final

PERIMETER SITE FENCING WORK PLAN

Metamora Landfill Site
Lapeer County, Michigan

PERIMETER SITE FENCING WORK PLAN

Metamora Landfill Site
Lapeer County, Michigan

JULY 1992

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CONESTOGA-ROVERS & ASSOCIATES

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1.0 INTRODUCTION

The Metamora Landfill Site (Site) is located approximately one mile east of the Village of Metamora in Lapeer County, Michigan. The Site location is presented on Figure 1.1. A Site plan is presented on Figure 1.2.

The Site was historically used as a sand and gravel operation and waste disposal facility. Concerns with respect to the waste disposal activities eventually led to the completion of an RI/FS and the selection of a Site-wide remedial approach.

Consistent with the Consent Decree (CD) and the Scope of Work (SOW) developed for the Site, a Site perimeter security fence is to be constructed to restrict access to the property. The Metamora Landfill Settling PRP Group (MLSPG) has agreed to design and construct a Site perimeter security fence as part of the Site-wide Remedial Design/Remedial Action (RD/RA).

The purpose of the fence is to prohibit access to the Site. The Perimeter Site Fencing Work Plan (Work Plan) is discussed in the following sections:

2.0 Statement of Work

3.0 Mobilization and Site Preparation

4.0 Fence Installation

5.0 Power Installation

6.0 Telephone Installation

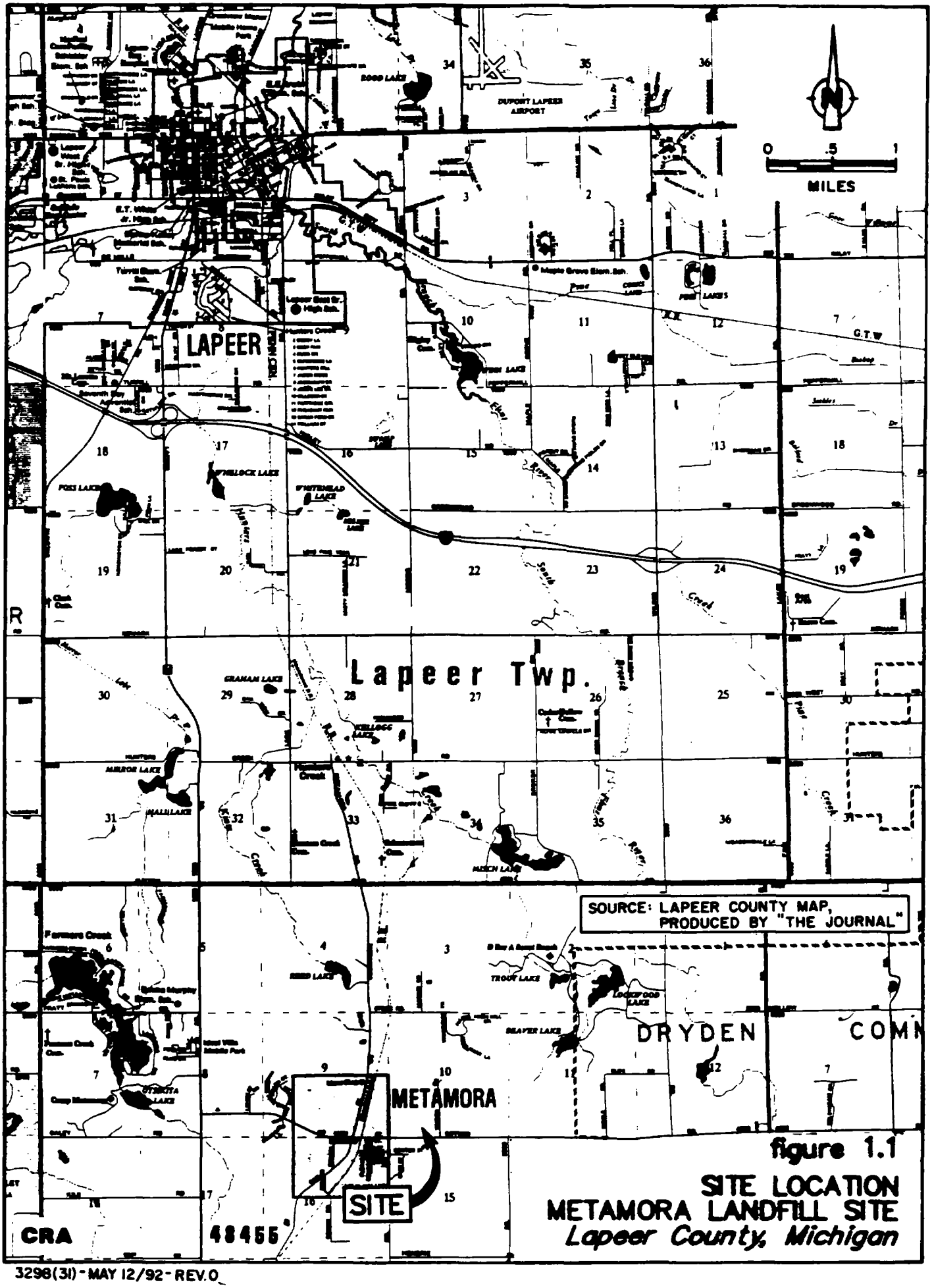

figure 1.1

SITE LOCATION
METAMORA LANDFILL SITE
Lapeer County, Michigan

3298(31) - MAY 12/92 - REV.0

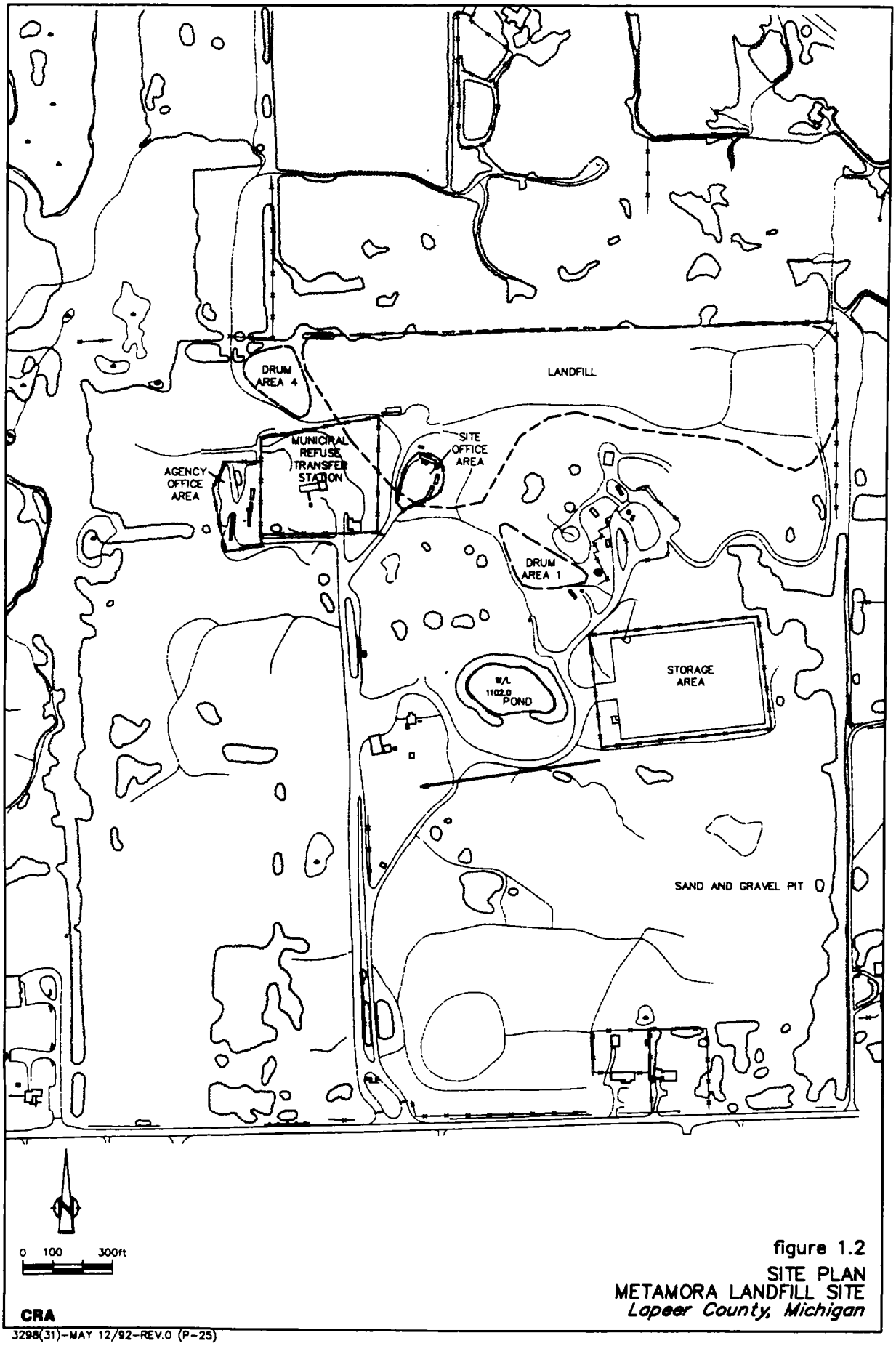

figure 1.2
SITE PLAN
METAMORA LANDFILL SITE
Lapeer County, Michigan

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3298(31)-MAY 12/92-REV.0 (P-25)

