

CONTRACT DRAWINGS

ALPHA RIDGE SOLID WASTE

MANAGEMENT CENTER

HOWARD COUNTY, MARYLAND

CELL 1

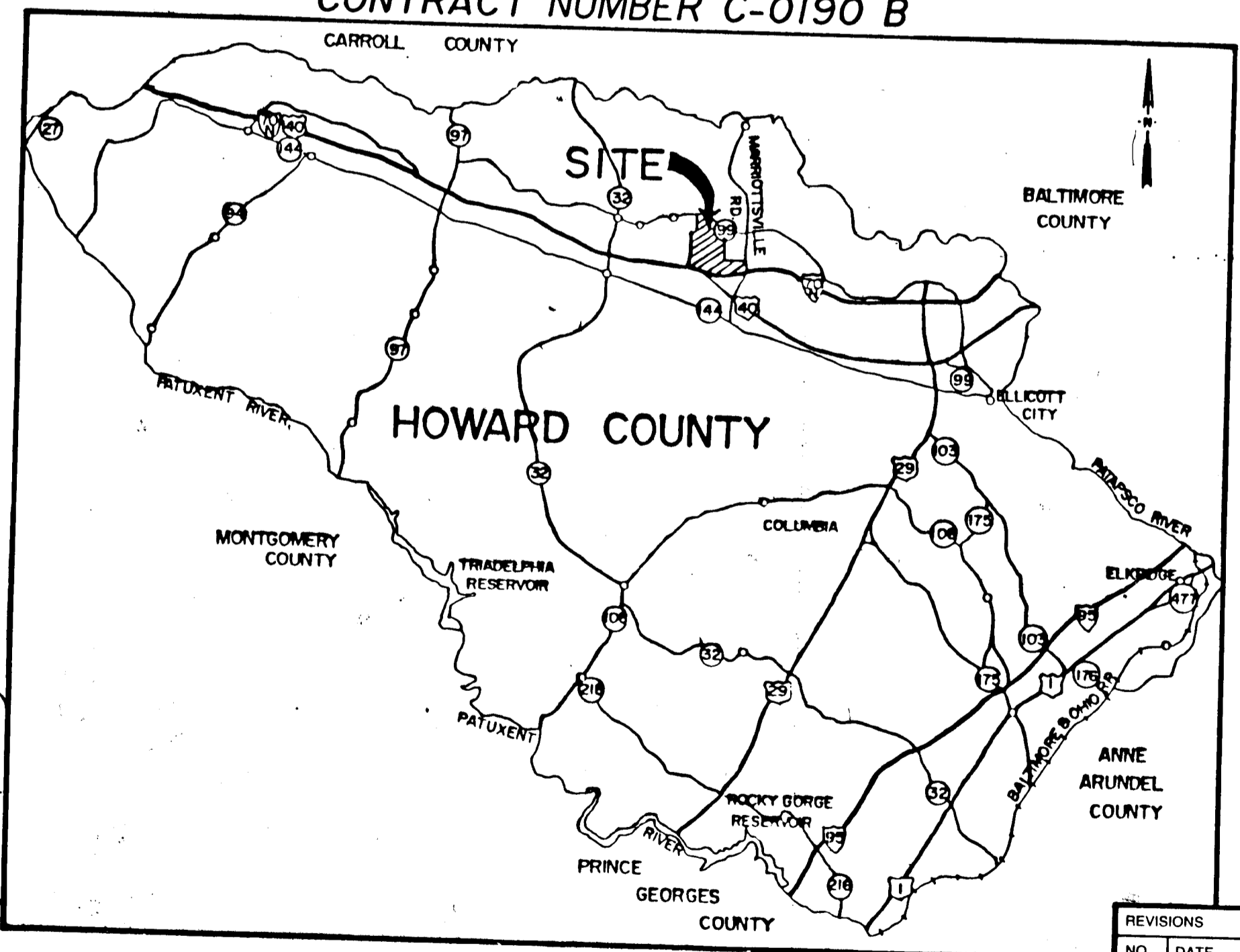
CAPITAL PROJECT NUMBER C-0190-B

CONTRACT NUMBER C-0190 B

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA	LOT/PARCEL
10-01-12-02 10-01-12-03 10-01-12-04		BLOCK	54,283,220,11
WATER CODE Private, Existing	SEWER CODE Private, Existing	TAX/ZONE MAP 10 & 18	ELEC. DIST. CENSUS TR. 3 60-30
OWNER/DEVELOPER Howard County Government			
ADDRESS 3430 Court House Drive, Ellicott City, MD 21043			
APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT			
Steve M. Boyd, M.D., M.P.H. COUNTY HEALTH OFFICER		8-23-90 DATE	
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING			
DIRECTOR: <i>[Signature]</i>		8/20/90 DATE	
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT			
APPROVED FOR STORM DRAINAGE SYSTEMS AND ROADS HOWARD COUNTY DEPT. OF PUBLIC WORKS		8-23-90 DATE	
DIRECTOR: <i>[Signature]</i>		8-23-90 DATE	
CHIEF, BUREAU OF ENGINEERING			

INDEX OF ADDED RECORD DRAWINGS

SHEET No.	TITLE
5A	BORROW SITE GRADING PLAN
8A	REVISED LEACHATE MNG. AREA
13A	REVISED ACCESS ROAD PROFILE STA. 0 TO STA. 25
21A	REVISED ELECTRICAL
25A	REVISED ELECTRICAL

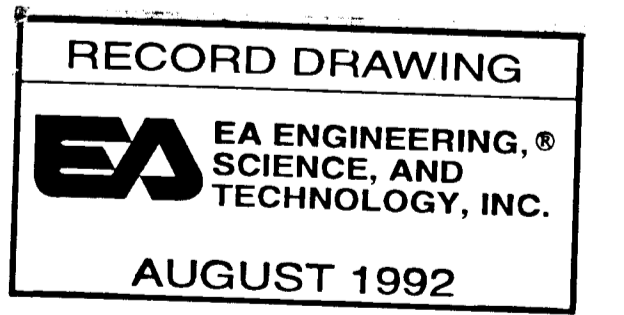
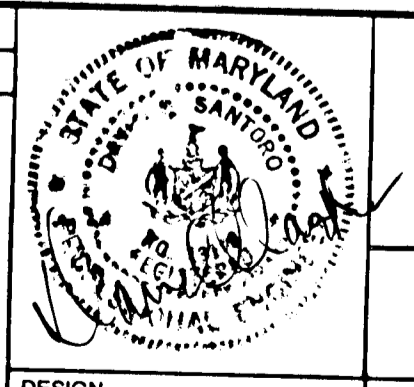


VICINITY MAP
SCALE: 1 INCH = 3 MILES

INDEX OF SHEETS

SHEET NO.	TITLE
1	TITLE SHEET
2	SITE PLAN
3	UNSATURATED SAPROLITE BELOW LINER
4	CELL I BASE GRADING PLAN
5	ROADWAY GRADING PLAN (STA. 0+00 TO 17+00)
6	CELL I OPERATION PLAN
7	CELL I FINAL GRADING PLAN
8	LEACHATE MANAGEMENT AREA
9	BASIN GRADING PLAN
10	CELL I SECTIONS
11	BASIN PROFILES
12	LEACHATE COLLECTION SYSTEM PROFILES
13	MISCELLANEOUS PROFILES
14	EROSION AND SEDIMENT CONTROL PLAN
15	EROSION AND SEDIMENT CONTROL PLAN
16	OPERATIONAL EROSION AND SEDIMENT CONTROL DETAILS
17	BASIN DETAILS
18	CELL I DETAILS
19	ARCHITECTURAL PLANS
20	PUMP BUILDING
21	LEACHATE PUMP STATION MECHANICAL PLAN
22	LEACHATE MANAGEMENT SYSTEM DETAILS
23	LEACHATE MANAGEMENT AREA DETAILS
24	ELECTRICAL
25	ELECTRICAL DETAILS

NO.	DATE	BY	DESCRIPTION
1	8/42	HPL	RECORD DRAWING INDEX



**ALPHA RIDGE SOLID WASTE
MANAGEMENT CENTER
HOWARD COUNTY MARYLAND**

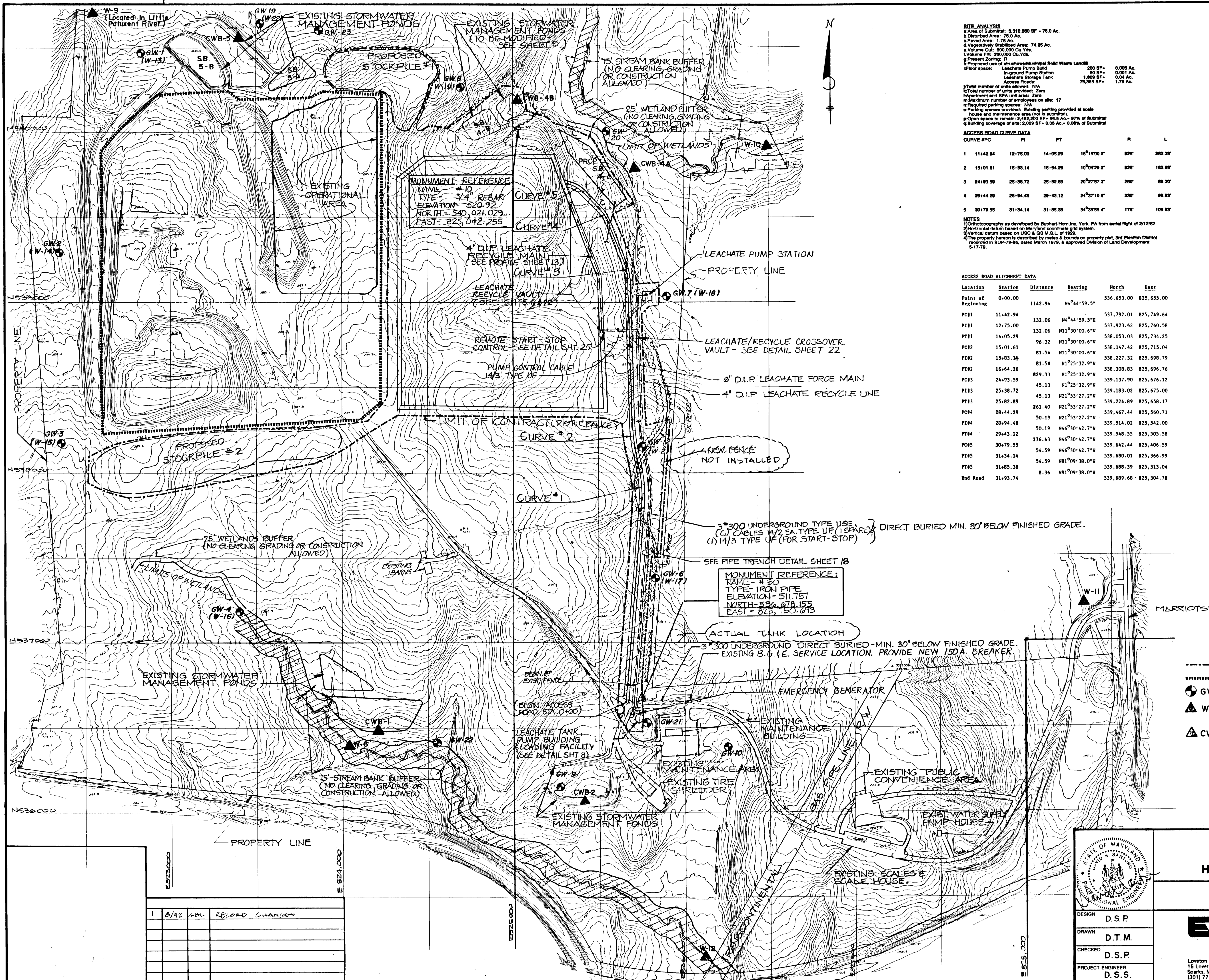
TITLE SHEET

EA EA ENGINEERING,
SCIENCE, AND
TECHNOLOGY, INC.

Lowton Center
15 Loveton Circle
Sparks, Maryland 21152
(301) 771-4950

BALTIMORE
CHICAGO
LINCOLN
NEW YORK
NEW JERSEY
ATLANTA
DALLAS
LOS ANGELES
SAN FRANCISCO

DATE: JUL 1990
SCALE: AS SHOWN
PROJECT NO: 10293.C
SHEET NO: 1 OF 25



SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA	LOT/PARCEL
L: 10-847-008 M: 10-878-218 O: 10-881-014		R	10 & 16
BLOCK ZONE		TAX ZONE	MAP ELEC. DIST. CENSUS TR.
R		10 & 16	3 60-30
WATER CODE Private, Existing		SEWER CODE Private, Existing	
OWNER/DEVELOPER Howard County Government			
ADDRESS 3430 Court House Drive, Ellicott City, MD 21043			
APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT			
<i>Joyce M. Boyd</i> COUNTY HEALTH OFFICER		8-23-90 DATE	
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING			
<i>Jacobs R. R. R. R.</i> DIRECTOR		8/23/90 DATE	
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT			
APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS HOWARD COUNTY DEPT. OF PUBLIC WORKS			
<i>James H. ...</i> DIRECTOR		8/23/90 DATE	
<i>William D. ...</i> CHIEF, BUREAU OF ENGINEERING		8-23-90 DATE	

SITE ANALYSIS
 a. Area of Submittal: 3,310,000 SF = 76.0 Ac.
 b. Disturbed Area: 76.0 Ac.
 c. Paved Area: 1.75 Ac.
 d. Vegetatively Disturbed Area: 74.25 Ac.
 e. Volume Cut: 800,000 Cu. Yds.
 f. Volume Fill: 200,000 Cu. Yds.
 g. Present Zoning: R
 h. Proposed use of structure: Municipal Solid Waste Landfill
 i. Proposed use of site: Leachate Pump Build, In-ground Pump Station, Leachate Storage Tank
 j. Floor space: Leachate Pump Build 200 SF = 0.005 Ac., In-ground Pump Station 20 SF = 0.001 Ac., Leachate Storage Tank 1,800 SF = 0.04 Ac.
 k. Access Roads: 78,965 SF = 1.75 Ac.

NOTES
 1) Topography as developed by Buchart-Horn, Inc., York, PA from aerial flight of 2/12/82.
 2) Horizontal datum based on Maryland coordinate grid system.
 3) Vertical datum based on USCG & US N.S. of 1885.
 4) The property herein is described by metes & bounds on property plat, 3rd Election District recorded in SDP-78-85, dated March 1979, & approved Division of Land Development 5-17-79.

ACCESS ROAD ALIGNMENT DATA

Location	Station	Distance	Bearing	North	East
Point of Beginning	0+00.00	1142.94	N4°44'59.5"	536,653.00	825,655.00
PC#1	11+42.94	132.06	N4°44'59.5"E	537,792.01	825,749.64
PT#1	12+75.00	132.06	N11°30'00.6"	537,923.62	825,760.58
PC#2	14+05.29	96.32	N11°30'00.6"	538,053.03	825,734.25
PT#2	15+01.61	81.54	N11°30'00.6"	538,147.42	825,715.04
PC#3	15+83.14	829.33	N1°25'32.9"	538,227.32	825,698.79
PT#3	16+64.26	45.13	N1°25'32.9"	538,308.83	825,696.76
PC#4	24+93.59	45.13	N1°25'32.9"	539,137.90	825,676.12
PT#4	25+38.72	45.13	N21°53'27.2"	539,183.02	825,675.00
PC#5	25+82.89	261.40	N21°53'27.2"	539,224.89	825,658.17
PT#5	28+44.29	50.19	N21°53'27.2"	539,467.44	825,560.71
PC#6	28+94.48	50.19	N46°30'42.7"	539,514.02	825,542.00
PT#6	29+43.12	136.43	N46°30'42.7"	539,548.55	825,505.58
PC#7	30+79.55	54.59	N46°30'42.7"	539,642.44	825,406.59
PT#7	31+34.14	54.59	N81°09'38.0"	539,680.01	825,366.99
PC#8	31+85.38	8.36	N81°09'38.0"	539,688.39	825,313.04
End Road	31+93.74			539,689.68	825,304.78

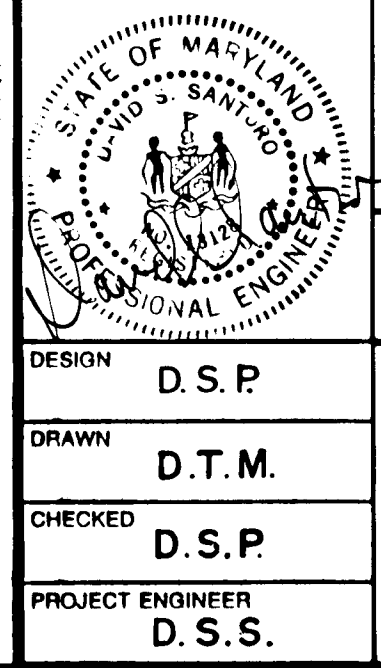
LEGEND

- LIMIT OF CONTRACT (DISTURBANCE)
- EXISTING LANDFILL PERIMETER
- GW-1 EXISTING MONITORING WELLS
- ▲ W-1 MAINSTREAM SURFACE SAMPLING LOCATION
- ▲ CWB-1 CLEARWATER BASIN SURFACE SAMPLING LOCATION

RECORD DRAWING
EA EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 AUGUST 1992

**ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
 HOWARD COUNTY MARYLAND**

SITE PLAN



DESIGN	D.S.P.
DRAWN	D.T.M.
CHECKED	D.S.P.
PROJECT ENGINEER	D.S.S.

EA EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 15 Loveton Circle
 Sparks, Maryland 21152
 (301) 771-4950

BALTIMORE
 CHICAGO
 LINCOLN
 NEW YORK
 NEW JERSEY
 ATLANTA
 DALLAS
 LOS ANGELES
 SAN FRANCISCO

DATE	JUNE 1990
SCALE	1" = 250'
PROJECT NO.	10293.01
SHEET NO.	2 OF 25

NO.	DATE	BY	RECORD CHANGES
1	8/92	ADL	RECORD CHANGES



SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA/LOT/PARCEL 84-253,220,11	
10-847-002 10-878-214 10-881-214	BLOCK R	ZONE 10 B 18	TAX/ZONE MAP/ELEC. DIST./CENSUS TR. 3 90-30
WATER CODE Private, Existing		SEWER CODE Private, Existing	
OWNER/DEVELOPER Howard County Government			
ADDRESS 3430 Court House Drive, Ellicott City, MD 21043			
APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS: HOWARD COUNTY HEALTH DEPARTMENT			
<i>Joyce M. Boyd</i>		8-23-90	
COUNTY HEALTH OFFICER		DATE	
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING			
<i>James B. Keeter</i>		8/28/90	
DIRECTOR		DATE	
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT			
<i>James P. ...</i>		8/22/90	
APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS		HOWARD COUNTY DEPT. OF PUBLIC WORKS	
<i>James P. ...</i>		8/23/90	
DIRECTOR		DATE	
CHIEF, BUREAU OF ENGINEERING			

NOTES:

- 1.) ORTHOTOPOGRAPHY AS DEVELOPED BY BUCHART-HORN, INC. YORK PA. FROM AERIAL FLIGHT OF 2 / 12 / 82.
- 2.) HORIZONTAL DATUM BASED ON MARYLAND COORDINATE GRID SYSTEM.
- 3.) VERTICAL DATUM BASED ON USC & GS M.S.L. OF 1929.
- 4.) LOCATION OF PONDS AND EXISTING FILL FROM IMPLEMENTATION PLANS DATED 12 / 79. LOCATIONS AND ELEVATIONS WERE NOT FIELD VERIFIED.
- 5.) SUBSURFACE AND GROUNDWATER DATA BASED ON RECORDS FROM 1983 TO 1988 AS REFERENCED IN THE SPEC.

LEGEND

- EXISTING CONTOURS 540
- ISOPACH CONTOURS OF BASE OF FILL TO WATER TABLE ELEVATIONS. 10
- MONITORING WELLS (GW-I, D-I, P-II) (Symbol)
- SUBCELL DIVISION LINE (Symbol)
- TEST PITS (Symbol) TP-II

RECORD DRAWING

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

AUGUST 1992

NOT IN CONTRACT

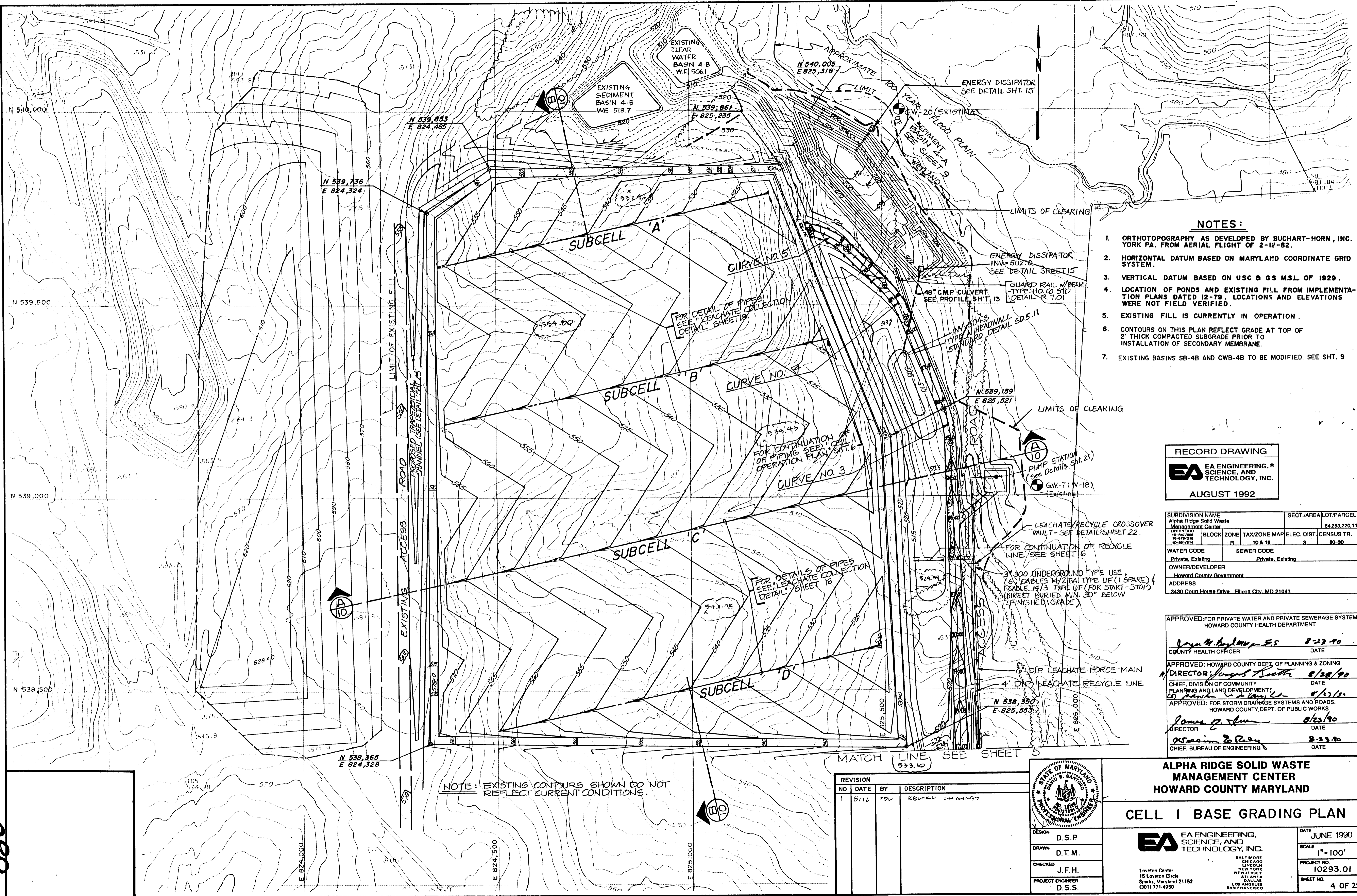
**ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND**

UNSATURATED SAPROLITE BELOW LINER

DESIGN F.T.B.	DATE JUNE 1990
DRAWN D.T.M.	SCALE 1" = 100'
CHECKED T.J.P.	PROJECT NO. 10293.01
PROJECT ENGINEER D.S.S.	SHEET NO. 3 OF 25

REVISIONS			
NO.	DATE	BY	DESCRIPTION

8890



- NOTES:**
1. ORTHOTOPOGRAPHY AS DEVELOPED BY BUCHART-HORN, INC. YORK PA. FROM AERIAL FLIGHT OF 2-12-82.
 2. HORIZONTAL DATUM BASED ON MARYLAND COORDINATE GRID SYSTEM.
 3. VERTICAL DATUM BASED ON USC & GS M.S.L. OF 1929.
 4. LOCATION OF PONDS AND EXISTING FILL FROM IMPLEMENTATION PLANS DATED 12-79. LOCATIONS AND ELEVATIONS WERE NOT FIELD VERIFIED.
 5. EXISTING FILL IS CURRENTLY IN OPERATION.
 6. CONTOURS ON THIS PLAN REFLECT GRADE AT TOP OF 2' THICK COMPACTED SUBGRADE PRIOR TO INSTALLATION OF SECONDARY MEMBRANE.
 7. EXISTING BASINS SB-4B AND CWB-4B TO BE MODIFIED. SEE SHT. 9

RECORD DRAWING
EA ENGINEERING, SCIENCE AND TECHNOLOGY, INC.
 AUGUST 1992

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA/LOT/PARCEL 44,253,220,11	
10-847/100 10-847/110 10-847/114	BLOCK R	ZONE 10 & 16	TAX/ZONE MAP/ELEC. DIST./CENSUS TR. 3 00-30
WATER CODE Private, Existing		SEWER CODE Private, Existing	
OWNER/DEVELOPER Howard County Government			
ADDRESS 3430 Court House Drive, Ellicott City, MD 21043			

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS.
 HOWARD COUNTY HEALTH DEPARTMENT

James H. [Signature] 8/23/90
 COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
 DIRECTOR: *James H. [Signature]* 8/28/90
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

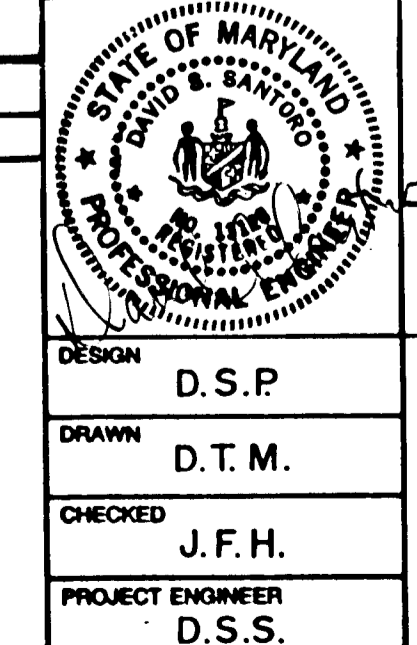
APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS.
 HOWARD COUNTY DEPT. OF PUBLIC WORKS

James H. [Signature] 8/23/90
 DIRECTOR DATE

Michael J. [Signature] 8/23/90
 CHIEF, BUREAU OF ENGINEERING DATE

**ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
 HOWARD COUNTY MARYLAND**

CELL I BASE GRADING PLAN



REVISION NO.	DATE	BY	DESCRIPTION
1	8/16	FDL	REWORK CHANNELS

EA ENGINEERING, SCIENCE AND TECHNOLOGY, INC.
 BALTIMORE CHICAGO LINCOLN NEW YORK NEW JERSEY ATLANTA LOS ANGELES SAN FRANCISCO

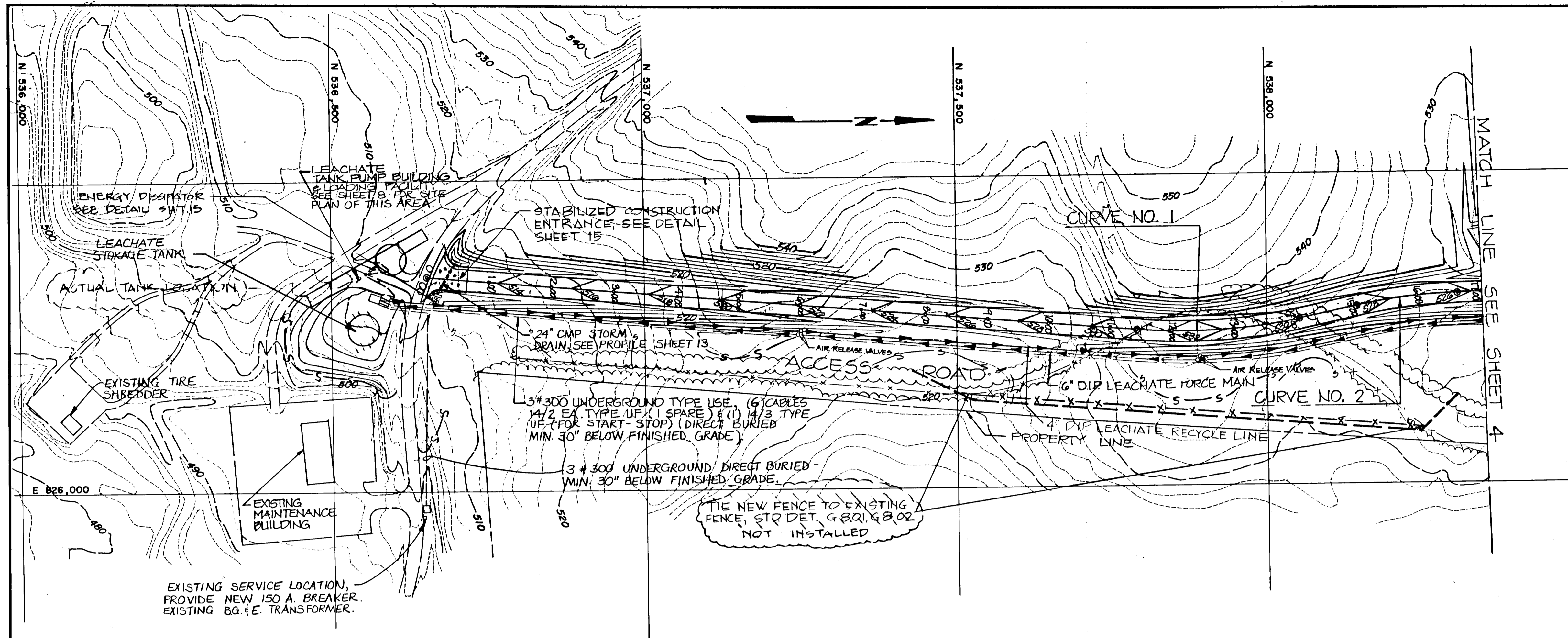
15 Loveton Circle
 Sparks, Maryland 21152
 (301) 771-4950

DESIGN: D.S.P.
 DRAWN: D.T.M.
 CHECKED: J.F.H.
 PROJECT ENGINEER: D.S.S.

