TRANSPARENCIES FOR SITE CLOSURE MEETING - DAVID A. AXELROD CENTER

September 29, 1999

Elizabeth G. Mahoney and John M. Matuszek, Ph.D.

The accompanying figures were used as transparencies during the September 29, 1999 meeting and are arranged to carry the reviewer through the following sequence:

- Proposed Use of Adjoining Property – figures 1 and 2;
- History – figures 3 through 8;
- Remedial Investigation – figures 9 through 13;
- Burial Locations – figures 14 through 16;
- Remediation – figures 17 through 23;
- Groundwater Flow and Recharge – figures 24 through 31; and
- Concentrations of Volatile Organic Compounds – figures 32 and 33.

FIGURE DESCRIPTIONS:

1. University Heights Master Plan. University Heights Assn. Inc. recently provided the Wadsworth Center with their Master Plan for the properties adjacent to the David Axelrod Institute. The inactive hazardous waste site, located in the southwestern corner of our property, is adjacent to proposed Master Plan for University Heights parking. This is consistent with the current property use.
2. The Christian Brothers Academy of Albany Site Plan. This site plan, outlining 3,532 sq.ft. or 0.081+ acre, is incorporated into the Wadsworth Center – David Axelrod Institute inactive hazardous waste site remediation plan. The Wadsworth Center has been attempting to procure this parcel of property since 1993. The property has recently changed ownership and is now owned by University Heights Assn. Inc.
3. Photograph of the "pit" being constructed circa 1958.
4. Composite of topographic maps showing southern section of DOH property (1917) abutting Armory property (1914). Note "Swamp" shown on both maps (solid isopleths) with extensions to closure of each isopleth (extrapolated by JMM). Note also "Cemetery" on both maps framed by fence. Data from sample cores collected during the Remedial Investigation (RI) phase (1990) and review of 1930, 1939 and 1949 aerial photographs indicate that the base of the swamp may be 20- to 40-ft south of that indicated on these maps.
5. 1930 aerial photograph facing northward. Property lines are concurrent with those in the 1914/1917 topographic maps, with the area of concern to the southwest of the powerhouse "stack". Note a drainage ditch to the south of the DOH site, extending eastward from the Armory property through the CBA property. Note also the apparent lack of vegetation on the eastern segment of the Armory property leading to the drainage ditch.
6. 1930 aerial photograph facing southward. The same features as in figure 3 are exhibited, but with the view from the opposing direction

7. 1939 aerial photograph facing eastward. Features are much the same as in the previous two aerial photographs, except that barren areas in 1930 now appear to have added vegetation. This might indicate filling of the swamp not long before the 1930 aerials were shot. Shadows from the trees growing along the drainage ditch (along the right side of the photo) highlight the location of water draining from the Armory property.
8. 1949 aerial photograph facing northeastward. Note the "flatness" of the terrain throughout the photograph, especially that extending from the western side of the Armory property, through the DOH and across the CBA property. Note also that the drainage ditch on the CBA property appears to have been filled to create the current sports fields there. Trees, however, mask the ditch south of the DOH property – this segment of the ditch was still present at the time of the RI. Note also the eastward extension from that in previous photographs of the southern boundary of the DOH property for construction of the then Virus Building.
9. Soil boring locations for RI.
10. Typical cross-sections developed from soil borings.
11. Typical cross-section developed from soil borings.
12. Site topography at the time of the RI. The elevations represented here were used in conjunction with the borehole logs to estimate the subsurface interface of the undisturbed glacial till (see figure 7). These elevations are greater than those of the 1914/1917 topographic maps due to the addition of fill into the swamp from construction projects on the various properties. The "mound" on the Armory property is from the construction (post-1949) of an outdoor maintenance facility for heavy armored vehicles.
13. Subsurface profile of undisturbed glacial till interface estimated (by JMM) for the "Swamp". Note location in comparison to 1914/1917 topographic composite map. Solid isopleths are interpolations of borehole logs; dotted lines are extrapolations absent log data.
14. Boiler parcel burial locations redrawn from CULTURAL RESOURCES SURVEY REPORT, NYS Office of the State Archeologist (1989).
15. Extrapolation of burial locations to site location. Note potential intercept of "row 6" (arbitrary designation by Cultural Resources) by borehole C2; confirmed subsequently by bone and wooden-casket fragments in core barrel at 6-ft depth.
16. Elevation of undisturbed glacial till at each borehole location (see figure 3). Burial location at C2 confirmed by bone and wood-casket fragments; others by wood-casket fragments.
17. Recovery- and monitoring-well locations. Recovery well, RW-1, was installed at the base of the swamp for a pump test in anticipation that it would drain both the pit and MW-4S, the most heavily contaminated of the wells. RW-1 was appropriately closed after the pump test showed there was no connection between RW-1 and either the pit or MW-4S, but that an otherwise discontinuous sand lens exists between RW-1 and MW-4M, creating a pathway for deepening the contaminated zone. RW-1 proved not to be connected to any other well, as well. RW-2 was installed at the pit as the recovery well in accordance with the Record of Decision (ROD).
18. Cross-section A-A' showing a sand lens connecting RW-1 and MW-4M.
19. Extent of contamination by total TCL volatile organic compounds exceeding 1ppm.

20. Subsurface profile of the interface of the undisturbed glacial till superimposed on the pit location; also indicated is monitoring well MW-8S to the southeast of the site. Note that MW-8S appears to be well out of the swamp area and to have been installed for its entire depth at a high point of the undisturbed till.
21. Estimated extent of groundwater contamination. One of several profiles generated by ERM, this one differs from that selected by DEC for inclusion in the ROD. DOH contends that this profile is more likely representative of the extent of groundwater contamination than is that in the ROD. This assessment is based in part on the discussion of figure 14 above and pump-test data. More importantly, the contaminants, ethyl ether and diisopropyl ether, purported to be in MW-8S (see discussion following for figure 30 about quality of data for this monitoring well) are not found in any of the monitoring wells, MW-4S, MW-4M or MW-4D, that intervene between MW-8S and the pit. Also, because MW-8S is buried to its entire depth into undisturbed glacial till, it is unlikely to be influenced by RW-2.
22. Subsurface profile of interface of the undisturbed glacial till superimposed on the design location of the cap. Note that the cap extends sufficiently southward to enclose the base of the swamp beneath it.
23. Final partial site plan. The final site plan incorporated consideration of the need to capture under the cap the "swamp", taking advantage of the subsurface barrier provided by the undisturbed glacial till while minimizing incursion onto CBA property. In addition to having to match the elevation of the gravel vehicle-maintenance mound to the west on the Armory property, the plan also had to account for new elevations to the north and east. The latter were created as a parking area was added for the new DAI laboratory building that was constructed during the intervening period between RI and ROD.
24. Groundwater elevations in shallow wells, time dependence. The plotted elevations provide a visual display of the relative constancy of the hydraulic heads over the 5-year period of pumping the recovery well. Fluctuations are apparent, with decreased elevations during dry periods (late in 1994 through early 1995 and early in 1999) followed by recovery to a peak elevation during a wet period (early in 1996). The issue of constancy is further supported by the fact that the upper and lower level-settings for intermittent pumping of the recovery well have not required change over the 5-year period despite removal of some 50,000 gallons of water.
25. Groundwater elevations of medium-depth wells, time dependence.
26. Results of hydraulic conductivity testing, 1990 RI. The likelihood that a pump and treat system would not be effective in this setting was predicted by ERM, based in part on these data showing the extremely low hydraulic conductivity that exists at the site.
27. Estimated groundwater contour maps (shallow wells), August 20, 1991. The effect of low hydraulic conductivity on groundwater flow is exhibited in this and the next three figures. This diagram, part of the RI report, estimates groundwater flow at the level of the shallow wells to be generally eastward to southeastward (as also for the medium-depth wells, not shown here).
28. Estimated groundwater contour map (shallow wells), April 29, 1994.indicates flow to the southwest.

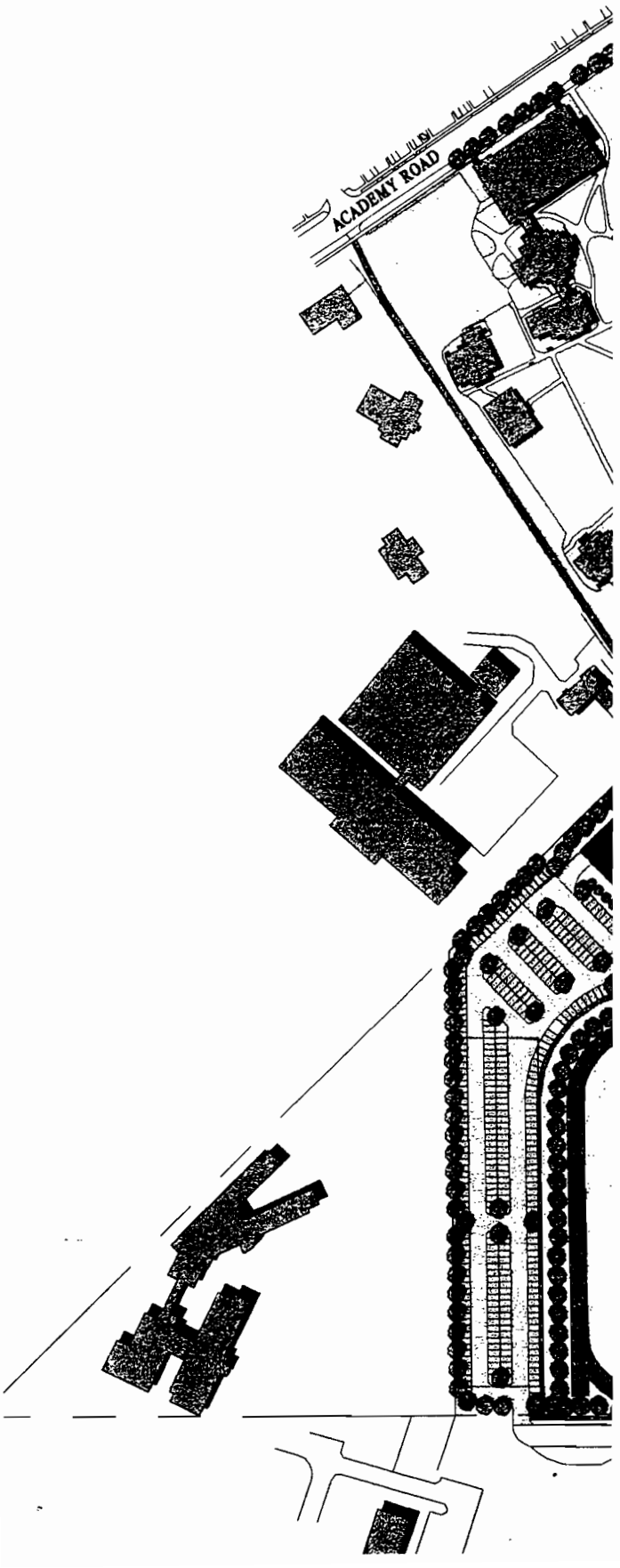
29. Estimated groundwater contour map (medium-depth wells), April 29, 1994. On the same day that the shallow wells indicated southwestward flow, the medium-depth wells indicated flow direction to be directly opposite – to the northeast.
30. Estimated groundwater contour map (shallow wells), July 28, 1994. Three months from the apparent southwestward flow at shallow depth, the contours indicate a southerly flow. The corresponding data for medium-depth wells (not shown) indicates flow at that depth to be to the northeast – almost identical to the April 28, 1994 data for medium-depth wells. **A similar construct, if based on the June 25, 1999 elevations (see data in figures 21 and 22), would indicate flow at both shallow and medium depths to be approximately due north.** The conclusion is that in the closed basin beneath the cap, prediction of the direction of groundwater flow is not possible. A corollary conclusion is that pumping of the recovery well is not influencing groundwater elevations or flow direction under the cap.
31. Correlation of pumping rate to rainfall. During the dry period of the summer of 1995 (preceded by a dry winter and spring), the day-to-day pumping rate (in gallons/day) was estimated and correlated against NOAA precipitation records for Albany. Statistical estimates of correlation coefficients is not necessary, because the visual display in this figure makes clear that there is a reasonably direct correlation.
32. Concentrations of volatile organic compounds in monitoring well MW-4S, time dependence. Despite removal of approximately 50,000 gallons of water over 5 years, the concentrations of most of the volatile organic compounds in shallow well MW-4S remain essentially unchanged. The concentration of methylene chloride does appear to have decreased by more than a magnitude, but that of "xylenes" appears to have increased approximately five-fold. Some concentration values, such as those for trichloroethene, merely reflect the "bounce" of values at detection limits or quantitation limits, even in this the most contaminated of the monitoring wells.
33. Concentrations of volatile organic compunds in monitoring wells MW-5S and MW-8S. **All** of the concentration values depicted in this figure represent detection-limits or quantitation-limits. Furthermore, neither of the contaminants, ethyl ether and diisopropyl ether, is found in the intervening monitoring well MW-4S (analytical data for MW-4S report these as "ND"; i.e., not detectable) Thus, they have little or no merit for establishing an estimate of the extent of groundwater contamination (see discussion above regarding figure 19).

The conclusions presented by DOH at the September 29, 1999 meeting were:

- proposed use of part of the capped site by the University Heights Consortium (UHC) may threaten the integrity of the cap;
- regardless of depictions in the ROD, all contaminants related to DOH disposal into the "pit" are contained within the capped area;
- the recovery system has been ineffective toward reducing the volume of water under the cap;
- because of cap design, the likely source of contaminated water intruding under the cap is from the west;
- construction of a deeper barrier against water intrusion from the west is inhibited by the presence of burial sites;

- prevention of water intrusion from the west is likely to depend more on redesign of the surface of the Armory property than on the construction of barriers;
- the recovery system has been ineffective toward reducing either the amount or concentration of contaminants at the DAI site;
- removal of the recovery system with appropriate closure of the recovery well appears to be justified;
- purchase by DOH of the capped section of the CBA (now UHC) property and extension of the DAI parking lot to the full extent of the property will offer superior protection to the integrity of the site; and
- imposition of deed restrictions will add to protection of the integrity of the site.

Figure 1.



UNIVERSITY HEIGHTS MASTER PLAN

ALBANY, NEW YORK

PROPOSED

EXISTING/NO CHANGE

EXISTING/RENOVATED

PEDESTRIANS

VEHICULAR

N

DATE: JUNE 17, 1999

Einhorn Yaffee Prescott
ARCHITECTURE & ENGINEERING, P.C.