7.0 Additional Installation

8.0 Demobilization and Closeout

9.0 Schedule of Work and Final Report

10.0 Engineering Concerns

2.0 STATEMENT OF WORK

The Work Plan for installation of a perimeter fence at the Site includes the following activities:

i) clearing and grubbing of vegetation along the alignment of the proposed fence installation;

ii) installation of a perimeter fence at the location shown on Figure 2.1[1] (See Plan 1), and to the following minimum specifications:
- fence posts are to be inserted to a depth of at least 18 inches
- fence posts installed are to be a minimum of eight feet high, covered with chain link fence fabric and three strands of barbed wire along the top of the fence posts
- fence posts are to be supported by pre-mixed concrete,
- three 18-foot wide truck gates are to be installed on Site, and
- installation of appropriate signs along the fence.

iii) installation of telephone and power services to the Site security trailer and Drum Storage Area (as appropriate);

iv) installation of security lighting to illuminate the Drum Storage Pad and the area surrounding the Site security trailer;

(1) The final alignment of the Site security fence is subject to the transfer station relocation and the extent to which sand and gravel is to be extracted by John R. Sand and Gravel.

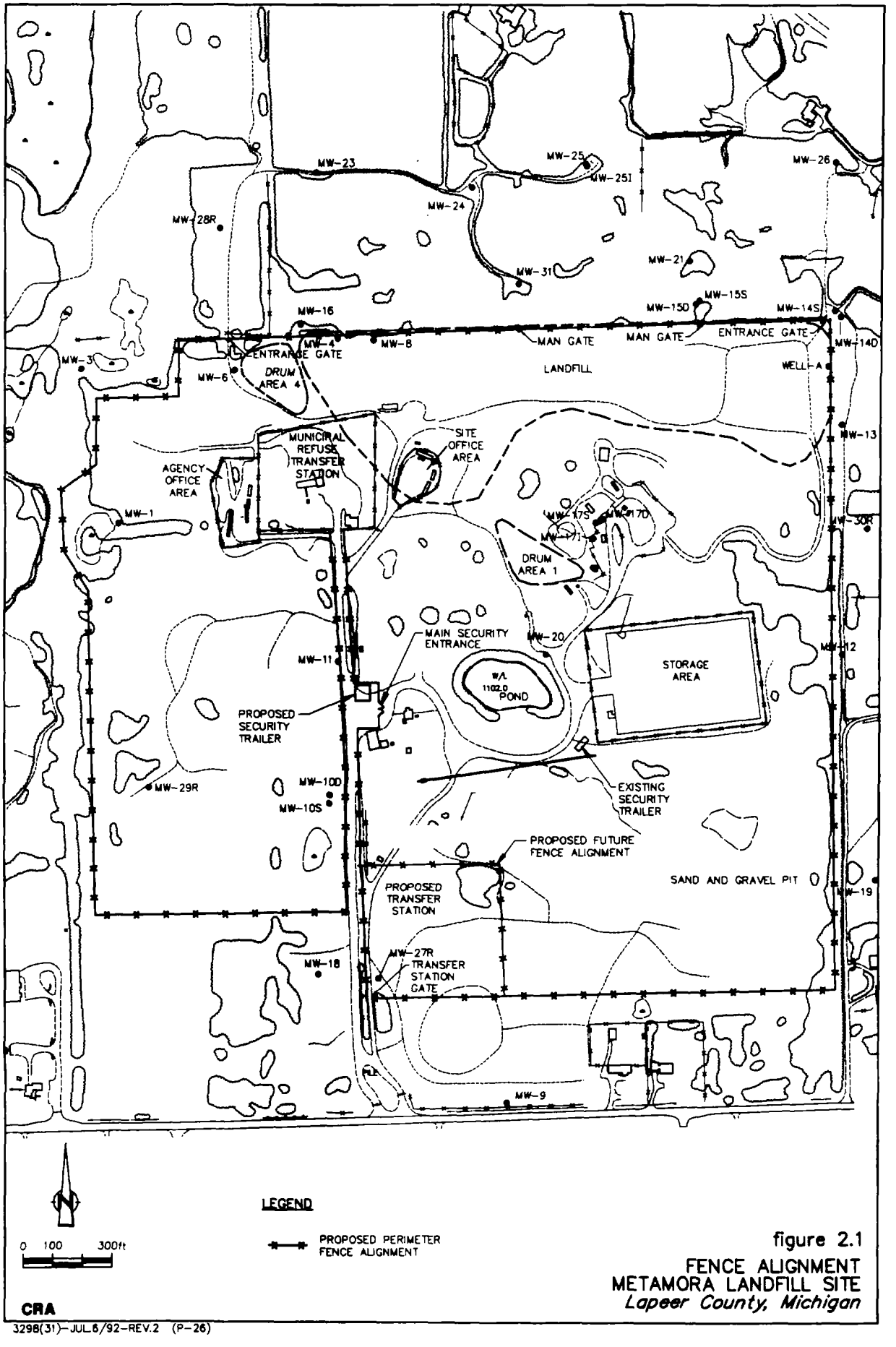

figure 2.1
FENCE ALIGNMENT
METAMORA LANDFILL SITE
Lapeer County, Michigan

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3298(31)-JUL6/92-REV.2 (P-26)

v) demobilization of all clearing, grubbing and fence installation equipment; and

vi) submission of a final construction report.

3.0 MOBILIZATION AND SITE PREPARATION

Setting and staking of the legal boundaries of the Site will be performed by Darrell D. Hughes & Associates Land Surveyors. During this survey the alignment of the fence will also be staked.

Clearing and grubbing of vegetation, debris and existing deteriorated fencing along the alignment of the proposed fence will commence following establishment and staking of the fence line. The existing fence will be left in place where it does not interfere with the installation of the new fence. Where required, trees and existing fence posts along the Site boundary will be cut off at ground level. Vegetation removed from the alignment of the proposed fence during clearing and grubbing operations will be chipped, where possible, and evenly spread on Site over the ground adjacent to the new fence. Ground undulations along the fence line will be corrected to obtain a uniform gradient between fence posts. Debris, if any, and old fencing removed from the fence alignment will be neatly stockpiled on Site (adjacent to the southern face of the landfill).

All mobilization and Site preparation work completed by the fencing contractor shall meet the approval of the on-Site Engineer (MLSPG representative) and U.S. EPA.

4.0 FENCE INSTALLATION

Upon completion of clearing and grubbing operations, holes for straining posts, line posts, corner posts and gate posts will be augered a minimum depth of 18 inches below ground surface (bgs). The posts then will be concreted in place and left for a minimum of 14 days prior to installation of the fence fabric, tension, and barbed wire. Barbed wire extension arms will be turned outward away from the fenced area, with vertical extension arms on gates. Soil removed from the post holes will be spread evenly on the Site adjacent to the fence posts. If required, additional soil and debris will be deposited adjacent to the south face of the landfill.

Braces, top rails, and tension wires will be installed between the fence posts. Chain link fence fabric (complying with ASTM A392) will be stretched to the tension recommended by the manufacturer and fastened to corner, gate, and straining posts. The fence fabric will be installed in such a manner to ensure a maximum clearance of *three inches between the bottom of the fence fabric and the ground surface.*

It is anticipated that three 18-foot wide truck gates and two man gates will be installed, plumb, in a closed position, at the following locations and as shown on Figure 2.1 and Plan 1:

i) one truck gate on the south side of the Site (main entrance);
ii) two truck gates on the north side of the Site;
iii) two-man gates on the north side of the Site; and
iv) security trailer.

