New Scotland Ave. (Wadsworth Center)

ALBANY, NEW YORK

Site Management Plan

NYSDEC Site Number: 401031

Prepared for:
New York State Department of Environmental Conservation
Division of Environmental Remediation, 11th Floor
625 Broadway
Albany, NY 12233-9577

Prepared by:
Laurie Duncan
NYS DOH Wadsworth Center
P.O. Box 509, Room B940
Albany, NY 12201-0509
518 473-8034

Revisions to Final Approved Site Management Plan:

Revision #	Submitted Date	Summary of Revision	DEC Approval Date

JANUARY 2015

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SITE MANAGEMENT PLAN

1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM

1.1 INTRODUCTION

This document is required as an element of the remedial program at 120 New Scotland Ave. (Wadsworth Center) (hereinafter referred to as the "Site") under the New York State (NYS) Inactive Hazardous Waste Disposal Site Remedial Program, administered by New York State Department of Environmental Conservation (NYSDEC). The site was remediated in accordance with Order on Consent Index #A4-0304-93-07 , Site # 401031, which was executed on August 27, 1993 and last amended as Order On Consent Index #A4-0433-0012 on October 15, 2001.

1.1.1 General

NYS Department of Health (Wadsworth Center) entered into an Order on Consent with the NYSDEC to remediate a 5 acre property located in Albany, New York. This Order on Consent, required the Remedial Party, NYS Department of Health (Wadsworth Center), to investigate and remediate contaminated media at the site. A figure showing the site location and boundaries of this 0.5-acre" area subject to this plan is provided in Figure 1a. The boundaries of the area subject to this plan are more fully described in the metes and bounds site description.

After completion of the remedial work described in the Remedial Action Work Plan, some contamination was left in the subsurface at this site, which is hereafter referred to as 'remaining contamination." This Site Management Plan (SMP) was prepared to manage remaining contamination at the site until the deed restrictions are extinguished in accordance with ECL Article 71, Title 36. All reports associated with the site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

This SMP was prepared by Laurie Duncan, on behalf of NYS Department of Health Wadsworth Center, in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, dated June, 2010, and the guidelines provided by NYSDEC. This SMP addresses the means for implementing the Institutional Controls (ICs) and Engineering Controls (ECs) that are required by the deed restrictions for the site.

1.1.2 Purpose

The site contains contamination left after completion of the remedial action. Engineering Controls have been incorporated into the site remedy to control exposure to remaining contamination during the use of the site to ensure protection of public health and the environment. Deed restrictions granted to the NYSDEC, and recorded with the Albany County Clerk, will require compliance with this SMP and all ECs and ICs placed on the site. The ICs place restrictions on site use, and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs. This SMP specifies the methods necessary to ensure compliance with all ECs and ICs required by the deed restrictions for contamination that remains at the site. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the deed restrictions and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

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

To address these needs, this SMP includes two plans: (1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs; and (2) a Monitoring Plan for implementation of Site Monitoring. This plan also includes a description of Periodic Review Reports for the periodic submittal of data, information, recommendations, and certifications to NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the deed restrictions. Failure to properly implement the SMP is a violation of the

deed restrictions, which is grounds for revocation of the Certificate of Completion (COC);

- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the Order on Consent, (Index # A4-0304-93-07; Site #401031, and updated Order On Consent Index #A4-0433-0012) for the site, and thereby subject to applicable penalties.

1.1.3 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. In accordance with the deed restrictions for the site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.2 SITE BACKGROUND

1.2.1 Site Location and Description

The site is located in the City of Albany County of Albany, New York and is identified from book of deeds Liber 660 at page 241 on the Albany City Tax Map (#76.05-1-9). The site is an approximately 5-acre area bounded by New Scotland Avenue to the north, Albany College of Pharmacy parking lot to the south, Albany College of Pharmacy to the east, and Center for Medical Science and New Scotland Avenue Armory to the west (see Figure 1). The boundaries of the controlled area are more fully described in Appendix B– Metes and Bounds.

FIGURE 1. SITE AND SITE BOUNDARIES

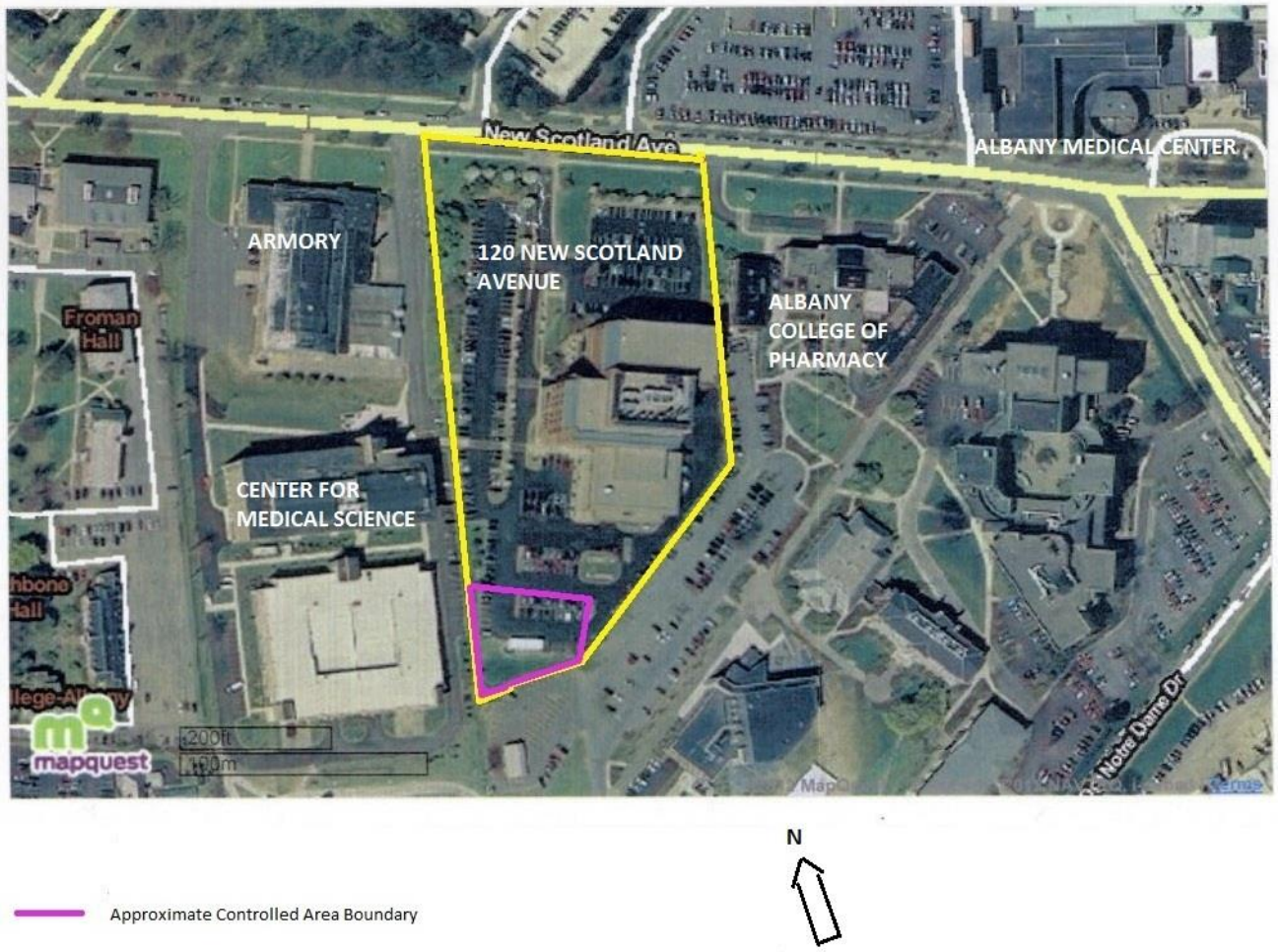
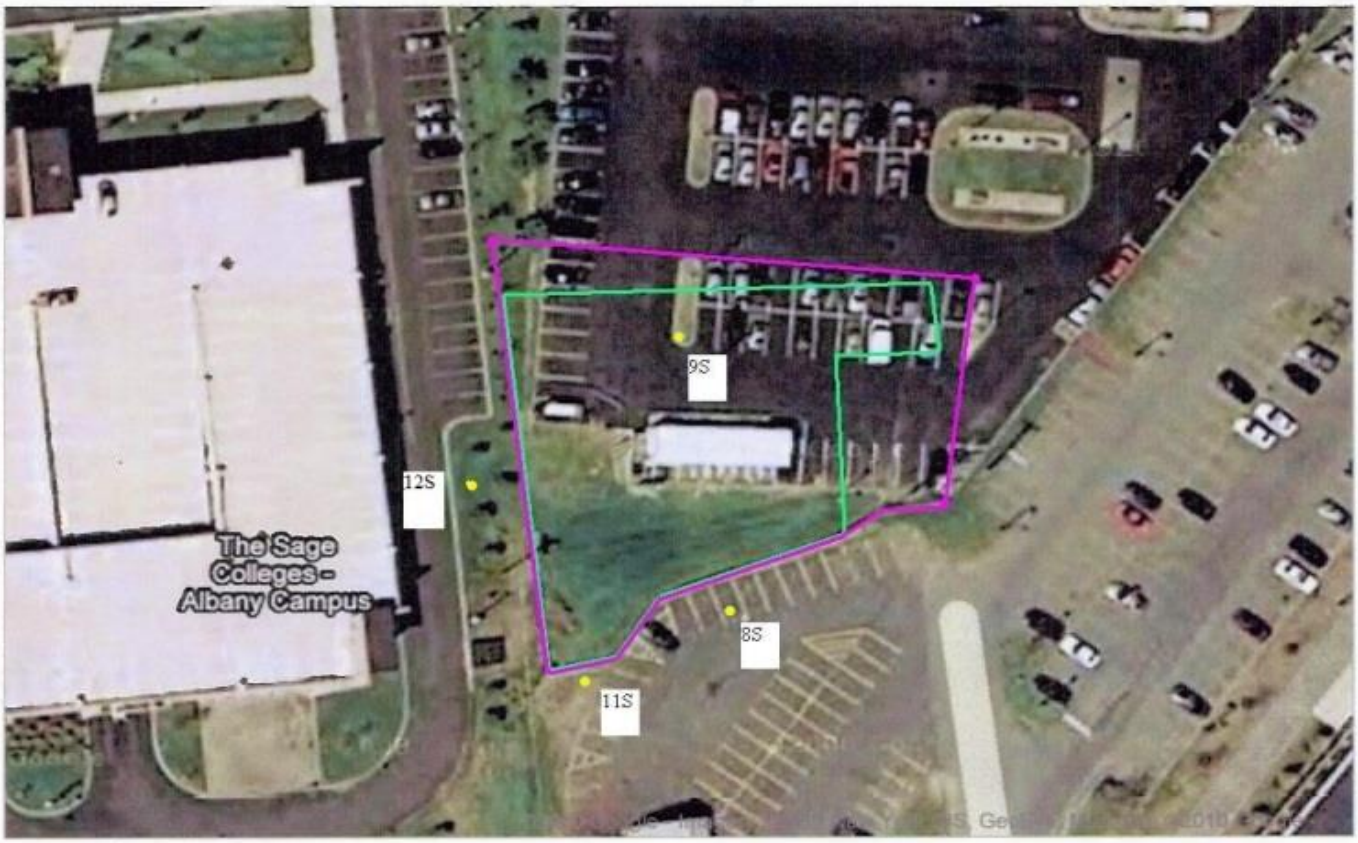


Figure 1a Cap Boundary and Controlled Area



Approximate Cap Boundary

Monitoring Well Locations (12S, 8S, 9S, 11S)

Proposed Area Subject to SMP

1.2.2 Site History

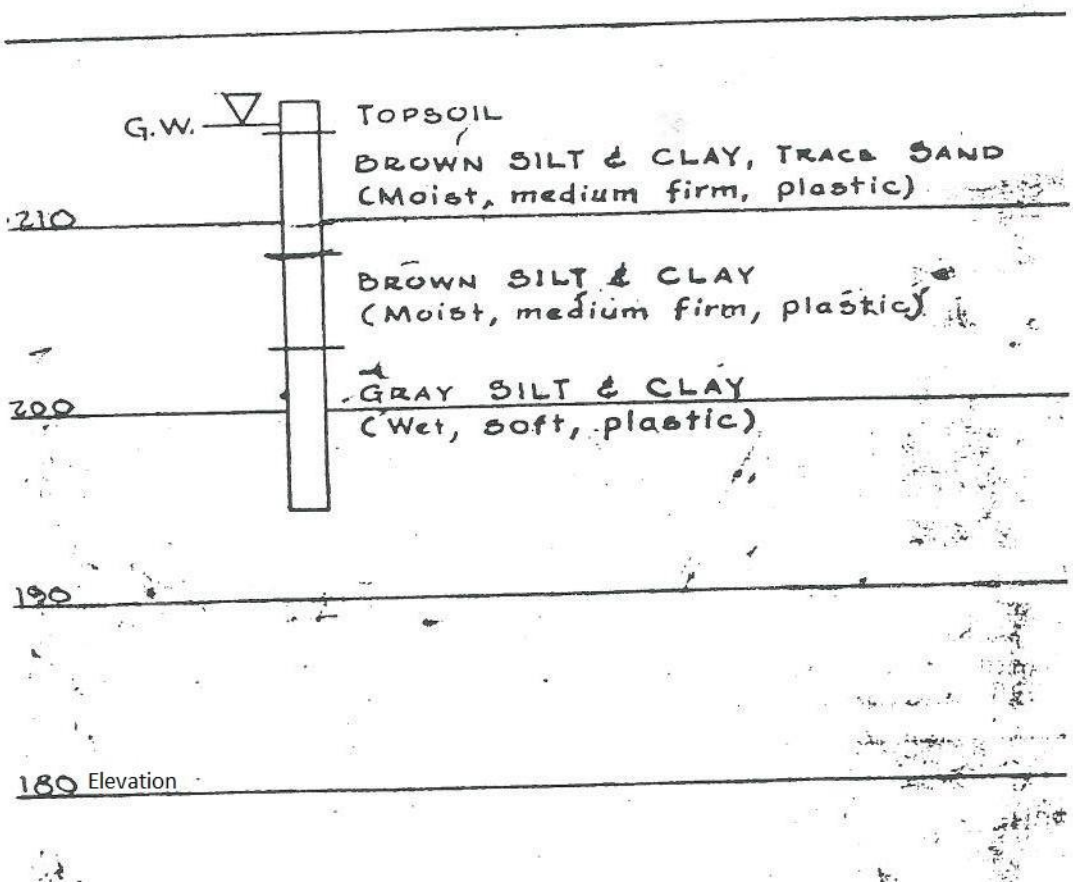
The site has been used as a laboratory since 1914. Prior to 1914, a County Almshouse, with an associated burial ground in the southern portion of the area, was located on the site. Historic records indicated this facility disposed of laboratory wastes in a "pit" area in the southwest portion of the property.

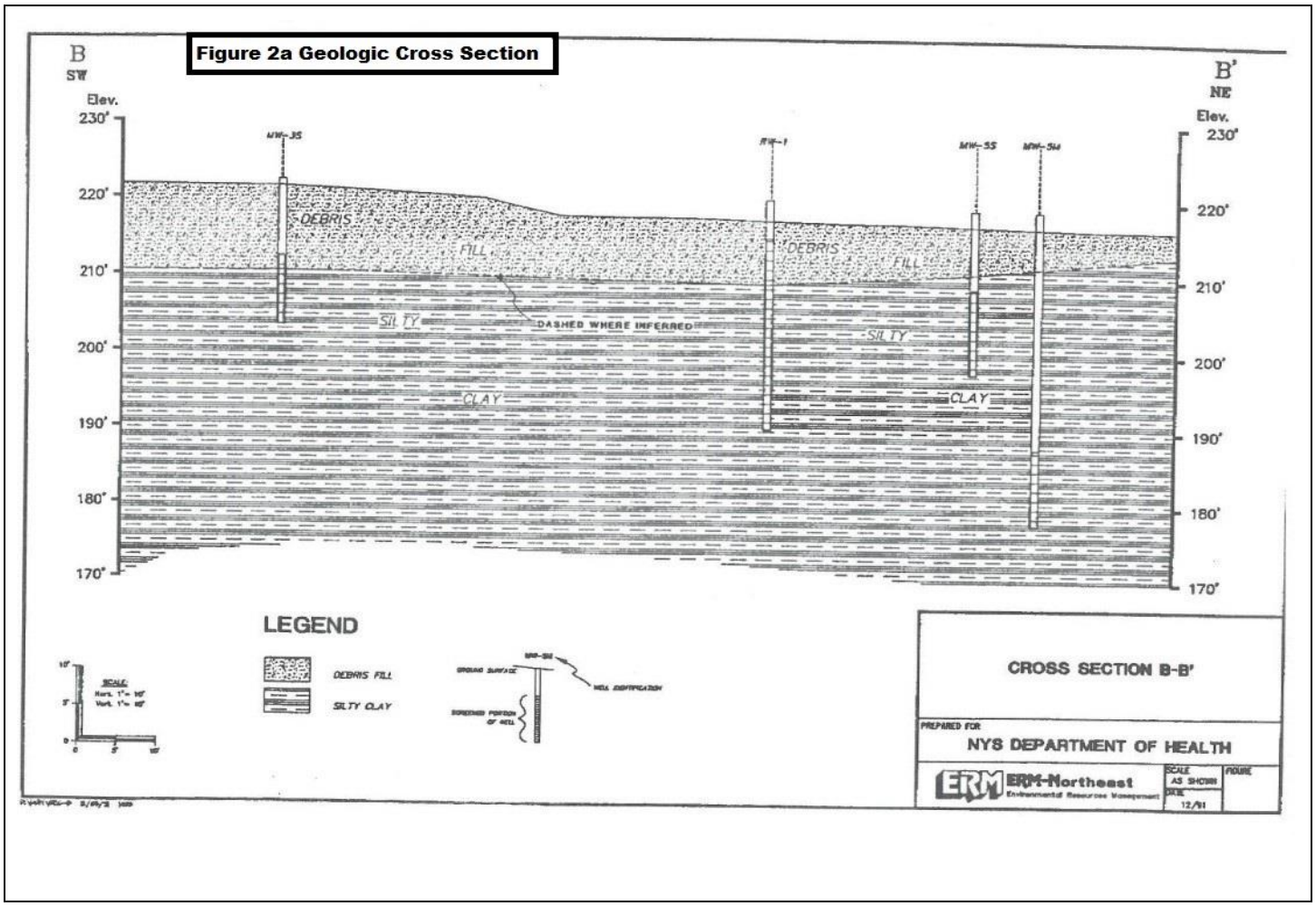
Environmental studies by several parties at the Site indicated that hazardous material was present in the soil and shallow ground water within the "pit" area. These findings resulted in the placement of the Site on the NYS Department of Environmental Conservation (NYSDEC) Hazardous Waste Site Registry with a Class 2 designation (Site No. 401031). The Phase II Remedial Investigation Report by ERM, dated June 1991, indicates sampling results, contamination levels, maps of site contamination, and ground water flows. 1.2.3 Geologic Conditions

Soil types are generally minor sand and clay debris over silty clay. The topsoils and fills are thin. The virgin soils are the lacustrine Albany Clays. The upper, brown, dessicated, clay soils are about 12-15 feet thick.

A geologic section is shown in Figures 2 and 2a.

Figure 2 Geologic Cross Section





Cross sectional direction indicated in Figure 2a is generally SSW to ENE through the area where the cap was constructed.

Ground water flow is generally in the direction of the East to South quadrant. Some variation occurs with seasonal conditions. Original depth to groundwater ranged from 6 to 14 feet below the existing ground surface. Original and current ground water elevations are indicated on the flow figures listed below.

Groundwater flow figures are shown in Figures 3 A, B, and C. Figures 3-A and B indicate directional flow in shallow and medium wells, respectively, from the RI. Figure 3-C shows ground water flow from the ground water sampling event in September 2011.

