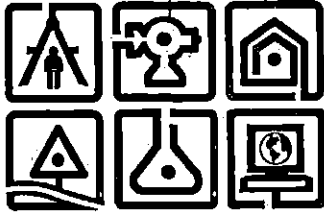


May 22, 2008



Site Management Plan
Environmental Restoration Project
Clean Water/Clean Air Bond Act of
1996

Independent Leather Tannery
(Site Number B-00158)
321-333 South Main Street
City of Gloversville
Fulton County, New York

Prepared for:

CITY OF GLOVERSVILLE
CITY HALL
3 Frontage Road
Gloversville, New York 12078

Prepared by:

C.T. MALE ASSOCIATES, P.C.
50 Century Hill Drive
P.O. Box 727
Latham, New York 12110
(518) 786-7400
FAX (518) 786-7299

C.T. Male Project No: 01.7293

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C.T. MALE ASSOCIATES, P.C.

C.T. MALE ASSOCIATES, P.C.

50 Century Hill Drive
Latham, NY 12110-0727
518.786.7400 Fax: 518.786.7299

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TO: Michael McLean, PE NYS Department of Environmental Conservation 1115 NYS Route 86, P.O. Box 296 Ray Brook, New York 12977-0296	DATE 6/2/2008 RE: Independent Leather Tannery Gloversville, New York
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COMMENTS:

Mike,

Here is the final version of the Department-Approved Site Management Plan to be attached to the site from this point forward. There is a blank pocket (Exhibit 2) for the Environmental Easement once it is made final.

COPIES TO: Robert Abel, City of Gloversville (2 copies)
Deanna Ripstein, NYSDOH Flanigan Square

SIGNED:

NAME:

TITLE:

Jeffrey A. Marx, PE

Project Engineer

**ENVIRONMENTAL RESTORATION PROJECT
SITE MANAGEMENT PLAN
INDEPENDENT LEATHER TANNERY
321-333 SOUTH MAIN STREET, GLOVERSVILLE, NEW YORK**

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FIGURES

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**ENVIRONMENTAL RESTORATION PROJECT
SITE MANAGEMENT PLAN
INDEPENDENT LEATHER TANNERY
321-333 SOUTH MAIN STREET, GLOVERSVILLE, NEW YORK**

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EXHIBITS

- Exhibit 1: NYSDEC SMP Approval Letter
- Exhibit 2: NYSDEC Issued Environmental Easement (to be added when available)

1.0 INTRODUCTION AND PURPOSE

1.1 General

The City of Gloversville, under the New York State Environmental Restoration Program (6 NYCRR Part 375), performed an environmental investigation of the former Independent Leather Tannery located at the intersection of South Main Street and Hill Street in the City of Gloversville, Fulton County, New York. During the course of the environmental investigation, the western portion of the property was remediated by the Environmental Protection Agency (EPA). After the environmental investigation was completed by the City, a Record of Decision (ROD) dated February 2004 was issued by New York State Department of Environmental Conservation (NYSDEC) to remainder of the property not addressed by EPA. The remedial work described in the February 2004 ROD has been completed and since some level of environmental impacts remain at the site, this Site Management Plan (SMP) is required to be reviewed and approved by NYSDEC, and implemented by the owner(s) of the site until otherwise changed by NYSDEC.

1.2 Overview and Objectives

The site (former Independent Leather Tannery) is a 3.725 acre, vacant industrial property owned by the City of Gloversville. The location of the property is shown on the Site Location Map provided as Figure 1. The property subject to the requirements of this Site Management Plan is shown on the January 29, 2002 Boundary Survey provided as Figure 2. Note that this Boundary Survey reflects the site conditions before investigation and remediation was initiated, and that the secondary tannery building had still remained. The metes and bounds description for this property is provided in Appendix A. Conditions of the site post-remediation are depicted on the August 25, 2006 Topographic Survey provided as Figure 3.

The objective of this Site Management Plan (SMP) is to set forth guidelines for management of soil during future activities which would breach the surface cover system; provide design/installation requirements for potential vapor intrusion in buildings developed on the site; and to restrict the use of groundwater as a source of

potable or process water without necessary water quality treatment as determined by New York State Department of Health (NYSDOH).

The SMP is a portion of the overall remedy which addresses future disturbance/use of contaminated soil remaining on the site, management of the soil barrier to contact, use of groundwater, and mitigation of vapor intrusion after other elements of the remedy have been implemented. This SMP has been reviewed and approved by the NYSDEC as shown in Exhibit 1. This plan is not intended to serve as a design document for construction activities related to redevelopment activities. It is the developer's responsibility to prepare a design that incorporates the requirements for the cover system and soil management as set forth in this SMP.

For the convenience of the site owner, or its successors and assigns, summaries of previous environmental investigations have been restated in this SMP, where appropriate. However, the owner, or its successors and assigns, should refer to the previous investigation and remediation reports for more information about work completed at the site.

1.3 Site History

The site has been operated as a leather tannery since the beginning of the 20th Century. The former Independent Leather Tannery has been reportedly used to tan, dye and finish pickled animal skins, whereby the water-intensive tannery process likely discharged chemically adjusted water and petroleum products to the building floors and drains. For the years of operation prior to the establishment of waste water treatment facilities in the Cities of Gloversville and Johnstown, the liquid wastes were not regulated and were likely allowed to discharge directly onto the ground and into the Cayadutta Creek which flows through the center portions of the site. Impacts to site soil and groundwater from former tanning activities were detected by the investigations performed. Impacts to the creek surface water and sediments were not identified by the investigations conducted.

In the early 1980's, the Gloversville area tanneries were mandated to construct and maintain wastewater pretreatment plants and monitoring stations. The wastewater pretreatment plant constructed at Independent Leather was reportedly in operation in circa 1984. From 1984 to the mid 1990's (when the tannery operations ceased), liquid

wastewater was routed to the site pre-treatment plant and discharged to the municipal sewer system thereby reducing if not eliminating the discharges to site soils and creek. Although the liquid generated in the tanning process were channeled through drains and piping systems to the on-site pre-treatment plant, cracks and other openings in the various floor slabs may not have allowed all liquids to reach the pre-treatment plant and escape into underlying soils. Sludge from the plant were reportedly removed and disposed of off-site, at the local landfill. Independent Leather shut down operations in the mid 1990's and left the tannery in an "as is" condition at that time. The site has been idle since the mid 1990's.

2.0 PREVIOUS INVESTIGATIONS

2.1 Chronology

Environmental investigations have been performed at the property by C.T. Male as part of the ERP in accordance with the NYSDEC and NYSDOH approved Site Investigation Work Plan dated November 2001. The EPA has also conducted investigations and an Emergency Response Action at the site. The following is a chronological summary of the work performed at the property and the results or recommendations of each.

EPA completed environmental investigations as part of an Emergency Removal Action performed from April 2001 through August 2002. Investigation activities consisted of soil and groundwater sampling, analytical testing and geochemical modeling. In June 2002, EPA's subcontractor Lockheed Martin's Response, Engineering and Analytical Contract (REAC) personnel collected groundwater and shallow subsurface soil samples for chemical analysis and physical property testing. Lockheed Martin examined the chemical partitioning and potential mobility of chromium and arsenic in soils and groundwater at the site. The main focus of the study revolved around the geochemical behavior of chromium and arsenic in soil-groundwater environments in which the soil, groundwater and hydraulic conductivity testing provided the background information for geochemical modeling.

C.T. Male conducted environmental investigations within the site from November 2001 through November 2003. The investigations included site survey, geophysical survey, surface soil sampling and analyses, creek surface water and sediment sampling and analysis, site-wide subsurface and hydrogeologic investigation (borings/wells), groundwater sampling and analyses, and fish and wildlife impact analysis. The findings of the investigations were presented and discussed within the NYSDEC and NYSDOH approved November 2003 Site Investigation Report and Remedial Alternatives Report prepared by C.T. Male. The investigation findings are summarized below:

- Petroleum, arsenic, and chromium contamination are present at the site in the surface/subsurface soil and groundwater above NYSDEC regulatory values. Other parameters were detected above NYSDEC regulatory

values, and when evaluated, were not determined to be contaminants of concern.

- Site groundwater flow on the east and west portions of the site converge at the Cayadutta Creek, whereby potential site contaminants would migrate towards the creek and not off-site. Surface water and sediment samples collected from Cayadutta Creek did not identify contaminants of concern within surface water or sediment.
- Human exposure pathways exist at the site via direct contact, ingestion, and/or inhalation of contaminated soil/dust and groundwater.
- Fish & wildlife (F&W) impact is only minimal due to the lack of F&W resources at the site and there is no exposure pathway to contamination.
- On the basis of investigative and remedial work completed by EPA under the Emergency Removal Action and placement of a soil barrier cover on the western side of the site, no further remedial action was warranted on the western side of the site.
- On the basis of investigative and remedial work completed by C.T. Male, remedial action was warranted on the eastern side of the site as described in the February 2004 Record of Decision for the site.

2.2 Nature and Extent of Contamination

2.2.1 Soil and Groundwater

Based on data obtained from investigations and remedial actions completed at the site, a Site Investigation Report and Remedial Alternatives Report, dated November 2003, was developed by C.T. Male. The contaminants of concern (COCs) for the site consist primarily of metals (mainly arsenic and chromium) and to a lesser degree petroleum related volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). These COCs exist in soil and groundwater at the site at varying concentrations and locations.

EPA completed an Emergency Removal Action performed from April 2001 through August 2002. Remediation activities included demolition of three buildings and off-site disposal of building materials, characterization and disposal of hundreds of containers of chemicals, removal of animal wastes and cleaning interior building surfaces, closure of storage tanks, general site cleanup, and placement of soil backfill cover on western side of site. The nature and extent of contamination on the west side of the site, as described in the Site Investigation and Remedial Alternatives Reports (November 2003), remains representative of the conditions on the western portion of the site, which is now protected from direct contact via a soil barrier placed by EPA.

The nature and extent of contamination on the east side of the site was significantly reduced in 2005 with excavation and off-site disposal of impacted soils to the Fulton County Landfill. The residual contamination has been addressed through the construction of a soil barrier to contact. Groundwater conditions at the site were also improved through temporary groundwater treatment during soil removal activities. The following paragraphs summarize the nature and extent of contamination remaining on the east side of the site following the remedial action. Refer to the Remedial Action Report prepared by C.T. Male, dated February 2006 for more information regarding the nature and extent of contamination at the site.

As part of the remedial action, approximately 5,481 tons of arsenic and/or petroleum impacted soils were removed from the east side of the site where the former tannery building and 20,000 gallon fuel oil tank were located. Post-remediation verification samples were collected from the soil remaining on the floors and walls of the excavation areas and were analyzed for arsenic, and petroleum related VOCs and SVOCs. The limits of impacted soil removal and sampling locations are shown on the Post Remediation Verification Sample Location Map presented as Figure 4. Based on the analytical results for these samples, the remaining petroleum impacts in soil are considered minimal and generally isolated. The VOCs detected above regulatory values were 1,2,4 and 1,3,5 trimethylbenzene, m&p xylenes and isopropylbenzene. The SVOCs detected above regulatory values were benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene and dibenzo(a,h)anthracene. Low level arsenic contamination remains in surface and subsurface soil on the east side of the Cayadutta Creek, primarily south of the former building footprint and east of the former fuel oil tank.

As part of the remedial action, approximately 29,159 gallons of arsenic and petroleum impacted groundwater was removed from the excavation areas on the east side of the site during soil removal, treated and discharged to the municipal sewer system. The soil removal activities necessitated the removal of monitoring wells MW-13 and MW-15. Results of groundwater sampling in May 2002 for the wells on the east side of the site indicated that COCs in groundwater were certain metals (arsenic, iron, manganese, and sodium) and naphthalene, a SVOC. Results of groundwater sampling in May 2002 for the wells on the west side of the site indicated that COCs in groundwater were certain metals (antimony, arsenic, chromium, iron, magnesium, manganese, and sodium), two VOCs (ethylbenzene and xylenes) and two SVOCs (pentachlorophenol and naphthalene).