DATE: JUNE 1990
 SCALE: 1" = 100'
 PROJECT NO.: 10293.01
 SHEET NO.: 4 OF 25

NOTE: EXISTING CONTOURS SHOWN DO NOT REFLECT CURRENT CONDITIONS.

8880



E 825,500
E 826,000

SEE SHEET 2 FOR ALIGNMENT DATA.
ROAD AND FORCE MAIN PROFILE SHOWN ON SHEET 13.
SEE SHEET 14 FOR CONTINUATION OF EROSION & SEDIMENT CONTROL FEATURES

EXISTING SERVICE LOCATION,
PROVIDE NEW 150 A. BREAKER.
EXISTING B.G. & E. TRANSFORMER.

ROADWAY GRADING PLAN
SCALE: 1" = 100'

SEDIMENT CONTROL & POND CONSTRUCTION

BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 90 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Steve Hudis 8-23-90
SIGNATURE OF DEVELOPER DATE

BY THE ENGINEER:
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 90 DAYS OF COMPLETION.

David Lamb 21 August 1990
SIGNATURE OF ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

Richard Engle 8/23/90
U.S. SOIL CONSERVATION SERVICE DATE

James M. K. ... 8/19/92
U.S. SOIL CONSERVATION SERVICE DATE

Robert J. ... 8/23/90
HOWARD SOIL CONSERVATION DISTRICT DATE

Charles ... 8/19/92
HOWARD SOIL CONSERVATION DISTRICT DATE

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA/LOT/PARCEL 54,253,220.11	
10-00-000	BLOCK	ZONE	TAX/ZONE MAP
10-00-000	R	10 & 16	3
10-00-000			60-30
WATER CODE Private, Existing		SEWER CODE Private, Existing	
OWNER/DEVELOPER Howard County Government			
ADDRESS 3430 Court House Drive, Ellicott City, MD 21043			
APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT			
<i>James M. ...</i>		9-23-90	
COUNTY HEALTH OFFICER		DATE	
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING			
<i>James M. ...</i>		8/20/90	
DIRECTOR		DATE	
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT			
<i>James M. ...</i>		8/23/90	
APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS, HOWARD COUNTY DEPT. OF PUBLIC WORKS		DATE	
<i>James M. ...</i>		8-23-90	
DIRECTOR		DATE	
CHIEF, BUREAU OF ENGINEERING			

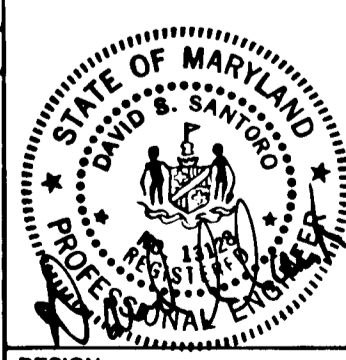
- LEGEND**
- x-x-x- EXISTING FENCE
 - x-x-x-x- NEW FENCE
 - - - - - LIMIT OF CLEARING
 - s-s-s- SILT FENCE

RECORD DRAWING

EA EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

AUGUST 1992

NO.	DATE	BY	DESCRIPTION
1	8/16	DL	Revised quantities



ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND
ROADWAY GRADING PLAN (STA. 0+00-17+00)

DESIGN D. S. P.	DATE JUNE 1990
DRAWN D. T. M.	SCALE AS SHOWN
CHECKED D. S. P.	PROJECT NO. 10293.01
PROJECT ENGINEER D. S. S.	SHEET NO. 5 OF 25

EA EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

15 Loveton Circle
Sparks, Maryland 21152
(301) 771-4850

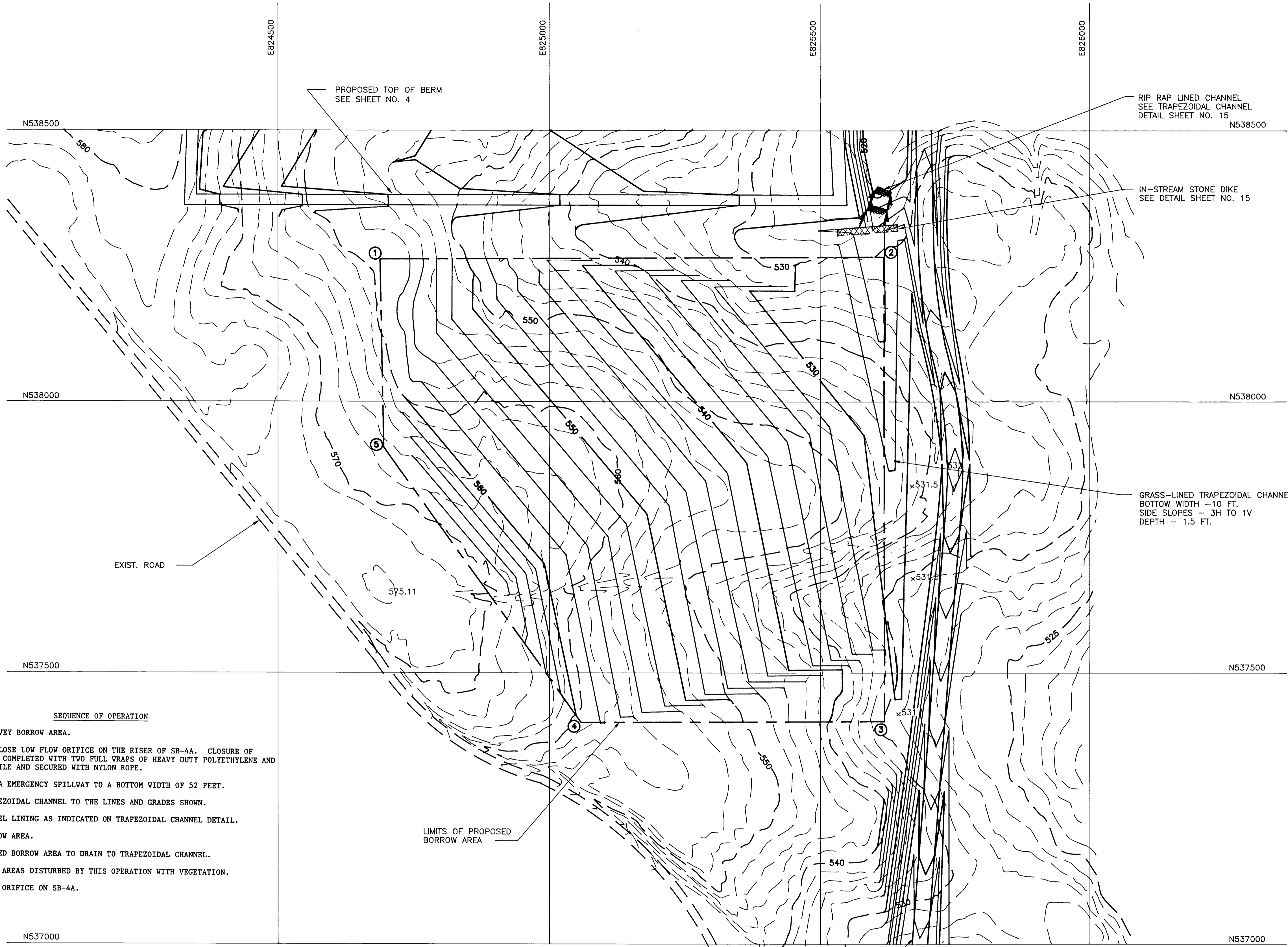
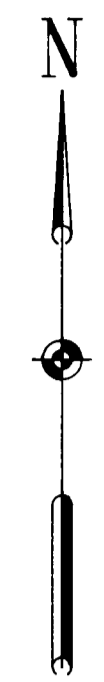
SEDIMENT CONTROL & POND CONSTRUCTION

BY THE DEVELOPER:
 "I WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."
[Signature] 3-15-92
 SIGNATURE OF DEVELOPER DATE

BY THE ENGINEER:
 "I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION."
[Signature] 11 MARCH 91
 SIGNATURE OF ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
[Signature] 3/15/92
 HOWARD SOIL CONSERVATION DISTRICT DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
[Signature] 3/15/91
 HOWARD SOIL CONSERVATION DISTRICT DATE



- SEQUENCE OF OPERATION
1. STAKE AND SURVEY BORROW AREA.
 2. TEMPORARILY CLOSE LOW FLOW ORIFICE ON THE RISER OF SB-4A. CLOSURE OF ORIFICE TO BE COMPLETED WITH TWO FULL WRAPS OF HEAVY DUTY POLYETHYLENE AND WOVEN GEOTEXTILE AND SECURED WITH NYLON ROPE.
 3. EXCAVATE SB-4A EMERGENCY SPILLWAY TO A BOTTOM WIDTH OF 52 FEET.
 4. EXCAVATE TRAPEZOIDAL CHANNEL TO THE LINES AND GRADES SHOWN.
 5. INSTALL CHANNEL LINING AS INDICATED ON TRAPEZOIDAL CHANNEL DETAIL.
 6. EXCAVATE BORROW AREA.
 7. GRADE COMPLETED BORROW AREA TO DRAIN TO TRAPEZOIDAL CHANNEL.
 8. STABILIZE ALL AREAS DISTURBED BY THIS OPERATION WITH VEGETATION.
 9. OPEN LOW FLOW ORIFICE ON SB-4A.

LEGEND

- EXIST. CONTOURS
- 530 --- PROPOSED GRADING
- LIMIT OF DISTURBANCE
- ① N538262 E824688
- ② N538267 E825619
- ③ N537411 E825620
- ④ N537409 E825058
- ⑤ N537912 E824695

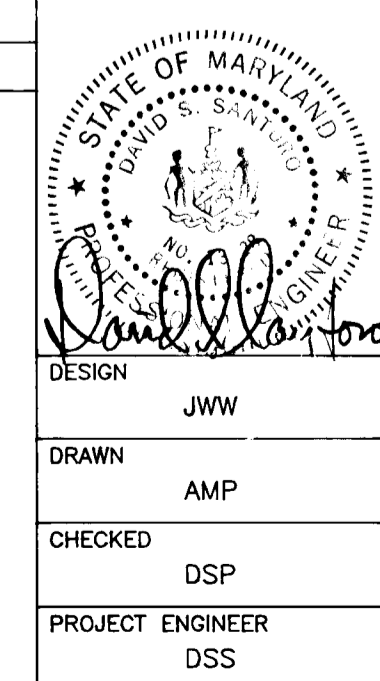
RECORD DRAWING

EA EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

AUGUST 1992

ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
 HOWARD COUNTY, MARYLAND

BORROW SITE GRADING PLAN



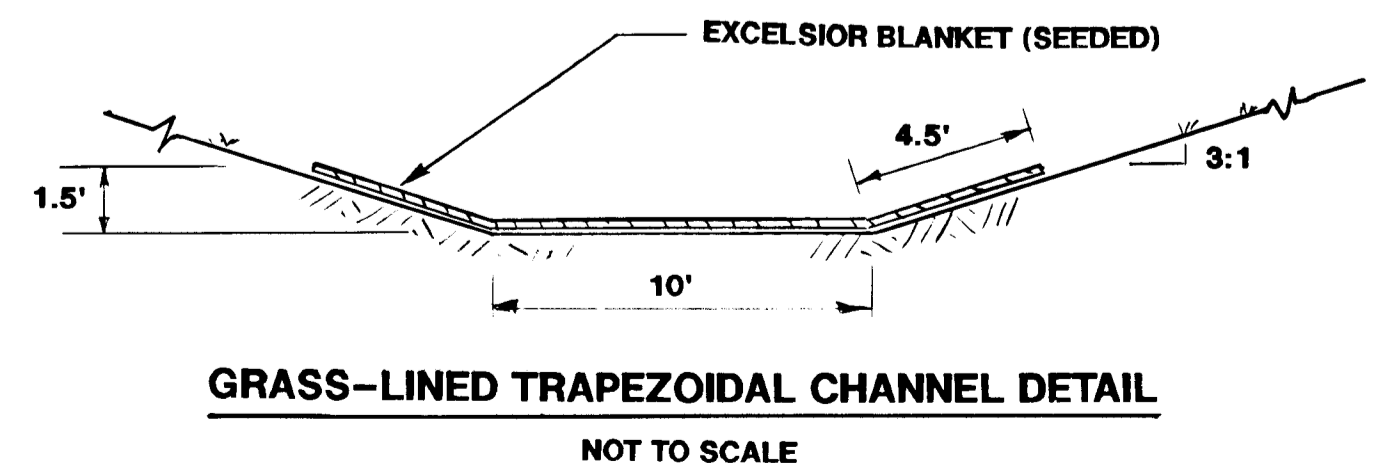
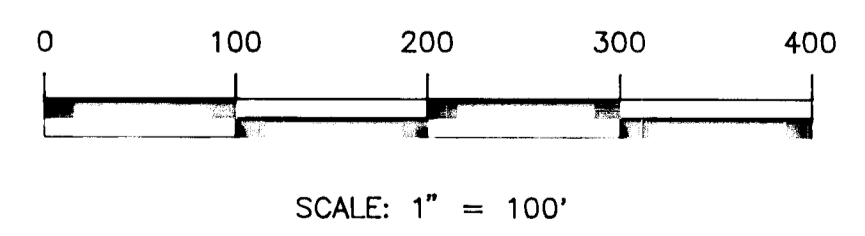
DESIGN JWW
 DRAWN AMP
 CHECKED DSP
 PROJECT ENGINEER DSS

EA EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 Loveton Center
 15 Loveton Circle
 Sparks, Maryland 21152
 (771) 771-4950

BALTIMORE CHICAGO LINCOLN NEW JERSEY NEW YORK ATLANTA DALLAS LOS ANGELES SAN FRANCISCO

DATE FEBRUARY 22, 1991
 SCALE AS SHOWN
 PROJECT NO. 11766.01
 SHEET NO. 5A OF 25

REVISIONS			
NO.	DATE	BY	DESCRIPTION



880

10293-01-005A SDP 90-90
 XXAL-90-005A

MANHOLE LOCATION COORDINATE SCHEDULE

MANHOLES	NORTH	EAST
MH-1	539, 812	825, 296
MH-A	539, 803	825, 297
MH-2	539, 437	825, 465
MH-B	539, 428	825, 465
MH-3	539, 460	825, 605
MH-4	539, 040	825, 560
MH-C	539, 030	825, 560
MH-5	539, 075	825, 715
MH-6	538, 643	825, 579
MH-D	538, 634	825, 579
MH-7	538, 670	825, 720

SEDIMENT CONTROL & POND CONSTRUCTION

BY THE DEVELOPER:

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION PRIOR TO BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

ABC 8/27/90
SIGNATURE OF DEVELOPER DATE

BY THE ENGINEER:

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION.

David 8/27/90
SIGNATURE OF ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

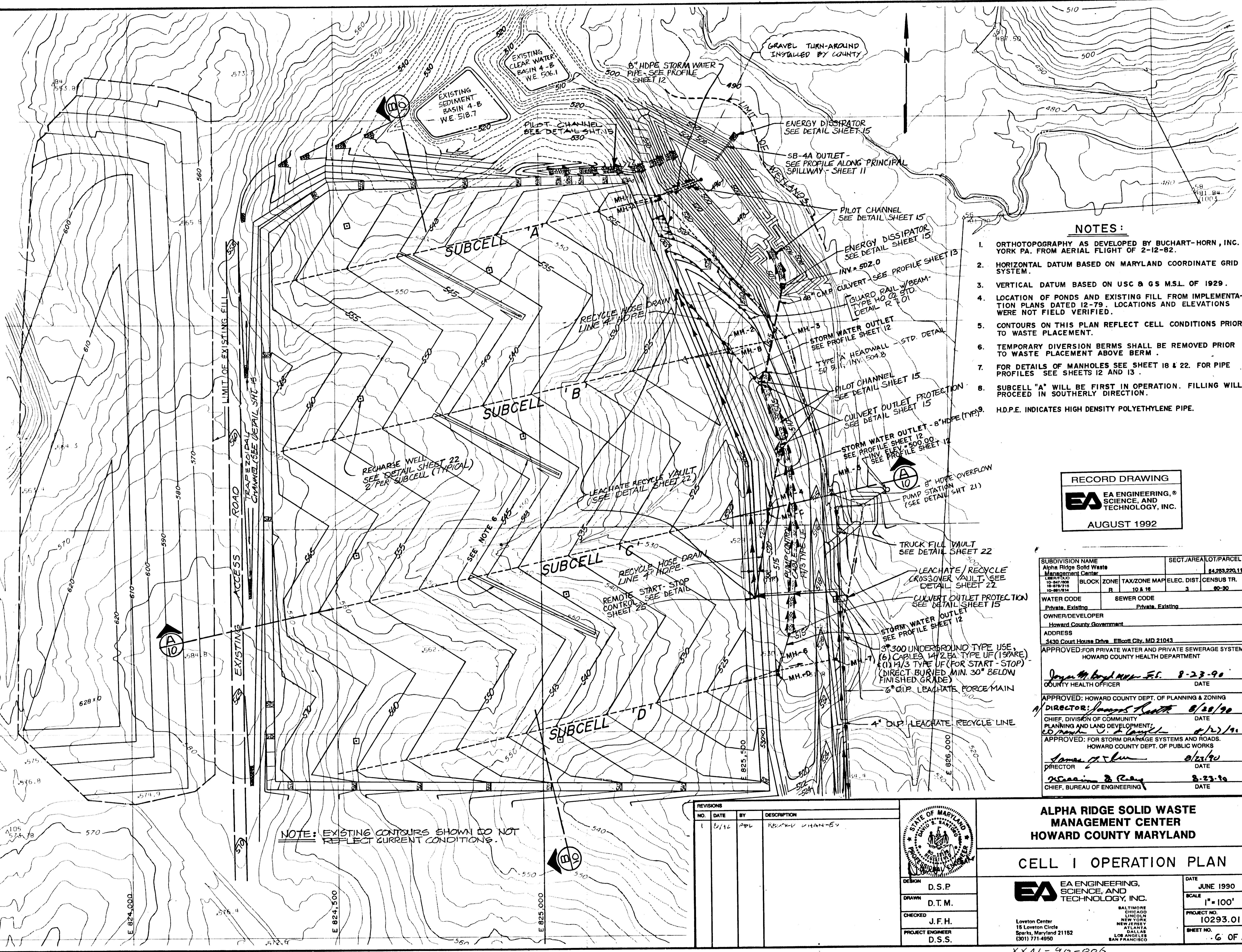
Janet M. Kelly 8/27/90
DATE

Janet M. Kelly 8/19/92
DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Robert W. Zuber 8/27/90
DATE

Robert W. Zuber 8/19/92
DATE



NOTES:

- ORTHO PHOTOGRAPHY AS DEVELOPED BY BUCHART-HORN, INC. YORK PA. FROM AERIAL FLIGHT OF 2-12-82.
 - HORIZONTAL DATUM BASED ON MARYLAND COORDINATE GRID SYSTEM.
 - VERTICAL DATUM BASED ON USC & GS M.S.L. OF 1929.
 - LOCATION OF PONDS AND EXISTING FILL FROM IMPLEMENTATION PLANS DATED 12-79. LOCATIONS AND ELEVATIONS WERE NOT FIELD VERIFIED.
 - CONTOURS ON THIS PLAN REFLECT CELL CONDITIONS PRIOR TO WASTE PLACEMENT.
 - TEMPORARY DIVERSION BERMS SHALL BE REMOVED PRIOR TO WASTE PLACEMENT ABOVE BERM.
 - FOR DETAILS OF MANHOLES SEE SHEET 18 & 22. FOR PIPE PROFILES SEE SHEETS 12 AND 13.
 - SUBCELL "A" WILL BE FIRST IN OPERATION. FILLING WILL PROCEED IN SOUTHERLY DIRECTION.
- H.D.P.E. INDICATES HIGH DENSITY POLYETHYLENE PIPE.

RECORD DRAWING

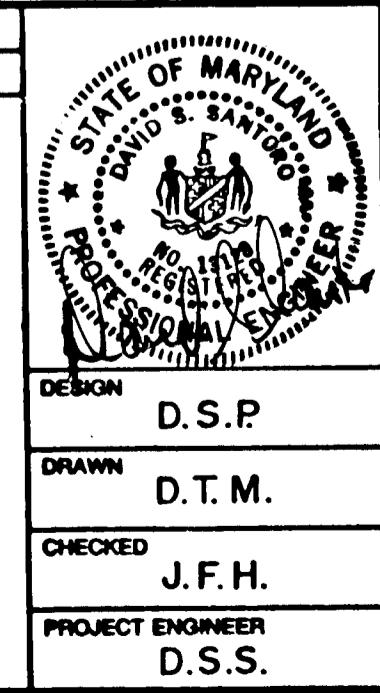
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

AUGUST 1992

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA/LOT/PARCEL 84,283,220.11	
18-8747-000	BLOCK ZONE R	TAX/ZONE MAP/ELEC. DIST./CENSUS TR. 10 & 18 3 80-30	
WATER CODE Private, Existing		SEWER CODE Private, Existing	
OWNER/DEVELOPER Howard County Government			
ADDRESS 4430 Court House Drive, Ellicott City, MD 21043			
APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT			
<i>Debra M. Boyd</i> 8-23-90		DATE	
COUNTY HEALTH OFFICER			
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING			
<i>James R. Keith</i> 8/20/90		DATE	
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT			
<i>John A. ...</i> 8/22/90		DATE	
APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS, HOWARD COUNTY DEPT. OF PUBLIC WORKS			
<i>James ...</i> 8/23/90		DATE	
DIRECTOR			
<i>Michael ...</i> 8-23-90		DATE	
CHIEF, BUREAU OF ENGINEERING			

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	8/16	APL	REVISION CHANGES



ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER HOWARD COUNTY MARYLAND

CELL I OPERATION PLAN

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

DATE: JUNE 1990
SCALE: 1" = 100'
PROJECT NO.: 10293.01
SHEET NO.: 6 OF 25

15 Loveton Circle, Sparks, Maryland 21152 (301) 771-4950

NOTE: EXISTING CONTOURS SHOWN DO NOT REFLECT CURRENT CONDITIONS.

888

SEDIMENT CONTROL & POND CONSTRUCTION

BY THE DEVELOPER:
 I WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Steve Hedin 8/27/90
 SIGNATURE OF DEVELOPER DATE

BY THE ENGINEER:
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION.

