by Schwenk Drive to the north, Trailways Bus Terminal to the south, Esposito's Dry Cleaning to the east, and Washington Avenue to the west (see Figure 1). The boundaries of the site are more fully described in Appendix B – Metes and Bounds.

### **1.2.2 Site History**

Located on an irregularly shaped 1.02-acre commercial lot, the site, formerly known as Utility Platers, was improved with a one-story (slab on grade) masonry block structure that was operated as a zinc and chromium plating facility until its closure in the latter half of 2005. According to City of Kingston Assessor records, the building had an area of 3,470-ft<sup>2</sup> and was constructed in 1955. The facility housed two single-bay service bays, operation area, an office section, storage areas, and restroom. Use of the property for commercial plating services reportedly dates back to the 1950's. The facility was historically registered with the New York State Department of Environmental Conservation (NYSDEC) Petroleum Bulk Storage (PBS) Program as PBS No. 3-028886 and maintained an air permit (3510800069) until the facility operation was decommissioned. The building on the property has been demolished and removed from the property. The contiguous property, formerly Kingston Diagnostics, was accepted into the BCP as an amendment to Site C356035 in November 2009 on account of subsurface contamination encountered on this 0.71-acre parcel.

Four previous site intrusive environmental investigations have been conducted on the subject property. Each of these investigations was performed to assess the environmental status of the site by identifying existing or potential environmental conditions. Each of these reports can be referenced in the Utility Platers, Inc. Brownfield Cleanup Program (BCP) Application, September 9, 2008.

Ira D. Conklin & Sons, Inc. (IDC) completed a Site Investigation Report at the site in November 2004. The purpose of the plan was to “identify and characterize any contamination that may exist in soil and/or groundwater in the vicinity of the presently operating facility” (IDC, November 2004). The presence of soil and groundwater impacts was verified during the site investigation. Subsequent laboratory analysis confirmed elevated concentrations of targeted volatile and semi-volatile organic compounds (VOCs/SVOCs) and heavy metals in site soils and/or groundwater. Ira D. Conklin & Sons, Inc. (IDC) completed a Remedial Work Plan at the site on July 1, 2005. The purpose of the plan was to “document the site work to be completed in order to fully characterize the contamination present on the subject property” (IDC, July 2005). To date, documentation with regard to the actual execution of this work plan has not been located.



Steve Kalka, LLC completed a Soil Boring/Sampling Investigation at the site in October and December 2005. The purpose of the plan was to provide quantitative data on subsurface conditions in the vadose zone. In October 2005, a total of five borings were advanced along the inside property line of Adirondack Trailways which borders Utility Platers, Inc. to the south. Although laboratory detectable concentrations of VOCs, SVOCS and heavy metals were encountered, none of the concentrations reported were above NYSDEC Technical and Administrative Guidance Memorandum (TAGM) 4046 recommend soil cleanup objective (RSCO).

Subsequently, in December 2005, Steve Kalka, LLC installed four soil borings and one core sample through the concrete floor within the interior of the Utility Platers facility. Laboratory analysis revealed elevated concentrations of Trichloroethylene (TCE) and its daughter breakdown components, 1,1,1-Trichloroethene and 1,2-Dichloroethylene in all samples submitted for testing.

DT Consulting Services, Inc. completed additional Subsurface Investigation activities at the site between May and June 2008. The objective of the investigation was to provide quantitative data on targeted volatile and semi-volatile organic compounds and Priority Pollutant Metals detected within on-site groundwater, soil and/or soil vapor; and offer recommendations as necessary to further investigate and/or remediate contaminated source areas. Laboratory reporting on soil samples collected from areas surrounding the suspect tank field and select down-gradient locations revealed elevated concentrations of targeted VOCs and SVOCSs. Most of the remaining soil monitoring locations detected Trichloroethylene, most likely as a result of its historical use as a degreasing agent during plating operations. The compound trichloroethylene was the parameter of concern for the vapor intrusion assessment, being the primary constituent of the groundwater impact crossing the Utility Platers site. Results include the detection of TCE and cis-1,2-Dichloroethylene at the adjacent Kingston Diagnostics facility. The source of the vapors is believed to be the VOC impacted groundwater migrating below the site from an up-gradient source (i.e. Utility Platers). The Kingston Diagnostics property is the contiguous down-gradient parcel from Utility Platers and is part of the commercial redevelopment location.

For the purposes of establishing quantitative data on local aquifer conditions, five temporary micro-wells were installed on the Utility Platers and Kingston Diagnostic facilities in 2009. As per the agreement with the NYSDEC, DTCS would install and report on permanent groundwater monitoring wells prior to the submittal of the Final Engineering Report. Laboratory data for groundwater samples obtained adjacent to the suspect tank field revealed concentrations of targeted petroleum hydrocarbons, specifically within MW-1. All of the remaining wells, with the exception of MW-5 contained laboratory reportable concentrations of TCE and its dechlorination compounds of 1,2 DCE and VC in excess of their respective groundwater quality standard. A supplemental groundwater investigation conducted in May-June 2010 (post-remediation) by DTCS, revealed low concentrations of targeted VOCs.

### **1.2.3 Geologic Conditions**

Site geology has been characterized through numerous site investigations and can be characterized as light brown fill to four feet below grade surface (bgs), brown sandy till (+/-4-8' bgs), underlain by grey, dense clay (+/-8-12' bgs). Perched groundwater was encountered directly above the confining layer at a depth of approximately eight – twelve feet below grade. Attached as Figure 3 is a Geological Cross-Section of subsurface materials encountered on-site. Bedrock was not encountered during site investigations.

Multiple studies have been conducted to understand local groundwater flow, which is from the southwest to the northeast, toward the Esopus Creek. A groundwater flow figure is shown in Figure 4. Regional groundwater flow is interpreted to be generally eastward toward the Hudson River.

## **1.3 SUMMARY OF REMEDIAL INVESTIGATION FINDINGS**

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 reports:

- Ira D. Conklin & Sons, *Site Investigation Report*, November 2004
- Ira D. Conklin & Sons, *Remedial Work Plan*, July 2005

- Steve Kalka, LLC, *Soil Boring/Sampling Investigation*, October & December 2005
- DT Consulting Services, Inc., *Subsurface Investigation*, September 2008.
- DT Consulting Services, Inc., *Remedial Investigative Report and Supplemental Groundwater Report*, August 2010.

Generally, the RI determined that Trichloroethylene (TCE) and its daughter breakdown components, 1,1,1-Trichloroethene and 1,2-Dichloroethylene was present in Site soil and groundwater as a result of the handling/storage/disposal practices at the former Utility Platers facility. The plume was delineated and proven to be concentrated beneath the historical Utility Platers site structure, with some contaminant migration via groundwater flow onto the adjacent Kingston Diagnostics parcel.

Below is a summary of Site conditions when the RI was performed at the site in 2009-2010:

#### Soil

Several VOCs were detected during the analysis of the soil samples during this RI. TCE was detected in most of the soil samples obtained from within the footprint of the historical Utility Platers site structure. The detected TCE concentration ranged from 6 µg/kg to 160,000 µg/kg. In addition to the chlorinated solvent TCE, laboratory analysis confirmed that the reductive dechlorination of the TCE compound is occurring, as confirmed by the presence of dichloroethene, DCE. DCE was encountered in all of the samples with elevated concentrations of TCE. Laboratory reporting on soil samples collected from areas surrounding the suspect tank field(s) adjacent to the site structure revealed laboratory reportable concentrations of targeted VOCs, namely petroleum hydrocarbons such as 1,2,4-Trimethylbenzene, Xylene, Ethylbenzene, Butylbenzene, and Toluene. Although encountered, all targeted VOCs were below applicable Part 375 SCOs.

All of the detected SVOCSs were polycyclic aromatic hydrocarbons (PAHs). The detected concentrations ranged from 75 µg/kg (anthracene) to 530 µg/kg (fluoranthene), with all reported compounds falling below Part 375 unrestricted SCOs.

Metals were detected in all of the soil boring samples analyzed, owing to their natural presence in rock and soil minerals. Most all of the priority pollutant (PP) metals encountered during laboratory tested were below Part 375 commercial SCOs. Most likely

the result of commercial plating services being performed at the facility dating back to the 1950s, cadmium and chromium, two compounds known to be utilized frequently in the plating process, were found in almost all of the RI samples.

Representative soil data from the RI are summarized in Table 4.

#### Site-Related Groundwater

TCE detection in groundwater at the site was the main element of remedial concern. Concentrations up to 14,000 ug/L were identified during the remedial investigation. In addition to TCE, its associated dechlorination components, namely DCE and Vinyl Chloride (VC) were detected during laboratory analysis, but at concentrations of 8,400 and 3,900 ug/L respectively. There were no reportable semi-volatile organic compounds detected during initial groundwater sampling. While three out of the five overburden monitoring wells produced the most trace metals over groundwater quality standards were located in the east and northeast quadrants of the site, in the assumed direction of groundwater flow.

Figure 7A displays the extent of the plume in 2009, prior to executing on-site Interim Remedial Measures (IRMs), namely source removal. Upon completion of the source removal, TCE, DCE and Vinyl Chloride levels decreased to just several hundred ug/L (Figure 7B) and the plume was more localized to an area directly down-gradient of the former Utility Platers site structure (i.e. known source location).

Off-site dissolved phase contamination was initially identified in the continuous parcel known as Kingston Diagnostics (now part of the combined Site parcel). Migration of TCE, DCE and to a lesser extent VC, were found in monitoring wells located adjacent to the shared property boundary.

#### Site-Related Soil Vapor Intrusion

The compound trichloroethylene was the parameter of concern for the vapor intrusion assessment, being the primary constituent of the groundwater impact crossing the Utility Platers site and onto the Kingston Diagnostics parcel. Results included the detection of TCE and cis-1,2-Dichloroethylene during TO-14 and 14A methods analysis at concentrations of 53/6.95 and 290/28.03 ug/m<sup>3</sup> respectively. Referring to the NYSDOH Decision Matrix, the allowable indoor air readings for TCE is 5 ug/m<sup>3</sup>. As a result of this data, it was determined that a vapor intrusion condition exceeding state regulatory standard was potentially present at the Kingston Diagnostics facility. The source of the vapors is believed to be the VOC impacted groundwater migrating below

the site from an up-gradient source (i.e. Utility Platers). The Kingston Diagnostics property is the contiguous down-gradient parcel from Utility Platers and is part of the BCP redevelopment location.

### Underground Storage Tanks

The Utility Platers facility was historically a registered petroleum bulk storage facility (PBS No. 3-028886). According to documents reviewed, the prior site owner had removed a 4,000 gallon #2 fuel oil UST in December of 1992 after twenty-two years of service. During the course of FOIL review, no closure documentation could be found regarding the closure of this storage tank. Geophysical surveys of both Utility Platers and the adjacent Kingston Diagnostics building lead to the discovery of three UST's (see Figure 2). Two of the three vessels have an estimated total storage capacity of 1,000-gallons, while the third tank had a capacity of 275-gallons. No other information regarding these tanks was made available during the RI.

During the removal of the storage vessels while executing the IRMs on-site, all three single-wall steel #2 fuel oil storage vessels were found to be in poor condition, displaying severe pitting, corrosion, and contained numerous holes. As each of the three underground storage tanks displayed a loss of structural integrity, petroleum impacted soils were encountered during tank closure procedures.

## **1.4 SUMMARY OF REMEDIAL ACTIONS**

The site was remediated in accordance with the NYSDEC-approved Interim Remedial Measure Work Plan dated July, 2009.

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

1. Excavation of soil/fill exceeding restricted residential SCOs as encountered during historical site investigations and/or the executed RI on-site.  
Contaminated materials were excavated to an approximate depth of 10-12 feet below grade surface. In all, 4,563 tons of impacted materials were excavated and removed during the execution of IRMs on-site.
2. Closure and removal of three underground #2 fuel oil storage tanks. And the excavation of approximately 350 tons of petroleum-impacted soils that surrounded the tanks.

3. Installation and maintenance of a sub-slab depressurization system to remove any VOC vapors from beneath the newly constructed (June 2010) site structure.
4. Construction and maintenance of a soil cover system consisting of asphalt pavement to prevent infiltration of storm water into the plume area; to prevent human exposure to remaining contaminated soil/fill remaining at the site; and ensure an impermeable surface remains over the footprint for optimization of the SSDS.
5. Execution and recording of an Environmental Easement to restrict land use and prevent future exposure to any contamination remaining at the site.
6. Development and implementation of a Site Management Plan for long term management of remaining contamination as required by the Environmental Easement, which includes plans for: (1) Institutional and Engineering Controls, (2) Monitoring, (3) Operation and maintenance of the SSDS and (4) Reporting;

Remedial activities were completed at the site in September – October, 2009.

#### **1.4.1 Removal of Contaminated Materials from the Site**

Confirmation samples of the excavations were compared to Part 375 Restricted Residential Use SCOs. A list of the soil cleanup objectives (SCOs) for the primary contaminants of concern (COCs) and applicable land use for this site is provided in Table 6. A figure showing areas where excavation was performed is shown in Figure 2. Remaining groundwater constituents are compared to NYSDEC TOGS 1.1.1.

The excavations on-site were for the removal of impacted soils from beneath the former operations sections of the historical Utility Platers facility, and areas directly down-gradient. During the performance of the NYSDEC approved IRMs, three underground storage tanks (one 275-gallon and two 1,000-gallon) were also uncovered and closed via removal. The tanks stored #2 fuel oil and were constructed of single wall

steel. A map showing the area where this excavation was performed is included as Figure 2.

A total of 4,563.48 tons of impacted source material was generated during the course of source removal and was staged on poly-sheeting pending laboratory analysis. Following characterization analysis, it was transported as non-hazardous waste to Deep Green of New York, Inc. (2,271.41 tons), Ontario County Landfill (2082.24 tons) and the City of Colonie Landfill (209.83 tons) for final disposal. A map showing the area where this excavation was performed is included as Figure 2.

Dissolved phase concentrations of VOCs have been substantially reduced with the execution of source removal on-site. As a small area exists with VOC concentrations slightly above the applicable standards; a post-remedy semi-annual monitoring program has been established for the site.

#### **1.4.2 Site-Related Treatment Systems**

A Sub-Slab Depressurization System (SSDS) was installed in the newly constructed on-site building. The SSDS will continue to operate to prevent soil vapor contamination from entering the on-site building. A design schematic has been attached as Figure 8 for your reference.

#### **1.4.3 Remaining Contamination**

Remedial activities, namely source removal, conducted at the Site in 2009 have proved effective in reestablishing soil and groundwater quality. As the site is classified within the restricted residential track, most all post excavation samples met Track 4 Restricted Residential SCOs (see Table 7). Table 7 summarizes the result of soil sampled collected remaining at the Site after completion of soil removal remedial actions and show that remaining soil mainly does not exceed SCOs for restricted residential use of the Site. A demarcation layer of ¼-inch diameter washed gravel and fabric was installed and the excavation area backfilled with clean imported fill material at depths ranging from twelve – eight feet below grade surface. Backfill material was placed into the excavation and compacted in 2-foot lifts to match the existing grade of the site and minimize settling. Select fill for the remedial excavation(s) met 6 NYCRR 375-6.7(d) recommended cleanup levels or applicable BCP Soil Objectives, as appropriate.

Active utility lines including municipal water, sewer, storm sewer and natural gas exist on the subject property. Contaminant levels with each of these subsurface infrastructures were returned with either non-detect or concentrations which did not exceed restricted residential SCOs.

Although soils are free of detectable concentrations of contamination that would trigger remediation, groundwater in the vicinity of MW-1 still remains impacted above the site-specific groundwater standards. The extent of the original groundwater plume and the current TCE plume in groundwater is shown in Figures 7A and 7B. As of June 2010, TCE concentrations in groundwater in the remaining plume area around MW-1 are approximately 560 parts per billion (ppb). Over the last two years, TCE has shown a dramatic improvement from initial groundwater screening of 30,000 ppb within the source area.

Table 7 and Figures 6A and 6B summarize the results of all soil samples remaining at the site after completion of Remedial Action that exceed the Track 4 (restricted residential) SCOs.

There are no other unidentified contaminated soils and/or structures onsite.



## **2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN**

### **2.1 INTRODUCTION**

#### **2.1.1 General**

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

#### **2.1.2 Purpose**

This plan provides:

- A description of all EC/ICs on the Site;
- The basic implementation and intended role of each EC/IC;
- A description of the key components of the ICs set forth in the Environmental Easement;
- A description of the features to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of EC/ICs, such as the implementation of the Excavation Work Plan 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 EC/ICs required by the site remedy, as determined by the NYSDEC.

## **2.2 ENGINEERING CONTROLS**

### **2.2.1 Engineering Control Systems**

#### **2.2.1.1 Composite Cover System**

Exposure to remaining contamination in soil/fill at the site is prevented by a soil cover system placed over the site. This cover system is comprised of a minimum of 24 inches of clean soil, asphalt pavement, concrete-covered sidewalks, and concrete building slabs. The Excavation Work Plan that appears in Appendix A 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 and maintenance of this cover are provided in the Monitoring Plan included in Section 3 of this SMP.

#### **2.2.1.2 Sub-slab Depressurization System (SSDS)**

An active SSDS has been installed on the subject property (see Attachment J for design report). The system contains an active blower unit, connected to a sub-slab gravel layer with slotted vent piping. The blower is venting up through the roof (Attachment J). The system operates by continuously vacuuming air from beneath the slab and is designed to prevent sub-slab air from entering the commercial spaces.

Procedures for operating and maintaining the SSDS are documented in the Operation and Maintenance Plan (Section 4 of this SMP). Procedures for monitoring the system are included in the Monitoring Plan (Section 3 of this SMP). The Monitoring Plan also addresses severe condition inspections in the event that a severe condition, which may affect controls at the site, occurs.

#### **2.2.1.3 Groundwater Monitoring - Monitored Natural Attenuation**

Post-remedy groundwater monitoring activities to assess ongoing natural attenuation will continue, as determined by the NYSDEC, until residual groundwater concentrations are found to be below either the NYSDEC TOGS 1.1.1 guidance values for remaining compounds, or have become asymptotic at an acceptable level over an extended period.

Procedures for collecting, handling and processing groundwater samples are included in the Field Sampling Plan (Appendix G).

### **2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems**

Generally, remedial processes are considered completed when effectiveness 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 6.4 of NYSDEC DER-10.

#### **2.2.2.1 Composite Cover System**

The asphalt and concrete cover system is a control that is likely to remain in place at the Site due to the Site's current and intended commercial use. The quality and integrity of this system will be inspected at defined, regular intervals. If a Site redevelopment plan occurs that includes non-paved areas within the environmental easement area, the Site owner or operator will first discuss the plan with the NYSDEC.

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

#### **2.2.2.2 Sub-slab Depressurization System (SSDS)**

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

#### **2.2.2.3 Monitored Natural Attenuation**

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

## 2.3 INSTITUTIONAL CONTROLS

A series of Institutional Controls is required by the Decision Document to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the Site to restricted residential or commercial uses only. Adherence to these Institutional Controls on the Site is required by the Environmental Easement and will be implemented under this Site Management Plan. These Institutional Controls are:

- Compliance with the Environmental Easement and this SMP by the Grantor and the Grantor's successors and assigns;
- All Engineering Controls must be operated and maintained as specified in this SMP;
- All Engineering Controls on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP.
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP;
- Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in this SMP;

Institutional Controls identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement.

The Site has a series of Institutional Controls in the form of site restrictions. Adherence to these Institutional Controls is required by the Environmental Easement. Site restrictions that apply to the Controlled Property are:

- The property may only be used for restricted residential use provided that the long-term Engineering and Institutional Controls included in this SMP are employed.
- The property may not be used for a higher level of use, such as unrestricted residential use without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC;

- All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- The use of the groundwater underlying the Site is prohibited without treatment rendering it safe for intended use;
- The potential for vapor intrusion must be evaluated for any buildings developed in the “Environmental Easement Area” mapped on the survey in Appendix B, and any potential impacts that are identified must be monitored or mitigated;
- Vegetable gardens and farming on the property are prohibited;
- The Site owner or remedial party will submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.

### **2.3.1 Excavation Work Plan**

The site has been remediated for restricted residential use. Any future intrusive work that will penetrate the soil cover or cap, or encounter or disturb the remaining contamination, including any modifications or repairs to the existing cover system will be performed in compliance with the Excavation Work Plan (EWP) that is attached as Appendix A to 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 Community Air Monitoring Plan (CAMP) prepared for the Site. A sample HASP is attached as Appendix D to this SMP that is in current compliance with DER-10, and 29 CFR 1910, 29 CFR 1926, and all other applicable Federal, State and local regulations. Based on future changes to State and federal health and safety requirements, and specific methods employed by future contractors, the HASP and CAMP will be updated and re-submitted with the notification provided in Section A-1 of the EWP. Any intrusive

construction work will be performed in compliance with the EWP, HASP and CAMP, and will be included in the periodic inspection and certification reports submitted under the Site Management Reporting Plan (See Section 5).

The site owner and associated parties preparing the remedial documents submitted to the State, and parties performing this work, are completely responsible for the safe performance of all intrusive work, the structural integrity of excavations, proper disposal of excavation de-water, control of runoff from open excavations into remaining contamination, and for structures that may be affected by excavations (such as building foundations and bridge footings). The Site owner will ensure that Site development activities will not interfere with, or otherwise impair or compromise, the engineering controls described in this SMP.

### **2.3.2 Soil Vapor Intrusion Evaluation**

Prior to the construction of any enclosed structures located over areas that contain remaining contamination and the potential for soil vapor intrusion (SVI) has been identified (see Figure 2), an SVI evaluation will be performed to determine whether any mitigation measures are necessary to eliminate potential exposure to vapors in the proposed structure. Alternatively, an SVI mitigation system may be installed as an element of the building foundation without first conducting an investigation. This mitigation system will include a vapor barrier and passive sub-slab depressurization system that is capable of being converted to an active system.

Prior to conducting an SVI investigation or installing a mitigation system, a work plan will be developed and submitted to the NYSDEC and NYSDOH for approval. This work plan will be developed in accordance with the most recent NYSDOH "Guidance for Evaluating Vapor Intrusion in the State of New York". Measures to be employed to mitigate potential vapor intrusion will be evaluated, selected, designed, installed, and maintained based on the SVI evaluation, the NYSDOH guidance, and construction details of the proposed structure.

Preliminary (unvalidated) SVI sampling data will be forwarded to the NYSDEC and NYSDOH for initial review and interpretation. Upon validation, the final data will be transmitted to the agencies, along with a recommendation for follow-up action, such

as mitigation. If any indoor air test results exceed NYSDOH guidelines, relevant NYSDOH fact sheets will be provided to all tenants and occupants of the property within 15 days of receipt of validated data.

SVI sampling results, evaluations, and follow-up actions will also be summarized in the next Periodic Review Report.

## **2.4 INSPECTIONS AND NOTIFICATIONS**

### **2.4.1 Inspections**

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

- Whether Engineering Controls 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;
- Sampling and analysis of appropriate media during monitoring events;
- If site records are complete and up to date; and
- Changes, or needed changes, to the remedial or monitoring system;

Inspections will be conducted in accordance with the procedures set forth in the Monitoring Plan of this SMP (Section 3). The reporting requirements are outlined in the Periodic Review Reporting section of this plan (Section 5).

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the EC/ICs implemented at the Site by a qualified environmental professional as determined by NYSDEC.

### **2.4.2 Notifications**

Notifications will be submitted by the property owner to the NYSDEC as needed for the following reasons:

- 60-day advance notice of any proposed changes in Site use that are required under the terms of the Brownfield Cleanup Agreement (BCA), 6NYCRR Part 375, and/or Environmental Conservation Law.
- 7-day advance notice of any proposed ground-intrusive activities pursuant to the Excavation Work Plan.
- Notice within 48-hours of any damage or defect to the foundations structures that reduces or has the potential to reduce the effectiveness of other Engineering Controls 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 Engineering Controls 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 shall be submitted to the NYSDEC within 45 days and shall describe and document 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 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.

## **2.5 CONTINGENCY PLAN**

Emergencies may include injury to personnel, fire or explosion, environmental release, or serious weather conditions.



If previously unidentified contaminant sources are found during development-related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on impacted media as necessary to determine the nature of the impact and proper disposal method. In this case, a reduced list of analytes, likely to only include site-specific chlorinated solvents, will be proposed to the NYSDEC for approval prior to sampling. Should the newly identified contamination exhibit characteristics that differ from previously identified site contamination, the list of analytes may be expanded based on the properties of observed media.

Identification of unknown or unexpected contaminated media identified by screening during invasive work will be promptly communicated by phone to NYSDEC's Project Manager.

### **2.5.1 Emergency Telephone Numbers**

In the event of any environmentally related situation or unplanned occurrence requiring assistance the Owner or Owner's representative(s) should contact the appropriate party from the contact list below. For emergencies, appropriate emergency response personnel should be contacted. Prompt contact should also be made to the NYSDEC project manager, and qualified environmental professional. These emergency contact lists must be maintained in an easily accessible location at the site.

**Table 1A: Emergency Contact Numbers**

Medical, Fire, and Police:	911
One Call Center:	(800) 272-4480 (3 day notice required for utility markout)
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362

**Table 1B: Contact Numbers**

Site Owner:  Dan Plotkin, partner	(860) 683-9000
Environmental Consultant & Qualified Environmental Professional:  Deborah Thompson; DT Consulting Services, Inc.	(845) 658-3484
NYSDEC Project Manager:  Jamie L. Verrigni	(518) 402-9564
NYSDOH Project Manager:  Kristin Kulow, P.E.	(607) 432-3911

\* Note: Contact numbers subject to change and should be updated as necessary

### **2.5.2 Map and Directions to Nearest Health Facility**

Site Location: Washington Avenue/Schwenk Drive, Kingston, New York

Nearest Hospital Name: Kingston Hospital

Hospital Location: 396 Broadway, Kingston, New York

Hospital Telephone: (845) 334-2879

Directions to the Hospital:

1. Start on Schwenk Dr going toward Frog Aly – go 0.4 mi
2. Continue on Clinton Ave – go 0.2 mi
3. Bear left on Albany Ave – go 0.2 mi
4. Bear right on Broadway (Rt-32 S) – go 1 mi
5. Arrive at 396 Broadway, Kingston, on left

Total Distance: 1.77 mi

Total Estimated Time: 5 mins

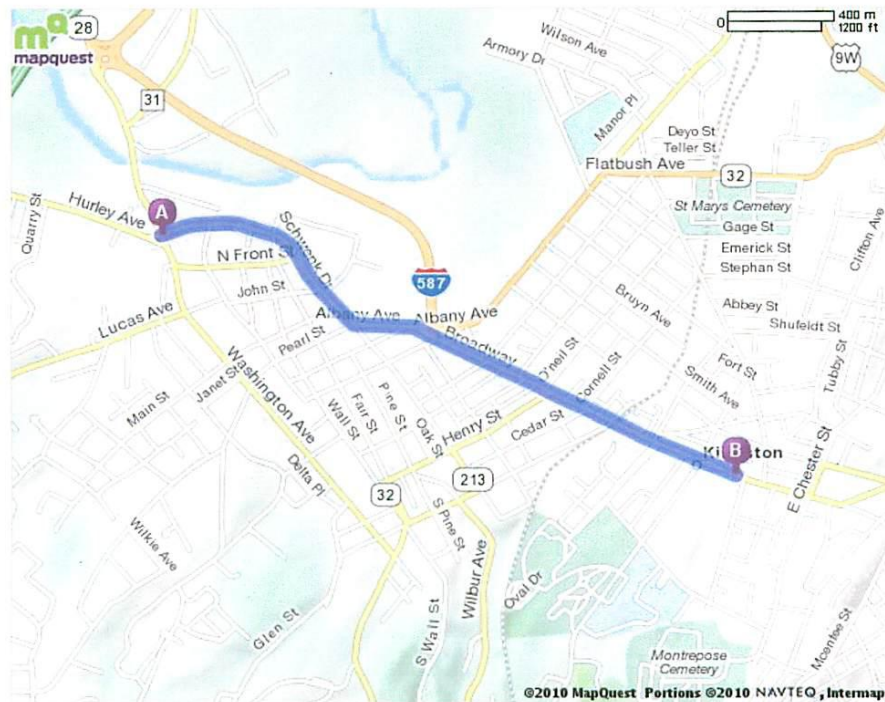
### Map Showing Route from the site to the Hospital:

#### Trip to 396 Broadway

Kingston, NY 12401-4626

1.77 miles - about 5 minutes

#### Route Map



### **2.5.3 Response Procedures**

As appropriate, the fire department and other emergency response group will be notified immediately by telephone of the emergency. The emergency telephone number list is found at the beginning of this Contingency Plan (Table 1A). The list will also be posted prominently at the site and made readily available to all personnel at all times.

The Emergency Contingency Plan is included in Appendix A as part of the Excavation Work Plan and includes a description of:

- Procedures for spills;
- Evacuation plans;
- Amendments to the contingency plan.

## **3.0 SITE MONITORING PLAN**

### **3.1 INTRODUCTION**

#### **3.1.1 General**

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the implemented remedy and ECs to reduce or mitigate contamination at the site. ECs at the site include a pavement cover system of the environmental easement area (Figure 5), an active SSDS, groundwater monitoring to track natural attenuation, and indoor air monitoring to determine the effectiveness of the SSDS. Monitoring of select Engineering Controls is described in Chapter 4, Operation, Monitoring and Maintenance Plan. This Monitoring Plan may only be revised with the approval of NYSDEC.

#### **3.1.2 Purpose and Schedule**

This Monitoring Plan describes the methods to be used for:

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

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

- Sampling locations, protocol, and frequency;
- Information on all designed monitoring systems (e.g., well logs);
- Analytical sampling program requirements;
- Reporting requirements;
- Quality Assurance/Quality Control (QA/QC) requirements;
- Inspection and maintenance requirements for monitoring wells;

- Monitoring well decommissioning procedures; and
- Annual inspection and periodic certification.

Semi-annual (i.e., twice per year) monitoring of the performance of the remedy and overall reduction in contamination on-site will be conducted for the first two years. Trends in contaminant levels in groundwater in the affected areas, will be evaluated to determine if the remedy continues to be effective in achieving remedial goals. Monitoring programs are summarized in Table 2 and outlined in detail in Sections 3.2 and 3.3 below.

**Table 2: Monitoring/Inspection Schedule**

<b>Monitoring Program</b>	<b>Frequency*</b>	<b>Matrix</b>	<b>Analysis</b>
Groundwater	Semi-annual for the first two years.	Groundwater	EPA 8260B – VOCs, 8270 SVOCSs and 7471 PP Metals
Air	Annual for first 5 years Every 5 years, Years 5 to 15	Indoor Air -> SSDS Discharge ->	TO-15 – VOCs PID
Cover System	Annual	Impermeable cover	Visual Inspection

\* The frequency of events will be conducted as specified until otherwise approved by NYSDEC and NYSDOH

### **3.2 PAVEMENT COVER SYSTEM MONITORING**

The pavement or impermeable cover over the former source area and controlled “environmental easement” area (Figure 5) must be inspected during periodic monitoring events. In addition, the condition of the pavement should be inspected at least once per a year by the Site Owner and sealing performed, as necessary.

Inspection frequency is subject to change with the approval of the NYSDEC. Unscheduled inspections and/or sampling may take place when a suspected failure of the asphalt cover system has been reported or an emergency occurs that is deemed likely to affect the operation of the SSDS. Monitoring deliverables for the asphalt cover system occur annually with the annual site-wide inspection report.

### **3.3 MEDIA MONITORING PROGRAM**

#### **3.3.1 Groundwater Monitoring**

Groundwater monitoring will be performed on a periodic basis to assess the performance of the remedy.

The network of monitoring wells (MW-1 – MW-5) has been installed to monitor both up-gradient and down-gradient groundwater conditions at the site, and is shown on Figure 4. The network of on-site wells has been designed based on the following criteria:

- The monitoring wells fully penetrate the impacted portion of the unconsolidated aquifer between approximately 10 and up to 26 feet below grade (bg) as generally depicted in the geologic cross-section provided as Figure 3.
- Pre-remedial groundwater conditions during December 2009 are included in Table 5A and shown as Figure 7A.
- Post-remedial groundwater conditions on June 3, 2010 are included in Table 5B and shown as Figure 7B.
- The monitoring wells are spaced to adequately cover the footprint of remaining groundwater impacts as of June 3, 2010.

Tables 2 and 3 offer the monitoring and reporting schedule for monitored media. Monitoring well construction logs are included in Appendix E. Semi-annual groundwater monitoring with associated annual reporting will occur during the first year after issuance of a Certificate of Completion (COC).

The sampling frequency may be modified with the approval NYSDEC. The SMP will be modified to reflect changes in sampling plans approved by NYSDEC.

Deliverables for the groundwater monitoring program are specified below.

##### **3.3.1.1 Sampling Protocol**

All monitoring well sampling activities will be recorded in a field book and a groundwater-sampling log presented in Appendix F. Other observations (e.g., well

integrity, etc.) will be noted on the well sampling log. The well sampling log will serve as the inspection form for the groundwater monitoring well network.

The following plan for routine groundwater sampling is clearly discussed in detail in DTCS's Field Sampling Plan (FSP) attached as Appendix G:

In general, groundwater sampling is performed as follows:

- 1) Prior to sampling, water level data are collected using an electronic water level meter to calculate well volumes. Well volumes are calculated by measuring the height of the water column (height of water column = depth to well bottom – depth to water), and then multiplied by a well diameter conversion factor. A single instrument is used to evaluate all water level measurements. The water level meter is decontaminated between measurements using an Alconox® solution to prevent cross contamination between wells.
- 2) Prior to well sampling, wells must be purged to ensure that static annular water is removed from the well column.
- 3) Wells will be purged using a dedicated submersible pump, a portable submersible pump, a bailer, or an inertial lift pump.
- 4) During purging, routine water quality parameters including pH, temperature, and conductivity will be monitored using portable meters. Turbidity will be assessed visually to assist in determining when groundwater conditions have stabilized. In general, three or more well volumes will be removed before sampling.
- 5) Samples will be collected from monitoring wells after static water levels recover to not less than ninety percent of the pre-purging levels but not more than 24 hours following purging.
- 6) Groundwater samples collected from the monitoring well network will be analyzed for VOCs using USEPA method 8260, SVOCs using method 8270 and Priority Pollutant Metals utilizing method 7471. Temperature, pH and specific conductance



will be measured in the field. Turbidity is visually assessed during sampling. Samples will be transported to the laboratory with ice or ice packs in secure coolers.

- 7) A trip blank will accompany the sample containers and will be analyzed for VOCs using USEPA method 8260.

### **3.3.1.2 Monitoring Well Repairs, Replacement And Decommissioning**

Wells will be inspected during each sampling event. Each well will be checked to assure that the well is intact, the well cap is sealed and locked, and the protective well casing is unharmed.

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 (as per the Monitoring Plan), 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 monitoring wells for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent periodic report. Well decommissioning without replacement will be done only with the prior approval of NYSDEC. Well abandonment will be performed in accordance with NYSDEC's "Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be reinstalled in the nearest available location, unless otherwise approved by the NYSDEC.

### **3.3.2 SSDS Discharge and Indoor Air Quality (IAQ) Monitoring**

SSDS discharge and IAQ monitoring will be performed on a periodic basis defined in the Monitoring/Inspection Schedule (Table 2) to assess the performance of the remedy and effectiveness of the SSDS.

Table 3 offers the reporting schedule for monitored media. SSDS discharge and IAQ monitoring with associated reporting will occur annually during the first 5 years after issuance of a Certificate of Completion (COC), and then every 5 years through the 15<sup>th</sup> year. Sampling/reporting will conclude at the 15<sup>th</sup> year, unless additional remedial work becomes necessary.

The sampling frequency may be modified with the approval NYSDEC. The SMP will be modified to reflect changes in sampling plans approved by NYSDEC.

Deliverables for this SSDS discharge and IAQ monitoring program are specified below.

### **3.3.2.1 Sampling Protocol**

All sampling activities will be recorded in a field book. Other observations (e.g., well integrity, etc.) will be noted within the field sample technician's field book. The SSDS discharge will be monitored using a hand-held photo-ionization detector (PID) and the IAQ samples will be collected using 1 liter summa canisters and processed according to EPA method TO-15 for VOCs.

The following items are clearly discussed in detail in DTCS's Field Sampling Plan (FSP) attached as Appendix G:

## **3.4 SITE-WIDE INSPECTION**

### **3.4.1 Site-Wide Inspection Schedule and Form**

Site-wide inspections will be performed on a regular schedule at a minimum of once a year. Site-wide inspections will also be performed after all severe weather conditions that may affect Engineering Controls or monitoring devices. During these inspections, an inspection form will be completed (Appendix I). 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;
- Compliance with permits and schedules included in the Operation and Maintenance Plan; and
- Confirm that Site records are up to date.

### **3.4.2 SSD System Monitoring**

The active SSD system will be monitored during each annual site-wide inspection. A portion of the Site-Wide Inspection form will be completed to document:

- whether the active SSDS is functioning properly;
- if there is foundation damage or building defects that could reduce or have the potential to reduce the effectiveness of the SSDS; and
- the blower conditions, noting blower operation, vacuum pressure, and system function.

### **3.5 MONITORING QUALITY ASSURANCE/QUALITY CONTROL**

All sampling and analyses will be performed in accordance with the requirements of the Quality Assurance Project Plan (QAPP) prepared for the site (Appendix H). Main Components of the QAPP include:

- QA/QC Objectives for Data Measurement;
- Sampling Program:
  - Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such.
  - Sample holding times will be in accordance with the NYSDEC ASP requirements.

- Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.
- Sample Tracking and Custody;
- Calibration Procedures:
  - All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.
  - The laboratory will follow all calibration procedures and schedules as specified in USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.
- Analytical Procedures;
- Preparation of a Data Usability Summary Report (DUSR), which 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.
- Internal QC and Checks;
- QA Performance and System Audits;
- Preventative Maintenance Procedures and Schedules;
- Corrective Action Measures.

### **3.6 MONITORING REPORTING REQUIREMENTS**

Forms and any other information generated during regular monitoring events and inspections will be kept on file on-site. All forms, and other relevant reporting formats used during the monitoring/inspection events, will be (1) subject to approval by NYSDEC and (2) submitted at the time of the Periodic Review Report, as specified in the Reporting Plan of this SMP.

All monitoring results will be reported to NYSDEC on a periodic basis in the Periodic Review Report. A letter report will also be prepared, subsequent to each sampling event. The letter report will include, at a minimum:

- Date of event;
- Personnel conducting sampling;
- Description of the activities performed;
- 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 groundwater conditions have changed since the last reporting event.

Data will be reported in hard copy or digital format as determined by NYSDEC. Laboratory analytical reports will be provided in digital (i.e. PDF) format. A summary of the monitoring program deliverables are summarized in Table 3 below.

**Table 3: Schedule of Monitoring/Inspection Reports**

<b>Task</b>	<b>Reporting Frequency*</b>
Groundwater- Monitoring Well Network	Semi-Annual: Years 1-2 To Be Determined After Year 2
Indoor Air Quality- MP Network SSDS Discharge-Effluent Stack	Annual: Years 1 to 5 Every 5 years: Years 5 to 15
Site-Wide Inspection	Annually (first event to begin after issuance of COC)
Periodic Review Report	Annual (first event to begin 18 months after issuance of COC)

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

## **4.0 OPERATION AND MAINTENANCE PLAN**

### **4.1 INTRODUCTION**

This Operation and Maintenance Plan describes 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 steps necessary to allow individuals unfamiliar with the site to operate and maintain the sub-slab depressurization system (SSDS);
- Includes an operation and maintenance contingency plan; and,
- Will be updated periodically to reflect changes in site conditions or the manner in which the SSDS is operated and maintained.

Information on non-mechanical Engineering Controls (i.e. soil cover system) is provided in Section 3 - Engineering and Institutional Control Plan. A copy of this Operation and Maintenance Plan, along with the complete SMP, will be kept at the site. This Operation and Maintenance Plan is not to be used as a stand-alone document, but as a component document of the SMP.

### **4.2 ENGINEERING CONTROL SYSTEM OPERATION AND MAINTENANCE**

As a precautionary measure, a SSDS was designed and installed in 2009 as part of the new site construction. The SSDS has operated continuously since start-up on May 15, 2010. The system includes a vapor barrier, gravel layer, slotted vent pipe network, riser pipe with roof vent and an in-line fan. System as-built drawings, layout, product cut-sheets and troubleshooting guide are attached as Appendix J.

#### **4.2.1.1 Scope**

For the SSDS to continue to operate successfully, the system must remain powered at all times. The control box is locked securely to prevent shut-off by anyone other than the site owner or authorized representative.

Excessive water trapped beneath the building surrounding the gravel layer may also render the system inoperable. Storm run-off should be managed via operable gutter systems with flows conveyed away from the building.

#### **4.2.1.2 System Start-Up and Testing**

The SSDS was started up on May 15, 2010. A blower cut-sheet is attached within Appendix J. All piping installed beneath the concrete slab of the site structure and blower unit was inspected prior to start-up. There were no specific start-up requirements for the blower other than checking the wiring and also that proper power (i.e. voltage and amperage draw) was provided to the unit. After confirming that proper power was connected and supplied to the blower unit, it was successfully started, and has remained operational.

Upon start-up, the system was thoroughly observed for leaks or broken components and a typical vacuum measurement on the piping leading to the slotted vent piping of 0.5 inches or greater water column (iWC) was recorded. The system air discharge VOC concentration and vacuum will be measured during every well sampling visit using a PID and manometer, respectively.

When the system is operational, a “system on” light is illuminated. If the system becomes non-operational or if the light bulb burns out, the light would no longer be illuminated indicated to Site owner or operator (as the case may be) that the system must be checked.

The system testing described above will be conducted if, in the course of the SSDS lifetime, significant changes are made to the system, and the system must be restarted.

#### **4.2.1.3 System Operation: Routine Operation Procedures**

The SSDS contains an RP Series Fan, Model Number RP380. The blower cut sheet is included in Appendix J. Routine operation of the blower unit includes first ensuring that a continuous power source is applied to the blower motor. Additionally, the operator must ensure that all piping does not leak and that there are no blockages.



Should the system become non-operational, a troubleshooting guide is attached within Appendix J. Repairs and adjustments should be performed by a qualified service technician. Repairs may be arranged by contacting either the Site owner or the owner's consultant (DTCS).

#### **4.2.1.4 System Operation: Routine Equipment Maintenance**

Routine equipment maintenance would consist of the following (as needed):

- Monthly recording of the U-tube manometer readings. Each reading shall be signed and dated by a company designated representative. If the U-tube readings are not within the acceptable range determined during the post mitigation testing, the Site owner or operator will be notified within 24-hours and appropriate actions taken to address the matter.
- Annual inspection and cleaning of the vapor vent riser pipe outlet.
- Collect and analyze air quality samples per the annual sampling schedule.

#### **4.2.1.5 System Operation: Non-Routine Equipment Maintenance**

Non-routine maintenance such as cutting through the concrete floor slab to install new equipment or other building modifications shall be conducted in a manner that maintains the integrity and performance of the SSDS. Should a non-routine condition occur (i.e. damage to system or reduced effectiveness which would initiate a red warning light, and/or system or component replacement), the Site owner will notify the NYSDEC within 24-hours and proceed with correcting the maintenance and/or repair.

### **4.3 ENGINEERING CONTROL SYSTEM PERFORMANCE MONITORING**

#### **4.3.1 Monitoring Schedule**

IAQ sampling events will occur per the schedule in Table 2.

Inspection frequency is subject to change with the approval of the NYSDEC. Unscheduled inspections and/or sampling may take place when a suspected failure of the SSD system has been reported or an emergency occurs that is deemed likely to affect the operation of the system. Monitoring deliverables for the SSD system are specified previously in this Plan.

#### **4.3.2 General Equipment Monitoring**

A visual inspection of the complete system will be conducted during the monitoring event. SSD system components to be monitored include, but are not limited to, the following:

- Vacuum blower; and,
- General system piping.

A complete list of components to be checked is provided in the Inspection Checklist, presented in Appendix J. If any equipment readings are not within their typical 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 are required immediately, and the SSD system restarted.

#### **4.3.3 System Monitoring Devices and Alarms**

The SSD system has a warning device to indicate that the system is not operating properly. In the event that the warning device is activated, applicable maintenance and repairs will be conducted, as specified in the Operation and Maintenance Plan, and the SSD system restarted. Operational problems will be noted in the subsequent Periodic Review Report.

