EKM

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

TABLE OF CONTENTS

FIGURES

TABLES

Exhibits

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.

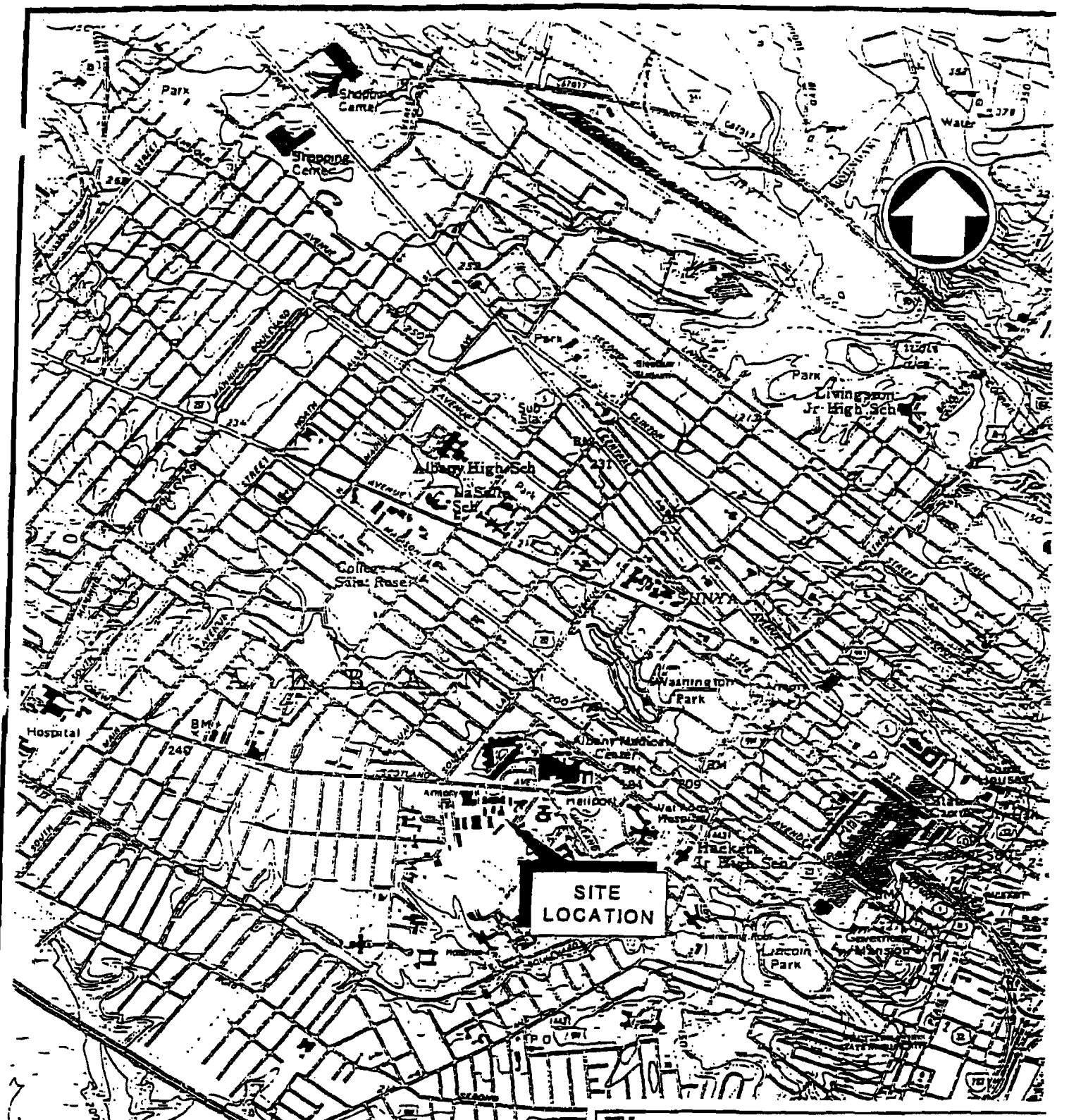
-other efforts will be made to evaluate technologies that would remediate the most mobile contaminants (i.e. vacuum extraction).

