New Jewish Home for Aged

Former Kingsbridge Garage

BRONX COUNTY

BRONX, NEW YORK

SITE MANAGEMENT PLAN

NYSDEC Site Number: V00181

Prepared for:

Jewish Home and Hospital

2614-2620 University Avenue,

Bronx, New York

Prepared by:

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Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date
1	2/24/2023	Revise inspection sheets, inspection frequencies and Site contact information.	

MARCH 2017

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1. SITE MANAGEMENT PLAN

1.1 INTRODUCTION

This document is prepared as a requirement for fulfillment of remedial action at 2614-2620 University Avenue, Bronx, New York (hereafter referred to as the "Site") under the New York State (NYS) Voluntary Cleanup Program (VCP) administered by New York State Department of Environmental Conservation (NYSDEC). The Site was remediated in accordance with the Voluntary Cleanup Agreement (VCA) Index# D2-0003-98-12, Site # V00181 which was issued on January 22, 1999.

1.1.1 General

Jewish Home and Hospital for Aged (JHH) entered into a VCA (Index No. D2-0003-98-12, Site No. V00181) with the NYSDEC on January 22, 1999 to develop an approximate 0.5-acre property located in the Bronx into a residential development. This VCA required JHH to investigate and remediate contaminated media. This approximately 0.5-acre VCP Site is more fully described in Appendix A – Metes and Bounds. A site location map is presented as Figure 1.

After the completion of the remedial work contemplated in the Remedial Action Work Plan, some contamination was left in the subsurface at this Site and is hereafter referred to a 'residual contamination.' This Site Management Plan (SMP) was prepared to manage residual contamination at the Site in perpetuity or until removal of the deed restriction with written approval by the NYSDEC. Remedial action work on the Site began in May 2000, and was completed in December 2003. All reports associated with the Site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

J.R. Holzmacher P.E. LLC (JRH) prepared this SMP, on behalf of JHH in accordance with the requirements in NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation, dated December 2002, Part 375, and the guidelines provided by NYSDEC. This SMP addresses the means for implementation of institutional controls (ICs) and engineering controls (ECs), which are required by the Deed Restriction for the Site.

1.1.2 Purpose

The Site has residual contamination that has been left after completion of the remedial action that has been performed under the VCP. ECs have been incorporated in the remedy for the Site to

render the residual contamination protective of public health and the environment. A Deed Restriction been recorded for the Site that provides an enforceable means of ensuring the continued and proper management of residual contamination and protection of public health and the environment at the Site in the future. It requires adherence by the grantor of the Deed Restriction and grantor's successors and assigns to all engineering controls and all institutional controls placed on this Site by NYSDEC. ICs provide restrictions on Site usage and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs. This SMP is the document that ensures compliance with all ECs and ICs required by the Deed Restriction for residual contamination at the Site. The SMP has been approved by the NYSDEC, and compliance with this Plan is required by the grantor of the Deed Restriction and grantor's successors and assigns.

Site management is the last phase of remediation and begins with the approval of the Final Engineering Report and issuance of the Declaration of Covenant for the remedial action. It continues in perpetuity or until released in writing by NYSDEC. The property owner is responsible to ensure that all Site management responsibilities are performed.

The SMP is intended to provide a detailed description of the procedures required to manage residual contamination left in place at the Site following completion of the remedial action in accordance with the NYS VCA with the NYSDEC. This includes (1) development, implementation, and management of all engineering and institutional controls; (2) development and implementation of monitoring systems and a Monitoring Plan; (3) development of a plan to operate and maintain any treatment, collection, containment, or recovery systems (including, where appropriate, preparation of an Operation and Maintenance Manual); (4) submittal of Site Management Reports, performance of inspections and certification of results, and demonstration of proper communication of Site information to NYSDEC; and (5) defining criteria for termination of treatment system operation.

To address these needs, this SMP includes four plans: (1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs; (2) a Monitoring Plan for implementation of Site monitoring; (3) an Operation and Maintenance Plan for implementation of remedial collection, containment, treatment, and recovery systems; and (4) a Site Management Reporting Plan for submittal of data, information, recommendations, and certifications to NYSDEC.

Site management activities, reporting, and EC/IC certification will be scheduled on a certification period basis. The certification period will be annually.

Important notes regarding this SMP are as follows:

- The penalty for failure to implement the SMP is revocation of the Declaration of Covenant;
- At the time this report was prepared, the SMP and all Site documents related to remedial investigation and remedial action are maintained at the NYSDEC Region 2 offices in Long Island City. At the time of SMP submission March 2007, the Site documents can also be found in the repositories that were established for the project, including:

  Kingsbridge Branch, The New York Public Library

  280 West 231st Street

  718-548-5656

  M, Tu, Th, Sat 10-6 PM

  Wed 12-8 PM

- The Voluntary Cleanup Agreement (Index #D2-0003-98-12; VCP # V00181 for the Site required SMP, and therefore, serves as contractual binding authority under which this SMP is to be implemented. The VCP law itself, also requires the preparation of a SMP (formerly known as an Operation, Maintenance and Monitoring Plan) in ECL 27-1415 and 27-1419. Therefore, the VCA is a binding contract and the authority under which this SMP is to be implemented.
- If the SMP is not properly implemented, the Declaration of Covenant is subject to revocation; and
- This SMP defines the means for implementation of deed restriction requirements for the Site.

1.2 SITE BACKGROUND

1.2.1 Site Location and Description

The Site is located in the County of Bronx, New York City, New York and is identified as Block 3215 and Lots 11 and 14 on the Bronx Tax Map. The Site is situated on an approximately 0.5-acre area bounded by two commercial buildings to the north, two residential buildings to the south, Aqueduct Avenue to the east, and University Avenue to the west (Figure 1). The approximately 0.5-acre Site is more fully described in Appendix A – Metes and Bounds.

1.2.2 Site History

The subject site, 2614-2620 University Avenue, Bronx, New York, is located on the east side of University Avenue, south of West Kingsbridge Road in the Bronx, New York. The property is identified as 2614-2620 University Avenue and Tax Block 3215, Lots 11 and 14. At the start of the project, the property was occupied by an office building, converted from a former synagogue (2620 University Ave.) and a parking garage (2614 University Ave.). Figure 2 is a pre-construction site plan.

The Kingsbridge Corporation operated the former parking garage from when it purchased the property in 1973 up until 1999. Historical information indicated that there were three 550-gallon underground gasoline storage tanks located beneath the basement floor of the garage. The Kingsbridge Corporation contracted in November 1994 for these tanks to be properly abandoned in-place.

A Phase I Environmental Site Assessment of the property was performed as part of a plan to obtain funding from the HUD to construct a low-income senior housing project. The Phase I identified the three gasoline tanks beneath the garage and recommended a Phase II subsurface investigation. The subsequent Phase II investigation identified evidence of petroleum impacts to soil and groundwater beneath the property. JHH notified the NYSDEC and a spill number (#96-08909) was assigned to the site in January 1997, JHH conducted additional investigations to delineate the extent of the petroleum-affected soil and groundwater. These investigations are summarized in a series of reports that document a gasoline release from the former underground storage tanks at 2614 University Avenue and a tetrachloroethene (PCE) release from the former dry cleaner located at 2628 University Avenue, directly north of the site (Figure 2).

The Remedial Action Work Plan (RAWP) was approved by the NYSDEC and NYSDOH in December 1998. This document called for the excavation and removal of PCE and BTEX contaminated soil and the three underground storage tanks. In addition, a Soil Vapor Extraction (SVE) System would be installed to address residual concentrations of BTEX and PCE in soil and groundwater. Groundwater monitoring would be conducted to assess the effectiveness of these remedial actions. In January 1999, the Voluntary Clean-up Agreement (VCA) between JHH and the NYSDEC was finalized.

The remedial measures conducted under the December 1998 RAWP included (a) the removal of the underground storage tanks (USTs); (b) the removal of the associated gasoline-contaminated soil (four soil "hot-spots" where BTEX constituents exceeded the RSCOs); (c) the removal of impacted soil from one well-defined PCE "hot-spot" which exceeded the RSCO; (d) the installation of a Soil Vapor Extraction (SVE) System to address any residual contamination; and (e) groundwater monitoring to assess the effectiveness of these remedial actions.

Demolition of site buildings began on May 22, 2000 and was completed in mid-June 2000. In July 2000, in accordance with the RAWP, an additional subsurface investigation was conducted to determine if contamination was present under the former synagogue and in other areas that were inaccessible prior to building demolition.

JHH was required by the terms of the RAWP to install a dewatering trench in the basement of the former dry cleaner located at 2628 University Avenue (located off-site to the north). The installation work was performed in September 2000.

On September 20, 21, 22 and 25, 2000 and October 12, 2000, the identified soil "hot-spots" (approximately 150 tons) specified in the RAWP were excavated and removed as well as a significant volume of additional soil (450 tons), as requested by JHH. The additional soil was voluntarily removed by JHH to expedite the remediation and to enhance the effectiveness of the proposed SVE system. The USTs and contaminated soil were removed and properly disposed of off-site by a licensed waste removal company.

Installation of the SVE system began in July 2001 with operation commencing on August 27, 2001. The SVE system was operated continuously for two years, except for brief periods of maintenance

and repair. The SVE system was designed in four separate zones to encompass the footprints of the proposed building and parking lot.

Based on air sampling (influent/effluent) data, the SVE system was proven effective in removing and treating residual unsaturated zone soil contamination.

The semi-annual groundwater monitoring program as described in the December 1998 RAWP was implemented in June 2001. The purpose of this monitoring was to confirm the effectiveness of the soil excavation work.

In October 2001, the State requested that soil gas samples be collected to confirm that no vapors were leaving the site and migrating on to the neighboring property to the south. There was a potential concern because groundwater samples from two wells, PS-11 and PS-12, located just south of the property line and hydrologically downgradient of the site, showed elevated concentrations of BTEX and dry cleaning constituents.

At a project meeting with NYSDEC and NYSDOH in August 2002, it was agreed that some contaminated soil might be present in saturated zone soils (between groundwater and bedrock) that was contributing to the groundwater contamination in the vicinity of PS-11 and PS-12. Due to structural concerns, the previous excavations were stopped short of the property line and did not remove all the soil below groundwater adjacent to the property line. To address this issue, a site technical meeting was held in September 2002 with NYSDEC and NYSDOH to develop a draft Supplemental Work Plan. The Supplemental Work Plan was approved and implemented in October 2002.

JHH installed subsurface gas-monitoring points on the neighboring Orchard Mews apartment's property in accordance with NYSDOH specifications in May 2002. Soil borings were drilled on-site to collect soil samples at different depths and small diameter monitoring wells were installed in each boring. In November 2002, the six soil gas monitoring points were sampled a second time and a complete round of water level measurements and well sampling was also conducted. The results were presented to NYSDEC and NYSDOH in a draft Supplemental Site Investigation (SSI) report dated December 2002.

Initially, a multi-phase extraction (MPX) system was proposed to remove contaminants between the former tank bed and the property line because it was believed that excavation of saturated zone soils would be too costly due to structural concerns. However, JHH recognized that excavation was the only remedial option that could meet a funding deadline for the project imposed by the Department of Housing and Urban Development. Therefore, JHH proposed to excavate the contaminated soil layer.

With the assistance of two structural engineering firms retained by JHH, a Supplemental Remedial Action Work Plan (SRAWP) was developed to complement the December 1998 RAWP. The SRAWP included excavation of the contaminated saturated zone soil, dewatering, and adding the oxygen release compound (ORC) to the excavation prior to backfilling. At a meeting held on June 30, 2003, the NYSDEC agreed with the SRAWP concept, pending satisfaction of NYSDOH requirements and the submittal of a formal plan for approval. The NYSDEC agreed to close the 1996 spill file for the site after the implementation of the SRAWP, provided that engineering and institutional controls requested by the NYSDOH and NYSDEC were implemented on-site and that off-site groundwater and soil-gas monitoring would continue under the signed Voluntary Cleanup Agreement (VCA). The SRAWP for soil excavation was approved by NYSDEC and NYSDOH on August 4, 2003.

Work under the 2003 SRAWP began on October 15 and was completed on November 4, 2003. During the excavation work the SVE system was shut off, decommissioned and completely dismantled. The SVE equipment and the equipment shed were removed from the site.

The area of excavation consisted of five contiguous zones located between the former underground storage tank vault and the southern property boundary. Excavation depths were to bedrock. Work was conducted in accordance with the Health and Safety Plan and Quality Assurance Plan incorporated into the December 1998 RAWP.

Due to the depth of the excavation and close proximity of adjacent structures (apartment building, sidewalk, etc.), a shoring and bracing plan for the excavation work was prepared. The plan involved excavation within shoring boxes. The boxes were twelve feet long, eight feet wide and eight feet deep.

Excavated contaminated soils were stockpiled on site (on top of and covered with polyethylene sheeting) pending receipt of disposal analysis and disposal facility approval, and then transported off-site for proper disposal. Approximately 1,000 tons of affected soil was removed, with an additional 180 tons from the tank excavation to the west. However, petroleum-stained soil was noted on parts of the eastern and northern walls of the excavation. Based on these data, JHH made the decision to remove approximately 340 additional tons of affected soil to the east and north. The total amount of soil removed at this time was 1519.24 tons.

Groundwater that was present or infiltrated the excavation area was removed by pumping it directly into a tank truck for transportation to the Clearwater of New York, Inc. facility in Staten Island, New York (EPA ID. No. NYR000080549). A total of 31,468 gallons of groundwater were removed during the course of this excavation work. Copies of the liquid waste manifests were included in the December 2003 Site Remediation Report.

