5/4/88

Appendix II Administrative Order on Consent
Index Number II CERCLA - 80206

TRONIC PLATING COMPANY SUPERFUND SITE

Galli Anson Environmental, Inc.

4.0 TASK PLAN FOR REMEDIAL INVESTIGATION

The tasks for the Tronic Plating RI/FS correspond to the 12 tasks described in the EPA Guidance for conducting RI/FS under CERCLA (Directive 9335.3-01) Draft March 1988. Of these 12 tasks, eight are considered part of the RI, and four are included in the FS. Section 5 describes the four tasks comprising the FS. The order in which these tasks are presented is the general order in which they will be performed; however, since some tasks (e.g., Community Relations) occur throughout the duration of the RI/FS, the order of presentation gives only a general indication the order the tasks will follow.

The following tasks are considered to be part of the RI:

Task 1 - Project Planning
Task 2 - Community Relations
Task 3 - Field Investigation
Task 4 - Sample Analysis/Validation
Task 5 - Data Evaluation
Task 6 - Risk Assessment
Task 7 - Treatability Study/Pilot Testing
Task 8 - Remedial Investigation Report

The following four tasks are considered to be part of the FS:

Task 9 - Remedial Alternatives Screening
Task 10- Remedial Alternatives Evaluation
Task 11- Feasibility Study Report
Task 12- Post RI/FS Support

This section describes each of the eight tasks comprising the RI. Tasks 2 and 6 will be the responsibility of the EPA.

4.1 TASK 1 - PROJECT PLANNING

This task involves several subtasks which must be performed in order to produce the project planning documents and project schedule necessary to execute the RI/FS. These subtasks include: a kick off meeting; site visits; RI/FS brainstorming sessions; the evaluation of existing data; the preliminary identification of remedial alternatives; the preparation of a preliminary risk assessment; data quality objectives determinations; the determination of Applicable or Relevant and Appropriate Regulations (ARAR); and scoping of the RI.

Galli Anson Environmental, Inc. will prepare the Project Operations Plan (POP) for Commerce Holding Company, the owner of the site. The POP is divided into three plans: the Site Management Plan; the Field Sampling and Analysis Plan; and the Health and Safety Plan. The contents of these three plans are described in the following:

The Site Management Plan (SMP) includes: a brief site description; an operations plan outlining the site team organization and responsibilities; and the field operations schedule. This plan also addresses the site security and control of access by unauthorized personnel.

The Field Sampling and Analysis Plan (FSAP) includes: sampling and analytical objectives; the number, type, and location of all samples to be collected during the field investigation; the site-specific quality assurance requirements (which will be in accordance with the Quality Assurance Project Plan for Guidance for EPA Region 2; the detailed procedures for field activities; and data management elements.

The Health and Safety Plan (HASP) includes: site-specific information; a hazard assessment; training requirements; monitoring procedures for site operations; safety and disposal procedures; and other requirements.

4.2 TASK 2 - COMMUNITY RELATIONS

This task will be initiated by the EPA, which will prepare and implement the Community Relations Plan. Galli Anson Environmental will provide support in the following ways:

preparing fact sheets;
providing support for public meetings; and
preparing public meeting summaries.;

The details of the Community Relations activities proposed for the Tronic Plating Site are described in Section 6.0.

4.3 TASK 3 - FIELD INVESTIGATION

The Field Investigation will consist of the following subtasks:

Subcontracting
Mobilization
Soil Sampling
Monitoring-Well Installation
Groundwater Sampling
Storm Drain Sampling

The Field Investigation program will generate the data needed to define the extent of contamination and to assist the EPA in conducting the Public Health Risk Assessment.

4.3.1 Subcontracting

This subtask will include the procurement of the subcontracts to perform the Field Investigation. Four subcontracts will be required to support the field investigation.

A well installation and soil boring subcontract. This contract will include well installation, well development, and soil sampling.

A surveying subcontract for surveying the locations and elevations of the monitoring wells.

A CLP Laboratory will analyze soil and groundwater samples for the parameters identified in Table 4-1.

A geophysical survey team to measure terrain conductivity.

4.3.2 Mobilization

This subtask will consist of field personnel orientation, equipment mobilization, and the staking in the field of the sampling locations and geophysical stations.

Each field team member will attend an orientation meeting to become familiar with the history of the site, health and safety requirements, and field procedures.

Equipment mobilization will entail the ordering, purchasing, and if necessary, the fabricating of all sampling equipment needed for the field investigation. A complete inventory of available equipment required will be secured.

Locations for the soil borings and groundwater monitoring wells will be staked at the start of the site operations. The locations will be measured from existing landmarks and provisions will be made to accommodate site activities currently in progress.

4.3.2.1 Geophysical Investigation

As part of the Phase I investigation, a geophysical survey will be undertaken in Pinelawn Cemetery utilizing a Geonics EM 34A to measure terrain conductivity. The geophysical survey will be conducted on three east-west survey lines with stations at 20 meter intervals along their length. The lines of survey will be established in 1000 foot increments downgradient from the Tronics Plating site (See Fig. 4-6). The study will be implemented within that section of the Pinelawn Cemetery that is bounded by

- Central Avenue on the north
- Republic Road/New Highway on the west
- Tracks of the Long Island Railroad to the south
- Wellwood Avenue on the east

This survey will have a two fold purpose. It will:

1) define or delineate plume(s) downgradient of the Tronic Plating site within a limited sector of the Pinelawn Cemetery; and

2) indicate the most advantageous location for placement of one off-site downgradient well (Figure 4-6).

4.3.3 Soil Sampling

The soil sampling is comprised of two elements:

1) borings in abandoned sanitary pits, leaching pits and dry well;

2) borings at monitoring well locations.

Figure 4-1 identifies the proposed location where onsite soil samples will be collected. Table 4-1 identifies the number and types of samples which will be obtained during the field program. This table also shows the estimated number of soil samples which will be taken for chemical analysis. Soil boring samples will be obtained with split spoons using a drilling rig according to field technical guidelines for sample acquisition including FT-6.01, Soil and Rock Borings and FT-6.02, Borehole and Sample Logging.

The objective of the soil boring program is to provide detailed geological and chemical data at the Tronic Plating Company site. Sample cores will be field screened. Each split spoon sample will be scanned by an HNU Photo-ionization Analyzer for volatile components and visually for matrix anomalies such as discoloration or abrupt changes in consistency. These criteria will be used to select samples for TCL analyses, plus total metals and cyanide. Samples will not be composited over depth to prevent dilution of contaminant concentration.