The petroleum impacts remaining in soil and groundwater are generally residual in nature and would tend to naturally attenuate over time without any further action/treatment. The arsenic impacts to groundwater would not tend to breakdown, and typically bind to the soil thereby having low mobility in groundwater over time. However, due to the presence of these detected compounds above regulatory values, groundwater use restrictions will be established.

2.2.2 Soil Vapor

C.T. Male conducted a NYSDEC approved soil gas sampling event in September 2004, prior to completing remedial action on the east side of the site. The sampling included collection and analyses of soil gas vapor samples from six sampling locations (Soil Gas-1 through Soil Gas-5), as shown on Figure 5. The analytical results for Soil Gas-1 and Soil Gas-2 are no longer representative of the conditions on the east side of the site since a significant volume of petroleum impacted soil was removed and replaced with clean fill subsequent to collecting these vapor samples. The analytical results for Soil Gas-3, Soil Gas-4 and Soil Gas-5 are acceptable as they were collected subsequent to EPA's placement of a soil cover. The validated analytical results (detections only) for the soil vapor samples are presented in Table 2.2.2-1.

Table 2.2.2-1 Soil Gas Analytical Results (Validated Data)						
TO-15 Compound	Ambient	East Side of the Site (prior to remediation)		West Side of the Site		
		Soil Gas-1	Soil Gas-2	Soil Gas-3	Soil Gas-4	Soil Gas-5
Chloroethane	ND (1.3)	ND (13)	1.1	ND (260)	ND (1.3)	ND (1.5)
Trichloro- fluoromethane	ND (0.5)	ND (28)	ND (2.8)	ND (560)	ND (2.8)	3.7 J
Methylene Chloride	ND (1.7)	ND (17)	ND (1.7)	520	ND (1.7)	ND (1.9)
Chloroform	ND (0.5)	ND (24)	ND (2.4)	ND (490)	5.9	2.8 NJ
Toluene	ND (0.5)	ND (19)	7.9	1,100	4.1	5.7 J
Tetrachloroethene	ND (0.5)	ND (34)	ND (3.4)	ND (680)	ND (3.4)	5.4
Chlorobenzene	ND (2.3)	ND (23)	ND (2.3)	460	ND (2.3)	ND (2.5)
Xylene (m,p)	ND (0.5)	ND (22)	3.9	ND (430)	2.8	5.2 J
Carbon Disulfide	5.3	ND (16)	5.9	1,300	ND (1.6)	ND (1.7)
Acetone	13 J	ND (120)	29 J	2,400	19 J	29 J
Cyclohexane	ND (1.7)	ND (17)	13	340	ND (1.7)	ND (1.9 J)
Methyl Ethyl Ketone	1.7	ND (15)	4.7 NJ	ND (290)	2.2	3.2 J
Methyl Isobutyl Ketone	ND (2)	ND (20)	2.5	ND (410)	ND (11)	ND (14)
Methyl Butyl Ketone	ND (2)	ND (20)	ND (2)	ND (410)	ND (2)	27 J
n-Hexane	2.3	ND (18)	6.3	1,000	7	7.4
Total Xylene	ND (2.2)	ND (22)	4.2	ND (430)	3	5.6

Notes:

All results are presented in micrograms per cubic meter of ug/m³.

"ND" denotes non-detect at the numeric laboratory detection limit listed in parenthesis.

"J" denotes a qualifier for an estimated value.

"N" denotes a qualifier for a tentative value.

The analytical results indicated that a limited number of volatile organic compounds were detected at relatively low level concentrations on the west side of the site. Based on a relative comparison of the analytical results, the concentrations of volatile organic compounds appear to be elevated at Soil Gas-3. Otherwise, the detected concentrations at the remaining locations are of similar magnitude to the background concentrations listed in the Draft Guidance for Evaluating Soil Vapor Intrusion in the State of New York prepared by NYSDOH.

Considering the results of the soil gas sampling and the absence of formal regulatory values for comparison, consultation with the NYSDEC and NYSDOH relative to the concentrations of the detected compounds and the need for a mitigation system is required prior to site development. Further evaluation of the site's soil vapor intrusion potential may be necessary in the footprint of proposed site structures to verify that the remedial action on the east side removed subsurface vapor contamination or to evaluate the subsurface vapor conditions in the specific location of future building construction. Installation of a vapor barrier beneath proposed structures may be a viable alternative to performing additional soil vapor intrusion sampling and testing.

3.0 CONTEMPLATED USE

3.1 NYSDEC Approved Use

The SMP is developed to mitigate potential impacts to human health and the environment during construction activities or when the site's surface cover system may be excavated or otherwise disturbed. The site has been investigated and remediated to a suitable level for redevelopment and use under a commercial/industrial classification. The SMP is an integral part of an environmental easement that shall exist for the site so that the transfer of responsibilities can occur with transfer of property ownership.

3.2 Institutional and Engineering Controls

The remedy of the site allows for commercial/industrial uses with engineering controls and/or institutional controls. Residential uses are not allowed under this category and some types of commercial uses that could create residential types of exposure are excluded such as day-care and health care facilities.

The use of the property is controlled through restrictions that prevent the use of groundwater without treatment and requires disturbance of the surface cover system to be in accordance with the NYSDEC approved Site Management Plan. Those restrictions are described in the Environmental Easement prepared by NYSDEC and recorded with the deed filed at the City of Gloversville Clerk's Office and/or with Fulton County Offices. A copy of the NYSDEC issued Environmental Easement will be provided as Exhibit 2 when available.

3.3 Annual Groundwater Monitoring Requirements

As referenced in the Environmental Easement, annual groundwater monitoring of select monitoring wells is required to allow the extent of residual contamination to be monitored. The first annual groundwater sampling event was performed in May 2007. Previous groundwater sampling events were performed in March 2006 and May 2002.

The groundwater sampling is performed in accordance with the January 19, 2006 Post-remediation Groundwater Monitoring Plan and its March 21, 2007 Supplement, as

prepared by C.T. Male Associates, P.C. (C.T. Male). However, based on the results of the May 2007, the analytical testing requirements for the groundwater sampling were modified with the approval of NYSDEC. The table below summarizes the wells to be sampled and the associated analytical testing requirements for each well, to be performed hereafter.

Table 1 Summary of Long Term Groundwater Monitoring Program				
Well ID	TCL VOCs	TCL SVOCs	Select Metals ⁽¹⁾	TCL pesticides
<i>On-site Well Locations</i>				
B-2R			X	
B-3			X	
MW-5			X	
MW-6			X	X
MW-7	X	X	X	X
MW-8			X	
MW-9			X	
MW-10	X	X	X	X
MW-11			X	
MW-12			X	
MW-14			X	
Off35	X	X	X	
<i>Off-site Well Locations</i>				
OFF03a	Removed in 2007			
OFF24a	Removed in 2007			
OFF29	Removed in 2007			
OFF33	X	X	X	
OFF34	Removed in 2007			

Notes:

"X" denotes the sample will be analyzed for those parameters.

⁽¹⁾ "Select Metals" are: arsenic, chromium, iron, magnesium, manganese and sodium.

4.0 SUMMARY OF THE REMEDY

4.1 General

The contaminants of concern for soil, groundwater and soil vapor have been identified in Section 2.2 of this document. The identification of the remedial action objectives (RAOs) for the site were based primarily on the human health and environmental risks posed by the site as identified in the November 2003 Remedial Alternatives Report prepared by C.T. Male and the February 2004 Record of Decision prepared by NYSDEC. Based on the commercial/industrial contemplated use of the property, the RAOs for the site were to minimize potential exposure to on-site surface soil, subsurface soil, and groundwater.

To achieve the RAOs for the site, over 5,400 tons of petroleum/arsenic impacted soils on the east side of the site were removed and a cover system was placed over the property. The cover system has been placed on top of the re-graded on-site soils. The cover system consists of the materials described in section 3.2. A demarcation layer (orange filter fabric) between the re-graded existing site soils and clean imported fill was installed on the east side of the Cayadutta Creek and on the extreme southwest corner of the site west of the Cayadutta Creek, the areas of the site addressed by the remedial action by the City.

The west side of the site was covered with a soil barrier by EPA and a demarcation layer may not exist between re-graded existing soils and clean imported fill placed except where the former building foot print still exists. The concrete floor slab to the former tannery building on the west side of the site was left in-place, covered with gravel and plastic and reportedly remains in-place between the existing soils and the soil barrier.

The detailed remedy implemented at the site by the City is described in the Remedial Action Report prepared by C.T. Male, dated February 2006. The remedy implemented at the site by EPA is described in the November 2003 Site Investigation and Remedial Alternatives Reports prepared by C.T. Male.

4.2 Cover System

A cover system exists at the site. The cover system was installed by EPA on the western portion of the site and was installed by the City on the east side of the site. The purpose of the surface cover system is to mitigate the potential for human contact with existing site soils and reduce the potential for contaminated runoff from the site. The cover system installed at the site consisted of the following types of material:

- Soil: at least twelve inches of vegetated soil cover. The soil meets the recommended soil cleanup objective values established in NYSDEC TAGM 4046 Determination of Soil Cleanup Objectives and Cleanup Values as described in Section 6.4. A demarcation layer underlies the soil as an indicator of surface cover breakdown.
- Crusher Run: at least twelve inches of this material in areas that may become roads or parking areas.

Although not installed on site as a result of remedial actions completed to date, these other forms of surface cover are acceptable for future site disturbance.

- Asphalt: a minimum of 6 inches of material (asphalt and subbase material) in areas that will become roads, sidewalks, and parking lots.
- Concrete: a minimum of 6 inches of material (concrete and subbase material) in areas that will become slab-on-grade structures or for roads, sidewalks, and parking lots in lieu of asphalt.

5.0 SUB-SLAB VAPOR BARRIER SYSTEM

5.1 General

A soil gas mitigation system may be required by NYSDEC and/or NYSDOH depending on the location of future buildings on-site and current applicable regulations. The soil gas mitigation system shall be designed and constructed beneath the concrete slab of habitable site structures to prevent soil vapors from entering site structures. Additional soil gas sampling and analyses may also be required to determine the necessity of a mitigation system. Mitigation systems, if required, must be designed and installed by a professional engineer or environmental professional acceptable to the State. The design and installation of the mitigation system will be documented and reported to NYSDEC and NYSDOH. An information package on the mitigation system's operation, maintenance and monitoring must be shared with the appropriate personnel (i.e., building owner, building tenant, etc.).

5.2 Design/Installation Requirements

The goal of the soil gas mitigation systems is to minimize and possibly eliminate the infiltration of subsurface organic vapors into habitable site buildings. Mitigation systems must be designed and installed in accordance with the following:

- NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006
- USEPA Radon Mitigation Standards, EPA 402-R-93-078, Revised April 1994
- USEPA Model Standards and Techniques for Control of Radon in New Residential Buildings EPA 402-R-94-009, March 1994

6.0 MANAGEMENT OF SOILS AND MAINTENANCE OF COVER SYSTEM

The purpose of this section is to provide environmental guidelines for management of existing soils (i.e., soil beneath the cover system), repair/replacement of the cover system during future intrusive work that breaches the cover system, and maintenance of the cover system. General requirements are as follows:

- Breach of the surface cover, including the installation of utilities and construction work, must be replaced or repaired using imported fill material meeting the criteria detailed in Section 6.4. The repaired area must be covered with a cover system, as defined in Section 5.2 and 6.5.
- Control surface erosion and run-off of the entire property at all times, including during construction activities. This includes proper maintenance of the cover system established on the property which is not disturbed during construction activities.

6.1 Site Preparation Prior to Placement of Cover System

As part of redevelopment or future intrusive on-site activities, the site's existing soils may require grading prior to placement of new cover system or replacement of existing cover system. The soils generated during intrusive activities will be graded to the surface required for redevelopment. Trees, shrubs, roots, brush, masonry, rubbish, scrap, debris, pavement, curbs, fences, etc. will be removed and properly disposed off-site in accordance with applicable solid waste regulations. Efforts will be made to remove excess existing soil from tree roots and fence posts, as applicable, prior to off-site disposal or stockpiling. Only exempt materials as defined in 6 NYCRR Part 360-7.1(b)(1) are allowed to be stockpiled on-site. Prior to placement or replacement of cover system, protruding material will be removed from the ground surface. Burning will not be allowed on-site at any time.