In accordance with Section 5.0 of the RAWP, JHH implemented a community air monitoring plan for organic vapors, as outlined in the NYSDOH Generic Community Air Monitoring Plan, to provide protection for the surrounding, specifically the downwind, community (i.e. off-site receptors including residences, businesses and on-site workers not directly involved with the subject work activities) and to confirm that the work activities did not spread contamination off-site through the air. No readings above background were recorded. Air monitoring data were provided in the Final Site Remediation Report dated December 2003.

Because of the benefits of using oxygen-releasing compounds to enhance the remediation of petroleum constituents, this technology was incorporated into the proposed remedial design. Approximately 1,100 pounds of ORC were applied directly to groundwater, providing an ORC application thickness of one-quarter inch in each of the excavation zones that did contain groundwater.

Following collection of the endpoint samples, each excavation zone was backfilled with approved fill. Backfill was compacted to a depth of six inches below the top of the surrounding pavement. Fill material analytical results and fill receipts are included in the Final Site Remediation report dated December 2003.

Based on the successful implementation of the December 1998 RAWP (including the August 2003 SRAWP) and the endpoint sample data, the spill number 96-08909 was closed by the NYSDEC on December 29, 2003

In addition, to post-remediation ground water and soil gas monitoring, a vapor barrier and sub slab depressurization system was installed during building construction. The necessary deed restrictions were approved by the DEC and formally filed. JHH has been maintaining the completed building and associated paved areas as a cap covering the property.

1.2.3 Geological Conditions

After demolition of site buildings in May and June 2000, ten additional soil borings were drilled and soil samples collected from grade to bedrock. In addition five ground water monitoring wells were installed in the boring locations where groundwater was detected.

In October 2002 additional soil boring samples were collected and six small diameter monitoring wells were installed and several complete rounds of water level measurements and well sampling were.

These borings confirmed that the site is underlain by a thin veneer (less than 6-inches to 8-feet) of low permeability, unconsolidated overburden on top of dense crystalline bedrock. The overburden is primarily silt and clay (weathered bedrock) with pockets of fill and thin lenses of native fine sand and rock fragments. Groundwater is not present at all locations in the overburden, especially where the overburden is thin as in the area of the former synagogue.

The bedrock belongs to the Precambrian Fordham gneiss and the surface of bedrock is dense but uneven. It is high below the former dry cleaner and former synagogue, and low beneath the former parking garage. Under the former parking garage, the lower bedrock topography resulted in thicker overburden and the accumulation of groundwater in the overburden, up to four feet of saturated thickness in some areas. Commingling of dissolved dry cleaning fluid and gasoline constituents occurred in this low area. All of this contaminated overburden has been removed and replaced with certified clean fill.

Through many periods groundwater has been consistently measured to flow from University Avenue southeasterly toward Aqueduct Avenue at a gradient of approximately 0.03 ft/ft. Note that the entire site is not underlain by groundwater; therefore, groundwater flow data and contour maps have been carefully evaluated.

1.3.0 DESCRIPTION OF REMEDIAL INVESTIGATION FINDINGS

The SMP and all Site documents, including the Remedial Investigation and Remedial Action Work Plan, are maintained by the NYSDEC (or successor agency). At the time of publication of this SMP, these reports can be found at the Region 2 NYSDEC offices in Long Island City, New York.

1.3.1 Summary of Remedial Investigation Findings

As per the December 1998 RAWP, groundwater samples were collected on September 19, 2000, from the available on- and off-site monitoring wells to serve as a baseline for evaluating the effectiveness of the remedial activities to be conducted at the site. Based on these analytical results, it appeared that PCE in groundwater was not migrating and was being co-metabolized in the presence of BTEX compounds from the release from the former USTs. The investigation, trench installation and groundwater sampling are summarized in the Source Removal Remediation Report (Volumes 1 and 2) dated March 2001.

Below is a summary of remedial investigation findings:

1.3.1.1 Soil

On September 20, 21, 22 and 25, 2000 and October 12, 2000, the previously defined soil "hot-spots" were excavated and removed. Thirteen endpoint soil samples were collected from the sidewalls of the excavation for confirmatory laboratory analysis. Analytical results for the endpoint samples indicated that none of the applicable Recommended Soil Cleanup Objectives (RSCOs) listed in NYSDEC TAGM 4046 were exceeded. The excavation and removal of the abandoned USTs and areas of significantly impacted soil at 2614 University Avenue removed the majority of gasoline contamination and the high concentrations of dry cleaning chemicals at the site.

In July 2000, ten soil borings were drilled from grade to bedrock under where the old buildings were. In addition, monitoring wells were installed in soil borings where groundwater was encountered. Analytical results for the soil samples collected were compared to the RSCOs. Results indicated that detected compounds were significantly below their respective RSCOs and did not suggest the presence of any additional contaminant sources.

An additional 2,150 tons of contaminated soil was removed in 2003. Fifteen endpoint soil samples (with three trip blanks) were collected from the sidewalls of the excavation for confirmatory laboratory analysis following the soil excavation. Sampling was conducted in accordance with the procedures specified in the Sampling and Analysis Protocol (Attachment A) and the Data Collection - Quality Assurance Project Plan (Attachment B) of the December 1998 Remedial Action Work Plan (summarized in the August 2003 Supplemental RAWP). No compounds were detected above the RSCOs in 12 of the 14 samples. The two samples that showed constituents each above the RSCOs were on the property line in the southwestern portion of the site. Both samples indicated xylenes above the RSCOs. These samples were not true endpoints because they were collected directly on the JHH side of the former parking garage foundation wall, which straddles the property line and appears to extend to bedrock in that area of the site. (Please note that these soils were subsequently removed and properly disposed of during building construction as described below).

Building construction activities began on May 3, 2004. Due to concerns raised by the contractor, regarding the potential presence of low-level petroleum impacted soils (as indicated by petroleum odors in a foundation test pit excavation), JRH developed a soil management plan for the handling and disposal of excavated soil that indicated visual, olfactory and/or laboratory-confirmed residual contamination (even if below the RSCOs). Building construction continued through July with the installation of footings, sub-grade structures, and the plumbing and piping for the sub-slab depressurization system. In accordance with the soil management plan, approximately 280 cubic yards of soil were segregated and stockpiled by the building contractor. These soils, which exhibited visual and/or olfactory contamination, were removed from the site on July 7 and 9, 2004. A total of fourteen trucks (476.74 tons) were loaded by Brookside Environmental and transported off-site by BT Trucking, Inc. for disposal at the Mt. Hope Recycling facility in Wharton, New Jersey (EPA ID. No. NJD101241537). Copies of the waste disposal manifests were forwarded to the NYSDEC and NYSDOH in a letter report dated September 1, 2004.

1.3.1.2 On-Site and Off-Site Groundwater

Both on-site and off-site groundwater monitoring was conducted since the first monitoring wells were installed in 1997 through the last quarterly sampling in July of 2006. Historic contaminant trends confirmed that remedial activities at the site including removal of the underground storage tanks removal of impacted soil, operation of the SVE system, groundwater pumping during

excavation, and the application of the Oxygen Release Compound have been successful reducing contaminant concentrations in groundwater.

PCE and degradation compounds and gasoline constituents were detected above their respective New York State Groundwater Standards in samples collected from downgradient monitoring wells PS-12 and PS-11, but not in further downgradient wells PS-15 and PS-16. The concentrations of individual and total chlorinated VOCs in the samples from PS-11 and PS-12 are dramatically lower then those detected in pre-remediation samples. For example the concentrations of cis-1, 2-DCE detected in PS-11 have declined 90 percent since remediation was completed.

1.3.1.3 On-Site and Off-Site Soil Vapor

JHH installed six subsurface gas-monitoring points on downgradient neighboring property in accordance with NYSDOH specifications. The first round of soil gas sampling was conducted on May 1, 2002 and indicated detections of toluene in five of the six sampling points with no other compounds detected. These results were surprising since toluene is not a major on-site soil or groundwater contaminant.

Soil-gas samples were collected from the six off-site subsurface gas-monitoring points on a quarterly basis for one year. The purpose of this sampling is to establish a consistent database. Based on the results, the need for additional soil-gas sampling was to be evaluated after one year.

Soil remediation was completed in 2003. The data collected from the six points over four quarters of monitoring showed a consistent decrease in soil gas concentrations compared to pre-remediation sampling events. Analytical results for November 2004 indicated that no VOCs were detected at concentrations equal to or above 0.1 mg/m^3 in the six soil gas samples. As specified in the approved RAWP, the November 2004 sampling event represented the fourth and final stipulated quarterly soil gas-monitoring event as determined by the State. Given the improvement in groundwater quality and the non-detection of soil gas concentrations, the extension of soil gas monitoring was not warranted.

1.3.1.4 Underground Storage Tanks

Historic site information and the presence of fill ports indicated that there were three 550-gallon gasoline USTs located in the western portion of the property. During the October 2000 soil excavation two tanks were encountered in one concrete vault and they were removed. The third

tank was discovered in its own concrete vault during the 2003 soil excavation and was properly removed.

1.4.0 DESCRIPTION OF REMEDIAL ACTIONS

- REMEDIAL ACTION WORK PLAN dated December 1998
- SOURCE REMOVAL REPORT dated December 2003
- SUPPLEMENTAL RAWP dated August 2003
- REVISED SECTION 4.0 AMENDMENT to the 1998 REMEDIAL ACTION WORK PLAN dated December 2003
- OM&M PLAN dated December 2003
- QUARTERLY GROUNDWATER AND SOIL-GAS MONITORING REPORTS 2004-2006

Below is a summary of the remedial actions implemented on the Site:

1.4.1 Removal of Contaminated Materials from the Site

- 3076 tons of contaminated soil;
- 33,000 gallons of contaminated groundwater
- Addition of 1,100 lbs of the Oxygen Release Compound to the open excavation
- Replacement of soil with certified clean fill

1.4.2 On-Site and Off-Site Treatment Systems

- The on-site SVE System operated from August 2001 through August 2003. The SVE system was decommissioned and removed in October 2003 when all remaining contaminated soil was removed.

1.4.3 Residual Contamination

There is very little if any residual soil contamination remaining on-site. All soil was removed to bedrock and fifteen endpoint soil samples were collected from the sidewalls of the excavation for confirmatory laboratory analysis following the soil excavation. Sampling was conducted in accordance with the procedures specified in the Sampling and Analysis Protocol (Attachment A) and the Data Collection - Quality Assurance Project Plan (Attachment B) of the December 1998 Remedial Action Work Plan (summarized in the August 2003 Supplemental RAWP). No

compounds were detected above the RSCOs in 12 of the 14 samples. The two samples that showed constituents each above the RSCOs (PX-2 and PX-3) are on the property line in the southwestern portion of the site. Both samples indicated xylenes above the RSCOs. These samples were not be true endpoints because they were collected directly on the JHH side of the former parking garage foundation wall, which straddles the property line and appears to extend to bedrock in that area of the site. Please note that these soils were removed and properly disposed of during building construction (additional 476 tons). In addition, soil was removed during construction.

The State required that engineering controls, specifically a vapor barrier and a sub-slab depressurization system, be installed as part of the building construction project. The NYSDOH provided design references for such a system (i.e., EPA/625/R-92/016- *Radon Prevention in the Design and Construction of Schools and other large Buildings*-Third Printing with Addendum, June 1994 and EPA/402-K-01-002-*Building Radon Out*). Professional engineers and architects from JRH and Perkins Eastman Architects P. C. designed the membrane and sub-slab depressurization system using this reference. A JRH engineer observed and photographed the installation of the sub-slab depressurization system and vapor barrier in August 2004.

The State required institutional controls in the form of deed restrictions, so site groundwater will not be used for potable or non-potable purposes and on-site soils will not be disturbed unless a formal soil management plan is in place. The Declaration of Covenants and Restrictions (deed restriction), which was approved by the NYSDEC on February 12, 2004 was executed and filed with the Registrar of the City of New York, Bronx County. The deed restriction was recorded on April 21, 2004 (City Register File Number 2004000244967). Copies of the recorded document were provided to the NYSDEC by JHH's counsel (Paul, Hastings, Janofsky & Walker LLP) and are included in Appendix A.

Construction of The Kenneth Gladstone Building has been completed at 2614-2620 University Avenue. The building consists of six stories and a cellar. Each floor (and the cellar) is 6,578 square feet. The cellar contains two storage rooms, six maintenance rooms, and one room each for laundry, arts and crafts, and the superintendent's office. The first (ground) floor contains four residential units, a manager's unit, an office and the community room. Floors 2-6 have nine residential units each. There is a small paved parking lot with ten spaces (including one handicapped space). Figure 3 shows the building and the site as it is today.

1.4.4 Engineering and Institutional Controls

Since residual contamination is present at this Site, ECs and ICs will be implemented to protect public health and the environment in the future. The Controlled Property has four primary engineering controls. These are: (1) a vapor barrier and sub slab depressurization system were installed during building construction, (2) the necessary deed restrictions have been approved by the DEC and formally filed, (3) the owner of the property will maintain the completed building and associated paved areas as a cap covering the property, (4) and this property can only be used for restricted residential housing unless proper waiver is approved by the appropriate agencies.

A series of institutional controls are required to implement, maintain and monitor these engineering controls, as defined in the Deed Restriction and this SMP. Adherence to these institutional controls is required under this deed restriction. These institutional controls are:

- All engineering controls must be operated and maintained as specified in this SMP;
- All engineering controls on the Controlled Property must be inspected and certified at a frequency and in a manner defined in this SMP;
- Data and information pertinent to site management for the Controlled Property must be reported at the frequency and in a manner defined in this SMP.

The Controlled Property has a series of institutional controls in the form of site restrictions. Adherence to these institutional controls is required under this deed restriction. Site restrictions that apply to the Controlled Property are:

- Vegetable gardens and farming on the Controlled Property are prohibited;
- The use of the groundwater underlying the Controlled Property is prohibited without treatment rendering it safe for intended purpose;
- All future activities on the Controlled Property that will disturb residual contaminated material are prohibited unless they are conducted in accordance with the soil management provisions in this SMP;
- The Controlled Property may be used for restricted residential use only provided the long-term engineering and institutional controls included in the SMP are employed.