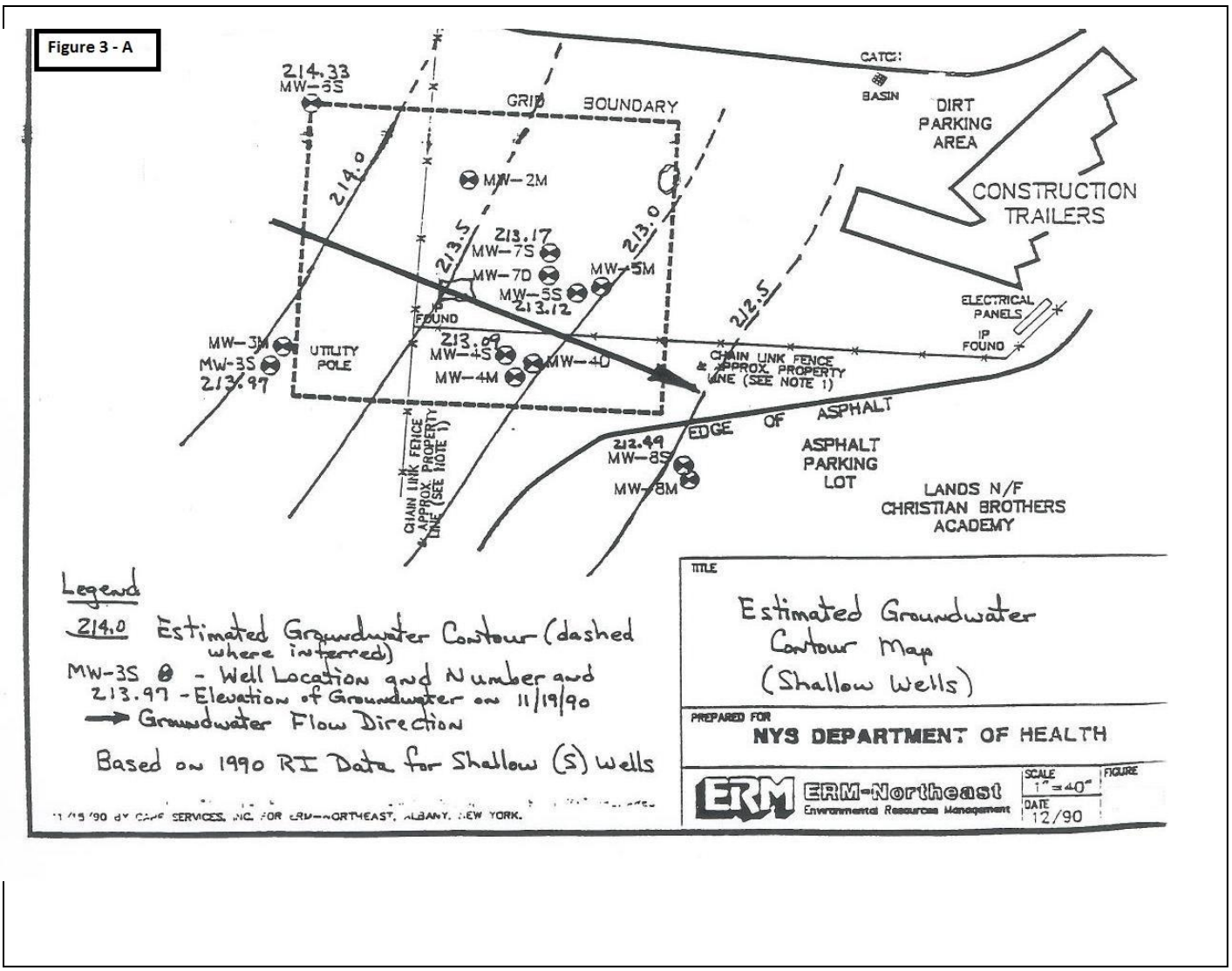


Figure 3 - A
214.33
MW-3S
GRID BOUNDARY
CATCH BASIN
DIRT PARKING AREA
CONSTRUCTION TRAILERS
MW-2M
214.0
213.5
213.17
MW-7S
MW-7D
MW-5M
MW-5S
213.12
213.0
212.5
IP FOUND
ELECTRICAL PANELS
IP FOUND
MW-3M
MW-3S
213.97
UTILITY POLE
213.09
MW-4S
MW-4M
MW-4D
CHAIN LINK FENCE & APPROX. PROPERTY LINE (SEE NOTE 1)
CHAIN LINK FENCE APPROX. PROPERTY LINE (SEE NOTE 1)
EDGE OF ASPHALT
212.49
MW-8S
MW-8M
ASPHALT PARKING LOT
LANDS N/F CHRISTIAN BROTHERS ACADEMY
Legend
214.0 Estimated Groundwater Contour (dashed where inferred)
MW-3S - Well Location and Number
213.97 - Elevation of Groundwater on 11/19/90
Groundwater Flow Direction
Based on 1990 RI Data for Shallow (S) Wells
TITLE
Estimated Groundwater Contour Map (Shallow Wells)
PREPARED FOR
NYS DEPARTMENT OF HEALTH
ERM
ERM-Northeast
Environmental Resources Management
SCALE 1" = 40'
FIGURE
DATE 12/90
11/15/90 BY CAPE SERVICES, INC. FOR ERM-NORTHEAST, ALBANY, NEW YORK.

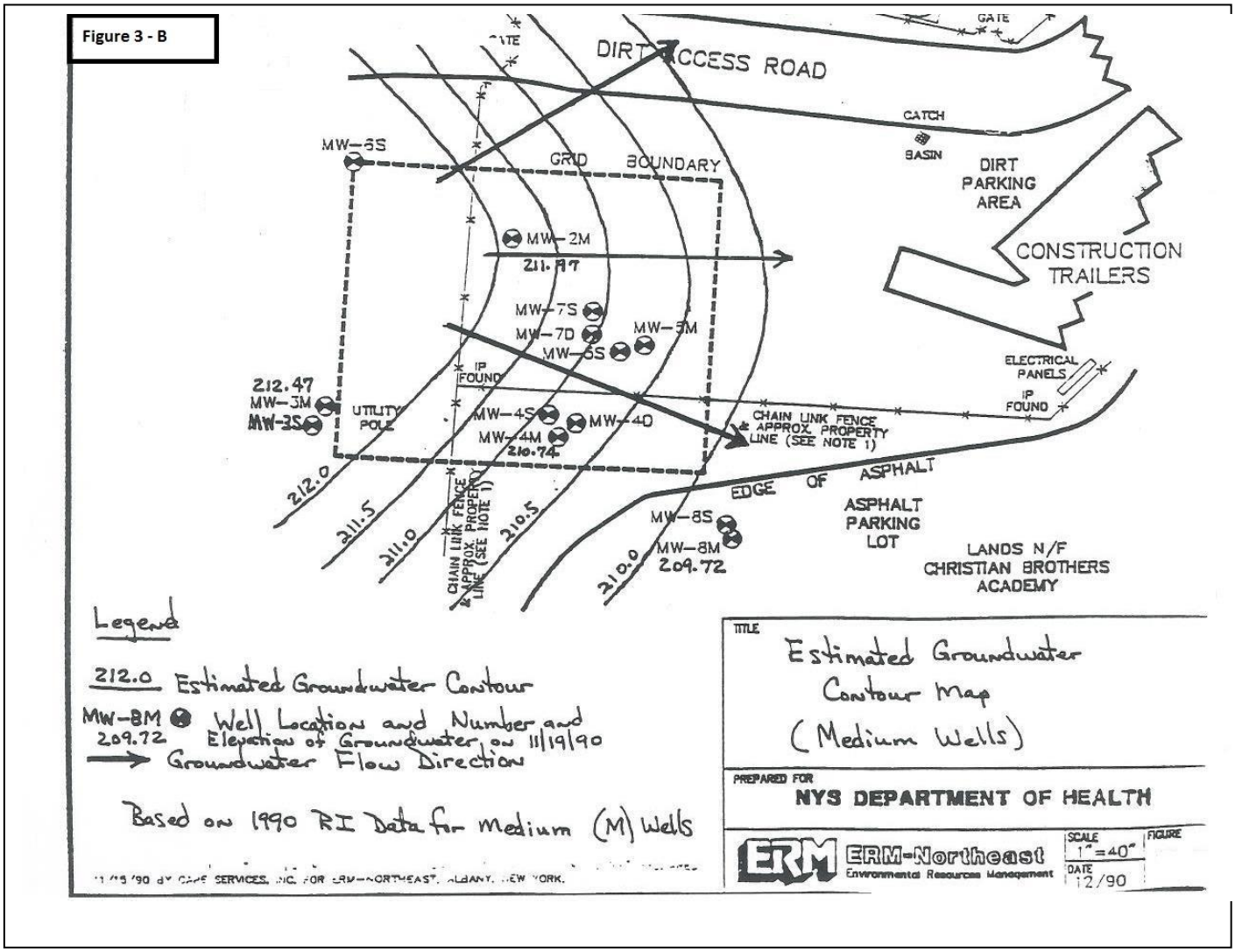
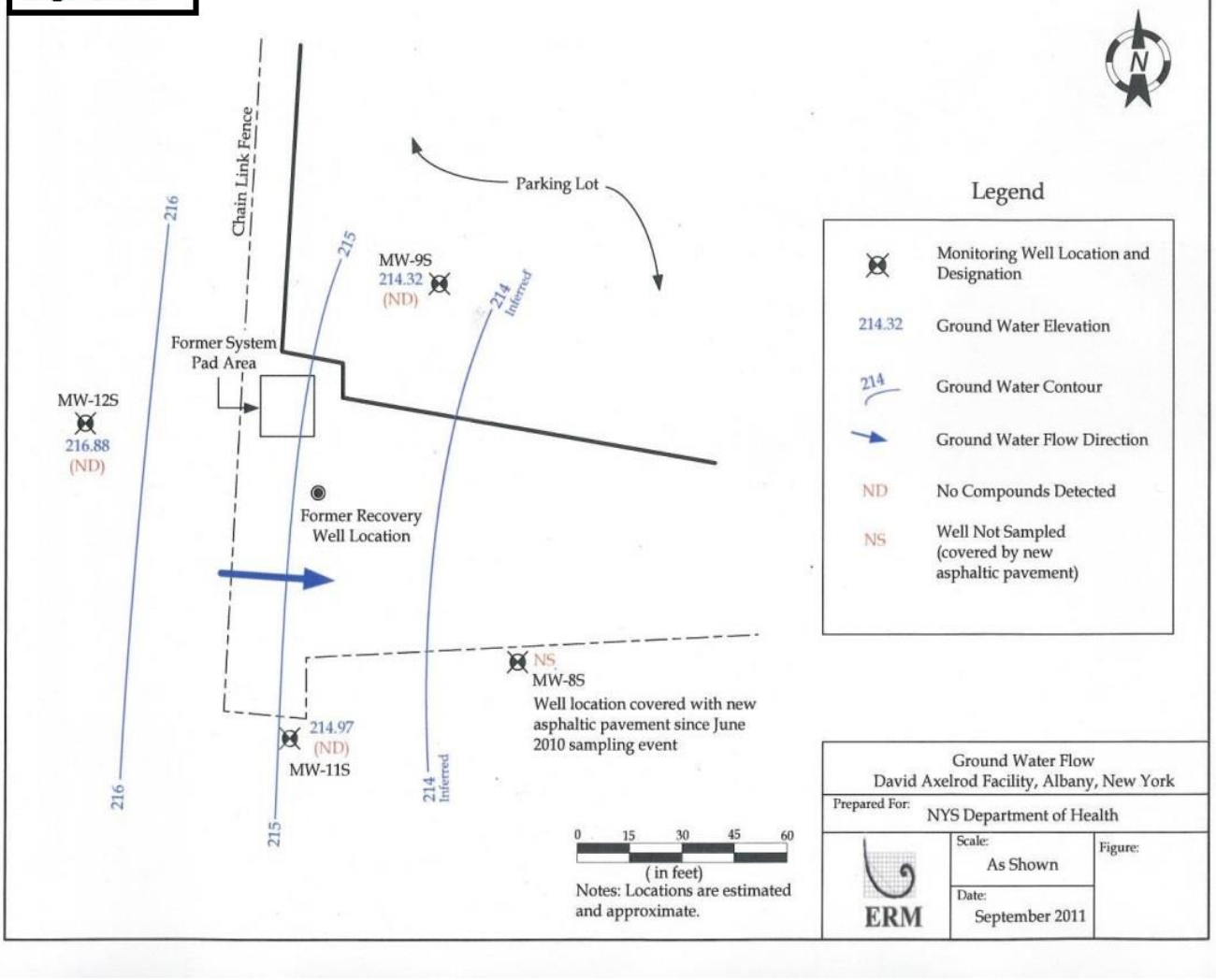


Figure 3 - B
DIRT ACCESS ROAD
GATE
CATCH BASIN
DIRT PARKING AREA
CONSTRUCTION TRAILERS
GRID BOUNDARY
MW-6S
MW-2M
211.87
MW-7S
MW-7D
MW-5S
MW-3M
212.47
MW-3M
MW-2S
UTILITY POLE
IP FOUND
MW-4S
MW-4D
MW-4M
210.74
CHAIN LINK FENCE APPROX. PROPERTY LINE (SEE NOTE 1)
ELECTRICAL PANELS
IP FOUND
EDGE OF ASPHALT
ASPHALT PARKING LOT
MW-8S
MW-8M
209.72
212.0
211.5
211.0
210.5
210.0
LANDS N/F CHRISTIAN BROTHERS ACADEMY
Legend
212.0 Estimated Groundwater Contour
MW-8M 209.72 Well Location and Number and Elevation of Groundwater on 11/19/90
Groundwater Flow Direction
Based on 1990 RI Data for Medium (M) Wells
TITLE
Estimated Groundwater Contour Map (Medium Wells)
PREPARED FOR
NYS DEPARTMENT OF HEALTH
ERM-Northeast
Environmental Resources Management
SCALE 1" = 40'
FIGURE
DATE 12/90

Figure 3-C


Chain Link Fence
Parking Lot
MW-9S
214.32
(ND)
Former System
Pad Area
MW-12S
216.88
(ND)
Former Recovery
Well Location
NS
MW-8S
Well location covered with new
asphaltic pavement since June
2010 sampling event
214.97
(ND)
MW-11S
216
215
214
Inferred
0 15 30 45 60
(in feet)
Notes: Locations are estimated
and approximate.
Legend
Monitoring Well Location and Designation
214.32 Ground Water Elevation
214 Ground Water Contour
Ground Water Flow Direction
ND No Compounds Detected
NS Well Not Sampled (covered by new asphaltic pavement)
Ground Water Flow
David Axelrod Facility, Albany, New York
Prepared For: NYS Department of Health
ERM
Scale: As Shown
Date: September 2011
Figure:

1.3 SUMMARY OF REMEDIAL INVESTIGATION FINDINGS

A Remedial Investigation (RI) was performed to characterize the nature and extent of contamination at the site. The results of the RI are described in detail in the following reports:

- Geotechnical Investigation, February 1987; August 1989
- 1990 Remedial Investigation Report, February 18, 1991
- Phase II Remedial Investigation Report, June 21, 1991

Generally, the RI determined that chemical contamination of soil and ground water existed above acceptable levels. Highest soil contamination levels were confined to some relatively small areas indicated in Figure 4a. Estimated ground water contamination was also determined to be generally localized to the immediate site locations, with the exception of a small area on neighboring property to the South. (Note: a portion of the property to the South was subsequently purchased by NYSDOH for inclusion in the remedial site, and to have complete control over the cap area.) Eleven volatile and one semi-volatile organic compounds were detected in soil samples. Many of the same compounds were detected in ground water samples. Analytical data obtained during the Phase II study was sufficient to develop final Hazard Ranking System scores for the site. A summary of maximum contaminant levels for soil and ground water is listed in Table 1-1.

Figure 4a Soil Contamination

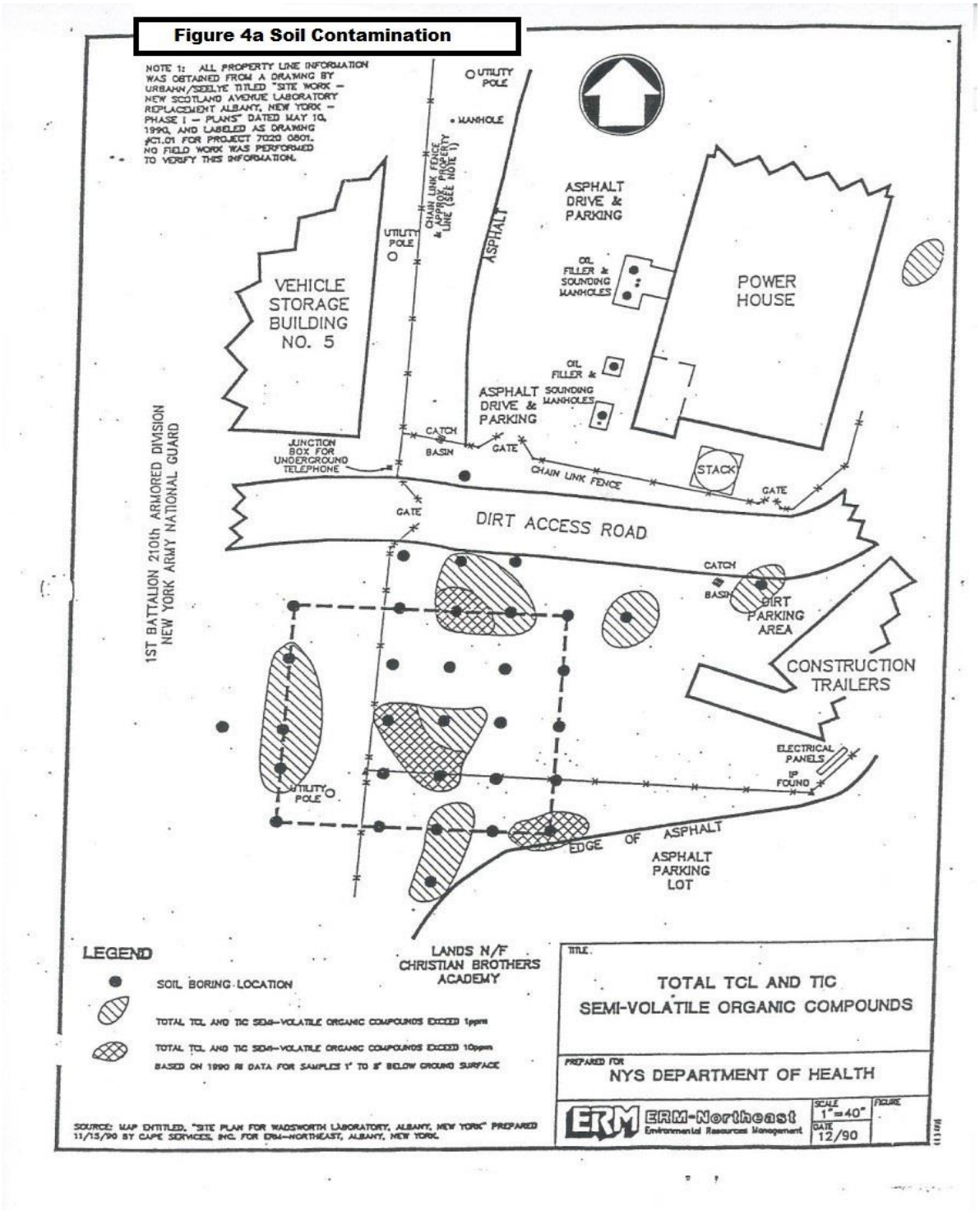


TABLE 1-1
SUMMARY OF MAXIMUM CONTAMINANT LEVELS

Substance	Soil (ppb)	Ground Water (ppb)
Acetone	190	75,000
Benzene	65	14,000
Carbon Tetrachloride	ND	1,500
Chloroform	5,800	18,000
Ethylbenzene	76	9,600
Methylene Chloride	ND	230,000
Tetrachloroethane	4,700	750
Toluene	39	24,000
Trichloroethene	130	6,100
Xylene	280,000	40,000

ND - Not Detected

Below is a summary of site conditions when the RI was performed in 1990 and 1991:

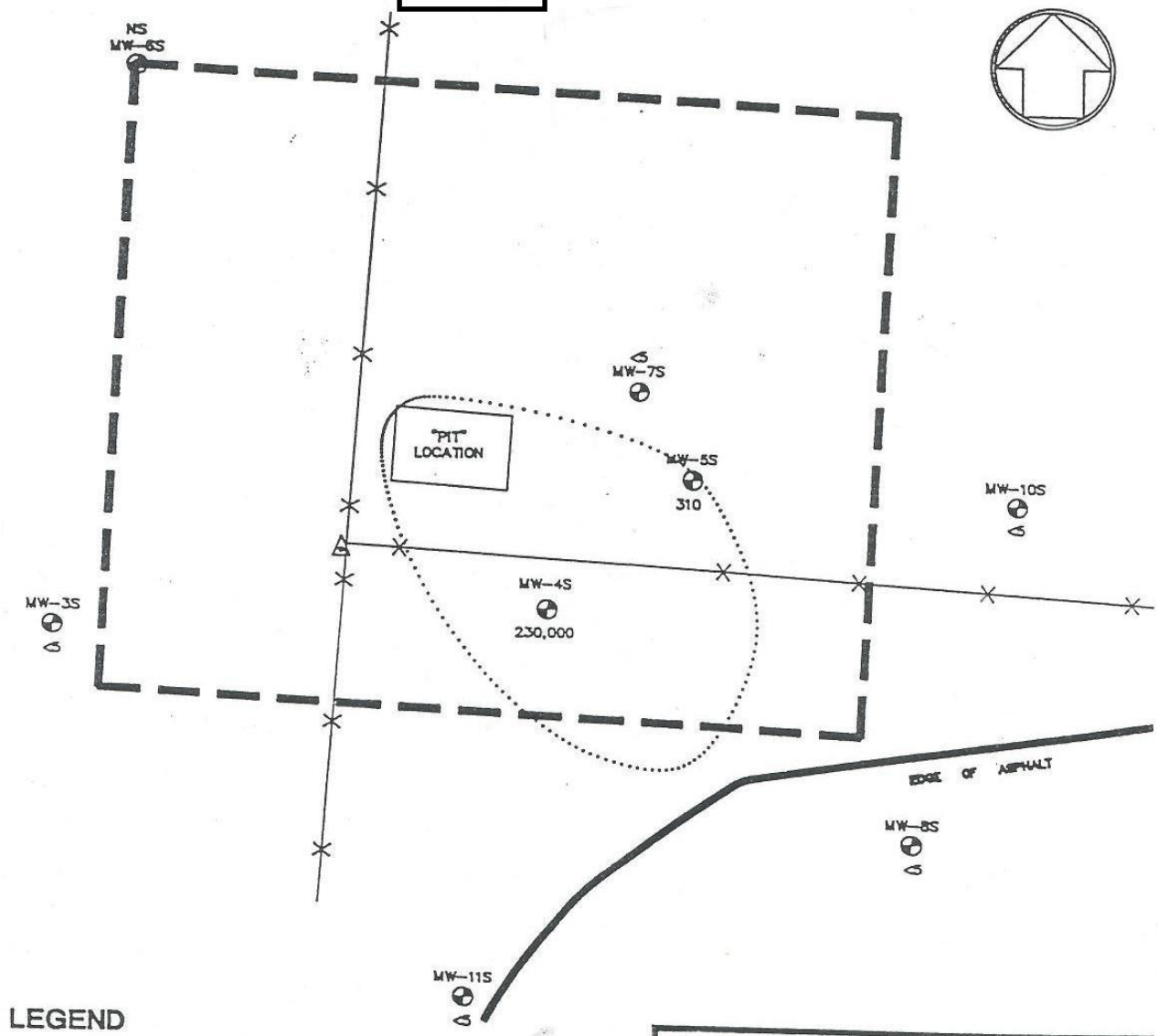
Soil

The Remedial Investigation determined that soils within the investigated area contained varying concentrations of volatile organic compounds (VOCs) and polynuclear aromatic hydrocarbon compounds (PAHs). Summary of maximum contamination levels is listed in Table 1-1 above.