6.2 Excavation and Grading Below Cover System

During construction activities at the site, excavation of existing soil may be necessary for the construction of utility corridors. Excavation may also be necessary during the

construction of footings for structures and for other activities. A Professional Engineer with construction/remediation experience, representing the property owner or developer will monitor existing soil excavations or disturbances below the cover system. The Professional Engineer (P.E.) must provide a stamped/signed certification that excavation work below the cover system and subsequent repair/replacement of the cover system was conducted in a manner consistent with this SMP. The P.E. certification must be included in the annual certification report required in Section 7.0 of this document.

During excavation for construction or other activities, the excavated existing soil should be observed for petroleum odors or staining. If petroleum impacts are suspected, the excavated existing soils should be field screened for the presence of volatile organic compound (VOC) vapors using electronic instrumentation such as a photo-ionization detector (PID) calibrated to isobutylene.

Excavated existing soil may be used on-site as fill below the cover system, but shall not be used for the cover system. Existing soil that is excavated as part of construction or other activities which can not be used as fill below the cover system will need to be chemically characterized by a NYSDOH ELAP approved environmental laboratory prior to transportation off-site for disposal at a facility permitted to accept this type of waste. Refer to Section 6.3.2 for characterization criteria to follow.

6.2.1. Visibly Impacted Soil or Soil Exhibiting Elevated PID Readings

Stained soil is soil that is observed to be discolored, tinted, dyed, unnaturally mottled, or has a petroleum sheen. Excavated soil that is visibly stained, exhibits petroleum or chemical odors, or produces elevated PID readings (i.e., sustained 10 ppm or greater) will be considered potentially contaminated and temporarily stockpiled on the property for further assessment. The property owner will be notified and the owner or developer should retain a Professional Engineer to observe excavation activities, field screen soil samples to determine level of excavation required to remove contamination and collect samples for laboratory analysis. The potentially contaminated soil will be stockpiled on polyethylene sheeting and then sampled for reuse, treatment, or disposal. The stockpiled, potentially contaminated soil will also be completely covered and secured using polyethylene sheeting to reduce the infiltration of precipitation and the generation of dust. Sampling and analysis of the soil stockpile will be completed in

accordance with Section 6.3.2. Visibly impacted existing soil containing one or more constituents in excess of the recommended soil cleanup objective values in NYSDEC Part 375 Environmental Restoration Programs Unrestricted Use Soil Cleanup Objectives Table 375-6.8(a), must be transported off-site to a permitted waste management facility or remain on-site with the NYSDEC's approval.

6.2.2. Buried Drums or Underground Storage Tanks

If buried drums or underground storage tanks are encountered during soil excavation activities, excavation will cease and the NYSDEC must be notified within two hours. The drums and/or underground storage tanks will be handled, removed, cleaned and disposed by appropriately trained personnel in accordance with all applicable federal, state and local regulations. Soils surrounding the tanks and drums will be assessed for impacts in accordance with applicable NYSDEC guidance documents (i.e., PBS regulations, TAGMs, etc.).

6.3 Management of Existing Soil

The purpose of this section is to provide guidelines for management of existing soils excavated at the site after penetrating the cover system. As a result of remedial activities, there are additional areas beneath the demarcation layer, specifically on the east side of the site, where clean imported fill was placed below the demarcation layer and would not meet the definition of existing soil. Additionally, the west side of the site which was remediated by EPA may not have a demarcation layer beyond the footprint of the former building to differentiate between existing soil and the cover system which varies in thickness from 1 to 6 feet thick. Therefore, differentiating between the existing soil and the cover system should be made by geologist familiar with the site conditions.

6.3.1 General

Existing soil is generally defined as the soil native to the site that underlies the demarcation layer and/or cover system installed. Existing soil may be reused as fill material on-site provided it is placed below the cover system that meets the definition in Section 3.2. Existing soil can not be used as fill below the cover system if it meets the

criteria in Section 6.2.1 unless NYSDEC specifically allows its reuse on-site. Additional criteria for managing existing soil at the site are listed below.

- Existing soil may not be reused for the cover system.
- Existing soil that is found to be hazardous on the basis of TCLP testing for off-site soil disposal will not be allowed to be reused in any manner on-site, and will be required to be disposed off-site at a permitted waste disposal facility.
- Existing soil that is excavated and intended to be removed from the property must first be characterized, managed and properly disposed of in accordance with NYSDEC regulations and directives.
- Prior to construction activities, workers must be notified of the site conditions with respect to the contaminants of concern. The scope of work to be implemented must be reviewed and approved by the property owner or its designated representative. Invasive work must be performed in accordance with all applicable local, state and federal regulations to protect worker health and safety. The work must also be performed in conformance with the requirements of this SMP.
- If invasive work (i.e., disturbance of more than six inches of the cover system) is performed, the owner, or its successors and assigns, shall complete and submit to the Department a description of the work completed, how it affected the protective cover, certification by a Professional Engineering (P.E.) licensed in New York State that the protective cover was replaced or repaired in accordance with the SMP, and that the new conditions are protective of human health and the environment. These requirements and submittals will be included within the annual report as described in Section 7.2.

6.3.2 Characterization

For excavated existing soil with visual evidence of contamination (i.e., staining, petroleum or chemical odors, or elevated PID readings), the following steps are required for reuse determination. A Soil Characterization Flow Chart (Figure 6) is provided to summarize the following.

- One composite sample will be collected for each 100 cubic yards of stockpiled existing soil as described below. The composite sample will be analyzed by a NYSDOH ELAP-certified laboratory for Target Compound List (TCL) SVOCs and Target Analyte List (TAL) metals. Composite soil samples will be homogenized by placing equal portions of soil from each of the five individual sample locations into a pre-cleaned, stainless steel (or Pyrex glass) mixing bowl. The soil will be thoroughly mixed using a stainless steel scoop or trowel and transferred to pre-cleaned jars provided by the laboratory. Sample jars will then be labeled and a chain-of-custody form will be prepared.
- One grab sample will be collected from one of the individual locations used for the composite sample. This sample should represent the soils with the highest PID measurement. If none of the five individual sample locations used to make the composite exhibit PID readings, one location will be selected at random. The grab sample will be analyzed by a NYSDOH ELAP-certified laboratory for TCL VOCs. Grab samples for TCL VOC analysis will not be homogenized and will be placed directly in lab sample containers. Sample jars will then be labeled and a chain-of-custody form will be prepared.

For excavated existing soil that does not exhibit visual evidence of contamination (i.e., staining, petroleum or chemical odors, or elevated PID readings), the following steps are required for reuse determination:

- One composite soil sample will be collected as defined below for each 2,000 cubic yards of stockpiled existing soil, and a minimum of 1 composite sample will be collected for volumes less than 2,000 cubic yards. The composite sample will be analyzed by a NYSDOH ELAP-certified laboratory for the TCL VOCs, SVOCs and TAL metals.
- No composite soil sample will be required for excavation of less than 50 cubic yards of existing soil.

6.3.3 Disposal or Reuse of Existing Soil

Existing soil that has been characterized per Section 6.3.1 and found to meet NYSDEC Part 375 Environmental Restoration Programs Unrestricted Use Soil Cleanup Objectives Table 375-6.8(a) and/or current applicable regulatory guidance, may be reused as backfill below the cover system, if necessary. Existing soil may not be reused as backfill in landscaping berms for the planting of trees and shrubs. If the analysis of the existing soil samples reveals exceedance of NYSDEC Part 375 Environmental Restoration Programs Unrestricted Use Soil Cleanup Objectives Table 375-6.8(a) and/or current applicable regulatory guidance, consultation with NYSDEC will be required to determine if the soil can be used as backfill on-site or should be disposed off-site. Existing soil not used on-site may require additional analyses to further characterize the material for disposal purposes depending on the disposal facility requirements. The property owner will be responsible for characterizing any material planned for off-site disposal. The property owner, regardless of the analytical results of chemical characterization, must not allow existing soil to be disposed off-site at a facility not permitted by NYSDEC or other out of state waste disposal governing agency.

If hazardous waste is suspected to exist or is encountered, a sample may also need to be collected and analyzed for the Toxicity Characteristic (TC) following the Toxicity Characteristic Leaching Procedure (TCLP) for the full TC list of parameters, or the particular compounds/analytes that were detected at concentrations exceeding NYSDEC Part 375 Environmental Restoration Programs Unrestricted Use Soil Cleanup Objectives Table 375-6.8(a) values. The sample may also need to be analyzed for the other RCRA Characteristics including reactivity, corrosivity, and ignitability. If the analytical results indicate that concentrations exceed the TC Rule or possess RCRA characteristics, the material will be considered a hazardous waste and must be properly disposed off-site at a permitted disposal facility within 90 days of excavation or longer dependent on the quantity generated.

For excavated existing soil that must be sent off-site, soil characterization must be performed for the parameters and at the frequency required by the disposal facility accepting the waste. This facility must be permitted by NYSDEC or other applicable regulating agency to accept this type of waste. The excavated existing soil must be transported to the disposal facility by a hauler maintaining a valid NYSDEC Waste Transporter Permit (6 NYCRR Part 364) and any other permits required by states the

soil is hauled through. Stockpiled existing soil cannot be transported off-site until the analytical results are received and reviewed by the property owner.

6.4 Management of Imported Fill

The purpose of this section is to provide guidelines for management of soil brought to the site from an off-site source (i.e., imported fill). Imported fill soil used to backfill excavations, placed to increase site grades or elevation, or for cover system repair shall meet the following criteria. An Imported Fill Use Criteria Flow Chart (Figure 7) is provided to summarize the following:

- Off-site soils documented to have originated from locations having no evidence of disposal or release of hazardous, toxic or radioactive substances, wastes or petroleum products.
- Off-site soils that cannot otherwise be defined as a solid waste in accordance with 6 NYCRR Part 360-1.2(a).
- If the origin of the imported fill is designated as "virgin" soil, it shall be further documented in writing to be native soil material from areas not having supported any known prior industrial or commercial development, or agricultural use.
- Virgin soils must be subject to collection of one representative composite sample per source. The sample will be analyzed for TCL VOCs, SVOCs, pesticides, PCBs, arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, and cyanide. The soil will be acceptable for use on-site provided that all parameters are below NYSDEC TAGM 4046 recommended soil cleanup objective values and/or current applicable regulatory guidance.
- Non-virgin soils must be tested via collection of one composite sample per 500 cubic yards of material from each source area. If more than 1,000 cubic yards of soil are borrowed from a given off-site non-virgin soil source area and both samples of the first 1,000 cubic yards meet NYSDEC TAGM 4046 recommended soil cleanup objective values and/or current applicable regulatory guidance, the sample collection frequency will be reduced to one composite for every 2,500 cubic yards of additional soils from the same source, up to 5,000 cubic yards. For

borrow sources greater than 5,000 cubic yards, sampling frequency may be reduced to one sample per 5,000 cubic yards, provided all earlier samples met the NYSDEC TAGM 4046 recommended soil cleanup objective values and/or current applicable regulatory guidance.

6.5 Cover System

6.5.1 Soil

The cover soil material shall meet the following criteria in addition to meeting the criteria for imported fill as described in Section 5.4.

- Excavated on-site soil/fill shall not be used as cover material.
- The topsoil used for the cover system shall be fertile, friable, natural loam surface soil, capable of sustaining plant growth, and free of clods or hard earth, plants or roots, sticks or other extraneous material harmful to plant growth.
- Grassed areas shall be seeded with a sustainable perennial mixture with appropriate erosion control measures taken until the perennial grasses are established.
- Construct clean soil berms in areas where shallow-rooted trees and shrubs will be planted to reduce the disturbance of the surface cover material. The berms shall be of sufficient thickness to allow the excavation of only clean fill deep enough to plant the tree or shrub root ball. The berm material shall contain sufficient organic material to allow tree and/or shrub growth, and shall be of sufficient strength to support trees and/or shrubs at their maximum height.