1) Borings in Abandoned Sanitary Pit, Leaching Pits and Dry Well

Six soil borings will be advanced to the water table, one each in the sanitary pit and dry well, and one in each of the four leaching pits. The purpose of these samples is to show the vertical variation of subsurface contaminants at the site.

Three soil samples will be collected from each of the borings a the dry well and sanitary pit. Four soil samples will be collected i each of the leaching pits. These samples will be from the bottom of each pit, dry well or pool, the sample with the highest HNU reading and at the groundwater interface. These samples will be analyzed for TCL volatile organic components (VOA) and semi-volatile organic compounds as well as total metals and cyanide. One of the soil samples taken in the pit and dry well, one sample will be also submitted for analysis essential to the modeling program. These test

will include leachability tests such as ASTM shaker test (ASTM reference #D3987-81), an adsorption isotherm study and a bulk density test. One shelby tube will be collected for grainsize and vertical permeabilities analyses. Also, at each of the leaching pits, a sample of the fill material will be collected at a depth of six feet. These samples will be analyzed for total TCL.

2) Borings at Monitoring Well Locations

Soil samples from well locations will be analyzed for VOA, semi-VOA, metals and CN. The uppermost samples from the well locations will be analyzed for total TCL. One soil sample taken from each of the deep borings will also be submitted for analyses required for the modeling program. These tests include leachability tests such as ASTM shaker test (ASTM Ref #D3987-81), and adsorption isotherm study and a bulk density test. One shelby tube will be collected for grainsize and vertical permeabilities analyses. One sample from each deep well will be analyzed for remedial technology parameters.

The exact location of the off site wells will be based on the results of the geophysical survey (see section 4.3.2.1).

4.3.4 Monitoring Well Installation

As indicated on Figure 4-1, four (4) monitoring wells will be installed at the Tronic Plating site. The groundwater program is designed to characterize and delineate possible contaminant transport, both vertically and horizontally, and to determine upgradient water quality parameters. Data obtained from this program will also be used to model aquifer parameters such as groundwater flow direction and permeability of subsurface stratigraphic units. Figure 4-2 summarizes the well depths and screening intervals. The typical groundwater monitoring well is shown on Figure 4-3.

Two double well clusters, each consisting of two separate wells will be installed at the Tronic Plating site. These wells will vertically characterize the water table (Upper Glacial) aquifer to the appropriate depth of the confining layer (approximately 90' - 110'). The double well cluster will consist of (1) deep well and (1) shallow well; the shallow well will be screened to intercept the water table (with suitable screen length to allow for seasonal fluctuations). At each cluster location, the deep well will be installed first. Split spoon sampling in deep wells will provide the stratigraphic information needed to establish subsurface site geology.

Material to be used in well construction will include:

- 6 1/4 inch ID hollow stem auger for;
- 4 inch PVC, PVC screen 15 ft. in length, with .020 inch slot openings and flush joint threads, and 4-inch schedule 40 PVC riser pipe;
- bentonite pellets;
- appropriate gravel pack material;
- cement-bentonite grout, and
- 6-inch security casing and locks.

The shallow and deep wells will be installed in accordance with the following procedures:

(1) The site geologist will choose well depth based on the stratigraphic log developed from the deep well boring, to be screened to the approximate elevation of the confining layer;

(2) The well bore will be advanced to the chosen depth with a 6 1/4 inch I.D. hollow-stem auger.

(3) Up to 15 feet of PVC screen will be set at the bottom of the borehold. Screened interval will be sufficient to allow for seasonal watertable fluctuations, +/- 4 feet;

(4) The annular space will be backfilled with a gravel pack of appropriate materials from the bottom of the well to 2 feet above the top of the screen. A 2 ft bentonite seal will be placed on the sand and the the remaining annular space will be backfilled with 3% bentonite to cement grout, placed by tremie pipe.

(5) A security casing and lock will be installed for each well, and

(6) A 4 square foot cement pad will be created around the security casing base and mounded in such a way as to direct surface runoff away from the casing.

The monitoring wells will not be considered complete until properly developed. Well development clears the well screen and sandpack of fine material which may clog the screen, and stabilizes the formation material immediately surrounding the well screen. The wells will be developed by pumping and surging. The surging may be done by periodically shutting off the pump, or with a surge block. This will help to avoid bridging of the formation materials and will permit a more uniform flow through the well screen.

Each well be developed to the satisfaction of the site geologist who will monitor pumping rates, water color, turbidity, pH, and conductivity to determine the effectiveness of the development. Development will last for at least one hour, and possibly longer depending, upon site conditions. Following installation of wells in each phase, the elevations of the ground surface and the tops of the riser pipe and security casing will be surveyed. The general guidelines concerning monitoring well installation are included in FT-7.01 (Groundwater Monitoring Point Installation).

4.3.4.1 Hydrogeologic Investigation

A preliminary hydrogeological investigation to establish general groundwater flow direction within a radius of 0.75 miles of the Tronic Plating Company site (Figure 4-4) has been undertaken. Figure 4-5 illustrates the locations and indicates the well uses within the previously mentioned areal radius.

Two complete rounds of water level measurements will be made on the monitoring wells, before and after each round of groundwater sampling. These measurements will determine the vertical and lateral head distribution within the water table aquifer down to the confining layer, thus providing data on direction of groundwater flow from the site.

4.3.5 Groundwater Sampling

Groundwater samples will be obtained from the monitoring wells shown in Figure 4-1. The existing well number 1806UG located on Pinelawn Cemetary property will also be sampled if possible. The samples will be analyzed for parameters as noted in table 4-1. In addition, two groundwater samples will be taken for remedial technology analyses (see Table 4-1, footnote).

The first round of groundwater samples will be taken after the

last of the monitoring wells has been installed. The final well installed will be sampled last. These wells will have stabilized for approximately two weeks, after development and prior to sampling. The first wells installed will be the first sampled (these wells will have stabilized for a much longer period of time prior to the first round of sampling).

Three to five well volumes will be purged prior to sampling. The wells will not be pumped dry. The pH, specific conductance, and temperature will be measured at the start of purging operations and at the end of each purged well volume. Stabilization of these parameters between successive purged volumes indicates that the groundwater within the well is at equilibrium.

Samples will be obtained with a stainless steel or a teflon bailer. Seven (7) bailers will be supplied so that a bailer can be dedicated to a given well for each day of sampling. Groundwater sample acquisition procedures are described in FT-7.02 (Groundwater Sample Acquisition).

Sampling of subsurface soils and groundwater will be accomplished at an early stage of the field investigation. At that time, it is planned that samples would be collected for delivery to the EPA/CLP contractor laboratory. Exact logistics for this activity will be arranged prior to expected drilling and sampling, in order that the EPA/CLP contractor can be notified of samples and sampling activities.