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

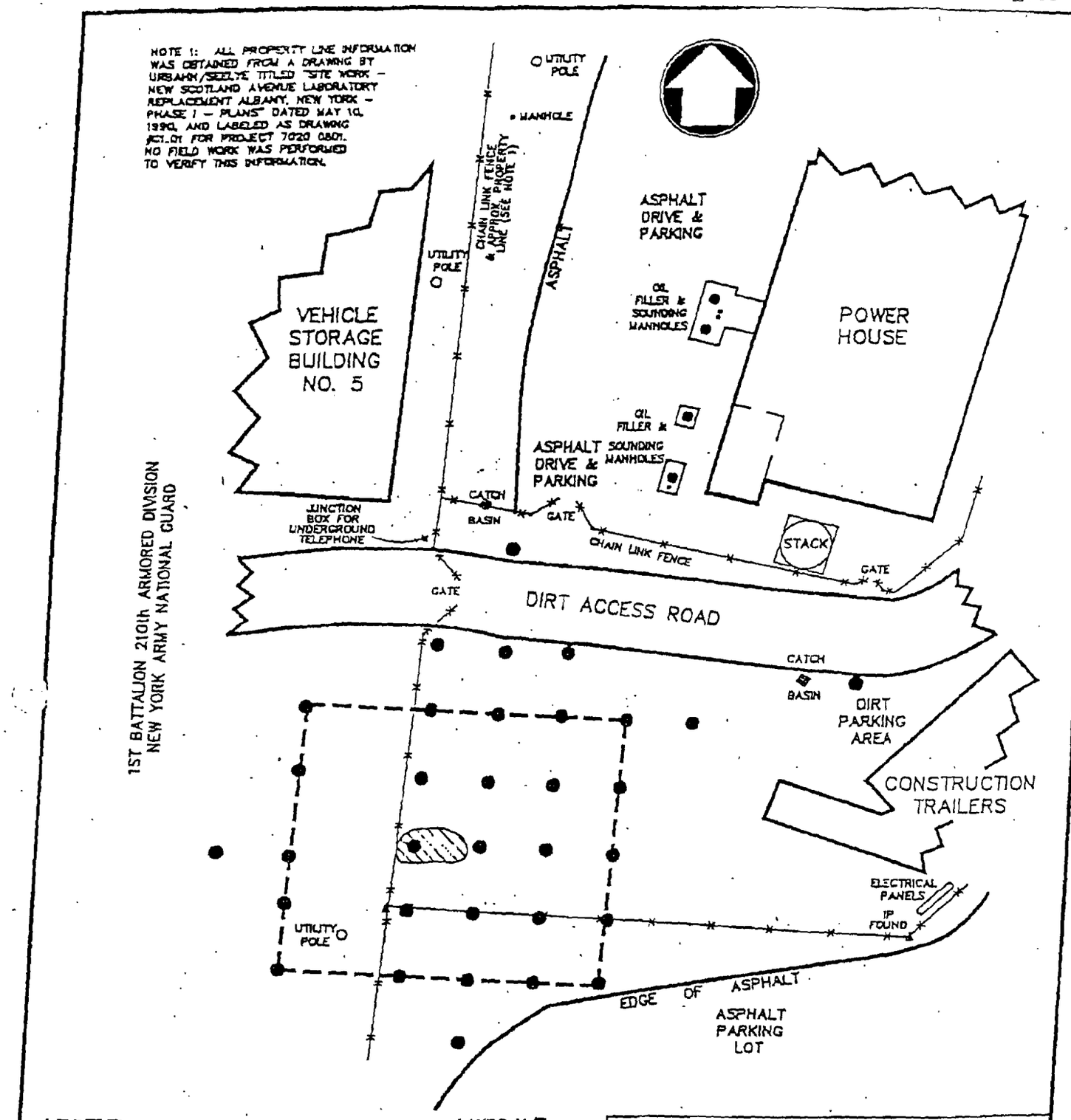
NYSDOH

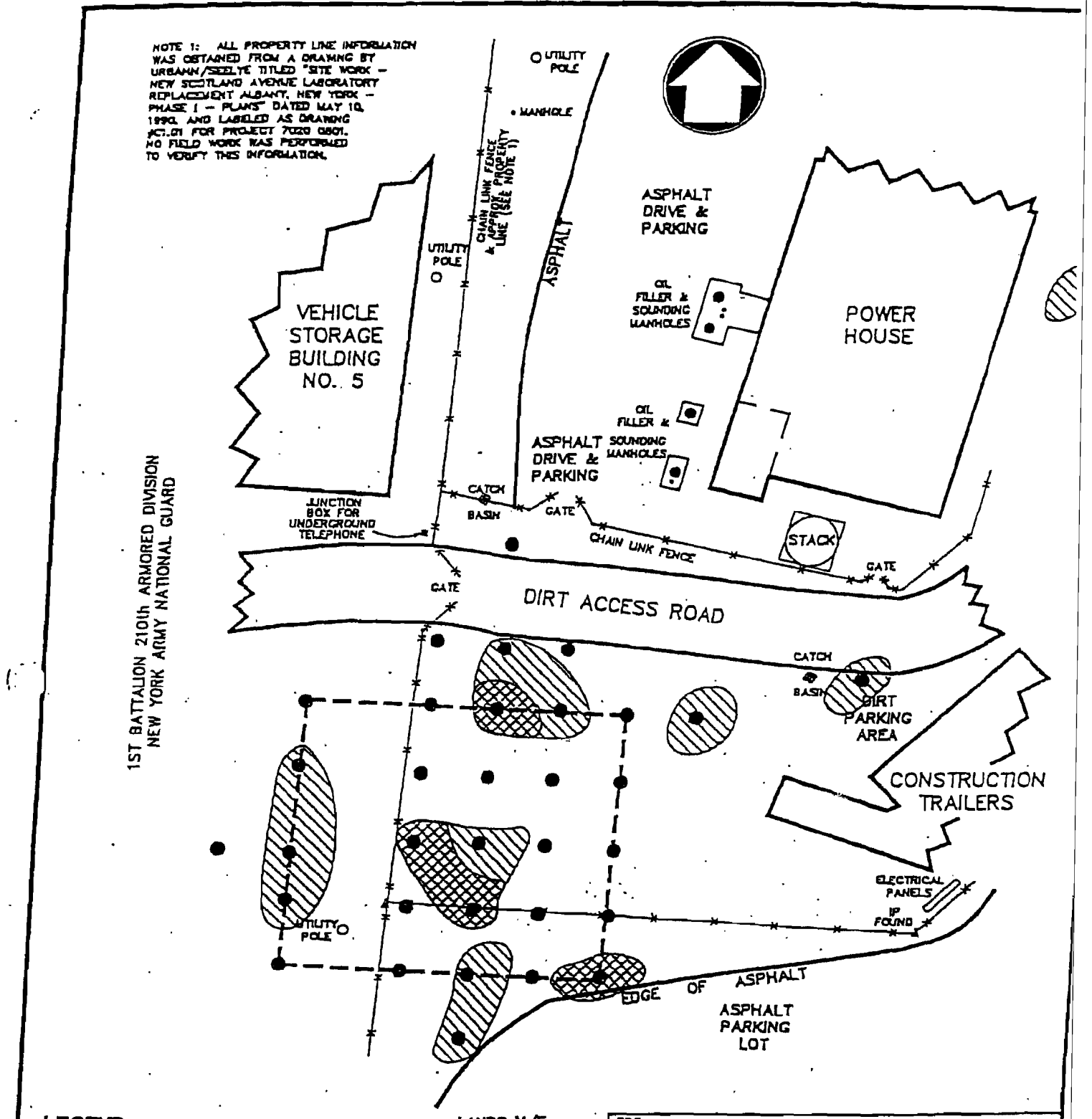
ERM ERM-Northeast

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 SCT-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
VEHICLE STORAGE BUILDING NO. 5
OIL FILLER & SOUNDING MANHOLES
POWER HOUSE
OIL FILLER & SOUNDING MANHOLES
ASPHALT DRIVE & PARKING
1ST BATTALION 210th ARMORED DIVISION NEW YORK ARMY NATIONAL GUARD
CATCH BASIN