W. J. Anderson 8/19/90
 SIGNATURE OF ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

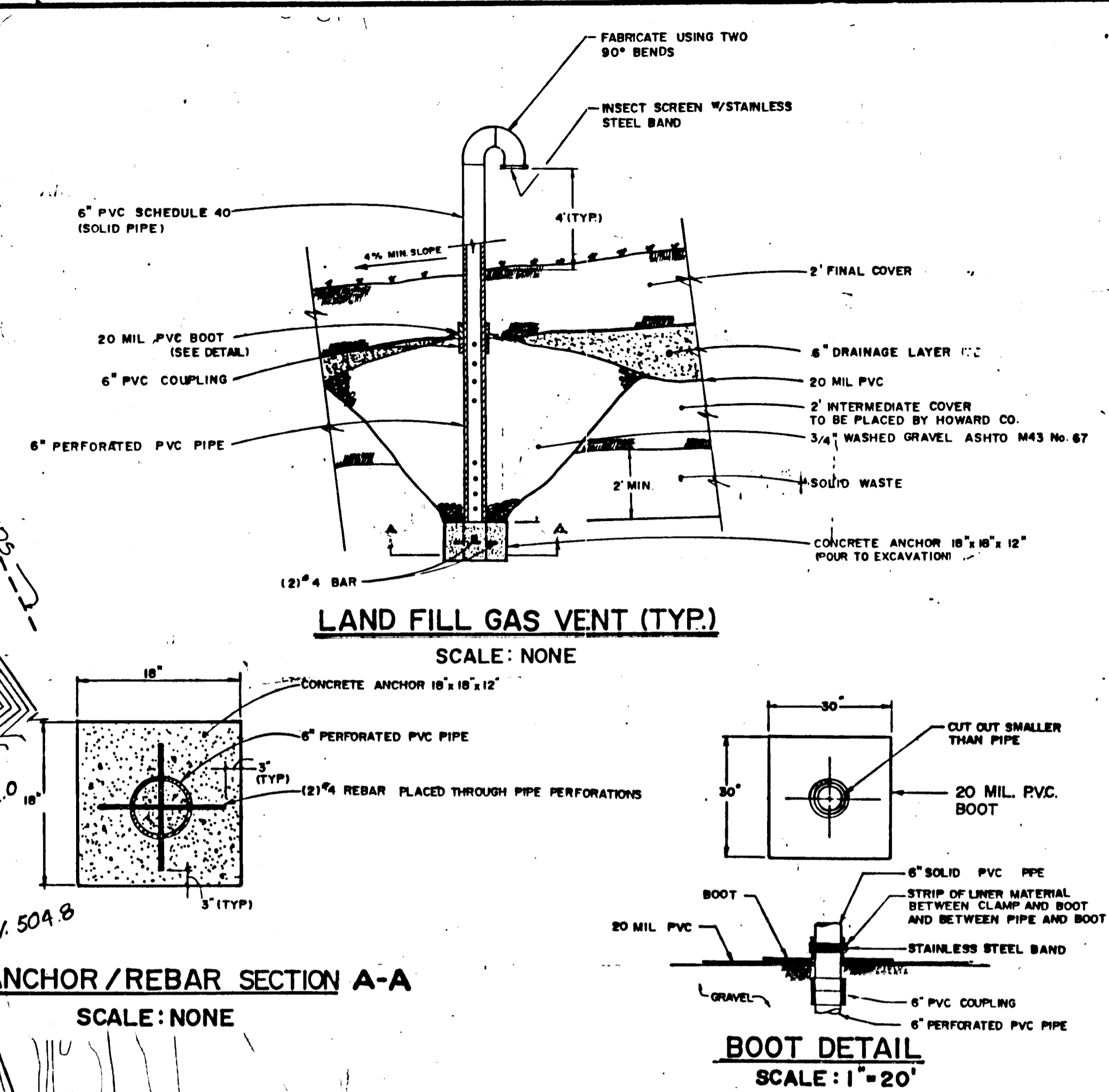
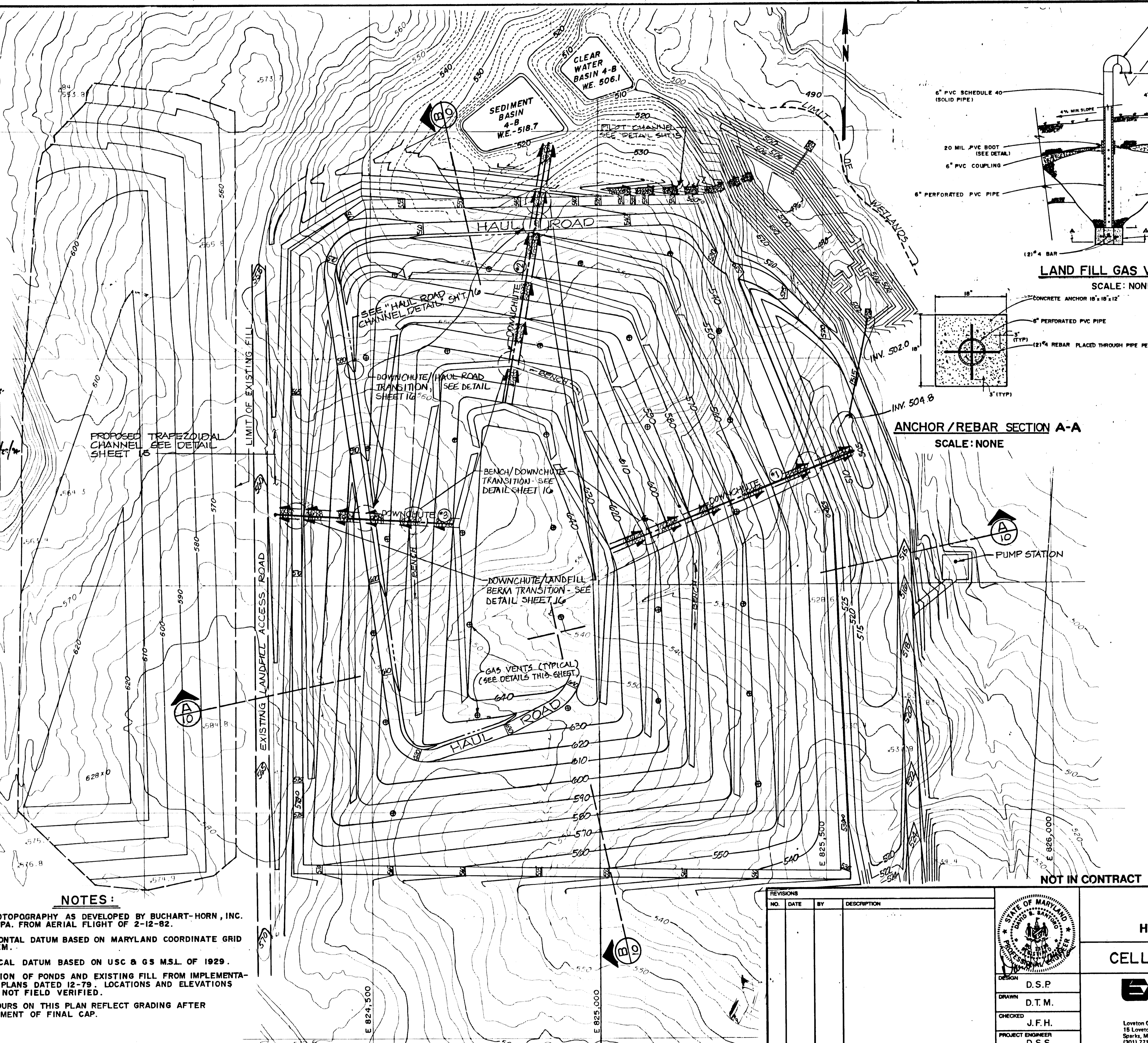
James M. Helms 8/27/90
 U.S. SOIL CONSERVATION SERVICE DATE

James M. Helms 8/19/92
 U.S. SOIL CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

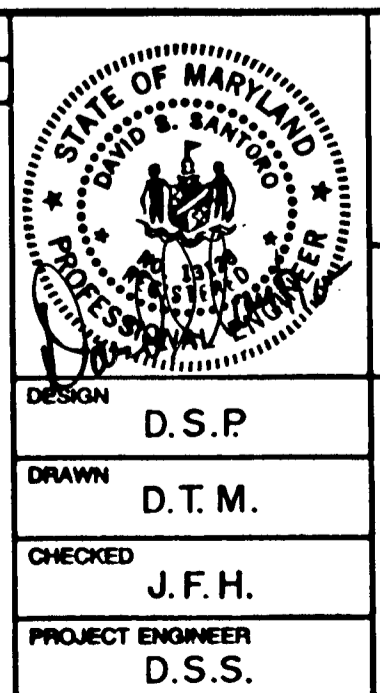
Robert W. Zickler 8/27/90
 HOWARD SOIL CONSERVATION DISTRICT DATE

Robert W. Zickler 8/19/92
 HOWARD SOIL CONSERVATION DISTRICT DATE



- NOTES:**
1. ORTHOTOPOGRAPHY AS DEVELOPED BY BUCHART-HORN, INC. YORK PA. FROM AERIAL FLIGHT OF 2-12-82.
 2. HORIZONTAL DATUM BASED ON MARYLAND COORDINATE GRID SYSTEM.
 3. VERTICAL DATUM BASED ON USC & GS M.S.L. OF 1929.
 4. LOCATION OF PONDS AND EXISTING FILL FROM IMPLEMENTATION PLANS DATED 12-79. LOCATIONS AND ELEVATIONS WERE NOT FIELD VERIFIED.
 5. CONTOURS ON THIS PLAN REFLECT GRADING AFTER PLACEMENT OF FINAL CAP.

REVISIONS			
NO.	DATE	BY	DESCRIPTION



ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND

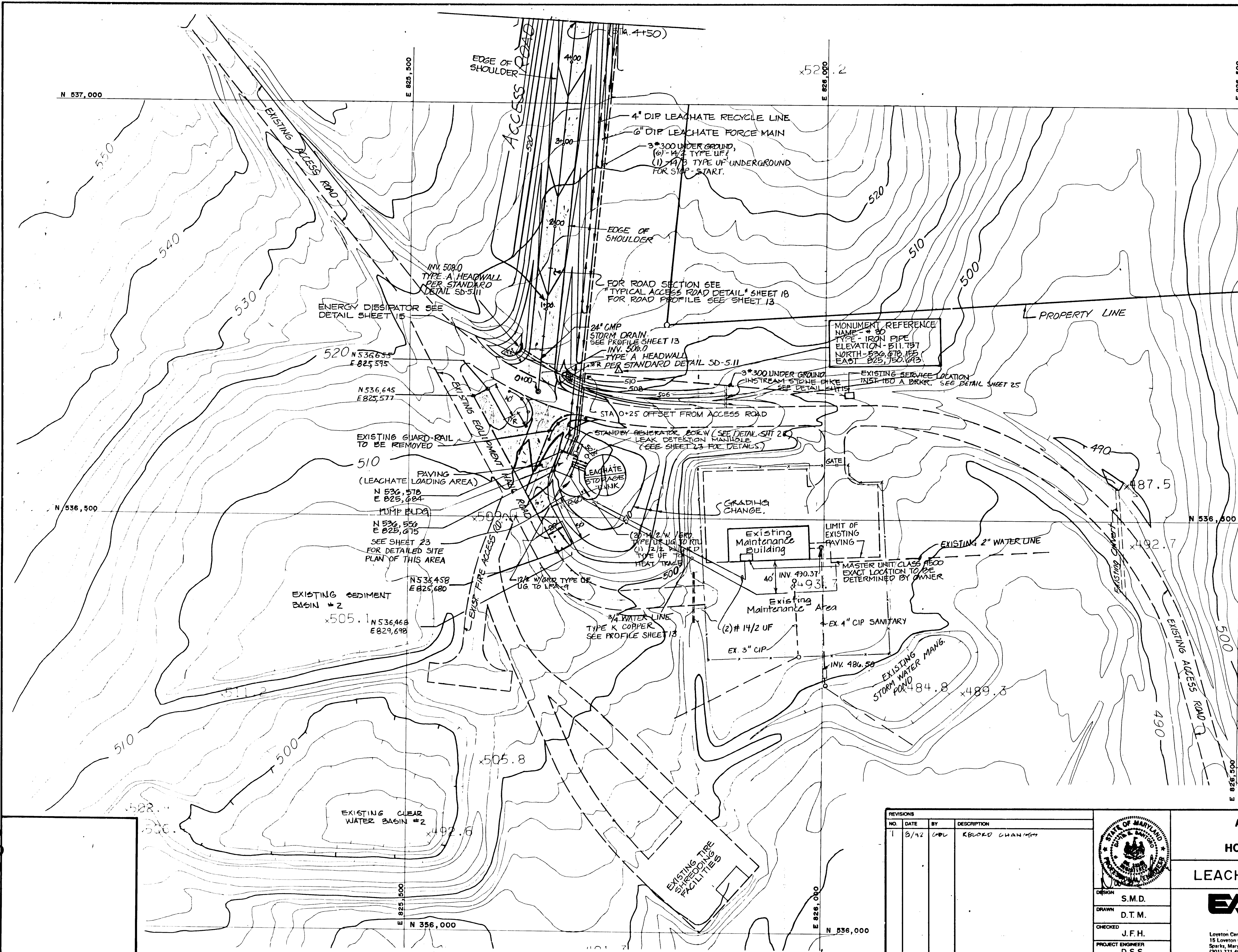
CELL I FINAL GRADING PLAN

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 15 Loveton Circle
 Sparks, Maryland 21152
 (301) 771-4950

DATE: JUNE 1990
 SCALE: 1" = 100'
 PROJECT NO.: 10293.01
 SHEET NO.: 7 OF 25

RECORD DRAWING	
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.	
AUGUST 1992	
SUBDIVISION NAME Alpha Ridge Solid Waste Management Center	SECT./AREA/LOT/PARCEL 54.283.220.11
WATER CODE Private, Existing	SEWER CODE Private, Existing
OWNER/DEVELOPER Howard County Government	
ADDRESS 3430 Court House Drive, Ellicott City, MD 21043	
APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT	
<i>Joseph G. Bond</i> 8-23-90 COUNTY HEALTH OFFICER	DATE
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING DIRECTOR: <i>James S. Heltz</i> 8/23/90 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT	
APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS. HOWARD COUNTY DEPT. OF PUBLIC WORKS	
<i>James S. Heltz</i> 8/23/90 DIRECTOR	DATE
<i>William B. Ray</i> 8-23-90 CHIEF, BUREAU OF ENGINEERING	DATE

KXAL-90-007
 10293-01-007 SDP 90-90

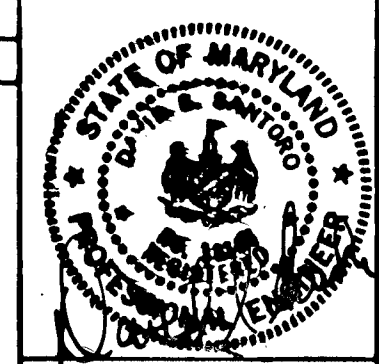


THIS SHEET SUPERSEDES PJE TO FIELD CHANGES IN TANK LOCATION. SEE SHT. 9A OF 25 FOR REVISED LEACHATE 14" DIA. AREA.

RECORD DRAWING
EA EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 AUGUST 1992

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA/LOT/PARCEL 84.253.220.11	
LEAD FILE NO. 10-247/900 18-09218 10-281214	BLOCK ZONE R	TAX/ZONE MAP 10 & 18	ELEC. DIST. CENSUS TR. 3 80-30
WATER CODE Private, Existing	SEWER CODE Private, Existing	OWNER/DEVELOPER Howard County Government	
ADDRESS 3430 Court House Drive, Ellicott City, MD 21043			
APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS. HOWARD COUNTY HEALTH DEPARTMENT			
County Health Officer <i>James M. Boyd</i>		DATE 8-23-90	
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING			
Director <i>David S. Smith</i>		DATE 8/23/90	
APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS. HOWARD COUNTY DEPT. OF PUBLIC WORKS			
Director <i>James M. Boyd</i>		DATE 8/23/90	
Chief, Bureau of Engineering <i>James M. Boyd</i>		DATE 8-23-90	

REVISIONS			
NO.	DATE	BY	DESCRIPTION
1	8/12	LDL	RECORD CHANGES



ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND

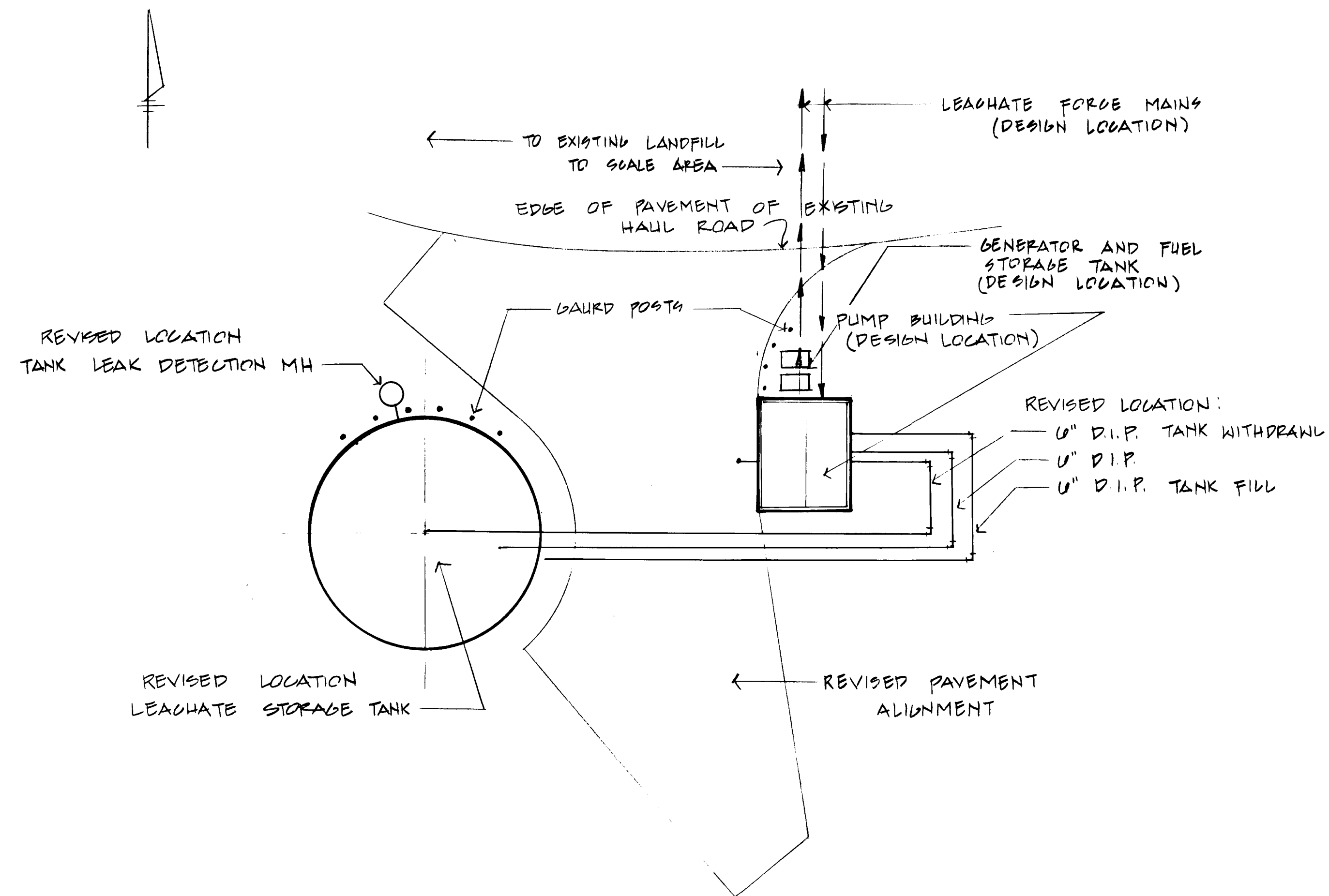
LEACHATE MANAGEMENT AREA

EA EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 BALTIMORE CHICAGO LINCOLN NEW YORK NEW JERSEY ATLANTA DALLAS LOS ANGELES SAN FRANCISCO
 Lovett Center
 15 Lovett Circle
 Sparks, Maryland 21152
 (301) 771-4950

DATE
JUL 1990
 SCALE
1" = 50'
 PROJECT NO.
10293.01
 SHEET NO.
8 OF 25

10293.01-008
 XXAL-90-008
 SDP 90-90

880



PLAN
SCALE: 1" = 20'

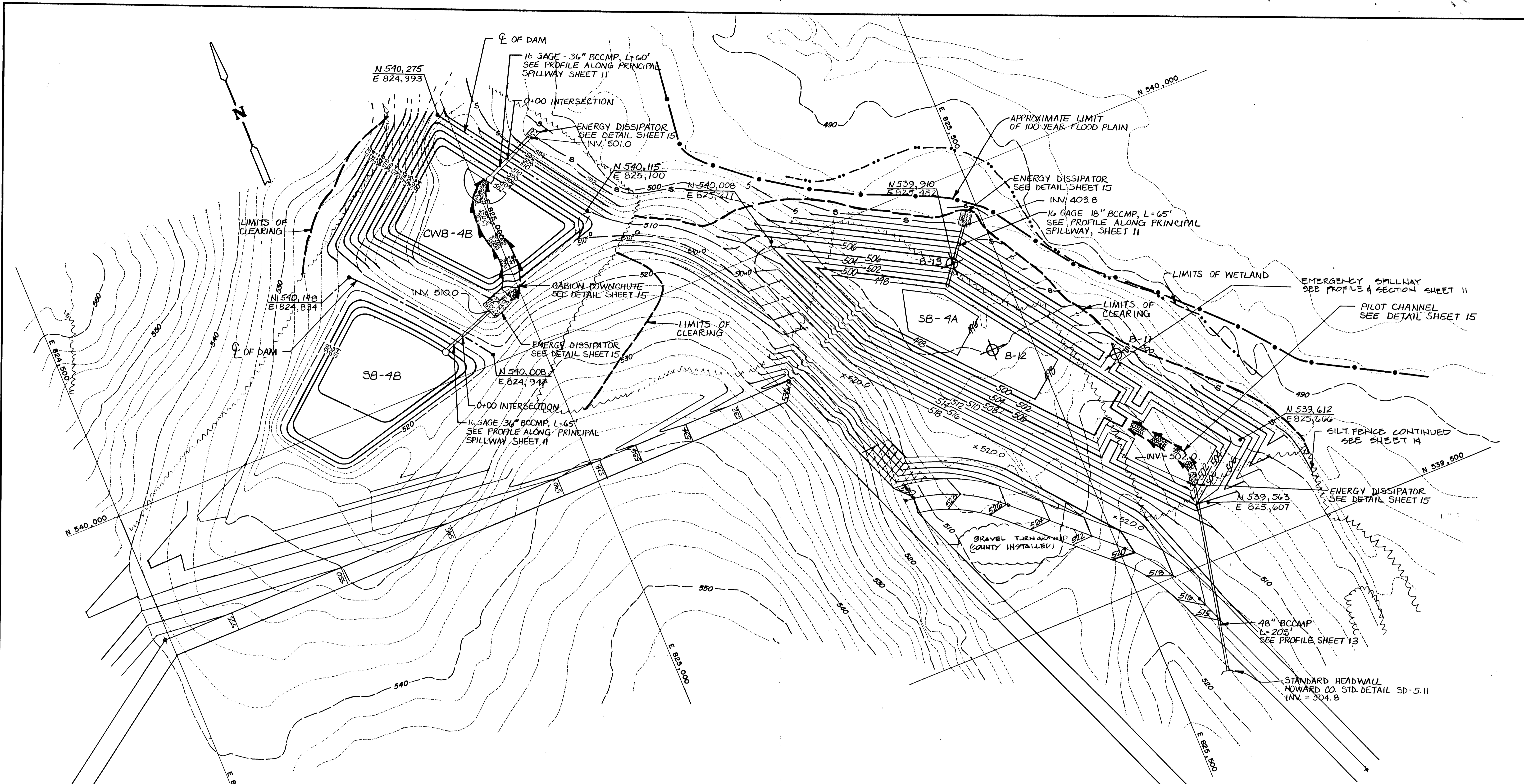
THIS DRAWING REFLECTS REISED CONDITIONS AND SUPERSEDES PORTIONS OF SHEET B (INCLUDING TANK LOCATION AND PIPING LAYOUT) OF THE CONTACT DRAWINGS

RECORD DRAWING
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
AUGUST 1992

STATE OF MARYLAND
DAVID B. HARRIS
10/92

REVISIONS			
NO.	DATE	BY	DESCRIPTION

ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER HOWARD COUNTY MARYLAND	
REVISED LEACHATE MNG AREA	
DESIGN	EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
DRAWN	GBL
CHECKED	PAP
PROJECT ENGINEER	DSS
DATE	10/92
SCALE	1" = 20'
PROJECT NO.	10293.01
SHEET NO.	8A OF 25



SEDIMENT CONTROL & POND CONSTRUCTION

BY THE DEVELOPER:

I WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE CONSERVATION DISTRICT WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

J.P. Huls 8-23-90
SIGNATURE OF DEVELOPER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

J. Helms 8-23-90
DATE OF SOIL CONSERVATION REVIEW

James A. Smith 8/19/92
DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Robert J. Gilmour 8-23-90
DATE

Robert J. Gilmour 8/19/92
DATE

BY THE ENGINEER:

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL, REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITHIN 30 DAYS OF COMPLETION.

David D. Dwyer 21 Aug 1990
SIGNATURE OF ENGINEER DATE

SUBDIVISION NAME: Alpha Ridge Solid Waste Management Center

SECT./AREA/LOT/PARCEL: 54.253.220.11

BLOCK: 10-817/208 ZONE: R TAX/ZONE MAP: 10 & 18 ELEC. DIST: 3 CENSUS TR.:

WATER CODE: Private, Existing SEWER CODE: Private, Existing

OWNER/DEVELOPER: Howard County Government

ADDRESS: 3430 Court House Drive, Ellicott City, MD 21043

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

James M. Boyd 8-23-90
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

James M. Boyd 8/28/90
DIRECTOR DATE

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

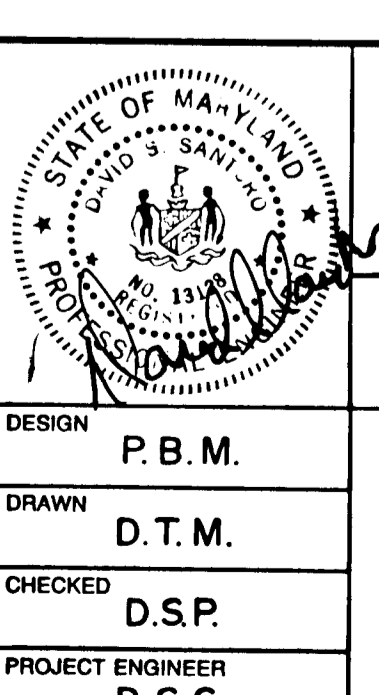
James M. Boyd 8/23/90
DATE

APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS.
HOWARD COUNTY DEPT. OF PUBLIC WORKS

James M. Boyd 8/23/90
DIRECTOR DATE

James M. Boyd 8-23-90
CHIEF, BUREAU OF ENGINEERING DATE

NO.	DATE	BY	DESCRIPTION
1	8/92	GBL	RECORD CHANGES



ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND

BASIN GRADING PLAN

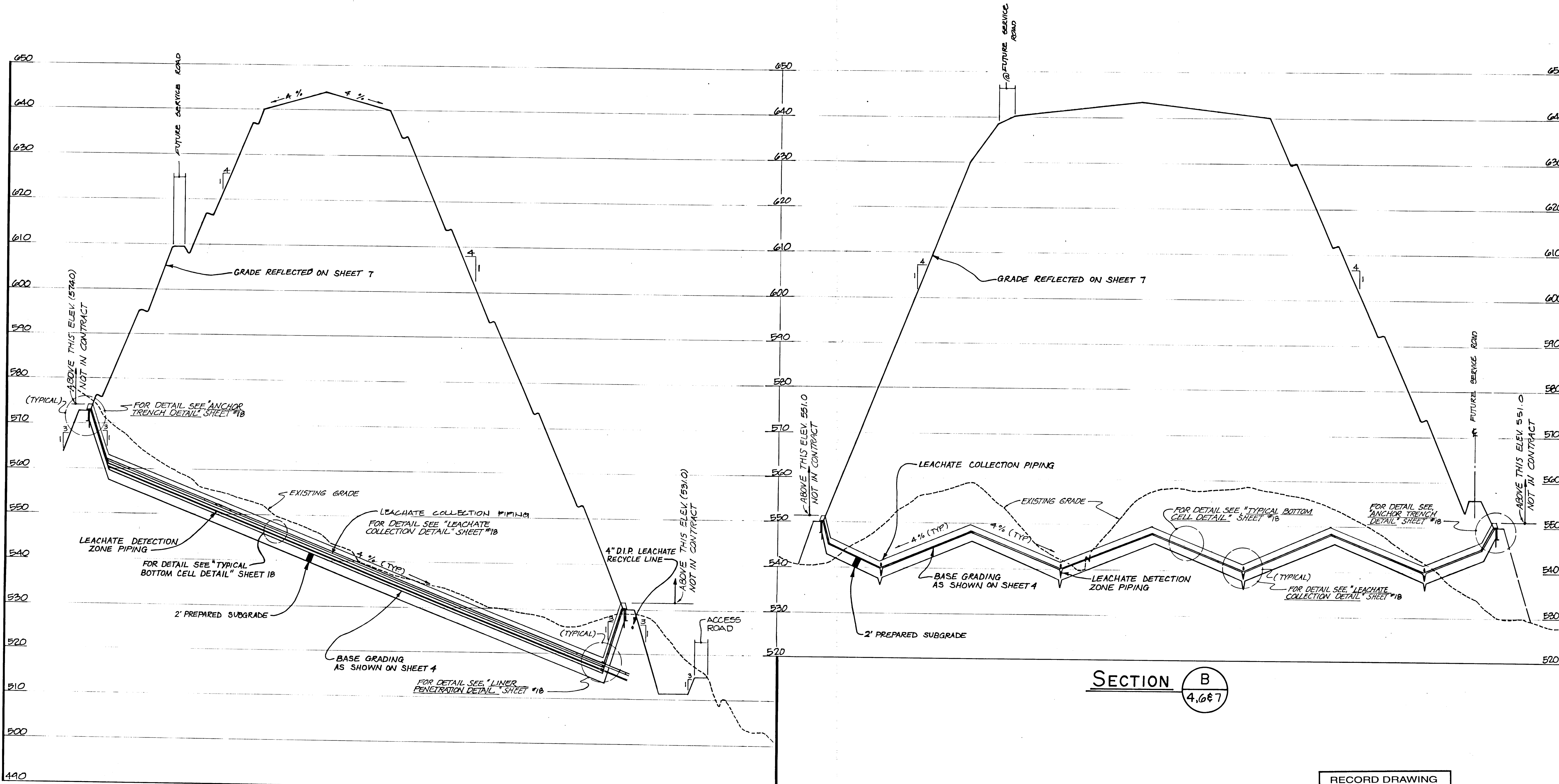
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

Hunt Valley/Loveton Center
15 Loveton Circle
Sparks, Maryland 21152
(301) 771-4950

DESIGN: P.B.M.
DRAWN: D.T.M.
CHECKED: D.S.P.
PROJECT ENGINEER: D.S.S.