4.3.6 Storm Drain Sampling

A total of two sediment samples and two water samples (if water is available in the storm drain(s)) will be collected from the storm locations shown on Figure 4-1. The results of the analyses of these samples will be used to estimate what contaminants are or may have been introduced to the groundwater at the site from sources other than the former leaching pits.

Storm sewer sediment samples will be collected with a bottom discharge bailer. These grab samples will be analyzed for the parameters shown in Table 4-1. The terminus of the storm sewers will be investigated. If the terminus is at the surface, a sedement sample will be collected and analyzed for complete TCL.

4.3.7 Phase II

As noted in Sections 1.1 and 2.4 of this Work Plan, Galli Anson Environmental recommends that a two-phased approach be

employed to determine the nature and extent of contamination resulting from the operation of the Tronic Plating Company facility. Because off-site migration of contaminants may have occurred, Galli Anson Environmental believes that groundwater modeling efforts may be required at the end of Phase I (on site studies).

4.3.7.1

The major objective of the Phase I effort is to determine the extent and consequences of potential contaminant plume migration from the Tronic Plating Site. To delineate a potential downgraident groundwater contaminant plume and more efficiently implement Phase II efforts, Galli Anson Environmental will use computer models to characterize contaminants in soil and their interactions with groundwater at and downgradient from the Tronic Plating Site. The models will take into account important aspects of aquifer interactions with contaminants such as retardation, adsorption, degradation and dispersion.

Galli Anson Environmental will employ both a groundwater flow model and a transport model which have been successfully used in the past. The Prickett and Lonnquist flow model and the modified Rapid Assessment model for transport will initially be utilized. This initial proposal does not preclude the use of alternative models such as, CFEST, SUTRA, SWIFT or MODFLOW. However, the actual models applied to the project will be selected based on accuracy and availability of data necessary to perform the modeling. Galli Anson Environmental will employ only well documented and accepted flow and transport models.

Anticipated Results from Modeling

Based on the results of the Phase I database, combined with preliminary fate and transport modeling, several important issues regarding offsite contaminant migration can be addressed:

* Potentially immediate health risks can be more accurately defined for downgradient locations at which groundwater is utilized.

* A basis for location and number of Phase II monitoring wells will be more readily defined.

* FS efforts will be more effective in determining various groundwater and soil remediation alternatives.

* In the event that no contamination is found in the groundwater during Phase I, confirmatory wells within a designated area, where a discrete contaminant plume may be present, can be located. This is particularly important if contamination is not found on site.

If Phase II work is recommended, based upon the results of Phase I and the modeling program, a Phase II work plan will be prepared and submitted to the EPA for review and approval. The effect of this Phase II work on the schedule proposed for the work specified in this Work Plan is discussed in Section 7.3.

4.4 Task 4 - Sample Analysis/Validation

A summary of the analytical effort is shown in Table 4-1 Section 3.2.2 lists the data quality objectives for each analysis type.

4.4.1 Soil Analysis

Surface and subsurface soils will be sampled from 11 borings around the site. Thirteen soils will be analyzed for the Target Compound List (TCL) (volatile, semi-volatile compounds, metals cyanide and pesticides/PCB's). Thirty-two (32) will be analyzed for TCL minus pesticides/PCB's (see Table 4-1). Analysis for metals and cyanide in soils will also be performed. These compounds will be analyzed according to current CLP methodologies (CLP IFB SOW for inorganics - 9/85 and CLP IFB SOW for organics - 10/86).

4.4.2 Water Analysis

Eighteen (18) water samples from the monitoring wells and storm sewers will also be analyzed for metals, cyanide and TCL volatiles as these compounds are most likely to be used in electroplating operations. In addition, four (4) samples will also be analyzed for semi-volatiles, and five for pesticides/PCB's, following CLP methodologies, as above, so that no contaminants will miss detection. Field measurements for pH, specific conductance and temperature will also be taken, as shown in Table 4-1.

4.4.3 Sample Tracking

Galli Anson Environmental will track the samples sent to CLP to assure the continuity and consistency of data and

analyses throughout the sampling program. Tracking will include tabulating the date samples are obtained, dates shipped, analyses performed, holding times, dates extracted and analyzed, and dates validated. The RLSC will notify the Site Manager in the event of problems with the sample analyses.

All sample data validation will be performed by EPA Environmental Services Division (ESD) in Edison, N.J.

4.5 Task 5 - Data Evaluation

This task includes the data validation effort performed by the EPA Environmental Services Division and Galli Anson Environmental's data reduction and evaluation effort. Galli Anson Environmental will develop the effective means to organize, analyze, interpret and present the data to support the RI including:

* geohydrological parameter determination including transmissivity, hydraulic conductivity and hydraulic gradient;

* preparation and interpretation of well logs and definition of stratigraphy;

* develop the relationship between deep soil contamination and groundwater contaminant concentration;

* integrate the analytical data into site data summaries;

* statistical and presentational elements as appropriate to develop a picture of contaminant distribution at the sit

These analyses provide information which can be incorporated into the screening of remedial alternatives and detailed evaluation of remedial alternative task.

4.6 Task 6 - Assessment of Risks

As stated earlier, the EPA will assess the risks of contaminants found onsite.

4.6.1 Public Health Evaluation

After the site investigation information has been

evaluated and the data base for the site has been established, a preliminary baseline public health evaluation will be performed for the Tronic Plating Company Site. The objective of this assessment is to characterize health and environmental risks that would prevail if no further remedial action is taken.

The basic methodology to be employed is summarized in Figure 4-7 . This process will be conducted in accordance with the procedures outlined in the EPA Superfund Health Evaluation Manual (EPA, 1986), based on previously gathered monitoring data which are determined usable.

The first step is the selection of indicator chemicals for which quantitative risk analyses will be performed. Indicator chemicals will be selected based on prevalence, concentrations observed, distribution among environmental matrices, toxicity, and environmental behavior as representative of the entire spectrum of compounds found on-site.

The second stop in the public health evaluation is the identification and characterization of potential exposure pathways and receptors. Given the nature of the site, primary emphasis will be placed on human exposure throughout consumption of contaminated groundwater.