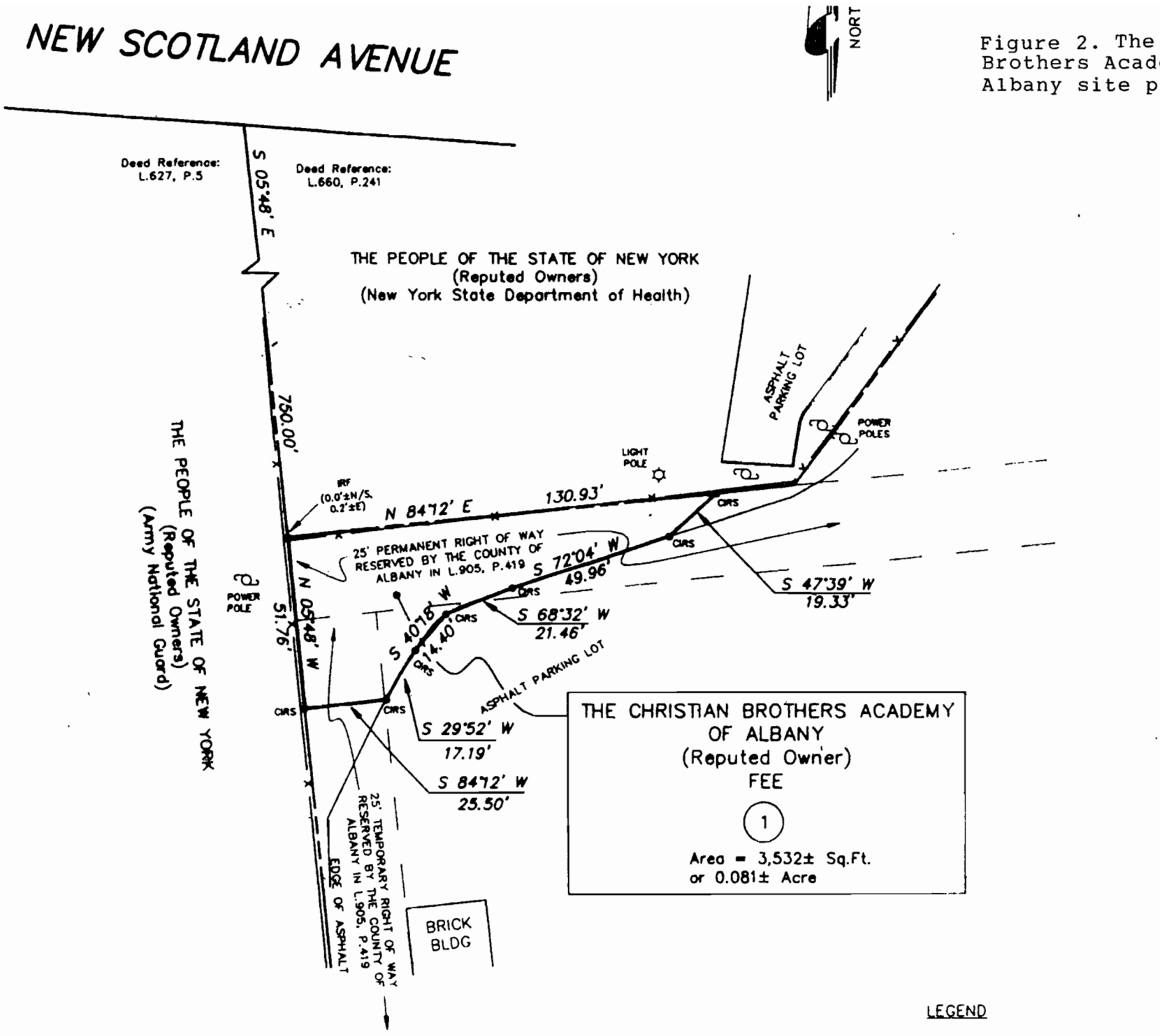
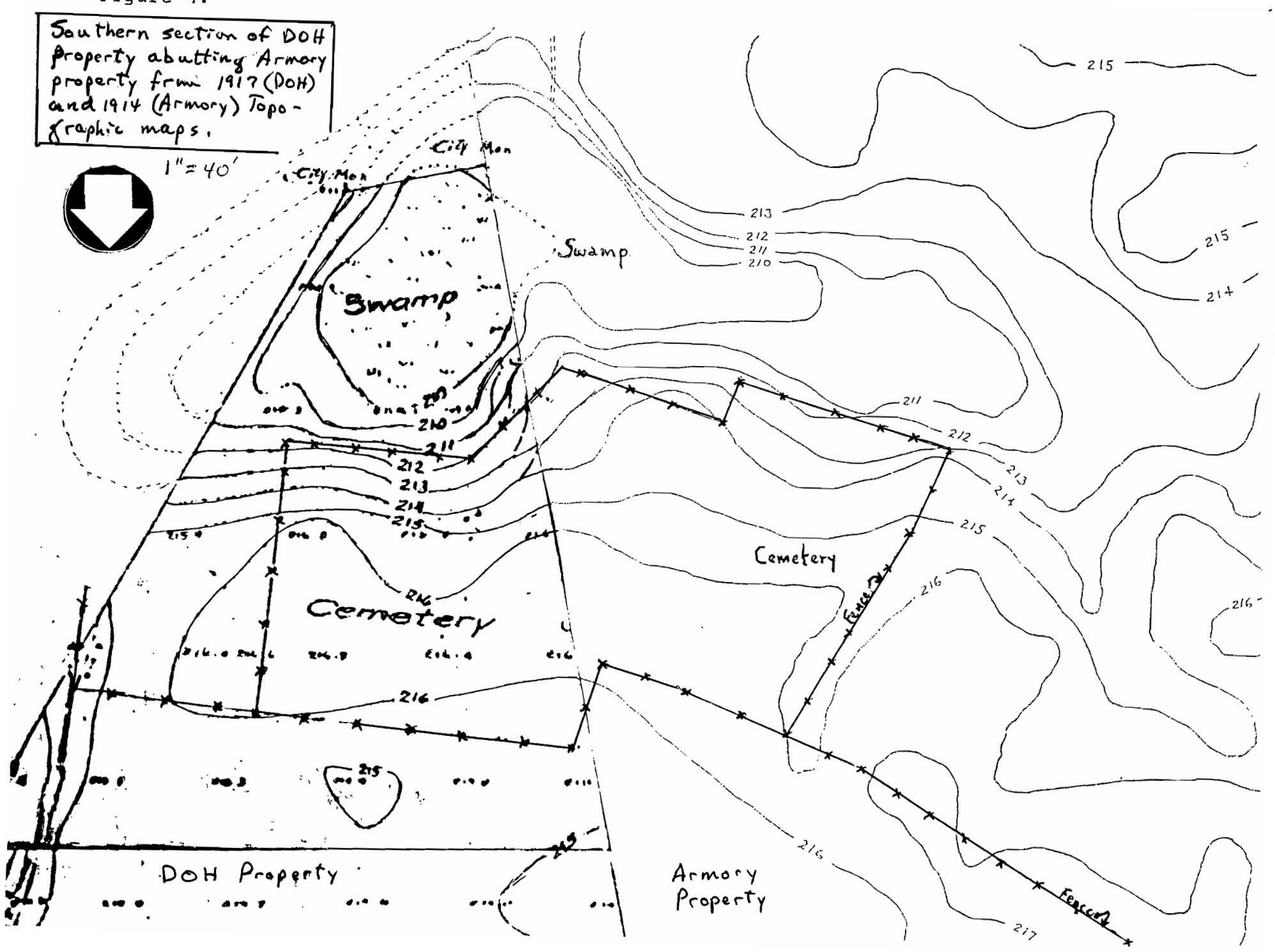


Figure 2. The Christian Brothers Academy of Albany site plan.

Figure 3. Photograph of the "pit".

Figure 4.


Southern section of DOH property abutting Armory property from 1917 (DOH) and 1914 (Armory) Topographic maps.
1"=40'
City Mon
City Mon
Swamp
Swamp
213
212
211
210
215
214
210
211
212
213
214
215
216
Cemetery
Cemetery
Fence
216
215
DOH Property
Armory Property
216
Fence
217

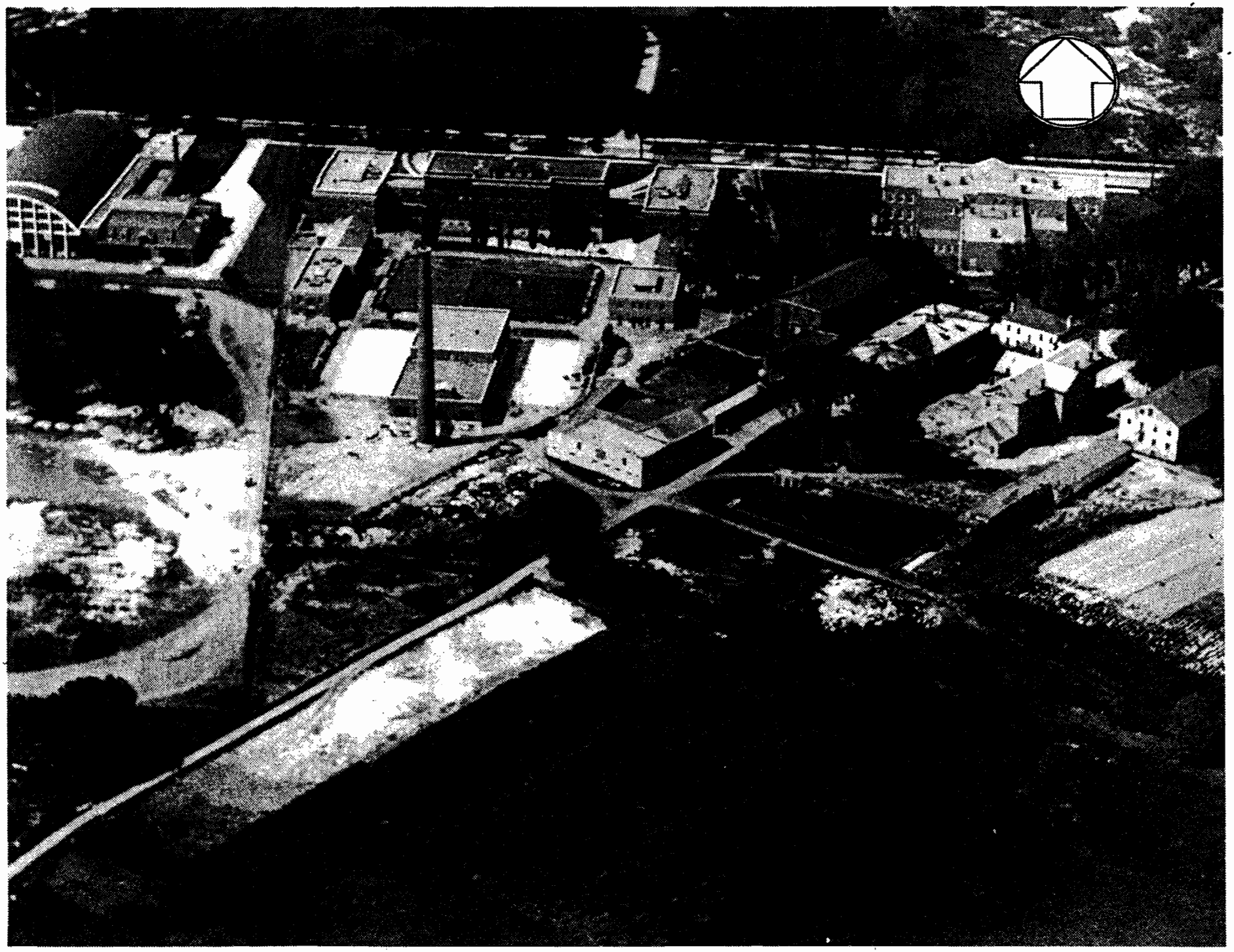


Figure 5. 1930 aerial photograph facing northward.

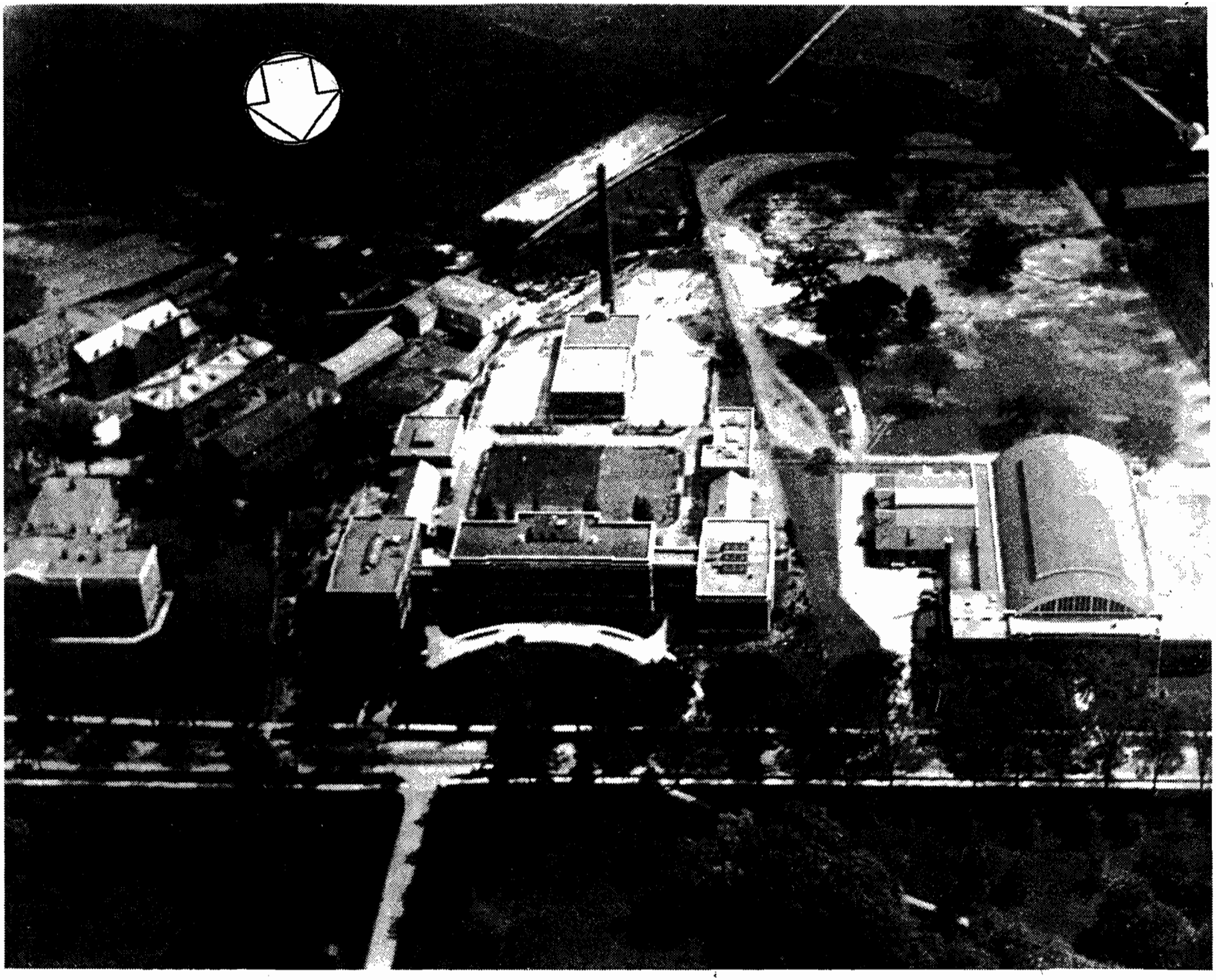


Figure 6. 1930 aerial photograph facing southward.