#### **4.3.4 Sampling Event Protocol**

The SSD system will undergo periodic air discharge monitoring consistent with the monitoring schedule offered Table 2. The SSDS air discharge concentration will be documented using a photo-ionization detector (PID).

### **4.4 MAINTENANCE AND PERFORMANCE MONITORING REPORTING REQUIREMENTS**

Maintenance reports and any other information generated during regular operations at the site will be kept on-file on-site. All reports, forms, and other relevant information generated will be available upon request to the NYSDEC and submitted as part of the Periodic Review Report, as specified in the Section 5 of this SMP.

#### **4.4.1 Routine Maintenance Reports**

Checklists or forms will be completed during each routine maintenance event.

Checklists/forms will include, but not be limited to the following information:

- Date;
- Name, company, and position of person(s) conducting maintenance activities;
- Maintenance activities conducted;
- 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).

#### **4.4.2 Non-Routine Maintenance Reports**

During each non-routine maintenance event, a form will be completed which will include, but not be limited to, the following information:

- Date;
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- Presence of leaks;
- Date of leak repair;
- Other repairs or adjustments made to the system;
- 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).

## **5.0 INSPECTIONS, REPORTING AND CERTIFICATIONS**

### **5.1 SITE INSPECTIONS**

#### **5.1.1 Inspection Frequency**

All inspections will be conducted at the frequency specified in the schedules provided in Section 3 Monitoring Plan and Section 4 Operation and Maintenance Plan of this SMP. At a minimum, a site-wide inspection will be conducted annually. Inspections of remedial components will also be conducted when a breakdown of any paved cover system or SSDS component has occurred or whenever a severe condition has taken place, such as an erosion or flooding event that may affect the ECs.

#### **5.1.2 Inspection Forms, Sampling Data, and Maintenance Reports**

All inspections and monitoring events will be recorded on the appropriate forms for their respective system which are contained in Appendices F, I and J. Additionally, a general Site-wide inspection form will be completed during the Site-wide inspection (see Appendix I) along with a SSDS checklist to ensure proper system operation (see Appendix J). These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including all media sampling data and system maintenance reports, generated for the Site during the reporting period will be provided in electronic format in the Periodic Review Report.

#### **5.1.3 Evaluation of Records and Reporting**

The results of the inspection and Site monitoring data will be evaluated as part of the EC/IC certification to confirm that the:

- EC/ICs are in place, are performing properly, and remain effective;
- The Monitoring Plan is being implemented;
- Operation and maintenance activities are being conducted properly; and, based on the above items,

- The Site remedy continues to be protective of public health and the environment and is performing as designed in the RAWP and FER.

## **5.2 CERTIFICATION OF ENGINEERING AND INSTITUTIONAL CONTROLS**

After the last inspection of the reporting period, a qualified environmental professional (QEP) will prepare the following certification:

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.

- 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

Every five years the following certification will be added:

- The assumptions made in the qualitative exposure assessment remain valid.  
The signed certification will be included in the Periodic Review Report described below.
- 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, Dan Plotkin, of Northeast Leasing and Retail Management, LLC, am certifying as Owner’s Designated Site Representative. I have been authorized and designated by all site owners to sign this certification for the site.

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

### **5.3 PERIODIC REVIEW REPORT**

A Periodic Review Report will be submitted to the Department every year, beginning eighteen months after the Certificate of Completion is issued. 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 B (Metes and Bounds). The report will be prepared in accordance with NYSDEC DER-10 and submitted within 45 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 inspection forms and other records generated for the site during the reporting period in electronic format;
- 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), 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 electronically in a NYSDEC-approved format;
- 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 Plan for the media being monitored;
  - Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and
  - The overall performance and effectiveness of the remedy.

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

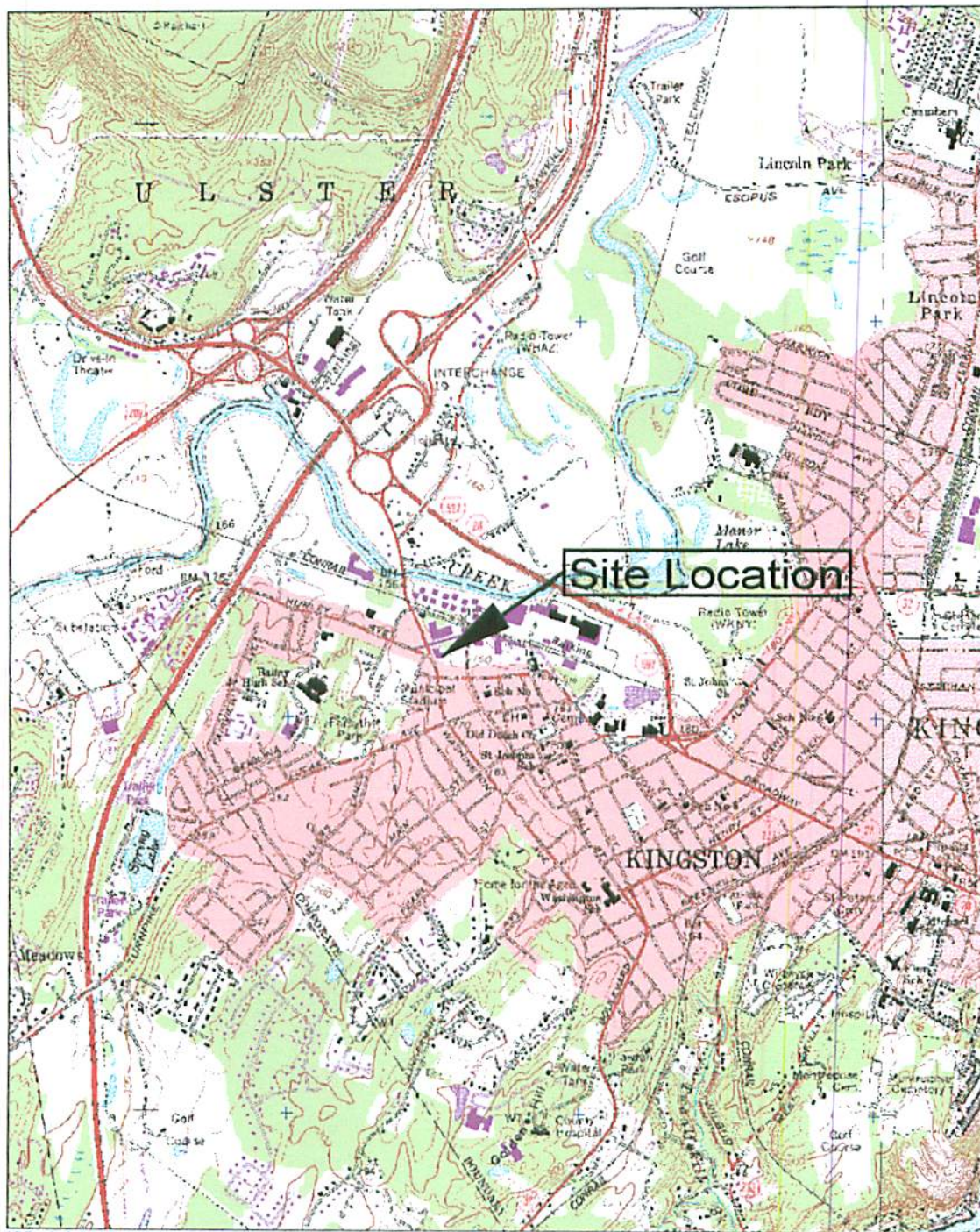
## **5.4 CORRECTIVE MEASURES PLAN**

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 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 plan until it is approved by the NYSDEC.



## FIGURES



3-D TopoQuest Copyright © 1999 DeLorme, Yarmouth, ME 04096 Source Data: USGS  
 700 ft Scale: 1 : 24,000 Detail: 13-1 Datum: WGS84

**Client:** Northeast Retail Leasing & Management,  
 Company, LLC

**Site:** Utility Platers, Inc./Kingston Diagnostics

**Site No.:**  
 C356035

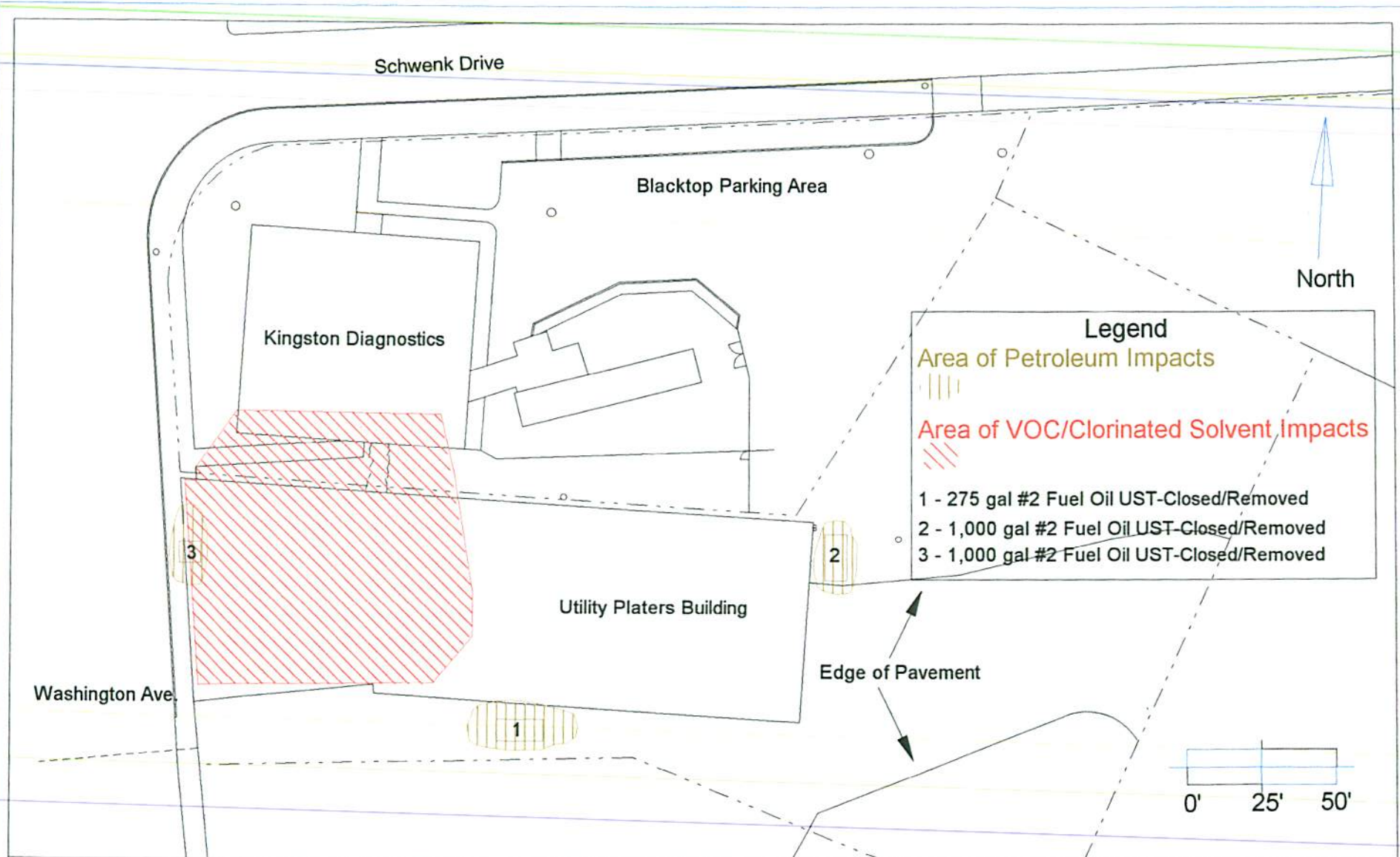
**Drawn by:**  
 DJT

**Scale:**  
 1 : 24,000

## Site Location Plan

**Figure No:** 1





DT Consulting Services, Inc.  
1291 Old Post Road  
Ulster Park, New York 12487  
(845) 658-3484

Client: Northeast Retail Leasing & Management Company, LLC

Location: Utility Platers, Inc./Kingston Diagnostics, Kingston, New York

Title: Tank Location/Site Remediation Map

Scale: Graphic

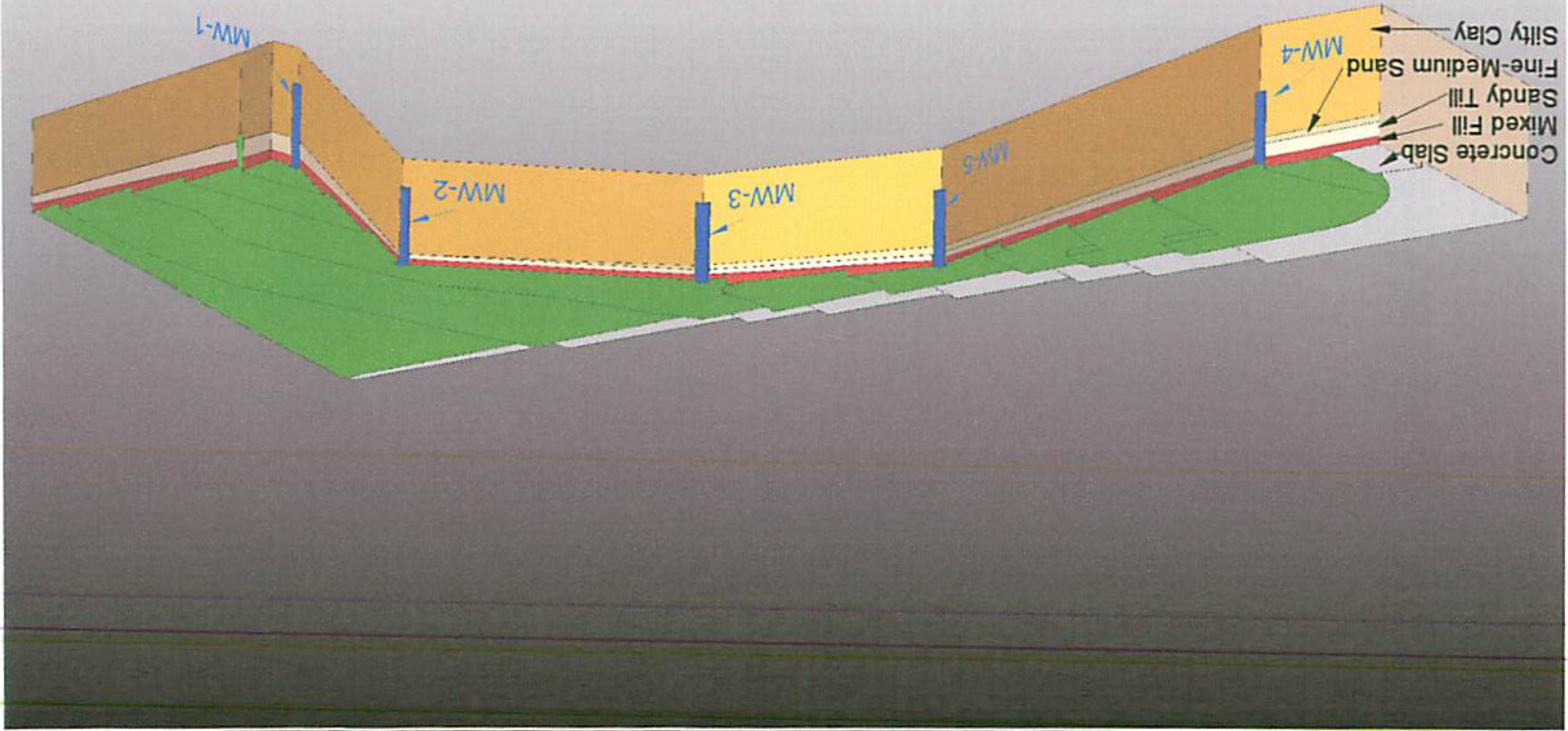
Drawn By: OT

Site No: C356035

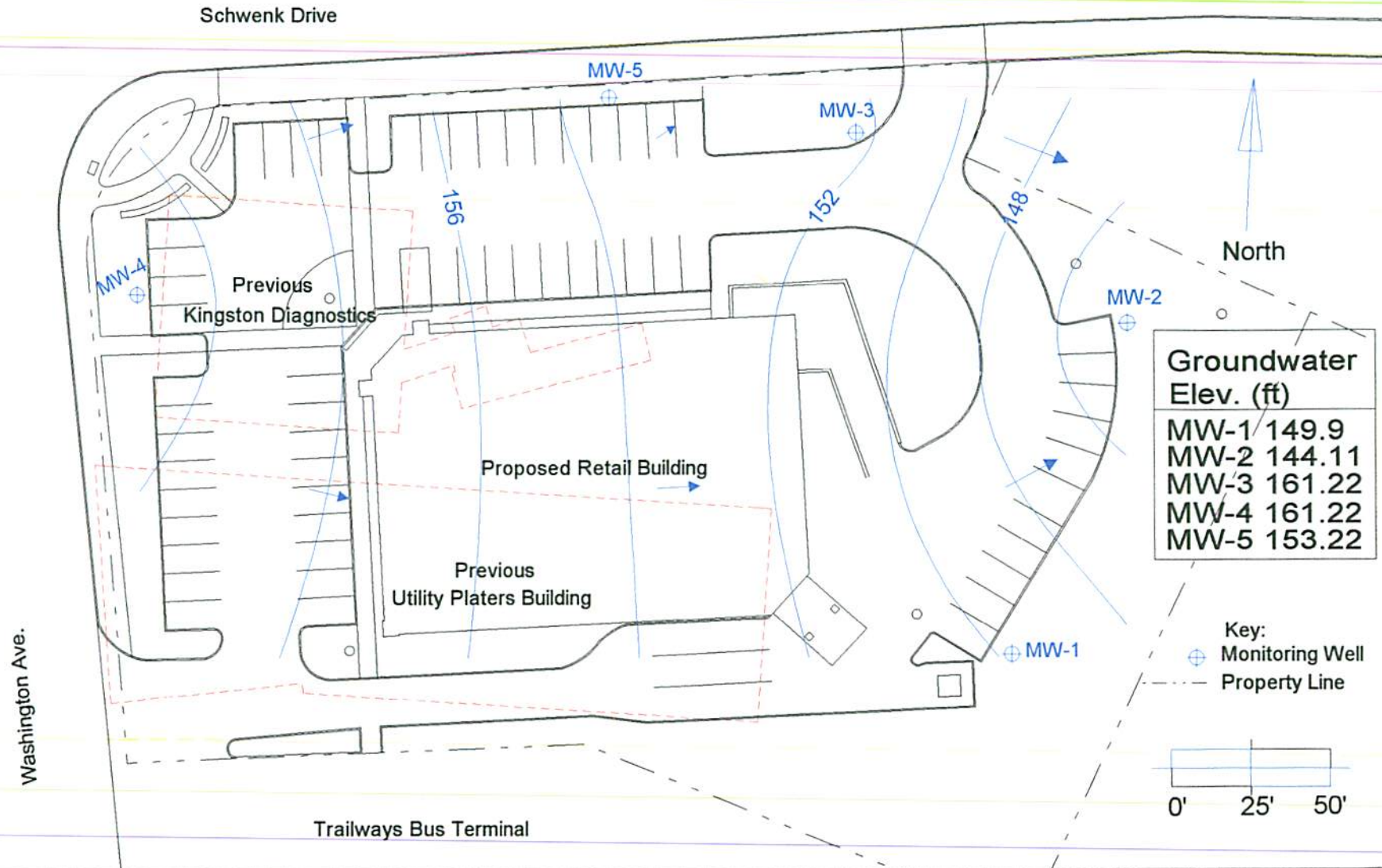
Fig.#: 2

DT Consulting Services, Inc.  
1291 Old Post Road  
Ulster Park, New York 12487  
(845) 658-3484

Scale: Graphic	Drawn By: O.T.	Site No: C356035	Fig.#: 3
Title: 3D Geologic Cross Section Groundwater Monitoring Wells			
Location: Utility Platers/Kingston Diagnostics, Washington Ave/Schwenk Dr, Kingston, NY			
Client: Northeast Retail Leasing & Management Company, LLC			







DT Consulting Services, Inc.  
 1291 Old Post Road  
 Ulster Park, New York 12487  
 (845) 658-3484

Client: Northeast Retail Leasing & Management Company, LLC

Location: Utility Platers, 412 Washington Avenue, Kingston, Ulster County, New York

Title: Groundwater Monitoring Well Network/Flow Figure for 6/3/2010

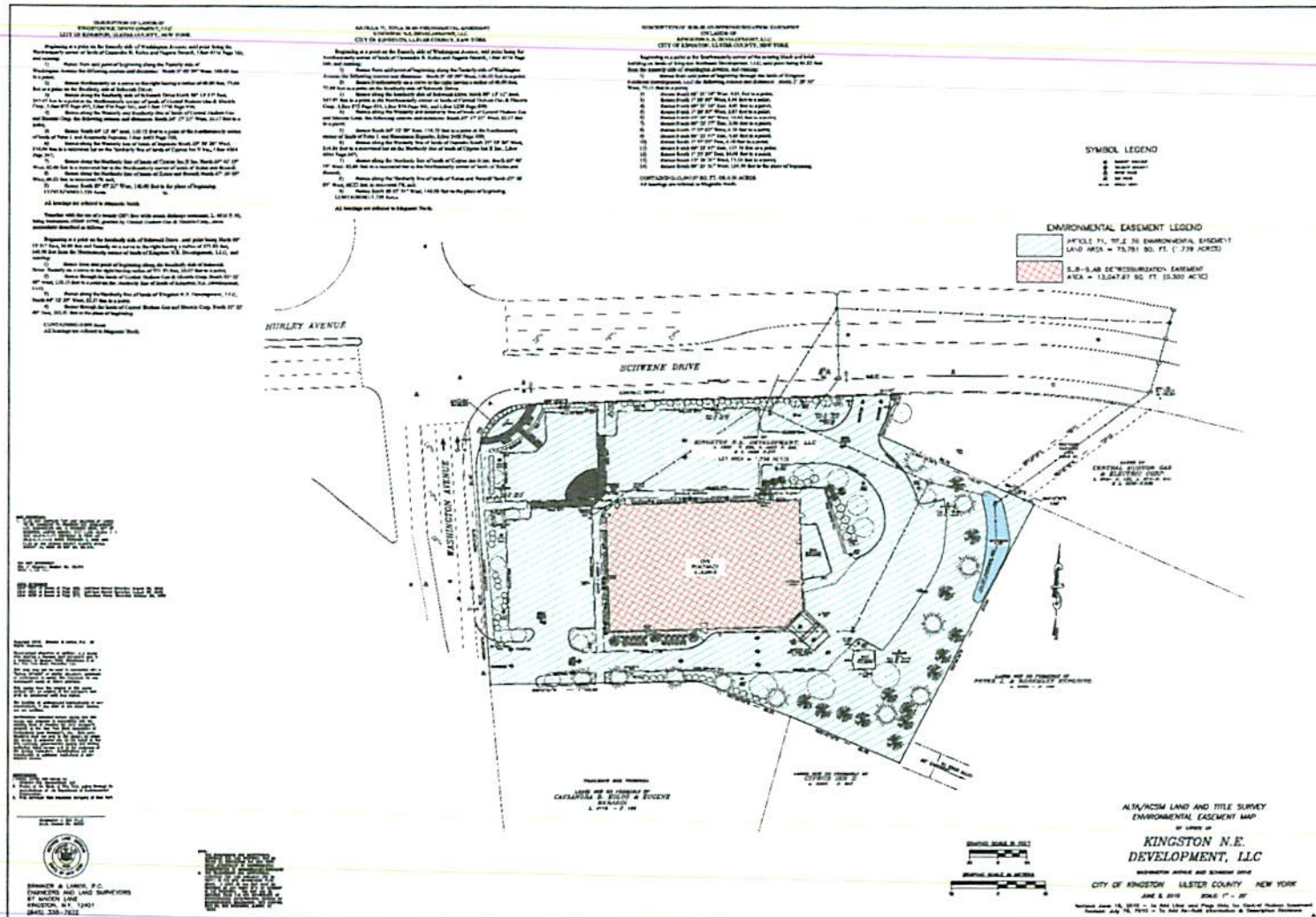
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Drawn By: O.T.

Site No: C356035

Fig.#:

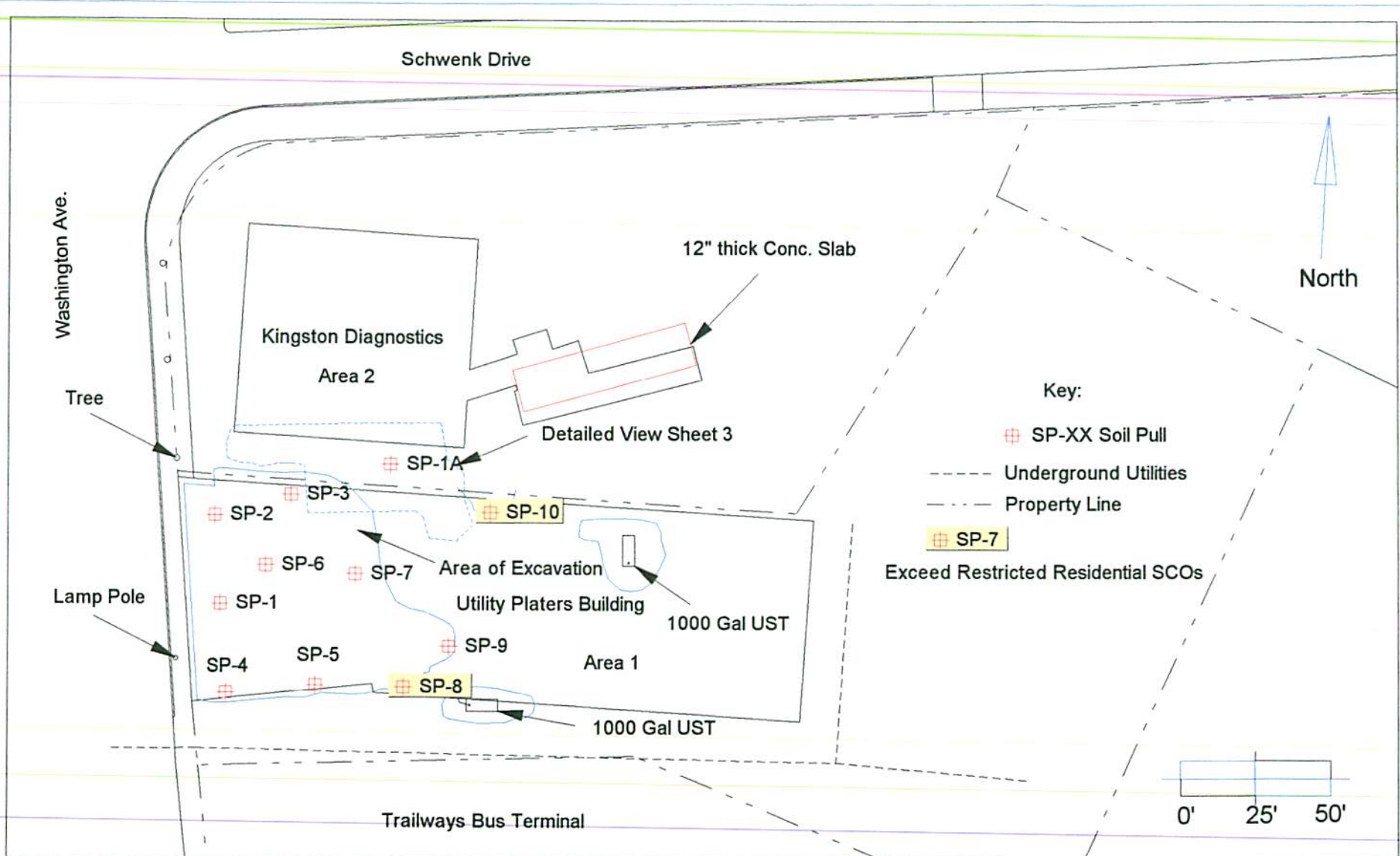
4



DT Consulting Services, Inc.  
1291 Old Post Road  
Ulster Park, New York 12487  
(845) 658-3484

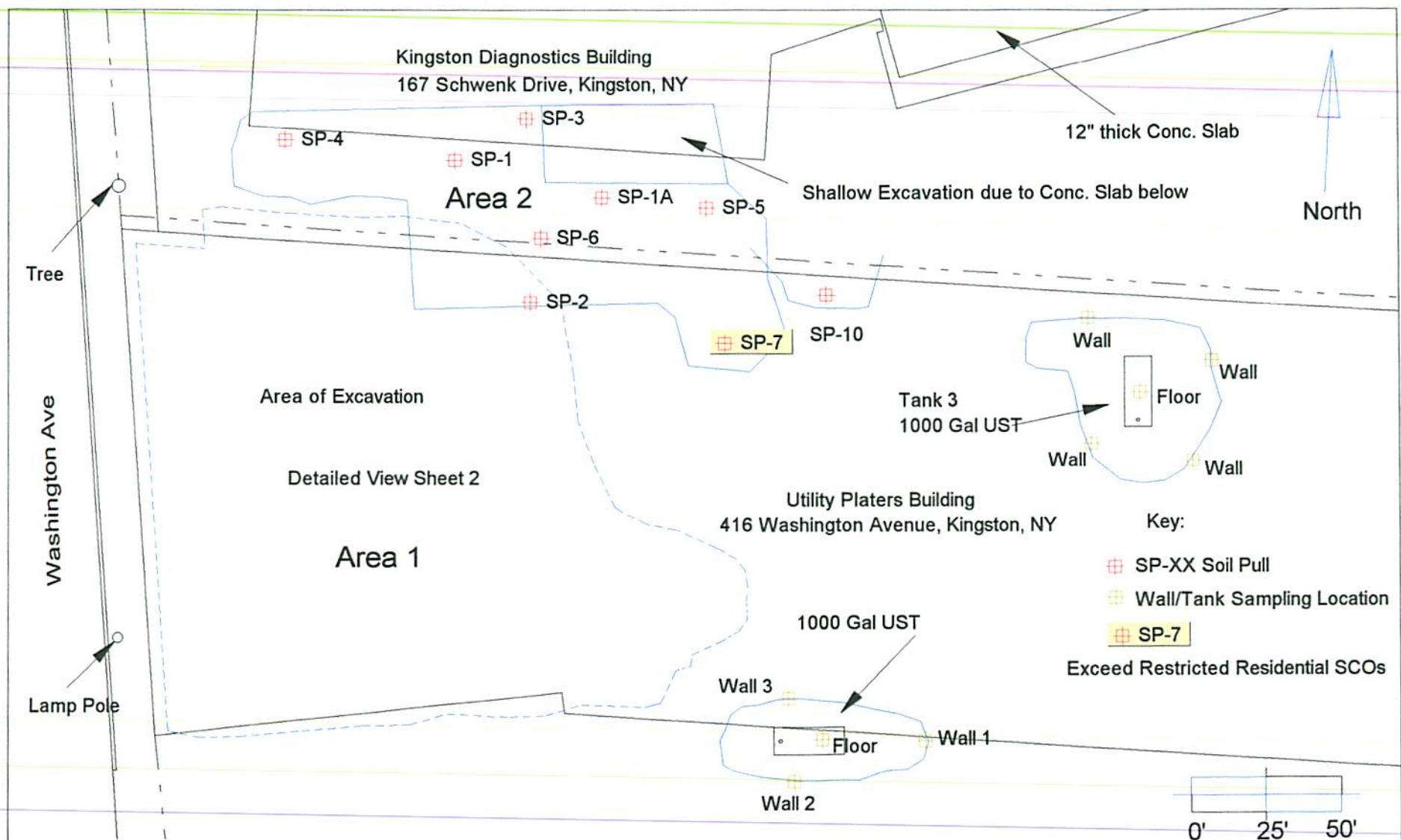
Client:	Northeast Retail Leasing & Management Company, LLC			
Location:	Utility Platers, 412 Washington Avenue, Kingston, Ulster County, New York			
Title:	Environmental and Access Easements Map			
Scale:	Graphic	Drawn By:	O.T.	Site No: C356035
				Fig.#: 5





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1291 Old Post Road  
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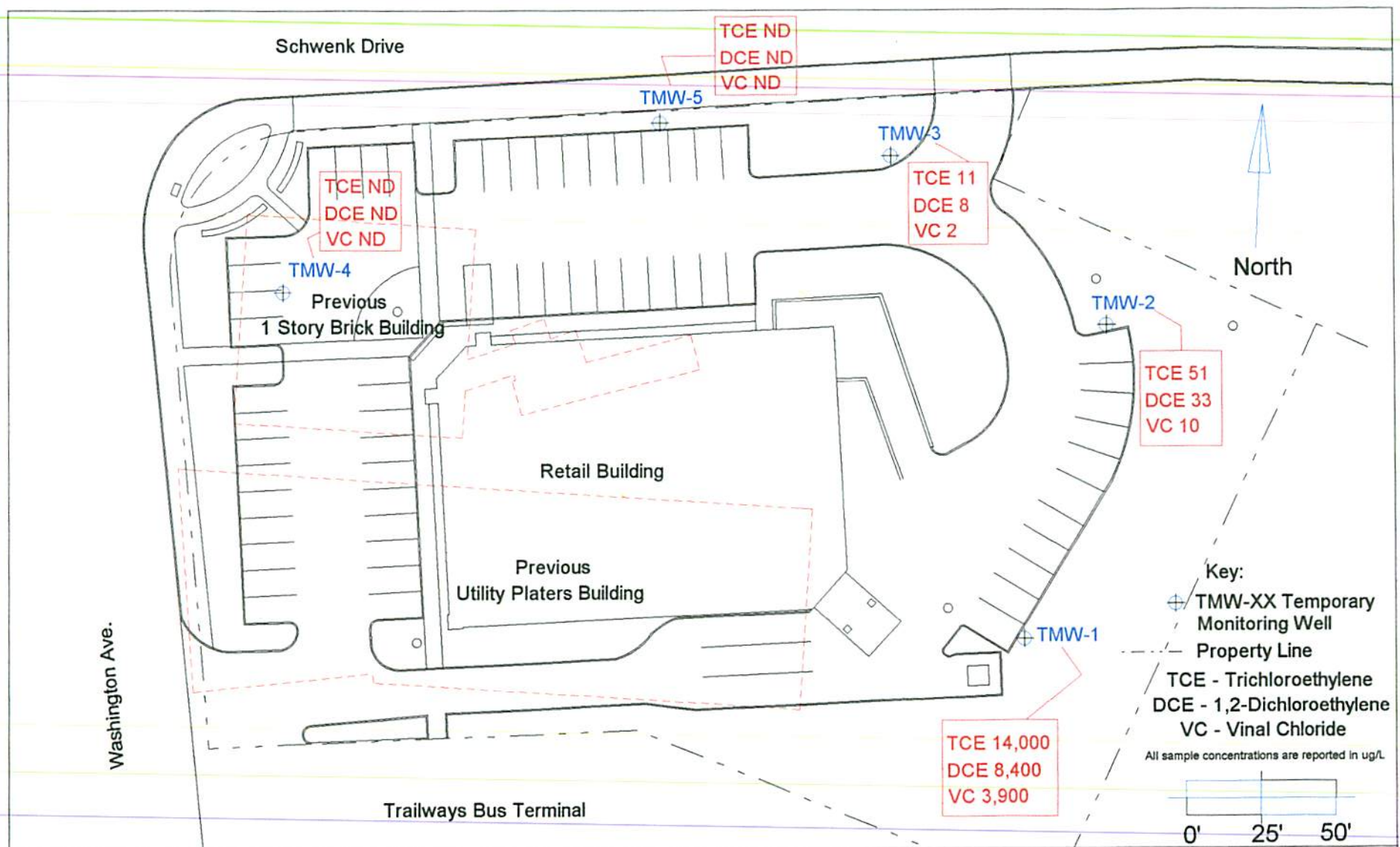
Client:	Northeast Retail Leasing & Management Company, LLC		
Location:	Utility Platers, Inc./Kingston Diagnostics, Kingston, Ulster County, New York		
Title:	Post-excavation Sampling Map		
Scale:	Graphic	Drawn By:	O.T.
Site No:	C356035	Fig.#:	6A



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Ulster Park, New York 12487  
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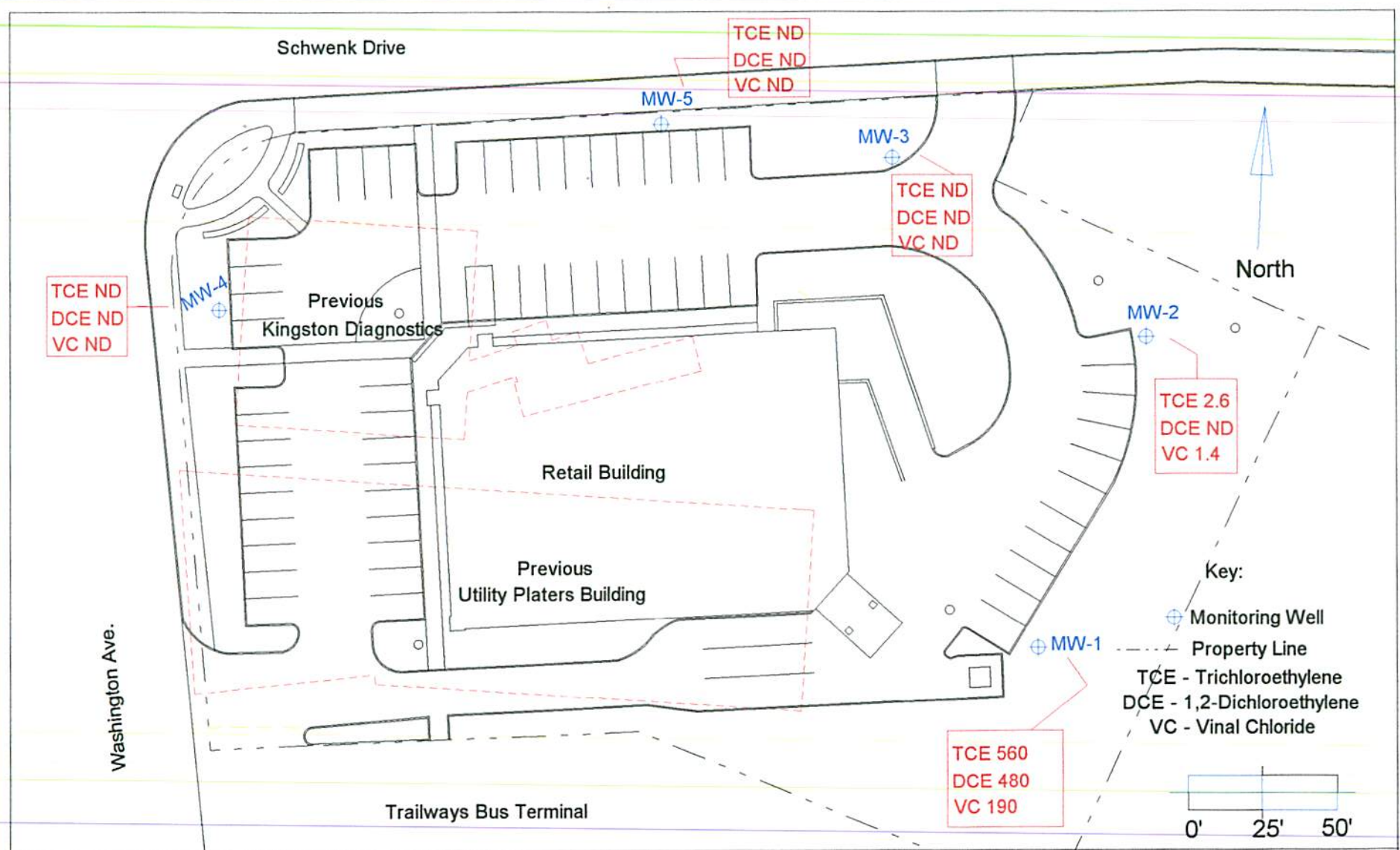
Client:	Northeast Retail Leasing & Management Company, LLC		
Location:	Utility Platers, Inc./Kingston Diagnostics, Kingston, Ulster County, New York		
Title:	Post Excavation Sampling Map		
Scale:	Graphic	Drawn By:	O.T.
Site No:	C356035	Fig.#:	6B





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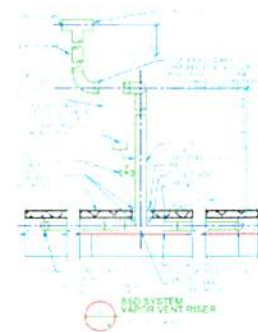
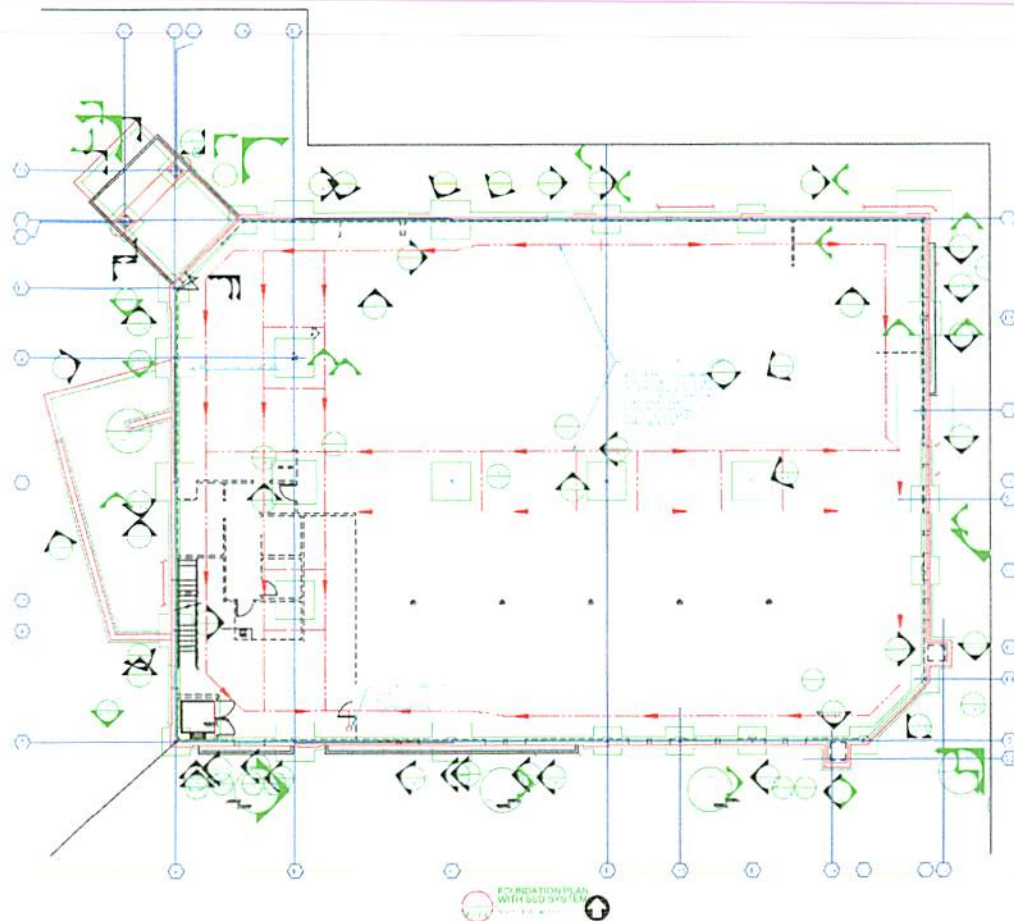
Client: Northeast Retail Leasing & Management Company, LLC			
Location: Utility Platers, 412 Washington Avenue, Kingston, Ulster County, New York			
Title: December 2009 TCE Contaminant Concentration Map (Pre-remediation)			
Scale: Graphic	Drawn By: O.T.	Site No: C356035	Fig.#: 7A



DT Consulting Services, Inc.  
 1291 Old Post Road  
 Ulster Park, New York 12487  
 (845) 658-3484

Client: Northeast Retail Leasing & Management Company, LLC			
Location: Utility Platers, 412 Washington Avenue, Kingston, Ulster County, New York			
Title: June 2010 TCE Contaminant Concentration Map (Post-remediation)			
Scale: Graphic	Drawn By: O.T.	Site No: C356035	Fig.#: 7B





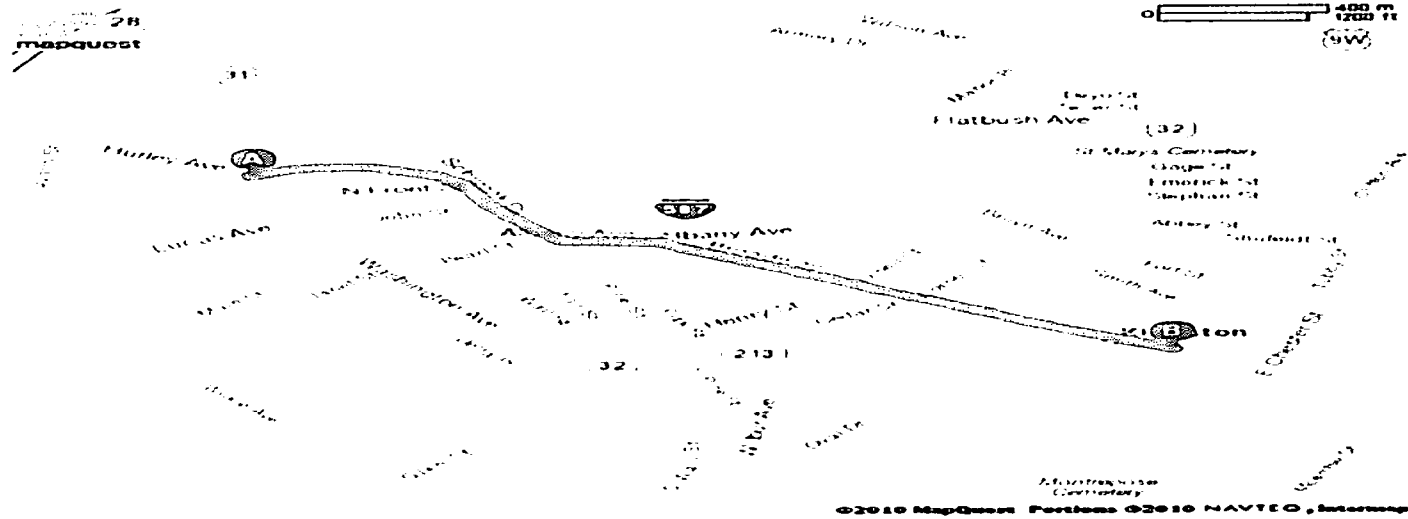
P-1.4

DT Consulting Services, Inc.  
1291 Old Post Road  
Ulster Park, New York 12487  
(845) 658-3484

Client: Northeast Retail Leasing & Management Company, LLC			
Location: Utility Platers, 412 Washington Avenue, Kingston, Ulster County, New York			
Title: Sub-slab Depressurization System Layout			
Scale: Graphic	Drawn By: O.T.	Site No: C356035	Fig.#: 8

**Trip to 396 Broadway**  
 Kingston, NY 12401-4626  
 1.77 miles - about 5 minutes

**Route Map**



**DT Consulting Services, Inc.**  
 1291 Old Post Road  
 Ulster Park, New York 12487  
 (845) 658-3484

**Client:** Northeast Retail Leasing & Management Company, LLC

**Location:** Utility Platers, 412 Washington Avenue, Kingston, Ulster County, New York

**Title:** Route Map to Nearest Hospital

**Scale:** Graphic

**Drawn By:** O.T.

**Site No:** C356035

**Fig. #:** 9

**Table 4:**  
**Summary of Soil Laboratory Analysis - Volatile Organic Compounds**

Page 1 of 6

**Site:** Utility Platers  
 416 Washington Avenue  
 Kingston, Ulster County, New York

**NYSDEC BCP Site No. C356035**

**Client:** Northeast Retail Leasing & Management Co  
**Contractor:** DT Consulting Services, Inc.

Sample Location					SB-29	SB-30	SB-31	SB-32
Sample Number					1	2	3	4
Date Collected					8/13/2009	8/13/2009	8/13/2009	8/13/2009
Matrix					Soil	Soil	Soil	Soil
Analytical Method					8260	8260	8260	8260
Compound	Unrestricted Use	Residential	Restricted Residential	Commerical	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.
	Guidance Value	Guidance Value	Guidance Value	Guidance Value				
1,2,4-Trimethylbenzene	3,600	47,000	52,000	190,000	U	25	U	U
1,3,5-Trimethylbenzene	8,400	47,000	52,000	190,000	U	5	U	U
Methylene chloride	50	51,000	100,000	500,000	26	25	23	22
Naphthalene	12,000	100,000	100,000	500,000	U	81	2	U
n-Butylbenzene	12,000	100,000	100,000	500,000	U	3	U	U
n-Propylbenzene	3,900	100,000	100,000	500,000	U	4	U	U
o-Xylene	260	100,000	100,000	500,000	U	U	U	U
p- & m- Xylene	260	100,000	100,000	500,000	U	U	U	U
sec-Butylbenzene	11,000	100,000	100,000	500,000	U	U	U	U
tert-Butylbenzene	5,900	100,000	100,000	500,000	U	U	U	U
Trichloroethylene	470	10,000	21,000	200,000	40	920	140	430
Tetrachloroethylene	1,300	5,500	19,000	150,000	U	3	U	U
Ethylbenzene	1,000	30,000	41,000	390,000	U	U	U	U
Toluene	700	100,000	100,000	500,000	U	U	U	U
1,1,1-Trichloroethane	680	100,000	100,000	500,000	U	4	U	U
1,1,2-Trichloroethane					U	5	U	U
1,1-Dichloroethylene	270	19,000	26,000	240,000	U	4	U	U
1,2,3-Trichlorobenzene					U	7	U	U
1,2,4-Trichlorobenzene					U	14	U	U
1,2-Dichloroethane	20	2,300	3,100	30,000	U	4	U	U
1,2-Dichloroethane(total)					U	6 (cis)	3 (cis)	7(cis)
Bis(2-ethylhexyl)phthalate					120	U	U	U

**Notes:**

1. Soil results are recorded in micrograms-per-kilogram (µg/Kg) or ppb.
2. The Soil Cleanup Objectives or SCOs for residential, restricted residential and ecological resources were capped at a maximum of 100,000 ppb
3. U = Undetected
4. The presented guidance values were adopted from the NYSDEC Subpart 375-6: Remedial Program Soil Cleanup Objectives, December 2006.
5. Only those compounds with laboratory reportable compounds are presented in this chart. The remaining parameters within the EPA Test Method 8260 were returned non-detected.

