

**SOUTH TROY INDUSTRIAL PARK SITE  
(PARCELS 2 & 3)**

**CITY OF TROY, RENSSELAER COUNTY, NEW YORK**

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**Site Management Plan**

**NYSDEC Site Number: B00163  
C.T. Male Associates Project Number 07.7549**

**Prepared for:**

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

Revision #	Submitted Date	Summary of Revision	DEC Approval Date

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**JANUARY 2016**

CERTIFICATION STATEMENT  
SOUTH TROY INDUSTRIAL PARK  
PARCELS 2 & 3

I JEFFREY A. MARX, P.E. certify that I am currently a NYS registered professional as in 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 the DER Technical Guidance for Site Investigation and Remediation (DER-10).



Jeffrey A. Marx P.E.

2/23/2016 DATE

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

### **1.1 INTRODUCTION**

This document is required as an element of the remedial program at the South Troy Industrial Park (STIP) under the New York State (NYS) Environmental Restoration Program (ERP), administered by New York State Department of Environmental Conservation (NYSDEC). The STIP Site was remediated in accordance with State Assistance Contract (SAC) #C302575, which was executed on February 25, 2005, and amended on November 2, 2005 (Amendment #1), May 3, 2006 (Amendment #2), December 5, 2007 (Amendment #3), April 14, 2011 (Amendment #4) and January 2013 (No Cost Time Extension).

The STIP Site as investigated and remediated under the above SAC is made up of three (3) noncontiguous parcels identified as Parcel 1, Parcel 2 and Parcel 3 for the purpose of site investigation and remediation. Each of the parcels contains different contaminant characteristics and was assigned as a separate area of concern in the March 2006 NYSDEC Record of Decision. This SMP, however, is specific to Parcel 2 and Parcel 3, (hereinafter the “Site”), as these parcels are unified by one deed.

#### **1.1.1 General**

The Rensselaer County Industrial Development Agency and Department of Engineering and Highways entered into a SAC with the NYSDEC to remediate a 4.16 acre property (Parcels 2 and 3) located in the City of Troy, Rensselaer County, New York. This SAC required the Remedial Party, the Rensselaer County Industrial Development Agency and the Department of Engineering and Highways, to investigate and remediate contaminated media at the Site. A map showing the location and boundaries of this 4.16-acre “area subject to this plan” is provided in Figure 1. The

boundaries of the Site are more fully described in the Metes and Bounds site description, and provided as Appendix B.

After completion of the remedial work described in the Remedial Design Work Plan, contamination remained in the subsurface at this Site, which is hereafter referred to as “remaining contamination”. This Site Management Plan (SMP) was prepared to manage the remaining contamination at the Site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. 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 C.T. Male Associates Engineering, Surveying, Architecture & Landscape Architecture, D.P.C. (C.T. Male Associates), on behalf of the Rensselaer County Industrial Development Agency (RCIDA) and Department of Engineering and Highways, 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 contamination in soil and/or fill material which was allowed to remain in place 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 Rensselaer 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 for contamination that remains at the Site. 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 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) operation and maintenance of any remedial systems; and (3) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports.

To address these NYSDEC Requirements, this SMP includes three plans: (1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs; (2) a Monitoring Plan for monitoring the conditions and effectiveness of the surface cover system; and (3) an Operation and Maintenance Plan.

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, 6 NYCRR Part 375 and the SAC (Site #C302575) 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 Troy, Rensselaer County, New York and is identified as Block 1 and Lot 3 on the Rensselaer County Tax Map 111.59. The Site is an approximately 4.16-acre area bounded by Main Street, the Rensselaer County Jail and King Service, Inc, (the Alamo) to the north, the former Sperry Warehouse and Callanan Industries to the south, the Conrail railroad tracks and commercial development to the east, and Callanan Industries vacant land 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**

The STIP Site was used as farmland until 1862, when it began to be developed as the Lower Works of the Burden Iron Works. The STIP Site was originally a low-lying element of the Hudson River flood plain, and was filled with iron manufacturing wastes to raise its elevation. These wastes included slag, ash and cinders, as well as rubble from building demolition and structure fires in the City of Troy.

Historical documents indicate that Parcel 2 primarily contained the rolling mill, but also at least one small gas producer house, which may be associated with manufactured gas plant wastes. A second small gas producer house was historically present along the boundary of Parcel 2 and the former Sperry Warehouse. Beginning in the 1920's, iron production was phased out, and the Republic Steel Corporation began to operate the blast furnaces at the Lower Works. Republic Steel eventually acquired the Site in 1940, and continued steel manufacturing until 1972. The northeast corner of Parcel 2 is also crossed by petroleum supply pipelines that historically delivered fuel oil from an off-site barge offloading facility to storage tanks at the adjacent property (“the Alamo”).

Several investigations have been conducted at the STIP Site as a whole (Parcels 1, 2 and 3) and neighboring properties since 1986. In 1986 a subsurface investigation was conducted to characterize geotechnical and environmental conditions at the STIP site,

inclusive of Parcel 2. Four (4) test borings were performed on Parcel 2, and two of these were converted to groundwater monitoring wells. Metals were found to exceed their cleanup guidelines in two of the wells not located on Parcel 2.

In 1990 an Environmental Site Assessment was performed at the STIP site (Parcels 1, 2 and 3). Four (4) test borings, seven (7) monitoring wells, and 35 (35) test pits were performed at several parcels along East Industrial Parkway. During this investigation, low levels of benzene were detected and field evidence of petroleum contamination was found.

### **1.2.3 Geologic Conditions**

Surficial geology in the vicinity of the Site is mapped as recent alluvium deposits, consisting of fine sand to gravel, which is generally confined to floodplains within a valley. In larger valleys, the sand and gravel may be overlain by silt. Based on the findings of the Remedial Investigation (RI), native soils beneath overlying fill materials consist primarily of silts with varying percentages of sand and clay over sand and gravel.

Bedrock in the vicinity of the Site is mapped in the category of the Trenton Group, consisting of shale and minor mudstone and sandstone. Bedrock was not encountered during subsurface investigations conducted of the Site. However, shale bedrock was encountered during previous Site investigations conducted to the north of the Site at depths ranging from 35 feet to 59 feet below ground surface.

Fill material at the Site extends in depth from four (4) to 16 feet below ground surface. The fill material consists primarily of ash, cinder, sand, gravel, and a lesser degree of slag. Slag was found beneath the portions of Parcel 2 closest to the Hudson River. Native soils underlying the fill material are comprised predominantly of silts, with varying percentages of clay, overlying sand and gravel deposits. Shallow groundwater was encountered above the silt layer, while deep groundwater was encountered within a sand and gravel layer beneath the silt layer. The thickness of fill increases in the central portions of Parcel 2 and forms a trough-like feature within the silt layer, as depicted on Figure 2.

Generally, regional groundwater flows in a westerly direction towards the Hudson River. Shallow groundwater flow beneath Parcel 2 appears to follow the topography of the silt layer and converges in a narrow trough area on the central portion of the parcel. Deep groundwater flow beneath Parcel 2 is towards the northwest, where it eventually changes direction and proceeds in a westerly direction towards the Hudson River. Shallow and Deep Groundwater Contour Maps from groundwater levels obtained on November 14, 2005 are presented as Figures 3 and 4, respectively.

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

A 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:

- Remedial Investigation/Alternatives Analysis Report, South Troy Industrial Park, prepared by C.T. Male Associates, dated February 2006.

Generally, the RI determined that contamination was present in the surface soils and subsurface at this Site, primarily within the fill materials and native soils. The contamination was primarily volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals.

A summary of Site conditions when the RI was performed from 2004 to 2006 is presented in the following sections.

#### **1.3.1 Soil**

The highest levels of SVOCs in surface soil were found in Surface Soil #17, which is located in the eastern portion of Parcel 2, approximately 50 feet west of the exposed petroleum pipeline pipe pit. Although surface soil in this area did not show visual evidence of petroleum contamination, the analytical results indicate that surface soil has been impacted by SVOCs and the metal arsenic. One SVOC was detected at Surface Soil #20, located on the southwestern portion of the Site.

Subsurface fill material beneath Parcel 2 ranges from four (4) to 16 feet thick, and contains similar levels of the contaminants found throughout the Site. The estimated

volume of fill material beneath Parcel 2 is 64,400 cubic yards. Test pits and soil borings near and next to the abandoned petroleum pipeline did not reveal any evidence of petroleum contamination. The metal arsenic was detected above its SCG at two locations on southwestern portions of the Site.

Figure 6 depicts the locations and concentration ranges for surface and subsurface soil samples that exceeded Standards, Criteria and Guidance (SCGs) for restricted commercial use sites. It should be noted that the location of the soils and fill that exceeded SCGs may have changed by implementation of the remedy involved grading of the existing soils and fill.

### **1.3.2 On-Site and Off-Site Groundwater**

The VOCs benzene, ethyl-benzene, isopropyl-benzene and methylene chloride were detected above groundwater standards at monitoring wells MW-3 (ESI), CTM-208 and CTM-214. Three metals were detected above groundwater standards at monitoring well MW-3 (ESI).

Monitoring well CTM-214 is downgradient of the former Sperry Warehouse, which has been identified as a potential source of petroleum contamination. The VOC methylene-chloride, detected at monitoring well CTM-208, was not found in any other wells at the Site.

Groundwater beneath Parcel 2 generally contained elevated levels of iron and manganese in nearly all of the samples collected.

Figure 6 depicts the locations and concentration ranges for groundwater samples that exceeded regulatory groundwater standards.

### **1.3.3 On-Site and Off-Site Soil Vapor**

A soil vapor intrusion survey was not conducted on the Site during the RI.

#### **1.3.4 Underground Storage Tanks**

There were no Underground Storage Tanks (USTs) identified on the Site during the RI and remedial action implementation.

#### **1.3.5 Underground Structures**

There was one underground structure identified at the Site during the RI, and was referred to as a concrete chase-way. There was one other underground structure of unknown use, and buried concrete foundations identified during the grading activities during the remedial action. The following paragraphs provide further information.

The concrete chase-way was constructed of poured in-place concrete walls and floor with pre-fabricated top sections for segmented removal/access to the pipes it contained. The chase-way was about six feet wide, two to three feet deep and approximately 154 feet long. The pipes were emptied, cleaned and removed. The chase-way was removed; crushed to less than six inches in maximum aggregate size; and disposed of on-site, on the west side of the Site's bisecting road toward the north end of the Site. The location of the former chase-way is shown on Figure 5.

On the west side of the Site, running parallel to a portion of the Site's bisecting road was a sub-grade vault with what appeared to contain rollers mounted to the sides of the vault. The vault was about three feet wide, five feet deep, and covered with one-inch steel plates. The vault was about 40 feet long and had three sets of rollers. It is assumed that this vault was once used for transferring steel from one part of the Site to another. The vault was constructed of brick/mortar, and was filled in as part of the remedial action.