The concentrations of the indicator chemicals in each media (groundwater and soils) at the exposure points will be estimated from the monitoring date using environmental transport and fate analyses, as appropriate. The general basis and guidelines for Superfund Exposure Assessment Manual (EPA, 1986). The observed and estimated concentrations will then be compared to applicable or relevant and appropriate standards and criteria, which are reviewed in Section 3.2.1 and which will be finalized for risk assessment. Applicable or relevant and appropriate standards may be available for all of the indicator chemicals on site. If so, no further quantitative analysis of risk will be performed. For certain pollutants and critical exposure pathways where risk analysis will be performed to confirm that the pollutant transport models used adequately reflect conditions at the site and to determine where additional data are needed to characterize risks. If standards and criteria are not available for all fo the indicator chemicals, quantitative analyses will be performed, following the general procedures outlines in EPA's Endangerment Assessment Handbook (1985) and Superfund Public Health Evaluation Manual (1986).

For chemicals for which no applicable or relevant

standards exist, acceptable concentrations in environmental media will be developed based on Acceptable Daily Intakes (for noncarcinogens) and on target risk levels (for carcinogens). The primary sources of toxicological data used in this analysis will be Appendix C of the Superfund Public Health Assessment Manual (1986), EPA's Health Effects Assessments (HJEAs) and EPA's Air and Water Quality Criteria Documents. Target risk levels for carcinogens will be selected after consultation with EPA and EPA will also be notified if it is felt that there are good technical reasons for selecting toxicity value other than those found in the references cited above. In addition, using the reference cited, a summary toxicity profile will be developed for each indicator chemical. This toxicity profile will summarize pertinent information regarding the chemical based on EPA contaminant profiles, health effects advisories, and water quality criteria support documents.

This assessment will define the exposures and levels of risk to human health associated with soils and groundwater present at Tronic Plating Site. The results can also be used to estimate the risk associated with an remedial activity proposed for the site.

4.7 Task 7 - Treatability Study/Pilot Testing

The preliminary scoping of remedial alternatives (Subsection 3.1.3) considered certain developed and innovative technologies for treatment of the contaminated soil and groundwater at the site. Assuming that some of these technologies meet remedial response objectives and that they pass the initial screening, treatability studies (laboratory or field) would be needed to evaluate their applicability to the site and to develop cost information for economical comparison among the technologies.

However, in this Work Plan, no specific treatability studies are proposed because of the following reasons:

* due to the limited historical data, site-related contaminants of concern are not fully known;

* the extent of contamination at the site is unknown. There is a possibility that contamination may have migrated offsite;

* the ambient groundwater quality at the site is not known. This information would be of concern if a

pumping and treatment alternative is considered for cleaning up contaminated groundwater at the site, and;

* conducting treatability studies for certain technologies can be costly. Therefore, treatability studies should not be conducted for those technologies which cannot pass the initial screening.

Therefore, it is proposed that in the initial screening meeting with EPA, Galli Anson Environmental will also discuss the need and suggested scope of the treatability studies to be performed. With EPA's concurrence, Galli Anson Environmental will submit, in ten calendar days, a written proposal (including scope of work, budget and schedule) on the treatability study to EPA for approval. In the same time, Galli Anson Environmental will also commence preparing and issuing necessary bid packages for selecting qualified testing facilities to perform the treatability tests.

4.8 Task 8 - Remedial Investigation Report

The RI report will summarize the data collected and the conclusions drawn from the investigative areas, and will include the following information:

* an updated site description;
* site maps;
* field investigation results;
* results of the geohydrological modeling effort;
* chemical analyses results including QA/QC and raw data;
* results of the risk assessment, and
* treatability study/pilot scale testing results (if any)

Project status meetings are scheduled as part of Task 8 following EPA review of the RI report.

TABLE 4-1 SUMMARY OF SOIL AND GROUNDWATER ANALYSIS

SAMPLE LOCATION	Modeling	Soil Samples Complete TCL	Soil Samples TCL minus pesticides/pcbs	WATER SAMPLES *** VOA	SEMIVOA	PEST/PCB	METALS FIL/UNFIL	CN	
ONSITE:									
Sanitary Pit 1 (SP-1)	1	1	2						
Leaching Pit (LP-1)	1	1	3						
Leaching Pit 2 (LP-2)	1	1	3						
Leaching Pit 3 (LP-3)	1	1	3						
Leaching Pit 4 (LP-4)	1	1	3						
Dry Well 1 (DW-1)		1	2						
Storm Sewers (SS-1,2)		2		2			2 2 2		
Monitoring Wells 1s (MW-1s)				2	1	1	2 2 2		
Monitoring Well 4i (MW-4s)		1	3	2			2 2 2		
Monitoring Well 5s (MW-5s)			0	2	1	1	2 2 2		
Monitoring Well 1d (MW-1d)	1* 1	1	4	2			2 2 2	1**	
Monitoring Well 5d (MW-5d)	1* 1	1	4	2	1	1	2 2 2	1**	
Duplicates		1	2	2			2 2 2		
Existing Well #1806 UG				2		1	2 2 2		
Monitoring Well 6i (MW-6i)		1	3	2	1	1	2 2 2		
TOTALS:	2* 7	13	32	18	4	5	18 18 18	2**	

Blanks: ****
Field
Trip

* For Evaluating Remedial Technologies: Grainsize, Organic Content, Moisture Content, Cation Exchange, Permeability, (as Shelby Tubes)

** For Evaluating Remedial Technologies: Biological Oxygen Demand, Chemical Oxygen Demand, Oil and Grease Alkalinity, Bicarbonate, Carbonate, Hardness, Sulfate