Site-Related Groundwater

Shallow ground water to the south and south east of the "pit" area contained VOCs and semi-volatile organic compounds. The vertical and lateral extent of the ground water contamination is confined because of the subsurface geological conditions of the investigated area. Hydrogeological conditions at the Site result in limited ground water flow, which limits the extent of the volatile and semi-volatile concentrations to a maximum of 40 feet south of the property boundary. Estimated extent of ground water contamination is depicted in Figure 5.

Figure 5



LEGEND

MW-8S — MONITORING WELL LOCATION & ID NUMBER

METHYLENE CHLORIDE CONCENTRATION (in ppb)

Estimated extent of ground water contamination

NS — NOT SAMPLED

ND — NOT DETECTED

BASED ON APRIL 1991 SAMPLING

ESTIMATED EXTENT OF GROUND WATER CONTAMINATION

PREPARED FOR

NYS DEPARTMENT OF HEALTH

Tables from the RI, performed by ERM, showing soil and ground water contamination are attached in Tables 6-1 through 6-8 in Appendix E.

Site-Related Soil Vapor Intrusion

Soil Vapor Intrusion was not addressed in the Remedial Investigation. The extent of soil vapor testing came from air sampling done at seven locations during the Phase II investigation. Background levels for the PID used ranged from 0.2-0.3 ppm. Readings were also performed on split spoon samples taken during pit boring and monitoring well installation. The highest PID reading recorded was 4.0 ppm, taken over a soil sample from the 2-4 foot pit boring.

1.4 SUMMARY OF REMEDIAL ACTIONS

The site was remediated in accordance with the NYSDEC-approved Remedial Design, dated May, 1993.

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

1. Construction and maintenance of a pump and treat system in an effort to remove ground water contamination.

2. Construction and maintenance of a soil cover system consisting of geonet composite, geotextile, and sand and gravel layers, to prevent human exposure to remaining contaminated soil/fill remaining at the site;

3. Execution and recording of deed restrictions to restrict land use and prevent future exposure to any contamination remaining at the site. The Wadsworth Center has had the area subject to this plan surveyed for the purpose of establishing restrictions on the property deed, with refinement of the area subject to this plan. The necessary documents have been submitted for recording.

4. Institutional Controls:

    - Deed restrictions

    - Site use restrictions

    - Access agreements

- Annual review requirements

5. Development and implementation of a Site Management Plan for long term management of remaining contamination as required by the deed restrictions, which includes plans for: (1) Institutional and Engineering Controls, (2) monitoring, (3) maintenance and (4) reporting;

Remedial activities were completed at the site in August, 2001.

1.4.1 Removal of Contaminated Materials from the Site

Removal of soil from the site was not originally considered as a viable option due to the expense from a combination of excavation and fill, and the relocation of human remains from previous use of the site as an Almshouse.

1.4.2 Site-Related Treatment Systems

–Initial remedy consisted of a pump and treat system, for which an Operations and Maintenance Manual was developed. However, after several years of operation it was determined that the system was ineffective, and was removed.

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

1.4.3 Remaining Contamination

An alleged "several thousand gallons" of chemical waste was disposed over many years but the amount of remaining contamination is impossible to quantify. There was never a soil removal remedial action. The groundwater pump and treat remedy proved ineffective because there was not enough water available in the site soil to process. It is possible that most of the contaminants of concern listed in Table 1-1are still present as when the site was listed on the Registry. Contaminants of concern in soil and groundwater include the volatile organic compounds acetone, benzene, carbon tetrachloride, chloroform, ethylbenzene, methylene chloride, tetrachloroethane, toluene, trichlorothene, and xylene.

There have been none of these contaminants of concern observed in the site's four remaining monitoring wells since monitoring began in 2003. The asphalt cover and geonet cap

have virtually eliminated infiltration of surface water through whatever waste remains bound up in the soil. In addition, natural attenuation has likely been a factor in reducing the remaining contamination, but this cannot be verified without re-sampling the soil and groundwater in the immediate disposal area.

A Soil Vapor Intrusion study was conducted in 2009, with the final report being issued by ERM in June of that year. The negative findings resulted in issuance of an "Investigation Complete – No Actions Recommended" memo from DEC in December of 2009.

2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN

2.1 INTRODUCTION

2.1.1 General

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

2.1.2 Purpose

This plan provides:

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

remaining contamination that may be disturbed during maintenance or redevelopment work on the site; and

- Any other provisions necessary to identify or establish methods for implementing the EC/ICs required by the site remedy, as determined by the NYSDEC.

2.2 ENGINEERING CONTROLS

2.2.1 Engineering Control Systems

2.2.1.1 Soil Cover (Cap)

Exposure to remaining contamination in soil/fill at the site is prevented by a soil cover system placed over the site. This cover system is comprised of a minimum of 18 inches of clean soil or asphalt pavement. The capped area was also overlain with a geonet composite consisting of a polyethylene drainage netting installed between two layers of a permeable geotextile. The Excavation Work Plan that appears in Appendix A outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection and maintenance of this cover are provided in the Monitoring Plan included in Section 3 of this SMP.

2.2.1.2 No additional EC's are currently applicable to the area subject to this plan.

Procedures for monitoring the integrity of the cap system are included in the Monitoring Plan (Section 3 of this SMP). The Monitoring Plan also addresses severe condition inspections in the event that a severe condition, which may affect controls at the site, occurs.

2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems

After review of the effectiveness of the original pump and treat system, and through an agreement with NYSDEC (after cost review of additional treatment methodologies), the tank was removed and the recovery well closed in August of 2001. This also resulted in the modification of the Order on Consent as # A4-0433-0012.

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 Air Sparging/Soil Vapor Extraction System [AS/SVE System]

The cap area was constructed such that it included a passive vapor recovery system to vent soil vapor from beneath the cap. There are no operational requirements related to this system.

2.2.2.3 Monitored Natural Attenuation

Natural attenuation will not be monitored at this time as the usability of an acceptable well within the contaminated area is not known.

2.3 INSTITUTIONAL CONTROLS

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

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

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

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

- The controlled area may only be used for restricted commercial use provided that the long-term Engineering and Institutional Controls included in this SMP are employed.
- The controlled area may not be used for a higher level of use, such as unrestricted commercial or restricted residential use without additional remediation and amendment of the deed restrictions, as approved by the NYSDEC;
- All future activities on the controlled area that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- The use of the groundwater underlying the controlled area is prohibited without treatment rendering it safe for intended use;
- The potential for vapor intrusion must be evaluated for any buildings developed in the controlled area noted on Figure 1a, and any potential impacts that are identified must be monitored or mitigated;
- Vegetable gardens and farming on the property are prohibited;
- The site owner or remedial party will submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.

2.3.1 Excavation Work Plan

The site has been controlled for restricted commercial use. No anticipated construction will take place in the controlled area. However, any future intrusive work that may penetrate the soil cover or cap, or encounter or disturb the remaining contamination, including any modifications or repairs to the existing cover system, will require development of, and

approval by NYSDEC, a complete Excavation Work Plan. The plan must comply with all current State and Federal Regulations and include all information and associated plans as required. A Generic Excavation Work Plan is included as Appendix A.

2.3.2 Soil Vapor Intrusion Evaluation

Prior to the construction of any enclosed structures located over areas that contain remaining contamination and the potential for soil vapor intrusion (SVI) has been identified (see Figure 1a), an SVI evaluation will be performed to determine whether any mitigation measures are necessary to eliminate potential exposure to vapors in the proposed structure. Alternatively, an SVI mitigation system may be installed as an element of the building foundation without first conducting an investigation. This mitigation system will include a vapor barrier and passive sub-slab depressurization system that is capable of being converted to an active system.

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

Preliminary (unvalidated) SVI sampling data will be forwarded to the NYSDEC and NYSDOH for initial review and interpretation. Upon validation, the final data will be transmitted to the agencies, along with a recommendation for follow-up action, such as mitigation SVI sampling results, evaluations, and follow-up actions will also be summarized in the next Periodic Review Report if any construction activity is conducted in the controlled area.

2.4 INSPECTIONS AND NOTIFICATIONS

2.4.1 Inspections

Inspections of all remedial components installed at the site will be conducted at the frequency specified in the SMP Monitoring Plan schedule. A comprehensive site-wide

inspection will be conducted annually, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether Engineering Controls continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the deed restrictions;
- Sampling and analysis of appropriate media during monitoring events;
- If site records are complete and up to date; and
- Changes, or needed changes, to monitoring methods;

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

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

2.4.2 Notifications

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

- 60-day advance notice of any proposed changes in site use that are required under the terms of the Order on Consent, 6NYCRR Part 375, and/or Environmental Conservation Law.
- 7-day advance notice of any proposed ground-intrusive activities pursuant to the Excavation Work Plan.
- Notice within 48-hours of any damage or defect to the structure that reduces or has the potential to reduce the effectiveness of other Engineering Controls and likewise any action to be taken to mitigate the damage or defect.
- Verbal notice by noon of the following day of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of Engineering Controls in place at the site, with written confirmation within 7 days that includes a

summary of actions taken, or to be taken, and the potential impact to the environment and the public.

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

Any change in the ownership of the site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser has been provided with a copy of the Order on Consent, and all approved work plans and reports, including this SMP.
- Within 15 days after the transfer of all or part of the site, the new owner's name, contact representative, and contact information will be confirmed in writing.

2.5 CONTINGENCY PLAN

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

Since there are no active operating systems, it is not expected to have a need for emergency response. Serious weather conditions would only warrant additional inspection of the cap area to ensure it is still functioning as intended.

2.5.1 Emergency Telephone Numbers

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

Table 3: Emergency Contact Numbers

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

Table 4: Other Contact Numbers

Laurie Duncan	473-8034 (office) 527-7344 (cell) or Security Control at 473-2787
David Hill	473-8034 (office) 396-7058 (cell) or Security Control at 473-2787

3.0 Site Monitoring Plan

3.1 INTRODUCTION

3.1.1 General

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate contamination at the site, the soil cover system, and all affected site media identified below. This Monitoring Plan may only be revised with the approval of NYSDEC.

3.1.2 Purpose and Schedule

This Monitoring Plan describes the methods to be used for:

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

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

- Sampling locations, protocol, and frequency;
- Information on all designed monitoring systems (e.g., well logs);
- Analytical sampling program requirements;
- Reporting requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and
- Annual inspection and periodic certification.

Monitoring programs are summarized in Table 5 and outlined in detail in Sections 3.2 and 3.3 below.

Table 5: Monitoring/Inspection Schedule

Monitoring Program	Frequency*	Matrix	Analysis
Ground Water	Every 5 quarters	Ground Water	TCL VOCs
Site Inspection	Annual		Visual with photographic documentation

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

3.2 SOIL COVER SYSTEM MONITORING

The surface of the capped area will be inspected at least annually, and after severe weather or environmental events, to ensure the geomembrane cap is being properly protected by the fill materials and the vegetative and pavement cover. Notice will be taken of rivulets on slopes and any signs of accumulated liquids. Any signs of settling will be noted. Any large seedlings which may eventually impact the integrity of the cap will be removed. Evidence of burrowing animals will also be noted. Any cracks in the paving will be sealed using an asphalt sealant. Any weeds or seedlings growing out of the pavement will be removed. Notice will be taken of accumulated liquids in paved areas, or other signs of pavement settling. Should inspections reveal the possibility of cap or asphalt paving integrity may be compromised in any way, appropriate mitigative actions will be implemented. Sections of cover which have subsided will be backfilled, re-graded, and repaved as necessary.

3.3 MEDIA MONITORING PROGRAM

3.3.1 Groundwater Monitoring

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

The network of monitoring wells has been installed to monitor both up-gradient and down-gradient groundwater conditions at the site. The network of on-site and off-site wells has been designed based on the following criteria:

Monitoring wells are placed to sample ground water both up gradient and down gradient from the primary contamination zone. The location of the wells can be seen in Figures 1a and 3C in previous sections. Locations in Figure 1a show reference relevant to the cap area. Sampling is currently conducted every fifth quarter.

Table 5a shows ground water elevations and depth to water in the monitoring wells from sampling events conducted since the removal of the pump and treat system. Figure 1a has also been included for reference to well locations.

Table 5a

SUMMARY OF GROUND WATER ELEVATION DATA
AXELROD FACILITY
ALBANY, NEW YORK
ERM PROJECT NUMBER 0139000

Well Location	MW-8S	MW-9S	MW-11S	MW-12S
Elevation at Top of Casing	216.42	219.64	219.39	220.94
Total Depth of Well	17.92	19.88	16.35	19.75
Screen Length	10	15	10	10
Date				
12/22/2003	211.74	213.24	212.17	NA
3/2/2005	211.40	213.00	211.54	NA
9/7/2006	211.27	212.42	211.41	NA
12/4/2007	211.90	213.22	211.99	NA
3/19/2009	212.36	213.63	212.31	NA
6/8/2010	211.56	212.59	211.47	NA
9/8/2011	NM	214.32	214.97	216.88

NOTES:

- All measurements reported in feet.

NA - Not Applicable - MW-12S installed 8 April 2011.

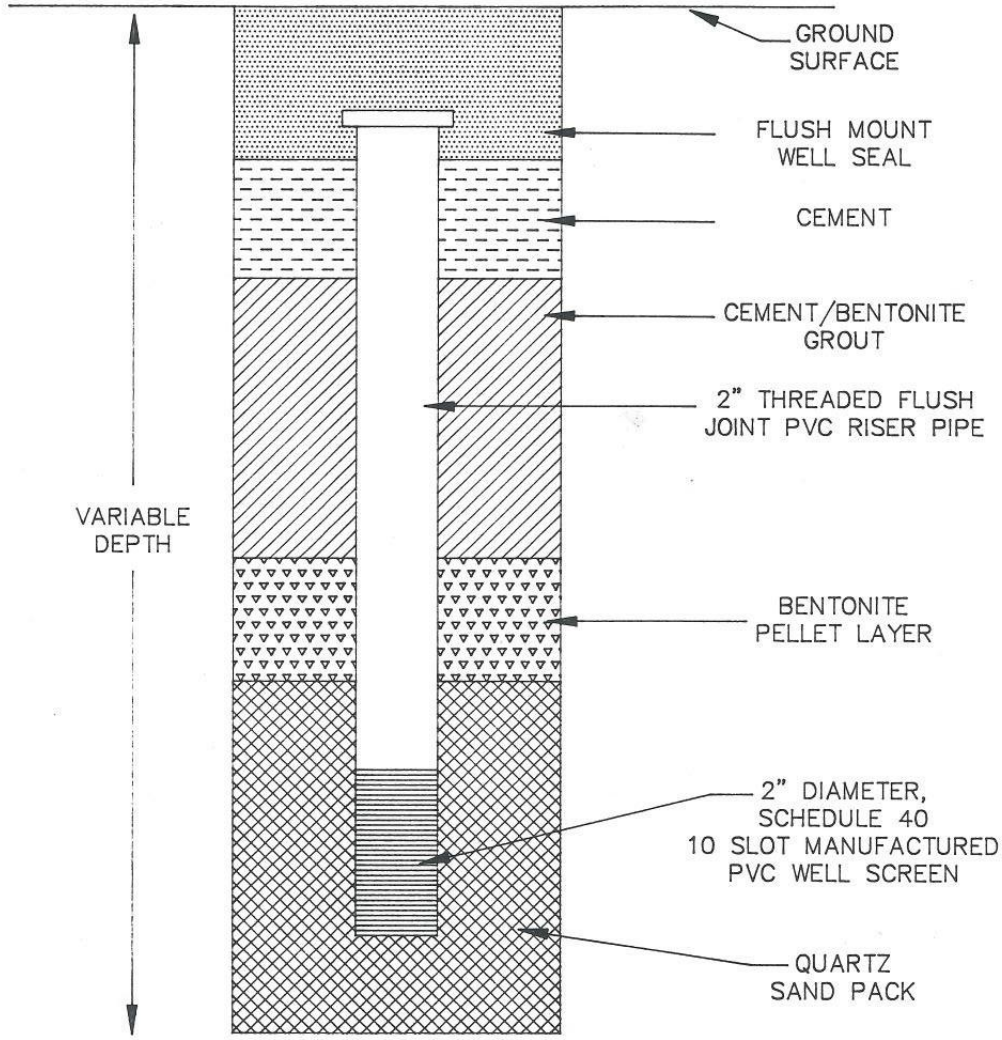
NM = Not measured (well was covered with new asphaltic pavement since June 2010 sampling event).

DTW Data	MW-8S	MW-9S	MW-11S	MW-12S
Date				
12/22/2003	4.68	6.40	7.22	NA
3/2/2005	5.02	6.64	7.85	NA
9/7/2006	5.15	7.22	7.98	NA
12/4/2007	4.52	6.42	7.4	NA
3/19/2009	4.06	6.01	7.08	NA
6/8/2010	4.86	7.05	7.92	NA
9/8/2011	NM	5.32	4.42	4.06

- Monitoring well construction detail is presented in Figure 6.

Sample monitoring well construction logs and field data sheets are included in Appendix D.

Figure 6 Monitoring Well Construction Detail



TITLE

MONITORING WELL CONSTRUCTION DETAIL MW-8S AND MW-8M

PREPARED FOR

NYS DEPARTMENT OF HEALTH

ERM-Northeast
Environmental Resources Management

SCALE NTS | FIGURE

DATE 1/91

CH91007

443.001

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

Deliverables for the groundwater monitoring program are specified below.

3.3.1.1 Sampling Protocol

All monitoring well sampling activities will be recorded in a field book, and a groundwater-sampling sheet is presented in Appendix F. Other observations (e.g., well integrity, etc.) will be noted on the well sampling log. The well sampling log will serve as the inspection form for the groundwater monitoring well network.

3.3.1.2 Monitoring Well Repairs, Replacement And Decommissioning

If biofouling or silt accumulation occurs in the on-site and/or off-site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced (as per the Monitoring Plan), if an event renders the wells unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

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

3.3.1.3 Asphalt Cover Maintenance/Repairs

When any repairs to the asphalt cover are made, care will be taken to protect open areas where paving has been removed. It is important to prohibit rainwater infiltration, so repairs

involving milling and re-paving should only be carried out on the restricted area when dry weather is predicted. In the event that water collects on milled asphalt during paving, it should be removed by sweeping, blowing compressed air, or pumping. It should not be allowed to infiltrate. A scope of work should be agreed upon by site manager and contractor which addresses this matter.

3.4 SITE-WIDE INSPECTION

Site-wide inspections will be performed on a regular schedule at a minimum of once a year. Site-wide inspections will also be performed after all severe weather conditions that may affect Engineering Controls or monitoring devices. During these inspections, an inspection form will be completed (Appendix G). 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; and
- Confirm that site records are up to date.

3.5 MONITORING QUALITY ASSURANCE/QUALITY CONTROL

All sampling and analyses will be performed in accordance with the requirements of NYSDEC ASP and USEPA Guidance.

The sampling contractor and laboratory doing sample analysis are expected to follow standard QA/QC procedures when conducting their work, and reporting results.

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

- Sample holding times will be in accordance with the NYSDEC ASP requirements.
- Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.

- Sample Tracking and Custody;
- Calibration Procedures:
  - All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.
  - The laboratory will follow all calibration procedures and schedules as specified in USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.
- Analytical Procedures;
- Preparation of a Data Usability Summary Report (DUSR), which will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method.
- Internal QC and Checks;
- QA Performance and System Audits;
- Preventative Maintenance Procedures and Schedules;
- Corrective Action Measures.

3.6 MONITORING REPORTING REQUIREMENTS

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

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

- Date of event;
- Personnel conducting sampling;
- Description of the activities performed;
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled will be submitted electronically in the DEC identified EQuIS format (instructions can be found at http://www.dec.ny.gov/chemical/62440.html)
- Any observations, conclusions, or recommendations; and
- A determination as to whether groundwater conditions have changed since the last reporting event.

Data will be reported in hard copy or digital format as determined by NYSDEC. A summary of the monitoring program deliverables are summarized in Table 6 below.

Table 6: Schedule of Monitoring/Inspection Reports

Task	Reporting Frequency*
Ground water sampling	Every 5th quarter
Site inspection with Report to DEC	Annual
PRR	Annual

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

4.0 OPERATION AND MAINTENANCE PLAN

4.1 INTRODUCTION

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

5. INSPECTIONS, REPORTING AND CERTIFICATIONS

5.1 SITE INSPECTIONS

5.1.1 Inspection Frequency

All inspections will be conducted at the frequency specified in the schedules provided in Section 3 Monitoring Plan of this SMP. At a minimum, a site-wide inspection will be conducted annually. Inspections of remedial components will also be conducted whenever a severe condition has taken place, such as an erosion or flooding event that may affect the ECs.