On March 24, 1992, a Site inspection was conducted to field verify the proposed fence location. The inspection indicated that certain portions of the alignment would require leveling and clearing or grubbing.

5.0 POWER INSTALLATION

An electrical contractor will be hired to install electrical power to the Drum Storage Pad and Site security trailer as shown on Figure 5.1. The electrical contractor shall be responsible for obtaining all required permits and applications to support the installation of this service. Also, the electrical contractor shall backfill all trenches with engineered fill material. The power installation shall be conducted in a manner consistent with all electrical codes and regulations.

All work completed by the electrical contractor shall be supervised and approved by the on-Site Engineer and U.S. EPA.

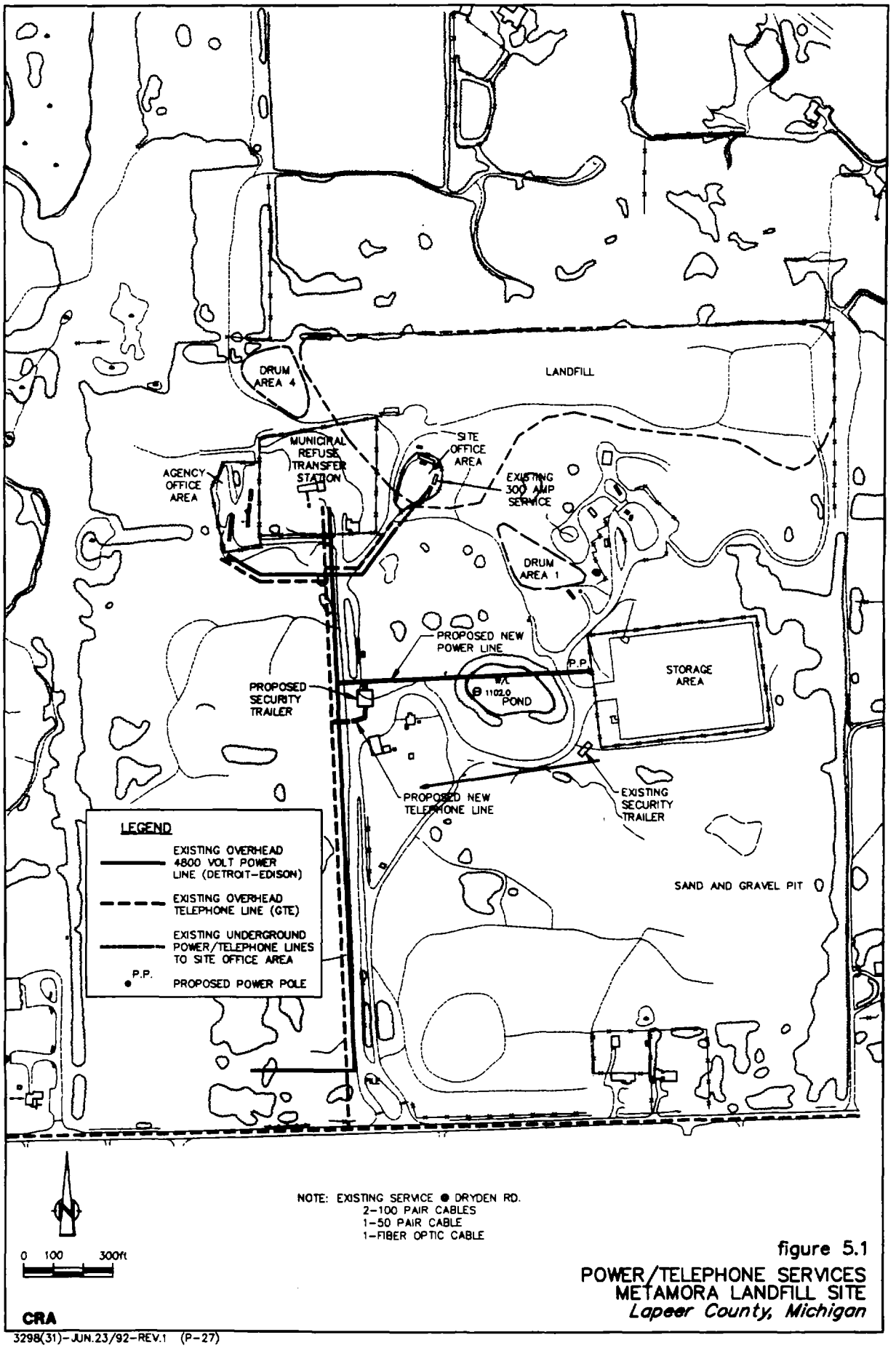

figure 5.1

POWER/TELEPHONE SERVICES
METAMORA LANDFILL SITE
Lapeer County, Michigan

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3298(31)-JUN.23/92-REV.1 (P-27)

6.0 TELEPHONE INSTALLATION

The electrical contractor shall be responsible for the installation of a new telephone line from the nearest existing telephone line to the Site security trailer (see Figure 5.1). All requirements pertaining to Section 5.0 shall be applied to the installation of the telephone line.

7.0 ADDITIONAL INSTALLATION

Additional work required by the fencing contractor is discussed below:

i) New U.S. EPA approved "Warning" signs shall be installed on posts inside the fence perimeter. The signs shall be posted every 200 feet and at eye level. The posts will be driven at least two feet into the ground. The sign shall read as follows:

WARNING
DO NOT ENTER
HAZARDOUS
SUBSTANCE PRESENT
U.S. EPA SUPERFUND SITE
1-800-621-8437

ii) New "No Trespassing/No Hunting" signs shall be installed between each of the U.S. EPA "Warning" signs. These signs shall be installed as specified in (i).

iii) High powered security lights shall be installed at the Drum Storage Pad in order to effectively illuminate this area.

iv) A night light shall be installed to illuminate the area surrounding the Site security trailer.

8.0 DEMOBILIZATION AND CLOSEOUT

Upon completion of the clearing, grubbing and fence installation activities detailed in Section 3.0, the following demobilization and closeout activities will be implemented:

i) old fencing materials removed will be neatly stockpiled on Site;

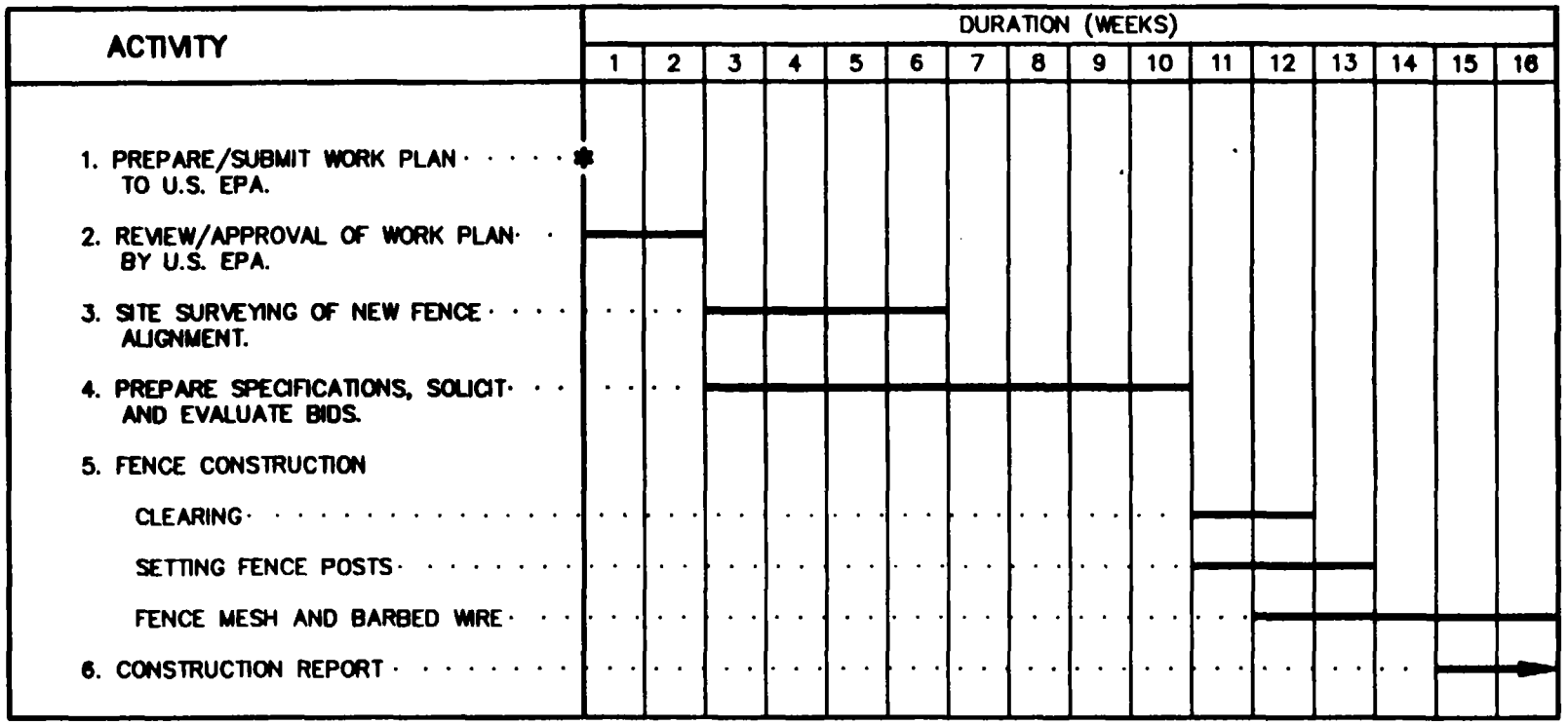
ii) all equipment used on Site will be cleaned of visual soils and demobilized; and