6.5.2 Asphalt

It is expected that asphalt will be used for future development in areas that will become roads, sidewalks, and parking lots. Where asphalt will represent a cover in terms of a cover system, a minimum cross-sectional thickness of 6 inches of material (asphalt and clean subbase material) is required for protection from exposure to the underlying existing soil. The actual cross section of the asphalt cover (i.e., thickness of the asphalt and subbase material) should be designed based on the intended use of the area.

6.5.3 Concrete

It is expected that concrete may be used in areas that will become slab-on-grade structures, utilities, footings, foundations, or signs. Concrete may also be used instead of asphalt for roads, sidewalks, and parking lots. Where concrete will represent a cover in terms of a cover system, a minimum cross-sectional thickness of 6 inches of material (concrete and clean subbase material) is required for protection from exposure to the underlying existing soil. The type and thickness of concrete and subbase material should be designed based on intended use of the area.

6.6 Erosion Control

Erosion and sediment control measures and pollution prevention measures will be evaluated, designed and implemented in compliance with the "New York Guidelines for Urban Erosion and Sediment Control" and the "New York State Stormwater Management Design Manual" or similar requirements in place in the future.

6.7 Dust Control

Soil handling, depending on the moisture content of the soil, has the potential for generating dust or particles in which contaminants, if present, may be adhered to and released into the environment. Dust suppression techniques will be employed as necessary to control and mitigate fugitive dust. All reasonable attempts will be made to keep visible and/or fugitive dust to a minimum. Techniques to be utilized may include one or more of the following:

- Applying water to access roads.
- Restricting construction and other vehicle speeds on-site.
- Hauling materials in tarped containers or construction vehicles.
- Spraying or misting excavations and equipment prior to and during soil disturbances.
- Tarping or applying spray type cover to subgrade areas.
- Establishing vegetative cover after placement of cover system.

Particulate air monitoring may be required during soil handling operations relating to the site's existing soils. Refer to Section 8.3 of this report for the requirements of the particulate air monitoring.

6.8 Construction Water Management

Due to the subsurface soil conditions observed during previous investigations and remedial actions, groundwater infiltration may be significant and may require management if excavations extend into the water table. Water pumped from excavations will require proper management in accordance with all applicable federal, state and local regulations because groundwater contamination exists at the site.

The water pumped from the excavations will be containerized and analyzed in general accordance with Surface Water and Groundwater Standards set forth in 6NYCRR Part 703.5 and/or applicable local sewer authority discharge requirements. If the water meets the surface water quality standards, it may be discharged to the ground surface. Permitted surface discharges shall be controlled and performed in a manner to mitigate transport of soil particulates and erosion of the cover system. If the water does not meet the surface water and ground water quality standards, it may be discharged to the local sewer authority under a discharge permit. If the water quality is such that the local sewer authority discharge permit requirements will be exceeded, or the local sewer authority will not approve the discharge to a sewer, the water will be treated on-site prior to discharge or transported off-site for proper disposal.

6.9 Access Controls

Access to the site must be controlled when disturbance to the cover system occurs to prevent direct contact with the site's existing soil. Excavated existing soil stockpiled on site must be temporarily covered to prevent access to the covered soil. The access controls must remain in-place until the cover system is restored.

6.10 Maintenance and Monitoring

Maintenance and monitoring of the site's cover system will be the responsibility of the owner, or its successors and assigns. Maintaining a vegetative cover and paved surfaces will reduce the likelihood of breaches of the surface cover system.

Monitoring of the site should be at least annually, and more frequently when severe conditions occur at the site such as major erosion, flooding or creek embankment failure and construction activities. The criteria for the maintenance and monitoring activities will include the following:

- Conduct site visits by a competent person to observe the site conditions to evaluate compliance with the decision documents and effectiveness of the remedy;
- Document changes to the remedy as detailed in the NYSDEC Record of Decision (February 2004);
- Recommend changes to the remedy on the basis of site conditions;
- Perform groundwater sampling in accordance with the NYSDEC approved groundwater monitoring plan;
- Evaluate the cover system (i.e., vegetative cover, roads, buildings, parking lots, etc.) for sloughing, cracks, settlement, erosion, distressed vegetation, and damaged fencing/gates, and document conditions observed;
- Notify the property owner of necessary repair of deficiencies created or discovered by persons other than the owner.

7.0 NOTIFICATION AND REPORTING REQUIREMENTS

7.1 Notification

The following written and/or verbal notification requirements shall be followed by the owner, or its successors and assigns, for all future site disturbances, as appropriate:

- NYSDEC shall be notified in writing within two (2) calendar days of discovery of any breach, upset, interruption, or termination of one or more site controls without prior approval of the Department. An explanation of the conditions observed and the steps planned or to be taken to correct the breach, upset, interruption, or termination of one or more site controls shall be included in the notice to the Department and detailed in subsequent annual reporting.
- NYSDEC shall be verbally notified within two (2) hours if buried drums, underground storage tanks, and/or obviously contaminated soil or groundwater are encountered during soil excavation activities. Obviously contaminated is defined as exhibiting petroleum staining, odors or sheen. Under State Law, all petroleum and most hazardous material spills must be reported to NYSDEC Hotline (1-800-457-7362) within New York State. Petroleum spills must be reported to DEC unless they meet all of the following criteria; the spill is known to be less than 5 gallons; the spill is contained and under the control of the spiller; the spill has not and will not reach the State's water or any land; and the spill is cleaned up within two (2) hours of discovery. For spills not deemed reportable, it is recommended that the facts concerning the incident be documented by the spiller and a record maintained for one year.

Small scale projects, as defined in Section 8.3.3, do not require the above described notification. For emergency repairs or alterations, notification will occur in a timely manner after completion of work.

Notifications (other than calling the NYSDEC Hotline) should be submitted to the following address and contact name:

- NYSDEC Region 5 Office
1115 NYS Route 86, P.O. Box 296
Ray Brook, New York 12977
Attn: Division of Environmental Remediation (i.e., NYSDEC Project Manager
Michael P. McLean, P.E. or other NYSDEC designated contact)
Main Telephone Number: (518) 897-1242

7.2 Reporting

The following minimum reporting requirements shall be followed by the owner, or its successors and assigns, for all future site disturbances, as appropriate:

The owner, or its successors and assigns, shall complete and submit to the Department an Annual Report on the 1st day of the month following the anniversary of the implementation of the Site Management Plan, and continuing until the Department notifies the property owner that such Annual Report may be discontinued. The Annual Report shall contain certification that the institutional controls put in place, pursuant to the SMP, are still in place, have not been altered and are still effective; that the remedy and protective cover have been maintained throughout the year; and that the conditions of the site remain protective of human health and the environment.

If the surface cover system has been breached during the year covered by that Annual Report, the owner, or its successors and assigns, of the property shall include the following in such Annual Report:

- Certification that invasive work was performed in conformance to the SMP.
- Plans showing areas and depth of fill removal.
- Copies of daily observation reports for soil related issues.
- Description of erosion and/or dust control measures.
- Text narrative describing the excavation activities performed; health and safety monitoring performed; quantities and locations of existing soil excavated and disposed on-site; sampling locations and results, if any; description of problems encountered; location and acceptability of test results for backfill sources, if any;

description and documentation of off-site disposal, if any; and other pertinent information necessary to document that the site activities were properly performed.

- Plans showing before and after survey elevations on an appropriate grid to document the thickness of cover system (soil only), if the invasive work exceeds one acre. For invasive work less than one acre of disturbance, provide adequate documentation indicating the cover system repaired/replaced meets the cover system minimum requirements.

Small scale projects, as defined in Section 8.3.3, do not require the above described reporting. For emergency repairs or alterations, reporting will occur in a timely manner after completion of work.

The frequency of the reports may be altered with prior approval from the NYSDEC. Reports should be submitted to the following address and contact name:

- NYSDEC Region 5 Office
1115 NYS Route 86, P.O. Box 296
Ray Brook, New York 12977
Attn: Division of Environmental Remediation (i.e., NYSDEC Project Manager Michael P. McLean, P.E. or other NYSDEC designated contact)
Main Telephone Number: (518) 897-1242

7.3 Analytical Data

Characterization samples collected during site redevelopment activities will be analyzed using the most recent NYSDEC Analytical Services Protocol (ASP), consistent with Section 2 of NYSDEC DER-10, Technical Guidance for Site Investigation and Remediation. The analytical laboratory will be certified through the NYSDOH Environmental Laboratory Approval Program (ELAP) to perform Contract Laboratory Program (CLP) analysis and Solid Waste and Hazardous Waste Analytical testing on all media to be sampled. The laboratory will maintain these certifications for the duration of the project.

Sampling and decontamination procedures, as appropriate, shall be documented at the time of sampling. Procedures for chain of custody, laboratory instrumentation calibration, laboratory analyses, reporting of data, internal quality control, and

corrective actions shall be followed as per NYSDEC ASP and as per the laboratory's Quality Assurance Plan. Where appropriate, trip blanks, field blanks, field duplicates, and matrix spike/matrix spike duplicate shall be performed at a rate of 5% (1 per up to 20 samples) and will be used to assess the quality of the data. The laboratory's in-house quality assurance/quality control limits will be utilized whenever they are more stringent than those suggested by the EPA methods.

8.0 HEALTH AND SAFETY PROCEDURES

8.1 General

Invasive work performed at the property will be performed in accordance with applicable local, state, and federal regulations to protect worker health and safety. If intrusive work is expected to breach the cover system installed at the property, contractors performing activities which disturb site soils will be required to prepare a site specific, activity specific Health and Safety Plan (HASP). The HASP will also include provisions for protection of the community as described in Section 7.3.

The HASP will be prepared in accordance with the regulations contained in OSHA 29CFR 1910.120, and inclusive of the components of the NYSDOH Generic Community Air Monitoring Plan and in part NYSDEC TAGM 4031. The Health and Safety plan should address and include at a minimum the following:

- A safety and health or hazard analysis for each site task and operation.
- Employee training and medical surveillance requirements.
- Frequency and type of air monitoring, personnel monitoring and environmental sampling techniques and instrumentation to be used, including methods of maintenance and calibration of equipment.
- Site control measures.
- Emergency response plan with contact names and numbers for emergency personnel (i.e., fire, police, etc.).
- Equipment and personnel decontamination procedures.
- Spill containment and reporting procedures, as applicable.

8.2 Construction Personnel

Contractors engaged in subsurface construction or maintenance activities (e.g., foundation and utility workers) will be required to implement appropriate health and

safety procedures. These procedures will involve, at a minimum, donning adequate personal protective equipment, performing appropriate air monitoring, and implementing other engineering controls as necessary to mitigate potential ingestion, inhalation and contact with residual constituents in the soils. Recommended health and safety procedures include, but may not be limited to, the following:

- While conducting invasive work at the Site, the Contractor shall provide safe and healthful working conditions. The Contractor shall comply with all New York State Department of Labor regulations and published recommendations and regulations promulgated under the Federal Occupational Safety and Health Act of 1970 and the Construction Safety Act of 1969, as amended, and with laws, rules, and regulations of other authorities having jurisdiction. Compliance with governmental requirements is mandated by law and considered only a minimum level of safety performance. The Contractor shall insure that all work is performed in accordance with recognized safe work practices.
- The Contractor shall be responsible for the safety of the Contractor's employees and the public. The Contractor shall be solely responsible for the adequacy and safety of all construction methods, materials, equipment and the safe prosecution of the work.
- The Contractor is responsible to ensure that all project personnel have been trained in accordance with 29 CFR 1910.120, if required.
- The Contractor shall have a HASP, written in accordance with 29 CFR 1926.65, prepared, signed and sealed by a safety professional; a safety professional and/or a trained safety representative(s) active on the job whenever the work is in progress; an effective and documented safety training program; and a safety work method check list system.
- Recognition as a safety professional shall be based on a minimum of certification by the Board of Certified Safety Professionals as a Certified Safety Professional and 5 years of professional safety management experience in the types of construction and conditions expected to be encountered on the Site.
- All personnel employed by the Contractor or his subcontractors or any visitors whenever entering the job site, shall be required to wear appropriate personal protection equipment required for that area.