**Table 4:****Summary of Soil Laboratory Analysis - Volatile Organic Compounds****Page 2 of 6**

**Site:** Utility Platers  
416 Washington Avenue  
Kingston, Ulster County, New York

**Client:** Northeast Retail Leasing & Management Co  
**Contractor:** DT Consulting Services, Inc.

NYSDEC BCP Site No. C356035

Sample Location	SB-33		SB-34		SB-35		SB-36		SB-37A		SB-38		SB-39		SB-40		SB-37B	
Sample Number	1		2		3		4		5		6		7		8		9	
Date Collected	9/22/2009		9/22/2009		9/22/2009		9/22/2009		9/22/2009		9/22/2009		9/22/2009		9/22/2009		9/22/2009	
Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Analytical Method	8260		8260		8260		8260		8260		8260		8260		8260		8260	
Compound	Unrestricted Use	Residential	Restricted Residential	Commerical	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.
	Guidance Value	Guidance Value	Guidance Value	Guidance Value														
1,2,4-Trimethylbenzene	3,600	47,000	52,000	190,000	4	3	U	U	U	U	U	U	U	U	U	U	U	U
Methylene chloride	50	51,000	100,000	500,000	19	19	19	20	20	1,700	20	20	20	20	20	20	20	19
Naphthalene	12,000	100,000	100,000	500,000	10	U	U	U	U	U	U	U	U	U	U	U	U	U
n-Butylbenzene	12,000	100,000	100,000	500,000	17	U	U	U	U	U	U	U	U	U	U	U	U	U
o-Xylene	260	100,000	100,000	500,000	3	U	U	26	U	U	U	U	U	U	U	U	U	U
p- & m- Xylene	260	100,000	100,000	500,000	6	4	2	80	U	U	U	U	3	U	U	U	U	U
sec-Butylbenzene	11,000	100,000	100,000	500,000	36	U	U	U	U	U	U	U	U	U	U	U	U	U
tert-Butylbenzene	5,900	100,000	100,000	500,000	5	U	U	U	U	U	U	U	U	U	U	U	U	U
Trichloroethylene	470	10,000	21,000	200,000	U	6	10	U	16	160,000	58	53	8	U	U	U	U	U
Ethylbenzene	1,000	30,000	41,000	390,000	U	U	U	20	U	U	U	U	U	U	U	U	U	U
Toluene	700	100,000	100,000	500,000	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,1,1-Trichloroethane	680	100,000	100,000	500,000	U	U	U	U	U	1,300	U	U	U	U	U	U	U	U
1,1-Dichloroethylene	270	19,000	26,000	240,000	U	U	U	U	U	400	U	U	U	U	U	U	U	U

**Notes:**

1. Soil results are recorded in micrograms-per-kilogram (µg/Kg) or ppb.
2. The Soil Cleanup Objectives or SCOs for residential, restricted residential and ecological resources were capped at a maximum of 100,000 ppb
3. U = Undetected
4. The presented guidance values were adopted from the NYSDEC Subpart 375-6: Remedial Program Soil Cleanup Objectives, December 2006.
5. Only those compounds with laboratory reportable compounds are presented in this chart. The remaining parameters within the EPA Test Method 8260 were returned non-detected.

**Table 4:**  
**Summary of Soil Laboratory Analysis - Semi-Volatile Organic Compounds**

Page 3 of 6

**Site:** Utility Platers  
 416 Washington Avenue  
 Kingston, Ulster County, New York

**NYSDEC BCP Site No. C356035**

**Client:** Northeast Retail Leasing & Management Co  
**Contractor:** DT Consulting Services, Inc.

Sample Location					SB-29	SB-30	SB-31	SB-32
Sample Number					1	2	3	4
Date Collected					8/13/2009	8/13/2009	8/13/2009	8/13/2009
Matrix					Soil	Soil	Soil	Soil
Analytical Method					8270	8270	8270	8270
Compound	Unrestricted Use	Residential	Restricted Residential	Commerical	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.
	Guidance Value	Guidance Value	Guidance Value	Guidance Value				
Bis(2-ethylhexyl)phthalate					120	100	110	U
Anthracene	100,000	100,000	100,000	500,000	U	U	U	75
Benzo(a)anthracene	1,000	1,000	1,000	5,600	U	U	U	200
Benzo(a)pyrene	1,000	1,000	1,000	1,000	U	U	U	160
Benzo(b)fluoranthene	1,000	1,000	1,000	5,600	U	U	U	85
Chrysene	1,000	1,000	3,900	56,000	U	U	U	280
Fluoranthene	100,000	100,000	100,000	500,000	U	U	U	440
Phenanthrene	100,000	100,000	100,000	500,000	U	U	U	310
Pyrene	100,000	100,000	100,000	500,000	U	U	U	440

**Notes:**

1. Soil results are recorded in micrograms-per-kilogram (µg/Kg) or ppb.
2. Protection of ecological resources SCOs were not developed for contaminants identified in Table 375-6.8(b) with "NS". Where such contaminants appear in Table 375-6.8(a), the applicant may be required by the Department to calculate a protection of ecological resources SCO according to the TSD.
3. U = Undetected
4. The presented guidance values were adopted from the NYSDEC Subpart 375-6: Remedial Program Soil Cleanup Objectives, December 2006.
5. Only those compounds with laboratory reportable compounds are presented in this chart. The remaining parameters within the EPA Test Method 8270 were returned non-detected.

**Table 4:**  
**Summary of Soil Laboratory Analysis - Semi-Volatile Organic Compounds**

Page 4 of 6

**Site:** Utility Platers  
 416 Washington Avenue  
 Kingston, Ulster County, New York

**Client:** Northeast Retail Leasing & Management Co  
**Contractor:** DT Consulting Services, Inc.

NYSDEC BCP Site No. C356035

Sample Location					SB-33	SB-34	SB-35	SB-36	SB-37A	SB-38	SB-39	SB-40	SB-37B
Sample Number					1	2	3	4	5	6	7	8	9
Date Collected					9/22/2009	9/22/2009	9/22/2009	9/22/2009	9/22/2009	9/22/2009	9/22/2009	9/22/2009	9/22/2009
Matrix					Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analytical Method					8270	8270	8270	8270	8270	8270	8270	8270	8270
Compound	Unrestricted Use	Residential	Restricted	Commerical	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.
	Guidance Value	Guidance Value	Residential Guidance Value	Guidance Value									
Bis(2-ethylhexyl)phthalate					U	U	U	U	U	U	U	U	U
Anthracene	100,000	100,000	100,000	500,000	U	U	U	U	U	U	U	U	U
Benzo(a)anthracene	1,000	1,000	1,000	5,600	U	U	U	U	U	250	U	U	U
Benzo(a)pyrene	1,000	1,000	1,000	1,000	U	U	U	U	U	260	U	U	U
Benzo(b)fluoranthene	1,000	1,000	1,000	5,600	U	U	U	U	U	190	U	U	U
Benzo(g,h,i)perylene	100,000	100,000	100,000	500,000	U	U	U	U	U	150	U	U	U
Benzo(k)fluoranthene	800	1,000	3,900	56,000	U	U	U	U	U	240	U	U	U
Chrysene	1,000	1,000	3,900	56,000	U	U	U	U	U	270	U	U	U
Fluoranthene	100,000	100,000	100,000	500,000	U	U	U	U	U	530	U	U	U
Indeno(1,2,3-cd)pyrene	500	500	500	5,600	U	U	U	U	U	140	U	U	U
Phenanthrene	100,000	100,000	100,000	500,000	U	U	U	U	U	340	U	U	U
Pyrene	100,000	100,000	100,000	500,000	U	U	U	U	U	420	U	U	U

## Notes:

1. Soil results are recorded in micrograms-per-kilogram (µg/Kg) or ppb.
2. Protection of ecological resources SCOs were not developed for contaminants identified in Table 375-6.8(b) with "NS". Where such contaminants appear in Table 375-6.8(a), the applicant may be required by the Department to calculate a protection of ecological resources SCO according to the TSD.
3. U = Undetected
4. The presented guidance values were adopted from the NYSDEC Subpart 375-6: Remedial Program Soil Cleanup Objectives, December 2006.
5. Only those compounds with laboratory reportable compounds are presented in this chart. The remaining parameters within the EPA Test Method 8270 were returned non-detected.



**Table 4:**  
**Summary of Soil Laboratory Analysis - Priority Pollutant Metals**

Page 5 of 6

**Site:** Utility Platers  
 416 Washington Avenue  
 Kingston, Ulster County, New York

**NYSDEC BCP Site No. C356035**

**Client:** Northeast Retail Leasing & Management Co  
**Contractor:** DT Consulting Services, Inc.

Sample Location					SB-29	SB-30	SB-31	SB-32
Sample Number					1	2	3	4
Date Collected					8/13/2009	8/13/2009	8/13/2009	8/13/2009
Matrix					Soil	Soil	Soil	Soil
Analytical Method					6010	6010	6010	6010
Compound	Unrestricted Use	Residential	Restricted Residential	Commerical	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.
	Guidance Value <sup>2</sup>	Guidance Value	Guidance Value	Guidance Value				
Antimony					U	U	1.32	U
Arsenic	13	16	16	16	8.01	10.10	2.19	5.76
Beryllium	7	1	72	590	0.21	0.42	0.15	U
Cadmium	2.5	2.5	4.3	9.3	U	U	9.94	U
Chromium	1	22	110	400	26.8	28.90	61.2	11.5
Copper	50	270	270	270	27	27.10	17.9	19
Lead	63	400	400	1000	14.2	15.80	25.6	71
Nickel	30	140	310	310	38.3	45.40	59.1	16.3
Selenium	4	36	180	1500	U	U	U	U
Silver	2	36	180	1500	U	U	U	U
Thallium					U	U	U	U
Zinc	109.0	2200	1000	10000	70.8	84.6	279	68.1
Mercury	0.18	0.8	0.8	2.8	U	U	U	U

**Notes:**

1. Soil results are recorded in milligrams-per-kilogram (mg/Kg) or ppm.
2. For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.
3. U = Undetected
4. The presented guidance values were adopted from the NYSDEC Subpart 375-6: Remedial Program Soil Cleanup Objectives, December 2006.
5. Only those compounds with laboratory reportable compounds are presented in this chart. The remaining parameters within the EPA Test Method 6010 were returned non-detected.

Table 4:

## Summary of Soil Laboratory Analysis - Priority Pollutant Metals

Page 6 of 6

**Site:** Utility Platers  
416 Washington Avenue  
Kingston, Ulster County, New York

**Client:** Northeast Retail Leasing & Management Co  
**Contractor:** DT Consulting Services, Inc.

NYSDEC BCP Site No. C356035

Sample Location					SB-33	SB-34	SB-35	SB-36	SB-37A	SB-38	SB-39	SB-40	SB-37B
Sample Number					1	2	3	4	5	6	7	8	9
Date Collected					9/22/2009	9/22/2009	9/22/2009	9/22/2009	9/22/2009	9/22/2009	9/22/2009	9/22/2009	9/22/2009
Matrix					Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analytical Method					6010	6010	6010	6010	6010	6010	6010	6010	6010
Compound	Unrestricted Use	Residential	Restricted Residential	Commercial	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.
	Guidance Value <sup>2</sup>	Guidance Value	Guidance Value	Guidance Value									
Antimony					1.11	10.4	3.88	6.88	1.12	1.36	0.99	1.09	1.63
Arsenic	13	16	16	16	5.19	5.67	4.95	7.52	2.79	14.5	6.42	10.7	6.7
Beryllium	7	1	72	590	0.14	0.2	0.22	U	U	0.28	U	0.24	U
Cadmium	2.5	2.5	4.3	9.3	0.4	2.76	88.1	38.6	0.84	1.04	0.52	1.16	0.82
Chromium	1	22	110	400	18.5	438	164	287	19	24.3	14.3	25	42.8
Copper	50	270	270	270	19.9	25.2	98.4	34	196	28.1	21.5	26.6	40
Lead	63	400	400	1000	8.1	12.7	8.29	13.4	21.3	20.7	11.5	17.3	9.99
Nickel	30	140	310	310	44	1320	157	77.3	38.7	31.5	18.3	25	24.1
Selenium	4	36	180	1500	U	U	U	U	U	U	U	U	U
Silver	2	36	180	1500	U	U	U	U	U	U	U	U	U
Thallium					U	U	U	U	U	U	U	U	U
Zinc	109.0	2200	1000	10000	38.9	163	1000	231	64.7	74.2	54.7	68.5	64.8
Mercury	0.18	0.8	0.8	2.8	U	U	U	U	U	U	U	U	U
Cyanide	27	27	27	27	U	U	107	57	410	U	U	U	U

## Notes:

1. Soil results are recorded in milligrams-per-kilogram (mg/Kg) or ppm.
2. For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.
3. U = Undetected
4. The presented guidance values were adopted from the NYSDEC Subpart 375-6: Remedial Program Soil Cleanup Objectives, December 2006.
5. Only those compounds with laboratory reportable compounds are presented in this chart. The remaining parameters within the EPA Test Method 6010 were returned non-detected.

Table 5A:

## Pre-Remedy Summary of Groundwater Laboratory Analysis - Volatile Organic Compounds

Page 1 of 2

**Site:** Utility Platers  
416 Washington Avenue  
Kingston, Ulster County, New York

**Client:** Northeast Retail Leasing & Management Co  
**Contractor:** DT Consulting Services, Inc.

Sample Location		TMW-1	TMW-2	TMW-3	TMW-4	TMW-5
Sample Number		1	2	3	1	2
Date Collected		12/23/2009	12/23/2009	12/23/2009	1/14/2010	1/14/2010
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Analytical Method		8260	8260	8260	8260	8260
<b>TOGS-Class GA</b>						
Compound	Standard	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.
1,1,1-Trichloroethane	5	3	U	U	U	U
1,1-Dichloroethylene	5	<b><u>23</u></b>	U	U	U	U
1,1-Dichloroethylene	5	<b><u>38</u></b>	U	U	U	U
1,2,4-Trimethylbenzene	5	<b><u>16</u></b>	U	U	U	U
1,3,5-Trimethylbenzene	5	4	U	U	U	U
cis-1,2-Dichloroethylene	5	<b><u>8,400</u></b>	<b><u>33</u></b>	<b><u>8</u></b>	U	U
Isopropylbenzene	5	1	U	U	U	U
Methylene chloride	5	<b><u>6</u></b>	4	4	2	2
Naphthalene	10	1	U	U	2	U
n-Propylbenzene	5	2	U	U	U	U
o-Xylene	5	2	U	U	U	U
p- & m-Xylenes	5	2	U	U	U	U
p-Isopropyltoluene	5	4	U	U	U	U
Tetrachloroethylene	5	<b><u>12</u></b>	U	U	U	U
Toluene	5	2	U	U	U	U
trans-1,2-Dichloroethylene	5	<b><u>35</u></b>	U	U	U	U
Trichloroethylene	5	<b><u>14,000</u></b>	<b><u>51</u></b>	<b><u>11</u></b>	U	U
Vinal chloride	2	<b><u>3,900</u></b>	10	2	U	U

## Notes:

- Groundwater results are recorded in micrograms-per-liter (µg/L) or ppb.
- U = Undetected
- The presented guidance values were adopted from the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1., Class GA, December 2006.
- Those compounds which exceeded groundwater quality standards are represented in bold and underlined as such: **100**.
- Only those compounds with laboratory reportable compounds are presented in this chart. The remaining parameters within the EPA Test Method 8260 were returned non-detected.

[illegible]

**Table 5A:**  
**Pre-Remedy Summary of Groundwater Laboratory Analysis - Priority Pollutant Metals**

Page 2 of 2

**Site:** Utility Platers  
 416 Washington Avenue  
 Kingston, Ulster County, New York

**Client:** Northeast Retail Leasing & Management Co  
**Contractor:** DT Consulting Services, Inc.

NYSDEC BCP Site No. C356035

Sample Location		TMW-1	TMW-2	TMW-3	TMW-4	TMW-5
Sample Number		1	2	3	1	2
Date Collected		12/23/2009	12/23/2009	12/23/2009	1/14/2009	1/14/2009
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Analytical Method		6010	6010	6010	6010	6010
TOGS-Class GA						
Compound	Standard	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	
Antimony	3	U	U	U	U	U
Arsenic	25	<b><u>120</u></b>	U	19	U	<b><u>198</u></b>
Beryllium	3	3	1.8	<b><u>22.2</u></b>	U	<b><u>4</u></b>
Cadmium	5	<b><u>97</u></b>	U	<b><u>11</u></b>	U	U
Chromium	50	36	10	<b><u>146</u></b>	U	<b><u>67</u></b>
Copper	200	191	127	<b><u>874</u></b>	60	<b><u>677</u></b>
Lead	25	<b><u>165</u></b>	<b><u>76</u></b>	<b><u>1040</u></b>	<b><u>51</u></b>	<b><u>439</u></b>
Nickel	100	<b><u>145</u></b>	<b><u>74</u></b>	<b><u>293</u></b>	U	<b><u>262</u></b>
Selenium	10	<b><u>24</u></b>	<b><u>28</u></b>	<b><u>33</u></b>	U	U
Silver	50	U	U	U	U	U
Thallium	0.5	U	U	U	U	U
Zinc	2000	703	119	945	127	664
Mercury	0.7	0.4	0.2	<b><u>15.1</u></b>	U	<b><u>8</u></b>
Cyanide	200	120	20	70	NT	NT

## Notes:

1. Groundwater results are recorded in micrograms-per-liter (µg/L) or ppb.
2. U = Undetected. NT = Not tested - Due to minimal well production, only unfiltered samples were submitted for analysis.
3. The presented guidance values were adopted from the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1., Class GA, December 2006.
4. Those compounds which exceeded groundwater quality standards are represented in bold and underlined as such: **100**.
5. Only those compounds with laboratory reportable compounds are presented in this chart. The remaining parameters within the EPA Test Method 6010 were returned non-detected.

**Table 5B:****Post-Remedy Summary of Groundwater Laboratory Analysis - Volatile Organic Compounds****Page 1 of 2**

**Site:** Utility Platers/Kingston Diagnostics  
 Washington Avenue/Schwenk Drive  
 Kingston, Ulster County, New York

**Client:** Northeast Retail Leasing & Management Co  
**Contractor:** DT Consulting Services, Inc.

Sample Location		MW-1	MW-2	MW-3	MW-4	MW-5
Sample Number		1	2	3	4	5
Date Collected		6/3/2010	6/3/2010	6/3/2010	6/3/2010	6/3/2010
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Analytical Method		8260	8260	8260	8260	8260
TOGS-Class GA						
Compound	Standard	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.
		U	U	U	U	U
1,1,1-Trichloroethane	5	U	U	U	U	U
1,1-Dichloroethylene	5	<b><u>6.4</u></b>	U	U	U	U
1,2,4-Trimethylbenzene	5	U	U	U	U	U
1,3,5-Trimethylbenzene	5	U	U	U	U	U
cis-1,2-Dichloroethylene	5	<b><u>480</u></b>	4.2	U	U	U
Isopropylbenzene	5	U	U	U	U	U
Methylene chloride	5	4.0	3.8	3.3	3.1	3.3
Naphthalene	10	U	U	U	U	U
n-Propylbenzene	5	U	U	U	U	U
o-Xylene	5	U	U	U	U	U
p- & m-Xylenes	5	U	U	U	U	U
p-Isopropyltoluene	5	U	U	U	U	U
Tetrachloroethylene	5	U	U	U	U	U
Toluene	5	U	U	U	U	U
trans-1,2-Dichloroethylene	5	<b><u>15</u></b>	U	U	U	U
Trichloroethylene	5	<b><u>560</u></b>	2.6	U	U	U
Vinal chloride	2	<b><u>190</u></b>	1.4	U	U	U

**Notes:**

1. Groundwater results are recorded in micrograms-per-liter (µg/L) or ppb.
2. U = Undetected
3. The presented guidance values were adopted from the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1., Class GA, December 2006.
4. Those compounds which exceeded groundwater quality standards are represented in bold and underlined as such: **100**.
5. Only those compounds with laboratory reportable compounds are presented in this chart. The remaining parameters within the EPA Test Method 8260 were returned non-detected.

**Table 5B:****Pre-Remedy Summary of Groundwater Laboratory Analysis - Priority Pollutant Metals****Page 2 of 2**

**Site:** Utility Platers/Kingston Diagnostics  
 Washington Avenue/Schwenk Drive  
 Kingston, Ulster County, New York

**Client:** Northeast Retail Leasing & Management Co  
**Contractor:** DT Consulting Services, Inc.

**NYSDEC BCP Site No. C356035**

Sample Location Sample Number		MW-1 1	MW-2 2	MW-3 3	MW-4 4	MW-5 5
Date Collected		6/3/2010	6/3/2010	6/3/2010	6/3/2010	6/3/2010
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Analytical Method		6010	6010	6010	6010	6010
Compound	TOGS-Class GA Standard	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.
Antimony	3	U	U	U	U	U
Arsenic	25	U	<b><u>29</u></b>	U	10	U
Beryllium	3	U	<b><u>6</u></b>	U	U	U
Cadmium	5	<b><u>31</u></b>	<b><u>10</u></b>	U	U	U
Chromium	50	13	<b><u>58</u></b>	5	U	7
Copper	200	38	<b><u>430</u></b>	10	17	94
Lead	25	<b><u>33</u></b>	<b><u>552</u></b>	12	19	<b><u>47</u></b>
Nickel	100	<b><u>257</u></b>	<b><u>113</u></b>	33	10	29
Selenium	10	<b><u>14</u></b>	<b><u>28</u></b>	U	11	U
Silver	50	U	U	U	U	U
Thallium	0.5	U	U	U	U	U
Zinc	2000	136	431	27	47	80
Mercury	0.7	U	<b><u>1.6</u></b>	U	U	U

**Notes:**

1. Groundwater results are recorded in micrograms-per-liter (µg/L) or ppb.
2. U = Undetected.
3. The presented guidance values were adopted from the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1., Class GA, December 2006.
4. Those compounds which exceeded groundwater quality standards are represented in bold and underlined as such: **100**.
5. Only those compounds with laboratory reportable compounds are presented in this chart. The remaining parameters within the EPA Test Method 6010 were returned non-detected.

**Table 6:****Soil Cleanup Objectives for Restricted Residential Use****Page 1 of 1**

**Site:** Utility Platers/Kingston Diagnostics  
Washington Avenue/Schwenk Drive  
Kingston, Ulster County, New York

**Client:** Northeast Retail Leasing & Management Co  
**Contractor:** DT Consulting Services, Inc.

**NYSDEC BCP Site No. C356035**

<b>Detected Volatile Organic Compounds</b>	<b>Restricted Residential Guidance Value</b>	<b>Detected Semi-Volatile Organic Compounds</b>	<b>Restricted Residential Guidance Value</b>	<b>Detected Priority Pollutant Metals</b>	<b>Restricted Residential Guidance Value</b>
Methylene chloride	100,000	Anthracene	100,000	Antimony	NS
Naphthalene	100,000	Benzo(a)anthracene	1,000	Arsenic	16
o-Xylene	100,000	Benzo(a)pyrene	1,000	Beryllium	72
p- & m- Xylene	100,000	Benzo(b)fluoranthene	1,000	Cadmium	4.3
Trichloroethylene	21,000	Benzo(g,h,i)perylene	100,000	Chromium	110
Ethylbenzene	41,000	Benzo(k)fluoranthene	3,900	Copper	270
1,2,4-Trimethylbenzene	52,000	Chrysene	3,900	Lead	400
1,3,5-Trimethylbenzene	52,000	Dibenz(a,h)anthracene	330	Nickel	310
Isopropylbenzene	NS	Fluoranthene	100,000	Selenium	180
n-Butylbenzene	100,000	Indeno(1,2,3-cd)pyrene	500	Silver	180
n-Propylbenzene	100,000	Bis(2-ethylhexyl)phthalate	NS	Thallium	NS
p-Isopropyltoluene	NS	2--Methylnaphthalene	NS	Zinc	1000
sec-Butylbenzene	100,000	Acenaphthylene	100,000	Mercury	0.8
tert-Butylbenzene	100,000	Fluorene	100,000	Cyanide	27
MTBE	100,000	Naphthalene	100,000		
		Phenanthrene	100,000		
		Pyrene	100,000		

**Notes:**

1. VOC/SVOC soil results are recorded in micrograms-per-kilogram ( $\mu\text{g/Kg}$ ) or ppb. Metals soil results are recorded in milligrams-per-kilogram ( $\text{mg/Kg}$ ) or ppm.
2. The Soil Cleanup Objectives or SCOs for residential, restricted residential and ecological resources were capped at a maximum of 100,000 ppb
3. U = Undetected. NS = Not specified.
4. The presented guidance values were adopted from the NYSDEC Subpart 375-6: Remedial Program Soil Cleanup Objectives, December 2006.
5. Only those compounds with laboratory reportable compounds are presented in this chart. The remaining parameters were returned non-detected.



Table 7:

## UTILITY PLATERS - Post Excavation Summary of Soil Laboratory Analysis - Volatile Organic Compounds

Page 1 of 7

**Site:** Utility Platers  
416 Washington Avenue  
Kingston, Ulster County, New York

**NYSDEC BCP Site No. C356035**

**Client:** Northeast Retail Leasing & Management Co  
**Contractor:** DT Consulting Services, Inc.

Sample Location				SP-1	SP-2	SP-3	SP-4	SP-5	SP-6	SP-7	SP-7 Dup	SP-8	SP-9	SP-10
Sample Number				1	2	3	1	2	3	1	2	3	4	5
Date Collected				9/29/2009	9/29/2009	9/30/2009	10/5/2009	10/5/2009	10/5/2009	10/6/2009	10/6/2009	10/6/2009	10/6/2009	10/6/2009
Matrix				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analytical Method				8260	8260	8260	8260	8260	8260	8260	8260	8260	8260	8260
Compound	Unrestricted Use		Residential	Restricted		Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.
	Guidance Value	Guidance Value	Residential	Guidance Value										
Methylene chloride	50	51,000	100,000	25	41	37	34	31	22	34	41	19	690	22
Naphthalene	12,000	100,000	100,000	18	12	U	U	15	U	U	U	U	U	U
o-Xylene	260	100,000	100,000	U	U	U	U	U	U	U	10	U	U	U
p- & m- Xylene	260	100,000	100,000	U	U	U	U	U	U	11	44	U	U	6
Trichloroethylene	470	10,000	21,000	34	65	17	82	U	15	19	6	4200	12000	U
Ethylbenzene	1,000	30,000	41,000	U	U	U	U	U	U	5	19	U	U	U
Toluene	700	100,000	100,000	U	U	U	U	U	U	U	7	11	U	U
1,1,1-Trichloroethane	680	100,000	100,000	U	U	U	U	U	U	6	U	29	U	U
1,1-Dichloroethylene	270	19,000	26,000	U	U	U	U	U	U	3	U	4	U	U
1,1-Dichloroethylene	NS	NS	NS	U	U	U	U	U	U	100	40	25	U	U
Chloroform	370	10,000	49,000	U	U	U	U	U	U	U	U	6	U	U

## Notes:

1. Soil results are recorded in micrograms-per-kilogram (µg/Kg) or ppb.
2. The Soil Cleanup Objectives or SCOs for residential, restricted residential and ecological resources were capped at a maximum of 100,000 ppb
3. U = Undetected. NS = Not specified.
4. The presented guidance values were adopted from the NYSDEC Subpart 375-6: Remedial Program Soil Cleanup Objectives, December 2006.
5. Only those compounds with laboratory reportable compounds are presented in this chart. The remaining parameters within the EPA Test Method 8260 were returned non-detected.

Table 7:

## KINGSTON DIAGNOSTICS - Post Excavation Summary of Soil Laboratory Analysis - Volatile Organic Compounds

Page 2 of 7

**Site:** Kingston Diagnostics  
167 Schwenk Drive  
Kingston, Ulster County, New York

**NYSDEC BCP Site No. C356035**

**Client:** Northeast Retail Leasing & Management Co  
**Contractor:** DT Consulting Services, Inc.

Sample Location				SP-1A	SP-1	SP-2	SP-3	SP-4	SP-5	SP-6	SP-7
Sample Number				1	1	2	3	4	5	6	7
Date Collected				10/5/2009	11/10/2009	11/10/2009	11/10/2009	11/10/2009	11/10/2009	11/11/2009	11/11/2009
Matrix				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analytical Method				8260	8260	8260	8260	8260	8260	8260	8260
Compound	Unrestricted Use	Residential	Restricted Residential	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.
	Guidance Value	Guidance Value	Guidance Value								
1,2,4-Trimethylbenzene	3,600	47,000	52,000	U	3	U	U	U	U	U	U
Methylene chloride	50	51,000	100,000	U	43	41	48	36	44	98	52
Naphthalene	12,000	100,000	100,000	U	11	U	U	U	U	U	U
o-Xylene	260	100,000	100,000	U	U	U	U	U	U	U	U
p- & m- Xylene	260	100,000	100,000	U	U	U	U	U	U	U	U
Trichloroethylene	470	10,000	21,000	600	280	9	25	6	10	58	4
Ethylbenzene	1,000	30,000	41,000	U	U	U	U	U	U	U	U
Toluene	700	100,000	100,000	U	U	U	U	U	U	U	U
1,1,1-Trichloroethane	680	100,000	100,000	U	U	U	U	U	U	U	U
1,1-Dichloroethylene	270	19,000	26,000	U	U	U	U	U	U	U	U
1,1-Dichloroethylene	NS	NS	NS	U	U	U	U	U	U	U	U
cis-1,2-Dichloroethylene	NS	NS	NS	750	U	U	10	U	U	U	U
trans-1,2-Dichloroethylene	NS	NS	NS	7	U	U	U	U	U	U	U

## Notes:

1. Soil results are recorded in micrograms-per-kilogram ( $\mu\text{g/Kg}$ ) or ppb.
2. The Soil Cleanup Objectives or SCOs for residential, restricted residential and ecological resources were capped at a maximum of 100,000 ppb.
3. U = Undetected. NS = Not specified.
4. The presented guidance values were adopted from the NYSDEC Subpart 375-6: Remedial Program Soil Cleanup Objectives, December 2006.
5. Only those compounds with laboratory reportable compounds are presented in this chart. The remaining parameters within the EPA Test Method 8260 were returned non-detected.

Table 7:

## UNDERGROUND STORAGE TANKS - Post Excavation Summary of Soil Laboratory Analysis - Volatile Organic Compounds

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Site: Utility Platers  
416 Washington Avenue  
Kingston, Ulster County, New York

NYSDEC BCP Site No. C356035

Client: Northeast Retail Leasing & Management Co  
Contractor: DT Consulting Services, Inc.

Sample Location	Tank 2			Tank 3	
Sample Number	Wall 1	Wall 2	Wall 3	Floor	Floor
Date Collected	11/17/2009	11/17/2009	11/17/2009	11/17/2009	12/2/2009
Matrix	Soil	Soil	Soil	Soil	Soil
Analytical Method	8260	8260	8260	8260	8260
Compound	Unrestricted Use	Residential	Restricted		
	Guidance Value	Guidance Value	Guidance Value	Sample Conc.	Sample Conc.
Methylene chloride	50	51,000	100,000	27	U
Naphthalene	12,000	100,000	100,000	8	U
o-Xylene	260	100,000	100,000	U	U
p- & m- Xylene	260	100,000	100,000	4	U
Trichloroethylene	470	10,000	21,000	U	U
Ethylbenzene	1,000	30,000	41,000	U	U
1,2,4-Trimethylbenzene	3,600	47,000	52,000	U	U
1,3,5-Trimethylbenzene	8,400	47,000	52,000	U	U
Isopropylbenzene	NS	NS	NS	U	U
n-Butylbenzene	12,000	100,000	100,000	U	U
n-Propylbenzene	3,900	100,000	100,000	U	U
p-Isopropyltoluene	NS	NS	NS	U	U
sec-Butylbenzene	11,000	100,000	100,000	U	U
tert-Butylbenzene	5,900	100,000	100,000	U	U
MTBE	930	62,000	100,000	U	U

## Notes:

1. Soil results are recorded in micrograms-per-kilogram (µg/Kg) or ppb.
2. The Soil Cleanup Objectives or SCOs for residential, restricted residential and ecological resources were capped at a maximum of 100,000 ppb.
3. U = Undetected. NS = Not specified.
4. The presented guidance values were adopted from the NYSDEC Subpart 375-6: Remedial Program Soil Cleanup Objectives, December 2006.
5. Only those compounds with laboratory reportable compounds are presented in this chart. The remaining parameters within the EPA Test Method 8260 were returned non-detected.

Table 7:

## AREA WIDE - Post Excavation Summary of Soil Laboratory Analysis - Semi-Volatile Organic Compounds

Page 4 of 7

**Site:** Utility Platers/Kingston Diagnostics  
Washington Avenue & Schwenk Drive  
Kingston, Ulster County, New York

**Client:** Northeast Retail Leasing & Management Co  
**Contractor:** DT Consulting Services, Inc.

## NYSDEC BCP Site No. C356035

				Area 1	Area 2	Area 1	Area 1	Area 1
Sample Location				SP-2	SP-4	Tank 2	Tank 3	Tank 3
Sample Number				2	4	Wall 3	Walls	Bottom
Date Collected				9/29/2009	11/10/2009	11/17/2009	12/2/2009	12/2/2009
Matrix				Soil	Soil	Soil	Soil	Soil
Analytical Method				8270	8270	8270	8270	8270
Compound	Unrestricted Use	Residential	Restricted Residential	Sample Conc.		Sample Conc.	Sample Conc.	Sample Conc.
	Guidance Value	Guidance Value	Guidance Value					
Anthracene	100,000	100,000	100,000	U	150	U	U	U
Benzo(a)anthracene	1,000	1,000	1,000	U	1,400	U	U	U
Benzo(a)pyrene	1,000	1,000	1,000	U	950	U	U	U
Benzo(b)fluoranthene	1,000	1,000	1,000	U	820	U	U	U
Benzo(g,h,i)perylene	100,000	100,000	100,000	U	410	U	U	U
Benzo(k)fluoranthene	800	1,000	3,900	U	670	U	U	U
Chrysene	1,000	1,000	3,900	U	1,600	U	U	U
Dibenz(a,h)anthracene	330	330	330	U	130	U	U	U
Fluoranthene	100,000	100,000	100,000	U	1,800	U	U	U
Indeno(1,2,3-cd)pyrene	500	500	500	U	310	U	U	U
Bis(2-ethylhexyl)phthalate	NS	NS	NS	150	U	U	U	U
2-Methylnaphthalene	NS	NS	NS	U	U	54,000	4,600	1,600
Acenaphthylene	100,000	100,000	100,000	U	U	6,500	U	U
Fluorene	30,000	100,000	100,000	U	U	12,000	U	U
Naphthalene	12,000	100,000	100,000	U	U	8,200	U	U
Phenanthrene	100,000	100,000	100,000	U	910	33,000	3,000	1,100
Pyrene	100,000	100,000	100,000	U	1,900	U	U	U

## Notes:

1. Soil results are recorded in micrograms-per-kilogram ( $\mu\text{g/Kg}$ ) or ppb.
2. U = Undetected. NS = Not specified. Area 1 = Utility Platers Parcel. Area 2 = Kingston Diagnostics Parcel.
3. The presented guidance values were adopted from the NYSDEC Subpart 375-6: Remedial Program Soil Cleanup Objectives, December 2006.
4. Only those compounds with laboratory reportable compounds are presented in this chart. The remaining parameters within the EPA Test Method 8270 were returned non-detected.
5. Soils exceeding Restricted Residential Guidance Values are presented in bold and outlined as such: **100**.

Table 7:

## UTILITY PLATERS - Post Excavation Summary of Soil Laboratory Analysis - Priority Pollutant Metals

Page 5 of 7

Site: Utility Platers  
416 Washington Avenue  
Kingston, Ulster County, New York

Client: Northeast Retail Leasing & Management Co  
Contractor: DT Consulting Services, Inc.

NYSDEC BCP Site No. C356035

Sample Location					SP-1	SP-2	SP-3	SP-4	SP-5	SP-6	SP-7	SP-7 Dup	SP-8	SP-9	SP-10
Sample Number					1	2	3	1	2	3	1	2	3	4	5
Date Collected					9/29/2009	9/29/2009	9/30/2009	10/5/2009	10/5/2009	10/5/2009	10/6/2009	10/6/2009	10/6/2009	10/6/2009	10/6/2009
Matrix					Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analytical Method					6010	6010	6010	6010	6010	6010	6010	6010	6010	6010	6010
Compound	Unrestricted Use	Residential	Restricted Residential	Commerical	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.
	Guidance Value <sup>2</sup>	Guidance Value	Guidance Value	Guidance Value											
Antimony	NS	NS	NS	NS	U	1.24	U	1.11	1.2	1.84	2.68	2.39	1.71	1.75	2.92
Arsenic	13	16	16	16	5.80	7.89	6.55	9.28	13.2	13.2	10.2	11.2	8.58	9.76	3.88
Beryllium	1	7	72	590	0.27	0.41	0.23	0.25	0.38	0.52	0.34	0.51	0.42	0.33	U
Cadmium	2.5	2.5	4.3	9.3	3.24	3.35	2.72	2.54	2.96	3.08	2.69	3.19	<b>6.01</b>	2.81	81.5
Chromium	1	22	110	400	25.90	26.4	22.6	22.4	24.4	27.5	22.4	26.1	24.5	24.2	<b>173</b>
Copper	50	270	270	270	30.90	30.2	25.9	27	32.1	32.4	38.5	36.3	34	25.1	144
Lead	63	400	400	1000	18.70	18.9	15.9	17	20.9	20.8	20	23.2	17.6	16.2	10.5
Nickel	30	140	310	310	44.70	44.5	39	41.2	44.9	49.4	41.6	47.2	60.6	57.5	<b>477</b>
Selenium	4	36	180	1500	U	U	U	U	U	1.68	U	U	U	1.53	U
Silver	2	36	180	1500	U	U	U	U	U	U	U	U	U	U	U
Thallium	NS	NS	NS	NS	U	U	U	U	U	U	U	U	U	U	U
Zinc	109.0	2200	1000	10000	87.30	88.5	87.3	67.7	73.6	81	77.3	87.3	127	73.2	391
Mercury	0.18	0.8	0.8	2.8	U	U	U	U	U	U	U	U	U	U	U
Cyanide	27	27	27	27	U	U	U	U	U	U	U	U	U	U	U

## Notes:

1. Soil results are recorded in milligrams-per-kilogram (mg/Kg) or ppm.
2. For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.
3. U = Undetected. NS = Not specified.
4. The presented guidance values were adopted from the NYSDEC Subpart 375-6: Remedial Program Soil Cleanup Objectives, December 2006.
5. Only those compounds with laboratory reportable compounds are presented in this chart. The remaining parameters within the EPA Test Method 6010 were returned non-detected.
6. Soils exceeding Restricted Residential Guidance Values are presented in bold and outlined as such: **100**.