iii) the three truck gates will be closed and locked.

9.0 SCHEDULE OF WORK AND FINAL REPORT

A schedule of work for clearing of fence alignment, concreting of fence posts, erection of fence mesh, and installation of three strand barbed wire is presented on Figure 9.1.

The complete installation of all new fencing is estimated to take approximately 12 to 16 weeks (dependent upon weather conditions). The Fencing Construction Report will be submitted approximately 2 to 4 weeks after completion of construction activities.



LEGEND

DURATION OF ACTIVITY

MILESTONE EVENT

figure 9.1

PERIMETER FENCING IMPLEMENTATION SCHEDULE
METAMORA LANDFILL SITE
Lapeer County, Michigan

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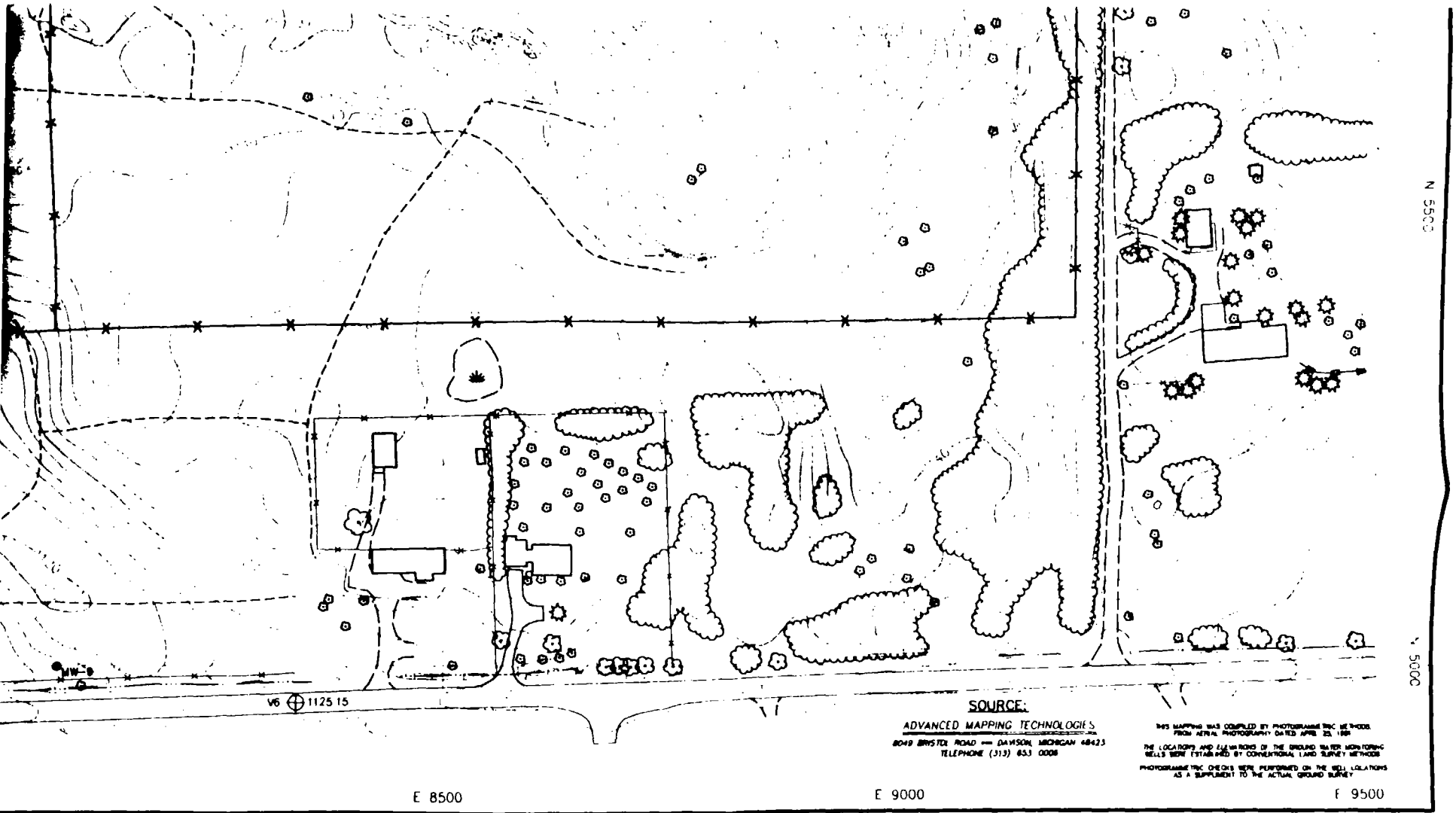
3298(31)-JUL.6/92-REV.1 (S-01)

10.0 ENGINEERING CONCERNS

The purpose of this section is to highlight key engineering concerns which will require consideration during the construction of the fence.

1. Site soils may cause erosional problems along the fence line, therefore, erosion mitigation may be required (i.e. vegetation).



Approved

Initial

METAMORA LANDFILL SITE
Lapeer County, Michigan

PERIMETER SITE FENCING WORK PLAN

SITE PLAN

CRA Consulting Engineers
CONESTOGA-ROVERS & ASSOCIATES
651 Colby Drive, Waterloo, Ontario Canada N2V 1C2

Drawn by	Scale	Date	File Nº	Rev Nº
JRV	1"=100'	MARCH 1992	14 (P-29)	0
Designed by ???				
Checked by GT	Field book	Project Nº. 3298	Drawing Nº. 1	