These EC/ICs should:

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards;
- Prevent contact with or inhalation of volatiles from contaminated groundwater;
- Prevent ingestion/direct contact with contaminated soil; and
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

2. ENGINEERING AND INSTITUTIONAL CONTROL PLAN

2.1 INTRODUCTION

2.1.1 General

Remedial activities completed at the Site were conducted in accordance with the NYSDEC-approved RAWP for Jewish Home and Hospital (dated December 1998 and revised in December 2003). A summary of the remedial strategies and EC/ICs implemented at the Site are as follows:

- Excavation of all soils exceeding RSCOs (TAGM 4046) as well as "marginally" affected or residually contaminated soil;
- Maintenance of an engineered composite cover consisting of building, concrete and asphalt to prevent human exposure to residual contaminated soils remaining under the Site;
- Creation of a deed restriction, including institutional controls, to prevent future exposure to any contamination remaining at the Site (a copy of the deed restriction is provided in Appendix A).
- Installation of a sub-slab depressurization system and impermeable membrane under the new building.

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

2.1.2 Purpose

The purpose of this Plan is to provide:

- A description of all EC/ICs on the Site
- The basic operation and intended role of each implemented EC/IC;
- The key components of the ICs created as Stated in the deed restriction;

- The issues that should be evaluated during each inspection and compliance certification period;
- Appropriate plans for implementation of EC/ICs, such as the implementation of the Soil Management Plan for the safe handling of residual contamination that may have to be disturbed during maintenance or redevelopment work on the Site; and
- Any other provisions necessary to identify or establish methods for implementing the EC/ICs required by the Site remedy, as determined by the NYSDEC.

2.2 ENGINEERING CONTROL COMPONENTS

2.2.1 Engineering Control Systems

2.2.1.1 Composite Cover System

Exposure to residual contaminated soils is prevented by an engineered, composite cover system that has been built on the Site. This composite cover system is comprised of asphalt-covered roads, concrete covered sidewalks, and concrete building slabs. Figure 3 shows the NYSDEC-approved design for each remedial cover type used on this Site. Figure 3 also shows the location of each cover type at the Site. A Soil Management Plan is required for all invasive work penetrating residual contamination. This plan must also outline the procedures required in the event the composite cover system and underlying residual contamination are disturbed. The soil management plan is discussed in greater detail in Section 2.3 of this EC/IC Plan. Issues related to maintenance of this cover are provided in the Monitoring Plan included in Section 4 of this SMP.

2.2.1.2 Sub-Slab Depressurization Systems

The State required that engineering controls, specifically a vapor barrier and a sub-slab depressurization system, be installed as part of the building construction project. NYSDOH provided design references for such a system (i.e., EPA/625/R-92/016- *Radon Prevention in the Design and Construction of Schools and other large Buildings*-Third Printing with Addendum, June 1994 and EPA/402-K-01-002-*Building Radon Out*). A professional engineer and architect designed the membrane and sub-slab depressurization system based on these documents. The State has also required institutional controls in the form of deed restrictions, ensuring that groundwater under the site will not be used for potable or non-potable purposes. NYSDEC has provided standard language.

As per the December 2003 OM&M Plan, the pressure gauges in the vent pipes of the sub-slab depressurization system have been checked on a weekly basis to ensure that the fans are maintaining adequate negative pressure to depressurize the sub-slab area and prevent soil vapor intrusion. Records are maintained by JHH and the proper operation of the sub-slab depressurization system will be certified on an annual basis.

The procedures for operating and maintaining the sub slab depressurization (SSD) system are documented in the OM&M Plan dated December 2003 (Section 4 of this SMP). The procedures for monitoring the systems are included in the Monitoring Plan (Section 3 of this SMP). The Monitoring Plan also addresses severe condition inspections in the event a severe condition has taken place that may affect controls at the Site.

2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems

2.2.2.1 Composite Cover System

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

2.2.2.2 SSD System

The SSD systems will not be turned off without NYSDEC and NYSDOH approval in writing. A proposal to turn it off will be based on confirmatory data justifying such a request may be made by property owner. Systems will remain in place and operational until permission to discontinue their use is granted by NYSDEC and NYSDOH in writing.

2.3 INSTITUTIONAL CONTROLS COMPONENTS

2.3.1 INSTITUTIONAL CONTROLS

A series of institutional controls are required under the OM&M Plan (December 2003) to implement, maintain and monitor these engineering control systems, prevent future exposure to residual contamination by controlling disturbances of the subsurface soil and restricting the use of the Site to restricted residential uses only. Adherence to these institutional controls on the Controlled Property is required under the Deed Restriction and will be implemented under this Site Management Plan (SMP). These institutional controls are:

- Compliance by the (Deed Restriction) Grantor and the Grantor's successors and assigns with all elements of this SMP is required;
- a composite cover system consisting of asphalt covered roads, concrete covered sidewalks, and concrete building slabs must be inspected, certified and maintained as required in the SMP;
- A soil vapor mitigation system consisting of a sub-slab depressurization system under the building structures must be inspected, certified, operated and maintained as required in the SMP;
- Data and information pertinent to site management for the Controlled Property must be reported at the frequency and in a manner defined in this SMP;
- On-site environmental monitoring devices must be protected and replaced as necessary to ensure continued functioning in the manner specified in this SMP;
- Engineering controls may not be discontinued without an amendment or extinguishment of this Deed Restriction.

The Controlled Property has a series of institutional controls in the form of site restrictions. Adherence to these institutional controls is required under the Deed Restriction. Site restrictions that apply to the Controlled Property are:

- Vegetable gardens and farming on the Controlled Property are prohibited;
- The use of the groundwater underlying the Controlled Property is prohibited without treatment rendering it safe for intended purpose;
- All future activities on the Controlled Property that will disturb residual contaminated material are prohibited unless they are conducted in accordance with the soil management provisions in this SMP;
- The Controlled Property may be used for restricted residential use only provided the long-term engineering and institutional controls included in the SMP are employed.
- The Controlled Property may not be used for a higher level of use, such as unrestricted residential use without a NYSDEC-approved amendment or extinguishment of this Deed Restriction.

- Grantor covenants and agrees that this Deed Restriction shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.
- Grantor covenants and agrees that it shall annually, or such time as NYSDEC may allow, submit to NYSDEC a written Statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury that the controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls employed at the Controlled Property were approved by the NYSDEC, and that nothing has occurred that would impair the ability of such control to protect the public health and environment or constitute a violation or failure to comply with any SMP for such controls and giving access to such Controlled Property to evaluate continued maintenance of such controls.

2.3.2 Soil Management Plan

The Site has been, fully developed for restricted residential use. Any future intrusive work that will disturb the residual contamination and modifications or repairs to the existing composite cover system will be performed in compliance with this document. Intrusive construction work must be conducted in accordance with the procedures defined in several plans to be prepared for the site. These include a Health and Safety Plan (HASP), a Community Air Monitoring Plan (CAMP), and a Soil Management Plan, the elements of which are listed below. The HASP is the responsibility of the property owner and should be in compliance with DER-10 Technical Guide and 29 CFR 1910 and 1926. Any intrusive construction work must be certified as compliant with the SMP and described in the periodic inspection and certification in the Site Management Reporting Plan (See Section 5).

A summary of required elements of the Soil Management Plan for invasive work in residual contamination is as follows:

- Notification:
    - NYSDEC and NYSDOH will be notified a minimum of 10 days prior to the beginning of any intrusive activities through a written letter. The agencies will be informed, at a minimum, of the description of work to be performed, the duration of the work, and certifications of the contractor to perform the work.
- Oversight:
    - All invasive field work pertaining to the Soil Management Plan will be supervised by an environmental professional qualified to certify to NYSDEC that such work was in compliance with this SMP (the 'Remedial Construction Manager').
    - Intrusive construction activities will be completed by properly trained and certified equipment operators and laborers (including 40-hour HAZWOPER training).
    - Each party performing work will comply with the HASP previously prepared for the Site and may, at its discretion, prepare its own task-specific HASP for its organization, which will be consistent with the overall Site-specific HASP. The HASP must meet the minimum requirements established in the site-specific HASP and 29 CFR 1910 and 1926.
- Record Keeping and Reporting
    - A logbook will be maintained, documenting all invasive activities on-Site.
    - Materials flow (i.e., source and destination of contaminated materials), chemical characterization of soils, and end-point sampling data of excavation pits, CAMP data, and as-built data will be appropriately maintained and recorded.
- Excavation, Grading, and Other Intrusive Work:
    - Intrusive work will be conducted in accordance with all applicable local, State, and federal regulations.
    - Exposed sub-slab soil will be inspected for evidence of contamination (visual, olfactory and PID).
    - During excavation, soil will be continuously inspected for evidence of chemical or petroleum contamination, staining, odors, and field screened with a PID.
- Controls have also been established to insure appropriate procedures for: stockpiling, control of odor, dust, and other nuisances, storm-water and erosion control, stabilization practices, dewatering and fluids management, soil/fill characterization,

- Off-site disposal of contaminated material will be performed in compliance with all federal, State and local laws, rules and regulations, and will include:
    - Proposed disposal facility(ies) and/or re-use site(s) will be reviewed by the Remedial Construction Manager for conformance with the Soil Management Plan and compliance with all applicable laws and regulations before any materials leave the Site.
    - All excavated soil, fill, and solid waste will be handled, transported, and disposed in accordance with Part 360 and Part 371 regulations and all other applicable local, State, and federal regulations.
    - As appropriate, soil will be excavated and loaded directly to trucks for transport to a permitted landfill, Resource Conservation and Recovery Act Treatment, Storage, and Disposal (RCRA TSD) facility. Beneficial re-use of on-Site materials must be approved by NYSDEC in writing. Soils may be temporarily stockpiled, if appropriately handled, pending waste characterization required by the facility, or other reasons preventing the direct loading for off-site transport as long as no nuisances are thus produced.
    - Characterization laboratory tests will be determined by the receiving facility's permit requirements.
- Backfill and Cover Soils:
    - Soils imported to the site for use as backfill will meet NYSDEC backfill standards and for cover soils will meet the unrestricted use soil standards in 6 NYCRR 375-6.8(a).
- Contingency Plan
    - Contingency Plan will address unanticipated "hot spot" locations, USTs, or other unanticipated subsurface structures.
    - USTs or structures will be decommissioned in accordance with all applicable NYSDEC closure requirements.
    - Waste characterization testing will be conducted as required by the disposal facility.

The HASP must include, but is not limited to, the components described below:

- Site Description, Location, and Background
- Description of Potential Site Hazards
- Health and Safety Training Requirements
- Medical Surveillance
- Creation of Work Zones (i.e., Exclusion Zones, Contamination Reduction Zones, and Support Zones)
- Personal Safety Equipment and Protective Clothing (included will be a respiratory protection program that meets the requirements of 29 CFR 1910.134)
- Air Monitoring Plan
- Equipment Cleaning Protocol
- Confined Space Entry and Training (in accordance with Occupational Safety and Health Administration [OSHA] Permit-Required Confined Space Standard [29 CFR 1910.146])
- Material Safety Data Sheets (MSDSs) for all materials to be brought on-site and constituents expected to be encountered in the course of excavation
- Excavation Safety (as specified in 29 CFR 1926 Subpart P including, but not limited to soil classification, excavation inspections, protective systems, and designated competent persons)
- Standard Operating Procedures and Safety Programs (as required by applicable sections of Section 1910 of 29 CFR 1910 and 29 CFR 1926)
- Contingency Plan
    - To be implemented in the event of various emergency or non-routine events.
    - To set forth procedures for addressing spill prevention and emergency response procedures, odor control, emergency vehicular access/egress, evacuation, emergency notification and contacts, and emergency medical procedures.

A CAMP will be implemented according to current practices required by NYSDOH and will provide real-time air monitoring procedures for VOCs and particulates. The CAMP provides monitoring

and protection for the community from organic vapors and dust, and it was prepared in conformance with NYSDEC and NYSDOH requirements. The CAMP must include:

- Identification of potential off-site receptors adjacent to the Site.
- Location of perimeter sampling stations.
- Real time perimeter VOC monitoring field methods.
- Real-time perimeter particulate monitoring field methods.
- VOC and particulate action levels.
- Contingency procedures if action levels are exceeded.
- Documentation procedures.
- Community complaints and how they will be addressed.

2.4 INSPECTIONS AND NOTIFICATIONS

2.4.1 Inspections

Inspections of the various systems installed on-site will be conducted at the frequency specified in the schedules provided in the Monitoring Plan of the SMP. A comprehensive Site-wide inspection will be conducted annually. The inspections will determine and document:

- Whether engineering controls continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of the deed restriction document;
- Achievement of remedial performance criteria;
- Sampling and analysis of appropriate media during Monitoring Events;
- If site records are complete and up to date; and
- Changes, or needed changes, to the remedial or monitoring system;

Inspections will be conducted in accordance with the procedures set forth in the Monitoring Plan of the SMP (Section 3). The reporting requirements are outlined in the Site Management Reporting Plan (Section 5).

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

2.4.2 Notifications

2.4.2.1 NYSDEC-acceptable Computer Database

The following information will be presented to NYSDEC in a computer database format when requested:

- A Site summary;
- Name of current Site owner and/or the remedial party implementing the SMP for the Site;
- The location of the Site;
- The current status of Site remedial activity;
- A copy of the deed restriction; and
- A contact name and phone number of a person knowledgeable about the Easement's requirements, in order for NYSDEC to obtain additional information.

Should the Deed Restriction be modified or extinguished, the copy of the Deed Restriction contained in the database will be updated accordingly.