JUNCTION BOX FOR UNDERGROUND TELEPHONE
GATE
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
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
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
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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UTILITY POLE
MANHOLE
CHAIN LINK FENCE & APPROX. PROPERTY LINE (SEE NOTE 1)
ASPHALT
ASPHALT DRIVE & PARKING
OIL FILLER & SOUNDING MANHOLES
POWER HOUSE
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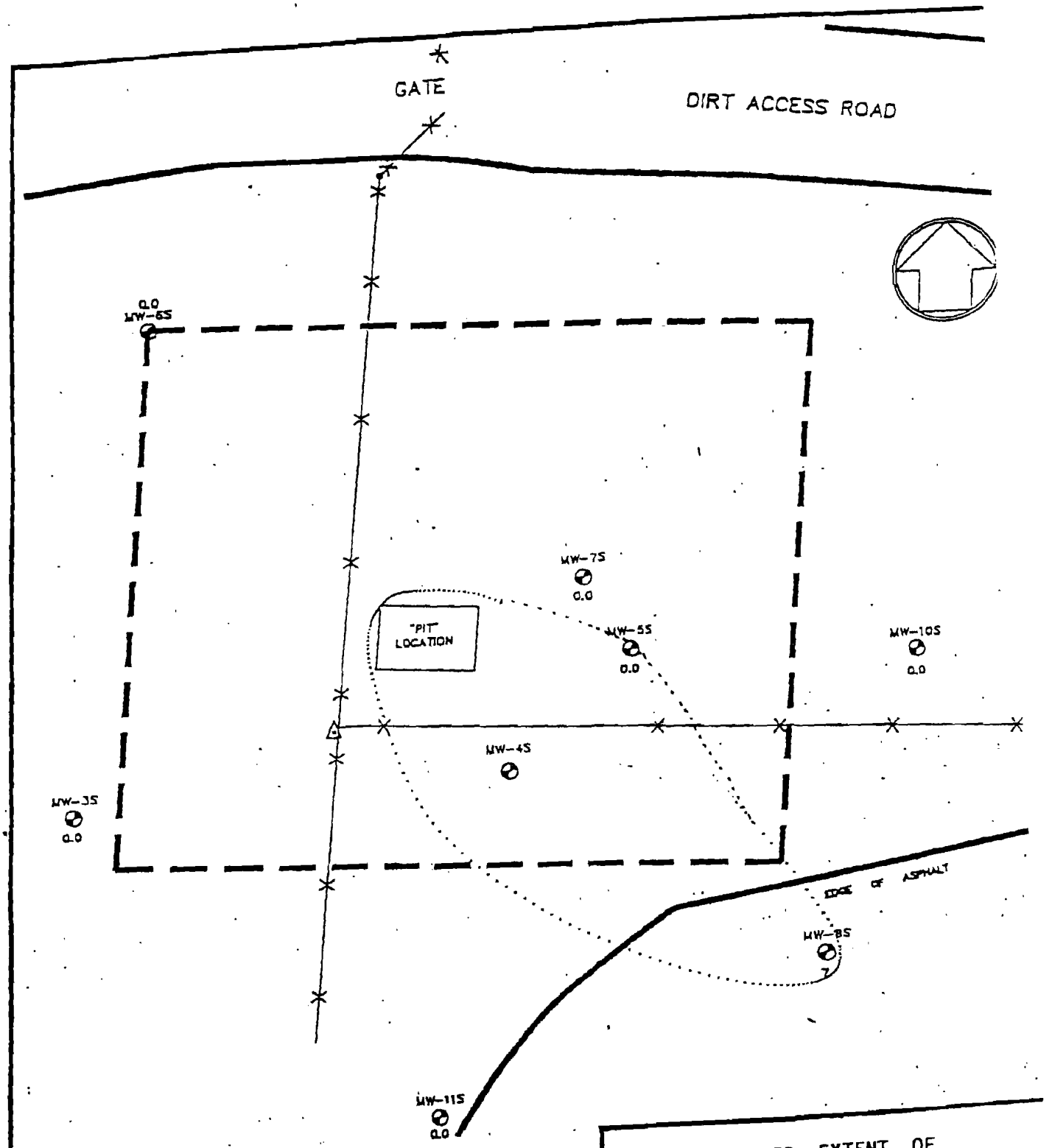
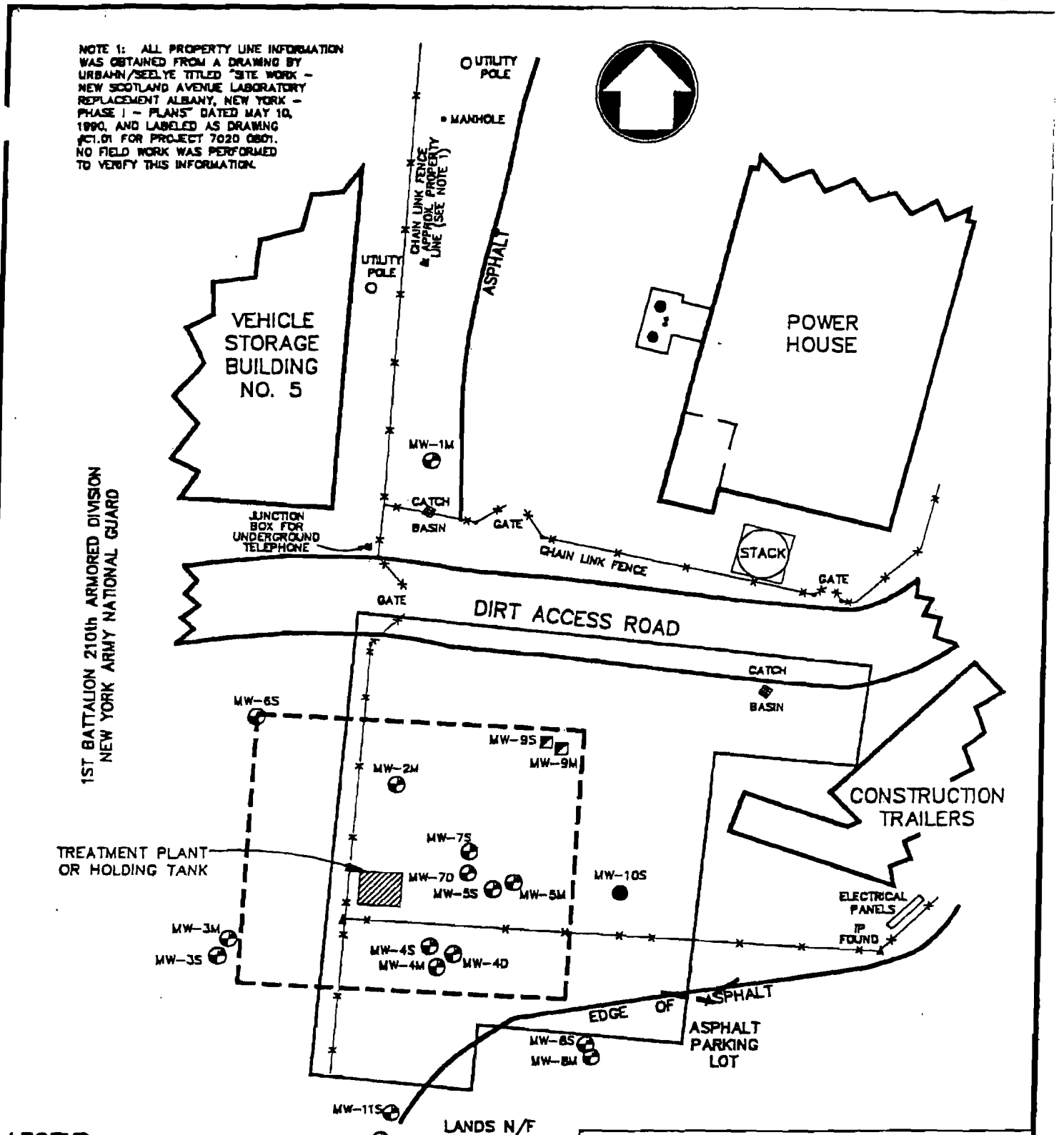
GATE
JUNCTION BOX FOR UNDERGROUND TELEPHONE
CHAIN LINK FENCE
STACK
GATE
GATE
DIRT ACCESS ROAD
1ST BATTALION 210th ARMORED DIVISION NEW YORK ARMY NATIONAL GUARD
CATCH BASIN
DIRT PARKING AREA
CONSTRUCTION TRAILERS
ELECTRICAL PANELS
IP FOUND
UTILITY POLE
EDGE OF ASPHALT
ASPHALT PARKING LOT
LEGEND
SOIL BORING LOCATION
TOTAL TCL 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
LANDS N/F CHRISTIAN BROTHERS ACADEMY
SOURCE: MAP ENTITLED, "SITE PLAN FOR WADSWORTH LABORATORY, ALBANY, NEW YORK" PREPARED 11/13/90 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



Groundwater Flow SE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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-Northeast
Environmental Resources Management
SCALE 1"=40'
DATE 5/91
FIGURE 5
4A1.001

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.

COPY

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.)