Table 7:

## KINGSTON DIAGNOSTICS - Post Excavation Summary of Soil Laboratory Analysis - Priority Pollutant Metals

Page 6 of 7

Site: Kingston Diagnostics  
167 Schwenk Drive  
Kingston, Ulster County, New York

Client: Northeast Retail Leasing & Management Co  
Contractor: DT Consulting Services, Inc.

NYSDEC BCP Site No. C356035

Sample Location					SP-1A	SP-1	SP-2	SP-3	SP-4	SP-5	SP-6	SP-7
Sample Number					1	1	2	3	4	5	6	7
Date Collected					10/5/2009	11/10/2009	11/10/2009	11/10/2009	11/10/2009	11/10/2009	11/11/2009	11/11/2009
Matrix					Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analytical Method					6010	6010	6010	6010	6010	6010	6010	6010
Compound	Unrestricted Use	Residential	Restricted Residential	Commercial	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.
	Guidance Value <sup>2</sup>	Guidance Value	Guidance Value	Guidance Value								
Antimony	NS	NS	NS	NS	U	1.66	U	1.27	U	1.18	U	1.71
Arsenic	13	16	16	16	9.43	8.05	7.11	5.75	7.09	6.55	9.05	6.25
Beryllium	1	7	72	590	0.15	0.24	0.37	0.33	0.32	0.35	0.27	0.16
Cadmium	2.5	2.5	4.3	9.3	2.38	2.45	2.11	2.11	3.16	2.85	2.47	<b>30.2</b>
Chromium	1	22	110	400	17.50	20.8	15.9	22.9	17.1	17	15.1	69
Copper	50	270	270	270	23.90	29.4	30.4	24.3	25.7	33.3	30.6	85.2
Lead	63	400	400	1000	15.90	14.3	15.3	12.8	18.8	12.6	11.9	21.2
Nickel	30	140	310	310	30.30	33.3	23.5	32	24.2	23.6	32.6	133
Selenium	4	36	180	1500	U	2.21	2.17	2.22	1.58	1.36	1.55	1.46
Silver	2	36	180	1500	U	U	U	U	U	U	U	U
Thallium	NS	NS	NS	NS	U	U	U	U	U	U	U	U
Zinc	109.0	2200	1000	10000	58.40	69.1	71.5	65.6	65	66.4	74.3	484
Mercury	0.18	0.8	0.8	2.8	U	U	U	U	U	U	U	U
Cyanide	27	27	27	27	U	U	U	U	U	1.42	U	8.32

## Notes:

- Soil results are recorded in milligrams-per-kilogram (mg/Kg) or ppm.
- For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.
- U = Undetected. NS = Not specified.
- The presented guidance values were adopted from the NYSDEC Subpart 375-6: Remedial Program Soil Cleanup Objectives, December 2006.
- Only those compounds with laboratory reportable compounds are presented in this chart. The remaining parameters within the EPA Test Method 6010 were returned non-detected.
- Soils exceeding Restricted Residential Guidance Values are presented in bold and outlined as such: **100**.

Table 7:

**UNDERGROUND STORAGE TANKS - Post Excavation Summary of Soil Laboratory Analysis - Priority Pollutant Metals**

Page 7 of 7

**Site:** Utility Platers  
416 Washington Avenue  
Kingston, Ulster County, New York

**Client:** Northeast Retail Leasing & Management Co  
**Contractor:** DT Consulting Services, Inc.

NYSDEC BCP Site No. C356035

Sample Location					Tank 2	Tank 2	Tank 2	Tank 2	Tank 3	Tank 3
Sample Number					Wall 1	Wall 2	Wall 3	Floor	Walls	Floor
Date Collected					11/17/2009	11/17/2009	11/17/2009	11/17/2009	12/2/2009	12/2/2009
Matrix					Soil	Soil	Soil	Soil	Soil	Soil
Analytical Method					6010	6010	6010	6010	6010	6010
Compound	Unrestricted Use	Residential	Restricted Residential	Commerical	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.	Sample Conc.
	Guidance Value <sup>2</sup>	Guidance Value	Guidance Value	Guidance Value						
Antimony	NS	NS	NS	NS	1.18	1.34	U	1.21	2.52	U
Arsenic	13	16	16	16	9.20	<b>16.4</b>	7.78	13.7	5.14	7.45
Beryllium	1	7	72	590	0.14	0.48	0.16	0.49	0.17	U
Cadmium	2.5	2.5	4.3	9.3	2.39	<b>4.8</b>	1.54	3.47	2.09	2.95
Chromium	1	22	110	400	41.40	29	11.1	26	<b>184</b>	32.6
Copper	50	270	270	270	28.40	37.4	22.8	42.4	41.6	47.2
Lead	63	400	400	1000	14.50	21.8	13.8	19.2	22.4	17.2
Nickel	30	140	310	310	64.90	43.3	22.6	44.5	114	64.1
Selenium	4	36	180	1500	U	2.37	1.57	2.55	U	U
Silver	2	36	180	1500	U	U	U	U	U	U
Thallium	NS	NS	NS	NS	U	U	U	U	U	U
Zinc	109.0	2200	1000	10000	58.60	84.2	48.9	85.8	70.4	127
Mercury	0.18	0.8	0.8	2.8	U	U	U	U	U	U
Cyanide	27	27	27	27	2.42	U	U	U	1.69	U

## Notes:

1. Soil results are recorded in milligrams-per-kilogram (mg/Kg) or ppm.
2. For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.
3. U = Undetected. NS = Not specified.
4. The presented guidance values were adopted from the NYSDEC Subpart 375-6: Remedial Program Soil Cleanup Objectives, December 2006.
5. Only those compounds with laboratory reportable compounds are presented in this chart. The remaining parameters within the EPA Test Method 6010 were returned non-detected.
6. Soils exceeding Restricted Residential Guidance Values are presented in bold and outlined as such: **100**.

Table 8:									
Criteria for On-Site Re-use of Excavated Material or Imported Soils						Page 1 of 2			
<b>Site:</b> Utility Platers/Kingston Diagnostics Washington Avenue/Schwenk Drive Kingston, Ulster County, New York						<b>Client:</b> Northeast Retail Leasing & Management Co <b>Contractor:</b> DT Consulting Services, Inc.			
NYSDEC BCP Site No. C356035									
Volatile Organic Compounds	Unrestricted Use Soil Cleanup Objectives	Restricted Residential Soil Cleanup Objectives	Protection of Groundwater	Protection of Ecological Resources	Semi-Volatile Organic Compounds	Unrestricted Use Soil Cleanup Objectives	Restricted Residential Soil Cleanup Objectives	Protection of Groundwater	Protection of Ecological Resources
1,1,1-Trichloroethane <sup>f</sup>	0.68	NS	0.68	NS	Acenaphthene	20	100 <sup>a</sup>	98	20
1,1-Dichloroethane <sup>f</sup>	0.27	26	0.27	NS	Acenaphthylene <sup>f</sup>	100 <sup>a</sup>	100 <sup>a</sup>	107	NS
1,1-Dichloroethene <sup>f</sup>	0.33	100 <sup>a</sup>	0.33	NS	Anthracene <sup>f</sup>	100 <sup>a</sup>	100 <sup>a</sup>	1,000 <sup>c</sup>	NS
1,2-Dichlorobenzene <sup>f</sup>	1.1	100 <sup>a</sup>	1.1	NS	Benz(a)anthracene <sup>f</sup>	1 <sup>c</sup>	1 <sup>f</sup>	1 <sup>f</sup>	NS
1,2-Dichloroethane	0.02 <sup>c</sup>	3.1	0.02 <sup>f</sup>	10	Benzo(a)pyrene	1 <sup>c</sup>	1 <sup>f</sup>	22	2.6
cis -1,2-Dichloroethene <sup>f</sup>	0.25	100 <sup>a</sup>	0.25	NS	Benzo(b)fluoranthene <sup>f</sup>	1 <sup>c</sup>	1 <sup>f</sup>	1.7	NS
trans-1,2-Dichloroethene <sup>f</sup>	0.19	100 <sup>a</sup>	0.19	NS	Benzo(g,h,i)perylene <sup>f</sup>	100	100 <sup>a</sup>	1,000 <sup>c</sup>	NS
1,3-Dichlorobenzene <sup>f</sup>	2.4	49	2.4	NS	Benzo(k)fluoranthene <sup>f</sup>	0.8 <sup>c</sup>	3.9	1.7	NS
1,4-Dichlorobenzene	1.8	13	1.8	20	Chrysene <sup>f</sup>	1 <sup>c</sup>	3.9	1 <sup>f</sup>	NS
1,4-Dioxane	0.1 <sup>b</sup>	13	0.1 <sup>e</sup>	0.1 <sup>e</sup>	Dibenz(a,h)anthracene <sup>f</sup>	0.33 <sup>b</sup>	0.33 <sup>a</sup>	1,000 <sup>c</sup>	NS
Acetone	0.05	100 <sup>b</sup>	0.05	2.2	Fluoranthene <sup>f</sup>	100 <sup>a</sup>	100 <sup>a</sup>	1,000 <sup>c</sup>	NS
Benzene	0.06	4.8	0.06	70	Fluorene	30	100 <sup>a</sup>	386	30
n-Butylbenzene <sup>f</sup>	12	100 <sup>a</sup>	12	NS	Indeno(1,2,3-cd)pyrene <sup>f</sup>	0.5 <sup>c</sup>	0.5 <sup>f</sup>	8.2	NS
Carbon tetrachloride <sup>f</sup>	0.76	2.4	0.76	NS	m-Cresol <sup>f</sup>	0.33 <sup>b</sup>	100 <sup>a</sup>	0.33 <sup>a</sup>	NS
Chlorobenzene	1.1	100 <sup>a</sup>	1.1	40	Naphthalene <sup>f</sup>	12	100 <sup>a</sup>	12	NS
Chloroform	0.37	49	0.37	12	o-Cresol <sup>f</sup>	0.33 <sup>b</sup>	100 <sup>a</sup>	0.33 <sup>a</sup>	NS
Ethylbenzene <sup>f</sup>	1	41	1	NS	p-Cresol <sup>f</sup>	0.33 <sup>b</sup>	100 <sup>a</sup>	0.33 <sup>a</sup>	NS
Hexachlorobenzene <sup>f</sup>	0.33 <sup>b</sup>	1.2	3.2	NS	Pentachlorophenol	0.8 <sup>b</sup>	6.7	0.8 <sup>a</sup>	0.8 <sup>a</sup>
Methyl ethyl ketone	0.12	100 <sup>a</sup>	0.12	100 <sup>a</sup>	Phenanthrene <sup>f</sup>	100	100 <sup>a</sup>	1,000 <sup>c</sup>	NS
Methyl tert-butyl ether <sup>f</sup>	0.93	100 <sup>a</sup>	0.93	NS	Phenol	0.33 <sup>b</sup>	100 <sup>a</sup>	0.33 <sup>a</sup>	30
Methylene chloride	0.05	100 <sup>a</sup>	0.05	12	Pyrene <sup>f</sup>	100	100 <sup>a</sup>	1,000 <sup>c</sup>	NS
n - Propylbenzene <sup>f</sup>	3.9	100 <sup>a</sup>	3.9	NS					
sec-Butylbenzene <sup>f</sup>	11	100 <sup>a</sup>	11	NS					
tert-Butylbenzene <sup>f</sup>	5.9	100 <sup>a</sup>	5.9	NS					
Tetrachloroethene	1.3	19	1.3	2					
Toluene	0.7	100 <sup>a</sup>	0.7	36					
Trichloroethene	0.47	21	0.47	2					
1,2,4-Trimethylbenzene <sup>f</sup>	3.6	52	3.6	NS					
1,3,5-Trimethylbenzene <sup>f</sup>	8.4	52	8.4	NS					
Vinyl chloride <sup>f</sup>	0.02	0.9	0.02	NS					
Xylene (mixed)	0.26	100 <sup>a</sup>	1.6	0.26					
All soil cleanup objectives (SCOs) are in parts per million (ppm).									
<b>Footnotes</b> <sup>a</sup> The SCOs for unrestricted use were capped at a maximum value of 100 ppm. See Technical Support Document (TSD), section 9.3. <sup>b</sup> For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value. <sup>c</sup> For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site. <sup>d</sup> The SCOs for metals were capped at a maximum value of 10,000 ppm. See TSD section 9.3. <sup>e</sup> For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the SCO value. <sup>f</sup> For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.									



Table 8:

Criteria for On-Site Re-use of Excavated Material or Imported Soils

Page 2 of 2

**Site:** Utility Platers/Kingston Diagnostics  
Washington Avenue/Schwenk Drive  
Kingston, Ulster County, New York

**Client:** Northeast Retail Leasing & Management Co  
**Contractor:** DT Consulting Services, Inc.

## NYSDEC BCP Site No. C356035

Priority Pollutant Metals	Unrestricted Use Soil Cleanup Objectives	Restricted Residential Soil Cleanup Objectives	Protection of Groundwater	Protection of Ecological Resources
Arsenic	13 <sup>c</sup>	16 <sup>f</sup>	16 <sup>f</sup>	13 <sup>f</sup>
Barium	350 <sup>c</sup>	400	820	433
Beryllium	7.2	72	47	10
Cadmium	2.5 <sup>c</sup>	4.3	7.5	4
Chromium, hexavalent <sup>h</sup>	1 <sup>b</sup>	110	19	1 <sup>e</sup>
Chromium, trivalent <sup>h</sup>	30 <sup>c</sup>	180	NS	41
Copper	50	270	1,720	50
Total Cyanide <sup>h</sup>	27	27	40	NS
Lead	63 <sup>c</sup>	400	450	63 <sup>f</sup>
Manganese	1600 <sup>c</sup>	2,000 <sup>f</sup>	2,000 <sup>f</sup>	1600 <sup>f</sup>
Total Mercury	0.18 <sup>c</sup>	0.81 <sup>f</sup>	0.73	0.18 <sup>f</sup>
Nickel	30	310	130	30
Selenium	3.9 <sup>c</sup>	180	4 <sup>f</sup>	3.9 <sup>f</sup>
Silver	2	180	8.3	2
Zinc	109 <sup>c</sup>	10,000 <sup>d</sup>	2,480	109 <sup>f</sup>

All soil cleanup objectives (SCOs) are in parts per million (ppm).

**Footnotes**

<sup>a</sup> The SCOs for unrestricted use were capped at a maximum value of 100 ppm. See Technical Support Document (TSD), section 9.3.

<sup>b</sup> For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value.

<sup>c</sup> For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.

<sup>d</sup> The SCOs for metals were capped at a maximum value of 10,000 ppm. See TSD section 9.3.

<sup>e</sup> For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the SCO value.

<sup>f</sup> For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.

<sup>g</sup> This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts). See TSD Table 5.6-1.

**DT CONSULTING SERVICES, INC.**

**EXCAVATION WORK PLAN FOR  
UTILITY PLATERS, INC. AND  
THE FORMER KINGSTON DIAGNOSTICS  
BUILDING SITES**

**BROWNFIELD CLEANUP PROGRAM (BCP)  
SITE NUMBER C356035**

**09/2010**

## **APPENDIX A – EXCAVATION WORK PLAN**

### **A-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 Department. Currently, this notification will be made to:

Mr. Michael Ryan, P.E – NYSDEC DER Section Chief

And

Ms. Jamie Verrigni - NYSDEC Project Manager

NYS Department of Environmental Conservation Division of Environmental  
Remediation Remedial Bureau C, Section A  
625 Broadway, 11th Floor  
Albany, NY 12233-7014

And

Regional Hazardous Waste Remediation Engineer  
NYSDEC Region 3 Office  
21 South Putt Corners Road  
New Paltz, New York 12561-1696

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent, plans 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 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,

## **DT CONSULTING SERVICES, INC.**

- A summary of the applicable components of this EWP,
- If planned excavation consists of a small volume of soil from above the water table that is reused on the site or directly loaded for off-site disposal, these activities would not require the stockpiling or fluids management provisions. Site soils may be regraded or excavated as part of construction activities but will, to the extent feasible, be reused on the site. Saturated soils in contact with contaminated groundwater will not be relocated to the ground surface. If excavated, saturated soil will be reused at that excavation or disposed of off-site at a permitted facility.
- 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, in electronic format, if it differs from the HASP provided in Appendix D of this document,
- Identification of disposal facilities for potential waste streams,
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

### **A-2 SOIL SCREENING METHODS**

Visual, olfactory and instrument-based (i.e., PID) soil screening will be performed by a qualified environmental professional during all remedial and development excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed regardless of when the 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, material that requires testing, material that can be returned to the subsurface, and material that can be used as cover soil.

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### **A-3 STOCKPILE METHODS**

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 NYSDEC.

### **A-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. If the owner decides to use excavated site soil as fill material on the property, no load out would be necessary and therefore this section would not be relevant.

The owner of the property and its contractors are solely 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. 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.

## **DT CONSULTING SERVICES, INC.**

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.

### **A-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.

All trucks will be washed prior to leaving the site. Truck wash waters will be collected and disposed of off-site in an appropriate manner.

Truck transport routes will adhere to the following principles: All trucks loaded with site materials will exit the vicinity of the site using only these approved truck routes. All trucks loaded with site materials will exit the vicinity of the site using only these approved truck routes (see routing map below):

1. Exiting the site right onto Schwenk Drive
2. Right onto Frog Alley
3. Right onto North Front Street
4. Right onto Washington Avenue
5. Traffic circle onto the NYS Thruway.

## **DT CONSULTING SERVICES, INC.**

This is 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.

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

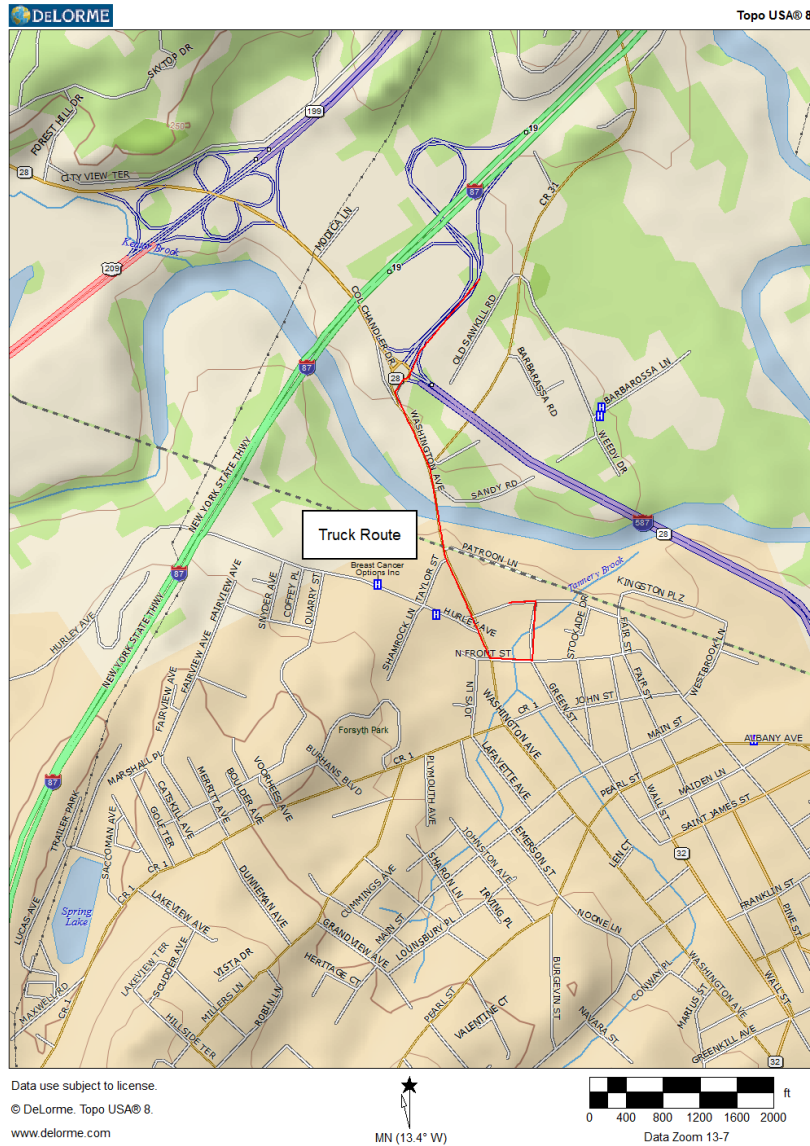
Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development.

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

### **A-6 MATERIALS DISPOSAL OFF-SITE**

All soil/fill/solid waste 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 soil/fill 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.

If excavation activities identify soil that requires off-site disposal, 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 that are not reused on the site and are taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does not meet Track 1 unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).



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### A-7 MATERIALS REUSE ON-SITE

Chemical criteria for on-site reuse of material have been approved by NYSDEC and are listed in Table 8. Soils will be sampled for VOCs, SVOCS and PP Metals per USEPA methods 8260B, 8270, 7471, respectively. The recommended number of soil samples as defined in 5.4(e) of DER-10 is dependent upon soil quantity and is outlined in the table below:

Recommended Number of Soil Samples for Soil Imported To or Exported From a Site			
Contaminant	VOCs	SVOCs, Inorganics & PCBs/Pesticides	
Soil Quantity (cubic yards)	Discrete Samples	Composite	Discrete Samples/Composite
0-50	1	1	3-5 discrete samples from different locations in the fill being provided will comprise a composite sample for analysis
50-100	2	1	
100-200	3	1	
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 DER		

For soil that is being exported from a site to locations other than permitted disposal facilities, the handling requirements are set forth in 5.4(f) of DER-10 and in paragraph 5.4(e)4. Stockpiling will occur on a paved surface behind the site structure, and stockpiles will be covered with plastic sheeting pending favorable analytical data allowing reuse onsite. 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 re-use on-site will be placed below the demarcation layer or impervious pavement/concrete surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

## **DT CONSULTING SERVICES, INC.**

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.

### **A-8 FLUIDS MANAGEMENT**

All liquids to be removed from the site, including excavation dewatering 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, but will be managed off-site.

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.

### **A-9 COVER SYSTEM RESTORATION**

After the completion of soil removal and any other invasive activities the pavement or equivalent cover system will be restored in a manner that complies with the RAWP. The demarcation layer, consisting of orange snow fencing material or equivalent 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 Site Management Plan. 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. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in any updates to the Site Management Plan.

### **A-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. Any imported fill will be sampled and analyzed in accordance with

## **DT CONSULTING SERVICES, INC.**

5.4(e)10 of DER-10. At a minimum, imported soils will first be sampled for VOCs, SVOCs and PCBs/pesticides as per USEPA methods 8260B, 8270 and 8082/8081 respectively. The frequency of sampling will follow guidelines set forth in Table 5.4(e)10 of DER-10. No soils will be transported onto the site with VOC concentrations exceeding Part 375 “Unrestricted” clean-up criteria (Table 8). Stockpiling will occur on a paved surface behind the site structure and stockpiles will be covered with plastic sheeting pending favorable analytical data allowing use onsite. Stockpiles will not exceed 100 tons.

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 as provided in Appendix 5 of DER-10. Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards are listed in Table 8. 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.

### **A-11 STORMWATER POLLUTION PREVENTION**

The site is completely developed; therefore, the development of a Stormwater Pollution Prevention Plan (SWPPP) is not applicable at this time. If future site activities include complete or partial site redevelopment, the owner will be required to develop and implement a site-specific SWPPP which will be discussed with the NYSDEC. The SWPPP will conform to the requirements of NYSDEC Division of Water guidelines and NYS regulations and will include the following provisions at a minimum:

## **DT CONSULTING SERVICES, INC.**

Barriers and hay bale checks will be installed and inspected once a 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 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.

### **A-12 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 full 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.

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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 reports prepared pursuant to Section 5 of the SMP.

### **A-13 COMMUNITY AIR MONITORING PLAN**

The CAMP generated for the Site, is attached to this document as Appendix D. Should unknown or unexpected contaminated media be identified during invasive site work, CAMP monitoring will be implemented. Both VOC and particulate monitoring will be performed at appropriate intervals at an upwind locale and downwind of the exclusion zone. Air sampling locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and at least two downwind monitoring stations.

Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

### **A-14 ODOR CONTROL PLAN**

This odor control plan is capable of controlling emissions of nuisance odors off-site. Specific odor control methods to be used on a routine basis will include limiting exposed surface area, covering exposed soil, the application of odor control foam or other products applied directly to the exposed soil, or odor neutralizing devices. If nuisance odors are identified at the site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the property owner's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

## **DT CONSULTING SERVICES, INC.**

All necessary means will be employed to prevent on- and off-site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

### **A-15 DUST CONTROL PLAN**

A dust suppression plan that addresses dust management during invasive on-site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved through the use of a dedicated on-site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

## **DT CONSULTING SERVICES, INC.**

### **A-16 OTHER NUISANCES**

A plan for rodent control will be developed and utilized by the contractor prior to and during site clearing and site grubbing, and during all remedial work.

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



ARTICLE 71, TITLE 36 ENVIRONMENTAL EASEMENT  
KINGSTON N.E. DEVELOPMENT, LLC  
CITY OF KINGSTON, THE CORP. COUNTY NEW YORK

Beginning at a point on the Easterly side of Washington Avenue, said point being the Northwestern corner of lands of Cassandra B. Kolos and Eugene Berardi, Liber 4116 Page 666 and running

- [illegible]

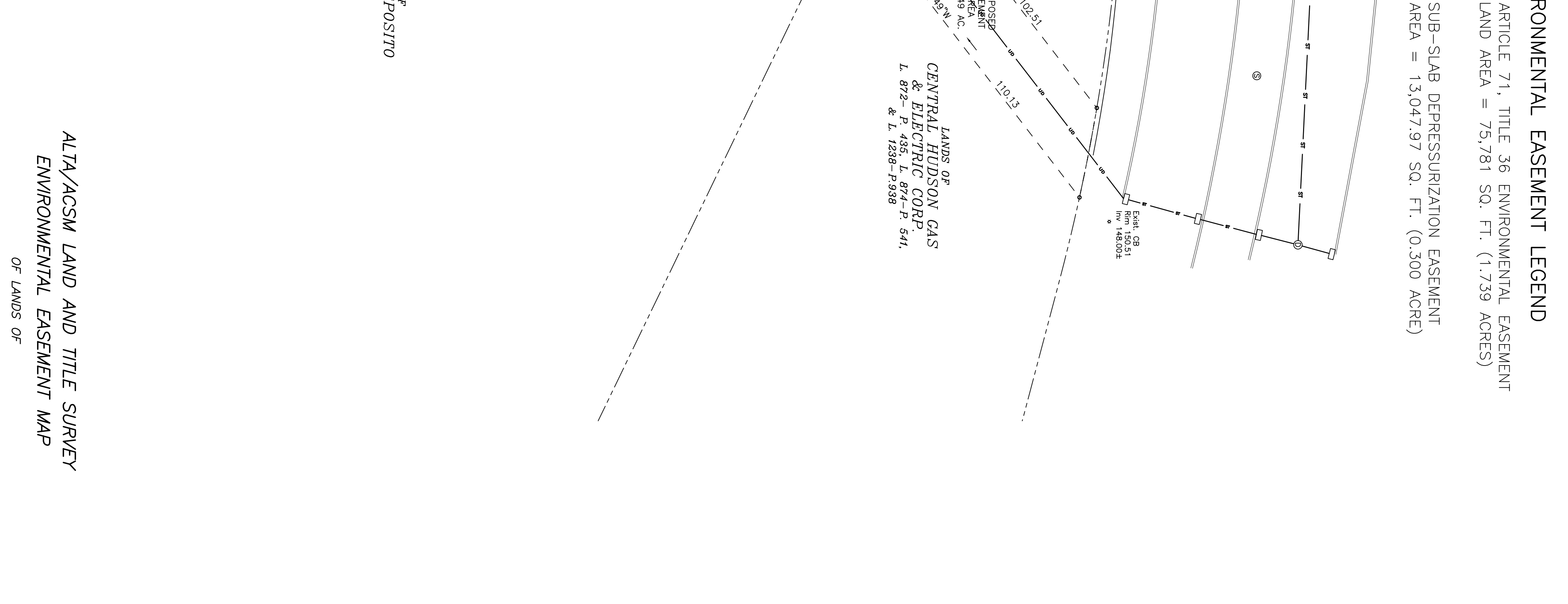
All bearings are referred to Magnetic North

SIDEWALK

CURB

- # SYMBOL LEGEND
- |     |                |
|-----|----------------|
| ③   | SWITCH MANHOLE |
| ④   | BRICKS MANHOLE |
| ⊗   | WATER VALVE    |
| ⊗   | OG VALVE       |
| —○— | STREET LIGHT   |

## ENVIRONMENTAL EASEMENT LEGEND

RIVER  
AP
$$TC_E$$

NEW YORK

Central Hudson Easement  
Description Revisions

ASH





60 2010 00011936

Ulster County  
Nina Postupack  
County Clerk  
Kingston, NY 12401

Volm-4981 Pg-26

Instrument Number: 2010- 00011936

As

Recorded On: August 27, 2010

D14 - Easement

Parties: KINGSTON NE DEVELOPMENT LLC

To

PEOPLE OF THE STATE OF NEW YORK

Billable Pages: 9

Recorded By: INTEGRITY LAND SERVICES

Num Of Pages: 9

Comment: KINGSTON CITY

**\*\* Examined and Charged as Follows: \*\***

D14 - Easement	85.00	Tax Affidavit TP 584	1.00		
Recording Charge:	86.00				
	Amount	Consideration Amount	RS#/CS#		
Tax-Transfer	0.00	0.00	348	Basic	0.00
KINGSTON CITY				Special Additional	0.00
				Additional	0.00
				Transfer	0.00
Tax Charge:	0.00				

**\*\* THIS PAGE IS PART OF THE INSTRUMENT \*\***

I hereby certify that the within and foregoing was recorded in the Clerk's Office For: Ulster County,

**File Information:****Record and Return To:**

Document Number: 2010- 00011936

Receipt Number: 954214

Recorded Date/Time: August 27, 2010 03:06:28P

Book-Vol/Pg: Bk-D VI-4981 Pg-26

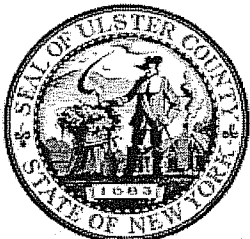
Cashier / Station: c cmil / Cashier Workstation 8

ELIZABETH STRULE ESQ

GERSTEN CLIFFORD&amp;ROME

214 MAIN STREET

HARTFORD CT 06106



Nina Postupack Ulster County Clerk

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

CHECKED

OC

INITIALED

CM

MARK/OFF

THIS INDENTURE made this 10<sup>th</sup> day of August, 2010, between

Owner **KINGSTON N.E. DEVELOPMENT, LLC**, having an office c/o Northeast Retail Leasing and Management, LLC, 360 Bloomfield Avenue, Suite 303, Windsor, County of Hartford, State of Connecticut, 06095 (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 416 Washington Avenue/167 Schwenk Drive in the City of Kingston, County of Ulster and State of New York, known and designated on the tax map of the County Clerk of Ulster as tax map parcel numbers: Section 48.314 Block 1 Lot 11.1, being the same as that property conveyed to Grantor by deed dated September 22, 2009 and recorded in the Ulster County Clerk's Office in Instrument No. 2009-00016488, comprising of approximately 1.73 acres, and hereinafter more fully described in the Land And Title Survey dated June 2, 2010, Revised June 16, 2010, further revised July 26, 2010, prepared by Brinnier & Larios, P.C., which will be attached to the Site Management Plan. The property description (the "Controlled Property") 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 human health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is 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 the Brownfield Site Cleanup Agreement, Index Number: W3-1131-09-

02, as amended by Index Number W3-1144-09-10, 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:

"Restricted- residential use," "Commercial use" and/or "Industrial use", as described within 6 NYCRR Part 375- 1.8 (g) (2)(ii), (iii) and (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) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(5) 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;

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

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

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

(9) 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 use, 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:

Regional Remediation Engineer  
NYSDEC – Region 3  
Division of Environmental Remediation  
21 South Putts Corner Road  
New Paltz, NY 12561  
Phone: (845) 256-3131 Fax: (845) 255-3414

or

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 annually, or such time as NYSDEC may

allow, 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: C356035  
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.

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

KINGSTON N.E. DEVELOPMENT, LLC

By: 

George Lee

Title: Member Date: 7/23/10

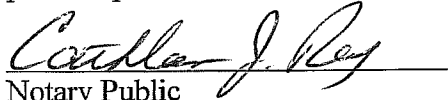
**Grantor's Acknowledgment**

STATE OF CONNECTICUT)

) ss: Hartford

COUNTY OF HARTFORD )

On the 23<sup>rd</sup> day of JULY, in the year 2010, before me, the undersigned, personally appeared George Lee, 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.

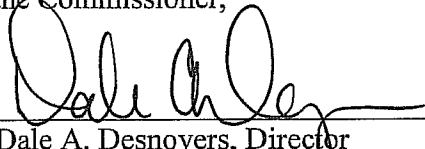
  
Notary Public

My Commission Expires: 8-31-13

Cathleen J. Roy  
Notary Public  
My Commission Expires  
August 31, 2013

**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,

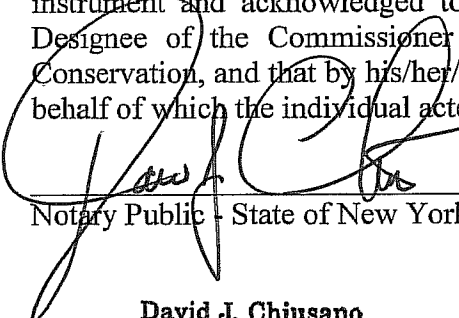
By:

  
Dale A. Desnoyers, Director  
Division of Remediation

**Grantee's Acknowledgment**

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

On the 10<sup>th</sup> day of AUGUST, in the year 2010, before me, the undersigned, personally appeared Dale Desnoyers, 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

David J. Chiusano  
Notary Public, State of New York  
No. 01CH5032146  
Qualified in Schenectady County  
Commission Expires August 22, 2010

RJR

Elizabeth Strole, Esq.

Gersten, Clifford & Rome

214 Main Street

Hartford, CT

06106



### SCHEDULE A

All That Certain Piece Or Parcel Of Land Situate In The City Of Kingston, County Of Ulster And State Of New York, Bounded And Described As Follows:

Beginning At A Point On The Easterly Side Of Washington Avenue, Said Point Being The Northwestern Corner Of Lands Of Cassandra B. Kolos And Eugene Berardi, Liber 4116 Page 166, And Running;

Thence From Said Point Of Beginning Along The Easterly Side Of Washington Avenue The Following Courses And Distances: North  $3^{\circ} 43' 39''$  West, 158.45 Feet To A Point;

Thence Northeasterly On A Curve To The Right Having A Radius Of 48.00 Feet, 77.04 Feet To A Point On The Southerly Side Of Schwenk Drive;

Thence Along The Southerly Side Of Schwenk Drive North  $88^{\circ} 13' 51''$  East, 247.97 Feet To A Point At The Northwestern Corner Of Lands Of Central Hudson Gas & Electric Corp., Liber 872 Page 435, Liber 874 Page 541, And Liber 1238 Page 938;

Thence Along The Westerly And Southerly Line Of Lands Of Central Hudson Gas And Electric Corp. the Following Courses And Distances: South  $24^{\circ} 17' 21''$  West, 33.17 Feet To A Point;

Thence South  $64^{\circ} 12' 39''$  East, 119.72 Feet To A Point At The Northwestern Corner Of Lands Of Peter J. And Rosemarie Esposito, Liber 2493 Page 109;

Thence Along The Westerly Line Of Lands Of Esposito South  $25^{\circ} 58' 26''$  West, 214.04 Feet To A Recovered Bar On The Northerly Line Of Lands Of Cyprus Inn II Inc., Liber 4264 Page 247;

Thence Along The Northerly Line Of Lands Of Cyprus Inn II Inc. North  $65^{\circ} 46' 19''$  West, 82.68 Feet To A Recovered Bar At The Northeasterly Corner Of Lands Of Kolos And Berardi;

Thence Along The Northerly Line Of Lands Of Kolos And Berardi North  $67^{\circ} 26' 09''$  West, 68.23 Feet To Recovered Pk Nail;

Thence South  $89^{\circ} 07' 21''$  West, 146.00 Feet To The Place Of Beginning.

CONTAINING: 1,739 Acres

**DT CONSULTING SERVICES, INC.**

**COMMUNITY AIR MONITORING PLAN (CAMP)  
FOR  
UTILITY PLATERS, INC. AND  
THE FORMER KINGSTON DIAGNOSTICS  
BUILDING SITES**

**BROWNFIELD CLEANUP PROGRAM (BCP)  
SITE NUMBER C356035**

**09/2010**

## 1.0 INTRODUCTION

The objective of this Community Air Monitoring Plan (CAMP) is to monitor air quality during site excavation procedures within designated work areas. This technical document is a necessary component of the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP). The subject property, known as Utility Platers, Inc., located at 416 Washington Avenue in the City of Kingston, Ulster County, New York was accepted into the BCP Program (Site Number C356035) in February, 2009. The contiguous property, formerly Kingston Diagnostics, was accepted into the BCP as an amendment to Site C356035 in November 2009. Both parcels are hereafter referred to as “the Site”.

Execution of the CAMP will provide real time data for the documentation of volatile organic compounds (VOC’s) and fine particulates (i.e. dust) at select locations surrounding the active excavation locale. By continuously monitoring air quality during intrusive site activities (and periodically for non-intrusive activities), the CAMP ensures a level of protection to the downwind community from airborne contaminant releases. All work will be performed in accordance to methods or their equivalents as contained in New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation DER-10 – Technical Guidance for Site Investigation and Remediation, Appendix 1A.

As documented within the Remedial Investigative Work Plan/Interim Remedial Measures and Remedial Work Plan generated for the facility, investigation and remedial actions have been and will be concentrated within and down-gradient of the Utility Platers site structure. These sections of the Site have been identified as source zones as they were utilized for daily plating operations, petroleum bulk storage (PBS) and are areas of documented surface spills. The following CAMP will provide air monitoring procedures to be employed during investigative and remedial efforts across the Site. If deemed necessary, revisions to the CAMP will be made pending investigative/remedial efforts and the nature of contamination in a specific area of the Site. In addition to analysis and sampling methodologies to be utilized on the subject parcel, common-sense measures to maintain minimal VOC, dust and/or odor levels will also be employed around the work areas to the extent practical.

### 1.1 Site Location and Description

This CAMP provides site specific information on the air monitoring plan utilized during remedial procedures at the Utility Platers, Inc./Kingston Diagnostic facility located at the intersection of Washington Avenue and Schwenk Drive, Kingston, Ulster County, New York. The irregularly shaped 1.02-acre property historically

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occupied by Utility Platers was improved with a one-story (slab on grade) masonry block structure that was operated as a zinc and chromium plating facility until its closure in the latter half of 2005. Use of the property for commercial plating services reportedly dates back to the 1950's. The facility was historically registered with the New York State Department of Environmental Conservation (NYSDEC) Petroleum Bulk Storage (PBS) Program as PBS No. 3-028886 and maintained an air permit (3510800069) until the facility operation was decommissioned. The building on the property has been demolished and removed from the property as part of an Interim Remedial Measure (IRM).

The Utility Platers parcel was bordered to the north by the former vacant medical office formerly known as Kingston Diagnostics which was added to the BCP Site because of contamination found at that property. This medical office building has been demolished and removed from the Site as part of an IRM. The site is bordered to the north by a presently vacant medical office, a bus terminal is located to the south, to the east by a dry cleaning establishment, while Washington Avenue and a mixed use commercial structure is present to the west. The site topography is generally level and at grade with Washington Avenue, while a moderate easterly slope is present within the eastern quadrant of the facility. According to City of Kingston Water Department and Public Works Department representatives, the subject property is being provided with a municipal water supply and sanitary waste treatment service.

## **2.0 AIR MONITORING PROCEDURES**

### **2.1 Ground Intrusive – Continuous Monitoring**

While performing ground intrusive remedial efforts on the subject property such as soil excavation, continuous monitoring will be performed and recorded for State (DEC and DOH) personnel review. Both VOC and particulate monitoring will be performed at appropriate intervals at an upwind locale and downwind of the exclusion zone.

#### **2.1.1 VOC Monitoring, Response Levels, and Actions**

Contaminants known to be present within the immediate work area or exclusion zone include volatile and semi-volatile organic compound and heavy metals or specifically, Trichloroethene (TCE), Dichloroethene, DCE and Vinyl Chloride (VC); Chromium, Nickel, Lead, Silver and Petroleum Hydrocarbons. Thus, the appropriate equipment to be employed for monitoring VOC levels would include the use of a photoionization detector or PID. As most petroleum products contain volatile organic compounds, PID screening can indicate the presence of volatile

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organics within a select sample. The Mini-Rae PID is recommended to monitor VOC's during excavation work at the Site and should be calibrated to 100 parts-per-million (ppm) isobutylene standard at the beginning of each workday. The PID, with data logging features, recorded upwind concentrations at the start of each workday as well as periodically throughout the performance of daily activities. Alternatively, immediately downwind of the exclusion zone, continuous VOC monitoring will be conducted and recorded at 15-minute run average concentrations. As per NYSDEC DER-10, VOC levels would subsequently be compared to trigger levels as specified below which may require further action. Published guidelines are as follows:

- 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 will be temporarily halted and monitoring continued. If the total VOC level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.
- If VOC's 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 will be halted, the source of vapors identified, corrective action taken to abate emissions, and monitoring continued. After these steps, work activities would resume provided that the total VOC level 200 feet downwind of the exclusion zone or half of 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, all activities will be shut down and appropriate actions taken.

The NYSDEC was notified as promptly as reasonably possible of any exceedance of a target air quality level and was notified promptly of any corrective actions taken in connection with such an exceedance. No exceedances were documented during excavation work at the Site. As stated previously, all recordings were maintained in a field log and are available for review by State agencies when requested.

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### **2.1.2 Particulate Monitoring, Response Levels, and Actions**

Temporary particulate monitoring stations were maintained during excavation procedures conducted at the Site for the purpose of continuously measuring particulate matter (PM) at upwind locations and downwind of the exclusion zone. Specific recording equipment utilized to perform PM included the use of real time area aerosol monitors, like the DataRAM or equivalent equipped with a PM-10 inlet head to measure particulate matter less than 10 micrometers in size. In addition to particulate detection, the monitoring equipment was integrating over a 15 minute (or less) period for comparison to the targeted airborne particulate action level. If the action level was exceeded during monitoring procedures, an audible alarm activated to notify the technician of an exceedance. Pursuant to NYSDEC DER-10 guidance, the following particulate response levels will be utilized while performing remediation on the subject property:

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m<sup>3</sup>) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques (such as lightly misting the excavation surface) would be employed. Work will continue with dust suppression techniques provided that downwind PM-10 particulate concentrations do not exceed 150 mcg/m<sup>3</sup> 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 mcg/m<sup>3</sup> above the upwind level, work will be stopped and a re-evaluation of activities initiated. Work will resume provided that dust suppression measures or other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m<sup>3</sup> of the upwind level and in preventing visible dust migration.

The NYSDEC was notified as promptly as reasonably possible of any exceedance of a target air quality level and will be notified promptly of any corrective actions taken in connection with such an exceedance. No exceedances were documented during remedial procedures at the Site. As stated previously, all recordings are to be maintained in a field log and will be available for review and approval by State agencies when requested.

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### **2.2 Non Intrusive – Periodic Monitoring**

Non intrusive activities performed in relation to the Utility Platers, Inc./Kingston Diagnostic facility would most typically include collection of soil or sediment samples and/or groundwater sampling from existing monitoring wells at locations within the property boundaries. Periodic monitoring could be performed during these events if deemed necessary by the NYSDEC or NYSDOH, although noticeable VOC vapors have not been detected during any non intrusive field activity as conducted by DT Consulting Services, Inc. (DTCS) personnel to date.

Monitoring protocol to be executed during non intrusive site activities would include the use of a PID to record VOC concentrations during sample collection at the following intervals:

- Upon arrival at the sampling location.
- While opening a monitoring well cap.
- While overturning the soil.
- During the purging of well contents.
- Upon departure from the sampling location.

The NYSDEC will be notified as promptly as reasonably possible of any exceedance of a target air quality level and will be notified promptly of any corrective actions taken in connection with such an exceedance. As stated previously, all recordings are to be maintained in a field log and will be available for review and approval by State agencies when requested.