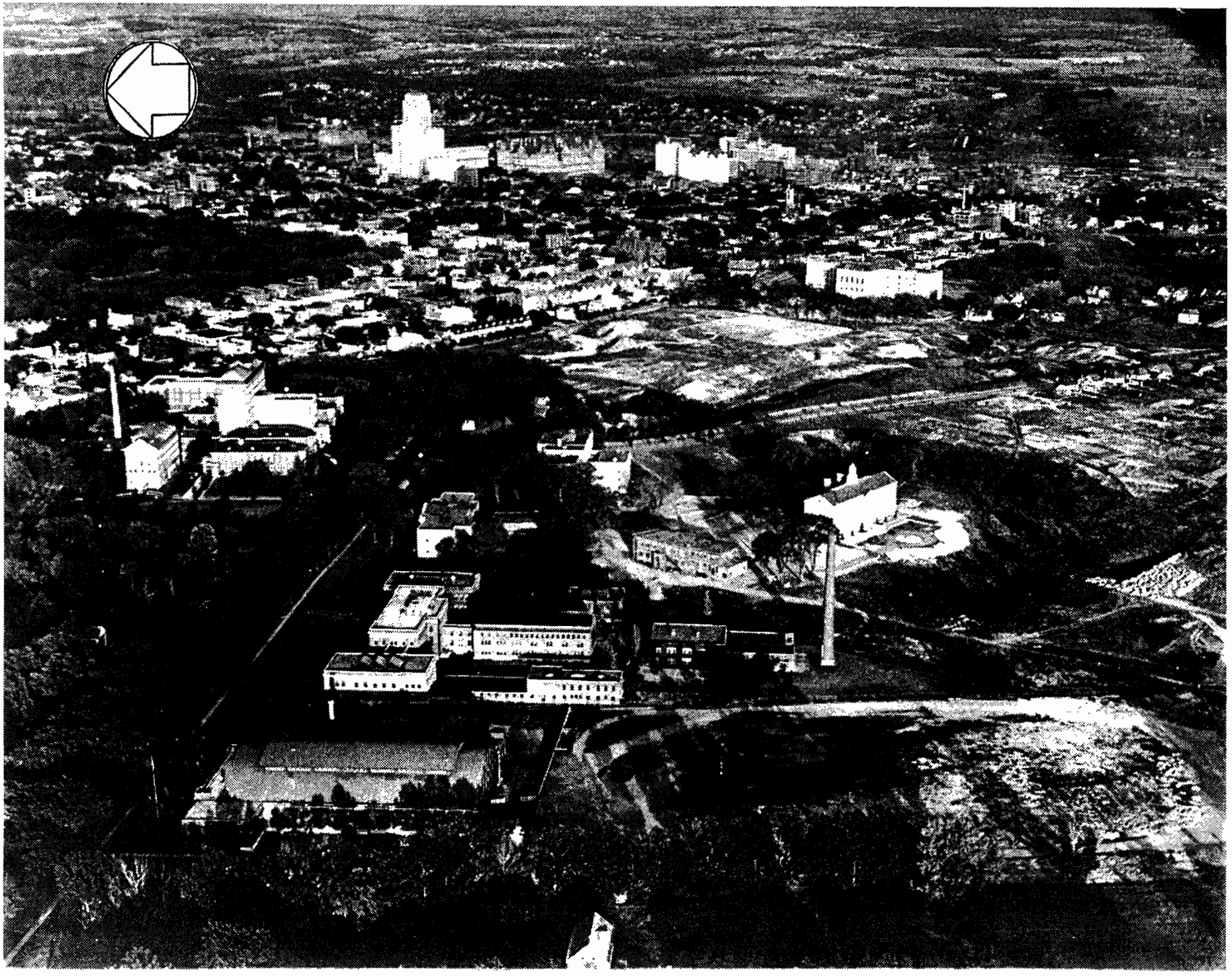
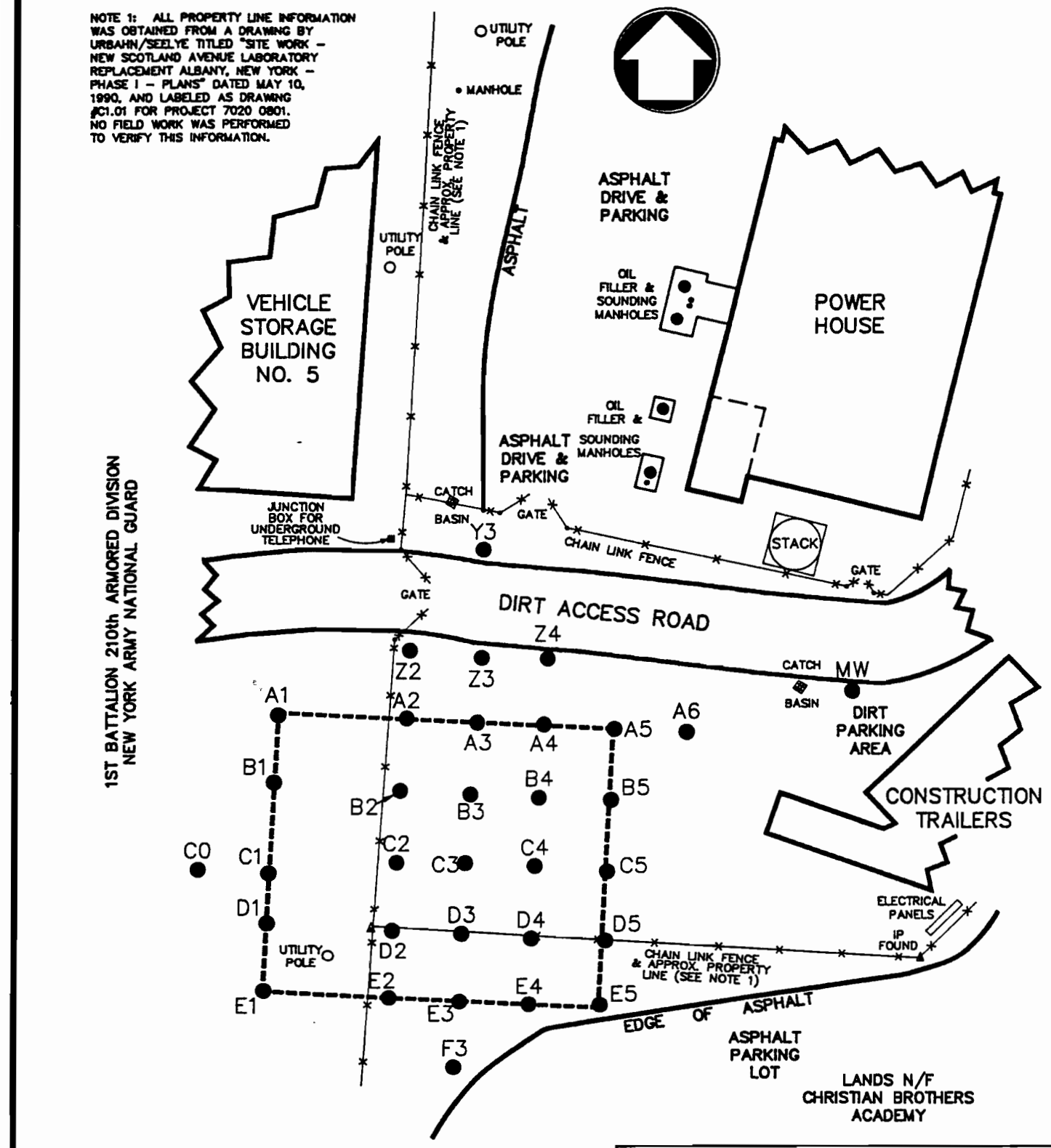


Figure 7. 1939 aerial photograph facing eastward.

Figure 8. 1949 aerial
photograph facing northeastward.



LEGEND

F3 ● SOIL BORING LOCATION

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

SOIL BORING LOCATIONS

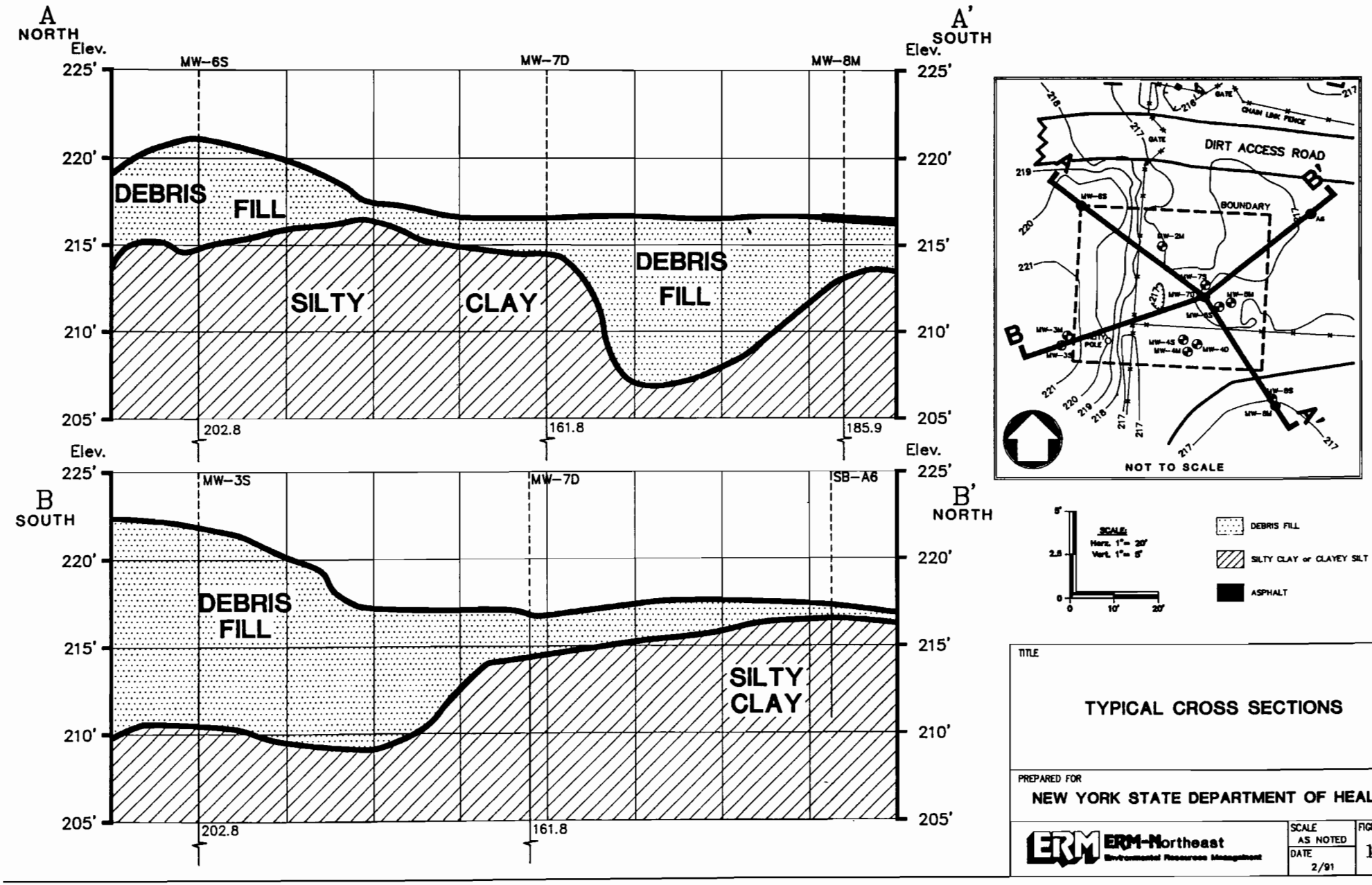
PREPARED FOR

NYS DEPARTMENT OF HEALTH

ERM ERM-Northeast Environmental Resources Management

SCALE	FIGURE
1" = 40'	9
DATE 12/90	

413.001



TITLE

TYPICAL CROSS SECTIONS

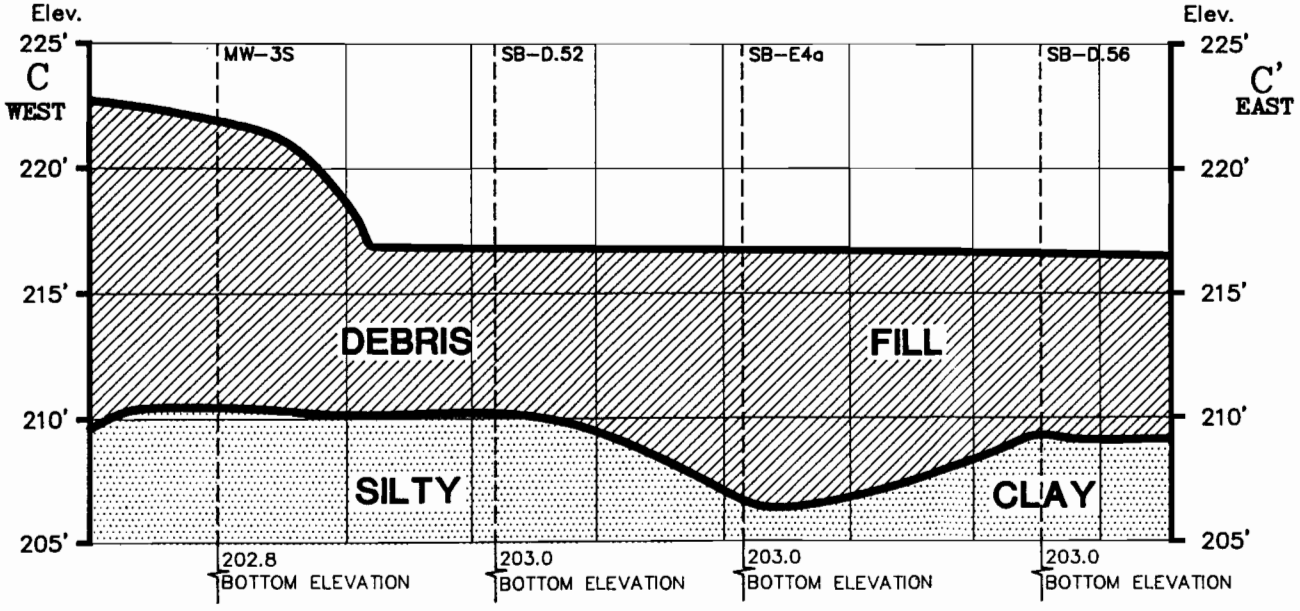
PREPARED FOR

NEW YORK STATE DEPARTMENT OF HEALTH

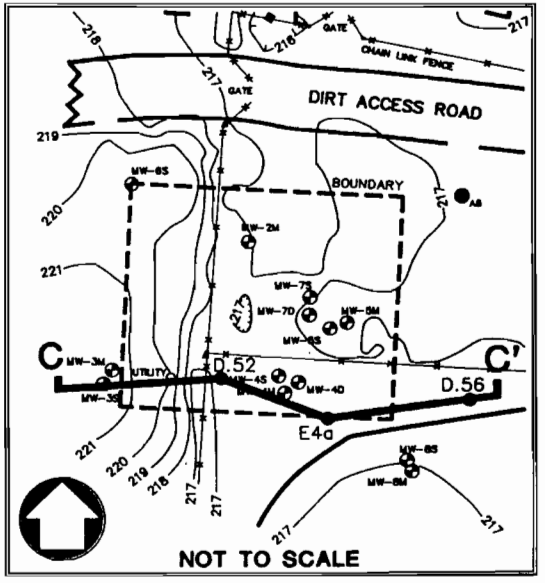
ERM ERM-Northeast Environmental Resources Management