Various concrete foundations were left in-place as two were encountered when grading the drainage swale around the north side of the Site (west side). Portions of the top of these foundations were removed with a hoe ram to allow the drainage swale to be constructed at the target elevations.

## **1.4 SUMMARY OF REMEDIAL ACTIONS**

The Site was remediated in accordance with the NYSDEC-approved Remedial Design Work Plan, dated December 20, 2007 and revised February 11, 2008, and the Remedial Action Plans and Specifications dated January 2009.

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

1. Removal and on-site disposal of concrete chase-way. Empty, clean and off-site disposal of piping within the chase-way and contents of the pipes. Excavation and off-site disposal of petroleum impacted soils encountered near the north end of the chase-way;
2. Construction and maintenance of a cover system consisting of soil underlain by a demarcation fabric, and concrete or asphalt pavement to prevent human exposure to contaminated soil/fill remaining at the Site;
3. Execution and recording of an Environmental Easement to restrict land use and prevent future exposure to contamination remaining at the Site; and
4. 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 and (4) reporting.

Remedial activities for Parcels 2 & 3 were started in 2009. Remedial activities attained substantial completion in 2010, and final completion in June 2012.

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

Upon removal of the concrete chase-way described in Section 1.3.5, contaminated materials that were not identified during the RI were discovered at the north end of the chase-way at the limits of the property boundaries, as shown on Figure 5.

Approximately 112.61 tons of petroleum contaminated soils were excavated and disposed of off-site. Confirmatory post-excavation soil samples were collected and

analyzed for volatile and semi-volatile organic compounds. The analytical results were compared to restricted commercial use SCOs. The concentrations of the compounds detected above laboratory detection limits were below their respective SCOs.

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

No long-term treatment systems were installed as part of the Site remedy.

#### **1.4.3 Remaining Contamination**

Remaining contamination at the Site consists of volatile organic compounds, semi-volatile organic compounds and metal impacted soil/fill, and volatile organic compounds and metals (specifically iron and manganese) impacted groundwater. The thickness of the fill materials, where impacts were detected, is on the order of three (3) to fifteen (15) feet deep beneath the cover system. Regardless, all fill soils and native soils beneath the cover system are to be considered contaminated unless sampling is performed to document otherwise. A black filter fabric demarcation layer is located between the cover system and existing site soil and/or native soils to shown the start of the remaining contamination. The demarcation layer is generally 12 inches below grade. Refer to the Excavation Work Plan (Appendix A) requirements for guidance for disturbance and handling.

Remaining contamination at the ground surface within a 12' by 15' chain link fenced-in area controlled by the telephone company may be left as is. This area is located in the northeast portion of the Site, as shown in Figure 8.

Utilizing data collected as part of the RI, figures showing locations of remaining contamination were prepared. Figure 6 depicts the locations of remaining contaminants in soils and groundwater at concentrations exceeding SCGs for restricted commercial use. Figure 7 depicts the locations of remaining contaminants in soils at concentrations exceeding SCOs for unrestricted use.

Listed below are those primary contaminants of concern (COC) that remain in soil and/or groundwater above SCGs for restricted commercial use:



Arsenic	Chromium	Copper
Iron	Manganese	Sodium
Benzene	Ethylbenzene	Methylene Chloride
Isopropyltoluene	Benzo(a)anthracene	Benzo(b)fluoranthene
Benzo(a)pyrene	Dibenzo(a,h)anthracene	

## **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 period review;
- A description of plans and procedures to be followed for implementation of EC/ICs, such as the implementation of an 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 Surface Cover System**

Exposure to remaining contamination in soil and/or fill at the Site is prevented by a surface cover system placed over the Site except for the special conditions described in Section 2.2.1.2. The cover system is comprised of a minimum of twelve (12) inches of clean soil or eight (8) inches of gravel subbase/four (4) inches of asphalt pavement. The Excavation Work Plan that appears in Appendix A of this SMP 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 the cover system are provided in the Monitoring Plan included in Section 3 of this SMP.

#### **2.2.1.2 Special Condition – Detention Basins**

After installation of the three (3) detention basins it became apparent that in frozen ground conditions, a significant quantity of stormwater was retained in the detention basin and upon ground thaw took an extended period of time to drain, where the other detention basins drained adequately under similar conditions. The drainage improvements as approved by NYSDEC included removal of the clean surface cover soil and demarcation fabric within the footprint of the basins and replacement with construction fencing as a demarcation layer, covered by four (4) inches of a Type 1B crushed stone and four (4) inches of concrete sand. These materials were more conducive to proper drainage and filtration, and long term maintenance of the basins.

### **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 6.6 of NYSDEC DER-10.

#### 2.2.2.1 Surface Cover System

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

### **2.3 INSTITUTIONAL CONTROLS**

A series of Institutional Controls is required by the ROD 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 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;
- Engineering Controls must be operated and maintained as specified in this SMP;
- Engineering Controls must be inspected at a frequency and in a manner defined in the SMP; and
- Data and information pertinent to Site Management for the Controlled Property must be reported at the frequency and in a manner defined in this SMP;

Institutional Controls 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 commercial or industrial use provided that the long-term Engineering and Institutional Controls included in this SMP are employed.

- The property may not be used for unrestricted and restricted residential use without additional remediation and amendment of the Environmental Easement, as approved by NYSDEC.
- Vegetable gardens and farming on the property are prohibited;
- The use of the groundwater underlying the property is prohibited without treatment rendering it safe for the intended purpose;
- Future activities on the property that will disturb remaining contaminated material must be conducted in accordance with this SMP and with implementation of the CAMP during ground intrusive activities that are anticipated to penetrate into the contaminated zone below the site cover system;
- The potential for vapor intrusion must be evaluated for any buildings developed on the Site, and any potential impacts that are identified must be monitored or mitigated;
- 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 the 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 commercial 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. Prior to the commencement of any intrusive work, the contractor shall prepare for DEC approval, a HASP and CAMP that are in current compliance with DER-10, and 29 CFR 1910, 29 CFR 1926, and all other applicable Federal, State and local regulations. The HASP and CAMP will be 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, a soil vapor intrusion (SVI) evaluation will be performed to determine whether any mitigation measures are necessary to eliminate potential exposure to volatile organic vapors in the proposed structure. Alternatively, an SVI mitigation system will 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. Any sub-slab depressurization system that is implemented during the building construction must

be shown to be effective before occupation of the structure in accordance with NYSDOH guidance documents and/or as specified in the NYSDOH approved work plan.

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 and analytical 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. Validated SVI data will be transmitted to the property owner within 30 days of validation.

SVI sampling results, evaluations, and follow-up actions will be summarized in the 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 and the 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:

- Engineering Controls continue to perform as designed;
- Engineering Controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- and

- Site records are complete and up to date.

Site inspections will be conducted in accordance with the procedures set forth in the Monitoring Plan of this SMP (Section 3), using the Site-Wide Inspection Form included in Appendix C. The reporting requirements are outlined in the Site Management Reporting 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 for the following reasons:

- Written 60-day advance notice of proposed changes in Site use that are required under the terms of the State Assistance Contract (SAC), 6 NYCRR Part 375, and/or Environmental Conservation Law.
- Written 7-day advance notice of any proposed ground-intrusive activities, pursuant to the Excavation Work Plan.
- Written 48-hour notice of 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 seven (7) days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.



- Within 45 days of actions taken to respond to any emergency event requiring ongoing responsive action, submit status reports to 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 State Assistance Contract and NYSDEC 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.

Buried drums and underground storage tanks at the subject Site have not been identified nor are expected to be present. If drums or tanks are found, excavation activities must cease and the Site owner and/or remedial party, and NYSDEC will be notified within two hours of discovery. The drums and tanks shall be handled, removed and cleaned by appropriately trained personnel in accordance with all applicable federal, state and local regulations. Soils surrounding the tanks and drums shall be assessed for impacts in accordance with applicable NYSDEC guidance and regulation documents (i.e., PBS, Part 375, CP-51, etc.).

### **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), or remedial party, 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 a qualified environmental professional. These emergency contact lists must be maintained in an easily accessible location at the Site.

**Table 2.5.1-1: Emergency Contact Numbers \***

Medical, Fire, and Police:	911
One Call Center (At least 2 days notice prior to excavation, but no more than 10 days notice):	811
Poison Control Center:	(800) 222-1222
National Response Center (for reporting oil, chemical, radiological, biological and etiological discharges into the environment anywhere in the United States):	(800) 424-8802
NYSDEC Spills Hotline (report petroleum spill incident within two hours of discovery):	(800) 457-7362

**Table 2.5.1-2: Contact Numbers**

Property Owner: Rensselaer County Industrial Development Agency (RCIDA) Jack Bonesteel – Deputy Director	jbonesteel@rensco.com	(518) 270-2914
NYSDEC: Ian Beilby	iabeilby@gw.dec.state.ny.us	(518) 402-9767
Qualified Environmental Professional C.T. Male Associates Kirk Moline or Jeffrey A. Marx, PE	k.moline@ctmale.com j.marx@ctmale.com	(518) 786-7400

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

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

Site Location: South Troy Industrial Park  
East Industrial Boulevard  
Troy, New York

Nearest Hospital Name: Samaritan Hospital

Hospital Location: 2215 Burdett Avenue  
Troy, New York 12180

Hospital Telephone: (518) 271-3424

Directions to the Hospital:

1. Go east on Main Street
2. Turn left at 4<sup>th</sup> Street
3. Turn right on Ferry Street
4. Continue onto Congress Street
5. Turn left at 15<sup>th</sup> Street
6. Turn right at Eagle Street

Total Distance: 3.2 miles

Total Estimated Time: 8 minutes

A Map showing the route to Samaritan Hospital is presented in Appendix D.

### **2.5.3 Response Procedures**

As appropriate, the fire department and other emergency response group shall be notified immediately by telephone of the emergency. The emergency telephone number list is found at the beginning of this Contingency Plan (Table 2.5.1-1). Petroleum spills must be reported to NYSDEC unless they meet all of the following criteria:

- The spill quantity is known to be less than 5 gallons; and
- The spill is contained and under the control of the spiller; and
- The spill has not and will not reach the State's water or any land; and
- The spill is cleaned up within 2 hours of discovery.

A spill is considered to have not impacted land if it occurs on a paved surface such as asphalt or concrete. A spill in a dirt or gravel parking lot is considered to have impacted land and is reportable.

#### **2.5.4 Erosion of Cover Materials**

When erosion of cover materials is observed, the Owner will be notified of this condition and this area will be closely monitored for further breakdown. If after a short period of time no further erosion is observed no action will be taken other to watch for further breakdown. If continued erosion is apparent, corrective measures shall be taken to restore the cover materials to their original design condition.

#### **2.5.5 Discovery of Previously Unauthorized Ground Intrusive Activities**

Discovery of previously unauthorized ground intrusive activities will include scarring of the ground surface, ruts or tire tracks and lack of established surface vegetation. Upon discovery, the Owner will be notified. Interviews with site occupants shall be performed to identify the cause of the ground intrusive activities. If applicable, the ground intrusive activities shall be repaired to bring the cover materials back to their original design condition.