DATE: JUNE 1990
SCALE: 1" = 50'
PROJECT NO.: 10293.01
SHEET NO.: 9 OF 25

880



SECTION A
4.6&7

SECTION B
4.6&7

RECORD DRAWING
EA EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 AUGUST 1992

ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER HOWARD COUNTY MARYLAND

CELL I SECTIONS

EA EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 Loveton Center
 15 Loveton Circle
 Sparks, Maryland 21162
 (301) 771-4950

DATE: JUNE 1990
 SCALE: HOR. 1"=100'-VERT. 1"=10'
 PROJECT NO.: 10293.01
 SHEET NO.: 10 OF 25

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
 HOWARD COUNTY HEALTH DEPARTMENT

John M. Boyd, M.P.H., E.S. 8-23-90
 COUNTY HEALTH OFFICER DATE

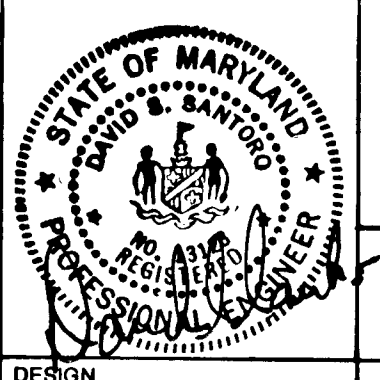
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
 DIRECTOR: *Joseph D. Bette* 8/28/90
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT; DATE

John P. R. Rupp 1/27/85
 APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS.
 HOWARD COUNTY DEPT. OF PUBLIC WORKS

Thomas J. Rupp 8/23/90
 DIRECTOR DATE

William J. Rupp 8-23-90
 CHIEF, BUREAU OF ENGINEERING DATE

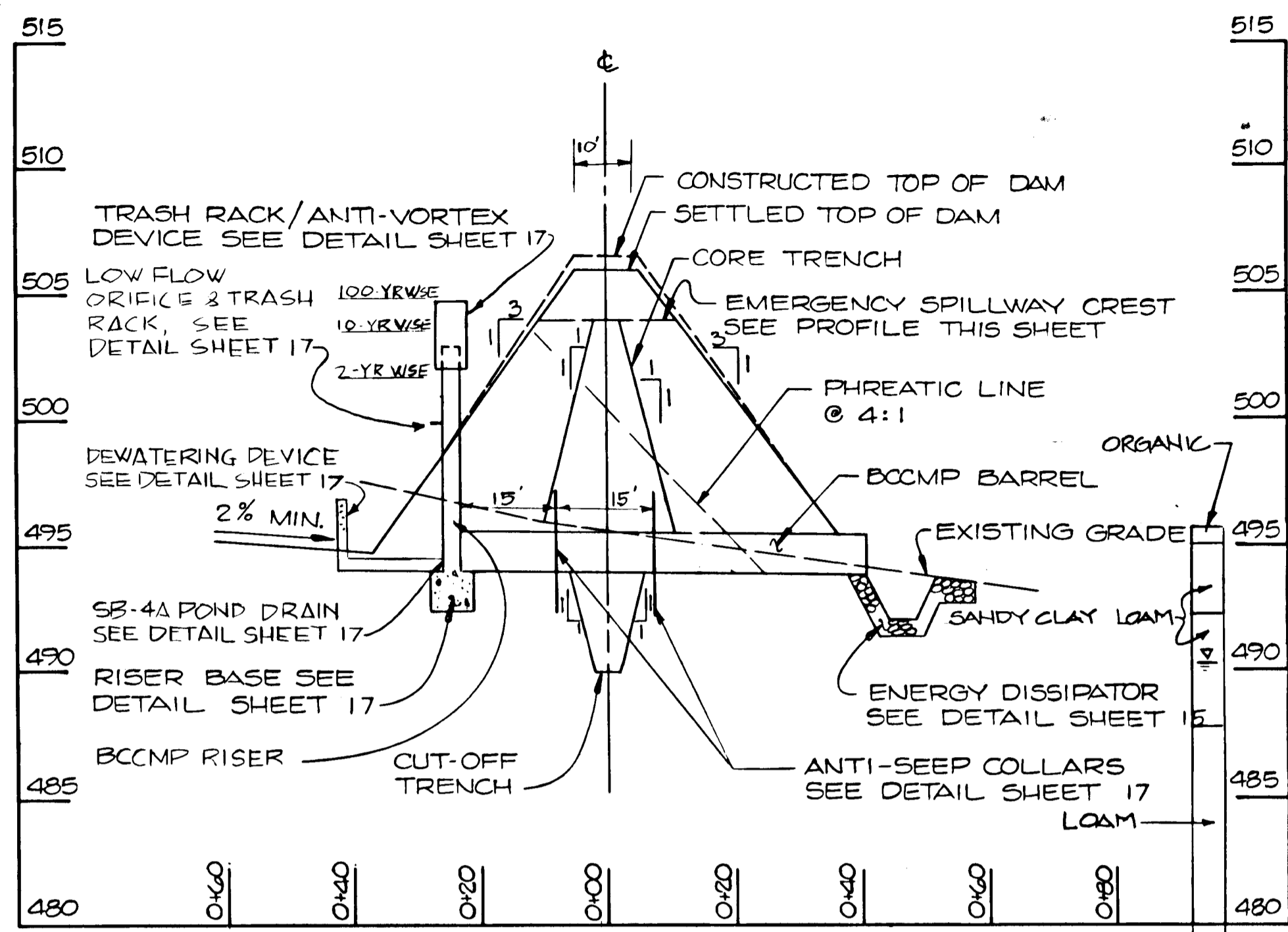
REVISIONS			
NO.	DATE	BY	DESCRIPTION



DESIGN: D.S.P.
 DRAWN: D.T.M.
 CHECKED: J.F.H.
 PROJECT ENGINEER: D.S.S.

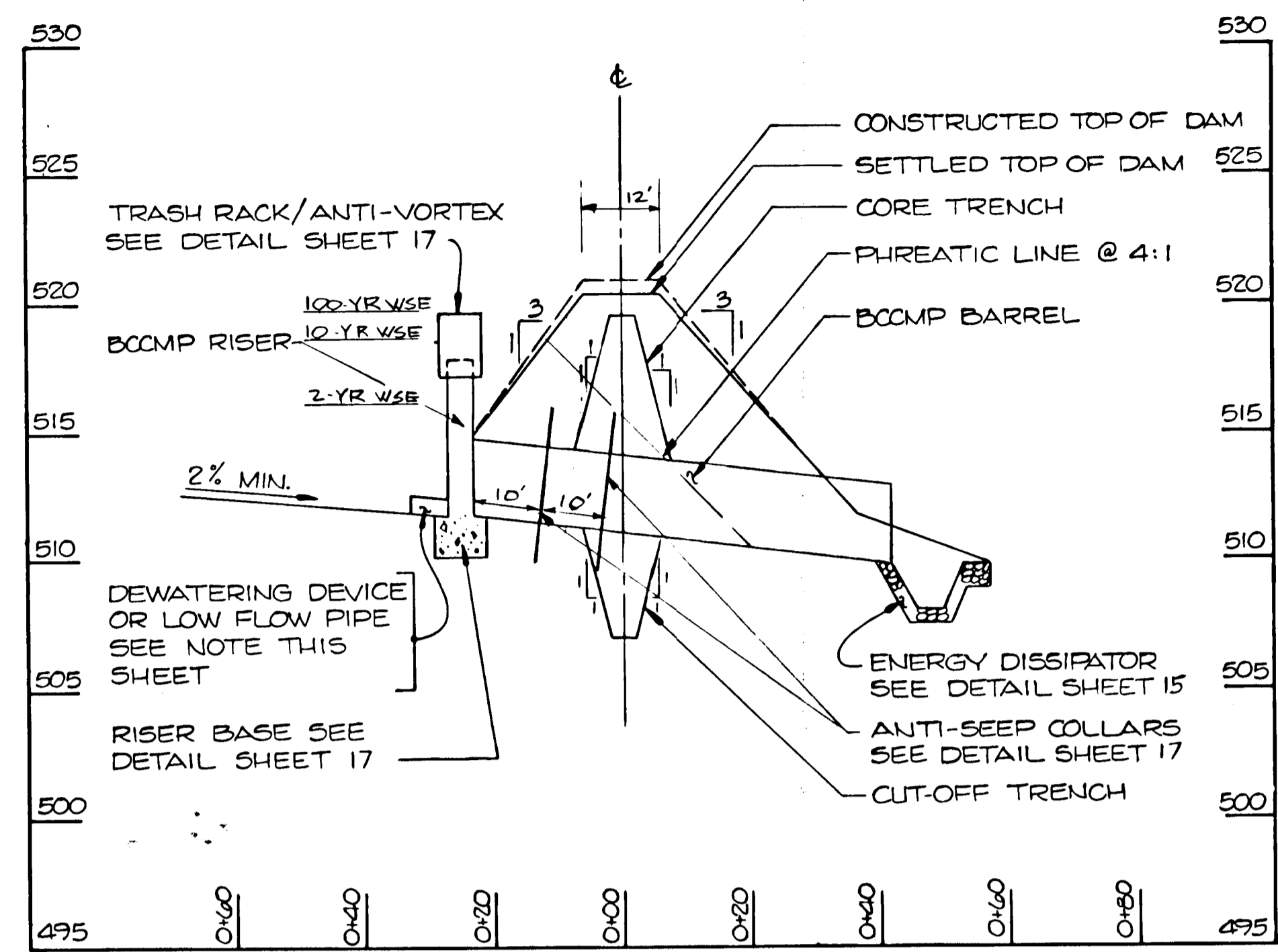
SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA/LOT/PARCEL 84.253.220.11	
BLK. ZONE 10-22-10-10	TAX ZONE MAP R	ELEC. DIST. 3	CENSUS TR. 80-30
WATER CODE Private, Existing		SEWER CODE Private, Existing	
OWNER/DEVELOPER Howard County Government			
ADDRESS 3430 Court House Drive, Ellicott City, MD 21043			

880



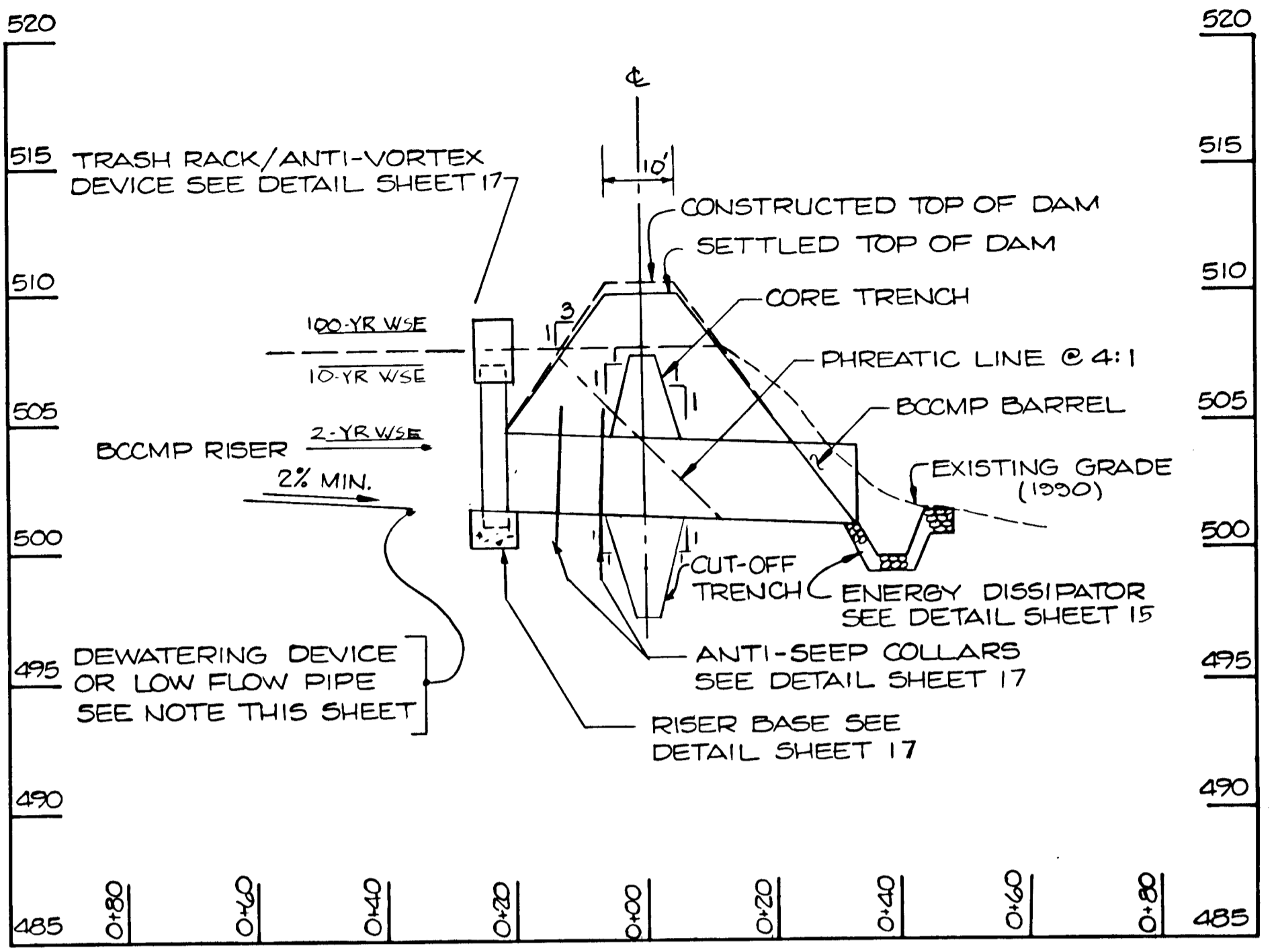
PROFILE ALONG PRINCIPAL SPILLWAY
@ SB-4A

SCALE: 1" = 20' HORIZ.
1" = 5' VERT.



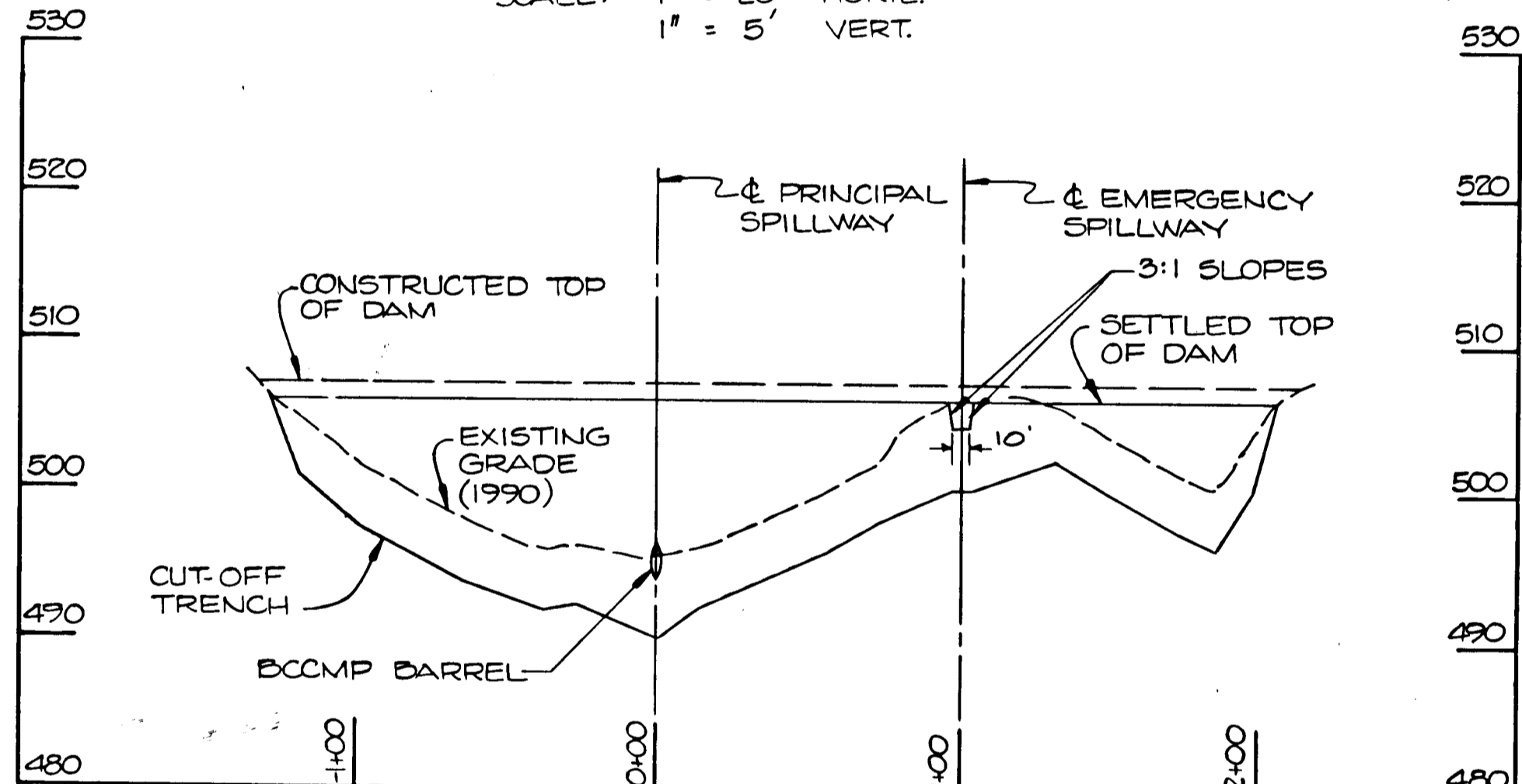
PROFILE ALONG PRINCIPAL SPILLWAY
@ SB-4B

SCALE: 1" = 20' HORIZ.
1" = 5' VERT.



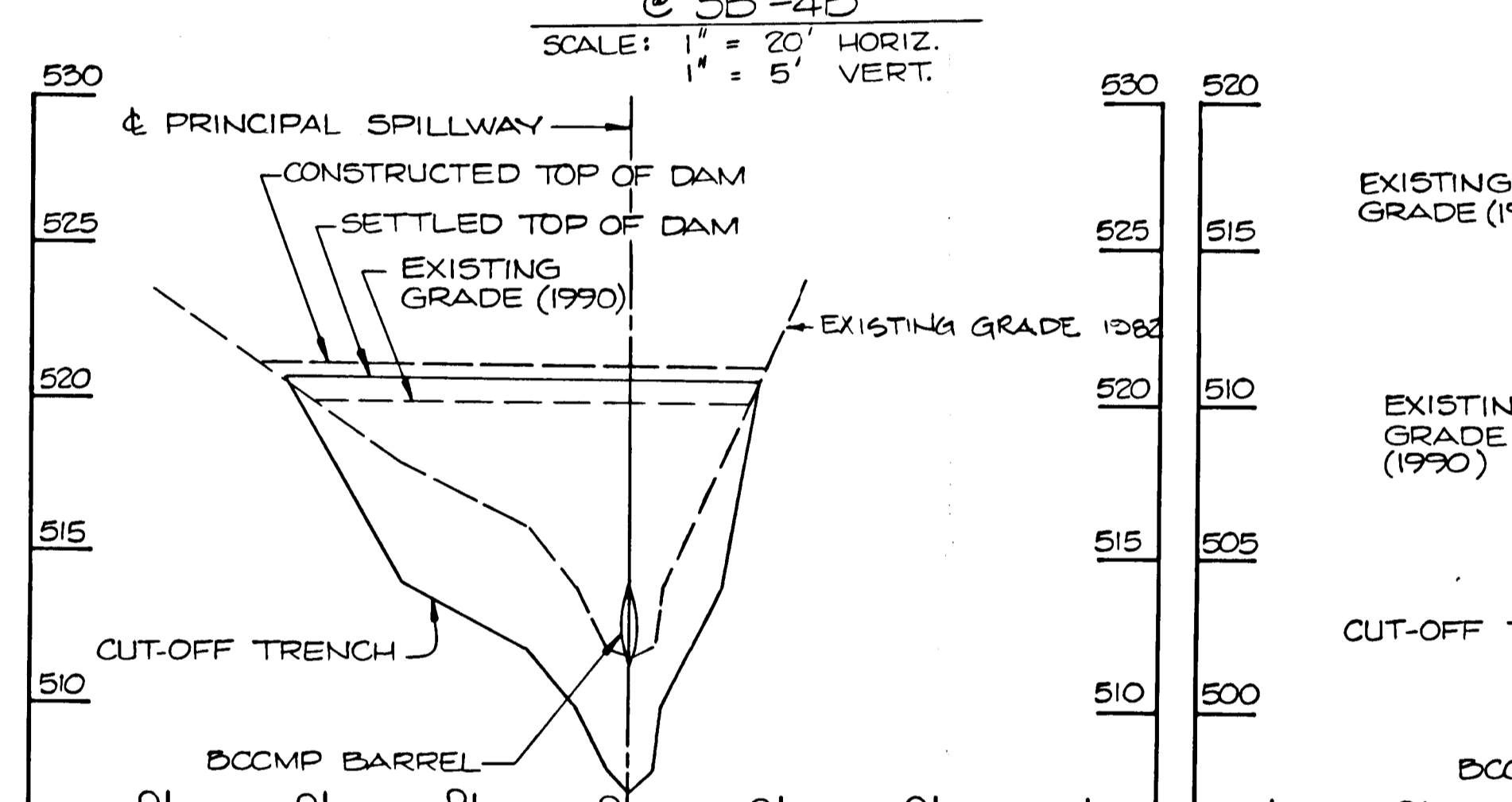
PROFILE ALONG PRINCIPAL SPILLWAY
@ CWB-4B

SCALE: 1" = 20' HORIZ.
1" = 5' VERT.



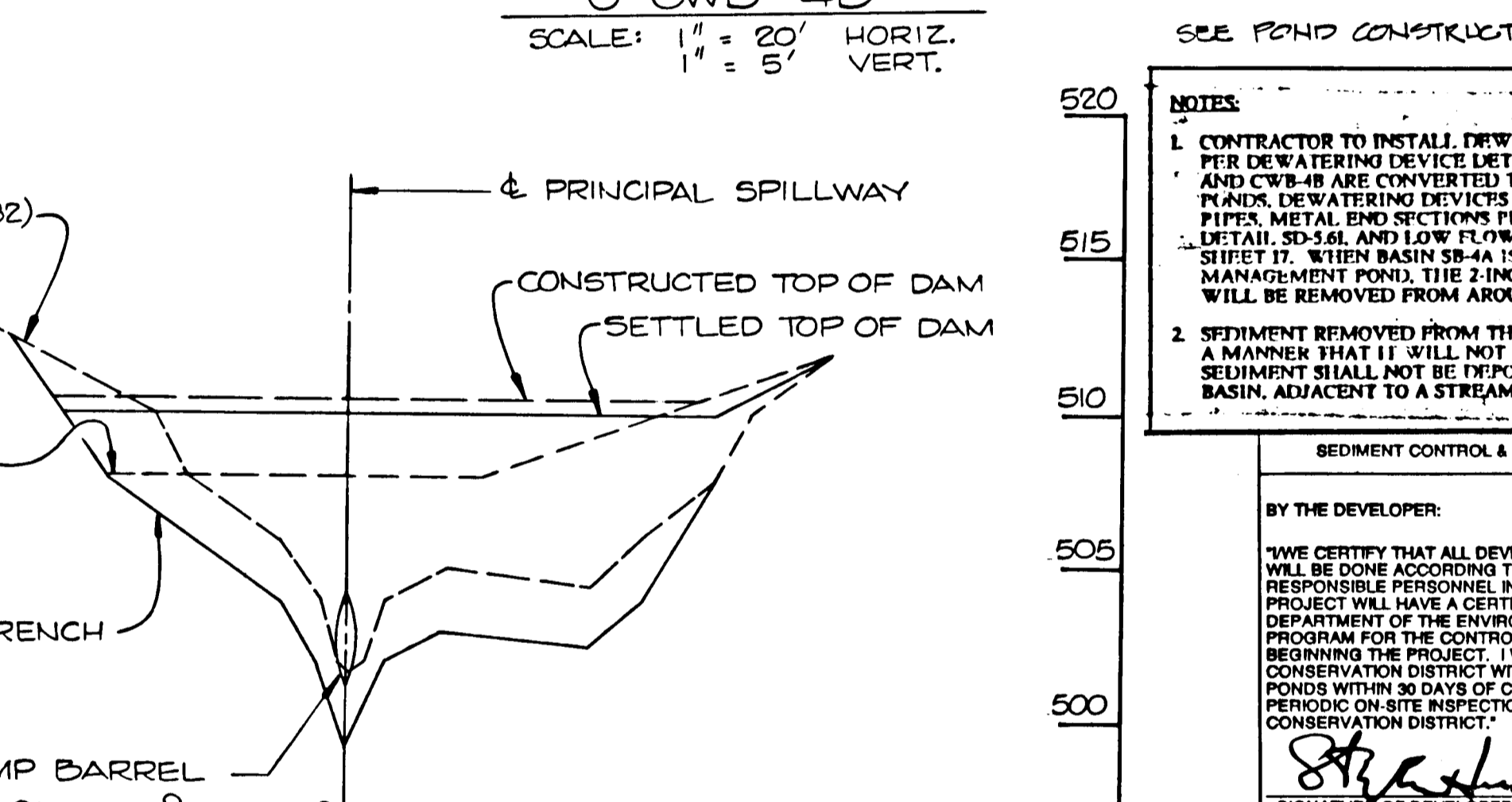
PROFILE ALONG ϕ OF DAM
@ SB-4A

SCALE: 1" = 50' HORIZ.
1" = 10' VERT.