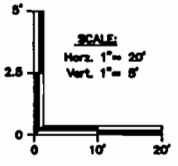
SCALE	FIGURE
AS NOTED	10
DATE 2/91	

443.001



CROSS SECTION LOCATION MAP





DEBRIS FILL

SILTY CLAY or CLAYEY SILT

TYPICAL CROSS SECTION

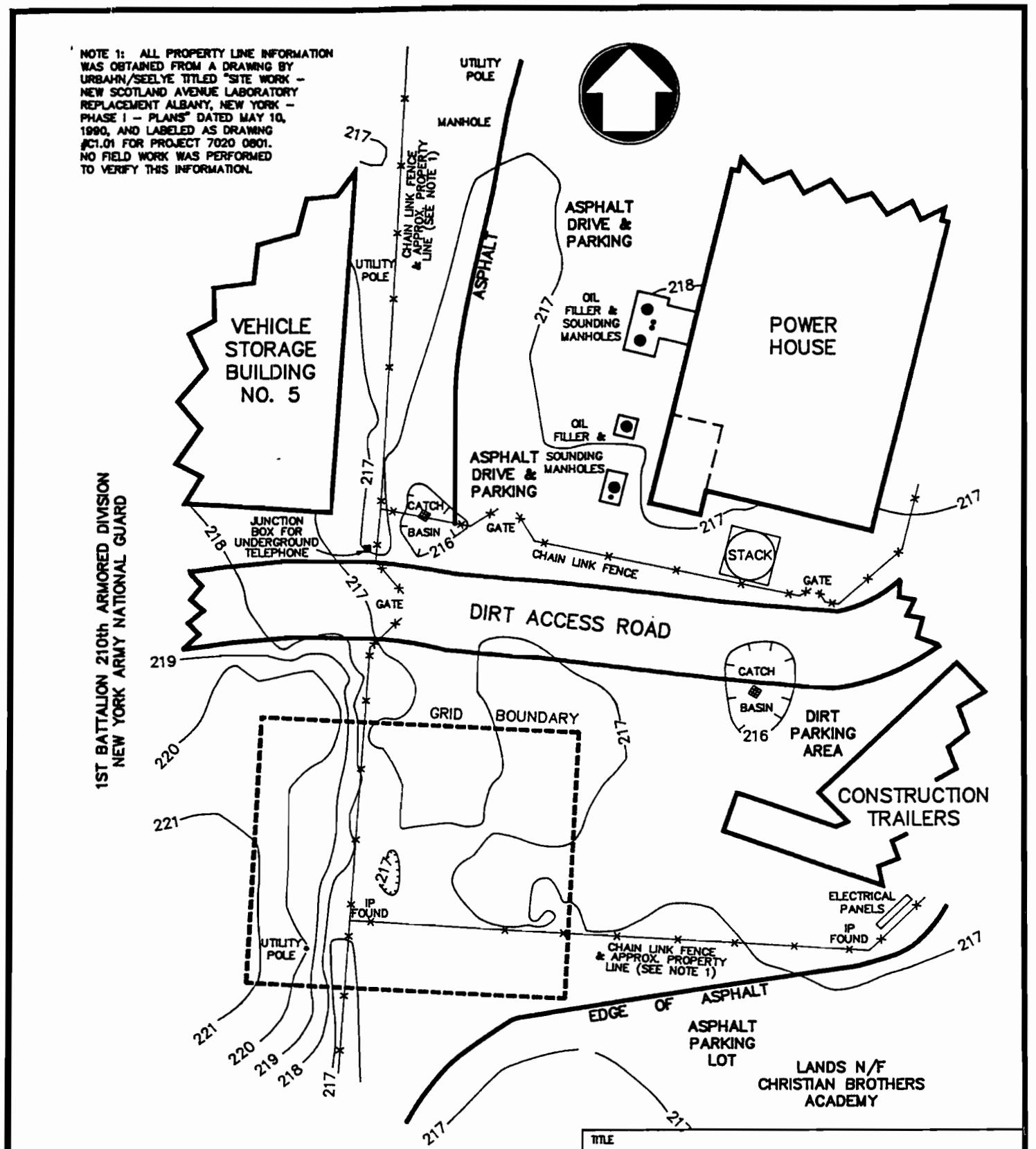
PREPARED FOR

NEW YORK STATE DEPARTMENT OF HEALTH

ERM-Northeast
Environmental Resources Management

SCALE	FIGURE
AS NOTED	11
DATE	
6/91	

443.001



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

WCLR SITE TOPOGRAPHY

PREPARED FOR

NYS DEPARTMENT OF HEALTH

ERM ERM-Northeast Environmental Resources Management

SCALE	FIGURE
1"=40'	12
DATE 12/90	

443.001

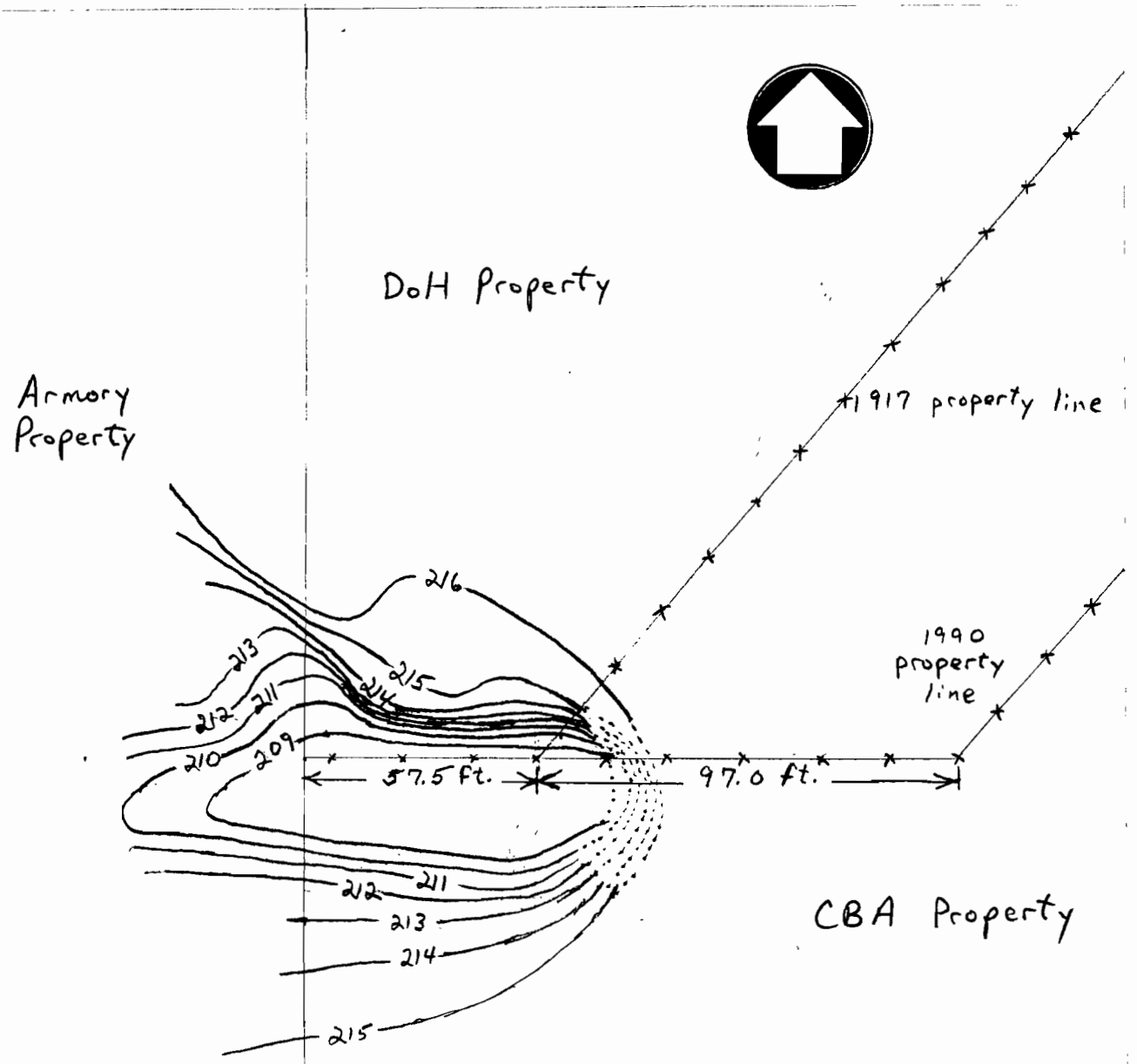
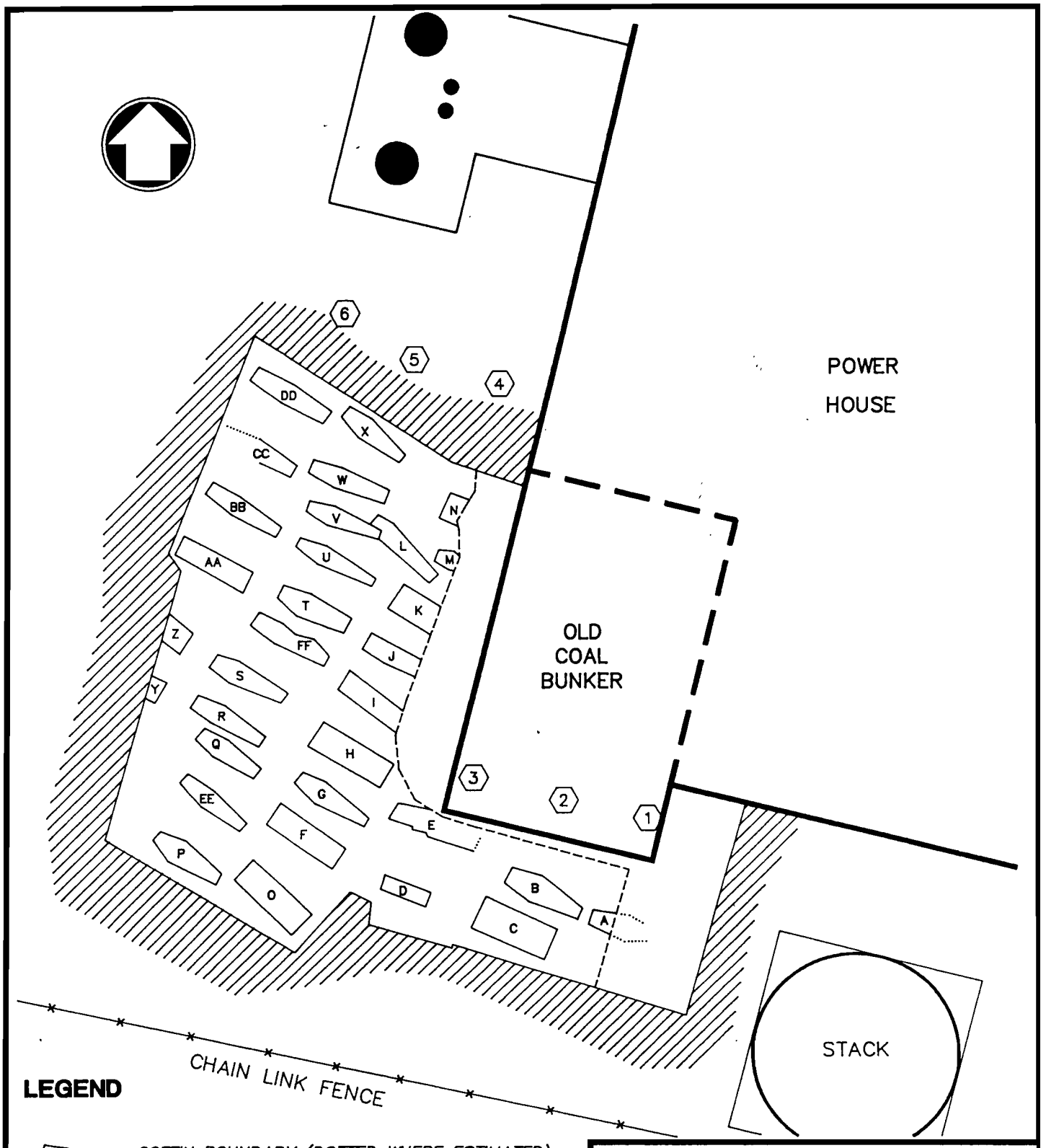


Figure 13.

Subsurface profile of "SWAMP" estimated from borehole logs and cross-sections.



LEGEND

- COFFIN BOUNDARY (DOTTED WHERE ESTIMATED)
- EDGE OF PREVIOUS DISTURBANCE
- EDGE OF CUT
- (3) ROW NUMBER

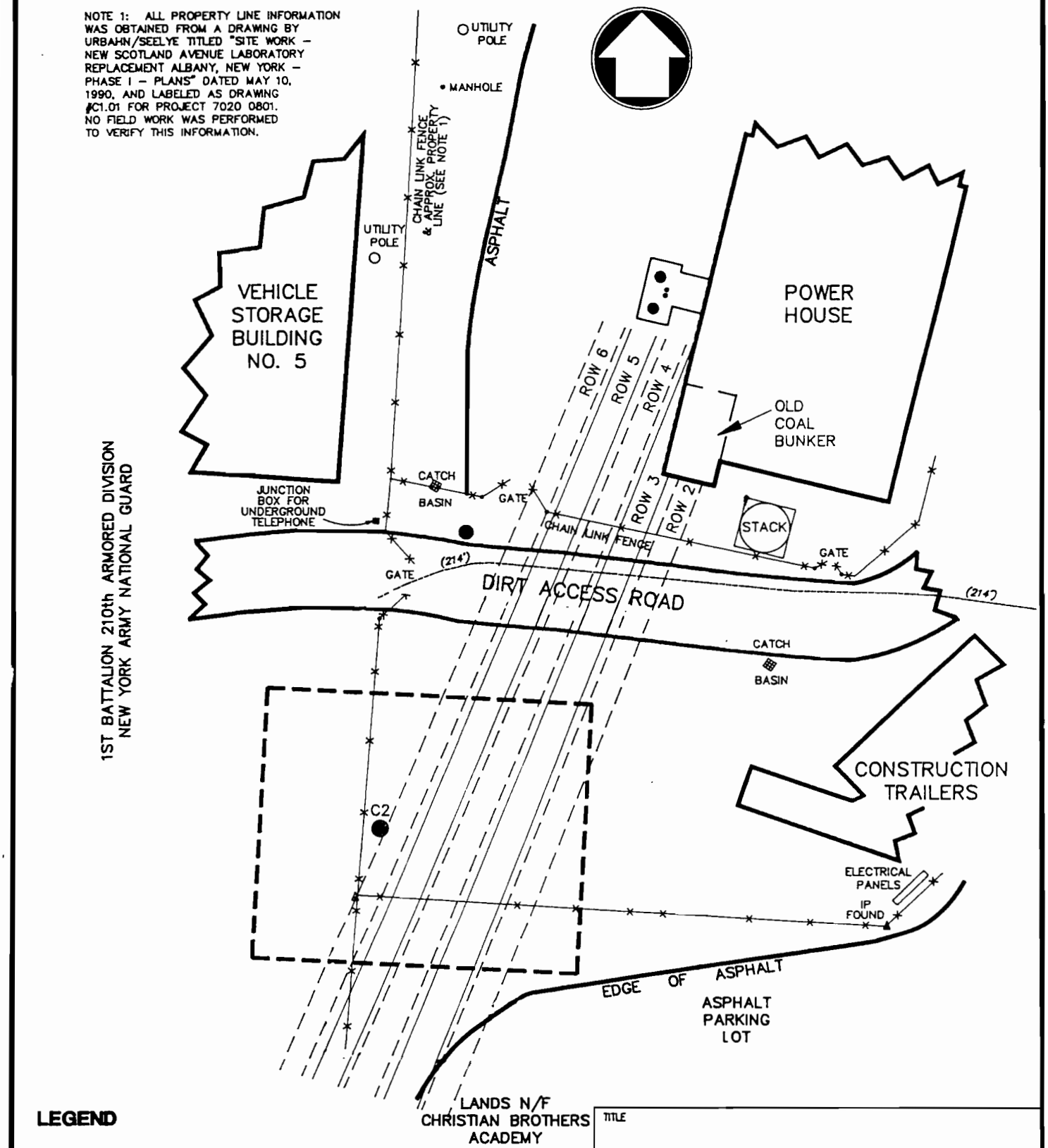
BOILER PARCEL
BURIAL LOCATIONS

PREPARED FOR
NYS DEPARTMENT OF HEALTH

ERM-Northeast
Environmental Resources Management

SCALE	FIGURE
1"=10'	14
DATE 6/91	

443.001



LEGEND

C2 ● 1990 RI (PHASE I) SOIL BORING LOCATION

(214') ESTIMATED 214' CONTOUR SHOWN ON FIGURE 1–3

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

PROJECTION OF ROWS 2-6

PREPARED FOR

NYS DEPARTMENT OF HEALTH

ERM ERM-Northeast Environmental Resources Management

SCALE 1"=40"