#### **2.5.6 Poorly Draining Stormwater Basins**

If storm water is observed draining poorly from the basins, maintenance of the basins may be required. The Owner may need to consult with a design professional to evaluate the cause of the poorly draining basin. Routine maintenance of the basins should be performed to keep the basins adequately draining.

**2.5.7 Damaged or Missing Fences**

There is only a small fenced-in area around utilities controlled by the telephone company. If observation identifies damaged or missing fences that no longer mitigate access to the remaining contamination inside the fence, the telephone company or other applicable entity shall be contacted and notified that repairs need to be made.

## **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 remedy to control remaining contamination at the Site, and to document the condition of the cover system. 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:

- Evaluating Site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment;
- Reporting requirements; and
- Annual inspection and periodic certification.

Annual monitoring of the performance of the remedy will be conducted for the first three years after installation of the cover system. The frequency thereafter may be reduced, but will be determined by NYSDEC.

### **3.2 COVER SYSTEM MONITORING**

The cover system monitoring will consist of Site visit, traversing the entire Site and observing for a visual breakdown of the vegetative soil cover or asphalt paved surface resulting from erosion by natural elements such as wind and water. Conditions such as stressed vegetation, animal burrows, pavement cracking/heaving/patching, and exposure of demarcation fabric would be the focus of the Site visit. Surface drainage features and steep slopes should also be viewed for erosion or other manmade alterations (utility repair and installation) causing surface condition compromise. Photographs

documenting the conditions at composite cover system are required for reporting. The cover system monitoring will be performed by a Qualified Environmental Professional approved by NYSDEC. The cover system types installed at the Site are identified in Figure 7. A complete list of components to be observed is provided in the Site-Wide Inspection Form, presented in Appendix C.

### **3.3 SITE-WIDE INSPECTION**

Site-wide inspections will be performed on a regular schedule at a minimum of once a year. Site-wide inspections should also be performed after severe weather conditions that may affect Engineering Controls. During these inspections, an inspection form will be completed (blank forms provide in Appendix C). 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; and
- Confirm that Site records are up to date.

### **3.4 MONITORING REPORTING REQUIREMENTS**

Forms and any other information generated during regular monitoring events and inspections will be kept on file and made available for NYSDEC and NYSDOH inspection. 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 Section 5.3.

All engineering system monitoring results will be reported to NYSDEC on an annual basis in the Periodic Review Report.

## **4.0 OPERATION AND MAINTENANCE PLAN**

### **4.1 INTRODUCTION**

The Site remedy does not currently rely on any mechanical systems, such as active sub-slab depressurization systems or air sparge/ soil vapor extraction systems to protect public health and the environment. Therefore, the operation and maintenance of such components is not included in this SMP.



## **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 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 treatment system 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 Forms, Sampling Data, and Maintenance Reports**

All inspections and monitoring events will be recorded on the appropriate forms which are contained in Appendix C. Additionally, a general site-wide inspection form will be completed during the site-wide inspection (See Appendix C for blank forms). These forms are subject to NYSDEC revision.

Applicable site inspection forms and other records 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;
- The Site remedy continues to be protective of public health and the environment and is performing as designed in the RD and FER.

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

After the last inspection of the reporting period, a Qualified Environmental Professional (QEP), as defined in NYSDEC DER-10, 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;
- Use of the Site is compliant with the environmental easement;
- The engineering control systems are performing as designed and are effective;
- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the Site remedial program and generally accepted engineering practices; and
- The information presented in this report is accurate and complete.
- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of

[business address], am certifying as [Owner or Owner's Designated Site Representative] 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 three years, 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. 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 if applicable, severe condition inspections;
- All applicable inspections forms and other records generated for the Site during the reporting period in electronic format;
- A Site evaluation, which includes the following:
  - The compliance of the remedy with the requirements of the site-specific RD, ROD or Decision Document;
  - Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and
  - The overall performance and effectiveness of the remedy.

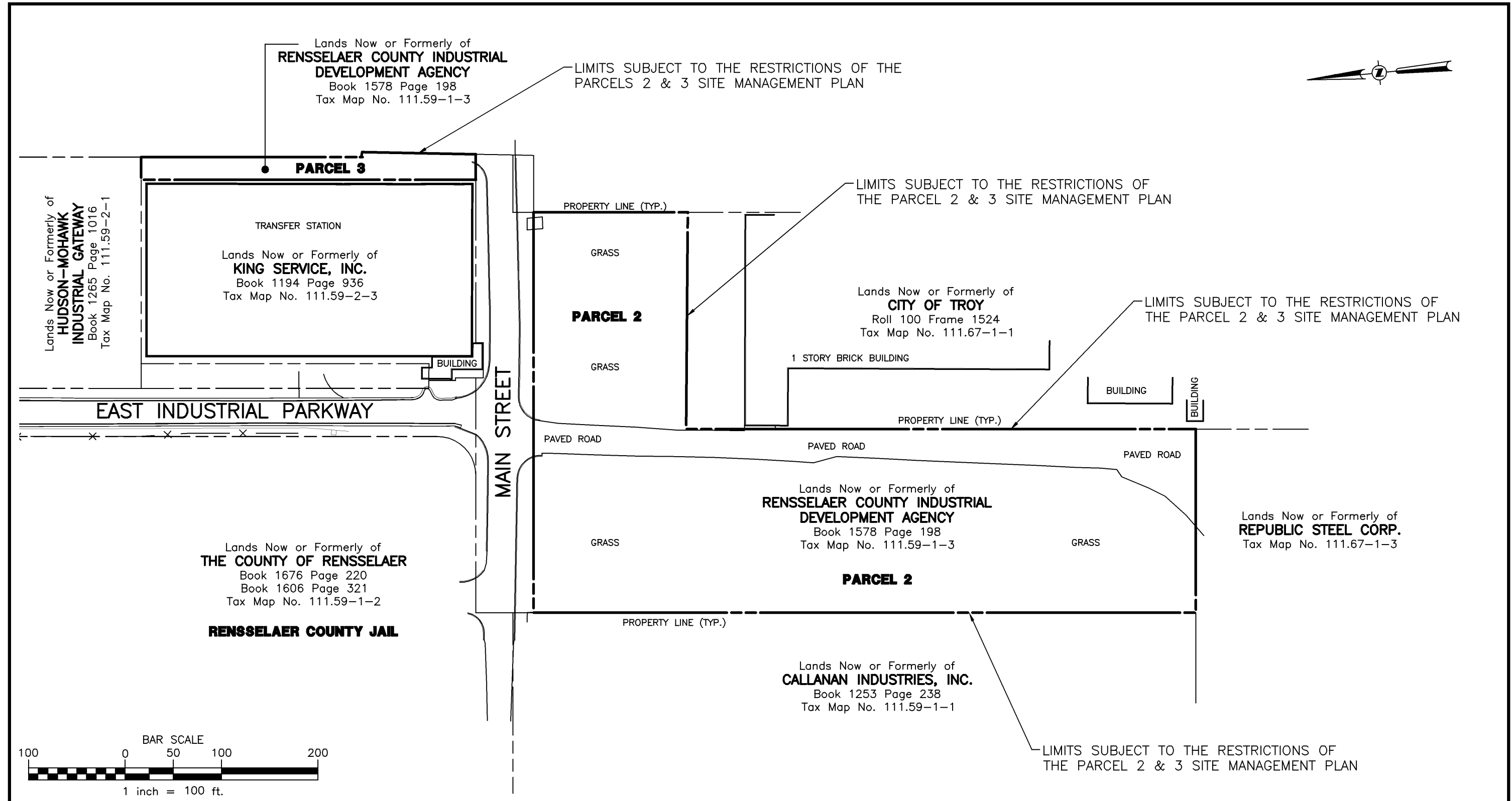
The Periodic Review Report will be submitted, in hard-copy format, to the NYSDEC Central Office, and in electronic format to NYSDEC Central Office, Regional Office and the NYSDOH Bureau of Environmental Exposure Investigation.

#### **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**

**FIGURE 1:**  
**SITE LOCATION MAP**



CAD DWG. FILE NAME: 10-0564-1 SITE LOCATION.DWG

NOTE:  
1.) THE LOCATIONS AND FEATURES  
DEPICTED ON THIS MAP ARE  
APPROXIMATE AND DO NOT REPRESENT  
AN ACTUAL FIELD SURVEY.

MAP REFERENCE:  
1.) BOUNDARY SURVEY PREPARED BY  
C.T. MALE ASSOCIATES, P.C., DWG.  
NO.: 05-104, DATED NOV. 30, 2004.

