SITE MANAGEMENT PLAN

For the

FORMER ADAMS BRUSH MANUFACTURING SITE
94-02 104th STREET
BOROUGH OF QUEENS, NEW YORK
(VCP AGREEMENT # V-00656)

SCA LLW NO.: 022714
SCA CONTRACT NO.: C000009228
SCHOOL DISTRICT: 78
SCA JOB NO.: 14983

CONSULTANT PROJECT NO.: 110567

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NEW YORK CITY SCHOOL CONSTRUCTION AUTHORITY

Prepared by:

Shaw® Shaw Environmental & Infrastructure, Inc.

Shaw Environmental & Infrastructure
4 Commerce Drive South
Harriman, New York 10926
Phone: 845-492-3100
Fax: 845-492-3101
August Arrigo, P.E.

Prepared for:

NYC SCA
30-30 Thomson Avenue
Long Island City, NY 11101-3045
Phone: 718-472-8602
Fax: 718-472-8500
Attn: Lee Guterman

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1.0 INTRODUCTION

1.1 Description of Site

Shaw Environmental and Infrastructure, Inc. (Shaw) has been retained by the New York City School Construction Authority (NYCSCA) to prepare a Site Management Plan (SMP) for the Adams Brush Manufacturing Site (hereafter referred to as the "Site") located at 94-02 104th Street in Queens, New York. The work at this facility is being performed pursuant to the August 5, 2003 Voluntary Cleanup Program (VCP) Agreement #V-00656 entered into between the NYCSCA and the New York State Department of Environmental Conservation (NYSDEC or the Department). A formal legal description of the Site, including the metes and bounds survey is included as **Appendix A** of this SMP. A Site Location Map is included as **Figure 1**.

1.2 Purpose of Site Management Plan

Site management is the last phase of remediation, which begins with the approval of the final Remedial Action Report and issuance of the Declaration of Covenants and Restrictions and continues until the remedial action objectives for the Site have been satisfied and the Site is closed out. The remedial party is responsible to ensure that all Site management responsibilities are performed. Implementation of all aspects of the SMP is the responsibility of the NYCSCA and all future owner(s) of the Site.

The Site Management Plan is intended to provide a detailed description of the procedures required to properly manage any residual contamination left in place at the Site following completion of the remedial action. Remedial actions at the Adams Brush Site have included the removal of two existing underground storage tanks (USTs) and associated petroleum-contaminated soil; removal of the original buildings concrete slab and underlying soils (to 18 feet below ground surface) resulting in the dissipation of residual soil vapors that had accumulated beneath the building foundations; and, installation of a vapor barrier and active sub slab depressurization system (SSDS) as an added safeguard against residual soil vapors entering the school in the future. All ground surface areas on the Site outside of the school building have been covered with either some form of pavement (asphalt, concrete) or clean soil. The implementation of these remedial actions has made the Site suitable for use as a New York City public school. Within this context, the SMP describes the following (1) development, implementation and management of all engineering and institutional controls associated with the remedy; (2) development and implementation of a monitoring plan to monitor the operation of the SSDS; (3) development of a plan to operate and maintain the SSDS; (4) development of a soil management plan to maintain the cap on the school grounds outside of the building footprint, and (5) submittal of Site Management Reports, performance of inspections and certification of results and insurance of proper communication of Site information to the NYS Department of Environmental Conservation (the 'Department').

This SMP includes five plans, an Institutional and Engineering Control Plan for implementation and management of institutional and engineering controls; a Monitoring Plan for operation of the SSDS; an Operation and Maintenance Plan for the SSDS; a Soil Management Plan to maintain the cap on the school grounds outside of the building footprint; and, a Site Management Reporting Plan for submittal of data, information, recommendations and certifications to the Department.

The requirements outlined in this Site Management Plan are to be in place in perpetuity, or until otherwise approved by the Department.

The SMP defines the means for implementation of deed restrictions requirements and institutional and engineering controls.

Reporting and institutional and engineering control certification will be scheduled on a yearly basis. The certification period will be annually.

1.3 Records Management

Copies of the Remedial Investigations and the Final Remedial Action Report dated August 2006 can be found at the following offices: NYCSCA's office located at 30-30 Thomson Avenue in Long Island City, New York, and NYSDEC's office located at 47-20 21st Street in Long Island City.

2.0 SITE BACKGROUND

2.1 Site Location

The Site is located at 94-02 104th Street in Queens, New York. It is bordered by 94th Avenue and 95th Avenue to the north and south, and 104th and 102nd Streets to the east and west. (**Figure 1** is a Site Location Map; **Figure 2** provides a Historic Site Plan and **Figure 3** provides an Existing Site Plan).

Adjacent land uses include a strip mall to the north across 94th Avenue, apartment buildings and private residences across 95th Avenue to the south, private residences and commercial properties to the east across 104th Street, and mixed residential, commercial, and public buildings to the west across 102nd Street. The surrounding neighborhood is a mix of similar uses.

The Site is located in the southwestern portion of Long Island, New York, at an elevation of approximately 20 feet above mean sea level. Site topography is relatively level. Depth to groundwater is approximately 33 to 35 feet below grade. Groundwater flow direction is to the south/southwest in the direction of the nearest surface water bodies, the tributary creeks to Jamaica Bay.

2.2 Site Description and History

Development of the property began circa 1927 and all buildings were completed sometime before 1954. Records of previous Site usage include a hosiery business, the manufacturing, repair or storage of knitting machines, and brush manufacturing (the Adams Brush Manufacturing Facility).

The property was developed with a structure consisting of two adjoining buildings: a four-story, flat-roofed structure and a single story masonry structure. The buildings formed a "C" shape, creating a courtyard in the center of the Site. The courtyard was partially paved with asphalt. Sanitary waste from the building was discharged to the municipal sewer. Potable water was provided by the New York City Department of Environmental Protection water supply system. **Figure 2** provides a Historic Site Plan.

The Site currently contains a two-story school building constructed between 2004 - 2006 that occupies the majority of the property. Landscaping and concrete and asphalt pavements surround the building. **Drawing L-1** provides an As-Built Site Layout and Materials Plan.

2.3 Description of Remedial Investigation Findings

2.3.1 Physical Setting

The Site is located in the southwestern portion of Long Island, New York, at an elevation of approximately 20 feet above mean sea level. Site topography is relatively level. The geomorphic setting is within a glacial outwash plain adjacent to the Harbor Hill Terminal Moraine. The outwash plain deposits consist of sand and gravel, and have generally high hydraulic conductivity. A general stratigraphic sequence consists of a thin veneer of recent sediments of alluvial and marine origin, underlain by the Upper Glacial Aquifer composed of glacial till and outwash. The Magothy Aquifer, a thick deposit of sand, silty sand, and clay lenses of Cretaceous age underlies the Upper Glacial Aquifer at the Site location at a depth of approximately 350 feet. Underlying the Magothy are other Cretaceous unconsolidated formations including the Raritan Formation and the Lloyd Sand. Bedrock underlies the Lloyd Sand at the Site location at a depth of approximately 800 feet below grade.

Site soils are composed of a layer of fill materials consisting of ash, cinder, glass, concrete, glass, and asphalt, overlying native soils consisting of fine sand and silt, clays, and gravel. **Figure 4** depicts a generalized soil cross section for the Site. Depth to groundwater is approximately 33 to 35 feet below grade. Groundwater flow direction is to the south/southwest in the direction of the nearest surface water bodies, the tributary creeks to Jamaica Bay**.** **Figure 5**, a groundwater contour map, is based on groundwater gauging data collected by Shaw on August 8, 2002.

2.3.2 Nature and Extent of Contamination

The following sections describe the nature and extent of contamination prior to the development of the Site as a school.

2.3.2.1 Soils

Soils in Vicinity of USTs

Historically, 2 USTs were identified at the Site (**Appendix B**). The USTs consisted of one 2,000-gallon fuel oil UST located in the courtyard, and one 10,000-gallon fuel oil UST, located beneath the basement floor. Both tanks were inactive and were reported to be abandoned-in-place. Data collected from soil borings in the vicinity of the two closed USTs detected SVOCs and several metals at concentrations that marginally exceeded TAGM guidance values. The presence of these compounds was due to the presence of a layer of fill materials overlying the native soils.

Minor concentrations of VOCs were detected in soil samples around the two USTs at levels below TAGM guidance values. Due to the low concentrations of SVOCs detected, the shallow depths of

detection, and the very low levels of VOCs in Site soils, it was concluded that there is no evidence of any petroleum releases from the USTs to the surrounding soils.

Soils Across Site

Data collected from soil borings at other locations across the Site indicated only sporadic and very minor detections of VOCs which did not exceed the TAGM guidance values. Detected exceedances of SVOCs were generally associated with polycyclic aromatic hydrocarbons (PAHs). Results for TCLP metals analysis indicated concentrations well below hazardous waste levels. The detections of these comments were attributable to the nature of the fill material as opposed to a specific source area(s).

Samples collected from numerous soil borings during the course of several Site investigations documented the nature of the fill, consisting of cinder, ash, brick, concrete, and asphalt. The thickness of the fill deposits ranged from approximately 1 foot in some areas to approximately 10 feet elsewhere onsite.

A copy of documentation (i.e., sample location maps and sampling data) pertaining to nature and extent of contamination prior to the development of the Site as a school is included as **Appendix B** of this SMP.

2.3.2.2 Groundwater

Historically, groundwater has been contaminated with PCE and TCE, and subsequent investigations were performed in an effort to find the source of this contamination. From 1999 through 2003, numerous soil borings were advanced throughout the Site, including areas beneath the former Adams Brush building. Analysis of soil samples for adsorbed-phase chlorinated hydrocarbons detected only minor concentrations of these compounds. Dissolved-phase concentrations of these two compounds in groundwater were reported at concentrations of up to 1,300 ppb in 1999. However, concentrations significantly declined since that time to levels generally less than 30 ppb. Samples collected from permanent monitoring wells in September 2002 (prior to the Site remedy) confirmed the presence of PCE and TCE at concentrations of 22 ppb and lower.

A copy of documentation (i.e., sample location maps and sampling data) pertaining to nature and extent of contamination prior to the development of the Site as a school is included as **Appendix B** of this SMP.

2.3.2.3 Soil Vapor

A soil gas survey performed in 2003 detected PCE and TCE vapors in soils primarily in locations beneath the building basement, and at concentrations generally proportional to increasing depth with the highest concentrations generally detected at 18 - 22 feet below grade. VOC detections included benzene, toluene, xylenes and MTBE at concentrations less than 100 ug/cubic meter. Relative to these VOCs, PCE and TCE were detected at relatively higher concentrations. PCE concentrations ranged from 100 ug/cubic

meter to 13,000 ug/cubic meter. The highest TCE concentration was 5,300 ug/cubic meter. There were no detections of SVOCs in any of the soil vapor samples

A copy of documentation (i.e., sample location maps and sampling data) pertaining to nature and extent of contamination prior to the development of the Site as a school is included as **Appendix B** of this SMP.

2.4 Description of Remedial Actions

As indicated above, remedial actions completed subsequent to the 2003 RAW included removal of all existing USTs and any contaminated soil associated with the USTs; removal of the existing building slabs/underlying soils, resulting in the dissipation of residual soil vapors that had accumulated beneath the building foundations; installation of a vapor barrier and an SSDS as an added safeguard against residual soil vapors entering the school in the future; and capping with either some form of pavement (asphalt, concrete) outside of the school building footprint or clean soil in areas of limited landscaping.

The following describes in more detail the remedial actions completed at the Site.

2.4.1 UST Closure

Two USTs and associated contaminated soils were removed during December 1-4, 2003. The two USTs were identified as one 2,000-gallon UST and one 10,000-gallon UST. The tank excavation and removal work was conducted by Tyree of Farmingdale, New York, pursuant to applicable New York State Department of Environmental Conservation UST closure requirements.

Closure activities associated with the 2,000-gallon UST began on December 1, 2003. The tank was enclosed in a concrete vault. Liquid waste inside the tank was pumped out for subsequent disposal. The UST contained approximately 3 yards of sand or sludge which was removed and placed on polyelthylene sheeting. The UST was then removed from the excavation, placed on a concrete slab, and cut open to permit cleaning. The tank carcass was then transported to an offsite disposal facility. Petroleum contaminated soil and the concreted vault were removed from the excavation for subsequent offsite disposal.

On December 2, 2003, the 10,000-gallon UST was uncovered. This UST was also enclosed in a concrete vault. Inspection of the inside of the tank indicated the presence of residual fuel oil and sand or sludge. There was no detection of VOCs based on readings from a photoionization detector. Soils were removed from the tank and placed on polyethylene sheeting. The UST was then cut open and cleaned for subsequent offsite disposal. Petroleum impacted soil from the excavation and the concrete vault were removed from the excavation for subsequent offsite disposal.

Following removal of the USTs and contaminated soils from the excavation, confirmatory end point sampling was performed in accordance with NYSDEC requirements. Closure of the tanks was completed on December 4, 2003.

During closure of both the 2,000-gallon and 10,000-gallon USTs, the following materials were removed from the Site:

- Approximately 660 gallons of gasoline/fuel oil contaminated water and tank sand/sludge were removed and disposed of at Tyree Brothers Environmental located in Farmingdale, New York.
- Approximately 160 tons of petroleum contaminated soil from around the tank excavations was removed and disposed of at an approved offsite facility.
- Approximately 4,500 tons of concrete and concrete debris from the UST vaults were removed and disposed of at an approved offsite facility.

2.4.2 Removal of Building Slabs and Underlying Soils

Prior to implementation of the remedy, in-situ sampling was completed in this area to characterize the soils that would be removed from the Site. Two investigations were completed: a Pre-Construction Environmental Site Assessment performed in September 2002 and a Supplemental Investigation completed in January 2003. These investigations confirmed the absence of a source area for VOC contamination onsite.

Shaw performed oversight for the removal of the building slab and associated soils, which was performed by Skanska of Ozone Park, New York from approximately May 2004 to October 2004.

The concrete slabs of the former Adams Brush Manufacturing plant and the underlying soils were removed and transported to approved offsite disposal facilities. Soils were excavated to an approximate depth of 18 ft bgs. As the excavation progressed a truck ramp was constructed into the excavation to permit soil loading and removal from the Site. Sides of the excavation were supported with sheeting and shoring during the excavation activities.

Excavation activities commenced on May 6, 2004 for the removal of the upper 6 feet of soils across the foot print of the proposed school. The soils along with the building slabs were classified as municipal solid waste because an ash layer had been identified within this zone. Excavation of the municipal solid waste materials was completed on October 20, 2004. A total of 383 truck loads of municipal solid waste material was removed from the Site.

Excavation of the remaining soils from 6 feet to 18 feet below ground surface was initiated on June 21, 2004 and was completed on September 15, 2004. A total of 688 truck loads of soil material was removed. Figure 6 depicts the excavation area.

During the remediation a brick structure was exposed in the southeast corner of the excavation area which extended from about 4 - 16 feet below ground surface. An 8-inch pipe and a 2-inch pipe were protruding from the bottom of the structure and extended into the excavation area. The area of the pipe was screened with a PID and no VOC emissions were detected. There was no evidence of any historic discharge (staining) from the pipes. This structure was subsequently removed and disposed offsite. While the purpose of this structure could not be determined there was no evidence of any releases to soil or groundwater from this structure.

Waste material types and quantities removed from the Site are summarized as follows:

- Approximately 12,700 tons of municipal solid waste was removed from the top 6 feet of the Site and disposed of at Copley Quarry located in White Hall, Pennsylvania, and at Soil Safe in Logan Township, New Jersey.

- Approximately 27,900 tons of non-hazardous soil was removed from 6 - 18 feet below ground surface at the Site and disposed of at Transmine, Inc. located in West Hampton Beach, New York and FDP located in Jersey City, New Jersey.

2.4.3 Capping

Following completion of the remedial work, Site restoration activities included construction of the school building which covers the majority of the property, capping with concrete or asphalt pavement around the school, and clean soil in limited landscaped areas. Since the school was constructed within the excavation (remedial) area, no imported fill materials were used to restore the Site.

Drawing L-1 depicts the as built layout of the school and surrounding grounds.

Concrete pavement surrounds the northern, eastern, and southern portions of the school building. A school yard covers the western portion of the property. The school yard contains primarily asphalt pavement with a reinforced concrete pavement area for the outdoor lab and five recessed safety surfaces for fitness stations.

Due to the construction of the school building and the asphalt and concrete surfaces around the school building, as well as the landscaping described above, there are no exposed soils on the property, and no potential for exposure to subsurface materials.

2.5 Residual Contamination

The excavation of soils to a depth of 18 feet below ground surface was completed to accommodate the footprint of the school building. Post excavation soil sampling was completed at the base of the excavation consistent with the RAW to assess the presence or absence of residual contamination. No residual contamination was identified. The school yard area west of the new school was formerly the parking lot for the Adams Brush Manufacturing Facility. Surficial soil sampling conducted during previous investigations at the Site indicated the presence of SVOCs exceeding TAGM within this area. This is the only residual soil remaining at the Site and has been covered per Section 2.4.3.

Copies of post-excavation soil sample data and sample location figures are included as **Appendix H** of this SMP.

3.0 PROVISIONS IN DECLARATION OF COVENANTS AND DEED RESTRICTIONS

The following use restrictions apply to the Site and are outlined in the Declaration of Covenants and Restrictions:

- Full compliance is required with all components of the Site Management Plan approved by NYSDEC. This is necessary to insure protection of public health and the environment according to the provisions defined by the July 2003 RAW for the Site;

- The cap consisting of the asphalt in the parking areas, impervious sidewalks/walkways, and soil cover in landscaped areas, shall be maintained in accordance with this NYSDEC-approved Site Management Plan;

- All future soil disturbance activities outside the building footprint, including subgrade utility line repair/relocation, and new construction shall be conducted in accordance with this NYSDEC-approved Site Management Plan;

- The use of the groundwater underlying the Site is prohibited without treatment rendering it safe for its intended purpose;

- The sub slab depressurization system will be operated and maintained in a manner specified in this NYSDEC-approved Site Management Plan. Annual inspection and reporting will be performed in a manner specified in this NYSDEC-approved Site Management Plan.

4.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

The following Institutional and Engineering Control Plan details the oversight steps and any media-specific requirements necessary to assure that the institutional and/or engineering controls required by the July 2003 RAW for the Site remain in place and effective.

4.1 Engineering Control Components of SMP

There are three engineering controls for the remedial actions performed at the Site: the vapor barrier, the SSDS and the cover/cap. These are described in the following sections.

4.1.1 Soil Vapor Barrier

A vapor barrier was installed beneath the school as an added precaution to prevent any residual soil gas vapors from entering the school building in the future. The details of the vapor barrier are provided in **Appendix F** of this SMP. The vapor barrier is in place above the gravel layer containing the SSDS. There is no monitoring or maintenance associated with the vapor barrier.

4.1.2 Sub Slab Depressurization System

A sub-slab depressurization system (SSDS) was also installed beneath the school as an added precaution to prevent any residual soil gas vapors from entering the school building in the future. The SSDS will be operated in an active mode until such time as it can be demonstrated to the satisfaction of the New York State Department of Health (NYSDOH), that the system can be converted to the passive mode. Pursuant to the goal of the VCP, the Site has been remediated to a level that is protective of public health and the environment, and the Site is suitable for use as a school. The details of the SSDS are provided in **Appendix G** of this SMP. The monitoring and operation and maintenance plans associated with the SSDS is provided in Sections 5, and 6, respectively.

4.1.3 Cap

The focus of the remediation was within the area occupied by the new school. The excavation of soils to a depth of 18 feet below ground surface was completed to accommodate the footprint of the school building. No residual contamination was identified based on post excavation sampling at the base of the excavation prior to construction of the school. The school yard area west of the new school was formerly the parking lot for the Adams Brush Manufacturing Facility. Surficial soil sampling conducted during previous investigations at the Site indicated the presence of SVOCs exceeding TAGM. **Figure 7** depicts the location of this area of surficial historic fill material.

The school yard now contains primarily asphalt pavement with some reinforced concrete pavement areas, and limited landscaping entailing the incorporation of a soil cover and the planting of trees. Since the school was constructed within the excavation (remedial) area, no imported fill materials were used to restore the Site. Due to the presence of the asphalt and concrete surfaces around the school building, as well as the landscaping described above, there are no exposed soils on the property, and no potential for exposure to subsurface materials. Maintenance of this cap will be a necessary component of the SMP.

Drawing L-1 depicts the layout of the school grounds. As detailed on **Drawing L-1**, the following types of cover were installed at the Site:

- Concrete pavement:
    - 4-inch thick reinforced concrete pavement;
    - 7-inch thick reinforced concrete pavement, and;
    - 4-inch thick reinforced pigmented concrete pavement.
- Asphalt:
    - 1.5-inch thick asphalt top course with a 4-inch thick binder course on 6-inch thick broken stone with a black seal coat, and;
    - 1.5-inch thick asphalt top course with a 4-inch thick binder course on 6-inch thick broken stone with a red seal coat.
- Pavers:
    - Pavers on 4-inch thick reinforced concrete.
- Landscaping:
    - Soil cover, and;
    - Planting of trees.
- 3-inch thick recessed SpectraTurf safety surface.

A soil management plan addressing the maintenance of the cap at the Site and detailed protocols for construction activities affecting the cap is provided in **Appendix D**.

4.2 Inspections for Engineering Control Components

4.2.1 Severe Condition Inspection

In the event that a severe condition occurs at the Site, such as major erosion or flooding, an inspection will be performed. The "severe condition inspection" will ensure that the integrity of the engineering controls has not been breached. An inspection form will be completed and included in the Annual Site Management Report to the NYSDEC.

4.2.2 Annual Inspection and Certification of Engineering Controls

Annual inspections of the engineering controls will be performed by June 15th of each year. The annual inspection will cover three areas:

1. The grounds outside of the school. An inspection of all unpaved areas will be made to identify drainage patterns that may erode into the cap or any other unauthorized intrusive activities. An inspection of all paved areas will be made to identify large cracks or other unintended openings within the pavement which might cause a breach in the Site cap;

2. For the SSDS, an inspection will be made of the basement floor to verify that there are no cracks within the concrete. Any identified cracks will be documented on an Inspection Form (**Appendix E**). The location of the crack will be marked on a copy of the as-built drawing for the SSDS (**Drawing 2**), and;

3. For the SSDS, an inspection of each roof vent will be made to confirm that the vent post and sleeve are clean and free of rust and other debris and that the fan units are operational.

The annual inspection will be documented on an Inspection Form (**Appendix E**). Findings from these annual inspections along with any other inspections performed during the year will be formalized into an Annual Site Management Report (with individual inspection forms attached).

The annual inspection will ensure the following:

- Engineering controls continue to perform as designed and continue to be protective of human health and the environment;

- Compliance with requirements of July 2003 RAW;

- Achievement of remedial performance criteria;

- Site records are complete and up to date;
- Document changes to engineering controls or monitoring system, and;
- Recommend new changes to engineering controls or monitoring system.

4.3 Institutional Control Components of SMP

The institutional control for the remedial actions performed at the Site is the Declaration of Covenants and Restrictions which is provided in **Appendix C**.

5.0 MONITORING PLAN

No source areas of contamination have been identified based on extensive remedial investigations that have been completed at the Site. In addition, laboratory analytical data for post-excavation soils collected from the bottom of the excavation indicated no exceedances of VOCs or SVOCs. Metal detections were all within Eastern USA Background concentrations. The minor groundwater contamination identified beneath the Site was concluded to be from upgradient sources (dry cleaners) and not related to any onsite sources. The active SSDS and vapor barrier preclude the need to monitor for soil vapors. No monitoring of soil, groundwater and/or soil vapor is proposed for the Site. Accordingly, the only monitoring applicable to this Site is associated with the operation of the SSDS which is described in Section 6.

6.0 OPERATION AND MAINTENANCE PLAN

This section contains the Operation and Maintenance Plan for the Site and details the steps necessary to operate and maintain the components of the engineering controls (vapor barrier; and SSDS). The Operations and Maintenance Plan for the Site will be kept in the custodian's office at all times.

The only moving part in the SSDS is the fan unit located within each roof vent. These inline fan units do not have replaceable parts (i.e., belts, motors, fans). Maintenance will consist of replacing the complete inline fan unit with a new unit when necessary (i.e., the fan unit is no longer functional).

In the event that a fan unit fails, the fan will be replaced and documented for inclusion in the Annual Site Management Report (see Section 8.0). A spare fan unit will be kept at the school to reduce the time necessary to replace a non-operational fan unit. Once a spare fan unit has been put into operation, a new fan unit will be ordered and kept at the school as a spare.

A Performance Monitoring System will be installed to continuously monitor air flow from the SSDS. The performance monitoring system will include the use of inline air flow switches installed in each of the three 8" effluent stacks between the inline fan and the roofline. The flow switches will be hardwired to a light panel located near the fire alarm panel in the custodian's office. The performance monitoring panel will be fitted with three small light bulbs (i.e., 7 watt night light, one for each fan unit) that remain on (indicating that there is air flow in the piping). The custodial staff can readily monitor air flow in the system in this manner. A weekly log book will be set up to confirm on-going custodial oversight of the Performance Monitoring System. The custodial staff will be instructed to contact the NYCSCA if there is an interruption in the air flow.

Annual inspection of the Performance Monitoring System, as well as other engineering controls, will be performed to ensure that all engineering controls are functioning properly.

Routine walk-throughs of the Site will be performed by the custodian, who will identify any observed changes to the basement interior floor surfaces. This procedure will be followed for the entire period the building is used as a school. In the event of a change in previous conditions, the custodian will log the information and immediately request an inspection from DOE. A follow-up inspection and report of findings and recommendations will be generated.

7.0 SITE MANAGEMENT REPORT

A Site Management Report will be prepared for the Site certification period, in accordance with Section 1.5 of the Draft DER-10 Technical Guidance for Site Investigation and Remediation (December 2002) which summarizes the results of the monitoring plan, inspections and the project evaluation. The Site Management Report will identify all required institutional and engineering controls, an evaluation of the Engineering and Institutional Control Plan, and an assessment and certification of the continued effectiveness of all required institutional and engineering controls.

7.1 Certification of Engineering and Institutional Controls

An annual written statement will be prepared for the Site and signed by a professional engineer licensed to practice in New York State which will certify that the institutional controls and engineering controls employed at the Site are:

- Unchanged from the previous certification;
- In-place and effective, and;
- Performing as designed.

The annual certification will also document that:

- Nothing has occurred that would impair the ability of the controls to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any operation and maintenance plan for such controls;
- Access is available to the Site to evaluate continued maintenance of such controls; and
- Site usage is compliant with deed restrictions.

The certification will be included in a Site Management Report that will be submitted annually by August 15th following the calendar year reporting period. A copy of the Annual Institutional Control and Engineering Control Certification Form is included as **Appendix I** of this SMP.

7.2 Site Inspections

In addition to continuous SSDS Performance Monitoring System, and routine walk-throughs, and severe condition inspections, annual inspections of the engineering controls will be performed by June 15th of

each year. Information obtained from these inspections will be documented on inspection forms that will compiled into an Annual Site Management Report which will discuss the following:

- Compliance with all institutional controls, including Site usage;
- The Site conditions at the time of the inspection, including an evaluation of the condition and continued effectiveness of any engineering controls;
- Whether Site records are up to date, and,
- Whether monitoring devices and apparatus are functional

A copy of the inspection form is included as **Appendix E** of this SMP.

7.3 Evaluation of Records and Reporting

The results of the inspections will be evaluated as part of the institutional control and engineering control certification to include the following:

- Engineering controls, and associated institutional controls are in place, are performing properly, and remain effective;
- Operation and maintenance activities are being conducted properly; and,
- The engineering controls continue to be protective of public health and the environment and compliant with the July 2003 RAW for the Site.
- The performance and effectiveness of the SSDS including identification of any needed repairs or modifications;
- An evaluation of the cap including the identification of any needed repairs or modification;
- Recommendations regarding any necessary changes to the institutional controls or monitoring plan.

- A summary of the performance monitoring for the SSDS will be prepared which details the following as applicable;
    - The number of days the system was run for the reporting period;
    - A description of routine maintenance and inspection forms;

- A description of breakdowns and/or repairs along with an explanation for any significant downtime;
- A summary of the performance or effectiveness monitoring;
- Comments, conclusions and recommendations based on an evaluation and resolution of performance problems, and;

- The Site Management Report will be submitted in the electronic format determined by the NYSDEC.

8.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

Shaw has developed a Site Management Plan for the Former Adams Brush Manufacturing Site located at 94-02 104th Street Site in Queens, New York based on the August 5, 2003 Voluntary Cleanup Program Agreement #V-00656 entered into between the NYCSCA and the NYSDEC.

Shaw Environmental & Infrastructure, Inc.

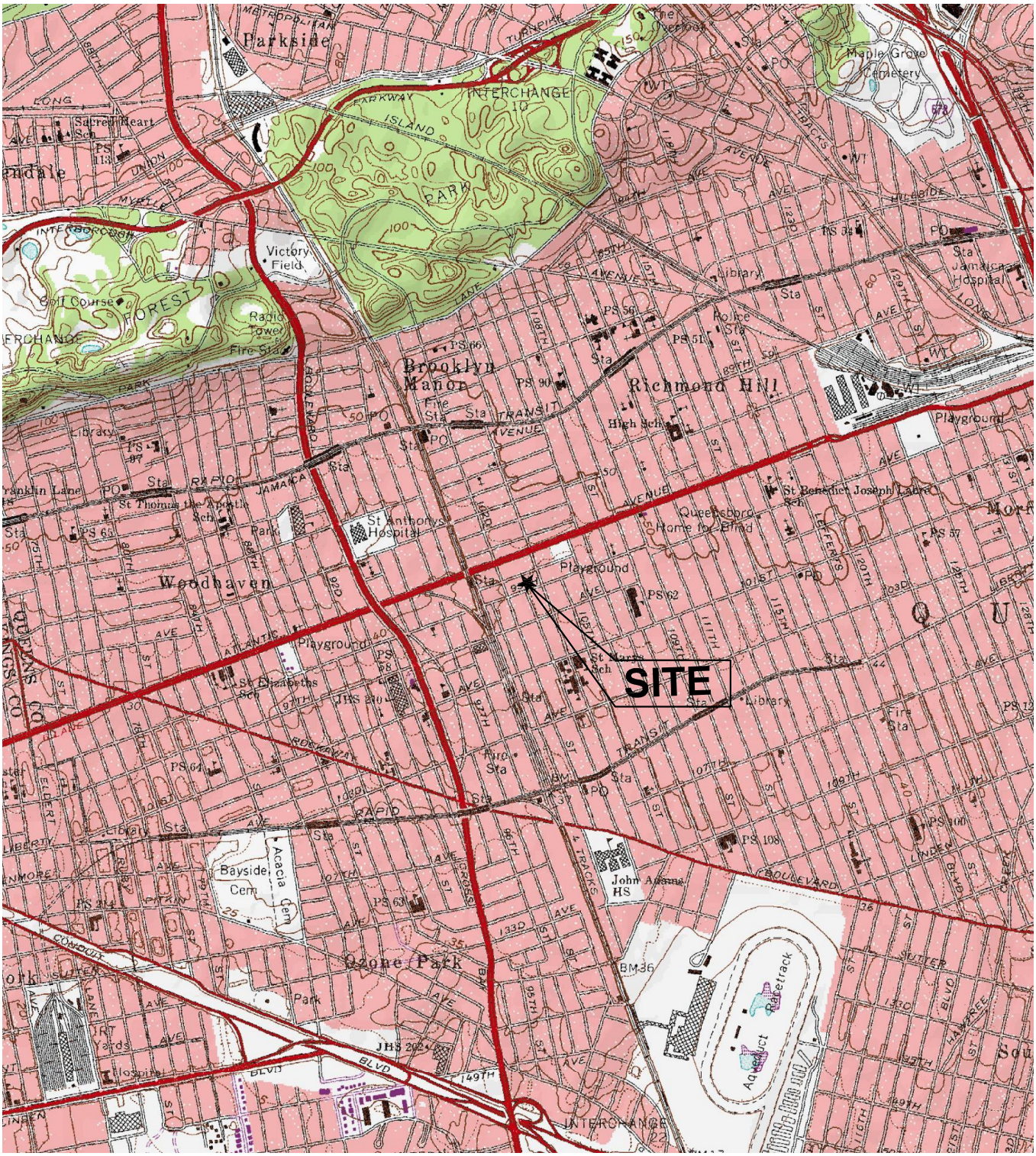
Amy E. Fontana
Senior Environmental Scientist

Steven Goldberg, Ph.D., CPG
Senior Project Manager

August Arrigo, P.E.
Senior Engineer
License No. 070843

FIGURES

OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
Harriman, NY	D. Tice	8/15/06	A. Fontana	8/15/06	S. Goldberg	8/15/06	110567-FIG1



APPROXIMATE SCALE

0 2000 4000 6000 FEET

REFERENCE:
7.5 MINUTE SERIES TOPOGRAPHIC MAP OF JAMAICA, NY
USGS GEOLOGICAL SURVEY, 1967, 1927 NORTH AMERICAN DATUM

Shaw
Shaw E & I, Inc.

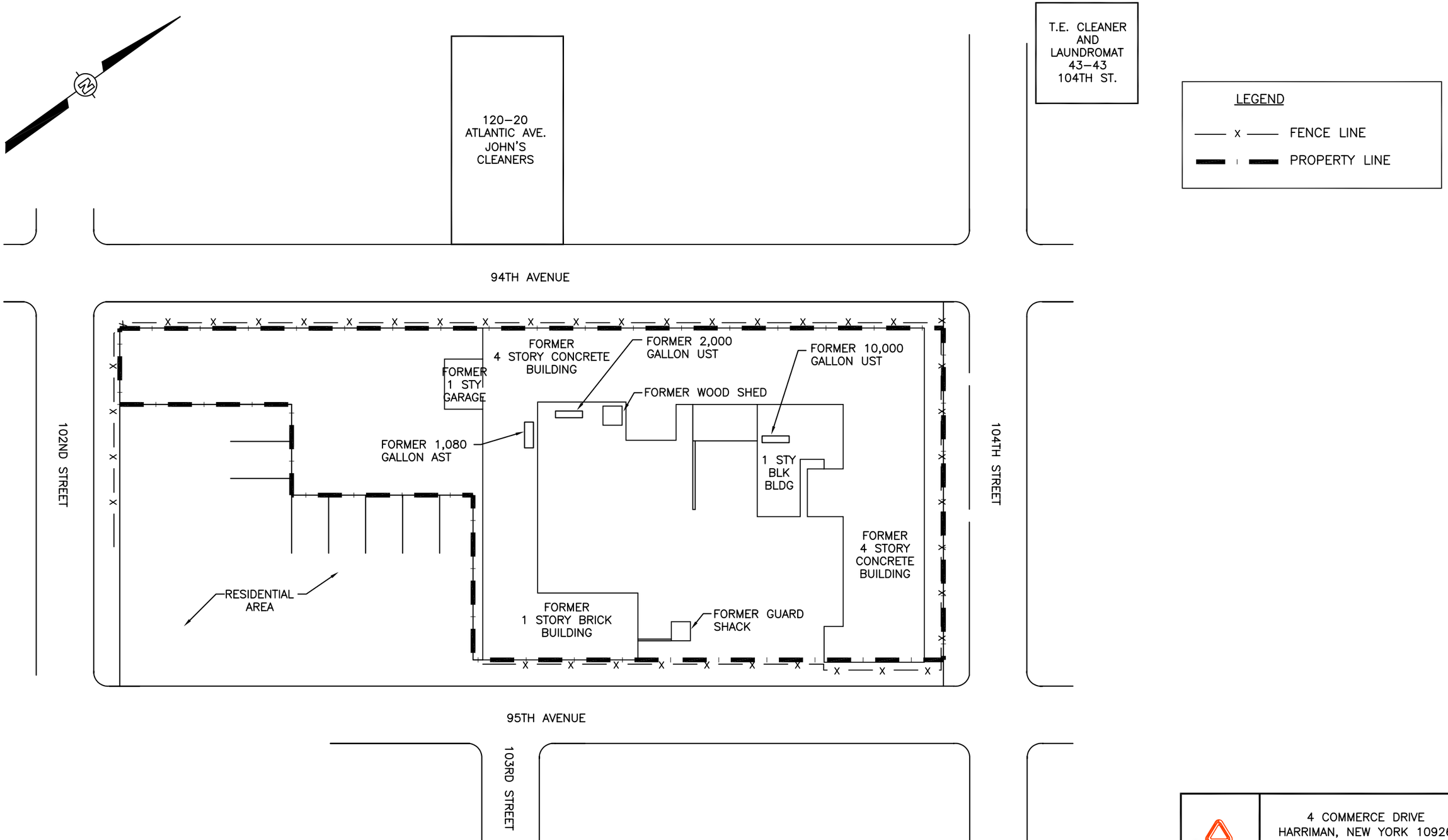
4 COMMERCE DRIVE
HARRIMAN, NEW YORK 10926
(845) 492-3100

FIGURE 1

SITE LOCATION MAP
FORMER ADAMS BRUSH MANUFACTURING SITE
94-02 104TH STREET
OZONE PARK, NEW YORK 11416

XREF Files: IMAGE Files: adamsbrush.JPG
File: N:\Cad\Projects\NYCSCA - (Former Adams Brush Manuf\Project Drawings\110150-FIG1.dwg
Plot Date/Time: Aug 24, 2006 - 8:26am
Plotted By: Dave.Tice

DRAWING NUMBER	APPROVED BY	CHECKED BY	DRAWN BY	OFFICE
110567-FIG2	S. Goldberg 8/15/06	A. Fontana 8/15/06	D. Tice 8/15/06	Harriman, NY

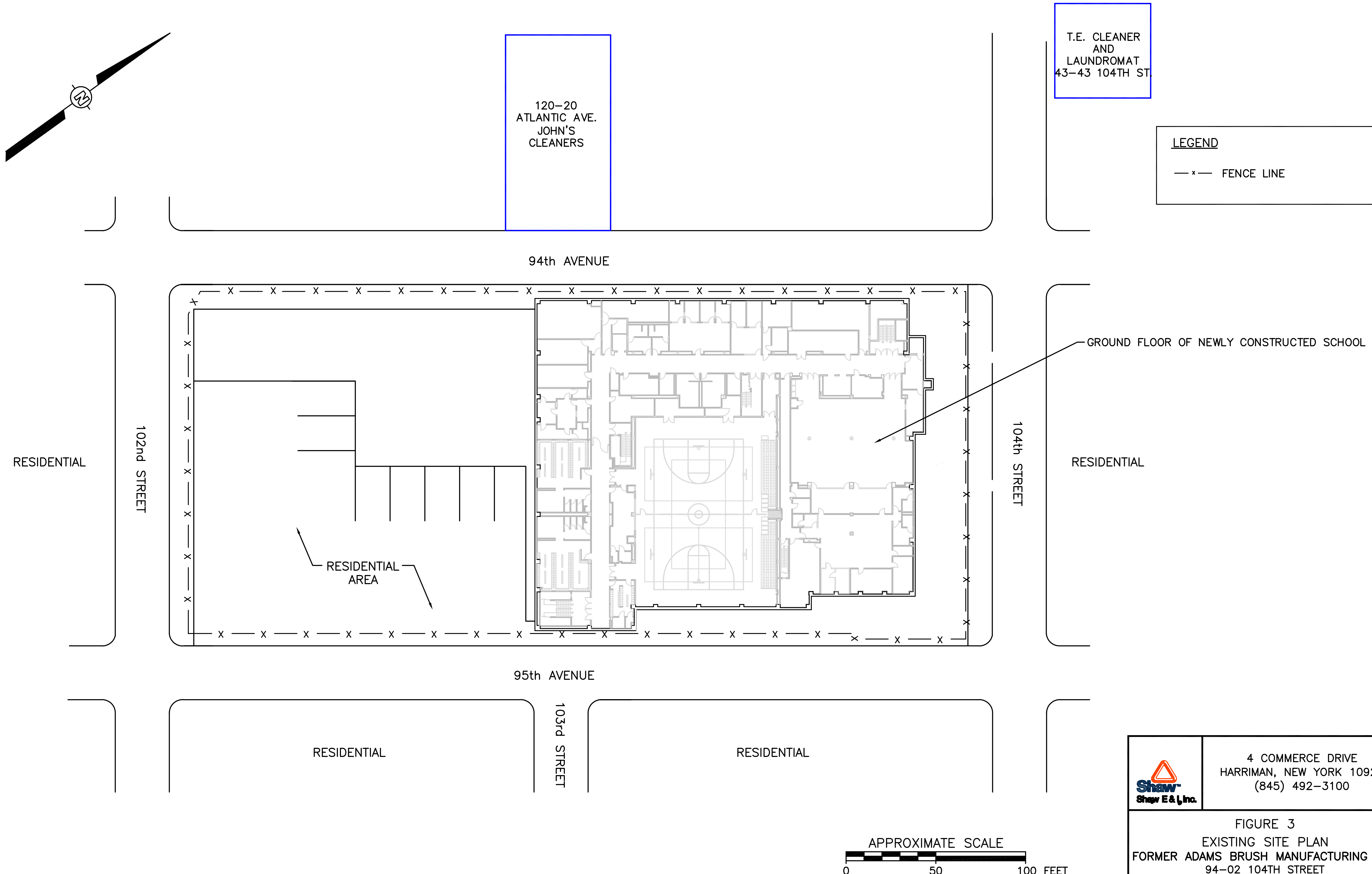


XREF Files:
IMAGE Files:
File: N:\Cad\Projects\NYSCA – (Former Adams Brush Manuf)\Project Drawings\hanysc03 (Historic Site Plan).dwg
Last Modified: Oct 26, 2006 – 7:35am
Plotted By: amy.fontana

Shaw
Shaw E & I, Inc.

4 COMMERCE DRIVE
HARRIMAN, NEW YORK 10926
(845) 492–3100

FIGURE 2
HISTORIC SITE PLAN
FORMER ADAMS BRUSH MANUFACTURING SITE
94–02 104TH STREET
OZONE PARK, NEW YORK 11416

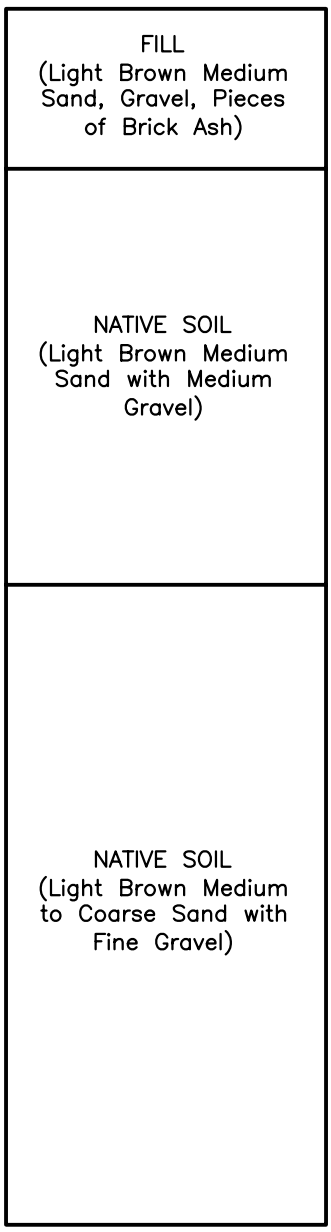


OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
Harriman, NY	D. Tice 8/15/06	A. Fontana 8/15/06	S. Goldberg 8/15/06	110567–FIG3

XREF Files: IMAGE Files:
File: N:\Cad\Projects\NYCSCA – (Former Adams Brush Manuf)\Project Drawings\hanysc06 (Existing Site Plan).dwg
Plot Date/Time: Dec 05, 2006 – 8:08am
Plotted By: amy.fontana

Shaw E & I, Inc.
4 COMMERCE DRIVE
HARRIMAN, NEW YORK 10926
(845) 492–3100

FIGURE 3
EXISTING SITE PLAN
FORMER ADAMS BRUSH MANUFACTURING SITE
94–02 104TH STREET
OZONE PARK, NEW YORK 11416



OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
Harriman, NY	D. Tice	8/15/06	A. Fontana	8/15/06	S. Goldberg	8/15/06	110567–FIG4

XREF Files: IMAGE Files:
File: N:\Cad\Projects\NYCSCA – (Former Adams Brush Manuf\Project Drawings\Phase10 (Generalized Cross-section).dwg
Plot Date/Time: Dec 05, 2006 – 8:11am
Plotted By: amy.fontana

Shaw™
Shaw E & I, Inc.