DATE 8/91

FIGURE 15

44.1.001

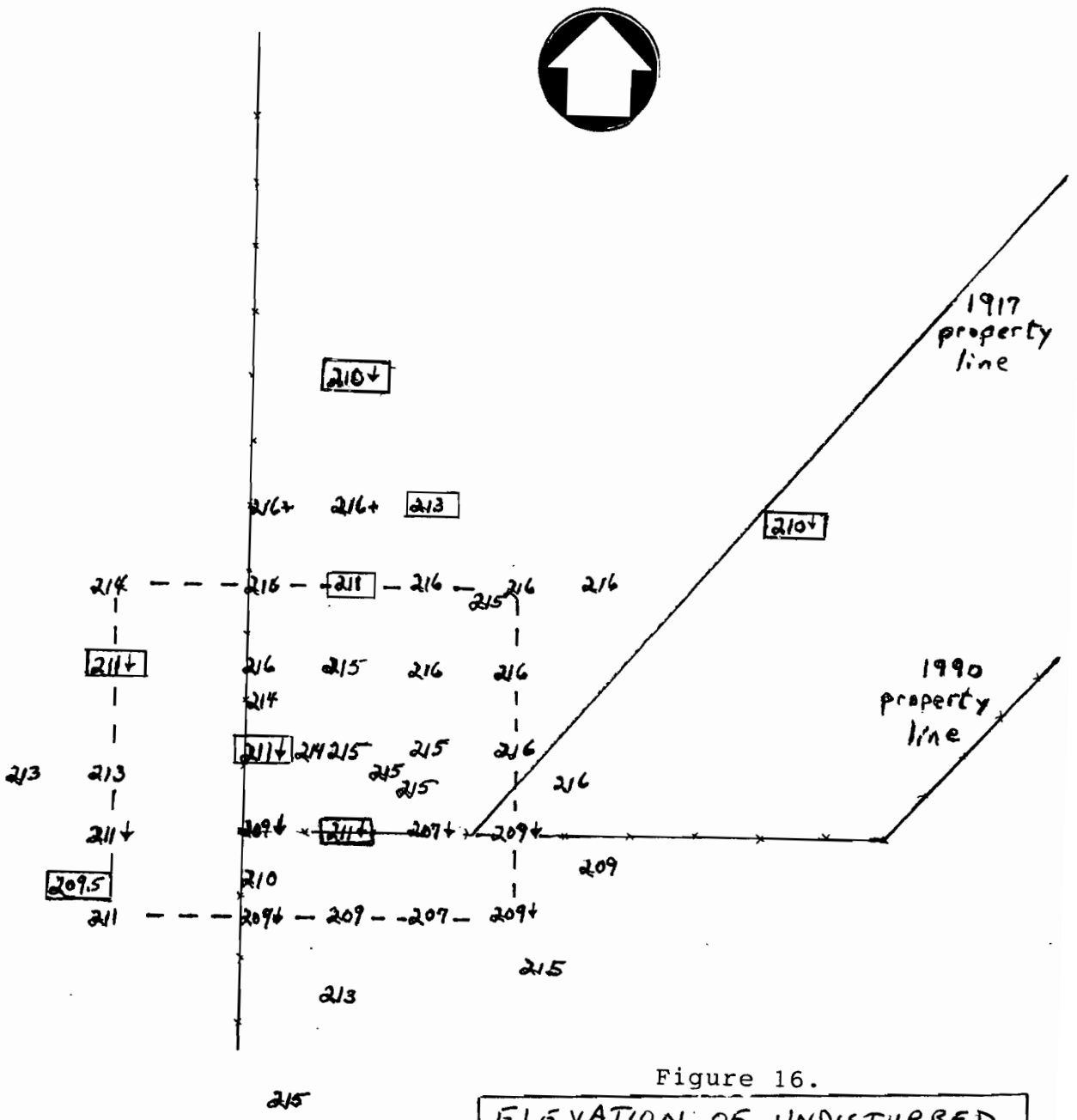
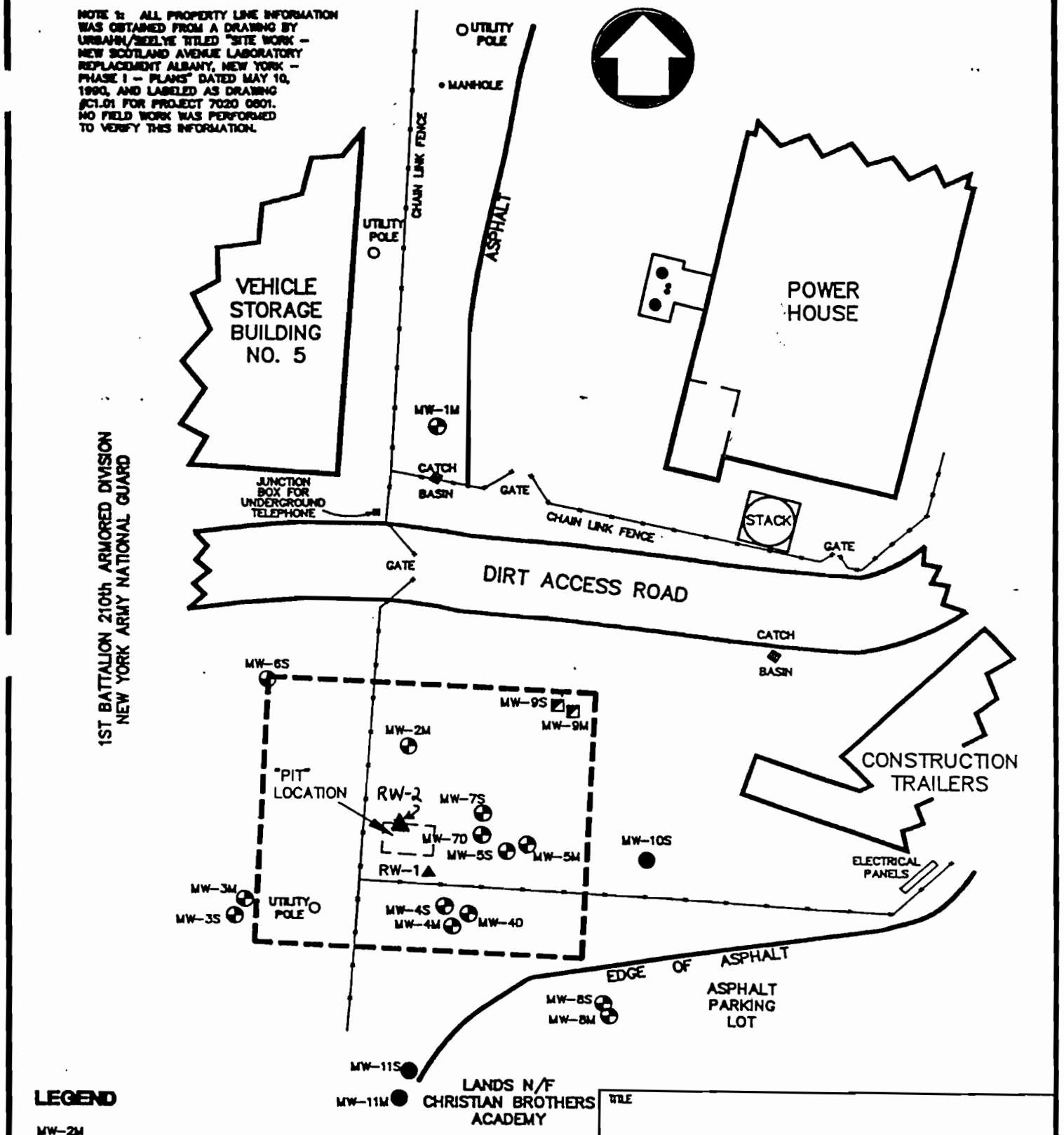


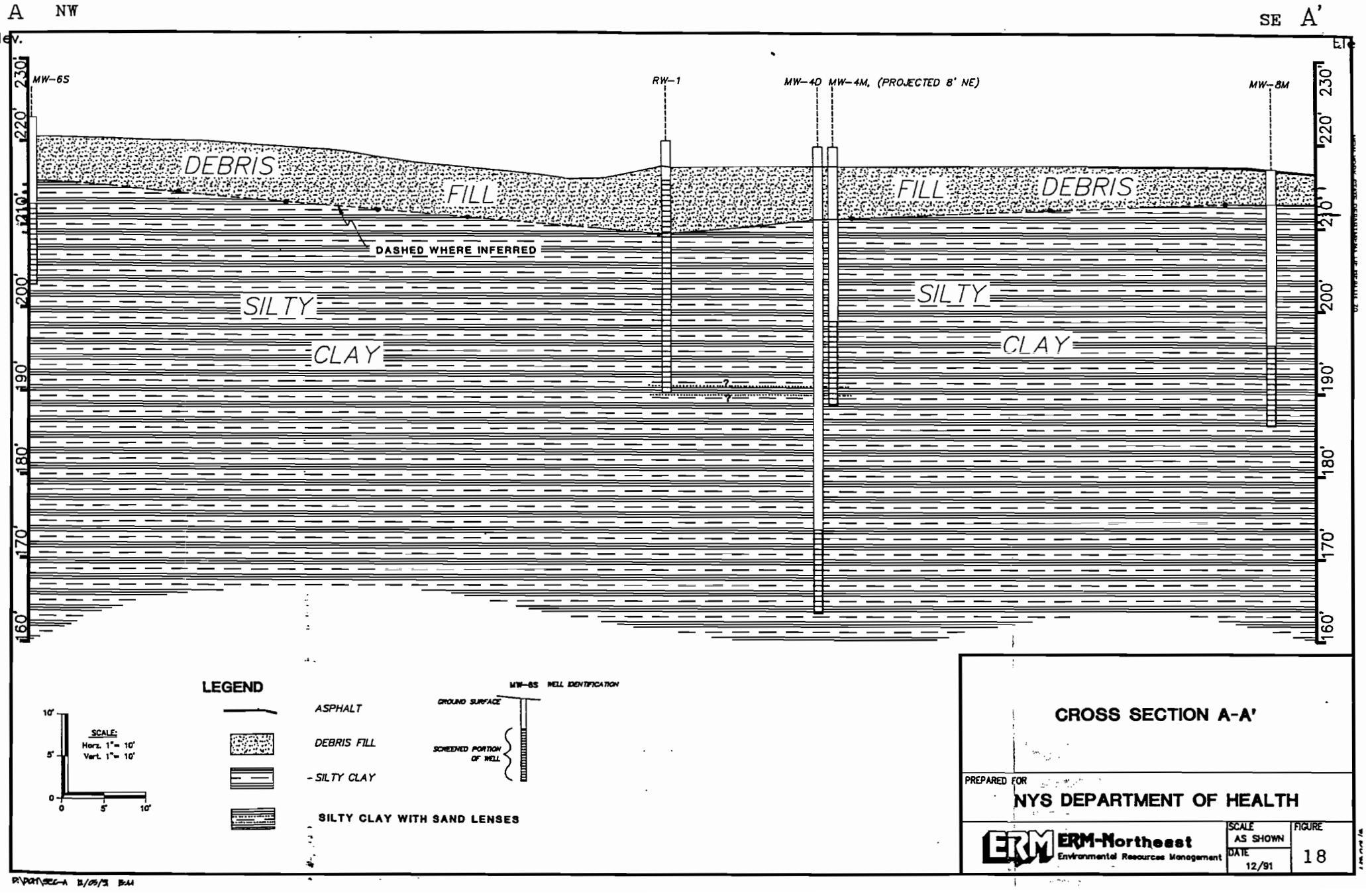
Figure 16.

ELEVATION OF UNDISTURBED GLACIAL TILL SHOWING GRAVE LOCATIONS FROM BOREHOLE LOGS.

211 Gravesites from borehole logs

1" = 40'


NOTE 1: ALL PROPERTY LINE INFORMATION WAS OBTAINED FROM A DRAWING BY URBAHN/BEELYE 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
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
GATE
GATE
DIRT ACCESS ROAD
CATCH BASIN
MW-6S
MW-9S
MW-9M
MW-2M
"PIT" LOCATION
RW-2
MW-7S
MW-7D
MW-5S
MW-5M
MW-10S
CONSTRUCTION TRAILERS
ELECTRICAL PANELS
RW-1
MW-3M
MW-3S
UTILITY POLE
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-2M MONITORING WELL LOCATION AND ID NUMBER (PHASE I)
MW-10S MONITORING WELL LOCATION AND ID NUMBER (PHASE II)
MW-9S PIEZOMETER LOCATION AND ID NUMBER (PHASE II)
RW-1 4-INCH RECOVERY WELL LOCATION AND ID NUMBER
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
RECOVERY WELL LOCATION
PREPARED FOR
NYS DEPARTMENT OF HEALTH
ERM ERM-Northeast Environmental Resource Management
SCALE 1" = 40'
DATE 11/91
FIGURE 17
P:\DGN\ERMNAD 01/22/91 09:09
113.001/6/012292



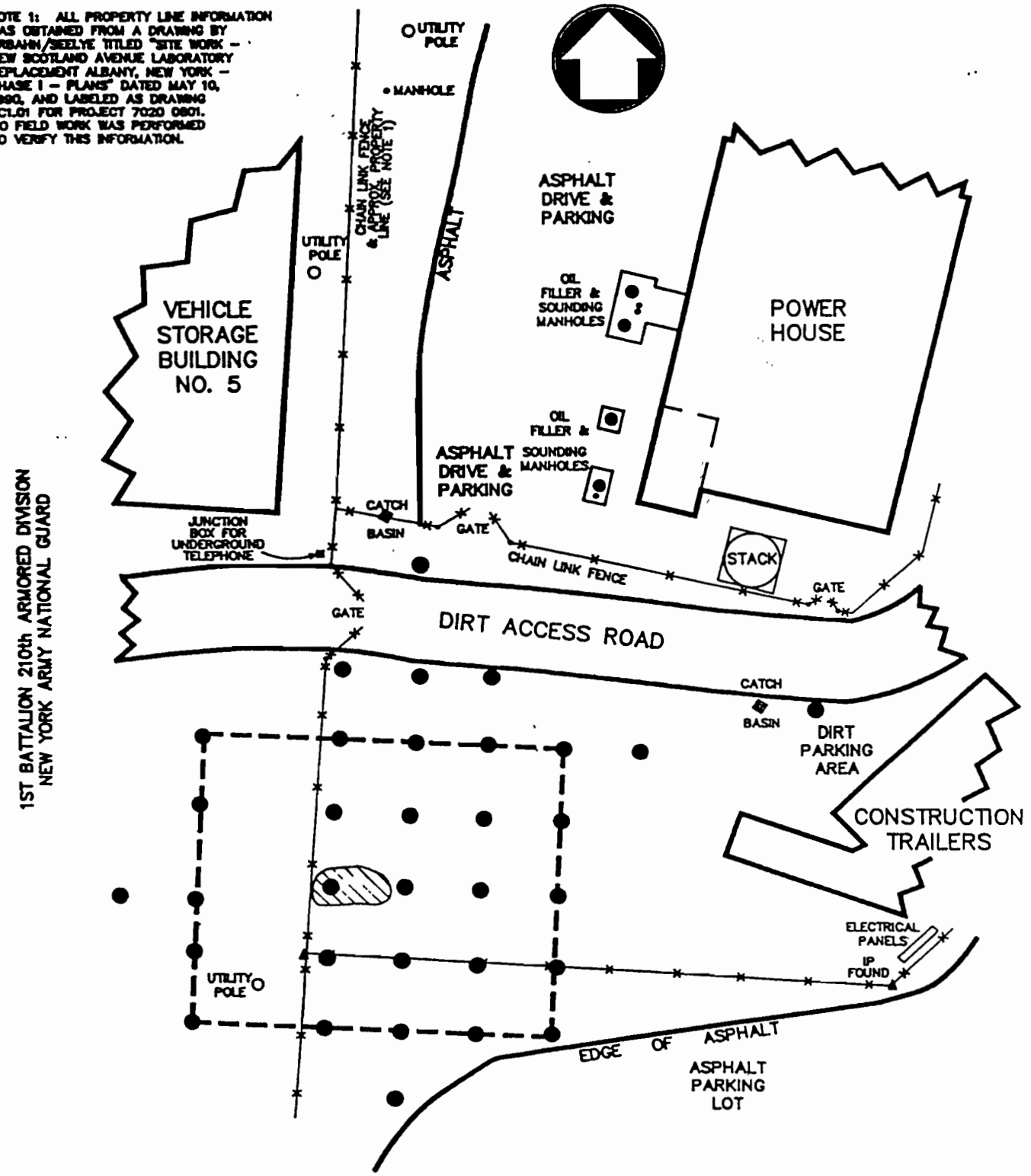
CROSS SECTION A-A'

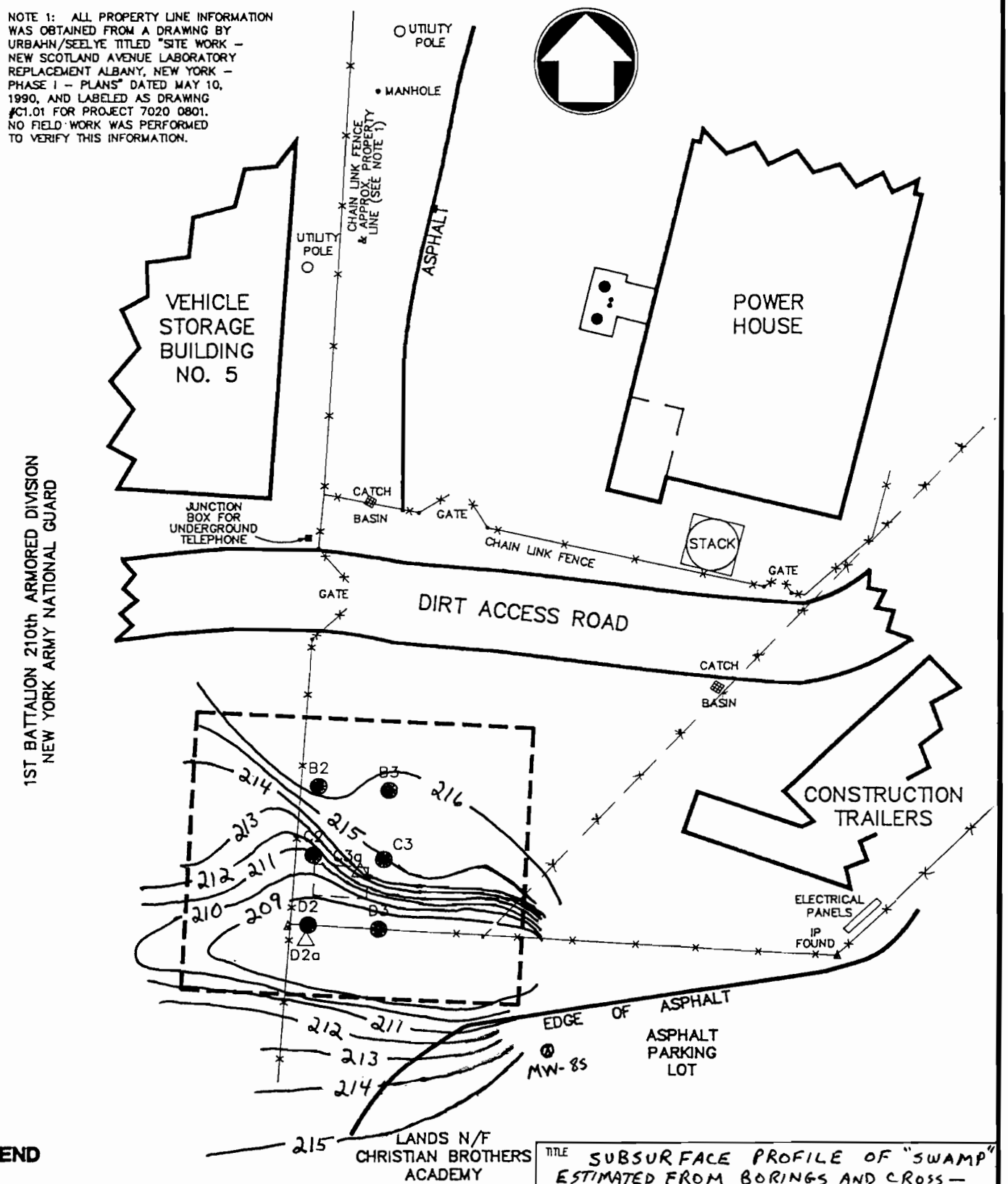
PREPARED FOR

NYS DEPARTMENT OF HEALTH

ERM-Northeast
Environmental Resources Management

SCALE	FIGURE
AS SHOWN	18
DATE 12/91	


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 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
LANDS N/F CHRISTIAN BROTHERS ACADEMY
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
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 19