2.4.2.2 Non-routine Notifications

Non-routine notifications to be submitted by the property owners to the NYSDEC on an as-needed basis include the following:

- 60-day advance notice of any proposed changes in the use of the Site.
- 10-day advance notice of any proposed ground-intrusive activities.
- Notice within 48-hours of any damage or defect to the foundations structures that reduces or has the potential to reduce the effectiveness of the SSD system and any action taken to mitigate the damage or defect.
- Notice within 48-hours of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of the engineering controls in place at the

Site, including a summary of action taken and the impact to the environment and the public.

- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action shall be submitted to the NYSDEC within 45 days and shall describe and document actions taken to restore the effectiveness of the ECs.

3. MONITORING PLAN

3.1 INTRODUCTION

3.1.1 General

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the implemented ECs in reducing or mitigating contamination at the Site. ECs at the Site include a composite cover system and the SSD system. This Monitoring Plan is subject to NYSDEC revision.

3.2 ENGINEERING CONTROL SYSTEM MONITORING

3.2.1 SUBSLAB DEPRESSURIZATION (SSD) SYSTEM

An SSD system has been installed to mitigate possible soil vapor intrusion into the now occupied building. The purpose of the SSD system is to create a negative pressure field directly under the building and on the outside of the foundation (in relation to building ambient pressure). This negative pressure field becomes a "sink" for any gases present in the vicinity of the structure. VOCs caught in the advective sweep of this negative pressure field are collected and piped to an ambient air discharge point (roof level). Note that the SSD system is not intended to remediate the soil or groundwater beneath the building. Its design objective is to prevent soil gases from infiltrating the building. Ideally, the extent of depressurization and soil gas removal should be kept to a minimum, to minimize energy, handling, and/or off-gas treatment costs. This is why these systems are most appropriately termed depressurization systems rather than ventilation systems.

Even though site remediation is not a design objective, it is in fact an ancillary effect and benefit. Specifically, by venting soil gases contaminated by VOCs, an SSD system facilitates the mass removal of contaminants from subsurface media. Moreover, every cubic foot of vented soil gas has to be replaced by a cubic foot of air, resulting in an influx of oxygen into contaminated areas, which may facilitate the aerobic biodegradation of contaminants.

The significance of this remediation "bonus" is site dependent, a function contaminant type, location, mass, and SSD flow rate. The site SSD system was designed by a professional engineer

and architect in conformance with standard engineering principles and practices. A competent professional observed the installation of the SSD system with specific experience in building vapor mitigation, site remediation, and/or environmental engineering practices. JRH engineers took photographs of the system being constructed.

System designs are described in the Engineering and Institutional Control Plan, and as-built drawings are located in Appendices 1 through 4. The system under this building actually consists of two independent zones that cover the entire sub slab area of the building. The building has a four-inch thick concrete slab underlain by 8 MIL polyethylene vapor barrier mounted into the foundation walls (no gaps). Below the vapor barrier each SSD zone consists of slotted 4-inch diameter PVC piping laid horizontally within six-inches of compacted stone. Two blank 4-inch diameter pipes convey vapors to the roof. Two element protected roof fans create the negative pressure needed. Figure 4,5 and 6 show the layout of the SSD System.

3.2.1.1 Schedule

On a weekly basis, the pressure gauges in the two vent pipes of the sub-slab depressurization system will be checked to ensure that the fans are maintaining adequate negative pressure to depressurize the sub-slab area and prevent soil vapor intrusion.

The qualified environmental professional will inspect the system components on an annual basis.

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

3.2.1.2 General Equipment Monitoring

A visual inspection of the complete system will be conducted during the monitoring event.

SSD system components to be monitored include, but are not limited to the following:

- Vacuum blowers; and,
- General system piping

A complete list of components to be checked is provided in the Inspection Checklist, presented in Appendix B. If any equipment readings are not within its typical range, any equipment is observed to be malfunctioning, or the system is not performing within specifications, applicable maintenance

and repairs will be conducted per the Operation and Maintenance Plan, and the SSD system restarted.

3.2.1.3 System Monitoring Devices and Alarms

The SSD system includes two independent zones each with pressure gauges that indicate the system is not operating properly. In the event a pressure gauge indicates a problem, applicable maintenance and repairs will be conducted, as specified in the Operation and Maintenance Plan, and the SSD system restarted.

3.3 GROUNDWATER MONITORING PROGRAM

Over four years of groundwater monitoring at the site has been completed. The successful reduction in groundwater contamination is documented in the August 2006 Quarterly Groundwater Monitoring Report. Therefore, no further monitoring is necessary or required.

The significant improvement in groundwater quality downgradient of the site is documented in the quarterly groundwater monitoring reports for the site. The last quarterly report was submitted to the NYSDEC and NYSDOH in August 2006 and provides a summary of all groundwater data (14 sampling rounds). The November 2004 quarterly report summarizes the six rounds of soil-gas monitoring data.

3.4 Well Replacement/Repairs and Decommissioning

There are no monitoring wells on the property.

3.5 SITE-WIDE INSPECTION

Site-wide inspections will be performed at a minimum of once each year according to a regular schedule. Site-wide inspections should also be performed after all severe conditions that may affect engineering controls or monitoring devices at the site. During these inspections, an inspection form will be completed (Appendix B). The form will compile sufficient information to assess the following:

- Compliance with all ICs, including Site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General Site conditions at the time of the inspection;

- The Site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection;
- Compliance with permits and schedules included in the Operation and Maintenance Plan; and
- Confirm that Site records are up to date.

3.6 MONITORING REPORTING REQUIREMENTS

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

Table 1: Monitoring/Inspection Deliverables

Task	Frequency*
Inspect pressure gauges: pressure monitoring	Weekly, to be performed by the on-Site personnel
Inspect pressure gauges: pressure monitoring	Annually, to be performed by a qualified environmental professional
Composite cover	Annually, to be performed by a qualified environmental professional
Inspect vent pipes and roof fans	Annually, to be performed by a qualified environmental professional

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

3.7 CERTIFICATIONS

Site inspections will take place as outlined above. Frequency of inspection is subject to change by NYSDEC. Certification of inspection of all ICs and ECs will be submitted to NYSDEC on a yearly basis and must be submitted by March 1 of the following year. A qualified environmental professional, as determined by NYSDEC, will perform inspection and Certification. Further information on the certification requirements are outlined in the Reporting Plan of the SMP.

4. OPERATION AND MAINTENANCE PLAN

4.0 INTRODUCTION

The Operation and Maintenance Plan describes the measures necessary to operate and maintain any mechanical components of the SSD system at the Site. This Operation and Maintenance Plan:

- Includes the steps necessary to allow individuals unfamiliar with the Site to operate and maintain the SSD system;
- Includes an operation and maintenance contingency plan; and,
- Will be updated periodically during use, as necessary, to reflect changes in Site conditions or the manner in which the SSD system is operated and maintained.

Information on non-mechanical engineering controls (i.e. composite cover) can be found in the Section 3 Engineering and Institutional Control Plan). A Copy of this Operation and Maintenance Plan, along with the complete SMP, will be maintained at the Site. This Operation and Maintenance Plan is not to be used as a stand-alone document, but as a component document of the SMP. The Operation and Management Plan is subject to NYSDEC revision.

4.1 ENGINEERING CONTROL SYSTEM OPERATION AND MAINTENANCE

4.1.1 Sub-slab Depressurization Monitoring

4.1.1.1 Scope

A sub-slab depressurization system basically consists of a fan or blower, which draws air from the soil beneath a building and discharges it to the atmosphere through a series of collection and discharge pipes. The primary performance standard, which should be used to confirm effective SSD system operation, is the demonstration of a negative pressure field, which extends under the entire slab. This system was specifically designed to maintain the presence of a negative pressure field. After system start-up monitoring of the in-line pressure gauges should be an adequate indicator of satisfactory system operation.

4.1.1.2 System Start-Up and Testing

This should include a description of:

- Manufacturer's recommendations
- Manual
- Pre-start up inspection
- Baseline measurements
- Testing methods
    - Checks for leaks
    - Checks of seals
    - Check of back drafts
    - Pressure tests
    - System balancing
    - Warning devices
    - Sampling
    - Test results

The system testing described above will be conducted if, in the course of the SSD system lifetime, significant changes are made to the system and the system restarted. The Professional Engineer will inspect and certify any changes to the engineering controls.

4.1.1.3 System Operation: Routine Operation Procedures

This should include a description of:

- Manufacturer's recommendations
- Troubleshooting
- Adjustment and repairs
- Operation schedule

4.1.1.4 System Operation: Routine Equipment Maintenance

This should include a description of:

- Manufacturer's recommendations
- Inspections
- Routine maintenance activities and minimum schedules

4.1.1.4 System Operation: Non-Routine Equipment Maintenance

This should include a description of:

- Warning devices initiated
- Damage
- Reduced effectiveness
- System or component replacement

4.2 GROUNDWATER MONITORING WELL MAINTENANCE

No groundwater monitoring wells are present on the site.

4.3 MAINTENANCE REPORTING REQUIREMENTS

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

4.3.1 Routine Maintenance Reports

Checklists or forms (see Appendix B) will be completed during each routine maintenance event. Checklists/forms will include, but not be limited to the following:

- date;
- name, company, and position of person(s) conducting maintenance activities;
- maintenance activities conducted;

- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and,
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

4.3.2 Non-Routine Maintenance Reports

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

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

4.4 CONTINGENCY PLAN

Emergencies can be characterized as injury to personnel; fire or explosion; environmental release; or serious weather conditions. Emergency contact numbers are listed in Table 2. Environmental contact numbers are listed in table 3 and a map/directions to the nearest hospital are located in Section 4.4.2. A more thorough emergency/contingency plan will be developed for the Site Specific HASP prior to performance of invasive activities involving residual contamination.

4.4.1 Emergency Telephone Numbers

In the event of any situation or unplanned occurrence requiring assistance with environmental matters, the appropriate contact(s) should be made by the Owner or Owner's representative(s) from the lists below. For emergencies, appropriate emergency response personnel should be contacted. Prompt contact should also be made to [qualified environmental professional]. These emergency contact lists must be maintained in an easily accessible location at the Site.

Table 2: Emergency Contact Numbers

Medical, Fire, and Police:	911
One Call Center:	(800) 272-4480 (3 day notice required for utility markout)
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362
Ken Sherman Senior Vice President Jewish Home and Hospital	(718) 579-0280

Table 3: Environmental Contact Numbers

Site Contacts:	Phone
Alana Carroll P.G. (Tenen)	646 248-6795
Matthew Carroll P.E. (Tenen)	347 391-2585
Sondra Martinkat (NYSDEC)	718 482-4891
Jane O'Connell (NYSDEC)	718 482-4599
Scarlett McLaughlin (NYSDOH)	518 402-7874

* Note: Contact numbers subject to change

4.4.2 Map and Directions to Nearest Health Facility

Site Location: 2614 University Ave, Bronx, NY 10468-4191

Nearest Hospital Name: Montefiore Medical Center

Hospital Location: 124 W Fordham Rd, Bronx, NY 10468-5659,

Hospital Telephone: (718) 367-8500

Directions to the Hospital:

Total Est. Time: 1 minute Total Est. Distance: 0.44 miles

1: Start out going SOUTHWEST on DR MARTIN L KING JR BLVD / UNIVERSITY AVE toward W 192ND ST. 0.3 miles

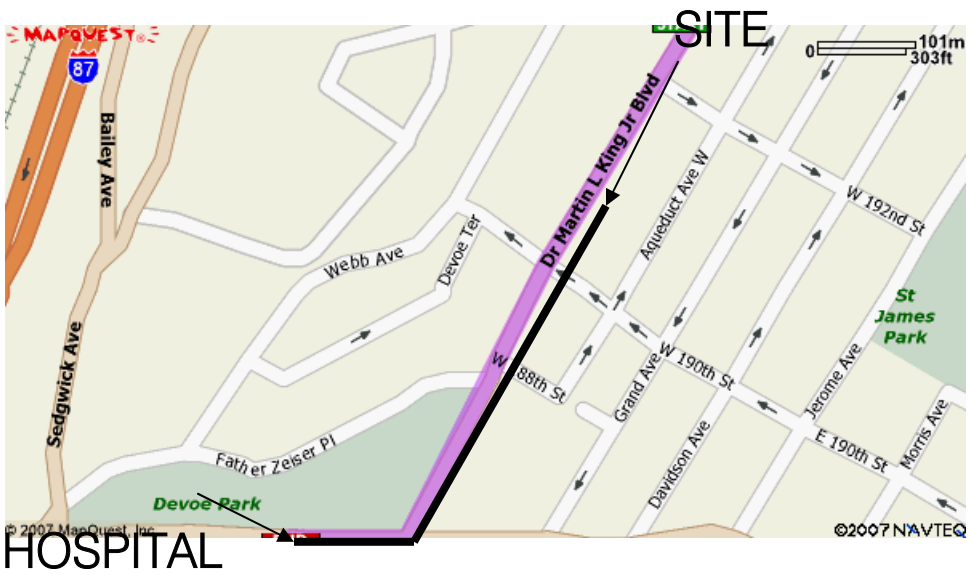
2: Turn RIGHT onto W FORDHAM RD. <0.1 miles

3: End at 124 W Fordham Rd Bronx, NY 10468-5659, US

Total Distance: 0.44 miles

Total Estimated Time: 1 minute

Map Showing Route from the Site to the Hospital:



4.4.3 Response Procedures

4.4.3.1 Emergency Contacts/Notification System

As appropriate, the fire department and other emergency response group will be notified by telephone of the emergency immediately. The emergency telephone numbers list is found at the beginning of this contingency plan (Table 2). The list is also posted prominently at the Site and made readily available to all personnel at all times.