4 COMMERCE DRIVE
HARRIMAN, NEW YORK 10926
(845) 492–3100

FIGURE 4

GENERALIZED CROSS SECTION
FORMER ADAMS BRUSH MANUFACTURING SITE
94–02 104TH STREET
OZONE PARK, NEW YORK 11416

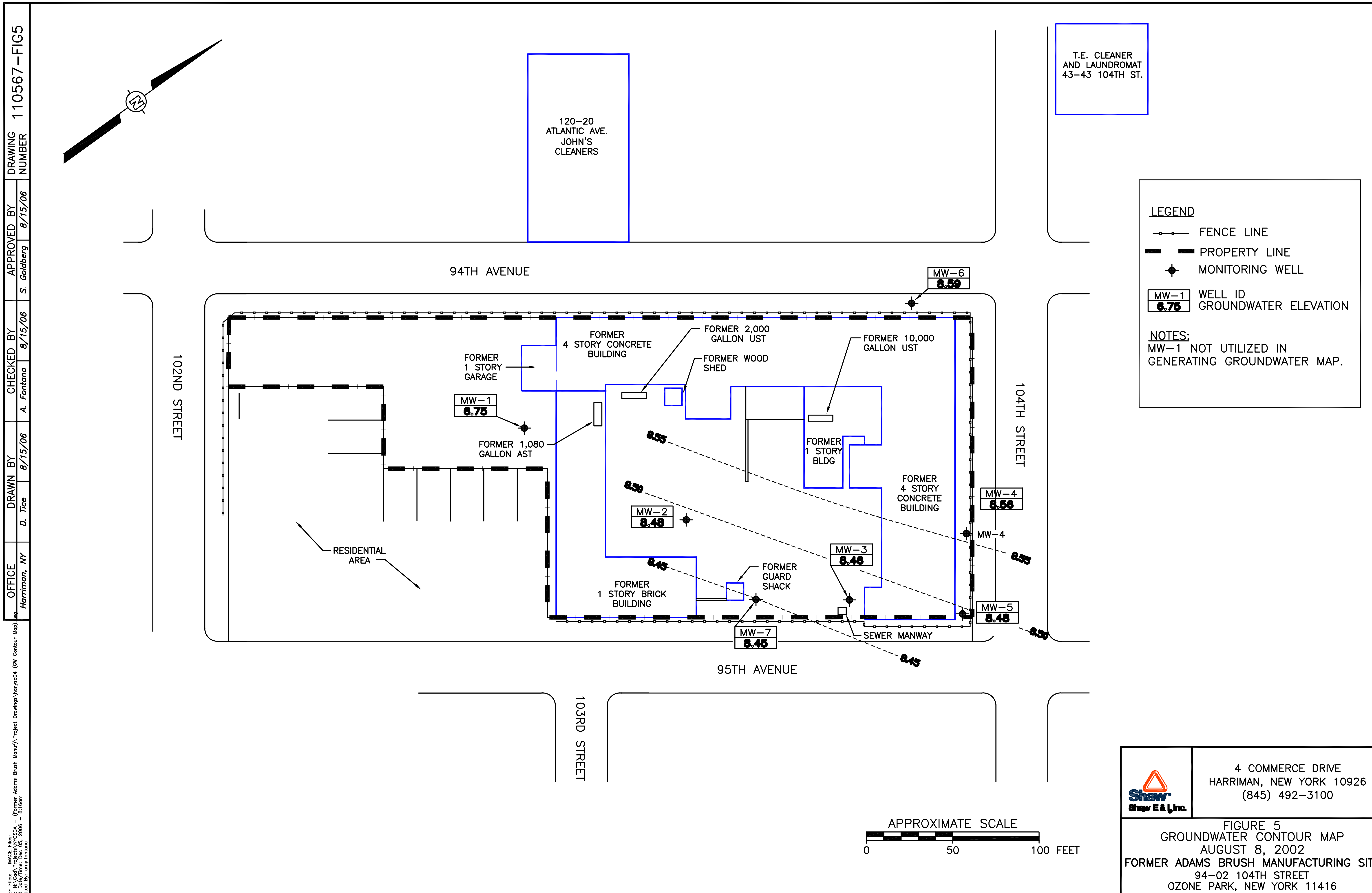
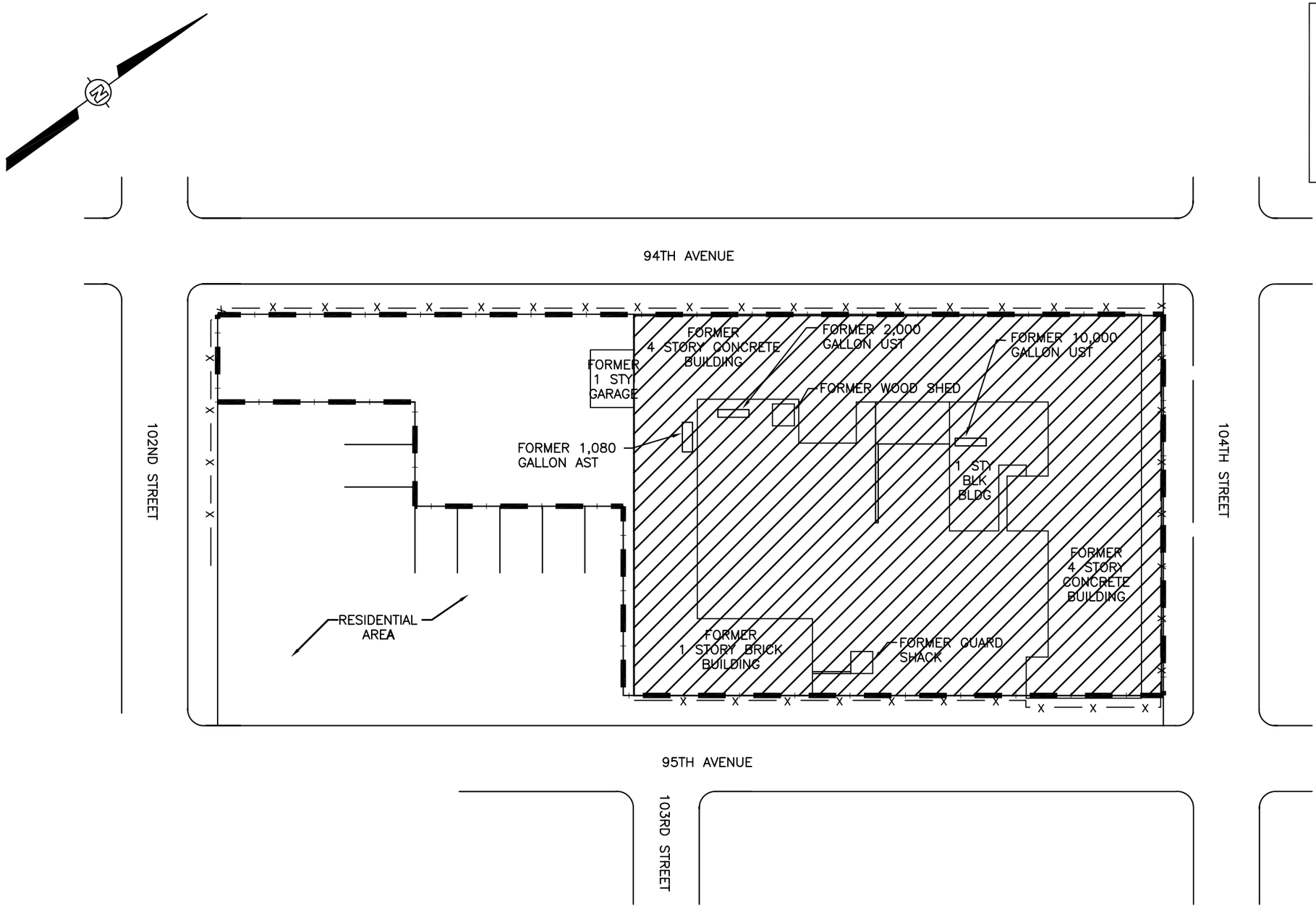


FIGURE 5
GROUNDWATER CONTOUR MAP
AUGUST 8, 2002
FORMER ADAMS BRUSH MANUFACTURING SITE
94-02 104TH STREET
OZONE PARK, NEW YORK 11416

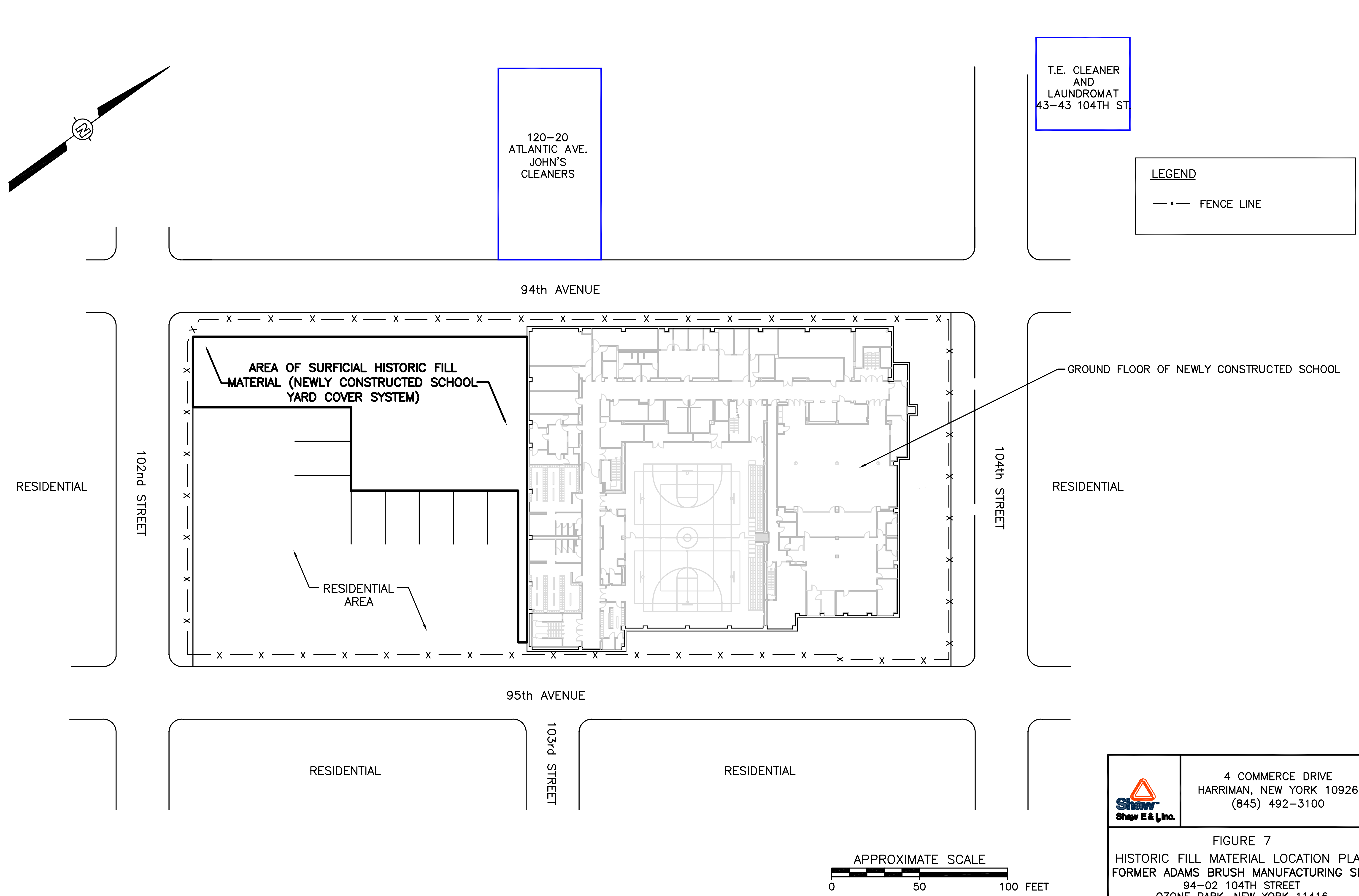
OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
New York, NY	R. Tagoff 5/17/05	R. Ferguson 5/17/05	S. Goldberg 5/17/05	110567-FIG2



Shaw E & I, Inc.
250 W. 34TH ST
NEW YORK, NEW YORK 10119
(212) 290-6000

FIGURE 6
EXCAVATION AREA
ADAMS BRUSH MANUFACTURING
94-02 104TH STREET
QUEENS, NEW YORK

XREF Files:
IMAGE Files:
File: N:\Cad\Projects\NY\CGA - (Former Adams Brush Manuf)\Project Drawings\tonysc02 (Excavation Area) figure 6.dwg
Last Saved: Wednesday, May 17, 2006 - 8:17am
Plotted By: amy.fontana



OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
Harriman, NY	D. Tice 8/15/06	A. Fontana 8/15/06	S. Goldberg 8/15/06	110567–FIG7

Shaw E & I, Inc.

4 COMMERCE DRIVE
HARRIMAN, NEW YORK 10926
(845) 492–3100

FIGURE 7

HISTORIC FILL MATERIAL LOCATION PLAN
FORMER ADAMS BRUSH MANUFACTURING SITE
94–02 104TH STREET
OZONE PARK, NEW YORK 11416

APPENDIX A

LEGAL DESCRIPTION OF SITE AND METES AND BOUNDS SURVEY

N.B. # _____

or

ALT # _____

EXHIBIT "III"

ZONING LOT DESCRIPTION AND OWNERSHIP STATEMENT BY BUILDING DEPARTMENT PERMIT APPLICANT AND TO BE RECORDED IN THE COUNTY CLERK'S OR REGISTER'S OFFICE

THE NEW YORK SCHOOL CONSTRUCTION AUTHORITY, A New York State Public Benefit Corporation, having its principal office at 30-30 Thomson Avenue, Long Island City, New York, 11101, and STV INCORPORATED and applicant for present or future permits pursuant to the Zoning Resolution of the City of New York, effective as of December 15, 1961, and as subsequently amended states that the zoning lot to which the aforementioned permit or permits pertain are shown on the Tax Map of the City of New York, County of Queens premises known as 94-06 104th Street aka H.S. for Construction Trades, Engineering and Architecture as Lots 44 and 85 in Block 9381 and is more particularly described as follows:

Beginning at the corner formed by the intersection of the southwesterly side of 104TH Street formerly Wyckoff Avenue (60 feet wide) with the northeasterly side of 95th Avenue formerly University Place (60 feet wide):

- Running thence along the northwesterly side of 95th Avenue, South 40 degrees 26 minutes 58.0 seconds West, 255.22 feet, to a point;

- Running thence along the division line between land now or formerly K & S Storage II, LLC and lands now or formerly Angelina Squizzaro, North 49 degrees 33 minutes 02.0 seconds West, 92.72 feet to a point; said line forming an interior angle 90 degrees 00 minutes 00 seconds with the northwesterly side of 95th Avenue;

- Running thence along the division line between lands nor or formerly K & S Storage II, LLC and lands now or formerly Angelina

Squizzaro; lands now or formerly F. Paganucci; lands now or formerly Vincent J. Delmato; lands now or formerly Ileana Cruz and Diana Cruz; and lands now or formerly Puranjit Jodhan and Ramkripal Bishunath, South 40 degrees 26minutes 58.0 seconds West, 100.09 feet to a point on the division line between lands now or formerly K & S Storage II, LLC, lands now or formerly Puranjit Jodhan and Ramkripal Bishunath and lands now or formerly Dimitris Pierce and Marybell Montgomery, said line forming an interior angel 270 degrees 00 minutes 00 seconds with last-mentioned course;

- Running thence along the division line between lands now or formerly K & S Storage II, LLC; lands now or formerly Dimitris Pierce and Marybell Montogmery; lands now or formerly Sarah Escalera; and lands now or formerly Dorothy Pettit, North 49 degrees 33 minutes 02.0 seconds West, 30.17 to a point, said line forming an interior angle 90 degrees 00 minutes 00 seconds with last-mentioned course;

- Running thence along the division line between lands now or formerly K & S Storage II, LLC; lands now or formerly Dorothy Pettit, South 40 degrees 26 minutes 58.0 seconds West, 95.08 feet, to a point on the northeasterly side of 102nd Street formerly Union Avenue (50 feet wide), said line forming an interior angle 270 degrees 00 minutes 00 seconds with the last-mentioned course;

- Running thence along the northeasterly side of 102nd street, North 49 degrees 33 minutes 02.0 seconds West, 62.54 feet, to the corner formed by the intersection of the northeasterly side of 102nd street and the southeasterly side of 94th Avenue formerly South Street (50 feet wide), said line forming an interior angle 90 degrees 00 minutes 00 seconds with the last-mentioned course;

- Running thence along the southeasterly side of 94th Avenue, North 40 degrees 26 minutes 58.0 seconds East, 450.39 feet, to the corner formed by the intersection of the southeasterly side of 94th Avenue and the southwesterly side of 104th street, said line forming and interior angle 90 degrees 00 minutes 00 seconds with the northeasterly side of 102nd street;

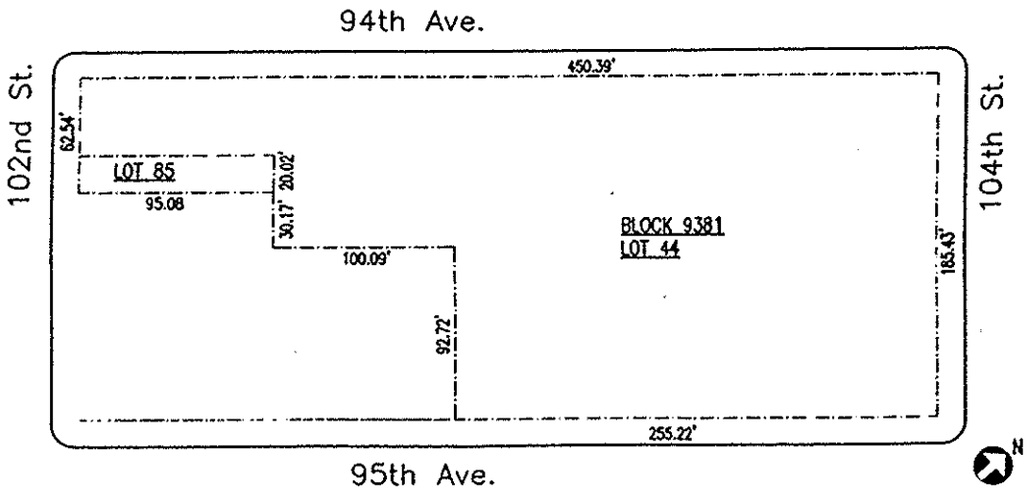
- Running thence along the southwesterly side of 104th street, South 49 degrees 33 minutes 02.0 seconds East, 185.43 feet, to the point and place of beginning, said line forming an interior angle 90 degrees 00 minutes 00 seconds with southeasterly side of 94th Avenue

Said parcel contains 60,649.492 square feet or 1.3923 acres.

Also known as Tax Block 9381, Tax Lots 44 and 85, Borough of Queens, City of New York

All bearings refer to the Borough President of Queens Topographical Bureau Horizontal System.

The said premises known as and by street address 94-06 104th Street
As shown on the following DIAGRAM:



The above described zoning lot is owned by the New York City School Construction Authority, 30-30 Thomson Avenue, Long Island City, NY 11101.

INWITNESS WHEREOF the applicant for permit has executed this instrument This 27th day of June 2006

BY: _____ Maher Labib

STATE OF NEW YORK
COUNTY OF NEW YORK ss:

On the 27th day of June 2006 before me, the undersigned, a Notary Public in and for said State, personally appeared Maher Labib, personally known to me or proven to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within Instrument and acknowledge to me that he executed the same in this capacity as Applicant and Engineer, and that by his signature on the instrument the individual or the person upon behalf of which the individual acted executed the instrument.

ALFRED KLEIN
Notary Public, State of New York
No. 4958729
Qualified in Westchester County
Commission Expires November 13, ~~2002~~ 2009

_____ Notary Public

The above described lot is awarded by the New York City School Construction Authority, 30-30 Thomson Avenue, Long Island City, NY 11101.

IN WITNESS WHEREOF, this permit application is executed this _____ day of _____

THE NEW YORK CITY SCHOOL
CONSTRUCTION AUTHORITY

BY: _____

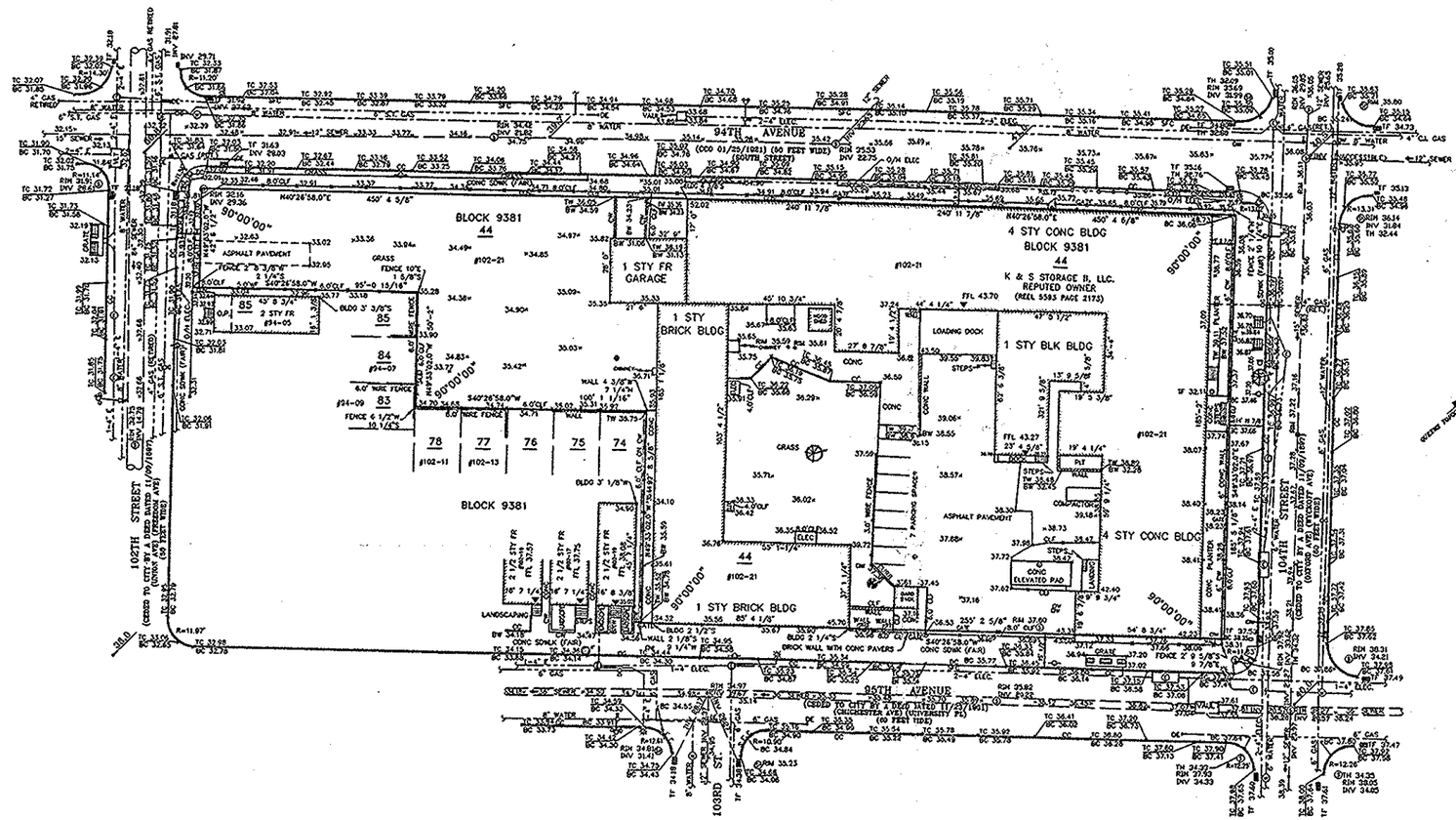
Ross J. Holden
Vice President & General Counsel

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

On the 21 day of July in the year 2006 before me, the undersigned, a Notary Public in and for said State, personally appeared _____ personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within Instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf or which the individual acted, executed the instrument.

SONIA E. SIERRA
Commissioner of Deeds
City of New York - No. 2-9738
Certificate Filed in Queens County
Commission Expires Nov. 1, 20[illegible]

_____
Notary Public



LEGEND:
(AS APPLICABLE)

- LEGAL GRADE
- INTERPOLATED GRADE
- EXISTING ELEVATION
- BUILDING
- WALLS
- CATCHBASIN
- FIRE HYDRANT
- VALVE
- TREE & TRUNK DIAMETER
- MANHOLES

84.8
84.8 INTP.

PARTY WALL | INDEPENDENT

LOW PRESSURE | HIGH PRESSURE

24" (TREE)

- (S) SEWER
- (E) ELECTRIC
- (St) STEAM
- (Sb) SUBWAY
- (MH) MANHOLE (NO ID)
- (S) FROM RECORD MAP
- (E) ELECTRIC BOX
- (W) WATER
- (G) GAS
- (F) N.Y.F.D.
- (T) TELEPHONE
- (E) BECO or CTES
- (C) CABLE TV IRON
- (M) MONITORING WELL

- FENCE
- SEWER
- WATER
- GAS
- ELECTRIC
- TELEPHONE
- FIRE ALARM
- STEAM
- OVERHEAD UTILITY LINE
- DEPRESSED CURB
- TAX LOT NUMBER
- TAX LOT LINE & DIMENSION
- STREET LINE & DIMENSION
- SITE LINE & DIMENSION

D.C.
1
40.00
200.00'
468'-0 1/2"
N 08°57'21.8" E 245'-9 1/2"

MISCELLANEOUS

- TRAFFIC SIGN
- PARKING METER
- COAL CHUTE
- GAS VENT PIPE
- FIRE CALL BOX
- TRAFFIC CONTROL BOX
- MAILBOX
- PAY PHONE
- ELECTRIC BOX
- OIL FILL
- MONUMENT
- STANDPIPE OR SPRINKLER
- ROUND DRAIN
- SQUARE DRAIN
- SIGN
- 1-WAY / 2-WAY DIRECTION OF TRAFFIC
- HANDICAP RAMP
- TRAFFIC SIGNAL
- MONUMENT
- POLICE -TELEPHONE BOX
- GUY WIRE
- WOOD UTILITY POLE
- WOOD UTILITY POLE W/ FIRE CALL BOX
- WOOD UTILITY POLE W/ PEDESTRIAN SIGNAL
- WOOD UTILITY POLE W/ TRAFFIC SIGNAL
- TRAFFIC SIGNAL W/ PEDESTRIAN SIGNAL ON WOOD UTILITY POLE
- STREET LIGHT ON WOOD UTILITY POLE
- STREET LIGHT & FIRE CALL BOX ON WOOD UTILITY POLE
- STREET LIGHT & PEDESTRIAN SIGNAL ON WOOD UTILITY POLE
- STREET LIGHT & TRAFFIC SIGNAL ON WOOD UTILITY POLE
- C.B.C. = GRANITE BLOCK CURB
- C.B.C. = CONCRETE BLOCK CURB
- A.O. = AWNING OVER
- E.O.P. = EDGE OF PAVEMENT
- = FLAG
- STREET LIGHT & TRAFFIC SIGNAL W/ PEDESTRIAN SIGNAL ON WOOD UTILITY POLE
- STREET LIGHT (METAL LIGHT)
- STREET LIGHT W/ PEDESTRIAN SIGNAL
- STREET LIGHT W/ TRAFFIC SIGNAL
- STREET LIGHT & TRAFFIC SIGNAL W/ PEDESTRIAN SIGNAL
- TRAFFIC SIGNAL
- PEDESTRIAN SIGNAL
- = TRAFFIC SIGNAL/ CROSSWALK
- C.C. = CONC. CURB
- C.L.F. = CHAIN LINK FENCE
- W.F. = WOOD FENCE
- C.W. = CONC. WALL
- BRW = BRICK WALL
- LNDSCPE = LANDSCAPE
- SFC = STEEL FACED. CURB

GENERAL NOTES

1. ELEVATIONS AND ESTABLISHED GRADES SHOWN HEREON REFER TO THE BOROUGH PRESIDENT OF QUEENS TOPOGRAPHICAL BUREAU DATUM WHICH IS 2.725 FEET ABOVE U.S.C.G.S. MEAN SEA LEVEL AT SANDY HOOK, NJ (1929)
2. ESTABLISHED GRADES SHOWN HEREON REFER TO TOP OF CURB.
3. SIZES AND LOCATIONS OF SUBSURFACE WATER-MAIN PIPES SHOWN HEREON WERE SUPPLIED BY THE NYC DEP.
4. SIZES AND LOCATIONS OF SUBSURFACE SEWER PIPES SHOWN HEREON WERE OBTAINED FROM THE BOROUGH PRESIDENT OF QUEENS SEWER DEPARTMENT. RIM AND INVERT ELEVATIONS SHOWN HEREON WERE OBTAINED FROM FIELD MEASUREMENTS. RECORD RIM AND INVERT ELEVATIONS SHOWN HEREON ARE PRECEDED BY (*). LOCATIONS OF SEWER MANHOLE FROM RECORD INFORMATION IS SHOWN HEREON AS A DASHED CIRCLE.
5. LOCATIONS OF SUBSURFACE ELECTRIC LINES SHOWN HEREON WERE OBTAINED FROM CONSOLIDATED EDISON COMPANY. LOCATION OVERHEAD WIRES WERE OBTAINED FROM FIELD MEASUREMENTS.
6. LOCATIONS OF SUBSURFACE GAS LINES SHOWN HEREON WERE OBTAINED FROM BROOKLYN UNION GAS. SOME GAS DISTRIBUTION INFORMATION WAS NOT AVAILABLE AT THE TIME OF THE FIRST SUBMISSION OF THIS DOCUMENT. A REVISED DOCUMENT WILL BE ISSUED AS SOON AS THE INFORMATION BECOMES AVAILABLE.
7. NYNEX REPORTS NO TELEPHONE CONDUITS IN THIS AREA.
8. ALL SUBSURFACE INFORMATION SHOWN HEREON IS NOT GUARANTEED AS TO ITS ACCURACY OR COMPLETENESS. THE CONTRACTOR SHALL, BEFORE COMMENCING EXCAVATION, NOTIFY THE APPROPRIATE NEW YORK CITY AGENCIES, DEPARTMENTS AND PRIVATE UTILITY COMPANIES OF THEIR PROPOSED WORK AND REQUEST THAT THE PARTICULAR UTILITY LINES BE MARKED BY THE NEW YORK CITY AGENCY, DEPARTMENT OR PRIVATE UTILITY COMPANY HAVING JURISDICTION.
9. NO EVIDENCE OF EXISTING STREAMS, CREEKS, DITCHES, OR WATER COURSES ON/OR CROSSING THE SUBJECT PROPERTY OTHER THAN THOSE SHOWN.
10. THE FIELD SURVEY WAS COMPLETED ON OCTOBER 30, 2000.
11. UNAUTHORIZED ALTERATION OR ADDITION TO THIS SURVEY IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW. COPIES OF THE SURVEY MAP NOT BEARING THE LAND SURVEYOR'S INKED OR EMBOSSED SEAL SHALL NOT BE CONSTRUED TO BE A VALID TRUE COPY.

Project:
H.S. 800 QUEENS, NEW YORK
BLOCK 9381 LOT 44
LL #22714

NEW YORK CITY SCHOOL CONSTRUCTION AUTHORITY

Leonard Supp, Interim President & CEO

Board of Trustees

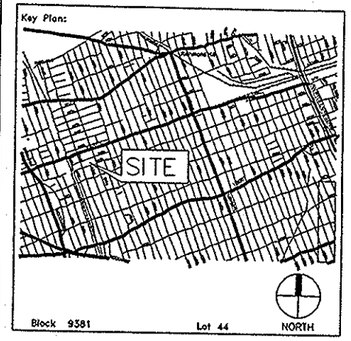
Donald Zucker, Chairman
Paul Alonasio, Member
Rudolph F. Crew, Ed.D., Member

Vollmer Associates, LLP
Engineers Landscape Architects Planners Surveyors
50 West 22nd Street New York, NY 10010-5805

GRAPHIC SCALE
30 0 15 30 60
(IN FEET)
1 inch = 30 ft.

No.	Date	Revision
4	07/15/03	Drawing Scale Changed at SCA Request.
3	06/03/03	Existing Conditions Updated
2	04/07/03	Building line & Offset revised
1	03/16/01	Sewer information added

Key Plan:



Design Manager:	
Project Surveyor:	VOLLMER ASSOCIATES LLP
Surveyor:	K. STIGNER
Drawn by:	R. OLMER
Checked by:	R. KELLY
Contract No.:	C000008362
Date:	02/12/2001

Project: HIGH SCHOOL 800
Address: 94TH STREET & 104TH STREET
QUEENS, NEW YORK

Drawing Title:
EXISTING CONDITIONS SURVEY

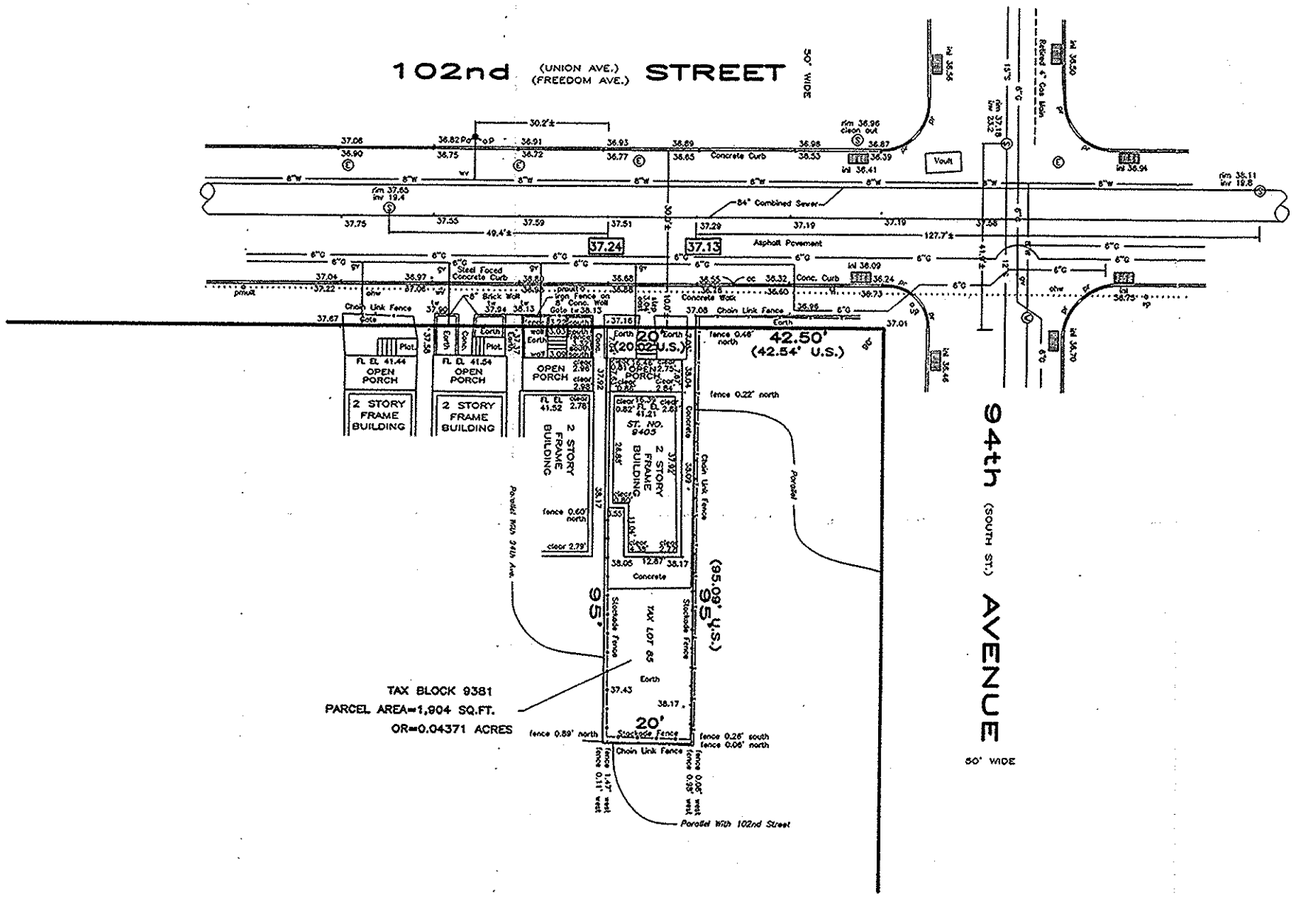
STATE OF NEW YORK
ROBERT JOHN STIGNER
LICENSED LAND SURVEYOR

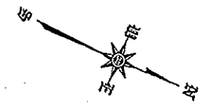
Drawing No.:
S-8

Sheets in Contract:
1 of 1

SURVEY No.60426-1

60426-1.CRD
60426-1.DWG





LEGEND

ASPH.....ASPHALT
BK.....BRICK
BSMT.....BASEMENT
CC.....CURB CUT
CCR.....CONCRETE CURB ROUND
CD.....CELLAR DOOR
CLF.....CHAIN LINK FENCE
CO.....CATCH BASIN CLEAN OUT
CONC.....CONCRETE
CRF.....CHAIN ROPE FENCE
CWA.....CELLAR WINDOW AREA
DR.....DRAIN
EL.....ELEVATION
FAB.....FIRE ALARM BOX
FC.....FILL CAP
FL EL....FLOOR ELEVATION
GP.....GUARD POLE
GV.....GAS VALVE
IF.....IRON FENCE
INL.....CATCH BASIN INLET ELEVATION
INV.....SEWER INVERT ELEVATION
LP.....LIGHT POLE
MB.....MAIL BOX
MHU.....UNKNOWN MANHOLE
OF.....OIL FILL
OHW.....OVERHEAD WIRES
P.....POLE
PAVT.....PAVEMENT
PM.....PARKING METER
PMULT....POLE, MULTIPLE USAGE
PR.....PEDESTRIAN RAMP
RET.....RETAINING
RIM.....RIM ELEVATION SEWER MANHOLE
SFCR....STEEL FACED CURB ROUND
STY.....STORY
TB.....TOP OF BANK ELEVATION
ϕ.....TRAFFIC LIGHT
TEL.....TELEPHONE
TP.....TREE PIT
TRAFFIC SIGN
TW.....ELEVATION AT TOP OF WALL
UP.....UTILITY POLE
VU.....VALVE UNKNOWN
VLTU.....VAULT UNKNOWN
VP.....VENT PIPE
WV.....WATER VALVE
12"G.....GAS MAIN WITH SIZE
12"S.....SEWER MAIN WITH SIZE
12"W.....WATER MAIN WITH SIZE
.....CATCH BASIN
E.....ELECTRIC MANHOLE / VAULT
F.....FIRE MANHOLE
G.....GAS MANHOLE
S.....SEWER MANHOLE
T.....TELEPHONE MANHOLE
W.....WATER MANHOLE
TS.....TRAFFIC VAULT
.....HYDRANT
T8.....TREE WITH SIZE
17.0 .....ESTABLISHED GRADE

GENERAL NOTES

1. ELEVATIONS AND ESTABLISHED GRADES SHOWN HEREON REFER TO THE BOROUGH OF QUEENS TOPOGRAPHICAL BUREAU DATUM WHICH IS 2.725 FEET ABOVE MEAN SEA LEVEL DATUM AT SANDY HOOK N.J. 1929.
2. ESTABLISHED GRADES SHOWN HEREON REFER TO TOP OF CURB. IF ESTABLISHED GRADES VARY SUBSTANTIALLY WITH EXISTING ELEVATIONS CONSULT WITH THE HIGHWAY DEPARTMENT BEFORE DESIGNING IMPROVEMENTS.
3. SIZES AND LOCATIONS OF WATER MAINS SHOWN HEREON AS SUPPLIED BY THE DEPARTMENT OF WATER SUPPLY, BOROUGH OF QUEENS. LOCATIONS OF WATER SUPPLY MANHOLES, HYDRANTS AND WATER VALVES AS OBTAINED FROM FIELD MEASUREMENT.
4. SIZES AND TYPES OF SEWERS SHOWN HEREON AS OBTAINED FROM THE BOROUGH OF QUEENS SEWER DEPARTMENT RECORDS. SEWER MANHOLE RIM AND INVERT ELEVATIONS SHOWN HEREON OBTAINED BY FIELD MEASUREMENTS UNLESS INDICATED (*) WHICH DENOTES INVERT INACCESSIBLE OR MANHOLE NOT FOUND IN FIELD. INFORMATION SHOWN IN THIS MANNER IS AS OBTAINED FROM THE BOROUGH OF QUEENS SEWER DEPARTMENT RECORDS.
5. ELECTRIC AND GAS INFORMATION SHOWN HEREON AS SUPPLIED BY THE CONSOLIDATED EDISON COMPANY OF NEW YORK.
6. TELEPHONE INFORMATION SHOWN HEREON AS SUPPLIED BY THE NEW YORK TELEPHONE COMPANY.
7. FIRE ALARM INFORMATION SHOWN HEREON AS SUPPLIED BY THE NEW YORK CITY FIRE DEPARTMENT.
8. CABLE TELEVISION INFORMATION SHOWN HEREON AS SUPPLIED BY THE CABLE VISION COMPANY OF NEW YORK.
9. LOCATIONS OF ALL UTILITIES AND SUBSTRUCTURES ARE APPROXIMATE ONLY. THE INFORMATION GIVEN ON THE SURVEY PERTAINING TO UTILITIES AND SUBSTRUCTURES IS NOT CERTIFIED AS TO ACCURACY OR COMPLETENESS. CONSULT WITH THE APPROPRIATE COMPANY OR AGENCY BEFORE DESIGNING IMPROVEMENTS.
10. THE OWNER, CONTRACTOR AND/OR HIS AGENTS MUST NOTIFY THE APPROPRIATE UTILITY COMPANIES AND/OR AGENCIES AT LEAST 72 HOURS PRIOR TO ANY CONSTRUCTION IN ACCORDANCE WITH INDUSTRIAL CODE RULE 753.
11. NO EVIDENCE OF EXISTING STREAMS, CREEKS, DITCHES OR WATER COURSES ON/OR CROSSING PROPERTY SURVEYED, OTHER THAN THOSE SHOWN.

UTILITY COVERS

ELECTRIC CONDUIT.....2'-6" MIN.
ELECTRIC LOW TENSION.....18" MIN.
TELEPHONE & FDNY.....2'-6" MIN.
WATER MAIN.....4'-0" MIN.
GAS MAIN.....3'-0" - 4'-0"

D R A F T
UTILITY INFORMATION NOT FINAL

DRN: YD

REV	DATE	DESCRIPTION	CK	DM

SURVEY
OF THE SITE FOR

HIGH SCHOOL OF ARCHITECTURE AND URBAN PLANNING

102nd STREET
94th AVENUE, 95th AVENUE

BOROUGH OF QUEENS

MADE FOR THE

SCHOOL CONSTRUCTION AUTHORITY
CITY OF NEW YORK

DATE OF FIELD WORK: 06/03/05
SCALE ONE INCH = 16'
DATE OF SUBMISSION: 06/13/05

MONTROSE SURVEYING CO., LLP
116-20 METROPOLITAN AVENUE
RICHMOND HILL, NEW YORK 11418

APPENDIX B

DOCUMENTATION FOR PRE-REMEDY CONTAMINATION CONDITIONS

Table 1

Analytical Results of Soil Boring Samples
Adams Brush Manufacturing

Date	Units	NYSDEC Soil Cleanup Criteria*	AB-TW-01 5/30/00	AB-TW-02 5/30/00	AB-TW-03 5/31/00	AB-TW-04 5/31/00	Trip Blank 5/26/00	AB-FB-01(S)** 5/30/00	AB-SB-03 6/8/00	AB-SB-5 6/8/00	AB-SB-6A 6/9/00	AB-SB-6B 6/9/00	AB-SB-6C 6/9/00	AB-SB-7 6/9/00
Sample Depth			2.0'-2.5'	37'-37.5'	34.5'-35'	34.5'-35'	N/A	N/A	2.0'-7.0'	3.5'-4.0'	0.0'-0.5'	1.5'-2.0'	11'-12'	10'-11'
Volatile Organics (EPA 8260B)														
Benzene	ug/Kg	60	ND	ND	ND	ND	ND	ND	11.4	ND	ND	ND	ND	ND
Chlorobenzene	ug/Kg	1,700	ND	ND	ND	ND	ND	ND	12.5	ND	ND	ND	ND	ND
Methylene Chloride	ug/Kg	100	ND	ND	ND	ND	ND	ND	32.5	ND	ND	ND	ND	ND
Toluene	ug/Kg	1,500	ND	ND	ND	ND	ND	7.5	12.1	ND	ND	ND	ND	ND
Trichloroethylene	ug/Kg	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs	ug/Kg	NS	ND	ND	ND	ND	ND	ND	ND	1,555	ND	ND	ND	ND
Semivolatile Organics (EPA 8270)														
Anthracene	ug/Kg	50,000	ND	ND	ND	ND	-	ND	ND	-	ND	1,000	ND	ND
Benzo(a)anthracene	ug/Kg	224	ND	ND	ND	ND	-	ND	784	2,850	835	3,000	ND	ND
Benzo(a)pyrene	ug/Kg	61	ND	ND	ND	ND	-	ND	1,400	2,290	734	2,000	ND	ND
Benzo(b)fluoranthene	ug/Kg	1,100	ND	ND	ND	ND	-	ND	1,480	ND	673	2,000	ND	ND
Benzo(g,h,i)perylene	ug/Kg	50,000	ND	ND	ND	ND	-	ND	964	1,260	461	1,000	ND	ND
Benzo(k)fluoranthene	ug/Kg	1,100	ND	ND	ND	ND	-	ND	755	ND	605	2,000	ND	ND
bis(2-Ethylhexyl)phthalate	ug/Kg	50,000	1,900	ND	ND	ND	-	ND	ND	ND	757	ND	ND	ND
Butyl Benzyl Phthalate	ug/Kg	50,000	ND	ND	ND	ND	-	ND	ND	ND	184	ND	ND	ND
Chrysene	ug/Kg	400	ND	ND	ND	ND	-	ND	884	3,050	875	3,000	ND	ND
Dibenzo(a,h)Anthracene	ug/Kg	14	ND	ND	ND	ND	-	ND	194	930	ND	ND	ND	ND
Diethyl Phthalate	ug/Kg	7,100	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND
Di-n-butylphthalate	ug/Kg	8,100	ND	ND	ND	ND	-	ND	9,700	ND	177	ND	ND	ND
2,4 Dinitrotoluene	ug/Kg	NS	ND	ND	ND	ND	-	1.0	ND	ND	ND	ND	ND	ND
Fluoranthene	ug/Kg	50,000	ND	ND	ND	ND	-	ND	944	5,850	1,600	6,000	ND	ND
Indeno(1,2,3-cd)Pyrene	ug/Kg	3,200	ND	ND	ND	ND	-	ND	819	1,080	357	ND	ND	ND
Isophorone	ug/Kg	4,400	ND	ND	ND	ND	-	13.4	ND	ND	ND	ND	ND	ND
Phenanthrene	ug/Kg	50,000	ND	ND	ND	ND	-	ND	658	4,550	1,230	4,000	ND	ND
Pyrene	ug/Kg	50,000	ND	ND	ND	ND	-	ND	1,850	7,160	1,800	7,000	ND	ND
TICs	ug/kg	NS	ND	500	ND	ND	-	18.0	5,397	105,360	ND	ND	ND	ND
Total RCRA Metals (6010B, SW-846)														
Arsenic	mg/Kg	7.5	ND	ND	ND	ND	-	-	4.91	-	8	7.32	-	-
Barium	mg/Kg	300	57.4	16.9	16.4	9.44	-	-	77.9	-	221	238	-	-
Chromium	mg/Kg	10	21.8	8.63	6.6	5.45	-	-	15.8	-	29.3	27	-	-
Lead	mg/Kg	SB	ND	ND	ND	ND	-	-	160	-	753	409	-	-
Mercury (Method 7471, EPA 1986)	mg/Kg	0.1	ND	ND	ND	ND	-	-	0.24	-	0.5	1.01	-	-

SOIL NOTES:

- \- Not analyzed for
- Value Exceeds Criteria
- ND Not Detected
- NS No Standard
- N/A Not Applicable
- SB Site Background or Eastern Regional Background (4 to 61 mg/kg for lead)
- FB Field Blank
- TICs Tentatively Identified Compounds
- * Source: NYSDEC TAGM HW94-4046 (January 24, 1994 revised): Recommended Soil Cleanup Objectives
- ** TB and FB Units are in ug/L for organics and mg/L for metals
- *** Sample taken 6"-12" below basement floor

Table 1

Analytical Results of Soil Boring Samples
Adams Brush Manufacturing

	Units	NYSDEC Soil Cleanup Criteria*	AB-SB-8A	AB-SB-8B	AB-SB-10	Trip Blank	AB-FB-01(S)**	BS-1	Trip Blank
Date			6/9/00	6/9/00	6/8/00	6/7/00	6/8/00	6/1/00	5/31/00
Sample Depth			9.0'-9.5'	33.0'-33.5'	39'-41'	N/A	N/A	***	N/A
Volatile Organics (EPA 8260B)									
Benzene	ug/Kg	60	ND	ND	15.1	ND	ND	ND	ND
Chlorobenzene	ug/Kg	1,700	ND	ND	13.0	ND	ND	ND	ND
Methylene Chloride	ug/Kg	100	ND	ND	31.6	ND	ND	ND	ND
Toluene	ug/Kg	1,500	ND	ND	15.0	ND	ND	ND	ND
Trichloroethylene	ug/Kg	700	ND	ND	17.1	ND	ND	ND	ND
TICs	ug/Kg	NS	ND	ND	ND	ND	ND	ND	ND
Semivolatile Organics (EPA 8270)									
Anthracene	ug/Kg	50,000	ND	ND	ND	-	ND	ND	-
Benzo(a)anthracene	ug/Kg	224	ND	ND	ND	-	ND	ND	-
Benzo(a)pyrene	ug/Kg	61	ND	ND	ND	-	ND	ND	-
Benzo(b)fluoranthene	ug/Kg	1,100	ND	ND	ND	-	ND	ND	-
Benzo(g,h,i)perylene	ug/Kg	50,000	ND	ND	ND	-	ND	ND	-
Benzo(k)fluoranthene	ug/Kg	1,100	ND	ND	ND	-	ND	ND	-
bis(2-Ethylhexyl)phthalate	ug/Kg	50,000	ND	ND	ND	-	2.9	ND	-
Butyl Benzyl Phthalate	ug/Kg	50,000	ND	ND	ND	-	ND	ND	-
Chrysene	ug/Kg	400	ND	ND	ND	-	ND	ND	-
Dibenzo(a,h)Anthracene	ug/Kg	14	ND	ND	ND	-	ND	ND	-
Diethyl Phthalate	ug/Kg	7,100	ND	ND	ND	-	1.8	ND	-
Di-n-butylphthalate	ug/Kg	8,100	ND	ND	ND	-	ND	ND	-
2,4 Dinitrotoluene	ug/Kg	NS	ND	ND	ND	-	ND	ND	-
Fluoranthene	ug/Kg	50,000	ND	ND	ND	-	ND	ND	-
Indeno(1,2,3-cd)Pyrene	ug/Kg	3,200	ND	ND	ND	-	ND	ND	-
Isophorone	ug/Kg	4,400	ND	ND	ND	-	ND	ND	-
Phenanthrene	ug/Kg	50,000	ND	ND	ND	-	ND	ND	-
Pyrene	ug/Kg	50,000	ND	ND	ND	-	ND	ND	-
TICs	ug/kg	NS	ND	ND	ND	-	222	820	-
Total RCRA Metals (6010B, SW-846)									
Arsenic	mg/Kg	7.5	-	-	-	-	-	ND	-
Barium	mg/Kg	300	-	-	-	-	-	127	-
Chromium	mg/Kg	10	-	-	-	-	-	11.0	-
Lead	mg/Kg	SB	-	-	-	-	-	136	-
Mercury (Method 7471, EPA 1986)	mg/Kg	0.1	-	-	-	-	-	0.21	-

SOIL NOTES:

- \- Not analyzed for
- Value Exceeds Criteria
- ND Not Detected
- NS No Standard
- N/A Not Applicable
- SB Site Background or Eastern Regional Background (4 to 61 mg/kg for lead)
- FB Field Blank
- TICs Tentatively Identified Compounds
- * Source: NYSDEC TAGM HW94-4046 (January 24, 1994 revised): Recommended Soil Cleanup Objectives
- ** TB and FB Units are in ug/L for organics and mg/L for metals
- *** Sample taken 6"-12" below basement floor

Table 2
Summary of Soil Analytical Data
New York City School Construction Authority
Adams Brush Manufacturing
94-02 104th Street, Queens, New York
September 2002 Investigation

Compound	TAGM 4046* Value (ppb) <5 ft.	TAGM 4046* Value (ppb) >5 ft.	Boring/Sample ID SB-1 22' bgs	SB-2 22' bgs	MW-6 10' bgs	MW-6 20' bgs	MW-6 35' bgs
Volatile Organic Compounds					(ppb)		
Acetone	200	200	7.4	11	9.2	10	9.2
Methylene Chloride	100	100	11	20	18	14	21
Semi-Volatile Organic Compound					(ppb)		
Naphthalene	5,200	13,000	NA	NA	ND	ND	ND
Acenaphthene	36,800	50,000	NA	NA	ND	ND	ND
Flourene	50,000	50,000	NA	NA	ND	ND	ND
Phenanthrene	50,000	50,000	NA	NA	ND	ND	ND
Anthracene	50,000	50,000	NA	NA	ND	ND	ND
Flouranthene	50,000	50,000	NA	NA	ND	ND	ND
Pyrene	50,000	50,000	NA	NA	ND	ND	ND
Benzo(a)anthracene	224	224	NA	NA	ND	ND	ND
Chrysene	160	400	NA	NA	ND	ND	ND
Benzo(b)fluoranthene	61	61	NA	NA	ND	ND	ND
Benzo(k)fluoranthene	440	610	NA	NA	ND	ND	ND
Benzo(a)pyrene	61	61	NA	NA	ND	ND	ND
Indeno(1,2,3-cd)pyrene	1,280	3,200	NA	NA	ND	ND	ND
Benzo(g,h,i)perylene	50000	50000	NA	NA	ND	ND	ND

Compound	TAGM 4046* <1 ft	TAGM 4046* >1 ft.	Boring/Sample ID SB-1 22' bgs	SB-2 22' bgs	MW-6 10' bgs	MW-6 20' bgs	MW-6 35' bgs
Polychlorinated Biphenyls					(ppm)		
Total PCBs	1.0	10	NA	NA	ND	ND	ND

Compound	TAGM 4046* Value (ppm)	Boring/Sample ID SB-1 22' bgs	SB-2 22' bgs	MW-6 10' bgs	MW-6 20' bgs	MW-6 35' bgs
Inorganics				(ppm)		
Arsenic	7.5 or SB	NA	NA	1.9	0.72 B	0.67 B
Barium	300 or SB	NA	NA	49.9	19.0 B	53.0
Cadmium	1 or SB	NA	NA	0.12 B	ND	0.12 B
Chromium	10 or SB	NA	NA	**12**	7.9	8.6
Lead	SB	NA	NA	44.7	0.60	0.74
Mercury	0.1	NA	NA	0.02	ND	ND
Selenium	2 or SB	NA	NA	0.45 B	0.42 B	0.71

Notes:
*TAGM Values for VOCs, SVOCs and PCBs are for soil samples obtained less than 5ft. or greater than 5ft. to groundw
NA - Sample Not Analyzed
SB - Site Background
D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
J - Indicates and estimated value. This flag is used when the mass spectral data indicated the identification; however, the result was less than the specified detection limit but greater than zero.
B - (Organics) Indicates the analyte was found in the blank as well as the sample.
B - (Inorganics) If the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).
ND - Not detected
Bold face and shaded values indicates exccedance of TAGM value
Lead levels were below typical metropolitan background levels of 200-500 ppm (TAGM 4046)

Table 2
Summary of Soil Analytical Data
New York City School Construction Authority
Adams Brush Manufacturing
94-02 104th Street, Queens, New York
September 2002 Investigation

Compound	TAGM 4046* Value (ppb) <5 ft.	TAGM 4046* Value (ppb) >5 ft.	Boring/Sample ID MW-7 10' bgs	MW-7 20' bgs	MW-7 35' bgs	Field Blank	Trip Blank
Volatile Organic Compounds			(ppb)				
Acetone	200	200	19	9.9	9.1	ND	ND
Methylene Chloride	100	100	12	14	15	ND	ND
Semi-Volatile Organic Compounds			(ppb)				
Naphthalene	5,200	13,000	ND	69 J	ND	NA	NA
Acenaphthene	36,800	50,000	ND	67 J	ND	NA	NA
Flourene	50,000	50,000	ND	60 J	ND	NA	NA
Phenanthrene	50,000	50,000	ND	400	ND	NA	NA
Anthracene	50,000	50,000	ND	87 J	ND	NA	NA
Flouranthene	50,000	50,000	ND	450	ND	NA	NA
Pyrene	50,000	50,000	ND	420	ND	NA	NA
Benzo(a)anthracene	224	224	ND	210 J	ND	NA	NA
Chrysene	160	400	ND	210 J	ND	NA	NA
Benzo(b)fluoranthene	61	61	ND	**180 J**	ND	NA	NA
Benzo(k)fluoranthene	440	610	ND	160 J	ND	NA	NA
Benzo(a)pyrene	61	61	ND	**210 J**	ND	NA	NA
Indeno(1,2,3-cd)pyrene	1,280	3,200	ND	130 J	ND	NA	NA
Benzo(g,h,i)perylene	50000	50000	ND	140 J	ND	NA	NA

Compound	TAGM 4046* <1 ft	TAGM 4046* >1 ft.	Boring/Sample ID MW-7 10' bgs	MW-7 20' bgs	MW-7 35' bgs	Field Blank	Trip Blank
Polychlorinated Biphenyls			(ppm)				
Total PCBs	1.0	10	ND	ND	ND	NA	NA

Compound	TAGM 4046* Value (ppm)	Boring/Sample ID MW-7 10' bgs	MW-7 20' bgs	MW-7 35' bgs	Field Blank	Trip Blank
Inorganics		(ppm)				
Arsenic	7.5 or SB	0.48 B	0.46 B	0.66 B	NA	NA
Barium	300 or SB	22.6	17.2 B	14.3 B	NA	NA
Cadmium	1 or SB	0.13 B	0.10 B		NA	NA
Chromium	10 or SB	7.7	6.9	5.4	NA	NA
Lead	SB	ND	0.22 B	0.36	NA	NA
Mercury	0.1	ND	ND	ND	NA	NA
Selenium	2 or SB	ND	ND	ND	NA	NA

Notes:
*TAGM Values for VOCs, SVOCs and PCBs are for soil samples obtained less than 5ft. or greater than 5ft. to groundwa
NA - Sample Not Analyzed
SB - Site Background
D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
J - Indicates and estimated value. This flag is used when the mass spectral data indicated the identification; however, the result was less than the specified detection limit but greater than zero.
B - (Organics) Indicates the analyte was found in the blank as well as the sample.
B - (Inorganics) If the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).
ND - Not detected
Bold face and shaded values indicates exccedance of TAGM value
Lead levels were below typical metropolitan background levels of 200-500 ppm (TAGM 4046)

Table 3
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Semi Volatile Organics
September 2002 Investigation

Compound	TAGM 4046* Value (ppb) <5 ft.	TAGM 4046* Value (ppb) >5 ft.	Boring/Sample ID AB-1 8-12' bgs	AB-2 8-12' bgs	AB-3 8-12' bgs	AB-4 8-12' bgs
Semi-Volatile Organic Compounds						
Acenaphthylene	41,000	41,000	ND	ND	ND	ND
Naphthalene	5,200	13,000	ND	ND	ND	ND
Acenaphthene	36,800	50,000	ND	ND	ND	ND
Dibenzofuran	6,200	6,200	ND	ND	ND	ND
Diethylphthalate	7,100	7,100	ND	ND	ND	ND
di-n-butylphthalate	8,100	8,100	ND	ND	ND	ND
2-Methylnaphthalene	36,400	36,400	ND	ND	ND	ND
2,6-Dinitrotoluene	1,000	1,000	ND	ND	ND	ND
Flourene	50,000	50,000	ND	ND	ND	ND
Phenanthrene	50,000	50,000	ND	ND	ND	ND
Anthracene	50,000	50,000	ND	ND	ND	ND
Carbazole	-	-	ND	ND	ND	ND
Flouranthene	50,000	50,000	ND	ND	ND	ND
Pyrene	50,000	50,000	ND	ND	ND	ND
Benzo(a)anthracene	224	224	ND	ND	ND	ND
Chrysene	160	400	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	50,000	50,000	ND	48 J	42 J	70 J
Benzo(b)fluoranthene	61	61	ND	ND	ND	ND
Benzo(k)fluoranthene	440	610	ND	ND	ND	ND
Benzo(a)pyrene	61	61	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	1,280	3,200	ND	ND	ND	ND
Isophorone	4,400	4,400	ND	ND	ND	ND
Dibenzo(a,h)anthracene	14.3	14.3	ND	ND	ND	ND
Benzo(g,h,i)perylene	50,000	50,000	ND	ND	ND	ND

Notes:

*TAGM Values (for VOCs and SVOCs) are for soil samples obtained less than (<) 5ft. or greater than (>) 5ft. to groundwater

NA - Sample Not Analyzed

ND - Not Detected

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.