LEGEND

- C2 ● BORING LOCATION AND ID NUMBER FOR PHASE I RI/RA
- C3a △ BORING LOCATION AND ID NUMBER FOR PHASE II RI
- "PIT" LOCATION

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: SUBSURFACE PROFILE OF "SWAMP" ESTIMATED FROM BORINGS AND CROSS–SECTIONS OVERLAIN ON LOCATION OF "PIT" (Compare to "Swamp in Figure 2)

1990 Property Lines

1917 Property Line

PREPARED FOR: NYS DEPARTMENT OF HEALTH

ERM-Northeast Environmental Resources Management

SCALE: 1" = 40'

DATE: 5/91

FIGURE: 20

NEW YORK STATE DEPARTMENT OF HEALTH 70

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

ERM ERM-Northeast Environmental Resources Management

SCALE 1"=20'

DATE 6/91

FIGURE 21

D:\pdf\105a 11/05/91 0921

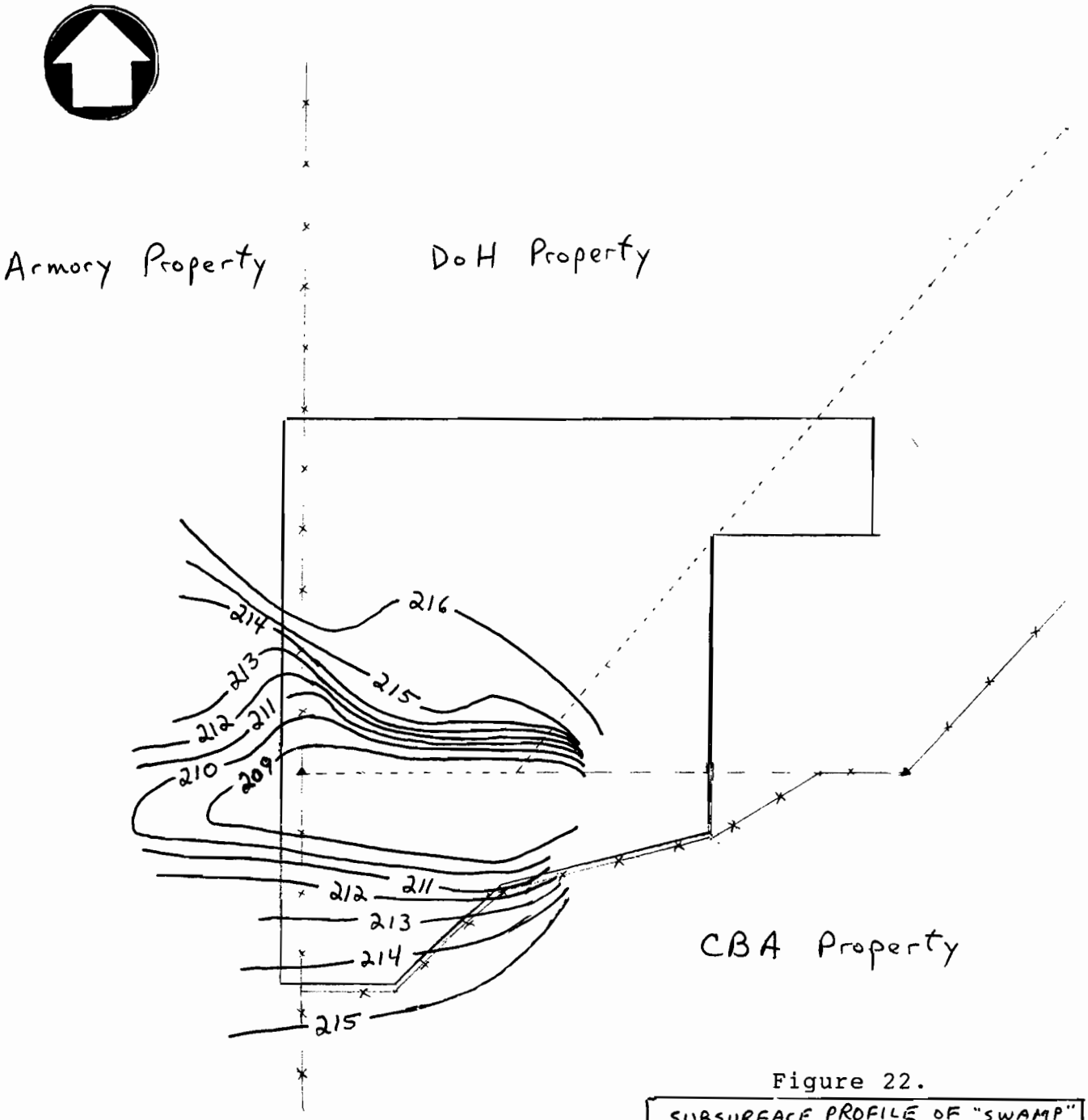


Figure 22.

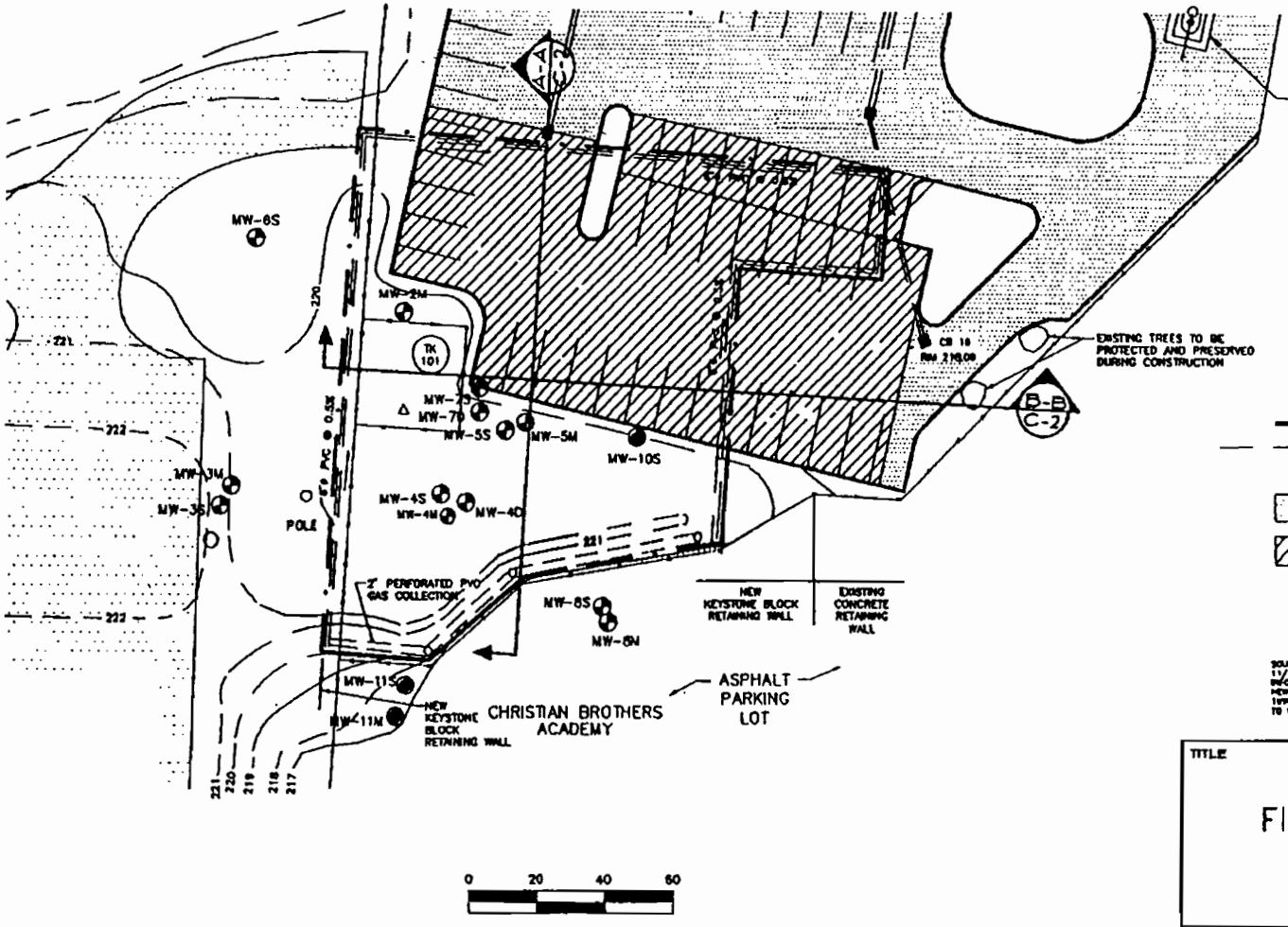
SUBSURFACE PROFILE OF "SWAMP" (1914, 1917) FROM BORINGS AND CROSS-SECTIONS OVERLAIN ON FINAL CAP OUTLINE

1" = 40'

—x—x— New fenceline

..... 1917 fenceline

- - - - - 1990 fenceline



LEGEND

- MW-3M — EXTENDED EXISTING MONITORING WELL LOCATION AND ID NUMBER
- MW-10S — EXTENDED EXISTING MONITORING WELL LOCATION AND ID NUMBER
- △ — PROPOSED 4-INCH RECOVERY WELL LOCATION
- PROPOSED CAP BOUNDARY
- PROPOSED FINAL CONTOURS
- O — VENT RISER
- EXISTING PARKING LOT PAVEMENT
- NEW PAVEMENT REQUIRED IN RI/FS CONTRACT

TOP OF CURB ELEVATIONS ARE 6" ABOVE ELEVATIONS SHOWN IN RECTANGLE. EXAMPLE: TOC-218.5

SOURCES: MAP ENTITLED "SITE PLAN FOR WADSWORTH LABORATORY, ALBANY, NEW YORK" PREPARED 11/13/90 BY CAPE SURVEYS, INC. FOR ERM-NORTHEAST, ALBANY, NEW YORK. ALL PROPERTY LINE INFORMATION WAS OBTAINED FROM A DRAWING BY URBAHN/BEELYE TITLED "SITE WORK - NEW SCOTLAND AVENUE LABORATORY REPLACEMENT ALBANY, NEW YORK - PHASE I - PLANS" DATED MAY 16, 1990, AND LABELED AS DRAWING SC1.01 FOR PROJECT 7029 0881. NO FIELD WORK WAS PERFORMED TO VERIFY THIS INFORMATION.

TITLE

FINAL PARTIAL SITE PLAN WCLR SITE

PREPARED FOR

NEW YORK STATE DEPARTMENT OF HEALTH

ERM-Northeast
Environmental Resources Management

SCALE	FIGURE
AS SHOWN	23

DRAWN	JOB NO.	FILE NAME	DATE
S.G.	443.002	FINAL	6/18/93

Figure 24.

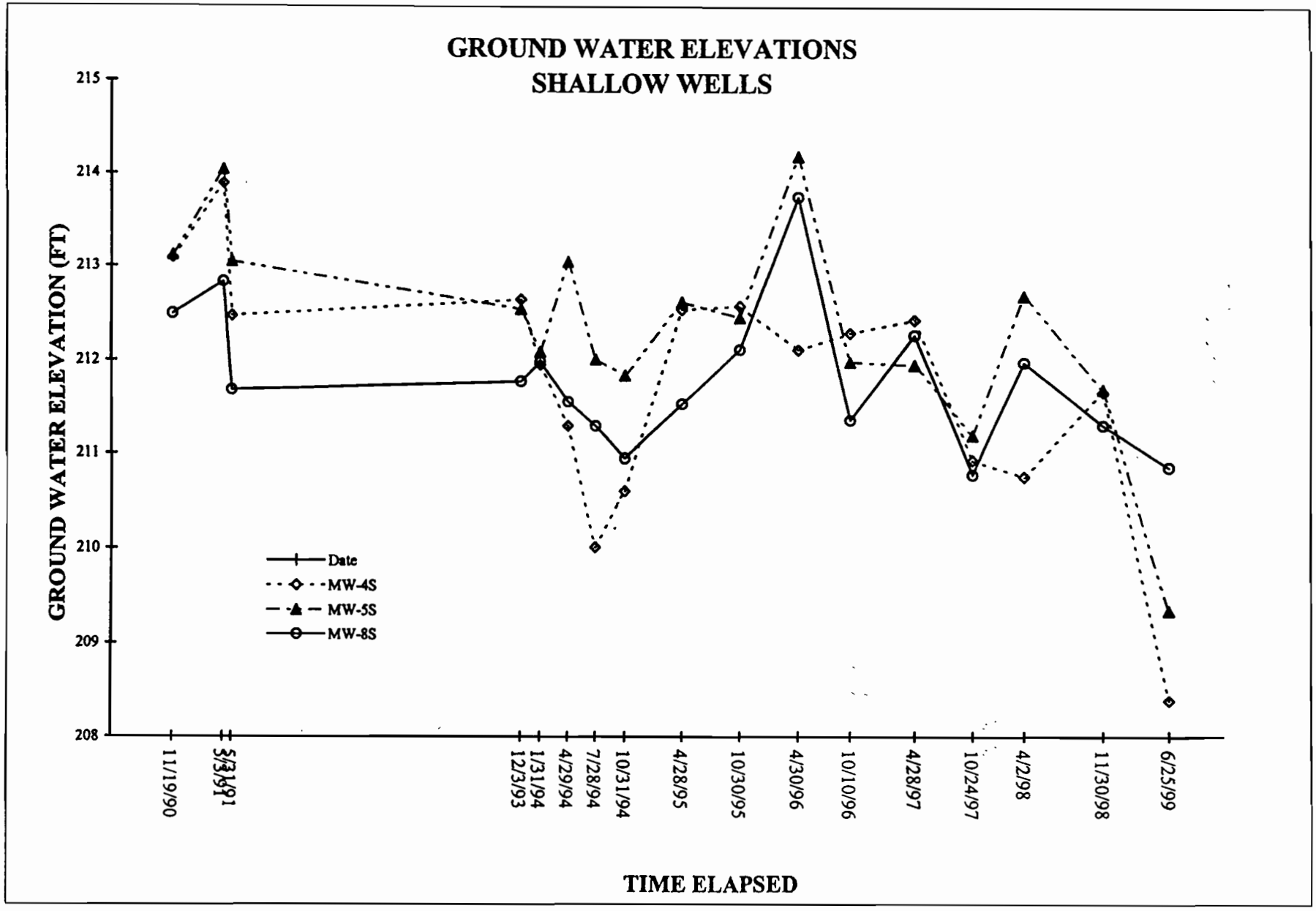

GROUND WATER ELEVATIONS
SHALLOW WELLS
GROUND WATER ELEVATION (FT)
215
214
213
212
211
210
209
208
Date
MW-4S
MW-5S
MW-8S
11/19/90
5/31/91
12/3/93
1/31/94
4/29/94
7/28/94
10/31/94
4/28/95
10/30/95
4/30/96
10/10/96
4/28/97
10/24/97
4/2/98
11/30/98
6/25/99
TIME ELAPSED

Figure 25.