# Environmental Services Health & Safety Plan

**Job Name:** Utility Platers, Inc./Kingston Diagnostics BCP

**Site Number:** C356035



# DT CONSULTING SERVICES, INC

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## 1.0 Introduction

## 2.0 Organizational Structure

### 2.1 Safety and Health Manager

### 2.2 Site Safety and Health Office

#### 2.2.1 Responsibilities

## 3.0 Personal Protective Equipment

### 3.1 Protection Levels

#### 3.1.1 Level A

#### 3.1.2 Level B

#### 3.1.3 Level C

#### 3.1.4 Level D

## 4.0 Work Zones

### 4.1 Exclusion Zone

### 4.2 Contamination Reduction Zone

### 4.3 Support Zone

## 5.0 Air Monitoring

## 6.0 Site Communications

## 7.0 Emergency Procedures

### 7.1 Injury in the exclusion zone

### 7.2 Injury in the support zone

### 7.3 Fire or explosion

### 7.4 Protective equipment failure

## 8.0 Standard Safety Practices

## 9.0 Daily Safety Meetings

## 10.0 Site Specific Plan

### 10.1 Detailed site information

### 10.2 Contaminants on site/Action Levels

### 10.3 Emergency Information

#### 10.3.1 Emergency Responders

##### 10.3.1.1 Hospital

##### 10.3.1.2 Emergency telephone numbers

##### 10.3.1.3 Regulatory agencies

## DT CONSULTING SERVICES, INC

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10.4 First Aid

10.5 Work Zones

10.5.1 Command post

10.6 Site Communications

10.6.1 Telephone

10.6.2 Hand Signals

10.7 Environmental Monitoring

10.8 Personal Protective Equipment

10.8.1 Exclusion zone

10.8.2 Contamination reduction corridor

10.9 Decontamination

10.9.1 Decontamination Procedure

11.0 Key Personnel

12.0 Work Plan

12.1 Job objective / Detailed work plan

# DT CONSULTING SERVICES, INC

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## **1.0 INTRODUCTION**

DT Consulting Services, Inc. (DTCS) has designed a safety and health program to provide its employees with the guidelines necessary to ensure their own safety and health as well as that of the surrounding community. The goal of this plan is to minimize the risk of injury during any and all earth moving procedures.

## **2.0 ORGANIZATIONAL STRUCTURE**

### **2.1 SAFETY AND HEALTH MANAGER**

It is the responsibility of the safety and health manager to develop the comprehensive safety and health plan. The safety and health manager will be apprised of any changes in the comprehensive safety and health plan as well as all site-specific procedural determinations. The safety and health manager for this project will be Ms. Deborah Thompson.

#### **2.1.1 RESPONSIBILITIES**

- a) Initial site evaluation
- b) Hazard identification
- c) Determination of appropriate protection levels
- d) Conduct daily safety and health meetings
- e) Supervision of site sampling and monitoring
- f) Supervision of decontamination procedures
- g) Designate work zones to maintain site integrity

## **3.0 PERSONAL PROTECTIVE EQUIPMENT**

The proper personal protective equipment is chosen by the site safety and health officer in consultation with the safety and health manager. The level of protection is dependent on the hazards that are likely to be encountered on-site.

### **3.1 PROTECTION LEVELS**

DTCS utilizes four levels of protection as set forth in the OSHA guidelines, Appendix B of 1910.120.

## DT CONSULTING SERVICES, INC

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### **3.1.1 Level A**

Level A provides the greatest level of skin, respiratory, and eye protection with the following minimum equipment:

- Full face, self-contained breathing apparatus (SCBA) or supplied air with escape SCBA
- Fully encapsulated chemical resistant suit
- Chemical resistant boots
- Chemical resistant inner and outer gloves

### **3.1.2 Level B**

Level B provides the greatest level of respiratory protection, but a lower level of skin protection than Level A with the following minimum equipment:

- Full face SCBA or supplied air with escape SCBA
- Chemical resistant clothing
- Chemical resistant inner and out gloves
- Chemical resistant boots

### **3.1.3 Level C**

Level C provides the same level of skin protection as Level B, but a lower level of respiratory protection with the following minimum equipment:

- Full face piece air purifying respirator with appropriate cartridge. Cartridges are chosen based on knowledge of hazardous material
- Chemical resistant clothing
- Chemical resistant inner and outer gloves
- Chemical resistant boots

### **3.1.4 Level D**

Level D provides the lowest level of skin protection and no respiratory protection with the following minimum equipment:

- Coveralls
- Safety boots
- Gloves
- Safety glasses or splash goggles

## **4.0 WORK ZONES**

DTCS utilizes the standard three-zone approach to site control. These zones are the exclusion zone, the contamination reduction zone and the support zone. Movement of personnel and equipment through these zones shall be strictly regulated in order to prevent contamination of clean environments and to protect workers in the support zone from possible exposure.

### **4.1 EXCLUSION ZONE**

The exclusion zone is the area of highest contamination. All personnel entering this zone must wear the appropriate level of protection as prescribed in the site specific safety plan. The outer boundary of the exclusion zone, referred to as the Hotline, shall be determined based upon such considerations as; extent of surface contamination, safe distance in the case of fire or explosion, physical area necessary for workers to conduct operations in a safe manner and safe distance in the event of vapor or gas emissions. Upon determination, the Hotline shall be visibly marked and secured to prevent accidental entry by unauthorized personnel.

### **4.2 CONTAMINATION REDUCTION ZONE**

The Contamination Reduction Zone is the area between the exclusion zone and the support zone. Its purpose is to protect the clean environment from contamination as workers enter and exit the exclusion zone. The outer boundary of this zone is referred to as the Coldline and shall be clearly marked. Decontamination stations shall be set up in this zone in a line known as the contamination reduction corridor. All personnel exiting the exclusion zone must follow the steps as prescribed in the decontamination procedures prior to re-entering the support zone.

### **4.3 SUPPORT ZONE**

The support zone is the area furthest away from the exclusion zone. It is considered a clean, non-contaminated area where workers need not wear any protective equipment. The command post, equipment trailer, first aid station and lavatory facilities are all located in this area. This area is not, however, open to traffic. Only authorized personnel may enter.

## **5.0 AIR MONITORING**

As the site remedial work entails intrusive activities, a specific Community Air Monitoring Plan has been generated for the Site. Refer to Attachment D for details.

## **6.0 SITE COMMUNICATIONS**

Various methods of communication will be employed based upon site conditions and work zones. Regardless of method of communication, personnel working in the exclusion zone will remain within constant view of support crews.

DTCS has a network of devices to aid in communications. All or some of the following devices may be used depending upon job site requirements; hand held radios, headset transistor walkie-talkies and cellular telephones.

The following hand signals shall be standardized for use in emergencies and in event of radio communication breakdown.

Hand gripping throat - out of air, can't breathe  
Grip partner's wrist - leave area immediately  
Hands on top of head - need assistance  
Thumbs up - I am all right, okay  
Thumbs down - no, negative

Horn blasts may be used to gain the immediate attention of crews to indicate that dangerous conditions exist.

## **7.0 EMERGENCY PROCEDURES**

The following procedures shall be followed by all site personnel in the event of an emergency. Any changes to this procedure shall be noted in the site-specific plan. In all situations where there has been an evacuation of exclusion zone, reentry shall not be permitted until the following conditions have been met; the cause of the emergency has been determined and corrected, the site hazards have been reassessed, the safety plan has been reviewed and all personnel have been apprised of any changes.

## **7.1 INJURY IN THE EXCLUSION ZONE**

In the event of an injury in the exclusion zone, the emergency signal shall be sounded. All personnel in the exclusion zone will assemble at the contamination reduction corridor. First aid procedures will begin on-site and if necessary, an ambulance will be called. No personnel will be allowed to re-enter the exclusion zone until the exact nature and cause of the injury has been determined.

## **7.2 INJURY IN THE SUPPORT ZONE**

In the event of an injury in the support zone, on-site first aid procedures will begin immediately and an ambulance called if necessary. The site safety and health officer shall determine if the nature and cause of the injury or loss of the injured person will jeopardize the smooth running of the operations. If so, the emergency signal will be sounded and all personnel will follow the same procedure as outline above.

## **7.3 FIRE OR EXPLOSION**

In the event of fire or explosion, the emergency signal shall be sounded and all personnel will assemble at the contamination reduction corridor. The fire department will be called and all personnel will be evacuated to a safe distance.

## **7.4 PROTECTIVE EQUIPMENT FAILURE**

In the vent of protective equipment failure, the affected worker and his/her buddy will leave the exclusion zone immediately. In the event of any other equipment failure, the site safety and health officer will determine if this failure affects the operation. If so, the emergency signal will be sounded and all personnel will leave the exclusion zone until such time as it is deemed safe.

## **8.0 STANDARD SAFETY PRACTICES**

The following guidelines will be followed by all personnel at all times; any changes must be approved by the safety and health manager.

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- All employees will attend the daily safety meetings prior to site entry.
- The buddy system will be utilized at all times.
- There will be no eating, drinking, smoking, or use of smoking material (i.e. matches) within the work area(s).
- Only authorized personnel will be allowed in designated work zones and will wear the proper personal protective clothing and equipment as prescribed in the site safety plan.
- The site safety and health officer will be appraised of any unusual circumstances immediately.

Such circumstances include but are not limited to the following; unusual odors, emissions, signs of chemical reaction, and discovery of conditions or substances not mentioned in the site safety plan. The site safety officer will then determine if these conditions warrant a shut down of operations.

### **9.0 DAILY SAFETY MEETINGS**

Daily safety meetings will be conducted by the site safety and health officer prior to commencement of work. All personnel, regardless of job classification are required to attend.

#### **9.1 DISCUSSIONS**

1. Overview of safety and health plan.
2. Detailed discussion of substances of concern with emphasis on exposure limits, exposure symptoms and exposure hazards.
3. Review of standard safety precautions and work practices.
4. Review of work plan.
5. Review of hand signals and emergency signals.

Personnel will sign a daily attendance sheet, which shall include an overview of the topics discussed.



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## 10.0 SITE SPECIFIC PLAN

### 10.1 DETAILED SITE INFORMATION

- **Plan Date** TBA
- **Job Name** Utility Platers, Inc./Kingston Diagnostics BCP
- **Client** Northeast Retail Leasing & Management Company, LLC
- **Client Contact/Phone Number** Dan Plotkin – (860)683-9000
- **Site Address** Utility Platers, Inc./Kingston Diagnostics  
Washington Avenue & Schwenk Drive  
Kingston, New York 12401
- **Cross Street** North Front Street & Schwenk Drive
- **Site Access** Direct

### 10.2 CONTAMINANTS ON SITE/ACTION LEVELS

The following substances are known or suspected to be on Site, primarily in site wastes. The primary hazards of each are identified, associated primarily with direct skin contact and inhalation.

SUBSTANCE	PRIMARY HAZARDS
<i><b>Volatile Organics</b></i>	
Trichloroethene	Eye & skin irritation, nausea, vomiting, headache
1,1 Dichloroethane	Skin irrit., liver, kidney, lung damage
1,2 Dichloroethene	Eye irrit., respiratory irrit., central nervous system
Vinal chloride	Eye irrit., sore throat, dizziness, headache, nausea
<i><b>Metals</b></i>	
Beryllium	Cough, weakness, eye irrit.
Chromium	Eye and skin irrit., lungs
Copper	Skin irrit, nausea, vomiting
Lead	Abdominal pain, nausea, vomiting, headache
Nickel	Dermatitis, allergic asthma
Zinc	Eye & skin irrit., nausea, muscle aches, chills, throat irrit.

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## Action Levels

Action levels shall be determined by monitoring of work zone breathing space with a portable Photoionization detector (PID) or comparable instrument. Measurement of a sustained concentration above ambient (background) conditions shall initiate action. The following criteria shall be used to determine appropriate action:

<b>VOCs in Breathing Zone (sustained and above background)</b>	<b>Level of Respiratory Protection</b>
0 – 5 ppm	Level D
5 – 200 ppm	Level C
200 – 1000 ppm	Level B - air line
1000+ ppm	Level B - SCBA

If the above criteria indicate the need to increase from Level D to a higher level of personal protection, all work in that particular site area will be immediately suspended until the required protective equipment is made available, or until Level D conditions return.

## 10.3 EMERGENCY INFORMATION

### 10.3.1 EMERGENCY RESPONDERS

#### 10.3.1.1 HOSPITAL

**Name:** Kingston Hospital

**Address & Telephone Number:**

396 Broadway, Kingston, NY 12401  
(845) 331-3131

**Distance from Site:** 1.69 Miles

#### 10.3.1.2 EMERGENCY TELEPHONE NUMBERS

<b>Police</b>	<u>911 on Cellular Phone</u>
<b>Fire</b>	<u>911 on Cellular Phone</u>
<b>Ambulance</b>	<u>911 on Cellular Phone</u>

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## **10.3.1.3 REGULATORY AGENCIES**

**EPA Telephone Number** 1-800-424-8802

**NYSDEC Spills Hotline** 1-800-457-7362

## **10.4 FIRST AID**

First Aid available at the following stations:

First Aid Kit TRUCK

Emergency Eye Wash TRUCK & ON SITE

## **10.5 WORK ZONES**

### **10.5.1 COMMAND POST**

Command post will be mobile.

## **10.6 SITE COMMUNICATIONS**

### **10.6.1 TELEPHONE**

Command Post Telephone - Cellular Phone  
Number (845)943-0159

### **10.6.2 HAND SIGNALS**

See Section 6.0

## **10.7 ENVIRONMENTAL MONITORING**

### **10.7.1 MONITORING EQUIPMENT**

Refer to Community Air Monitoring Plan

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### 10.8 PERSONAL PROTECTIVE EQUIPMENT

#### 10.8.1 EXCLUSION ZONE, PROTECTION LEVEL

<b>PROTECTIVE EQUIPMENT:</b>	Level D
<b>RESPIRATORY</b>	None
<b>HANDS</b>	Nitrile or Leather
<b>FEET</b>	Steel Toed Boots
<b>SUIT</b>	None

#### 10.8.2 CONTAMINATION REDUCTION CORRIDOR (DECON LINE)

<b>PROTECTIVE EQUIPMENT:</b>	Level D
<b>RESPIRATORY</b>	None
<b>HANDS</b>	Nitrile or Leather
<b>FEET</b>	Steel Toed
<b>SUIT</b>	None

### 10.9 DECONTAMINATION

#### 10.9.1 DECONTAMINATION PROCEDURE

STATION 1 SOAPY WATER

STATION 2 WATER

### 11.0 KEY PERSONNEL

#### SAFETY AND HEALTH MANAGER / ON-SITE SUPERVISOR

Deborah J. Thompson


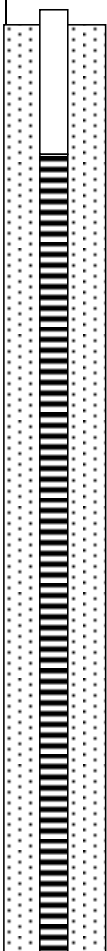
#### FOREMEN





TBA

#### FIELD PERSONNEL

Will Vary


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						<b>Well</b>		Hole No: MW-1		Date started: 5-10-10		
								Sheet 1 of 1		Date Finished: 5-10-10		
Client: NE Retail Kingston, NY Location: Utility Platers/Kingston Diagnostics						Method of investigation: Hollow Stem Augers						
Site No: C356035 P. Manager: Deb Thompson						Drilling Co: Kendrick Enterprises Geologist: Deb Thompson			Driller: Tom Kendrick D. Helper: O. Tanner Drill Rig:		Weather: Sunny 65° F	
Depth (ft.)	Sample					Sample Description	Field Analytical Readings	Well Details	Groundwater and Other Observations			
	No.	Depth (ft.)	Blows per 6"	"N"	Recovery (ft.)							
5						Well casing set at 30 feet bgs.			Groundwater encountered @ 10' bgs.  No odor or sheen			
10												
15												
20												
25												
30												
35												

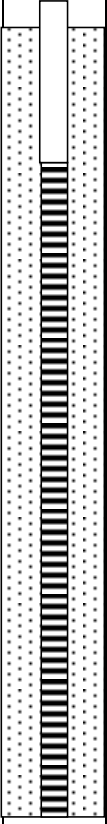
Sample Types: S=Split Spoon: <u>  X  </u> T= Shelby Tube: <u>      </u> R= Rock Core: <u>      </u> O = <u>      </u>				<b>Backfill Well Key</b> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  Cement         </div> <div style="text-align: center;">  Native Fill         </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="text-align: center;">  Sand         </div> <div style="text-align: center;">  Bentonite         </div> </div>			
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N = ASTM D1586





**DT CONSULTING SERVICES, INC.**

			<b>Well</b>		Hole No: MW-2 Sheet 1 of 1	Date started: 5-7-10 Date Finished: 5-7-10
Client: NE Retail Kingston, NY Location: Utility Platers/Kingston Diagnostics				Method of investigation: Hollow Stem Augers		
Site No: C356035 P. Manager: Deb Thompson			Drilling Co: Kendrick Enterprises Geologist: Deb Thompson		Driller: Tom Kendrick D. Helper: O. Tanner Drill Rig:	
Weather: Sunny 65° F						


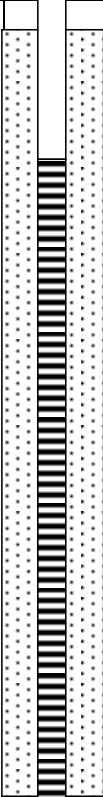
  





Depth (ft.)	Sample					Sample Description	Field Analytical Readings	Well Details	Groundwater and Other Observations
	No.	Depth (ft.)	Blows per 6"	"N"	Recovery (ft.)				
5						Well casing set at 25 feet bgs.			Groundwater encountered @ 10' bgs.  No odor or sheen
10									
15									
20									
25									
30									
35									

Sample Types: S=Split Spoon: <u>  X  </u> R= Rock Core: <u>          </u> N = ASTM D1586		T= Shelby Tube: <u>          </u> O = <u>          </u>		<b>Backfill Well Key</b> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  Cement         </div> <div style="text-align: center;">  Native Fill         </div> </div> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  Sand         </div> <div style="text-align: center;">  Bentonite         </div> </div>	
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**DT CONSULTING SERVICES, INC.**

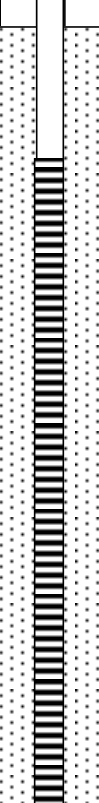
				<b>Well</b>		Hole No: MW-3		Date started: 5-10-10	
						Sheet 1 of 1		Date Finished: 5-10-10	
Client: NE Retail Kingston, NY Location: Utility Platers/Kingston Diagnostics				Method of investigation: Hollow Stem Augers					
Site No: C356035 P. Manager: Deb Thompson				Drilling Co: Kendrick Enterprises Geologist: Deb Thompson		Driller: Tom Kendrick D. Helper: O. Tanner Drill Rig:		Weather: Sunny 65° F	
Depth (ft.)	Sample					Sample Description	Field Analytical Readings	Well Details	Groundwater and Other Observations
	No.	Depth (ft.)	Blows per 6"	"N"	Recovery (ft.)				
5						Well casing set at 25 feet bgs.			Groundwater encountered @ 10' bgs.  No odor or sheen
10									
15									
20									
25									
30									
35									

Sample Types: S=Split Spoon: <u>  X  </u> T= Shelby Tube: <u>      </u> R= Rock Core: <u>      </u> O = <u>      </u> N = ASTM D1586				<b>Backfill Well Key</b> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  Cement   Sand         </div> <div style="text-align: center;">  Native Fill   Bentonite         </div> </div>			
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

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<b>DT Consulting Services, Inc.</b> 1291 Old Post Road Ulster Park, New York 12487 (845) 658-3484			<b>Well</b>		Hole No: MW-4 Sheet 1 of 1	Date started: 5-7-10 Date Finished: 5-7-10
Client: NE Retail Kingston, NY Location: Utility Platers/Kingston Diagnostics				Method of investigation: Hollow Stem Augers		
Site No: C356035 P. Manager: Deb Thompson			Drilling Co: Kendrick Enterprises Geologist: Deb Thompson		Driller: Tom Kendrick D. Helper: O. Tanner Drill Rig:	
					Weather: Sunny 65° F	





Depth (ft.)	Sample					Sample Description	Field Analytical Readings	Well Details	Groundwater and Other Observations
	No.	Depth (ft.)	Blows per 6"	"N"	Recovery (ft.)				
5						Well casing set at 25 feet bgs.			Groundwater encountered @ 10' bgs.  No odor or sheen
10									
15									
20									
25									
30									
35									

Sample Types: S=Split Spoon: <u>  X  </u> T= Shelby Tube: <u>          </u> R= Rock Core: <u>                  </u> O = <u>                  </u> N = ASTM D1586	<b>Backfill Well Key</b> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  Cement         </div> <div style="text-align: center;">  Native Fill         </div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  Sand         </div> <div style="text-align: center;">  Bentonite         </div> </div>
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DT Consulting Services, Inc. 1291 Old Post Road Ulster Park, New York 12487 (845) 658-3484			<b>Well</b>		Hole No: MW-5 Sheet 1 of 1		Date started: 5-7-10 Date Finished: 5-7-10				
Client: NE Retail Kingston, NY Location: Utility Platers/Kingston Diagnostics				Method of investigation: Hollow Stem Augers							
Site No: C356035 P. Manager: Deb Thompson			Drilling Co: Kendrick Enterprises Geologist: Deb Thompson		Driller: Tom Kendrick D. Helper: O. Tanner Drill Rig:		Weather: Sunny 65° F				
Depth (ft.)		Sample No.      Depth (ft.)      Blows per 6"      "N"      Recovery (ft.)		Sample Description		Field Analytical Readings		Well Details		Groundwater and Other Observations	
5											
10										Groundwater encountered @ 10' bgs.	
15										No odor or sheen	
20											
25											
30											
35											
Sample Types: S=Split Spoon: <u>  X  </u> T= Shelby Tube: <u>          </u> R= Rock Core: <u>          </u> O = <u>          </u> N = ASTM D1586						Backfill Well Key  Cement  Native Fill  Sand  Bentonite					

## Groundwater Sampling / Groundwater Remediation System

**Job** \_\_\_\_\_

**Site Name:** \_\_\_\_\_

**To:** \_\_\_\_\_am/pm

**Site Name:** \_\_\_\_\_

RECOVERY TANK DATA			
	Total Depth.	Inches Water.	Inches Product.
Tank No. 1			
Tank No. 2			

[illegible]

**Field Technician Name:** \_\_\_\_\_ **Field Technician Signature:** \_\_\_\_\_

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**FIELD SAMPLING PLAN FOR  
UTILITY PLATERS, INC./KINGSTON  
DIAGNOSTICS OF KINGSTON, NY**

**BROWNFIELD CLEANUP PROGRAM (BCP)  
SITE NUMBER C356035**

**9/2010**

## **1.0 INTRODUCTION**

This Appendix presents the Field Sampling Plan (FSP) for the Utility Platers/Kingston Diagnostics for use under the Brownfield Cleanup Program (C356035) in Kingston, New York. This report outlines the procedures and protocols which will be followed during site activities as referenced below. These activities are as follows:

- Sampling of groundwater monitoring wells;
- Equipment decontamination; and
- Waste Handling.

## **2.0 GENERAL SAMPLING PROTOCOLS**

The following protocols will be employed during all sampling activities:

1. All sampling instruments and equipment will be cleaned in accordance with the protocol presented in Section 4.0 of this FSP prior to sampling at each location.
2. A new pair of disposable nitrile gloves will be used at each location to be sampled for chemical analysis. Additional glove exchanges will be undertaken as conditions warrant.
3. All waste generated during sampling procedures will be collected for proper disposal (i.e., gloves, PPE, etc.).
4. All samples will be labeled noting the location and/or interval, date, time, and technician's initials. Records will be maintained in a log book or field logs.
5. All collected samples will be placed on ice in laboratory supplied ridged coolers after collection and labeling. Any remaining space will be filled with packing material to cushion the containers during transportation. The cooler will then be sealed with packing tape. Details for sample processing are presented in the Quality Assurance Project Plan (QAPP).
6. All samples will be delivered to the laboratory by commercial courier or DT Consulting Services, Inc. (DTCS) representative within 24 – 48 hours after sample collection.

7. All samples will remain under the control of DTCS's field representative until relinquished to the laboratory or commercial courier under chain-of-custody (See QAPP).

### **3.0 GROUNDWATER SAMPLING**

Groundwater samples will be collected from monitoring wells MW-1 – MW-5. These samples will be collected on a semi-annual basis following the issuance of the certificate of completion or COC. Bottle requirements and handling procedures are presented in the QAPP. Sampling protocols are presented in the following sub-sections.

#### **3.1 Water Level Measurements**

Water level measurements will be taken prior to monitoring well purging and sampling. The water levels will be obtained by measuring the distance from the marked location of the top of the well riser to the top of the water column utilizing an electronic water level indicator. Measurements will be obtained to nearest hundredth of a foot accuracy.

Water level measuring equipment that comes in contact with well water will be cleaned in accordance with Section 4 to ensure that cross-decontamination does not occur.

#### **3.2 Well Purging**

Prior to sampling collection, monitoring wells will be purged in accordance with the following protocol:

1. All personnel involved in well purging will wear a new pair of disposable nitrile gloves for each well.
2. Purging will be conducted until a minimum of three well volumes are removed from the well or until the well does not recharge and is dry.
3. Acceptable methods of water extraction during purging include bailers, peristaltic pumps, bladder pumps, Waterra® pumps, and centrifugal pumps. The purging method selected will be based upon the well depth, the water level in the well, and the recharge characteristics.
4. All water extraction equipment will be cleaned in accordance with the protocols presented in Section 4.

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5. All purged water that does not indicate the presence of contamination based on visual and olfactory characteristics will be discharged to the ground surface immediately adjacent to the monitoring well from which it was extracted. In the event that the purged water exhibits physical evidence of contamination (e.g., odor, sheen, etc.), it will be collected and stored for future disposal/treatment.

### **3.3 Well Sampling**

Monitoring well sampling will be carried out according to the following protocol:

1. Monitoring wells will be sampled, using either a bottom filling, dedicated polyethylene bailer attached to a nylon or polypropylene rope or a bladder pump. A new, disposable bailer and length of rope will be used at each well.
2. VOC sample bottles must be filled completely with no air bubbles. Other bottles must be filled to the levels specified in the QAPP.
3. Sufficient groundwater will be collected for chemical analysis. Groundwater samples will be collected in containers as specified in the QAPP. The order for sample collection is as follows:
  - Volatile Organic Compounds (VOCs);
  - Semi-Volatile Organic Compounds (SVOCs);
  - PCB; and
  - Metals.
4. Sample preservation details are presented in the QAPP. Sample containers will be prepared using washing procedures that meet or exceed the requirements of the specified methods. Sample containers will be prepared by the laboratory and shipped to the Site in sealed containers.
5. Calibration of all field instruments will be conducted in accordance with manufacturer's instructions.
6. One blind duplicate sample will be collected at a frequency of 1 in 10 monitoring samples.

#### **4.0 EQUIPMENT CONTAMINATION**

The required decontamination procedure for all manual sampling equipment used to collect samples for chemical analysis is:

1. Wash and scrub with low phosphate detergent;
2. Tap water rinse;
3. Thoroughly rinse with deionized water; and
4. Air dry.

All decontaminated equipment will be placed on polyethylene sheeting to avoid contacting a contaminated surface prior to use.

#### **5.0 WASTE HANDLING**

All purged water that does not indicate the presence of contamination based on visual and olfactory characteristics will be discharged to the ground surface immediately adjacent to the monitoring well from which it was extracted. In the event that the purged water exhibits physical evidence of contamination (e.g., odor, sheen, etc.), will be collected and stored for future disposal/treatment.

All gloves, PPE, sampling materials, etc., will be collected daily and disposed of as solid waste.

**DT CONSULTING SERVICES, INC.**

**QUALITY ASSURANCE PROJECT PLAN FOR  
UTILITY PLATERS, INC./KINGSTON  
DIAGNOSTICS OF KINGSTON, NY**

**BROWNFIELD CLEANUP PROGRAM (BCP)  
SITE NUMBER C356035**

**9/2010**



## 1.0 QUALITY ASSURANCE PROJECT PLAN

This Quality Assurance Project Plan (QAPP) has been developed to establish the procedures and protocols for collection and laboratory analysis of samples at the Site. Project management/organizational responsibilities will be performed under the direction of Deborah J. Thompson.

### 1.1 Quality Assurance/Quality Control (QA/QC) Objectives

The NYSDEC Analytical Services Protocol (ASP) provides levels of quality for laboratory testing as they apply to remedial investigation and construction activities. As such, the NYSDEC ASP will be followed during the course of site investigation/remediation on the subject property. The overall data quality objectives of the project are:

- To ensure that samples collected are representative.
- To provide detection limits for the selected analytical methods, which are below the established cleanup objective or regulatory standards.
- To measure and document precision and accuracy using procedures established by the laboratories, the New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) and U.S. Environmental Protection Agency (EPA) approved analytical methods.
- To ensure that a NYSDOH ELAP and NYSDOH ELAP CLP certified laboratory will conduct all soil/groundwater analyses.
- To ensure that all final site verification samples (Confirmatory samples) are reported with ASP Category B deliverables.

### 1.2 Analytical Methods/Quality Assurance Summary

- *Matrix type:*  
Soil and Groundwater
- *Number or frequency of samples to be collected per matrix:*  
Variable, pending field conditions

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- *Number of field and trip blanks per matrix:*  
Soil – 1, Groundwater – 2
- *Analytical parameters to be measured per matrix:*  
Volatiles, semi-volatiles and PP Metals
- *Analytical methods to be used per matrix:*  
EPA Test Methods 8260, 8270B/N, 6010/7470/7471
- *The number/type of matrix spiked, duplicate and blank samples to be collected:*  
Dependent upon the total number of samples of each matrix to be analyzed but, there will be at least one split per matrix.

### 1.3 Field Quality Control Samples

Field quality controls for laboratory confirmation samples include the collection and analysis of field duplicate and equipment rinsate samples. The frequency of collection for the specified QC field samples is as follows:

- ✓ A trip blank will be prepared before the sample bottles are sent by the laboratory. A trip blank will be included with each shipment of samples where sampling and analysis for VOC is planned (water matrix only).
- ✓ One field duplicate sample per 20 field samples. Duplicate samples will be collected by initially collecting twice as much material as is normally collected for a sample. After mixing, the material will be apportioned into two sets of containers.
- ✓ One equipment blank (rinsate) sample per 40 samples.

### 1.4 Field Sampling Procedures

Sampling/Analytical procedures are described in detail in the RI Work Plan as outlined above and will not be reiterated in this QAPP. The Work Plan also includes site maps and sampling diagrams as well as details for sampling implementation, decontamination, and waste management.

**Sample Containerization**

<b>Analysis</b>	<b>Bottle Type</b>	<b>Preservative</b>	<b>Holding Time</b>
<i>Water Samples</i>			
VOCs GC/MS (VOA – 8260)	40 ml with septum cap	HCl	14 days
SVOCs	1 L glass	None	7 days (until extraction, 40 days extracted)
Metals <sup>1</sup>	1 L plastic	Nitric acid to pH <2	6 months Mercury, 26 days
<b>Analysis</b>	<b>Bottle Type</b>	<b>Preservative</b>	<b>Holding Time</b>
COD	Plastic or glass	Sulfuric acid to pH <2	28 days
pH	Plastic or glass	None	Analyze immediately
<i>Soil, Sediment, Solid Waste</i>			
VOCs GC/MS (8260)	Wide mouth, plastic or glass	None	7 days (until extraction, 40 days extracted)
SVOCs	Wide mouth, plastic or glass	None	7 days (until extraction, 40 days extracted)
Metals <sup>1</sup>	Wide mouth, plastic or glass	None	6 months Cyanide: 12 days Mercury: 28 days

As all bottles will contain the necessary preservatives as shown above, they need only be filled. Each VOC 40ml vial must be filled to the brim with no air bubbles. The other sample jars should be filled to within an inch from the top for liquids, and to the brim for soils and sediment. All samples will be preserved with ice during collection and shipment.

- (1) Metals referred to the 24 metals and cyanide in the Target Analyte List, Methods 6010/7470/7471

**Sample Preservation**

The samples collected for analysis will require preservation prior to shipment (as described above). Preservation of the sample ensures sample integrity and prevents or minimizes degradation or transformation of the constituents to be analyzed. Specific preservation requirements include proper handling, packaging in laboratory-supplied sample containers, and chilled to 4° Celsius (°C) for shipping to the contract analytical laboratory.

## **Documenting Field Samples**

The DTCS Field Team will use field logbooks or specific field forms to record pertinent information regarding subsurface characteristics, field screening results, and confirmatory sampling activities. Field staff will record the project name and number, date, sampling personnel on site, other personnel present, weather conditions, and other relevant events to sampling activity in a chronological order. The field log book and/or analysis forms will be maintained in the project file.

### **1.5 Sample Custody**

#### **Chain-of-Custody Forms**

Each sample will be recorded onto a chain-of-custody (COC) form. The form will include the project name and number, names of the field sampling personnel, the sample number, date and time the sample was collected, whether the sample is a composite or grab sample, sample location, number of containers per sample number, constituents to be analyzed, and pertinent comments. The form will document the date, time, and signature of person(s) relinquishing and receiving custody of the samples.

#### **Sample Transportation to the Laboratory**

Samples will be shipped for analysis to the laboratory either the day the samples are collected or within 24 hours following collection, except in the case of samples that are collected on Saturday. Samples will be transported by a laboratory supplied carrier service. If samples are collected on a Saturday, they will be stored by field personnel during the weekend and then readied for transport on Monday. The contract analytical laboratory will be required to perform the analyses on the samples within the allowable holding time proscribed for the analyses.

#### **Laboratory Sample Custody**

Upon arrival at the analytical laboratory, samples will be checked in by the sample custodian. The sample custodian will:

- Sign the COC form documenting receipt of the samples from the carrier;
- Verify that the number of samples received in the shipment agrees with the number listed on the COC form;
- Verify that the information on each bottle agrees with the information documented on the COC form; and

## **DT CONSULTING SERVICES, INC.**

- Document on the COC form the integrity/condition (bottle intact, temperature, etc.) of all received samples.

In the event of any discrepancy or problems associated with the shipment of samples for chemical analysis, the analytical laboratory project manager will immediately notify the field personnel. A unique laboratory sample number will be assigned to each sample. Pertinent information from the COC form and/or sample label (e.g., sample identification, sampling location, sampling date and time, sample description, and requested analyses) together with the date of sample receipt will be entered into the analytical laboratory's data management system which will be used to record the status of samples, their storage locations, and the analytical results. The analytical laboratory will have in-house COC procedures to ensure proper security of all samples.

### **Laboratory Selection**

The laboratory chosen for the project must be certified, and maintain certification, under the NYSDOH ELAP and NYSDOH ELAP CLP for analyses of solid and hazardous waste. DTCS has contracted with York Analytical Laboratories, Inc. located in Stratford, CT to perform laboratory services for this Work Plan.

### **1.6 Data Reduction, Verification and Reporting**

Verification of data obtained from sampling will be performed by the Project Manager who will determine the validity of the data by comparing the actual procedures used for field measurements, sampling, and custody, as documented on forms and in the field log book, with those prescribed in the work plan and/or approved by the Project Manager.

### **1.7 Data Usability Summary Report**

As part of this Remedial Investigation Work Plan, a Data Usability Summary Report or DUSR will be prepared to summarize the soil and groundwater sampling and analytical results for the Utility Platers, Inc. site. The primary objective of the DUSR is to determine whether the analytical data meets site specific objectives for data quality and data use.

The DUSR will be prepared following the guidelines provided in Department of Environmental Remediation (DER)-10 *Technical Guidance for Site Investigation and Remediation*, May 2010, Guidance for the Development of Data Usability Summary Reports. The complete validated analytical results and Form 1s will be provided in the DUSR during reporting of the remedial investigation.

## SITE INSPECTION REPORT

Person performing Inspection: \_\_\_\_\_ Date: \_\_\_\_\_ Weather: \_\_\_\_\_  
 Signature: \_\_\_\_\_ Page: \_\_\_\_\_ of \_\_\_\_\_

## SOIL COVER SYSTEM INSPECTION

Chestlist Items:	Acceptable	Not Acceptable	Remarks/Locations
There is no evidence of erosion of cover soils/materials from Site surface.	<input type="checkbox"/>	<input type="checkbox"/>	
There is no evidence of depressions in cover materials.	<input type="checkbox"/>	<input type="checkbox"/>	
There is no evidence of significant cracks in cover materials.	<input type="checkbox"/>	<input type="checkbox"/>	
There is no evidence of exposed or damaged demarcation barrier.	<input type="checkbox"/>	<input type="checkbox"/>	
There is no evidence of vapors or odors emanating from the Site.	<input type="checkbox"/>	<input type="checkbox"/>	

## VEGETATIVE INSPECTION

Vegetation is well established over greenspace areas.	<input type="checkbox"/>	<input type="checkbox"/>	
There is no evidence of stressed vegetation.	<input type="checkbox"/>	<input type="checkbox"/>	
There is no evidence of bare or thin vegetative cover.	<input type="checkbox"/>	<input type="checkbox"/>	
There is no evidence of overgrowth or areas that need to be mowed.	<input type="checkbox"/>	<input type="checkbox"/>	
There is no evidence of recent areas of excavation or disturbed areas.	<input type="checkbox"/>	<input type="checkbox"/>	

## VECTOR INSPECTION

No vectors or vector activity (e.g. tracks, droppings, dens, etc.) were observed.	<input type="checkbox"/>	<input type="checkbox"/>	
There was no evidence of damage to the soil cover system due to the vector activity.	<input type="checkbox"/>	<input type="checkbox"/>	

## DRAINAGE SYSTEM INSPECTION

There is no evidence of erosion around drainage structures.	<input type="checkbox"/>	<input type="checkbox"/>	
There is no evidence of settlement of drainage structures	<input type="checkbox"/>	<input type="checkbox"/>	
Manhole covers present and in good condition.	<input type="checkbox"/>	<input type="checkbox"/>	
There is no evidence of siltation, debris, or other restrictions in the manholes.	<input type="checkbox"/>	<input type="checkbox"/>	
There are no exposed or damaged weep hole extension along retaining wall.	<input type="checkbox"/>	<input type="checkbox"/>	

## SITE INSPECTION REPORT

Person performing Inspection: \_\_\_\_\_ Date: \_\_\_\_\_ Weather: \_\_\_\_\_  
 Signature: \_\_\_\_\_ Page: \_\_\_\_\_ of \_\_\_\_\_

## MONITORING WELL INSPECTION

Chestlist Items:	Acceptable	Not Accpetable	Remarks/Locations
The monitoring wells are in generally good condition.	<input type="checkbox"/>	<input type="checkbox"/>	
Well Caps are installed on the wells.	<input type="checkbox"/>	<input type="checkbox"/>	
Locks present and secured.	<input type="checkbox"/>	<input type="checkbox"/>	

## SITE ACCESSIBILITY INSPECTION

Site accessible and passable.	<input type="checkbox"/>	<input type="checkbox"/>	
-------------------------------	--------------------------	--------------------------	--

## INSTITUTIONAL CONTROL INSPECTION

The Site continues to be utilized for commerical or restricted residential uses only.	<input type="checkbox"/>	<input type="checkbox"/>	
There is no evidence of groundwater extraction and/or use on Site. drainage structures	<input type="checkbox"/>	<input type="checkbox"/>	

## ADDITIONAL NOTES &amp; OBSERVATIONS

67 Maiden Lane  
Kingston, New York 12401  
845.338-7622  
845.338.7660 fax

Brinnier & Larios, P.C.



## DESIGN REPORT SUB-SLAB DEPRESSURIZATION SYSTEM

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**CVS PHARMACY  
WASHINGTON AVE./SCHWENK DR.**



*City of Kingston  
Ulster County, New York*

*September 2009*

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## **CHAPTER I - Introduction**

### **1.01 General**

A new 12,900 square foot CVS Pharmacy retail building is scheduled to be constructed at 416 Washington Avenue in Kingston, New York by Northeast Retail Leasing and Management, LLC (Northeast). Prior to construction of the 12,900 square foot retail building, this commercial property will undergo interim remedial measures (IRM) (DT Consulting, April 30, 2009) under the New York State Brownfield Cleanup Program (BCP). The Remedial Investigative Work Plan (DT Consulting, July 6, 2009) calls for installation of a sub-slab depressurization (SSD) system at the proposed new building to mitigate the potential for vapor intrusion.

The purpose of this report is to present the design basis for the SSD system. The SSD system has been designed to comply with the requirements from the New York State Department of Health (Guidance for Evaluating Soil Vapor Intrusion in the State of New York, NYSDOH, October 2006) and New York State Department of Environmental Conservation (DER-13/Strategy for Evaluating Soil Vapor Intrusion at Remediation Sites in New York, NYSDEC, October 18, 2006).

This report is organized into eight remaining sections. Section 2 provides the site background data including a summary of the IRM plan. Section 3 summarized the available site data. Section 4 provides details on the general building foundation details. Section 5 presents the design basis for the SSD system. Section 6 describes the post installation testing requirements to demonstrate the performance of the SSD system. Section 7 provides the operation and maintenance details for the SSD system. Sections 8 and 9 describe the annual certification requirements and the basis for terminating the operation of the SSD system.

## **CHAPTER II - Background**

### **2.01 Site Background**

The proposed site for the 12,900 square foot CVS Pharmacy retail building at 416 Washington Avenue, Kingston, New York is a 1.02 acre abandoned commercial property where Utility Platers, Inc. formerly operated a zinc and chromium plating facility until its closure in 2005. Figure 1 shows the location of the site. The existing site conditions and locations of the abandoned buildings are shown on Sheet 1 of 9.

Several environmental investigation studies have been performed at the site. DT Consulting, summarizes the environmental testing data from the previous studies which found the subsurface soils and groundwater contained concentrations of heavy metals (chromium, nickel, lead, silver), chlorinated solvents (trichloroethylene, dichloroethylene and vinyl chloride) and petroleum hydrocarbons. A copy of the drawing summarizing the site sampling data is given in Appendix A.

In September 2008, Northeast submitted an application to the NYSDEC requesting acceptance of the Utility Platers site into the BCP as a volunteer. The site was accepted into the BCP as Site Number C356035 and a Brownfield Cleanup Agreement was executed in February 2009.

The BCP for the site calls for demolition and removal of the buildings, removal and off-site disposal of the underground storage tanks, excavation and off-site disposal of contaminated soils in specified areas of concern and application of chemical oxidants to treat residual contamination in groundwater and construction of a SSD system. The contaminated soils in designated IRM removal areas will be excavated laterally and vertically until all visually-impacted soils/fill is removed, the property boundary is met and/or the NYSDEC agrees that no further excavation is required. Post excavation verification samples will be collected for analysis of volatile and semi-volatile organic compounds and Priority Pollutant metals by EPA Methods 8260B, 8270B/N and 6010/7470/7471 respectively. Upon receipt of the NYSDEC concurrence that the excavation is complete, a geotextile demarcation barrier will be installed and the excavation areas will be backfilled with clean imported fill material. Backfill materials will be placed in two foot (2') lifts and compacted to restore the site to the existing grade.

Sheet No. 2 of 9 shows the site layout and grading plan for the proposed 12,900 square foot retail building.

## **CHAPTER III – Conditions**

### **3.01 Site Conditions**

The site is located in a commercial area that is fully developed. The site is bounded by Schwenk Drive to the north, Washington Avenue to the west, the Trailways bus terminal with parking areas to the south and other commercial buildings to the east. The site generally slopes from southwest to northeast as shown on Sheet 1 of 9.

The soils at the site are reported to be comprised of fill material and silty sands with gravel. The Soil Survey of Ulster County, New York (USDA, 1974) reports that the surficial soils in the vicinity of the site are Riverhead series which are deep, well drained coarse-loamy mixed mesic typic dystrochrepts. This Soil Survey of Ulster County also states that from 26 to 49 inches the soils are dark, yellowish brown loamy sand.

Environmental studies at the site report that groundwater is present at depths of 4.17 to 14.21 feet below the ground surface. During the IRM, any groundwater encountered in the excavation areas will be removed and treated before being properly discharged.

The proposed 12,900 square foot retail building with a SSD system will be constructed after completion BCP. The BCP will include an IRM to remove the soil/fill material with obvious visible impacts, petroleum odors and or elevated photoionization detector (PID) readings (i.e., sustained readings >25 ppm). Post excavation verification samples will be collected for analysis of volatile and semi-volatile organic compounds and Priority Pollutant metals. The excavations will be backfilled with clean imported fill placed in 2' compacted lifts.