J - Indicates and estimated value. This flag is used when the mass spectral data indicated the identification; however, the result was less than the specified detection limit but greater than zero.

B - (Organics) Indicates the analyte was found in the blank as well as the sample.

Bold face and shaded values indicates exccedance of TAGM value

Table 3
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Semi Volatile Organics
September 2002 Investigation

Compound	TAGM 4046* Value (ppb) <5 ft.	TAGM 4046* Value (ppb) >5 ft.	Boring/Sample ID AB-4RE 8-12' bgs	Boring/Sample ID AB-5 8-12' bgs	Boring/Sample ID AB-5 DUP 8-12' bgs	Boring/Sample ID AB-6 8-12' bgs
Semi-Volatile Organic Compounds						
Acenaphthylene	41,000	41,000	ND	ND	ND	ND
Naphthalene	5,200	13,000	ND	ND	ND	ND
Acenaphthene	36,800	50,000	ND	ND	ND	ND
Dibenzofuran	6,200	6,200	ND	ND	ND	ND
Diethylphthalate	7,100	7,100	ND	ND	ND	ND
di-n-butylphthalate	8,100	8,100	ND	ND	ND	ND
2-Methylnaphthalene	36,400	36,400	ND	ND	ND	ND
2,6-Dinitrotoluene	1,000	1,000	ND	ND	ND	ND
Flourene	50,000	50,000	ND	ND	ND	ND
Phenanthrene	50,000	50,000	ND	270 J	280 J	ND
Anthracene	50,000	50,000	ND	69 J	72 J	ND
Carbazole	-	-	ND	ND	ND	ND
Flouranthene	50,000	50,000	ND	530	600	ND
Pyrene	50,000	50,000	ND	460	490	ND
Benzo(a)anthracene	224	224	ND	**300 J**	**310 J**	ND
Chrysene	160	400	ND	320 J	360	ND
bis(2-Ethylhexyl)phthalate	50,000	50,000	130 J	900	730	93 J
Benzo(b)fluoranthene	61	61	ND	**350**	**350**	ND
Benzo(k)fluoranthene	440	610	ND	190 J	230 J	ND
Benzo(a)pyrene	61	61	ND	**280 J**	**310 J**	ND
Indeno(1,2,3-cd)pyrene	1,280	3,200	ND	83 J	96 J	ND
Isophorone	4,400	4,400	ND	ND	ND	ND
Dibenzo(a,h)anthracene	14.3	14.3	ND	ND	ND	ND
Benzo(g,h,i)perylene	50,000	50,000	ND	100 J	120 J	ND

Notes:

*TAGM Values (for VOCs and SVOCs) are for soil samples obtained less than (<) 5ft. or greater than (>) 5ft. to groundwater

NA - Sample Not Analyzed

ND - Not Detected

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.

J - Indicates and estimated value. This flag is used when the mass spectral data indicated the identification; however, the result was less than the specified detection limit but greater than zero.

B - (Organics) Indicates the analyte was found in the blank as well as the sample.

Bold face and shaded values indicates exccedance of TAGM value

Table 3
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Semi Volatile Organics
September 2002 Investigation

Compound	TAGM 4046* Value (ppb) <5 ft.	TAGM 4046* Value (ppb) >5 ft.	Boring/Sample ID AB-6RE 8-12' bgs	AB-7 0-4' bgs	AB-7 4-8' bgs	AB-7 DUP 0-4' bgs
Semi-Volatile Organic Compounds						
Acenaphthylene	41,000	41,000	ND	ND	ND	110 J
Naphthalene	5,200	13,000	ND	ND	ND	ND
Acenaphthene	36,800	50,000	ND	ND	ND	110 J
Dibenzofuran	6,200	6,200	ND	ND	ND	66 J
Diethylphthalate	7,100	7,100	ND	ND	ND	ND
di-n-butylphthalate	8,100	8,100	ND	ND	ND	ND
2-Methylnaphthalene	36,400	36,400	ND	ND	ND	ND
2,6-Dinitrotoluene	1,000	1,000	ND	ND	ND	ND
Flourene	50,000	50,000	ND	43 J	ND	100 J
Phenanthrene	50,000	50,000	ND	280 J	ND	750
Anthracene	50,000	50,000	ND	76 J	ND	250 J
Carbazole	-	-	ND	ND	ND	95 J
Flouranthene	50,000	50,000	ND	300 J	ND	1400
Pyrene	50,000	50,000	ND	210 J	ND	1100
Benzo(a)anthracene	224	224	ND	120 J	ND	**790**
Chrysene	160	400	ND	140 J	ND	**820**
bis(2-Ethylhexyl)phthalate	50,000	50,000	98 J	88 J	45 J	59 J
Benzo(b)fluoranthene	61	61	ND	**90 J**	ND	**700**
Benzo(k)fluoranthene	440	610	ND	ND	ND	**640**
Benzo(a)pyrene	61	61	ND	**98 J**	ND	**740**
Indeno(1,2,3-cd)pyrene	1,280	3,200	ND	ND	ND	280 J
Isophorone	4,400	4,400	ND	ND	ND	ND
Dibenzo(a,h)anthracene	14.3	14.3	ND	ND	ND	ND
Benzo(g,h,i)perylene	50,000	50,000	ND	ND	ND	300 J

Notes:

*TAGM Values (for VOCs and SVOCs) are for soil samples obtained less than (<) 5ft. or greater than (>) 5ft. to groundwater

NA - Sample Not Analyzed

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J - Indicates and estimated value. This flag is used when the mass spectral data indicated the identification; however, the result was less than the specified detection limit but greater than zero.

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Bold face and shaded values indicates exccedance of TAGM value

Table 3
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Semi Volatile Organics
September 2002 Investigation

Compound	TAGM 4046* Value (ppb) <5 ft.	TAGM 4046* Value (ppb) >5 ft.	Boring/Sample ID AB-08 0-4' bgs	AB-08 4-8' bgs	AB-09 0-4' bgs	AB-09 4-8' bgs
Semi-Volatile Organic Compounds						
Acenaphthylene	41,000	41,000	ND	ND	160 J	ND
Naphthalene	5,200	13,000	ND	ND	ND	ND
Acenaphthene	36,800	50,000	ND	ND	ND	ND
Dibenzofuran	6,200	6,200	ND	ND	ND	ND
Diethylphthalate	7,100	7,100	ND	ND	ND	ND
di-n-butylphthalate	8,100	8,100	ND	ND	ND	ND
2-Methylnaphthalene	36,400	36,400	ND	ND	ND	ND
2,6-Dinitrotoluene	1,000	1,000	ND	260 J	ND	ND
Flourene	50,000	50,000	ND	ND	ND	ND
Phenanthrene	50,000	50,000	110 J	ND	49 J	80 J
Anthracene	50,000	50,000	ND	ND	ND	ND
Carbazole	-	-	ND	ND	ND	ND
Flouranthene	50,000	50,000	180 J	53 J	550	230 J
Pyrene	50,000	50,000	120 J	42 J	530	210 J
Benzo(a)anthracene	224	224	74 J	37 J	430	130 J
Chrysene	160	400	110 J	ND	500	160 J
bis(2-Ethylhexyl)phthalate	50,000	50,000	47 J	38 J	51 J	ND
Benzo(b)fluoranthene	61	61	**81 J**	47 J	**600**	**93 J**
Benzo(k)fluoranthene	440	610	ND	ND	410	120 J
Benzo(a)pyrene	61	61	**71 J**	ND	**590**	**130 J**
Indeno(1,2,3-cd)pyrene	1,280	3,200	ND	ND	260 J	ND
Isophorone	4,400	4,400	ND	ND	ND	ND
Dibenzo(a,h)anthracene	14.3	14.3	ND	ND	ND	ND
Benzo(g,h,i)perylene	50,000	50,000	ND	ND	290 J	ND

Notes:

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Table 3
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Semi Volatile Organics
September 2002 Investigation

Compound	TAGM 4046* Value (ppb) <5 ft.	TAGM 4046* Value (ppb) >5 ft.	Boring/Sample ID AB-09RE 4-8' bgs	AB-10 4-5' bgs	AB-10RE 4-5' bgs	AB-11 8-12' bgs
Semi-Volatile Organic Compounds						
Acenaphthylene	41,000	41,000	ND	ND	ND	ND
Naphthalene	5,200	13,000	ND	ND	ND	ND
Acenaphthene	36,800	50,000	ND	ND	ND	ND
Dibenzofuran	6,200	6,200	ND	ND	ND	ND
Diethylphthalate	7,100	7,100	ND	ND	ND	340 J
di-n-butylphthalate	8,100	8,100	50 J	ND	ND	53 J
2-Methylnaphthalene	36,400	36,400	ND	ND	ND	ND
2,6-Dinitrotoluene	1,000	1,000	ND	ND	ND	ND
Flourene	50,000	50,000	ND	ND	ND	ND
Phenanthrene	50,000	50,000	99 J	ND	ND	ND
Anthracene	50,000	50,000	ND	ND	ND	ND
Carbazole	-	-	ND	ND	ND	ND
Flouranthene	50,000	50,000	220 J	ND	ND	ND
Pyrene	50,000	50,000	270 J	ND	ND	ND
Benzo(a)anthracene	224	224	140 J	ND	ND	ND
Chrysene	160	400	180 J	ND	ND	ND
bis(2-Ethylhexyl)phthalate	50,000	50,000	120 J	57 J	99 J	37 J
Benzo(b)fluoranthene	61	61	**170 J**	ND	ND	ND
Benzo(k)fluoranthene	440	610	ND	ND	ND	ND
Benzo(a)pyrene	61	61	**140 J**	ND	ND	ND
Indeno(1,2,3-cd)pyrene	1,280	3,200	ND	ND	ND	ND
Isophorone	4,400	4,400	ND	ND	ND	ND
Dibenzo(a,h)anthracene	14.3	14.3	ND	ND	ND	ND
Benzo(g,h,i)perylene	50,000	50,000	52 J	ND	ND	ND

Notes:

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94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Semi Volatile Organics
September 2002 Investigation

Compound	TAGM 4046* Value (ppb) <5 ft.	TAGM 4046* Value (ppb) >5 ft.	Boring/Sample ID AB-12 0-4' bgs	AB-12 4-8' bgs	AB-12RE 4-8' bgs	AB-13 8-12' bgs
Semi-Volatile Organic Compounds						
Acenaphthylene	41,000	41,000	ND	ND	ND	ND
Naphthalene	5,200	13,000	ND	ND	ND	ND
Acenaphthene	36,800	50,000	ND	ND	ND	ND
Dibenzofuran	6,200	6,200	ND	ND	ND	ND
Diethylphthalate	7,100	7,100	42 J	ND	ND	ND
di-n-butylphthalate	8,100	8,100	ND	ND	ND	ND
2-Methylnaphthalene	36,400	36,400	ND	ND	ND	ND
2,6-Dinitrotoluene	1,000	1,000	ND	ND	ND	ND
Flourene	50,000	50,000	ND	ND	ND	ND
Phenanthrene	50,000	50,000	ND	64 J	79 J	ND
Anthracene	50,000	50,000	ND	ND	ND	ND
Carbazole	-	-	ND	ND	ND	ND
Flouranthene	50,000	50,000	58 J	96 J	96 J	ND
Pyrene	50,000	50,000	43 J	61 J	82 J	ND
Benzo(a)anthracene	224	224	ND	ND	ND	ND
Chrysene	160	400	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	50,000	50,000	48 J	ND	98 J	41 J
Benzo(b)fluoranthene	61	61	ND	ND	ND	ND
Benzo(k)fluoranthene	440	610	ND	ND	ND	ND
Benzo(a)pyrene	61	61	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	1,280	3,200	ND	ND	ND	ND
Isophorone	4,400	4,400	ND	ND	ND	ND
Dibenzo(a,h)anthracene	14.3	14.3	ND	ND	ND	ND
Benzo(g,h,i)perylene	50,000	50,000	ND	ND	ND	ND

Notes:

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New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Semi Volatile Organics
September 2002 Investigation

Compound	TAGM 4046* Value (ppb) <5 ft.	TAGM 4046* Value (ppb) >5 ft.	Boring/Sample ID AB-14 8-12' bgs	AB-15 8-12' bgs	AB-16 8-12' bgs	AB-17 0-4' bgs
Semi-Volatile Organic Compounds						
Acenaphthylene	41,000	41,000	ND	ND	ND	54 J
Naphthalene	5,200	13,000	ND	ND	ND	70 J
Acenaphthene	36,800	50,000	ND	ND	ND	180 J
Dibenzofuran	6,200	6,200	ND	ND	ND	72 J
Diethylphthalate	7,100	7,100	ND	ND	ND	ND
di-n-butylphthalate	8,100	8,100	ND	ND	ND	ND
2-Methylnaphthalene	36,400	36,400	ND	ND	ND	ND
2,6-Dinitrotoluene	1,000	1,000	ND	ND	ND	ND
Flourene	50,000	50,000	ND	ND	ND	140 J
Phenanthrene	50,000	50,000	ND	ND	ND	1,600
Anthracene	50,000	50,000	ND	ND	ND	500
Carbazole	-	-	ND	ND	ND	180 J
Flouranthene	50,000	50,000	ND	ND	ND	ND
Pyrene	50,000	50,000	ND	ND	ND	ND
Benzo(a)anthracene	224	224	ND	ND	ND	**2,900**
Chrysene	160	400	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	50,000	50,000	ND	ND	ND	78 J
Benzo(b)fluoranthene	61	61	ND	ND	ND	ND
Benzo(k)fluoranthene	440	610	ND	ND	ND	**1,600**
Benzo(a)pyrene	61	61	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	1,280	3,200	ND	ND	ND	840
Isophorone	4,400	4,400	ND	ND	ND	ND
Dibenzo(a,h)anthracene	14.3	14.3	ND	ND	ND	**100 J**
Benzo(g,h,i)perylene	50,000	50,000	ND	ND	ND	1,100

Notes:

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New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Semi Volatile Organics
September 2002 Investigation

Compound	TAGM 4046* Value (ppb) <5 ft.	TAGM 4046* Value (ppb) >5 ft.	Boring/Sample ID AB-17DL 0-4' bgs	AB-17 4-8' bgs	AB-18 8-12' bgs	AB-19RE 4-8' bgs
Semi-Volatile Organic Compounds						
Acenaphthylene	41,000	41,000	ND	ND	ND	ND
Naphthalene	5,200	13,000	ND	ND	ND	ND
Acenaphthene	36,800	50,000	ND	ND	ND	ND
Dibenzofuran	6,200	6,200	ND	ND	ND	ND
Diethylphthalate	7,100	7,100	370 JD	ND	ND	ND
di-n-butylphthalate	8,100	8,100	ND	ND	ND	ND
2-Methylnaphthalene	36,400	36,400	ND	ND	ND	ND
2,6-Dinitrotoluene	1,000	1,000	ND	ND	ND	ND
Flourene	50,000	50,000	ND	ND	ND	ND
Phenanthrene	50,000	50,000	2,100 D	ND	ND	ND
Anthracene	50,000	50,000	520 JD	ND	ND	ND
Carbazole	-	-	ND	ND	ND	ND
Flouranthene	50,000	50,000	5,700 D	ND	ND	ND
Pyrene	50,000	50,000	4,200 D	ND	ND	ND
Benzo(a)anthracene	224	224	**3,300 D**	ND	ND	ND
Chrysene	160	400	**3,800 D**	ND	ND	ND
bis(2-Ethylhexyl)phthalate	50,000	50,000	ND	ND	ND	87 J
Benzo(b)fluoranthene	61	61	**3,900 D**	ND	ND	ND
Benzo(k)fluoranthene	440	610	**2,300 D**	ND	ND	ND
Benzo(a)pyrene	61	61	**3,300 D**	ND	ND	ND
Indeno(1,2,3-cd)pyrene	1,280	3,200	1,900 D	ND	ND	ND
Isophorone	4,400	4,400	1,200 JD	ND	ND	ND
Dibenzo(a,h)anthracene	14.3	14.3	ND	ND	ND	ND
Benzo(g,h,i)perylene	50,000	50,000	1,900 D	ND	ND	ND

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New York City School Construction Authority
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Summary of Soil Analytical Data
TCL Semi Volatile Organics
September 2002 Investigation

Compound	TAGM 4046* Value (ppb) <5 ft.	TAGM 4046* Value (ppb) >5 ft.	Boring/Sample ID AB-19 4-8' bgs	Boring/Sample ID AB-20 0-4' bgs	Boring/Sample ID AB-20 4-8' bgs	Boring/Sample ID AB-20RE 4-8' bgs
Semi-Volatile Organic Compounds						
Acenaphthylene	41,000	41,000	ND	ND	ND	ND
Naphthalene	5,200	13,000	ND	ND	ND	ND
Acenaphthene	36,800	50,000	ND	ND	ND	ND
Dibenzofuran	6,200	6,200	ND	ND	ND	ND
Diethylphthalate	7,100	7,100	ND	ND	ND	ND
di-n-butylphthalate	8,100	8,100	ND	ND	ND	ND
2-Methylnaphthalene	36,400	36,400	ND	ND	ND	ND
2,6-Dinitrotoluene	1,000	1,000	ND	ND	ND	ND
Flourene	50,000	50,000	ND	ND	ND	ND
Phenanthrene	50,000	50,000	ND	100 J	ND	ND
Anthracene	50,000	50,000	ND	ND	ND	ND
Carbazole	-	-	ND	ND	ND	ND
Flouranthene	50,000	50,000	ND	190 J	ND	ND
Pyrene	50,000	50,000	ND	160 J	ND	ND
Benzo(a)anthracene	224	224	ND	88 J	ND	ND
Chrysene	160	400	ND	110 J	ND	ND
bis(2-Ethylhexyl)phthalate	50,000	50,000	43 J	82 J	ND	84 J
Benzo(b)fluoranthene	61	61	ND	**110 J**	ND	ND
Benzo(k)fluoranthene	440	610	ND	ND	ND	ND
Benzo(a)pyrene	61	61	ND	**84 J**	ND	ND
Indeno(1,2,3-cd)pyrene	1,280	3,200	ND	ND	ND	ND
Isophorone	4,400	4,400	ND	ND	ND	ND
Dibenzo(a,h)anthracene	14.3	14.3	ND	ND	ND	ND
Benzo(g,h,i)perylene	50,000	50,000	ND	ND	ND	ND

Notes:

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94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Semi Volatile Organics
September 2002 Investigation

Compound	TAGM 4046* Value (ppb) <5 ft.	TAGM 4046* Value (ppb) >5 ft.	Boring/Sample ID AB-21 0-4' bgs	AB-21 4-8' bgs	AB-22 0-4' bgs	AB-22 4-8' bgs
Semi-Volatile Organic Compounds						
Acenaphthylene	41,000	41,000	ND	ND	100 J	ND
Naphthalene	5,200	13,000	ND	ND	49 J	ND
Acenaphthene	36,800	50,000	43 U	ND	160 J	ND
Dibenzofuran	6,200	6,200	ND	ND	84 J	ND
Diethylphthalate	7,100	7,100	ND	42 J	ND	53 J
di-n-butylphthalate	8,100	8,100	ND	ND	ND	ND
2-Methylnaphthalene	36,400	36,400	ND	ND	48 J	ND
2,6-Dinitrotoluene	1,000	1,000	ND	ND	ND	ND
Flourene	50,000	50,000	ND	ND	210 J	ND
Phenanthrene	50,000	50,000	330 J	78 J	1,800	110 J
Anthracene	50,000	50,000	88 J	ND	520	ND
Carbazole	-	-	43 J	ND	160 J	ND
Flouranthene	50,000	50,000	590	210 J	2,100	220 J
Pyrene	50,000	50,000	450	180 J	2,000	180 J
Benzo(a)anthracene	224	224	**290 J**	100 J	**1,300**	100 J
Chrysene	160	400	310 J	140 J	**1,400**	140 J
bis(2-Ethylhexyl)phthalate	50,000	50,000	46 J	66 J	140 J	120 J
Benzo(b)fluoranthene	61	61	**320 J**	**120 J**	**1,100**	**95 J**
Benzo(k)fluoranthene	440	610	230 J	ND	750	ND
Benzo(a)pyrene	61	61	**250 J**	**100 J**	**1,100**	**95 J**
Indeno(1,2,3-cd)pyrene	1,280	3,200	110 J	ND	350 J	ND
Isophorone	4,400	4,400	ND	ND	ND	ND
Dibenzo(a,h)anthracene	14.3	14.3	ND	ND	ND	ND
Benzo(g,h,i)perylene	50,000	50,000	120 J	52 J	440	57 J

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Summary of Soil Analytical Data
TCL Semi Volatile Organics
September 2002 Investigation

Compound	TAGM 4046* Value (ppb) <5 ft.	TAGM 4046* Value (ppb) >5 ft.	Boring/Sample ID AB-22RE 4-8' bgs	
Semi-Volatile Organic Compounds				
Acenaphthylene	41,000	41,000	ND	
Naphthalene	5,200	13,000	ND	
Acenaphthene	36,800	50,000	ND	
Dibenzofuran	6,200	6,200	ND	
Diethylphthalate	7,100	7,100	54	J
di-n-butylphthalate	8,100	8,100	45	J
2-Methylnaphthalene	36,400	36,400	ND	
2,6-Dinitrotoluene	1,000	1,000	ND	
Flourene	50,000	50,000	ND	
Phenanthrene	50,000	50,000	120	J
Anthracene	50,000	50,000	ND	
Carbazole	-	-	ND	
Flouranthene	50,000	50,000	210	J
Pyrene	50,000	50,000	220	J
Benzo(a)anthracene	224	224	110	J
Chrysene	160	400	150	J
bis(2-Ethylhexyl)phthalate	50,000	50,000	200	J
Benzo(b)fluoranthene	61	61	**140**	**J**
Benzo(k)fluoranthene	440	610	ND	
Benzo(a)pyrene	61	61	**100**	**J**
Indeno(1,2,3-cd)pyrene	1,280	3,200	ND	
Isophorone	4,400	4,400	ND	
Dibenzo(a,h)anthracene	14.3	14.3	ND	
Benzo(g,h,i)perylene	50,000	50,000	ND	

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Summary of Soil Analytical Data
TCL Volatile Organics
September 2002 Investigation

Compound	TAGM 4046* Value (ppb)		Boring/Sample ID			
	<5 ft	>5 ft	AB-1 8-12' bgs	AB-2 8-12' bgs	AB-3 8-12' bgs	AB-4 8-12' bgs
Methylene Chloride	100	100	ND	ND	ND	ND
Acetone	200	200	ND	ND	ND	ND
Trichloroethene	700	700	ND	ND	ND	ND

Notes:

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94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Volatile Organics
September 2002 Investigation

Compound	TAGM 4046* Value (ppb)		Boring/Sample ID			
	<5 ft	>5 ft	AB-5 8-12' bgs	AB-5 DUP 8-12' bgs	AB-6 8-12' bgs	AB-10 4-8' bgs
Methylene Chloride	100	100	ND	ND	ND	ND
Acetone	200	200	ND	ND	ND	ND
Trichloroethene	700	700	ND	ND	ND	1.1 J

Notes:

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New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Volatile Organics
September 2002 Investigation

Compound	TAGM 4046* Value (ppb)		Boring/Sample ID			
	<5 ft	>5 ft	AB-11 11-12' bgs	AB-13 11-12' bgs	AB-14 11-12' bgs	AB-15 11-12' bgs
Methylene Chloride	100	100	ND	ND	ND	ND
Acetone	200	200	ND	ND	ND	8.5
Trichloroethene	700	700	ND	ND	ND	ND

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94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Volatile Organics
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Compound	TAGM 4046* Value (ppb)		Boring/Sample ID		
	<5 ft	>5 ft	AB-16 11-12' bgs	AB-18 11-12' bgs	AB-19 11-12' bgs
Methylene Chloride	100	100	ND	5.4	11 B
Acetone	200	200	ND	7.1	ND
Trichloroethene	700	700	ND	ND	ND

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Table 3
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
RCRA Metals
September 2002 Investigation

Compound	TAGM 4046* Value (ppm)	Boring/Sample ID				
		AB-7 0-4' bgs	AB-7 4-8' bgs	AB-7 DUP 0-4' bgs	AB-8 0-4' bgs	AB-8 4-8' bgs
Inorganics						
Arsenic	7.5 or SB	3.5	2.0	6.1	**13.9**	2.4
Barium	300 or SB	80.3	36.3	162	**621**	39.0
Cadmium	1 or SB	0.35 B	0.18 B	**2.1**	2.3	0.28 B
Chromium	10 or SB	**13.1**	**12.1**	**16.7**	**32.9**	**16.4**
Lead	SB	69.5	12.1	189	**770**	6.0
Mercury	0.1	**0.25**	0.05	**0.14**	0.04	ND
Selenium	2 or SB	0.95	ND	1.3	1.0	0.50 B
Silver	SB	ND	ND	ND	ND	ND

Notes:
SB - Site Background

B - (Inorganics) If the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).
Bold face and shaded values indicates exccedance of TAGM value
Lead levels were below typical metropolitan background levels of 200-500 ppm (TAGM 4046) except at AB-8 at the 0-4' sampling depth
ND - Not Detected

Table 3
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
RCRA Metals
September 2002 Investigation

Compound	TAGM 4046* Value (ppm)	Boring/Sample ID				
		AB-09 0-4' bgs	AB-9 4-8' bgs	AB-12 0-4' bgs	AB-12 4-8' bgs	AB-17 0-4' bgs
Inorganics						
Arsenic	7.5 or SB	1.6	4.7	2.6	4.6	6.8
Barium	300 or SB	41.0	96	53.7	48.2	202
Cadmium	1 or SB	0.12 B	0.5 B	0.27 B	0.31 B	**1.3**
Chromium	10 or SB	**12.2**	**17.9**	**13.5**	**23.1**	**15.0**
Lead	SB	11.2	185	57.3	6.5	236
Mercury	0.1	0.04	**0.53**	0.09	0.03	**0.30**
Selenium	2 or SB	0.47 B	ND	0.48 B	0.75	0.76
Silver	SB	ND	ND	ND	ND	ND

Notes:
SB - Site Background

B - (Inorganics) If the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).
Bold face and shaded values indicates exccedance of TAGM value
Lead levels were below typical metropolitan background levels of 200-500 ppm (TAGM 4046) except at AB-8 at the 0-4' sampling depth
ND - Not Detected

Table 3
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
RCRA Metals
September 2002 Investigation

Compound	TAGM 4046* Value (ppm)	Boring/Sample ID				
		AB-17 4-8' bgs	AB-20 0-4' bgs	AB-20 4-8' bgs	AB-21 0-4' bgs	AB-21 4-8' bgs
Inorganics						
Arsenic	7.5 or SB	2.9	**8.8**	2.2	4.2	**9.9**
Barium	300 or SB	32	109	30.7	63.3	168
Cadmium	1 or SB	0.3 B	0.74	0.27 B	0.23 B	**1.2**
Chromium	10 or SB	**15.9**	**19.8**	**10.8**	9.5	**10.4**
Lead	SB	7	218	5.8	103	401
Mercury	0.1	0.03	**0.56**	0.04	0.15	**0.22**
Selenium	2 or SB	0.40 B	2.0	1.1	0.41 B	0.92
Silver	SB	ND	ND	ND	ND	ND

Notes:
SB - Site Background

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Lead levels were below typical metropolitan background levels of 200-500 ppm (TAGM 4046) except at AB-8 at the 0-4' sampling depth
ND - Not Detected

Table 3
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
RCRA Metals
September 2002 Investigation

Compound	TAGM 4046* Value (ppm)	Boring/Sample ID	
		AB-22 0-4' bgs	AB-22 4-8' bgs
Inorganics			
Arsenic	7.5 or SB	7.0	**10.4**
Barium	300 or SB	271	143
Cadmium	1 or SB	0.83	3.1
Chromium	10 or SB	**12.5**	**16.7**
Lead	SB	342	367
Mercury	0.1	**0.21**	**0.54**
Selenium	2 or SB	0.62	1.6
Silver	SB	ND	ND

Notes:

SB - Site Background

B - (Inorganics) If the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).

Bold face and shaded values indicates exccedance of TAGM value

Lead levels were below typical metropolitan background levels of 200-500 ppm (TAGM 4046) except at AB-8 at the 0-4' sampling depth

ND - Not Detected

Table 3
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
September 2002 Investigation

Compound	TCLP* Value (ppb)		Boring/Sample ID				
			AB-1 8-12' bgs	**AB-2** 8-12' bgs	**AB-3** 8-12' bgs	**AB-4** 8-12' bgs	**AB-5** 8-12' bgs
Inorganics							
Arsenic	5000		ND	ND	ND	ND	ND
Barium	100000		1,190 B	219 B	291 B	197 B	1610 B
Cadmium	1000		ND	ND	ND	ND	ND
Chromium	5000		ND	ND	17.9 B	8.8 B	ND
Lead	5000		ND	ND	ND	ND	222
Mercury	200		ND	ND	ND	ND	ND
Selenium	1000		ND	ND	ND	ND	ND
Silver	5000		ND	ND	ND	ND	ND

Notes:
*Toxicity Characteristic Leaching Procedure
B - (Inorganics) If the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL)
ND - Not Detected

Table 3
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
September 2002 Investigation

Compound	TCLP* Value (ppb)		Boring/Sample ID				
			DUP 8-12' bgs	**AB-6** 8-12' bgs	**AB-10** 4-8' bgs	**AB-11** 8-12' bgs	**AB-13** 8-12' bgs
Inorganics							
Arsenic	5000		ND	ND	ND	ND	ND
Barium	100000		1780 B	218 B	202 B	258 B	108 B
Cadmium	1000		ND	ND	ND	ND	ND
Chromium	5000		ND	17.1 B	8.3 B	ND	ND
Lead	5000		277	ND	ND	ND	ND
Mercury	200		ND	ND	ND	ND	ND
Selenium	1000		ND	ND	ND	ND	21.8 B
Silver	5000		ND	ND	ND	ND	ND

Notes:
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Table 3
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
September 2002 Investigation

Compound	TCLP* Value (ppb)		Boring/Sample ID				
			AB-14 8-12' bgs	**AB-15** 8-12' bgs	**AB-16** 8-12' bgs	**AB-18** 8-12' bgs	**AB-19** 4-8' bgs
Inorganics							
Arsenic	5000		ND	ND	ND	67.7 B	ND
Barium	100000		164 B	302 B	183 B	1630 B	634 B
Cadmium	1000		ND	ND	ND	ND	ND
Chromium	5000		ND	16.2 B	32.9 B	13.6 B	14.4 B
Lead	5000		ND	ND	ND	ND	41.5
Mercury	200		ND	ND	ND	ND	ND
Selenium	1000		12.9 B	ND	ND	29.9 B	ND
Silver	5000		ND	ND	ND	ND	ND

Notes:
*Toxicity Characteristic Leaching Procedure
B - (Inorganics) If the reported value was obtained from a reading that was less than the Contract Required (CRDL), but greater than or equal to the Instrument Detection Limit (IDL)
ND - Not Detected

Table 4
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Volatile Organics
January 2003 Investigation

Compound	TAGM 4046* Value (ug/kg)		Boring/Sample ID							
	< 5 ft.	> 5 ft.	SB-01 0-4 FT.	SB-01 4-8 FT.	SB-01 8-12 FT.	SB-01 12-16 FT.	SB-01 16-20 FT.	SB-01 20-24 FT.	SB-02 0-4 FT.	SB-02 4-8 FT.
Volatile Organic Compounds										
Trichloroethene	280	700	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	560	1400	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

*TAGM Values are for soil samples obtained less than (<) 5ft. or greater than (>) 5ft. to groundwater

NA - Sample Not Analyzed

ND - Not Detected

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.

J - Indicates an estimated value. This flag is used when the mass spectral data indicated the identification; however, the result was less than the specified detection limit but greater than zero.

B - (Organics) Indicates the analyte was found in the blank as well as the sample.

Bold face and shaded values indicates exccedance of TAGM value

Table 4
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Volatile Organics
January 2003 Investigation

Compound	TAGM 4046* Value (ug/kg)		Boring/Sample ID							
	< 5 ft.	> 5 ft.	SB-02 12-16 FT.	SB-02 16-20 FT.	SB-02 20-24 FT.	SB-03 0-4 FT.	SB-03 4-8 FT.	SB-03 8-12 FT.	SB-03 12-16 FT.	SB-03 16-20 FT.
Volatile Organic Compounds										
Trichloroethene	280	700	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	560	1400	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

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Table 4
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Volatile Organics
January 2003 Investigation

Compound	TAGM 4046* Value (ug/kg)		Boring/Sample ID							
	< 5 ft.	> 5 ft.	SB-03 20-24 FT.	SB-04 12-16 FT.	SB-04 16-20 FT.	SB-04 20-24 FT.	SB-05 12-16 FT.	SB-05 16-20 FT.	SB-05 20-24 FT.	SB-06 12-16 FT.
Volatile Organic Compounds										
Trichloroethene	280	700	ND	ND	ND	ND	ND	ND	ND	2.6 **J**
Tetrachloroethene	560	1400	ND	ND	ND	ND	ND	ND	ND	5.80

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Table 4
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Volatile Organics
January 2003 Investigation

Compound	TAGM 4046* Value (ug/kg)		Boring/Sample ID							
	< 5 ft.	> 5 ft.	SB-06 16-20 FT.	SB-06 20-24 FT.	SB-07 12-16 FT.	SB-07 16-20 FT.	SB-07 20-24 FT.	SB-08 12-16 FT.	SB-08 16-20 FT.	SB-08 20-24 FT.
Volatile Organic Compounds										
Trichloroethene	280	700	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	560	1400	ND	ND	ND	1.90 J	ND	ND	ND	ND

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Table 4
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Volatile Organics
January 2003 Investigation

Compound	TAGM 4046* Value (ug/kg)		Boring/Sample ID							
	< 5 ft.	> 5 ft.	SB-09 12-16 FT.	SB-09 16-20 FT.	SB-09 20-24 FT.	SB-10 12-16 FT.	SB-10 16-20 FT.	SB-10 20-24 FT.	SB-11 0-4 FT.	SB-11 4-8 FT.
Volatile Organic Compounds										
Trichloroethene	280	700	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	560	1400	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

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Table 4
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Volatile Organics
January 2003 Investigation

Compound	TAGM 4046* Value (ug/kg)		Boring/Sample ID							
	< 5 ft.	> 5 ft.	SB-11 12-16 FT.	SB-11 16-20 FT.	SB-11 20-24 FT.	SB-12 0-4 FT.	SB-12 12-16 FT.	SB-12 16-20 FT.	SB-12 20-24 FT.	SB-13 0-4 FT.
Volatile Organic Compounds										
Trichloroethene	280	700	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	560	1400	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

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Table 4
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Volatile Organics
January 2003 Investigation

Compound	TAGM 4046* Value (ug/kg)		Boring/Sample ID							
	< 5 ft.	> 5 ft.	SB-13 4-8 FT.	SB-13 8-12 FT.	SB-13 12-16 FT.	SB-13 16-20 FT.	SB-13 20-24 FT.	SB-14 0-4 FT.	SB-14 4-8 FT.	SB-14 12-16 FT.
Volatile Organic Compounds										
Trichloroethene	280	700	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	560	1400	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

*TAGM Values are for soil samples obtained less than (<) 5ft. or greater than (>) 5ft. to groundwater

NA - Sample Not Analyzed

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Table 4
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Volatile Organics
January 2003 Investigation

Compound	TAGM 4046* Value (ug/kg)		Boring/Sample ID							
	< 5 ft.	> 5 ft.	SB-14 16-20 FT.	SB-14 20-24 FT.	SB-15 0-4 FT.	SB-15 4-8 FT.	SB-15 12-16 FT.	SB-15 16-20 FT.	SB-15 20-24 FT.	SB-12 DUP 20-24 FT.
Volatile Organic Compounds										
Trichloroethene	280	700	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	560	1400	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

*TAGM Values are for soil samples obtained less than (<) 5ft. or greater than (>) 5ft. to groundwater

NA - Sample Not Analyzed

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Table 4
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Volatile Organics
January 2003 Investigation

Compound	TAGM 4046* Value (ug/kg)		Boring/Sample ID		
	< 5 ft.	> 5 ft.	SB-14 DUP 20-24 FT.	SB-7 DUP 20-24 FT.	SB-2 DUP 16-20 FT.
Volatile Organic Compounds					
Trichloroethene	280	700	ND	ND	ND
Tetrachloroethene	560	1400	ND	ND	ND

Notes:

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NA - Sample Not Analyzed

ND - Not Detected

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.

J - Indicates an estimated value. This flag is used when the mass spectral data indicated the identification; however, the result was less than the specified detection limit but greater than zero.

B - (Organics) Indicates the analyte was found in the blank as well as the sample.

Bold face and shaded values indicates exccedance of TAGM value

Table 5
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Semi Volatile Organics
January 2003 Investigation

Compound	TAGM 4046* Value (ug/kg)		Boring/Sample ID							
	<5 ft.	>5 ft.	SB-01 0-4 FT.	SB-01 4-8 FT.	SB-01 8-12 FT.	SB-01 12-16 FT.	SB-01 16-20 FT.	SB-01 20-24 FT.	SB-02 0-4 FT.	SB-02 4-8 FT.
Semi-Volatile Organic Compounds										
Acenaphthylene	41,000	41,000	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	5,200	13,000	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	36,800	50,000	ND	ND	ND	ND	ND	ND	89 J	ND
Dibenzofuran	6,200	6,200	ND	ND	ND	ND	ND	ND	43 J	ND
Diethylphthalate	7,100	7,100	ND	ND	ND	ND	ND	ND	ND	ND
di-n-butylphthalate	8,100	8,100	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	36,400	36,400	ND	ND	ND	ND	ND	ND	ND	ND
Butylbenzylphthalate	48,600	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Flourene	50,000	50,000	ND	ND	ND	ND	ND	ND	62 J	ND
Phenanthrene	50,000	50,000	ND	ND	ND	ND	ND	ND	1100 D	ND
Anthracene	50,000	50,000	ND	ND	ND	ND	ND	ND	190 JD	ND
Carbazole	-	-	ND	ND	ND	ND	ND	ND	73 J	ND
Flouranthene	50,000	50,000	ND	ND	ND	ND	ND	ND	2700 D	71 J
Pyrene	50,000	50,000	ND	ND	ND	ND	ND	ND	2300 D	87 J
Benzo(a)anthracene	224	224	ND	ND	ND	ND	ND	ND	**1000 D**	49 J
Chrysene	160	400	ND	ND	ND	ND	ND	ND	**1200 D**	ND
bis(2-Ethylhexyl)phthalate	50,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	61	61	ND	ND	ND	ND	ND	ND	**1100 D**	45 J
Benzo(k)fluoranthene	440	610	ND	ND	ND	ND	ND	ND	**650 JD**	ND
Benzo(a)pyrene	61	61	ND	ND	ND	ND	ND	ND	**1000 D**	ND
Indeno(1,2,3-cd)pyrene	1,280	3,200	ND	ND	ND	ND	ND	ND	520 JD	ND
2-Methylphenol	40	100	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	14.3	14.3	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	50,000	50,000	ND	ND	ND	ND	ND	ND	460 JD	ND

Notes:

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Table 5
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Semi Volatile Organics
January 2003 Investigation

Compound	TAGM 4046* Value (ug/kg)		Boring/Sample ID							
	<5 ft.	>5 ft.	SB-02 12-16 FT.	SB-02 16-20 FT.	SB-02 20-24 FT.	SB-03 0-4 FT.	SB-03 4-8 FT.	SB-03 8-12 FT.	SB-03 12-16 FT.	SB-03 16-20 FT.
Semi-Volatile Organic Compounds										
Acenaphthylene	41,000	41,000	ND	ND	ND	59 J	ND	ND	ND	ND
Naphthalene	5,200	13,000	ND	ND	ND	470 JD	ND	ND	ND	ND
Acenaphthene	36,800	50,000	ND	ND	ND	910 JD	ND	ND	ND	ND
Dibenzofuran	6,200	6,200	ND	ND	ND	390 JD	ND	ND	ND	ND
Diethylphthalate	7,100	7,100	ND	ND	ND	ND	ND	ND	ND	ND
di-n-butylphthalate	8,100	8,100	ND	ND	ND	ND	ND	ND	59 J	ND
2-Methylnaphthalene	36,400	36,400	ND	ND	ND	170 J	ND	ND	ND	ND
Butylbenzylphthalate	48,600	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Flourene	50,000	50,000	ND	ND	ND	560 JD	ND	ND	ND	ND
Phenanthrene	50,000	50,000	ND	ND	ND	10000 D	ND	ND	ND	ND
Anthracene	50,000	50,000	ND	ND	ND	1400 JD	ND	ND	ND	ND
Carbazole	-	-	ND	ND	ND	390 JD	ND	ND	ND	ND
Flouranthene	50,000	50,000	ND	ND	ND	13000 D	ND	ND	ND	ND
Pyrene	50,000	50,000	ND	ND	ND	10000 D	ND	ND	ND	ND
Benzo(a)anthracene	224	224	ND	ND	ND	**3600 D**	ND	ND	ND	ND
Chrysene	160	400	ND	ND	ND	**3700 D**	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	50,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	61	61	ND	ND	ND	**3600 D**	ND	ND	ND	ND
Benzo(k)fluoranthene	440	610	ND	ND	ND	**1300 JD**	ND	ND	ND	ND
Benzo(a)pyrene	61	61	ND	ND	ND	**3300 D**	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	1,280	3,200	ND	ND	ND	1700 JD	ND	ND	ND	ND
2-Methylphenol	40	100	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	14.3	14.3	ND	ND	ND	**110 J**	ND	ND	ND	ND
Benzo(g,h,i)perylene	50,000	50,000	ND	ND	ND	1800 JD	ND	ND	ND	ND

Notes:

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Table 5
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Semi Volatile Organics
January 2003 Investigation

Compound	TAGM 4046* Value (ug/kg)		Boring/Sample ID							
	<5 ft.	>5 ft.	SB-03 20-24 FT.	SB-04 12-16 FT.	SB-04 16-20 FT.	SB-04 20-24 FT.	SB-05 12-16 FT.	SB-05 16-20 FT.	SB-05 20-24 FT.	SB-06 12-16 FT.
Semi-Volatile Organic Compounds										
Acenaphthylene	41,000	41,000	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	5,200	13,000	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	36,800	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	6,200	6,200	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	7,100	7,100	ND	ND	ND	ND	39 J	ND	ND	ND
di-n-butylphthalate	8,100	8,100	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	36,400	36,400	ND	ND	ND	ND	ND	ND	ND	ND
Butylbenzylphthalate	48,600	50,000	ND	ND	ND	ND	130 J	90 J	86 J	ND
Flourene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	50,000	50,000	ND	ND	ND	ND	ND	ND	48 J	ND
Anthracene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Flouranthene	50,000	50,000	ND	ND	ND	ND	ND	ND	36 J	ND
Pyrene	50,000	50,000	ND	ND	ND	ND	ND	ND	36 J	ND
Benzo(a)anthracene	224	224	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	160	400	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	50,000	50,000	ND	68 J	83 J	350	210 J	820	500	44 J
Benzo(b)fluoranthene	61	61	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	440	610	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	61	61	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	1,280	3,200	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	40	100	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	14.3	14.3	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

*TAGM Values (for VOCs and SVOCs) are for soil samples obtained less than (<) 5ft. or greater than (>) 5ft. to groundwater

NA - Sample Not Analyzed

ND - Not Detected

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.