8.3 Community Air Monitoring Program

8.3.1 General

Depending on the size of the project, organic vapor and particulate air monitoring may be necessary during activities which require disturbance of existing soils below the cover system in accordance with the NYSDOH Generic Community Air Monitoring Plan (CAMP), which is included as Appendix B. The air monitoring shall also be performed in accordance with the applicable sections of NYSDEC TAGM 4031, Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites, which is included as Appendix C. The NYSDOH CAMP and NYSDEC TAGM 4031 are not intended for use in establishing action levels for worker respiratory protection, but rather to provide a measure of protection for the downwind community.

Remedial actions conducted to date indicate that the majority of the soils impacted with volatile organic compounds have been removed and disposed off-site. Post remediation sampling and analysis documented that the soil remaining in-place does not contain volatile organic compounds above the method detection limit or where detected above regulatory values, except for two locations. Considering this information, a waiver for organic vapor monitoring may be pursued with the NYSDOH or NYSDEC depending on the nature and location of the ground intrusive redevelopment activity.

8.3.2 Large Scale Projects

Particulate air monitoring must be performed during large scale intrusive site excavation and/or grading activities. Particulate air monitoring should be performed upwind of the work area and along the downwind portions of the work area (with the focus on bordering residents or businesses) during disturbance activities including subgrade excavation, grading and soil handling. Examples of large scale excavation and grading activities include:

- installation of building foundations, and
- major site work for installation of buildings, driveways and parking lots.

8.3.3 Small Scale Projects

Particulate air monitoring is not required for small scale site excavation and/or grading activities. Examples of small scale excavation and grading activities include:

- fence dismantling and installation,
- landscaping activities,
- tree and vegetation maintenance/control,
- creek wall repair or replacement (emergency and non-emergency), and
- buried utility repair or replacement (emergency and non-emergency).

During small scale site excavation, visual assessment for visible/respirable dust must be implemented. Misting/wetting the area must be performed, as needed, on the basis of the visual assessment to assure no visible dust migrates beyond the immediate work area. If dust does not appear to be controlled by this or other typical construction methods, dust monitoring would be required to determine if particulate action levels are being exceeded.

FIGURE 1
SITE LOCATION MAP

CALL DTMG. FILE NAME: SMP FIG 1.DWG



CITY OF GLOVERSVILLE	FULTON COUNTY, NEW YORK
----------------------	-------------------------

50 CENTURY HILL DRIVE, P.O. BOX 727, LATHAM, NY 12110
518.786.7400 * FAX 518.786.7299

Architecture & Building Systems Engineering * Civil Engineering
Environmental Services * Survey & Land Information Services



DATE: FEB. 22, 2006

Date	RECORD OF WORK	Appr.

Checker:

Proj. No. 01.7293

FIGURE 2
BOUNDARY SURVEY

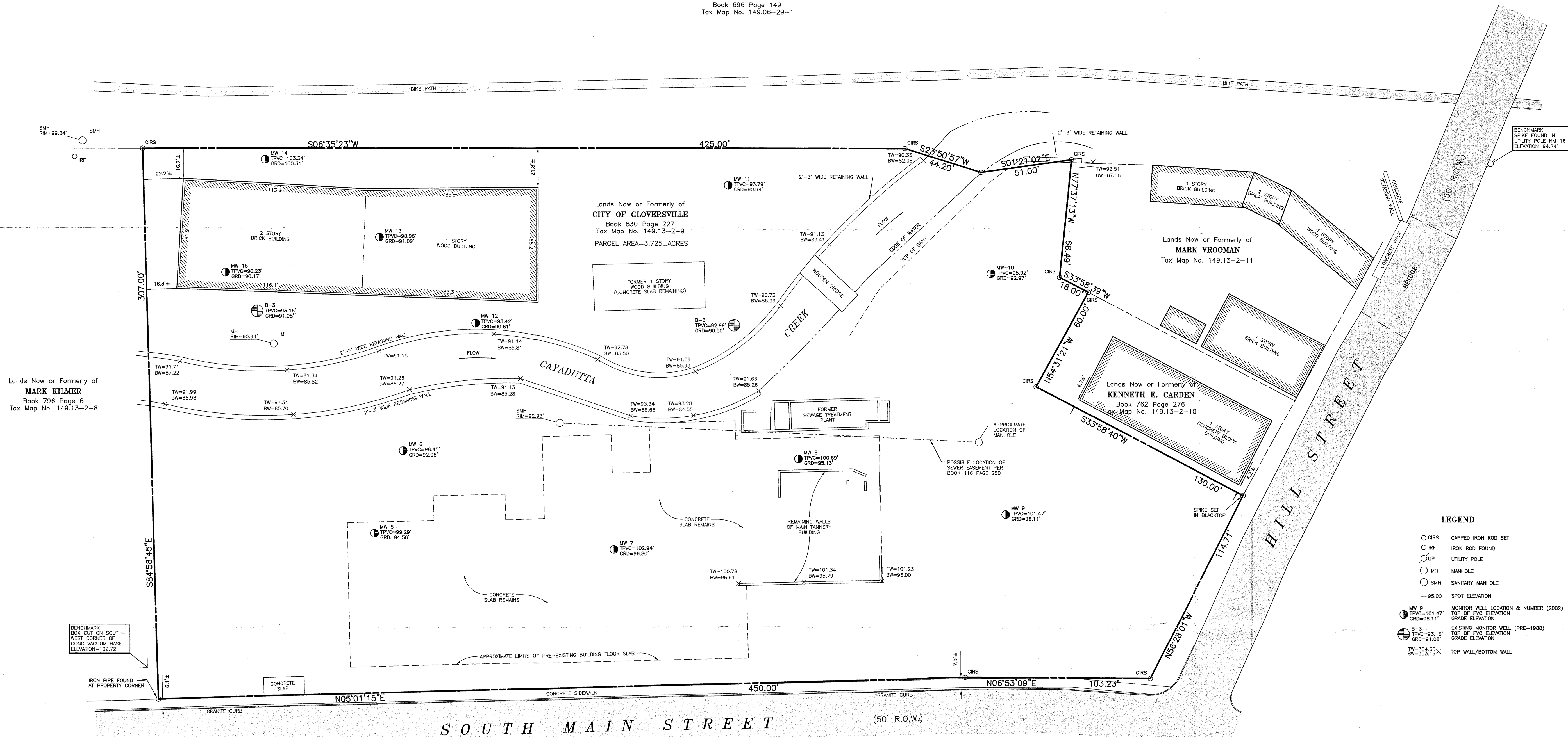
MAP NOTES

1. North orientation and bearing base per map reference no. 1.
2. Information shown hereon was compiled from an actual field survey conducted during the month's of January and May 2002. Conditions shown are as they were on the site as of May 2002.
3. Property corners reset May 31, 2002.
4. Vertical datum shown hereon is an assumed base.
5. This survey was prepared without the benefit of an up to date abstract of title or title report and is therefore subject to any easements, covenants, restrictions or any statement of fact that such documents may disclose.
6. Spot elevations shown to indicate elevations on the remaining concrete slab, tops and bottoms of retaining walls and monitor well data.

MAP REFERENCES

1. "Survey of Lands of Independent Leather MFG. Corp.," City of Gloversville, County of Fulton, NY., dated October 26, 1988, prepared by C.T. Male Associates P.C., Drawing No. 88-607.

Lands Now or Formerly of
CITY OF GLOVERSVILLE
Book 696 Page 149
Tax Map No. 149.06-29-1



LEGEND

- CIRS CAPPED IRON ROD SET
- IRF IRON ROD FOUND
- UP UTILITY POLE
- MH MANHOLE
- SMH SANITARY MANHOLE
- + 95.00 SPOT ELEVATION
- MW 9 MONITOR WELL LOCATION & NUMBER (2002)
- TOP OF PVC ELEVATION
- GRADE ELEVATION
- B-3 EXISTING MONITOR WELL (PRE-1988)
- TOP OF PVC ELEVATION
- GRADE ELEVATION
- TOP WALL/BOTTOM WALL

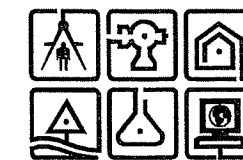
C.T. MALE ASSOCIATES, P.C.

MAY 09 2008

PRINTED AND ISSUED

FIGURE 2 - BOUNDARY SURVEY
FORMER INDEPENDENT LEATHER MFG. CORP.
321 SOUTH MAIN STREET

CITY OF GLOVERSVILLE COUNTY OF FULTON, NEW YORK

C.T. MALE ASSOCIATES, P.C.50 CENTURY HILL DRIVE, P.O. BOX 727, LATHAM, NY 12110
518.786.7400 * FAX 518.786.7299ARCHITECTURE & BUILDING SYSTEMS ENGINEERING * CIVIL ENGINEERING
ENVIRONMENTAL SERVICES * SURVEY & LAND INFORMATION SERVICES

SHEET 1 OF 4

DWG. NO: 08-0313

JAMES F. COOK
PLS. NO. 49,260

DATE	REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
10/05/04	△ SOUTH ADJOINERS REVISED	TCB	JFC	JFC
5/6/08	△ ISSUE NEW DWG. NO. FOR SITE MANAGEMENT PLAN	J.MARX		
	△			
	△			
	△			
	△			
	△			
	△			
	△			

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APPROVED: EFG

DRAFTED : TCB

CHECKED : JFC

PROJ. NO : 01.7293

SCALE : 1"=30'

DATE : JAN. 29, 2002

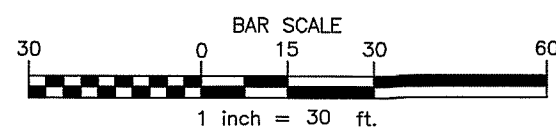


FIGURE 3
TOPOGRAPHIC SURVEY
(POST-REMEDIATION)