*** Field Analysis: ph, Temperature, Specific Conductance

**** The quantity of field and trip blanks will be determined by USEPA sampling protocol

a For Modeling Effort: Leachability Absorption isotherm and Bulk density

Fil - Filtered

Unfil - Unfiltered

FIGURE 4-1
TRONIC PLATING SITE MONITORING WELL AND BORING LOCATION MAP

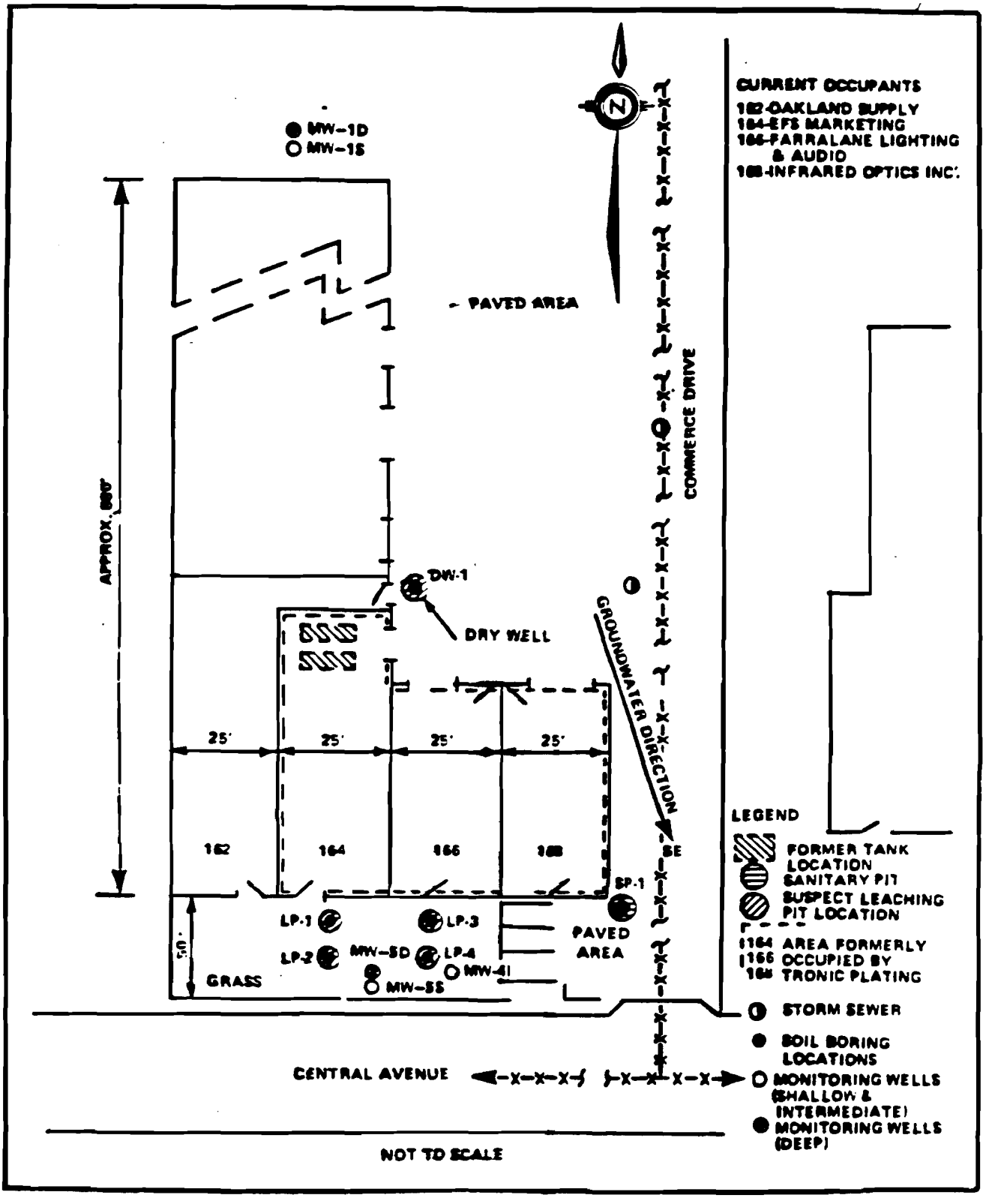
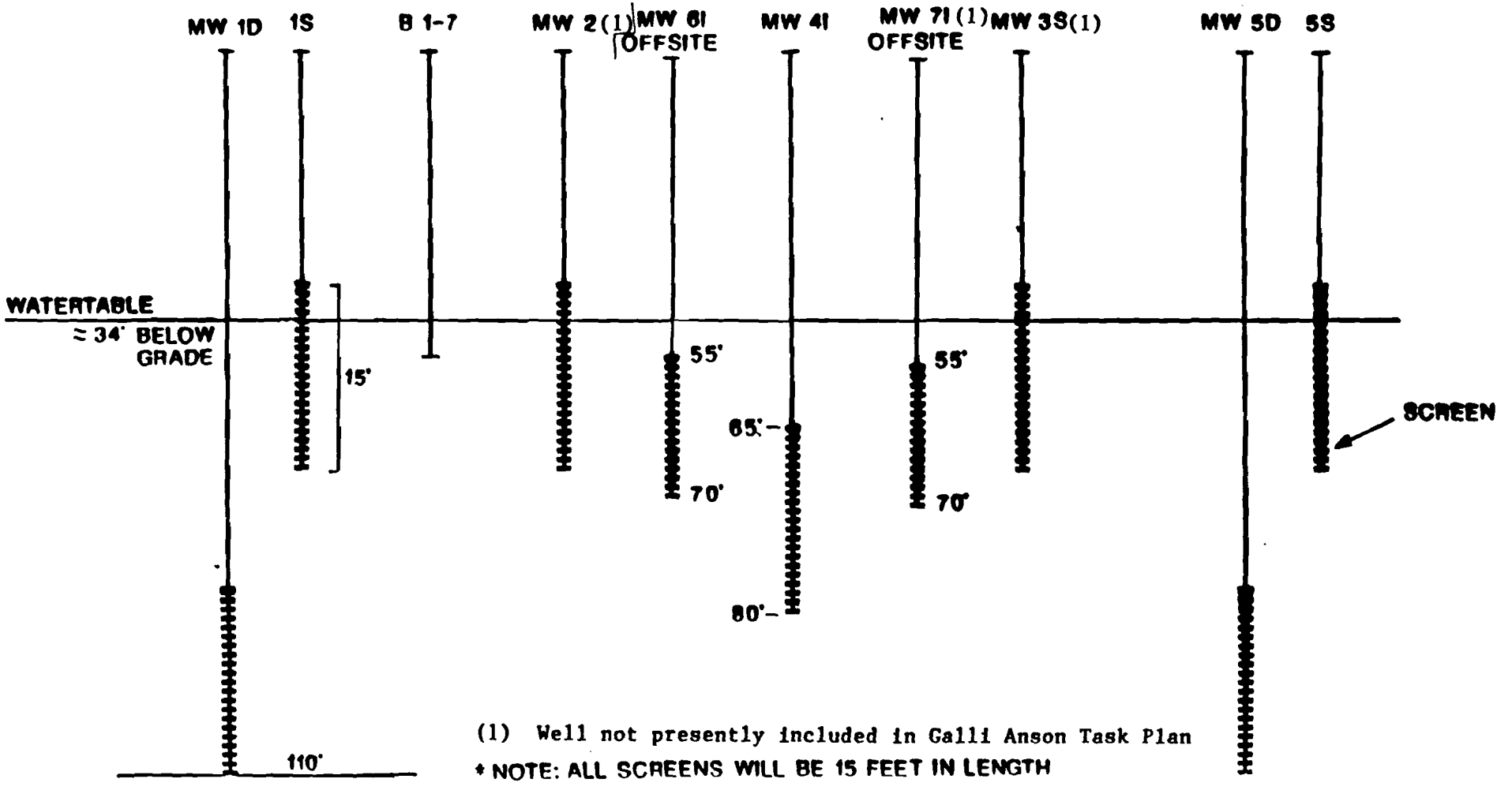