The IRM includes provisions to apply/inject chemical oxidants outside the trichloroethylene (TCE) excavation boundaries and adjacent to the underground storage tank excavations based on the results of the post excavation verification sampling and bench scale treatability studies. The application of chemical oxidants would provide treatment of any residual contamination in the saturated zone and capillary fringe.

## **CHAPTER IV – Building Information**

### **4.01 General**

The site plan with the layout of the proposed 12,900 square foot retail building is shown on Sheet 2 of 9. The proposed building is a one-story building with a slab-on-grade with four feet deep (4') perimeter frost walls. Interior building columns would be supported with spread footings at the columns. The building design calls for the soils under the slab-on-grade to be compacted to 95% standard proctor density.

See Sheet S-1.2 and Sheet S-3.1 for the building foundation layout and details.

## CHAPTER V – Design

### 5.01 Sub-Slab Depressurization System Design

The proposed 12,900 square foot retail building will have a SSD system to mitigate the intrusion of potential vapors from any residual contamination following the IRM. The primary components of the SSD system include the following:

- Gravel layer
- Piping system
- Soil vapor retarder membrane
- Joint sealing
- System operation indicator

The soil vapor concentrations in the vicinity of the proposed building, if any, are not defined at this time because as part of the BCP an IRM will be performed to remove the underground storage tanks, remove contaminated soils in specified areas of concern and apply chemical oxidants to treat residual contamination in groundwater. Following the IRM, the excavations will be backfilled with clean, compacted soils. Post excavation verification samples will document if any residual constituents are present in the soils.

Gravel Layer: The site for the proposed building will be leveled and compacted as part of the site preparation work. The design plans for the building call for placement of an eight inch (8") base layer under the concrete slab. The 8" base layer for the concrete slab will be comprised of two materials; a four inch (4") clean crushed stone layer plus a 4" compacted granular base layer. The 4" clean crushed stone layer will be comprised of cleaned, durable, sharp-angled fragments of rock of uniform quality with a gradation between  $\frac{3}{4}$ " to 1- $\frac{1}{2}$ " diameter to provide for the lateral flow of any soil gases/vapors to the SSD piping system. The 4" compacted granular base layer will be specified per the site Soil Report.

In the vicinity of the SSD piping, the thickness of the 4" clean crushed stone layer will be increased to provide a minimum of 2" of clean crushed stone over the pipe and 2" of clean crushed stone under the pipe.

Piping System: The SSD piping system will be comprised of 5" diameter slotted SCH80 PVC pipe which will encircle the perimeter of the building with loops around each spread footing. The pipe slots will be 0.05 inch slot width and a slot spacing of 0.25 inches. The piping will be placed level within the gravel layer with a minimum of 2" of gravel over the pipe and 2" of gravel under the pipe.

The SSD piping will be connected to a 6" diameter SCH80 PVC vapor vent riser pipe. A sleeve will be installed through the concrete slab for the vapor vent riser pipe and the space between the vapor vent riser pipe and this pipe sleeve shall be sealed with a double LinkSeal device. The vapor vent riser pipe will extend through the roof and be completed with a pipe "T" located three feet (3') above the roof. The ends of the vent pipe "T" will be fitted with bird screens. The vapor vent riser

pipe will be properly supported both laterally and vertically. The base of the vapor vent riser pipe shall be drilled with three 1/8 inch diameter holes to allow any condensation to drain in the subsurface. The location of the vapor vent pipe will be coordinated with the building architect away from any HVAC intakes.

Initially, the SSD system will be installed as a low pressure, passive system. The vapor vent riser pipe will be fitted with a manometer as described below. The vapor vent riser pipe shall also be fitted with an air sampling port for the collection of air samples. If subsequent monitoring results determine that active venting is necessary, the SSD system can easily be retrofitted with an inline vapor blower system (such as an Radon Away, AMG Force or Fantech inline low pressure blower unit).

Soil Vapor Retarder Membrane: A 15 mil polyethylene or equivalent flexible sheeting material will be placed on top of the gravel layer to serve as a soil gas retarder by bridging any cracks that may develop in the slab floor. The soil vapor retarder membrane will cover the entire floor area. Any seams will be overlapped a minimum of 12 inches. The membrane shall be fit closely around any pipe, wire or other penetrations in the concrete slab. Any punctures or tears in the membrane during construction shall be sealed or covered with additional sheeting.

Joint Sealing: The concrete floor slab shall be designed with steel reinforcing to minimize the formation of cracks. Wherever there are joints in the concrete, they shall be constructed with a one half inch (1/2") premolded joint filler material. The vapor vent riser pipe shall have a sleeve through the slab and be sealed with a double LinkSeal device. All other pipe penetrations shall be sealed with hydraulic cement to prevent any leakage of air between the from under the concrete slab.

System Operation Indicator: The SSD system is initially designed to be a low pressure, passive system. To monitor the performance of the SSD system, the vapor vent riser pipe will be fitted with a U-tube manometer that will visually display the air pressure in inches of water column (such as an Infiltec VR4 Vacu-Ray Vacumeter).

The layout of the SSD piping system is shown on Sheet S-1.2 and the details of the SSD system are shown on Figure S-3.1. The technical specifications for the materials are given in Appendix B.



## **CHAPTER VI - Testing**

### **6.01 Post Installation Testing**

After the building construction is completed, the SSD system will be tested to confirm the effectiveness and proper installation of the system. The testing will include the following steps:

Step 1 – Inspect the floor joints and the surface of the concrete slab for cracks or other openings which could act as leaks. Any openings that are identified should be sealed.

Step 2 – Check the vapor vent riser pipe outlet on the roof to ensure that backdrafting conditions are not expected to occur.

Step 3 – Inspect the U-tube manometer to make sure it is installed properly and operating. The normal readings on the U-tube manometer will be recorded. Labeling will be posted to indicate the normal expected operational readings.

Step 4 – Conduct post mitigation indoor and outdoor air sampling to establish baseline conditions. Post mitigation sampling will not be conducted sooner than 30 days after installation of the SSD system and should take place during the heating season. The protocols for the post mitigation indoor and outdoor air sampling will be agreed to with the regulating agencies as part of the Remedial Action Work Plan and post IRM air sampling results which will be provided in a separate document.



## **CHAPTER VII – Operation and Maintenance**

### **7.01 General**

The SSD system is designed to initially be a passive system. Operation and maintenance involves the following:

- Monthly recording of the U-tube manometer readings. Each reading shall be signed and dated by a company designated representative.

If the U-tube readings are not within the acceptable range determined during the post mitigation testing, the buildings owners and occupants will be notified within 24 hours and appropriate actions taken to address the matter.

- Annual inspection and cleaning of the vapor vent riser pipe outlet.
- Based upon the regulatory agency approved monitoring requirements, collect and analyze air quality samples per the approved sampling schedule. These requirements are to be provided in a separate letter.

Non-routine maintenance such as cutting through the concrete floor slab to install new equipment or other building modifications shall be conducted in a manner that maintains the integrity and performance of the SSD system.

The post excavation air monitoring will be done as part of the IRM and BCP. If the post excavation air monitoring results or other air testing results indicate the potential for soil vapors to contain concentrations above the NYSDOH air guideline values (NYSDOH, 2006), the need to modify the SSDS and upgrade it to an active system will be considered. An upgrade with the addition of an in-line fan can easily be installed in the riser pipe.

Any changes to the operation and maintenance requirements must be provided in writing and added as an addendum to this report.

## **CHAPTER VIII – Certification**

### **8.01 Annual Certification**

The performance of the SSD system will be documented as part of the annual reporting prepared for the BCP.

## **CHAPTER IX – Termination**

### **9.01 Termination of Sub-Slab Depressurization System**

The SSD system is an engineering control that provides a physical barrier to prevent soil vapors from infiltrating into the building areas. The system is initially designed to be a low pressure, passive system. The system will remain in-place and operational in accordance with the terms of the BCP until the Owner receives a letter in writing from the regulating agencies stating that the SSD system is no longer required.

## REFERENCES

American Society for Testing and Materials (ASTM International, 2003. "Standard Practice for Installing Radon Mitigation Systems in Existing Low-rise Residential Buildings" (ASTM E-2121-03, February 10, 2003).

DT Consulting Services, Inc. 2009. "Draft Remedial Measures for Utility Platers, Inc. of Kingston, NY, Brownfield Cleanup Program (BCP) Site Number C356035." April 30, 2009.

DT Consulting Services, Inc. 2009. "Remedial Investigative Work Plan for Utility Platers, Inc. of Kingston, NY, Brownfield Cleanup Program (BCP) Site Number C356035." July 6, 2009.

New York State Department of Environmental Conservation, 2006. "Program Policy DER-13: Strategy for Prioritizing Vapor Intrusion Evaluations at Remedial Sites in New York." Division of Environmental Remediation. October 2006.

New York State Department of Health, 2005. "Indoor Air Sampling and Analysis Guidance." February 1, 2005. Available on the NYSDOH's web site at <http://www.health.state.ny.us/nysdoh/indoor/guidance.htm>

New York State Department of Health, 2006. "Guidance for Evaluating Soil Vapor Intrusion in the State of New York." October 2006.

United State Environmental Protection Agency. 1994a. "Model Standards and Techniques for Control of Radon in New Residential Buildings" (EPA 402-R-94-009; March 1994).

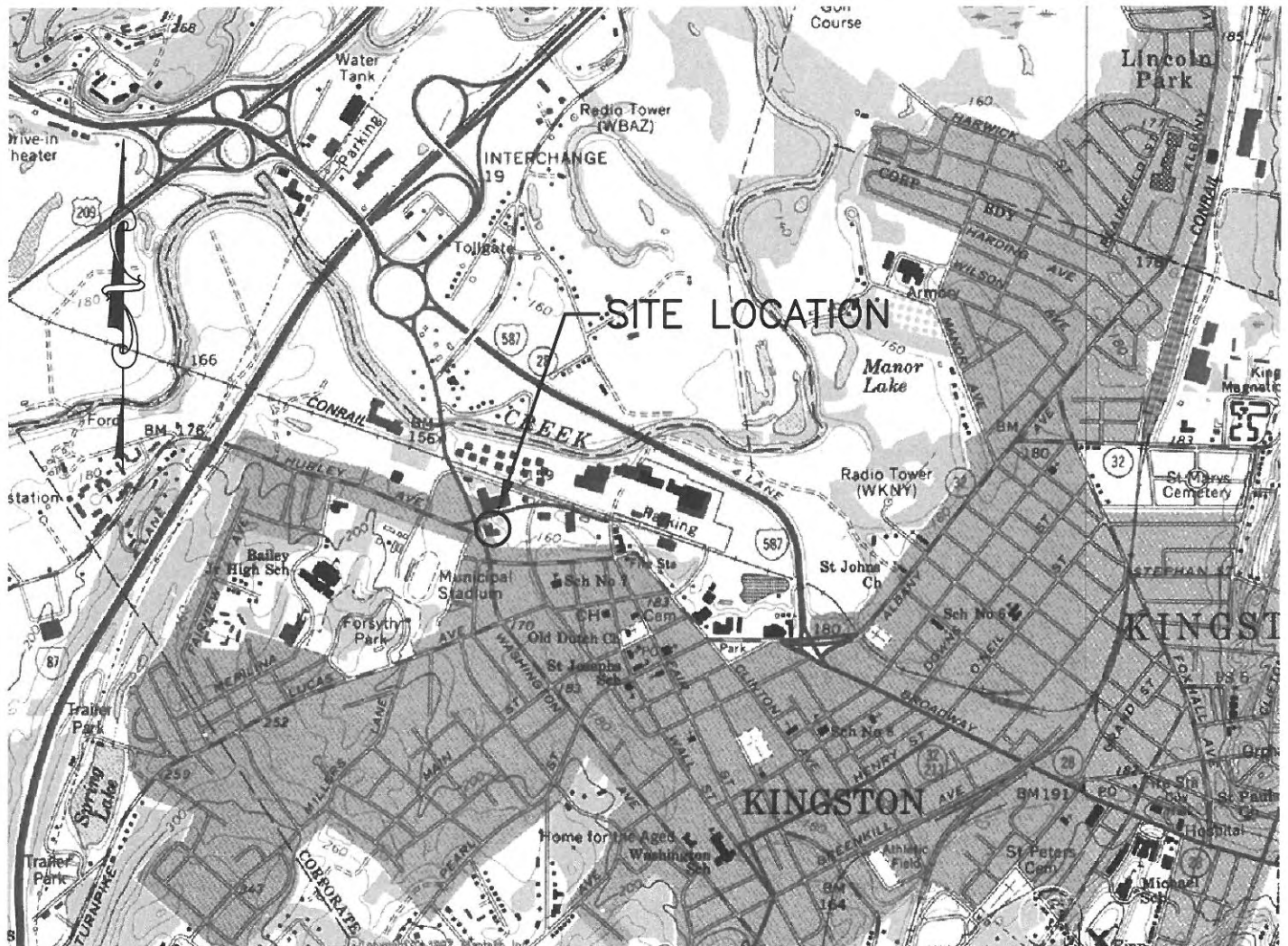
Unit State Environmental Protection Agency. 1994b. "Radon Prevention in the Design and Construction of Schools and Other Large Buildings" (EPA 625-R-92-016, June 1994).



## **FIGURE 1**

Site Location Map





**BRINNIER & LARIOS, P.C.**  
ENGINEERS & LAND SURVEYORS

67 MAIDEN LANE

KINGSTON, N.Y.

**SITE LOCATION**  
**CVS PHARMACY**

CITY OF KINGSTON

ULSTER COUNTY, N. Y.

SCALE

1" = 2000'

DATE

DEC 2009

DWG

AJH

CHK

JEM

SHEET NO.

1 OF 1



A large, solid light gray rectangular area representing the site conditions.

## **FIGURE 2**

Existing Site Conditions



A solid light gray horizontal bar.



HURLEY AVENUE

SCHWENK DRIVE

WASHINGTON AVENUE

RESERVATION TO THE CITY  
OF KINGSTON FOR FUTURE  
HIGHWAY PURPOSES  
AREA=0.04 AC.

1 STORY BRICK BUILDING

LANDS NOW OR FORMERLY OF  
UTILITY PLATERS, INC.  
L. 1978 - P. 279  
AREA=1.023 ACRES

LANDS NOW OR FORMERLY OF  
ROBERT BOENING & MARIAN E.  
BOENING LIVING JOINT FAMILY TRUST  
L. 2927 - P. 64  
AREA=0.716 ACRES

LANDS OF  
CENTRAL HUDSON GAS  
& ELECTRIC CORP.  
L. 872- P. 435, L. 874-P. 541,  
& L. 1238-P.938

LANDS NOW OR FORMERLY OF  
PETER J. & ROSEMARY ESPOSITO  
L. 2493 - P. 109

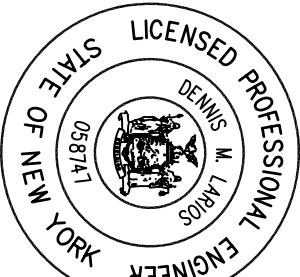
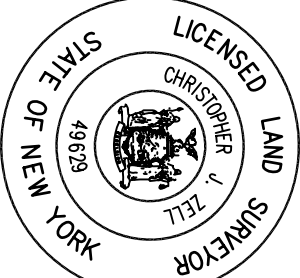
EXISTING CONDITIONS

LEGEND

- EXISTING CATCH BASIN
- EXISTING SANITARY MANHOLE
- PROPOSED SANITARY MANHOLE
- EXISTING DRAINAGE MANHOLE
- PROPOSED DRAINAGE MANHOLE
- PROPOSED FEDERAL LIGHT
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- EXISTING STREET LIGHT
- UNDERDRAIN
- EXISTING CONTOUR
- PROPOSED PROPERTY LINE
- WATER LINE
- SANITARY SEWER
- STORM SEWER
- GAS LINE
- ROOF DRAIN

TRAILWAYS BUS TERMINAL  
LANDS NOW OR FORMERLY OF  
CASSANDRA B. KOLOS & EUGENE  
BERARDI  
L. 4116 - P. 166

LANDS NOW OR FORMERLY OF  
CYPRUS INN II  
L. 4284 - P. 247



Unauthorized alteration or addition to a  
plan bearing a licensed engineer's seal is  
a violation of Section 2209, subdivision 2,  
of the New York State Education Law.

CVS/pharmacy

WASHINGTON AVENUE AND SCHWENK DRIVE  
CITY OF KINGSTON  
ULSTER COUNTY  
NEW YORK

BRINNIER & LARIOS, P.C.  
ENGINEERS & LAND SURVEYORS  
67 MADEN LANE  
KINGSTON, N.Y.

DATE	REVISION RECORD	SCALE	DATE	SHEET NO.
4/7/09	P.L.s, bearings, offset, sewers	1" = 20'	JUNE 2008	1 OF 9
			DWG REP	CHK DML



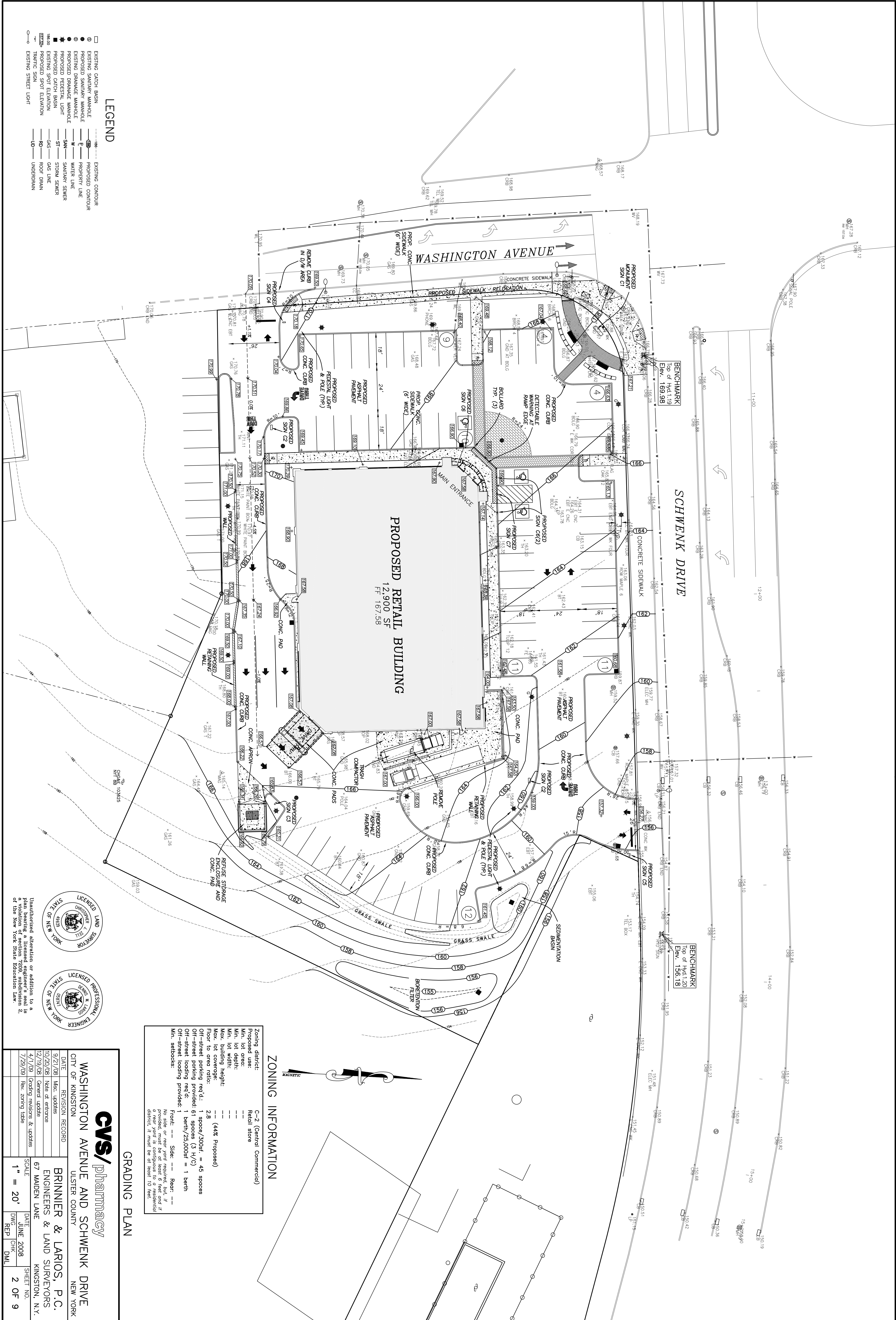


## **FIGURE 3**

Site Grading Plan







LEGEND

- EXISTING CATCH BASIN
- EXISTING SANITARY MANHOLE
- PROPOSED SANITARY MANHOLE
- EXISTING DRAINAGE MANHOLE
- PROPOSED DRAINAGE MANHOLE
- EXISTING DRAINAGE MANHOLE
- PROPOSED DRAINAGE MANHOLE
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- EXISTING ROOF DRAIN
- PROPOSED ROOF DRAIN
- EXISTING STREET LIGHT
- PROPOSED STREET LIGHT

GRADING PLAN

Zoning Information	
Proposed use:	C-2 (Central Commercial)
Min. lot area:	Retail store
Min. lot depth:	---
Min. lot width:	---
Max. building height:	---
Floor to area ratio:	2.8
Off-street parking req'd:	1 space/300sf = 45 spaces
Off-street loading req'd:	1 berth/25,000sf = 1 berth
Min. setbacks:	Front: --- Side: --- Rear: ---

ZONING INFORMATION

Proposed use: C-2 (Central Commercial)

Min. lot area: Retail store

Min. lot depth: ---

Min. lot width: ---

Max. building height: ---

Floor to area ratio: 2.8

Off-street parking req'd: 1 space/300sf = 45 spaces

Off-street loading req'd: 1 berth/25,000sf = 1 berth

Min. setbacks: Front: --- Side: --- Rear: ---

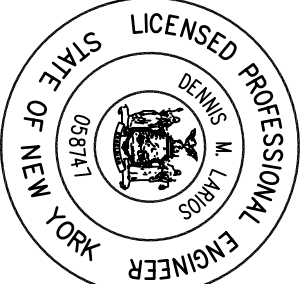
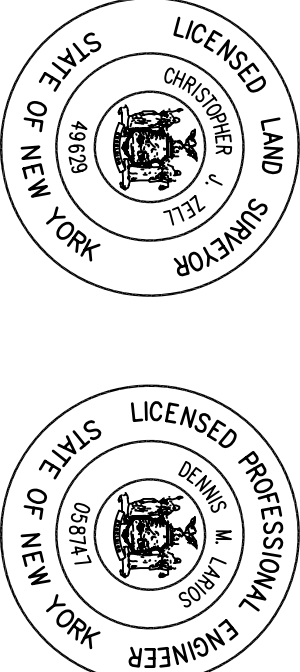
No side or rear yard required, but if a rear yard is contiguous to a residential district, it must be at least 10 feet.

CVS/pharmacy

WASHINGTON AVENUE AND SCHWENK DRIVE  
CITY OF KINGSTON  
ULSTER COUNTY  
NEW YORK

DATE	REVISION RECORD	DATE	REVISION RECORD
9/21/08	Misc. updates	4/1/09	General updates & updates
10/20/08	Note of entrance	7/29/09	Rev. zoning table
12/19/08	General updates		
4/1/09	General updates & updates		
7/29/09	Rev. zoning table		

Unauthorized alteration or addition to a plan bearing a licensed engineer's seal is a violation of section 220, subdivision 2, of the New York State Education Law.



WASHINGTON AVENUE AND SCHWENK DRIVE  
CITY OF KINGSTON  
ULSTER COUNTY  
NEW YORK

BRINNIER & LARIOS, P.C.  
ENGINEERS & LAND SURVEYORS  
67 MADEN LANE  
KINGSTON, N.Y.

SCALE  
1" = 20'

DATE  
JUNE 2008

DWG  
REP  
DML

SHEET NO.  
2 OF 9

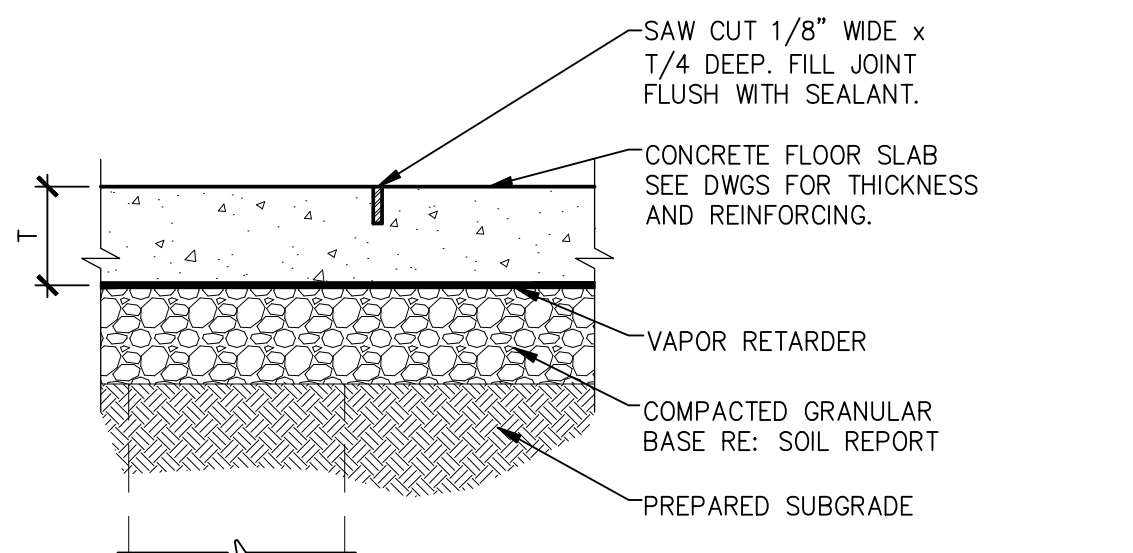




## **FIGURE 4**

Building Foundation Plan and Details

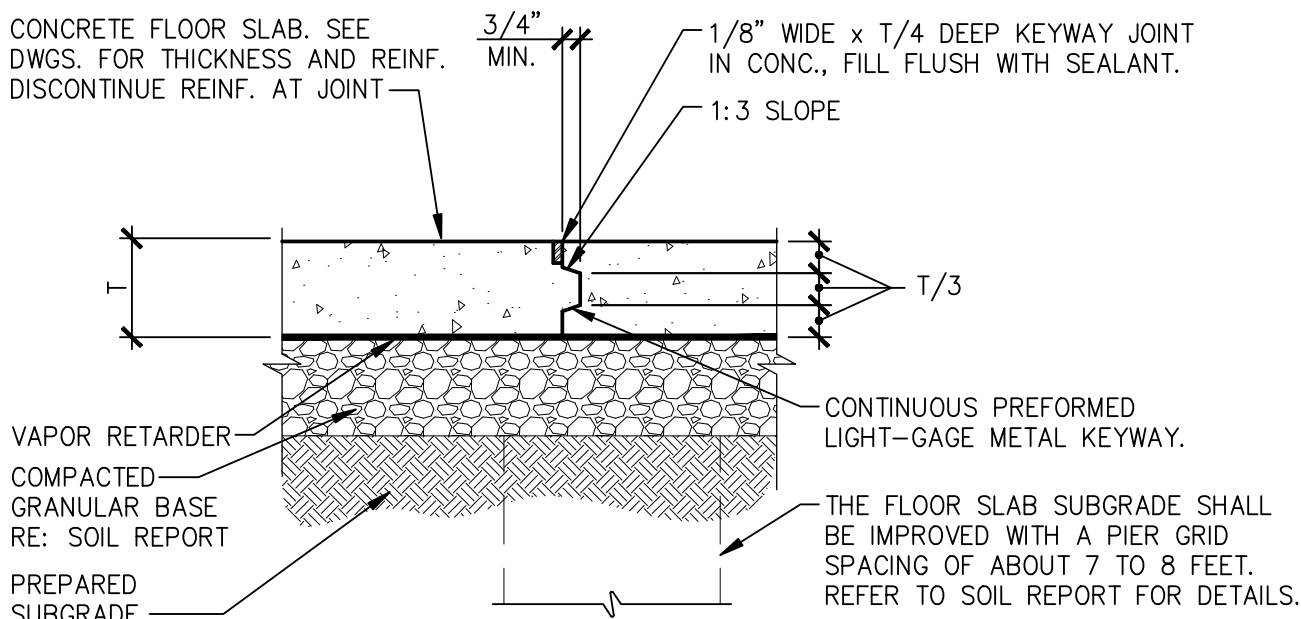




1 TYPICAL CONTRACTION JOINT (CTJ)

S-3.1 SCALE: NONE

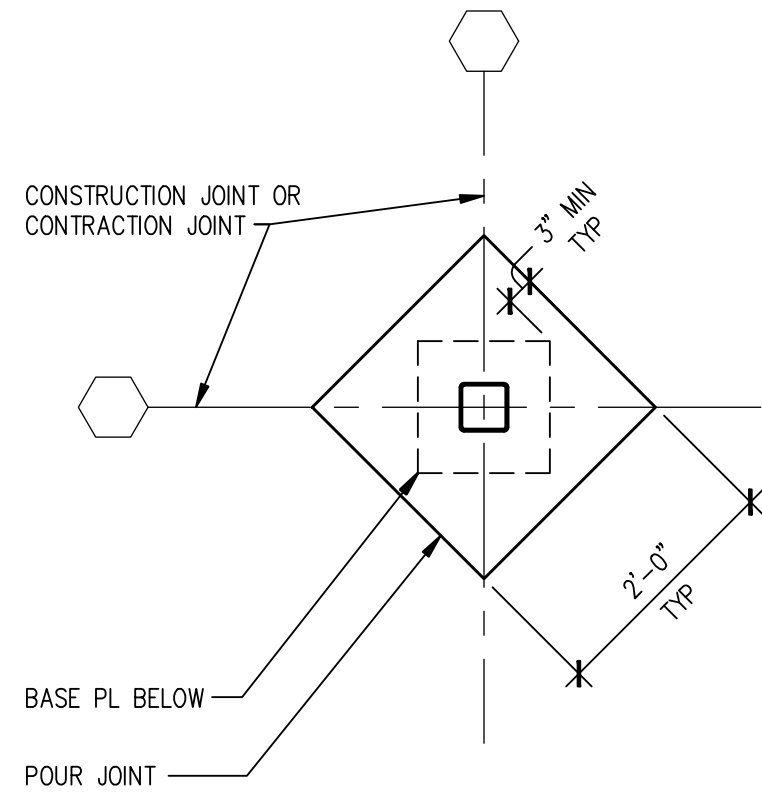
NOTE: SEE PLAN FOR LOCATIONS.



1A TYP CONSTRUCTION JOINT (CJ)

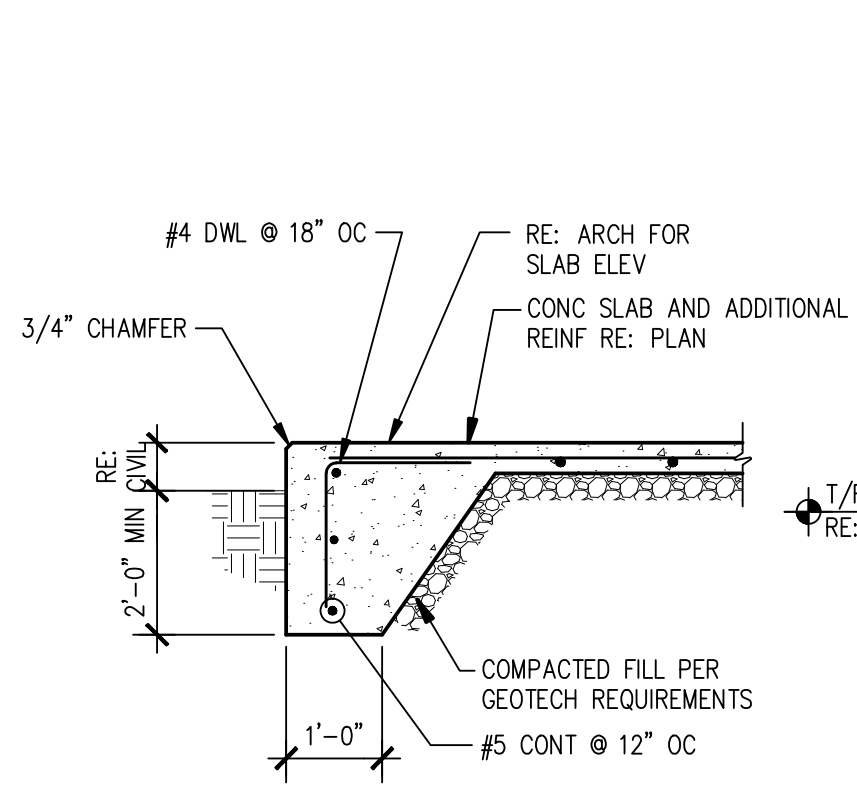
S-3.1 SCALE: NONE

NOTE: LOCATE CONSTRUCTION JOINT TO CONFORM WITH SLAB JOINTING PATTERN.



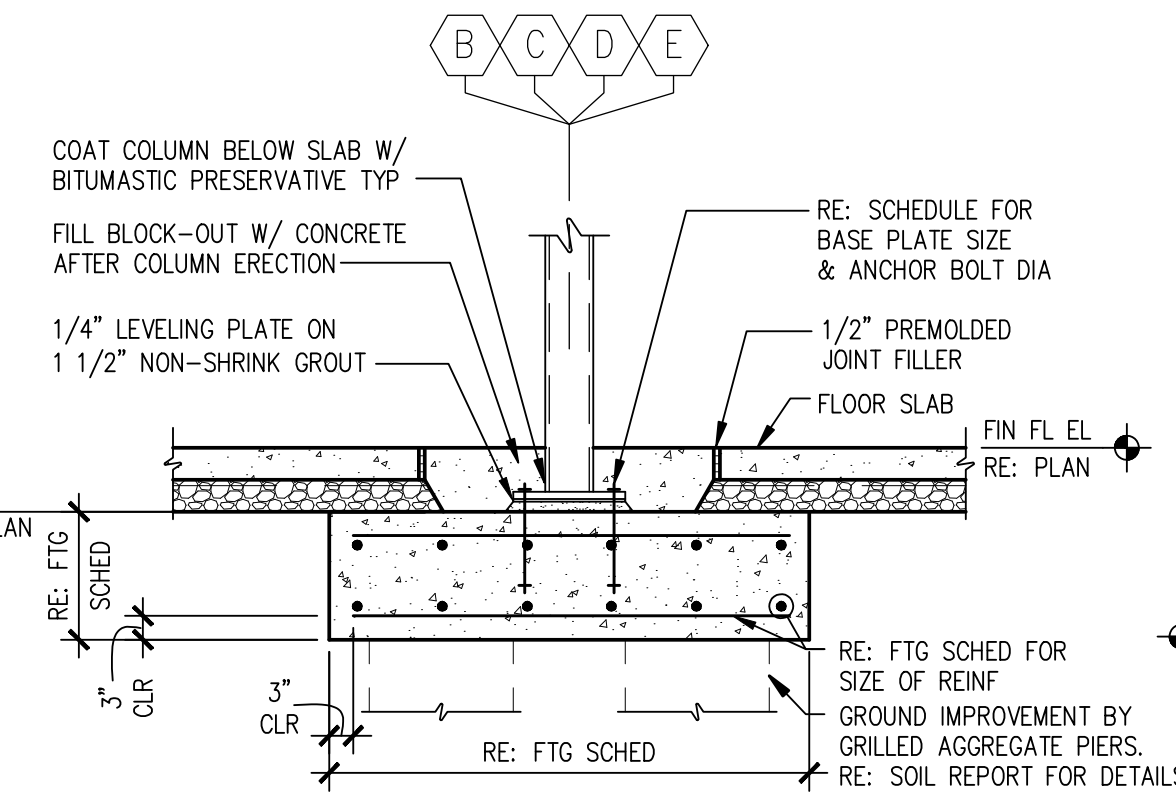
2 COLUMN ISOLATION JOINT

S-3.1 SCALE: NONE



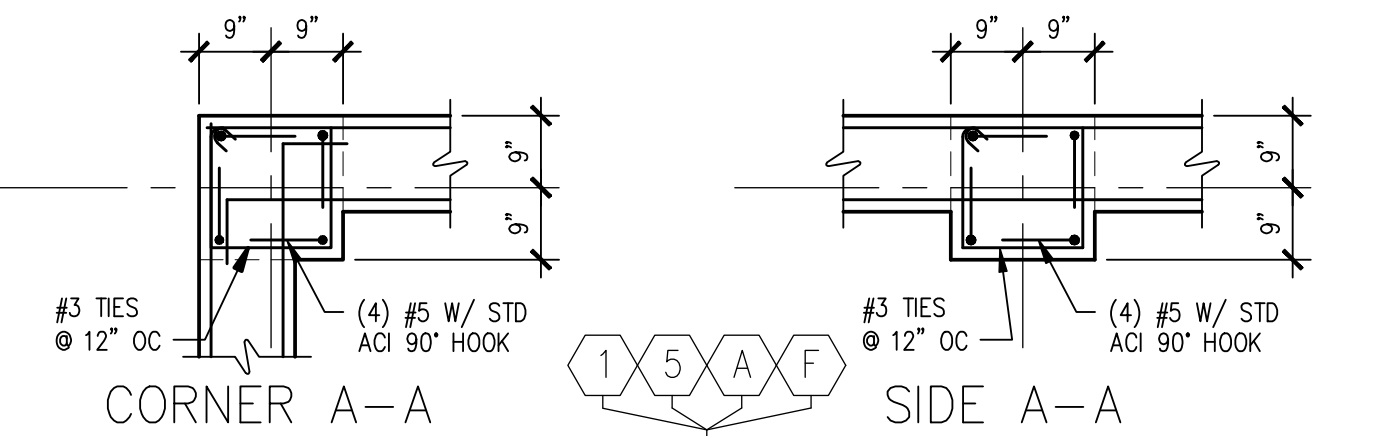
3 TYPICAL TURN DOWN BEAM

S-3.1 SCALE: 1/2" = 1'-0"



4 TYPICAL INTERIOR COLUMN ON SPREAD FOOTING

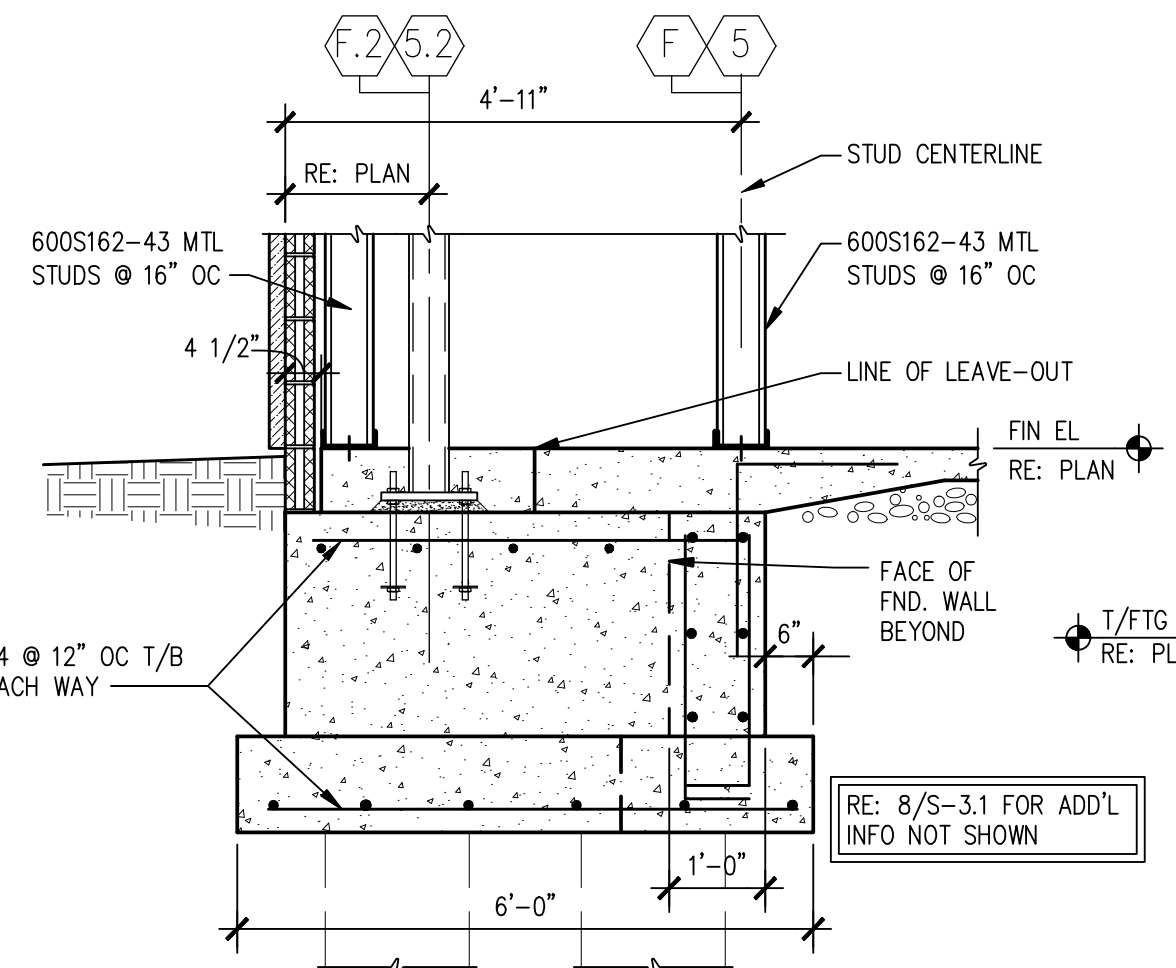
S-3.1 SCALE: 1/2" = 1'-0"



5 SECTION AT COLUMN

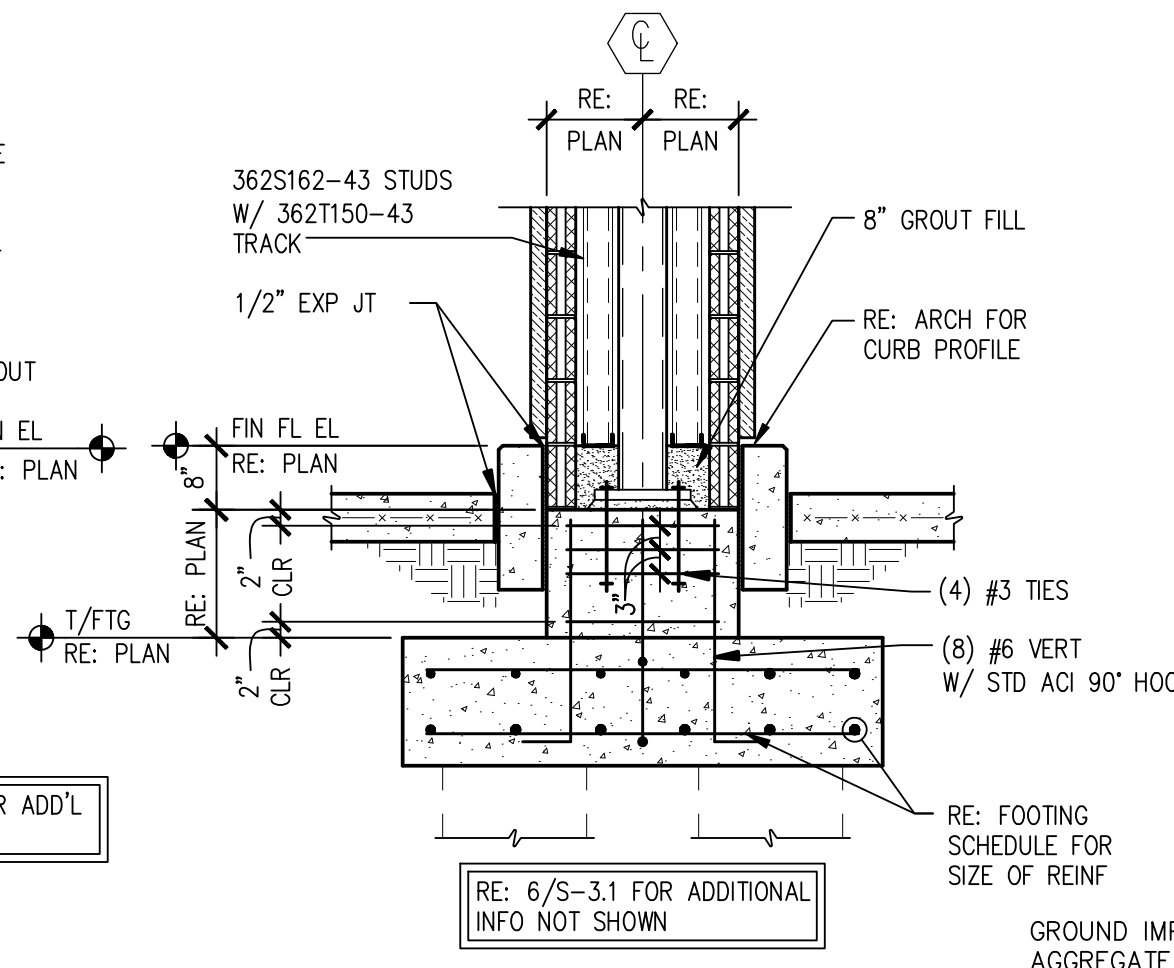
S-3.1 SCALE: 1/2" = 1'-0"