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DATE : OCT. 1, 2010

### FIGURE 1

## PARCELS 2 & 3 SITE LOCATION

### SOUTH TROY INDUSTRIAL PARK ENVIRONMENTAL RESTORATION PROGRAM

CITY OF TROY

RENSSELAER COUNTY, NEW YORK

### C.T. MALE ASSOCIATES, P.C.

50 CENTURY HILL DRIVE, LATHAM, NY 12110  
518.786.7400 \* FAX 518.786.7299

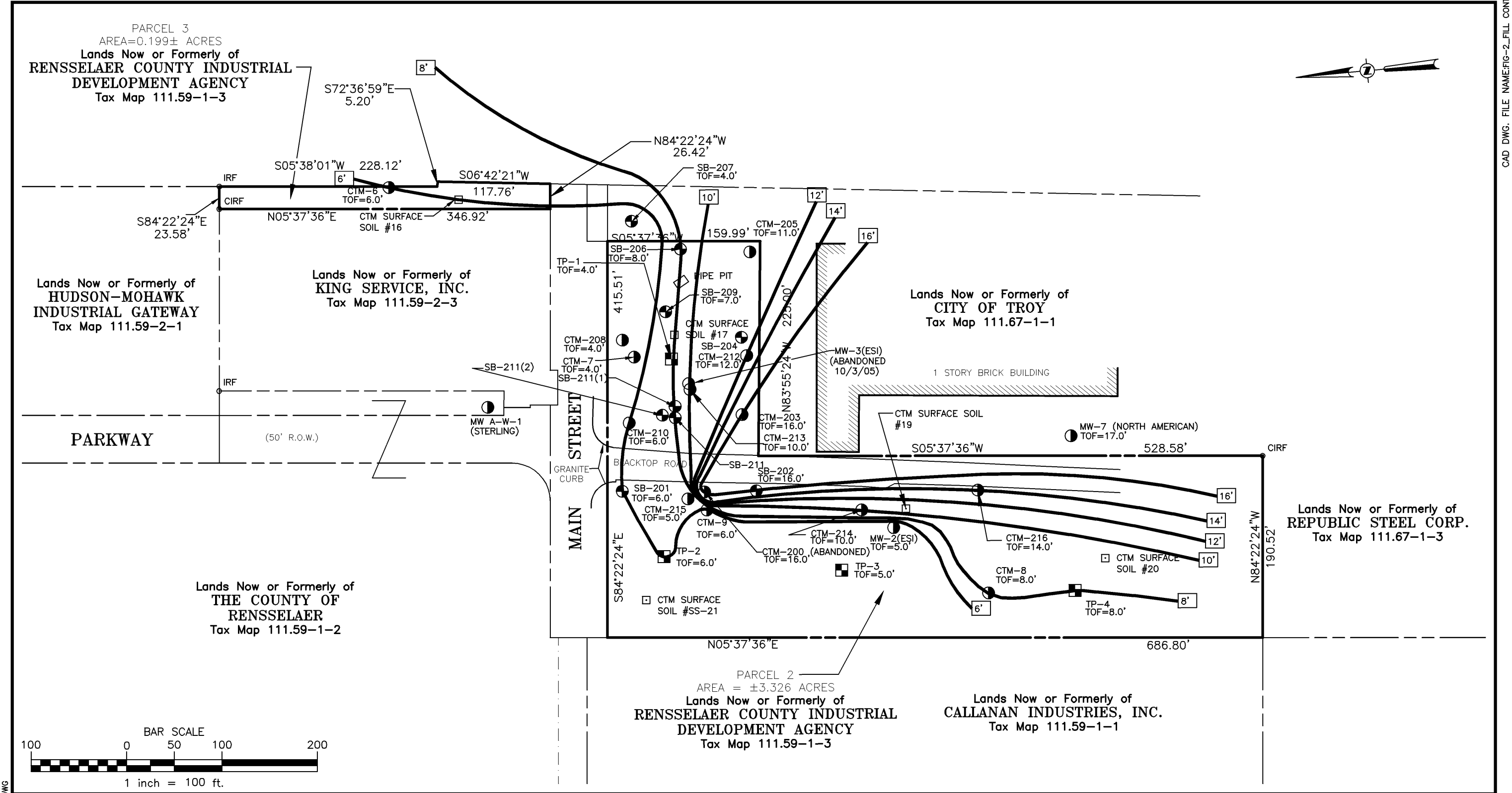
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SHEET 1 OF 8

DWG. NO: 10-0564

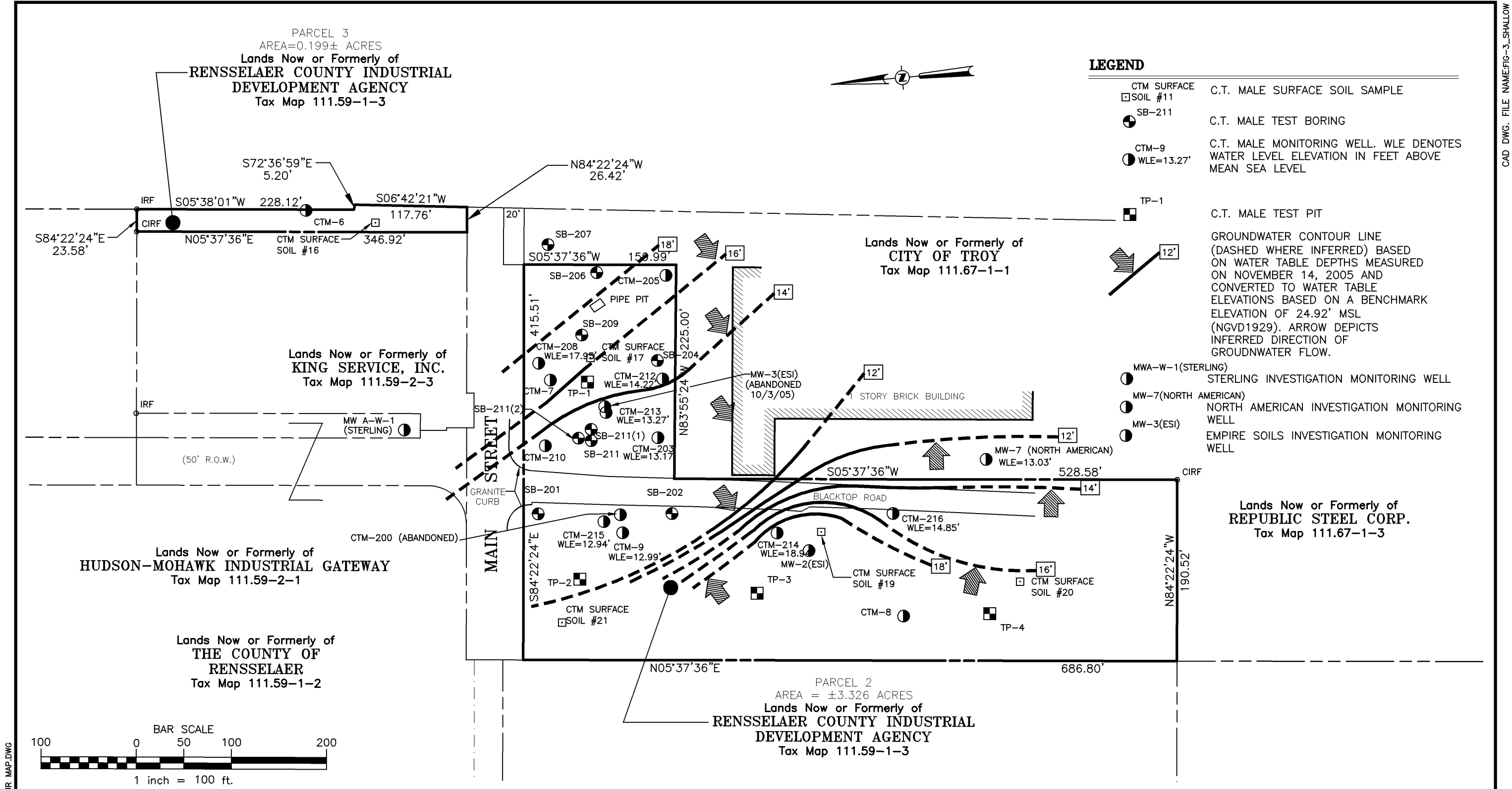
**FIGURE 2:**  
**THICKNESS OF FILL COUNTOUR MAP**



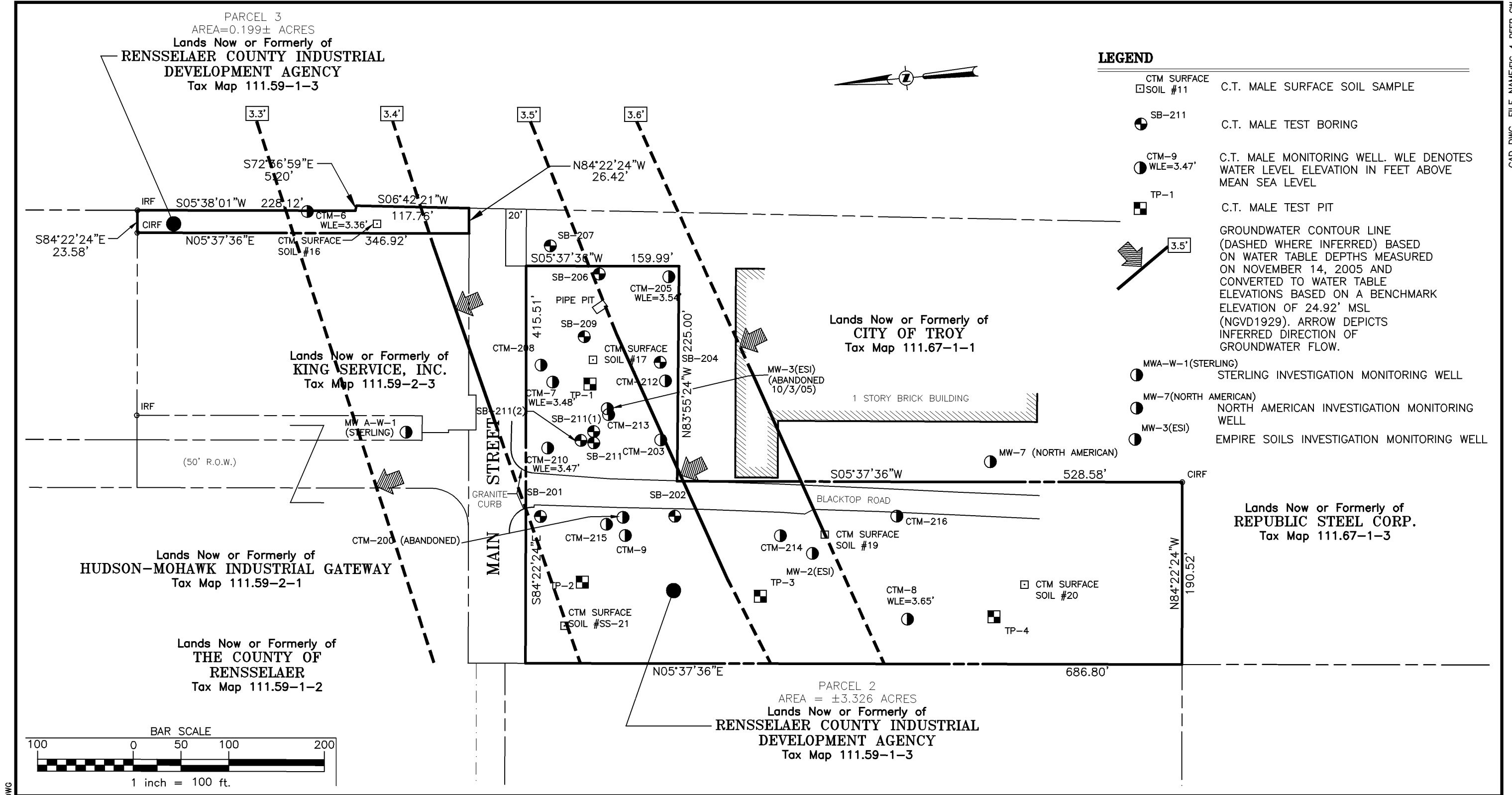









<div>NOTE: 1.) THE LOCATIONS AND FEATURES DEPICTED ON THIS MAP ARE APPROXIMATE AND DO NOT REPRESENT AN ACTUAL FIELD SURVEY.</div> <div>MAP REFERENCE: 1.) BOUNDARY SURVEY PREPARED BY C.T. MALE ASSOCIATES, P.C., DWG. NO.:05-104, DATED NOV. 30, 2004.</div>	DATE	REVISIONS RECORD/DESCRIPTION		DRAFTED	CHECK	APPR.	<div>UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW.</div> <div>© 2010 C.T. MALE ASSOCIATES, P.C.</div> <div>DESIGNED :</div> <div>DRAFTED : MMB</div> <div>CHECKED : S.BIEBER</div> <div>PROJ. NO: 07.7549</div> <div>SCALE : 1"=100'</div> <div>DATE : OCT. 1, 2010</div>	<div>FIGURE 2</div> <div>THICKNESS OF FILL CONTOUR MAP</div>				<div>SOUTH TROY INDUSTRIAL PARK</div> <div>ENVIRONMENTAL RESTORATION PROGRAM</div>								
		①							CITY OF TROY				RENSSELAER COUNTY, NEW YORK							
		②							<div>C.T. MALE ASSOCIATES, P.C.</div> <div>50 CENTURY HILL DRIVE, LATHAM, NY 12110 518.786.7400 * FAX 518.786.7299</div> <div>ARCHITECTURE &amp; BUILDING SYSTEMS ENGINEERING * CIVIL ENGINEERING ENVIRONMENTAL SERVICES * SURVEY &amp; LAND INFORMATION SERVICES</div>				<div></div>				<div>SHEET 2 OF 8</div> <div>DWG. NO: 10-0564</div>			
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**FIGURE 3:**  
**SHALLOW GROUNDWATER CONTOUR MAP FOR 11/14/2005**