5.1.2 Inspection Forms, Sampling Data, and Maintenance Reports

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

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

5.1.3 Evaluation of Records and Reporting

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

- EC/ICs are in place, are performing properly, and remain effective;
- The Monitoring Plan is being implemented;
- The site remedy continues to be protective of public health and the environment and is performing as designed in the RAWP and FER.

5.2 CERTIFICATION OF ENGINEERING AND INSTITUTIONAL CONTROLS

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

For each institutional or engineering control identified for the site, I certify that all of the following statements are true:

- The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;
- The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;
- Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;
- Use of the site is compliant with the Deed restrictions;
- The engineering control systems are performing as designed and are effective;
- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program and
- The information presented in this report is accurate and complete.

- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, Laurie Duncan of NYSDOH, Wadsworth Center, P.O. Box 509, Albany, NY, am certifying as Owner's Designated Site Representative.

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

For each institutional identified for the site, I certify that all of the following statements are true:

- The institutional control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;
- Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;
- Use of the site is compliant with the environmental easement.
- The information presented in this report is accurate and complete.
- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, Laurie Duncan, of NYSDOH, Wadsworth Center, P.O. Box 509, Albany, NY, am certifying as Owner's Designated Site Representative.

- No new information has come to my attention, including groundwater monitoring data from wells located at the site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of off-site contamination are no longer valid; and

Every five years the following certification will be added:

- The assumptions made in the qualitative exposure assessment remain valid.

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

5.3 PERIODIC REVIEW REPORT

A Periodic Review Report will be submitted to the Department every year, beginning eighteen months after the No Further Action Letter is issued. In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in Appendix B (Metes and Bounds). The report will be prepared in accordance with NYSDEC DER-10 and submitted within 45 days of the end of each certification period. Media sampling results will also incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the site;
- Results of the required annual site inspections and severe condition inspections, if applicable;
- All applicable inspection forms and other records generated for the site during the reporting period in electronic format;
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends;
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted electronically in a NYSDEC-approved format;
- A site evaluation, which includes the following:
    - The compliance of the remedy with the requirements of the site-specific RAWP, ROD or Decision Document;

- Any new conclusions or observations regarding site contamination based on 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.

The Periodic Review Report will be submitted, in hard-copy and electronic format, to the NYSDEC Central Office.

5.4 CORRECTIVE MEASURES PLAN

If the periodic certification cannot be provided due to the failure of an institutional or engineering control, a corrective measures plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the corrective measures plan until it is approved by the NYSDEC.

APPENDIX A – EXCAVATION WORK PLAN

Due to the possible presence of human remains from history as an Alms House and associated Paupers field, excavation in the area would generally be precluded. Any possible excavation would be associated with potential cap repair, or a project involving complete removal of contaminated soil. The latter would require a new remediation plan and all associated documentation, and approval of the DEC.

A-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the site owner or their representative will notify the Department. Currently, this notification will be made to:

Keith Goertz

Regional Hazardous Waste Remediation Engineer

NYSDEC Region 4 Headquarters

1130 North Westcott Road
Schenectady, NY 12306-2014

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent, plans for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control,
- A summary of environmental conditions anticipated in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work,

- A summary of the applicable components of this G-EWP, or additional information and submission of an extended EWP if the proposed activities cannot be covered under this G-EWP.

NYSDOH, Wadsworth Center

GENERIC EXCAVATION WORK PLAN

1. Introduction

This Generic Excavation Work Plan (G-EWP) has been prepared for use in conjunction with the NYSDOH Wadsworth Center (WC) Site Management Plan (SMP). The purpose of this G-EWP is to provide guidance for the proper handling and final disposition of possibly contaminated soil and materials excavated in and around the controlled area covered by the SMP. Any proposed maintenance of drainage structures, including asphalt pavements; excavation of existing soils, including sub-base materials and sub-floor slab materials; and decommissioning of monitoring wells/piezometers and other subsurface utilities must be evaluated for the potential to expose contaminants to the environment. These activities must be performed in accordance with this G-EWP and the established and approved Institutional Controls and Engineering Controls (IC/EC) presented in the WC SMP. A Site-Specific EWP must be prepared using, as a minimum, the requirements of this G-EWP. The WC property (controlled area) is included in the G-EWP based on information submitted by ERM and NYSDOH, and obtained from NYSDEC, indicating the presence of soil and ground water contamination with volatile and semi-volatile compounds.

When excavation or maintenance activities are planned in the controlled area of the WC New Scotland Avenue Site where soils may be contaminated, adequate personal protective equipment must be used to prevent exposure to potentially contaminated soil. A work plan must be prepared that addresses the methods of excavation or maintenance, precipitation runoff and groundwater control, handling and storing of the contaminated sediment or excavated materials on site, and the proper transportation and disposal of the sediment or excavated material. The testing and analytical requirements must be described in detail as part of the work plan. In addition, a Health and Safety Plan (HASP) and specifications and drawings must be prepared and submitted to the New York State Department of Environmental Conservation (NYSDEC) for their comment and approval prior to performing any maintenance activities or excavations within these potentially contaminated areas.

2. Sediment

Sediments are not considered to be accumulating in the controlled area, but may need to be addressed during excavation activities.

3. Excavated Material

Soils and materials excavated from beneath the cap in the controlled area of the WC Site are expected to be contaminated with volatile or semi-volatile compounds, while materials outside

that area have not been exposed to contaminants and consist of clean soil. Only excavated soils and other materials from beneath the geotextile membrane of the cap would be considered to be contaminated, while soils or materials from outside the cap boundary would not be considered contaminated.

4. Sediment and Excavated Material Handling

This section describes the minimum requirements that must be followed when handling possibly contaminated excavated materials at the WC Site. Additional requirements may be added as necessary for the Site-specific EWP.

a. All maintenance activities and excavations should be completed during non-precipitation events unless these activities must be performed immediately. A water-handling and treatment plan must be developed for inclusion into the EWP as a contingency in the event that emergency maintenance or excavation activities must be performed during a precipitation event.

b. Prior to performing any maintenance or excavation activity, samples of the affected sediments and excavated materials (either new or from an existing stockpile) must be submitted to a laboratory for analysis (a) to determine the appropriate disposal method and (b) for waste characterization and profiling for disposal. The analysis must be performed by a laboratory certified by the National Voluntary Laboratory Accredited Program (NVLAP). If, in the opinion of NYSDEC, the materials are considered free of contamination, then the materials may be handled by standard construction means and methods.

c. Transport of excavated materials must be performed using approved watertight containers. Dump trucks may be used as the container if their beds are lined with 40-mil polyethylene or an approved equivalent.

d. Waterproof containers such as roll-offs and drums should be used to store excavated materials. However, as an option for small quantities of materials, sediments and excavated materials may be stored on a 40-mil polyethylene base sheet and covered with a waterproof cover when not being added to or removed.

e. Non-contaminated drainage from the waterproof cover must be directed away from the stockpiled soils suspected of being contaminated and collected in a water-tight sump for observation or analysis prior to being manually discharged to on-site drainage.

f. Uncontaminated soil must not come into contact with excavated materials. If the uncontaminated soil comes into contact with the stored excavated materials, these soils also must be considered contaminated.

g. Contaminated materials should be stored on site for as short a period as possible prior to disposal. In no event should the materials be stored for longer than 90 days.

h. Transport of contaminated excavated materials shall be provided by a certified transportation company that can ship either hazardous waste or solid wastes.

i. Disposal of contaminated excavated materials shall be at an approved disposal facility.

Sampling and analysis shall be performed as described in the WC SMP. Additional requirements of the company receiving the waste shall also be followed.

5. Backfill Materials

Any backfill materials shall be obtained from an approved source, free of all contaminants per NYSDEC TAGM 4046 criteria, and suitable for the intended purpose. Analytical results are to be provided to demonstrate acceptability of the materials.

a. Backfill material used within the controlled area of the cap must be similar material to that removed to ensure the performance of the cap area can be maintained as originally intended. This includes replacement of sub-cap soil and soil replaced over the cap area. In addition, parking surfaces over the cap area must be restored as close to original as possible to provide the protection of the Engineering Control (cap system) described in the WC SMP. The pavement in these paved areas must remain sealed to prevent the accumulation of water beneath the pavement surface, which would result in frost heave conditions and early pavement failure. This situation could allow the migration of contaminants off the site.

b. Backfill used in other areas, such as the undeveloped NTC east property, shall be material appropriate for that area's use.

6. Backfill Placement

a. Backfill used beneath pavements shall be placed on a prepared subgrade in 6-inch lifts and compacted to 95% of the maximum dry density per ASTM D1557 for modified Proctor. The combined thickness of the lifts shall be at least the same as the thickness of the existing fill.
b. Backfill used in unpaved areas must be compacted as necessary and be suitable for the intended end use of the area being backfilled.

APPENDIX B

Metes and Bounds

DEED RESTRICTION DESCRIPTION (NYSDEC Site ID No. 401031)

All that Lot, Piece or Parcel of Land, situate in the City of Albany, County of Albany, State of New York, as shown on the accompanying map entitled "Map showing a Permanent Deed Restriction to be Acquired Pursuant to Section 3-0301 of the Environmental Conservation Law. Being Located at the New York State Department of Health David Axelrod Institute located at 120 New Scotland Avenue, in the City of Albany, County of Albany" as prepared by Bergmann Associates on September 18, 2012

Being more modernly described as follows: ***Beginning*** at a point on the property division line between Lands of the People of the State of New York (reputed owner) on the east and lands now or formerly of Renaissance Corporation of Albany (reputed owner) on the west, said point situate South 05° 48' East along said division line a distance of 629.62 feet from the southerly bounds of New Scotland Avenue; thence the following two (2) courses through the lands now or formerly of the Lands of the People of the State of New York:

1.) South 84° 49'40" East a distance of 177.76 feet to a point;

2.) South 07° 13'18" West a distance of 88.83 feet to a point on the division between lands now or formerly of University Heights Association, Inc. on the south and the herein described parcel on the northwest; thence the following seven (7) courses are along the last mentioned division line:

1.) South 84° 12'00" West a distance of 23.57 feet to a point;

2.) South 47° 39'00" West a distance of 19.33 feet to a point;

3.) South 72° 04'00" West a distance of 49.96 feet to a point;

4.) South 68° 32'00" West a distance of 21.46 feet to a point;

5.) South 40° 18'00" West a distance of 14.40 feet to a point;

6.) South 29° 52'00" West a distance of 17.19 feet to a point;

1.) South 84° 12'00" West a distance of 25.50 feet to a point on the division line between lands now or formerly of Renaissance Corporation of Albany (reputed owner) on the west and the herein described parcel on the northeast; thence along the last mentioned division line North 05°48'00" West a distance of 172.13 feet to the point and place of beginning. Containing 20,721± square feet (0.476 acres) of land, more or less.

Bearings refer to deed Liber 660, Cp241.

APPENDIX C

Declaration of Covenants and Restrictions

THIS COVENANT is made the 3 day of June 2013 by New York State Department of Health (NYSDOH) Wadsworth Center, P.O. Box 509, Albany, NY and having an office for the transaction of business at NYSDOH, Safety and Security Office, Empire State Plaza (P.O. Box 509), Albany, NY.

WHEREAS, New Scotland Avenue Site is the subject of an Order on Consent executed by NYSDOH as part of the New York State Department of Environmental Conservation's (the "Department's) State Superfund Program, namely being a portion that parcel of real property located on 120 New Scotland Avenue in the City of Albany, County of Albany, State of New York, which is derived from three separate conveyances of land. The first part was conveyed by the County of Albany to The People of the State of New York by deed dated March 8th, 1917 and recorded in the Albany County Clerk's Office in Liber 660 on Page 241, the second part was conveyed by University Heights Association, Inc. to The People of the State of New York by deed dated January 18, 2002 and is recorded in the Albany County Clerk's Office in Liber 2702 on Page 19, and the third part was conveyed by County of Albany to The People of the State of New York by deed dated May 5, 1947 and is recorded in the Albany County Clerk's Office in Liber 1064 on Page 419, and being more particularly described in Appendix "A," attached to this declaration and made a part hereof, and hereinafter referred to as "the Property"; and

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

NOW, THEREFORE, People of the State of New York, for itself and its successors and/or assigns, covenant that:

First, the Property subject to this Declaration of Covenants and Restrictions is as shown on a map attached to this declaration as Appendix "B" and made a part hereof.

Second, unless prior written approval by the Department 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, where contamination remains at the Property subject to the provisions of the Site Management Plan ("SMP"), there shall be no construction, use or occupancy of the Property that results in the disturbance or excavation of the Property which threatens the integrity of the engineering controls or which results in unacceptable human exposure to contaminated soils. The SMP may be obtained from the New York State Department of Environmental Conservation, Division of Environmental Remediation, Site

Control Section, 625 Broadway, Albany, NY 12233.

Third, the owner of the Property shall not disturb, remove, or otherwise interfere with the installation, use, operation, and maintenance of engineering controls required for the Remedy, which are described in the SMP, unless in each instance the owner first obtains a written waiver of such prohibition from the Department or Relevant Agency.

Fourth, the owner of the Property shall prohibit the Property from ever being used for purposes other than for Commercial use as described in 6 NYCRR Part 375-1.8(g)(2)(iii) or Industrial use as described in 6 NYCRR Part 375-1.8(g)(2)(iv) without the express written waiver of such prohibition by the Department or 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 Department or Relevant Agency.

Sixth, the owner of the Property shall provide a periodic certification, prepared and submitted by a professional engineer or environmental professional acceptable to the Department or Relevant Agency, which will certify that the institutional and engineering controls put in place are unchanged from the previous certification, comply with the SMP, and have not been impaired.

Seventh, the owner of the Property shall continue in full force and effect any institutional and engineering controls required for the Remedy and maintain such controls, unless the owner first obtains permission to discontinue such controls from the Department or Relevant Agency, in compliance with the approved SMP, which is incorporated and made enforceable hereto, subject to modifications as approved by the Department or Relevant Agency.

Eighth, 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 consent to enforcement by the Department or Relevant Agency of the prohibitions and restrictions that the Department or Relevant Agency requires to be recorded, and hereby covenant not to contest the authority of the Department or Relevant Agency to seek enforcement.

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

APPENDIX D

Sample Monitoring Well Construction Log and Field Data Sheets

ERM-Northeast
501 New Karner Road, Suite 7, Albany NY 12205 (518) 452-4291

LOG OF BORING: MW - 10S

Project name & location: NYSDOH-WCLR	Project number:	Date & time started: 4/8/1991 15:05	Date & time completed: 4/8/1991 17:00
Drilling company: Aquifer Drilling & Testing	Foreman: Rich Beauman	Sampler(s): Split Spoon	Sampler hammer: 140lb. / Drop: 30"
Drilling equipment: Mobile B-57	Method: HSA 4.25" ID	Elevation & datum:	Completion depth: 14' / Rock depth:
Bit(s):	Core barrel(s):	Inspector(s): Dave Myers, Matt Bell, Brian Neumann	

DEPTH (ft below grade)	SAMPLES No.	Recovery (inches)	Blow per 6 in.	Time	Field OVA (ppm)	Headspace OVA (ppm)	SOIL DESCRIPTION	REMARKS
- 0							Brown gray SILTY sand, little gravel coal, slag (Fill)	Dry
- 1	SS-1	18	5 3 3 3	15:05	0	0	Brown CLAYEY SILT, trace sand	Dry
- 2								
- 3	SS-2	18	3 6 7 9	15:07	0	0	Same as above	Dry
- 4								
- 5	SS-3	13	4 9 8 8	15:10	0	0.5	Brown CLAYEY SILT, little sand	Moist
- 6								
- 7	SS-4	20	3 2 4 5	15:30	EF	15	Brown CLAYEY SILT, trace sand, organics	Moist
- 8								
- 9	SS-5	20	7 9 10 12	15:35	0	7	Brown gray CLAYEY SILT , little sand	Moist
- 10								
- 11	SS-6	20	1 2 2 4	15:37	0	0.8	Brown gray CLAYEY SILT, trace organics	Moist
- 12								
- 13	SS-7	18	4 6 7 9	15:40	0	0.4	Brown CLAYEY SILT	Moist
- 14								
15							End of boring at 14'	
- 16							Note: EF = Equipment failure due to inclement weather conditions.	

ERM-Northeast
501 New Karner Road, Suite 7, Albany NY 12205 (518) 452-4291

LOG OF BORING: MW-9M

Project name & location	Project number	Date & time started	Date & time completed	
NYSDOH-WCLR	443.001	4/9/1991 7:50	4/9/1991 9:40	
Drilling company	**Foreman**	**Sampler(s)**	**Sampler hammer**	**Drop**
Aquifer Drilling & Testing	Rich Beauman	Split Spoon	140lb.	30"
Drilling equipment	**Method**	**Elevation & datum**	**Completion depth**	**Rock depth**
Mobile B-57	HSA 4.25" ID		26'	
Bit(s)	**Core barrel(s)**	**Inspector(s)**		
		Dave Myers, Matt Bell, Brian Neumann		

DEPTH (ft below grade)	SAMPLES No.	Recovery (inches)	Blow per 6 in.	Time	Field OVA (ppm)	Headspace OVA (ppm)	Headspace HNU (ppm)	SOIL DESCRIPTION	REMARKS
- 0									
- 1	SS-1	14	3 9 17 12	7:50	EF	1 - 9	NA	Black brown SANDY SILT little gravel; coal ash (Fill)	Moist
- 2									
- 3	SS-2	14	10 11 13 13	7:55	EF	2.5 - 7	NA	Brown CLAYEY SILT, trace sand;brick	Moist
- 4									
- 5	SS-3	10	3 6 5 5	8:00	3	2 - 10	NA	Brown CLAYEY SILT, little sand	Wet
- 6									
- 7	SS-4	17	1 1 1 3	8:20	0	1 - 9	NA	Brown CLAYEY SILT, trace sand	Wet
- 8									
- 9	SS-5	22	2 3 3 2	8:25	0	>1000	11	Brown CLAYEY SILT , trace sand;bottom 6" black gray organic	Wet Field OVA 40-200ppm in organics
- 10									
- 11	SS-6	0	2 2 2 3	8:30	NR	NR	NR	No recovery	
- 12									
- 13	SS-7	24	3 3 5 5	8:40	200	>1000	1	Black brown CLAYEY SILT; organic	Wet
- 14									
15	SS-8	0	4 6 9 12	8:50	NR	NR	NR	No recovery	
- 16									

ERM-Northeast
501 New Karner Road, Suite 7, Albany NY 12205 (518) 452-4291

LOG OF BORING: MW - 9M

DEPTH (ft below grade)	SAMPLES No.	Recovery (inches)	Blow per 6 in.	Time	Field OVA (ppm)	Headspace OVA (ppm)	HNU (ppm)	SOIL DESCRIPTION	REMARKS
- 16 - 17 - 18	SS-9	24	3 3 5 8	9:00	0	1.5	0	Brown CLAYEY SILT, grayer with depth	Moist
- 19 - 20	SS-10	24	1 2 4 4	9:15	0	5	0	Brown gray CLAYEY SILT	Moist
- 21 - 22	SS-11	24	5 4 8 9	9:20	0	4	0	Same as above	Moist
- 23 24	SS-12	24	1 2 2 2	9:35	0	3.5	0	Gray CLAYEY SILT	Moist
- 25 - 26	SS-13	24	2 3 2 3	9:40	0	0.5	0	Same as above	Moist
								End of boring at 26' Notes: EF = Equipment failure due to inclement weather conditions. NA = Not analyzed. NR = No sample recovery.	

APPENDIX F

Sample Groundwater Monitoring Well Sample Sheets

10/14

ERM-Northeast

GROUNDWATER MONITOR WELL FIELD DATA SHEET

Project Name: NYSDOH – WCLR Project Nº: 443.001 - Task Y Well ID: MW-8S

WATER LEVEL DATA Date: 4/22/91 Time: 10:05 Well Locked? Yes ✓ No ___

T.o.c. @

18.3 (a) Total Casing Length 18.30 (ft) 216.47 *Volume Factors: 2-inch well = 0.163 gal/ft
4-inch well = 0.653 gal/ft
6-inch well = 1.468 gal/ft

3.98 (b) Depth to Water (from top of casing) 3.33 (ft) 213.14
212.49

(c) Height of Water Column 14.97 (ft)

Well Volume ([c] x volume factor*) = 14.97 ft x 0.163 gal/ft = 2.44 gal

PURGE DATA Date: 4/22/91 Time: 14:20 start 14:37 finish

Method: Waterra
(bailer, pump, etc.)