5. SITE MANAGEMENT REPORTING PLAN

5.0 INTRODUCTION

An annual Site Management Report will be submitted to NYSDEC following the calendar year reporting period, by March 1. The Site Management Report will be prepared in accordance with the requirements in the NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation. This Site Management Reporting Plan and its requirements are subject to revision by NYSDEC.

This report will include the following:

- Identification of all required EC/ICs required by the Remedial Action Work Plan for the Site:
- An evaluation of Engineering and Institutional Control Plan and Monitoring Plan for adequacy in meeting remedial goals;
- Assessment of the continued effectiveness of all institutional and/or engineering controls for the Site;
- Certification of the EC/ICs;
- Results of the required periodic Site Inspections; and
- All deliverables generated during the reporting period, as specified in Section 2 EC/IC Plan, Section 3 Monitoring Plan and Section 4 Operation and Maintenance Plan.

The Site Management Reporting Plan is subject to NYSDEC revision.

5.1 CERTIFICATION OF ENGINEERING AND INSTITUTIONAL CONTROLS

Information of EC/ICs can be found in the Engineering and Institutional Control Plan portion of the SMP. Inspection of the EC/ICs will occur at a frequency described in Section 3 Monitoring Plan and Section 4 Operation and Maintenance Plan. After the last inspection of the reporting period, a Professional Engineer licensed to practice in New York State will sign and certify the document. The document will certify that the EC/ICs employed at the Site are:

- Unchanged from the previous certification;

- In-place and effective;
- Performing as designed;
- 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 by NYSDEC and NYSDOH to evaluate continued maintenance of such controls; and
- Site usage is compliant with the deed restriction.

The signed certification will be included in the annual Site Management Report (see Section 5.3).

5.2 SITE INSPECTIONS

5.2.1 Inspection Frequency

All inspections will be conducted at the frequency specified in the schedules provided in Section 3 Monitoring Plan and Section 4 Operation and Maintenance Plan of this SMP. At a minimum, a Site-wide inspection will be conducted:

- Annually;
- When a breakdown of the treatment systems has occurred; and
- Whenever a severe condition has taken place, such as an erosion event or flooding that may affect the ECs.

5.2.2 Inspection Forms, Sampling Data, and Maintenance Reports

All inspections and monitoring events will be recorded on the appropriate forms for their respective system (Appendix B). Additionally, a general Site-wide inspection form will be completed during the Site-wide inspection (see Appendix B). These forms are subject to NYSDEC revision.

All applicable inspection forms and other records (including all sampling data of any media at the Site and system maintenance reports) generated for the Site during the calendar year will be included in the annual Site Management Report.

5.2.3 Evaluation of Records and Reporting

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

- EC/ICs are in place, are performing properly, and remain effective;
- The Monitoring Plan is being implemented;
- Operation and maintenance activities are being conducted properly; and, based on the above items,
- The remedy continues to be protective of public health and the environment and is performing as designed in the RAWP and FER for the Site.

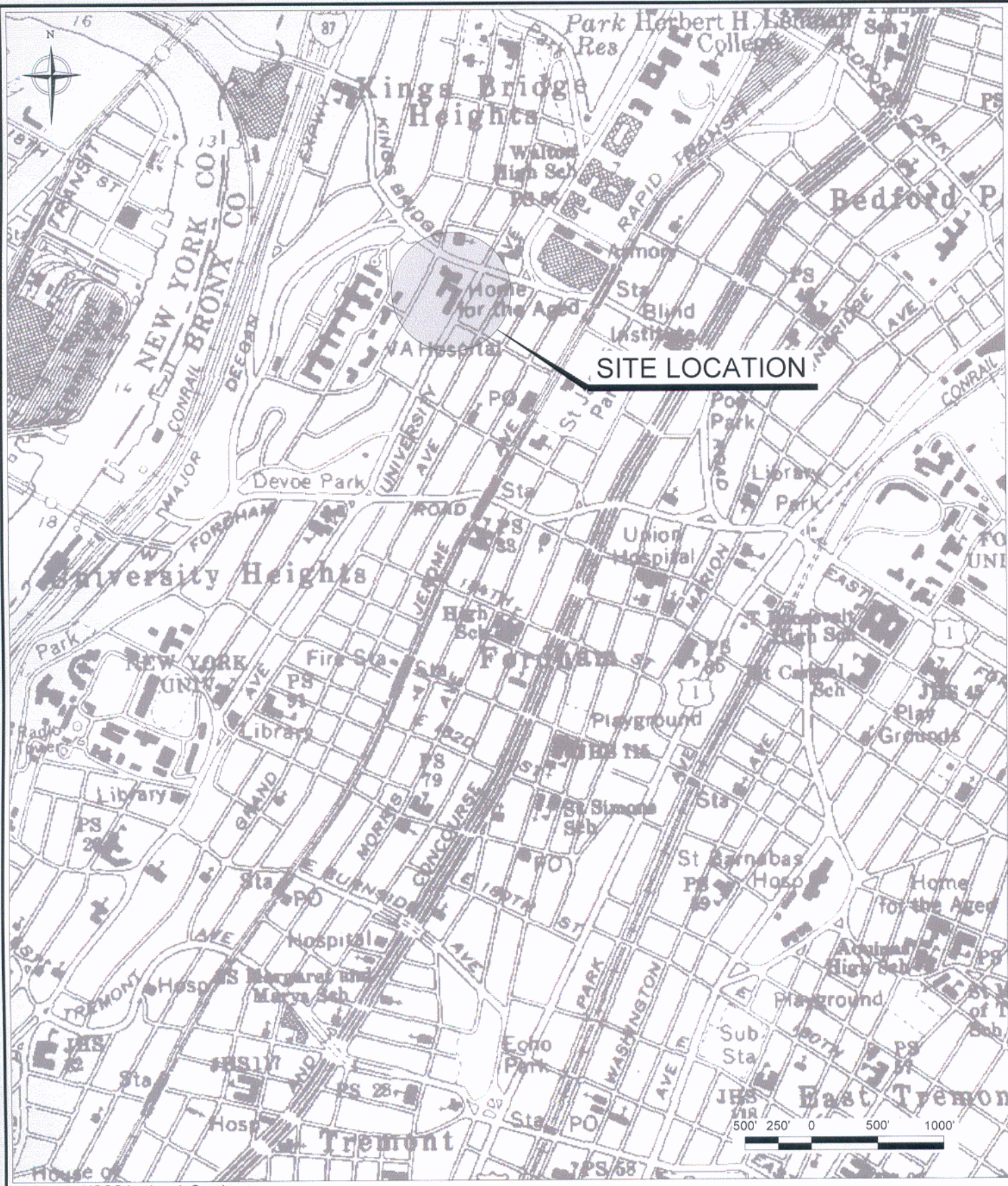
5.3 SITE MANAGEMENT REPORT

The Site Management Report will be submitted annually and will be submitted by March 1 of the calendar year following the reporting period. The report will include:

- EC/IC certification;
- All applicable inspection forms and other records generated for the Site during the reporting period;
- Summary of any information generated during the reporting period with comments and conclusions;
- A summary of performance for all mitigation systems at the Site during the calendar year, including information such as:
    - The number of days the system was run for the reporting period;
    - A description of breakdowns and/or repairs along with an explanation for any significant downtime;
    - A summary of the performance and/or effectiveness monitoring; and
    - Comments, conclusions, and recommendations based on an evaluation and resolution of performance problems.

- A Site evaluation, which will address the following:
    - The compliance of the remedy with the requirements of the RAWP and FER for the Site;
    - The performance and effectiveness of the remedy;
    - The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;
    - Any new conclusions or observations regarding the Site contamination based on the inspections or data generated by the Monitoring Plan for the media being monitored; and
    - Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan.
- A figure showing sampling and well locations, and significant analytical values at sampling locations; and
- Comments, conclusions, and recommendations, based on an evaluation of the information included in the report, regarding EC/ICs at the Site.

FIGURES



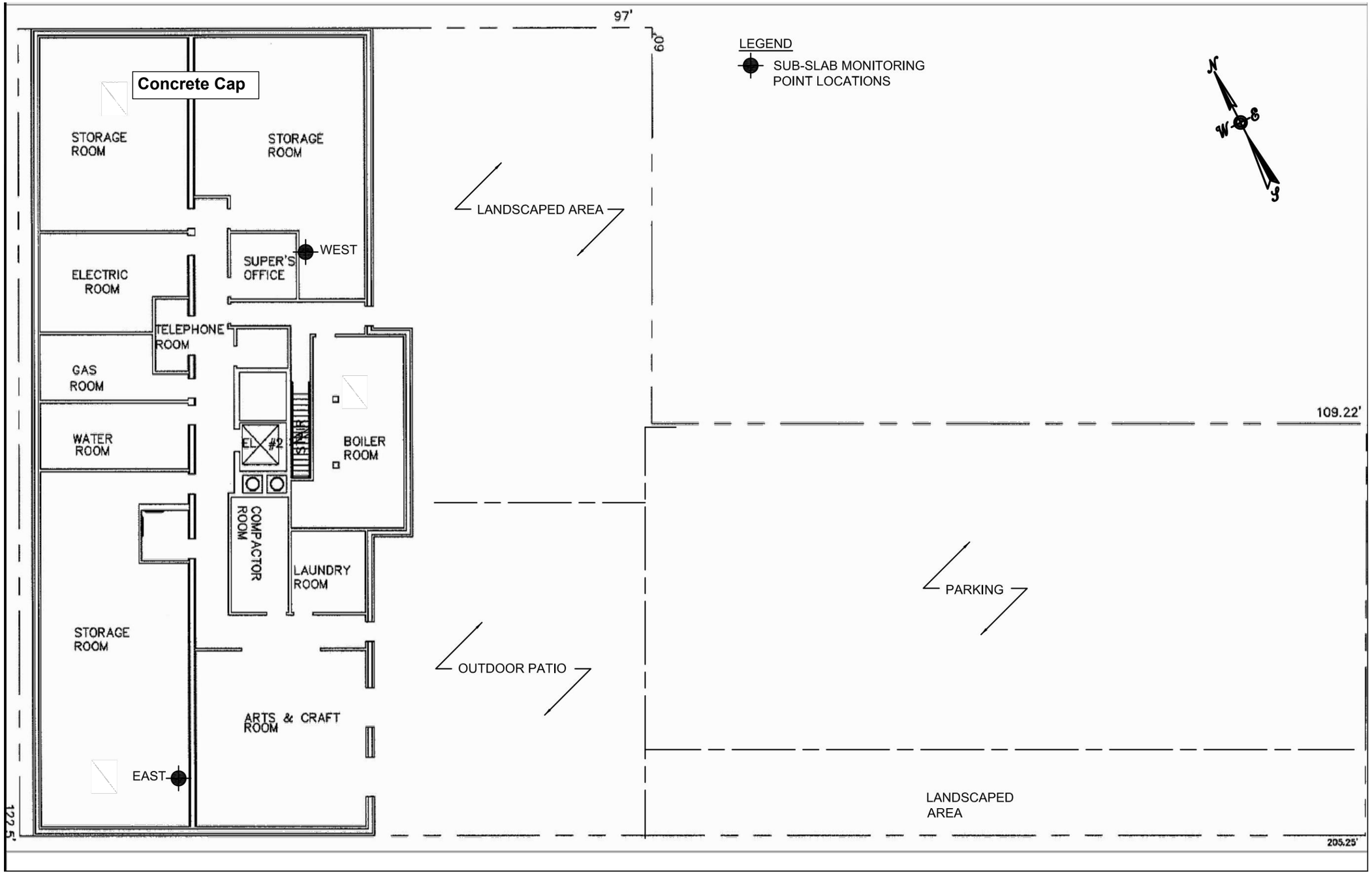
J.R. HOLZMACHER P.E., LLC
300 WHEELER ROAD, SUITE 303
HAUPPAUGE, N.Y. 11788
TELE: (631) 234-2220
FAX: (631) 234-2221

TITLE:

LOCATION MAP
The Jewish Home and Hospital for Aged
2614-2620 University Avenue
Bronx, New York

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
SRW		09/17/04	JHHA 04-01
CHKD:	APPD:	REV.:	NOTES:
AJZ	JRH	-	

FIGURE NO.: 1



Source:
J.R. Holzmacher P.E., LLC, Ronkonkoma, NY
Monitoring Point Locations, 2614-2620 University Avenue, Bronx, NY
Project No. TucMa08-01, Figure No. 2