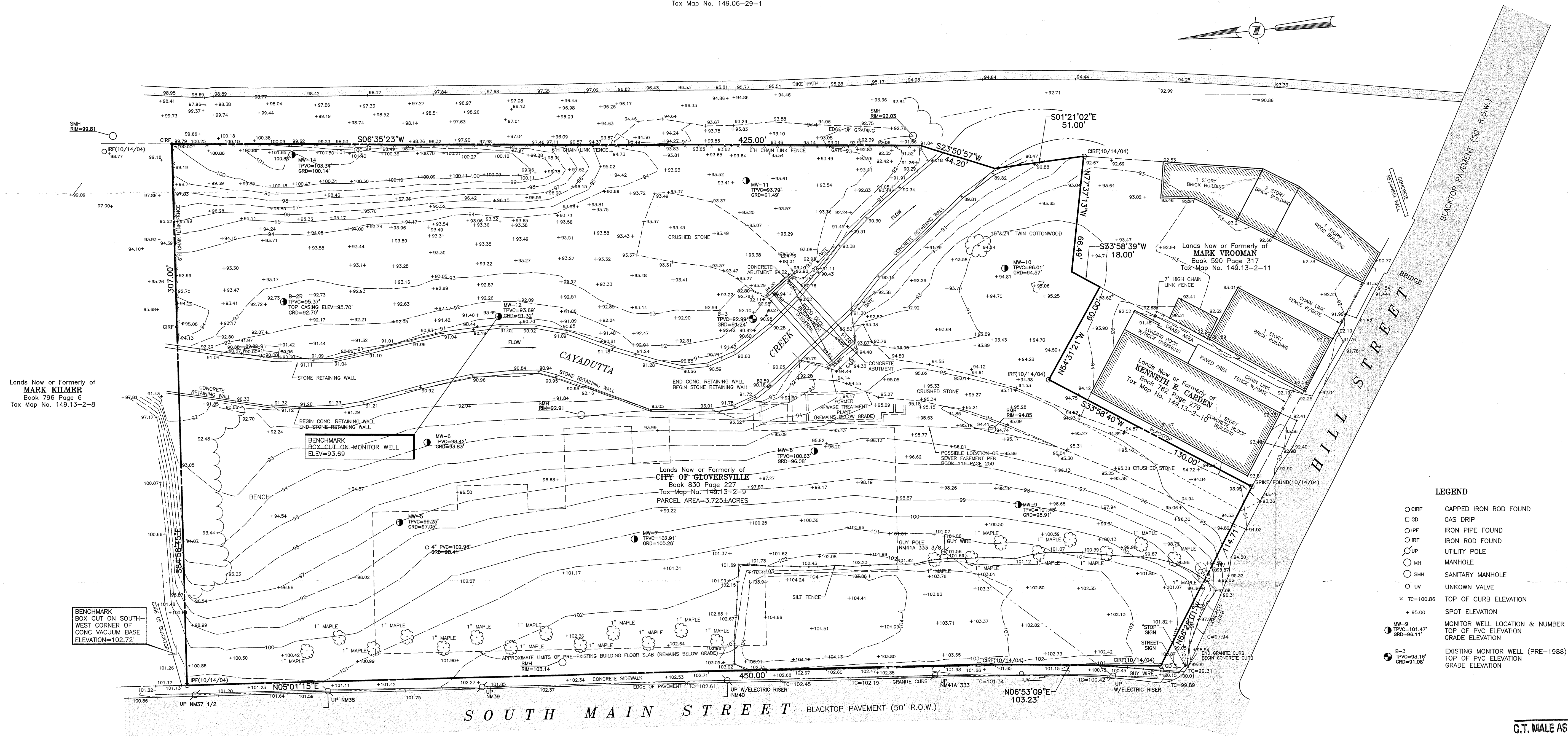
MAP NOTES

1. North orientation and bearing base per map reference no. 1.
2. Boundary information shown hereon was based on map reference no. 1 and no. 2.
3. Vertical datum shown hereon is an assumed base.
4. Underground facilities, structures, and utilities have been plotted from data obtained from previous maps and record drawings. Surface features such as catch basin rims, manhole covers, water valves, gas valves, etc. are the result of field survey unless noted otherwise. There may be other underground utilities, the existence of which are not known to the undersigned. Size and location of all underground utilities and structures must be verified by the appropriate authorities. The Underground Facilities Protective Organization must be notified prior to conducting test borings, excavation and construction.

MAP REFERENCES

1. "Survey of Lands of Independent Leather MFG. Corp.," City of Gloversville, County of Fulton, NY., dated October 26, 1988, prepared by C.T. Male Associates P.C., Drawing No. 88-607.
2. "Boundary Survey Former Independent Leather Mfg. Corp., 321 South Main Street, City of Gloversville, County of Fulton, NY., dated January 29, 2002, prepared by C.T. Male Associates P.C., Drawing No. 02-446.

Lands Now or Formerly of
CITY OF GLOVERSVILLE
Book 696 Page 149
Tax Map No. 149.06-29-1



LEGEND

- CIRF CAPPED IRON ROD FOUND
- GD GAS DRIP
- IPF IRON PIPE FOUND
- IRF IRON ROD FOUND
- UP UTILITY POLE
- MH MANHOLE
- SMH SANITARY MANHOLE
- UV UNKNOWN VALVE
- × TC=100.86 TOP OF CURB ELEVATION
- + 95.00 SPOT ELEVATION
- MW-9 TPVC=101.47' GRD=96.11' MONITOR WELL LOCATION & NUMBER TOP OF PVC ELEVATION GRADE ELEVATION
- B-3 TPVC=93.18' GRD=91.06' EXISTING MONITOR WELL (PRE-1988) TOP OF PVC ELEVATION GRADE ELEVATION

C.T. MALE ASSOCIATES, P.C.

MAY 09 2008

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FIGURE 3 - TOPOGRAPHIC SURVEY

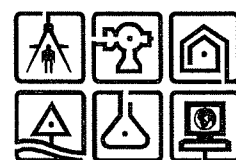
LANDS NOW OR FORMERLY OF THE
CITY OF GLOVERSVILLE
321 SOUTH MAIN STREET

COUNTY OF FULTON, NEW YORK

C.T. MALE ASSOCIATES, P.C.

50 CENTURY HILL DRIVE, P.O. BOX 727, LATHAM, NY 12110

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SHEET 2 OF 4

DWG. NO: 08-0313

JAMES F. COOK
PLS. NO. 49,260

DATE	REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
5/6/08	△ ISSUE NEW DWG. NO. FOR SITE MANAGEMENT PLAN	J.MARX		
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PROJ. NO: 01.7293

SCALE: 1"=30'

DATE: AUG. 25, 2006

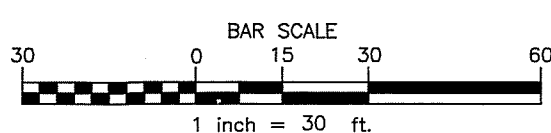


FIGURE 4
POST REMEDIATION VERIFICATION
SAMPLE LOCATION MAP

Analytical Summary Table
Post Remediation Sample Analytical Results Above SCG's
Volatile Organic Compounds and Semi-Volatile Organic Compounds
Data Validated

Parameter	NYSDEC TAGM 4046 Values ⁽¹⁾	EA#5 EAST WALL	EA#5 SOUTH WALL	EA#5 WEST WALL	EA#6 EW#1	EA#7 FLOOR#3	EA#7 WEST WALL#1	EA#8 WEST WALL	EA#8 WEST WALL#2
Lab Sample ID #		211205-004	211205-001	211205-007	211284-007	211336-003	211336-001	211336-008	211336-015
Lab Sample Map ID		51	54	53	11	24	25	32	39
Volatile Organic Compounds by EPA Method 8260 (mg/kg)									
1,2,4-Trimethylbenzene	10	< 0.0025	< 0.0025	33	< 0.0018 J	0.91	< 0.0018	32	0.063
1,3,5-Trimethylbenzene	3.3	< 0.0026	< 0.0027	4.8	< 0.0019 J	0.011 J	< 0.0019	11	< 0.0019
Benzene	0.06	< 0.0022	< 0.0022	< 0.22	< 0.0016 J	< 0.0092	< 0.0016	< 0.11	< 0.0016
Ethylbenzene	5.5	< 0.0028	< 0.0029	< 0.54	< 0.0021 J	< 0.012	< 0.002	< 0.28	< 0.002
Isopropylbenzene	2.3	< 0.0029	< 0.003	1.2 J	< 0.0022 J	0.052	< 0.0021	1.4 J	< 0.0021
m&p-Xylenes	1.2 ⁽²⁾	< 0.0051	< 0.0052	1.4 J	< 0.0038 J	< 0.022	< 0.0037	2.2	< 0.0037
Methyl-tert-butyl-ether	0.12	< 0.00046	< 0.00048	< 0.16	< 0.00034 J	< 0.002 J	< 0.00033	< 0.084	< 0.00034
Naphthalene	13	< 0.00077	< 0.00079	5.1	< 0.00057 J	0.0089 J	< 0.00055	2.3	0.018
n-Butylbenzene	10	< 0.0023	< 0.0024	2.9	< 0.0017 J	< 0.0099	< 0.0017	< 0.14	< 0.0017
n-Propylbenzene	3.7	< 0.0029	< 0.003	3.3	< 0.0022 J	0.055	< 0.0021	< 0.17	< 0.0021
o-Xylene	1.2 ⁽²⁾	< 0.0018	< 0.0019	< 0.22	< 0.0014 J	< 0.0079	< 0.0013	1.8	< 0.0014
p-Isopropyltoluene	10	< 0.0029	< 0.003	3.2	< 0.0022 J	< 0.012	< 0.0021	< 0.22	0.0034 J
sec-Butylbenzene	10	0.009	< 0.0032	2.4 J	< 0.0023 J	0.015 J	< 0.0022	< 0.25	0.0025 J
tert-Butylbenzene	10	< 0.0031	< 0.0032	< 0.38	< 0.0023 J	< 0.013	< 0.0022	< 0.2	< 0.0023
Toluene	1.5	< 0.0026	< 0.0027	< 0.16	< 0.0019 J	< 0.011	< 0.0019	< 0.084	< 0.0019
Semi-volatile Organic Compounds by EPA Method 8270 (mg/kg)									
Acenaphthene	50	< 0.082	< 0.43	< 0.072	< 0.06 J	0.33 J	< 0.061	< 0.074	< 0.06
Anthracene	50	0.22 J	2.4 J	0.37 J	< 0.06 J	1.3	0.47	< 0.074	< 0.06
Benzo(a)anthracene	0.224 or MDL	1.5	13	1	0.26 J	3.3	3.1	0.11 J	< 0.049
Benzo(a)pyrene	0.061 or MDL	1.3	11	0.98	0.26 J	2.7	3.1	0.078 J	0.064 J
Benzo(b)fluoranthene	0.22 or MDL	1.5	13	1	0.4 J	3.1	3.7	< 0.12	< 0.1
Benzo(g,h,i)perylene	50 or MDL	0.63	3.5	0.38 J	0.2 J	1.3	1.6	< 0.05	0.087 J
Benzo(k)fluoranthene	0.22 or MDL	0.61	4.6	0.41 J	0.18 J	1.1	1.3	< 0.05	< 0.04
Chrysene	0.4	1.4	11	0.95	0.3 J	2.9	3	0.11 J	< 0.046
Dibenzo(a,h)anthracene	0.0143 or MDL	< 0.055	1.1 JM	0.16 J	< 0.04 J	0.29 J	0.39	< 0.05	< 0.04
Fluoranthene	50	2.3	21	2	0.65 J	6.5	3.4	0.32 J	< 0.046
Fluorene	50	< 0.064	0.52 J	0.13 J	< 0.047 J	0.41 J	0.095 J	< 0.058	< 0.047
Indeno(1,2,3-cd)pyrene	3.2	0.68	4.6	0.46	0.16 J	1.4	1.9	0.051 J	0.086 J
Naphthalene	13	< 0.085	< 0.45	3.2	0.067 J	0.42	0.44	3.5	0.071 J
Phenanthrene	50	0.36 J	3.2	0.79	0.48 J	2.8	0.98	0.25 J	< 0.042
Pyrene	50	1.9	17	1.7	0.45 J	5.1	2.6	0.23 J	< 0.05

Notes:

⁽¹⁾ NYSDEC Technical and Administrative Guidance Memorandum #4046, Determination of Soil Cleanup Objectives and Cleanup Levels, Jan. 24, 1994, Amended Dec. 20, 2000 and July 10, 2001.

⁽²⁾ NYSDEC TAGM Value applies to total xylenes, the sum of m&p xylenes and o-xylenes.

Bold denotes exceedance of NYSDEC TAGM 4046 Recommended Soil Cleanup Objective Values.

MDL denotes method detection limits.

< denotes analyte was not detected above the laboratory method detection limit.

J indicates an estimated value.