RE: 8/S-3.1 FOR ADDL INFO NOT SHOWN



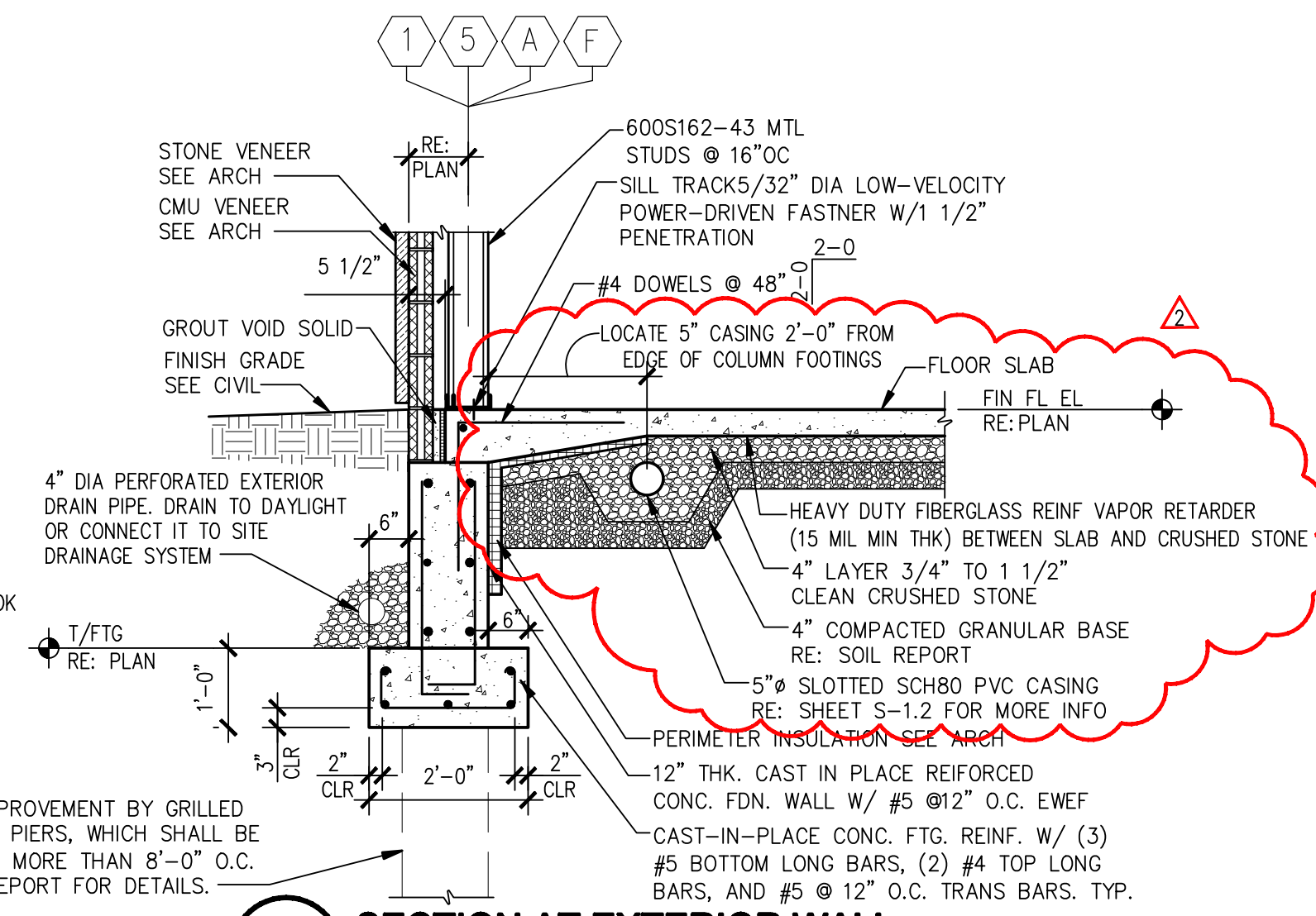
6 TYPICAL EXTERIOR PILASTER AT FRONT ENTRY

S-3.1 SCALE: 1/2" = 1'-0"



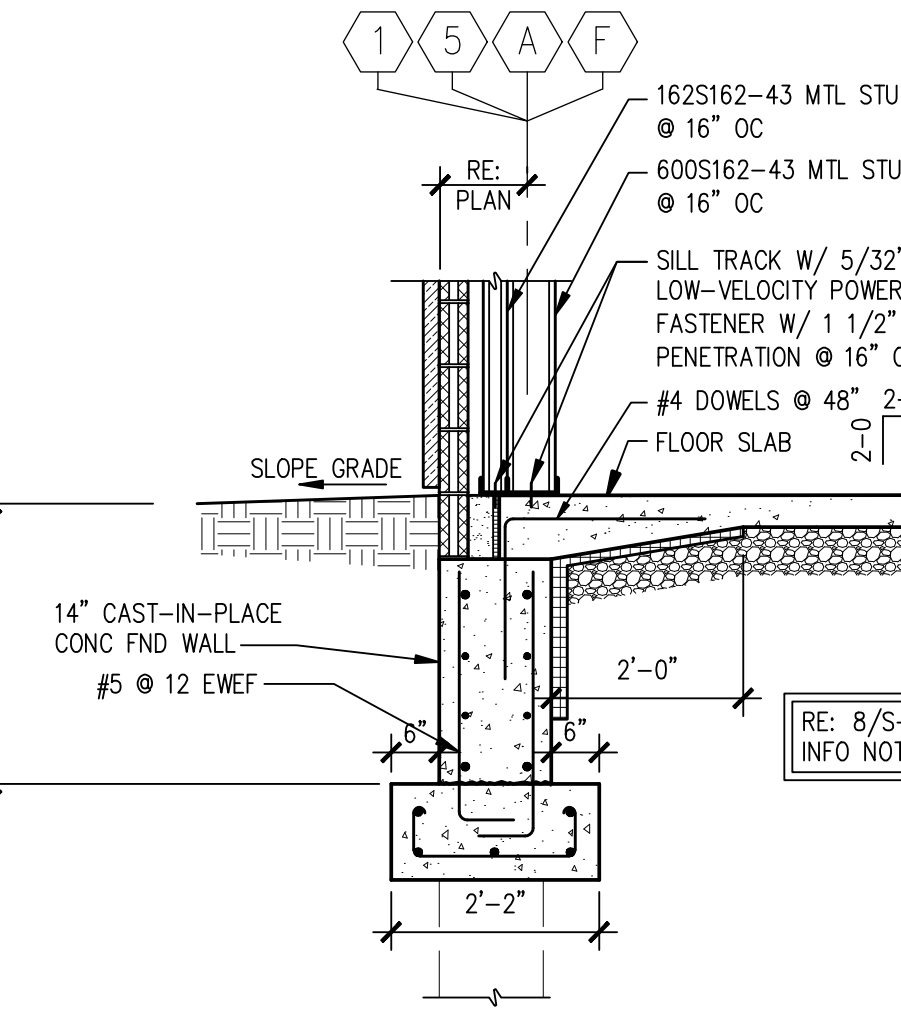
7 TYPICAL EXTERIOR PILASTER AT DRIVE-THRU

S-3.1 SCALE: 1/2" = 1'-0"



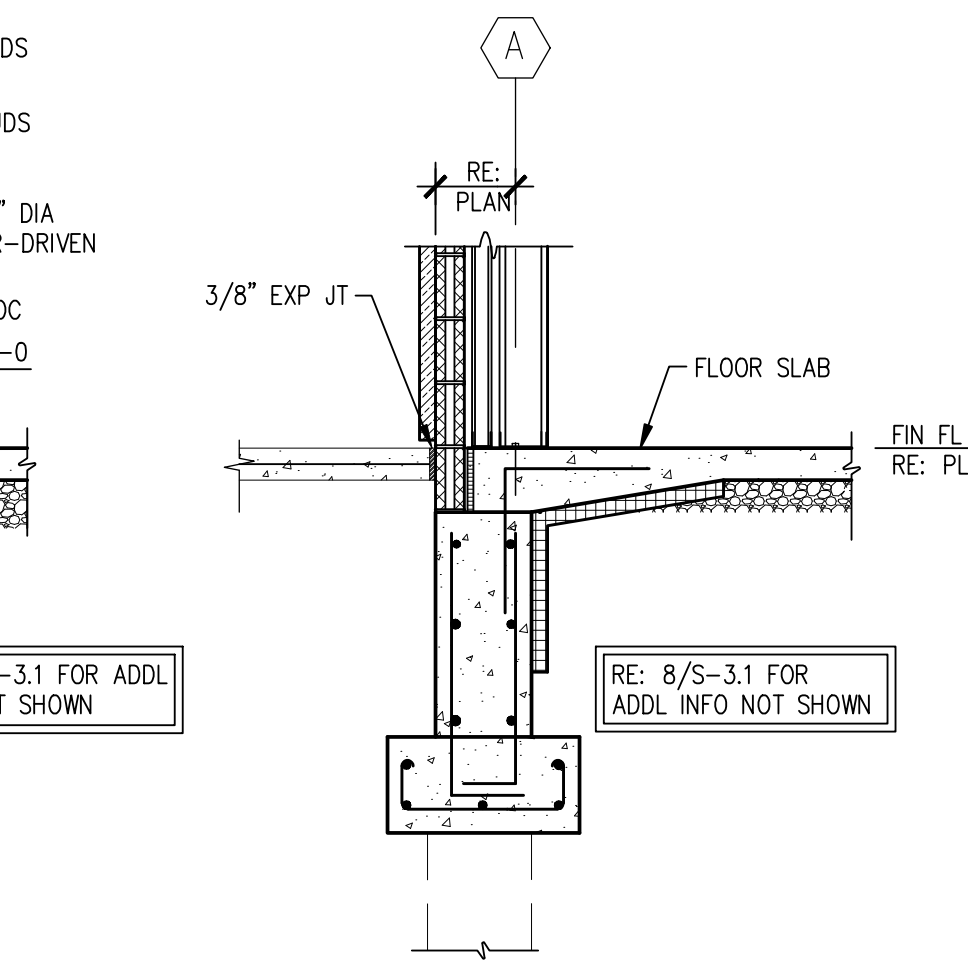
8 SECTION AT EXTERIOR WALL

S-3.1 SCALE: 1/2" = 1'-0"



9 SECTION AT EXTERIOR WALL BUMP-OUT

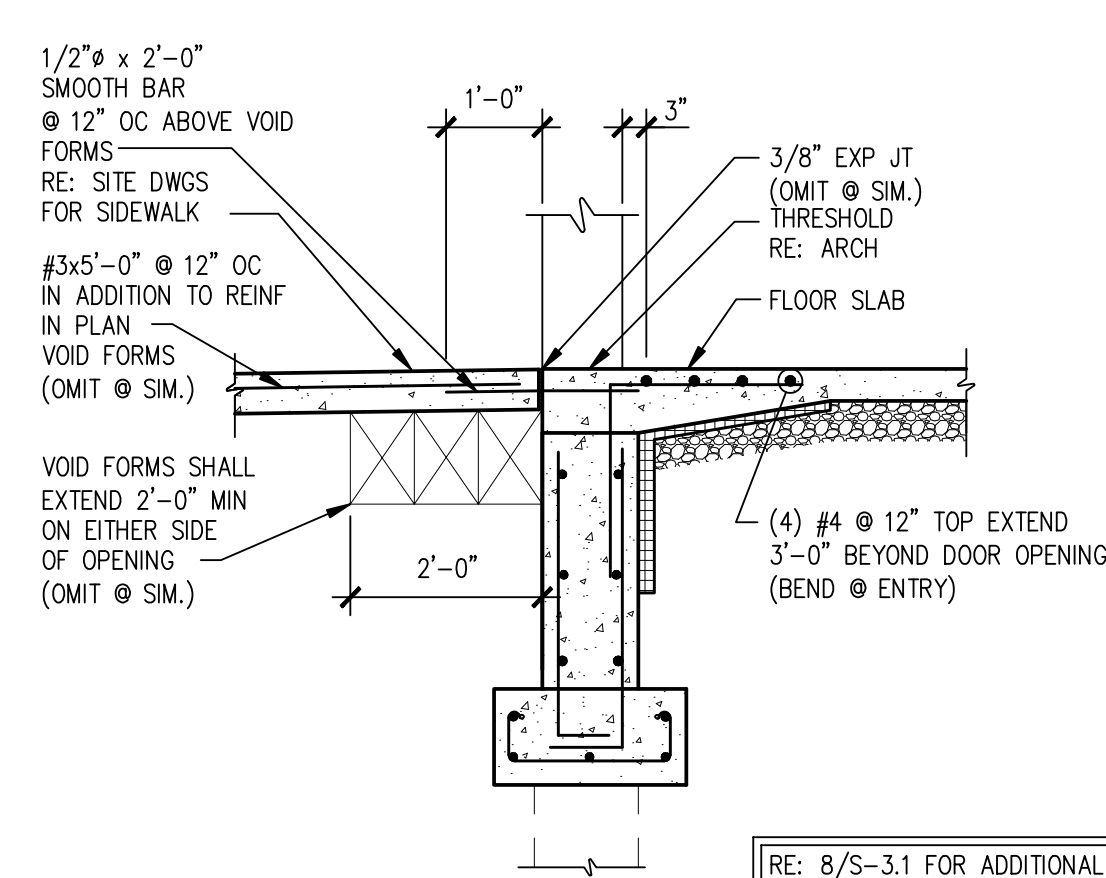
S-3.1 SCALE: 1/2" = 1'-0"



10 SECTION AT EXTERIOR WALL

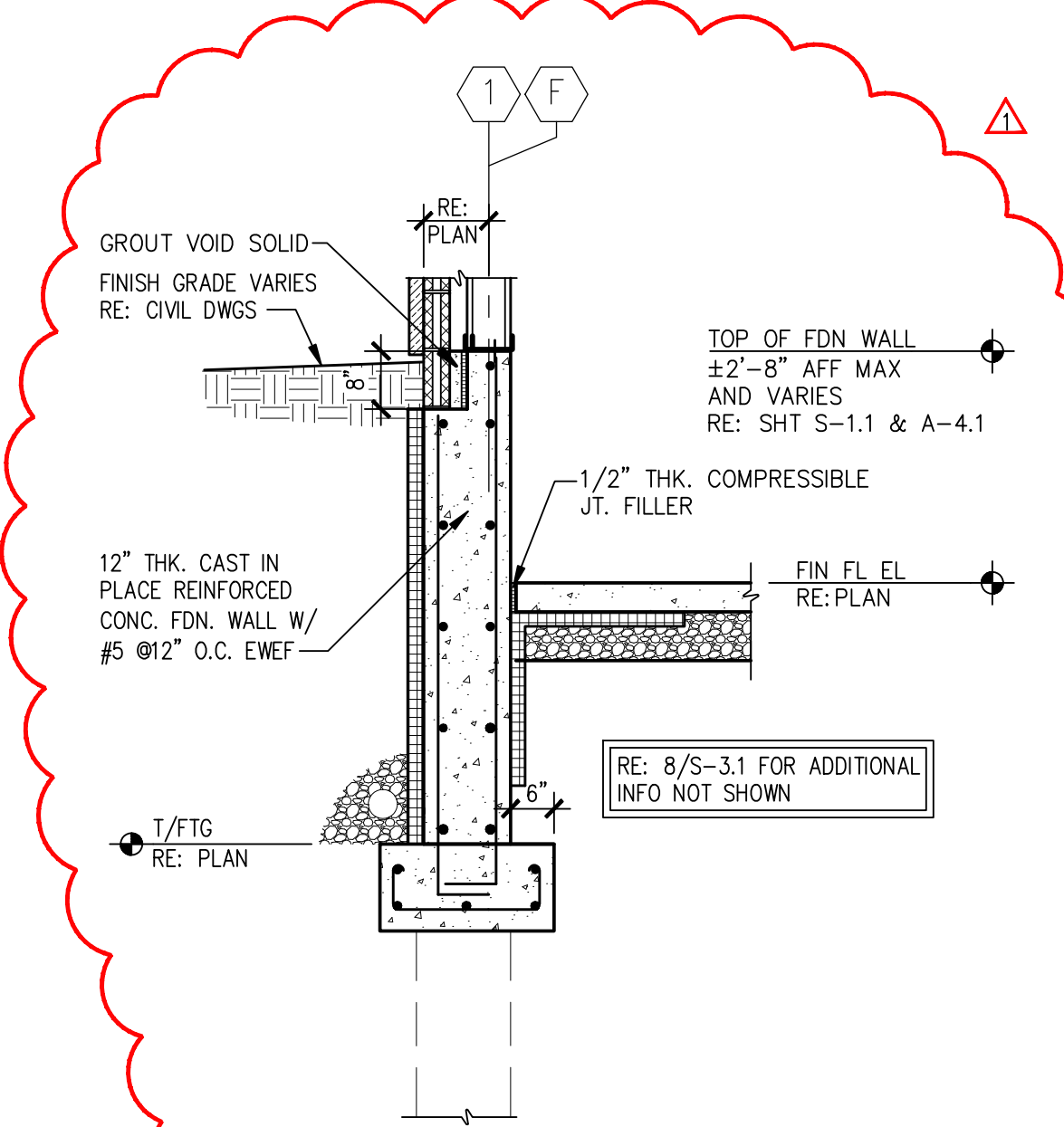
S-3.1 SCALE: 1/2" = 1'-0"

RE: 8/S-3.1 FOR ADDL INFO NOT SHOWN



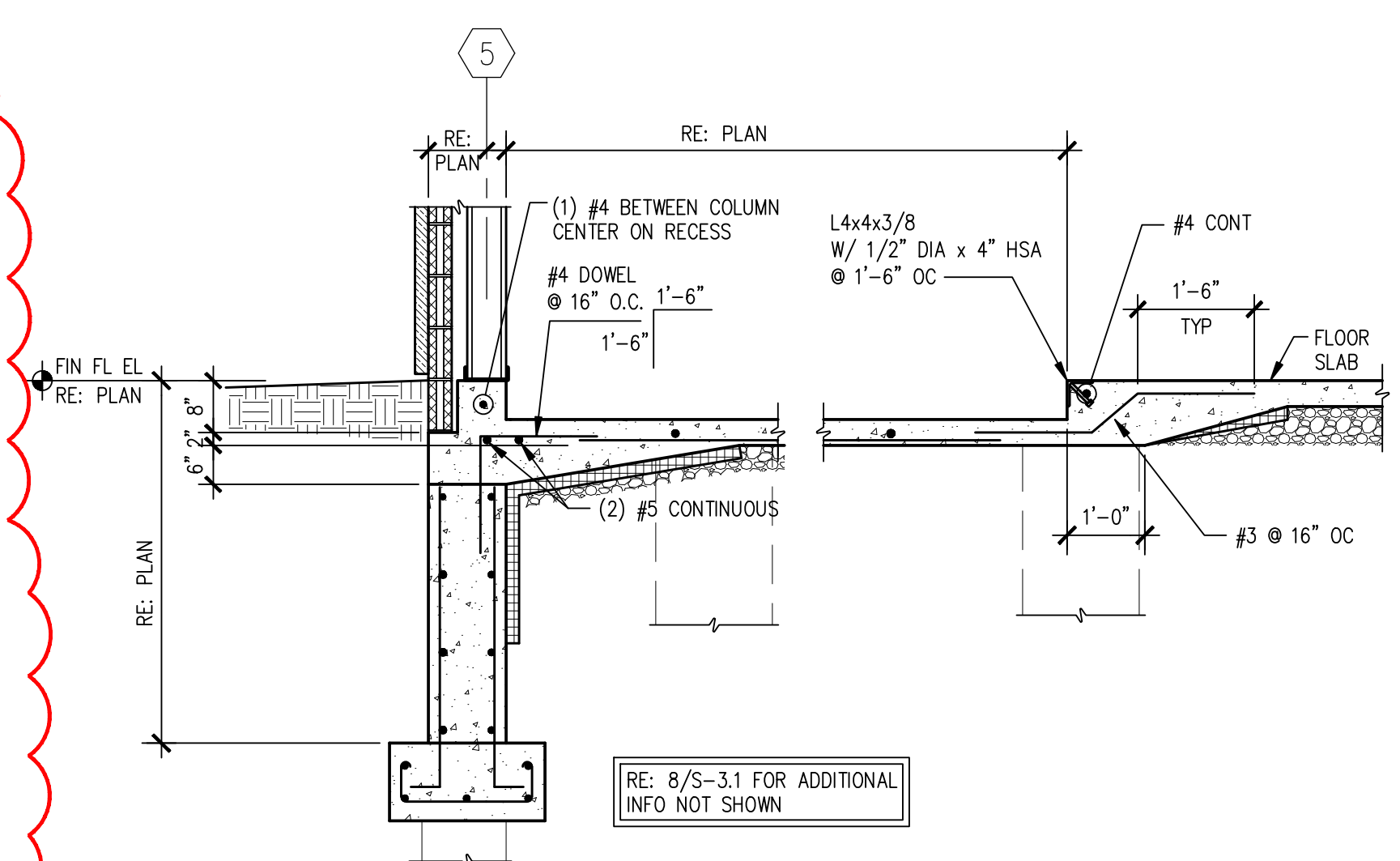
11 SECTION AT ENTRANCE & EXITS WITH SIDEWALK

S-3.1 SCALE: 1/2" = 1'-0"



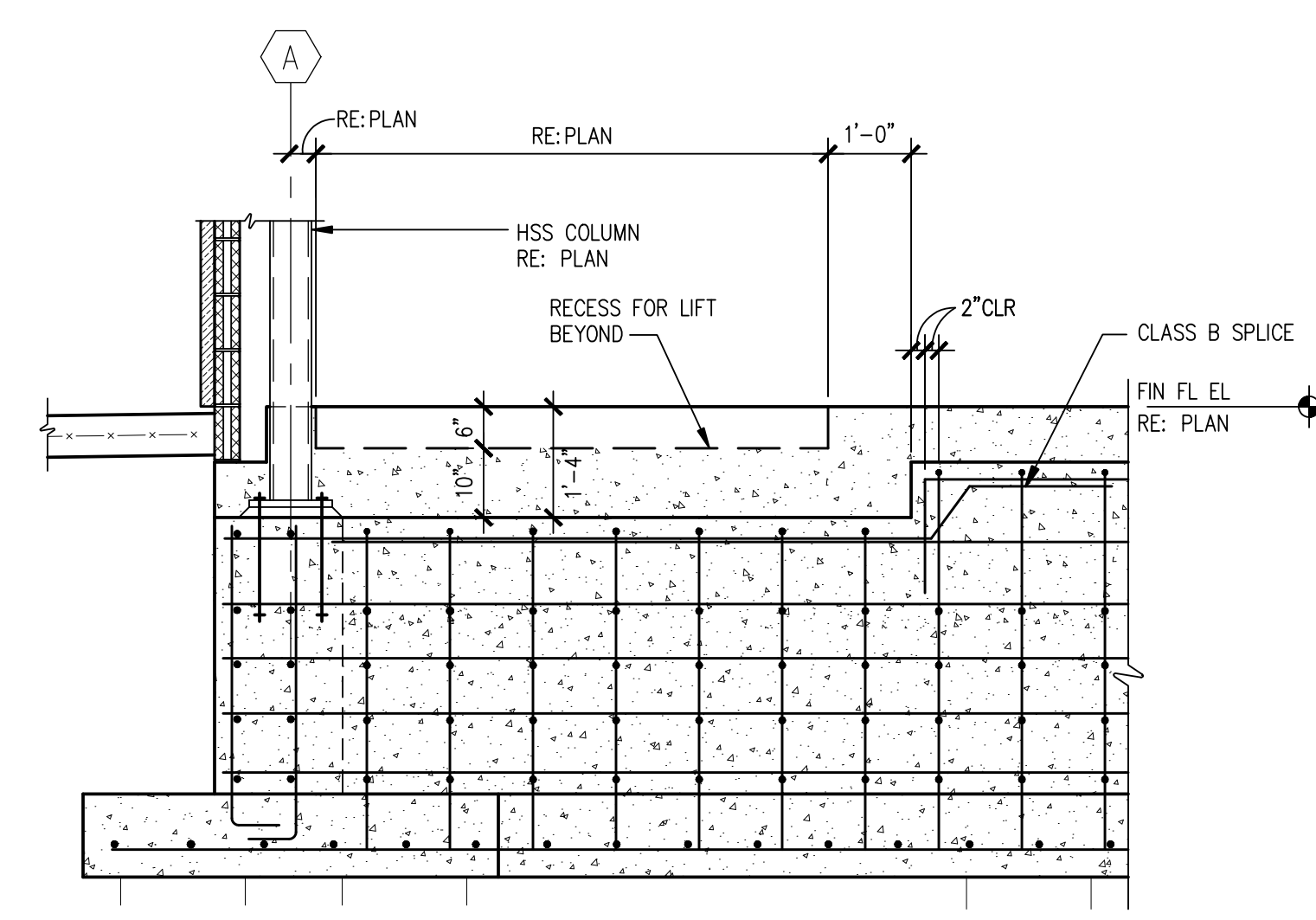
12 SECTION AT EXTERIOR WALL

S-3.1 SCALE: 1/2" = 1'-0"



13 SECTION AT VRC

S-3.1 SCALE: 1/2" = 1'-0"



14 ELEVATION AT VRC

S-3.1 SCALE: 1/2" = 1'-0"



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www.larsondesigngroup.com

ARCHITECTS ENGINEERS SURVEYORS

SEAL:



PROJECT TYPE: NEW  
STORE NUMBER: 8945  
WASHINGTON AVE. & SCHWENK DR. (SEC)  
KINGSTON, NY 12401

DEVELOPER:

NORTHEAST RETAIL LEASING  
& MANAGEMENT CO.  
360 BLOOMFIELD AVE.  
SUITE 303  
WINDSOR, CT 06095  
TEL (860) 683-9000  
FAX (860) 683-1600

REVISIONS:

08/10/09 REV FOUNDATION PER CIVIL DWGS  
09/01/09 ADDED SSD SYSTEM UNDER SLAB

LAYOUT COORDINATOR: T. MARTIN  
CONSTRUCTION MGR. B. FLANNERY  
DRAWING BY: RLH  
DATE: 13 JUL 2009  
JOB NUMBER: 6544-002

TITLE:  
FOUNDATION  
SECTIONS & DETAILS

SHEET NUMBER:

S-3.1

COMMENTS:  
BID DOCUMENT

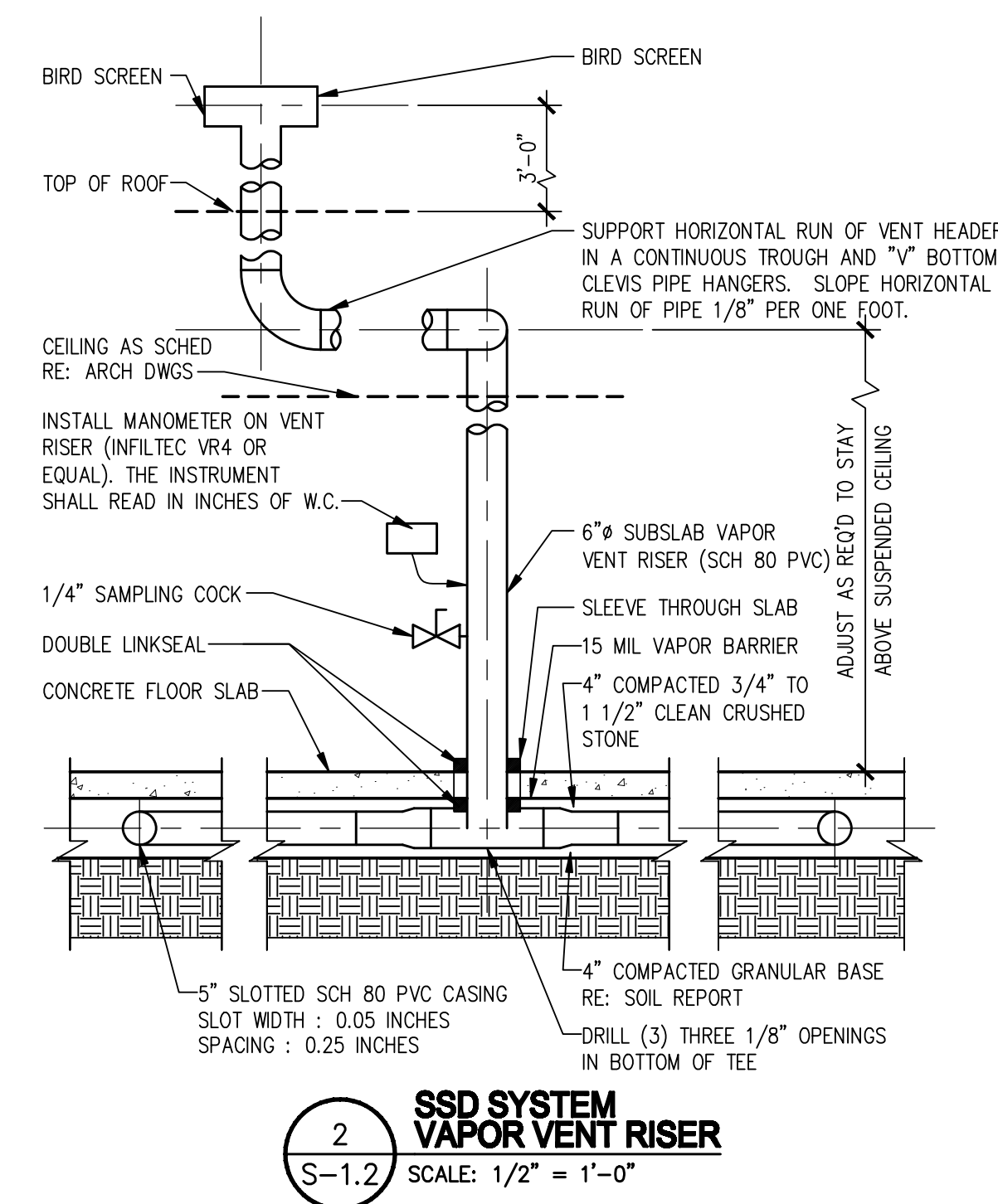
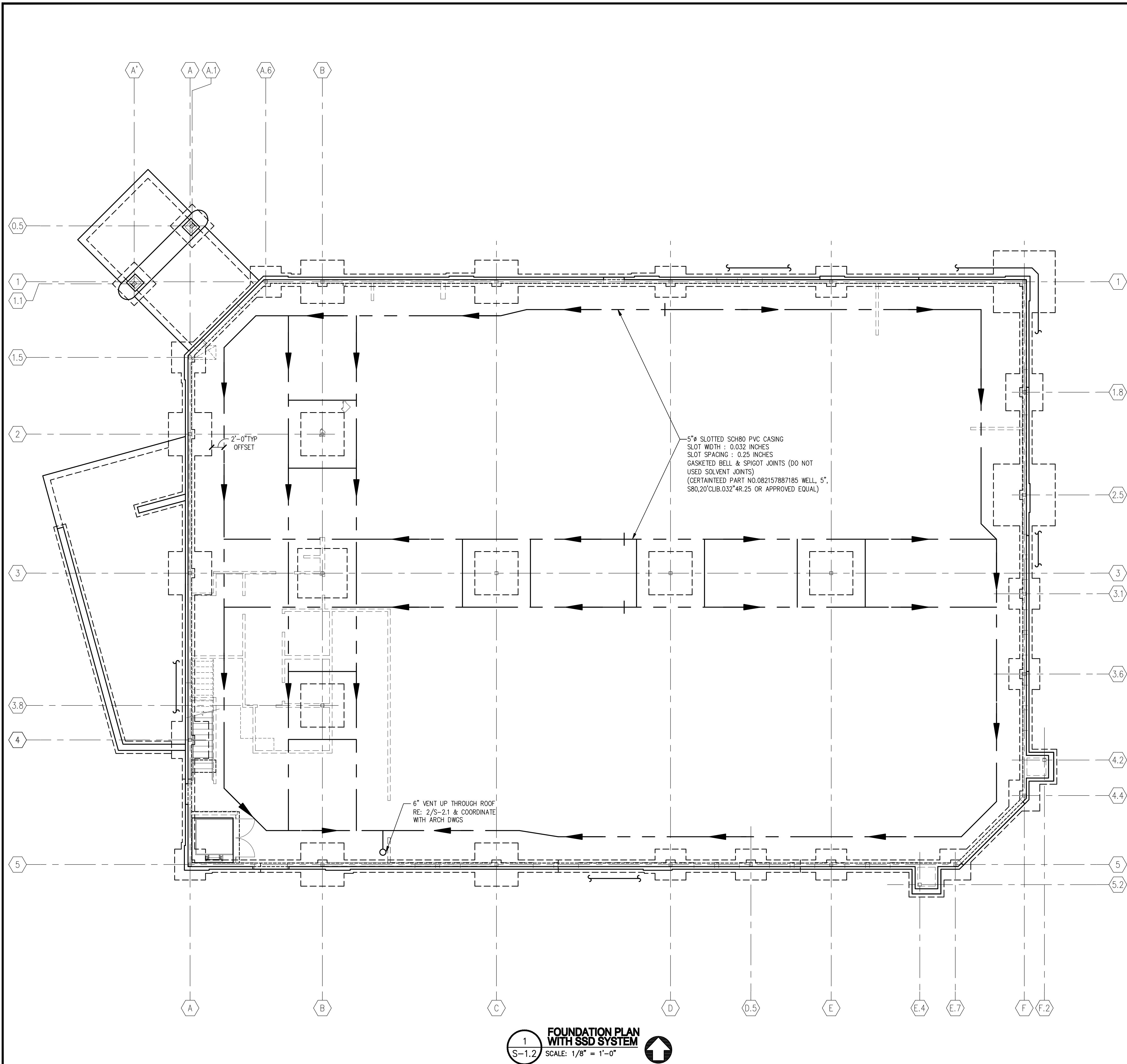


## **FIGURE 5**

SSD Details







**2**  
**SSD SYSTEM**  
**VAPOR VENT RISER**  
S-1.2 SCALE: 1/2" = 1'-0"

NOTE: FOOTINGS ARE CENTERED ON COLUMNS, UNO



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**ARCHITECTS ENGINEERS SURVEYORS**

SEAL:

**CVS/**  
pharmacy

12900  
9.1.06  
PROJECT TYPE: NEW TYPE A  
STORE NUMBER: 8945  
WASHINGTON AVE. & SCHWENK DR. (SEC)  
KINGSTON, NY 12401

DEVELOPER:

NORTHEAST RETAIL LEASING  
& MANAGEMENT CO.  
360 BLOOMFIELD AVE.  
SUITE 303  
WINDSOR, CT 06095  
TEL (860) 683-9000  
FAX (860) 683-1600

REVISIONS:

LAYOUT COORDINATOR: T. MARTIN

CONSTRUCTION MGR. B. FLANNERY

DRAWING BY: RLH

DATE: 13 JUL 2009

JOB NUMBER: 6544-002

TITLE:  
SUB-SLAB  
DEPRESSURIZATION SYSTEM

SHEET NUMBER:

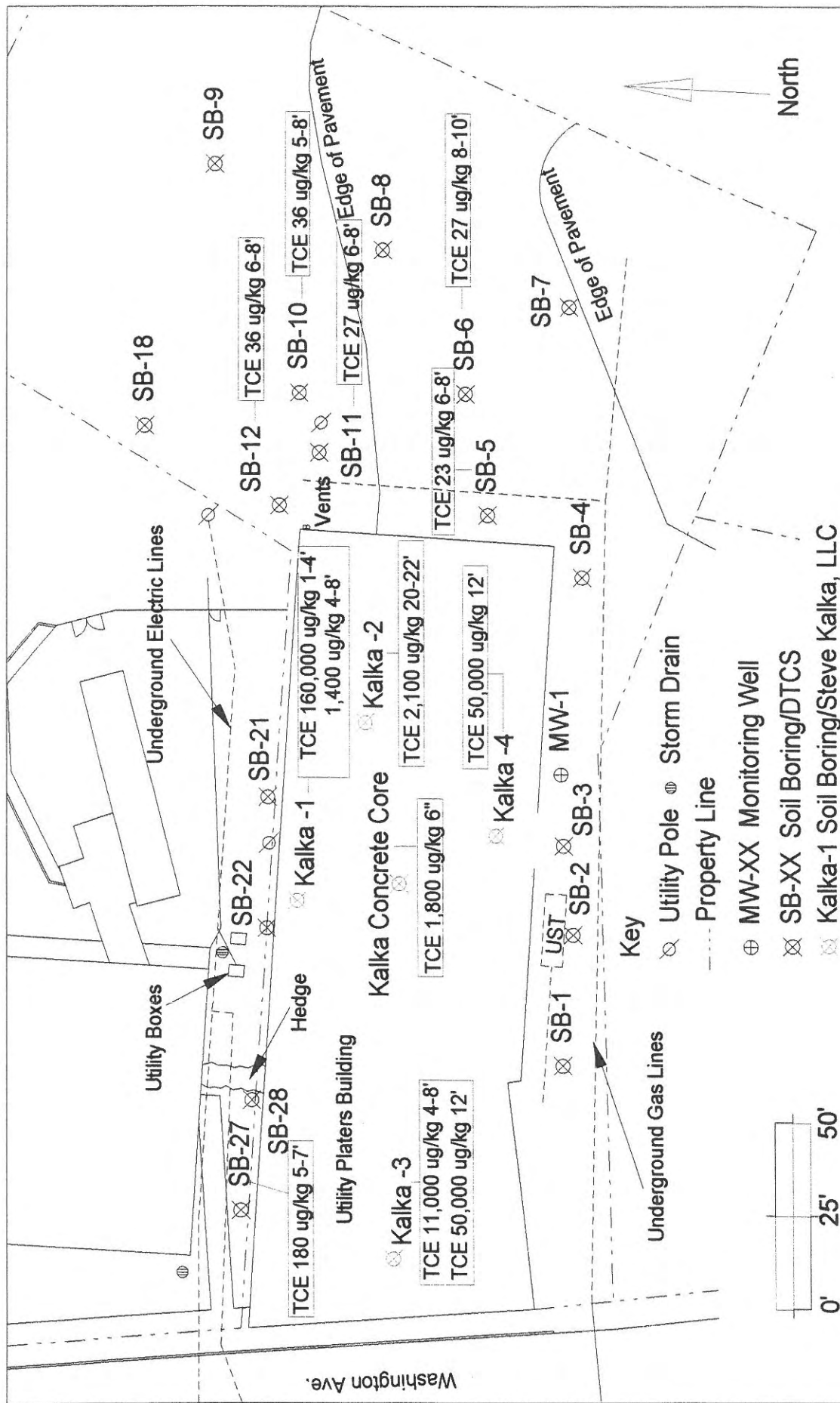
**S-1.2**

COMMENTS:

BID DOCUMENT

## **APPENDIX A**

Site Sampling Data Summary Figure



DT Consulting Services, Inc. 1291 Old Post Road Ulster Park, New York 12487 (845) 658-3484	Client: Northeast Retail Leasing & Management Company, LLC		
	Location: Utility Platers, 416 Washington Avenue, Kingston, Ulster County, New York		
	Title: TCE Contaminant Concentration Map		
	Scale: Graphic	Drawn By: O.T.	Site No: C356035 Fig.#: 3





## **APPENDIX B**

Technical Specifications

## SECTION 03300 - CAST-IN-PLACE CONCRETE

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section specifies cast-in place concrete, including formwork, reinforcement, concrete materials, mix design, placement procedures, and finishes.
- B. This Section includes concrete for the building foundation, floor slabs and sidewalks adjacent to the building.

#### 1.3 SUBMITTALS

- A. Product Data: For each type of manufactured material and product indicated.
- B. Design Mixes: For each concrete mix. Include alternate mix designs when characteristics of materials, project conditions, weather, test results, or other circumstances warrant adjustments.
  - 1. Indicate amounts of mix water to be withheld for later addition at Project site.
- C. Steel Reinforcement Shop Drawings: Details of fabrication, bending, and placement, prepared according to ACI 315, "Details and Detailing of Concrete Reinforcement." Include material, grade, bar schedules, stirrup spacing, bent bar diagrams, arrangement, and supports of concrete reinforcement. Include special reinforcement required for openings through concrete structures.
- D. Welding Certificates: Copies of certificates for welding procedures and personnel.
- E. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated, based on comprehensive testing of current materials:
  - 1. Cementitious materials and aggregates.
  - 2. Admixtures.
  - 3. Curing materials.
  - 4. Floor and slab treatments.
  - 5. Vapor retarders.

#### 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed concrete Work similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment.
  - 1. Manufacturer must be certified according to the National Ready Mixed Concrete Association's Certification of Ready Mixed Concrete Production Facilities.
- C. Testing Agency Qualifications: An independent testing agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 to conduct the testing indicated, as documented according to ASTM E 548.
- D. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, each aggregate from one source, and each admixture from the same manufacturer.
- E. Welding: Qualify procedures and personnel according to AWS D1.4, "Structural Welding Code--Reinforcing Steel."
- F. ACI Publications: Comply with the following, unless more stringent provisions are indicated:
  - 1. ACI 301, "Specification for Structural Concrete."
  - 2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."
- G. Coordinate all foundation penetrations with Architect, plumbing, mechanical, electrical contractors and local agencies.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle steel reinforcement to prevent bending and damage.

### PART 2 - PRODUCTS

#### 2.1 FORM-FACING MATERIALS

- A. Prefabricated Forms (Void Forms):
  - 1. Wall/Grade Beam and Structural Slab Void Forms: (for structurally suspended slabs only)
    - a. Function: Create void space directly under grade beams, structural slabs or walls.

- b. Composition: Corrugated paper material with a moisture resistant exterior and having an interior fabrication of a uniform, cellular configuration composed of non-wax impregnated components.
  - c. Depth: As indicated on the drawings.
  - d. Profile: Provide trapezoidal, Trapvoid form.
  - e. Strength: Forms must be capable of sustaining a working load of 1,600 psf.
  - f. Accessories: Seam pads to eliminate concrete flow in void forms and end caps to seal off void form end.
  - g. Acceptable Manufacturer: Trapvoid, seam pads and end caps as manufactured by Sure Void Products, Inc., Englewood, Co., phone (800) 458-5444.
2. Void Forms at Entry Paving: Biodegradable paper surface, treated for moisture resistance, structurally sufficient to support weight of plastic concrete and other superimposed loads.

## 2.2 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
- B. Steel Bar Mats: ASTM A 184/A 184M, assembled with clips.
- C. Plain-Steel Welded Wire Fabric: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.

## 2.3 REINFORCEMENT ACCESSORIES

- A. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire fabric in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete or fiber-reinforced concrete of greater compressive strength than concrete.
- B. Joint Dowel Bars: Plain-steel bars, ASTM A 615/A 615M, Grade 60. Cut bars true to length with ends square and free of burrs.

## 2.4 CONCRETE MATERIALS

- A. Portland Cement: ASTM C 150, Type I.
- B. Normal-Weight Aggregate: ASTM C 33, uniformly graded, and as follows:
  - 1. Nominal Maximum Aggregate Size: 1 inch.
- C. Water: Potable and complying with ASTM C 94.

## 2.5 ADMIXTURES

- A. General: Admixtures certified by manufacturer to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material and to be compatible with other admixtures and cementitious materials. Do not use admixtures containing calcium chloride.
- B. Air-Entraining Admixture: ASTM C 260.
- C. Water-Reducing Admixture: ASTM C 494, Type A.
- D. High-Range, Water-Reducing Admixture: ASTM C 494, Type F.
- E. Water-Reducing and Accelerating Admixture: ASTM C 494, Type E.
- F. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.