Purge Volume (3 to 5 times well volume) = 3 volumes x 2.44 gal/volume = 7.32 gal

Did well dry out? Yes ___ No ✓ Number of times ___ Actual Volume Removed 8.0 gallons

SAMPLING DATA Date: 4/23/91 Time: 11:35

Air Temp. 20 °C pH 6.92 Eh — Turbidity 57 Appearance clear

Groundwater Temp. 9.2 °C Conductivity 1.514 µmhos/cm Color clear

Sampling Method: Waterra

Filtered Materials: Yes ___ No ✓ Not applicable ___

Preservation: Yes ✓ (list below) No ___
Performed by Adirondack Environmental Services

COMMENTS Purge Data per Volume

Volume	Temp (°C)	Cond.	pH	time	Depth to Water
1	9.6	1.511	6.80	14:25	
2	9.4	1.501	6.91	14:30	
3	9.6	1.518	6.86	14:37	5.06
				16:17	3.33
					fully recharged

Personnel: David W. Myers, Brian Neumann

Signature (person completing form): David W. Myers

2/14

ERM-Northeast

GROUNDWATER MONITOR WELL FIELD DATA SHEET

Project Name: NYSDOH – WCLR Project Nº: 443.001 - Task Y Well ID: MW-11S

WATER LEVEL DATA Date: 4/22/91 Time: 9:18 T.o.c. @ 219.39 Well Locked? Yes ✓ No ___

16.09 (a) Total Casing Length 16.09 (ft) *Volume Factors: 2-inch well = 0.163 gal/ft; 4-inch well = 0.653 gal/ft; 6-inch well = 1.468 gal/ft

7.09 (b) Depth to Water (from top of casing) 5.73 (ft) 213.66

(c) Height of Water Column 10.36 (ft)

Well Volume ([c] x volume factor*) = 10.36 ft x 0.163 gal/ft = 1.69 gal

PURGE DATA Date: 4/22/91 Time: 10:30 start 10:50 finish

Method: Waterra (bailer, pump, etc.)

Purge Volume (3 to 5 times well volume) = 3 volumes x 1.69 gal/volume = 5.07 gal

Did well dry out? Yes ___ No ✓ Number of times ___ Actual Volume Removed 5.5 gallons

SAMPLING DATA Date: 4/23/91 Time: 9:20

Air Temp. 16 °C pH 7.02 Eh ___ Turbidity 23.4 Appearance slightly turbid

Groundwater Temp. 9.9 °C Conductivity 1.221 µmhos/cm Color brown

Sampling Method: Waterra

Filtered Materials: Yes ___ No ✓ Not applicable ___

Preservation: Yes ✓ (list below) No ___
Performed by Adirondack Environmental Services

COMMENTS

Purge Data per Volume

Volume	Temp (°C)	Cond.	pH	time	Depth to Water
1	8.0	1.304	6.90	10:35	
2	8.0	1.305	6.82	10:40	
3	8.1	1.304	7.00	10:50	9.12'
				15:56	5.74' recharge fully

Personnel: David W. Myers, Brian Neumann

Signature (person completing form): David W. Myers

APPENDIX E

Remedial Investigation Results

TABLE 6-1
VALID ANALYTICAL RESULTS
SOIL BORING SAMPLES
VOLATILE ORGANIC COMPOUNDS
1990 REMEDIAL INVESTIGATION
NYSDOH - WCLR

TCL COMPOUNDS	A3SS102	A3SS224	A4SS224	A6SS224	B1SS468	B2SS224	C1SS468	C2SS224	C3SS224	M1SS224 (C3SS224 DUPE)
Acetone	24	36	64	76	96	30	63	---	---	97
Chloroform	---	---	3J	---	3J	3J	13	5800J	---	---
Trichloroethene	---	---	---	---	---	---	---	130	---	---
Benzene	---	---	---	---	---	---	---	---	54	65
1,1,2,2-Tetrachloroethane	---	---	---	---	---	---	---	4700J	---	---
Toluene	---	---	---	---	---	---	---	39	---	---
Ethylbenzene	---	---	---	---	---	---	---	---	76	70
Xylenes	---	---	---	---	---	---	---	280000	69	53
TIC COMPOUNDS										
Unknown Hydrocarbons	---	---	---	20J	---	---	---	---	---	20J
Unknown Oxygenated Compound	---	---	---	---	---	---	---	---	---	8J
1,4-Dioxane	---	---	---	---	---	---	---	100J	10J	---
Ethyl Ether	---	---	---	---	---	---	---	---	20J	---
Cyclohexane	---	---	---	---	---	---	---	---	7J	---

TCL COMPOUNDS	C5SS224	D3SS224	E1SS346	E3SS224	E3SS346	E5SS346	Z3SS224
Acetone	31	---	42	94	190	55	56
Chloroform	3J	16	3J	---	5J	---	16
Benzene	---	---	---	---	9	---	---
Toluene	---	5J	---	---	---	---	---
TIC COMPOUNDS							
Unknown Hydrocarbons	---	---	---	20J	20J	20J	---

NOTES:

1. **Volatile organic compounds were not detected in samples MWSS224 AND Z3SS224.**
2. All concentrations are in micrograms per kilogram (ug/kg = parts per billion (ppb)).
3. --- = Compound not detected in this sample but present in another.
4. J = Semi-quantitative value due to value below Contract Required Quantitation Limit (CRQL) or compound being a TIC.

TABLE 6-2
VALID ANALYTICAL RESULTS
SOIL BORING SAMPLES
SEMI-VOLATILE ORGANIC COMPOUNDS
1990 REMEDIAL INVESTIGATION
NYSDOH - WCLR

TCL COMPOUNDS	A3SS102	A3SS224	A4SS224	A6SS224	B1SS468	B2SS224	C1SS468	C2SS224	D3SS224
Naphthalene	---	---	---	---	---	---	---	450	120J
2-Methylnaphthalene	---	---	---	---	---	---	---	320J	190J
Phenanthrene	1300	---	---	---	---	---	---	---	---
Anthracene	190J	---	---	---	---	---	---	---	---
Fluoranthene	2900	---	170J	---	130J	---	---	---	---
Pyrene	6300	---	180J	---	150J	---	---	---	70J
Benzo (a) Anthracene	2800	---	---	---	---	---	---	---	---
Bis (2-Ethylhexyl) Phthalate	1000	370J	870	1000	340J	310J	880	3900	130J
Chrysene	3800	---	---	---	---	---	---	---	---
Benzo (b) Fluoranthene	1800	---	---	---	---	---	---	---	---
Benzo (k) Fluoranthene	1700	---	---	---	---	---	---	---	---
Benzo (a) Pyrene	2500	---	---	---	---	---	---	---	---
Indeno (1,2,3-Cd) Pyrene	1200	---	---	---	---	---	---	---	---
Dibenzo (a,h) Anthracene	470J	---	---	---	---	---	---	---	---
Benzo (g,h,i) Perylene	1100	---	---	---	---	---	---	---	---
TIC COMPOUNDS									
Unknowns	800J	---	---	300J	---	---	600J	4000J	300J
Unknown Alkanes	---	200J	---	---	500J	---	---	20000J	15100J
Unknown Hydrocarbons	700J	---	---	---	---	---	---	7000J	1000J
Unknown PAH	22200J	---	---	---	---	---	---	---	---
Unknown Aromatic	---	---	---	---	---	---	---	---	300J
Unknown Alkyl Benzene	---	---	---	---	---	---	---	4000J	---
Unknown Oxygenated Compound	---	---	---	---	200J	---	---	3000J	600J
Sulfur	---	---	300J	---	4000J	---	---	---	---

NOTES:

1. **Semi-volatile organic compounds were not detected in sample C5SS224.**
2. All concentrations are in micrograms per kilogram (ug/kg = parts per billion (ppb)).
3. --- = Compound not detected in this sample but present in another.
4. J = Semi-quantitative value due to value below Contract Required Quantitation Limit (CRQL) or compound being a TIC.

TABLE 6-2 (continued)
VALID ANALYTICAL RESULTS
SOIL BORING SAMPLES
SEMI-VOLATILE ORGANIC COMPOUNDS
1990 REMEDIAL INVESTIGATION
NYSDOH - WCLR

TCL COMPOUNDS	C3SS224	M1SS224 (C3SS224 DUPE)	E1SS346	E3SS224	E3SS346	E5SS346	F3SS224	MWSS224	Z3SS224
2-Methylphenol	---	---	---	---	---	---	84J	---	---
Naphthalene	---	---	---	---	77J	6800	---	---	---
2-Methylnaphthalene	---	---	---	---	---	2300	---	---	---
Acenaphthalene	---	---	---	---	---	3400	---	---	---
Dibenzofuran	---	---	---	---	---	2700	---	---	---
Fluorene	---	---	---	---	---	3400	---	---	---
Phenanthrene	---	---	---	---	630	12000	---	---	---
Anthracene	---	---	---	---	130J	3800	---	---	---
Fluoranthene	---	---	---	---	470	11000	---	---	---
Pyrene	---	---	---	---	500	11000	---	---	---
Benzo (a) Anthracene	---	---	---	---	200J	5500	---	---	---
Bis (2-Ethylhexyl) Phthalate	1700	1600	550	280J	810	---	2600	1700	1100
Chrysene	---	---	---	---	200J	5200	---	---	---
Benzo (b) Fluoranthene	---	---	---	---	130J	5200	---	---	---
Benzo (k) Fluoranthene	---	---	---	---	150J	3400	---	---	---
Benzo (a) Pyrene	---	---	---	---	150J	4500	---	---	---
Indeno (1,2,3-Cd) Pyrene	---	---	---	---	---	2500	---	---	---
Dibenzo (a,h) Anthracene	---	---	---	---	---	720J	---	---	---
Benzo (g,h,i) Perylene	---	---	---	---	---	2000	---	---	---
TIC COMPOUNDS									
Unknowns	---	600J	---	300J	---	1000J	900J	700J	---
Unknown Alkanes	---	---	600J	---	---	---	200J	---	---
Unknown Hydrocarbons	---	---	---	---	200J	---	---	300J	---
Unknown PAH	---	---	---	---	---	6700J	---	---	---
Unknown Aromatic	---	---	---	---	---	700J	---	---	---
Unknown Substituted Naphthalene	---	---	---	---	---	1400J	---	---	---
Unknown Oxygenated Compound	---	---	---	---	---	---	---	200J	---
Unknown Nitrogenated Compound	---	---	---	---	---	300J	---	---	---
1,1-Biphenyl	---	---	---	---	---	500J	---	---	---
Sulfur	400J	1000J	400J	400J	---	---	300J	---	800J

NOTES:

1. **Semi-volatile organic compounds were not detected in sample C5SS224.**
2. All concentrations are in micrograms per kilogram (ug/kg = parts per billion (ppb)).
3. --- = Compound not detected in this sample but present in another.
4. J = Semi-quantitative value due to value below Contract Required Quantitation Limit (CRQL) or compound being a TIC.

TABLE 6-3
VALID ANALYTICAL RESULTS
BACKGROUND SOIL SAMPLES
SEMI-VOLATILE ORGANIC COMPOUNDS AND INORGANICS
1990 REMEDIAL INVESTIGATION
NYSDOH - WCLR

SEMI-VOLATILE TCL & TIC COMPOUNDS	BG-1	BG-2
Bis (2-Ethylhexyl) Phthalate	4900	1800
Total Unknowns	600J	1200J
Unknown Carboxylic Acid	---	200J
Unknown Hydrocarbon	---	200J
Oxygenated Compound	---	200J
TAL METAL		
Aluminum	NA	7960
Arsenic	NA	3.1
Barium	NA	34.1B
Calcium	NA	1290
Chromium	NA	13.5
Copper	NA	9.1
Iron	NA	17300
Lead	NA	5.5J
Magnesium	NA	1520.
Manganese	NA	378J
Nickel	NA	11.6
Sodium	NA	2220
Vanadium	NA	23.5
Zinc	NA	25.5

NOTES:

1. Organic concentrations are in micrograms per kilogram (ug/kg = parts per billion (ppb)).
2. Inorganic concentrations are in milligrams per kilogram (mg/kg = parts per million (ppm)).
3. --- = Compound not detected in this sample but present in another.
4. NA = Analyte not analyzed for in this sample.
5. J = Semi-quantitative value due to QA/QC data validation requirements (inorganics) or compound being a TIC (organics).
6. B = Inorganic value is above Instrument Detection Limit (IDL) but below Contract Required Detection Limit (CRDL).

TABLE 6-4
VALID ANALYTICAL RESULTS
SURFACE SOIL SAMPLES
SEMI-VOLATILE ORGANIC COMPOUNDS
1990 REMEDIAL INVESTIGATION
NYSDOH - WCLR

TCL COMPOUNDS	D3SS102	D5SS102	E4SS102	M2 (E4SS102 DUPE)
4-Methylphenol	---	2200J	---	---
2,4-Dimethylphenol	---	3300J	---	---
Naphthalene	---	36000	---	---
2-Methylnaphthalene	---	33000	---	---
Acenaphthalene	---	75000	---	---
Dibenzofuran	---	69000	---	---
Fluorene	---	110000	---	---
Phenanthrene	250J	420000	62J	---
Anthracene	---	160000	---	---
Fluoranthene	230J	330000	110J	---
Pyrene	470J	280000	91J	---
Benzo (a) Anthracene	---	190000	---	---
Bis (2-Ethylhexyl) Phthalate	340J	---	2300	2400
Chrysene	---	180000	---	---
Benzo (b) Fluoranthene	---	150000	---	---
Benzo (k) Fluoranthene	---	82000	---	---
Benzo (a) Pyrene	---	140000	---	---
Indeno (1,2,3-Cd) Pyrene	---	56000	---	---
Dibenzo (a,h) Anthracene	---	29000	---	---
Benzo (g,h,i) Perylene	---	60000	---	---
TIC COMPOUNDS				
Total Unknowns	300J	---	1700J	1000J
Total Unknown Alkanes	---	---	200J	---
Total Unknown Hydrocarbons	---	20000J	---	---
Total Unknown PAH's	---	449000J	---	---
Total Unknown Carboxylic Acids	---	---	---	200J
Total Unknown Substituted Naphthalene	---	50000J	---	---
4-Methyl Dibenzofuran	---	20000J	---	---
Unknown Nitrogenated Compound	---	5000J	---	---
Dibenzothiophene	---	4000J	---	---
Sulfur	---	---	300J	300J

NOTES:

1. All concentrations are in micrograms per kilogram (ug/kg = parts per billion (ppb)).
2. --- = Compound not detected in this sample but present in another.
3. J = Semi-quantitative value due to value below Contract Required Quantitation Limit (CRQL), QA/QC data validation requirements, or compound being a TIC.

TABLE 6-5
VALID ANALYTICAL RESULTS
SURFACE, BACKGROUND, AND PIT AREA SOIL SAMPLES
INORGANICS
1990 REMEDIAL INVESTIGATION
NYSDOH - WCLR

	SURFACE			BACKGROUND	PIT AREA
TAL METAL	D3SS102	E4SS102	M2 (E4SS102 DUPE)	BG-2	C3SS224
Aluminum	6260	9750	11300	7960	15200J
Arsenic	3.8	6.4	6.7	3.1	6.2
Barium	47.9	68.1	74.5	34.1B	109
Cadmium	---	---	0.28B	---	---
Calcium	20300	17300	10200J	1290	31600J
Chromium	11.1	15.3	19.3	13.5	21.8
Cobalt	---	---	---	---	14.4
Copper	16.3	23.7	23.2	9.1	21.5
Iron	12100	21200	23800	17300	31400J
Lead	529J	80.1J	331J	5.5J	26.2J
Magnesium	5700	6620	5520	1520	9300J
Manganese	385J	560J	548J	378J	681J
Nickel	17.3	22.3	21.4	11.6	26.5
Potassium	1010B	1430	1780	---	2990
Sodium	1830	1830	2020	2220	2040
Vanadium	29.9	24.1	27.8	23.5	31.3
Zinc	98	77.9	88.3	25.5	81.1

NOTES:

1. All concentrations are in milligrams per kilogram (mg/kg = parts per million (ppm)).
2. --- = Metal not detected in this sample but present in another.
3. J = Semi-quantitative value due to QA/QC data validation requirements.
4. B = Value is above Instrument Detection Limit (IDL) but below Contract Required Detection Limit (CRDL).

TABLE 6-7
VALID ANALYTICAL RESULTS
GROUNDWATER SAMPLES
SEMI-VOLATILE ORGANIC COMPOUNDS
1990 REMEDIAL INVESTIGATION
NYSDOH - WCLR

TCL COMPOUNDS	NYSGWS	MW-2M	MW-3S	MW-4S	MW-5S	MW-9S (MW-5S DUPE)	MW-7S
Phenol	1	---	---	310	9J	9J	---
Benzyl Alcohol	NS	---	---	120	---	---	---
2,4-Dimethylphenol	NS	---	---	---	8J	8J	---
1,2-Dichlorobenzene	NS	---	---	12J	---	---	---
Naphthalene	NS	---	---	200	2J	3J	---
TIC COMPOUNDS							
Unknowns	NS	---	30J	460J	---	5J	7J
Unknown Oxygenated Compounds	NS	7J	66J	650J	50J	55J	5J
Unknown Alkyl Benzene	NS	---	---	210J	---	---	---
Unknown Hydrocarbon	NS	---	---	100J	---	---	---
Unknown Carboxylic Acid	NS	---	---	620J	---	---	---
Unknown Ether	NS	---	---	---	20J	---	---
Unknown Ketone	NS	---	---	---	20J	30J	---
Unknown Nitrogenated Compound	NS	---	---	---	4J	---	---
Unknown Ethyl Phenol	NS	---	---	---	---	8J	---
Octanoic Acid	NS	---	---	4000J	---	---	---
3-Methyl Benzoic Acid	NS	---	---	60J	6J	---	---
4-Methyl Benzoic Acid	NS	---	---	30J	---	---	---

NOTES:

1. **Semi-volatile organic compounds were not detected in monitoring wells 1M, 3M, 4M, 4D, 5M, 6S, 7D, 8S and 8M.**
2. All concentrations are in micrograms per kilogram (ug/kg = parts per billion (ppb)).
3. --- = Compound not detected in this sample but present in another.
4. J = Semi-quantitative value due to value below Contract Required Quantitation Limit (CRQL) or compound being a TIC.
5. NYSGWS = New York State Groundwater Standard as presented in NYSDEC Water Quality Standards, Parts 700-705, September 25, 1990 Memorandum.
6. NS = No Standard.

TABLE 6-8
VALID ANALYTICAL RESULTS
GROUNDWATER SAMPLES
INORGANICS
1990 REMEDIAL INVESTIGATION
NYSDOH - WCLR

ANALYTE	NYSGWS	MW-1M	MW-4S	MW-5S	MW-9S (MW-5S DUPE)
Aluminum	NS	28600J	---	415J	510J
Arsenic	25	32J	---	---	---
Barium	1000	603	300	293	284
Cadmium	10	1.9BJ	---	---	---
Calcium	NS	760000	400000	172000	163000
Chromium	50	19.3	---	---	---
Cobalt	NS	52.4	---	---	---
Copper	200	149	---	---	---
Iron	300	83800J	480J	2290J	2560
Lead	25	30.3J	---	---	---
Magnesium	35000	166000	102000	34200	34500
Manganese	300	5980	3640	1270	1330
Mercury	2	---	0.2	---	---
Nickel	NS	80.4	22.3	---	---
Potassium	NS	4400B	3940B	42100	39100
Sodium	20000	17300	34300	58600	58300
Thallium	4*	17	---	---	---
Vanadium	NS	59.3	---	---	---
Zinc	300	244J	21.9J	49.2J	---
Total Hardness	NS	NA	1419	NA	NA
Total Dissolved Solids	500000**	NA	1598000	NA	NA
Total Suspended Solids	NS	NA	32500	NA	NA
Alkalinity	NS	NA	672000	NA	NA

NOTES:

1. **Only monitoring wells 1M, 4S, and 5S were analyzed for inorganics.**
2. All concentrations are in micrograms per liter (ug/l = parts per billion (ppb)).
3. --- = Analyte not detected in this sample but present in another.
4. J = Semi-quantitative value due to QA/QC data validation requirements.
5. B = Value is above Instrument Detection Limit (IDL) but below Contract Required Detection Limit (CRDL).
6. NA = Not analyzed for in this sample.
7. NYSGWS = New York State Groundwater Standard as presented in NYSDEC Water Quality Standards, Parts 700-705, September 25, 1990 Memorandum.
8. * = Guidance value.
9. NS = No standard.
10. ** = National Secondary Drinking Water Regulations.