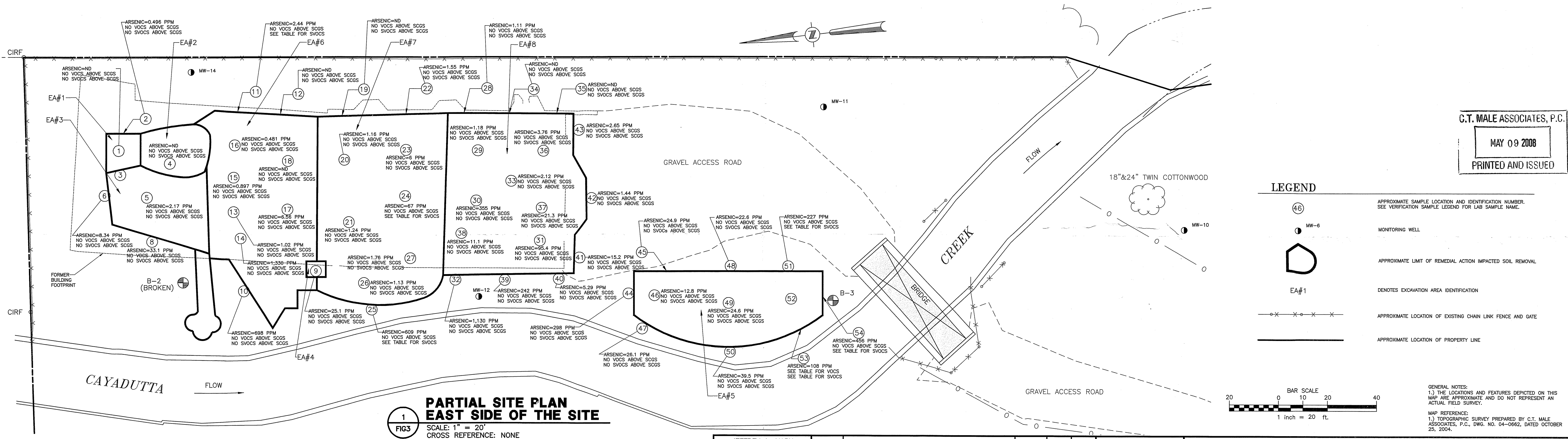
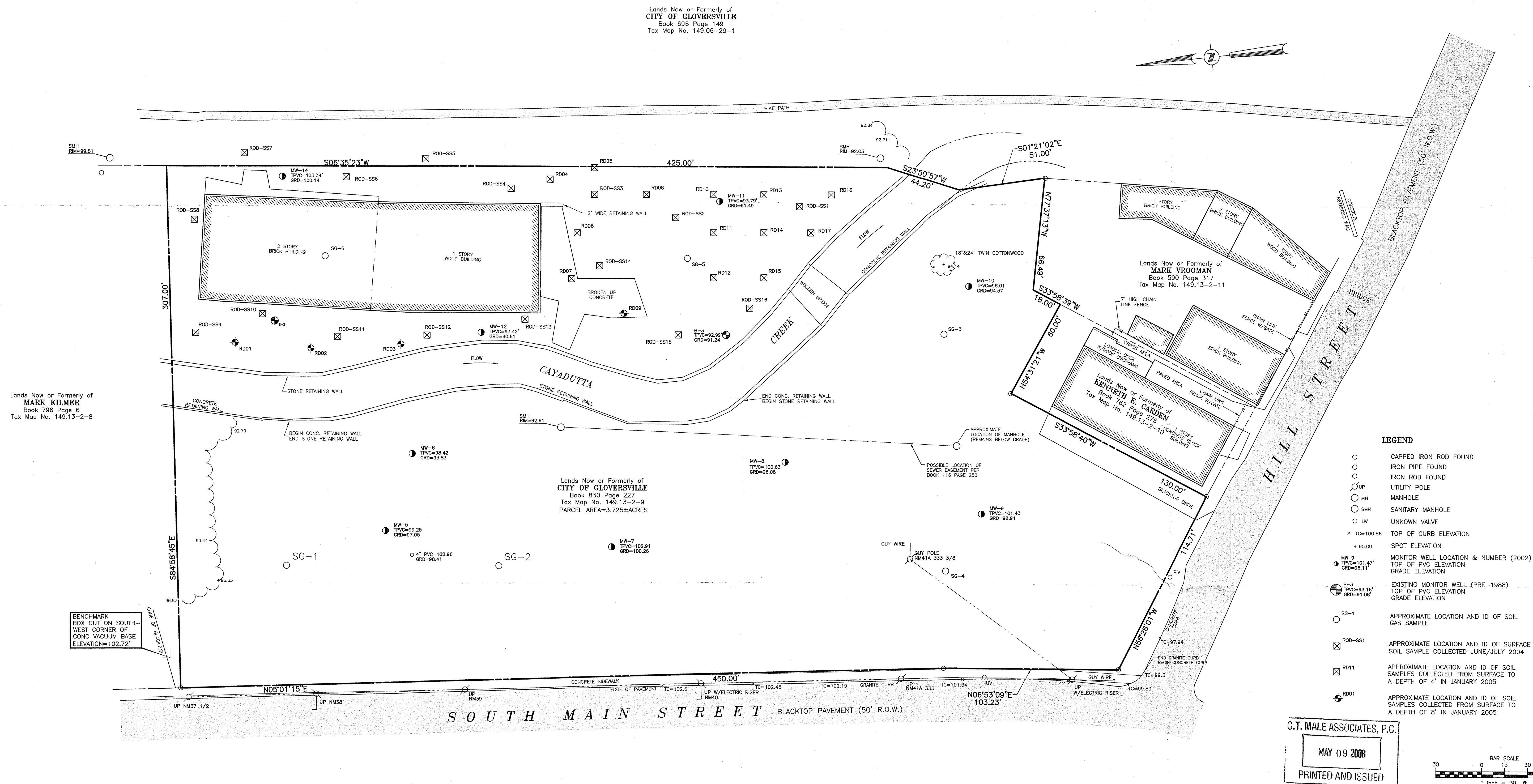


FIGURE 5
REMEDIAL DESIGN SAMPLING LOCATIONS



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

MAP REFERENCE:
1.) TOPOGRAPHIC SURVEY, 321 SOUTH MAIN STREET, PREPARED BY C.T. MALE ASSOCIATES, P.C., DWG NO. 04-0662, DATED JANUARY 29, 2002, REVISED OCTOBER 25, 2004.

DATE	REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.	UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.
5/6/08	ISSUE NEW DWG. NO. FOR SITE MANAGEMENT PLAN	J.MARX			© 2005 C.T. MALE ASSOCIATES P.C.
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					DRAFTED : J.MARX
					CHECKED : K.MOLINE
					PROJ. NO : 01.7293
					SCALE : 1"=30'
					DATE : MAY 2005

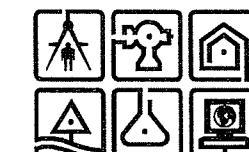
FIGURE 5 REMEDIAL DESIGN SAMPLING LOCATIONS

**INDEPENDENT LEATHER TANNERY
321-333 SOUTH MAIN STREET**

C.T. MALE ASSOCIATES, P.C.

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SHEET 4 OF 4
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FIGURE 6
SOIL CHARACTERIZATION FLOW CHART

2018



CAD DWG	FILE NAME:	SMP FILE	DWG

FIGURE 6
SOIL CHARACTERIZATION FLOW CHART
INDEPENDENT LEATHER TANNERY
321-333 SOUTH MAIN STREET

CITY OF GLOVERSVILLE	FULTON COUNTY, NEW YORK
----------------------	-------------------------

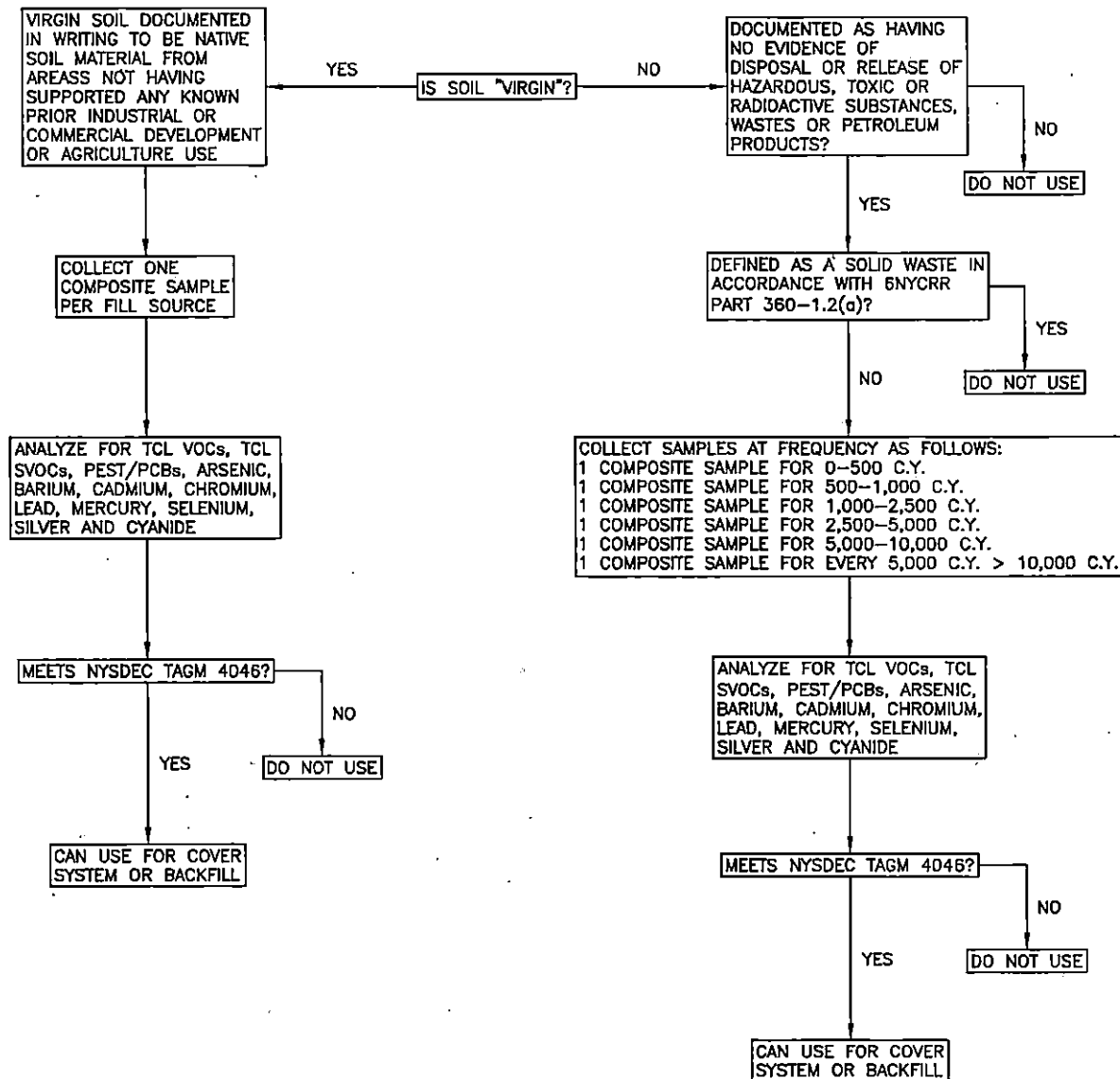
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Architecture & Building Systems Engineering * Civil Engineering
Environmental Services * Survey & Land Information Services

SCALE: NOT APPLICABLE	DATE: FEB. 20, 2008
-----------------------	---------------------

FIGURE 7
IMPORTED FILL USE CRITERIA FLOW CHART



1. AT ANY TIME INDIVIDUAL STOCKPILES OF VOLUMES LESS THAN THOSE STATED MAY BE CHARACTERIZED INDIVIDUALLY.

Date	RECORD OF WORK	Appr.	<p align="center">FIGURE 7 IMPORTED FILL USE CRITERIA FLOW CHART INDEPENDENT LEATHER TANNERY 321-333 SOUTH MAIN STREET</p>		
Drafter: J.KARON		Checker: J. MARX	<p align="center">C.T. MALE ASSOCIATES, P.C.</p> <p align="center">50 CENTURY HILL DRIVE, P.O. BOX 727, LATHAM, NY 12110 518.786.7400 * FAX 518.786.7299</p> <p align="center"> Architecture & Building Systems Engineering * Civil Engineering Environmental Services * Survey & Land Information Services </p>		
Appr. by:		Proj. No. 01.7293	<p align="center">  </p>		
			<p align="center"> SCALE: NOT APPLICABLE DATE: FEB. 20, 2008 </p>		

APPENDIX A
METES AND BOUNDS DESCRIPTION

C.T. MALE ASSOCIATES, P.C.