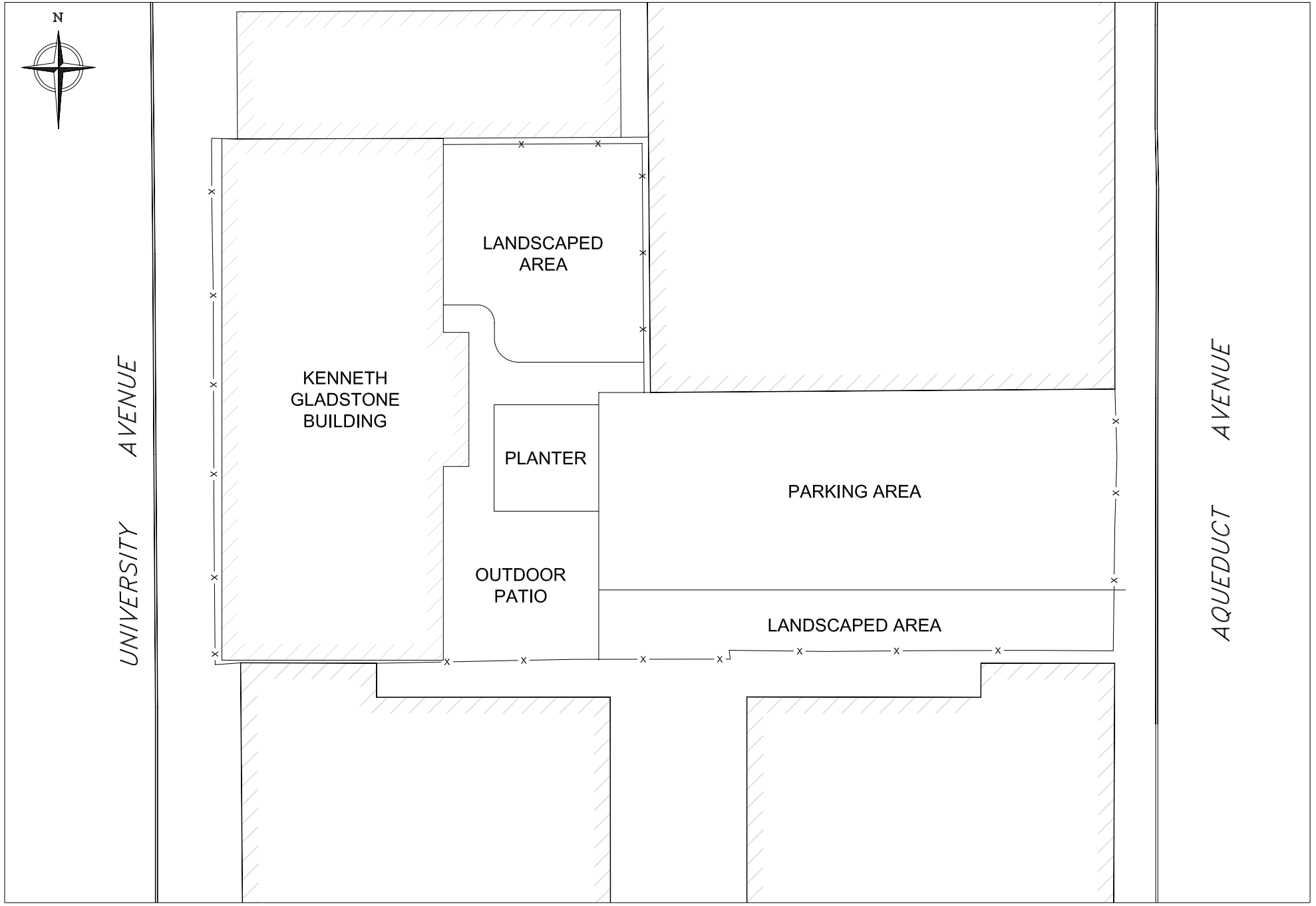
SITE
2614-2620 University Avenue
Bronx, New York
Block 3215, Lot 14

CONSULTANT
TENEN ENVIRONMENTAL
TENEN ENVIRONMENTAL, LLC
121 West 27th Street
Suite 702
New York, NY 10001
O: 646-606-2332
F: 646-606-2379

DRAWN BY	CHECKED BY	DATE	SCALE:
LM	AC	June 2018	N.T.S

DRAWING TITLE: Site Plan

DRAWING NO.: Figure 2



PREPARED BY:
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The Third Generation of Excellence
In Water Supply, Water Resources,
Civil and Environmental Engineering
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SUITE 303
HAUPPAUGE, NEW YORK 11788
PHONE # (631) 234-2220
FAX # (631) 234-2221
E-MAIL: Info@holzmacher.com
www.holzmacher.com

TITLE:

SITE DEVELOPMENT PLAN
THE JEWISH HOME AND HOSPITAL FOR THE AGED
2614-2620 UNIVERSITY AVENUE
BRONX, NEW YORK

DWN:	VS:HS.:	DATE:	PROJECT NO.:
APK	-	01/30/07	JHHLS 04-01
CHKD:	APPD:	REV.:	SCALE:
AJZ	JMD	-	1" = 30'
FIGURE NO.:	3		

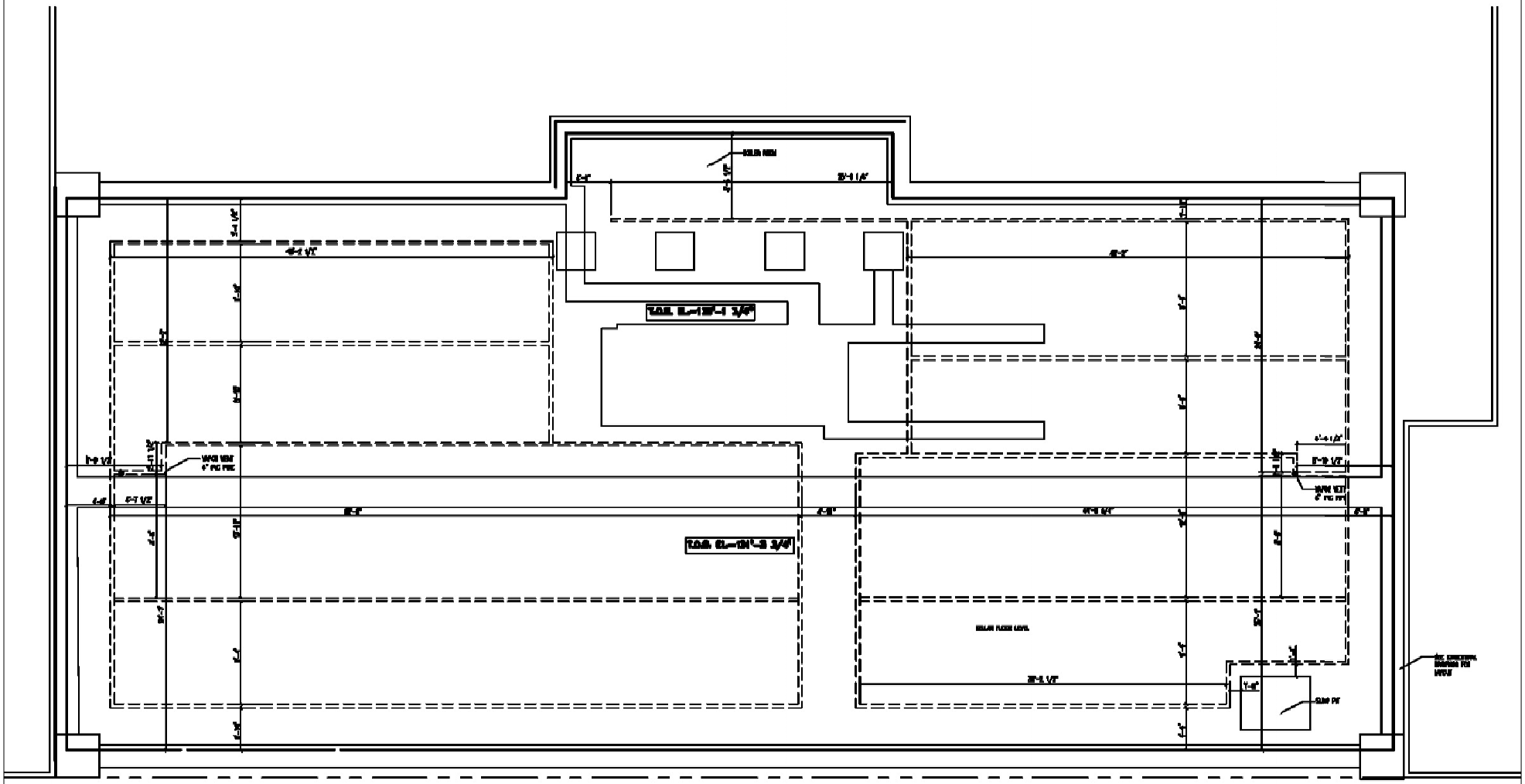
NOTES:

1. INSTALLATION OF BELOW SLAB HORIZONTAL LINES SHALL NOT CONFLICT WITH OTHER BUILDING ELEMENTS SUCH AS PLUMBING, UTILITIES, FOOTING, ETC.

2. DO NOT TRAP PIPE.

3. SEE DETAIL 5 ON A-905 FOR HEIGHTS OF PIPE LAYOUTS BELOW SLAB.

N



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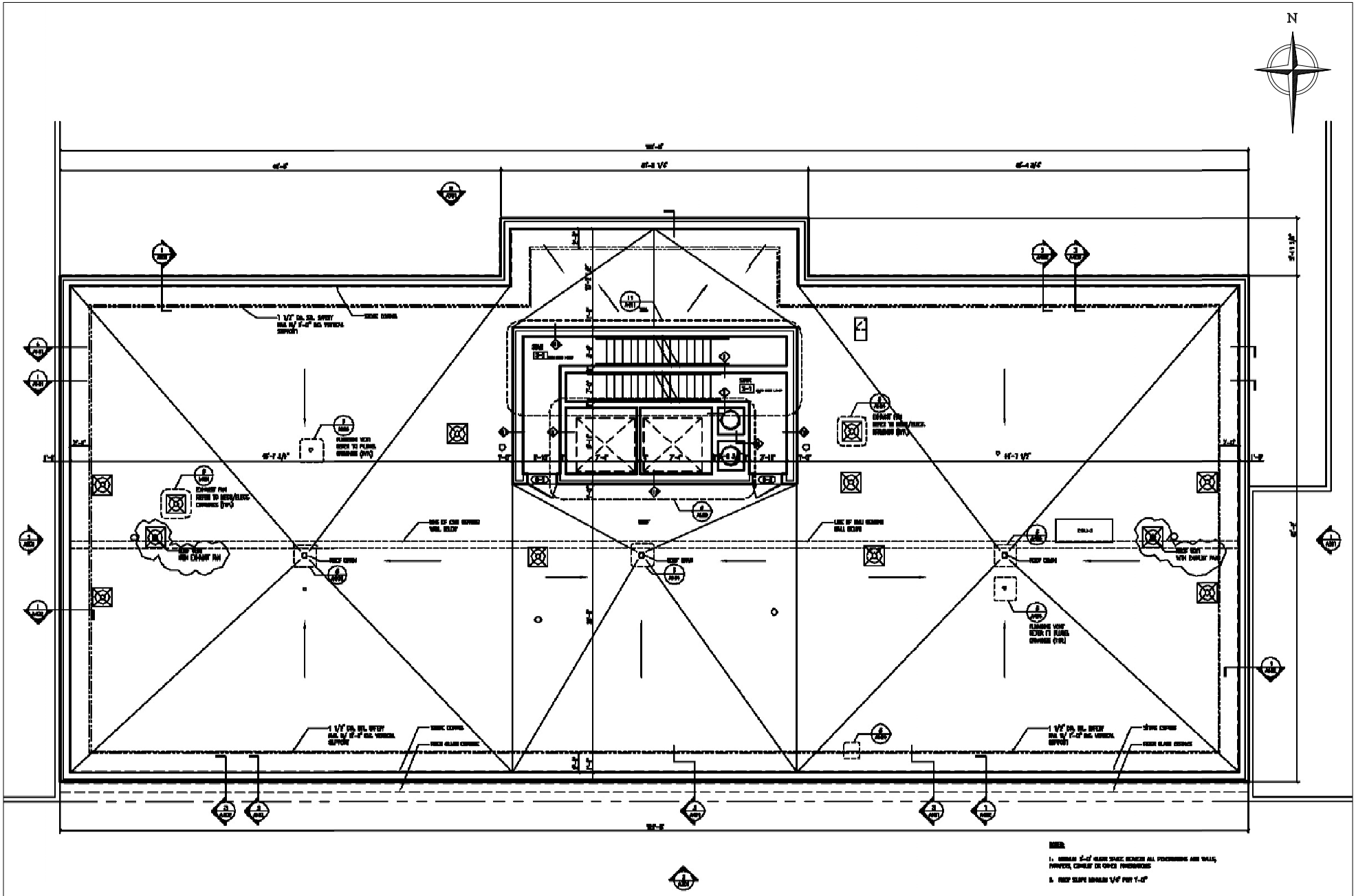
FAX # (631) 234-2221
E-MAIL: Info@holzmacher.com
www.holzmacher.com

TITLE:

SUB-SLAB FLOOR PLAN
THE JEWISH HOME AND HOSPITAL FOR THE AGED
2614-2620 UNIVERSITY AVENUE
BRONX, NEW YORK

DWN:	VS:HS.:	DATE:	PROJECT NO.:
APK	-	01/30/07	JHHLS 04-01
CHKD:	APPD:	REV.:	SCALE:
AJZ	JMD	-	N.T.S.
FIGURE NO.:	4		



PREPARED BY:
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Civil and Environmental Engineering
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PHONE # (631) 234-2220
FAX # (631) 234-2221
E-MAIL: Info@holzmacher.com
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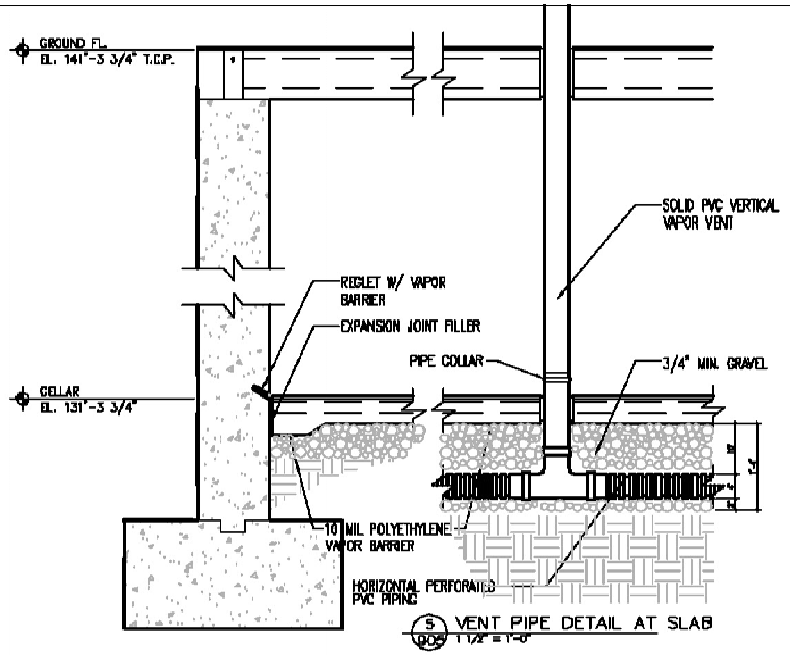
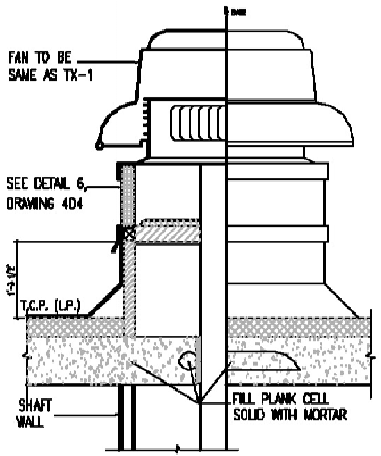
TITLE:

ROOF FLOOR PLAN
THE JEWISH HOME AND HOSPITAL FOR THE AGED
2614-2620 UNIVERSITY AVENUE
BRONX, NEW YORK

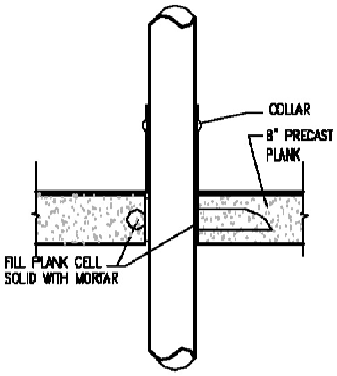
DWN:	VS:HS.:	DATE:	PROJECT NO.:
APK	-	01/30/07	JHHLS 04-01
CHKD:	APPD:	REV.:	SCALE:
AJZ	JMD	-	N.T.S.
FIGURE NO.:	5		



5 / 905 VENT PIPE DETAIL AT SLAB
1 1/2" = 1'-0"



4 / 905 ROOF FAN CURB DETAIL
1 1/2" = 1'-0"



3 / 905 CELLAR SLAB DETAIL
1 1/2" = 1'-0"

NOTES:

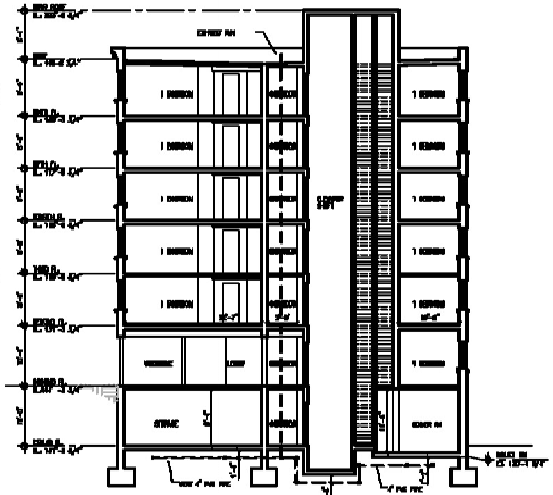
1. INSTALL THE VERTICAL VENT PIPE INTO THE HORIZONTAL RUN OF THE VENT PIPE. THE SIZE AND AIR MOVEMENT CAPACITY OF THE VENT FAN SHALL BE SUFFICIENT TO CREATE AND MAINTAIN A PRESSURE FIELD BENEATH THE SLAB MEMBRANE THAT IS LESS THAN THE PRESSURE ABOVE THE SLAB.

2. ALL PRESSURED PORTIONS OF THE VENT PIPE AND FAN SHALL BE LOCATED OUTSIDE THE HABITABLE SPACE OF THE BUILDING.

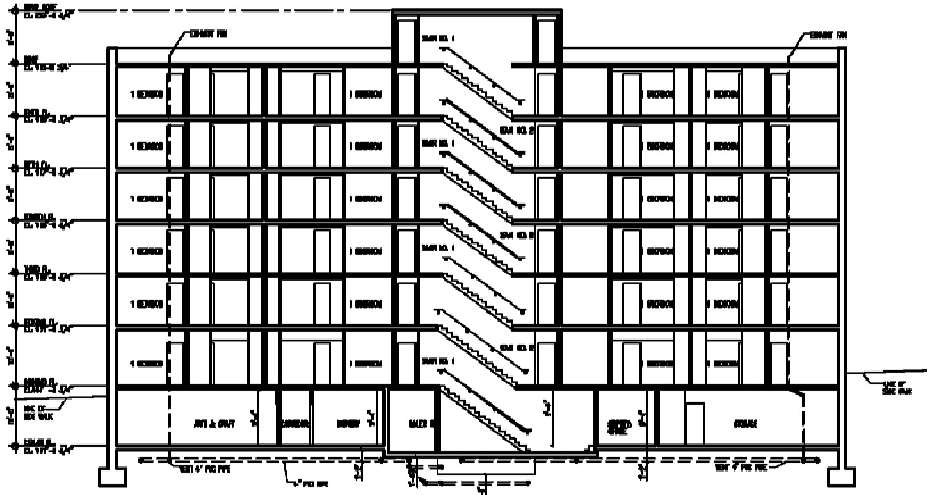
3. PROVIDE A VISIBLE WARNING SYSTEM FOR ALERT IF THERE IS A LOSS OF PRESSURE OR AIR FLOW IN THE PIPE.

4. LABEL CLEARLY IN COLLAR ALONG VERTICAL RISER "VAPOR RISER VENT."

5. ALL HORIZONTAL PVC PIPING TO BE PLACED 1"-2" BELOW SLAB LEVEL. SEE DETAIL 5 ON A-905 FOR PIPE DETAIL.



2 / 905 CROSS SECTION THRU STAIRS
1/8" = 1'-0"



1 / 905 SECTION THRU STAIRS
1/8" = 1'-0"

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FAX # (631) 234-2221
E-MAIL: Info@holzmacher.com
www.holzmacher.com

TITLE:

SUB-SURFACE DEPRESSURIZATION SYSTEM
THE JEWISH HOME AND HOSPITAL FOR THE AGED
2614-2620 UNIVERSITY AVENUE
BRONX, NEW YORK

DWN:	VS:HS.:	DATE:	PROJECT NO.:
APK	-	01/30/07	JHHLS 04-01
CHKD:	APPD:	REV.:	SCALE:
AJZ	JMD	-	N.T.S.
FIGURE NO.:	6		

APPENDIX A

DEED RESTRICTION INCLUDING METES AND BOUNDS

NYC DEPARTMENT OF FINANCE
OFFICE OF THE CITY REGISTER

This page is part of the instrument. The City Register willrely on the information provided by you on this page for purposes of indexing this instrument. The information on this page willcontrol for indexing purposes in the event of any conflict with the rest of the document.

2004041901055001001E7AE6

RECORDING AND ENDORSEMENT COVER PAGE **PAGE 1 OF 4**

Document ID: 2004041901055001 Document Date: 02-23-2004 Preparation Date: 04-19-2004
Document Type: DECLARATION
Document Page Count: 3

PRESENTER:	**RETURN TO:**
PAUL, HASTINGS, JANOFSKY & WALKER	PAUL, HASTINGS, JANOFSKY & WALKER
75 EAST 55TH ST.	75 EAST 55TH ST.
NEW YORK, NY 10022	NEW YORK, NY 10022
212-318-6203	212-318-6203
JOSHUAKLEIMAN@PAULHASTINGS.COM	JOSHUAKLEIMAN@PAULHASTINGS.COM

PROPERTY DATA

Borough	Block	Lot		Unit	Address
BRONX	3215	11	Entire Lot		2614 UNIVERSITY AVENUE
Property Type:	VACANT LAND				
Borough	**Block**	**Lot**		**Unit**	**Address**
BRONX	3215	14	Entire Lot		2620 UNIVERSITY AVENUE
Property Type:	VACANT LAND				

CROSS REFERENCE DATA

CRFN_____ ***or*** Document ID_____ ***or*** _____ Year____ Reel ___ Page ____ ***or*** File Number_____

PARTIES

PARTY 1:
2614 KINGSBRIDGE CORPORATION
100 WEST KINGSBRIDGE ROAD
BRONX, NY 10468

FEES AND TAXES

Mortgage		
Mortgage Amount:	$	0.00
Taxable Mortgage Amount:	$	0.00
Exemption:		
TAXES:		
County (Basic):	$	0.00
City (Additional):	$	0.00
Spec (Additional):	$	0.00
TASF:	$	0.00
MTA:	$	0.00
NYCTA:	$	0.00
TOTAL:	$	0.00

Recording Fee: $	55.00
Affidavit Fee: $	0.00
NYC Real Property Transfer Tax FilingFee: $	0.00
NYS Real Estate Transfer Tax: $	0.00

RECORDED OR FILED IN THE OFFICE OF THE CITY REGISTER OF THE CITY OF NEW YORK
Recorded/Filed 04-21-2004 17:09
City Register File No.(CRFN):
2004000244967

City Register Official Signature

DECLARATION of COVENANTS and RESTRICTIONS

THIS COVENANT, made the 23rd day of February 2004, by 2614 Kingsbridge Corporation, a corporation organized and existing under the laws of the State of New York and having an office for the transaction of business at 100 West Kingsbridge Road, Bronx, NY 10468:

WHEREAS, 2614 Kingsbridge Corporation is the owner of a spill site identified by the New York State Department of Environmental Conservation as Spill No. 96-08909, located at 2614 and 2620 University Avenue in the Bronx, City of New York, Bronx County, State of New York, also known as Block 3215, Lot 11 and Lot 14 on the tax map in the Office of the Registrar of the City of New York, Bronx County and being more particularly described below, and hereinafter referred to as "the Property"; and

WHEREAS, the New York State Department of Environmental Conservation set forth a remedy to eliminate or mitigate all significant threats to the environment presented by hazardous waste disposal at the Site in a Voluntary Cleanup Agreement ("Agreement") Index No. D2-0003-98-12 dated January 22, 1999 or the Work Plan (including any amendments) for the implementation of the Agreement and such Agreement or Work Plan required that the Property be subject to restrictive covenants.

NOW, THEREFORE, 2614 Kingsbridge Corp., 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 being bounded and described as beginning at a point of the easterly side of University formerly Aqueduct Avenue distant One Hundred Thirty-five and Twenty-two One-Hundredths feet Southerly from the Southerly end of the curve at the corner formed by the intersection of the said Easterly side of University Avenue and the Southerly side of Kingsbridge Road, which said point is also distant Two Hundred Nineteen feet Southerly from the intersection of the said Easterly side of University Avenue with the Southerly side of Old Kingsbridge Road; running thence Southerly along said Easterly side of University Avenue Sixty-two and Fifty One-Hundredths feet; thence Easterly at right angles to said University Avenue Two Hundred Five and Twenty-eight One-Hundredths feet to the Westerly side of Aqueduct Avenue West; thence Northerly along the Westerly side of said Aqueduct Avenue West Sixty-two and Fifty One-Hundredths feet; and then Westerly again at right angles to said University Avenue Two Hundred Five and Seventy-two One-Hundredths feet to the point or place of Beginning.

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, no person shall engage in any activity that will, or that reasonably is anticipated to, prevent or interfere significantly with any proposed, ongoing or completed program at the Property or that will, or is reasonably foreseeable to, expose the public health or the environment to a significantly increased threat of harm or damage.

Third, the owner of the Property shall, after the proposed building is constructed, maintain the building and associated paved areas as a cap covering the Property or, after obtaining the written approval of the Relevant Agency, by capping the Property with another material.

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

Fifth, the owner of the Property shall prohibit the use of the groundwater underlying the Property without treatment rendering it safe for drinking water or industrial purposes, as appropriate, unless the user first obtains permission to do so from the Relevant Agency.

Sixth, the owner of the Property shall continue in full force and effect any institutional and engineering controls the Department required Respondent to put into place and maintain unless the owner first obtains permission to discontinue such controls from the Relevant Agency.

Seventh, 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 the enforcement by the Relevant Agency of the prohibitions and restrictions that Paragraph X (ten) of the Agreement requires to be recorded, and hereby covenants not to contest the authority of the Department to seek enforcement.

Eighth, 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.