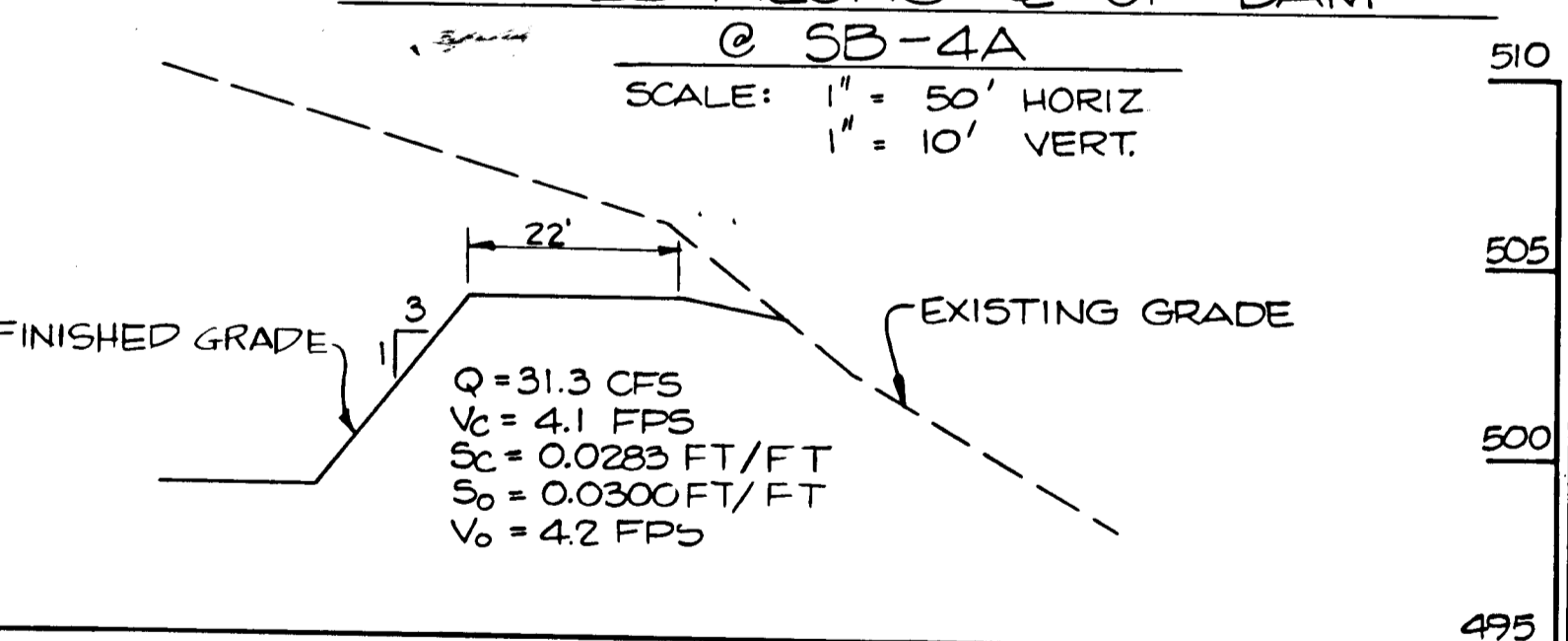
PROFILE ALONG ϕ OF DAM
@ SB-4B

SCALE: 1" = 50' HORIZ.
1" = 5' VERT.



PROFILE ALONG ϕ OF DAM
@ CWB-4B

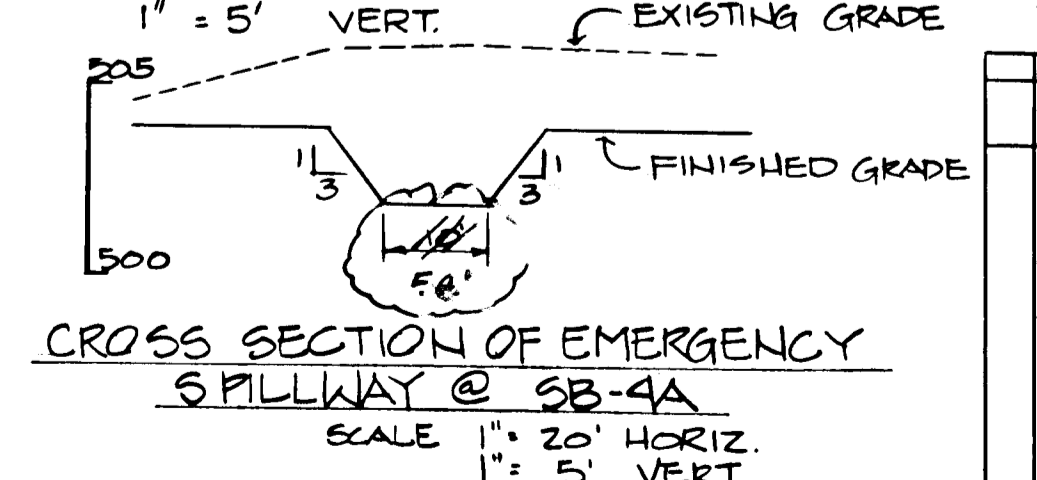
SCALE: 1" = 50' HORIZ.
1" = 5' VERT.



PROFILE ALONG ϕ OF EMERGENCY SPILLWAY
@ SB-4A

SCALE: 1" = 20' HORIZ.
1" = 5' VERT.

POND	LOW FLOW PIPE				RISER			TRASH RACK ANTI-VORTEX DEVICE			BARREL		ANTI-SEEP COLLAR		DAM		EMERG. SPILLWAY		CORE TRENCH		CUT-OFF TRENCH		WATER SURFACE ELEV.									
	DIAM. IN.	ORIFICE IN.	L FT.	L/S INV.	D/S INV.	DIAM. IN.	CREST ELEV.	GAGE	BASE WIDTH FT.	DIAM. IN.	TOP GAGE	CYL. H GAGE	DIAM. IN.	L FT.	GAGE	U/S INV.	D/S INV.	QTY.	SIZE	TOP WIDTH FT.	CONSTR. HEIGHT	SETTLED HEIGHT	ELEV.	BOTTOM WIDTH FT.	TOP SIDE SLOPES	BOTTOM SIDE SLOPES	2 YR.	10 YR.	100 YR.			
SB-4A	12	10	1	499.9	499.9	30	503.0	16	50	48	12	14	24	18	65	16	494.0	493.8	2	4'-8"	10	506.6	506.0	504.0	22	4	1:1	4	1:1	501.78	503.67	504.97
SB-4B	15	10	6	512.0	511.8	48	512.0	14	80	72	10	12	21	36	65	16	511.8	510.0	2	6'-4"	12	521.2	520.7	—	—	4	1:1	4	1:1	516.19	518.57	519.68
CWB-4B	15	9.5	6	501.7	501.6	48	507.5	14	80	72	10	12	21	36	64	16	501.5	501.0	2	6'-0"	10	510.5	510.0	—	—	4	1:1	4	1:1	504.63	507.53	508.58



CROSS SECTION OF EMERGENCY SPILLWAY @ SB-4A

SCALE: 1" = 20' HORIZ.
1" = 5' VERT.

BORING NO B-11
ORGANIC SANDY CLAY LOAM
LOAMY SAND

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center	SECT./AREA/Lot/PARCEL 54.253.220.11
OWNER/DEVELOPER Howard County Government	ADDRESS 3430 Court House Drive - Ellicott City, MD 21143

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
DIRECTOR: *[Signature]* 8/22/90

APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS
HOWARD COUNTY DEPT. OF PUBLIC WORKS
DIRECTOR: *[Signature]* 8/23/90

NO.	DATE	BY	DESCRIPTION
1	5/12/90	AKOKU GUANIES	

DESIGN: MMD
DRAWN: AMP
CHECKED: PBM
PROJECT ENGINEER: DSS

ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND

BASIN PROFILES

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
15 Lovett Circle, Sparks, Maryland 21122 (301) 771-4950

DATE: JUNE 1990
SCALE: AS SHOWN
PROJECT NO.: 10293.01
SHEET NO.: 11 OF 25

SEE POND CONSTRUCTION NOTES - SHEET 17

NOTES:
1. CONTRACTOR TO INSTALL DEWATERING DEVICES IN ALL BASINS AS PER DEWATERING DEVICE DETAIL, SHEET 17. WHEN BASINS SB-4B AND CWB-4B ARE CONVERTED TO STORMWATER MANAGEMENT PONDS, DEWATERING DEVICES WILL BE REPLACED WITH LOW FLOW PIPES. METAL END SECTIONS PER HOWARD COUNTY STANDARD DETAIL, SEAL AND LOW FLOW TRASH RACKS PER DETAILS ON SHEET 17. WHEN BASIN SB-4A IS CONVERTED TO A STORMWATER MANAGEMENT POND, THE 2 INCH STONE CORE AND FILTER CLOTH WILL BE REMOVED FROM AROUND THE DEWATERING DEVICE.
2. SEDIMENT REMOVED FROM THE BASINS SHALL BE PLACED IN SUCH A MANNER THAT IT WILL NOT ERODE FROM THE SITE. THE SEDIMENT SHALL NOT BE DEPOSITED DOWNSTREAM FROM THE BASIN, ADJACENT TO A STREAM OR FLOODPLAIN.

BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/WE WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 8-23-90
SIGNATURE OF DEVELOPER DATE

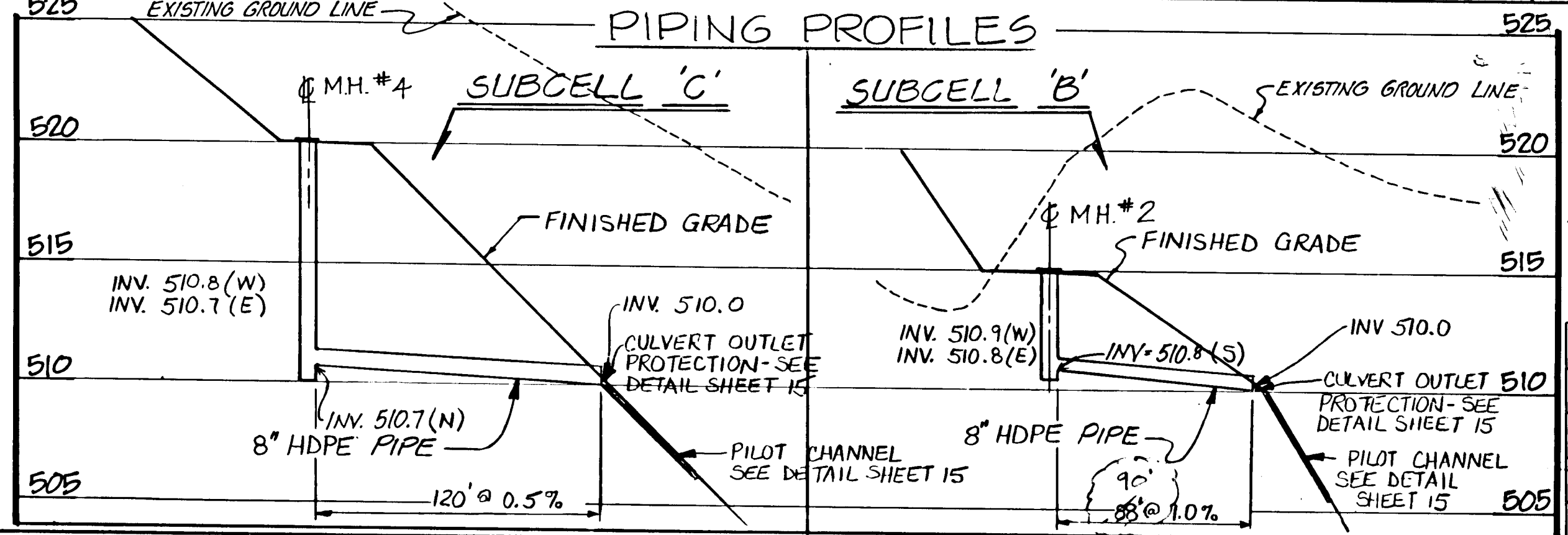
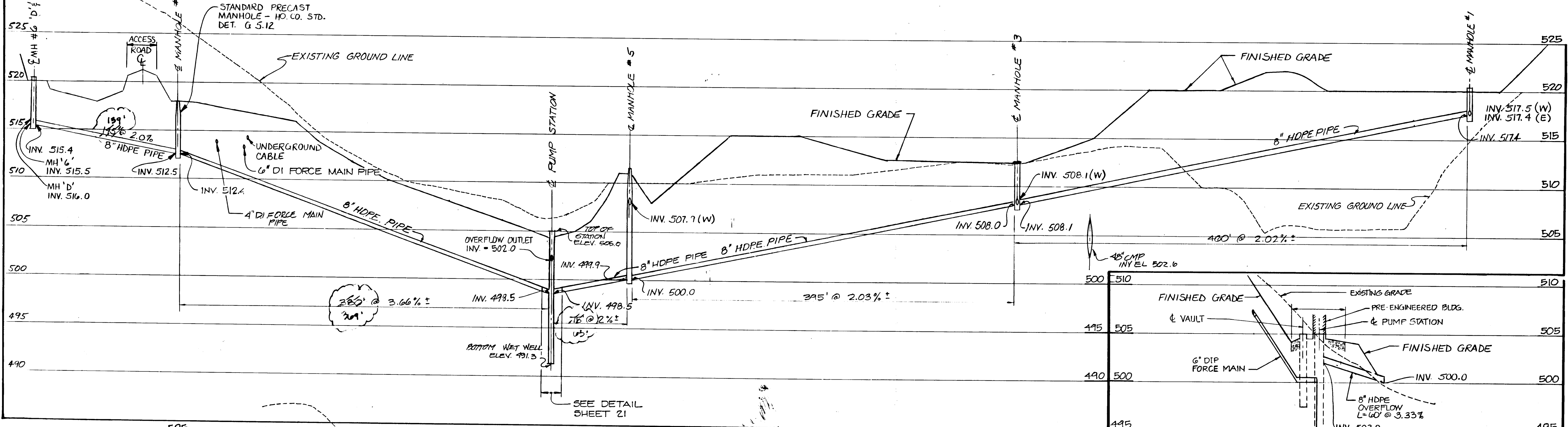
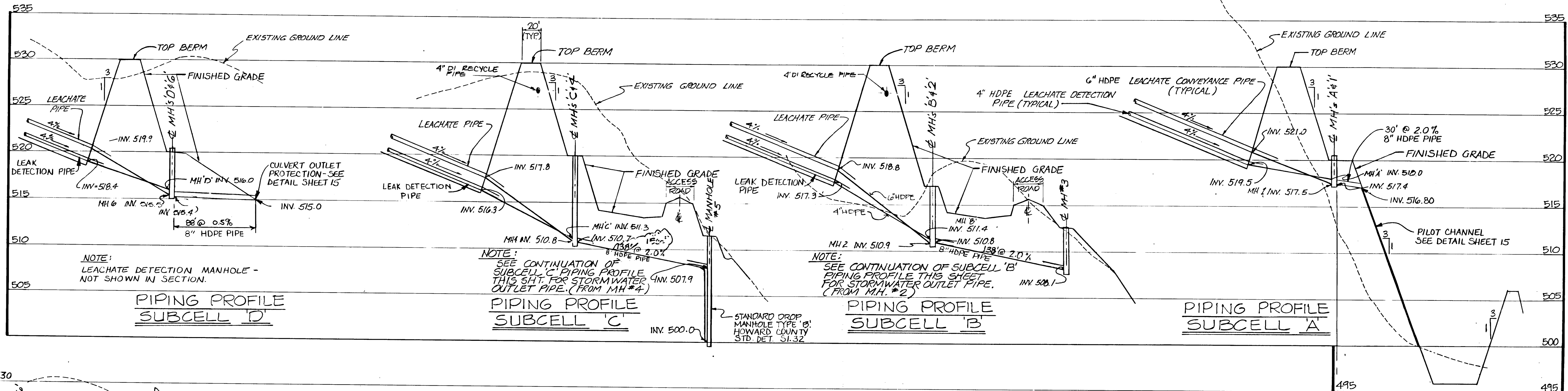
BY THE ENGINEER:
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION.

[Signature] 2/10/90
SIGNATURE OF ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL. *[Signature]* 8/23/90
HOWARD SOIL CONSERVATION DISTRICT DATE

[Signature] 8/19/92
HOWARD SOIL CONSERVATION DISTRICT DATE

880



PIPING PROFILE MAIN LINE

- NOTE:**
1. MANHOLE DETAILS SHOWN ON SHEET 18.
 2. HDPE PIPE UPSTREAM OF MANHOLES A, B, C, D, 1, 2, 3, & 4 SHALL BE SDR 9; ALL OTHER HDPE PIPE SHALL BE SDR 21.

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA/LOT/PARCEL 84,283,220,11	
DATE 10-21-90	BLOCK 10-21-12	ZONE R	TAX/ZONE MAP/ELEC. DIST./CENSUS TR. 10-21-12 10-21-12 10-21-12
WATER CODE Private, Existing		SEWER CODE Private, Existing	
OWNER/DEVELOPER Howard County Government			
ADDRESS 3430 Court House Drive, Ellicott City, MD 21043			

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

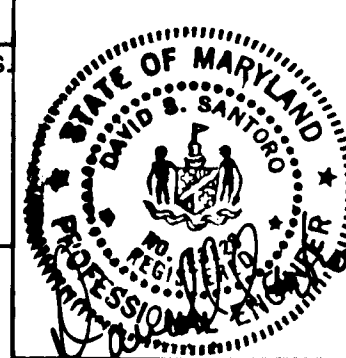
Joyce M. ... 8-23-90
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
Director: ... 8/23/90
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS
HOWARD COUNTY DEPT. OF PUBLIC WORKS

James P. ... 8/23/90
DIRECTOR DATE

Debra ... 8-23-90
CHIEF, BUREAU OF ENGINEERING DATE



**ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND**

LEACHATE COLLECTION PIPING PROFILES

DESIGN S.M.D.	DATE JUNE 1990
DRAWN D.T.M.	SCALE Hor: 1"=50' Vert: 1"=5'
CHECKED J.F.H.	PROJECT NO. 10293.01
PROJECT ENGINEER D.S.S.	SHEET NO. 12 OF 25

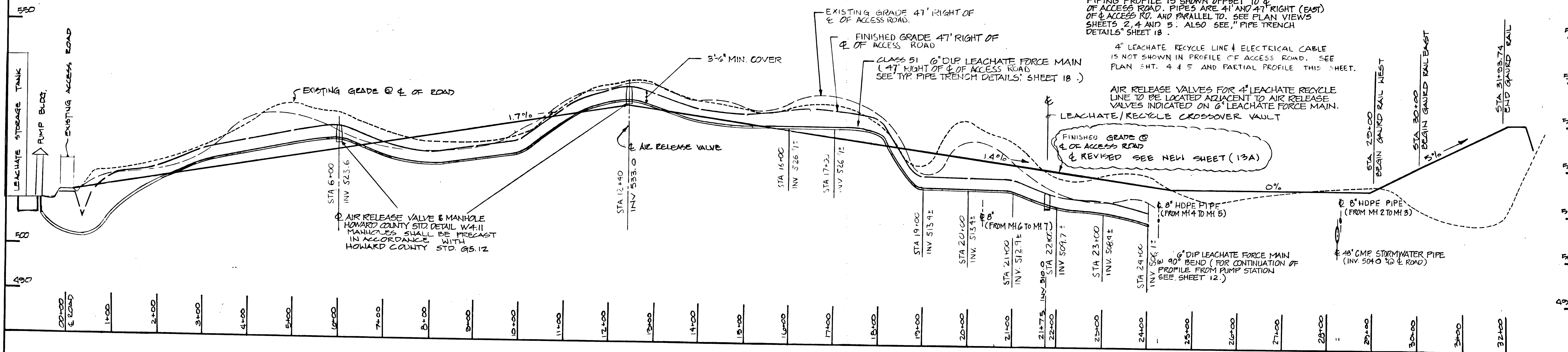
RECORD DRAWING
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
AUGUST 1992

NOTE:
FORCE MAIN TO BE INSTALLED WITH 3'-6" COVER UNLESS OTHERWISE NOTED

NOTE:
PIPING PROFILE IS SHOWN OFFSET TO ϕ OF ACCESS ROAD. PIPES ARE 4' AND 4'-7" RIGHT (EAST) OF ϕ OF ACCESS RD. AND PARALLEL TO. SEE PLAN VIEWS SHEETS 2, 4 AND 5. ALSO SEE "PIPE TRENCH DETAILS" SHEET 18.

4" LEACHATE RECYCLE LINE & ELECTRICAL CABLE IS NOT SHOWN IN PROFILE OF ACCESS ROAD. SEE PLAN SHT. 4 & 5 AND PARTIAL PROFILE THIS SHEET.

AIR RELEASE VALVES FOR 4" LEACHATE RECYCLE LINE TO BE LOCATED ADJACENT TO AIR RELEASE VALVES INDICATED ON 6" LEACHATE FORCE MAIN.



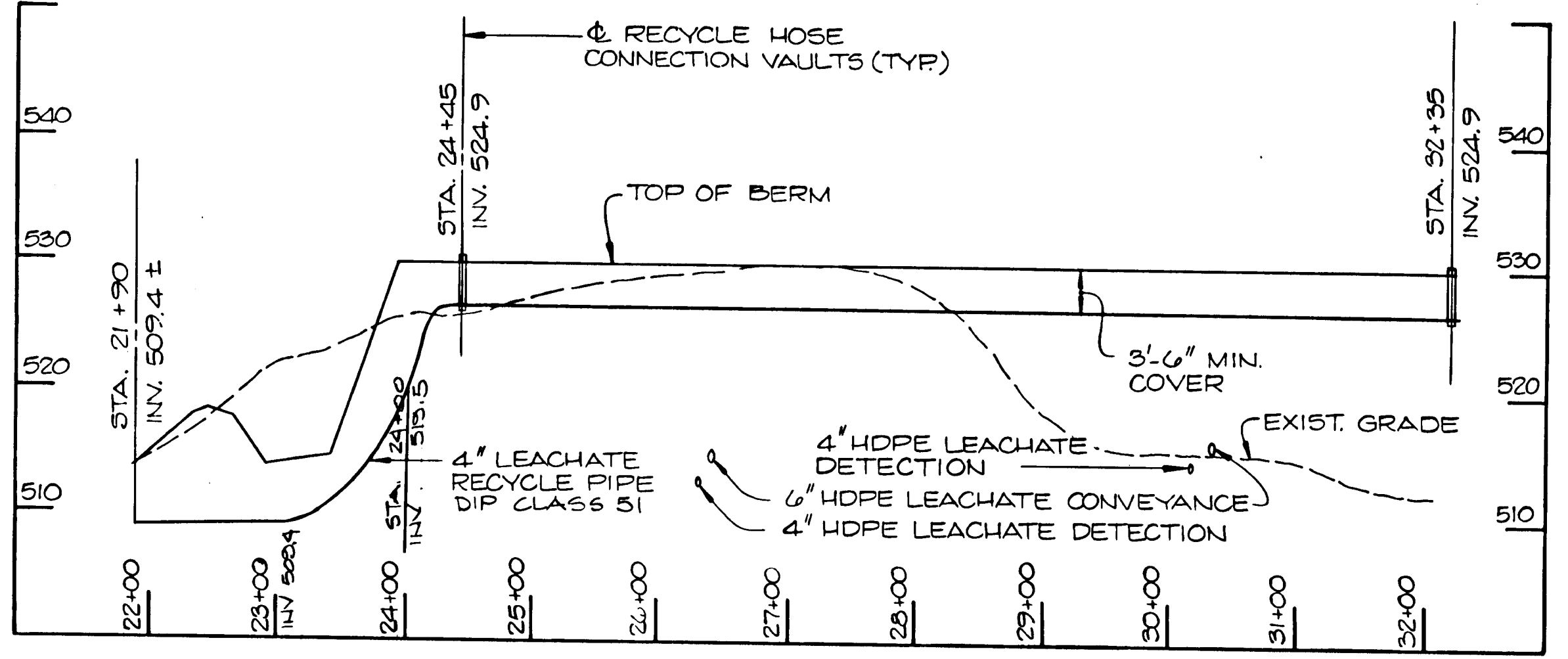
AIR RELEASE VALVE & MANHOLE HOWARD COUNTY STD. DETAIL W4-11 MANHOLES SHALL BE PRECAST IN ACCORDANCE WITH HOWARD COUNTY STD. G5-12

FINISHED GRADE @ ϕ OF ACCESS ROAD & REVISED SEE NEW SHEET (13A)

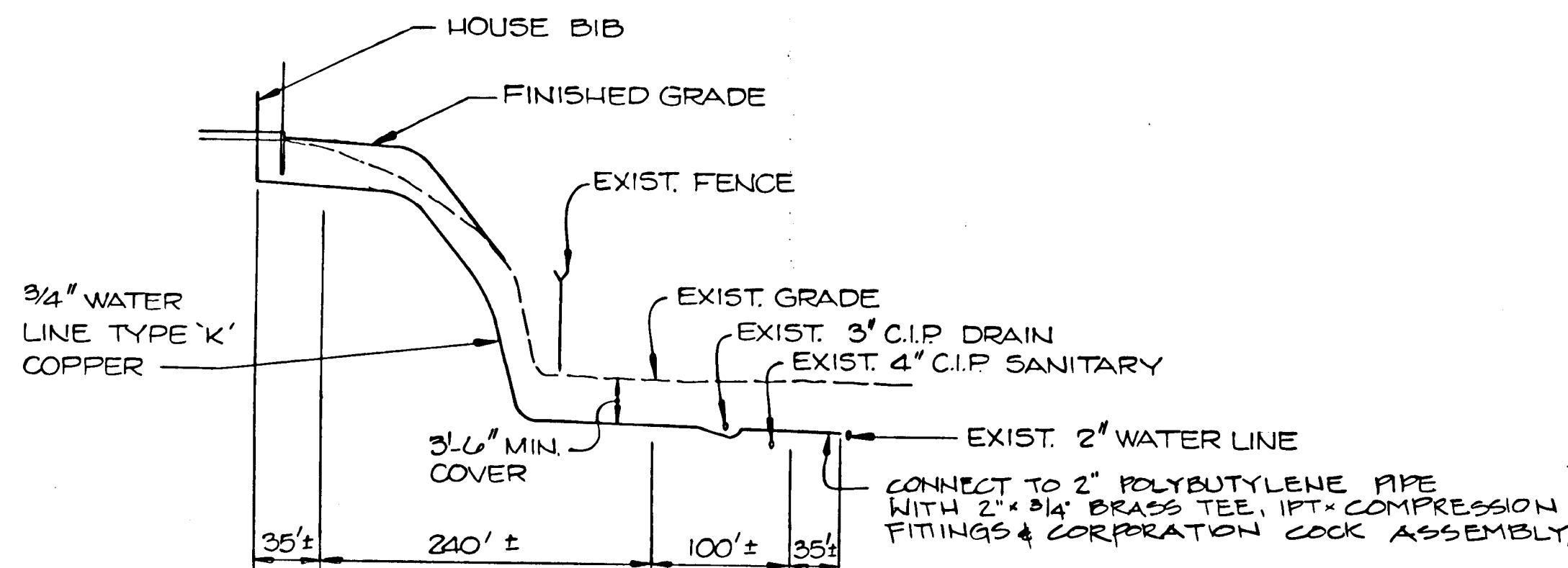
6" DIP LEACHATE FORCE MAIN (FROM MH 4 TO MH 5) PROFILE FROM PUMP STATION SEE SHEET 12.)