N 6000

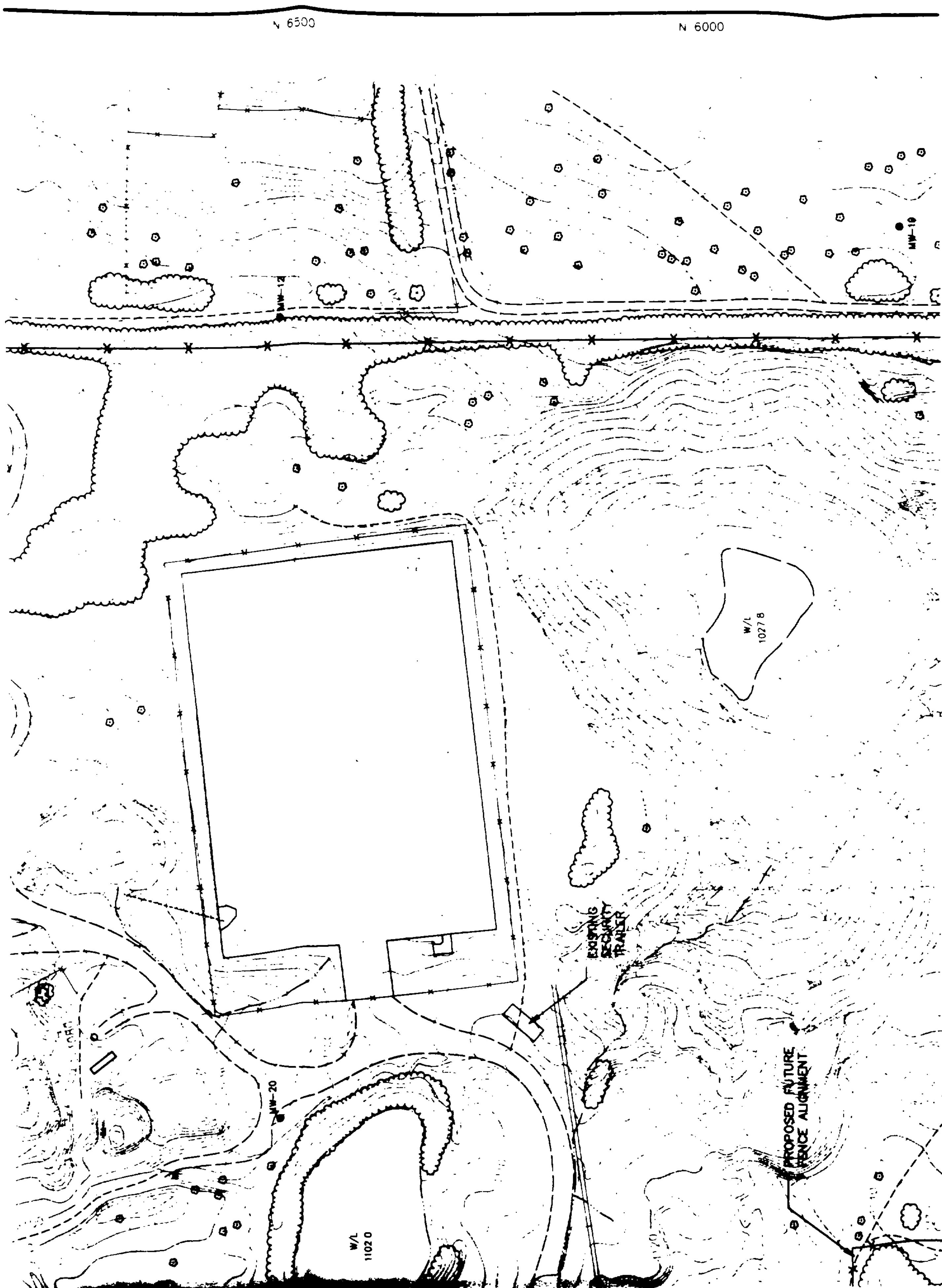
N 5500

MW-10

W/L
10278

EXISTING
SECURITY
TRAILER

PROPOSED FUTURE
FENCE ALIGNMENT


N 6500
N 6000
MW-12
MW-19
MW-20
W/L 1027.8
W/L 1102.0
EXISTING SECURITY TRAILER
PROPOSED FUTURE FENCE ALIGNMENT


N 7000
N 6500
MW-30R
MW-13
MW-12
PILES
PILES
1100
MW-17D
MW-17S
MW-20
1080
1090
1100
1100
W/L
1102.0

N 7500

N 7000

MW-30R

MW-13

MW-14C

MW-14D

WELL-A

ENTRANCE GATE

MAN GATE

MW-15S

MW-15D

MW-21

PILES

PILES

MW-17D

MW-17S

MAN GATE

MW-3S

1080

1090

1110

8500

N 8000

N 7500

MW-26

MW-14D

MW-14S

WELL-A

ENTRANCE GATE

MAN GATE

MW-15S

MW-15D

MW-21

MW-23