APPENDIX G

Site-Wide Inspection Form

For Site Management Plan - DEC Inactive Hazardous Waste Disposal Site
Site #401031, 120 New Scotland Avenue, Albany

Site Inspection Item	YES	NO	Comments/Actions
Physical			
Soil cover areas still level			
Signs of settling			
Animal activity evident			
Seedling intrusion			
Paved area integrity good			
Signs of settling			
Large cracks evident			
Vegetation growing in cracks or edges			
Any surface disruption			
Sampling Wells accessible and in tact			
Controlled area demarcation evident			
Photo documentation complete/attached			
Administrative			
Inspection documents and reports are maintained and easily retrievable			
SMP requirements reviewed with Administration and Facilities personnel			
ICs / ECs in Place and Documented			
GW sampling conducted on schedule			
GW Reports submitted as required			
Renew TUO with ACPHS			
SMP Review complete			
PRR Prepared and submitted as required			
Certification completed and submitted			

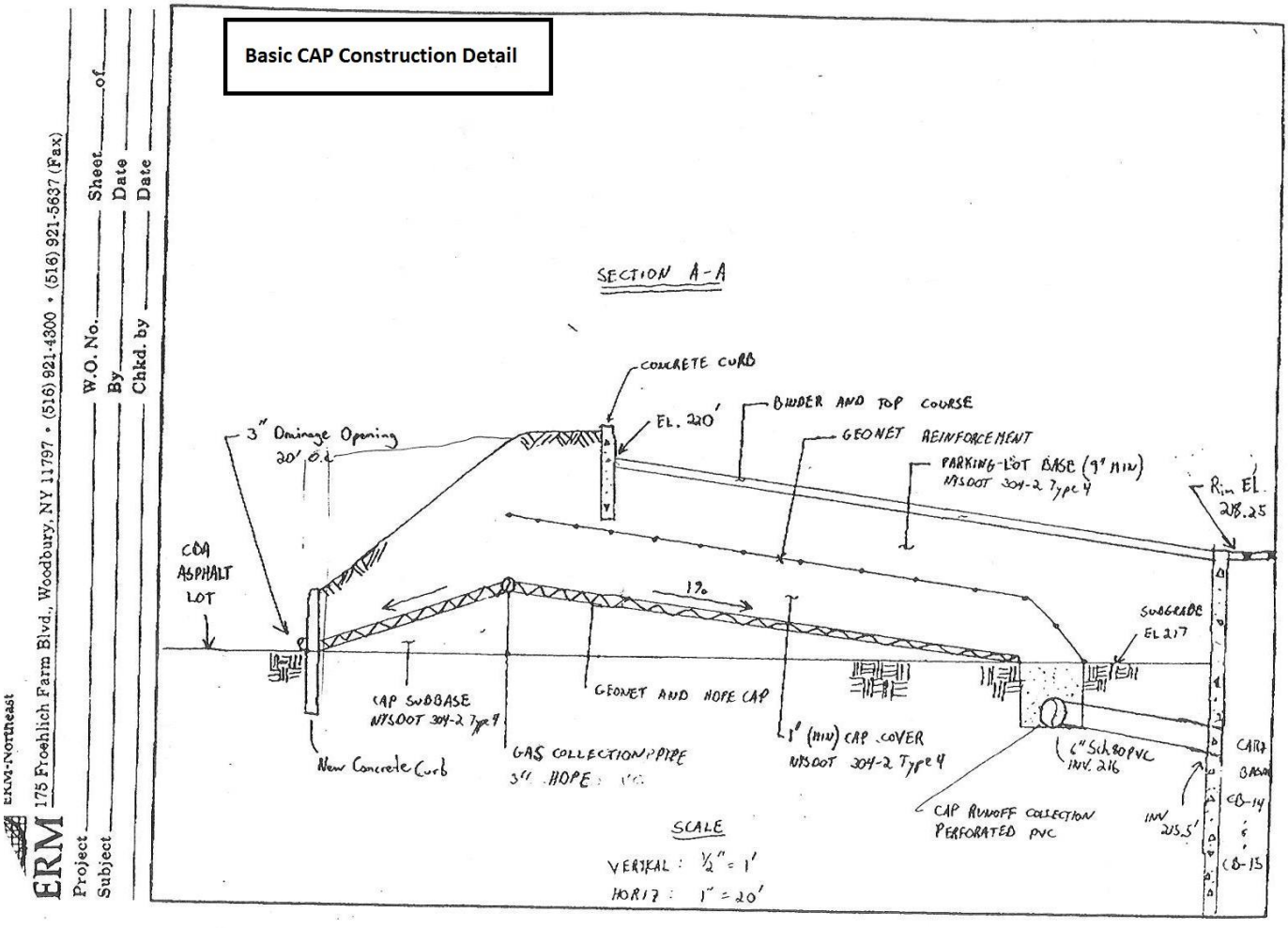
Date Completed: _____ By: _____

ICs: Deed Restriction(s)
Site restrictions
TUO's still in effect with neighboring properties

Reports:
PRR
Certification

APPENDIX H

The basic CAP design is included in the picture below. When the adjoining property was purchased to be included in the CAP area, a retaining wall was constructed on the boundary line next to the CBA Asphalt Lot, and the Geonet Grid tied in as indicated in the second pictorial. The gas collection pipe vents were relocated to the surface just behind the wall. The retaining wall and passive vents can be seen in the photograph.



CAP Tie In to Retaining Wall

GEOGRID PLACEMENT CHART

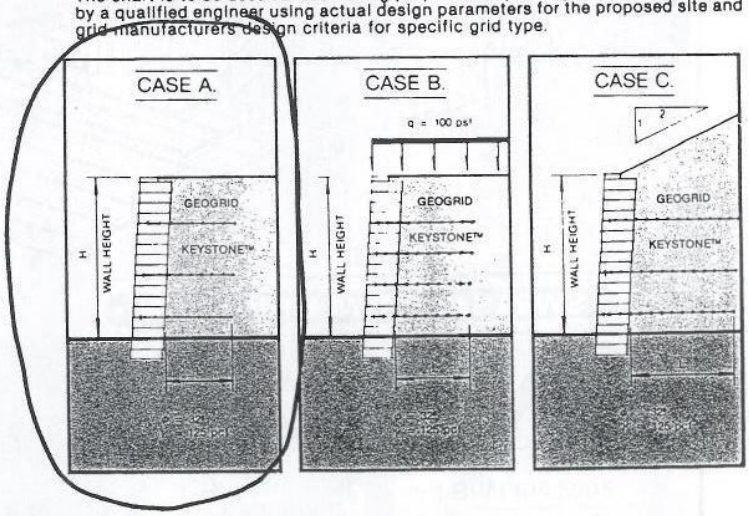
Since actual project conditions may vary from those assumed in the development of this chart, it is important to recognize the conditions for which the chart applies, which are:

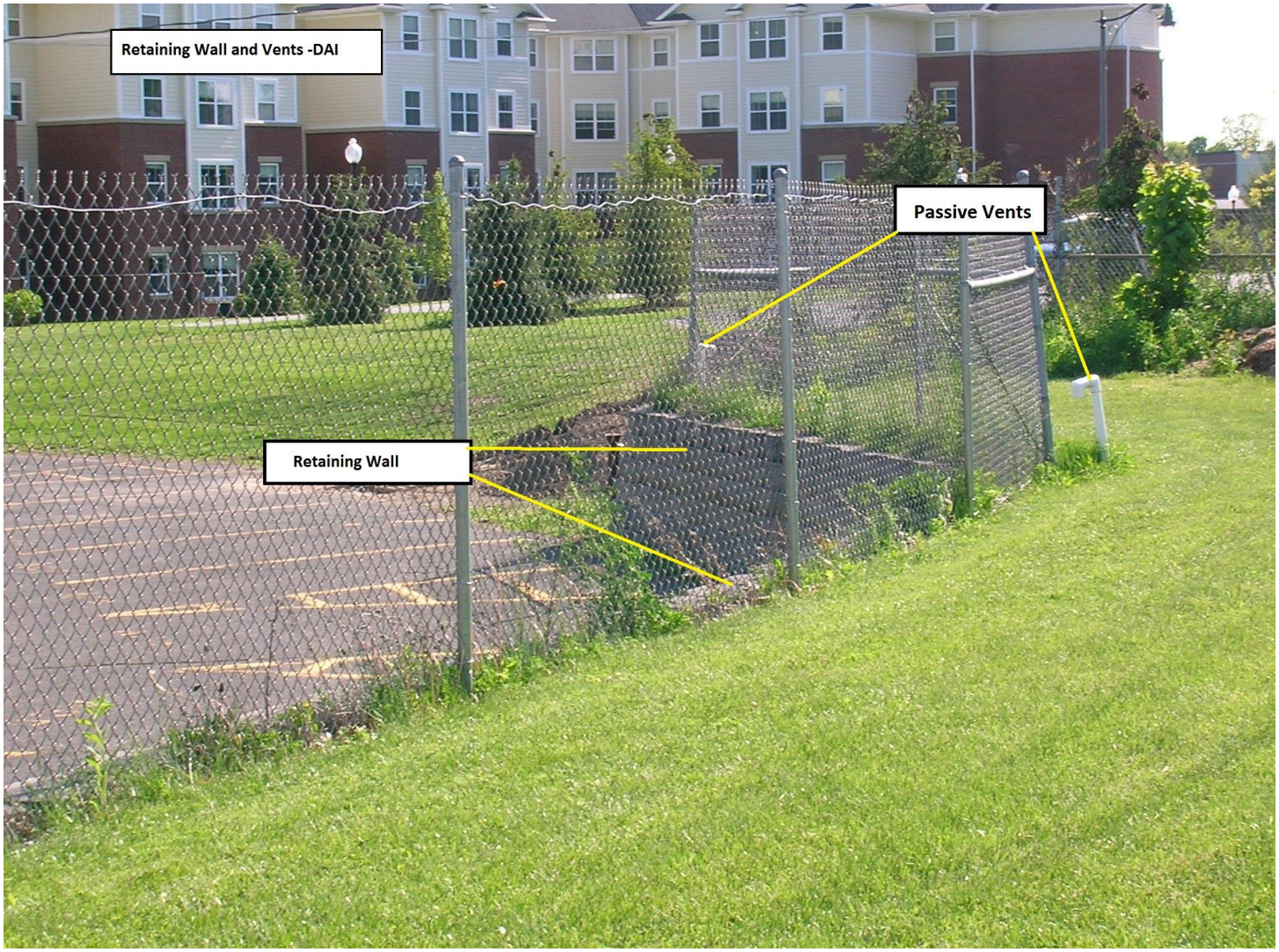
- The bearing capacity of the foundation soil below the wall is adequate. (maximum required allowable bearing capacity for the cases presented is 3500 psf)
- In cases A, B, and C, the reinforced wall fill, retained backfill, and foundation soils are sandy silts or gravely sands which have a strength defined by an effective angle of friction of 32°, zero cohesion and a moist unit weight of 125 pcf.
- Both the reinforced wall fill and retained backfill are well drained.
- Minimum factors of safety are: 1.5 against reinforcement pullout and reinforcement rupture; 1.5 against external sliding failure; and 2.0 against external overturning.

BASIC GEOGRID PLACEMENT CHART*

WALL HEIGHT FEET	CASE	GRID TYPE *	NUMBER OF LAYERS	GEOGRID LENGTH FEET	GEOGRID LAYER NUMBER					
					1	2	3	4	5	
4	A		---							DISTANCE ABOVE BASE IN FEET
4	B		---							
4	C		1	2.5	1.5					
5	A		---							
5	B		1	2.5	2					
5	C		2	3.7	1.3	3.3				
6	A		1	2.5	2.7					
6	B		2	2.5	1.3	3.3				
6	C		3	4.3	.7	2	4			
7	A		2	3.0	1.3	4.0				
7	B		3	3.0	1.3	2.7	4.7			
7	C		3	4.9	1.3	2.7	4.7			
8	A		3	3.2	1.3	3.3	5.3			
8	B		4	3.5	.7	2.7	4.7	6.7		
8	C		3	5.8	1.3	3.3	5.3			
10	A		3	4.3	1.3	4	6.7			
10	B		4	4.6	1.3	3.3	5.3	7.3		
10	C		3	7.0	1.3	4.0	6.7			
12	A		3	5.5	1.3	4.7	8.0			
12	B		4	5.7	1.3	4	6.7	9.3		
12	C		5	8.1	1.3	4	6	8	10	

* The chart is to be used for estimating purposes only. Design must be performed by a qualified engineer using actual design parameters for the proposed site and grid manufacturers design criteria for specific grid type.




Retaining Wall and Vents -DAI
Passive Vents
Retaining Wall

APPENDIX I – Record of Decision (ROD)

ERM

New Scotland Avenue Site

I.D. Number 401031

Record of Decision

March 1992

PREPARED BY:
NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION

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DECLARATION FOR THE RECORD OF DECISION

SITE NAME AND LOCATION

New Scotland Avenue Wadsworth Laboratory Site
City of Albany
Albany County, New York
Site Code: 401031

STATEMENT OF PURPOSE

This document describes the selected remedial action for the New Scotland Avenue Site, developed in accordance with the New York State Environmental Conservation Law (ECL), and consistent with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA). Exhibit A identifies the documents that comprise the Administrative Record for the site. The documents in the Administrative Record are the basis for the selection of the remedial action.

ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this Record of Decision, present a potential threat to public health, welfare and the environment.

STATEMENT OF BASIS

This decision is based upon the administrative record for the New Scotland Avenue Site. A copy of the documents in the record is available for public review and/or copying at the following locations:

New York State Department of Environmental Conservation
2176 Guilderland Avenue
Schenectady, New York
(518)382-0680
Hours: 8:30 AM - 4:45 PM Monday - Friday

Albany Public Library
Main Branch
161 Washington Avenue
Albany, New York 12210
(518)449-3380

The following documents are the primary components of the administrative record:

A. "1990 Remedial Investigation Report NYSDOH WCLR Albany New York", prepared by: ERM-Northeast, Inc., March 4, 1991.

B. "Phase II Remedial Investigation Report NYSDOH WCLR Albany, New York", prepared by ERM-Northeast, Inc., August 20, 1991.

C. "Draft Feasibility Study Wadsworth Center for Laboratories and Research", prepared by ERM-Northeast, Inc., August 22, 1991.

Description of Selected Remedy

The selected remedy for the New Scotland Avenue Site consists of covering the site with a clay or synthetic cap, groundwater treatment and institutional controls. The cap will cover areas of both volatile and semi-volatile contamination, a total area of 16,000 sqft. The cap will consist of a gravel venting layer, clay or synthetic impermeable layer topped with either asphalt or a vegetative cover. In addition to the cap, the most contaminated area of groundwater will be treated utilizing a pump and treat method.

The site will be fenced and will have deed restrictions imposed to prevent future uses of the property that would interfere with the remedial measures. Long-term monitoring will be conducted to assess the results of the remediation.

If the ability to pump and treat the groundwater is found to be an infeasible solution to treating the groundwater, processes such as vapor extraction or other methods that may be developed in the future will be evaluated as possible methods for mitigating the volatile organic contamination at the site.

DECLARATION

The selected remedy is designed to be protective of human health and the environment, is designed to comply with State regulations and standards to the extent practicable and is cost effective. This remedy satisfies the Department's preference for action that reduces the toxicity and mobility of hazardous substances, pollutants or contaminants as the principal goal.

3-26-92
Date

Edward O. Sullivan
Deputy Commissioner
Office of Environmental Remediation

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RECORD OF DECISION
NEW SCOTLAND AVENUE SITE
SITE # 401031

I. SITE LOCATION AND DESCRIPTION

The New Scotland Avenue, Wadsworth Laboratory site is located in the City of Albany, south of New Scotland Avenue and behind the Wadsworth Laboratory building. The Christian Brothers Academy (CBA) lies to the south of the site and the New Scotland Avenue Armory borders the west side. The site is less than one acre in size. The New York State Department of Health (NYSDOH) owns and operates the Wadsworth Laboratory Buildings and the 5 acre parcel of which the site is part. The site is currently a vacant lot. The surrounding area is a mix of residential and institutional facilities. Figure 1 indicates the site location with reference to the City of Albany.

II. Site History

The area of concern was previously owned by Albany County and utilized by the Albany County Almshouse during the 1800's until 1926. In 1926, the land was sold to New York State. The Wadsworth laboratory buildings were built in the 1930's. From 1940 to 1976 waste solvents used by the laboratory were burned in or poured into a low area (the "pit") behind the laboratory buildings. 100-200 gallons of solvents per year were disposed of in this manner. The solvents consisted of many typical lab solvents including: xylol,ethanol, methyl ethyl ketone, petroleum ether, turpentine, mineral spirits and chlorinated solvents.

An interesting, but complicating factor, is the presence of a paupers cemetery in this area which dates from the 1800's to 1926. Burials occurred during the occupation of the Almshouse. Some graves near but not on-site have been previously exhumed and archived or reinterred. It is highly probable that there are graves throughout the site. The New York State Office of Parks and Recreation has determined that the cemetery is of historical significance, thus, any remedial action taken at the site would require that either, the graves not be disturbed, or, that they be excavated by an archaeologist and archived or reinterred elsewhere.

Past investigations at the site included Phase I and Phase II investigations performed by the NYSDEC which confirmed the disposal and continued presence of contamination at the site. It was determined that the site may pose a substantial health or environmental risk, thus requiring the NYSDOH to perform an

RI/FS to delineate the type and extent of contamination at the site, and to determine the most appropriate remedial action to be taken.

III. Current Status

The remedial investigation determined the type of contaminants present in the soil and groundwater and the vertical and horizontal extent of contamination. Also included as part of the investigation was a risk assessment which determined the present and future risks associated with the site. The major contaminants found in the soil include: acetone, chloroform, benzene, toluene, xylene and various hydrocarbons. The major contaminants found in the groundwater include: chloroform, acetone, toluene, benzene, xylene, ethylbenzene and methylene chloride.

Table 1 indicates the type, media and maximum volatile organic contamination found at the site. Figures 2 and 3 indicate the extent of soil contamination. Figure 4 indicates the maximum areal extent and direction of contaminant migration found in the groundwater. All groundwater contaminants are within this plume. The direction of groundwater flow is to the southeast.

Access to the site is presently limited by a fence which surrounds the larger construction site. Groundwater is not currently being utilized for drinking water or for any other public or private use.

Summary of Site Risks

Part of the RI/FS process included the evaluation of risks presented to human health and the environment by the site as it now exists. The results of this baseline risk assessment are used to help identify applicable remedial alternatives and to select a remedy. The components of the baseline risk assessment include:

-identification of site related chemicals and media of concern

-evaluation of the toxicity of chemicals of concern

-identification of exposure routes and pathways

-evaluation of the impacts of the site upon the environment

Exposure routes are the mechanism by which contaminants

enter the body (e.g., inhalation, ingestion, absorption). Exposure pathways are the environmental media (e.g., soil, groundwater, air, etc.) through which contaminants are carried.

The full risk assessment may be found in the RI report dated March 4, 1991. The assessment used the following substances as contaminants of concern in groundwater: chloroform, acetone, ethylbenzene, benzene, methylene chloride, tetrachloroethane, trichloroethene, and carbon tetrachloride. Substances of concern utilized for the risk due to soil were: naphthalene, xylenes, barium, lead, chloroform and various PAHs. The risks were separated into present and future risks at the site.

The risk assessment for the site indicates that the most significant exposure mechanisms are the ingestion or inhalation of contaminated soil by construction and office workers and contact or ingestion of groundwater. Currently, as the site is undisturbed, and there are no groundwater receptors, the risk to people in the area is below the de minimis risk for carcinogens and chronic exposure to non-carcinogens. Therefore, no unacceptable risks to nearby office workers or residents are expected to result from contamination present in site soils or groundwater.

Although it is expected that the future use of the site will be partially a parking lot, it was determined that there is still a potential for a future health risk to construction workers via contact with polycyclic aromatic hydrocarbons (PAHs) and fugitive dusts in site soils. Also, there is a future potential for ingestion of groundwater. The ingestion of groundwater would result in unacceptable chronic health effects and carcinogenic risks due to the presence of several volatile organic compounds.

Therefore, action must be taken at the site to reduce or, if possible, to eliminate the health risk.

It was determined that there is no adverse impacts to ecological resources due to the presence of contamination at the site.

IV. Enforcement Status

The New York State Department of Health has been a cooperative participant during the prior investigations. Therefore, no enforcement action has been brought against them.

V. Goals for the Remedial Action

Remedial action is proposed for the purpose of reducing the environmental or human health risk by preventing the ingestion or inhalation of contaminated soil, reducing the leaching of contaminants from the soil into the groundwater and containing the migration of contaminated groundwater. Action will also include continued monitoring of the groundwater and institutional controls relating to use of the contaminated property.

VI. Summary of the Evaluation of the Remedial Alternatives

Evaluation Criteria

The Feasibility study requires that various alternatives be screened and possibly selected for further evaluation. This screening process and its results are detailed in the Final draft Feasibility Study dated August, 1991 (revised 11/4/91). After initial screening, the following criteria and consistency with the remedial goals were used to further evaluate the selected alternatives.

1.) **Overall Protection of Human Health and the Environment**

The various remedial alternatives were evaluated as to whether they are able to provide adequate protection of human health and the environment, once the remedial alternative has been implemented.

2.) **Compliance with NYS Standards, Criteria and Guidance Values (SCG's)**

The alternatives were evaluated as to their ability to achieve the desired clean-up levels and meet all applicable standards. The target cleanup goals for groundwater are the NYS groundwater standards.

3.) **Reduction in Toxicity, Mobility or Volume of Contaminants**

The alternatives were evaluated as to their ability to reduce the toxicity, mobility or volume of contaminants on site.

4.) **Implementability**

The alternatives were evaluated as to the

ease or difficulty in implementation. These factors include availability of equipment and materials, permit requirements, complexity, maintenance etc.

5.) **Short-term Impacts and Effectiveness**

The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment is evaluated. The length of time needed to achieve the remedial objectives is estimated and compared with other alternatives.

6.) **Long-term Effectiveness and Permanence**

If wastes or residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude and nature of the risks presented by the remaining wastes; 2) the adequacy of the controls intended to limit the risk to protective levels; and 3) the reliability of these controls.

7.) **Estimated Total Cost**

This includes the estimated capital and operation and maintenance costs of the remedy and the net worth cost of the alternative.

Summary of Alternatives

The Feasibility Study describes in detail the various alternatives selected for final consideration. Below is a brief summary of each.

1. **No-Action** would include institutional controls at a minimal cost. Although easily implemented, this action would not attain the SCG's, nor will it reduce the toxicity at the site. This course of action would not be protective of human health and is not recommended.

2. **Containment** consists of capping the contaminated area (16,000 sqft.) with a clay or synthetic cap. This will prevent the contaminated soil from being blown into the air and will prevent the infiltration of rainwater into the soil, thus reducing the leaching of contaminants from the soil into the groundwater. No active groundwater treatment is proposed under this option. This proposal will be highly effective in reducing the risks associated with the contaminated soil. Cost: $218,000

3. **Vitrification** consists of immobilizing the contaminants through solidification. The soil is melted at very high temperatures and when cooled forms a solid glass-like block. This option will not actively treat the groundwater. To perform this option, the graves will need to be excavated prior to remediation. This technology is difficult to implement and the technology is still new. EPA has recently removed this option from consideration at other Federal projects due to technical problems. This action will not meet SCG's for groundwater. Although it will reduce mobility in the soil, it will not reduce the volume of the contaminated soil. Cost: $1,800,000.