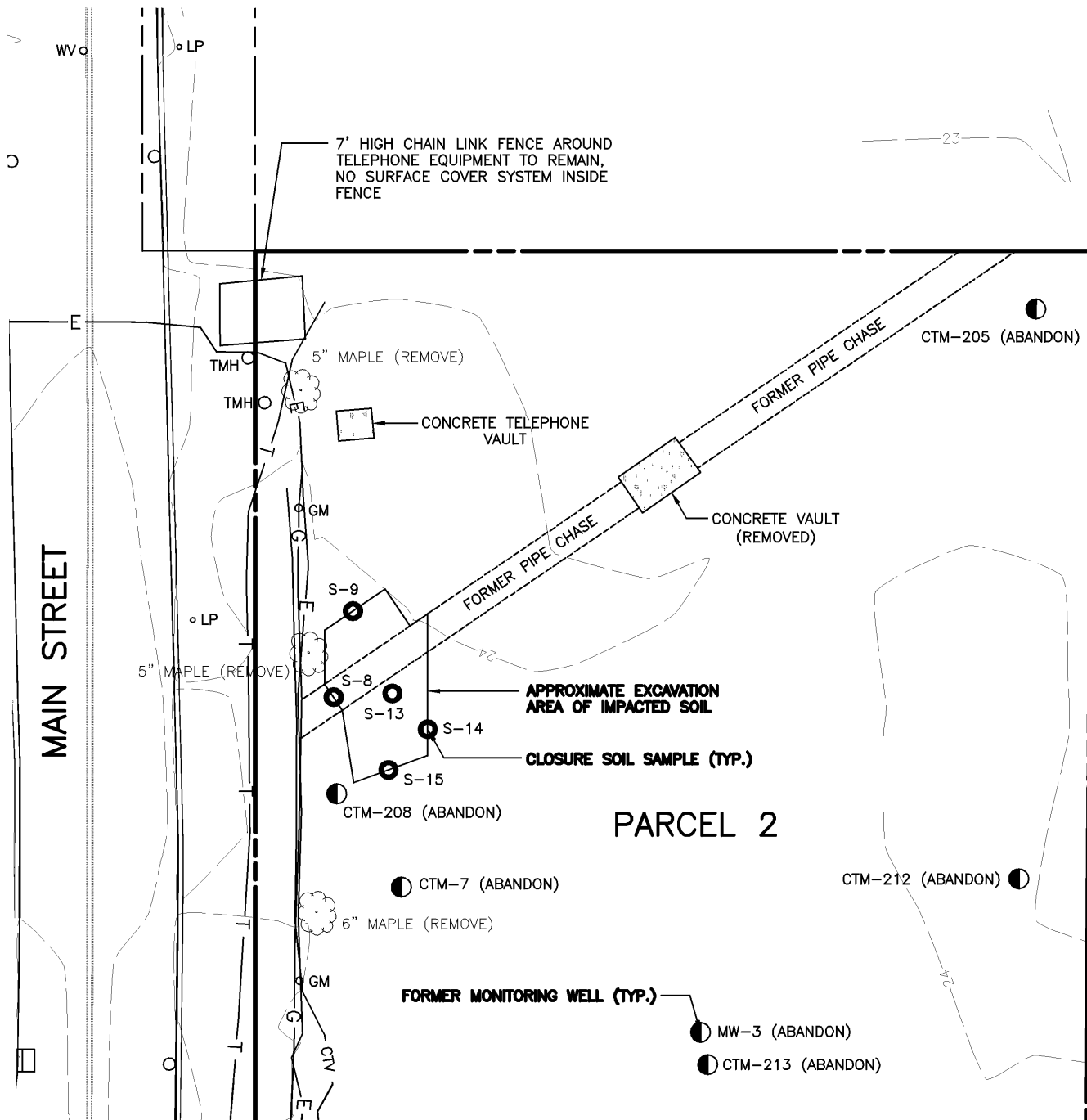


**FIGURE 4:**  
**DEEP GROUNDWATER CONTOUR MAP FOR 11/14/2005**



<div>NOTE: 1.) THE LOCATIONS AND FEATURES DEPICTED ON THIS MAP ARE APPROXIMATE AND DO NOT REPRESENT AN ACTUAL FIELD SURVEY.</div> <div>MAP REFERENCE: 1.) BOUNDARY SURVEY PREPARED BY C.T. MALE ASSOCIATES, P.C., DWG. NO.: 05-104, DATED NOV. 30, 2004.</div>	DATE	REVISIONS RECORD/DESCRIPTION	DRAFTED	CHECK	APPR.	<div>UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.</div> <div>© 2005 C.T. MALE ASSOCIATES, P.C.</div> <div>DESIGNED :</div> <div>DRAFTED : MMB</div> <div>CHECKED : S.BIEBER</div> <div>PROJ. NO: 04.9138</div> <div>SCALE : 1"=100'</div> <div>DATE : OCT. 1, 2010</div>	<div>FIGURE 4</div> <div>DEEP GROUNDWATER CONTOUR MAP FOR NOVEMBER 14, 2005</div> <div>SOUTH TROY INDUSTRIAL PARK ENVIRONMENTAL RESTORATION PROGRAM</div>	
							CITY OF TROY	RENSSELAER COUNTY, NEW YORK
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							<div></div>	
							SHEET 4 OF 8	
							DWG. NO: 10-0564	


**FIGURE 5:**  
**CONCRETE CHASE-WAY AND SOIL REMOVAL LIMITS**



### Map References:

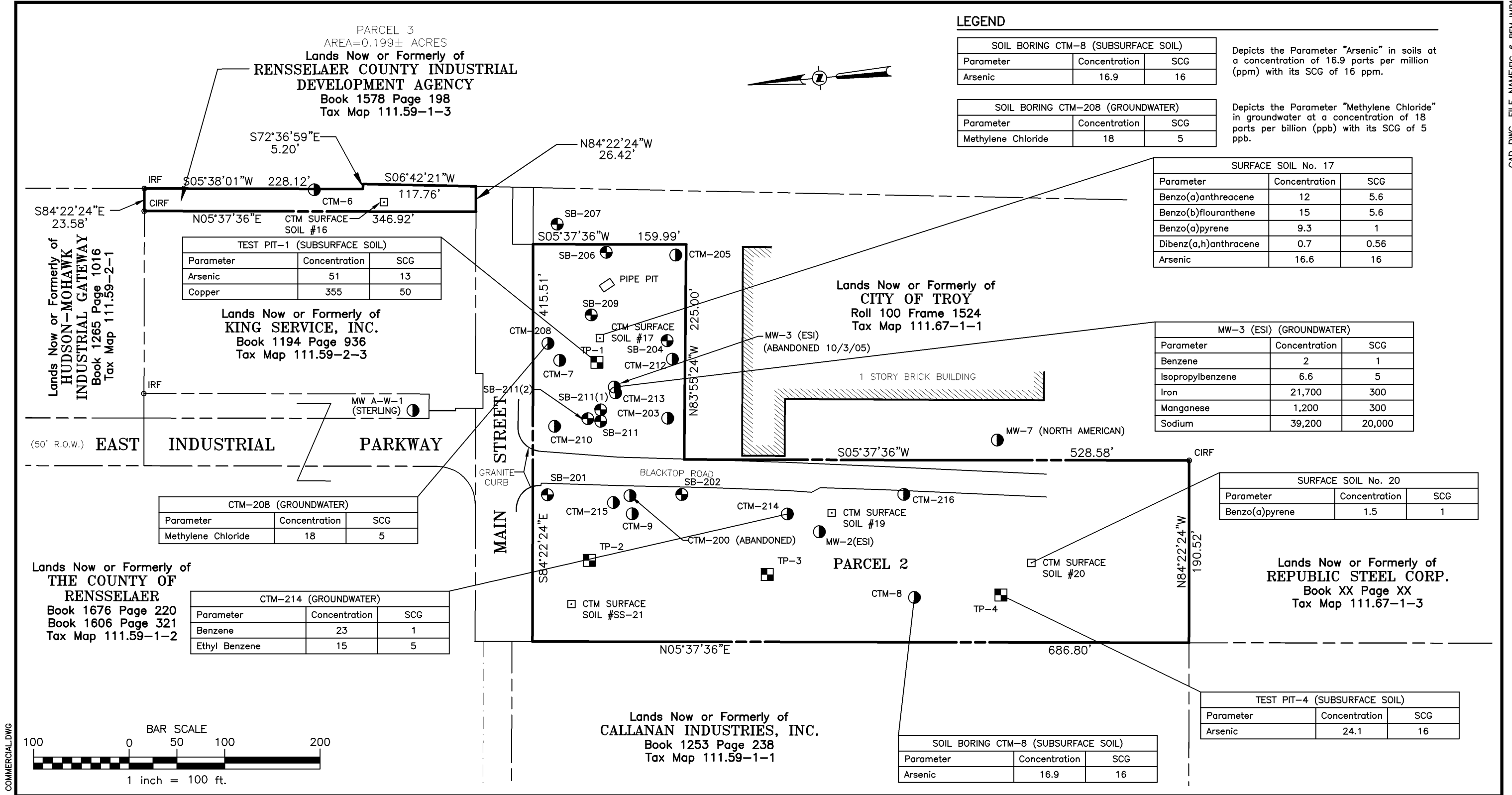
1. The locations and features depicted on this map are approximate and do not represent an actual field survey.

1. "Remedial Action Implementation Plan (Parcels 2 and 3) South Troy Industrial Park Environmental Restoration Program" City of Troy, Rensselaer County, New York prepared by C.T. Male Associates, P.C. dated January 2009 sheet 4 of 10, ENV 2 Dwg No. 08-0659.