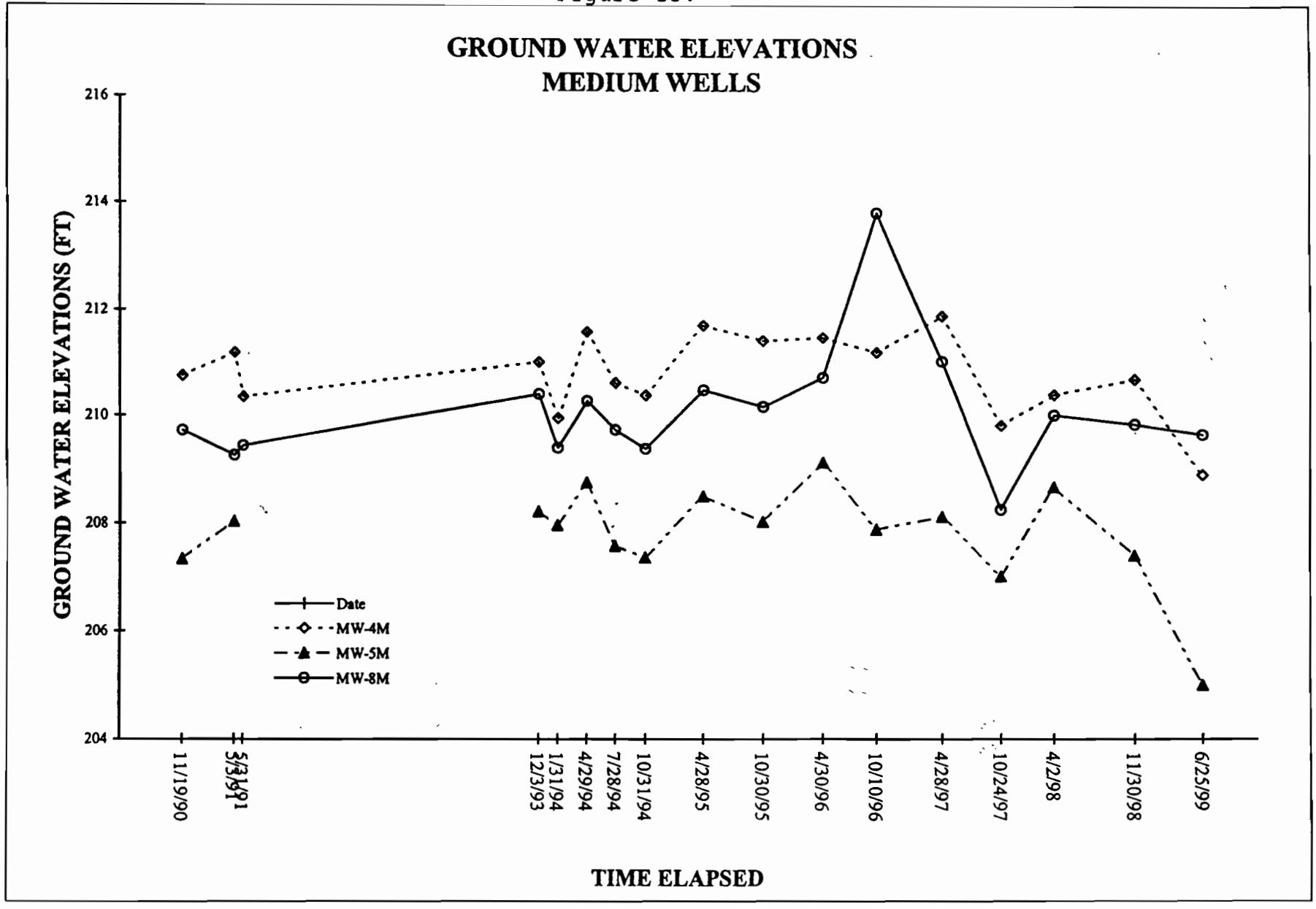
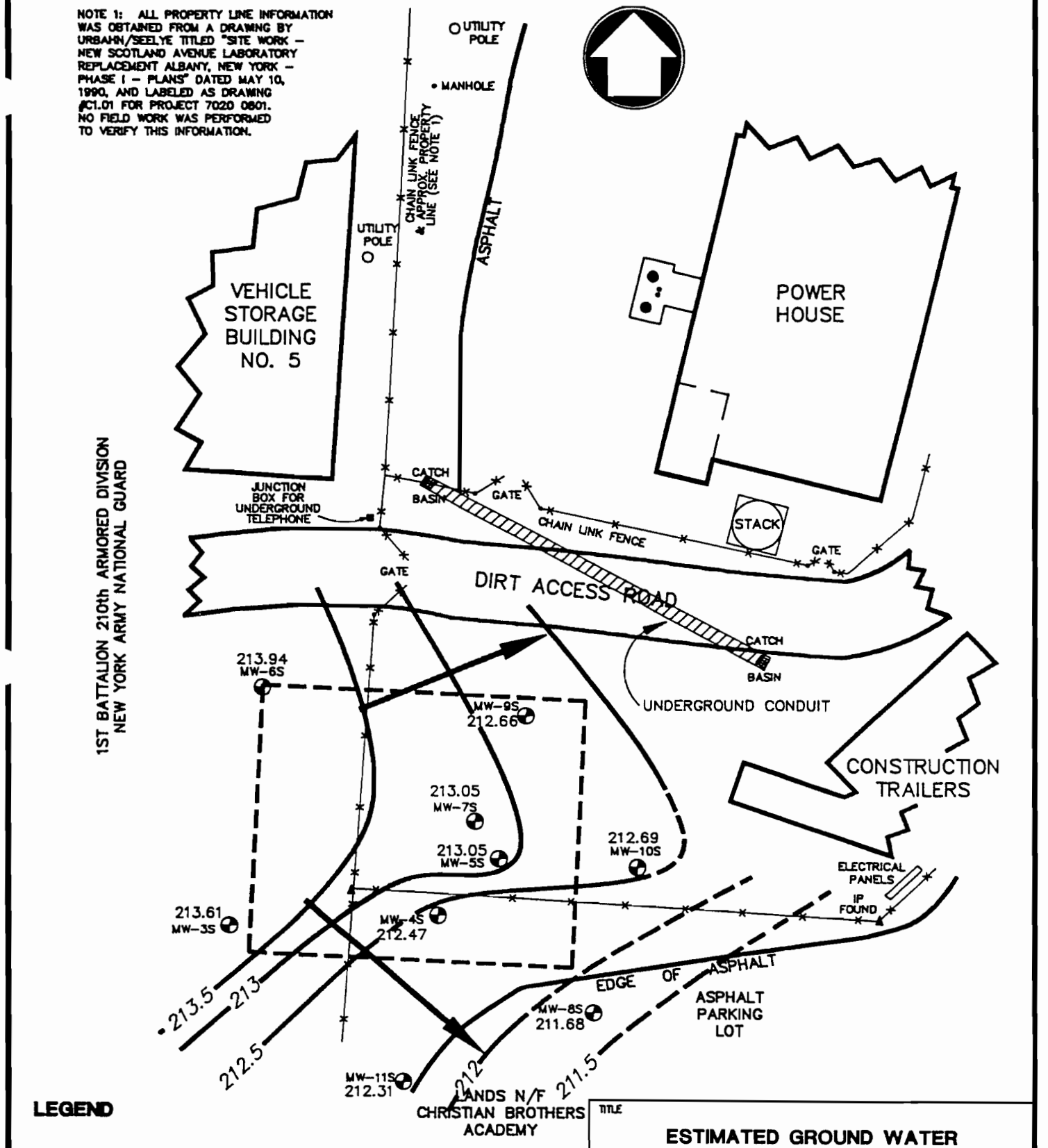

GROUND WATER ELEVATIONS
MEDIUM WELLS
GROUND WATER ELEVATIONS (FT)
216
214
212
210
208
206
204
Date
MW-4M
MW-5M
MW-8M
11/19/90
5/31/91
12/3/93
1/31/94
4/29/94
7/28/94
10/31/94
4/28/95
10/30/95
4/30/96
10/10/96
4/28/97
10/24/97
4/2/98
11/30/98
6/25/99
TIME ELAPSED

Figure 26.
RESULTS OF HYDRAULIC CONDUCTIVITY TESTING
1990 REMEDIAL INVESTIGATION
NYSDOH - WCLR

WELL NO.	CONDUCTIVITY	CONDUCTIVITY
MW-2M	0.06 FT/DAY	2.0E-5 CM/SEC
MW-4S	0.02 FT/DAY	5.9E-6 CM/SEC
MW-4M	0.20 FT/DAY	7.1E-5 CM/SEC
MW-4M	0.09 FT/DAY*	3.3E-5 CM/SEC*
MW-4D	0.19 FT/DAY	6.8E-5 CM/SEC
MW-5S	0.50 FT/DAY	1.8E-4 CM/SEC
MW-5S	0.52 FT/DAY**	1.8E-4 CM/SEC**
MW-8S	1.00 FT/DAY	3.5E-4 CM/SEC
MW-8M	0.02 FT/DAY	7.4E-6 CM/SEC

NOTES:
1. * = Value obtained by Bouwer & Rice method.
2. ** = Rising head slug test; all others falling head slug test.



LEGEND

MW-3S	EXISTING MONITORING WELL LOCATION & ID NUMBER
213.61	ELEVATION OF GROUND WATER ON MAY 31, 1991
211	ESTIMATED GROUND WATER CONTOUR (DASHED WHERE INFERRED)
	GROUND WATER FLOW DIRECTION

BASED ON 1991 RI DATA FOR SHALLOW (S) WELLS

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

ESTIMATED GROUND WATER CONTOUR MAP (SHALLOW WELLS)

August 20, 1991

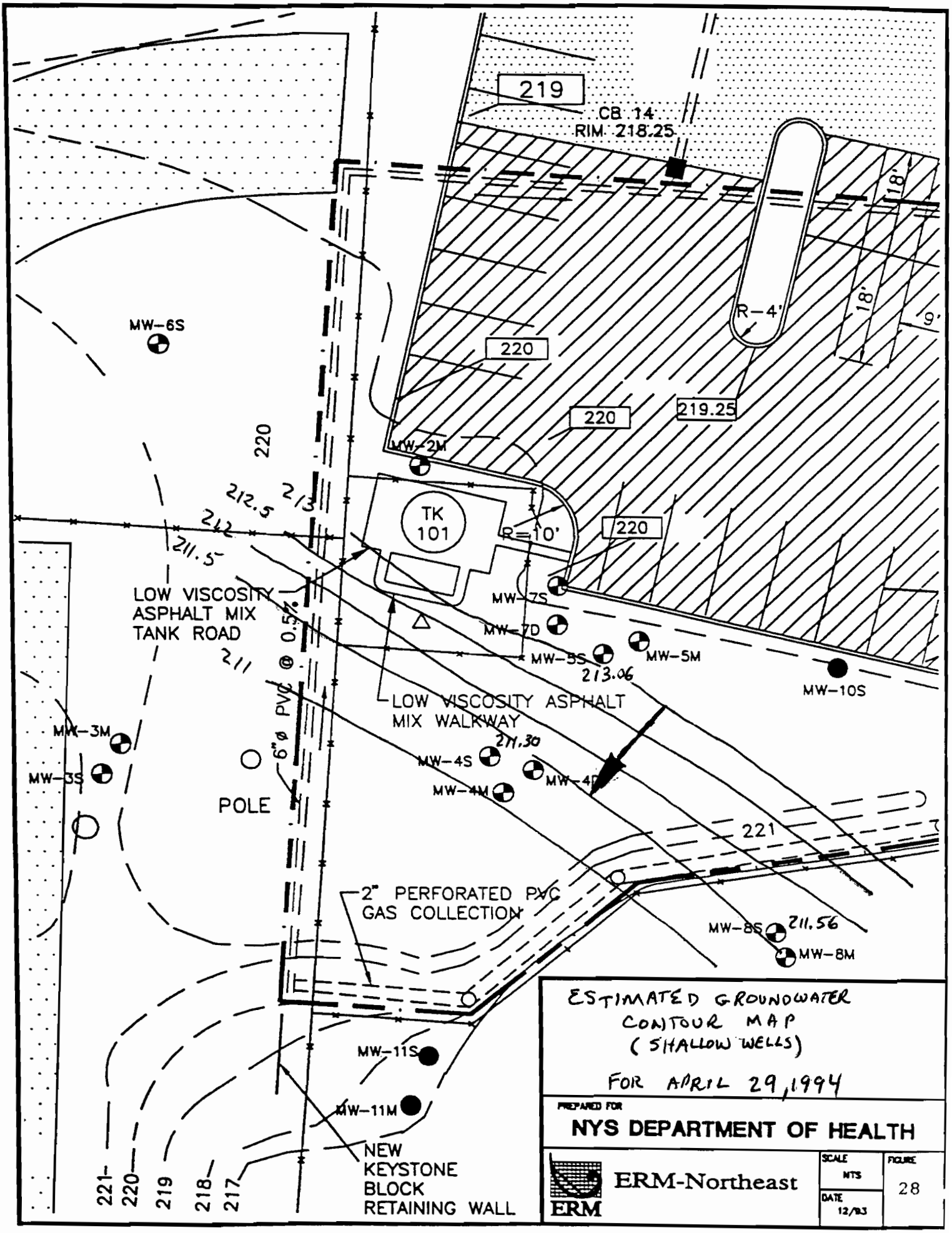
PREPARED FOR

NYS DEPARTMENT OF HEALTH

ERM-Northeast
Environmental Resources Management

SCALE	FIGURE
1" = 40'	27
DATE 5/91	

443.001



ESTIMATED GROUNDWATER CONTOUR MAP (SHALLOW WELLS)