FIGURE 4-2

TRONIC PLATING SITE
PROPOSED MONITORING WELL
AND
BORING SCHEMATIC

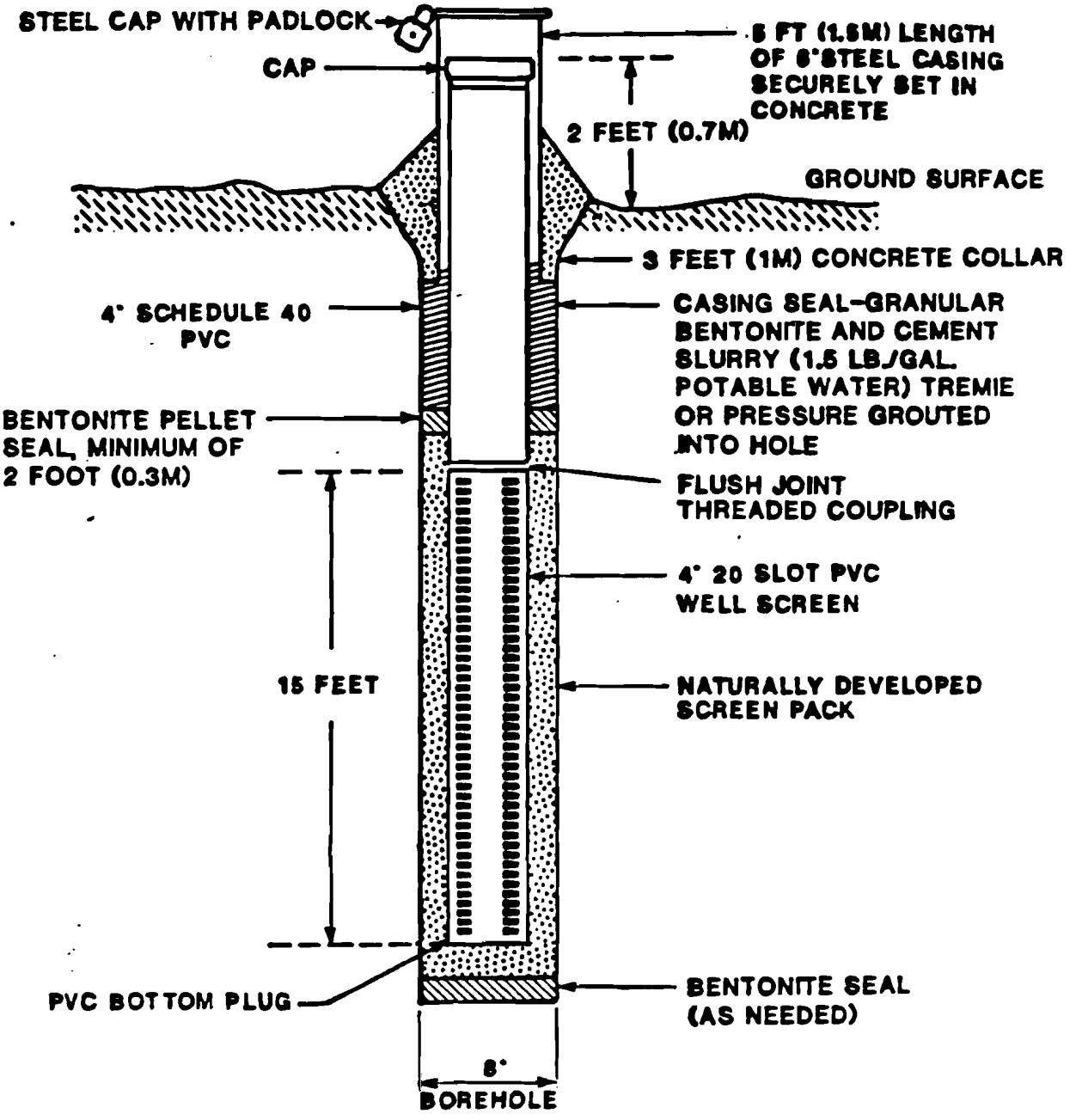


(1) Well not presently included in Galli Anson Task Plan

* NOTE: ALL SCREENS WILL BE 15 FEET IN LENGTH

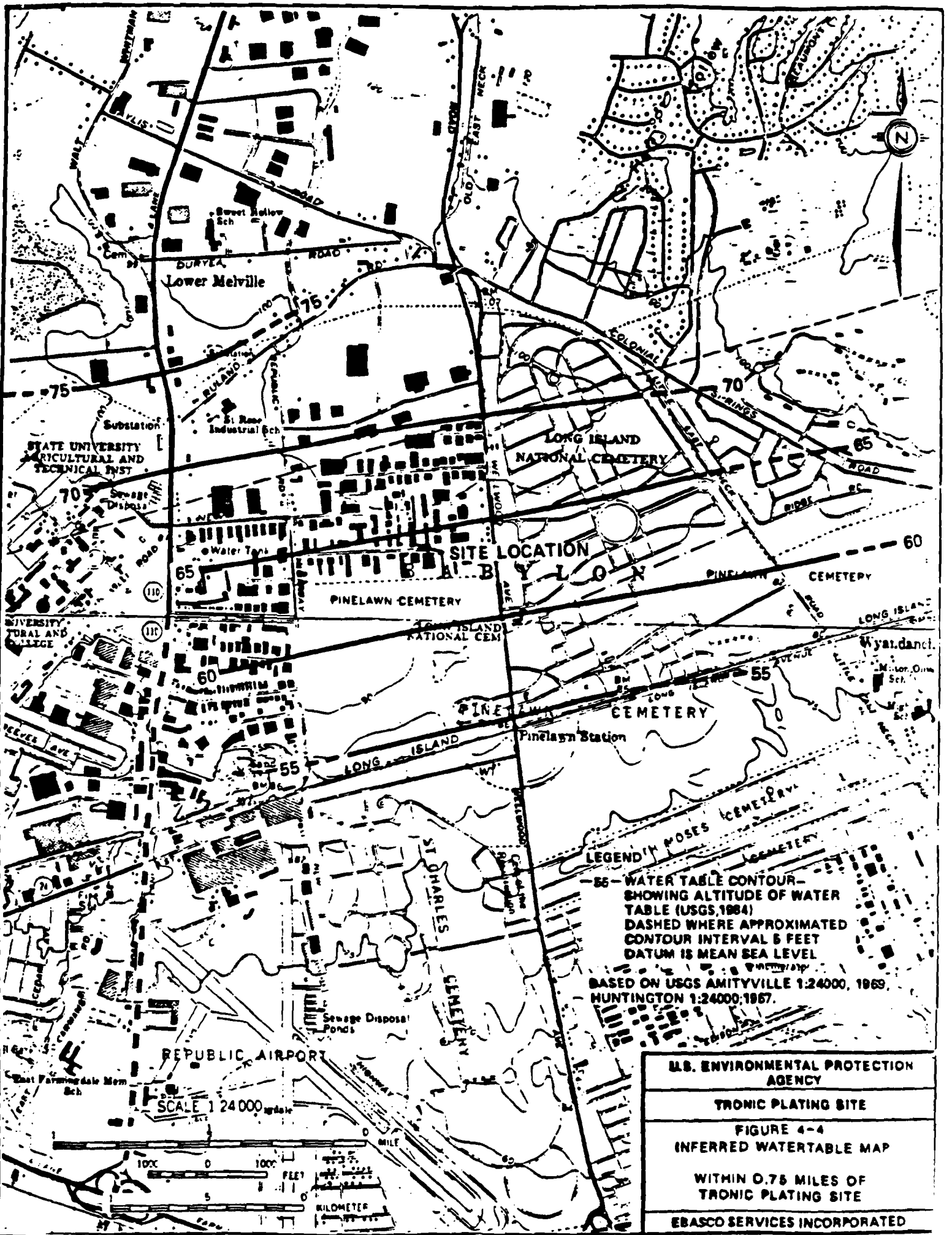
NOT TO SCALE

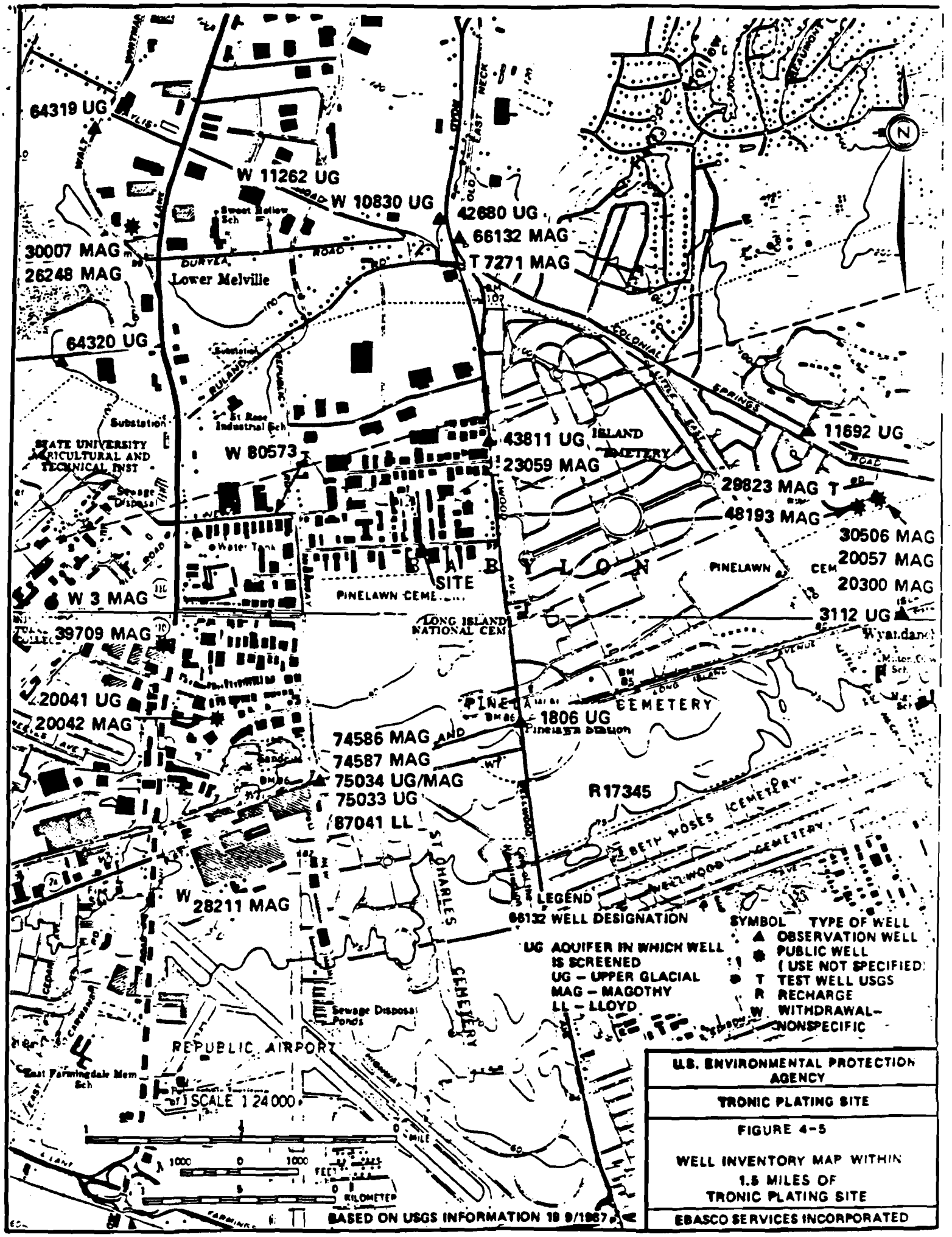
FIGURE 4-3
GROUNDWATER MONITORING WELL CONSTRUCTION DIAGRAM



NOT TO SCALE

EBASCO


SITE LOCATION
LONG ISLAND NATIONAL CEMETERY
PINELAWN CEMETERY
Lower Melville
Pinelawn Station
REPUBLIC AIRPORT
Sewage Disposal Ponds
LEGEND
-55- WATER TABLE CONTOUR- SHOWING ALTITUDE OF WATER TABLE (USGS,1984) DASHED WHERE APPROXIMATED CONTOUR INTERVAL 5 FEET DATUM IS MEAN SEA LEVEL
BASED ON USGS AMITYVILLE 1:24000, 1969, HUNTINGTON 1:24000;1967.
SCALE 1:24000
U.S. ENVIRONMENTAL PROTECTION AGENCY
TRONIC PLATING SITE
FIGURE 4-4
INFERRED WATERTABLE MAP
WITHIN 0.75 MILES OF TRONIC PLATING SITE
EBASCO SERVICES INCORPORATED