48" CMP STORMWATER PIPE (INV. 504.0 @ ϕ OF ROAD)

ACCESS ROAD & PIPE PROFILE
SCALE: HOR. 1"=100' VER. 1"=10'

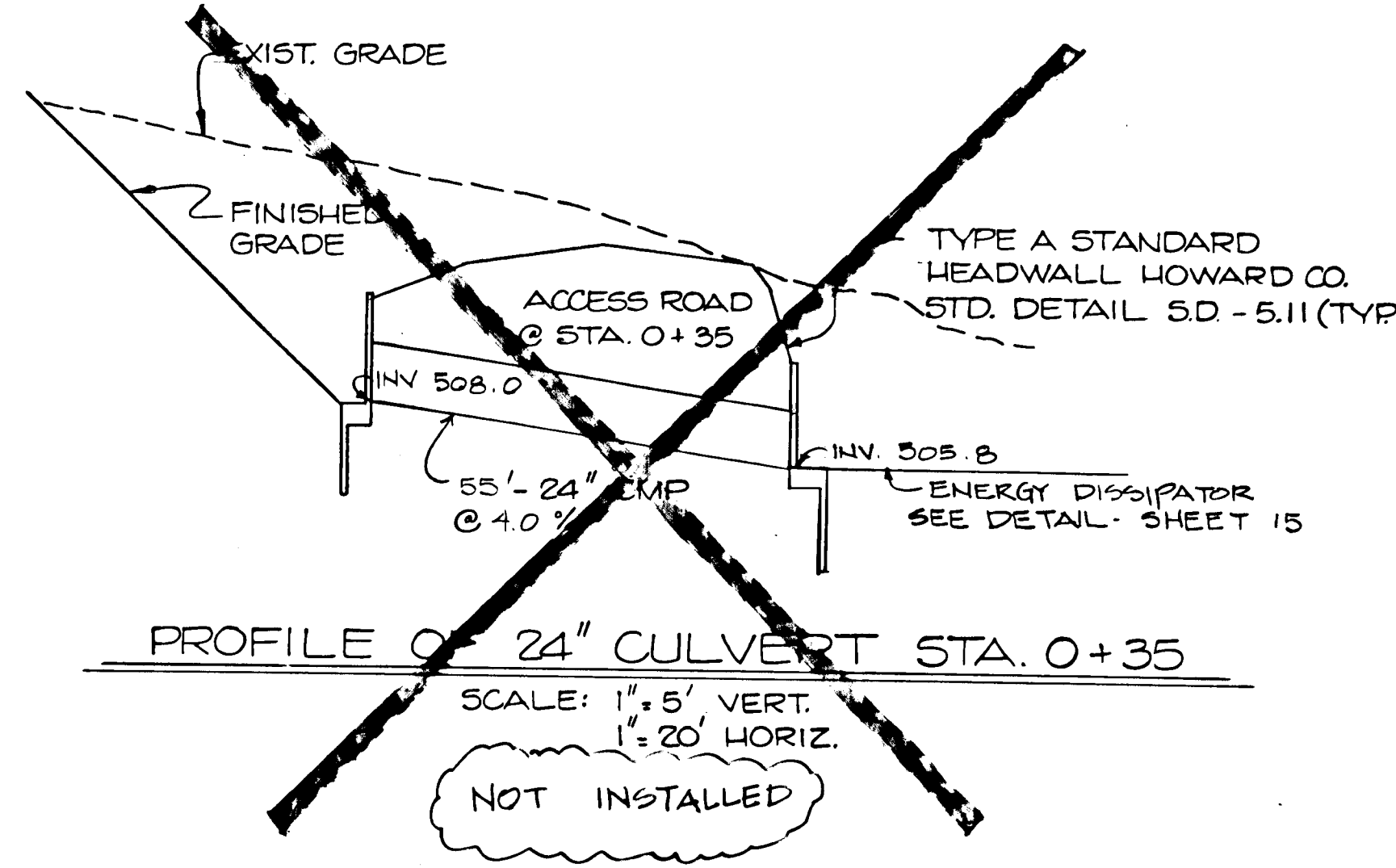


PARTIAL PIPING PROFILE RECYCLE LINE
SCALE: 1"=100' HORIZ. 1"=10' VERT.

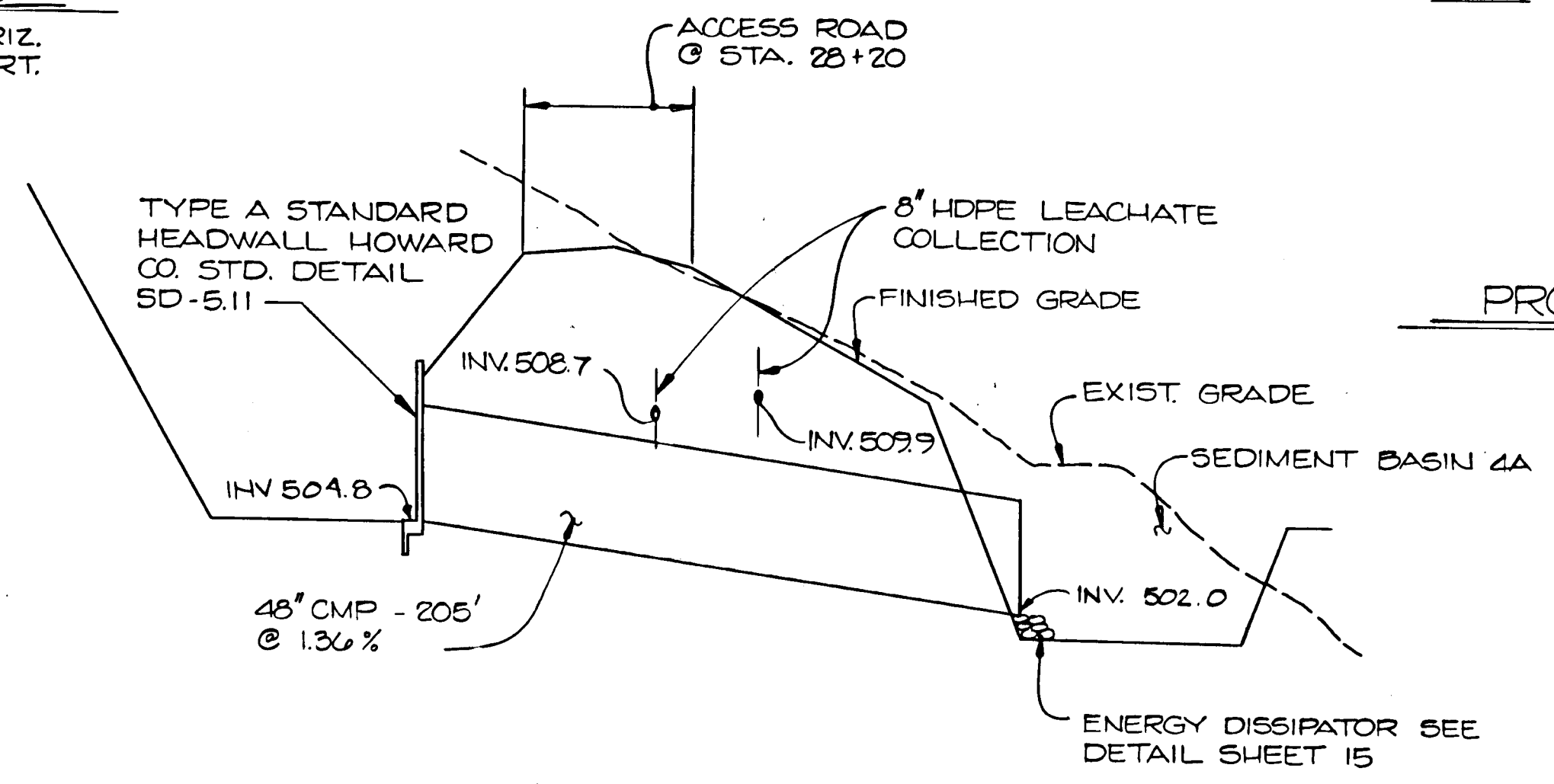


NOTE:
1) PROVIDE MIN. 6" CLEARANCE BETWEEN PIPE AND ADJACENT STRUCTURES AND UTILITIES
2) LOCATIONS OF EXIST. UTILITIES AND STRUCTURES HAVE NOT BEEN FIELD VERIFIED. CONTRACTOR TO LOCATE PRIOR TO EXCAVATION FOR PROPOSED UTILITIES.

PROFILE OF WATERLINE
SCALE: 1"=100' HORIZ. 1"=10' VERT.



PROFILE OF 24" CULVERT STA. 0+35
SCALE: 1"=5' VERT. 1"=20' HORIZ.
NOT INSTALLED

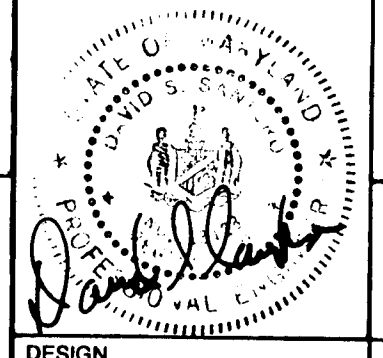


PROFILE OF 48" CULVERT STA. 28+20
SCALE: 1"=50' HORIZ. 1"=5' VERT.

RECORD DRAWING
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
AUGUST 1992

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA/LOT/PARCEL 64,253,220,11	
MAP/BLK 10 & 11	BLOCK R	ZONE 10 & 11	TAX/ZONE MAP/ELEC. DIST./CENSUS TR. 3 80-30
WATER CODE Private, Existing		SEWER CODE Private, Existing	
OWNER/DEVELOPER Howard County Government			
ADDRESS 3430 Court House Drive, Elksoft City, MD 21043			

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT
Joyce M. Boyd 8-23-90
COUNTY HEALTH OFFICER DATE
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
James M. Keith 8/28/90
DIRECTOR DATE
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
W. Mark ... 8/23/90
APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS
HOWARD COUNTY DEPT. OF PUBLIC WORKS
James ... 8/23/90
DIRECTOR DATE
W. Mark ... 8-23-90
CHIEF, BUREAU OF ENGINEERING DATE



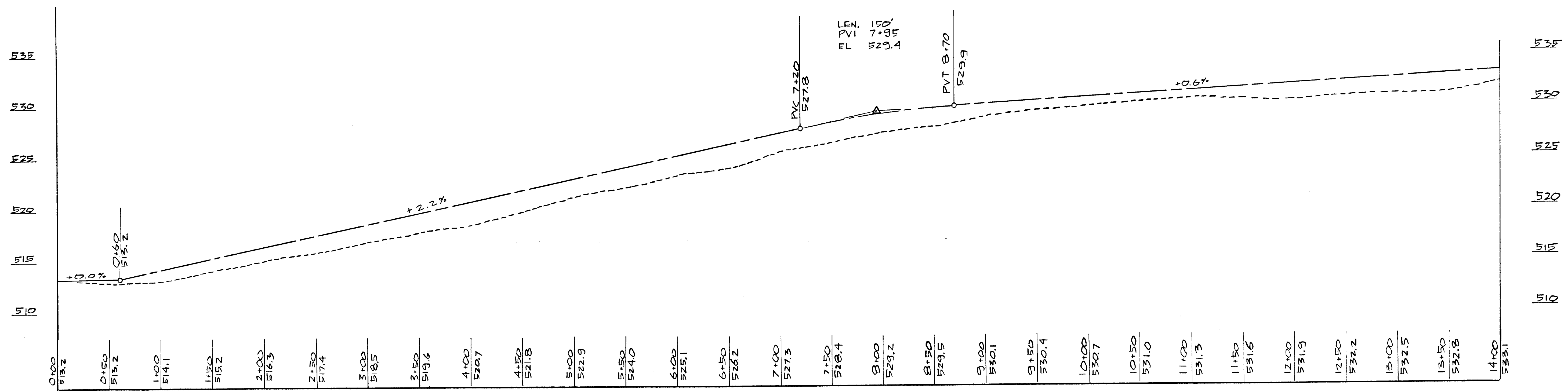
ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER HOWARD COUNTY MARYLAND

MISCELLANEOUS PROFILES

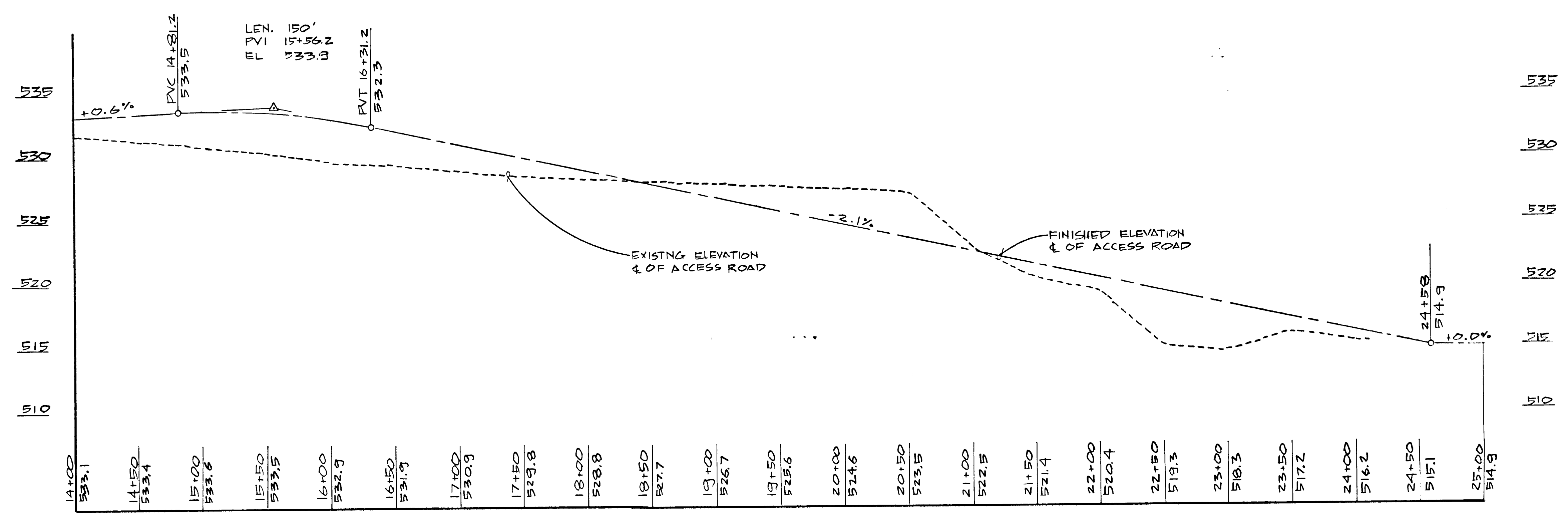
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

DATE: JULY 18, 1989
SCALE: AS SHOWN
PROJECT NO: 10293.01
SHEET NO: 13 OF 25

BALTIMORE CHICAGO LINCOLN NEW YORK NEW JERSEY ATLANTA DALLAS LOS ANGELES SAN FRANCISCO CHARLOTTE
Hunt Valley/Loveton Center
15 Loveton Circle
Sparks, Maryland 21152



ACCESS ROAD PROFILE - STATION 0+00 - 14+00
 SCALE: 1"=50' HOR.
 1"=5' VER.



ACCESS ROAD PROFILE - STATION 14+00 - 25+00
 SCALE: 1"=50' HOR.
 1"=5' VER.

- NOTES: 1. EXISTING ELEVATIONS ARE BASED UPON TOPOGRAPHIC WORKSHEETS PREPARED BY KIDDE CONSULTANTS, INC., RECEIVED BY EA ENGINEERING, SCIENCE AND TECHNOLOGY, INC. 20 DEC. '90
2. ROAD ALIGNMENT SHALL BE ADJUSTED AS INDICATED ON THIS DRAWING FROM STATION 0+00 TO STATION 24+58

THIS DRAWING REFLECTS RECORD CONDITIONS AND SUPERSEDES SHEET 13 OF THE CONTRACT DRAWINGS



RECORD DRAWING
 EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 AUGUST 1992

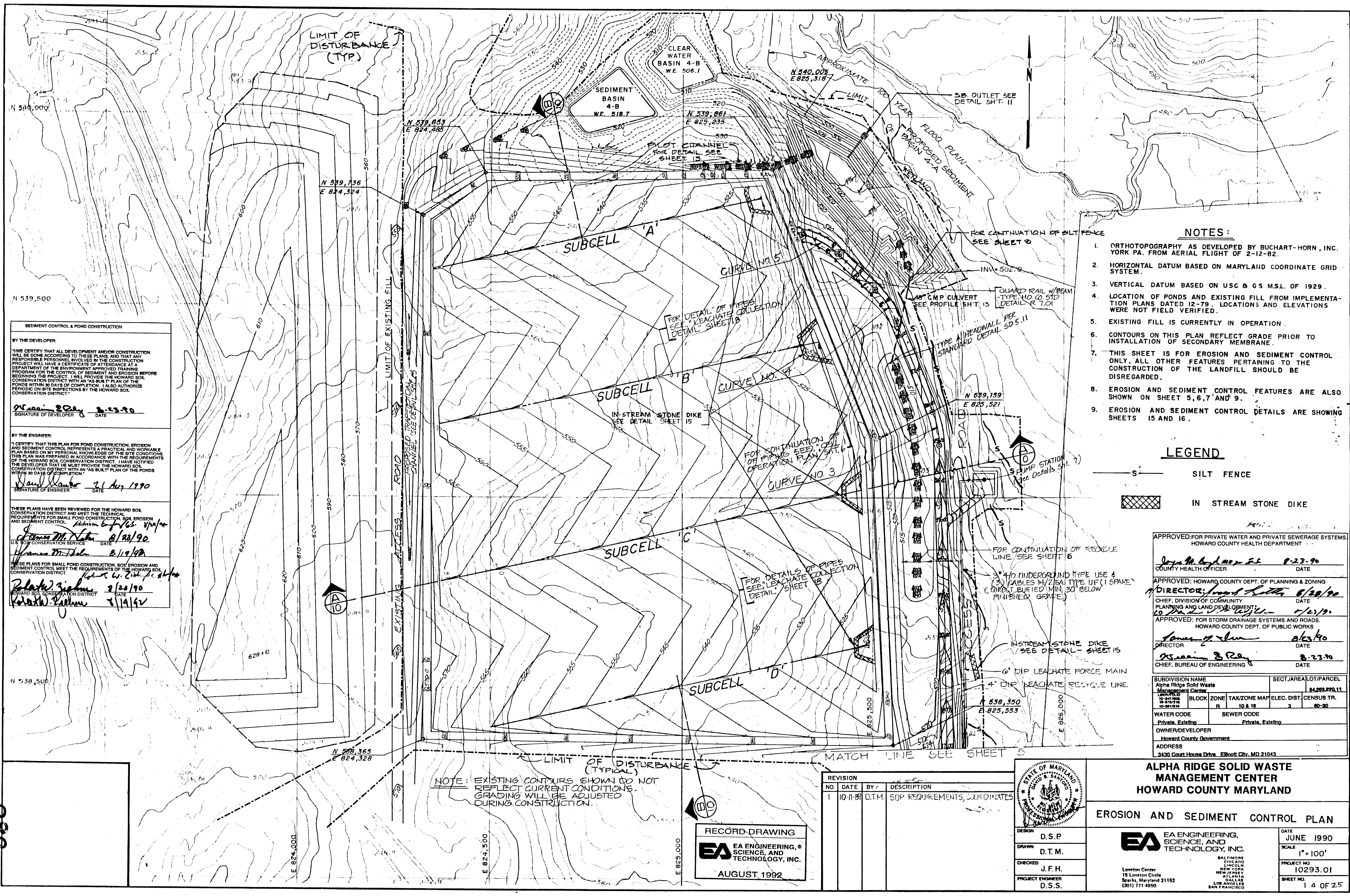
REVISIONS			
NO.	DATE	BY	DESCRIPTION

ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND

REVISED ACCESS ROAD PROFILE - STA 0 TO STA 25

DESIGN	JWV	DATE	22 JAN. '91
DRAWN	DSP	SCALE	NOTED
CHECKED	DSP	PROJECT NO.	10293.01
PROJECT ENGINEER	DSS	SHEET NO.	10293.01

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 15 Loveton Circle Sparks, Maryland 21152



NOTES:

1. ORTHOTOPOGRAPHY AS DEVELOPED BY BUCHART-HORN, INC. YORK PA. FROM AERIAL FLIGHT OF 2-12-82.
2. HORIZONTAL DATUM BASED ON MARYLAND COORDINATE GRID SYSTEM.
3. VERTICAL DATUM BASED ON USC & GS M.S.L. OF 1929.
4. LOCATION OF PONDS AND EXISTING FILL FROM IMPLEMENTATION PLANS DATED 12-79. LOCATIONS AND ELEVATIONS WERE NOT FIELD VERIFIED.
5. EXISTING FILL IS CURRENTLY IN OPERATION.
6. CONTOURS ON THIS PLAN REFLECT GRADE PRIOR TO INSTALLATION OF SECONDARY MEMBRANE.
7. THIS SHEET IS FOR EROSION AND SEDIMENT CONTROL ONLY. ALL OTHER FEATURES PERTAINING TO THE CONSTRUCTION OF THE LANDFILL SHOULD BE DISREGARDED.
8. EROSION AND SEDIMENT CONTROL FEATURES ARE ALSO SHOWN ON SHEET 5, 6, 7 AND 9.
9. EROSION AND SEDIMENT CONTROL DETAILS ARE SHOWING SHEETS 15 AND 16.

LEGEND

- S- SILT FENCE
- [Cross-hatched box] IN-STREAM STONE DIKE

SEDIMENT CONTROL & POND CONSTRUCTION

BY THE DEVELOPER:
 "I WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."
McCaum & Ray 8-23-90
 SIGNATURE OF DEVELOPER DATE

BY THE ENGINEER:
 "I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION."
David Hunter 7/1 Aug 1990
 SIGNATURE OF ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
James M. Nelson 8/20/90
 U.S. SOIL CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
Robert W. Zisk, Jr. 8/19/90
 HOWARD SOIL CONSERVATION DISTRICT DATE

Robert W. Zisk, Jr. 8/20/90
Robert W. Zisk, Jr. 8/19/90

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT
Joseph M. Gaylor, Jr. 8-23-90
 COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
Director, David Hunter 8/20/90
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS, HOWARD COUNTY DEPT. OF PUBLIC WORKS
James J. ... 8/23/90
 DIRECTOR DATE

McCaum & Ray 8-23-90
 CHIEF, BUREAU OF ENGINEERING DATE

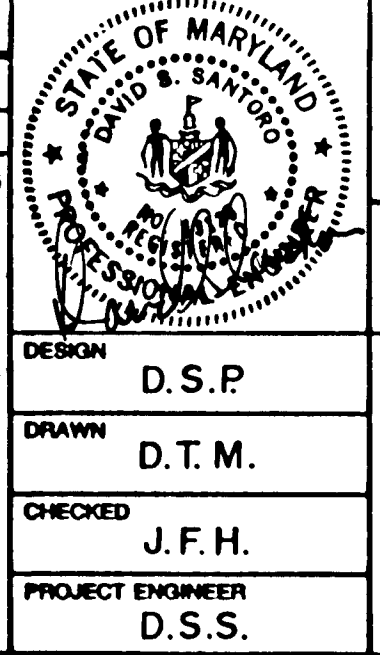
SUBDIVISION NAME		SECT./AREA/LOT/PARCEL	
Alpha Ridge Solid Waste Management Center		84,289,220.11	
10-07-90	BLOCK ZONE	TAX/ZONE MAP	ELEC. DIST. CENSUS TR.
10-08/18	R 10 & 18		3 00-30
WATER CODE		SEWER CODE	
Private, Existing		Private, Existing	
OWNER/DEVELOPER			
Howard County Government			
ADDRESS			
3430 Court House Drive, Elkport City, MD 21043			

REVISION			
NO.	DATE	BY	DESCRIPTION
1	10-11-81	D.T.M.	SDP REQUIREMENTS, COORDINATES

RECORD-DRAWING

EA EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

AUGUST 1992



ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND

EROSION AND SEDIMENT CONTROL PLAN

DESIGN	D.S.P.	DATE	JUNE 1990
DRAWN	D.T.M.	SCALE	1" = 100'
CHECKED	J.F.H.	PROJECT NO.	10293.01
PROJECT ENGINEER	D.S.S.	SHEET NO.	1 4 OF 25

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 BALTIMORE, CHICAGO, LINCOLN, NEW YORK, NEW JERSEY, ATLANTA, LOS ANGELES, SAN FRANCISCO

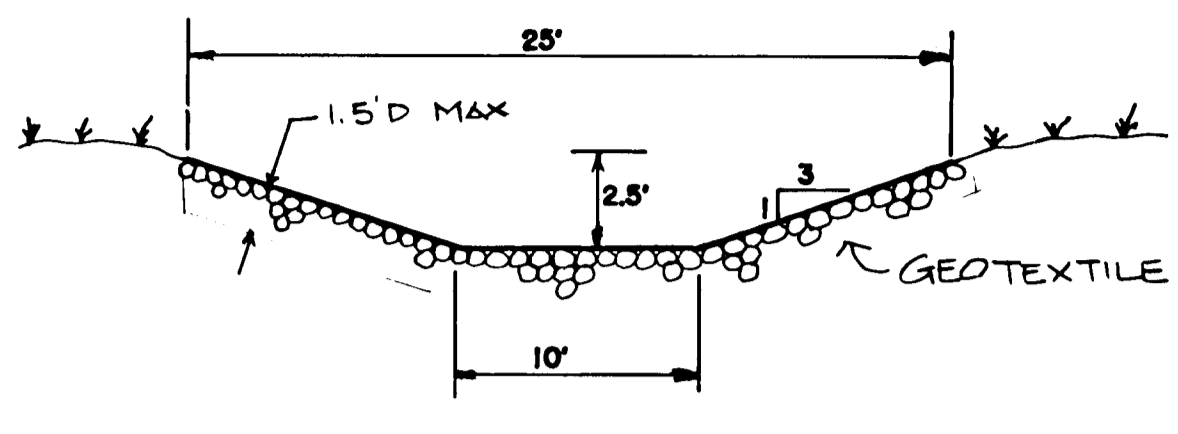
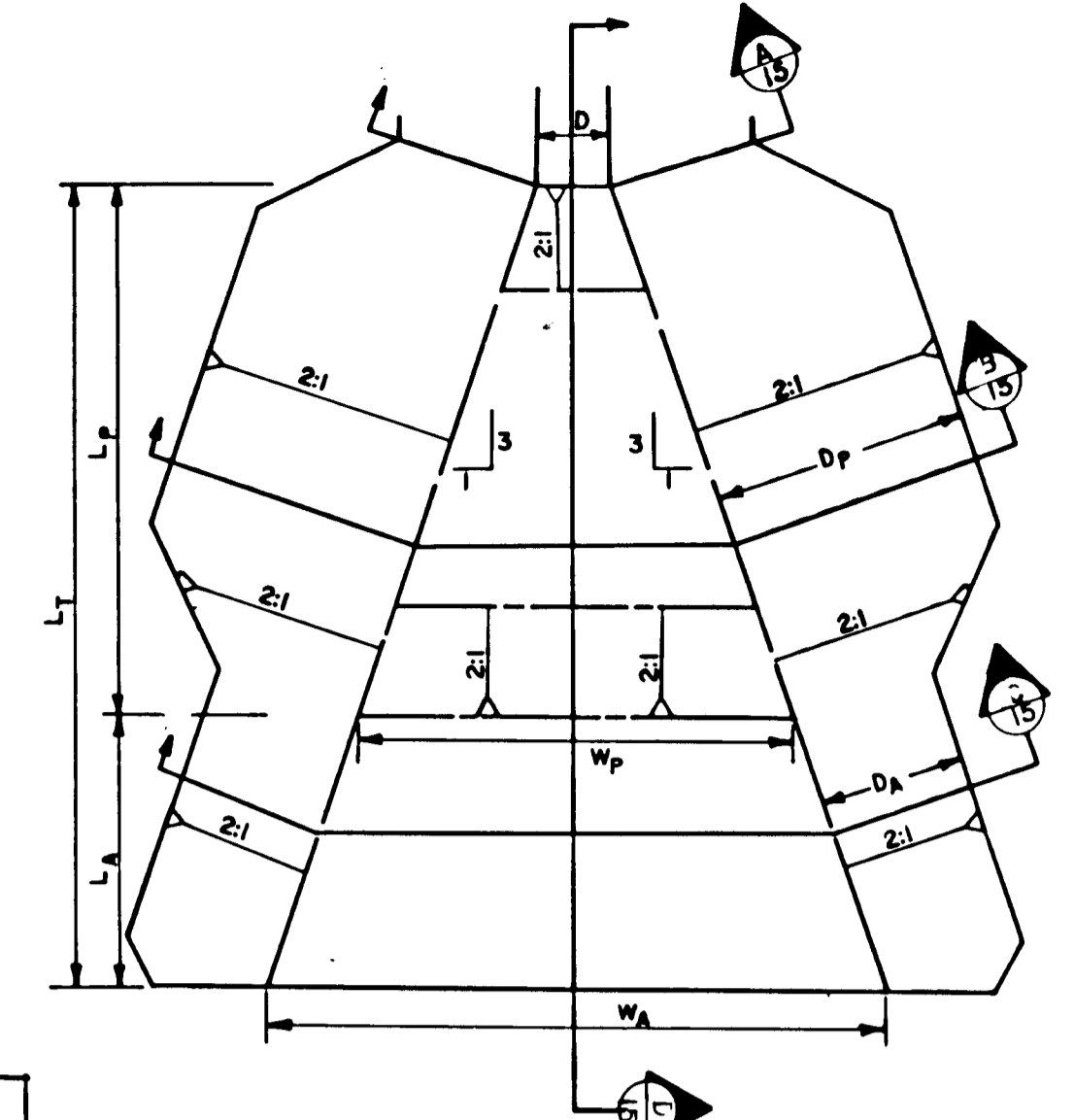
15 Loveton Circle
 Sparks, Maryland 21152
 (301) 771-4950

NOTE: EXISTING CONTOURS SHOWN DO NOT REFLECT CURRENT CONDITIONS. GRADING WILL BE ADJUSTED DURING CONSTRUCTION.