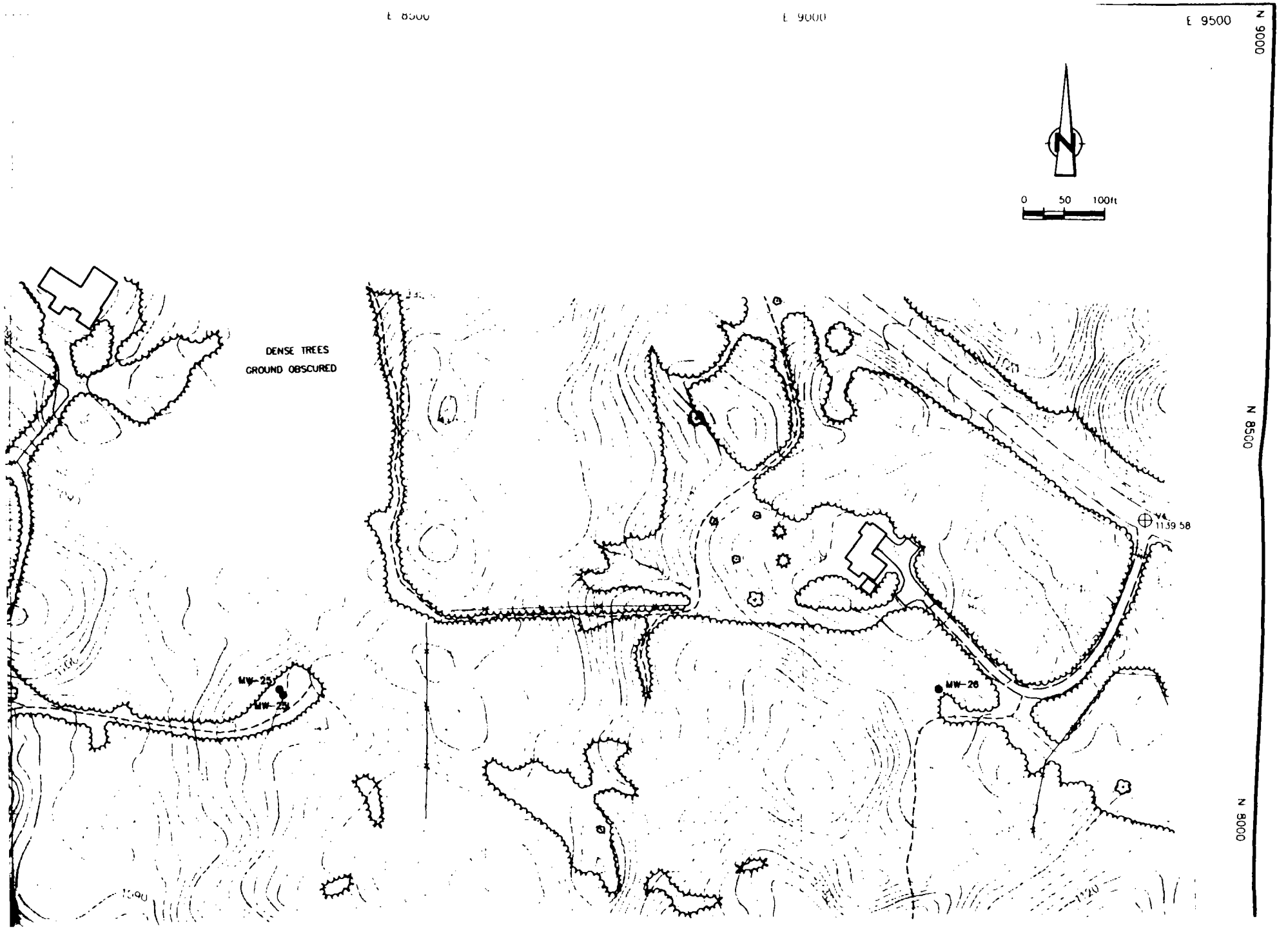
MW-22

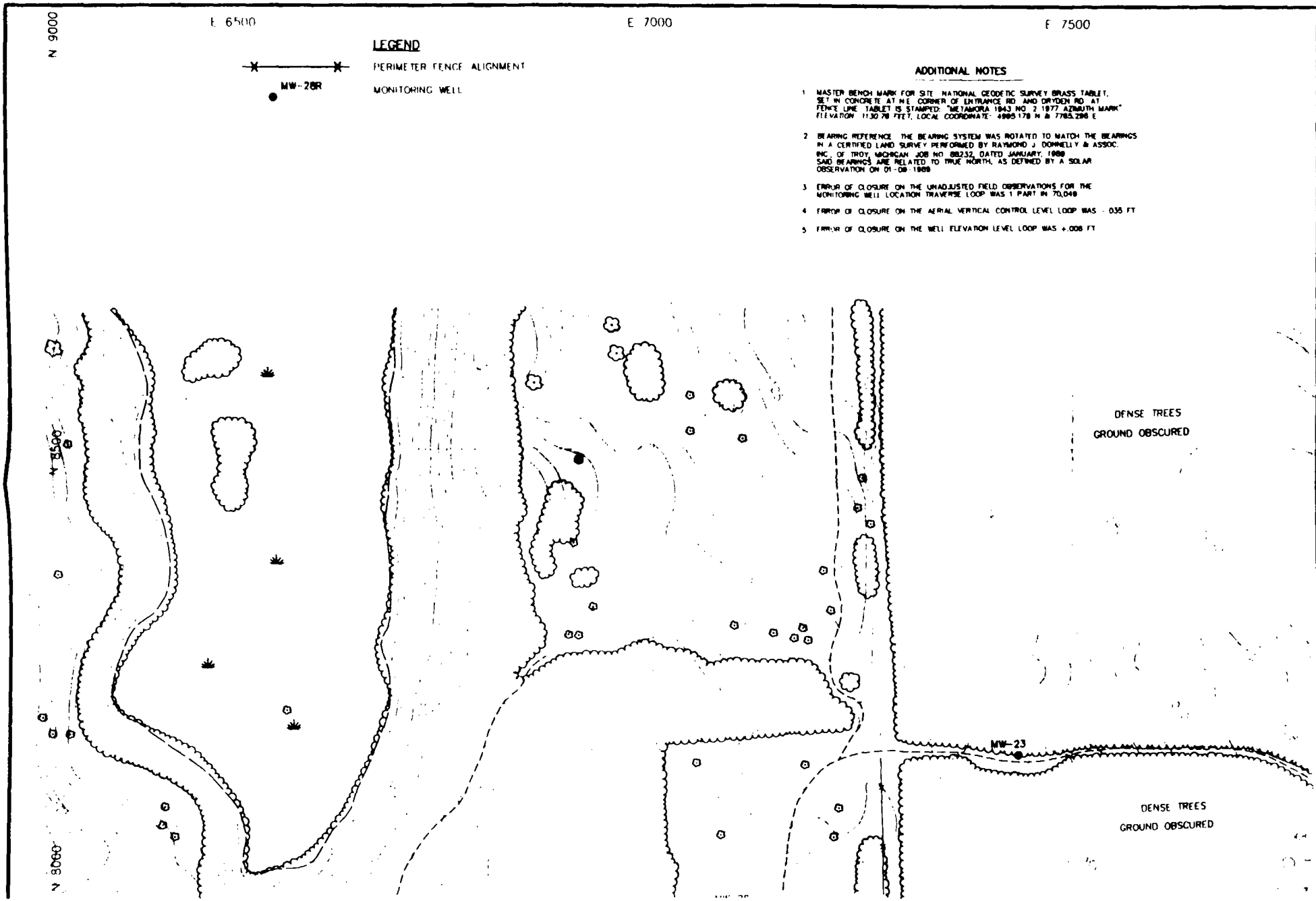
MW-3

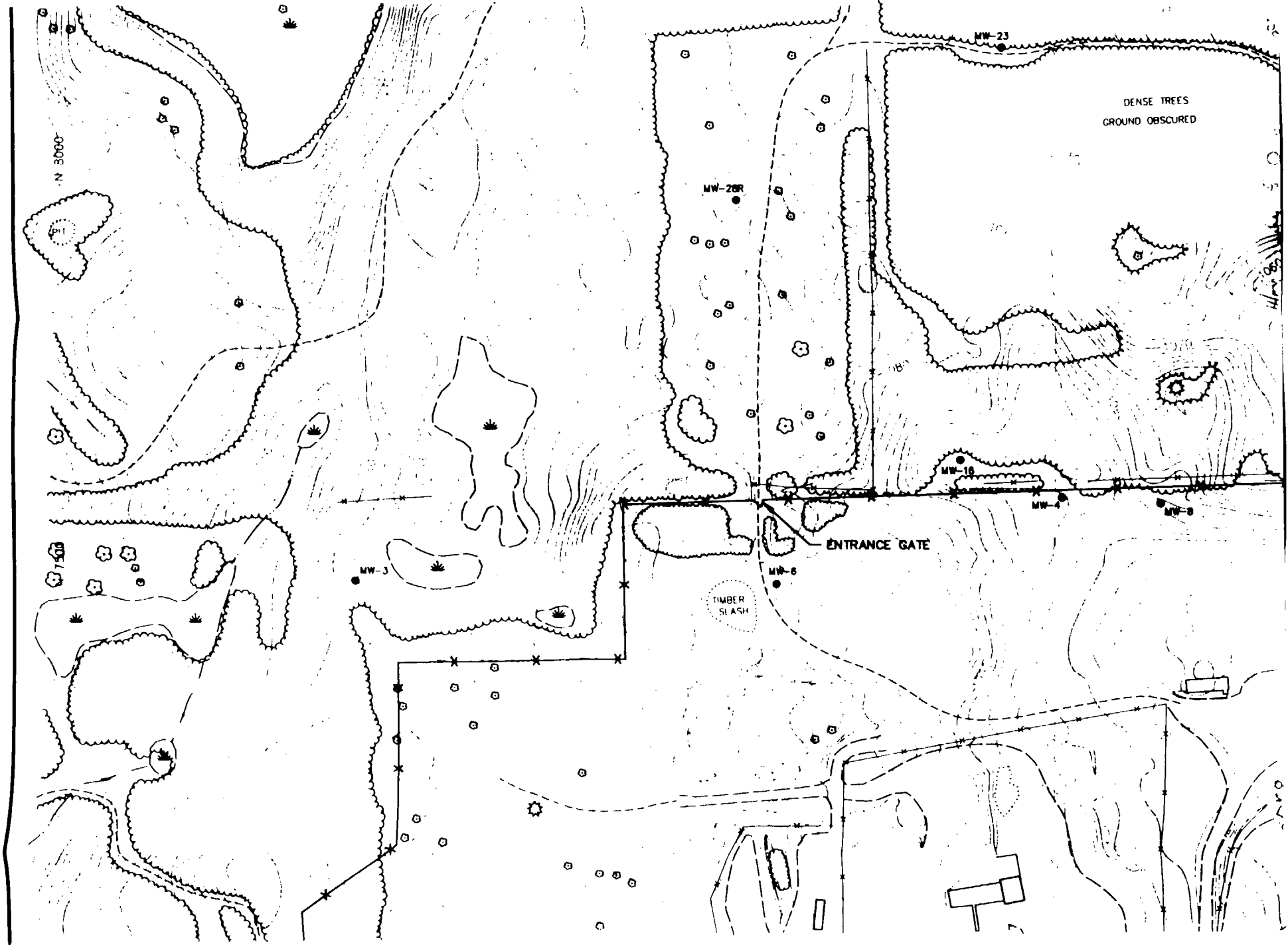
MAN GATE

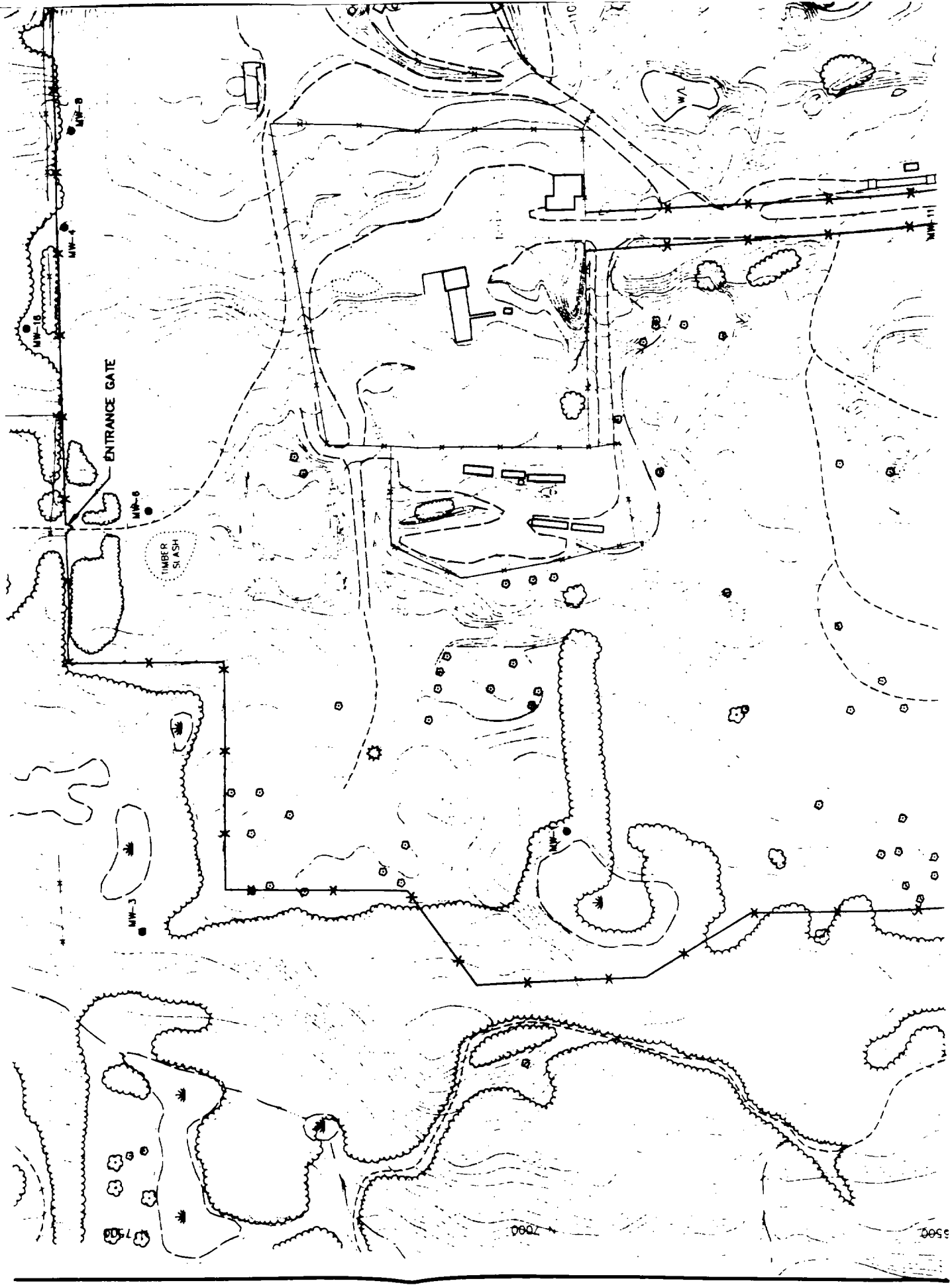
1090

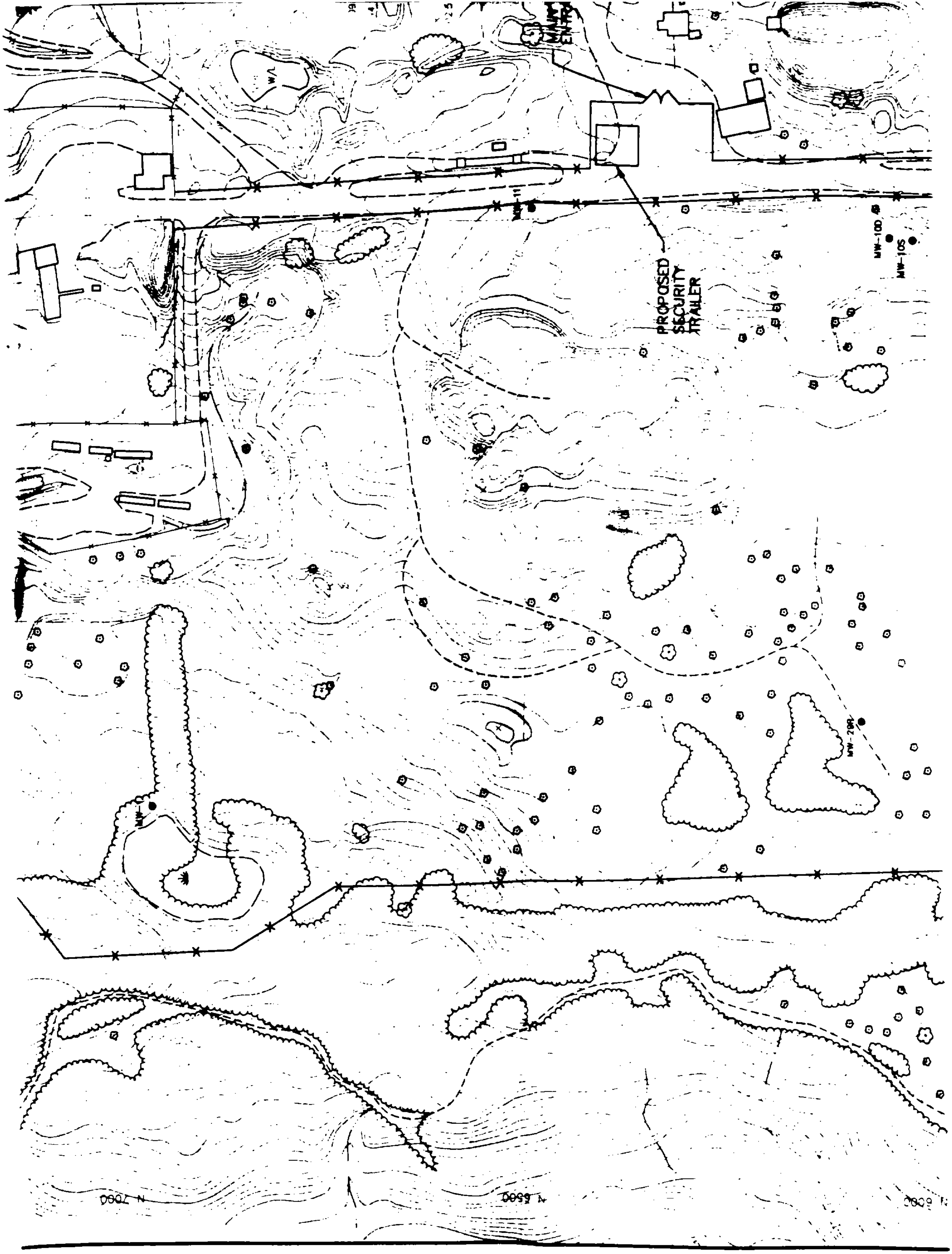
1100

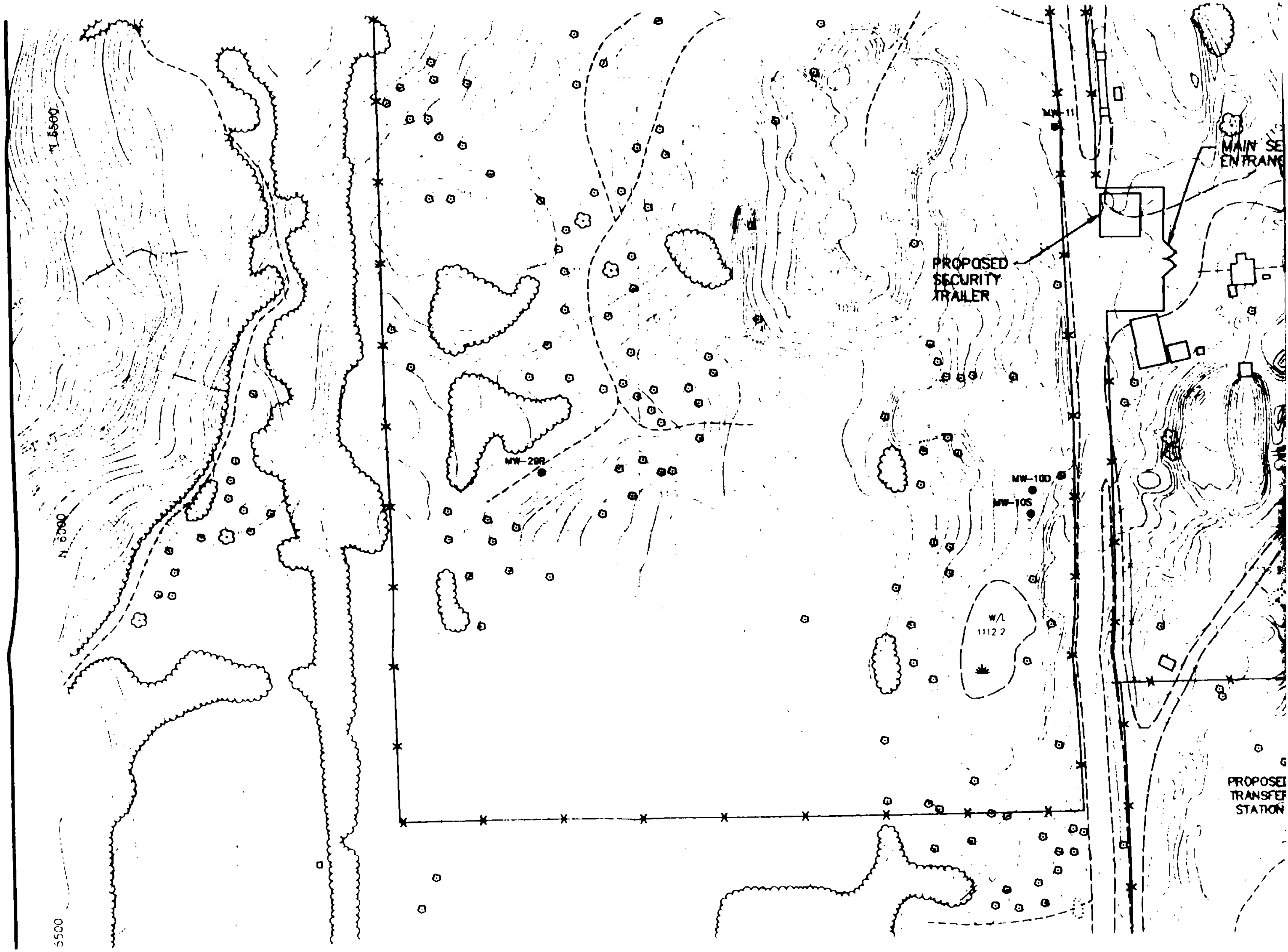

E 8500
E 9000
E 9500
N 9000
N 8500
N 8000
0 50 100ft
DENSE TREES
GROUND OBSCURED
MW-25
MW-26
1139.58

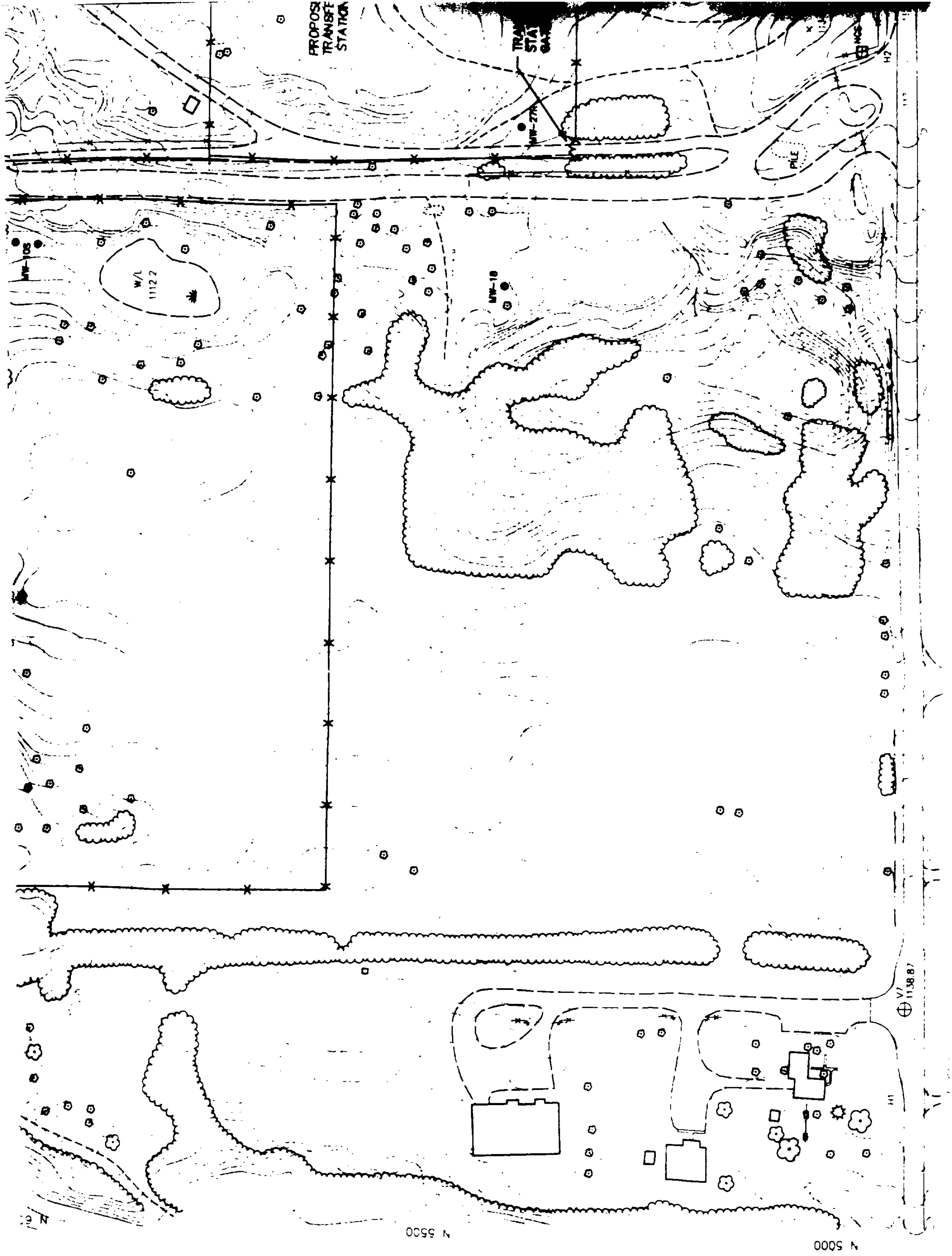

N 9000
E 6500
E 7000
E 7500
LEGEND
PERIMETER FENCE ALIGNMENT
MW-28R
MONITORING WELL
ADDITIONAL NOTES
1 MASTER BENCH MARK FOR SITE NATIONAL GEODETIC SURVEY BRASS TABLET, SET IN CONCRETE AT N E CORNER