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Table 5
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Semi Volatile Organics
January 2003 Investigation

Compound	TAGM 4046* Value (ug/kg)		Boring/Sample ID							
	<5 ft.	>5 ft.	SB-06 16-20 FT.	SB-06 20-24 FT.	SB-07 12-16 FT.	SB-07 16-20 FT.	SB-07 20-24 FT.	SB-08 12-16 FT.	SB-08 16-20 FT.	SB-08 20-24 FT.
Semi-Volatile Organic Compounds										
Acenaphthylene	41,000	41,000	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	5,200	13,000	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	36,800	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	6,200	6,200	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	7,100	7,100	ND	ND	ND	ND	ND	ND	ND	ND
di-n-butylphthalate	8,100	8,100	ND	ND	660	**26000 D**	ND	ND	ND	ND
2-Methylnaphthalene	36,400	36,400	ND	ND	ND	ND	ND	ND	ND	ND
Butylbenzylphthalate	48,600	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Flourene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	50,000	50,000	ND	ND	ND	300 J	ND	ND	ND	ND
Anthracene	50,000	50,000	ND	ND	ND	77 J	ND	ND	ND	ND
Carbazole	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Flouranthene	50,000	50,000	ND	ND	ND	280 J	ND	ND	ND	ND
Pyrene	50,000	50,000	ND	ND	ND	990 JD	ND	ND	ND	ND
Benzo(a)anthracene	224	224	ND	ND	ND	120 J	ND	ND	ND	ND
Chrysene	160	400	ND	ND	ND	110 J	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	50,000	50,000	49 J	ND	ND	990 JD	38 J	38 J	ND	ND
Benzo(b)fluoranthene	61	61	ND	ND	ND	**110 J**	ND	ND	ND	ND
Benzo(k)fluoranthene	440	610	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	61	61	ND	ND	ND	**87 J**	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	1,280	3,200	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	40	100	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	14.3	14.3	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

*TAGM Values (for VOCs and SVOCs) are for soil samples obtained less than (<) 5ft. or greater than (>) 5ft. to groundwater

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Table 5
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Semi Volatile Organics
January 2003 Investigation

Compound	TAGM 4046* Value (ug/kg)		Boring/Sample ID							
	<5 ft.	>5 ft.	SB-09 12-16 FT.	SB-09 16-20 FT.	SB-09 20-24 FT.	SB-10 12-16 FT.	SB-10 16-20 FT.	SB-10 20-24 FT.	SB-11 0-4 FT.	SB-11 4-8 FT.
Semi-Volatile Organic Compounds										
Acenaphthylene	41,000	41,000	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	5,200	13,000	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	36,800	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	6,200	6,200	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	7,100	7,100	ND	ND	ND	ND	ND	ND	ND	ND
di-n-butylphthalate	8,100	8,100	53 J	96 J	47 J	ND	ND	45 J	ND	ND
2-Methylnaphthalene	36,400	36,400	ND	ND	ND	ND	ND	ND	ND	ND
Butylbenzylphthalate	48,600	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Flourene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Flouranthene	50,000	50,000	ND	ND	ND	ND	ND	ND	63 J	ND
Pyrene	50,000	50,000	ND	ND	ND	ND	ND	ND	71 J	ND
Benzo(a)anthracene	224	224	ND	ND	ND	ND	ND	ND	38 J	ND
Chrysene	160	400	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	50,000	50,000	1400	910	1800	2600	1300	980	ND	ND
Benzo(b)fluoranthene	61	61	ND	ND	ND	ND	ND	ND	48 J	ND
Benzo(k)fluoranthene	440	610	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	61	61	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	1,280	3,200	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	40	100	ND	52 J	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	14.3	14.3	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

*TAGM Values (for VOCs and SVOCs) are for soil samples obtained less than (<) 5ft. or greater than (>) 5ft. to groundwater

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Table 5
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Semi Volatile Organics
January 2003 Investigation

Compound	TAGM 4046* Value (ug/kg)		Boring/Sample ID							
	<5 ft.	>5 ft.	SB-11 12-16 FT.	SB-11 16-20 FT.	SB-11 20-24 FT.	SB-12 0-4 FT.	SB-12 12-16 FT.	SB-12 16-20 FT.	SB-12 20-24 FT.	SB-13 8-12 FT.
Semi-Volatile Organic Compounds										
Acenaphthylene	41,000	41,000	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	5,200	13,000	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	36,800	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	6,200	6,200	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	7,100	7,100	ND	ND	ND	ND	ND	ND	ND	ND
di-n-butylphthalate	8,100	8,100	50 J	ND	52 J	ND	ND	ND	ND	ND
2-Methylnaphthalene	36,400	36,400	ND	ND	ND	ND	ND	ND	ND	ND
Butylbenzylphthalate	48,600	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Flourene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Flouranthene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	224	224	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	160	400	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	50,000	50,000	65 J	120 J	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	61	61	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	440	610	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	61	61	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	1,280	3,200	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	40	100	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	14.3	14.3	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

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94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Semi Volatile Organics
January 2003 Investigation

Compound	TAGM 4046* Value (ug/kg)		Boring/Sample ID							
	<5 ft.	>5 ft.	SB-13 12-16 FT.	SB-13 16-20 FT.	SB-13 20-24 FT.	SB-14 12-16 FT.	SB-14 16-20 FT.	SB-14 20-24 FT.	SB-15 0-4 FT.	SB-15 4-8 FT.
Semi-Volatile Organic Compounds										
Acenaphthylene	41,000	41,000	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	5,200	13,000	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	36,800	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	6,200	6,200	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	7,100	7,100	ND	ND	ND	ND	ND	ND	ND	ND
di-n-butylphthalate	8,100	8,100	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	36,400	36,400	ND	ND	ND	ND	ND	ND	ND	ND
Butylbenzylphthalate	48,600	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Flourene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	50,000	50,000	ND	ND	ND	ND	ND	ND	50 J	ND
Anthracene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	-	-	ND	ND	ND	ND	ND	ND	ND	ND
Flouranthene	50,000	50,000	ND	ND	ND	ND	ND	ND	70 J	ND
Pyrene	50,000	50,000	ND	ND	ND	ND	ND	ND	94 J	ND
Benzo(a)anthracene	224	224	ND	ND	ND	ND	ND	ND	49 J	ND
Chrysene	160	400	ND	ND	ND	ND	ND	ND	59 J	ND
bis(2-Ethylhexyl)phthalate	50,000	50,000	44 J	ND	ND	70 J	41 J	39 J	ND	ND
Benzo(b)fluoranthene	61	61	ND	ND	ND	ND	ND	ND	49 J	ND
Benzo(k)fluoranthene	440	610	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	61	61	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	1,280	3,200	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	40	100	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	14.3	14.3	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

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New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCL Semi Volatile Organics
January 2003 Investigation

Compound	TAGM 4046* Value (ug/kg)		Boring/Sample ID						
	<5 ft.	>5 ft.	SB-15 12-16 FT.	SB-15 16-20 FT.	SB-15 20-24 FT.	SB-12 DUP 20-24 FT.	SB-07 DUP 20-24 FT.	SB-14 DUP 20-24 FT.	SB-02 DUP 16-20 FT.
Semi-Volatile Organic Compounds									
Acenaphthylene	41,000	41,000	ND	ND	ND	ND	ND	ND	ND
Naphthalene	5,200	13,000	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	36,800	50,000	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	6,200	6,200	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	7,100	7,100	ND	ND	ND	ND	ND	ND	ND
di-n-butylphthalate	8,100	8,100	ND	ND	ND	ND	71 J	ND	ND
2-Methylnaphthalene	36,400	36,400	ND	ND	ND	ND	ND	ND	ND
Butylbenzylphthalate	48,600	50,000	ND	ND	ND	ND	ND	ND	ND
Flourene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND
Anthracene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND
Carbazole	-	-	ND	ND	ND	ND	ND	ND	ND
Flouranthene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND
Pyrene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	224	224	ND	ND	ND	ND	ND	ND	ND
Chrysene	160	400	ND	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	50,000	50,000	ND	ND	ND	85 J	130 J	110 J	ND
Benzo(b)fluoranthene	61	61	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	440	610	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	61	61	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	1,280	3,200	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	40	100	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	14.3	14.3	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	50,000	50,000	ND	ND	ND	ND	ND	ND	ND

Notes:

*TAGM Values (for VOCs and SVOCs) are for soil samples obtained less than (<) 5ft. or greater than (>) 5ft. to groundwater

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Table 6
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCLP Metals
January 2003 Investigation

Compound	TCLP Value * (ug/l)	Boring/Sample ID							
		SB-01 0-4 FT.	SB-01 4-8 FT.	SB-01 8-12 FT.	SB-01 12-16 FT.	SB-01 16-20 FT.	SB-01 20-24 FT.	SB-02 0-4 FT.	SB-02 4-8 FT.
Inorganics									
Arsenic	5,000	ND	ND	ND	ND	ND	ND	ND	ND
Barium	100,000	226.0 B	253.0 B	104.0 B	302.0 B	274.0 B	267.0 B	531.0 B	247.0 B
Cadmium	1,000	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	5,000	79.7 B	26.6 B	36.7 B	ND	ND	27.7 B	ND	ND
Lead	5,000	56.1	76.1	ND	70.2	41.2	43.5	471.0	56.4
Mercury	200	ND	ND	ND	ND	ND	ND	ND	ND
Selenium	1,000	ND	ND	ND	ND	ND	ND	18.8	ND
Silver	5,000	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

* = Toxicity Characteristic Leaching Procedure

Bold face and shaded value indicates exccedance of NYSDEC GW Standard

ND - Not Detected

B = The reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).

Table 6
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCLP Metals
January 2003 Investigation

Compound	TCLP Value * (ug/l)	Boring/Sample ID							
		SB-02 12-16 FT.	SB-02 16-20 FT.	SB-02 20-24 FT.	SB-03 0-4 FT.	SB-03 4-8 FT.	SB-03 8-12 FT.	SB-03 12-16 FT.	SB-03 16-20 FT.
Inorganics									
Arsenic	5,000	ND	ND	ND	ND	ND	ND	ND	ND
Barium	100,000	136.0 B	216.0 B	118.0 B	531.0 B	486.0 B	265.0 B	510.0 B	260.0 B
Cadmium	1,000	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	5,000	19.9 B	22.7 B	25.6 B	31.2 B	ND	23.7 B	ND	15.4 B
Lead	5,000	ND	ND	40.4	194.0	78.6	ND	63.0	40.7
Mercury	200	ND	ND	ND	ND	ND	ND	ND	ND
Selenium	1,000	14.9	ND	ND	ND	ND	ND	23.5 B	ND
Silver	5,000	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

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ND - Not Detected

B = The reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).

Table 6
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCLP Metals
January 2003 Investigation

Compound	TCLP Value * (ug/l)	Boring/Sample ID							
		SB-03 20-24 FT.	SB-04 12-16 FT.	SB-04 16-20 FT.	SB-04 20-24 FT.	SB-05 12-16 FT.	SB-05 16-20 FT.	SB-05 20-24 FT.	SB-06 12-16 FT.
Inorganics									
Arsenic	5,000	ND	ND	ND	ND	ND	ND	ND	ND
Barium	100,000	269.0 B	357.0 B	280.0 B	180.0 B	194.0 B	197.0 B	204.0 B	203.0 B
Cadmium	1,000	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	5,000	26.2 B	ND	ND	ND	15.2 B	ND	18.9 B	16.9 B
Lead	5,000	ND	ND	ND	ND	ND	ND	ND	ND
Mercury	200	ND	ND	ND	ND	ND	ND	ND	ND
Selenium	1,000	ND	13.5 B	ND	ND	ND	ND	13.1 B	ND
Silver	5,000	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

* = Toxicity Characteristic Leaching Procedure

Bold face and shaded value indicates exccedance of NYSDEC GW Standard

ND - Not Detected

B = The reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).

Table 6
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCLP Metals
January 2003 Investigation

Compound	TCLP Value * (ug/l)	Boring/Sample ID							
		SB-06 16-20 FT.	SB-06 20-24 FT.	SB-07 12-16 FT.	SB-07 16-20 FT.	SB-07 20-24 FT.	SB-08 12-16 FT.	SB-08 16-20 FT.	SB-08 20-24 FT.
Inorganics									
Arsenic	5,000	ND	ND	ND	ND	61.8 B	213.0	58.1 B	ND
Barium	100,000	131.0 B	262.0 B	ND	171.0 B	ND	ND	190.0 B	119.0 B
Cadmium	1,000	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	5,000	ND	18.2 B	ND	ND	ND	30.9 B	17.2 B	34.9 B
Lead	5,000	ND	37.4	35.9	179.0	ND	ND	ND	ND
Mercury	200	ND	ND	ND	ND	ND	ND	ND	ND
Selenium	1,000	ND	ND	ND	ND	ND	ND	ND	ND
Silver	5,000	ND	ND	ND	ND	ND	48.9 B	ND	53.9 B

Notes:

* = Toxicity Characteristic Leaching Procedure

Bold face and shaded value indicates exccedance of NYSDEC GW Standard

ND - Not Detected

B = The reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).

Table 6
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCLP Metals
January 2003 Investigation

Compound	TCLP Value * (ug/l)	Boring/Sample ID							
		SB-09 12-16 FT.	SB-09 16-20 FT.	SB-09 20-24 FT.	SB-10 12-16 FT.	SB-10 16-20 FT.	SB-10 20-24 FT.	SB-11 0-4 FT.	SB-11 4-8 FT.
Inorganics									
Arsenic	5,000	ND	ND	ND	ND	ND	ND	65.7	ND
Barium	100,000	119.0 B	240.0 B	232.0 B	163.0 B	150.0 B	ND	249.0 B	ND
Cadmium	1,000	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	5,000	ND	30.4 B	ND	16.7 B	20.4 B	16.1 B	ND	ND
Lead	5,000	ND	ND	48.8 B	ND	ND	ND	74.1	ND
Mercury	200	ND	ND	ND	ND	ND	ND	ND	ND
Selenium	1,000	ND	ND	ND	ND	ND	ND	ND	ND
Silver	5,000	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

* = Toxicity Characteristic Leaching Procedure

Bold face and shaded value indicates exccedance of NYSDEC GW Standard

ND - Not Detected

B = The reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).

Table 6
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCLP Metals
January 2003 Investigation

Compound	TCLP Value * (ug/l)	Boring/Sample ID							
		SB-11 12-16 FT.	SB-11 16-20 FT.	SB-11 20-24 FT.	SB-12 0-4 FT.	SB-12 12-16 FT.	SB-12 16-20 FT.	SB-12 20-24 FT.	SB-13 0-4 FT.
Inorganics									
Arsenic	5,000	ND	ND	ND	ND	ND	ND	ND	ND
Barium	100,000	259.0 B	342.0 B	219.0 B	289.0 B	144.0 B	136.0 B	314.0 B	451.0 B
Cadmium	1,000	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	5,000	35.7 B	ND	ND	29.2 B	ND	39.4 B	ND	18.9 B
Lead	5,000	ND	ND	ND	509.0	ND	34.1	134.0	134.0
Mercury	200	ND	ND	ND	ND	ND	ND	ND	ND
Selenium	1,000	ND	ND	ND	ND	ND	ND	ND	ND
Silver	5,000	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

* = Toxicity Characteristic Leaching Procedure

Bold face and shaded value indicates exccedance of NYSDEC GW Standard

ND - Not Detected

B = The reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).

Table 6
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCLP Metals
January 2003 Investigation

Compound	TCLP Value * (ug/l)	Boring/Sample ID							
		SB-13 4-8 FT.	SB-13 8-12 FT.	SB-13 12-16 FT.	SB-13 16-20 FT.	SB-13 20-24 FT.	SB-14 0-4 FT.	SB-14 4-8 FT.	SB-14 12-16 FT.
Inorganics									
Arsenic	5,000	ND	ND	75.5	ND	ND	ND	ND	86.4
Barium	100,000	154.0 B	248.0 B	367.0 B	181.0 B	176.0 B	462.0 B	257.0 B	ND
Cadmium	1,000	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	5,000	25.1 B	22.9 B	50.3 B	29.4 B	39.3 B	16.5 B	16.8 B	35.9 B
Lead	5,000	ND	ND	ND	ND	ND	73.9	ND	ND
Mercury	200	ND	ND	ND	ND	ND	ND	ND	ND
Selenium	1,000	ND	ND	ND	ND	ND	ND	ND	ND
Silver	5,000	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

* = Toxicity Characteristic Leaching Procedure

Bold face and shaded value indicates exccedance of NYSDEC GW Standard

ND - Not Detected

B = The reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).

Table 6
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCLP Metals
January 2003 Investigation

Compound	TCLP Value * (ug/l)	Boring/Sample ID							
		SB-14 16-20 FT.	SB-14 20-24 FT.	SB-15 0-4 FT.	SB-15 4-8 FT.	SB-15 12-16 FT.	SB-15 16-20 FT.	SB-15 20-24 FT.	SB-12 DUP 20-24 FT.
Inorganics									
Arsenic	5,000	99.9 B	ND	ND	ND	ND	ND	ND	ND
Barium	100,000	157.0 B	264.0 B	522.0 B	ND	317.0 B	290.0 B	202.0 B	169.0 B
Cadmium	1,000	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	5,000	17.9 B	ND	ND	15.7 B	24.8 B	15.7 B	15.7 B	42.5 B
Lead	5,000	38.4	ND	62.8	ND	ND	ND	ND	ND
Mercury	200	ND	ND	ND	ND	ND	ND	ND	ND
Selenium	1,000	ND	ND	ND	36.2 B	ND	ND	ND	ND
Silver	5,000	ND	ND	ND	ND	ND	ND	ND	48.9 B

Notes:

* = Toxicity Characteristic Leaching Procedure

Bold face and shaded value indicates exccedance of NYSDEC GW Standard

ND - Not Detected

B = The reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).

Table 6
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil Analytical Data
TCLP Metals
January 2003 Investigation

Compound	TCLP Value * (ug/l)	Boring/Sample ID		
		SB-07 DUP 20-24 FT.	SB-02 DUP 16-20 FT.	SB-14 DUP 20-24 FT.
Inorganics				
Arsenic	5,000	ND	ND	ND
Barium	100,000	ND	213.0 B	196.0 B
Cadmium	1,000	ND	ND	ND
Chromium	5,000	18.5 B	23.7 B	31.6 B
Lead	5,000	ND	ND	ND
Mercury	200	ND	ND	ND
Selenium	1,000	ND	ND	ND
Silver	5,000	ND	ND	ND

Notes:

* = Toxicity Characteristic Leaching Procedure

Bold face and shaded value indicates exccedance of NYSDEC GW Standard

ND - Not Detected

B = The reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit

Table 7
Summary of Groundwater Analytical Data
New York City School Construction Authority
Adams Brush Manufacturing
94-02 104th Street, Queens, New York
September 2002 Investigation

Compound	Part 703 Standard (ppb)	Sample ID				
		MW-1	MW-2	MW-3	MW-4	MW-5
Volatile Organic Compounds		(ppb)				
Acetone	5	ND	ND	ND	ND	ND
Methylene Chloride	5	ND	ND	ND	ND	ND
2-Butanone	-	ND	ND	ND	ND	ND
Trichloroethene	5	ND	ND	**16**	ND	ND
Toluene	5	ND	ND	ND	ND	ND
Tetrachloroethene	5	**14**	**22**	ND	ND	ND
Semi-Volatile Organic Compounds		(ppb)				
Total SVOCs	-	ND	ND	ND	ND	ND
Inorganics		(ppb)				
Barium	1,000	24.4 B	105 B	46.0 B	52.6 B	30.0 B
Chromium	50	4.1 B	2.1 B	3.9 B	3.6 B	1.7 B
Selenium	10	4.3 B	**15.5**	1.8 B	ND	3.7 B
Polychlorinated Biphenyls		(ppb)				
Total PCBs	0.1	ND	ND	ND	ND	ND

Notes:
NA - Sample Not Analyzed
D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
J - Indicates and estimated value. This flag is used when the mass spectral data indicated the identification; however, the result was less than the specified detection limit but greater than zero.
B - (Organics) Indicates the analyte was found in the blank as well as the sample.
B - (Inorganics) If the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).
ND - Not Detected
Bold face and shaded values indicates exceedance of standard

Table 7
Summary of Groundwater Analytical Data
New York City School Construction Authority
Adams Brush Manufacturing
94-02 104th Street, Queens, New York
September 2002 Investigation

Compound	Part 703 Standard (ppb)	Sample ID			
		MW-6	MW-7	Field Blank	Trip Blank
Volatile Organic Compounds			(ppb)		
Acetone	5	ND	ND	**40**	**25**
Methylene Chloride	5	ND	ND	3.7 J	2.3 J
2-Butanone	-	ND	ND	9.8	ND
Trichloroethene	5	ND	1.7 J	ND	ND
Toluene	5	ND	ND	1.5 J	1.0 J
Tetrachloroethene	5	ND	1.5 J	ND	ND
Semi-Volatile Organic Compounds			(ppb)		
Total SVOCs	-	ND	ND	ND	NA
Inorganics			(ppb)		
Barium	1,000	69.8 B	48.4 B	ND	NA
Chromium	50	1.5 B	2.2 B	ND	NA
Selenium	10	3.3 B	2.3 B	1.4 B	NA
Polychlorinated Biphenyls			(ppb)		
Total PCBs	0.1	ND	ND	ND	NA

Notes:
NA - Sample Not Analyzed
D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
J - Indicates and estimated value. This flag is used when the mass spectral data indicated the identification; however, the result was less than the specified detection limit but greater than zero.
B - (Organics) Indicates the analyte was found in the blank as well as the sample.
B - (Inorganics) If the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).
ND - Not Detected
Bold face and shaded values indicates exceedance of standard

Table 7A

New York City School Construction Authority
Former Adams Brush Manufacturing Site
94-02 104th Street, Queens, New York
Historical PCE and TCE Detections

Monitoring Point	PCE				TCE			
	Mar-99	Jul-99	Nov-99	Jun-00	Mar-99	Jul-99	Nov-99	Jun-00
MW-1	10	11.5			ND	ND		
MW-2	16	12.4			ND	ND		
MW-3	ND	ND			510	502		
MW-4	ND	ND			8	2.2		
MW-5	ND	ND			11	6.1		
TW-01				ND				ND
TW-02				ND				17.5
TW-03				ND				ND
TW-04				ND				ND
SB-5				111				ND
SB-10				ND				ND
GP-1			55				ND	
GP-2 (adjacent to MW-2)			17				ND	
GP-3 (adjacent to MW-3)			ND				1300	

Notes:
November and March 1999 data from P.W. Grosser
July 1999 data from Anderson, Mulholland and Associates, Inc.
June 2000 data from Camp Dresser and McKee (CDM)
TW-01-TW-04 were temporary well points installed around the perimeter of the building by CDM as part of a Phase II ESA in June and September 2000
SB-5 and SB-10 were located adjacent to the 2000 gallon UST and 10,000 gallon UST, respectively, and were completed by CDM as part of a Phase II ESA in June and September 2000

Table 8
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil-Gas Analytical Data
Volatile Organics
January 2003 Investigation

Compound	Boring/Sample ID							
	SG-01 18-22 FT.	SG-02 26-30 FT.	SG-03 22-26 FT.	SG-04 18-22 FT.	SG-04 30-34 FT.	SG-05 22-26 FT.	SG-05 26-30FT.	SG-06 18-22FT.
Volatile Organic Compounds								
Methyl Tertiary Butyl Ether (MTBE)	39	13	39	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	20	29	26	32	53	33	44	21
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND
m & p - Xylene	ND	ND	ND	ND	ND	ND	ND	ND
o - Xylene	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	20	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	21	ND	ND	ND	ND	ND	ND	ND
Naphthalene	11	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene	ND	ND	ND	ND	ND	ND	ND	14
Tetrachloroethene	13	ND	27	110	130	560	620	1,600
All analytical results expressed in micrograms per cubic meter								

Table 8
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil-Gas Analytical Data
Volatile Organics
January 2003 Investigation

Compound	Boring/Sample ID							
	SG-06 22-26 FT.	SG-07 18-22 FT.	SG-07 26-30 FT.	SG-08 22-26 FT.	SG-09 18-22 FT.	SG-09 26-30 FT.	SG-10 22-26 FT.	SG-11 18-22 FT.
Volatile Organic Compounds								
Methyl Tertiary Butyl Ether (MTBE)	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	19	23	22	36	38	15	78	51
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND
m & p - Xylene	ND	ND	ND	ND	ND	ND	27	ND
o - Xylene	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene	ND	11	ND	ND	4,100	230	5,300	1,600
Tetrachloroethene	530	13,000	63	82	76	ND	49	63
All analytical results expressed in micrograms per cubic meter								

Table 8
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil-Gas Analytical Data
Volatile Organics
January 2003 Investigation

Compound	Boring/Sample ID							
	SG-11 22-26 FT.	SG-11 26-30 FT.	SG-11 30-34 FT.	SG-12 18-22 FT.	SG-12 26-30 FT.	SG-13 18-22 FT.	SG-13 22-26 FT.	SG-13 26-30 FT.
Volatile Organic Compounds								
Methyl Tertiary Butyl Ether (MTBE)	ND	ND	ND	18	ND	ND	ND	ND
Benzene	ND	ND	11	ND	10	ND	ND	ND
Toluene	53	56	100	40	61	29	63	48
Ethylbenzene	ND	11	19	ND	ND	ND	ND	ND
m & p - Xylene	33	35	66	23	27	ND	ND	ND
o - Xylene	10	ND	19	ND	ND	ND	ND	ND
Total Xylenes	43	35	85	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ND	11	ND	ND	ND	14	ND	ND
Trichloroethylene	700	2,200	600	ND	ND	88	ND	ND
Tetrachloroethene	28	74	24	ND	ND	8,000	370	24
All analytical results expressed in micrograms per cubic meter								

Table 8
New York City School Construction Authority
94-02 104th Street, Queens, New York
Summary of Soil-Gas Analytical Data
Volatile Organics
January 2003 Investigation

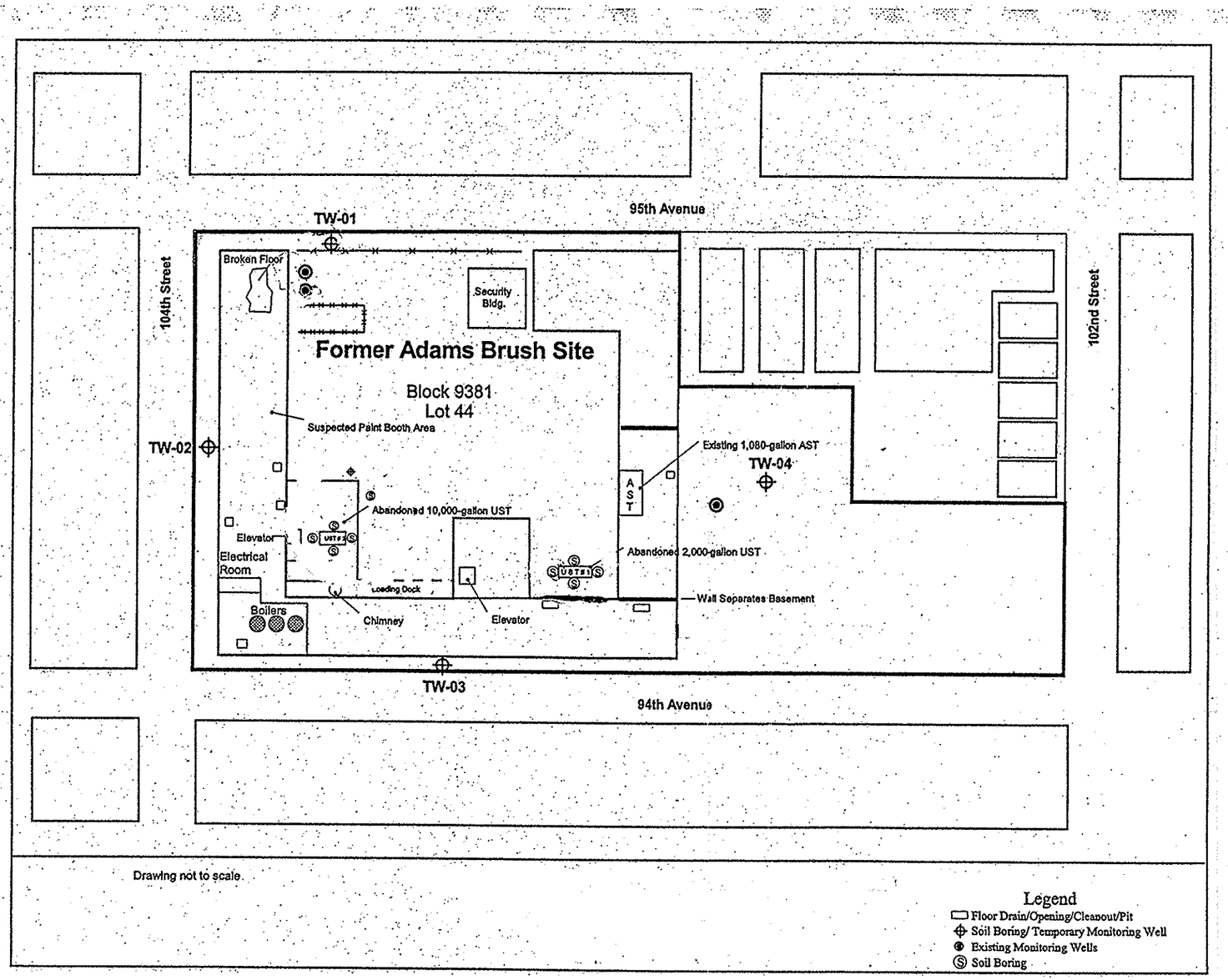
Compound	Boring/Sample ID						
	SG-13 30-34 FT.	SG-14 18-22 FT.	SG-14 22-26 FT.	SG-14 26-30 FT.	SG-14 30-34 FT.	SG-15 18-22 FT.	SG-15 26-30 FT.
Volatile Organic Compounds							
Methyl Tertiary Butyl Ether (MTBE)	21	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND
Toluene	100	35	39	59	57	49	34
Ethylbenzene	24	ND	ND	ND	ND	ND	ND
m & p - Xylene	88	ND	ND	24	32	24	ND
o - Xylene	32	ND	ND	ND	11	ND	ND
Total Xylenes	120	ND	ND	ND	43	ND	ND
1,2,4-Trimethylbenzene	13	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ND	10	ND	ND	ND	ND	ND
Trichloroethylene	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	890	180	1,200	950	460	20	2,200
All analytical results expressed in micrograms per cubic meter							

Table 9
Sampling Program Summary
Former Adams Brush Manufacturing Site
New York City School Construction Authority

Parameter	Matrix	Number of Samples	Number of Duplicates	Blanks	Method	Holding Times	Container	Preservative	Field Analysis
UST Excavation [1]									
VOCs	Soil	(1)	0	Trip: 1/ship	EPA 8021 (STARS list)	28 days	2 ounce	None	PID headspace
SVOCs	Soil	(1)	0	0	EPA 8270 (STARS list)	14 days	8 ounce	None	PID headspace
Excavation at 18 feet									
VOCs	Soil gas	12	0	0	EPA 8260	14 days	Charcoal/ Poropak N Sorbent tubes	None	NA
VOCs	Soil	12	1	Field: 1/day Trip: 1/ship.	EPA 8260	28 days	4 ounce	None	PID headspace
SVOCs	Soil	12	1	Field: 1/day	EPA 8270	10 days	8 ounce	None	N/A
Metals	Soil	12	1	Field: 1/day	EPA 6010 EPA 7471	6 weeks	8 ounce	None	NA
TCLP	Soil	12	0	0		2 weeks	16 ounce	None	NA

[1] Sampling to be performed by the selected contractor, pursuant to NYSDEC Spill Prevention Operations Technology Series (SPOTS) No. 14

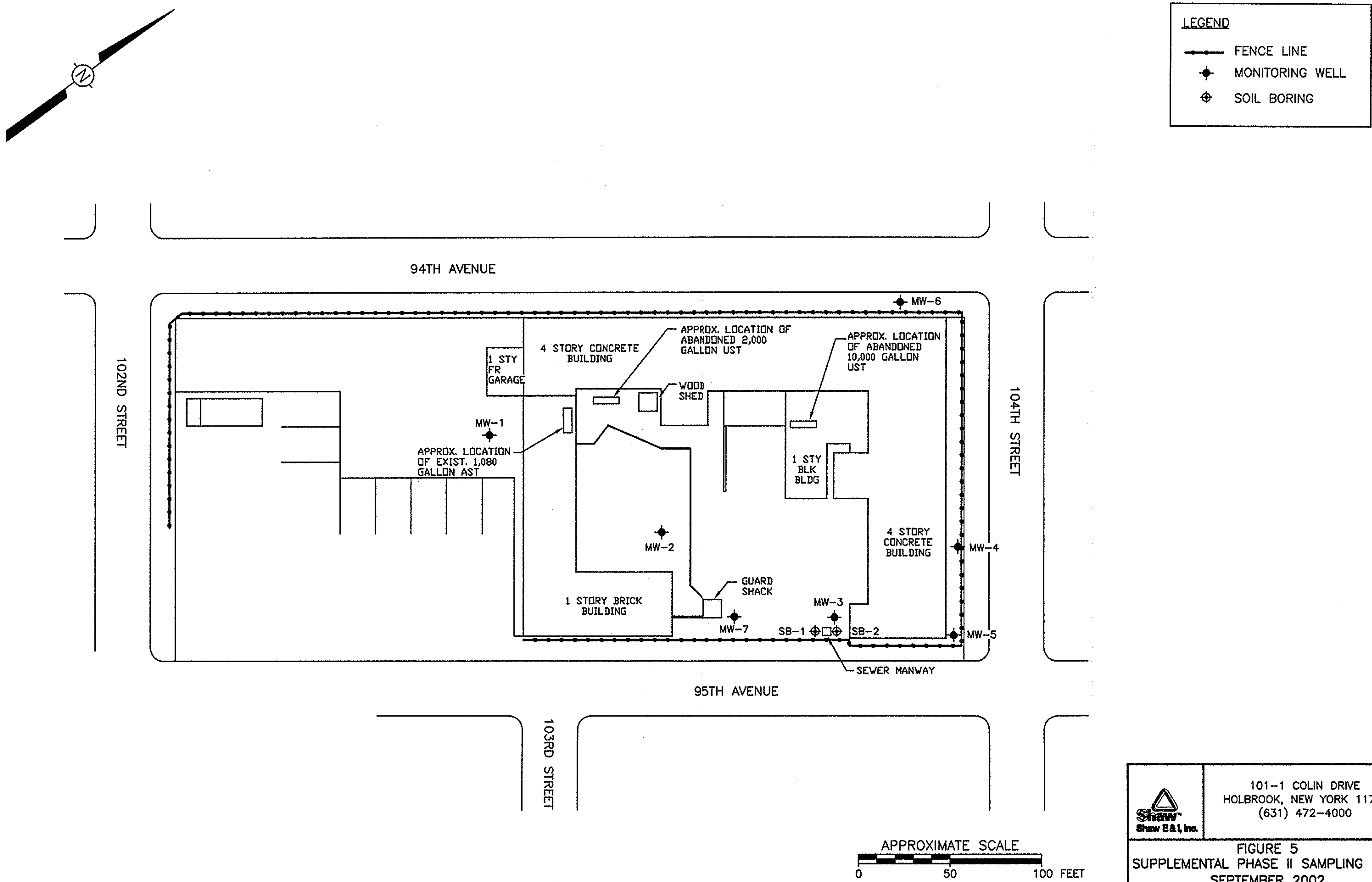
OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
Holbrook, ny	E. Dunseath 08/27/02	E. Gustafson 09/11/02	E. Gustafson 09/11/02	842150-FIG4



SOURCE: PHASE II ENVIRONMENTAL SITE ASSESSMENT OF ADAMS BRUSH MANUFACTURING, CAMP DRESSER & MCKEE, REVISED 9/28/00

Shaw E & I, Inc.
101-1 COLIN DRIVE
HOLBROOK, NEW YORK 11741
(631) 472-4000

FIGURE 4
PHASE II SAMPLING PLAN
JUNE 2000
ADAMS BRUSH MANUFACTURING
94-02 104TH STREET
QUEENS, NEW YORK



Shaw
Shaw E & I, Inc.

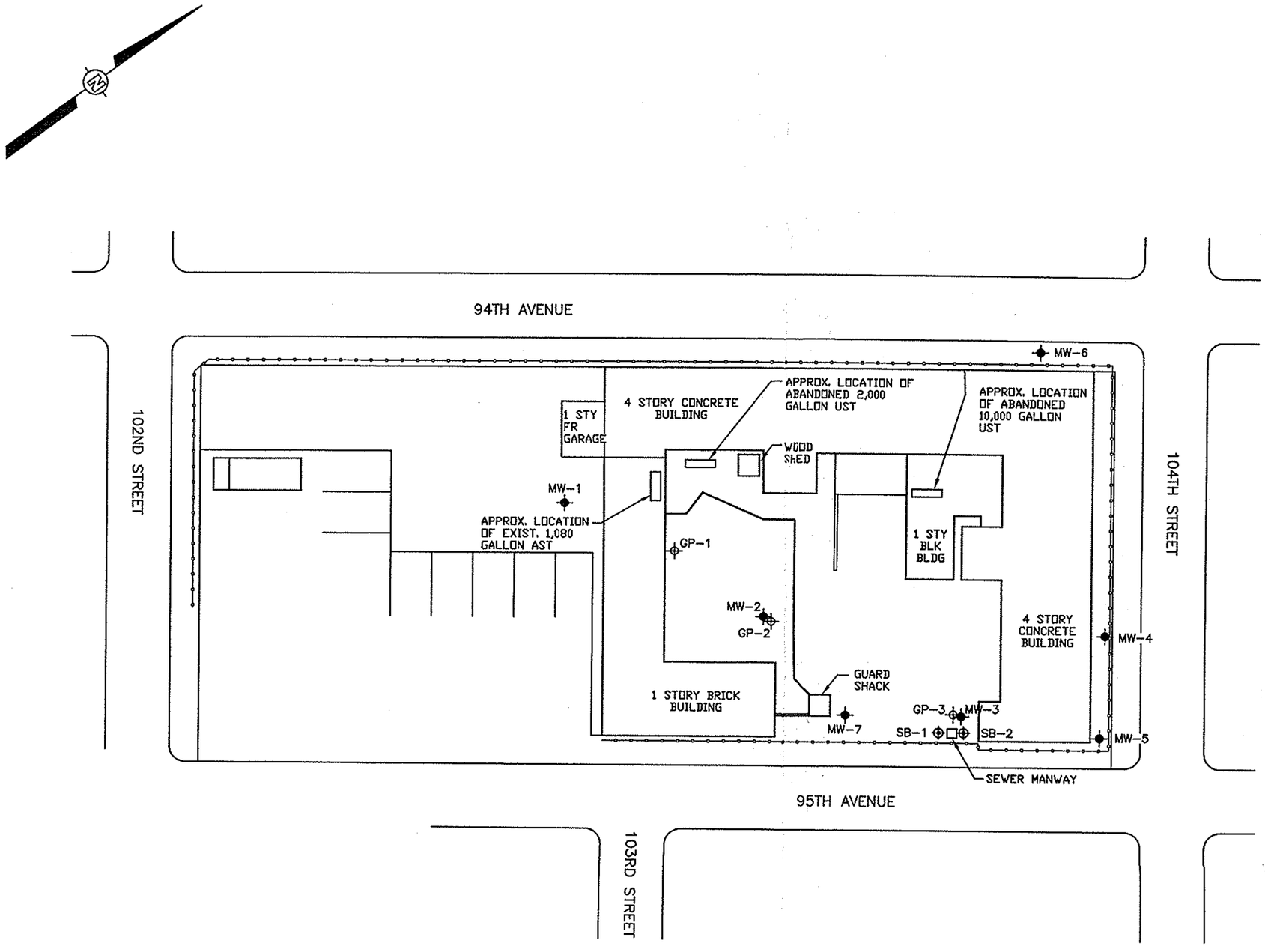
101-1 COLIN DRIVE
HOLBROOK, NEW YORK 11741
(631) 472-4000

FIGURE 5
SUPPLEMENTAL PHASE II SAMPLING PLAN
SEPTEMBER 2002

94-02 104TH STREET
QUEENS, NEW YORK

OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
Holbrook, ny	E. Dunseath 08/27/02	E. Gustafson 09/11/02	E. Gustafson 09/11/02	842150-FIG5

OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
Holbrook, ny	E. Dunseath 08/27/02	E. Gustafson 09/11/02	E. Gustafson 09/11/02	842150-FIG5



Note: GP-1, GP-2 and GP-3 are historical Geoprobe borings completed in 1999 by P.W. Grosser.

Shaw E&I, Inc.

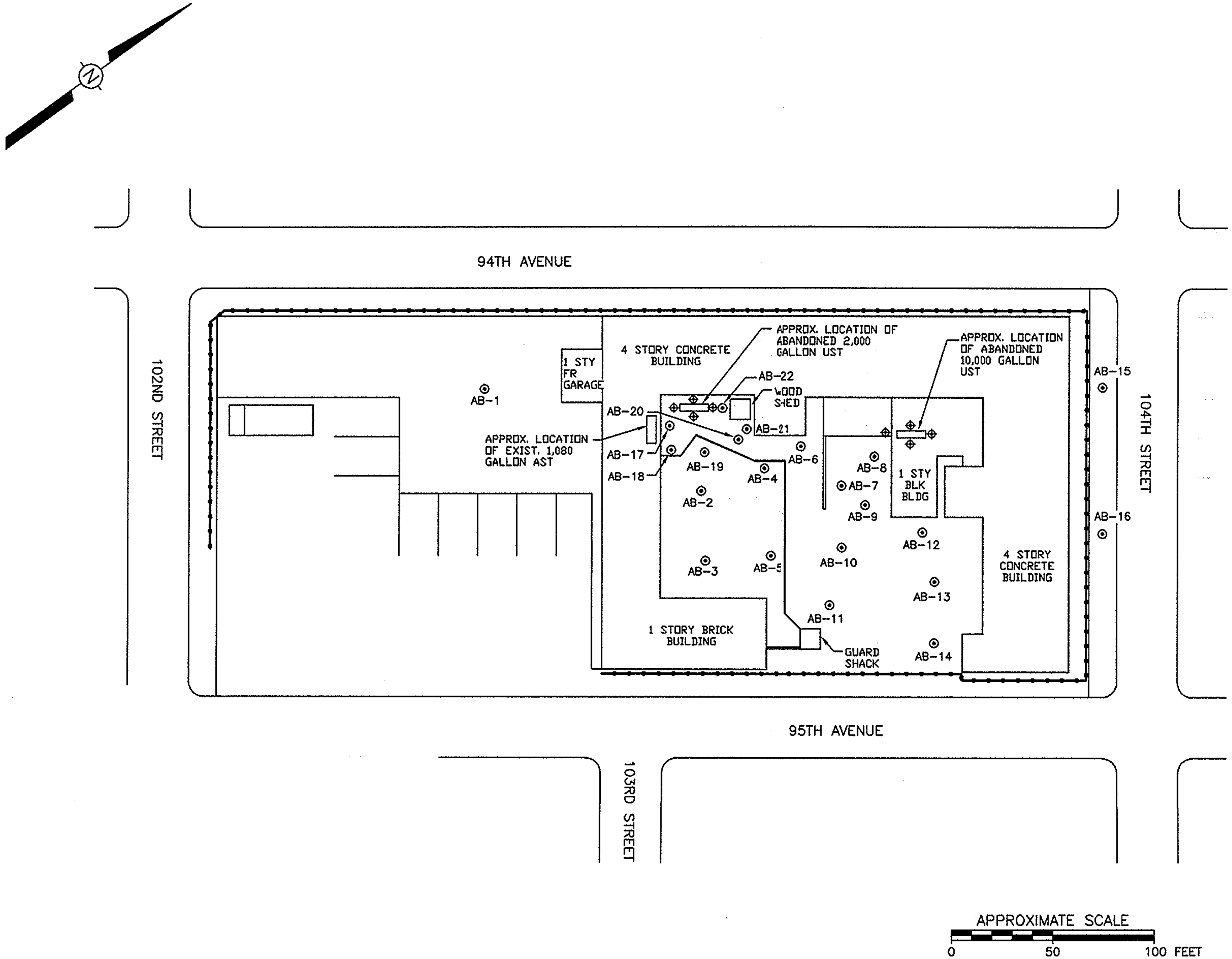
101-1 COLIN DRIVE
HOLBROOK, NEW YORK 11741
(631) 472-4000

FIGURE 5A
SUPPLEMENTAL PHASE II SAMPLING PLAN
SEPTEMBER 2002

94-02 104TH STREET
QUEENS, NEW YORK

DRAWING NUMBER 842150-FIG6

OFFICE	DRAWN BY	CHECKED BY	APPROVED BY
Holbrook, ny	E. Dunseath 08/27/02	E. Gustafson 09/11/02	E. Gustafson 09/11/02



LEGEND

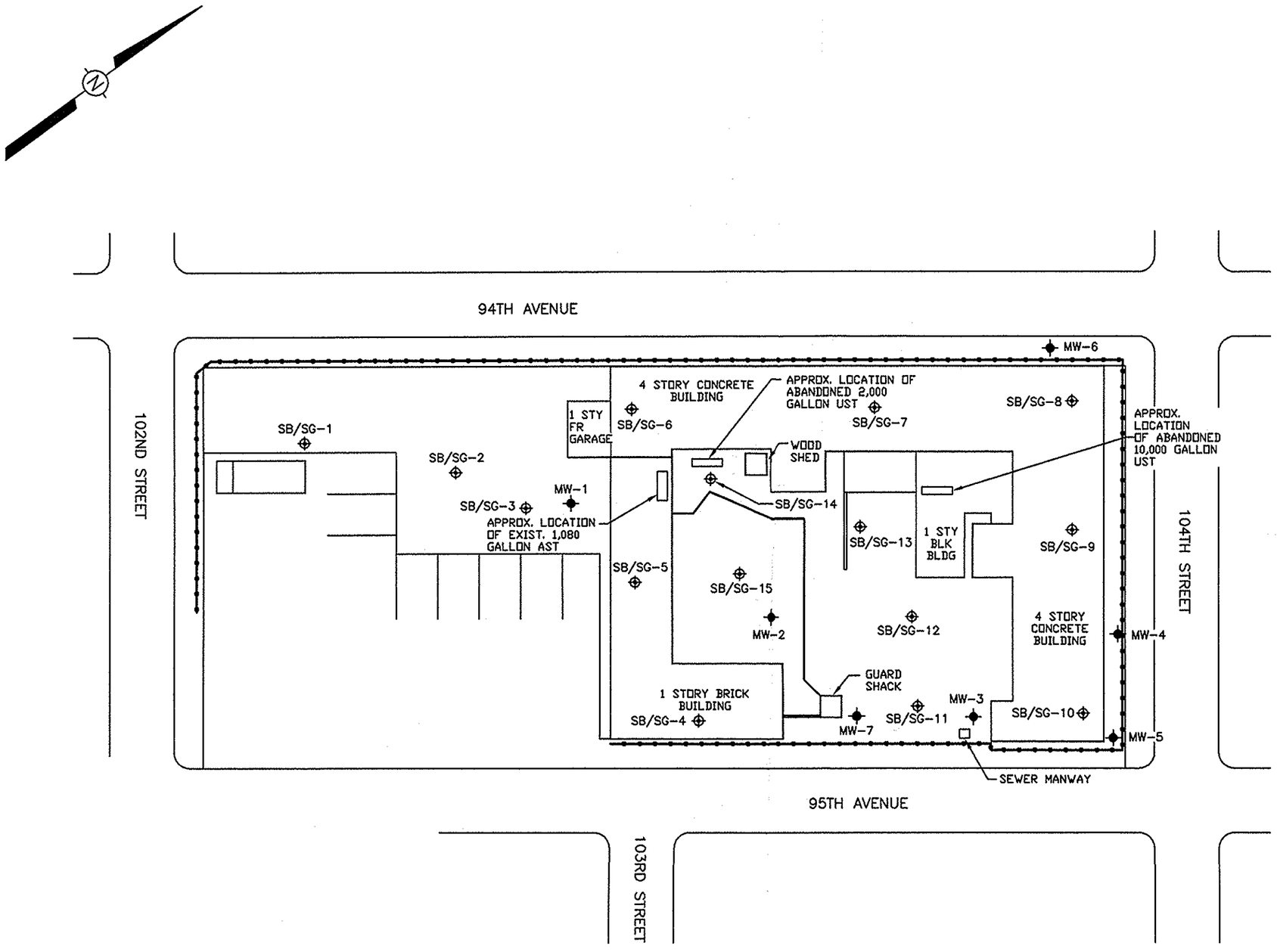
- FENCE LINE
- ⊙ SOIL BORING
- ⊕ FORMER SOIL BORING

Shaw™ Shaw E & I, Inc.