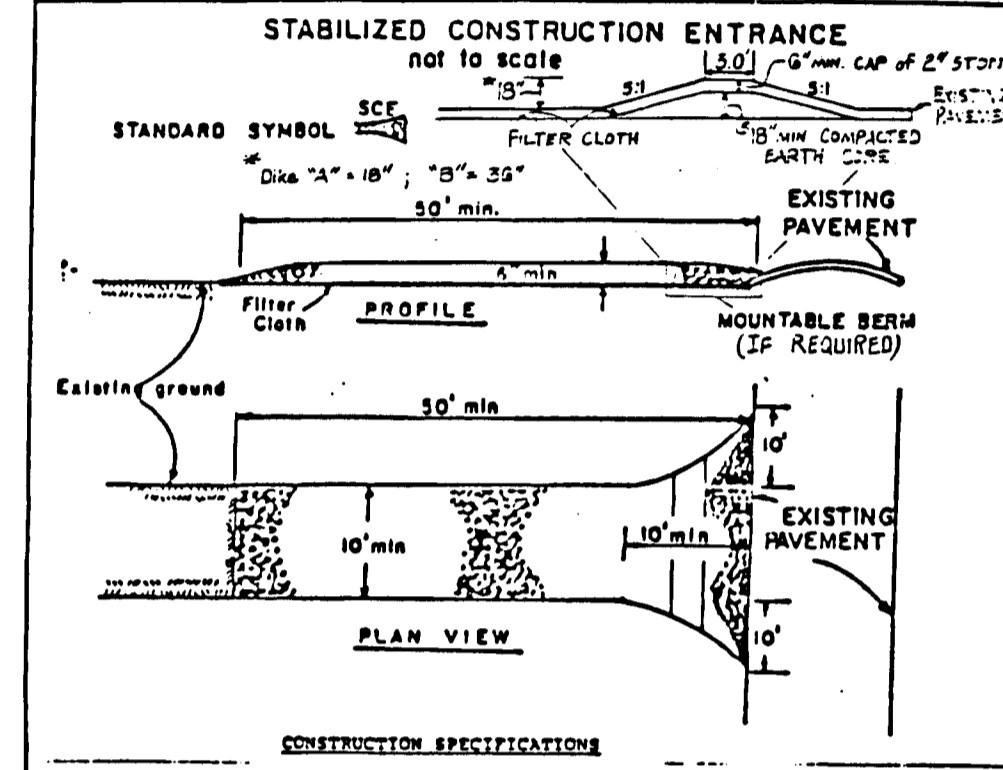
880

- SEQUENCE OF OPERATION**
- PHASE I - LANDFILL CONSTRUCTION**
- I. STAGE I**
1. HOWARD COUNTY TO EXCAVATE CUB-4B AND SB-4B TO ORIGINAL DESIGN SPECIFICATIONS IF REQUIRED. (NOT IN CONTRACT.)
 2. APPLY FOR PERMITS: DEPARTMENT OF INSPECTIONS AND PERMITS 48 HOURS BEFORE COMMENCING WORK.
 3. MOBILIZATION (NOTIFY DEPARTMENT OF INSPECTIONS AND PERMITS 48 HOURS BEFORE COMMENCING WORK).
 4. CLEAR AND GRUB AREA FOR SILT FENCE AND IN-STREAM STONE DIKES.
 5. INSTALL SILT FENCE DOWNSLOPE OF SB-4A, THE LEACHATE MANAGEMENT AREA AND THE ACCESS ROAD AS SHOWN ON THE PLANS. INSTALL SILT FENCE AROUND PROPOSED STOCKPILE AREAS. INSTALL IN-STREAM STONE DIKES ALONG THE ACCESS ROAD AS SHOWN ON THE PLANS.
 6. ROUGH GRADE ACCESS ROAD.
 7. CONSTRUCT SB-4A TO DESIGN SPECIFICATIONS AS SHOWN ON THE PLANS.
 8. BEGIN CONSTRUCTION OF THE LEACHATE MANAGEMENT AREA, ALONG WITH SEDIMENT BASINS AND STOCKPILE AREAS.
 9. STABILIZE DISTURBED AREAS WITH VEGETATION.
 10. REMOVE SILT FENCE AND IN-STREAM STONE DIKES AFTER AREA IS STABILIZED.
- II. STAGE II**
1. BEGIN CONSTRUCTION OF WESTERN PORTION OF LANDFILL BERM INCLUDING TRAPEZOIDAL CHANNEL. PERIMETERS OF ALL LANDFILL BERMS TO BE STABILIZED WITH VEGETATION IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
 2. COMPLETE CONSTRUCTION OF SUBCELL 'A' LANDFILL BERM INCLUDING ALL LEACHATE COLLECTION AND RECYCLING SYSTEMS PIPING INCLUDED IN THE BERM AND SUBCELL 'A' IN-STREAM STONE DIKES.
 3. BEGIN PREPARATION OF SUBCELL 'A' SUBBASE.
 4. BEGIN CONSTRUCTION OF LEACHATE MANAGEMENT AREA.
- III. STAGE III**
1. BEGIN GRADING, SUBBASE PREPARATION, LANDFILL BERM CONSTRUCTION AND IN-STREAM STONE DIKE FOR SUBCELL 'B'.
 2. BEGIN INSTALLATION OF SECONDARY LINER IN SUBCELL 'A'. ALL CELLS TO BE LINED STARTING FROM THE HIGHEST POINT OF THE SUBCELL AND MOVING TO THE LOWEST POINT. IN-STREAM STONE DIKES TO BE REMOVED FROM ALL SUBCELLS JUST PRIOR TO COMPLETION OF SECONDARY LINER INSTALLATION.
- IV. STAGE IV**
1. BEGIN GRADING, SUBBASE PREPARATION, LANDFILL BERM CONSTRUCTION AND IN-STREAM STONE DIKE FOR SUBCELL 'C'.
 2. BEGIN INSTALLATION OF SECONDARY LINER IN SUBCELL 'B'.
 3. BEGIN PLACEMENT OF LEAK DETECTION PIPING, GONNET AND PRIMARY LINER IN SUBCELL 'A'.
- V. STAGE V**
1. BEGIN GRADING, SUBBASE PREPARATION, LANDFILL BERM CONSTRUCTION AND IN-STREAM STONE DIKE FOR SUBCELL 'D'.
 2. BEGIN INSTALLATION OF SECONDARY LINER IN SUBCELL 'C'.
 3. BEGIN PLACEMENT OF LEAK DETECTION PIPES, GONNET AND PRIMARY LINER IN SUBCELL 'B'.
 4. BEGIN PLACEMENT OF LINER COVER MATERIAL IN SUBCELL 'A'.
- VI. STAGE VI**
1. BEGIN INSTALLATION OF SECONDARY LINER IN SUBCELL 'D'.
 2. BEGIN PLACEMENT OF LEAK DETECTION PIPES, GONNET AND PRIMARY LINER IN SUBCELL 'C'.
 3. BEGIN PLACEMENT OF LINER COVER MATERIAL IN SUBCELL 'B'.
 4. INSTALL SILT FENCE DOWNSLOPE OF CUB-4B.
 5. BEGIN RECONSTRUCTION OF SB-4B AND CUB-4B TO DESIGN SPECIFICATIONS AS SHOWN ON THE PLANS.
 6. STABILIZE DISTURBED AREA WITH VEGETATION.
 7. REMOVE SILT FENCE AFTER AREA IS STABILIZED.
- VII. STAGE VII**
1. BEGIN PLACEMENT OF LEAK DETECTION PIPES, GONNET AND PRIMARY LINER IN SUBCELL 'D'.
 2. BEGIN PLACEMENT OF LINER COVER MATERIAL IN SUBCELL 'C'.
- VIII. STAGE VIII**
1. BEGIN PLACEMENT OF LINER COVER MATERIAL IN SUBCELL 'D'.

9. PLACE FINAL COVER MATERIAL.
10. INSTALL BENCHES AND GABION DOWNCHUTES.
11. FINAL GRADING.
12. PERMANENT STABILIZATION/REVEGETATION.
13. REMOVE SILT FENCE UPON STABILIZATION OF DISTURBED AREAS.
14. CONVERT SEDIMENT BASIN TO STORMWATER MANAGEMENT FACILITY UPON STABILIZATION OF DISTURBED AREAS (SEE NOTES ON SHEET 11). THE CONVERSION OF THE SEDIMENT BASINS MUST BE DONE IN SUCH A MANNER WHICH PREVENTS ANY SEDIMENT FROM BEING DISCHARGED DOWNSTREAM. DEMOBILIZATION.
15. NO SOIL EROSION AND SEDIMENT CONTROL DEVICES MAY BE REMOVED WITHOUT THE PRIOR CONSENT FROM THE SEDIMENT CONTROL INSPECTOR.

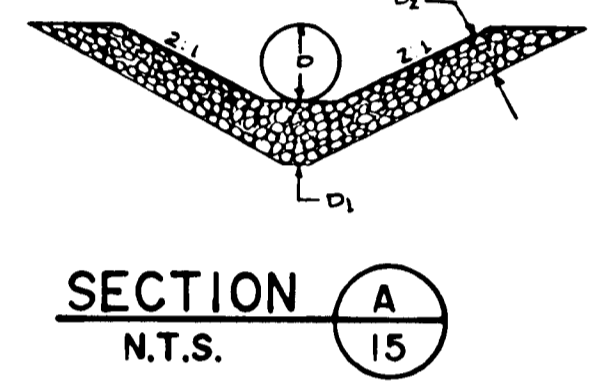


TRAPEZOIDAL CHANNEL DETAIL
SCALE: 1/8" = 1'-0"

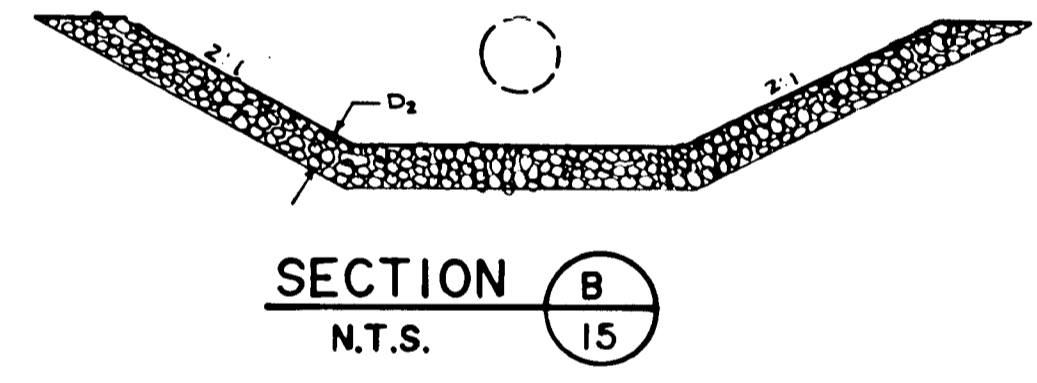


- CONSTRUCTION SPECIFICATIONS**
1. Stone Size - 1/2" to 1" stone, or reclaimed or recycled concrete equivalent.
 2. Length - As required, but not less than 30 ft. (except on a single residence lot where a 30 ft. minimum length would apply).
 3. Thickness - Not less than six (6) inches.
 4. Width - Ten (10) ft. minimum, but not less than the full width at points where ingress or egress occurs.
 5. Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
 6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
 7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanup of any surface used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
 8. Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
 9. Periodic inspection and needed maintenance shall be provided after each rain.

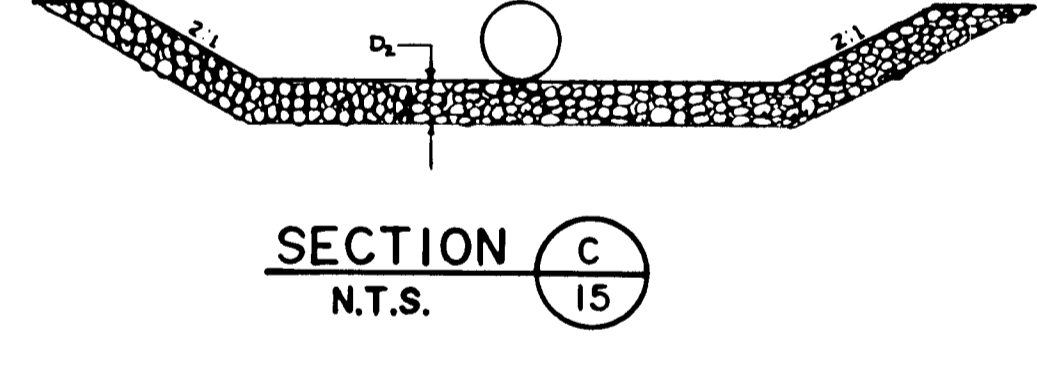
ENERGY DISSIPATOR DETAIL
N.T.S.



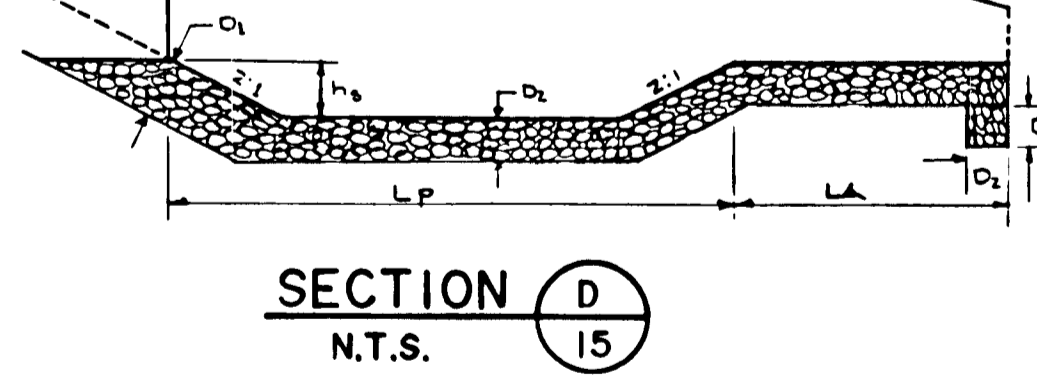
SECTION A
N.T.S.



SECTION B
N.T.S.



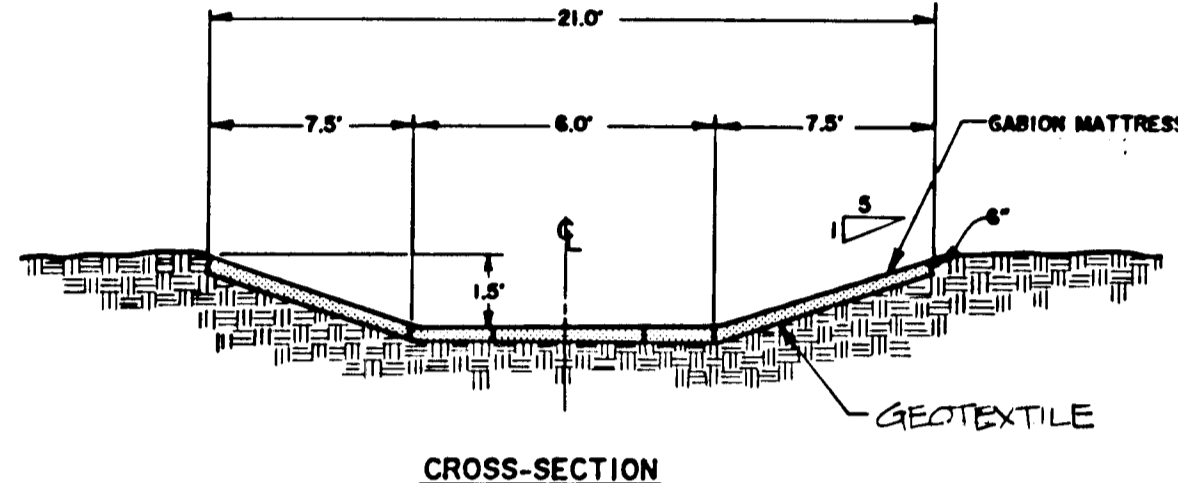
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N.T.S.



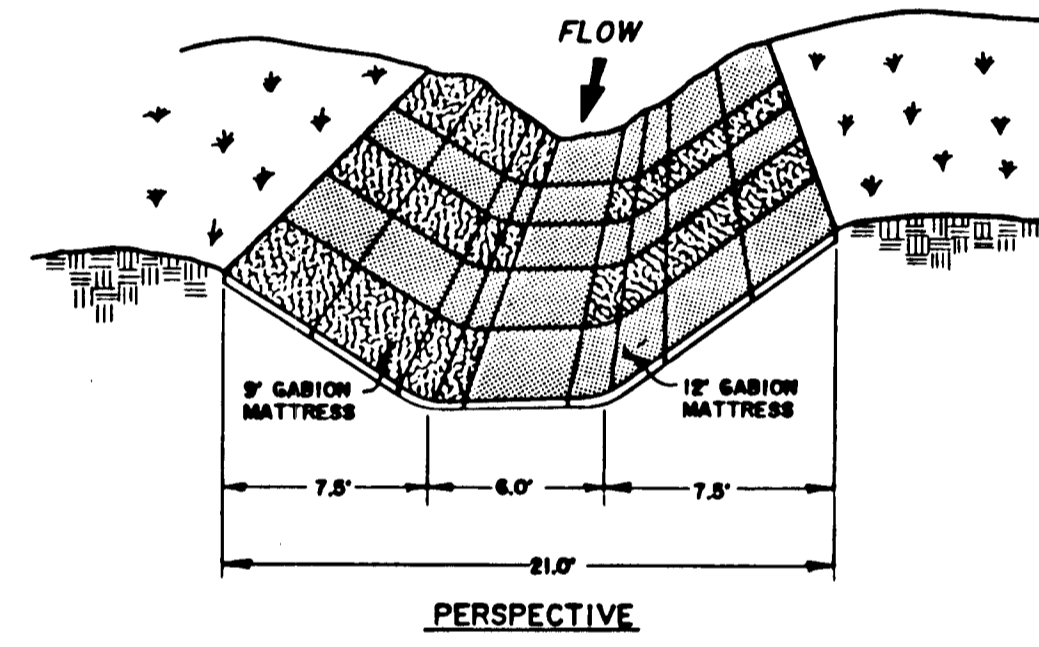
SECTION D
N.T.S.

ENERGY DISSIPATOR SCHEDULE

LOCATION	D	Lp	LA	Lr	D1	D2	h3	Dp	DA	Wp	WA	d30	dmax
	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.
SB-4A	1.5	11.1	5.6	16.7	1.25	0.87	1.11	5.2	3.0	8.9	12.6	0.42	0.58
48' CMP	4.0	13.3	6.7	20.0	1.67	1.25	1.33	10.7	8.0	12.9	17.3	0.54	0.83
SB-4B	3.0	18.1	9.1	27.2	1.67	1.25	1.21	9.6	6.0	15.1	21.1	0.54	0.83
CWB-4B	3.0	9.0	4.2	13.2	1.26	0.84	0.56	7.7	6.0	9.0	11.8	0.42	0.58
24' CMP	2.0	8.4	4.2	12.6	1.20	0.87	0.84	5.7	4.0	7.6	10.4	0.42	0.58

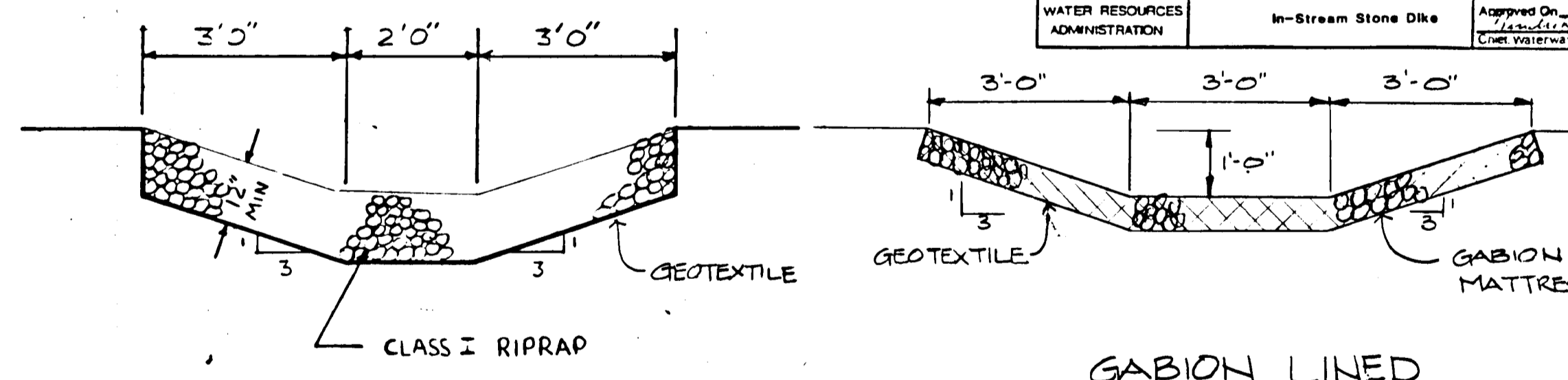


CROSS-SECTION

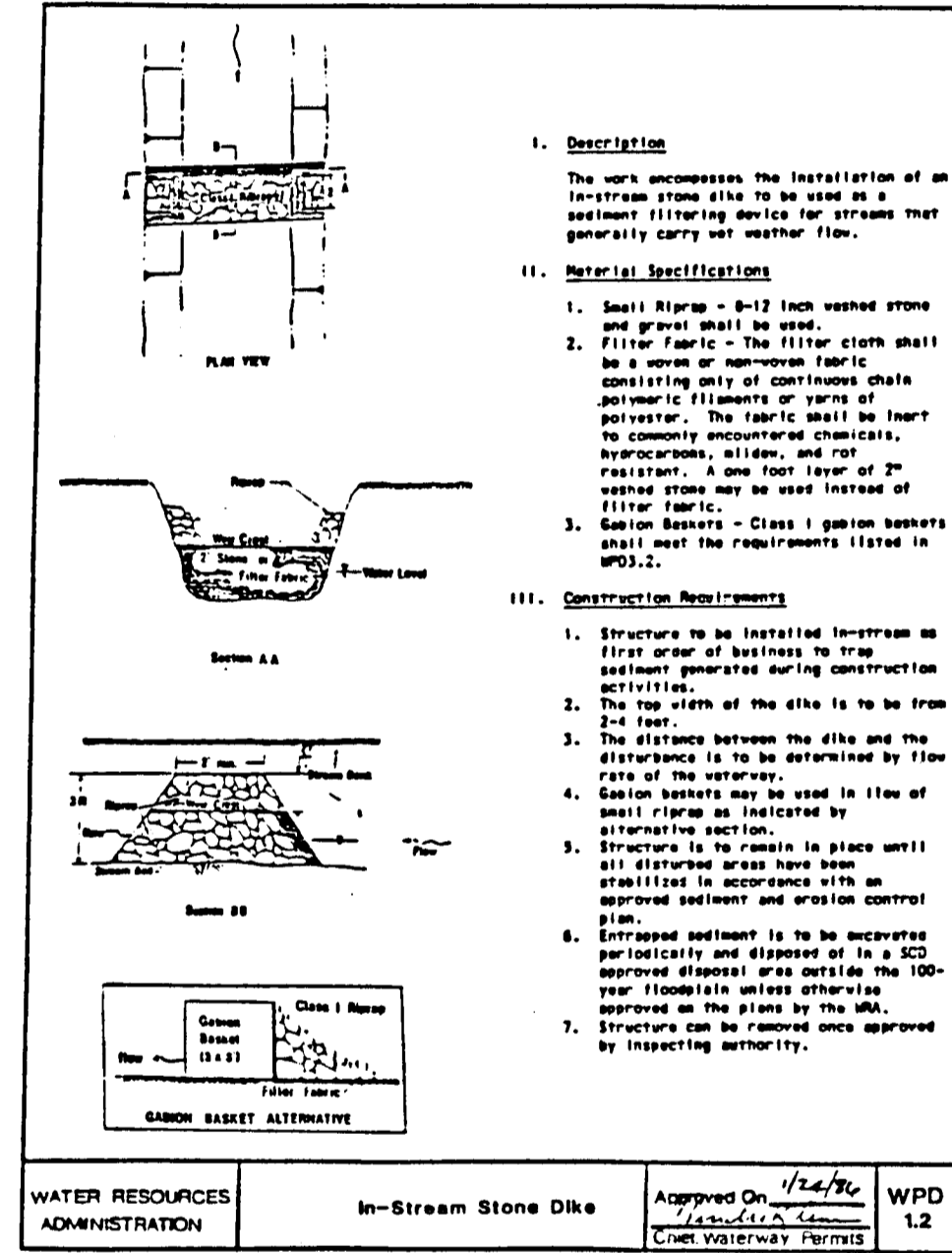


PERSPECTIVE

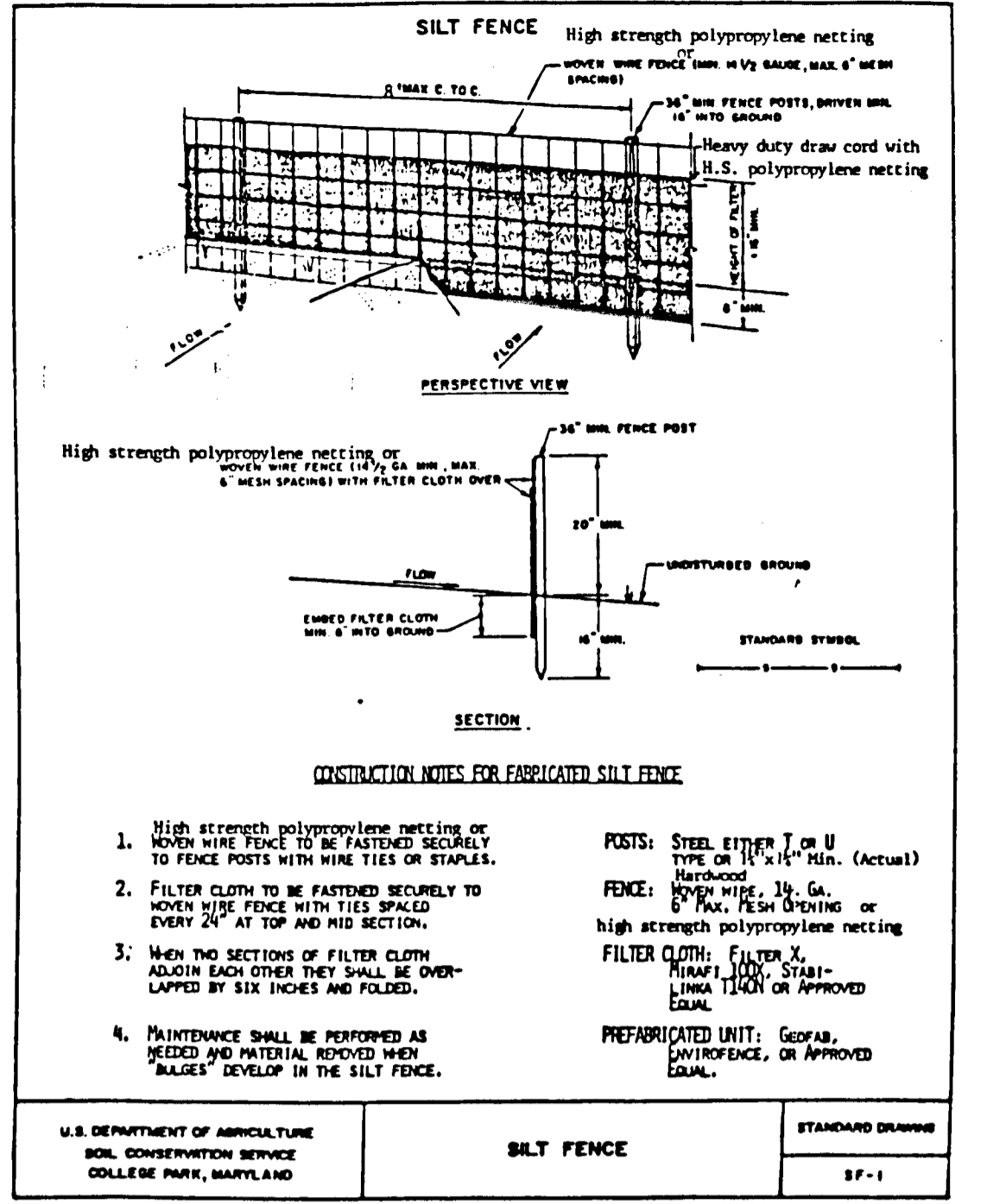
GABION DOWNCHUTE DETAIL
N.T.S.