## 2.6 FIBER REINFORCEMENT

- A. Synthetic Fiber: Fibrillated polypropylene fibers engineered and designed for use in concrete, complying with ASTM C 1116, Type III, 1/2 to 1-1/2 inches long.
- B. Products: Subject to compliance with requirements, provide one of the following:
  - 1. Fibrillated Fibers:
    - a. Fibrasol F; Axim Concrete Technologies.
    - b. Fibermesh; Fibermesh, Div. of Synthetic Industries.
    - c. Forta; Forta Corporation.
    - d. Grace Fibers; W. R. Grace & Co., Construction Products Div.

## 2.7 WATERSTOPS

- A. Self-Expanding Strip Waterstops: Manufactured rectangular or trapezoidal strip, sodium bentonite or other hydrophylic material for adhesive bonding to concrete.
  - 1. Products: Subject to compliance with requirements, provide one of the following:
    - a. Volclay Waterstop-RX; Colloid Environmental Technologies Co.
    - b. Conseal CS-231; Concrete Sealants Inc.
    - c. Swellseal Joint; De Neef Construction Chemicals (U.S.) Inc.
    - d. Hydrotite; Greenstreak.
    - e. Mirastop; Mirafi Moisture Protection, Div. of Royal Ten Cate (USA), Inc.
    - f. Adeka Ultra Seal; Mitsubishi International Corporation.
    - g. Superstop; Progress Unlimited Inc.

## 2.8 VAPOR RETARDERS

- A. Vapor Retarder: ASTM E 1745, Class A with a water vapor transmission rate of 0.012 perms or less as tested by ASTM E 96, not less than 15 mils thick.

## 2.9 CURING MATERIALS

- A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. dry.
- B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- C. Water: Potable.
- D. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A; 25 percent solids minimum.
- E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, 18 to 22 percent solids.
- F. Products: Subject to compliance with requirements, provide one of the following:
  - 1. Evaporation Retarder:
    - a. Cimfilm; Axim Concrete Technologies.
    - b. Finishing Aid Concentrate; Burke Group, LLC (The).
    - c. Spray-Film; ChemMasters.
    - d. Aquafilm; Conspec Marketing & Manufacturing Co., Inc.
    - e. Sure Film; Dayton Superior Corporation.
    - f. Eucobar; Euclid Chemical Co.
    - g. Vapor Aid; Kaufman Products, Inc.
    - h. Lambco Skin; Lambert Corporation.
    - i. E-Con; L&M Construction Chemicals, Inc.
    - j. Confilm; Master Builders, Inc.
    - k. Waterhold; Metalcrete Industries.
    - l. Rich Film; Richmond Screw Anchor Co.
    - m. SikaFilm; Sika Corporation.
    - n. Finishing Aid; Symons Corporation.
    - o. Certi-Vex EnvioAssist; Vexcon Chemicals, Inc.
  - 2. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound:
    - a. Cureseal 1315 WB; Burke by Edoco,
    - b. Sealcure 1315 WB; Conspec Marketing & Manufacturing Co., Inc., a Dayton Superior Company
    - c. Super Diamond Clear VOX; Euclid Chemical Company
    - d. Lumiseal WB Plus; L&M Construction Chemicals
    - e. Vexcon Starseal 1315; Vexcon Chemicals, Inc."

## 2.10 RELATED MATERIALS

- A. Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber.



## 2.11 CONCRETE MIXES

- A. Prepare design mixes for each type and strength of concrete determined by either laboratory trial mix or field test data bases, as follows:
  - 1. Proportion normal-weight concrete according to ACI 211.1 and ACI 301.
- B. Use a qualified independent testing agency for preparing and reporting proposed mix designs for the laboratory trial mix basis.
- C. All concrete, unless noted otherwise: Proportion normal-weight concrete mix as follows:
  - 1. Compressive Strength (28 Days): as noted on structural drawing.
  - 2. Maximum Slump: 5 inches.
  - 3. Maximum Slump for Concrete Containing High-Range Water-Reducing Admixture: 8 inches after admixture is added to concrete with 2- to 4-inch slump.
- D. Compactor/Scissors Lift Slab: Proportion normal-weight concrete mix as follows:
  - 1. Compressive Strength (28 Days): as noted on structural drawing
  - 2. Maximum Slump: 5 inches.
- E. Cementitious Materials: For concrete exposed to deicers, limit percentage, by weight, of cementitious materials other than portland cement according to ACI 301 requirements.
- F. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:
  - 1. Fly Ash: 25 percent.
  - 2. Combined Fly Ash and Pozzolan: 25 percent.
  - 3. Ground Granulated Blast-Furnace Slag: 50 percent.
  - 4. Combined Fly Ash or Pozzolan and Ground Granulated Blast-Furnace Slag: 50 percent portland cement minimum, with fly ash or pozzolan not exceeding 25 percent.
- G. Air Content: Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having an air content of 2 to 4 percent, unless otherwise indicated.
- H. Air Content: Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having an air content as follows within a tolerance of plus 1 or minus 1.5 percent, unless otherwise indicated:
  - 1. Air Content: 5.5 percent for 1-1/2-inch- nominal maximum aggregate size.
  - 2. Air Content: 6 percent for 1-inch- nominal maximum aggregate size.
  - 3. Air Content: 6 percent for 3/4-inch- nominal maximum aggregate size.
- I. Do not air entrain concrete to trowel-finished interior floors and suspended slabs. Do not allow entrapped air content to exceed 3 percent.



- J. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.
- K. Synthetic Fiber: Uniformly disperse in concrete mix at manufacturer's recommended rate, but not less than 1 lb/cu. yd..
- L. Admixtures: Use admixtures according to manufacturer's written instructions.
  - 1. Use water-reducing admixture or high-range water-reducing admixture (superplasticizer) in concrete, as required, for placement and workability.
  - 2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.

## 2.12 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

## 2.13 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94 and ASTM C 1116, and furnish batch ticket information.
  - 1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

# PART 3 - EXECUTION

## 3.1 FORMWORK

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until concrete structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.
- C. Limit concrete surface irregularities, designated by ACI 347R as abrupt or gradual, as follows:

## 3.2 EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use Setting Drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
  - 1. Install anchor bolts, accurately located, to elevations required.

2. Install reglets to receive top edge of foundation sheet waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.
3. Install dovetail anchor slots in concrete structures as indicated.

### 3.3 VAPOR RETARDERS

- A. Vapor Retarder: Place, protect, and repair vapor-retarder sheets according to ASTM E 1643 and manufacturer's written instructions.
  1. Lap all joints 12" (300mm) minimum and seal joints with manufacturer's recommended tape.

### 3.4 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
  1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials.
- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
  1. Shop- or field-weld reinforcement according to AWS D1.4, where indicated.
- D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- E. Install welded wire fabric in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

### 3.5 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
  1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints, unless otherwise indicated.
  2. Form from preformed galvanized steel, plastic keyway-section forms, or bulkhead forms with keys, unless otherwise indicated. Embed keys at least 1-1/2 inches into concrete.

- C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness, as follows:
  - 1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
  - 2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.
- D. Dowel Joints: Install dowel sleeves and dowels or dowel bar and support assemblies at joints where indicated.
  - 1. Use dowel sleeves or lubricate or asphalt-coat one-half of dowel length to prevent concrete bonding to one side of joint.

### 3.6 WATERSTOPS

- A. Flexible Waterstops: Install in construction joints as indicated to form a continuous diaphragm. Install in longest lengths practicable. Support and protect exposed waterstops during progress of Work. Field-fabricate joints in waterstops according to manufacturer's written instructions.
- B. Self-Expanding Strip Waterstops: Install in construction joints and at other locations indicated, according to manufacturer's written instructions, bonding or mechanically fastening and firmly pressing into place. Install in longest lengths practicable.

### 3.7 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- B. Do not add water to concrete during delivery, at Project site, or during placement, unless approved by Architect.
  - 1. Do not add water to concrete after adding high-range water-reducing admixtures to mix.
- C. Deposit concrete continuously or in layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as specified. Deposit concrete to avoid segregation.
- D. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.

1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
  2. Maintain reinforcement in position on chairs during concrete placement.
  3. Screed slab surfaces with a straightedge and strike off to correct elevations.
  4. Slope surfaces uniformly to drains where required.
  5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, free of humps or hollows, before excess moisture or bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.
- E. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
1. When air temperature has fallen to or is expected to fall below 40 deg F, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F and not more than 80 deg F at point of placement.
  2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
  3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators, unless otherwise specified and approved in mix designs.
- F. Hot-Weather Placement: Place concrete according to recommendations in ACI 305R and as follows, when hot-weather conditions exist:
1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
  2. Cover steel reinforcement with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
  3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

### 3.8 FINISHING FLOORS AND SLABS

- A. General: Comply with recommendations in ACI 302.1R for screeding, restraighening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraighening until surface is left with a uniform, smooth, granular texture.
1. Apply float finish to surfaces indicated, to surfaces to receive trowel finish, and to floor and slab surfaces to be covered with fluid-applied or sheet waterproofing, built-up or membrane roofing, or sand-bed terrazzo.

- C. Trowel Finish: After applying float finish, apply first trowel finish and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighen until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
1. Apply a trowel finish to surfaces indicated and to floor and slab surfaces exposed to view or to be covered with resilient flooring, carpet, or another thin film-finish coating system
  2. Finish surfaces to the following tolerances, measured within 24 hours according to ASTM E 1155/E 1155M for a randomly trafficked floor surface:
    - a. Specified overall values of flatness, F(F) 25; and levelness, F(L) 20; with minimum local values of flatness, F(F) 17; and levelness, F(L) 15.
  3. Finish and measure surface so gap at any point between concrete surface and an unlevelled freestanding 10-foot- long straightedge, resting on two high spots and placed anywhere on the surface, does not exceed the following:
    - a. 1/4 inch.
    - b. 3/16 inch.
    - c. 1/8 inch.

### 3.9 MISCELLANEOUS CONCRETE ITEMS

- A. Filling In: Fill in holes and openings left in concrete structures, unless otherwise indicated, after work of other trades is in place. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete Work.
- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.
- C. Equipment Bases and Foundations: Provide machine and equipment bases and foundations as shown on Drawings. Set anchor bolts for machines and equipment at correct elevations, complying with diagrams or templates of manufacturer furnishing machines and equipment.
- D. Steel Pan Stairs: Provide concrete fill for steel pan stair treads, landings, and associated items. Cast-in inserts and accessories as shown on Drawings. Screed, tamp, and trowel-finish concrete surfaces.

### 3.10 CONCRETE PROTECTION AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and with recommendations in ACI 305R for hot-weather protection during curing.



- B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces, by one or a combination of the following methods:
  - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
    - a. Water.
    - b. Continuous water-fog spray.
    - c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
  - 2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
    - a. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
    - b. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.
    - c. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer recommends for use with floor coverings.
  - 3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
  - 4. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

### 3.11 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified independent testing and inspecting agency to sample materials, perform tests, and submit test reports during concrete placement according to requirements specified in this Article.

- B. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to sample materials, perform tests, and submit test reports during concrete placement. Sampling and testing for quality control may include those specified in this Article.
- C. Testing Services: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
  - 1. Testing Frequency: Obtain at least one composite sample for each 100 cu. yd. or fraction thereof of each concrete mix placed each day.
    - a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mix, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
  - 2. Slump: ASTM C 143; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mix. Perform additional tests when concrete consistency appears to change.
  - 3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; ASTM C 173, volumetric method, for structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mix.
  - 4. Compression Test Specimens: ASTM C 31/C 31M; cast and laboratory cure one set of four standard cylinder specimens for each composite sample.
    - a. Cast and field cure one set of four standard cylinder specimens for each composite sample.
  - 5. Compressive-Strength Tests: ASTM C 39; test two laboratory-cured specimens at 7 days and two at 28 days.
    - a. Test two field-cured specimens at 7 days and two at 28 days.
    - b. A compressive-strength test shall be the average compressive strength from two specimens obtained from same composite sample and tested at age indicated.
- D. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
- E. Strength of each concrete mix will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
- F. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design

compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength, and type of break for both 7-and 28-day tests.

- G. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
- H. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42 or by other methods as directed by Architect.

END OF SECTION 03300

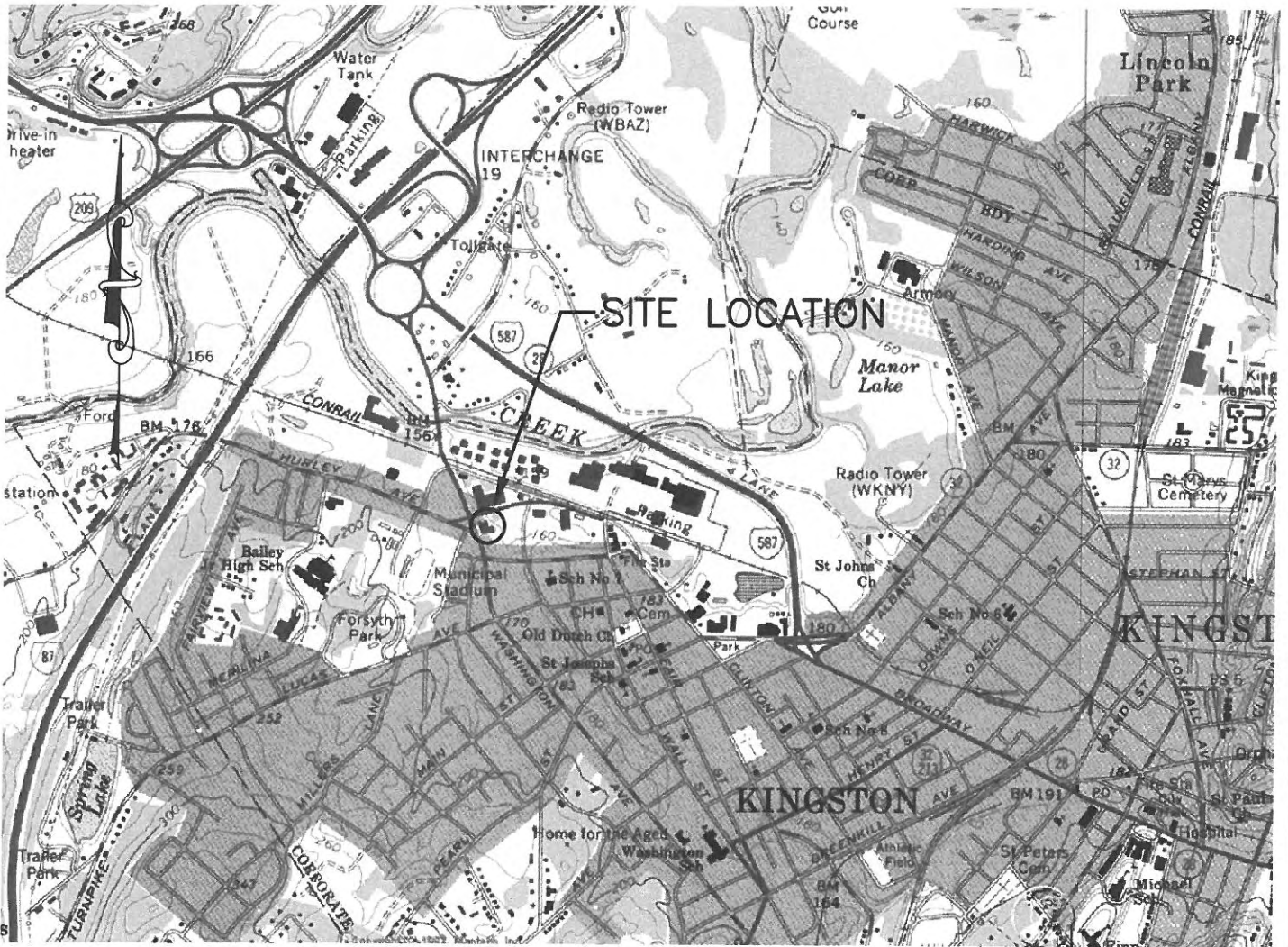




## FIGURE 1

Site Location Map





**BRINNIER & LARIOS, P.C.**  
ENGINEERS & LAND SURVEYORS

**SITE LOCATION**  
**CVS PHARMACY**

SCALE  
1" = 2000'

DATE  
DEC 2009  
DWG  
AJH

SHEET NO.  
1 OF 1

67 MAIDEN LANE

KINGSTON, N.Y.

CITY OF KINGSTON

ULSTER COUNTY, N. Y.



## **FIGURE 2**

Existing Site Conditions





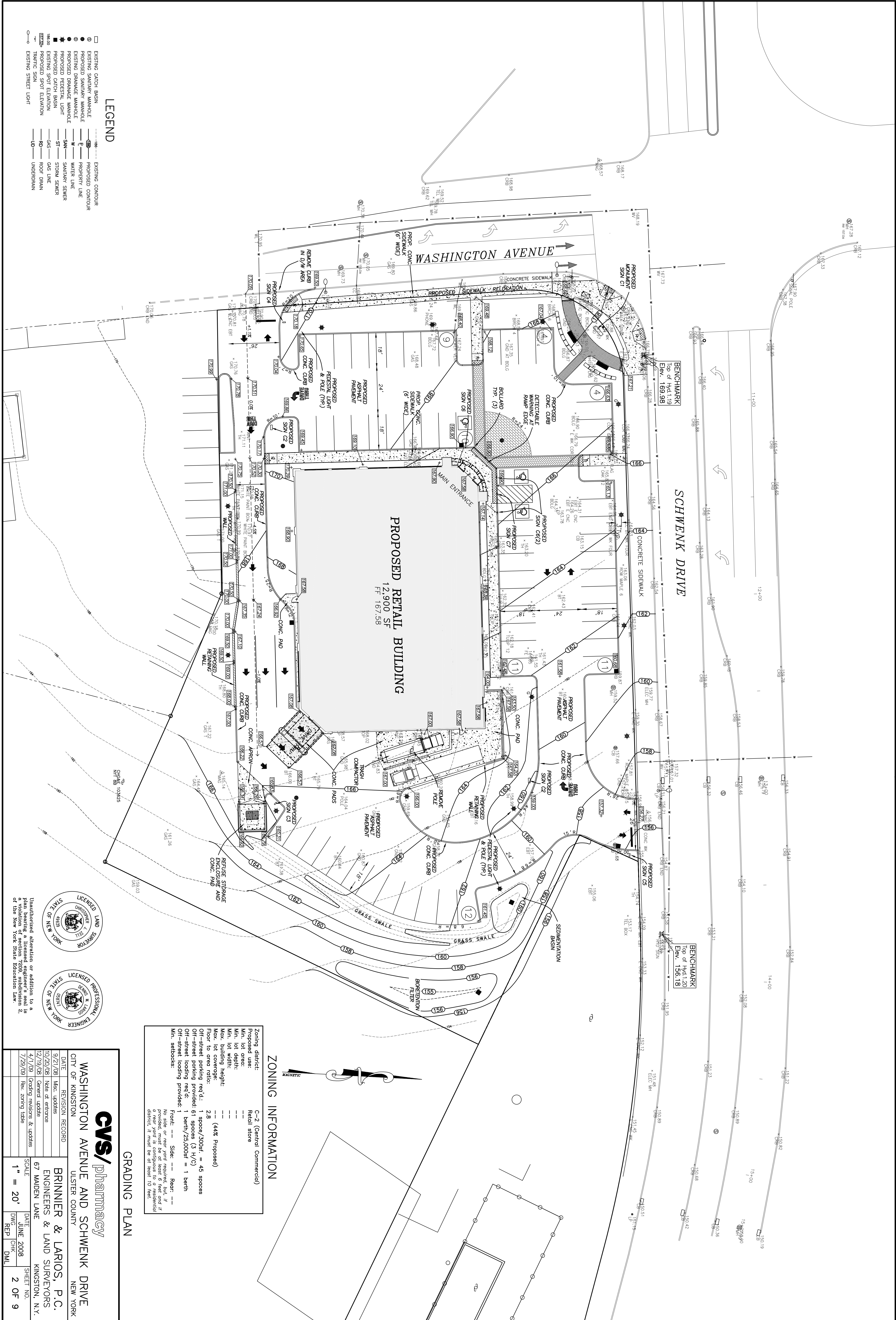


## **FIGURE 3**

Site Grading Plan







LEGEND

- EXISTING CATCH BASIN
- EXISTING SANITARY MANHOLE
- PROPOSED SANITARY MANHOLE
- EXISTING DRAINAGE MANHOLE
- PROPOSED DRAINAGE MANHOLE
- EXISTING DRAINAGE MANHOLE
- PROPOSED DRAINAGE MANHOLE
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- EXISTING STREET LIGHT
- PROPOSED STREET LIGHT
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPERTY LINE
- WATER LINE
- SANITARY SEWER
- STORM SEWER
- GAS LINE
- ROOF DRAIN
- UNDERDRAIN

GRADING PLAN

Zoning Information	
Proposed use:	C-2 (Central Commercial)
Min. lot area:	Retail store
Min. lot depth:	---
Min. lot width:	---
Max. building height:	---
Floor to area ratio:	2.8
Off-street parking req'd:	1 space/300sf = 45 spaces
Off-street loading req'd:	1 berth/25,000sf = 1 berth
Min. setbacks:	Front: --- Side: --- Rear: ---

ZONING INFORMATION

Proposed use: C-2 (Central Commercial)

Min. lot area: Retail store

Min. lot depth: ---

Min. lot width: ---

Max. building height: ---

Floor to area ratio: 2.8

Off-street parking req'd: 1 space/300sf = 45 spaces

Off-street loading req'd: 1 berth/25,000sf = 1 berth

Min. setbacks: Front: --- Side: --- Rear: ---

No side or rear yard required, but, if a rear yard is contiguous to a residential district, it must be at least 10 feet.

CVS/pharmacy

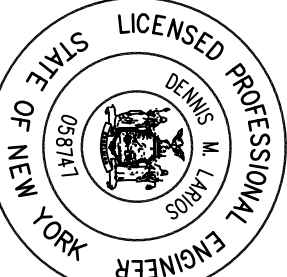
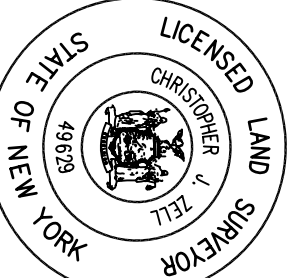
WASHINGTON AVENUE AND SCHWENK DRIVE  
CITY OF KINGSTON  
ULSTER COUNTY  
NEW YORK

DATE	REVISION RECORD	DATE	REVISION RECORD
9/21/08	Misc. updates	4/1/09	General updates & updates
10/20/08	Note of entrance	7/29/09	Rev. zoning table
12/19/08	General updates		
4/1/09	General updates & updates		
7/29/09	Rev. zoning table		

SCALE 1" = 20'

DWG REP DML

SHEET NO. 2 OF 9



Unauthorized alteration or addition to a plan bearing a licensed engineer's seal is a violation of section 2209, subdivision 2, of the New York State Education Law.





## **FIGURE 4**

Building Foundation Plan and Details





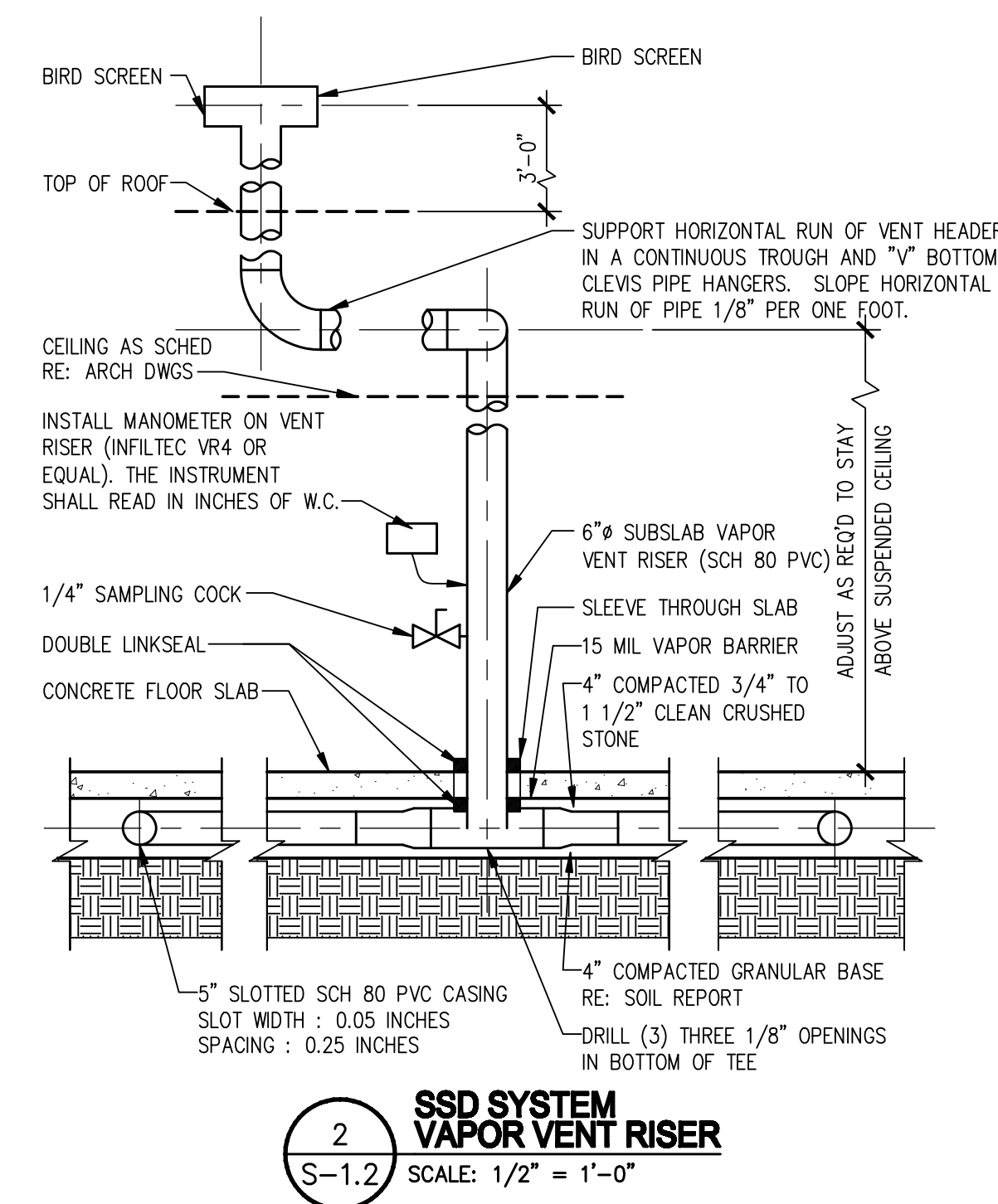
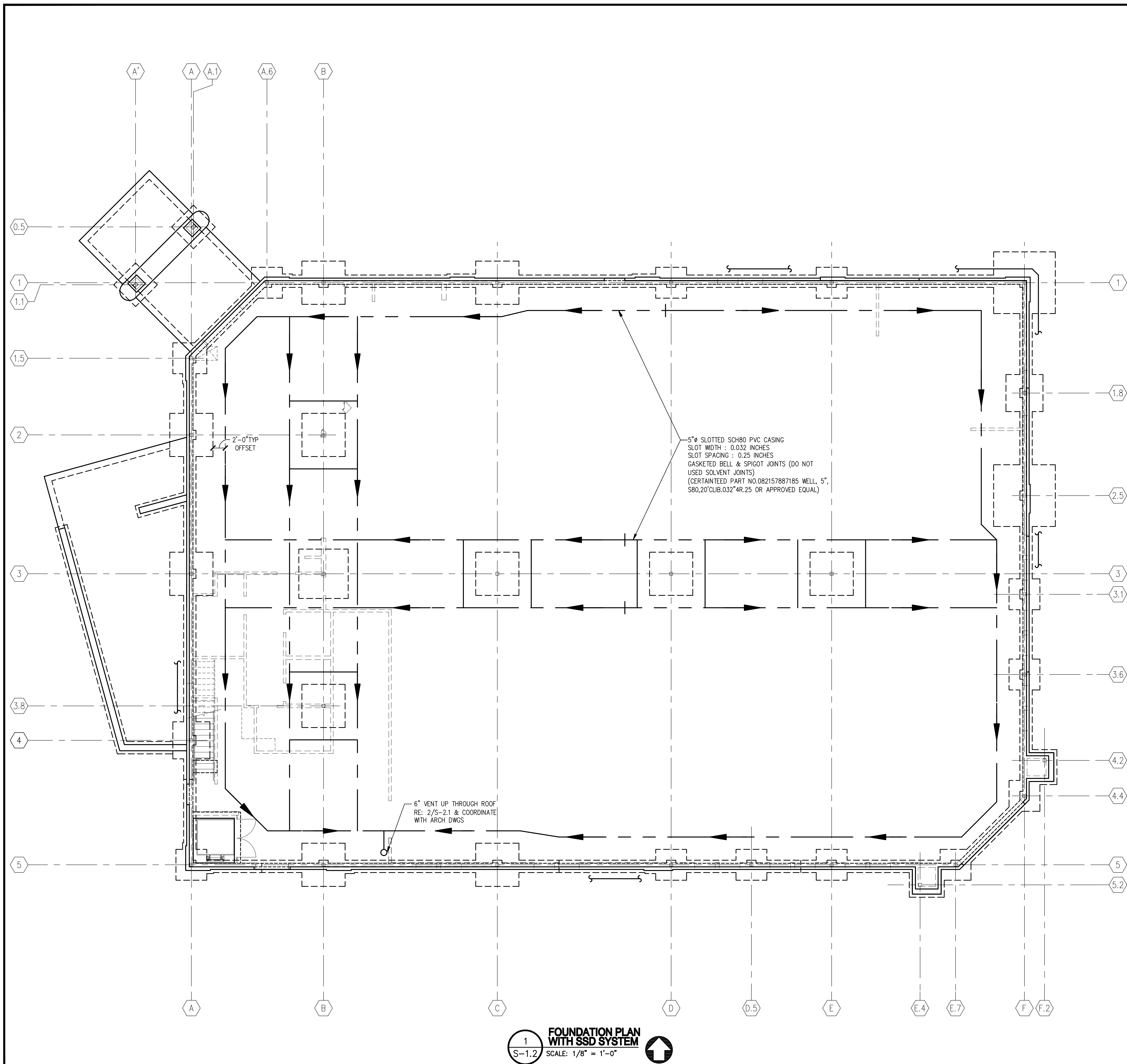




## **FIGURE 5**

SSD Details





NOTE: FOOTINGS ARE CENTERED ON COLUMNS, UNO



Larson Design Group

1000 Commerce Park Drive  
Suite 201  
Williamsport, PA 17701  
Phone: 570.323.6603  
Fax: 570.323.9902  
www.larsondesigngroup.com  
**ARCHITECTS ENGINEERS SURVEYORS**

SEAL:

**CVS/**  
pharmacy

12900  
9.1.06  
PROJECT TYPE: NEW TYPE A  
STORE NUMBER: 8945  
WASHINGTON AVE. & SCHWENK DR. (SEC)  
KINGSTON, NY 12401

DEVELOPER:

NORTHEAST RETAIL LEASING  
& MANAGEMENT CO.  
360 BLOOMFIELD AVE.  
SUITE 303  
WINDSOR, CT 06095  
TEL (860) 683-9000  
FAX (860) 683-1600

REVISIONS:

LAYOUT COORDINATOR: T. MARTIN

CONSTRUCTION MGR. B. FLANNERY

DRAWING BY: RLH

DATE: 13 JUL 2009

JOB NUMBER: 6544-002

TITLE:  
SUB-SLAB  
DEPRESSURIZATION SYSTEM

SHEET NUMBER:

**S-1.2**

COMMENTS:

BID DOCUMENT

DENNIS M. LARIOS, P.E.  
Lic. No. 58747

CHRISTOPHER J. ZELL, L.L.S.  
Lic. No. 49629

**BRINNIER and LARIOS, P.C.**  
**PROFESSIONAL ENGINEERS & LAND SURVEYORS**

DESIGN  
REPORTS  
SUPERVISION  
CONSULTING SERVICES

67 MAIDEN LANE  
KINGSTON, NEW YORK 12401  
—  
TELEPHONE (845) 338-7622  
FAX (845) 338-7660

SUBDIVISIONS  
TITLE SURVEYS  
TOPOGRAPHIC SURVEYS

March 19, 2010

**Mr. Daniel D. Plotkin**

Northeast Retail Leasing & Management Company, LLC  
360 Bloomfield Avenue, Suite 209  
Windsor, CT 06095

RE: Addendum No. 1  
SSDS Design Report, CVS Pharmacy  
Kingston, NY

Dear Mr. Plotkin,

Per the request of the New York State Department of Environmental Conservation (NYSDEC), the sub-slab depressurization system (SSDS) at the CVS Pharmacy located at 416 Washington Avenue, Kingston, New York will be upgraded from a low pressure, passive system to an active SSDS. The design details for the existing SSDS system as specified in the Design Report, Sub-Slab Depressurization System, CVS Pharmacy, Washington Ave./Schwenk Dr. prepared by Brinnier and Larios, P.C. dated September 2009 are summarized below. This addendum provides the specifications for the inline vapor blower unit to be added to the SSDS.

Existing SSDS

The existing SSDS consists of the following elements:

- An 8 inch thick gravel layer was installed under the concrete slab for the building. The gravel layer is comprised of two zones: a 4 inch compacted granular base overlain by a 4 inch thick layer of  $\frac{3}{4}$ " to  $1\frac{1}{2}$ " clean gravel in which the slotted vent piping was placed.
- 5 inch diameter slotted Schedule 80 PVC vent piping was placed around the perimeter of the building and at the interior spread footings. Pipe slots are 0.05 inches in width and spaced at 0.25 inches.
- 15 mil polyethylene flexible sheeting vapor retarder was installed between the gravel layer and the concrete slab for the building.
- A 4 inch or 6 inch thick reinforced concrete slab was constructed at grade. All concrete floor joints were sealed. All openings in the floor are sealed with either double Linkseal devices or hydraulic cement.
- A 6 inch diameter, solid Schedule 80 PVC riser pipe connects from the slotted vent piping up to a "T" vapor vent above the roof.
- A U-tube manometer was installed on the 6 inch diameter riser pipe to monitor the performance of the system.

Additions to the SSDS

The existing SSDS will be fitted with an inline vapor blower (fan). The fan system shall provide 300 cubic feet per minute (cfm) to 500 cfm of air flow at 0.5 inches of static water column pressure. The fan must be capable of delivering up to 2 inches of static water column pressure at lower air flow rates. The following fan is specified:

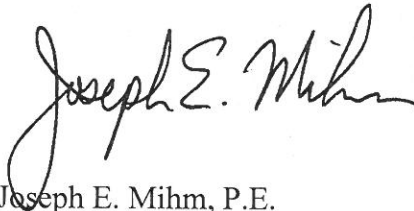
- RadonAway RP Series Fan, Model Number RP380 manufactured by RadonAway, Ward Hills, MA, 1-800-767-3703 (specification sheet attached) or approved equal
- Electrical switch equipped with an indicator light to provide a visual indicator that the fan is operating. The fan switch should be installed in the vicinity of the U-tube manometer.

The fan should be mounted in a vertical position on the 6" diameter Schedule 80 riser pipe. Standard 8 inch to 6 inch reducer fittings will be required to fit the fan openings to the riser pipe. The fan system should be maintained in accordance with manufacturer recommendations.

Please do not hesitate to contact this office with any questions or concerns.

Respectfully submitted,

**BRINNIE AND LARIOS, P.C.**

A handwritten signature in black ink, reading "Joseph E. Mihm". The signature is fluid and cursive, with the first name "Joseph" and last name "Mihm" clearly legible.

Joseph E. Mihm, P.E.  
Sr. Project Engineer

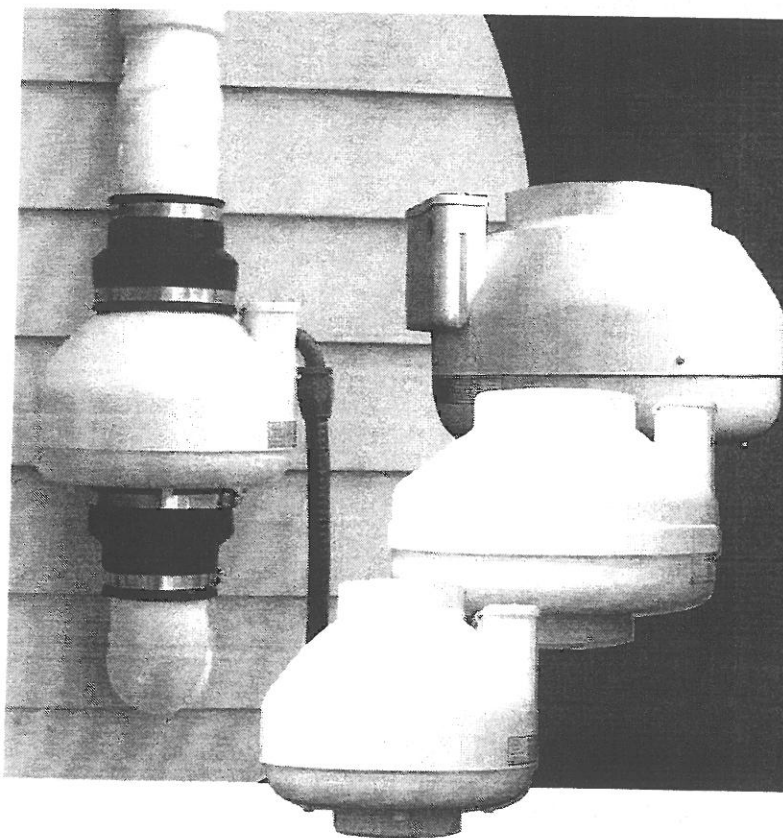
Attachment  
cc: Deborah Thompson

### Radon Mitigation Fans

All RadonAway fans are specifically designed for radon mitigation. RP Series Fans provide superb performance, run ultra-quiet and are attractive. They are ideal for most sub-slab radon mitigation systems.

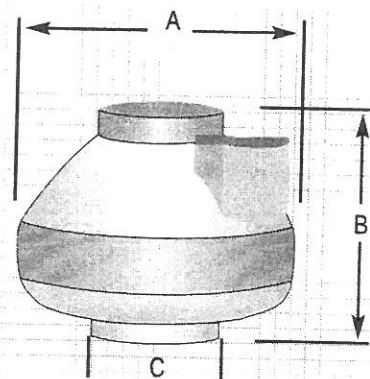
#### Features:

- ♦ Five-year hassle-free warranty
- ♦ Quiet and attractive
- ♦ Thermally protected
- ♦ Motorized impeller
- ♦ ETL Listed - for indoor or outdoor use
- ♦ Meets all electrical code requirements
- ♦ Rated for commercial and residential use



Model	Watts	Max. Pressure WC	Typical CFM vs. Static Pressure WC					A"	B"	C"
			0"	.5"	1.0"	1.5"	2.0"			
RP140	14-20	0.8	134	68	-	-	-	9.7	7.9	4
RP145	37-71	2.1	173	132	94	55	11	9.7	7.9	4
RP260	52-72	1.8	275	180	105	20	-	11.8	9.9	6
RP265	86-140	2.5	327	260	207	139	57	11.8	9.9	6
RP380	103-156	2.3	510	393	268	165	35	13.41	10.53	8

Choice of model is dependent on building characteristics including sub-slab materials and should be made by a radon professional.



**For Further Information Contact:**

## RP SERIES PRODUCT SPECIFICATIONS

The following chart shows fan performance for the RP Series Fan:

Typical CFM Vs Static Pressure "WC									
	0"	.25"	.5"	.75"	1.0"	1.25"	1.5"	1.75"	2.0"
RP140	135	103	70	14	-	-	-	-	-
RP145	166	146	126	104	82	61	41	21	3
RP260	272	220	176	138	103	57	13	-	-
RP265	334	291	217	218	176	142	116	87	52
RP380*	497	401	353	281	220	176	130	80	38

\* Tested with 6" inlet and discharge pipe.

Power Consumption 120 VAC, 60Hz 1.5 Amp Maximum			Maximum Recommended Operating Pressure* (Sea Level Operation)**	
RP140	17 - 21	watts	RP140	0.8" W.C.
RP145	41 - 72	watts	RP145	1.7" W.C.
RP260	52 - 72	watts	RP260	1.5" W.C.
RP265	91 - 129	watts	RP265	2.2" W.C.
RP380	95 - 152	watts	RP380	2.0" W.C.

\*Reduce by 10% for High Temperature Operation

\*\*Reduce by 4% per 1000 feet of altitude

	Size	Weight	Inlet/Outlet
RP140	8.5H" x 9.7" Dia.	5.5 lbs.	4.5" OD (4.0" PVC Sched 40 size compatible)
RP145	8.5H" x 9.7" Dia.	5.5 lbs.	4.5" OD (4.0" PVC Sched 40 size compatible)
RP155	8.5H" x 9.7" Dia.	5.5 lbs.	5.0" OD
RP260	8.6H" x 11.75" Dia.	5.5 lbs.	6.0" OD
RP265	8.6H" x 11.75" Dia.	6.5 lbs.	6.0" OD
RP380	10.53H" x 13.41" Dia.	11.5 lbs.	8.0" OD

**Recommended ducting:** 3" or 4" RP1xx/2xx, 6" RP380, Schedule 20/40 PVC Pipe

**Mounting:** Mount on the duct pipe or with optional mounting bracket.

**Storage temperature range:** 32 - 100 degrees F.

**Normal operating temperature range:** -20 - 120 degrees F.

**Maximum inlet air temperature:** 80 degrees F.

**Continuous Duty**

**Class B Insulation**

**Thermally protected**

**3000 RPM**

**Rated for Indoor or Outdoor Use**

LISTED  
Electric Fan



Tested to  
UL  
Std. 507



**ANNUAL INSPECTION CHECKLIST  
SUB-SLAB DEPRESSURIZATION SYSTEM**

**CVS PHARMACY  
WASHINGTON AVENUE AND SCHWENK DRIVE  
KINGSTON, NEW YORK**

**Date of inspection:** \_\_\_\_\_ **Time of inspection:** \_\_\_\_\_ to \_\_\_\_\_

**Inspector(s):** \_\_\_\_\_

**Make and Model of Fan** \_\_\_\_\_

<b>System Pressures</b>	<b>(Inches)</b>
Observed Vacuum Pressure	
Commissioned Vacuum Pressure	0.5
Difference	

For details of the sub-slab depressurization system (SSDS), see the following reports:

- Final Engineering Report, Utility Platers/Kingston Diagnostics, NYSDEC Site Number: C35603, prepared by DT Consulting Services, Inc. and dated August 2010
- Design Report, sub-slab depressurization system, CVS Pharmacy Washington Avenue/Schwenk Drive prepared by Brinnier and Larios, P.C. and dated September 2009
- SSDS Amendment No. 1 prepared by Brinnier and Larios, P.C. and dated March 19, 2010.

<b>1.0</b>	<b><u>Operation and Monitor Inspection</u></b>	<b><u>YES</u></b>	<b><u>NO</u></b>	<b><u>COMMENTS</u></b>
1.1	Is the fan in continuous operation?	_____	_____	_____
1.2	Is the electrical service indicator light functioning properly?	_____	_____	_____
1.3	Is the U-Tube Monitor functioning properly?	_____	_____	_____
1.4	Is the monthly U-Tube Manometer Reading Log up to date, signed and dated?	_____	_____	_____
1.5	Have any required corrective actions from the previous inspection(s) and system discharge been properly completed?	_____	_____	_____
<b>2.0</b>	<b><u>Piping and Inspection</u></b>			
2.1	Are all visible pipes, joints and connections solid, sealed and air-tight?	_____	_____	_____

		<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
2.2	Are all pipe supports functioning properly?	_____	_____	_____
2.3	Are there any sags in the piping which could trap condensation?	_____	_____	_____
2.4	Is the vent piping in proper condition and unobstructed?	_____	_____	_____
2.5	Is the vent discharge piping discharge in the direct line of sight from openings into any of the buildings ventilation systems?	_____	_____	_____
<b>3.0</b>	<b><u>Sealing Inspection</u></b>			
3.1	Is the opening(s) around the suction point piping penetration of the slab properly sealed?	_____	_____	_____
3.2	Inspect the floor sub throughout the building for cracks or penetrations. Are there any cracks or penetrations found in the floor of the slab?	_____	_____	_____
3.3	Inspect the foundation wall. Are there any openings or cracks where the slab meets the foundation wall?	_____	_____	_____
3.4	Inspect utility or other penetrations through the floor slab. Are these slab penetrations properly sealed?	_____	_____	_____
<b>4.0</b>	<b><u>Notes and Comments</u></b>			

**5.0 Required Corrective Actions**