101-1 COLIN DRIVE
HOLBROOK, NEW YORK 11741
(631) 472-4000

FIGURE 6
PRE CONSTRUCTION ESA SAMPLING PLAN
ADAMS BRUSH MANUFACTURING
94-02 104TH STREET
QUEENS, NEW YORK

OFFICE	DRAWN BY	CHECKED BY		APPROVED BY		DRAWING NUMBER
Holbrook, ny	E. Dunseath 01/24/03	E. Gustafson	01/24/03	E. Gustafson	01/24/03	842150-FIG7



LEGEND

- FENCE LINE
- MONITORING WELL
- SOIL BORING

NOTE

BORING LOCATIONS COMPLETED PER STV SUPPLEMENTAL SAMPLING AND ANALYSIS PLAN REVISED 11/25/02.

APPROXIMATE SCALE

0 50 100 FEET

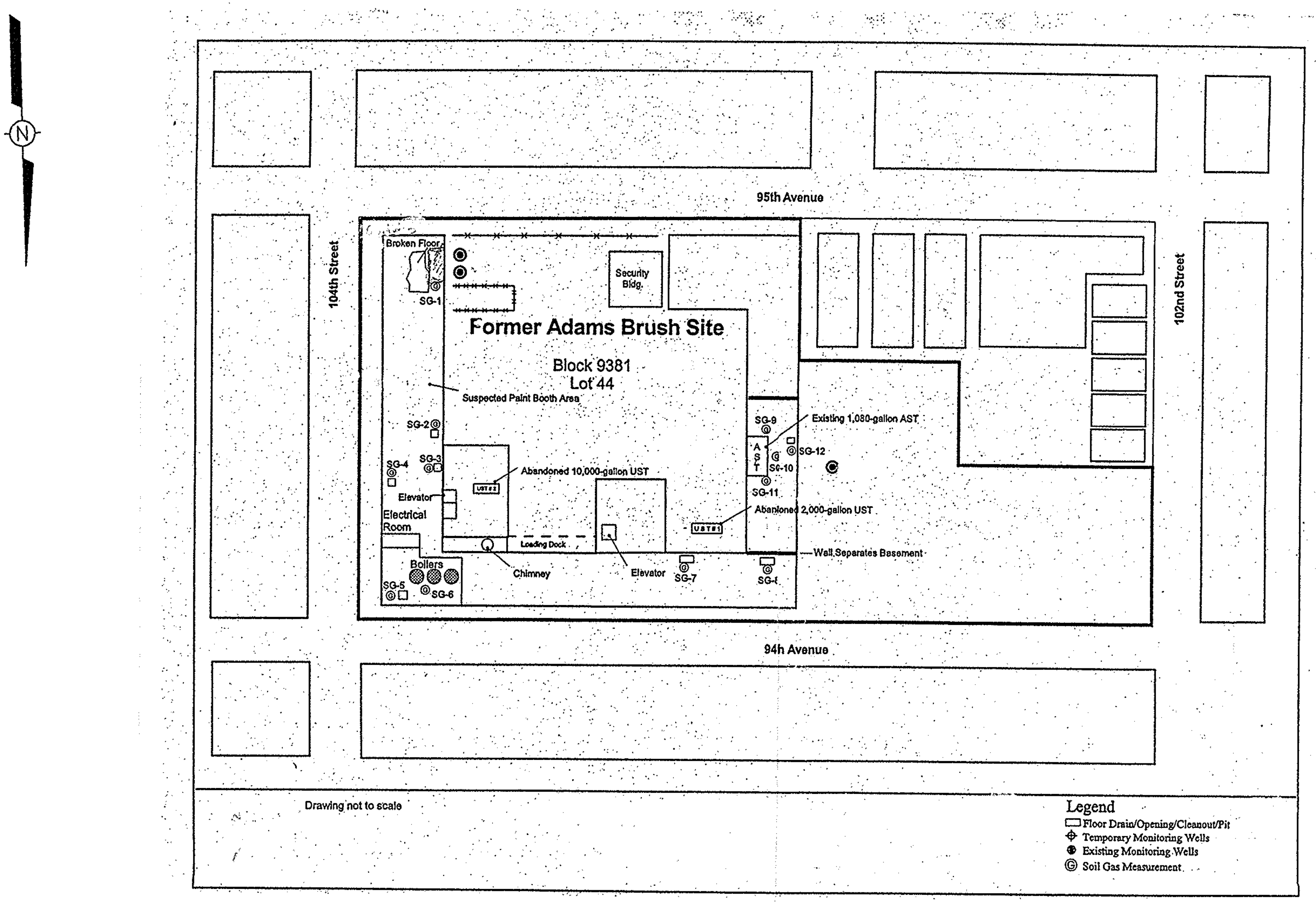
Shaw Shaw E&I, Inc.

101-1 COLIN DRIVE
HOLBROOK, NEW YORK 11741
(631) 472-4000

FIGURE 7
SOIL BORING AND SOIL GAS SURVEY LOCATION PLAN, JANUARY 2003
ADAMS BRUSH MANUFACTURING
STV SUPPLEMENTAL INVESTIGATION
94-02 104TH STREET
QUEENS, NEW YORK

XREF Files: NAME Files
Plot: L:\Holbrook\COMMON\ADAMSBRUSH\842150-FIG7.dwg
Plot Date/Time: Jun 06, 2003 - 11:22am
Plotted By: randy.hayat

OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
Holbrook, ny	E. Dunseath	08/27/02	E. Gustafson	09/11/02	E. Gustafson	09/11/02	842150-FIG8



SOURCE: PHASE II ENVIRONMENTAL SITE ASSESSMENT OF ADAMS BRUSH MANUFACTURING, CAMP DRESSER & MCKEE, REVISED 9/28/00

Shaw E & I, Inc.
101-1 COLIN DRIVE
HOLBROOK, NEW YORK 11741
(631) 472-4000

FIGURE 8
SOIL GAS SURVEY POINTS
JUNE 2000
ADAMS BRUSH MANUFACTURING
94-02 104TH STREET
QUEENS, NEW YORK

APPENDIX C

DECLARATION OF COVENANTS AND RESTRICTIONS

DECLARATION of COVENANTS and RESTRICTIONS

THIS COVENANT, made the 3 day of August 2006, by the New York City School Construction Authority a public benefit corporation organized and existing under the laws of the State of New York and having an office for the transaction of business at 30-30 Thomson Avenue, Long Island City, New York 11101-3045, hereinafter referred to as the "SCA":

WHEREAS, the SCA is the subject of a Voluntary Agreement executed by the President and CEO of the SCA as part of the New York State Department of Environmental Conservation's (the "Department's") Voluntary Cleanup Program, namely that parcel of real property located on 94-02 104th Street in the Fourth Ward of the Borough of Queens, City of New York, County of Queens, State of New York, which is part of lands acquired by exercise of its powers of eminent domain Title in fee simple absolute by order of the Supreme Court, County of Queens, dated April 27, 2001, and recorded in the Queens County Clerk's office on April 30, 2001, and hereinafter referred to as "the Property"; and

WHEREAS, the Department approved a remedy to eliminate or mitigate all significant threats to the environment presented by the contamination disposed at the Property and such remedy requires that the Property be subject to restrictive covenants.

NOW, THEREFORE, the New York City School Construction Authority, for itself and its successors and/or assigns, covenants that:

First, the Property subject to this Declaration of Covenants and Restrictions, is as shown on a map attached to this declaration as Appendix "A" and made a part hereof, and consists of all that certain plot, piece or parcel of land situate, lying and being in the Fourth Ward of the Borough of Queens, City of New York, County of Queens, and State of New York, being more particularly bounded and described as follows:

1. BEGINNING at the corner formed by the intersection of the southwesterly side of 104th Street formerly Wyckoff Avenue (60 feet wide) with the northwesterly side of 95th Avenue formerly University Place (60 feet wide):

2. Running thence along the northwesterly side of 95th Avenue, South 40 degrees 26 minutes 58.0 seconds West, 255 feet and 2 5/8 inches (255.22 feet), to a point;

3. Running thence along the division line between lands now or formerly K&S Storage II, LLC and lands now or formerly Angelina Squizzaro, North 49 degrees 33 minutes 02.0 seconds West, 92 feet and 8 5/8 inches (92.72 feet) to a point; said line forming an interior angle 90 degrees 00 minutes 00 seconds with the northwesterly line of 95th Avenue;

4. Running thence along the division line between lands now or formerly K&S Storage II, LLC; lands now or formerly Angelina Squizzaro; lands now or formerly F. Paganucci; lands now or formerly Vincent J. Delmato; lands now or formerly Ileana Cruz and Diana Cruz; and lands now or formerly Puranjit Jodhan and Ramkripal Bishunath, South 40 degrees 26 minutes 58.0 seconds West, 100 feet and 1 1/16 inches (100.09 feet) to a point on the division line between lands now or formerly K&S Storage II, LLC; lands now or formerly Puranjit Jodhan and Ramkripal Bishunath and lands now or formerly Dimitris Pierce and Marybell Montgomery, said line forming an interior angle 270 degrees 00 minutes 00 seconds with the last-mentioned course;

5. Running thence along the division line between lands now or formerly K&S Storage II, LLC; lands now or formerly Dimitris Pierce and Marybell Montgomery; lands now or formerly Sarah Escalera; and lands now or formerly Dorothy Pettit, North 49 degrees 33 minutes 02.0 seconds West, 50 feet and 2 inches (50.17 feet) to a point, said line forming an interior angle 90 degrees 00 minutes 00 seconds with the last mentioned course;

6. Running thence along the division line between lands now or formerly K&S Storage II, LLC and lands now or formerly Dorothy Pettit, South 40 degrees 26 minutes 58.0 seconds West, 95 feet and 0 15/16 inches (95.08 feet), to a point on the northeasterly side of 102nd Street formerly Union Avenue (50 feet wide), said line forming an interior angle 270 degrees 00 minutes 00 seconds with the last-mentioned course;

7. Running thence along the northeasterly side of 102nd Street, North 49 degrees 33 minutes 02.0 seconds West, 42 feet and 6 ½ inches (42.54 feet), to the corner formed by the intersection of the northeasterly side of 102nd Street and the southeasterly side of 94th Avenue formerly South Street (50 feet wide), said line forming an interior angle 90 degrees 00 minutes 00 seconds with the last-mentioned course;

8. Running thence along the southeasterly side of 94th Avenue, North 40 degrees 26 minutes 58.0 seconds East, 450 feet and 4 5/8 inches (450.39 feet), to the corner formed by the intersection of the southeasterly side of 94th Avenue and the southwesterly side of 104th Street, said line forming an interior angle 90 degrees 00 minutes 00 seconds with the northeasterly side of 102nd Street;

9. Running thence along the southwesterly side of 104th Street, South 49 degrees 33 minutes 02.0 seconds East, 185 feet and 5 1/8 inches (185.43 feet), to the point and place of beginning, said line forming an interior angle of 90 degrees 00 minutes 00 seconds with the southeasterly side of 94th Avenue.

Second, unless prior written approval by the New York State Department of Environmental Conservation or, if the Department shall no longer exist, any New York State agency or agencies subsequently created to protect the environment of the State and the health of the State's citizens, hereinafter referred to as "the Relevant Agency," is first obtained, there shall be no construction, use or occupancy of the Property that results in the disturbance or excavation of the Property, which threatens the integrity of the soil cap, or which results in unacceptable human exposure to contaminated soils.

Third, the owner of the Property shall prohibit the Property from ever being used for purposes other than for a school without the express written waiver of such prohibition by the Relevant Agency.

Fourth, the owner of the Property shall continue in full force and effect any institutional and engineering controls required under the Agreement and maintain such controls unless the owner first obtains permission to discontinue such controls from the Relevant Agency.

Fifth, full compliance shall be required with all components of the Site Management Plan approved by NYSDEC in accordance with the provisions defined by the remedial decision document for the Site.

Sixth, the cover layer consisting of the asphalt in the parking areas, impervious sidewalks/walkways, soil cover, and the building structures, shall be maintained in accordance with this NYSDEC-approved Site Management Plan.

Seventh, all future soil disturbance activities, including building renovation/expansion, subgrade utility line repair/relocation, and new construction shall be conducted in accordance with this NYSDEC-approved Site Management Plan.

Eighth, the use of the groundwater underlying the Site shall be prohibited without treatment rendering it safe for intended purpose.

Ninth, groundwater and other environmental or public health monitoring, and reporting of information thus obtained, shall be performed in a manner specified in this NYSDEC-approved Site Management Plan;

Tenth, on-site environmental monitoring devices, including but not limited to, groundwater monitor wells and soil vapor monitoring wells, shall be protected and replaced upon failure to ensure continued functioning in the manner specified in the NYSDEC-approved Site Management Plan;

Eleventh, sub-slab soil vapor extraction system shall be operated and maintained in a manner specified in this NYSDEC-approved Site Management Plan. Annual inspection and reporting, including operational and monitoring data, shall be performed in a manner specified in this NYSDEC-approved Site Management Plan.

Twelfth, this Declaration is and shall be deemed a covenant that shall run with the land and shall be binding upon all future owners of the Property, and shall provide that the owner, and its successors and assigns, consents to enforcement by the Relevant Agency of the prohibitions and restrictions that Paragraph X of the Agreement requires to be recorded, and hereby covenants not to contest the authority of the Relevant Agency to seek enforcement.

Thirteenth, any deed of conveyance of the Property, or any portion thereof, shall recite, unless the Relevant Agency has consented to the termination of such covenants and restrictions, that said conveyance is subject to this Declaration of Covenants and Restrictions.

IN WITNESS WHEREOF, the undersigned has executed this instrument the day written below.

NEW YORK CITY SCHOOL CONSTRUCTION AUTHORITY

BY _____
Vinicius Castagnola
Vice President, Quality Assurance/Quality Control

STATE OF NEW YORK)
) ss.:
COUNTY OF Queens)

On this 3 day of August the year 2006 before me, the undersigned, personally appeared Vinicius Castagnola, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me the he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Notary Public

VIRGINIA M. LLOYD
Notary Public, State of New York
No. 03-4976216
Qualified in Bronx County
Certificate Filed in Queens County
Commission Expires Jan. 14, 2010

TOTAL P.01

APPENDIX D

SOIL MANAGEMENT PLAN

SOIL MANAGEMENT PLAN

FOR THE

FORMER ADAMS BRUSH MANUFACTURING SITE
94-02 104th STREET
BOROUGH OF QUEENS, NEW YORK
(VCP AGREEMENT # V-00656)

OCTOBER 2006

NEW YORK CITY SCHOOL CONSTRUCTION AUTHORITY
30-30 THOMSON AVENUE
LONG ISLAND CITY, NEW YORK 11101-3045

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1.0 INTRODUCTION

1.1 Description of Site

The Site is an approximate 1.5-acre property currently utilized as a public school located at 94-02 104th Street at the southern corner of the intersection of 104th Street and 94th Avenue in Ozone Park, New York. The Site consists of an irregular-shaped parcel of land containing a two-story school building and a school yard with asphalt and concrete pavement which were constructed between 2004 - 2006.

1.2 Summary of Voluntary Cleanup Program Activities

Multiple investigations have been conducted at the Site since the late 1990's which are documented in the Remedial Action Workplan (RAW) that was completed in July 2003. On August 5, 2003, the New York City School Construction Authority (NYCSCA) entered into a Voluntary Cleanup Program (VCP) Agreement # V-00656 with the New York State Department of Environmental Conservation (NYSDEC or the Department). Work completed under the VCP included Site investigations and remedial activities, including removal of underground storage tanks (USTs), and building slabs and underlying soils. This work was completed between December 2003 and October 2004.

Additional information regarding investigations performed at the Site and a description of the Remedial Activities is provided in the July 2003 RAW and the August 2006 Remedial Action Report (RAR).

1.3 Objective of Soil Management Plan

The following Soil Management Plan (the Plan) has been prepared to enable appropriate management of residual soil contamination associated with historic fill material at the Site during any future activities which could breach the cover system at the Site. This Soil Management Plan is intended to provide a detailed description of the procedures required to properly manage residual fill material left in place at the Site following completion of the remedial action in the event that future construction activities (i.e., underground utility upgrades, landscaping, asphalt or concrete repairs, etc.) are required which will disturb the area of residual fill material. This Plan includes a description of the area of residual fill material; a description of the cover system implemented as part of the remedial action; and protocols to be followed during construction activities which affect the cover system.

2.0 DESCRIPTION OF RESIDUAL HISTORIC FILL MATERIAL

Prior investigations identified an area of surficial contamination associated with historic fill material on the western portion of the Site. This area of the property is now occupied by the school yard which contains primarily asphalt pavement with some reinforced concrete pavement areas, and limited landscaping consisting of clean soil cover and trees (Figure L-1). This area is the subject of this Soil Management Plan and is discussed in more detail below.

2.1 Residual Historic Fill Material

In January 2003, a subsurface soil investigation and soil gas survey was performed at the Site. A total of fifteen (15) soil borings were advanced throughout the Site property, including three (3) soil borings (SB-1 through SB-3) which were installed on the western portion of the property. Figure 1 provides the soil boring locations for the January 2003 investigation.

Laboratory analysis for soil samples collected from borings SB-2 and SB-3 at the 0 – 4 foot interval indicated concentrations of several semi-volatile organic compounds (SVOCs), in particular, PAHs which exceeded the NYSDEC Technical Guidance and Administrative Memorandum (TAGM) values. The exceedances in soil boring SB-2 at 0 – 4 feet ranged between 650 parts per billion (ppb) for benzo(k)fluoranthene to 1,200 ppb for chrysene. The exceedances in soil boring SB-3 at 0 – 4 feet ranged between 110 ppb for dibenzo(a,h)anthracene to 3,600 ppb for benzo(a)anthracene and 3,600 ppb for benzo(b)fluoranthene. These exceedances are associated with historic fill material at the Site, and are not associated with any specific source area of contamination. This area of historic fill material is confined to surficial soils located on the western portion of the Site and provides the basis for the requirement of this Soil Management Plan. Figure 2 depicts the location of the historic fill material onsite. Since this area is now covered by clean soil and concrete or asphalt; there are no exposed soils on this portion of the property and therefore, no potential for exposure to subsurface materials.

3.0 DESCRIPTION AND MANAGEMENT OF COVER SYSTEM

The following section describes the surface cover system that was installed at the Site during construction of the new school building. The purpose of the surface cover system is to eliminate the potential for direct human contact with the surficial contaminated fill material and to eliminate the potential for runoff from the property.

3.1 Description of Surface Cover System

Following completion of the remedial work, Site restoration activities included construction of the school building which covers the majority of the property, capping with concrete or asphalt pavement around the school, and clean soil in limited landscaped areas. Drawing L-1 depicts the as built layout of the school and surrounding grounds.

Concrete pavement surrounds the northern, eastern, and southern portions of the school building. A school yard covers the area of historic fill material located on western portion of the property. The school yard contains asphalt pavement with a reinforced concrete pavement area for the outdoor lab and five recessed safety surfaces for fitness stations.

As detailed on Drawing L-1, the following types of cover were installed at the Site:

- Concrete pavement:
    - 4-inch thick reinforced concrete pavement;
    - 7-inch thick reinforced concrete pavement, and;
    - 4-inch thick reinforced pigmented concrete pavement.
- Asphalt:
    - 1.5-inch thick asphalt top course with a 4-inch thick binder course on 6-inch thick broken stone with a black seal coat, and;
    - 1.5-inch thick asphalt top course with a 4-inch thick binder course on 6-inch thick broken stone with a red seal coat.
- Pavers:
    - Pavers on 4-inch thick reinforced concrete.

- Landscaping:
    - Soil cover, and;
    - Planting of trees.
- 3-inch thick recessed SpectraTurf safety surface.

3.2 Surface Cover System Management Program

The surface cover system at the Site will be maintained in a manner that ensures the system's integrity as originally designed and constructed. The surface cover system management program will include routine walk-throughs by the school custodian and annual inspections.

Routine walk-throughs will be performed by the custodian who will identify any observed changes to the cover system. In the event of a change in previous conditions, the custodian will log the information and immediately request an inspection, from New York City Department of Education (DOE), Department of School Facilities (DSF). An inspection report will be generated with a report of findings and recommendations.

Annual inspections will be performed by the DOE, DSF in the presence of custodial staff. Based on the results of the inspection and the engineering/environmental assessment, if necessary, the DOE, DSF will determine if design and specifications are required or if the work can be performed by DOE, DSF maintenance staff. If the project requires development of a design and the need to hire an outside contractor, the work will be undertaken by SCA.

Observations of the asphalt, concrete and soil components of the surface cover system will be noted during these inspections as detailed below:

A. Asphalt and Concrete: Walk-throughs and annual inspections will be performed for all asphalt and concrete cover system areas of the Site in order to document the presence of any cracks, depressions, and/or exposed soil as a result of deterioration of the asphalt or concrete surface. The damaged areas will be repaired using the appropriate methods within sixty (60) days, weather permitting. Access to any completely breached portions of the surface cover system will be restricted and the breached portions of the asphalt and concrete cover system will be repaired utilizing standard dust control techniques within five (5) days weather permitting.

B. Surface Soil: Walk-throughs and annual inspections will insure that the fill material in the limited landscaped areas is not exposed. Examples of exposed fill material include, depressions or ruts greater than 12-inches in depth, the presence of bricks and glass pieces mixed with soil, observed dark brown or black materials other than topsoil in the base of the depression or rut. If any damage to the cover is evidenced, but the underlying fill materials are not exposed the

damaged areas will be repaired using the appropriate methods within sixty (60) days of identifying the damage, weather permitting. Access to any completely breached portions of the surface cover system will be restricted and the surface cover system will be repaired utilizing standard dust control techniques within five (5) days, weather permitting.

3.3 Management of Soils/Fill and Long Term Maintenance of Cover System

The purpose of this section is to provide environmental guidelines for management of subsurface soils and the long-term maintenance of the surface cover system during any future intrusive work which breaches the cover system.

The Soil Management Plan includes the following conditions:

- Any breach of the soil cover system, including for the purposes of construction or utilities work, must be replaced or repaired using an acceptable borrow source free of industrial and/or other potential sources of chemical or petroleum contamination. The repaired area must be covered with clean soil and reseeded or covered with an impervious product such as concrete or asphalt, to prevent erosion in the future.

- As further described in Section 5, Site soil that is excavated and is intended to be removed from the property must be managed, characterized, and properly disposed of in accordance with NYSDEC regulations and directives.

- Any offsite fill material brought to the Site for filling and grading purposes shall be from an acceptable borrow source free of industrial and/or other potential sources of chemical or petroleum contamination. Offsite borrow sources will be subject to collection and analysis of one (1) representative composite sample per source. The sample will be analyzed for target compound list (TCL) volatile organic compounds (VOCs); TCL semi-volatile organic compounds (SVOCs); TCL pesticides and polychlorinated biphenyls (PCBs); and target analyte list (TAL) metals plus cyanide. The soil will be acceptable for use as cover material provided that all parameters meet the NYSDEC TAGM Recommended Soil Cleanup Objectives (RSCOs).

- Prior to any construction activities, workers will be notified of the Site conditions with clear instructions regarding how the work is to proceed. Invasive work performed at the property will be performed in accordance with all applicable local, state and federal regulations to protect worker health and safety.

- If the cover system has been breached during the year covered by the Annual Inspection Report (described in Section 3.5), then the DOE, DSF will include a certification in the Annual Inspection Report that all work was performed in conformance with this Soil Management Plan.

- The details for the surface cover designs used at the Site are shown in **Drawing L-1**. After completion of invasive work, a final cover will be replaced in conformance with these surface cover designs.

3.4 Emergency Situations

The DOE, DSF, in the presence of custodial staff, will immediately inspect the cover system, following any emergency situation. Examples of emergency situations include a water main break, emergency utility work, flooding, hurricane, earthquake, etc. The findings will be documented on an Inspection Form which summarizes inspection observations and recommendations. If the emergency situation resulted in a breach of the soil cover system, the procedure outlined in the previous section will be followed.

3.5 Recordkeeping

The following recordkeeping requirements will be implemented for all cover system inspections at the school. All observations will be noted in a dedicated log book that will include:

- Name of Inspector and/or team members
- Date and Time of Inspection
- Detailed Description of Areas Inspected (Interior and Exterior)
- Observations of Each Area Inspected

Logbook entries will be maintained by custodial staff and include an explanation for any observed physical changes in the condition of the cover system since the last inspection. Observations will include, but not be limited to, cracks in exterior asphalt and concrete; and soil disturbances. The inspection will include photographs, findings, and recommendations for restoration to previous conditions. As part of the yearly inspections, the logbooks will be reviewed, the custodian will be interviewed, and the Annual Inspection Report will be produced by DOE, DSF.

The Annual Inspection Report will be completed and submitted to the NYSDEC by August 15th of each year. A copy of the Annual Inspection Report will be provided to the Principal. Copies of the Site inspections, assessments, evaluation, monitoring, and Annual Inspection Reports will be maintained at the school and the DOE, DSF.

3.6 Notification Requirements

The Principal will be notified at least five (5) business days before conducting activities that may breach the surface cover system. The Principal will notify all concerned parties. Examples of intrusive work that

may breach the surface cover system include landscaping encompassing the removal/replacement of shrubs, bushes or trees; underground utility work, removal and repaving any asphalt surfaces, sidewalk replacement, etc. The notification letter will include, but not be limited to, the proposed portions of the system to be breached, the purpose of the intrusive activities, a plan for managing and disposing of any solid waste generated during the activity, and a plan to replace the surface cover system in a manner that is at least as protective to human health and the environment as the original surface cover system. The requirements for these Plans will be incorporated into the design documents and will be consistent with local, state, and federal requirements in effect at the time.

4.0 CONSTRUCTION ACTIVITIES AFFECTING COVER SYSTEM

4.1 General Protocols

The following general protocols will apply in the event that construction work is required which will disturb the Site cover system:

- The DOE, DSF, or SCA (Agency) and parties performing the construction work are completely responsible for the safe performance of all invasive work and the structural integrity of excavations and structures that may be affected by the construction work (such as building foundations).

- The hours for operation of construction activities will conform to the New York City Department of Buildings construction code requirements or otherwise according to specific variances issued by that agency.

- Future construction activities at the Site will not interfere with, or otherwise impair or compromise, remedial activities completed in the Remedial Action Report.

- Appropriate soil erosion prevention equipment (e.g., silt fencing, hay bales, etc.) will be installed around the entire perimeter of the construction area.

- Mechanical processing of historical fill and contaminated soil onsite is prohibited. All historical fill removed from the Site will be properly characterized and disposed of at an approved offsite facility.

4.2 Project Oversight

A Remedial Engineer or their qualified representative will be assigned to oversee all construction activities that involve the area of the cover system and will be responsible to insure that all invasive work involving the historic fill material, including work performed by contractors, is performed in compliance with this Soil Management Plan. Certification of the compliance of this work will be stamped and signed and submitted on an annual basis in the Annual Site Management Plan (outlined in more detail in the Site Management Plan). The Remedial Engineer will review all pre-remedial plans submitted by contractors for compliance with this Soil Management Plan and will certify compliance in the Annual Site Management Plan. All invasive work performed will be witnessed by the Remedial Engineer or qualified representative.

The Remedial Engineer will be responsible for providing all required Professional Engineer (P.E.) certifications listed in this Soil Management Plan. The Remedial Engineer will certify compliance of all pre-remedial plans submitted by contractors, as specified in the Annual Site Management Report (outlined in more detail in the Site Management Plan).

4.3 Health and Safety

A Health and Safety Plan (HASP) will be prepared by contractor performing the construction activities prior to commencement of the work to insure that the Site activities are performed in full compliance with governmental requirements, including Site and worker safety requirements mandated by the Occupational Safety and Health Administration (OSHA). The HASP will identify a Site Safety Coordinator who will oversee the construction activities and insure that the HASP is being properly implemented. Any confined space entry that is required during the construction activities will comply will all OSHA requirements to address the potential for combustible gases. The Site owner and associated parties and the contractor will be completely responsible for the appropriate performance of work according to the HASP and applicable laws.

5.0 MATERIALS MANAGEMENT FOR CONSTRUCTION ACTIVITIES AFFECTING COVER SYSTEM

The following sections describe the process for materials management during construction activities that will disturb the Site cover system and the area of historic fill material.

5.1 Field Screening Activities

Screening of soils and fill will be performed during all invasive construction work (e.g., excavations, underground utility upgrades, landscaping, asphalt or concrete repairs, etc.), that may penetrate the cover system in the area of the historic fill material. The field screening activities will include recording of visual and olfactory observations of soil and fill excavated during the construction work. Measurements obtained from a photoionization detector (PID) or flame ionization detector (FID) will also be recorded.

5.2 Excavated Material Testing Requirements

Soil/fill that is excavated during construction work will be further characterized prior to transportation offsite for disposal at a permitted facility. For excavated soil/fill with visual evidence of contamination (i.e., staining or elevated PID/FID measurements), one (1) composite sample and a duplicate sample will be collected for each 100 cubic yards (CY) of stockpiled soil/fill. For excavated soil/fill that does not exhibit visual evidence of contamination but must be transported for offsite disposal, one (1) composite sample and a duplicate sample will be collected for each 2,000 CY of stockpiled soil/fill, and a minimum of one (1) composite sample will be collected for volumes less than 2,000 CY.

The composite sample will be collected from five (5) locations within each stockpile. A duplicate composite sample will also be collected. Measurements from a PID will be recorded for each of the five (5) individual locations. One (1) grab sample will be collected from the individual location with the highest PID measurement. If none of the five (5) individual sample locations exhibit PID readings, one (1) location will be selected at random. The composite sample will be analyzed for pH, TCL SVOCs and TCL pesticides and PCBs; and TAL metals plus cyanide. The grab sample will be analyzed for TCL VOCs.

Soil samples will be composited by placing equal portions of soil/fill from each of the five (5) composite sample locations into a pre-cleaned, stainless steel or Pyrex glass mixing bowl. The soil/fill will be thoroughly homogenized using a stainless steel scoop or trowel and transferred to pre-cleaned jars provided by the laboratory. Sample jars will then be labeled and chain-of-custody form will be prepared. Additional characterization sampling for offsite disposal may be required by the disposal facility. The contractor is responsible for performing any required laboratory analysis of the material and satisfying

any other requirements of the disposal facility. To potentially reduce offsite disposal requirements/costs, the contractor may choose to characterize each stockpile individually.

If the analytical results indicate that concentrations exceed the standards for Resource Conservation Recovery Act (RCRA) characteristics, the material will be considered a hazardous waste and must be properly disposed offsite at a permitted disposal facility within 90 days of excavation. If the analytical results indicate that the soil is not a hazardous waste, the material will be properly disposed offsite at a non-hazardous waste facility. Stockpiled soil will not be transported on or offsite until the analytical results are received.

5.3 Offsite Disposal of Materials

5.3.1 Notifications to NYSDEC

All soil/fill excavated and removed from the area of historic fill material will be treated as contaminated and regulated material and will be disposed in accordance with all local, state and federal laws. If disposal of soil/fill from the Site is proposed for unregulated disposal, a formal request with an associated plan will be made to NYSDEC's project manager. Unregulated offsite management of materials from the Site will not be performed without formal NYSDEC approval.

Letters will be provided to NYSDEC that fully demonstrate and document that the disposal of material derived from the Site conforms with all applicable laws. This will include, at minimum: (a) a letter from the Agency to the disposal facility providing all pertinent soil chemistry data and noting that the soil/fill is a contaminated media being removed from a Brownfield site in New York State as part of an environmental remediation project and (b) a letter from the receiving facility stating that they understand the source and that the material is acceptable under all appropriate permits.

5.3.2 Fill/Soil Disposal Requirements

Non-hazardous historic fill and contaminated soils taken offsite will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Historical fill and contaminated soils from the Site are prohibited from being disposed at Part 360-16 Registration Facilities (also known as Soil Recycling Facilities).

Soils that are contaminated but non-hazardous and are being removed from the Site are considered by the Division of Solid & Hazardous Materials (DSHM) in NYSDEC to be Construction and Demolition (C/D) materials with contamination not typical of virgin soils. These soils may be sent to a permitted Part 360 landfill. These soils may be sent to a permitted C/D processing facility without permit modifications only upon prior notification of NYSDEC Region 2 DSHM. This material is prohibited from being redirected to a Part 360-16 Registration Facility. In this case, as dictated by DSHM, special procedures will include,

at a minimum, written correspondence to the C/D facility that provides detailed explanation that the material is derived from a DER remediation Site, that the soil material is contaminated and that it must not be redirected to onsite or offsite Soil Recycling Facilities. The chemical data for the soil must be attached to the correspondence.

The contractor is responsible for performing any required laboratory analysis of the material and satisfying any other requirements of the disposal facility.

5.3.3 Water Disposal Requirements

Groundwater at the Site is located at approximately 35 feet below ground surface (bgs) and future construction is not expected to encounter groundwater. However, if dewatering is necessary, dewatered fluids will not be recharged back to the land surface or subsurface of the Site. All liquids to be removed from the Site, including dewatering fluids, will be handled, transported and disposed offsite in accordance with applicable local, state, and federal regulations. Liquids discharged into the New York City sewer system will be addressed through approval by the New York City Department of Environmental Protection (NYCDEP). Discharge of water generated during construction activities to surface waters (i.e., a local pond, stream or river) will be addressed through a State Pollutant Discharge Elimination System (SPDES) permit.

The contractor is responsible for performing any required laboratory analysis of the material and satisfying any other requirements of the disposal facility.

5.3.4 Hazardous Waste Disposal Requirements

If encountered during construction work, hazardous wastes derived from onsite will be stored, transported, and disposed in full compliance with applicable local, state, and federal regulations.

The contractor is responsible for performing any required laboratory analysis of the material and satisfying any other requirements of the disposal facility.

5.3.5 Disposal Documentation

The Agency and its Remedial Engineer will be responsible for the appropriate disposal of all material removed from the Site during construction, including any excavated contaminated soil, historic fill, solid waste, hazardous waste, non-regulated material, and fluids. Appropriately licensed haulers will be used to transport material removed from the Site and will be in full compliance with all applicable local, state and federal laws. A Bill of Lading system and waste disposal manifests will be used to document the disposal of all materials.

5.4 Truck Management

To insure proper offsite transportation of material, all trucks leaving the Site with contaminated media will have tight-fitting covers. All trucks with contaminated media will also be washed prior to leaving the Site. Truck wash waters will be collected and disposed offsite in an appropriate manner. Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during the construction activities.

5.5 Stockpile Management

Stockpiles will be kept covered at all times with appropriately anchored tarps during the construction activities. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced. Silt fencing will be installed around soil stockpiles to prevent rainwater runoff from mixing with contaminated material. Hay bales will also be used as necessary near catch basins, surface waters and other discharge points to prevent runoff impact.

5.6 Odor and Dust Controls

Odor control methods will be implemented during the construction activities to control emissions of nuisance odors from excavations or stockpiles. If nuisance odors are identified, construction activities will cease and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. The NYSDEC and the New York State Department of Health (NYSDOH) will be notified of all odor events and of all other complaints about the construction work. Implementation of all odor controls, including cessation of work, will be the responsibility of the Remedial Engineer who is responsible for certifying the compliance of the construction activities.

All necessary means will be employed to control odors and eliminate associated nuisances onsite and offsite. Odor control methods to be used including the following: (a) limiting the area of open excavations; (b) shrouding open excavations with tarps and other covers; (c) use of foams to cover exposed odorous soils; (d) use of chemical odorants in spray or misting systems; and, (e) monitoring of odors in surrounding neighborhoods. If these methods are not successful, enclosures will be erected around work areas to control odors.

In addition to controlling odors, dust suppression control methods will also be implemented during the construction activities. Dust suppression control measures may include misting of the material during the excavation work.

5.7 Restrictions on Reuse of Onsite Materials

The following restriction on reuse of onsite materials will apply:

- Cleaning or processing onsite of residual contaminated concrete is prohibited.

- Organic matter (wood, roots, stumps, etc.) or other solid waste derived during invasive activities is prohibited for reuse onsite.

- Contaminated onsite material, including historic fill and contaminated soil, removed for grading or other purposes will not be reused within a cover soil layer, within landscaping berms or as backfill for subsurface utility lines.

- Contaminated onsite material, including historic fill and contaminated soil, removed during construction activities cannot be re-used.

- Concrete pavement, asphalt pavement and/or recessed safety surfaces that are removed during construction activities cannot be re-used.

5.8 Residual Fill Material Demarcation

After the completion of soil removal and other invasive activities, demarcation material will be replaced.

5.9 Backfilling Requirements

Subgrade material used to backfill excavations or placed to increase Site grades or elevation shall meet the following criteria:

- Any offsite fill material brought to the Site for filling and grading purposes shall be from an acceptable borrow source free of industrial and/or other potential sources of chemical or petroleum contamination.

- Offsite soils intended for use as Site backfill cannot otherwise be defined as solid waste in accordance with 6 NYCRR Part 360-1.2(a).

- If the contractor designates a source 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 will be subject to collection of one (1) representative composite sample per source. The sample will be analyzed for TCL VOCs; TCL SVOCs; TCL pesticides and PCBs; arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and cyanide. The soil will be acceptable for use as backfill provided that all parameters meet the NYSDEC TAGM RSCOs.

- Non-virgin soils will be tested via collection of one (1) composite sample per 500 CY of material from each source area. If more than 1,000 CY of soil are borrowed from a given offsite non-virgin soil source area and both samples of the first 1,000 CY meet the NYSDEC TAGM RSCOs, the sample collection frequency will be reduced to one (1) composite sample for every 2,500 CY of additional soils from the same source, up to 5,000 CY. For borrow sources greater than 5,000 CY, sampling frequency may be reduced to one (1) sample per 5,000 CY, provided all earlier samples meet the NYSDEC TAGM RSCOs.

6.0 CONTINGENCY PLAN

This section details the protocols to follow in the event that previously unidentified contaminants and/or material are discovered during onsite construction activities.

Identification of unknown or unexpected contaminated media identified by field screening activities during invasive Site work will be promptly communicated by telephone to the NYSDEC project manager. If previously unidentified underground storage tanks or contaminant sources are identified, sampling will be performed on product, sediment and surrounding soils, etc. These samples will be submitted for laboratory analysis for the following parameters: TAL metals; TCL VOCs; TCL SVOCs; and TCL pesticides and PCBs. These analytical parameters will not be modified without prior approval from the NYSDEC.

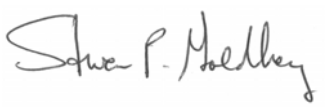
In the event that any USTs are encountered during soil disturbance, UST closures will, at a minimum, conform to DER-10.

7.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

Shaw has developed a Soil Management Plan for the Former Adams Brush Manufacturing Site located at 94-02 104th Street Site in Queens, New York based on the August 5, 2003 Voluntary Cleanup Program Agreement #V-00656 entered into between the NYCSCA and the NYSDEC.

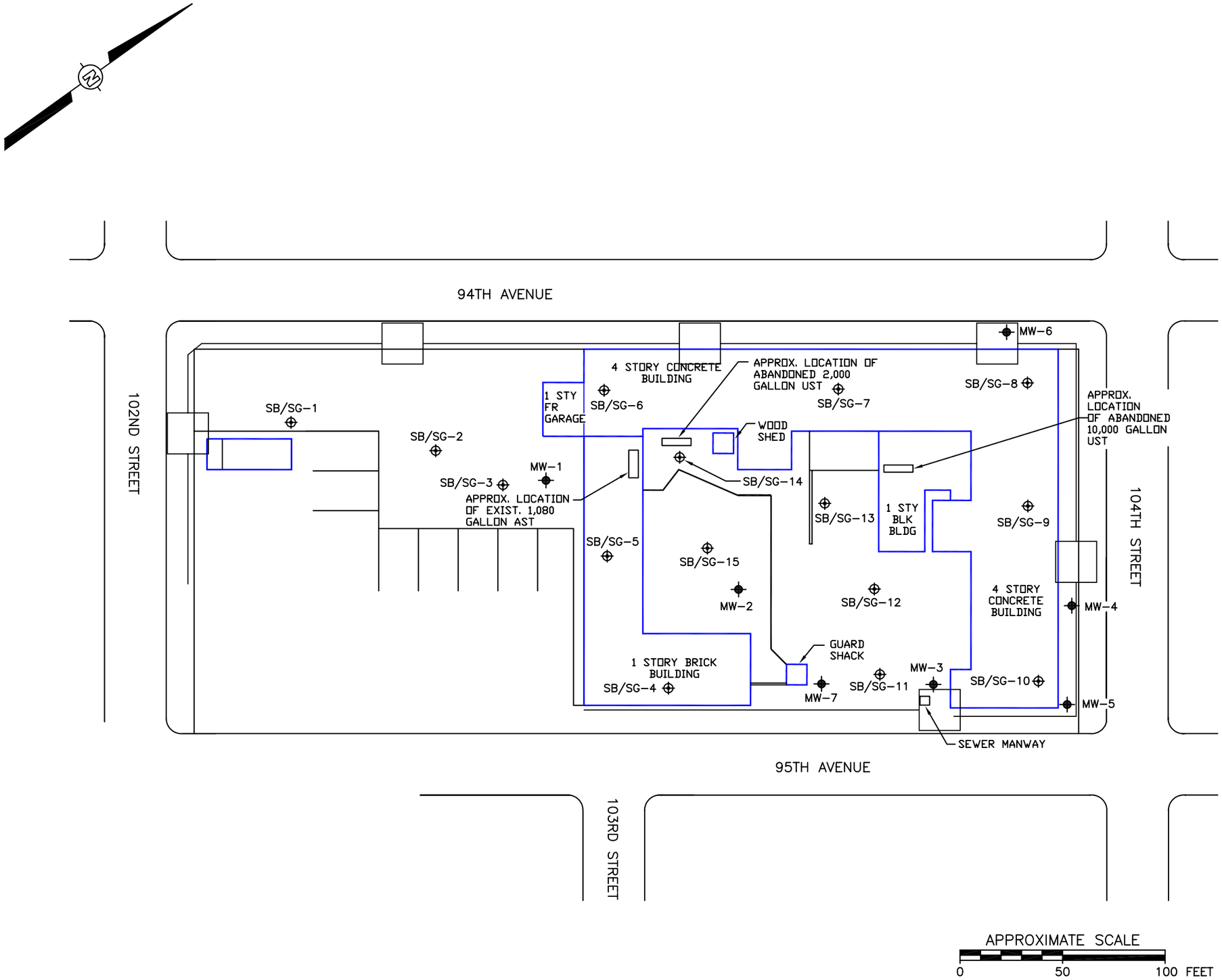
Shaw Environmental & Infrastructure, Inc.

Amy E. Fontana
Senior Environmental Scientist



Steven Goldberg, Ph.D., CPG
Senior Project Manager

FIGURES



LEGEND

- FENCE LINE
- MONITORING WELL
- SOIL BORING

NOTE

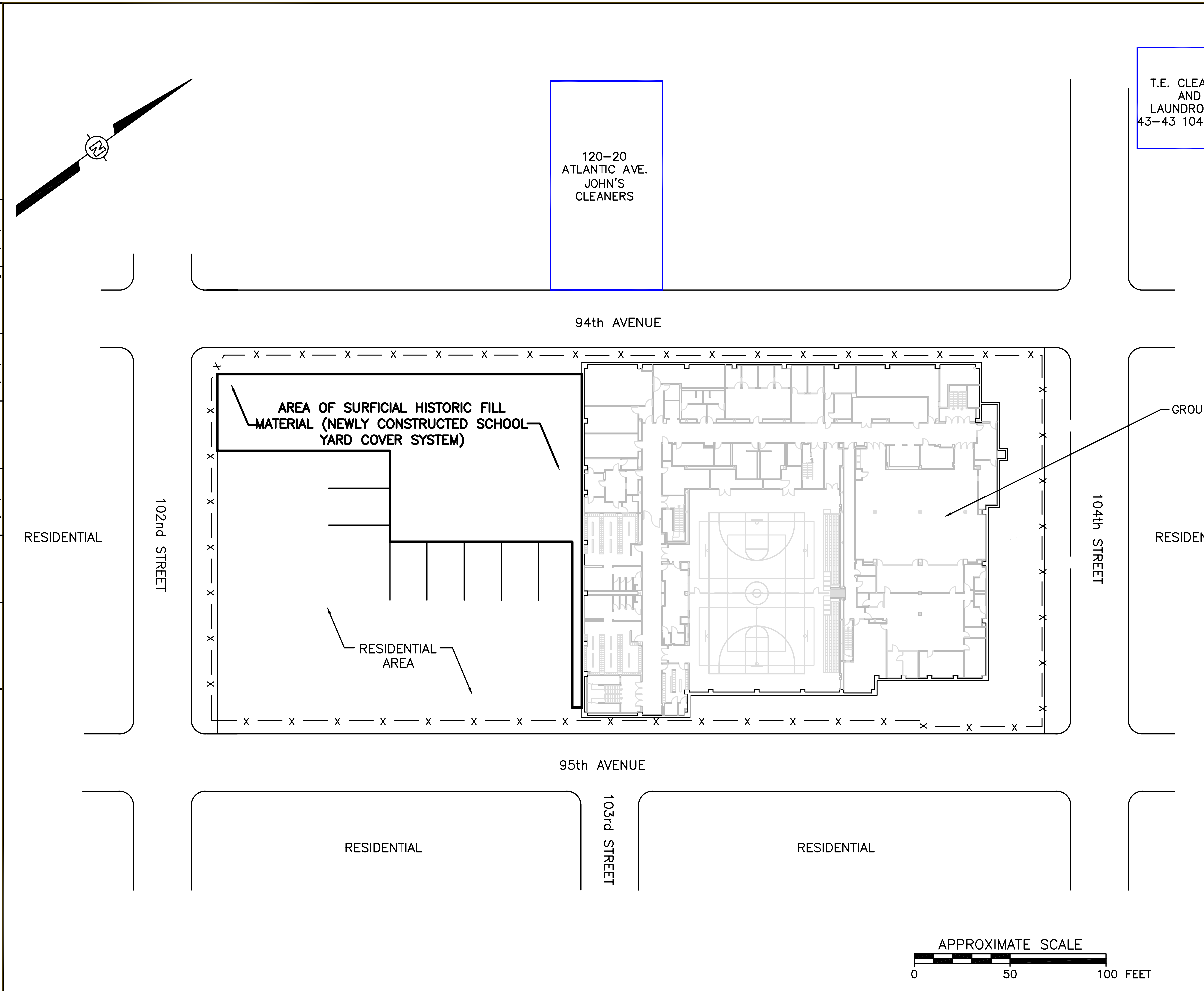
BORING LOCATIONS COMPLETED PER STV SUPPLEMENTAL SAMPLING AND ANALYSIS PLAN REVISED 11/25/02.