4. **Containment with Groundwater Treatment** is similar to #2 with the exception that in addition, the contaminated groundwater will be collected and treated. This will reduce the toxicity and volume of contaminated groundwater and reduce the extent of highly contaminated water. The option will satisfy both the long and short term effectiveness. The goal will be to reduce the level of groundwater contamination and limit its migration. Cost: $415,000.

5. **Complete Source Removal** will require the excavation and incineration of all 1200 cyds of contaminated soil. The area will then be backfilled with clean fill. The graves would require excavation prior to this action which significantly increases the cost and implementation of this option. The groundwater beneath the site would not be actively treated although removal of soil will reduce the continued migration of contaminants from the soil into the groundwater. Cost:$3,573,000

6. **Selective Source Removal** will require the removal of 85 cyds of volatile contaminated soil in the area of the pit. This soil is the most highly contaminated area of the site and would significantly reduce the risk associated with the pit area. Continued groundwater contamination due to this area would be eliminated. A number of graves would have to be excavated prior to remediation which would greatly complicate the effort and significantly increase the cost. This alternative would include capping the remaining areas of the site which contain PAHs. Cost: $608,000.

All alternatives would include longterm groundwater monitoring of the site, and institutional controls.

VII. Citizen Participation

To inform the local community and provide a mechanism for citizens to make the Department aware of their concerns, a citizen participation program has been implemented. In accordance with a Citizen Participation (CP) plan developed for

the project, the following goals have been accomplished:

- information repositories have been established;
- documents and reports associated with the project have been placed into the repositories;
- a contact list of interested parties (e.g., media, public, interest groups, government agencies, etc.) has been created;
- public notice of the completion of the RI/FS and the proposed remedy was issued in local newspapers;
- a public comment period was established and a public meeting was held on February 12, 1992 in Albany to describe the proposed remedy. The transcript of the meeting is part of the Administrative Record for the project and is in the document repositories for public inspection.

A summary of the comments received during the public meeting and the public comment period are included in Exhibit B along with the Department's responses to the comments. No significant comments were received.

VIII. Summary of the Government's Decision

The alternative selected by the Department is #4, Containment with groundwater treatment. This alternative ranked highest in the evaluation of alternatives performed during the Feasibility Study. This option provides for capping the site with a synthetic or clay cap covered by asphalt or a vegetative layer. The cap would moderate further contamination of the groundwater by preventing infiltration of rainwater into the soil, thus reducing the leaching of contaminants from the soil into the groundwater. The cap would also prevent the blowing of surficial soil into the air or the possibility of ingestion or inhalation of soil by workers in the area.

A pump test was performed during the Feasibility Study which indicated that in areas 10-35 feet below grade that the soils are tightly packed and are not conducive to groundwater extraction. However, above 10 feet there is a layer of fill which is more permeable thus, groundwater treatment of shallow groundwater (4-10 feet) would be included to prevent further migration of heavily contaminated water. Treatment would be accomplished, if feasible, by pumping from shallow wells into a containment vessel and sending the water to either a municipal waste treatment plant or POTW, or treating the water on-site by filtering it through a carbon treatment unit prior to disposal. Details and evaluation of this removal and treatment method

will be performed during the design phase.

Institutional controls will be utilized in the area of the cap (see area outlined in Figure 5). The cap will cover portions of both NYSDOH and CBA property. Institutional controls will also be utilized in the area of groundwater contamination beneath both NYSDOH and CBA property. (See Figure 4 for areal extent of contamination).

Institutional controls associated with the groundwater contamination may be removed or reduced in areal extent at such time as it is determined, by the NYSDEC, that the groundwater contamination is below groundwater standards.

Maintenance of the cap and monitoring wells will be the sole responsibility of the NYSDOH, both on NYSDOH and CBA property. Maintenance of the wells will be required until groundwater monitoring is no longer necessary.

The cap will require maintenance for 30 years. Beyond this time it will be determined through the periodic (every 5 years) review of the site conditions what course of action will be necessary.

The cemetery is a complicating factor at this site which significantly affects most of the other alternatives. The preferred alternative does not significantly disturb the graves and maintains compliance with the State requirements for historical sites. This option also greatly reduces the risks associated with exposure to contaminated soil and groundwater, and, is cost effective.

If it is determined, on the basis of system performance data, that groundwater treatment of the area specified is not feasible, the following measures involving long-term management may occur for an indefinite period of time:

-longterm monitoring of the affected wells

-statement that it is infeasible to continue groundwater controls

-remedial technologies for groundwater restoration will be evaluated periodically.

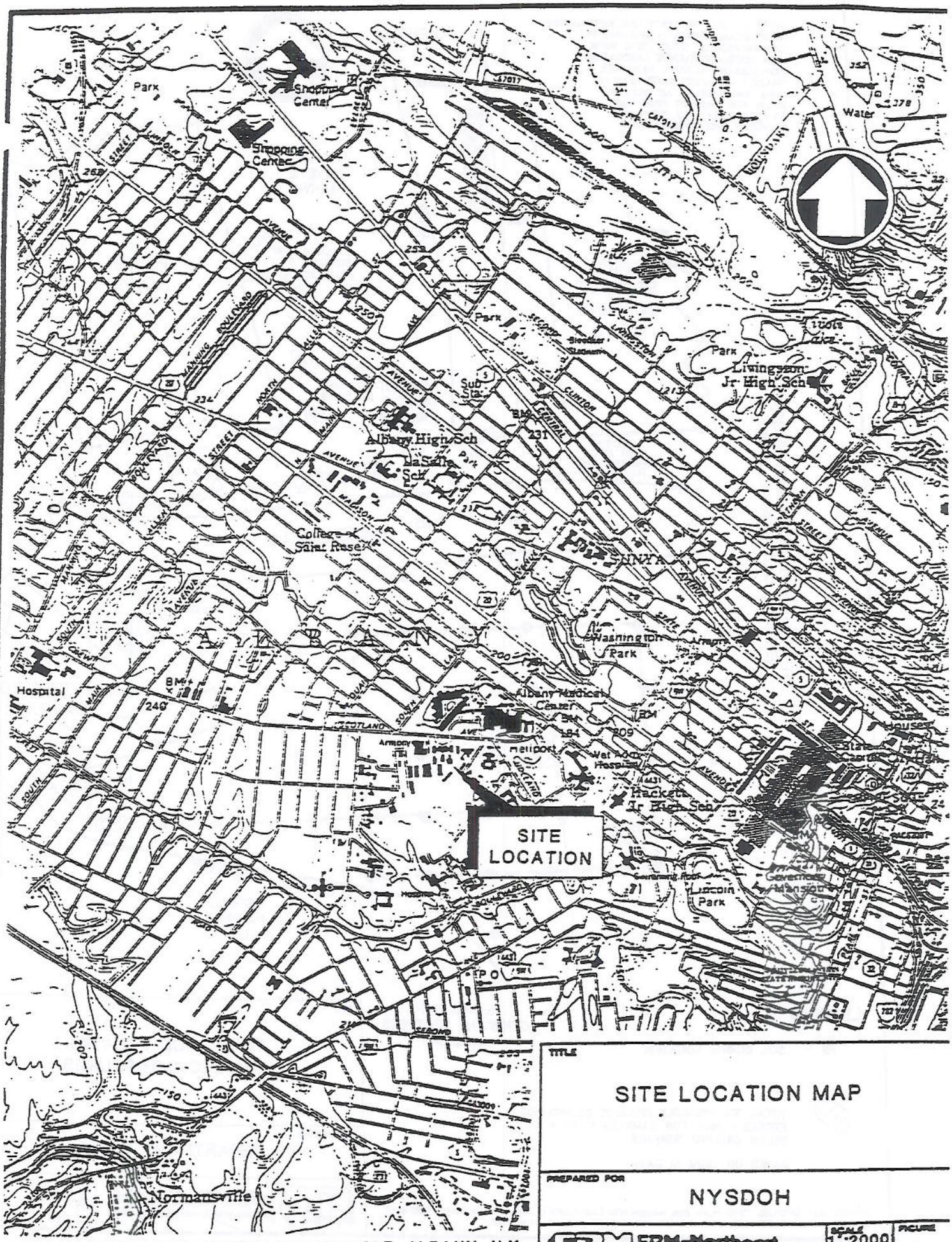
-other efforts will be made to evaluate technologies that would remediate the most mobile contaminants (i.e. vacuum extraction).

The decision to invoke any or all of these measures may be made during periodic review of the remedial action, which will occur at least every 5 years, or sooner, if necessary.

The remaining options require: 1) a much higher outlay of monies for a minor increase in risk reduction, 2) are not permanent remedies and require significant coordination with other agencies with more time required for implementation (alternatives #3,5,6), or, 3) do not reduce the associated risks to appropriate levels (#1,2).

It is expected that the project design would be completed in August 1992 and that construction would start shortly thereafter.

FIGURES



SOURCE: NYSDOT 7.5 MINUTE QUADRANGLE ALBANY, N.Y., 1983 EDITION.