FOR APRIL 29, 1994

PREPARED FOR

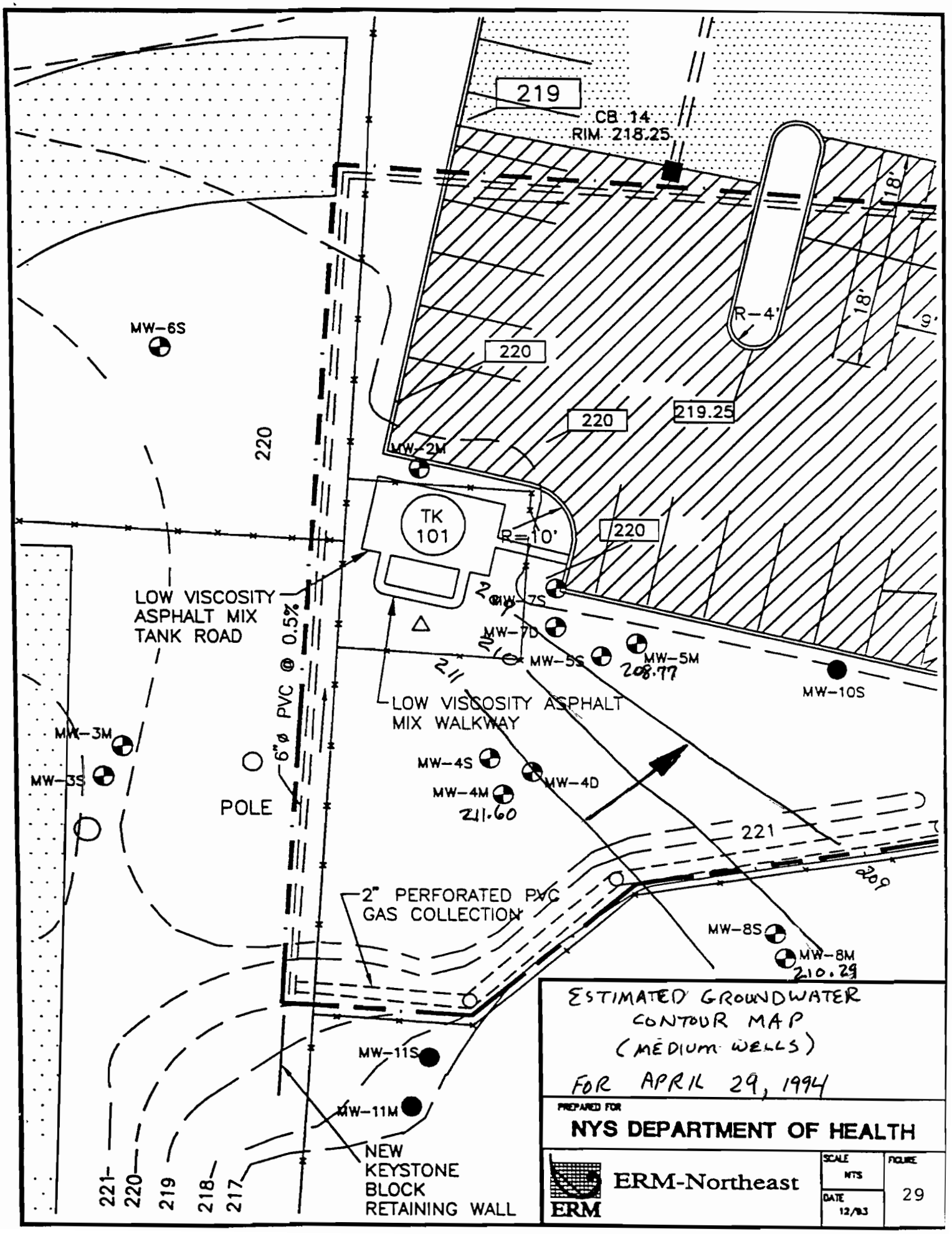
NYS DEPARTMENT OF HEALTH

ERM-Northeast

SCALE: NTS

DATE: 12/93

FIGURE: 28

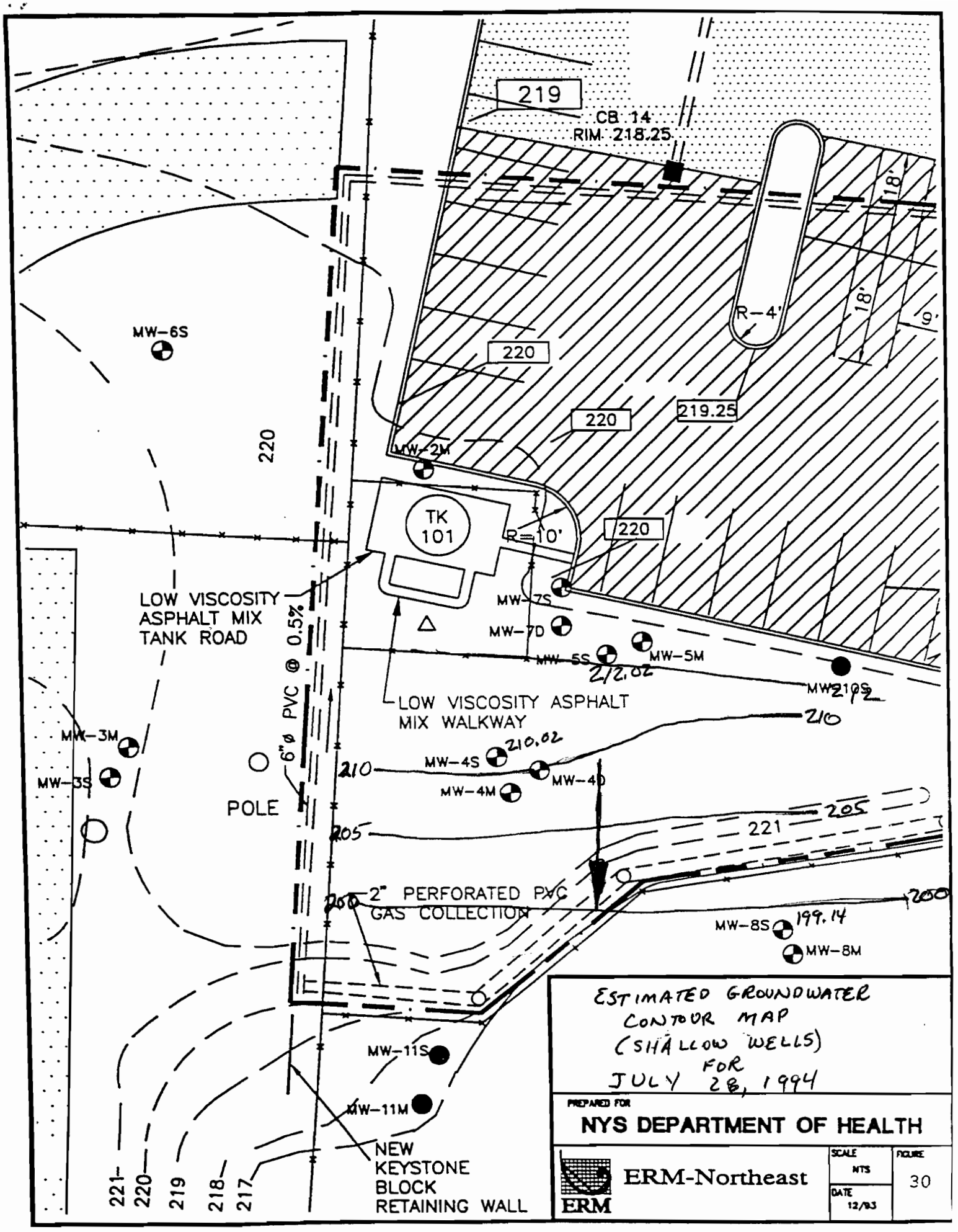


ESTIMATED GROUNDWATER CONTOUR MAP (MEDIUM WELLS) FOR APRIL 29, 1994

PREPARED FOR
NYS DEPARTMENT OF HEALTH

ERM-Northeast

SCALE: NTS
DATE: 12/93
FIGURE: 29



ESTIMATED GROUNDWATER CONTOUR MAP (SHALLOW WELLS) FOR JULY 28, 1994

PREPARED FOR

NYS DEPARTMENT OF HEALTH

ERM-Northeast

SCALE	FIGURE
NTS	30
DATE 12/93	

Figure 31.

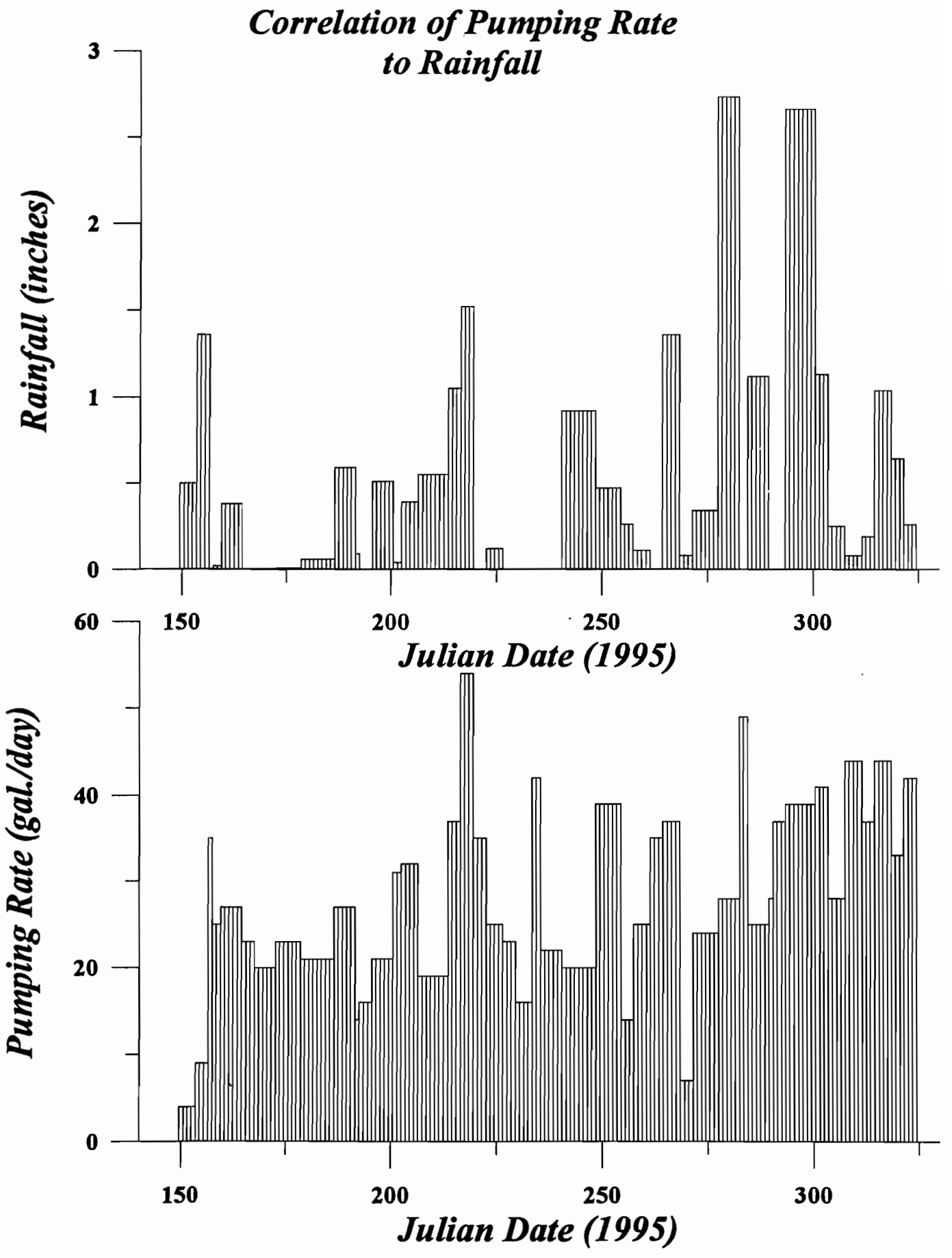

Correlation of Pumping Rate to Rainfall
Rainfall (inches)
3
2
1
0
150
200
250
300
Julian Date (1995)
Pumping Rate (gal./day)
60
40
20
0
150
200
250
300
Julian Date (1995)

Figure 32.

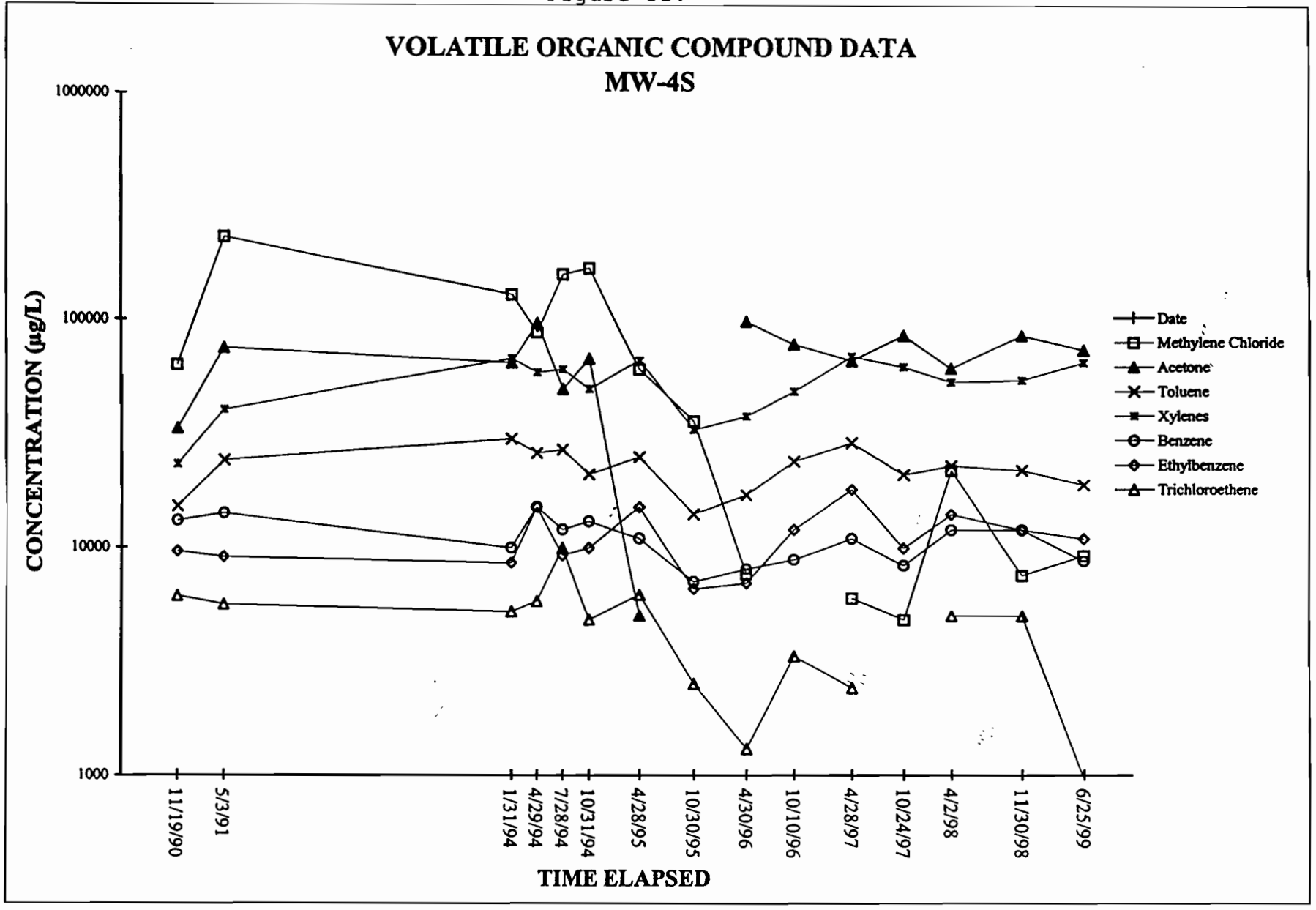
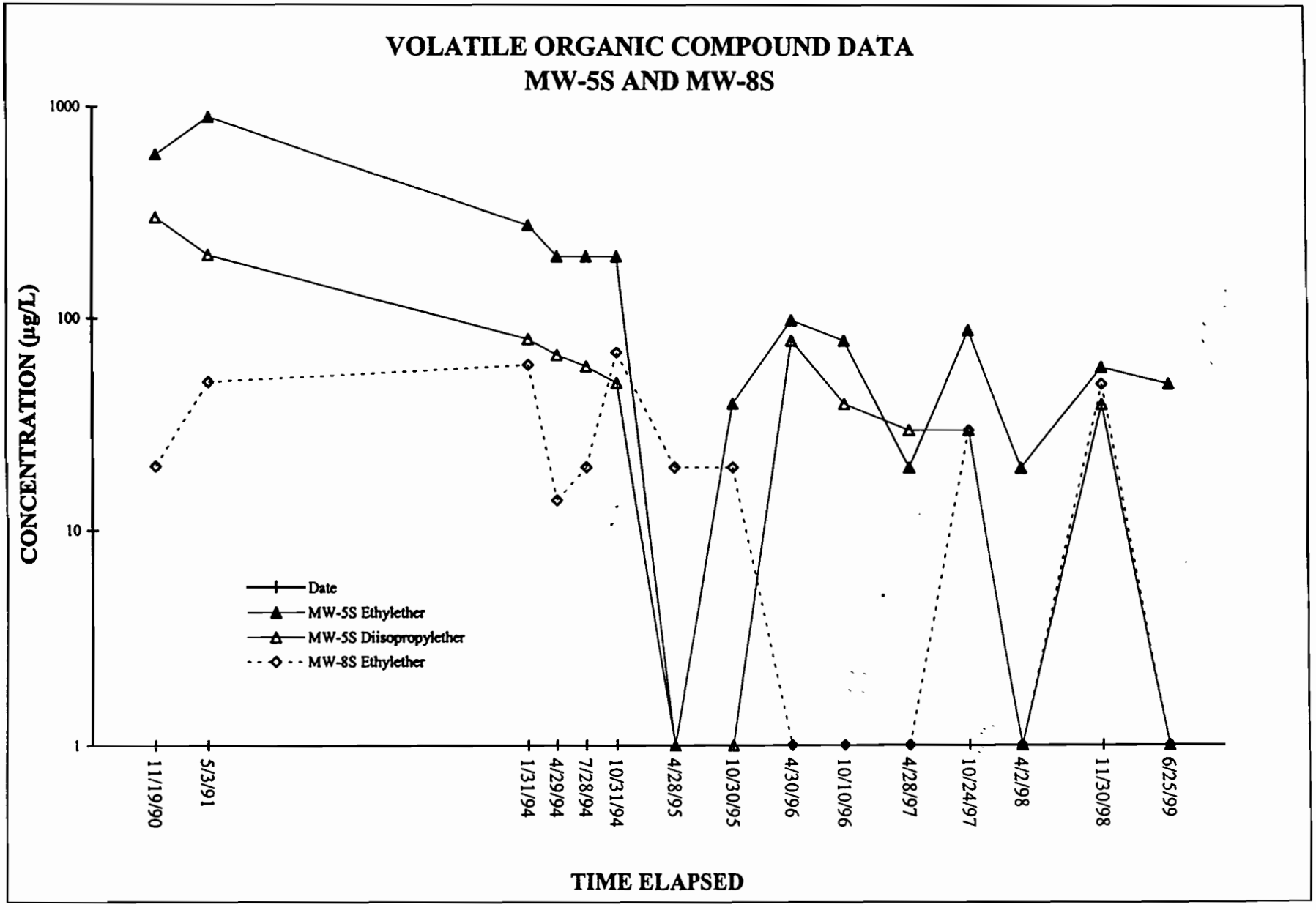

VOLATILE ORGANIC COMPOUND DATA
MW-4S
CONCENTRATION (µg/L)
1000000
100000
10000
1000
11/19/90
5/3/91
1/31/94
4/29/94
7/28/94
10/31/94
4/28/95
10/30/95
4/30/96
10/10/96
4/28/97
10/24/97
4/2/98
11/30/98
6/25/99
TIME ELAPSED
Date
Methylene Chloride
Acetone
Toluene
Xylenes
Benzene
Ethylbenzene
Trichloroethene

Figure 33.


VOLATILE ORGANIC COMPOUND DATA
MW-5S AND MW-8S
CONCENTRATION (µg/L)
1000
100
10
1
Date
MW-5S Ethylether
MW-5S Diisopropylether
MW-8S Ethylether
11/19/90
5/3/91
1/31/94
4/29/94
7/28/94
10/31/94
4/28/95
10/30/95
4/30/96
10/10/96
4/28/97
10/24/97
4/2/98
11/30/98
6/25/99
TIME ELAPSED