DESCRIPTION
LANDS OF THE CITY OF GLOVERSVILLE
FORMER INDEPENDENT LEATHER MANUFACTURING CORPORATION
CITY OF GLOVERSVILLE, FULTON COUNTY, NEW YORK
AREA = 3.725± ACRES

All that certain tract, piece or parcel of land situate in the City of Gloversville, Fulton County, New York, lying Easterly of South Main Street and Northeasterly of Hill Street, and being more particularly bounded and described as follows:

BEGINNING at the point of intersection of the Northeasterly boundary of Hill Street with the Easterly boundary of South Main Street and runs from said point of beginning along said Easterly boundary the following two (2) courses: 1) North 06 deg. 53 min. 09 sec. East 103.23 feet to a point; and 2) North 05 deg. 01 min. 15 sec. East 450.00 feet to its point of intersection with the division line between the lands now or formerly of the City of Gloversville as described in Book 830 of Deeds at Page 227 on the South and lands now or formerly of Mark Kilmer as described in Book 796 of Deeds at Page 6 on the North; thence along said division line South 84 deg. 58 min. 45 sec. East 307.00 feet to its point of intersection with the division line between the lands of said City of Gloversville on the West and other lands now or formerly of the City of Gloversville as described in Book 696 of Deeds at Page 149 on the East; thence along said division line South 06 deg. 35 min. 23 sec. West 425.00 feet to its point of intersection with the division line between the lands of said City of Gloversville as described in Book 830 of Deeds at Page 227 on the Northwest and lands of said City of Gloversville as described in Book 696 of Deeds at Page 149 on the Southeast; thence along said division line South 23 deg. 50 min. 57 sec. West 44.20 feet to its point of intersection with the division line between the lands of said City of Gloversville as described in Book 830 of Deeds at Page

C.T. MALE ASSOCIATES, P.C.

DESCRIPTION

AREA = 3.725± ACRES

PAGE - 2

227 on the West and lands of said City of Gloversville as described in Book 696 of Deeds at Page 149 on the East; thence along said division line South 01 deg. 21 min. 02 sec. East 51.00 feet to its point of intersection with the division line between the lands of said City of Gloversville as described in Book 830 of Deeds at Page 227 on the North and lands now or formerly of Kenneth Carden as described in Book 762 of Deeds at Page 276 on the South; thence along said division line North 77 deg. 37 min. 13 sec. West 66.49 feet to its point of intersection with the division line between the lands of said City of Gloversville on the Northwest and lands of said Carden on the Southeast; thence along said division line South 33 deg. 58 min. 39 sec. West 18.00 feet to its point of intersection with the division line between the lands of said City of Gloversville on the Northeast and lands now or formerly of Mark Vrooman on the Southwest; thence along said division line North 54 deg. 31 min. 21 sec. West 60.00 feet to its point of intersection with the division line between the lands of said City of Gloversville on the Northwest and lands of said Vrooman on the Southeast; thence along said division line South 33 deg. 58 min. 40 sec. West 130.00 feet to its intersection with the above first mentioned Northeasterly boundary of Hill Street; thence along said Northeasterly boundary North 56 deg. 28 min. 01 sec. West 114.71 feet to the point or place of beginning, containing 3.725± acres.

C.T. MALE ASSOCIATES, P.C.

DESCRIPTION

AREA = 3.725± ACRES

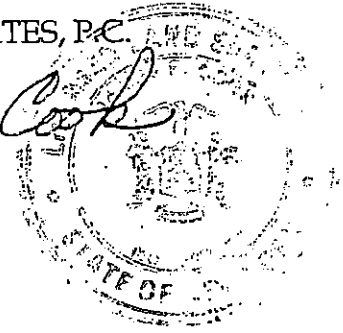
PAGE - 2

Subject to any covenants, easements or restrictions of record.

C.T. MALE ASSOCIATES, P.C.

James F. Cook

James F. Cook, PLS



September 17, 2002

JFC/cc/jfc

C.T. Male Project No. 01.7293

Note: The above described parcel is shown in its entirety on a map entitled "Boundary Survey Former Independent Leather Manufacturing Corporation 321 South Main Street," City of Gloversville, County of Fulton, New York, prepared by C.T. Male Associates, P.C., dated January 29, 2002, Drawing No. 02.446.

APPENDIX B

**NYSDOH GENERIC COMMUNITY AIR
MONITORING PLAN**

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. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 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.
- 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.
- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

All 15-minute readings must be recorded and be available for State (DEC and DOH) 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.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/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 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^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 mcg/m^3 of the upwind level and in preventing visible dust migration.

All readings must be recorded and be available for State (DEC and DOH) personnel to review.

APPENDIX 1A

New York State Department of Health Generic Community Air Monitoring Plan

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

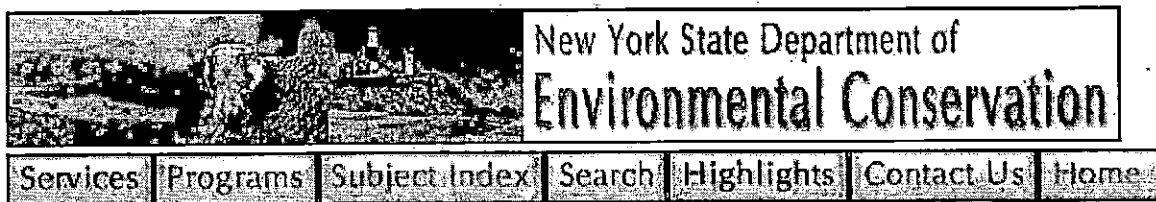
Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for volatile organic compounds (VOCs) and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known 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 NYSDEC/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.

APPENDIX C

**NYSDEC TAGM #4031, FUGITIVE DUST AND
PARTICULATE MONITORING PROGRAM AT
INACTIVE HAZARDOUS WASTE SITES**



Technical and Administrative Guidance Memorandum #4031

Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites

More information from this division:

[Division of Environmental Remediation](#)
[More TAGMs](#)

To: Regional Hazardous Waste Remediation Engrs., Bur. Directors & Section Chiefs
From: Michael J. O'Toole, Jr., Director, Division of Hazardous Waste Remediation (signed)
Subject: Technical and Administrative Guidance Memorandum -- Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites
Date: Oct 27, 1989

1. Introduction

Fugitive dust suppression, particulate monitoring, and subsequent action levels for such must be used and applied consistently during remedial activities at hazardous waste sites. This guidance provides a basis for developing and implementing a fugitive dust suppression and particulate monitoring program as an element of a hazardous waste site's health and safety program.

2. Background

Fugitive dust is particulate matter--a generic term for a broad class of chemically and physically diverse substances that exist as discrete particles, liquid droplets or solids, over a wide range of sizes--which becomes airborne and contributes to air quality as a nuisance and threat to human health and the environment.

On July 1, 1987, the United States Environmental Protection Agency (USEPA) revised the ambient air quality standard for particulates so as to reflect direct impact on human health by setting the standard for particulate matter less than ten microns in diameter (PM_{10}); this involves fugitive dust whether contaminated or not. Based upon an examination of air quality composition, respiratory tract deposition, and health effects, PM_{10} is considered conservative for the primary standard--that requisite to protect public health with an adequate margin of safety. The primary standards are $150 \mu g/m^3$ over a 24-hour averaging time and $50 \mu g/m^3$ over an annual averaging time. Both of these standards are to be averaged arithmetically.

There exists real-time monitoring equipment available to measure PM_{10} and capable of integrating over a period of six seconds to ten hours. Combined with an adequate fugitive dust suppression program, such

equipment will aid in preventing the off-site migration of contaminated soil. It will also protect both on-site personnel from exposure to high levels of dust and the public around the site from any exposure to any dust. While specifically intended for the protection of on-site personnel as well as the public, this program is not meant to replace long-term monitoring which may be required given the contaminants inherent to the site and its air quality.

3. Guidance

A program for suppressing fugitive dust and monitoring particulate matter at hazardous waste sites can be developed without placing an undue burden on remedial activities while still being protective of health and environment. Since the responsibility for implementing this program ultimately will fall on the party performing the work, these procedures must be incorporated into appropriate work plans. The following fugitive dust suppression and particulate monitoring program will be employed at hazardous waste sites during construction and other activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.
2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Such activities shall also include the excavation, grading, or placement of clean fill, and control measures therefore should be considered.
3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM_{10}) with the following minimum performance standards:

Object to be measured: Dust, Mists, Aerosols

Size range: <0.1 to 10 microns

Sensitivity: 0.001 mg/m³

Range: 0.001 to 10 mg/m³

Overall Accuracy: $\pm 10\%$ as compared to gravimetric analysis of stearic acid or reference dust

Operating Conditions:

Temperature: 0 to 40°C

Humidity: 10 to 99% Relative Humidity

Power: Battery operated with a minimum capacity of eight hours continuous operation

Automatic alarms are suggested.

Particulate levels will be monitored immediately downwind at the working site and integrated over a period not to exceed 15 minutes. Consequently, instrumentation shall require necessary averaging hardware to accomplish this task; the P-5 Digital Dust Indicator as manufactured by MDA Scientific, Inc. or similar is appropriate.

4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the entity operating the equipment to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.
5. The action level will be established at 150 ug/m³ over the integrated period not to exceed 15 minutes. While conservative, this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m³, the upwind background level must be measured immediately using the same portable monitor. If the working site

particulate measurement is greater than 100 ug/m³ above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see Paragraph 7). Should the action level of 150 ug/m³ be exceeded, the Division of Air Resources must be notified in writing within five working days; the notification shall include a description of the control measures implemented to prevent further exceedences.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM₁₀ at or above the action level. Since this situation has the potential to migrate contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.
7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:
 1. Applying water on haul roads.
 2. Wetting equipment and excavation faces.
 3. Spraying water on buckets during excavation and dumping.
 4. Hauling materials in properly tarped or watertight containers.
 5. Restricting vehicle speeds to 10 mph.
 6. Covering excavated areas and material after excavation activity ceases.
 7. Reducing the excavation size and/or number of excavations.

Experience has shown that utilizing the above-mentioned dust suppression techniques, within reason as not to create excess water which would result in unacceptable wet conditions, the chance of exceeding the 150 ug/m³ action level at hazardous waste site remediations is remote. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. If the dust suppression techniques being utilized at the site do not lower particulates to an acceptable level (that is, below 150 ug/m³ and no visible dust), work must be suspended until appropriate corrective measures are approved to remedy the situation. Also, the evaluation of weather conditions will be necessary for proper fugitive dust control--when extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended.

There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require appropriate toxics monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.

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EXHIBIT 1

NYSDEC SMP APPROVAL LETTER

New York State Department of Environmental Conservation
Office of Environmental Quality, Region 5
1115 NYS Route 86 – P.O. Box 296, Ray Brook, New York 12977
Phone: (518) 897-1242 • **FAX:** (518) 897-1245
Website: www.dec.ny.gov



Alexander B. Grannis
Commissioner

May 15, 2008

Mr. Robert C. Abel
City of Gloversville-Public Works Office
City Hall
3 Frontage Road
Gloversville, NY 12078-2897



Re: B00158 Former Independent Leather Tannery
321-333 South Main Street, City of Gloversville
Site Management Plan, Environmental Easement Requirements

Dear Mr. Abel:

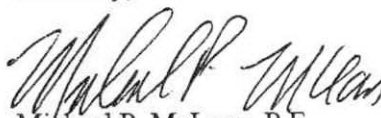
The New York State Department of Environmental Conservation (Department) and Department of Health have reviewed the February 20, 2008 Site Management Plan prepared by C.T. Male Associates for the Former Independent Leather Site. The document is approved by the Department with the incorporation of the following items:

- Provide further reference to the long term groundwater monitoring program required at the location, currently required on an annual basis.
- Upon completion, include a copy of the executed environmental easement in the plan exhibits.

An environmental easement for the location is being prepared by the Department. A title report and updated survey is necessary for the easement, requirements for the title report and survey are enclosed for your reference. As discussed with your consultant C.T. Male on previous occasions, please provide these documents to the Department in an expedient manner.

If you have concerns or questions regarding this information, please contact me. I can be reached at (518) 897-1242.

Sincerely,


Michael P. McLean, P.E.
Environmental Engineer 2

MPM:rr
Enclosures

c: Jeff Marx, C.T. Male
Deanna Ripstein, NYSDOH

ec: Mary von Wergers



EXHIBIT 2

**NYSDEC ISSUED ENVIRONMENTAL
EASEMENT**