Date	RECORD OF WORK	Appr.	FIGURE 5 CONCRETE CHASE-WAY AND SOIL REMOVAL LIMITS SOUTH TROY INDUSTRIAL PARK ENVIRONMENTAL RESTORATION PROGRAM	
			CITY OF TROY	RENSSELAER COUNTY, NY
			<b>C.T. MALE ASSOCIATES, P.C.</b> 50 CENTURY HILL DRIVE, LATHAM, NY 12110 518.786.7400 * FAX 518.786.7299	
			Architecture & Building Systems Engineering * Civil Engineering Environmental Services * Survey & Land Information Services	
				
Drafter: S.WUNSCH		Checker: J.DIPPERT		
Appr. by:		Proj. No. 07.7549	SCALE: 1"=30'	DATE: OCTOBER 1, 2010

**FIGURE 6:**  
**SOIL AND GROUNDWATER CONTAMINANTS ABOVE SCGS**  
**FOR RESTRICTED COMMERCIAL USE**





NOTE:  
1.) THE LOCATIONS AND FEATURES  
DEPICTED ON THIS MAP ARE  
APPROXIMATE AND DO NOT REPRESENT  
AN ACTUAL FIELD SURVEY.

MAP REFERENCE:  
1.) BOUNDARY SURVEY PREPARED BY  
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NO.:05-104, DATED NOV. 30, 2004.

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DATE : OCT. 1, 2010

FIGURE 6

SOIL AND GROUNDWATER CONTAMINANTS  
ABOVE SCGS FOR REST. COMMERCIAL USE

SOUTH TROY INDUSTRIAL PARK  
ENVIRONMENTAL RESTORATION PROGRAM

CITY OF TROY

RENSSELAER COUNTY, NEW YORK

C.T. MALE ASSOCIATES, P.C.

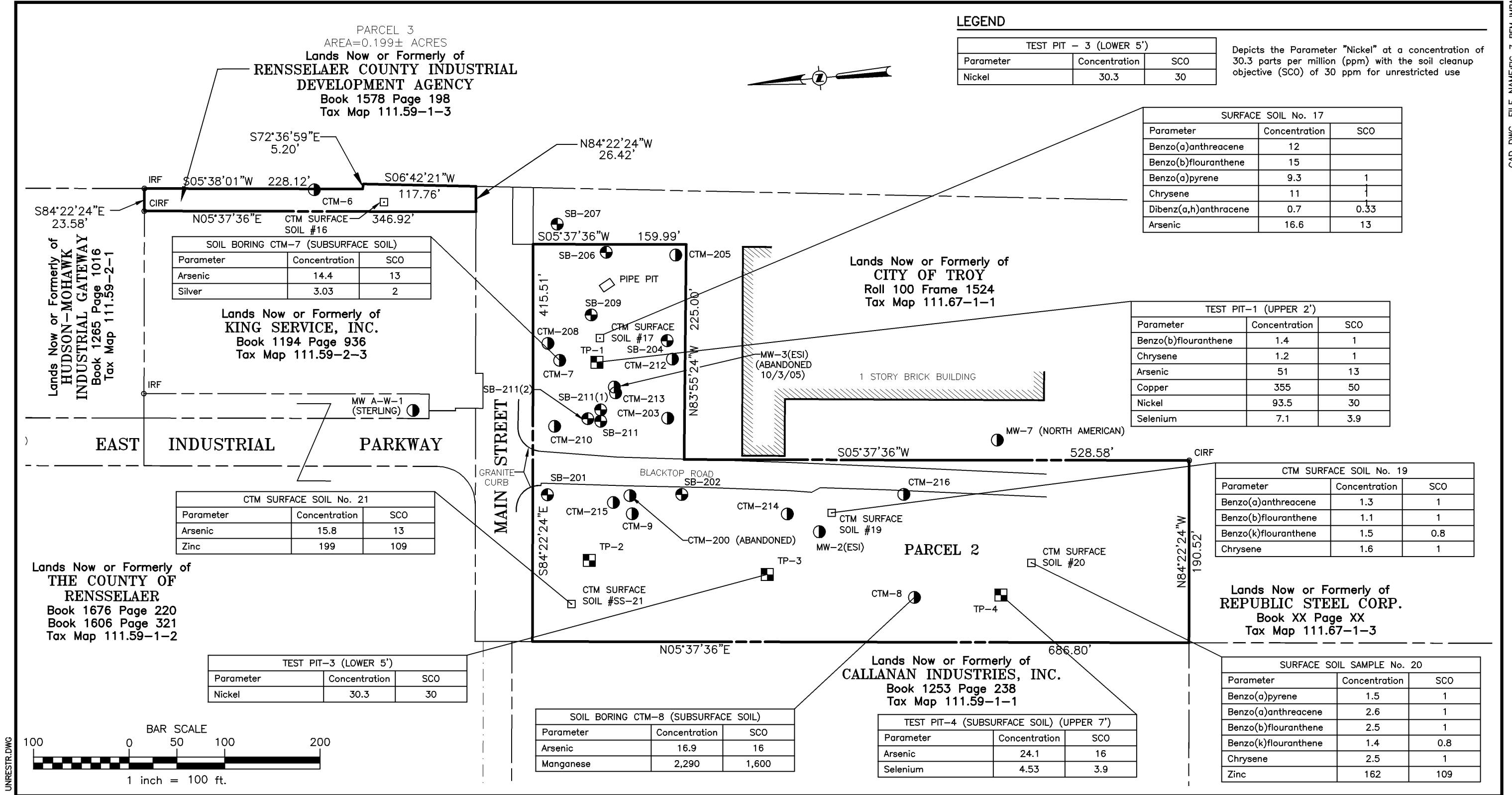
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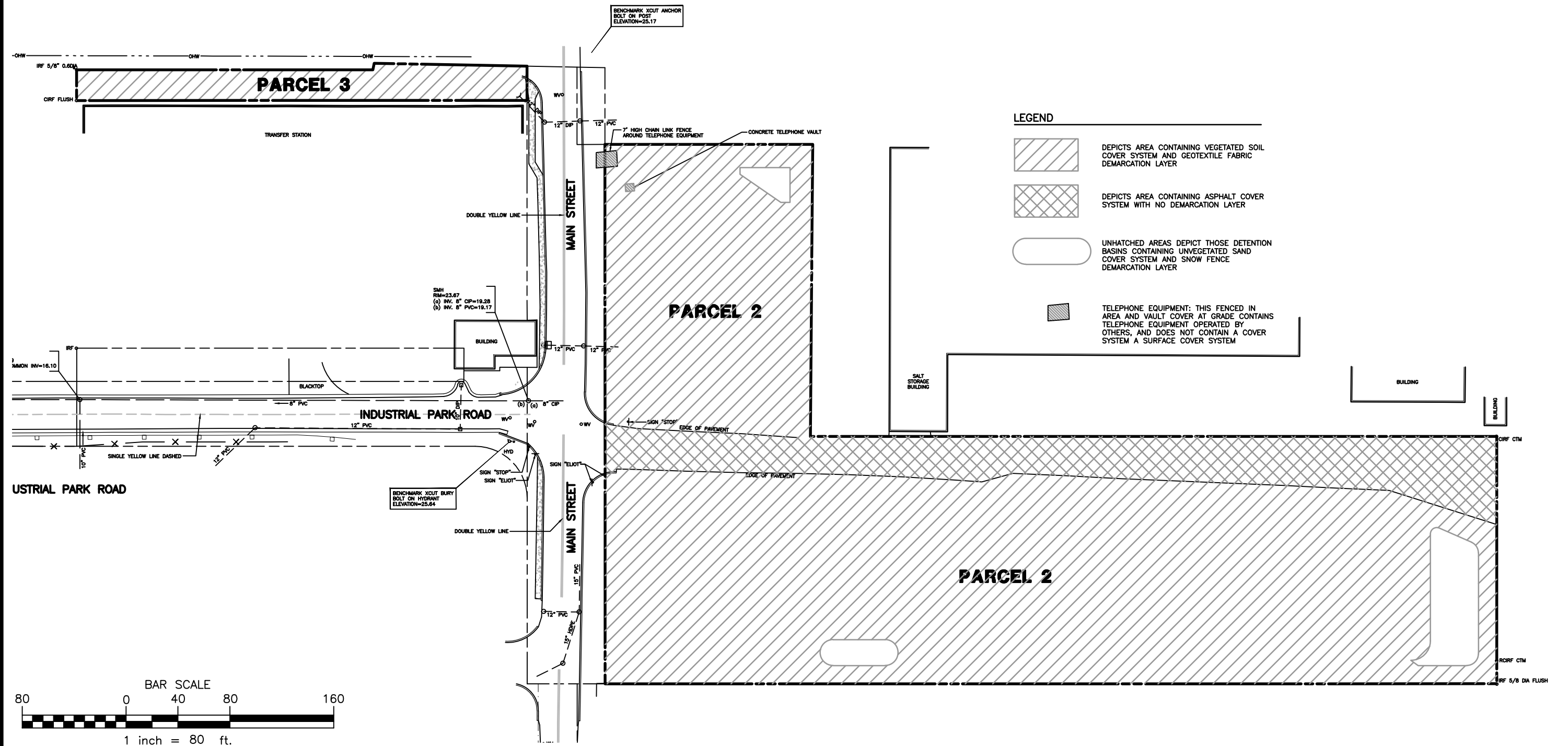
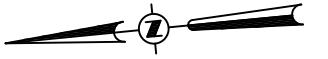
DWG. NO:10-0564


**FIGURE 7:**  
**REMAINING SOIL/FILL CONTAMINATION ABOVE SCOS FOR**  
**UNRESTRICTED USE**



<div>NOTE: 1.) THE LOCATIONS AND FEATURES DEPICTED ON THIS MAP ARE APPROXIMATE AND DO NOT REPRESENT AN ACTUAL FIELD SURVEY.</div> <div>MAP REFERENCE: 1.) BOUNDARY SURVEY PREPARED BY C.T. MALE ASSOCIATES, P.C., DWG. NO.:05-104, DATED NOV. 30, 2004.</div>	DATE	REVISIONS RECORD/DESCRIPTION	DRAFTED	CHECK	APPR.	<div>UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW.</div> <div>© 2010 C.T. MALE ASSOCIATES, P.C.</div> <div>DESIGNED :</div> <div>DRAFTED : MMB</div> <div>CHECKED : S.BIEBER</div> <div>PROJ. NO: 07.7549</div> <div>SCALE : 1"=100'</div> <div>DATE : OCT. 1, 2010</div>	<div>FIGURE 7</div> <div>REMAINING SOIL/FILL CONTAMINATION ABOVE SCO FOR UNRESTRICTED USE</div> <div>SOUTH TROY INDUSTRIAL PARK ENVIRONMENTAL RESTORATION PROGRAM</div>		
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							RENSSELAER COUNTY, NEW YORK		
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							<div></div> <div></div> <div></div>		
							SHEET 7 OF 8		
							DWG. NO:10-0564		