DRAWING NUMBER	APPROVED BY	CHECKED BY	DRAWN BY	OFFICE
110567-FIG1	E. Gustafson 01/24/03	E. Gustafson 01/24/03	E. Dunseath 01/24/03	Holbrook, ny

XREF Files: IMAGE Files:
File: N:\Civil\Projects\NYSCA - Adams Brush Soil Management Plan\Figure 1 Soil Boring and Soil Gas Survey.dwg
Plot Date/Time: Dec 05, 2006 - 8:41am
Plotted By: amy.fontana

Shaw
Shaw E & I, Inc.
4 COMMERCE DRIVE
HARRIMAN, NEW YORK 10926
(845) 492-3100

FIGURE 1
SOIL BORING AND SOIL GAS SURVEY
LOCATION PLAN, JANUARY 2003
FORMER ADAMS BRUSH MANUFACTURING
STV SUPPLEMENTAL INVESTIGATION
94-02 104TH STREET
OZONE PARK, NEW YORK 11416



OFFICE: Harriman, NY | DRAWN BY: D. Tice 8/15/06 | CHECKED BY: A. Fontana 8/15/06 | APPROVED BY: S. Goldberg 8/15/06 | DRAWING NUMBER: 110567-FIG7

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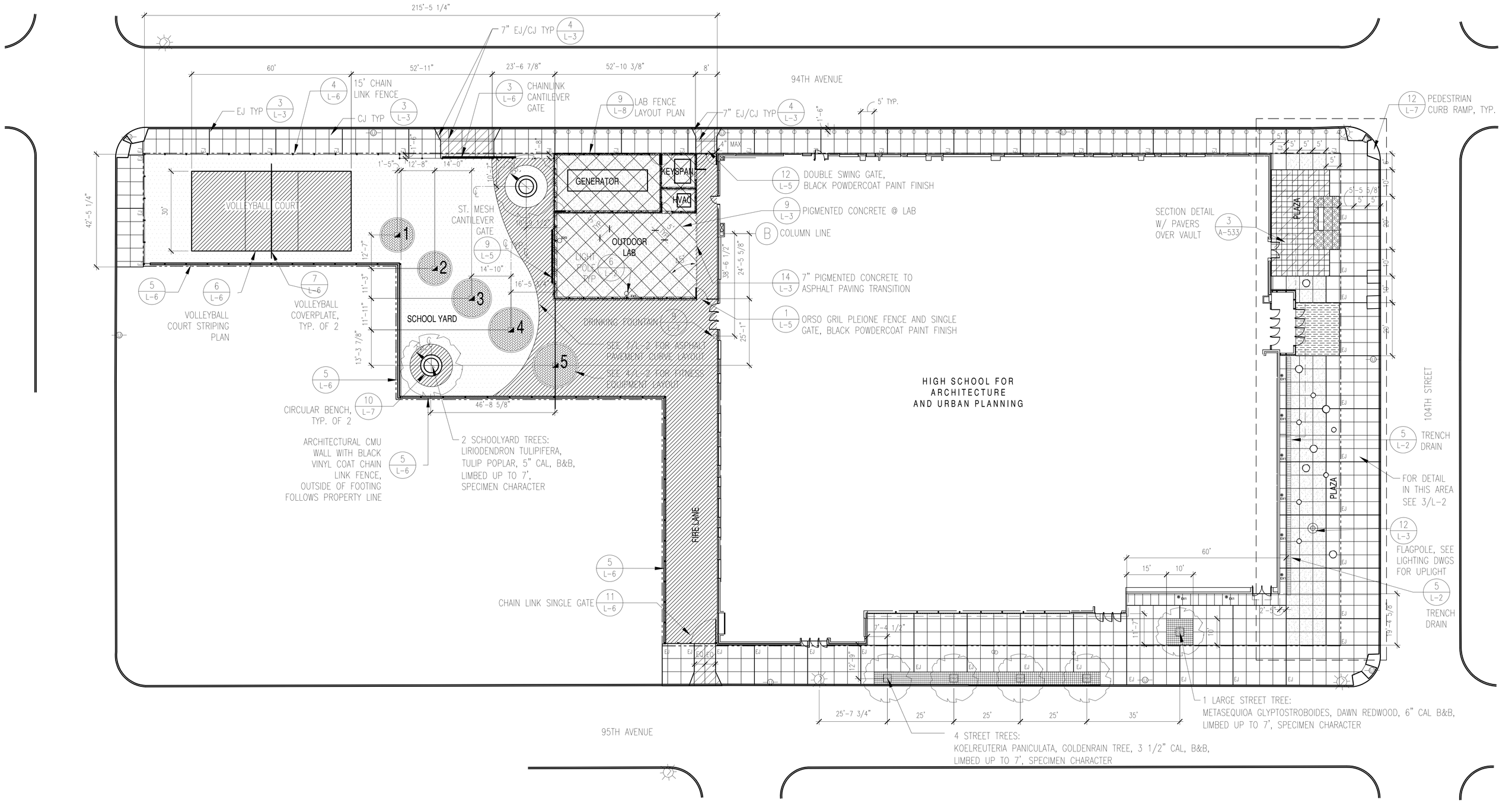
FIGURE 2
HISTORIC FILL MATERIAL LOCATION PLAN
FORMER ADAMS BRUSH MANUFACTURING SITE
94-02 104TH STREET
OZONE PARK, NEW YORK 11416

DRAWINGS



1 LAYOUT AND MATERIALS PLAN
L-1 SCALE: 1" = 16'-0"

0 4' 8' 16' 24' 40'

STREET AND SCHOOLYARD PLAN LEGEND

PAVING:
- 4" TH REINFORCED CONCRETE PAVEMENT — 1 L-3
- 7" TH REINFORCED CONCRETE PAVEMENT — 2 L-3
- 4" TH REINFORCED PIGMENTED CONCRETE PAVEMENT TYPE F — 1 L-3
- TYPE A PAVERS ON 4" TH REINFORCED CONCRETE, SEE PAVER SCHEDULE 3/L-1 — 6 L-3
- ASPHALT PAVEMENT WITH BLACK SEAL COAT — 5 L-3
- ASPHALT PAVEMENT WITH RED SEAL COAT — 5 L-3
- GRANITE COBBLES OVER STREET TREE PITS — 5 L-7
- TYPE B PAVERS ON 4" TH REINFORCED CONCRETE, SEE PAVER SCHEDULE — 6 L-3
- RECESSED SPECTRATURF SAFETY SURFACE, COLOR: CORAL SEA — 11 L-3
- 4" THICK REINFORCED PIGMENTED CONCRETE PAVEMENT, TYPE E — 1 L-3

LANDSCAPE:
- STREET TREES IN SIDEWALK — 1 L-7
- TREE IN PLANTER BENCH — 10 L-7

SITE IMPROVEMENTS:
- 10' H BLACK VINYL COATED CHAIN LINK FENCE CANTILEVER GATE WITH TRANSOM TO 15' — 3 L-6
- STEEL MESH GATE: SINGLE — 1 L-5; DOUBLE — 12 L-5
- 10' ORSOGRIL STEROPE STEEL MESH CANTILVER GATE AND TRANSOM TO 17' — 9 L-5
- 15' H CHAIN LINK FENCE — 4 L-6
- 17' H STEEL MESH FENCE-ORSO GRIL TALIA — 3 L-5
- 17' H STEEL MESH FENCE-ORSO GRIL STEROPE — 2 L-5
- 8' H STEEL MESH FENCE-ORSOGRIL STEROPE — 2 L-5
- 6' H BLACK VINYL COAT CHAIN LINK FENCE ON 8' ARCHITECTURAL CMU WALL — 5 L-6

1 FITNESS EQUIPMENT, SEE EQUIPMENT SCHEDULE — 4 L-1
- CIRCULAR BENCH ON ASPHALT, SEE SPEC. (TOTAL: 2) — 10 L-7
- 30" CONCRETE SPHERE, REFER SHEET L-2 — 10 L-3
- 18" CONCRETE SPHERE, REFER SHEET L-2 — 10 L-3
- 24" H, 8" Ø STEEL BOLLARDS — 8 L-3

2 STREET AND SCHOOLYARD PLAN LEGEND
L-1 SCALE: NA

PAVING SCHEDULE

PAVING TYPE A: 2' X 2' DETECTABLE WARNING PAVERS, COLOR: TO MATCH HANOVER QUARRY RED — 6 L-3

PAVING TYPE B: 8" X 8" CONCRETE UNIT PAVERS, COLOR: TO MATCH HANOVER QUARRY RED

PAVING TYPE C: 2' X 2' PEDESTAL PAVERS FOR ROOF DECKS, COLOR: CHARCOAL — 7 L-3

PAVING TYPE D: 2' X 2' PEDESTAL PAVERS FOR ROOF DECKS, COLOR: TO MATCH HANOVER QUARRY RED

PAVING TYPE E: REINFORCED PIGMENTED CONCRETE PAVEMENT, COLOR: TO MATCH L.M. SCOFIELD CO. CHROMIX ADMIXTURE OLMSTEAD BLUE TN 933, CURED WITH LITHOCHROME COLORWAX IN THE MATCHING COLOR.

PAVING TYPE F: REINFORCED PIGMENTED CONCRETE PAVEMENT COLOR: TO MATCH L.M. SCOFIELD CO. CHROMIX ADMIXTURE, CHARCOAL, CURED WITH LITHOCHROME COLORWAX IN THE MATCHING COLOR.

ALL PAVER COLORS, MATRIX AND FINISHES TO MATCH ARCHITECTS SAMPLE.

3 PAVING SCHEDULE
L-1 SCALE: NA

EQUIPMENT SCHEDULE: SEE DWG L-2 FOR FITNESS EQUIPMENT LAYOUT PLAN

FITNESS STATION 1: PIPELINE STATION 14, MODEL NO. 9714. COLOR: BLACK — 5 L-4

FITNESS STATION 2: PIPELINE STATION 16, MODEL NO. 9716. COLOR: BLACK — 2 L-4

FITNESS STATION 3: PIPELINE STATION 10, MODEL NO. 9710. COLOR: BLACK — 3 L-4

FITNESS STATION 4: PIPELINE STATION 8, MODEL NO. 9708. COLOR: BLACK — 1 L-4

FITNESS STATION 5: PIPELINE STATION, MODEL NO. 9700. COLOR: BLACK — 9 L-6

4 EQUIPMENT SCHEDULE
L-1 SCALE: NA

LIGHTING SCHEDULE

EX1 IN GROUND

EX5 POLE LIGHT

NOTE: SEE ARCH AND ELECTRIC DRAWINGS FOR BUILDING MOUNTED LIGHTING

5 LIGHTING SCHEDULE
L-1 SCALE: NA

NYC MODEL CODE PROGRAM: COST IMPACT ASSESSMENT

SCHOOL

New York City Department of Buildings
280 Broadway, 7th Floor
New York, NY 10007

NYC Economic Development Corporation
110 William Street, 6th Floor
New York, NY 10038

HIGH SCHOOL FOR CONSTRUCTION TRADES, ENGINEERING & ARCHITECTURE

QUEENS, NEW YORK
NEW CONSTRUCTION

NEW YORK CITY SCHOOL CONSTRUCTION AUTHORITY

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Gary Deane, Director of Operations, Special Projects

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architects/engineers/planners/interior designers
225 Park Avenue South New York, NY 10003

ARQUITECTONICA
114 WEST 26th STREET NEW YORK, NY 10001 (212) 254-2700 FAX (212) 533-9203

Landscape Architects
Signe Nielsen
154 Duane Street
New York, NY 10013
Telephone: 212-431-3609
Telefax: 212-941-1513

Lighting Consultant
Ann Kale Associates Inc.
37 West 37th Street
New York, NY 10018
Telephone: 212-719-1060
Telefax: 212-719-1072

Acoustical Consultant
Shen Milsom Wilke
417 Fifth Avenue
New York, NY 10016
Telephone: 212-725-6800
Telefax: 212-725-0864

Environmental Consultant
STV, Inc.
225 Park Avenue South
New York, NY 10003
Telephone: 212-777-4400
Telefax: 212-529-5237

Cost Consultant
V.J. Associates
136 West John Street
Hicksville, NY 11801
Telephone: 516-932-1010
Telefax: 516-932-8520

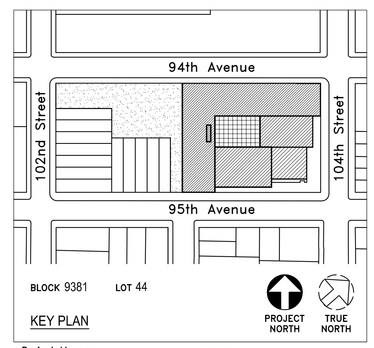
Theatrical Consultant
Harvey + Marshall Associates
173 West 81 Street
New York, NY 10024
Telephone: 212-874-0214
Telefax: 212-874-1482

Kitchen Consultant
Romano Gatland
99 West Hoffman Avenue
Lindenhurst, NY 11757
Telephone: 631-226-7700
Telefax: 631-226-7175

Elevator Consultant
Lerch, Bates & Associates, Inc.
463 Main Street
Metuchen, NJ 08840
Telephone: 732-494-0616
Telefax: 732-494-0604

Architectural Spec Consultant
Robert Schwartz Associates
589 Eighth Avenue
New York, NY 10018
Telephone: 212-691-3248
Telefax: 212-633-1613

Rev. No.	Date	Title
1	08-18-2006	Draft Report



Project Manager:	H. FENN
Design Manager:	B. FORT-BRESCIA
Project Architect/Engineer:	
Designer:	
Drawn by:	
Checked by:	
Dept. Head :	
Design No.:	Date:

LLW #22714

Project: HIGH SCHOOL FOR CONSTRUCTION TRADES, ENGINEERING & ARCHITECTURE
Address: QUEENS, NEW YORK

Drawing Title:

SITE LAYOUT AND MATERIALS PLAN

(CURRENT CODE)

Drawing No.: L-1

Scale: AS NOTED

Sheets in Contract: 20 of 331

APPENDIX E

INSPECTION FORM

Annual Inspection Form

Adams Brush Manufacturing Site
90-02 104th Street, Ozone Park, New York 11416

Inspector's Name:	Weather Conditions:
Inspection Date:	Air Temperature (^{o}F):
Inspection Time:	
Comments:	

A. ROOF VENT SSDS INSPECTION

1. Walk the entire roof surface.

* Any rust or other debris in the vicinity of the post and sleeve at SSDS Stack #1?
* Any rust or other debris in the vicinity of the post and sleeve at SSDS Stack #2?
* Any rust or other debris in the vicinity of the post and sleeve at SSDS Stack #3?
* Are SSDS fan units functioning properly and spare fan unit available?
* Is SSDS Performance Monitoring System (PMS) functioning properly (light panel, log, etc.)?
* Comments:

B. BASEMENT INSPECTION

1. Walk the entire basement floor

* Any visible cracks in the basement floor?
* Any visible cracks in the basement wall?
* Any other visible openings (unintended) in either the floor or walls?
* Draw approximate location of floor and/or wall cracks/openings on site map.
* Note the length of the crack/opening.
* Note the width of the crack/opening.
* Comments:

C. EXTERIOR INSPECTION

1. Walk and inspect the entire perimeter of the property.

2. Walk and inspect all of the paved areas of the property.

3. Walk and inspect all of the unpaved areas of the property.

* Are there any signs of significant cracks or deterioration of the paved areas?
* Has any of the pavement material been removed?
* Are there signs of vehicular use on the unpaved areas (tire tracks, rutting, etc.)?
* Have any structures been constructed on the unpaved areas?
* Are there any signs of soil washing or erosion (gullies, soil washed out onto the pavement)?
* Are there any signs of intrusive activities (drilling, digging, trenching, grading, excavating, etc.)?
* Comments:

D. SEVERE CONDITION INSPECTION

1. Walk and inspect the entire perimeter of the property.

2. Walk and inspect all of the paved areas of the property.

3. Walk and inspect all of the unpaved areas of the property.

* Note type of severe condition (i.e., severe erosion or flooding).
* Note impacts from severe condition.
* Comments:

Inspector's Signature: _____

APPENDIX F

VAPOR BARRIER DOCUMENTATION

SECTION 07260
GAS VAPOR BARRIER

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

A. Install reinforced high density polyethylene (HDPE) vapor barrier under concrete slab and for wall applications as indicated, specified and required in the Contract Documents and Drawings.

1.02 RELATED SECTIONS

A.	Health and Safety	Section 01065
B.	Site Preparation	Section 02100
C.	Earthwork	Section 02200
D.	Cast-in-Place Concrete.	Section 03300
E.	Perimeter Foundation Insulation.	Section 07211
F.	Miscellaneous Building Insulation. . . .	Section 07212
G.	Poly Vinyl Chloride (PVC) Piping	Section 15409

1.03 STANDARDS AND REGULATIONS

A. American Society of Testing and Materials (ASTM) Standards.

ASTM D882 - Tensile Properties of Thin Plastic Sheeting.

ASTM D1709 - Impact Resistance of Plastic Film by the Free-Falling Dart Method.

ASTM D2582 - Puncture-Propagation Tear Resistance of Plastic Film and Thin Sheeting.

ASTM D3776 - Mass per Unit Area (Weight) of Woven Fabric.

ASTM D4833 – Index Puncture Resistance of Geotextiles, Geomembranes and Related Products.

ASTM E84 – Surface Burning Characteristics of Building Materials.

ASTM E96 - Water Vapor Transmission of Materials.

ASTM E1643 - Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.

ASTM E1745 - Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs.

B. National Fire Protection Association, latest editions.

701 – Fire Tests for Flame-Resistant Textiles and Films.

1.04 RESTRICTIONS AND QUALITY CONTROL

A. Preinstallation Meeting: Convene a preinstallation meeting prior to the start of vapor barrier installation. Require attendance of parties directly affecting work of this section, including Contractor, Architect, and installer. Review installation, protection, and coordination with other work.

B. The finished product (i.e., welding seams, penetrations, etc.) shall be quality tested as per the manufacturer's and installee's written instructions. Field samples shall be submitted to the Authority prior to installation to represent conditions of the finished product.

1.05 SUBMITTALS

A. Product Data: Submit manufacturer's product data, including installation instructions.

B. Samples: Submit manufacturer's samples of vapor barrier.

C. Material Test Reports: Indicate and interpret test results for compliance of vapor barrier with requirements indicated.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to site in manufacturer's original, unopened contains and packaging, with labels clearly identifying product name and manufacturer.

B. Store materials in a clean, dry area in accordance with manufacturer's instructions.

C. Protect materials during handling and installation to prevent damage.

1.07 PROJECT/SITE CONDITIONS

A. Protect all adjacent areas not to receive vapor barrier.

B. Perform work only when existing and forecasted weather conditions are within manufacturer's recommendations for the material and product used.

C. The Contractor shall coordinate with all trades involved, the scheduling of excavation and backfill to ensure that all necessary components of work, due to be buried, are installed thus avoiding duplication of excavation work unless otherwise shown on the Contract Drawings or noted in other sections of the Contract Documents. No other work should be performed in areas above an installed vapor barrier section until the liner protection mud mat has been installed. The Contractor shall verify there are no interferences with other existing or proposed subsurface systems.

D. All plumbing, electrical, mechanical and structural items to be under or passing through the vapor barrier shall be positively secured in their proper positions and appropriately protected prior to membrane application.

E. Vapor barrier shall be installed before placement of reinforcing steel. When not possible, all exposed reinforcing steel shall be masked by General Contractor prior to membrane application.

F. Expansion joints must be filled with a conventional waterproof expansion joint material.

G. Surface preparation shall be per manufacturer's specification.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Reinforced HDPE vapor barrier for under concrete slabs and walls as manufactured by Reef Industries, Raven Industries, Stego Industries or approved equal.

B. The vapor barrier shall consist of a high density, cross-laminated polyethylene material with high strength and durability and a geotextile fabric reinforcement layer that resists punctures and tears.

1. Description: Black, high density, polyethylene, geosynthetic laminate.
2. Weight: 110 pounds per 1000 square feet.
3. Thickness: 60 mils.

2.02 ACCESSORIES

A. General: Provide installation accessories as necessary. Ensure accessories are from same manufacturer as vapor barrier.

B. Mastic Tape: Manufacturer Fab Tape.

1. Description: Black, double-sided, asphaltic, pressure-sensitive, mastic tape.
2. Weight: 3.75 pounds per 100 feet.
3. Thickness: 35 mils.
4. 3 Inch Seam Shear: 35 pounds.

C. Self-Adhesive Repair Tape: Manufacturer Tape.

D. Pipe Boots: Factory-fabricated pipe boots.

E. Fasteners as required by manufacturer.

PART 3 - EXECUTION

3.01 EXAMINATION

All surfaces to receive vapor barrier shall be inspected and approved by the Authority prior to commencing work.

3.02 INSTALLATION

A. Install vapor barrier and anchorage in accordance with ASTM E 1643 and manufacturer's written instructions and manufacturer's recommended welding equipment.

B. Install vapor barrier continuously at all locations under slab and on walls as indicated on the Contract Drawings. Ensure there are no discontinuities in vapor barrier at seams and penetrations.

C. Install vapor barrier in largest practical widths.

D. Ensure subgrade beneath vapor barrier is smooth, level, and compacted with no sharp projections.

E. Ensure vertical surfaces behind vapor barrier are smooth with no sharp projections. The junction of the membrane with the foundation wall must be leak free.

F. Sections of vapor barrier shall be joined using field welded seams as per the manufacturer's and installer's written procedures. Installer shall have a minimum of 5 years experience field welding geomembranes.

G. Ensure there is no moisture entrapment by vapor barrier

due to rainfall or ground water intrusion.

H. The Contractor shall repair holes and/or any damage in vapor barrier by welding prior to placement of backfill or concrete as per manufacturer's written procedures and at the Contractors expense.

I. Seal around pipes and other penetrations in vapor barrier with pipe boots, with welded seams and in accordance with manufacturer's written instructions.

J. Comply with manufacturer's and installer's instructions for handling and installing materials.

K. All field seams shall be monitored/tested for Quality Control as per the manufacturer's written procedures and in the presence of the Authority. Field samples shall be submitted to represent conditions of the finished product.

L. The Authority shall visually inspect the condition of the liner prior to placing geomembrane and then backfill or concrete.

3.03 PROTECTION

A. Protect reinforced vapor barrier from damage during installation of reinforcing steel and utilities and during placement of concrete slab or granular materials.

B. Protect reinforced vapor barrier from damage until covered by finish wall.

C. Immediately repair damaged vapor barrier in accordance with manufacturer's instructions.

END OF SECTION

LIST OF SUBMITTALS

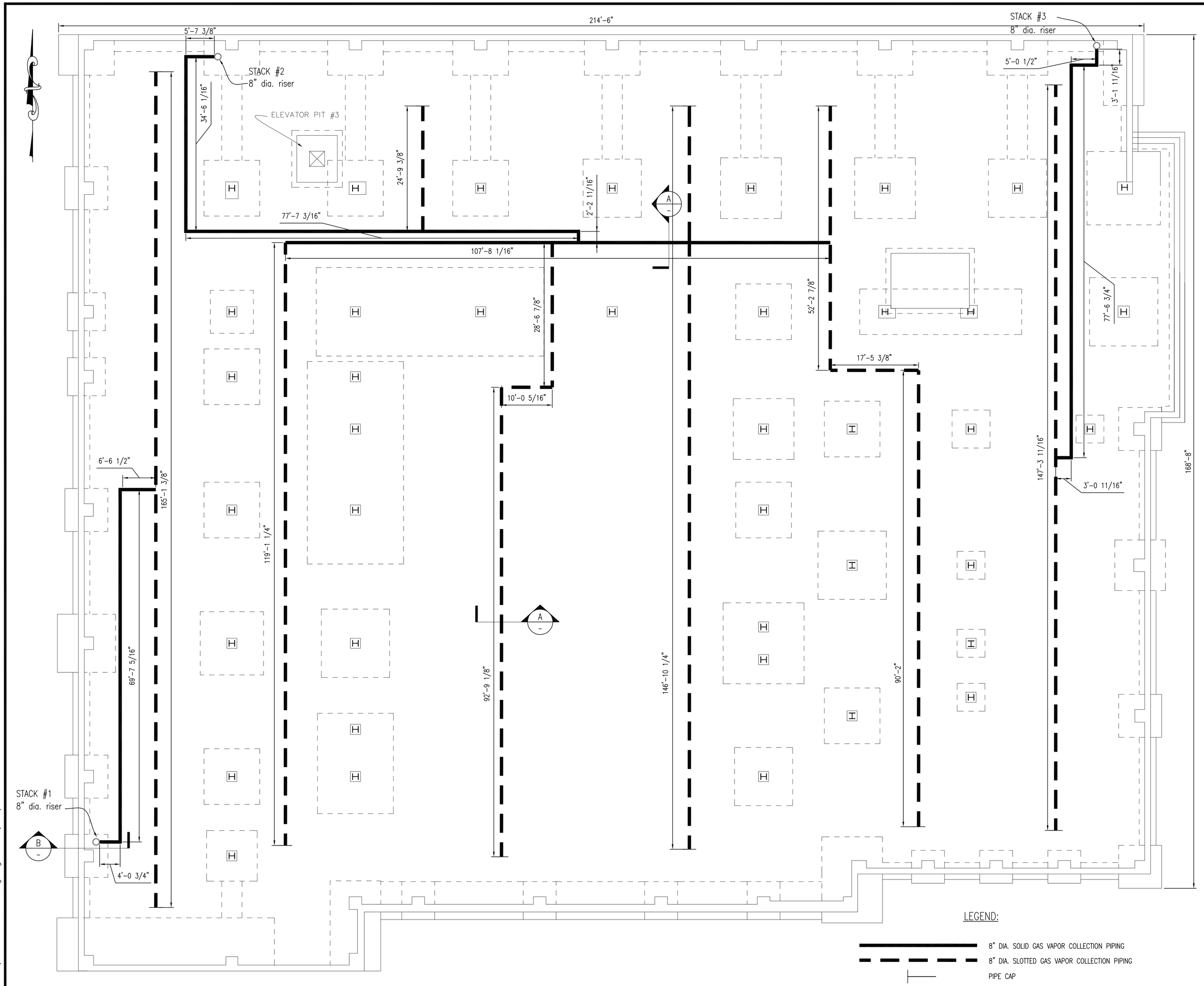
SUBMITTAL	DATE SUBMITTED	DATE APPROVED
Product Data:	_____	_____
1. Vapor Barrier		
Design Data:	_____	_____
1. Barrier Composition		
Test Reports:	_____	_____
1. Durability 2. Field Samples for QA		
Certificates:	_____	_____
1. Material 2. BSA/MEA for Compliance		
Guarantee:	_____	_____
1. Five Year Guarantee		

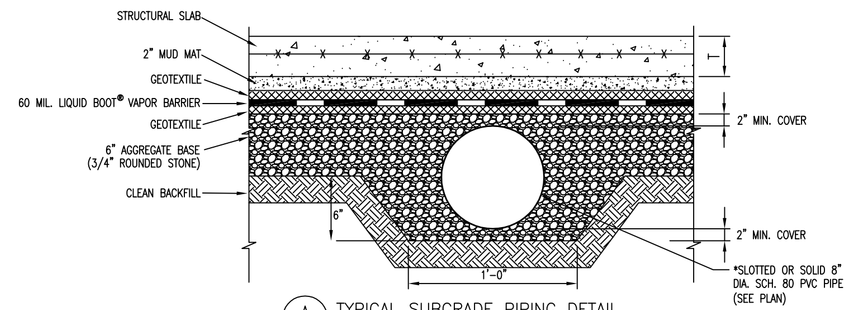
* * *

APPENDIX G

SUB SLAB DEPRESSURIZATION SYSTEM DOCUMENTATION

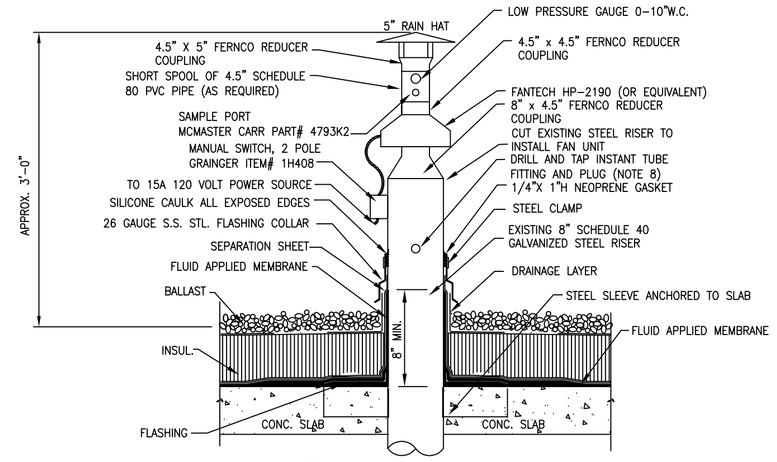
ACTIVE SUB SLAB DEPRESSURIZATION SYSTEM LAYOUT





A – TYPICAL SUBGRADE PIPING DETAIL
NOT TO SCALE

NOTE: *8" SLOTTED SCH. 80 PVC PIPE TO BE WRAPPED IN FILTER SOCK. FOR INFORMATIONAL PURPOSES. CONTRACTOR TO SUPPLY SHOP DRAWINGS OF PROPOSED METHOD FOR APPROVAL.



– TYPICAL RISER DETAIL AT ROOF
NOT TO SCALE

NOTE: POST & SLEEVE MUST BE CLEAN AND FREE OF ALL RUST AND OTHER CONTAMINANTS.
MEMBRANE SHOULD BE APPLIED TO SUBSTRATE BENEATH POST/SLEEVE PRIOR TO ITS INSTALLATION.
SUPPORT RISER LATERALLY AT ROOF/STRUCTURE.
A SINGLE REINFORCING SHEET SHOULD BE USED WHENEVER POSSIBLE. OVER BOLT HEADS, SHEET CAN BE CUT IN "X" PATTERN AND EMBEDDED FLAT INTO MEMBRANE.
IN-LINE TUBE FAN TO BE APPROVED BY SITE ENGINEER IF DIFFERENT THAN SPECIFIED.

NOTES:

1. FOR ADDITIONAL NOTES AND DETAILS SEE STRUCTURAL DWGS S-101, S-102 AND S-103.
2. UNDERSLAB GAS VAPOR COLLECTION PIPING SHALL BE CONSTRUCTED OF SCHEDULE 80 PVC, SLOTTED CASINGS WITH 0.02 INCH SLOTS AND SOLID PIPING AS INDICATED IN DRAWING. SLOTTED PIPE ENDS TO BE CAPPED.
3. SLOTTED AND SOLID GAS VAPOR COLLECTION PIPING SHALL BE 8" DIAMETER.
4. GAS VAPOR COLLECTION PIPING BELOW THE STRUCTURAL SLAB SHALL BE SCHEDULE 80 PVC PIPE AT DIAMETERS SHOWN. VERTICAL RISERS THROUGH THE BUILDING SHALL BE GALVANIZED SCHEDULE 40 CARBON STEEL. THE TRANSITION FROM SCHEDULE 80 PVC PIPE TO SCHEDULE 40 CARBON STEEL SHALL BE MADE BELOW GRADE JUST BEFORE THE RISER SLAB PENETRATION.
5. ALL HORIZONTAL SOLID PIPING SHOULD MAINTAIN A MINIMUM SLOPE OF 1/8" PER FOOT IN ORDER TO DRAIN CONDENSATION BACK TO SOIL BENEATH THE VAPOR BARRIER. THE SYSTEM SHOULD BE INSTALLED SO THAT NO PORTION WILL ALLOW THE EXCESS ACCUMULATION OF CONDENSATION.
6. PIPING CAN BE ADJUSTED UP TO 12" IN ANY DIRECTION TO ACCOMMODATE BUILDING UTILITY/MECHANICAL REQUIREMENTS.
7. TESTING PROCEDURES: CONTRACTOR SHALL PRESSURE TEST ABOVEGROUND VAPOR PIPING WITHIN THE BUILDING. TEMPORARILY PLUG PIPING AT BUILDING SLAB (CLEANOUT TEST TEE) AND ROOF AND PRESSURIZE PIPING TO 10 PSIG WITH AIR. SOAP ALL JOINTS AND MONITOR PRESSURE GAUGE FOR 30 MINUTES MINIMUM WITHOUT LOSS IN PRESSURE. REPAIR LEAKS AND RETEST AS NECESSARY.
8. INSTALL INSTANT TUBE FITTING A MINIMUM OF 16" FROM THE BASE OF THE FAN UNIT. FLOW SHALL BE MEASURED USING A TSI VELOCITY METER MODEL 8360 OR APPROVED EQUAL. DRILL LIP INSIDE OF INSTANT TUBE FITTING USING A DRILL BIT THAT MATCHES THE O.D. OF THE TSI WAND.
9. ALL ELECTRICAL EQUIPMENT AND WIRING MUST BE INSTALLED IN ACCORDANCE WITH NFPA 70.

LEGEND:

8" DIA. SOLID GAS VAPOR COLLECTION PIPING

8" DIA. SLOTTED GAS VAPOR COLLECTION PIPING

PIPE CAP

LOCATION WHERE HEADER TURNS UP AND PENETRATES FLOOR SLAB IN AREA OF VERTICAL PIPE CHASE.

SCALE IN FEET
0 10 20

FAN PERFORMANCE (FANTECH HP-2190)

CFM vs. STATIC PRESSURE INCHES W.G.										MAX
0"	0.5"	0.75"	1.0"	1.25"	1.5"	1.75"	–	V	W	AMPS
163	126	104	81	58	35	15	–	115	60-85	.78

GAS VAPOR COLLECTION SYSTEM

NYCSCA HS 800-HIGH SCHOOL OF ARCHITECTURE AND URBAN PLANNING
QUEENS, NEW YORK

FRICTION LOSS CALCULATIONS

NYCSCA HS 800 (ADAM'S BRUSH)
High School of Architecture and Urban Planning
Queens, New York

1) Determine Total friction losses on the vacuum side of the system

Air exchange rate required below the slab = 217 cfm
Assume that half of this flow will come from Stack#2 = 108.5 cfm and 1/4 of the flow will come from Stacks #1 and 3 = 54.25 cfm each

Stack: 1

Branch Lines (2):	Qty	Units	Pipe Size	Type	Description	Equiv. Pipe Length, ft	Total
Take into consideration all slotted piping @ 27.125 cfm each leg	166	LF	8"	Sch 80 PVC	Slotted Pipe	1.00	166.00
					Total equivalent length, Le, of 8" straight pipe		**166.00**

Total friction loss in 8" pipe, hf(8")

hf(8") = **0.0001** in W.C./ft of 8" pipe for 27.125 cfm
Total hf(8")= **0.017** in W.C.

Manifold and Stack:	Qty	Units	Pipe Size	Type	Description	Equiv. Pipe Length, ft	Total
Carries full flow of 54.25 cfm	162	LF	8"	Sch 80 PVC	Straight Pipe	1.00	162.00
	1	PCs	8"	Sch 80 PVC	Tee, branch flow	39.90	39.90
	1	PCs	8"	Sch 80 PVC	Sudden Enlargement (4" x 8")	6.50	6.50
	1	PCs	8"	Sch 80 PVC	Sudden Contraction (8" x 4")	4.00	4.00
	1	PCs	8"	Sch 80 PVC	Tee, thru flow	13.30	13.30
	1				Rain hat	5.00	5.00
(3 elbows + 3 extra FS)	6	PCs	8"	Sch 80 PVC	90° Elbows	20.00	120.00
					Total equivalent length, Le, of 8" straight pipe		**350.70**

Total friction loss in 8" pipe, hf(8")

hf(8") = **0.000125** in W.C./ft of 8" pipe for 54.25 cfm
Total hf(8")= **0.044** in W.C.

Total friction loss for Stack#1= 0.06 in W.C.

NYCSCA HS 800 (ADAM'S BRUSH)
High School of Architecture and Urban Planning
Queens, New York

Stack: 2

Branch Lines (7):	Qty	Units	Pipe Size	Type	Description	Equiv. Pipe Length, ft	Total
Take into consideration all slotted	587	LF	8"	Sch 80 PVC	Straight Pipe	1.00	587.00
piping @ 15.5 cfm each leg	4	PCs	8"	Sch 80 PVC	90° Elbows	20.00	80.00
					Total equivalent length, Le, of 8" straight pipe		**667.00**

Total friction loss in 8" pipe, hf(8")

hf(8") = **0.0001** in W.C./ft of 8" pipe for 15.5 cfm
Total hf(8")= **0.067** in W.C.

Manifold and Stack:	Qty	Units	Pipe Size	Type	Description	Equiv. Pipe Length, ft	Total
Carries full flow of 108.5 cfm	310	LF	8"	Sch 80 PVC	Straight Pipe	1.00	310.00
	6	PCs	8"	Sch 80 PVC	Tee, branch flow	39.90	239.40
	1	PCs	8"	Sch 80 PVC	Sudden Enlargement (4" x 8")	6.50	6.50
	1	PCs	8"	Sch 80 PVC	Sudden Contraction (8" x 4")	4.00	4.00
	1	PCs	8"	Sch 80 PVC	Tee, thru flow	13.30	13.30
	1				Rain hat	5.00	5.00
(5 elbows + 3 extra FS)	8	PCs	8"	Sch 80 PVC	90° Elbows	20.00	160.00
					Total equivalent length, Le, of 8" straight pipe		**738.20**

Total friction loss in 8" pipe, hf(8")

hf(8") = **0.00026** in W.C./ft of 8" pipe for 108.5 cfm
Total hf(8")= **0.191932** in W.C.

Total friction loss for line Stack#2= 0.26 in W.C.

NYCSCA HS 800 (ADAM'S BRUSH)
High School of Architecture and Urban Planning
Queens, New York

Stack: 3

Branch Lines (2):	Qty	Units	Pipe Size	Type	Description	Equiv. Pipe Length, ft	Total
Take into consideration all slotted piping @ 27.125 cfm each leg	148	LF	8"	Sch 80 PVC	Slotted Pipe	1.00	148.00
					Total equivalent length, Le, of 8" straight pipe		**148.00**

Total friction loss in 8" pipe, hf(8")

hf(8") = **0.0001** in W.C./ft of 8" pipe for 27.125 cfm
Total hf(8")= **0.015** in W.C.

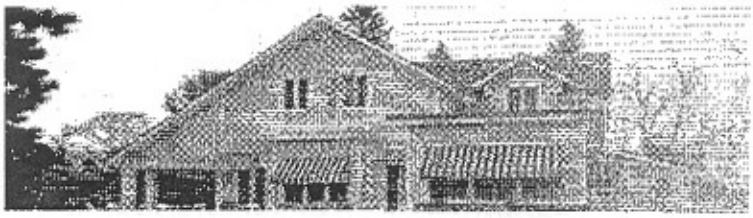
Manifold and Stack:	Qty	Units	Pipe Size	Type	Description	Equiv. Pipe Length, ft	Total
Carries full flow of 54.25 cfm	172	LF	8"	Sch 80 PVC	Straight Pipe	1.00	172.00
	1	PCs	8"	Sch 80 PVC	Tee, branch flow	39.90	39.90
	1	PCs	8"	Sch 80 PVC	Sudden Enlargement (4" x 8")	6.50	6.50
	1	PCs	8"	Sch 80 PVC	Sudden Contraction (8" x 4")	4.00	4.00
	1	PCs	8"	Sch 80 PVC	Tee, thru flow	13.30	13.30
					Rain hat	5.00	5.00
(4 elbows + 3 extra FS)	7	PCs	8"	Sch 80 PVC	90° Elbows	20.00	140.00
					Total equivalent length, Le, of 8" straight pipe		**380.70**

Total friction loss in 8" pipe, hf(8")

hf(8") = **0.000125** in W.C./ft of 8" pipe for 54.25 cfm
Total hf(8")= **0.048** in W.C.

Total friction loss for Stack#1= 0.06 in W.C.

MANUFACTURER CUT SHEETS



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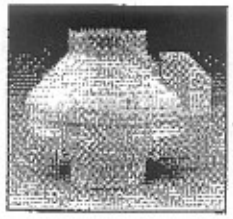
Fantech HP2190 Radon Inline 4.5" Round Duct - 163 cfm



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Fantech HP2190 Radon Inline 4.5" Round cfm
Fantech HP2190

Availability:Usually ships the next business day.

Sale Price: $136.50

Quantity: 1 ADD TO CART

Fantech has developed the HP Series fans specifically to suit the higher pressure capal requirements needed in Radon Mitigation applications. Most Radon mitigators who pre the Fantech FR series fans have switched to the new HP Series.

Experts all agree that radon is everywhere. A naturally occurring radioactive gas, Rado concentrations is harmless. In todays better insulated homes however, radon can accu harmful levels. Your first step in determining the radon level of your home is to test yc kits can be purchased at a number of locations in your town or city. (If you have diffic your local EPA office and they will assist you).

Once you have tested your home and find that you have dangerous or elevated amour present you need to consider radon mitigation. In your selection of a contractor make offering Fantech radon mitigation fans as part of your solution.

Fantech HP Series Fans Provide the Solutions to meet the challenges of Radon applications:

Housing:

- UV resistant, UL listed durable plastic
- UL Listed for use in commercial applications
- Factory sealed to prevent leakage
- Watertight electrical terminal box
- Approved for mounting in wet locations - i.e. outdoors

Motor:

- Totally enclosed for protection
- High efficiency EBM motorized impeller
- Automatic reset thermal overload protection
- Average life expectancy of 7-10 years under continuous load conditions

Reliability:

- Five year full factory warranty
- Over 1,000,000 successful radon installations worldwide

Model	Watts	0†	.60†	.75†	1.0†	1.25†	1.5†	Max. Pres.
HP 2133	14-20	134	68	23	-	-	-	0.84†
HP 2190	60-85	163	126	106	81	60	35	1.93†
HP 220	85-152	344	260	226	193	166	137	2.46†

6" Round Duct

Radon Application Diagram 1

Radon Application Diagram 2

Shipping Dimensions: 13" x 13" x 13" Shipping Weight: 7 lbs

ADD TO CART

Related items in this category

Fantech HP175 Radon Inline 4" or 5" Round Duct Stepped - 151 cfm | Fantech HP190 Radon Inline 4" o Stepped - 157 cfm | Fantech HP2133 Radon Inline 4.5" Round Duct - 134 cfm | Fantech HP2190 Radon Duct - 163 cfm | Fantech HP220 Radon Inline 6" Round Duct - 344 cfm (Formally FR175)

R.E. Williams Contractor Inc.
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Stevenson Ranch, CA 91381
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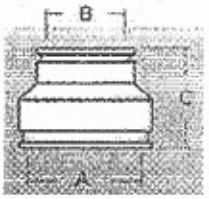

* Supplied with reducer.

Part No.	Side A		Side B		Width C	
	inches	mm	inches	mm	inches	mm
1002-43	5.25	133	3.38	85	4.00	101
✱ 1002-44	5.25	133	4.38	111	4.00	101 ✱
1002-46	5.25	133	6.38	162	6.00	152
1002-54	6.12	155	4.38	111	6.00	152
1002-55	6.12	155	5.38	136	5.00	127
1002-64	7.38	187	4.38	111	6.00	152
1002-65	7.38	187	5.38	136	6.00	152
1002-66	7.38	187	6.38	162	6.00	152
1002-86	9.65	245	6.38	162	6.00	152
1002-88	9.65	245	8.50	215	6.00	152
*1002-10-8	12.73	323	8.50	215	6.00	152
1002-1010	12.73	323	10.60	269	6.00	152
*1002-1210	14.38	365	10.60	269	6.00	152
1002-1212	14.38	365	12.60	320	6.00	152
*1002-1512	17.85	453	12.60	320	7.00	177
1002-1515	17.85	453	15.40	391	7.00	177
*1002-1818	21.70	559	18.90	483	10.00	254
*1002-2121	25.50	648	22.30	566	10.00	254
*1002-2424	29.00	737	25.00	635	10.00	254
*1002-2727	32.50	826	28.20	716	10.00	254

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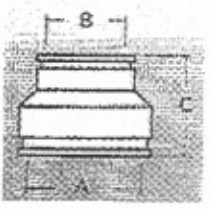


* Supplied with reducer.

Part No.	Side A		Side B		Width C		
	inches	mm	inches	mm	inches	mm	
1056-075	1.05	26.7	1.05	26.7	2.38	60.5	
1056-100	1.32	33.5	1.32	33.5	2.38	60.5	
1056-125	1.65	40	1.65	40	3.50	88	
1056-150/125	1.90	48	1.65	40	3.50	88	
1056-150	1.90	48	1.90	48	3.50	88	
1056-215	2.40	60	1.90	48	3.50	88	
1056-22	2.40	60	2.40	60	3.50	88	
1056-315	3.38	85	1.90	48	4.00	101	
1056-32	3.38	85	2.40	60	4.00	101	
1056-33	3.38	85	3.38	85	4.00	101	
1056-415	4.38	111	1.90	48	4.00	101	
1056-42	4.38	111	2.40	60	4.00	101	
1056-43	4.38	111	3.38	85	4.00	101	
1056-44	4.42	112	4.42	112	4.00	101	✳
*1056-53	5.62	142	3.38	85	4.00	101	
1056-54	5.62	142	4.38	111	4.00	101	
1056-55	5.62	142	5.62	142	4.00	101	
*1056-63	6.38	162	3.38	85	6.00	152	
1056-64	6.38	162	4.38	111	6.00	152	
1056-65	6.50	165	5.50	140	6.00	152	
1056-66	6.38	162	6.38	162	6.00	152	
*1056-84	8.50	215	4.38	111	6.00	152	✳
1056-86	8.50	215	6.38	162	6.00	152	
1056-88	8.50	215	8.50	215	6.00	152	
1056-10-8	10.60	269	8.50	215	6.00	152	
1056-1010	10.60	269	10.60	269	6.00	152	
1056-1210	12.60	320	10.60	269	6.00	152	
1056-1212	12.83	326	12.83	326	6.00	152	

Duct & Fittings

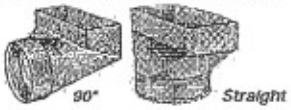
Galvanized Steel Snap-Lock Round Duct Fittings (Continued from previous page)

Dampers

Include a position-locking handle. All are 20-ga. steel.

Dia.	Lg.		Each
4"	4½"	17355K59	$34.44
6"	4½"	17355K61	33.83
8"	4½"	17355K63	34.79
10"	4½"	17355K65	35.74
12"	4½"	17355K67	37.02
14"	4½"	17355K69	39.57
16"	4½"	17355K71	41.60
18"	4½"	17355K73	45.00
20"	4½"	17355K75	52.98
24"	4½"	17355K76	66.89

Register Boots



All are 30-ga. steel.

Dia.	Lg. × Wd.		Each
90° Elbow			
6"	10" × 2¼"	1844K14	$9.19
6"	10" × 4"	1844K17	5.90
6"	12" × 2¼"	1844K15	6.22
6"	12" × 4"	1844K21	7.39
Straight			
6"	10" × 2¼"	1844K34	5.63
6"	10" × 4"	1844K37	5.43
6"	12" × 2¼"	1844K35	6.43
6"	12" × 4"	1844K41	5.76

Damper Blade Assembly

Add assembly to duct to control air flow. Sizes through 8" dia. are 28-ga. steel; 9" dia. and larger are 26 ga.

Dia.		Each
4"	3996K11	$2.64
5"	3996K14	2.71
6"	3996K17	2.71
7"	3996K2	3.55
8"	3996K23	3.75
9"	3996K26	4.26
10"	3996K29	4.52
12"	3996K32	5.27
14"	3996K35	6.65

Thimbles

Use for furnace connection to a masonry chimney. All are 26-ga. steel.

Dia.	Lg.		Each
4"	6¼"	1766K82	$5.57
5"	6¼"	1766K83	6.49
6"	6¼"	1766K84	6.93

Damper Hardware

Attach to your flat sheet metal (up to .022" thick) to create an instant damper. Has a 5/16" threaded mount that acts as the pivot. Sheet metal not included.

1786K21		Each	$4.38

Vents

All are 30-ga. steel.

Dia.	Lg.		Each
Vents with Screen			
4"	5"	1766K481	$10.57
5"	5"	1766K482	9.66
6"	5¾"	1766K497	10.43
7"	6"	1766K483	16.09
8"	6¾"	1766K498	11.36
Vents with Damper			
4"	15"	1766K484	13.41
5"	15"	1766K485	13.91
6"	16"	1766K492	14.92
7"	16"	1766K486	18.68
8"	18"	1766K493	16.48

Downdraft Diverters

Internal cone diverts downdrafts, preventing pilot flame from going out. Mount vertically only. All are 26-ga. steel.

Dia.		Each
3"	1785K11	$29.47
4"	1785K12	30.32
5"	1785K13	30.85
6"	1785K14	37.61
7"	1785K15	40.41
8"	1785K16	54.44
9"	1785K17	89.71
10"	1785K18	115.51
12"	1785K19	152.67

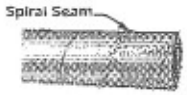
Rain Caps

Sizes through 5" dia. are 28-ga. steel; 6" dia. and larger are 26 ga.

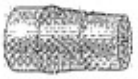
Dia.		Each
3"	1766K71	$6.69
4"	1766K72	7.23
5"	1766K73	7.58
6"	1766K74	7.46
7"	1766K75	9.58
8"	1766K76	11.39
9"	1766K77	14.84
10"	1766K78	18.55
12"	1766K79	21.31

Galvanized Steel Spiral-Wound Round Duct and Fittings

Duct has a spiral seam that makes it more rigid and able to accommodate more demanding applications than snap-lock duct of the same gauge. All are 26-ga. steel. *Note:* A connector sleeve is required to connect two lengths of duct.



Dia.	Duct Lg.		Each	Connector Sleeves Lg.		Each	End Caps	Each	90° Elbows	Each
3"	5 ft.	5078K16	$11.50	4"	5078K44	$5.50	5078K33	$5.25	5078K23	$10.40
4"	5 ft.	5078K19	15.13	4"	5078K45	5.65	5078K35	5.63	5078K24	10.90
5"	5 ft.	5078K22	19.25	4"	5078K47	6.05	5078K36	6.25	5078K26	12.55
6"	5 ft.	5078K15	22.00	4"	5078K48	6.50	5078K39	7.50	5078K27	14.35
8"	5 ft.	5078K17	28.88	4"	5078K51	8.40	5078K39	10.75	5078K29	17.60
10"	5 ft.	5078K18	35.75	4"	5078K53	13.25	5078K41	15.60	5078K31	25.15
12"	5 ft.	5078K21	44.00	4"	5078K54	15.95	5078K42	20.80	5078K32	33.28



Reducers			
Dia.	Lg.		Each
4"/ 3"	6½"	5078K56	$14.25
5"/ 4"	6½"	5078K57	15.00
6"/ 4"	7"	5078K59	16.25
6"/ 5"	6"	5078K63	25.24
8"/ 6"	8"	5078K62	19.95
10"/ 6"	10"	5078K61	21.49
12"/ 6"	12"	5078K66	36.08
10"/ 8"	10"	5078K65	25.25
12"/ 8"	10"	5078K68	36.08
12"/10"	10"	5078K69	36.08

Heavy Duty Galvanized Steel Round Duct and Elbows

Duct has an overlapping seam already locked in place—no need to snap together.
Elbows are ideal for handling light sawdust and noncorrosive powders.
Welded elbows have an airtight seal.