OF ENTRANCE RD AND DRYDEN RD AT FENCE LINE TABLET IS STAMPED: "METAMORA 1943 NO 2 1977 AZIMUTH MARK" ELEVATION 1130 78 FEET, LOCAL COORDINATE 4995 178 N & 7783 298 E
2 BEARING REFERENCE THE BEARING SYSTEM WAS ROTATED TO MATCH THE BEARINGS IN A CERTIFIED LAND SURVEY PERFORMED BY RAYMOND J DONNELLY & ASSOC. INC. OF TROY, MICHIGAN JOB NO 88232, DATED JANUARY, 1988 SAID BEARINGS ARE RELATED TO TRUE NORTH, AS DEFINED BY A SOLAR OBSERVATION ON 01-08-1988
3 ERROR OF CLOSURE ON THE UNADJUSTED FIELD OBSERVATIONS FOR THE MONITORING WELL LOCATION TRAVERSE LOOP WAS 1 PART IN 70,049
4 ERROR OF CLOSURE ON THE AERIAL VERTICAL CONTROL LEVEL LOOP WAS - 035 FT
5 ERROR OF CLOSURE ON THE WELL ELEVATION LEVEL LOOP WAS +.008 FT
N 8500
N 8000
DENSE TREES
GROUND OBSCURED
MW-23
DENSE TREES
GROUND OBSCURED


MW-23
DENSE TREES
GROUND OBSCURED
N 3000
MW-28R
PIT
MW-10
MW-4
MW-8
ENTRANCE GATE
MW-3
MW-6
TIMBER SLASH


MW-8
MW-4
MW-10
ENTRANCE GATE
MW-6
TIMBER SLASH
MW-3
MW
MW
MW
7500
7000
5500


PROPOSED
SECURITY
TRAILER
MW-10D
MW-10S
N 7000
N 6500
N 6000


MAIN SE
ENTRANC
PROPOSED
SECURITY
TRAILER
MW-11
MW-10D
MW-10S
MW-20R
W/L
1112.2
PROPOSE
TRANSFEF
STATION
N 6500
N 6000
5500


PROPOSI
TRANSFE
STATION
W/L
1112.2
MW-18
PILE
V7
1138.87
N 5500
N 5000

No	Revision