**FIGURE 8:**  
**LOCATION OF COVER SYSTEM TYPES**



<p>NOTE:</p> <p>1.) THE LOCATIONS AND FEATURES DEPICTED ON THIS MAP ARE APPROXIMATE AND DO NOT REPRESENT AN ACTUAL FIELD SURVEY.</p> <p>MAP REFERENCE:</p> <p>1.) BOUNDARY SURVEY PREPARED BY C.T. MALE ASSOCIATES, P.C., DWG. NO.:05-104, DATED NOV. 30, 2004.</p>	DATE	REVISIONS RECORD/DESCRIPTION	DRAFTED	CHECK	APPR.	UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW.	<b>FIGURE 8</b> <b>LOCATION OF COVER SYSTEM TYPES</b>	
						© 2010 C.T. MALE ASSOCIATES, P.C.		
		1				DESIGNED :	<b>SOUTH TROY INDUSTRIAL PARK</b> <b>ENVIRONMENTAL RESTORATION PROGRAM</b>	
		2				DRAFTED : MMB		
		3				CHECKED : S.BIEBER	CITY OF TROY	
		4				PROJ. NO: 07.7549		
		5				SCALE : 1"=60'	RENSSELAER COUNTY, NEW YORK	
		6				DATE : OCT. 1, 2010		
		7					<b>C.T. MALE ASSOCIATES, P.C.</b>	
		8						
							50 CENTURY HILL DRIVE, LATHAM, NY 12110 518.786.7400 * FAX 518.786.7299	
							ARCHITECTURE & BUILDING SYSTEMS ENGINEERING * CIVIL ENGINEERING ENVIRONMENTAL SERVICES * SURVEY & LAND INFORMATION SERVICES	
								
							SHEET 8 OF 8	
							DWG. NO: 10-0564	

## **APPENDIX A: EXCAVATION WORK PLAN**

### **A-1 Notification**

At least 15 days prior to the start of any activity that is reasonably anticipated to encounter remaining contamination, the Site Owner or their representative will notify the Department. This notification will be made to:

Ian Beilby, P.E.  
Environmental Engineer 2  
New York State Department of Environmental Conservation  
Remedial Bureau B  
625 Broadway, 12th Floor  
Albany, NY 12233-7016  
Ian.beilby@dec.ny.gov

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, or 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,
- A summary of the applicable components of this Excavation Work Plan (EWP) including the implementation of the CAMP if the excavation is planned to breach the site cover and contact with contaminated materials,
- 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,
- 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 soil screening will be performed by a qualified environmental professional or person under their supervision 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. Existing fill soils will not be allowed to be used as part of the cover system.

## **A-3 Stockpile Methods**

Stockpiles of imported clean soil (i.e., soil from above the demarcation layer) will be continuously encircled with a berm and/or silt fence to mitigate stormwater runoff/sediment transport. Hay bales or other acceptable erosion and sediment control devices/methods will be used as needed near catch basins, surface waters and other discharge points in accordance with applicable stormwater regulations.

Stockpiles of existing soil/fill 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 of existing soil/fill will be inspected at a minimum once each week and after every storm event for evidence of erosion/sediment runoff. 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 observe and record all invasive work and the excavation and load-out of all excavated material.

The owner of the property and its contractors are solely responsible for safe execution of all invasive and other work performed under this EWP.

The presence of utilities and easements on the Site will be investigated by the owner of the property and/or its contractor. 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.

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**

Transport of existing soil 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.



Existing soil material transported by trucks or by roll-off containers 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 or components thereof that come into contact with existing site soils beneath the cover system 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 are to be considered prior to future development. The most appropriate route takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) using city-mapped truck routes; (c) minimizing 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. Minimal off-site queuing of trucks along East Industrial Parkway only, will be permitted.

#### **A-6 Materials Disposal Off-Site**

Soil/fill/solid waste excavated from below the cover system, if removed from the Site, will be treated as contaminated/regulated material and will be transported and disposed in accordance with all local, State (including 6 NYCRR 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.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class

of disposal facility if appropriate (i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc.). Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste pursuant to 6 NYCRR 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 (6 NYCRR Part 360-16 Registration Facility).

#### **A-7 Materials Reuse On-Site**

Soils used for the cover system (i.e., above the demarcation layer) may be reused on-site or off without restriction. Historic fill and other Site soils with no evidence of contamination is acceptable for re-use on-site below the demarcation layer, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines. Historic fill and other Site soils with evidence of petroleum impacts as determined by a qualified environmental professional approved by NYSDEC will not be allowed to be re-used on-site unless PID screening results and chemical testing is reviewed and allowed by NYSDEC. The frequency and chemical parameters of analytical testing may vary depending on the type of reuse but should be discussed with NYSDEC after reporting the evidence of a petroleum release and prior to implementing sampling. The following guidelines are also provided:

- Sampling may be omitted for soils which are not obviously petroleum contaminated and which will be reused below the demarcation layer or for soils which will be disposed of off-site. Any sampling required by the disposal facility would still need to be conducted.
- In order for the soil to be reused off-site, it would have to meet the requirements of 6 NYCRR 375-6.7(d) (i.e., not comprised of solid waste)

and meet the unrestricted soil cleanup objectives (SCOs) defined by 6 NYCRR 375-6.8(a).

- In order for the soil to be used as part of the cover system, it would have to meet the requirements of 375-6.7(d) and the lower of the SCOs for the protection of human health for restricted residential use and the SCOs for the protection of groundwater defined by 6 NYCRR 375-6.8(b).
- Soil which is sampled, but does not meet the requirements of the previous two bullets and is not obviously petroleum contaminated, may be reused below the demarcation layer or disposed off-site.
- Soils which are obviously petroleum contaminated must be treated and/or disposed of off-site. If treated soils are to be reused, sampling would be necessary to determine appropriate reuse.

#### **A-8 Fluids Management**

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 be sampled, and depending on the analytical results, may be recharged back to the land surface or subsurface of the 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**

If the cover system is breached for soil removal or other invasive activities, the cover system will be restored in a manner that complies with the Record of Decision. The demarcation layer, consisting of a geotextile filter fabric or equivalent material will be replaced to provide a visual reference to the top of the remaining contamination 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 will be updated in the SMP.

#### **A-10 Backfill from Off-Site Sources**

Imported backfill proposed for use at the Site will be approved by the qualified environmental professional and/or NYSDEC. Imported backfill will be in compliance with provisions in this SMP prior to delivery to the Site.

The source of imported backfill will be documented. Backfill from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the Site. Solid waste will not be imported to the Site.

Imported backfill will meet the backfill and cover soil quality standards established in 6 NYCRR 375-6.7(d). Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards for imported backfill are listed in Appendix 5 of DER-10, Technical Guidance for Site Investigation and Remediation (May 2010), under the commercial use column. 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.

Imported backfill shall be deemed clean by analytical testing. Imported backfill will be analyzed according to the following schedule on the next page:

Recommended Number of Soil Samples for Soil Imported to the Site			
Contaminant	Volatile Organic Compounds	Semi-volatile Organic Compounds, Inorganics & PCBs/Pesticides	
Imported Backfill Quantity in Cubic Yards	Discrete Samples	Composite Samples	Discrete Samples/Composites
0 – 50	1	1	3-5 Discrete samples from different locations in the fill being provided will compromise a composite sample for analysis
51 – 100	2	1	
101 – 200	3	1	
201 – 300	4	1	
301 – 400	4	2	
401 – 500	5	2	
501 – 800	6	2	
801 – 1,000	7	2	
> 1,000	Add an additional two volatile organic compound discrete samples and one composite sample for each additional 1,000 cubic yards or consult with NYSDEC		

#### **A-11 Stormwater Pollution Prevention**

Prior to implementing any Site disturbance greater than one acre, a Stormwater Pollution Prevention Plan (SWPPP) will be prepared in accordance with the regulations for erosion and sediment controls and water quantity/quality controls. This will provide guidance to the contractor doing the construction activities. With the preparation of the SWPPP comes a requirement for submitting a Notice of Intent to NYSDEC upon completion of the SWPPP to document the project exists and gain permit coverage. The NOI will be completed with direction and input from the Site owner and/or remedial party. In addition to the SWPPP, Erosion and Sediment Control (ESC) plans will be

designed and prepared as applicable for implementing the construction activity in accordance with the stormwater regulations.

For implementing construction activities with disturbance with less than one acre, erosion and sediment controls (i.e., silt fencing, hay bales, etc.) will be installed around the down gradient perimeter of the work areas and around temporary stockpiles of excavated soil and imported backfill. Erosion and sediment controls will be observed once a week, and repaired within 24 hours of discovery of deficiencies.

#### **A-12 Contingency Plan**

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

Sampling will be performed on tank or drum contents and surrounding soils, etc., as necessary, to determine the nature of the material and proper disposal method. Chemical analysis will be performed for a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), or by the disposal facility's requirements, unless the Site history and previous sampling results provide a sufficient justification to reduce the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive Site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will also be included in the Periodic Review Reports prepared pursuant to Section 5 of this SMP.

#### **A-13 Community Air Monitoring Plan**

A Community Air Monitoring Plan (CAMP) will be prepared and submitted to the NYSDEC for approval prior to any planned Site disturbance. The CAMP will be

followed for any ground intrusive work in general accordance with the New York State Department of Health Generic CAMP dated June 2000, which is appended as Appendix E of this SMP.

Monitoring for particulate dust will be conducted during all ground intrusive activities based on generally prevailing wind conditions. These 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.

All readings must be recorded and be available for State (DEC and DOH) personnel to review. Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH.

#### **A-14 Odor Control Plan**

Nuisance odors were not encountered during the implementation of the remedy and during the disturbance of existing Site soils. Therefore, an odor control plan is not needed for future excavation at the Site. If nuisance odors are observed during future Site excavation work, actions should be implemented to mitigate off-site impacts from odors.

If needed, the odor control plan should be capable of controlling emissions of nuisance odors off-site (and on-site, if there are residents or tenants on the property). Specific odor control methods to be used could include (a) limiting the area of open excavations; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors cannot be controlled by the previous means, additional measures to control the odor may include (a) direct load-out of soils for off-site disposal; (b) use of chemical odorants in spray or misting systems; and (c) implement monitoring of odors in surrounding neighborhoods.

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 nuisance odors have been abated. NYSDEC and NYSDOH will be notified of odor complaints about the project. Implementation of odor controls, including

the halt of work, is the responsibility of the Site owner and/or remedial party's QEP, and any measures that are implemented will be discussed in the Periodic Review Report.

**A-15 Dust Control Plan**

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

- Dust suppression will be achieved through the use of water trucks for road wetting. The trucks will be equipped with water cannons capable of spraying water directly onto off-road areas including excavations and stockpiles.
- 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.



## **APPENDIX B: METES AND BOUNDS**

**C.T. MALE ASSOCIATES**

Engineering, Surveying, Architecture & Landscape Architecture, D.P.C.