Dia.	Lg.	DUCT 24 Gauge	Each	22 Gauge	Each	20 Gauge	Each	ELBOWS 45° Ga.	Not Welded	Each	Welded	Each	90° Not Welded	Each	Welded	Each
3"	5 ft.							22	1768K1	$10.64	1768K71	$42.55	1768K79	$17.63	1768K88	$60.28
4"	5 ft.	1768K41	$27.77	1768K51	$42.44			22	1768K2	14.58	1768K72	46.02	1768K9	25.65	1768K89	62.57
5"	5 ft.	1768K42	34.58	1768K52	42.70	1768K62	$58.11	22	1768K3	20.55	1768K73	49.27	1768K82	31.97	1768K91	65.38
6"	5 ft.	1768K43	36.75	1768K53	44.86	1768K63	54.53	22	1768K4	23.97	1768K74	54.40	1768K83	38.78	1768K92	72.94
7"	5 ft.	1768K44	37.08	1768K54	44.70	1768K64	54.18	22	1768K5	28.26	1768K75	57.56	1768K84	49.12	1768K93	86.18
8"	5 ft.	1768K45	40.61	1768K55	48.67	1768K65	60.19	22	1768K6	34.42	1768K76	69.18	1768K85	59.27	1768K94	98.88
10"	5 ft.	1768K47	46.61	1768K57	56.48	1768K67	69.81	20	1768K7	59.28	1768K77	96.25	1768K86	108.31	1768K95	145.75
12"	5 ft.	1768K48	41.83	1768K58	63.64	1768K68	77.17	20	1768K8	82.24	1768K78	109.74	1768K87	132.09	1768K96	169.13

For pipe size information, see pages 2-3.

Frostproof Outdoor Faucets with Garden Hose Threads

Also known as frostproof water hydrants, these faucets drain when closed to prevent freezing.

Through-Wall Style—Faucet inlet mounts in your wall (min. 1" hole dia.). Body is brass with copper pipe and removable thermoplastic handle. Max. pressure is 125 psi. Temp. range is 0° to 130° F. Outlet connection meets ANSI B1.20.7. *Hydrants with vacuum breaker* have antisiphon backflow protection. **Connections:** Dual-threaded inlet: ½" NPT female × ¾" NPT male. Outlet: ¾" garden hose (GHT) male.

Tamper-Resistant Through-Wall Style—To prevent tampering, these faucets require a key to open and close. Vacuum breaker adds antisiphon backflow protection. Body is chrome-plated brass; pipe is brass. Install through a 4" × 2" cutout in wall (6¼" × 5¼" cutout for optional mounting box). Max. pressure is 125 psi. Temp. range is 33° to 150° F. Meet ASSE 1019. CSA certified and International Association of Plumbing and Mechanical Officials (IAPMO) listed. *Optional mounting box* is chrome-plated brass and has a door. **Connections:** Dual-threaded inlet: 1" NPT male × ¾" NPT female. Outlet: ¾" GHT male. **To Order:** Please specify wall thickness.

In-Ground Style—Each has a 1" dia. galvanized pipe, silicon bronze bypass valve, stainless steel in-ground pipe, and aluminum hose adapter. Head and handle are cast iron. Max. pressure is 100 psi. Temp. range is −10° to +125° F. **Connections:** Inlet: ¾" NPT female. Outlet: ⅝" GHT male.

Through Wall

Tamper Resistant


In Ground

Through-Wall Style

Wall Thick.	w/Vacuum Breaker	Each	w/out Vacuum Breaker	Each
6"	4728K41	$18.36	4728K11	$15.20
8"	4728K42	18.74	4728K12	14.58
10"	4728K43	19.18	4728K13	15.42
12"	4728K44	19.64	4728K14	15.45
14"	4728K45	21.29	4728K15	17.35

Tamper-Resistant Through-Wall Style

Available Wall Thicknesses		Each
4", 6", or 8"	47335K43	$157.08
10", 12", or 14"	47335K46	165.82
16" or 18"	47335K49	182.03
Optional Mounting Box	47335K55	124.68
Replacement Tee Key	47335K57	2.37

In-Ground Style

Max. Burying Dp.	O'all Ht.		Each
2 ft.	4'5½"	4728K51	$61.61
3 ft.	5'5½"	4728K52	66.61
4 ft.	6'5½"	4728K53	70.97
5 ft.	7'5½"	4728K54	74.08
6 ft.	8'5½"	4728K55	78.75
8 ft.	10'5½"	4728K56	91.82

Stop-and-Drain Faucets

Commonly used to prevent freezing in sprinkler systems, these faucets have a capped side port that can be opened to drain water when the faucet is closed. Made of brass. CSA certified and IAPMO (International Association of Plumbing and Mechanical Officials) listed. Temperature range is −20° to +180° F.

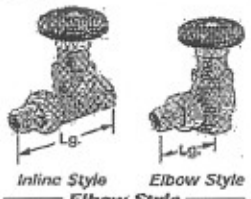
Connections: NPT female.

Pipe Size	Max. psi	Port-to-Port Lg.		Each
½"	125	2³⁄₁₆"	4792K51	$5.44
¾"	125	2⁵⁄₁₆"	4792K52	6.21

High-Temperature Faucets

Also known as radiator supply valves, these control the flow of high-temperature steam or water. They have a low-profile rising stem, a brass body, and an EPDM seal. For water, maximum pressure is 200 psi and temperature range is 33° to 240° F. For steam, maximum pressure is 150 psi and maximum temperature is 366° F.

Connections: Inlet is NPT female; outlet is male union.



Inline Style Elbow Style

Pipe Size	Inline Lg.		Each	Elbow Style Lg.		Each
½"	3⁹⁄₁₆"	1812K25	$56.70	2¼"	1812K21	$54.33
¾"	4³⁄₁₆"	1812K26	71.45	2⁹⁄₁₆"	1812K22	57.24
1"	5⁷⁄₁₆"	1812K27	84.05	3"	1812K23	86.60
1¼"	5¾"	1812K28	130.00	3¾"	1812K24	115.41

Drain-Thru-Handle Stop Cocks

Install on your tank for easy draining. Body is brass.

External seal stop cocks are for higher flow applications. Temperature range is −40° to +200° F, unless noted. Those with an ***internal seal*** can be disassembled for cleaning, except 49375K15. Temperature range is −40° to +250° F, unless noted. *Stop cock with cable pull* has a 5-ft. cable for opening and closing. Choose *nickel-plated stop cocks* for corrosion resistance.

Connections: NPT male inlet. Outlet is vented to atmosphere, unless noted.


w/Wing-Nut Handle


w/Removable Handle


w/Cable Pull

Pipe Size	Max. psi	O'all Ht.		Each
Wing-Nut Handle				
With External Seal				
⅛"	200	⅞"	4921K15	$1.00
⅛"	150	1½"	4921K43★●	4.15
¼"	200	1"	4921K16	1.04
¼"	150	1½"	4921K44■●	2.33
⅜"	200	1⅝"	4921K17	1.69
½"	200	1½"	4921K18	4.77
Nickel-Plated with External Seal				
⅛"	200	⅞"	6800T31	2.56
⅜"	200	1⅝"	6900T33	3.76
½"	200	1½"	6900T34	5.64
With Internal Seal				
⅛"	150	⅞"	4921K41	7.97
¼"	150	1⅝"	4921K42	5.19

Pipe Size	Max. psi	O'all Ht.		Each
Thumb-Screw Handle				
With External Seal				
¼"	200	1⅛"	4921K31▲	$1.23
Nickel-Plated with External Seal				
¼"	200	1⅛"	6900T32	2.58
Removable Handle				
With Internal Seal				
⅛"	150	1⅜"	4921K1	3.93
¼"	150	1⅝"	4921K2	4.19
⅜"	150	1⅝"	4921K3	4.80
Cable Pull				
With Internal Seal				
¼"	200	1¼"	49375K15▲	4.49

★ Has a ¼" barbed outlet. ■ Has a ⅜" barbed outlet. ● Temperature range is −40° to +250° F. ▲ Temperature range is 0° to 200° F.

Air-Shut-Off Stop Cocks

These air cock valves are ideal for shut-off of compressed air to pneumatic power tools. Body, handle, and plug are brass with a standard machine finish or a polished, chrome-plated finish. Max. pressure is 100 psi. Temp. range is 32° to 150° F. Length is measured from port to port. Barbed connections are for ⅜" tube ID. **Connections:** See table.


Lever Handle


Tee Handle


Male × Female


Barb × Male

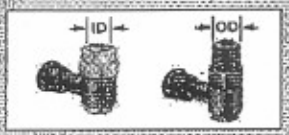

Drain × Male


Spout × Male

	1/8" Pipe Size Lg.		Each	1/4" Pipe Size Lg.		Each	3/8" Pipe Size Lg.		Each	1/2" Pipe Size Lg.		Each
Brass—Lever Handle												
NPT Male × NPT Female	1¹⁷⁄₁₆"	4793K46	$6.00	1¹⁵⁄₁₆"	4793K47	$6.30	2¹⁄₁₆"	4793K44	$7.50	2⁹⁄₁₆"	4793K45	$9.67
NPT Female × NPT Female	1⅜"	4793K51	5.91	1¹⁵⁄₁₆"	4793K52	6.26	2"	4793K48	7.35	2½"	4793K49	9.65
NPT Male × NPT Male	1¾"	4793K37	6.35	1¹⁵⁄₁₆"	4793K38	6.60	2"	4793K35	6.67	2¼"	4793K36	8.51
Barb × NPT Male	2¼"	4793K1	8.67	2⁵⁄₁₆"	4793K2	9.26	2⅝"	4793K3	9.72	2⁷⁄₁₆"	4793K4	10.58
Drain × NPT Male	1½"	4793K42	6.07	1¹⁵⁄₁₆"	4793K43	5.35	1¾"	4793K39	6.12	1⁷⁄₁₆"	4793K41	6.67
Spout × NPT Male	2¼"	4793K33	8.16	2⅛"	4793K34	8.21	2¼"	4793K31	9.02	2⁵⁄₁₆"	4793K32	9.26
Brass—Tee Handle												
NPT Male × NPT Female	1¾"	4793K71	5.60	1¹⁵⁄₁₆"	4793K72	5.91	2¹⁄₁₆"	4793K68	7.05	—	—	—
NPT Female × NPT Female	1⅝"	4793K75	5.42	1¹⁵⁄₁₆"	4793K76	5.70	2"	4793K73	6.60	—	—	—
NPT Male × NPT Male	1¾"	4793K59	5.79	1¹⁵⁄₁₆"	4793K61	6.09	2"	4793K57	6.42	2⁹⁄₁₆"	4793K58	7.28
Drain × NPT Male	1½"	4793K64	4.49	1⅝"	4793K65	4.79	1¾"	4793K62	5.53	1⅛"	4793K63	6.09
Spout × NPT Male	2⁹⁄₁₆"	4793K55	7.67	2⅝"	4793K56	7.91	2½"	4793K53	8.86	2⅝"	4793K54	9.12
Polished Chrome-Plated Brass—Lever Handle												
NPT Male × NPT Female	1¹⁷⁄₁₆"	8179K12	11.82	1¹⁵⁄₁₆"	8179K14	12.40	2¹⁄₁₆"	8179K16	14.84	2⁹⁄₁₆"	8179K18	19.04
NPT Female × NPT Female	1⅝"	8179K32	11.62	1¹⁵⁄₁₆"	8179K34	12.29	2"	8179K36	14.47	2½"	8179K38	19.02
NPT Male × NPT Male	1¾"	8179K52	12.53	1¹⁵⁄₁₆"	8179K54	12.98	2"	8179K56	13.18	2¼"	8179K59	16.80
Barb × NPT Male	2¼"	8179K72	17.09	2⁵⁄₁₆"	8179K74	18.24	2⅝"	8179K76	19.16	2⁷⁄₁₆"	8179K78	20.82

Instant Tube Fittings

For information about instant fittings, see page 151. For information about selecting pipe size, see pages 2-3.



Please Read Before Ordering: Pipe size is the accepted industry designation, not the actual measured size. To determine pipe size, first use a ruler to measure the inside diameter (ID) or outside diameter (OD), as shown at left. Then round up the measurement to the closest ID or OD listed in the chart and select the corresponding pipe size. For example: if the ID or OD measures 7/16", the next highest ID or OD in the chart is 1/2", and the corresponding pipe size is 3/4".

Threaded Fitting ID or OD	5/16"	3/8"	1/2"	5/8"	3/4"
Pipe Size	1/16"	1/8"	1/4"	3/8"	1/2"

Acetal Instant Tube Fittings

- Max. Pressure: 3/32" to 3/16" OD: 230 psi @ 73° F (unless noted); 3/8" to 1/2" OD: 150 psi @ 73° F
- Temperature Range: −4° to +158° F
- Use with drinking water, food, beverages, air, gasoline, and oil
- Material Meets: NSF-61 (drinking water), NSF-51 (food), and FDA (food and beverage)
- Color: Gray, unless noted
- Tubing: Use with polyethylene, nylon, and polyurethane with a durometer of D50-D70; brass; and copper

Fittings have low moisture absorption for use in high-humidity environments. Acetal offers excellent durability as well as good strength and impact and abrasion resistance. It has fair chemical resistance but is not suitable for acids. Instant (push-to-connect) fittings seal on the outside of tubing for a quick connection.

Include acetal release ring with stainless steel teeth and Buna-N (nitrile) O-ring. Sterilize with nonacidic chemicals. Vacuum rated for 29" Hg at 70° F. Pipe connections are NPTF (Dryseal) or British Standard Pipe Tapered (BSPT), unless noted. NPTF is compatible with NPT.

To Order: Where indicated with ♣, please specify gray or white. White fittings have an EPDM O-ring and are not suitable for air, gasoline, or oil.

Fittings with stem insert into an existing fitting for a different connection size. No need for a new fitting.

Tube x Female Pipe—45° flare fittings let you convert 45° flared fittings to instant fittings.

Check valves prevent backflow.

Tube supports are recommended for use with soft or thin-walled plastic tubing with a durometer of D50 or less.

Locking clips secure the release ring in place to prevent tube from disconnecting. Color is red.

Plugs block the fitting to prevent material from entering or exiting.

Tube-to-Pipe Adapters




For Tube OD ♠	Pipe Size	TUBE x MALE PIPE NPTF Each ♦	TUBE x MALE PIPE BSPT Each ♦	STEM x MALE PIPE NPTF Each ♦	SWIVEL 90° ELBOWS, TUBE x MALE PIPE NPTF Each ♦	SWIVEL 90° ELBOWS, TUBE x MALE PIPE BSPT Each ♦	SWIVEL TEES, TUBE x MALE PIPE x TUBE NPTF Each ♦
5/32"	1/8"	51055K7 $1.12	— —	51055K111 $0.66	51055K44 $2.68	— —	51055K23 $3.33
5/32"	1/4"	51055K8 1.31	— —	51055K112 .66	51055K45 2.68	— —	51055K24 3.33
3/16"	1/8"	51055K9 1.19	51040K13 $1.31	51055K113 .66	51055K46 2.68	51040K33 $3.38	51055K25 3.41
1/4"	1/8"	51055K971♣ 1.20	51040K15 1.31	51055K977♣ .66	51055K47 3.06	51040K35 3.76	51055K26 3.65
1/4"	1/4"	51055K972♣ 1.38	51040K16 1.49	51055K978♣ .66	51055K48 3.06	51040K36 3.99	51055K27 3.65
1/4"	3/8"	51055K211 1.90	— —	51055K151 .95	— —	— —	— —
5/16"	1/8"	51055K13 1.41	51040K17 1.49	51055K116 .66	51055K49 3.39	51040K37 4.35	51055K28 3.73
5/16"	1/4"	51055K14 1.46	51040K18 1.66	51055K117 .66	51055K51 3.39	51040K38 4.35	51055K29 3.73
5/16"	3/8"	51055K15 2.11	51040K19 2.22	51055K118 1.10	51055K52 3.43	51040K39 4.65	51055K31 3.76
3/8"	1/8"	51055K16 2.76	— —	— —	51055K163 4.47	— —	— —
3/8"	1/4"	51055K973♣ 2.06	51040K21 2.56	51055K979♣ .81	51055K53 4.29	51040K41 5.09	51055K32 4.43
3/8"	3/8"	51055K18 2.38	51040K22 2.76	51055K981♣ 1.02	51055K54 4.49	51040K42 5.55	51055K33 4.65
3/8"	1/2"	51055K19 3.69	— —	— —	— —	— —	— —
1/2"	1/4"	— —	— —	— —	51055K164 5.27	— —	— —
1/2"	3/8"	51055K21 3.21	51040K23 4.34	51055K122 1.66	51055K55 5.76	51040K43 6.21	51055K34 6.02
1/2"	1/2"	51055K22 3.46	51040K24 4.13	51055K123 1.66	51055K56 5.76	51040K44 6.24	51055K35 6.02

♠ For stem adapters, these sizes reflect the stem OD.

Tube x Female Pipe

For Tube OD	Pipe Size		Each ♦
Standard			
1/4"	1/4"	51055K677	$2.94
3/8"	1/4"	51055K678	3.38
45° Flare			
3/8"	7/16"-20■	51055K612	2.64
3/8"	5/8"-18■	51055K613	3.07

■ Pipe connections are UNF straight screw thread.

90° Elbows, Tube x Male Pipe

For Tube OD	Pipe Size		Each ♦
1/4"	1/8"	51055K974♣	$1.87
1/4"	1/4"	51055K975♣	2.13
1/4"	3/8"	51055K516	2.54
3/8"	1/4"	51055K976♣	3.21
3/8"	3/8"	51055K518	3.51

Tube-to-Tube





For Tube OD	Couplings Each ♦	Panel Hole Size ★	Panel Mount Couplings★ 51055K1 $2.68	90° Elbows Each ♦	Tees Each ♦	Wyes Each ♦
5/32"	51055K127 $1.52	43/64"	51055K2 3.07	51055K134 $1.75	51055K141 $2.41	— —
3/16"	51055K128 1.66	43/64"	51055K3 3.27	51055K135 1.75	51055K142 2.48	— —
1/4"	51055K982♣ 1.87	43/64"	51055K4 4.13	51055K984♣ 2.13	51055K986♣ 2.73	— —
5/16"	51055K131 2.00	53/64"	51055K5 4.28	51055K137 2.47	51055K144 2.80	51055K147 $3.07
3/8"	51055K983♣ 2.53	53/64"	51055K6 5.54	51055K985♣ 3.21	51055K987♣ 3.36	51055K148 3.42
1/2"	51055K133 2.93	1 1/16"		51055K139 3.82	51055K146 4.08	— —

★ Also known as bulkhead couplings.

Reducing Elbows

For Tube OD	Each ♦	For Tube OD	Each ♦
5/16" x 5/32"	51055K84 $2.59	3/8" x 1/4"	51055K88 $3.55
5/16" x 3/16"	51055K85 2.59	3/8" x 5/16"	51055K89 3.55
5/16" x 1/4"	51055K86 2.73	1/2" x 3/8"	51055K91 4.19
3/8" x 3/16"	51055K87 3.46		

Reducing Couplings

For Tube OD	Each ♦	For Tube OD	Each ♦
1/4" x 3/16"	51055K92 $2.06	8/8" x 3/16"	51055K96 $2.53
5/16" x 5/32"	51055K93 2.04	3/8" x 1/4"	51055K97 2.55
5/16" x 3/16"	51055K94 2.06	3/8" x 5/16"	51055K98 2.59
5/16" x 1/4"	51055K95 2.06	1/2" x 5/16"	51055K256 3.34
		1/2" x 3/8"	51055K99 3.46

(Continued on following page)

♦ ***Prices are 15-20% lower when you buy 10 or more of the same size and style fitting.***

Instant Tube Fittings

For information about instant fittings, see page 151. For information about selecting pipe size, see pages 2-3.

Acetal Instant Tube Fittings *(Continued from previous page)*

Tube-to-Tube

Tube x Stem

For Tube OD	Stem OD	Each ♦
5/32"	5/32"	
1/4"	5/16"	51055K311 $1.52
3/16"	5/16"	51055K312 1.66
3/16"	3/16"	
1/4"	3/8"	51055K314 2.06
1/4"	5/16"	51055K313 1.81
1/4"	1/4"	
1/4"	3/8"	51055K315 2.06
5/16"	5/16"	
5/16"	3/8"	51055K318 2.13
5/16"	1/2"	51055K317 2.53
3/8"	3/8"	
3/8"	1/2"	51055K318 3.93
1/2"	1/2"	

90° Elbows, Tube x Stem

Each ♦
51055K36 $1.93
51055K37 1.93
51055K221 2.58
51055K36 1.93
51055K222 2.58
51055K39 2.43
51055K41 2.58
51055K42 3.27
51055K43 3.92

Barb x Stem Couplings

For Tube ID	For Stem OD	Each ♦
3/16"	1/4"	51055K57 $1.20
3/16"	5/16"	51055K61 1.20
1/4"	1/4"	51055K58 1.20
1/4"	5/16"	51055K62 1.34
1/4"	3/8"	51055K65 1.66
5/16"	1/4"	51055K59 1.09
5/16"	5/16"	51055K63 1.34
5/16"	3/8"	51055K66 1.73
3/8"	3/16"	51055K64 1.69
3/8"	3/8"	51055K67 1.87
3/8"	1/2"	51055K68 2.02
1/2"	3/8"	51055K231 2.53
1/2"	1/2"	51055K69 2.50

90° Elbows, Barb x Stem

For Tube ID	Stem OD	Each ♦
1/4"	1/4"	51055K124 $1.53
1/4"	5/16"	51055K125 1.58
1/4"	3/8"	51055K126 2.02
5/16"	1/4"	51055K244 1.89
5/16"	5/16"	51055K246 1.89
5/16"	3/8"	51055K248 2.37

Check Valves✓

For Tube OD	Each ♦
1/4"	51055K171 $10.54
5/16"	51055K172 10.55
3/8"	51055K173 10.79

✓ Color is opaque white; cracking pressure is 0.3 psi; maximum working pressure is 150 psi @ 70° F.

Accessories

Tube Supports

For Tube OD	Pkg. Qty.		Per Pkg.
5/16"	10	51055K433	$1.54
3/8"	10	51055K434	2.15
1/2"	10	51055K435	2.15

Locking Clips+

Stem OD	Pkg. Qty.		Per Pkg.
1/4"	10	51055K413	$1.64
3/8"	10	51055K414	1.64

+ Color is red.

Plugs

Stem OD	Pkg. Qty.		Per Pkg.
5/32"	10	51055K77	$4.21
3/16"	10	51055K78	4.31
1/4"	10	51055K79	5.23
5/16"	10	51055K81	6.67
3/8"	10	51055K82	8.62
1/2"	10	51055K83	12.92

Polyester Instant Tube Fittings

- Max. Pressure: 150 psi @ 70° F
- Temp. Range: 32° to 125° F
- Use with air only
- Color: Opaque black
- Material Meets: UL 94HB for flammability
- Tubing: Use with polyethylene, polypropylene, and PVC with a durometer of A55

Fittings absorb little moisture—great for use in high-humidity environments. Polyester has good strength and impact resistance as well as excellent durability and abrasion resistance. Instant (push-to-connect) fittings seal on the outside of tubing for a quick connection. Sterilize with radiation. Not rated for vacuum applications. Pipe connections are NPT, unless noted. Include nylon release ring with polyester teeth and manual locking sleeve.

Tube-to-Pipe Adapters—Fittings have a polyester body with polyester threads, unless noted. *Swivel adapters* include two EPDM O-rings. *Fittings with check valve* prevent backflow. *Manifolds* allow you to distribute air from one source to multiple outlets. Outlets swivel 360° for easy alignment.

Tube plugs are barbed so you can insert them into tubing to prevent material from exiting. Made of brass.

Tube-to-Pipe Adapters

Tube x Male Pipe

For Tube OD	Pipe Size		Each ♦
5/32"	10-32■	51215K101	$1.20
5/32"	1/8"	51215K102	1.71
5/32"	1/4"		
1/4"	10-32■	51215K103	1.29
1/4"	1/8"	51215K104	1.29
1/4"	1/4"	51215K105	1.29
1/4"	3/8"		
3/8"	1/8"		
3/8"	1/4"	51215K106	1.40
3/8"	3/8"	51215K107	2.03

Swivel 90° Elbows, Tube x Male Pipe

Each ♦
51215K201▲ $2.31
51215K202 1.91
51215K203▲ 2.31
51215K204 2.03
51215K205 2.11
51215K206 2.29
51215K207 2.43
51215K208 2.57
51215K209 2.69

Swivel 90° Elbows♥, Tube x Female Pipe

Each ♦
51215K501▲ $2.69
51215K504▲ 3.17
51215K502▲ 2.83
51215K505▲ 3.31
51215K503▲ 3.00
51215K506▲ 4.20

Swivel Tees♥, Tube x Tube x Female Pipe

Each ♦
51215K401▲ $6.11
51215K402▲ 6.34
51215K403 6.63
51215K404▲ 6.51
51215K405▲ 6.77

90° Elbows w/ Check Valve, Tube x Male Pipe

Each ♦
51215K801▲ $14.74
51215K802 14.74
51215K803 14.74
51215K804▲ 14.74
51215K805 14.74
51215K806 16.57
51215K807 16.57
51215K808 16.57

♥ Body is brass. ■ Pipe connections are UNF straight screw thread. ▲ Threads are brass.

Swivel Tees, Tube x Tube x Male Pipe

For Tube OD	Pipe Size		Each ♦
5/32"	1/8"	51215K302	$3.43
1/4"	1/8"	51215K303	3.51
1/4"	1/4"	51215K304	3.63
1/4"	3/8"	51215K305	4.63
3/8"	1/8"	51215K306	4.09
3/8"	1/4"	51215K307	4.17
3/8"	3/8"	51215K308	4.89

MANIFOLDS, SWIVEL TUBE x MALE PIPE

For Tube OD	Pipe Size	3 Outlet	Each	4 Outlet♥	Each
5/32"	1/4"	5306K32	$9.55	5306K42▲	$14.75
5/32"	3/8"	5306K33	10.20	5306K43▲	15.63
1/4"	1/4"	5306K34	9.90	5306K44▲	14.98
1/4"	3/8"	5306K35	10.45	5306K45▲	15.88
3/8"	1/4"	5306K36	10.10	5306K46▲	15.23
3/8"	3/8"	5306K37	10.70	5306K47▲	16.13

4 Outlet

♥ Body is brass. ▲ Threads are brass.

Tube-to-Tube

Couplings

For Tube OD		Each ♦
Couplings		
1/4"	51215K702	$2.91
3/8"	51215K704	4.26
Reducing Couplings		
1/4" x 5/32"	51215K701	2.77
3/8" x 1/4"	51215K703	4.17

Tees

For Tube OD		Each ♦
Tees		
1/4"	51215K802	$4.00
3/8"	51215K604	6.03
Reducing Tees		
1/4" x 5/32" x 1/4"	51215K601	3.91
5/16" x 1/4" x 3/8"	51215K603	5.69

Accessories

Tube Plugs

For Stem OD	For Tube ID		Each ♦
3/16"	5/32"	51215K651	$0.71
5/32"	1/4"	51215K652	.89

♦ *Prices are 15-20% lower when you buy 10 or more of the same size and style fitting.*

GRAINGER
FOR THE ONES WHO GET IT DONE

Print *printed* May 1, 2006

SWITCH,MANUAL,2 POLE

Non Reversing Manual Switch, Number of Poles 2, Maximum Current Rating 30 Amps, NEMA Class 4, Enclosure Size Standard, Enclosure NEMA 4, Resisitve Current 30 Amps, Maximum Power 2 HP, Power Rating @ 115 VAC Single Phase 2 HP, Maximum Power @ 90 VDC 1 HP, Power Rating @ 115 VDC 2 HP, Power Rating @ 230 VDC 1.5 HP, Power Rating @ 230 VAC Three Phase 2 HP, Power Rating @ 460-575 VAC Three Phase 3 HP, AC Voltage 115/230 Volts, Phase Single, Length 4 1/4 Inches, Height 4 1/4 Inches, Toggle

Grainger Item #	1H408
Your Price (ea.)	**$158.00**
Brand	SQUARE D
Mfr. Model #	2510KW1
Ship Qty.	1
Sell Qty. (Will-Call)	1
Ship Weight (lbs.)	2.9
Usually Ships	Today
Catalog Page No.	371

Additional Info

NEMA Manual Switches
Nonreversing manual switches provide manual On/Off control of single- or three-phase AC motors where overload protection is not required or is provided separately.
Accessories available; order below.
Uses: Applications include small machine tools, pumps, fans, conveyors, and electrical machinery. Can also be used on nonmotor loads such as resistance heaters.

NEMA Type 4
Enclosures are die cast of zinc alloy.

Tech Specs

Item: Manual Switches
Number of Poles: 2
Resistive Amps: 30
Enclosure Size: Standard
Enclosure Type: NEMA Type 4
HP @ 1 Phase - 115V: 2
Max. HP @ 90VDC: 1
HP @ 115VDC: 2
HP @ 230VDC: 1.5

Optional Accessories

There are currently no optional accessories for this item.

Alternate Products

There are currently no alternate products for this item.

Repair Parts

HP @ 3 Phase - 230V: 2
HP @ 3 Phase - 460-575V: 3
Height (In.): 4 1/4
Width (In.): 3
Depth (In.): 4 1/4

Notes & Restrictions

There are currently no notes or restrictions for this item.

MSDS

This item does not require a **Material Safety Data Sheet (MSDS).**

Required Accessories

There are currently no required accessories for this item.

There is currently no Repair Parts information for this item.

APPENDIX H

SUMMARY OF POST-REMEDIAL EXCAVATION SOIL SAMPLE DATA

TABLE 1
New York City School Construction Authority
Former Adams Brush Facility
94-02 104th Street, Queens, New York
Summary of VOCs in Soil
January 2004

Sample ID		SB-1	SB-2	SB-3	SB-4	SB-5	SB-6	SB-7	SB-8
		----	----	----	----	----	----	----	(16-20)
Date	Recommended Soil	1/5/2004	1/5/2004	1/5/2004	1/6/2004	1/6/2004	1/6/2004	1/6/2004	1/7/2004
Actual Sample Depth (ft.)^	Cleanup Objective*	20-24'	22-26'	22-26'	18-22'	22-26'	22-26'	22-26'	22-26'
Methylene Chloride	100	1.4 U	1.4 U	1.4 U	8.6	13	10	4.4	5.9
Tetrachloroethene	1,400	1.2 U	1.3 U	1.2 U	1.2 U	1.2 U	1.3 U	1.3 U	1.3 U
Total VOCs	-------	ND	ND	ND	8.6	13	10	4.4	5.9

Notes:
All results expressed in parts per billion (ppb)
*NYSDEC TAGM Memorandum No. 4046, revised January 24, 1994.
Only those compounds detected in at least one sample are reported on this table.
ND = Not Detected
^ = Actual sample depths may be different from those on the COC. Depths reported on the COC for some samples were from ground surface inside the excavation, located 6 ft. below street level. Therefore, actual sample depth indicates depth from street level.

Bold face and shaded values indicates exccedance of TAGM value

TABLE 1
New York City School Construction Authority
Former Adams Brush Facility
94-02 104th Street, Queens, New York
Summary of VOCs in Soil
January 2004

Sample ID		SB-9	SB-10	SB-11	SB-12	SB-13	SB-14	SB-15
		(12-16)	(12-16)	(12-16)	(12-16)	(18-22)	(18-22)	(18-22)
Date	Recommended Soil	1/7/2004	1/7/2004	1/7/2004	1/7/2004	1/9/2004	1/9/2004	1/9/2004
Actual Sample Depth (ft.)^	Cleanup Objective*	18-22'	18-22'	18-22'	18-22'	18-22'	18-22'	18-22'
Methylene Chloride	100	6.4	7.6	6.9	5.2	5.4	1.8 U	6.2
Tetrachloroethene	1,400	1.2 U	1.3 U	1.2 U	1.3 U	1.2 U	0.70 U	1.2 U
Total VOCs	------	6.4	7.6	6.9	5.2	5.4	ND	6.2

Notes:
All results expressed in parts per billion (ppb)
*NYSDEC TAGM Memorandum No. 4046, revised January 24, 1994.
Only those compounds detected in at least one sample are reported on this table.
ND = Not Detected
^ = Actual sample depths may be different from those on the COC. Depths reported on the COC for some samples were from ground surface inside the excavation, located 6 ft. below street level. Therefore, actual sample depth indicates depth from street level.

Bold face and shaded values indicates exccedance of TAGM value

Table 1
New York City School Construction Authority
Former Adams Brush Facility
94-02 104th Street, Queens, New York
Summary of VOCs in Soil
January 2004

Sample ID Date Actual Sample Depth (ft.)^	Recommended Soil Cleanup Objective*	SB-16 (18-22) 1/9/2004 18-22'	SB-17 (16-20) 1/9/2004 22-26'	SB-18 (16-20) 1/9/2004 22-26'	SB-19 (16-20) 1/9/2004 22-26'	SB-20 (16-20) 1/9/2004 22-26'	SB-21 (12-16) 1/9/2004 18-22'	SB-22 (12-16) 1/9/2004 18-22'	SB-23 (16-20) 1/9/2004 22-26'	SB-24 (12-16) 1/9/2004 18-22'
Methylene Chloride	100	8.2	7.1	1.4 U	1.4 U	1.4 U	1.8 U	4.8	1.4 U	1.4 U
Tetrachloroethene	1,400	1.2 U	1.2 U	1.3 U	1.3 U	1.2 U	13	1.2 U	1.2 U	1.3 U
Total VOCs	------	8.2	7.1	ND	ND	ND	13	4.8	ND	ND

Notes:
All results expressed in parts per billion (ppb)
*NYSDEC TAGM Memorandum No. 4046, revised January 24, 1994.
Only those compounds detected in at least one sample are reported on this table.
ND = Not Detected
^ = Actual sample depths may be different from those on the COC. Depths reported on the COC for some samples were from ground surface inside the excavation, located 6 ft. below street level. Therefore, actual sample depth indicates depth from street level.

Bold face and shaded values indicates exccedance of TAGM value

Table 1
New York City School Construction Authority
Former Adams Brush Facility
94-02 104th Street, Queens, New York
Summary of VOCs in Soil
January 2004

Sample ID		SB-25	SB-26	SB-27	SB-28	SB-29	SB-30	SB-31
		(18-22)	(22-26)	(18-22)	(18-22)	(18-22)	(18-22)	(18-22)
Date	Recommended Soil	1/9/2004	1/9/2004	1/9/2004	1/9/2004	1/9/2004	1/9/2004	1/9/2004
Actual Sample Depth (ft.)^	Cleanup Objective*	18-22'	22-26'	18-22'	18-22'	18-22'	18-22'	18-22'
Methylene Chloride	100	7.8	7.9	8.5	6.9	7.0	6.5	8.3
Tetrachloroethene	1,400	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Total VOCs	------	7.8	7.9	8.5	6.9	7.0	6.5	8.3

Notes:
All results expressed in parts per billion (ppb)
*NYSDEC TAGM Memorandum No. 4046, revised January 24, 1994.
Only those compounds detected in at least one sample are reported on this table.
ND = Not Detected
^ = Actual sample depths may be different from those on the COC. Depths reported on the COC for some samples were from ground surface inside the excavation, located 6 ft. below street level. Therefore, actual sample depth indicates depth from street level.

Bold face and shaded values indicates exccedance of TAGM value

Table 2
New York City School Construction Authority
Former Adams Brush Facility
94-02 104th Street, Queens, New York
Summary of VOCs in Soil
July 2004

Compound	Recommended Soil Cleanup Objective *	Boring/Sample ID							
		B-1 33-35'	B-2 28-32'	B-3 28-33'	B-4 28-32'	B-5 23-28'	B-5 28-33'	B-6 28-33'	B-7 28-33'
Volatile Organic Compounds									
Methylene Chloride	100	29.0 UJ	17.0 UJ	15.0 UJ	38.0 J	3.7 UJ	25.0 UJ	31.0 J	22.0 UJ
Naphthalene	13,000	7.0 J	0.33 UJ	0.30 UJ	5.00 J	0.31 UJ	3.70 J	0.31 UJ	0.31 UJ
Total VOCs	NA	7 J	ND	ND	43 J	ND	3.7 J	31 J	ND

Notes:
All results expressed in parts per billion (ppb)
*NYSDEC TAGM Memorandum No. 4046, revised January 24, 1994.
Only those compounds detected in at least one sample are reported on this table.
J - Indicates an estimated value. This flag is used when the mass spectral data indicated the identification; however, the result was less than the specified detection limit but greater than zero.
U = Not detected at a concentration above the laboratory method detection limit.
B = Analyte also detected in the laboratory method blank
FB= Field Blank
TB = Trip Blank
RE = Sample was re-extracted
NA = Not Applicable ND = Not Detected
Bold face and shaded values indicates exccedance of TAGM value

Table 2
New York City School Construction Authority
Former Adams Brush Facility
94-02 104th Street, Queens, New York
Summary of VOCs in Soil
July 2004

Compound	Recommended Soil Cleanup Objective *	Boring/Sample ID								
		FB 7/10/04 -----	DUP 7/10/04 (B-7)	B-8 28-33'	B-9 (RE) 28-33'	B-10 28-33'	B-11 28-33'	B-12 28-33'	FB 7/11/04 -----	TRIP BLANK ------
Volatile Organic Compounds										
Methylene Chloride	100	ND UJ	20.0 UJ	29.0 UJ	12.0 UJ	32.0 UJ	18.0 UJ	31.0 UJ	0.62 UJ	2.6 J
Naphthalene	13,000	0.47 UJ	0.31 UJ	0.31 UJ	0.31 UJ	0.31 UJ	0.31 UJ	0.32 UJ	0.47 UJ	0.47 UJ
Total VOCs	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

All results expressed in parts per billion (ppb)

*NYSDEC TAGM Memorandum No. 4046, revised January 24, 1994.

Only those compounds detected in at least one sample are reported on this table.

indicated the identification; however, the result was less than the specified detection limit but greater than zero.

U = Not detected at a concentration above the laboratory method detection limit.

B = Analyte also detected in the laboratory method blank

FB= Field Blank

TB = Trip Blank

RE = Sample was re-extracted

NA = Not Applicable ND = Not Detected

Bold face and shaded values indicates exccedance of TAGM value

Table 3
New York City School Construction Authority
Former Adams Brush Facility
94-02 104th Street, Queens, New York
Summary of SVOCs in Soil
July 2004

Compound	Recommended Soil Cleanup Objective*	Boring/Sample ID							
		B-1 33-35'	B-2 28-32'	B-3 28-33'	B-4 28-32'	B-5 23-28'	B-5 28-33'	B-6 28-33'	B-6 28-33'
Semi-Volatile Organic Compounds									
Fluoranthene	50,000	9.8 U	5 U	37 J	4.7 U	4.8 U	4.7 U	4.8 U	4.7 U
bis(2-Ethylhexyl)phthalate	50,000	16 U	8.3 U	7.7 U	7.7 U	60 J	7.8 U	7.9 U	7.8 U
Total SVOCs	NA	ND	ND	37 J	ND	60 J	ND	ND	ND

Notes:
Results expressed in parts per billion (ppb)
*NYSDEC TAGM Memorandum No. 4046, revised January 24, 1994.
Only those compounds detected in at least one sample are reported on this table.
ND - Not Detected NA = Not Applicable
J - Indicates an estimated value. This flag is used when the mass spectral data indicated the identification; however, the result was less than the specified detection limit but greater than zero.
U = Not detected at the laboratory method detection limit.
FB = Field Blank
TB = Trip Blank

Bold face and shaded values indicates exccedance of TAGM value

Table 3
New York City School Construction Authority
Former Adams Brush Facility
94-02 104th Street, Queens, New York
Summary of SVOCs in Soil
July 2004

Compound	Recommended Soil Cleanup Objective*	Boring/Sample ID							
		FB 7/10/04 -----	DUP 7/10/04 (B-7)	B-8 28-33'	B-9 28-33'	B-10 28-33'	B-11 28-33'	B-12 28-33'	FB 7/11/04 -----
Semi-Volatile Organic Compounds									
Fluoranthene	50,000	0.21 U	4.8 U	4.7 U	4.7 U	4.8 U	4.8 U	4.9 U	0.21 U
bis(2-Ethylhexyl)phthalate	50,000	0.34 U	7.9 U	7.8 U	7.8 U	7.9 U	7.9 U	8 U	0.34 U
Total SVOCs	NA	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
Results expressed in parts per billion (ppb)
*NYSDEC TAGM Memorandum No. 4046, revised January 24, 1994.
Only those compounds detected in at least one sample are reported on this table.
ND - Not Detected NA = Not Applicable
J - Indicates an estimated value. This flag is used when the mass spectral data indicated the identification; however, the result was less than the
U = Not detected at the laboratory method detection limit.
FB = Field Blank
TB = Trip Blank

Bold face and shaded values indicates exccedance of TAGM value

Table 4
New York City School Construction Authority
Former Adams Brush Facility
94-02 104th Street, Queens, New York
Summary of TCL Metals and Cyanide in Soil
July 2004

Compound	Recommended Soil Cleanup Objective*	Eastern USA Background*	Boring/Sample ID													
			B-1 33-35'		B-2 28-32'		B-3 28-33'		B-4 28-32'		B-5 23-28'		B-5 28-33'		B-6 28-33'		B-7 28-33'	
Inorganics																		
Aluminum	SB	33,000.0	2920		2990		1980		2380		1920		2280		2400		1860	
Antimony	SB	NA	0.595	U	0.617	U	0.567	U	0.578	U	0.592	U	0.58	U	0.587	U	0.567	U
Arsenic	7.5 or SB	3-12	0.45	J	0.26	U	0.239	U	0.243	U	0.527	J	1.02	J	1	J	0.239	U
Barium	300 or SB	15-600	21.2	N	23.2	N	17.2	JN	16.7	JN	16.4	JN	20.3	JN	18.6	JN	13.8	JN
Beryllium	0.16 or SB	0-1.75	0.154	J	0.159	J	0.121	J	0.147	J	0.143	J	**0.189**	J	**0.207**	J	0.125	J
Cadmium	1 or SB	0.1-1	0.233	U	0.214	U	0.162	U	0.236	U	0.149	U	0.282	U	0.242	U	0.122	U
Calcium	SB	130-35,000	1290	J	775	J	1240	J	711	J	354	J	842	J	811	J	575	J
Chromium	10 or SB	1.5-40	**12.6**	JN	8.16	JN	7.26	JN	9.52	JN	7.59	JN	**10.4**	JN	**14.1**	JN	4.78	JN
Cobalt	30 or SB	2.5-60	3.92	N	4.06	N	2.82	N	4.33	N	3.17	N	4.42	N	4.38	N	3.08	N
Copper	25 or SB	1-50	7.52	N	8.59	N	6.28	N	7.09	N	5.94	N	8.9	N	11.5	N	7.02	N
Iron	2,000 or SB	2,000-550,000	**9650**		**8380**		**7120**		**10500**		**8750**		**15400**		**12000**		**5460**	
Lead	SB	200-500	8.65		2.89		5.22		2.65		2.46		3.58		3.71		1.99	
Magnesium	SB	100-5,000	1100	J	1310	J	842	J	1000	J	699	J	906	J	1050	J	817	J
Manganese	SB	50-5,000	209		355		150		230		200		279		198		169	
Mercury	0.1	0.001-0.2	0.01	U	0.01	UJ	0.1	J	0.01	UJ	0.01	UJ	0.01	UJ	0.01	UJ	0.01	UJ
Nickel	13 or SB	0.5-25	6.92	N	8.32	N	5.24	N	8.22	N	6.11	N	7.79	N	7.27	N	5.65	N
Potassium	SB	8,500-43,000	370		354	J	256	J	268	J	244		304	J	455	J	231	J
Selenium	2 or SB	0.1-3.9	1.88	U	1.36	U	1.09	U	1.3	U	1.46	U	**2.09**	U	1.35	U	1.14	U
Silver	SB	NA	1.1	R	0.92	R	0.813	R	1.13	R	0.993	R	1.99	R	1.03	R	0.558	R
Sodium	SB	6,000-8,000	142	U	138	U	172	J	125	U	128	U	142	U	112	U	130	U
Thallium	SB	NA	0.349	UJ	0.362	UJ	0.332	UJ	0.339	UJ	0.347	U	0.34	UJ	0.344	U	0.333	U
Vanadium	150 or SB	1-300	13.4	J	10.5	J	8.79	J	13.2	J	8.91	J	16.8	J	20.1	J	7.23	J
Zinc	20 or SB	9-50	**25.2**	J	17.5	J	14.5	J	11.9	J	10.8	J	13.3	J	13.7	J	8.08	J
Cyanide	NA	NA	<0.54	U	<0.55	U	<0.51	U	<0.52	U	<0.52	U	<0.52	U	<0.53	U	<0.51	U

Notes:

All results expressed in parts per million (ppm)

*NYSDEC TAGM Memorandum No. 4046, revised January 24, 1994.

NA - Not Applicable SB - Site Background ND - Not Detected

U = Not detected at the laboratory method detection limit.

J = An estimated value. The result is less than the detection limit but greater than zero.

N = Presumptive evidence of a compound (tentatively identified compound).

R =DUSR report indicate silver data rejected due to high matrix recovery results

Only those parameters detected in at least one sample are reported on this table.

Bold face and shaded values indicate exceedance of TAGM value

Table 4
New York City School Construction Authority
Former Adams Brush Facility
94-02 104th Street, Queens, New York
Summary of TCL Metals and Cyanide in Soil
July 2004

Compound	Recommended Soil Cleanup Objective*	Eastern USA Background*	Boring/Sample ID													
			FB 7/10/04		DUP 7/10/04		B-8		B-9		B-10		B-11		B-12		FB 7/11/04	
			-----		(B-7)		28-33'		28-33'		28-33'		28-33'		28-33'		-----	
Inorganics																		
Aluminum	SB	33,000.0	180	U	2100		2060		**2500**		2460		2380		2540		180	U
Antimony	SB	NA	6.6	U	0.587	U	0.582	U	0.585	U	0.584	U	0.595	U	0.609	U	6.6	U
Arsenic	7.5 or SB	3-12	4.84	U	0.247	U	0.245	U	0.275	J	0.246	U	0.25	U	0.662	J	4.84	U
Barium	300 or SB	15-600	11	U	17.8	JN	33.3	N	31.5	N	21.2	N	21.3	N	25.1	N	11	U
Beryllium	0.16 or SB	0-1.75	1.06	U	**0.172**	J	**0.162**	J	**0.172**	J	**0.165**	J	**0.22**	J	**0.201**	J	1.06	U
Cadmium	1 or SB	0.1-1	0.994	U	0.217	U	0.166	U	0.195	U	0.222	U	0.281	U	0.225	U	0.994	U
Calcium	SB	130-35,000	1740	U	631	J	584	J	561	J	865	J	832	J	693	J	1740	U
Chromium	10 or SB	1.5-40	1.22	U	8.24	JN	6.74	JN	8.85	JN	9.01	JN	8.06	JN	8.82	JN	1.22	U
Cobalt	30 or SB	2.5-60	2.38	U	4.75	N	3.64	N	3.66	N	3.79	N	4.17	N	3.9	N	2.38	U
Copper	25 or SB	1-50	0.739	UJ	6.55	N	6.83	N	7.14	N	7.73	N	9.13	N	8.1	N	0.739	UJ
Iron	2,000 or SB	2,000-550,000	29	U	**9600**		**8380**		**8280**		**8950**		**12600**		**10900**		29	U
Lead	SB	200-500	2.13	U	2.92		2.7		3.11		2.86		3.6		3.12		1.79	U
Magnesium	SB	100-5,000	254	U	940	J	826	J	922	J	1110	J	1000	J	950	J	254	U
Manganese	SB	50-5,000	0.195	UJ	234		385		289		295		291		313		0.195	UJ
Mercury	0.1	0.001-0.2	0.03	U	0.01	UJ	0.01	UJ	0.01	UJ	0.01	UJ	0.01	UJ	0.01	UJ	0.04	U
Nickel	13 or SB	0.5-25	5.55	U	6.28	N	5.99	N	6.19	N	7.93	N	8.25	N	6.85	N	5.55	U
Potassium	SB	8,500-43,000	51	UJ	372	J	246	J	303	J	371	J	271	J	278	J	51	UJ
Selenium	2 or SB	0.1-3.9	5.24	U	1.23	U	1.12	U	0.807	U	1.34	U	1.42	U	1.35	U	5.24	U
Silver	SB	NA	3.38	U	0.885	R	0.69	R	0.76	R	0.759	R	1.44	R	0.825	R	3.38	U
Sodium	SB	6,000-8,000	189	UJ	89.1	U	109	U	129	U	138	U	137	U	106	U	189	UJ
Thallium	SB	NA	5.78	U	0.344	UJ	0.341	UJ	0.343	UJ	0.342	UJ	0.348	UJ	0.357	UJ	5.78	U
Vanadium	150 or SB	1-300	1.86	U	14.5	J	10.9	J	11.9	J	12.5	J	17	J	15	J	1.86	U
Zinc	20 or SB	9-50	8.11	U	11	J	10.6	J	13.6	J	13	J	14	J	11.9	J	8.11	U
Cyanide	NA	NA	<0.010	U	<0.52	U	<0.52	U	<0.52	U	<0.52	U	<0.52	U	<0.54	U	<0.010	U

Note: All results expressed in parts per million (ppm)

Notes:

All results expressed in parts per million (ppm)

*NYSDEC TAGM Memorandum No. 4046, revised January 24, 1994.