TITLE

SITE LOCATION MAP

PREPARED FOR

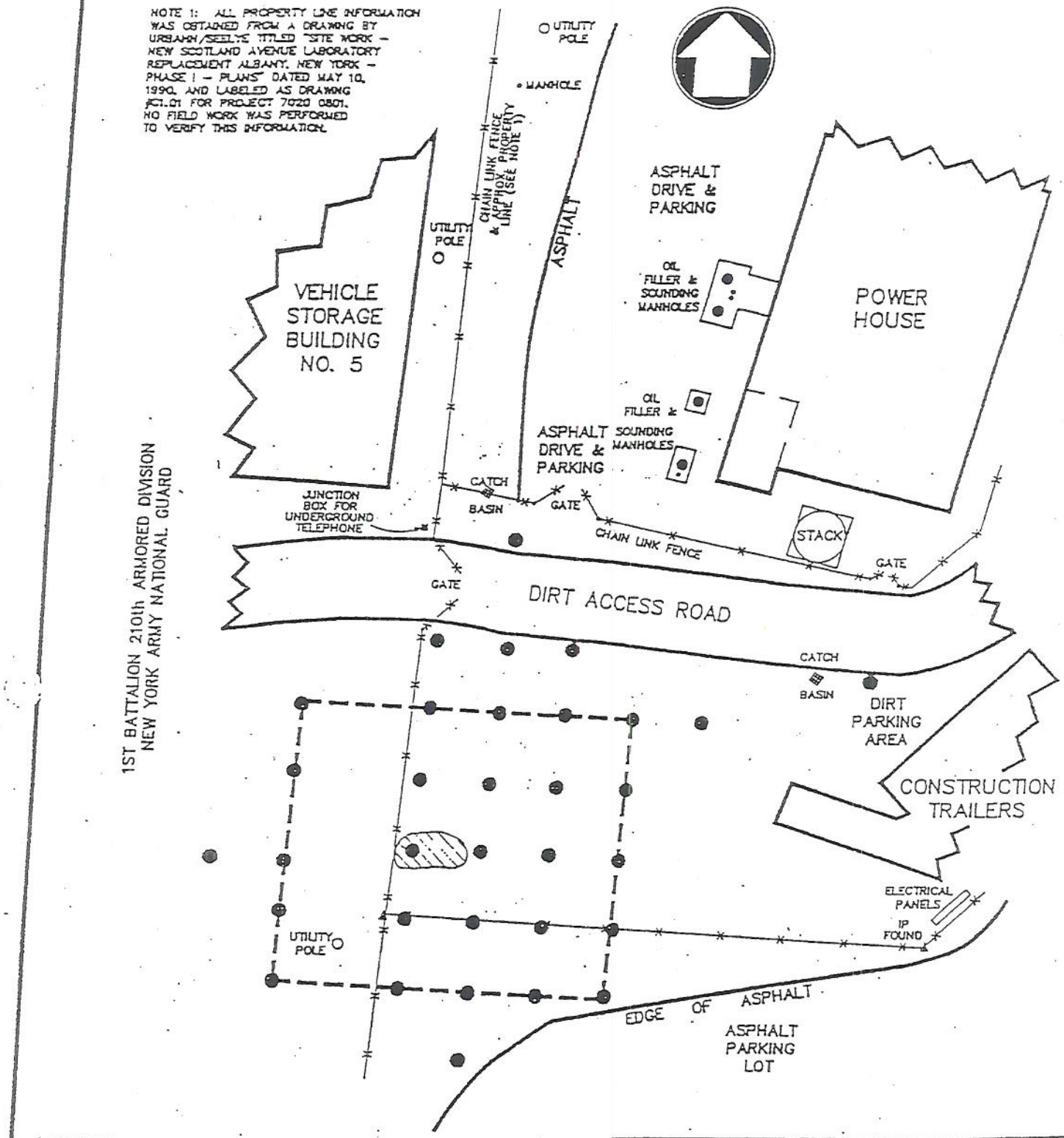
NYSDOH

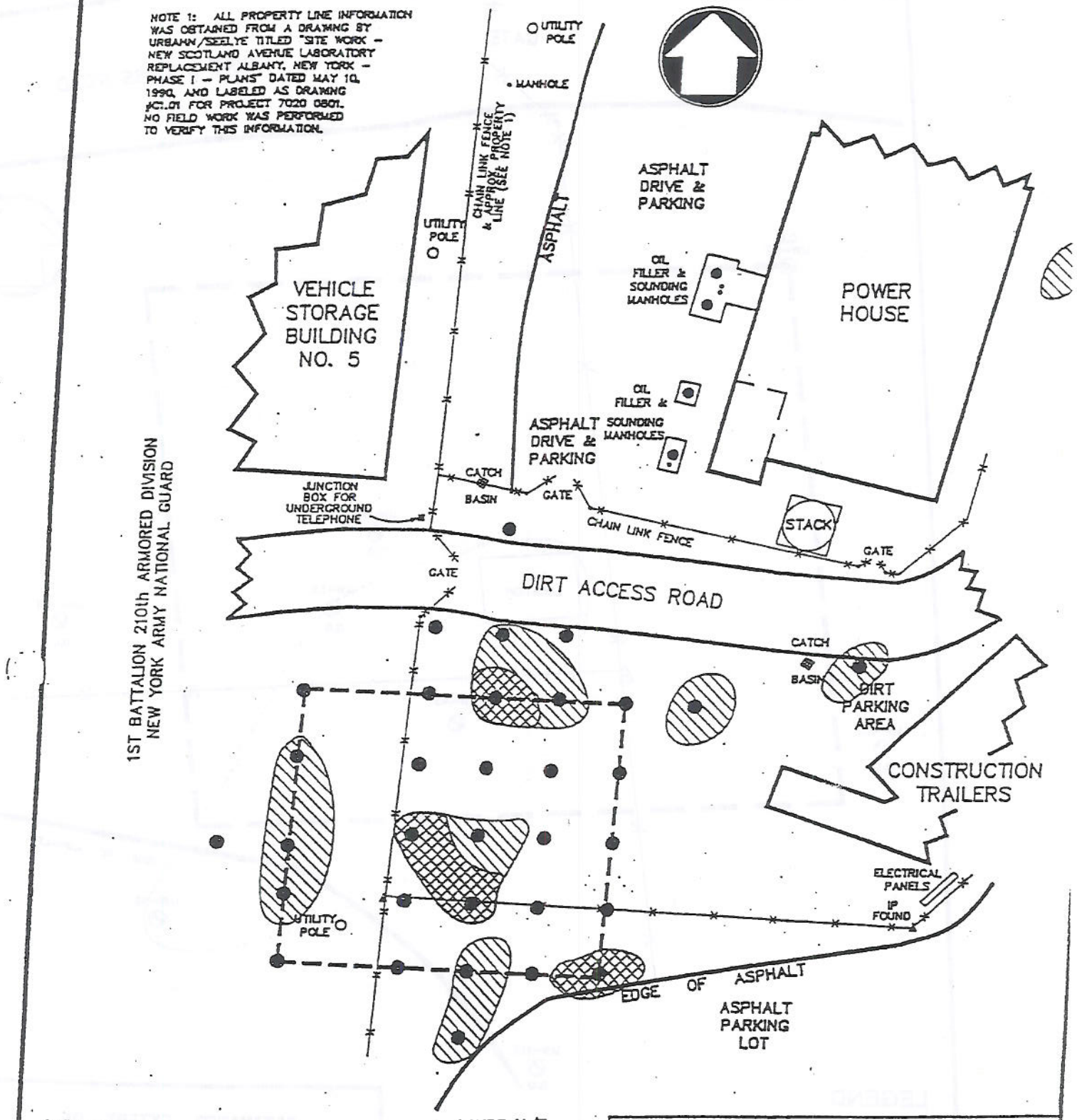
ERM ERM-Northeast

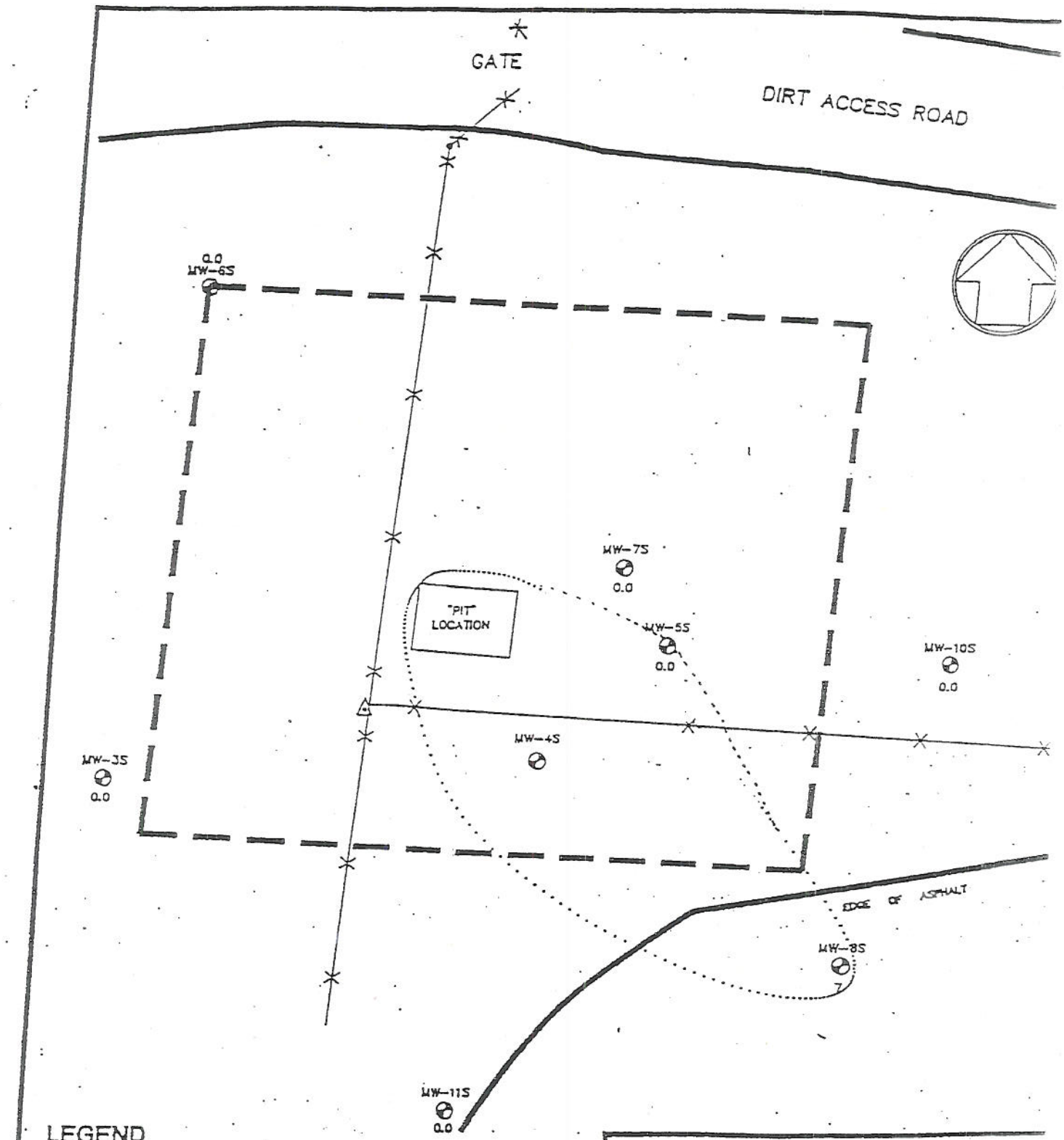
SCALE 1":2000

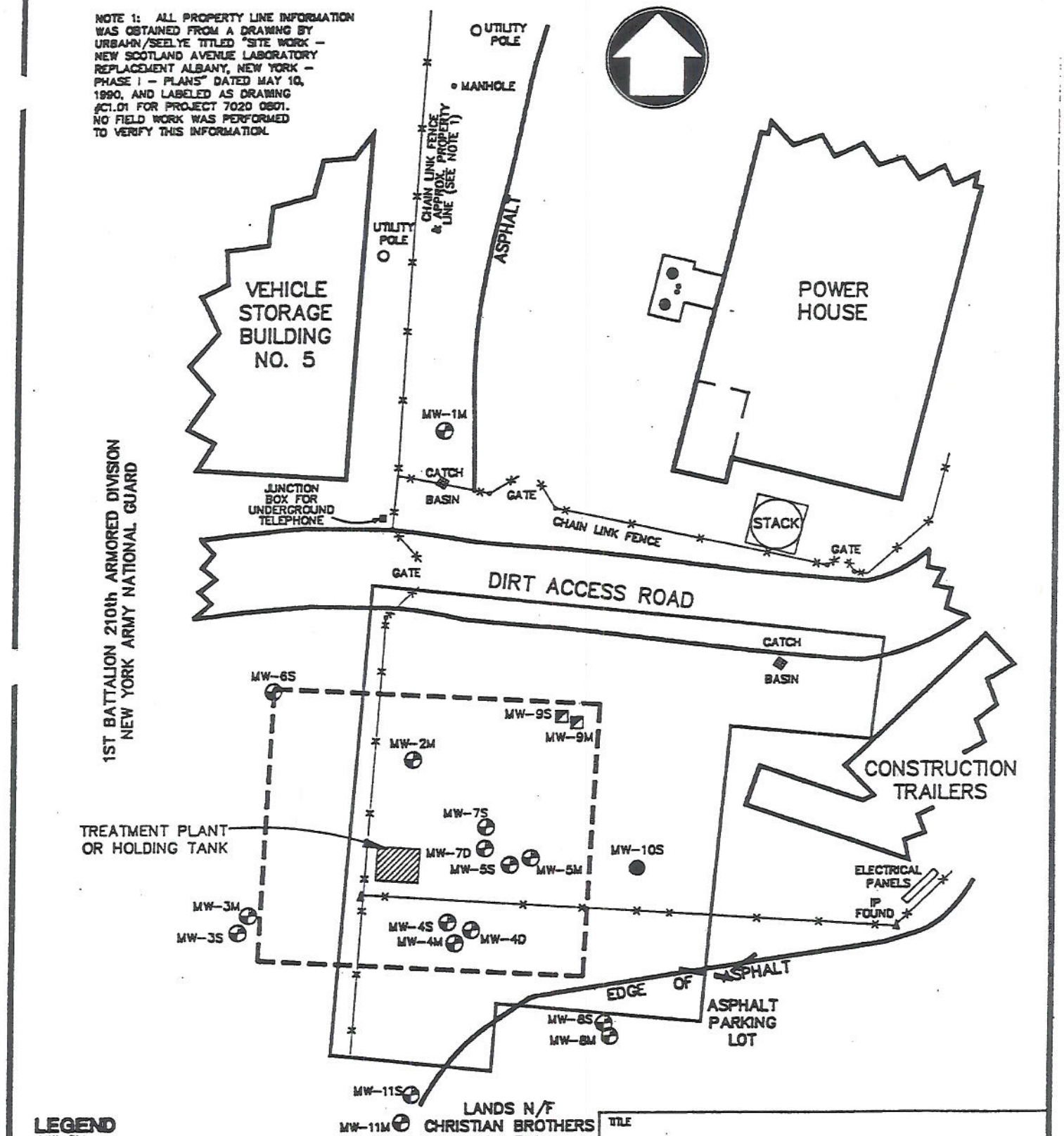
DATE

FIGURE 1


NOTE 1: ALL PROPERTY LINE INFORMATION WAS OBTAINED FROM A DRAWING BY URBAHN/SEELYE TITLED "SITE WORK - NEW SCOTLAND AVENUE LABORATORY REPLACEMENT ALBANY, NEW YORK - PHASE I - PLANS" DATED MAY 10, 1990, AND LABELED AS DRAWING #C1.01 FOR PROJECT 7020 0801. NO FIELD WORK WAS PERFORMED TO VERIFY THIS INFORMATION.
UTILITY POLE
MANHOLE
CHAIN LINK FENCE & APPROX. PROPERTY LINE (SEE NOTE 1)
ASPHALT
ASPHALT DRIVE & PARKING
OIL FILLER & SOUNDING MANHOLES
POWER HOUSE
VEHICLE STORAGE BUILDING NO. 5
UTILITY POLE
OIL FILLER & SOUNDING MANHOLES
ASPHALT DRIVE & PARKING
CATCH BASIN
GATE
JUNCTION BOX FOR UNDERGROUND TELEPHONE
CHAIN LINK FENCE
STACK
GATE
GATE
DIRT ACCESS ROAD
1ST BATTALION 210th ARMORED DIVISION NEW YORK ARMY NATIONAL GUARD
CATCH BASIN
DIRT PARKING AREA
CONSTRUCTION TRAILERS
ELECTRICAL PANELS
IP FOUND
UTILITY POLE
EDGE OF ASPHALT
ASPHALT PARKING LOT
LEGEND
SOIL BORING LOCATION
TOTAL TCL VOLATILE ORGANIC COMPOUNDS EXCEED 1 ppm FOR SAMPLES 1' TO 4' BELOW GROUND SURFACE
BASED ON 1990 RI DATA
LANDS N/F CHRISTIAN BROTHERS ACADEMY
SOURCE: MAP ENTITLED, "SITE PLAN FOR WADSWORTH LABORATORY, ALBANY, NEW YORK" PREPARED 11/15/90 BY CAPE SERVICES, INC. FOR ERM-NORTHEAST, ALBANY, NEW YORK.
TITLE
TOTAL TCL VOLATILE ORGANIC COMPOUNDS
PREPARED FOR
NYS DEPARTMENT OF HEALTH
ERM ERM-Northeast Environmental Resources Management
SCALE 1"=40'
DATE 12/90
FIGURE 2
113.001


NOTE 1: ALL PROPERTY LINE INFORMATION WAS OBTAINED FROM A DRAWING BY URBAHN/SEELYE TITLED "SITE WORK - NEW SCOTLAND AVENUE LABORATORY REPLACEMENT ALBANY, NEW YORK - PHASE I - PLANS" DATED MAY 10, 1990, AND LABELED AS DRAWING #C1.01 FOR PROJECT 7020 0801. NO FIELD WORK WAS PERFORMED TO VERIFY THIS INFORMATION.
UTILITY POLE
MANHOLE
CHAIN LINK FENCE & APPROX. PROPERTY LINE (SEE NOTE 1)
ASPHALT
ASPHALT DRIVE & PARKING
OIL FILLER & SOUNDING MANHOLES
POWER HOUSE
VEHICLE STORAGE BUILDING NO. 5
UTILITY POLE
OIL FILLER & SOUNDING MANHOLES
ASPHALT DRIVE & PARKING
1ST BATTALION 210th ARMORED DIVISION NEW YORK ARMY NATIONAL GUARD
CATCH BASIN
GATE
JUNCTION BOX FOR UNDERGROUND TELEPHONE
CHAIN LINK FENCE
STACK
GATE
GATE
DIRT ACCESS ROAD
CATCH BASIN
DIRT PARKING AREA
CONSTRUCTION TRAILERS
ELECTRICAL PANELS
IP FOUND
UTILITY POLE
EDGE OF ASPHALT
ASPHALT PARKING LOT
LANDS N/F CHRISTIAN BROTHERS ACADEMY
LEGEND
SOIL BORING LOCATION
TOTAL TCL AND TIC SEMI-VOLATILE ORGANIC COMPOUNDS EXCEED 1ppm
TOTAL TCL AND TIC SEMI-VOLATILE ORGANIC COMPOUNDS EXCEED 10ppm
BASED ON 1990 RI DATA FOR SAMPLES 1' TO 5' BELOW GROUND SURFACE
SOURCE: MAP ENTITLED, "SITE PLAN FOR WADSWORTH LABORATORY, ALBANY, NEW YORK" PREPARED 11/15/90 BY CAPE SERVICES, INC. FOR ERM-NORTHEAST, ALBANY, NEW YORK.
TITLE
TOTAL TCL AND TIC SEMI-VOLATILE ORGANIC COMPOUNDS
PREPARED FOR
NYS DEPARTMENT OF HEALTH
ERM
ERM-Northeast
Environmental Resources Management
SCALE 1"=40'
FIGURE 3
DATE 12/90


GATE
DIRT ACCESS ROAD
0.0
MW-6S
MW-7S
0.0
"PIT" LOCATION
MW-5S
0.0
MW-10S
0.0
MW-4S
MW-3S
0.0
EDGE OF ASPHALT
MW-8S
7
MW-11S
0.0
LEGEND
MW-8S
MONITORING WELL LOCATION & ID NUMBER
7
TOTAL CONCENTRATION (in ppb)
ESTIMATED EXTENT OF IN GROUND WATER
BASED ON APRIL 1991 SAMPLING
ESTIMATED EXTENT OF CONTAMINATION IN GROUND WATER
PREPARED FOR
NYS DEPARTMENT OF HEALTH
ERM Northeast
Environmental Resources Management
SCALE 1"=20'
FIGURE 4
DATE 6/91


NOTE 1: ALL PROPERTY LINE INFORMATION WAS OBTAINED FROM A DRAWING BY URBAHN/SEELYE TITLED "SITE WORK - NEW SCOTLAND AVENUE LABORATORY REPLACEMENT ALBANY, NEW YORK - PHASE I - PLANS" DATED MAY 10, 1990, AND LABELED AS DRAWING #C1.01 FOR PROJECT 7020 0601. NO FIELD WORK WAS PERFORMED TO VERIFY THIS INFORMATION.
UTILITY POLE
MANHOLE
CHAIN LINK FENCE & APPROX. PROPERTY LINE (SEE NOTE 1)
ASPHALT
VEHICLE STORAGE BUILDING NO. 5
POWER HOUSE
1ST BATTALION 210th ARMORED DIVISION NEW YORK ARMY NATIONAL GUARD
MW-1M
CATCH BASIN
GATE
JUNCTION BOX FOR UNDERGROUND TELEPHONE
CHAIN LINK FENCE
STACK
DIRT ACCESS ROAD
MW-6S
MW-9S
MW-9M
MW-2M
CONSTRUCTION TRAILERS
TREATMENT PLANT OR HOLDING TANK
MW-7S
MW-7D
MW-5S
MW-5M
MW-10S
ELECTRICAL PANELS
IP FOUND
MW-3M
MW-3S
MW-4S
MW-4M
MW-4D
EDGE OF ASPHALT
ASPHALT PARKING LOT
MW-8S
MW-8M
MW-11S
MW-11M
LANDS N/F CHRISTIAN BROTHERS ACADEMY
LEGEND
MW-3M
EXISTING MONITORING WELL LOCATION & ID NUMBER (PHASE I)
MW-10S
MONITORING WELL LOCATION AND ID NUMBER (PHASE II)
MW-9S
PIEZOMETER LOCATION AND ID NUMBER (PHASE II)
PROPOSED AREA TO BE CAPPED
SOURCE: MAP ENTITLED, "SITE PLAN FOR WADSWORTH LABORATORY, ALBANY, NEW YORK" PREPARED 11/15/90 BY CAPE SERVICES, INC. FOR ERM-NORTHEAST, ALBANY, NEW YORK.
TITLE
ALTERNATIVE #4
MW-4S, MW-4M, MW-6S
MONITORING WELL LOCATIONS
PREPARED FOR
NYS DEPARTMENT OF HEALTH
ERM
ERM-Northeast
Environmental Resources Management
SCALE 1"=40'
DATE 5/91
FIGURE 5
443.001

TABLES

TABLE 1

Summary of Maximum Contaminant Levels

Substance	Soil (ppb)	Groundwater (ppb)	
Acetone	190	75,000	
Benzene	65	14,000	
Carbon Tetrachloride	ND	1500	
Chloroform	5800	18,000	
Ethylbenzene	76	9600	
Methylene Chloride	ND	230,000	
Tetrachloroethane	4700	750	
Toluene	39	24,000	
Trichloroethene	130	6100	
Xylene	280,000	40,000	

*ppb - parts per billion
*ND - Not Detected

EXHIBITS

EXHIBIT A
Administrative Record

A. "1990 Remedial Investigation Report NYSDOH WCLR Albany New York", prepared by: ERM-Northeast, Inc., March 4, 1991.

B. "Phase II Remedial Investigation Report NYSDOH WCLR Albany, New York", prepared by ERM-Northeast, Inc., August 20, 1991.

C. "Draft Feasibility Study Wadsworth Center for Laboratories and Research", prepared by ERM-Northeast, Inc., August 22, 1991.

D. "Citizen Participation Plan - New Scotland Avenue Site" prepared by the New York State Department of Environmental Conservation, November, 1991.

E. Public Notice, Meeting Announcement for February 12, 1992 public meeting.

F. Transcript of the public meeting, Albany College of Pharmacy, February 12, 1992.

G. "Proposed Remedial Action Plan; New Scotland Avenue Site, Site # 401031" prepared by the New York State Department of Environmental Conservation; Division of Hazardous Waste Remediation, January, 1992.

EXHIBIT B

Responsiveness Summary

All questions and comments were received by the Department at the public meeting held on February 12, 1992. Responses to these questions are included as part of the official transcript, pg 21 - 32, as attached. The full transcript may be found in the document repositories.

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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In the Matter

-of-

a Public Hearing on a Proposed Remedial Action Plan, New Scotland Avenue Site: Site No. 401031

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TRANSCRIPT OF PROCEEDINGS at a public hearing in the above-captioned matter held by the New York State Department of Environmental Conservation at Room 102A, Albany College of Pharmacy, 106 New Scotland Avenue, Albany, New York, on the 12th day of February 1992, commencing at 7:30 o'clock p.m.

PRESIDING:

SUSAN BENJAMIN, Project Manager
Hearing Officer

determined in the design phase.

This pretty much concludes our presentation. We can take questions and comments from anyone, and we do have a comment period that extends through March 6th, so if you think of something later that you wanted to ask, you can submit written comments to me which is at -- and the address is indicated in the pamphlet, the paper that's on the table over here -- and afterwards, after we complete the comment period, the Department will issue a ROD, which is a record of decision which indicates what indeed we will be requiring, the action that we would be requiring to take out there.

So any questions?

Yes. Could you state your name, please.

MR. JENSEN: Yeah I'm Roger Jensen, with the Division of Military and Naval Affairs.

The question I have, I'm the realty officer for the Division. Are you just considering the boundary lines here as indicated

on your drawings as the fence line, and you know, in your remediation in covering the pit, does that extend across those boundary lines, or is it just going to be in this pit location, or don't we know yet?

MS. BENJAMIN: The cap, it will probably go beyond the fence line that's treat... that now exists there, and will probably go onto your property, but it's -- it extends to the pit and just beyond there. That's something we will have to discuss with you when we get to the design.

MR. JENSEN: O.K.

MS. BENJAMIN: Yes.

MR. MARTIN: Brother William Martin, C.B.A.

You mentioned, final item in your proposal of -- affecting the remediation here would be fencing the area. Do you have an idea yet just what areas would be fenced?

MS. BENJAMIN: Probably just the areas -- and we'll have to discuss this with DOH, but I believe the fence that they were

talking about was just on DOH property because that -- that's the only area that they really have control of access and deed restrictions at this time.

They may be talking to you about putting some kind of access restrictions on your property, but we really have to discuss that in the design. But right now, I believe the fence is just to the DOH property line.

MR. MARTIN: The -- may I continue?

MS. BENJAMIN: M-m h-m-m.

MR. MARTIN: What do you see the present responsibility of C.B.A. being in this whole project?

MS. BENJAMIN: Is just being able to work with the Department of Health and the only problem with the C.B.A. property is that there is groundwater contamination underneath the property and, if there is some way to prevent anyone from drilling a well or doing any intrusive work into that corner of your property, that's what we would like to see.

Other than that, there -- we don't envision any further responsibility on your part.

MR. MARTIN: O.K. Regarding the general concept of liability, what would you see our liability being at this point?

MS. BENJAMIN: Being that I'm not a lawyer, I'm an energy, I -- I'm really not conversant in those areas, but it's -- the contamination extended from something that occurred on DOH property and happens to go off-site onto your property. I -- I really can't tell you what exactly the liability is, but I would think it would be minimal. It's mostly a DOH problem at this point.

MR. MARTIN: Hypothetical case: Supposing a person using our property should fall in that area after your remediation or even now, for that matter, and --

MS. BENJAMIN: Well, right now there's no risk of -- from people walking across the area or it's only if someone were to actually dig in the area, ingest any of the

underground water, go numerous feet underneath the surface and get dirt or something on their hands. Right now, there's no -- there's no risk for anyone crossing the site.

MR. MARTIN: Well, supposing someone should, let's say, fall and have an abrasion and then infection or whatever set in. I may be worrying about a non-possible situation, but supposing the person injured in that way or apparently injured in that way would come back at us, they got this at our place, where do we stand?

MS. BENJAMIN: Well, the investigation that has been done to this point and that the Environmental Conservation Department has approved, the risk assessment is that there is no risk to anyone for the site in its present condition, and so there really -- I should think they would have no case.

MR. MYERS: The thing I think, Father, they would have to ingest. The biggest risk is the ingestion of the PAHs to get a carcinogenic effect, and you would have to eat

quite a bit of it.

MR. MARTIN: You know that and I know that.

MR. MYERS: Yes, I understand where you're coming from.

MR. MARTIN: Somebody looking for a quick buck, it would cause us a hassle. It would cause you folks a hassle, I guess, too.

MS. BENJAMIN: Well, the cap that we're going to put on is -- will extend onto those areas that are contaminated with PAHs onto your property and, therefore, alleviate any possibility of anyone falling and incurring that, and we do hope to implement this by next fall. So we're talking eight months or so.

MR. MARTIN: How long would you say the entire remediation process would take?

MS. BENJAMIN: For the cap, as long as everything goes well, we're -- we would think at the most a couple months, and we will be -- if we finally do the groundwater treatment that will take place over quite a few number of years, but that won't affect any activity that's

ongoing at the site.

MR. MARTIN: O.K. Thank you.

MS. BENJAMIN: Sir, a question?

MR. SAVAGE: Yeah, Bill Savage From DMNA. Got a lot of heavy equipment that's located fairly close to this cap. Have you looked into the possibility of maybe ground vibrations or anything that may disturb this thing? I'm talkin', you know, heavy tanks and things like that, quite active in that particular area.

MS. BENJAMIN: Well, we haven't, but if that is indeed a problem at the site during the design of the cap, we'll have to take that into consideration putting maybe a greater protective layer or maybe utilizing something different than we envision at this moment. We -- I don't believe that there would be any of your equipment going across this cap. It wouldn't be --

MR. SAVAGE: No, it runs fairly close to it because our property line runs right along the edge of it. As a matter of fact, this

particular area extends onto our property.

MS. BENJAMIN: M-m h-m-m. But it goes -- I believe there's a substantial hill, about six feet in height between the two properties, and we wouldn't be capping up the side of the hill. We would be up to that hill, so your equipment would be a little distance away from the cap.

MR. SAVAGE: Would you think of incorporating the proposal in Alternate 5 into Alternate 4 and possibly excavating the highly volatile area?

MS. BENJAMIN: Well, we did, but the problem with Alternate 5 is that it is excavation, and the far greater expense of doing a small excavation in that site outweighed any of -- any of the benefits that we would get from it. It's a small area, but we would anticipate that we'd run into a numerous number of graves and to bring in an archaeologist that's trained in performing hazardous waste remediation techniques is just -- it boggles the mind, and the implementation of such a thing would take --

take a couple years to do.

MR. SAVAGE: Would there be any type of bioremediation that you would utilize for this, would you say?

MS. BENJAMIN: Not really. That was ruled out in preliminary screening of the feasibility study, so once we got to these or prior to getting to these six alternatives, we looked at bioremediation and numerous other alternatives and, for one reason or another, and maybe Dave can specify --

MR. MYERS: Bioremediation has worked a lot better with hydrocarbon contamination than it does with the solvents that we have at the site.

MR. PHELAN: Clayey soil also exists there.

MR. SAVAGE: O.K.

MR. JANSEN: Just one other comment. We were out there this afternoon, and I think the equipment we're talking about is basically the contractor's equipment putting up the wing on the building out there, not

necessarily the military equipment.

MS. BENJAMIN: O.K.

MR. JANSEN: That was one of the things we were concerned about and, though it was fenced off somewhat, it looked like cyclone fencing and anyone could walk over. We did. So I'm not --

MS. BENJAMIN: O.K. It's not a problem. It's just a precaution to say, People, you really shouldn't be in this area because we don't really want anyone kicking up the dirt or taking a backhoe and digging up -- Oh, here's some nice soil over here; we'll just dig it.

MR. JANSEN: Well, see, that's the other consideration because they keep changing that roadbed, that road, depending how much it keeps getting torn up. They keep throwing gravel on there and, you know, just for the short term, I might be concerned where they would be picking up some of that gravel and scraping the surface somewhat, because it's been done and we've seen it happen a couple times.

MS. BENJAMIN: Well, that's

something -- there are some people here from DOH who are involved in both the construction of the building and the remediation of the site and it's a good point. I -- and by the coordination of keeping the road away from the hazardous waste site which should be looked into by DOH, but if -- we're going to coordinate construction activities that are ongoing out there with the remediation of the site, and so that's why we do anticipate that we'll have something going on out there next fall because it will be -- for them it's a convenient time between construction periods.

MR. SAVAGE: Well, that -- on these monitoring wells that you have out there, do you have -- how long do you anticipate to monitor the site? Is that going to be ongoing continually.

MS. BENJAMIN: Most likely, yes, until we find out that for some reason there is no longer any contamination out there or we determine that it's really not necessary for long-term monitoring to occur, but it usually

goes on for numerous years.

MR. PHELAN: May be that we can reduce the monitoring network to a smaller number of wells.

MS. BENJAMIN: Right.

MR. MYERS: For water sample four times and then twice a year thereafter so we can analyze the results and see what kind of results we're getting and then, based on our results, make future decisions.

MS. BENJAMIN: Anything else?

(There was no response.)

MS. BENJAMIN: Thank you for attending and, if you have any questions or come up with anything more, please feel free to write to me before March 6th.

(Whereupon at 8:10 p.m., the hearing was concluded.)