**DESCRIPTION  
PARCEL 2 AND PARCEL 3  
PORTION OF LANDS OF  
RENSSELAER COUNTY INDUSTRIAL DEVELOPMENT AGENCY  
CITY OF TROY, COUNTY OF RENSSELAER, STATE OF NEW YORK**

All those certain tracts, pieces or parcels of land situate in the City of Troy, County of Rensselaer, State of New York, lying East of the Hudson River, North and South of Main Street, and being more particularly bounded and described as follows:

**PARCEL 2**

BEGINNING at the point of intersection of the division line between the lands now or formerly of Rensselaer County Industrial Development Agency as described in Book 1578 of Deeds at Page 198 on the West and the lands now or formerly of the City of Troy as described in Roll 100 of Deeds at Frame 1524 on the East with the Southerly street boundary of Main Street and runs thence from said point of beginning along said division line South 05 deg. 37 min. 36 sec. West 159.99 feet to its point of intersection with the division line between the said lands now or formerly of Rensselaer County Industrial Development Agency on the North and the said lands now or formerly of the City of Troy on the South; thence along said division line North 83 deg. 55 min. 24 sec. West 225.00 feet to its point of intersection with the division line between the said lands now or formerly of Rensselaer County Industrial Development Agency on the West and the said lands now or formerly of the City of Troy on the East; thence along said division line South 05 deg. 37 min. 36 sec. West 528.58 feet to its point of intersection with the division line between the said lands now or formerly of Rensselaer County Industrial Development Agency on the North and the lands now or formerly of Troy Local Development Co. on the South; thence along said division line North 84 deg. 22

## C.T. MALE ASSOCIATES

Engineering, Surveying, Architecture & Landscape Architecture, D.P.C.

*DESCRIPTION - PARCEL 2 AND PARCEL 3*

*RENSSELAER COUNTY INDUSTRIAL DEVELOPMENT AGENCY*

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min. 24 sec. West 190.52 feet to its point of intersection with the division line between the said lands now or formerly of Rensselaer County Industrial Development Agency on the East and the lands now or formerly of Troy Materials Group, LLC as described in Book 3867 of Deeds at Page 247 on the West; thence along said division line North 05 deg. 37 min. 36 sec. East 686.80 feet to its point of intersection with the Southwesterly terminus of Main Street; thence along the Southerly street boundary of Main Street South 84 deg. 22 min. 24 sec. East 415.51 feet to the point or place of beginning and containing 3.826± acres of land.

### PARCEL 3

BEGINNING at the point of intersection with the division line between the lands now or formerly of Rensselaer County Industrial Development Agency as described in Book 1578 of Deeds at Page 198 on the West and the lands now or formerly of Troy and Greenbush Railroad Association (New York Central Railroad Company Lessee) on the East with the Northerly street boundary of Main Street and runs thence from said point of beginning along said Northerly street boundary North 84 deg. 22 min. 24 sec. West 26.43 feet to its point of intersection with the division line between the said lands now or formerly of Rensselaer County Industrial Development Agency on the East and the lands now or formerly of Troy Local Development Co. as described in Roll 507 of Deeds at Frame 179 on the West; thence along said division line North 05 deg. 37 min. 36 sec. East 346.92 feet to its point of intersection with the division line between the said lands

# C.T. MALE ASSOCIATES

Engineering, Surveying, Architecture & Landscape Architecture, D.P.C.

DESCRIPTION - PARCEL 2 AND PARCEL 3

RENSSELAER COUNTY INDUSTRIAL DEVELOPMENT AGENCY

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now or formerly of Rensselaer County Industrial Development Agency on the South and the lands now or formerly of Hudson-Mohawk Industrial Gateway as described in Book 1265 of Deeds at Page 1016 on the North; thence along said division line South 84 deg. 22 min. 24 sec. East 23.58 feet to its point of intersection with the division line between the said lands now or formerly of Rensselaer County Industrial Development Agency on the West and the said lands now or formerly of Troy and Greenbush Railroad Association on the East; thence along said division line South 05 deg. 38 min. 01 sec. West 228.12 feet to its point of intersection with the division line between the said lands now or formerly of Rensselaer County Industrial Development Agency on the South and the said lands now or formerly of Troy and Greenbush Railroad Association on the North; thence along said division line South 72 deg. 36 min. 59 sec. East 5.20 feet to its point of intersection with the above first mentioned division line; thence along said above first mentioned division line South 06 deg. 42 min. 21 sec. West 117.76 feet to the point or place of beginning and containing 0.199± acres of land.

Subject to any easements, restrictions or covenants of record.

C.T. MALE ASSOCIATES



September 27, 2001

Revised August 5, 2014

JFC/am/jc/jfc/amb

C.T. Male Project No. 01.7300 (ref. 07.7549)

## **APPENDIX C: SITE-WIDE INSPECTION FORM**

**SOUTH TROY INDUSTRIAL PARK (STIP) ERP SITE**  
**SMP Parcels 2 & 3 Inspection Form**

Page 1 of 2

Date: \_\_\_\_\_

Inspection Personnel: \_\_\_\_\_

Weather Conditions: \_\_\_\_\_

Surface soil on Parcel 2 is contaminated by volatile organic compounds, semi-volatile organic compounds and metals at levels exceeding restricted commercial SCOs. Currently, protection of public health and the environment to contaminated media is provided by an engineered cover system consisting of a one-foot thick soil cover system underlain by geotextile filter fabric or an asphalt and gravel sub-base cover system. The locations of the soil and asphalt cover systems are depicted on the attached site plan. As a note, a cover system is not in place within the confines of a fenced-in area on northeast portions of the site that contains telephone equipment.

This SMP Inspection Form will be utilized to observe Parcels 2 & 3 of the STIP site to document that the Engineering Controls are intact and are protective of human health and the environment from underlying contamination.

Attachments to this Inspection Form shall include a Site Plan for Parcels 2 & 3 of STIP.

**Cover System Inspection**

Has the overall condition of the cover system changed from the previous inspection (if first inspection, respond with N/A). Yes\_\_\_\_ No\_\_\_\_

If Yes, provide detail and identify on Site Plan

Is soil cover system adequately vegetated to prevent erosion. Yes\_\_\_\_ No\_\_\_\_

If No, identify locations and provide detail on attached Site Plan

**SOUTH TROY INDUSTRIAL PARK ERP SITE  
SMP Parcels 2 & 3 Inspection Form**

Page 2 of 2

Is there evidence that the soil cover system has been eroded by wind and/or water. Yes\_\_\_\_ No\_\_\_\_

If Yes, identify locations and provide detail on attached Site Plan

Is there evidence that the soil cover system has been breached (i.e., areas where surface appears patched, signs of excavation). Yes\_\_\_\_ No\_\_\_\_

If Yes, identify locations and provide detail on attached Site Plan

Is there evidence that the asphalt cover systems has been breached (i.e., areas where surface appears patched, signs of excavation). Yes\_\_\_\_ No\_\_\_\_

If Yes, identify locations and provide detail on attached Site Plan

Have photographs been taken of the cover system for inclusion in the site inspection report. Yes\_\_\_\_ No\_\_\_\_

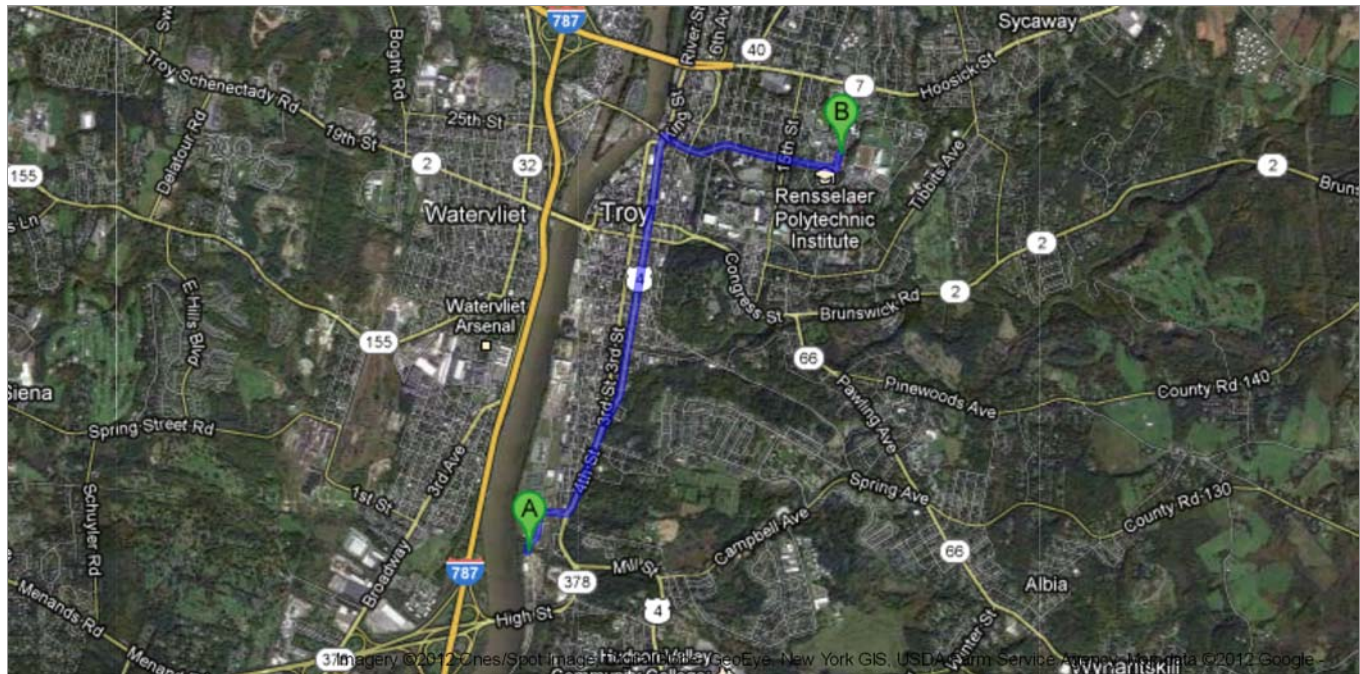
If No, give reason

**APPENDIX D: MAP SHOWING ROUTE TO SAMARITAN  
HOSPITAL**





To see all the details that are visible on the screen, use the "Print" link next to the map.



## Driving directions to 2215 Burdett Ave, Troy, NY 12180

3D



**King Rd**  
Troy, NY 12180

1. Head **north** on **King Rd** toward **Main St** 0.2 mi
2. Turn right onto **Main St** 0.1 mi
3. Turn left onto **4th St** 1.9 mi
4. Turn right onto **Federal St** 0.2 mi
5. Slight left onto **Peoples Ave** 0.7 mi
6. Turn left onto **Burdett Ave**  
Destination will be on the left 367 ft



**2215 Burdett Ave**  
Troy, NY 12180

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.  
Map data ©2012 Google

**APPENDIX E: NEW YORK STATE DEPARTMENT OF  
HEALTH GENERIC COMMUNITY AIR MONITORING  
PLAN**

## New York State Department of Health Generic Community Air Monitoring Plan

### Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

### Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

**Continuous monitoring** will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

**Periodic monitoring** for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

### VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.
2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.
3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.
4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

### Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter ( $\text{mcg}/\text{m}^3$ ) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed  $150 \text{ mcg}/\text{m}^3$  above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than  $150 \text{ mcg}/\text{m}^3$  above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within  $150 \text{ mcg}/\text{m}^3$  of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

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