NA - Not Applicable SB - Site Background ND - Not Detected

U = Not detected at the laboratory method detection limit.

J = An estimated value. The result is less than the detection limit but greater than zero.

N = Presumptive evidence of a compound (tentatively identified compound).

R =DUSR report indicate silver data rejected due to high matrix recovery results

Only those parameters detected in at least one sample are reported on this table.

Bold face and shaded values indicate exceedance of TAGM value

Table 5
New York City School Construction Authority
Former Adams Brush Facility
94-02 104th Street, Queens, New York
Summary of TCL VOCs in Soil
October 2004

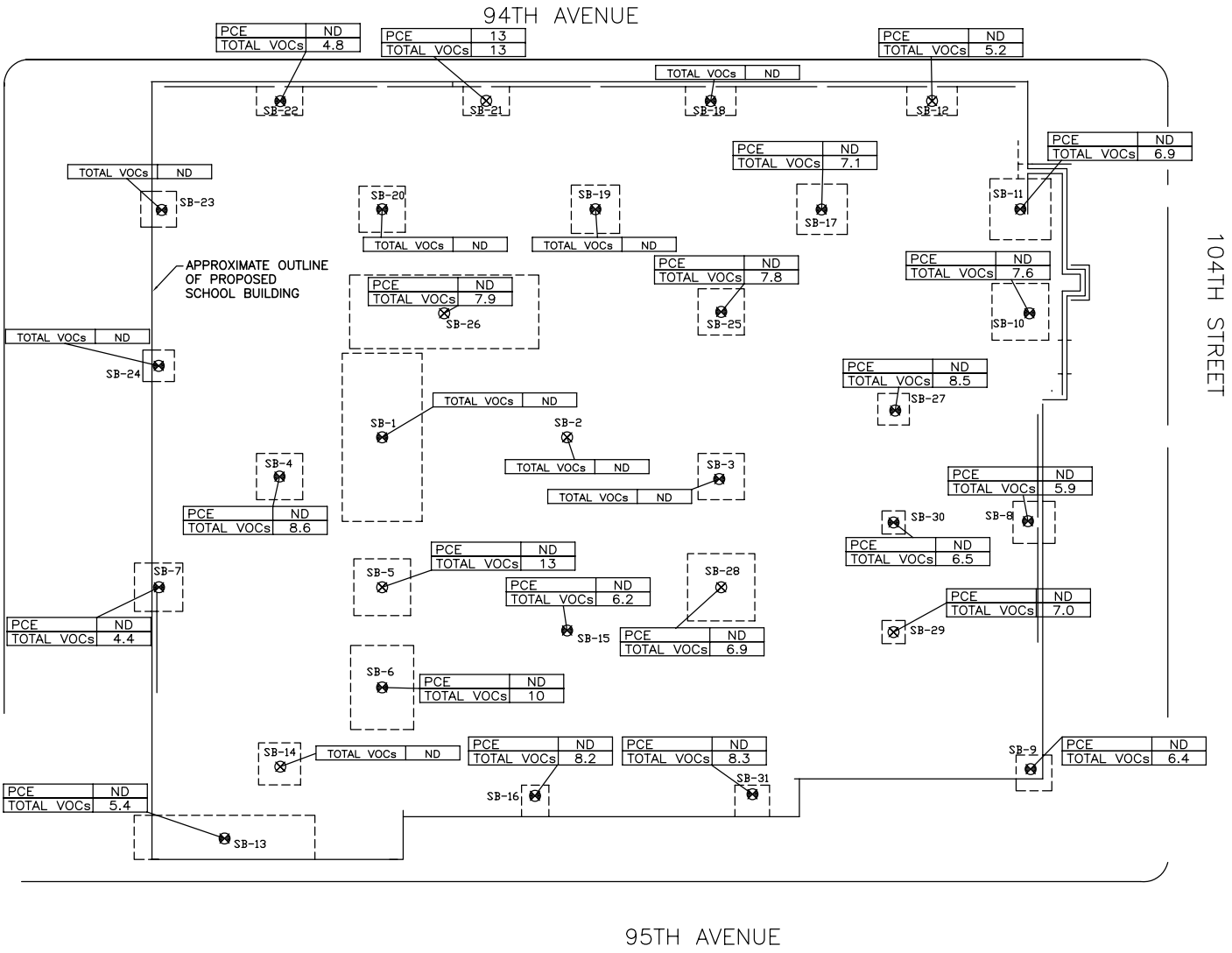
Compound	Recommended Soil Cleanup Objective*	Boring/Sample ID		
		PB-8 30-35'	PB-10 30-35'	TRIP BLANK
Volatile Organic Compounds				
Acetone	200	15.0 JB	44.0 B	10 J
Methylene Chloride	100	8.4 B	3.2 JB	ND
Total VOCs	NA	23.4 JB	47.2 JB	10 J

Notes:
All results presented in parts per billion (ppb)
*NYSDEC TAGM Memorandum No. 4046, revised January 24, 1994.
Only those compounds detected in at least one sample are reported on this table.
ND - Not Detected NA = Not Applicable
J - Indicates an estimated value. This flag is used when the mass spectral data indicated the identification; however, the result was less than the specified detection limit but greater than zero.
B - (Organics) Indicates the analyte was found in the lab method blank as well as the sample.

Bold face and shaded values indicates exccedance of TAGM value

DRAWING NUMBER 110567-FIG4

OFFICE New York, NY



LEGEND

- SOIL BORING LOCATION
- SOIL BORING AND GROUNDWATER SAMPLING LOCATION
- PLANNED LOCATION OF FOUNDATION FOOTING

PCE ND
TOTAL VOCs 10

PCE = TETRACHLOROETHENE
TOTAL VOCs = TOTAL VOLATILE ORGANIC COMPOUNDS
ND= NOT DETECTED

NOTE:
ANALYTICAL RESULTS EXPRESSED IN MICROGRAMS PER KILOGRAM (ug/kg)

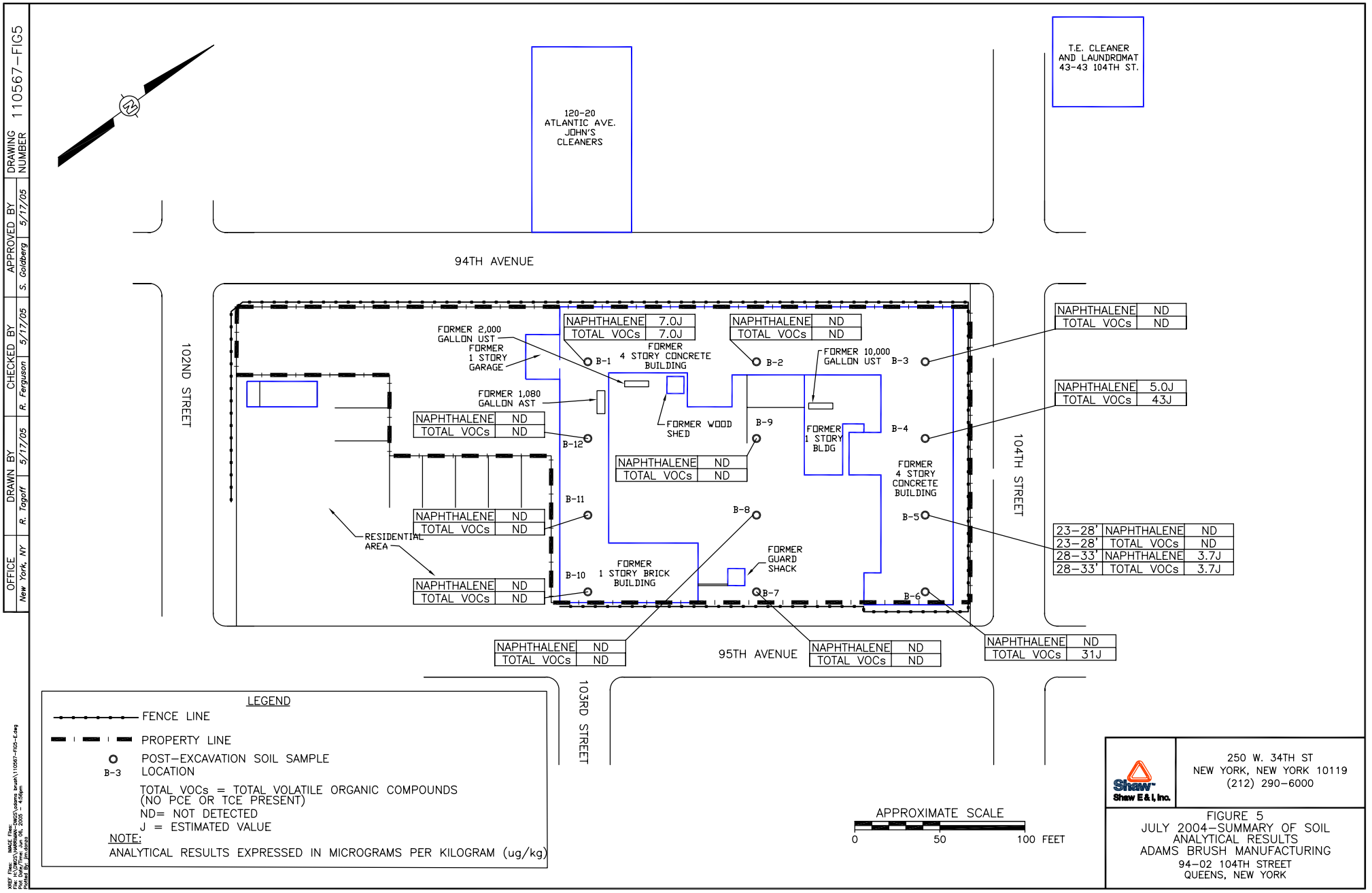
APPROXIMATE SCALE
0 40 80 FEET

Shaw™
Shaw E & I, Inc.

250 W. 34TH ST
NEW YORK, NEW YORK 10119
(212) 290-6000

JANUARY 2004 SUMMARY OF SOIL ANALYTICAL RESULTS ADAMS BRUSH MANUFACTURING 94-02 104TH STREET QUEENS, NEW YORK FIGURE 4

XREF Files:
IMAGE Files:
File: H:\DWGS\HARRIMAN-DWGS\adams brush\110567-FIG4-E.dwg
Plot Date/Time: Jun 02, 2005 - 4:29pm
Plotted By: jim.danzo



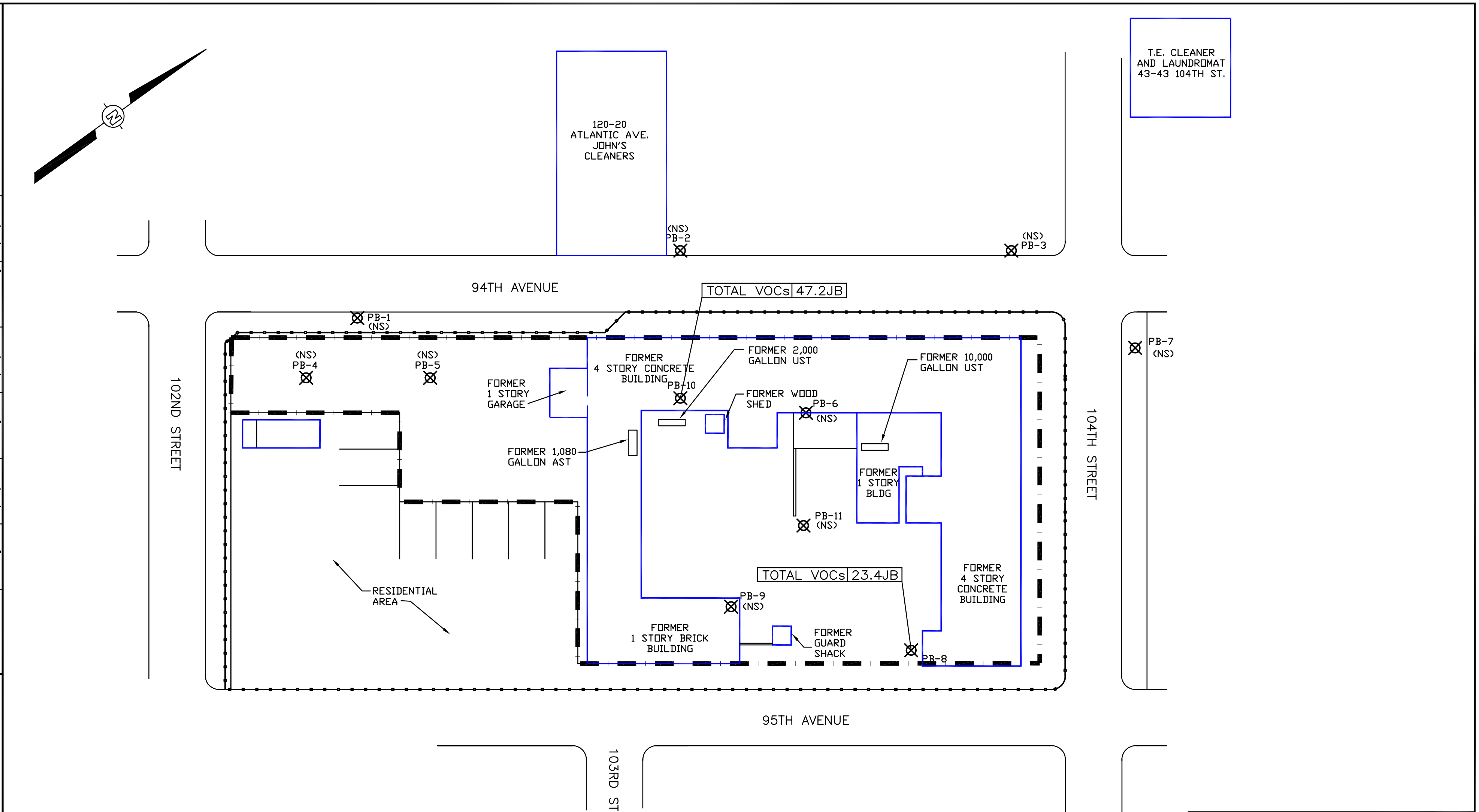
OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
New York, NY	R. Tagoff 5/17/05	R. Ferguson 5/17/05	S. Goldberg 5/17/05	110567-FIG5

Shaw E&I, Inc.
250 W. 34TH ST
NEW YORK, NEW YORK 10119
(212) 290-6000

FIGURE 5
JULY 2004-SUMMARY OF SOIL ANALYTICAL RESULTS
ADAMS BRUSH MANUFACTURING
94-02 104TH STREET
QUEENS, NEW YORK

XREF Files: IMAGE Files:
Plotted By: jamiejones

DRAWING NUMBER	APPROVED BY	CHECKED BY	DRAWN BY	OFFICE
110567-FIG6	S. Goldberg 5/17/05	R. Ferguson 5/17/05	R. Tagoff 5/17/05	New York, NY



LEGEND

FENCE LINE

PROPERTY LINE

PB-8 POST-EXCAVATION SOIL SAMPLE LOCATION

(NS) NOT SAMPLED

TOTAL VOCs 47.2JB — TOTAL VOCs = TOTAL VOLATILE ORGANIC COMPOUNDS (NO PCE OR TCE PRESENT)

NOTE:
ANALYTICAL RESULTS EXPRESSED IN MICROGRAMS PER KILOGRAM (ug/kg)
J = ESTIMATED VALUE
B = COMPOUND DETECTED IN LAB METHOD BLANK

Shaw E & I, Inc.
250 W. 34TH ST
NEW YORK, NEW YORK 10119
(212) 290-6000

FIGURE 6
OCTOBER 2004-SUMMARY OF SOIL ANALYTICAL RESULTS
ADAMS BRUSH MANUFACTURING
94-02 104TH STREET
QUEENS, NEW YORK

APPENDIX I

ANNUAL INSTITUTIONAL CONTROL AND ENGINEERING CONTROL CERTIFICATION FORM

ENCLOSURE 1
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
INSTITUTIONAL AND ENGINEERING CONTROLS CERTIFICATION FORM

SITE DETAILS

SITE NO. **V-00656**

SITE NAME **Former Adams Brush Manufacturing Facility**

SITE ADDRESS: 94-02 104th Street ZIP CODE: 11416

CITY/TOWN: Ozone Park

COUNTY: Queens

CURRENT USE: Public School Facility

CURRENT CERTIFICATION FREQUENCY: EVERY 1 YEAR(S)

VERIFICATION OF SITE DETAILS

		YES	NO
1.	Are the SITE DETAILS above, correct?	☐	☐
	If NO, are changes handwritten above or included on a separate sheet?	☐	
2.	Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment since the initial/last certification?	☐	☐
	If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	
3.	Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property since the initial/last certification?	☐	☐
	If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	
4.	Has a change-of-use occurred since the initial/last certification?	☐	☐
	If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	
5.	Has any new information come to your attention to indicate that assumptions made in the qualitative exposure assessment for offsite contamination are no longer valid (applies to non-significant threat sites subject to ECL 27-1415.7(c))? **NA**	☐	☐
	If YES, is the new information or evidence that new information has been previously submitted included with this certification?	☐	
6.	Are the assumptions in the qualitative exposure assessment still valid (must be certified every five years for non-significant threat sites subject to ECL 27-1415.7(c))?**NA**	☐	☐
	If NO, are changes in the assessment included with this certification?	☐	

Description of Institutional/Engineering Control	Control Certification
ENVIRONMENTAL EASEMENT	☐
DEED RESTRICTIONS	X
OTHER CONTROLS	☐

CONTROL CERTIFICATION STATEMENT

For each institutional or engineering control listed above, I certify by checking "Yes" that all of the following statements are true:

(a) the institutional control and/or engineering control employed at this site is unchanged from the date the control was put in-place, or last approved by the Department;

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

(c) nothing has occurred that would constitute a violation or failure to comply with any Site Management Plan for this control; and

(d) access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control.

(e) if a financial assurance mechanism is required under the remedial work plan for the site, the mechanism remains valid and sufficient for their intended purpose under the work plan.

CONTROL CERTIFICATIONS
SITE NO. V-00656

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I _____(print name), _____

(print business address), am certifying as _____ (Owner or Owner's Designated Site Representative (if the site consists of multiple properties, I have been authorized and designated by all site owners to sign this certification) for the Site named in the Site Details section of this form.

_____ _____
Signature of Site Owner or Representative Rendering Certification Date

---

QUALIFIED ENVIRONMENTAL PROFESSIONAL (QEP) SIGNATURE

I certify that all information and statements in this Certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I _____(print name), _____

(print business address), am certifying as a Qualified Environmental Professional for the_____

_____ (Owner or Owner's Representative) for the Site named in the Site Details section of this form.

Signature of Qualified Environmental Professional, for the Owner or the Owner's Representative, Rendering Certification | Stamp (if Required) | Date

Enclosure 2

Certification of Institutional Controls/ Engineering Controls (ICs/ECs)
Step-by-Step Instructions, Certification Requirements and Definitions

The Site owner, or site owner's representative, and when necessary, a Professional Engineer (P.E.), or the Qualified Environmental Professional (QEP), must review and complete the IC/EC Certification Form, sign it, and return it, along with the Periodic Site Management Report, within 45 days of the date of this notice.

Institutional Controls (defined below) are organized into 4 categories: Governmental Controls (e.g., groundwater-use restrictions), Proprietary Controls (e.g., Environmental Easements), Enforcement and Permit Tools (e.g., Consent Orders), and Informational Devices (e.g., State Registries of Inactive Hazardous Waste Sites). The Certification Form shows the Control information the Department has for this Site. Please use the following instructions to complete the IC/EC Certification.

I. Verification of Site Details (First and Second Boxes):

1. Verify the accuracy of information in the **Site Details** section by answering the 6 questions. If necessary, you and/or your P.E. or QEP may handwrite changes and submit supporting documentation.

II. Verification of Institutional / Engineering Controls (Third and Fourth Boxes)

1. Review the listed Institutional / Engineering Controls and select "YES" or "NO" for **Control Certification** for each IC/EC, based on Sections (a)-(d) of the **Control Certification Statement**.

2. If you cannot certify "Yes" for each Control, please continue to complete the remainder of this **Control Certification** form. Attach supporting documentation that explains why the **Control Certification** cannot be rendered, as well as a statement of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Control Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is conducted.

   If the Department concurs with the explanation, the corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued. If the Department has any questions or concerns regarding the completion of the certification, the Project Manager will contact you.

III. Certification by Signature (Fifth and Sixth Boxes**):**

1. WHY IC/EC Certification is required:
   The Section of the New York Environmental Conservation Law that includes the requirement of a periodic certification of IC(s) and EC(s) is as follows:

   For Environmental Restoration Projects: N.Y. Envtl Conserv.Law Section 56-0503 (Environmental restoration projects; state assistance)

   For State Superfund Projects: Envtl Conserv.Law Section 27-1318. (Institutional and engineering controls)

   For Brownfields Cleanup Program Projects: Envtl Conserv.Law Section 27-1415. (Remedial program requirements)

   Voluntary Cleanup Program: Applicable program guidance.

2. To determine WHO signs the **Control Certification,** please use the following table:

Signature Requirements for IC/EC Certification Form		
Type of Control	**Example of IC/EC**	**Required Signatures**
IC	Environmental Easement Deed Restriction.	Site Owner or their designated representative, e.g., a Property Manager.
EC with no treatment system, or engineered caps.	Fence, Clean Soil Cover.	Site Owner or their designated representative, and QEP. (P.E. license not required)
EC that includes treatment systems, or engineered caps.	Pump & Treat System providing hydraulic control of a plume, Part 360 Cap.	Site Owner or his designated representative, and QEP with P.E. License.

3. WHERE to mail the signed Certification Form within 45 days of the date of the notice:

[generated from UIS]
New York State Department of Environmental Conservation
Division of Environmental Remediation
Central Office or Regional Address
City Name, NY Zipcode
Attn: _____, Project Manager

Please note that extra postage may be required.

IV. Definitions:

"Engineering Control" (EC), means any physical barrier or method employed to actively or passively contain, stabilize, or monitor any hazardous waste or petroleum waste to ensure the long-term effectiveness of an inactive site remedial program or brownfield site remedial program or environmental restoration project, or to eliminate potential exposure pathways to any such hazardous waste or petroleum waste. Engineering Controls include, but are not limited to: pavement, caps, covers, subsurface barriers and slurry walls; building ventilation systems; fences, other barriers and access controls; and provision of alternative water supplies via connection to an existing public water supply, addition of treatment technologies to an existing public water supply, and installation of filtration devices on an existing private water supply.

"Institutional Control" (IC), means any non-physical means of enforcing a restriction on the use of real property, that limits human or environmental exposure to any hazardous waste or petroleum waste, restricts the use of groundwater; provides notice to potential owners, operators, or members of the public; or prevents actions that would interfere with the effectiveness of an inactive site remedial program or brownfield site remedial program or environmental restoration project, or with the effectiveness and/or integrity of Site Management activities at or pertaining to any site.

"Professional Engineer" means a person, including a firm headed by such a person, who holds a current New York State Professional Engineering license or registration, and has the equivalent of three (3) years of full-time relevant experience in site investigation and remediation of the type detailed in this Control Certification.

"Property Owner" means, for purposes of an IC/EC certification, the actual owner of a property. If the site has multiple properties with different owners, the Department requires that the owners be represented by a single representative to sign the certification.

"Oversight Document" means any document the Department issues pursuant to each Remedial Program (see below) to define the role of a person participating in the investigation and/or remediation of a site or area(s) of concern. Examples for the various programs are as follows:

BCP (after approval of the BCP application by DEC) - Brownfield Site Cleanup Agreement.
ERP (after approval of the ERP application by DEC) - State Assistance Contract.
Federal Superfund Sites - Federal Consent Decrees, Administrative Orders on Consent or Unilateral Orders issued pursuant to CERCLA.
Oil Spill Program - Order on Consent, or Stipulation pursuant to Article 12 of the Navigation Law (and the New York Environmental Conservation Law).
State Superfund Program - Administrative Consent Order.
VCP (after approval of the VCP application by DEC) - Voluntary Cleanup Agreement.
RCRA Corrective Action Sites- Federal Consent Decrees, Administrative Orders on Consent or permit conditions issued pursuant to RCRA.

"Qualified Environmental Professional" (QEP), means a person, including a firm headed by such a person, who possesses sufficient specific education, training, and experience necessary to exercise professional judgment, to develop opinions and conclusions regarding the presence of releases or threatened releases to the surface or subsurface of a property or off-site areas, sufficient to meet the objectives and performance factors for the areas of practice identified by this guidance (DER10 Technical Guide).

1. Such a person must:
   i. Hold a current Professional Engineering or a Professional Geologist license or registration, and have the equivalent of three (3) years of full-time relevant experience in site investigation and remediation of the type detailed in this guidance; or
   ii. Be a site remediation professional licensed or certified by the federal government, a state; or a recognized, accrediting agency, to perform investigation or remediation tasks identified by this guidance, and have the equivalent of three (3) years of full-time relevant experience. Examples of such license or certification include, but are not limited to, the following titles:
      · Licensed Site Professional, by the State of Massachusetts
      · Licensed Environmental Professional, by the State of Connecticut
      · Qualified Environmental Professional, by the Institute of Professional Environmental Practice
      · Certified Hazardous Materials Manager, by the Institute of Hazardous Materials Management

2. The definition of QEP provided above does not preempt State Professional licensing or registration requirements such as those for a Professional Geologist, Engineer, or Site Remediation Professional. Before commencing work, a person should determine the applicability of State professional licensing or registration laws to the activities to be undertaken pursuant to section 1.5 (DER10 Technical Guide).

3. A person who does not meet the above definition of a QEP under the foregoing definition may assist in the conduct of all appropriate investigation or remediation activities in accordance with this document if such person is under the supervision or responsible charge of a person meeting the definition provided above.

"Remedial Party" means any person or persons, as defined in 6NYCRR 375, who executes, or is otherwise subject to, an oversight document (State Superfund, BCP, ERP or VCP Program). For purposes of this guidance, remedial party also includes:

1. Any person or persons who is performing the investigation and/or remediation, or has control over the person (for example, contractor or consultant) who is performing the

investigation and/or remediation, including, without limitation, an owner, operator or volunteer; and

2. The DER for State-funded investigation and/or remediation activities.

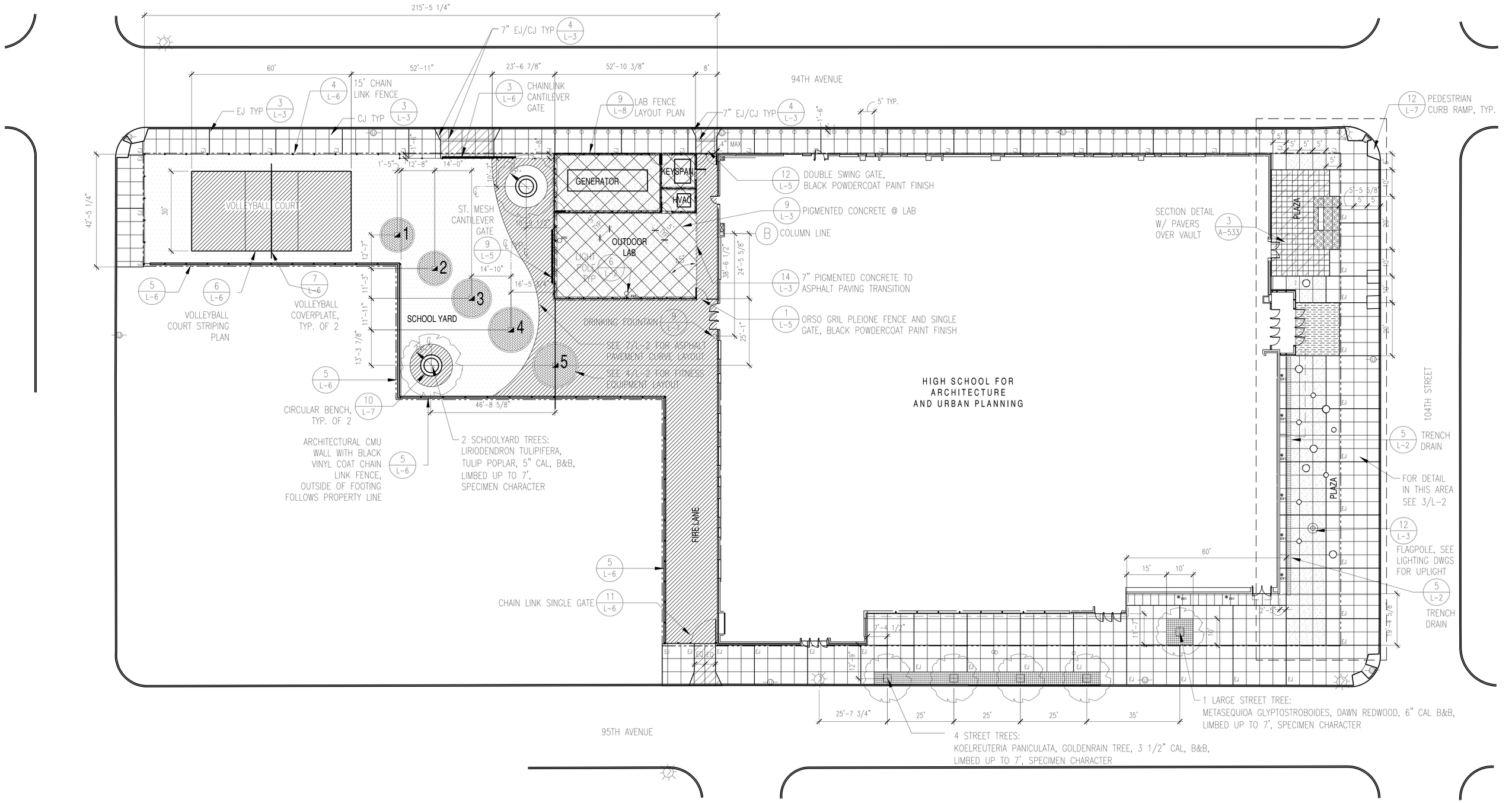
"Site Management" (SM) means the activities included in the last phase of the remediation of a site, in accordance with a Site Management Plan, which continue until the remedial action objectives for the project are met and the site can be closed-out. Site Management includes the management of the institutional and engineering controls required for a site, as well as the implementation of any necessary long-term monitoring and/or operation and maintenance of the remedy. (Formerly referred to as Operation and Maintenance (O&M)).

"Site Management Plan" (SMP) means a document which details the steps necessary to assure that the institutional and engineering controls required for a site are in-place, and any physical components of the remedy are operated, maintained and monitored to assure their continued effectiveness, developed pursuant to Section 6 (DER10 Technical Guide).

"Site Owner" means the actual owner of a site. If the site has multiple owners of multiple properties with ICs and/or ECs, the Department requires that the owners designate a single representative for IC/EC Certification activities.

"Site Owner's Designated Representative" means a person, including a firm headed by such a person, who has been designated in writing by the Site Owner(s) to complete and sign the Institutional and Engineering Controls Certification Form.

DRAWINGS



1 LAYOUT AND MATERIALS PLAN
L-1 SCALE: 1" = 16'-0"

0 4' 8' 16' 24' 40'

STREET AND SCHOOLYARD PLAN LEGEND

PAVING:
- 4" TH REINFORCED CONCRETE PAVEMENT — 1 L-3
- 7" TH REINFORCED CONCRETE PAVEMENT — 2 L-3
- 4" TH REINFORCED PIGMENTED CONCRETE PAVEMENT TYPE F — 1 L-3
- TYPE A PAVERS ON 4" TH REINFORCED CONCRETE, SEE PAVER SCHEDULE 3/L-1 — 6 L-3
- ASPHALT PAVEMENT WITH BLACK SEAL COAT — 5 L-3
- ASPHALT PAVEMENT WITH RED SEAL COAT — 5 L-3
- GRANITE COBBLES OVER STREET TREE PITS — 5 L-7
- TYPE B PAVERS ON 4" TH REINFORCED CONCRETE, SEE PAVER SCHEDULE — 6 L-3
- RECESSED SPECTRATURF SAFETY SURFACE, COLOR: CORAL SEA — 11 L-3
- 4" THICK REINFORCED PIGMENTED CONCRETE PAVEMENT, TYPE E — 1 L-3

LANDSCAPE:
- STREET TREES IN SIDEWALK — 1 L-7
- TREE IN PLANTER BENCH — 10 L-7

SITE IMPROVEMENTS:
- 10' H BLACK VINYL COATED CHAIN LINK FENCE CANTILEVER GATE WITH TRANSOM TO 15' — 3 L-6
- STEEL MESH GATE: SINGLE — 1 L-5; DOUBLE — 12 L-5
- 10' ORSOGRIL STEROPE STEEL MESH CANTILVER GATE AND TRANSOM TO 17' — 9 L-5
- 15' H CHAIN LINK FENCE — 4 L-6
- 17' H STEEL MESH FENCE-ORSO GRIL TALIA — 3 L-5
- 17' H STEEL MESH FENCE-ORSO GRIL STEROPE — 2 L-5
- 8' H STEEL MESH FENCE-ORSOGRIL STEROPE — 2 L-5
- 6' H BLACK VINYL COAT CHAIN LINK FENCE ON 8' ARCHITECTURAL CMU WALL — 5 L-6

1 FITNESS EQUIPMENT, SEE EQUIPMENT SCHEDULE — 4 L-1
- CIRCULAR BENCH ON ASPHALT, SEE SPEC. (TOTAL: 2) — 10 L-7
- 30" CONCRETE SPHERE, REFER SHEET L-2 — 10 L-3
- 18" CONCRETE SPHERE, REFER SHEET L-2 — 10 L-3
- 24" H, 8" Ø STEEL BOLLARDS — 8 L-3

2 STREET AND SCHOOLYARD PLAN LEGEND
L-1 SCALE: NA

PAVING SCHEDULE

PAVING TYPE A: 2' X 2' DETECTABLE WARNING PAVERS, COLOR: TO MATCH HANOVER QUARRY RED — 6 L-3

PAVING TYPE B: 8" X 8" CONCRETE UNIT PAVERS, COLOR: TO MATCH HANOVER QUARRY RED

PAVING TYPE C: 2' X 2' PEDESTAL PAVERS FOR ROOF DECKS, COLOR: CHARCOAL — 7 L-3

PAVING TYPE D: 2' X 2' PEDESTAL PAVERS FOR ROOF DECKS, COLOR: TO MATCH HANOVER QUARRY RED

PAVING TYPE E: REINFORCED PIGMENTED CONCRETE PAVEMENT, COLOR: TO MATCH L.M. SCOFIELD CO. CHROMIX ADMIXTURE OLMSTEAD BLUE TN 933, CURED WITH LITHOCHROME COLORWAX IN THE MATCHING COLOR.

PAVING TYPE F: REINFORCED PIGMENTED CONCRETE PAVEMENT COLOR: TO MATCH L.M. SCOFIELD CO. CHROMIX ADMIXTURE, CHARCOAL, CURED WITH LITHOCHROME COLORWAX IN THE MATCHING COLOR.

ALL PAVER COLORS, MATRIX AND FINISHES TO MATCH ARCHITECTS SAMPLE.

3 PAVING SCHEDULE
L-1 SCALE: NA

EQUIPMENT SCHEDULE: SEE DWG L-2 FOR FITNESS EQUIPMENT LAYOUT PLAN

FITNESS STATION 1: PIPELINE STATION 14, MODEL NO. 9714. COLOR: BLACK — 5 L-4

FITNESS STATION 2: PIPELINE STATION 16, MODEL NO. 9716. COLOR: BLACK — 2 L-4

FITNESS STATION 3: PIPELINE STATION 10, MODEL NO. 9710. COLOR: BLACK — 3 L-4

FITNESS STATION 4: PIPELINE STATION 8, MODEL NO. 9708. COLOR: BLACK — 1 L-4

FITNESS STATION 5: PIPELINE STATION, MODEL NO. 9700. COLOR: BLACK — 9 L-6

4 EQUIPMENT SCHEDULE
L-1 SCALE: NA

LIGHTING SCHEDULE

EX1 IN GROUND

EX5 POLE LIGHT

NOTE: SEE ARCH AND ELECTRIC DRAWINGS FOR BUILDING MOUNTED LIGHTING

5 LIGHTING SCHEDULE
L-1 SCALE: NA

NYC MODEL CODE PROGRAM: COST IMPACT ASSESSMENT

SCHOOL

New York City Department of Buildings
280 Broadway, 7th Floor
New York, NY 10007

NYC Economic Development Corporation
110 William Street, 6th Floor
New York, NY 10038

HIGH SCHOOL FOR CONSTRUCTION TRADES, ENGINEERING & ARCHITECTURE

QUEENS, NEW YORK
NEW CONSTRUCTION

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Gary Deane, Director of Operations, Special Projects

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225 Park Avenue South New York, NY 10003

ARQUITECTONICA
114 WEST 26th STREET NEW YORK, NY 10001 (212) 254-2700 FAX (212) 533-9203

Landscape Architects
Signe Nielsen
154 Duane Street
New York, NY 10013
Telephone: 212-431-3609
Telefax: 212-941-1513

Lighting Consultant
Ann Kale Associates Inc.
37 West 37th Street
New York, NY 10018
Telephone: 212-719-1060
Telefax: 212-719-1072

Acoustical Consultant
Shen Milsom Wilke
417 Fifth Avenue
New York, NY 10016
Telephone: 212-725-6800
Telefax: 212-725-0864

Environmental Consultant
STV, Inc.
225 Park Avenue South
New York, NY 10003
Telephone: 212-777-4400
Telefax: 212-529-5237

Cost Consultant
V.J. Associates
136 West John Street
Hicksville, NY 11801
Telephone: 516-932-1010
Telefax: 516-932-8520

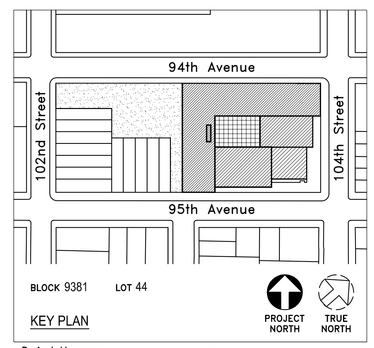
Theatrical Consultant
Harvey + Marshall Associates
173 West 81 Street
New York, NY 10024
Telephone: 212-874-0214
Telefax: 212-874-1482

Kitchen Consultant
Romano Gatland
99 West Hoffman Avenue
Lindenhurst, NY 11757
Telephone: 631-226-7700
Telefax: 631-226-7175

Elevator Consultant
Lerch, Bates & Associates, Inc.
463 Main Street
Metuchen, NJ 08840
Telephone: 732-494-0616
Telefax: 732-494-0604

Architectural Spec Consultant
Robert Schwartz Associates
589 Eighth Avenue
New York, NY 10018
Telephone: 212-691-3248
Telefax: 212-633-1613

Rev. No.	Date	Title
1	08-18-2006	Draft Report



Project Manager:	H. FENN
Design Manager:	B. FORT-BRESCIA
Project Architect/Engineer:	
Designer:	
Drawn by:	
Checked by:	
Dept. Head :	
Design No.:	Date:

LLW #22714

Project: HIGH SCHOOL FOR CONSTRUCTION TRADES, ENGINEERING & ARCHITECTURE
Address: QUEENS, NEW YORK

Drawing Title:

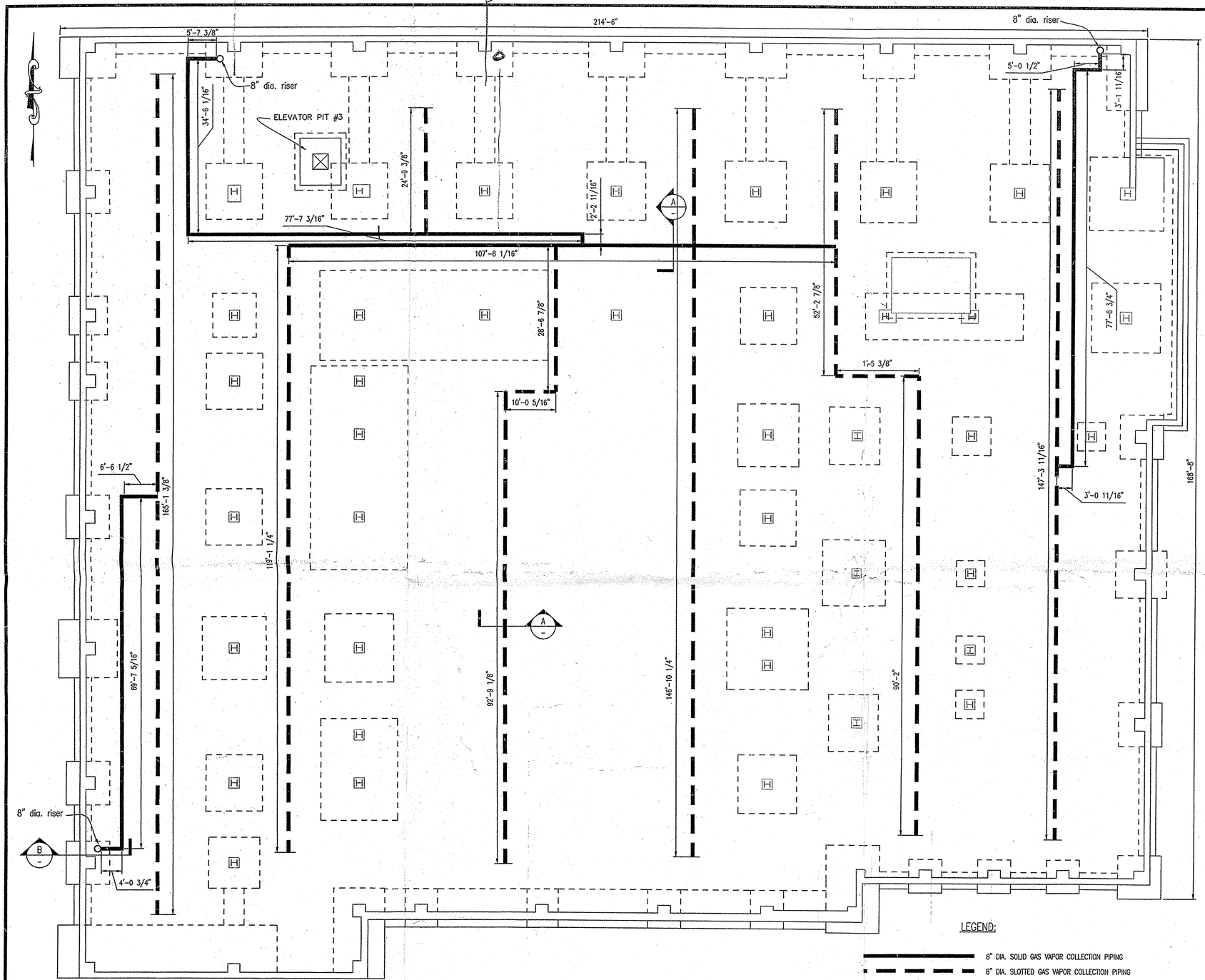
SITE LAYOUT AND MATERIALS PLAN

(CURRENT CODE)

Drawing No.: L-1

Scale: AS NOTED

Sheets in Contract: 20 of 331



LEGEND:

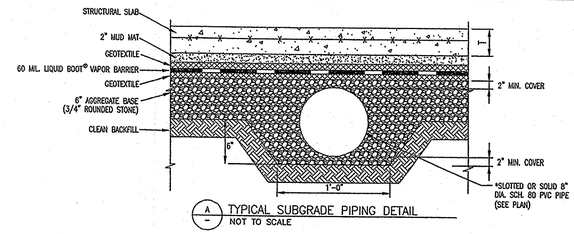
- 8" DIA. SOLID GAS VAPOR COLLECTION PIPING
- 8" DIA. SLOTTED GAS VAPOR COLLECTION PIPING
- PIPE CAP
- LOCATION WHERE HEADER TURNS UP AND PENETRATES FLOOR SLAB IN AREA OF VERTICAL PIPE CHASE.

SCALE IN FEET

0 10 20

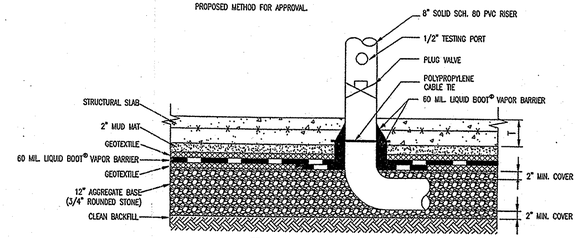
FAN PERFORMANCE (FANTECH HP-2190)

CFM vs. STATIC PRESSURE INCHES W.G.										MAX
0"	0.5"	0.75"	1.0"	1.25"	1.5"	1.75"	–	V	W	AMPS
163	126	104	81	58	35	15	–	115	60-85	.78



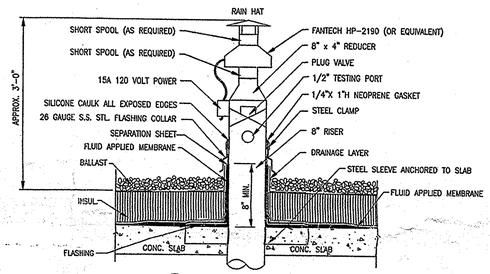
A TYPICAL SUBGRADE PIPING DETAIL
NOT TO SCALE

NOTE: *8" SLOTTED SCH. 80 PVC PIPE TO BE WRAPPED IN FILTER SOCK. FOR INFORMATIONAL PURPOSES. CONTRACTOR TO SUPPLY SHOP DRAWINGS OF PROPOSED METHOD FOR APPROVAL.



B TYPICAL RISER DETAIL AT CELLAR SLAB
NOT TO SCALE

NOTE: FOR INFORMATIONAL PURPOSES. CONTRACTOR TO SUPPLY SHOP DRAWINGS OF PROPOSED METHOD FOR APPROVAL.



TYPICAL RISER DETAIL AT ROOF
NOT TO SCALE

NOTE: POST & SLEEVE MUST BE CLEAN AND FREE OF ALL RUST AND OTHER CONTAMINANTS.
MEMBRANE SHOULD BE APPLIED TO SUBSTRATE BENEATH POST/SLEEVE PRIOR TO ITS INSTALLATION.
SUPPORT RISER LATERALLY AT ROOF/STRUCTURE.
A SINGLE REINFORCING SHEET SHOULD BE USED WHENEVER POSSIBLE. OVER BOLT HEADS, SHEET CAN BE CUT IN "X" PATTERN AND EMBEDDED FLAT INTO MEMBRANE.
IN-LINE TUBE FAN TO BE APPROVED BY SITE ENGINEER IF DIFFERENT THAN SPECIFIED.

NOTES:

1. FOR ADDITIONAL NOTES AND DETAILS SEE STRUCTURAL DWGS S-101, S-102 AND S-103.
2. UNDERSLAB GAS VAPOR COLLECTION PIPING SHALL BE CONSTRUCTED OF SCHEDULE 80 PVC, SLOTTED CASINGS WITH 0.02 INCH SLOTS AND SOLID PIPING AS INDICATED IN DRAWING. SLOTTED PIPE ENDS TO BE CAPPED.
3. SLOTTED AND SOLID GAS VAPOR COLLECTION PIPING SHALL BE 8" DIAMETER.
4. ALL GAS VAPOR COLLECTION PIPING FROM BOTTOM CELLAR SLAB INCLUDING VERTICAL RISERS THROUGH THE BUILDING SHALL BE SCHEDULE 80 SOLID PVC PIPE AT DIAMETERS SHOWN.
5. FANS MAY BE PLACED INDOORS BELOW ROOF IF DESIRED.
6. ALL HORIZONTAL SOLID PIPING SHOULD MAINTAIN A MINIMUM SLOPE OF 1/8" PER FOOT IN ORDER TO DRAIN CONDENSATION BACK TO SOIL BENEATH THE VAPOR BARRIER. THE SYSTEM SHOULD BE INSTALLED SO THAT NO PORTION WILL ALLOW THE EXCESS ACCUMULATION OF CONDENSATION.
7. PIPING CAN BE ADJUSTED UP TO 12" IN ANY DIRECTION TO ACCOMMODATE BUILDING UTILITY/MECHANICAL REQUIREMENTS.
8. TESTING PROCEDURES: CONTRACTOR SHALL PRESSURE TEST ABOVEGROUND VAPOR PIPING WITHIN THE BUILDING. CLOSE PLUG VALVES AT BUILDING SLAB AND ROOF AND PRESSURIZE PIPING TO 10 PSIG WITH AIR. SOAP ALL JOINTS AND MONITOR PRESSURE GAUGE FOR 30 MINUTES. REPAIR LEAKS AND RETEST AS NECESSARY. FOLLOWING PRESSURE TEST LOCK OPEN PLUG VALVE.

IN COOPERATION WITH:

STV Incorporated
architects/engineers/planners/interior designers
225 Park Avenue South New York, NY 10003

GAS VAPOR COLLECTION SYSTEM
PIPING PLAN AND DETAILS

NYCSCA HS 800-HIGH SCHOOL OF ARCHITECTURE AND URBAN PLANNING
QUEENS, NEW YORK

GSC REF.: 0408209	CHECKED BY: VF
DRAFTED BY: CTH	DRAFT DATE: 09-17-04
REVISED BY: RM	REV. DATE: 01-11-05

SOURCE: STV INCORPORATED, HIGH SCHOOL OF ARCHITECTURE AND URBAN PLANNING, QUEENS, DRAWINGS A-541, C-105, E-002, P-100, S-101, S-102 AND S-103

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Geologic Services Corporation
science, engineering & technology
99 Lamberton Road, Suite 201 • Windsor, CT 06095 • (860) 683-4200

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