2614 Kingsbridge Corporation

By: _____

Name and Title: **Audrey Weiner, President**

Date: 4/18/04

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

On the 18 day of April, 2004 before me, the undersigned, a notary in and for said state, personally appeared Audrey Weiner, President of 2614 Kingsbridge Corporation, 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/she executed the same in his/her capacity and that by his/her signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

Margaret Rivers
Notary Public

MARGARET C. RIVERS
Notary Public, State of New York
No. 01RI4792105
Qualified in Kings County
Term Expires May 31, ~~1997~~ 2007

NY55/337791.3

APPENDIX B

INSPECTION CHECKLIST

New Jewish Home - Bronx, NY
Site Management - Inspection Form

Engineering Controls	Condition	Field Notes/Observations:
Sub-slab Depressurization System (SSDS)	Observe visible components (fan, vacuum alarm/monitor, vacuum gauge,tubing, riser pipe, etc.) for physical wear, damage and operational issues, and replace as necessary	
	Remove any blockages in vacuum monitor and gauge tubing and riser pipe taps	
	Verify operation of vacuum monitor by disconnecting tubing from riser pipe and noting if the alarm sounds.	
	Verify operation of vacuum gauge by disconnecting tubing from riser pipe and noting if the indicator moves to zero (check high and low pressure ports to see if they are plugged correctly)	
	Inspect riser pipe penetrations in concrete slab for proper seal	
	Inspect riser pipe connections at fan for leaks and tightness	
	Inspect power to fan by operating dedicated switch	
Composite Cover	Verify the composite cover system remains in place with no observed breaches	

Name of inspector: _____

Signature of inspector: _____

Date of inspection: _____

New Jewish Home - Bronx, NY
Site Management - Annual Inspection Form

Pressure Field Extension Testing		
East		in-wc
West		in-wc

Name of inspector:

_____

Signature of inspector:

_____

Company and position:

_____

Date of inspection:

_____

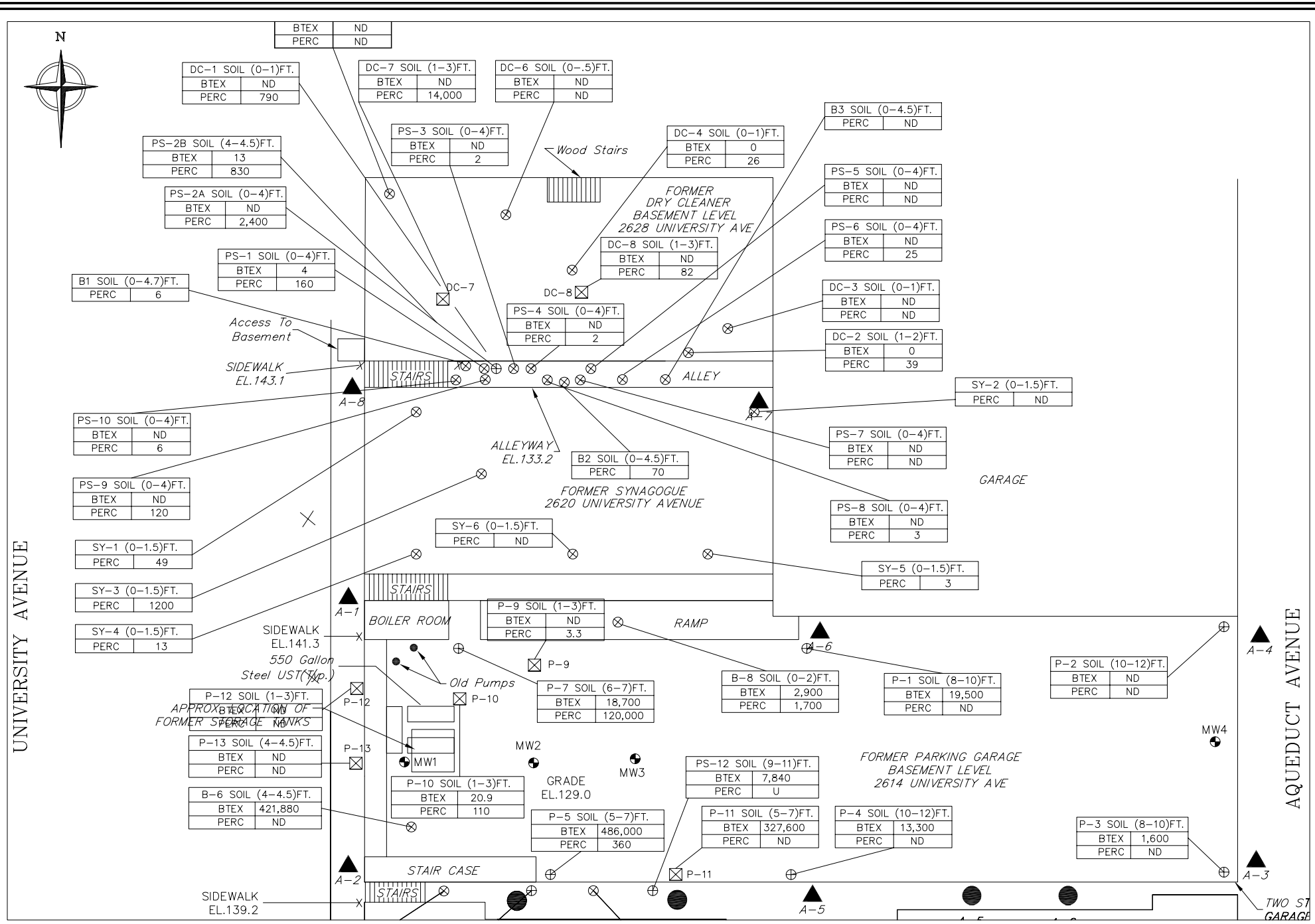
New Jewish Home – Bronx, NY **Site No.:V00181** **Weekly Inspection Sheets**

If you identify any problems with this system or a malfunction, please contact the P.E. of record, Matthew Carroll, of Tenen Environmental at (646) 606-2332.

Date	East Pressure Reading (inches of water)	West Pressure Reading (inches of water)	Comments

APPENDIX C

PRE-REMEDIATION SOIL DATA



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300 WHEELER ROAD
SUITE 303
HAUPPAUGE, NEW YORK 11788
PHONE # (631) 234-2220
FAX # (631) 234-2221
E-MAIL: Info@holzmacher.com
www.holzmacher.com

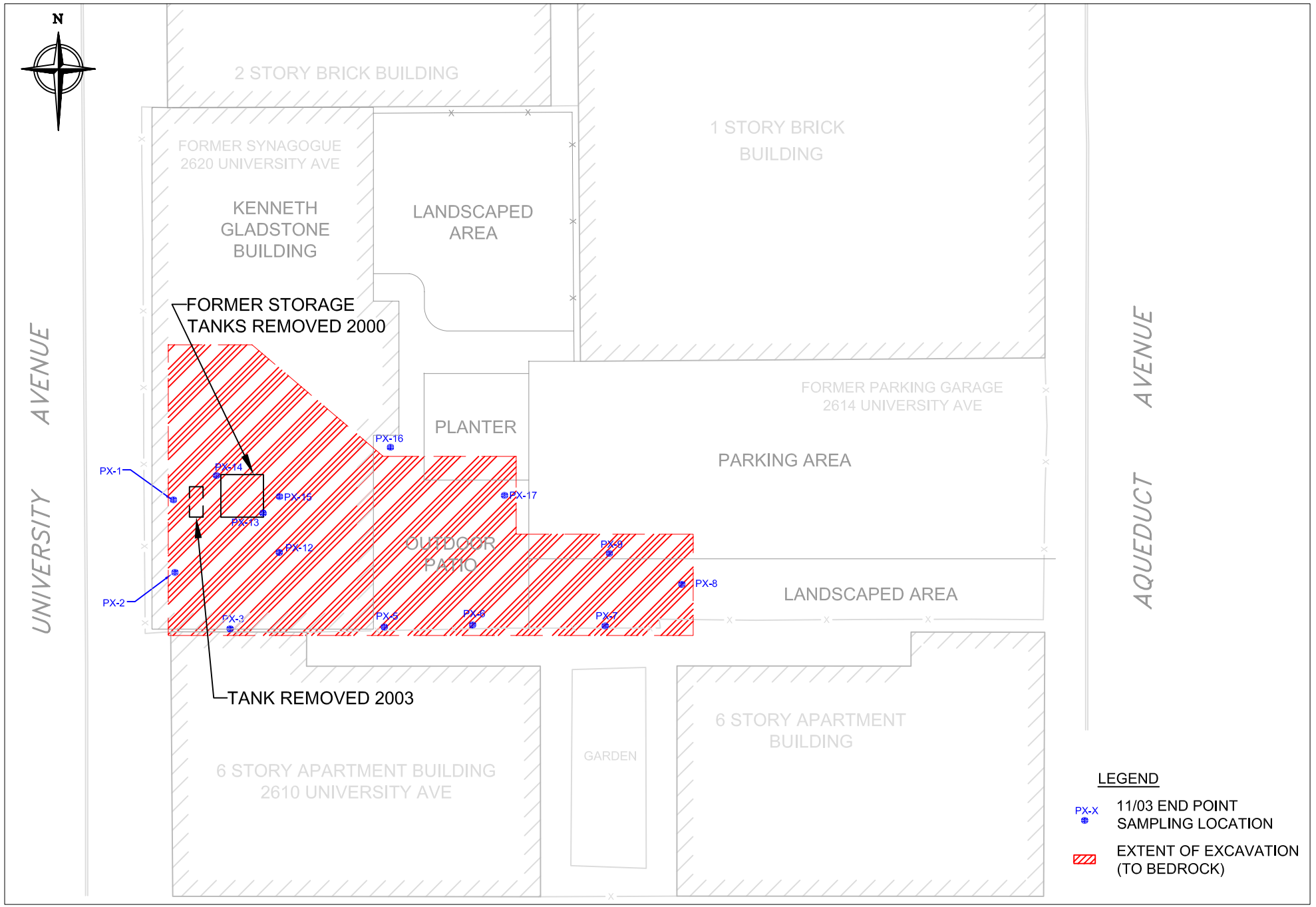
TITLE:

PRE-REMEDIATION SOIL SAMPLING DATA
THE JEWISH HOME AND HOSPITAL FOR THE AGED
2614-2620 UNIVERSITY AVENUE
BRONX, NEW YORK

DWN:	VS:HS.:	DATE:	PROJECT NO.:
APK	-	01/30/07	JHHLS 04-01
CHKD:	APPD:	REV.:	SCALE:
AJZ	JMD	-	1" = 30'
FIGURE NO.:	6-1		

APPENDIX D

POST-REMEDIATION SOILS DATA



PREPARED BY:
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The Third Generation of Excellence
In Water Supply, Water Resources,
Civil and Environmental Engineering
300 WHEELER ROAD
SUITE 303
HAUPPAUGE, NEW YORK 11788
PHONE # (631) 234-2220
FAX # (631) 234-2221
E-MAIL: Info@holzmacher.com
www.holzmacher.com

TITLE:

POST-REMEDIATION SOIL SAMPLING DATA
THE JEWISH HOME AND HOSPITAL FOR THE AGED
2614-2620 UNIVERSITY AVENUE
BRONX, NEW YORK

DWN:	VS:HS.:	DATE:	PROJECT NO.:
APK	-	01/30/07	JHHLS 04-01
CHKD:	APPD:	REV.:	SCALE:
AJZ	JMD	-	1" = 30'
FIGURE NO.:	D-1		

THE JEWISH HOME AND HOSPITAL FOR AGED
2614-2620 UNIVERSITY AVENUE
BRONX, NEW YORK

TABLE 1

ENDPOINT SOIL ANALYTICAL RESULTS VOLATILE ORGANIC COMPOUNDS

Compound	NYSDEC Standard (1)	PX-1	PX-2	PX-3	PX-5	PX-6	PX-7	PX-7 DUP	PX-8	PX-9	PX-12	PX-13	PX-14	PX-15	PX-17	TB-1	TB-2	TB-3
Chloromethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	200	ND	ND	ND	ND	ND	31	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	300	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	100	ND	ND	ND	ND	28 J	ND	ND	ND	ND	39	42	ND	ND	9.9 J	ND	ND	ND
Carbon Disulfide	2,700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	50	ND	ND	ND	6.1 B	10 B	19 B	5.2 JB	15 B	29 B	ND	ND	ND	15 B	8.2 B	1.2	ND	1.7 B
trans-1,2-Dichloroethene	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	300	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.4 J	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	200	ND	ND	ND	ND	ND	45	29	ND	ND	ND	ND	ND	ND	1.4 J	ND	ND	ND
Chloroform	400	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	60	ND	ND	31	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	1,500	ND	ND	140	ND	ND	ND	ND	ND	ND	ND	ND	80	ND	ND	ND	ND	ND
t-1,3-Dichloropropene	240	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	240	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1,300	ND	ND	ND	6.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	1,100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene	5,500	ND	1,700	320	ND	ND	4.5 J	2.6 J	ND	ND	ND	1.9 J	200	ND	ND	ND	ND	ND
m&p-Xylenes	1,200	ND	**6,200**	**1,600**	ND	ND	12	7.8	ND	ND	ND	4.9 J	1,100	ND	ND	ND	ND	ND
o-Xylene	600	11	**1,200**	510	ND	ND	ND	ND	ND	ND	ND	1.6 J	580	ND	ND	ND	ND	ND
Styrene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	400	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

1 - NYSDEC TAGM Recommended Soil Cleanup Objectives, April 1995

ND - Not detected.

J - Estimated concentration.

B- Compound detected in blank

Bold text denotes RSCO Exceedance.

All units are ug/kg.

THE JEWISH HOME AND HOSPITAL FOR AGED
2614-2620 UNIVERSITY AVENUE
BRONX, NEW YORK

TABLE 1 (con't)

ENDPOINT SOIL ANALYTICAL RESULTS VOLATILE ORGANIC COMPOUNDS

Compound	NYSDEC Standard (1)	PX-1	PX-2	PX-3	PX-5	PX-6	PX-7	PX-7 DUP	PX-8	PX-9	PX-12	PX-13	PX-14	PX-15	PX-17	TB-1	TB-2	TB-3
2-Chloroethyl vinyl ether	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1400	ND	ND	ND	1.4 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	1700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene	5500	ND	ND	ND	ND	2.8 J	ND	ND	ND	ND	ND	8.2 J	ND	ND	ND	ND	ND	ND
m/p-Xylene	1200	ND	ND	ND	ND	2.1 J	ND	ND	ND	ND	ND	35	ND	ND	ND	ND	ND	ND
o-Xylene	1200	ND	ND	ND	ND	31	ND	ND	ND	ND	ND	14 J	ND	ND	ND	ND	ND	ND
Styrene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	600	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	400	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromobenzene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NS	ND	ND	ND	ND	23	ND	ND	ND	ND	2.5 J	14 J	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.3	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	3400	ND	ND	ND	ND	22	ND	ND	ND	ND	ND	330	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	NS	ND	ND	ND	ND	3.5 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	1600	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichloeobenzene	8500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	NS	ND	ND	ND	ND	5 J	ND	ND	ND	ND	5.7 J	94	ND	ND	ND	ND	ND	ND
1,2-Dichlorbenzene	7900	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadine	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	NS	ND	ND	ND	ND	ND	ND	ND	1.8 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total TICs	NS	ND	22 J	28 J	37.5 J	101.5 J	ND	18 J	41.2 J	16 J	170 J	3440 J	22 J	33 J	ND	ND	ND	ND

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