64319 UG
W 11262 UG
W 10830 UG
42680 UG
66132 MAG
T 7271 MAG
30007 MAG
26248 MAG
64320 UG
Lower Melville
W 80573
43811 UG
23059 MAG
11692 UG
29823 MAG T
48193 MAG
30506 MAG
20057 MAG
20300 MAG
3112 UG
W 3 MAG
39709 MAG
20041 UG
20042 MAG
74586 MAG
74587 MAG
75034 UG/MAG
75033 UG
87041 LL
1806 UG
R17345
W 28211 MAG
BABYLON
SITE
PINELAWN CEMETERY
LONG ISLAND NATIONAL CEM
STATE UNIVERSITY AGRICULTURAL AND TECHNICAL INST
REPUBLIC AIRPORT
SCALE 1 24000
1000 0 1000 FEET
0 1 KILOMETER
BASED ON USGS INFORMATION 19 9/1987
LEGEND
66132 WELL DESIGNATION
UG AQUIFER IN WHICH WELL IS SCREENED
UG – UPPER GLACIAL
MAG – MAGOTHY
LL – LLOYD
SYMBOL TYPE OF WELL
▲ OBSERVATION WELL
● PUBLIC WELL
(USE NOT SPECIFIED)
T TEST WELL USGS
R RECHARGE
W WITHDRAWAL–NONSPECIFIC
U.S. ENVIRONMENTAL PROTECTION AGENCY
TRONIC PLATING SITE
FIGURE 4-5
WELL INVENTORY MAP WITHIN 1.5 MILES OF TRONIC PLATING SITE
EBASCO SERVICES INCORPORATED

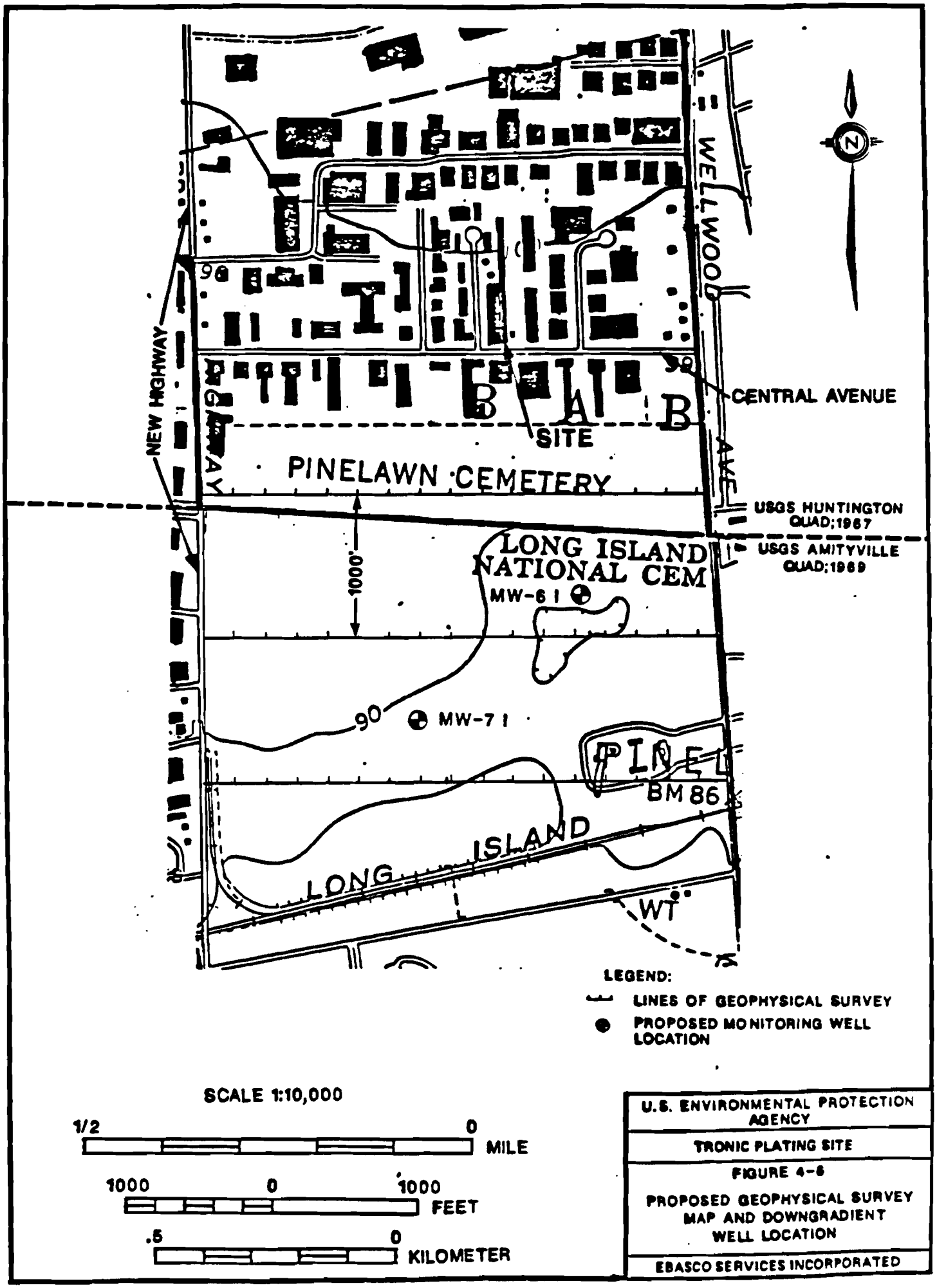

WELLWOOD AVE
NEW HIGHWAY
CENTRAL AVENUE
SITE
PINELAWN CEMETERY
USGS HUNTINGTON QUAD;1967
USGS AMITYVILLE QUAD;1969
LONG ISLAND NATIONAL CEM
MW-61
MW-71
1000'
90
PINE
BM 86
LONG ISLAND
WT
LEGEND:
LINES OF GEOPHYSICAL SURVEY
PROPOSED MONITORING WELL LOCATION
SCALE 1:10,000
1/2
0
MILE
1000
0
1000
FEET
.5
0
KILOMETER
U.S. ENVIRONMENTAL PROTECTION AGENCY
TRONIC PLATING SITE
FIGURE 4-6
PROPOSED GEOPHYSICAL SURVEY MAP AND DOWNGRADIENT WELL LOCATION
EBASCO SERVICES INCORPORATED

FIGURE 4-7

BASELINE PUBLIC HEALTH EVALUATION
TRONIC PLATING RI/FS WORK PLAN