PILOT CHANNEL DETAIL
SCALE: 1/2" = 1'-0"



GABION LINED PILOT CHANNEL DETAIL
SCALE: 1/2" = 1'-0"



SILT FENCE
STANDARD SYMBOL

- CONSTRUCTION NOTES FOR FABRICATED SILT FENCE**
1. High strength polypropylene netting or heavy duty fence fabric shall be used. Netting shall be 6' high and 4' wide.
 2. FILTER CLOTH TO BE FASTENED SECURELY TO MOISTURE FENCE WITH STAPLES OR STAPLES EVERY 24" AT TOP AND MID SECTION.
 3. Mesh sections of filter cloth shall be overlapped by six inches and folded.
 4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BAGS" DEVELOP IN THE SILT FENCE.
- PREPARED UNIT:** Geotextile, Polypropylene, or Approved Equal.
- POSTS:** Steel, either I or U type or 1 1/2" x 1/2" min. (Actual) diameter.
- FENCE:** 3/8" wire, 18 ga. heavy duty fence fabric or high strength polypropylene netting.
- FILTER CLOTH:** Filter cloth, 1/2" mesh spacing with filter cloth over.

SEDIMENT CONTROL & POND CONSTRUCTION

BY THE DEVELOPER:

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PERIODIC ON SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature **DATE** 2-23-90

BY THE ENGINEER:

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE HOWARD SOIL CONSERVATION DISTRICT THAT I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE THE HOWARD SOIL CONSERVATION DISTRICT TO CONDUCT PERIODIC ON SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature **DATE** 2/14/90

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

Signature **DATE** 8/23/90

Signature **DATE** 8/19/92

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Signature **DATE** 8/23/90

Signature **DATE** 8/19/92

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS:
HOWARD COUNTY HEALTH DEPARTMENT

Signature **DATE** 8-23-90

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
Signature **DATE** 8/28/90

CHIEF-DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT:
Signature **DATE** 8/23/90

APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS:
HOWARD COUNTY DEPT. OF PUBLIC WORKS

Signature **DATE** 8/23/90

Signature **DATE** 8-23-90

RECORD DRAWING
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
AUGUST 1992

REVISIONS

NO.	DATE	BY	DESCRIPTION

DESIGN: MMD
DRAWN: PMS
CHECKED: DSP
PROJECT ENGINEER: DSS

ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND

EROSION AND SEDIMENT CONTROL DETAILS

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
BALTIMORE, CHICAGO, LINCOLN, NEW YORK, NEW JERSEY, ATLANTA, DALLAS, LOS ANGELES, SAN FRANCISCO

DATE: JUNE 1990
SCALE: AS SHOWN
PROJECT NO.: 10293.01
SHEET NO.: 15 OF 25

SUBDIVISION NAME: Alpha Ridge Solid Waste Management Center
SECT./AREA/LOT/PARCEL: 302

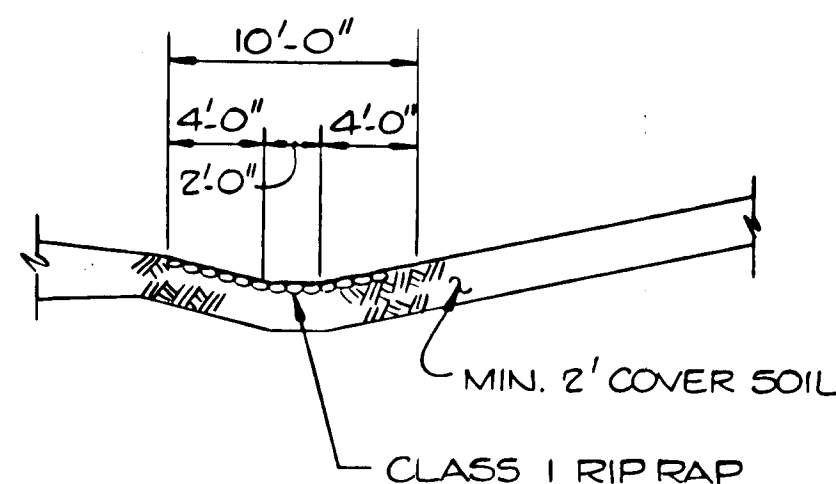
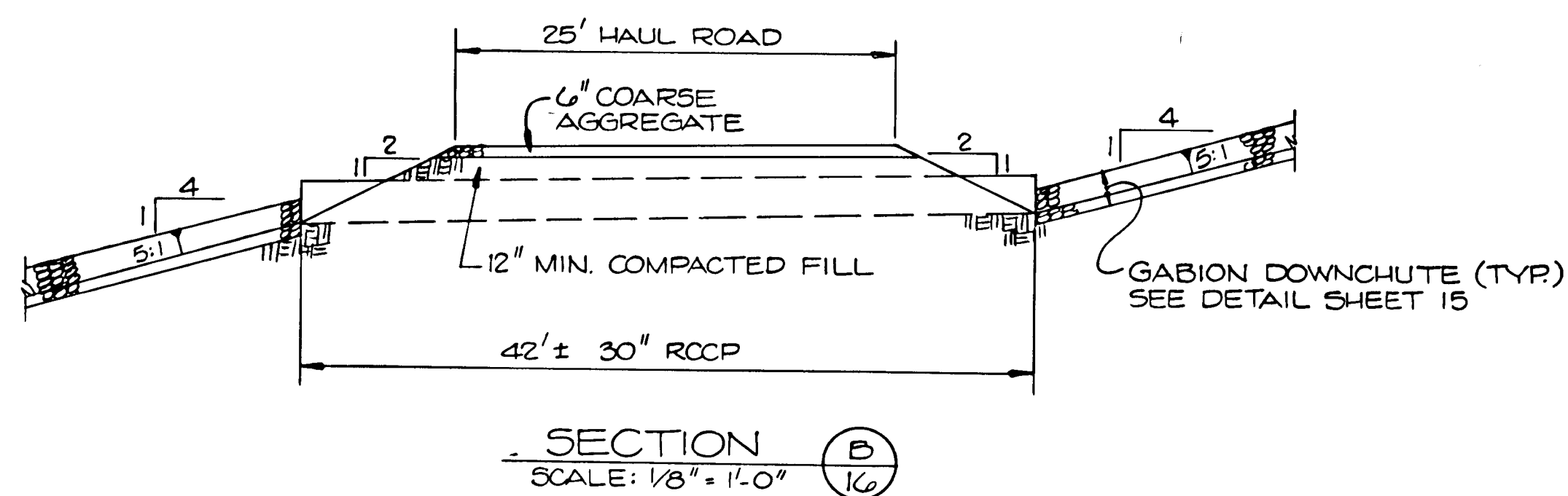
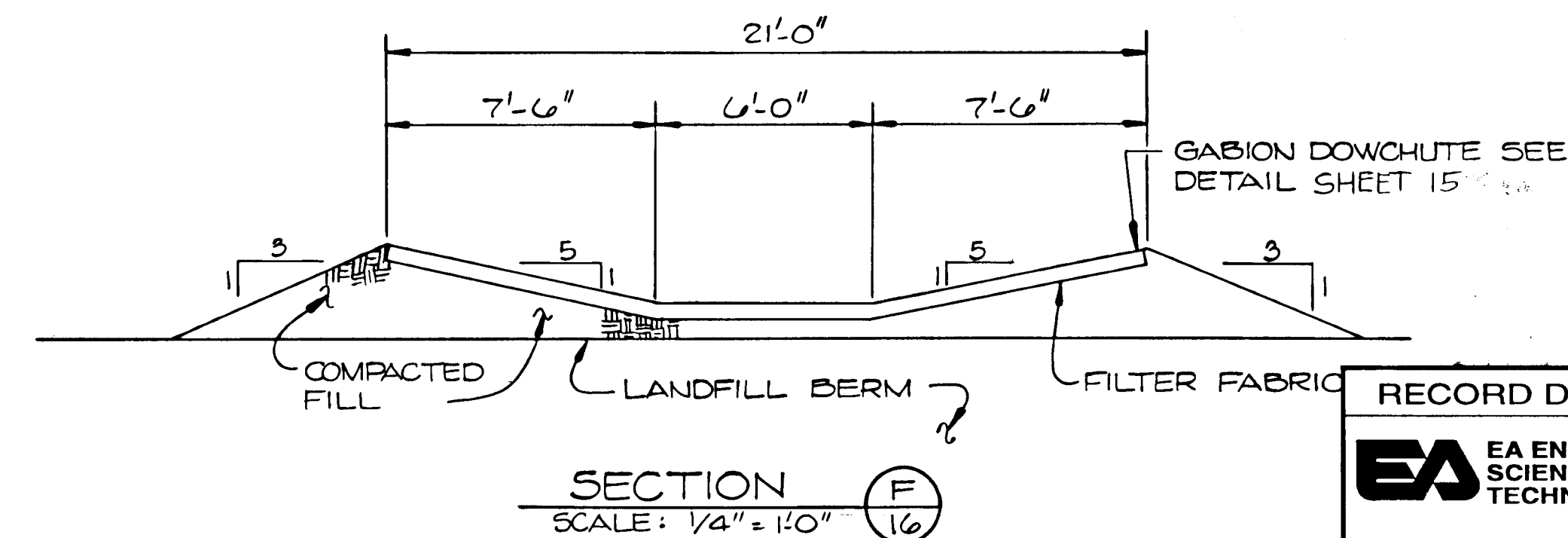
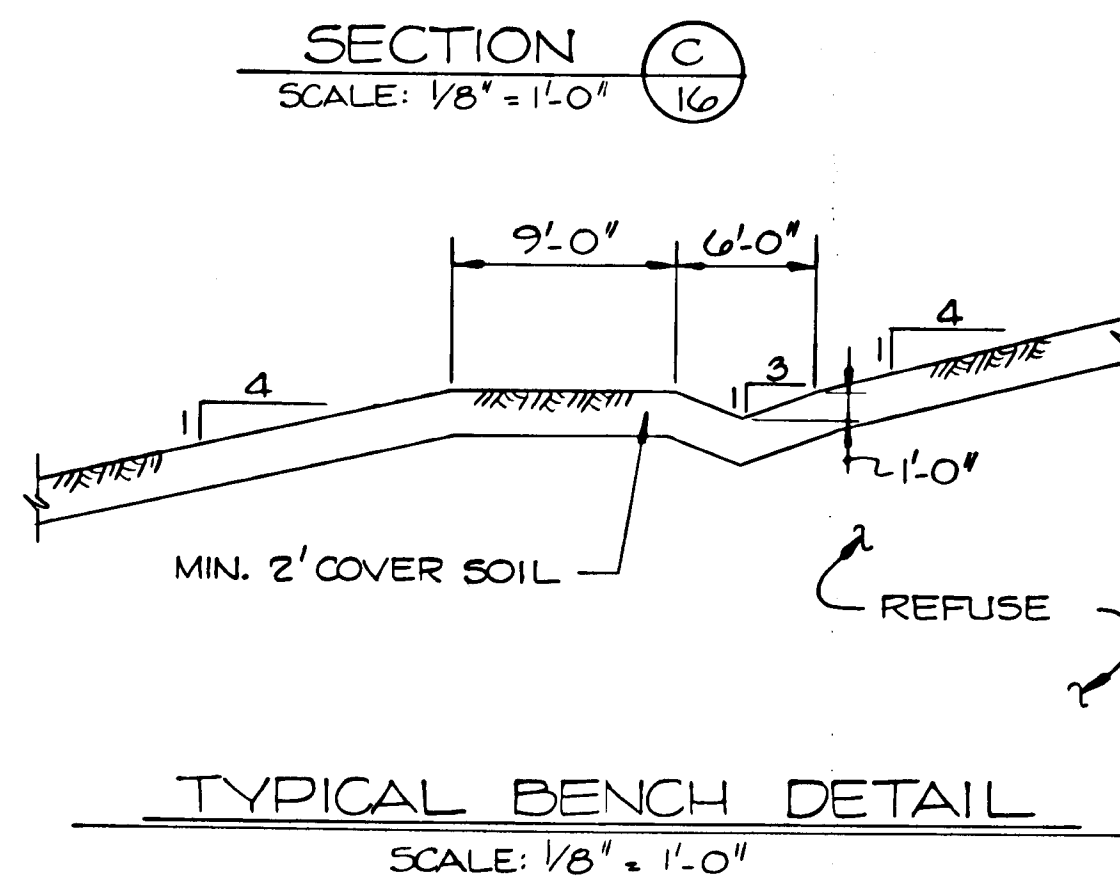
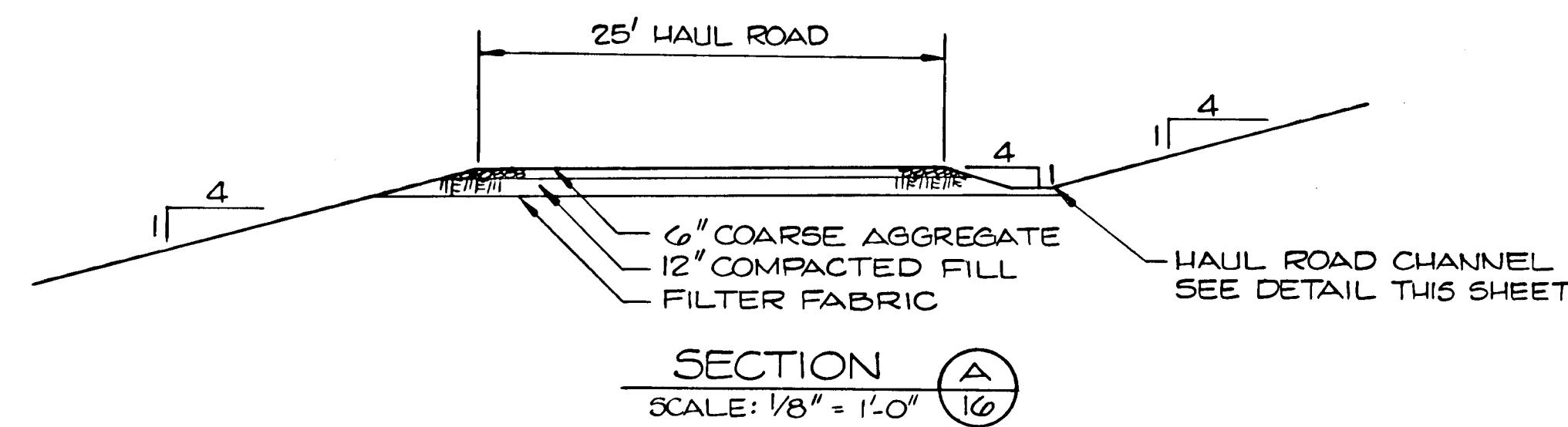
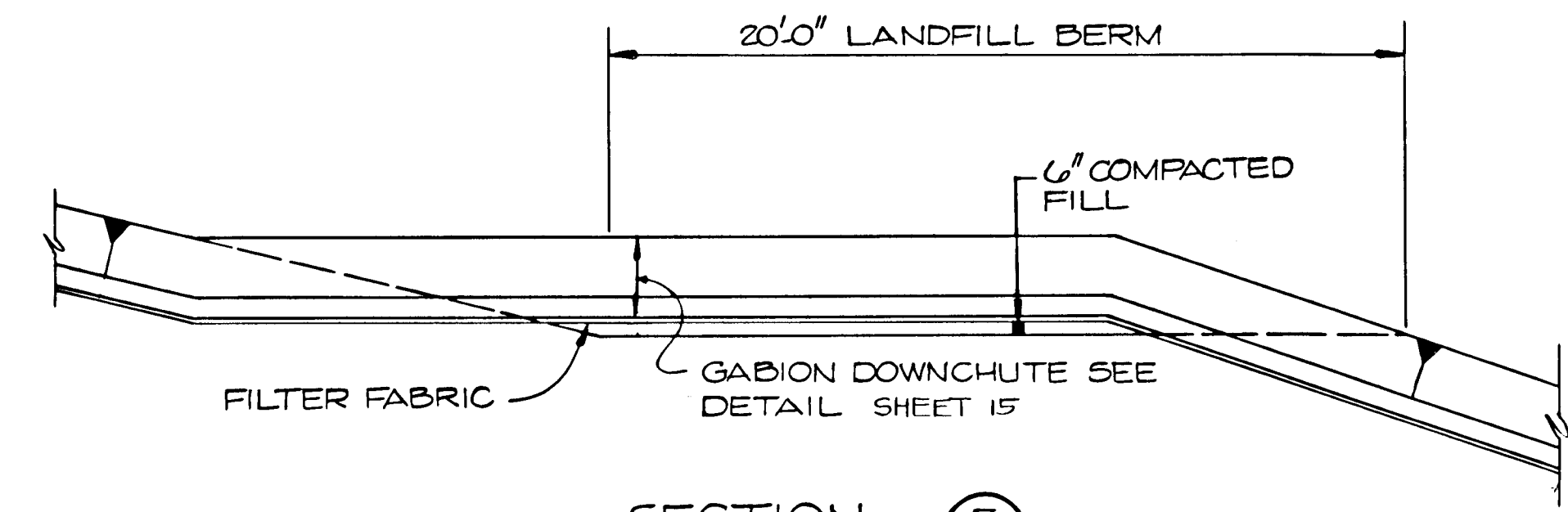
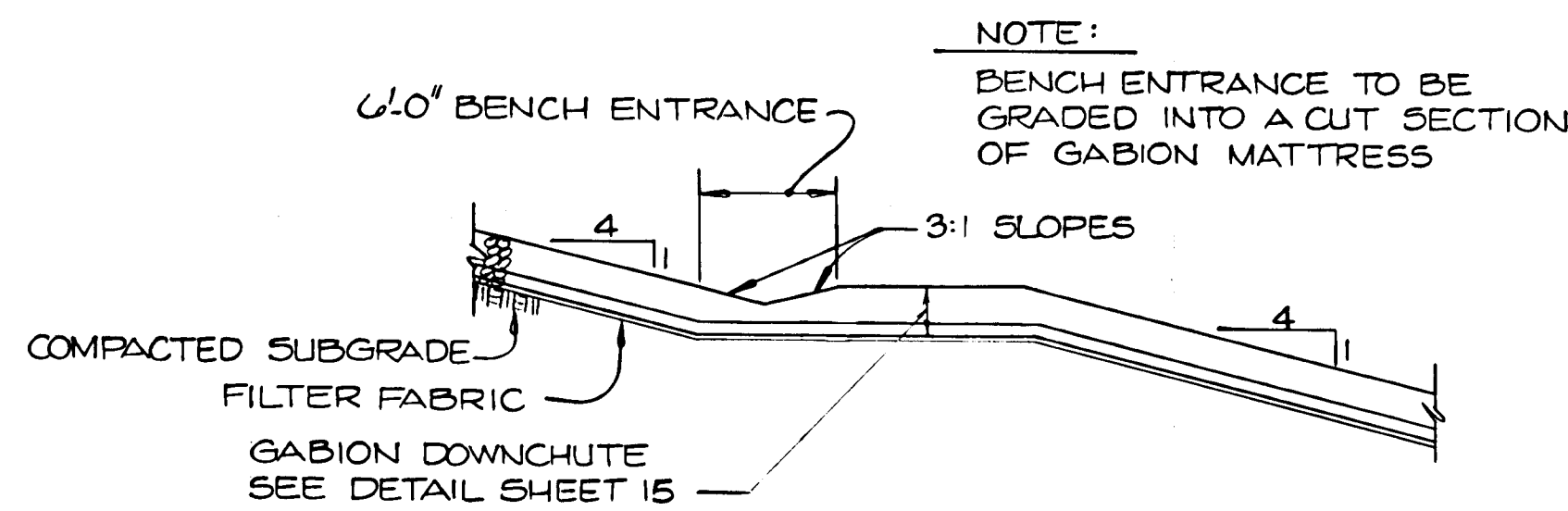
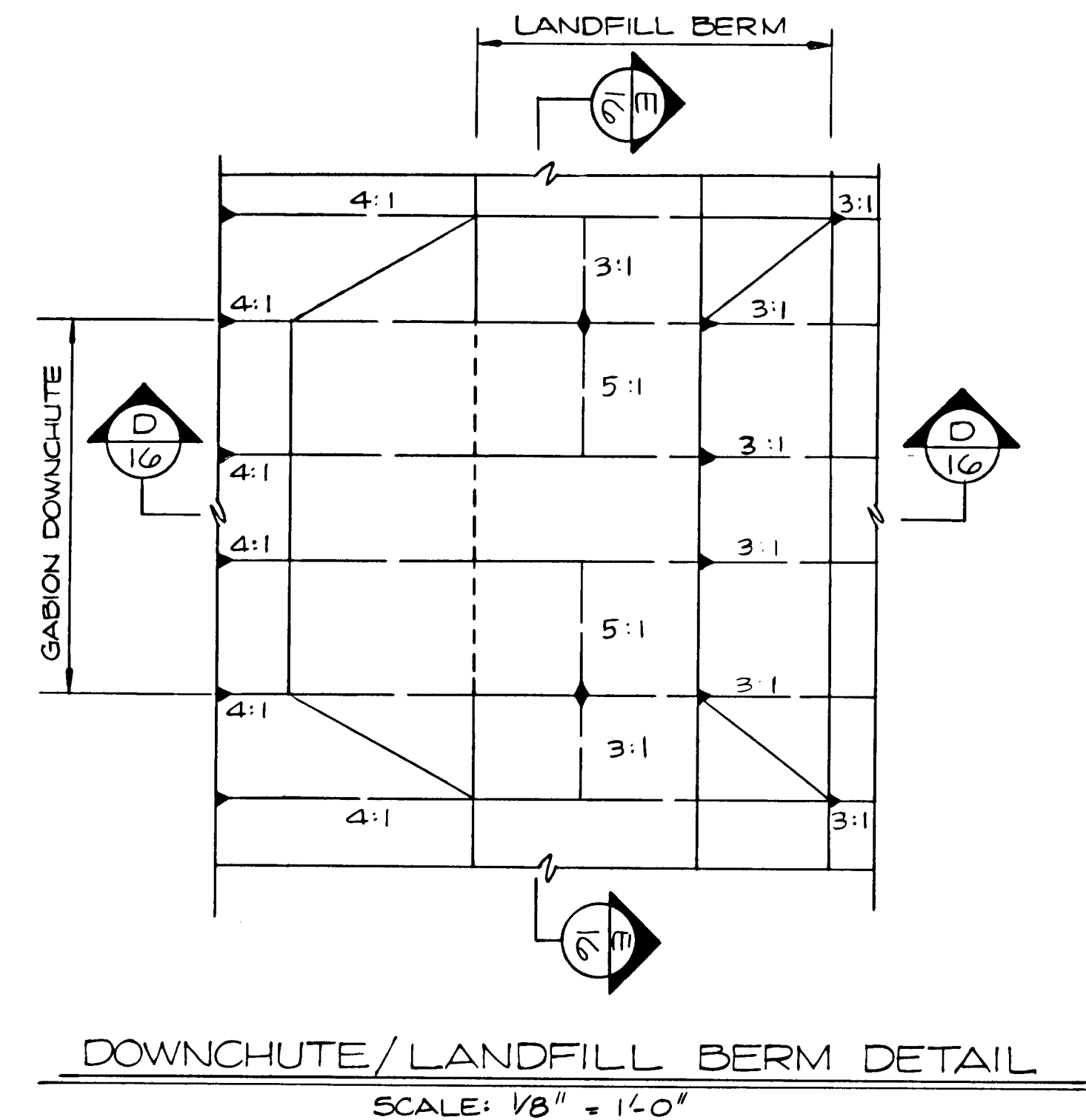
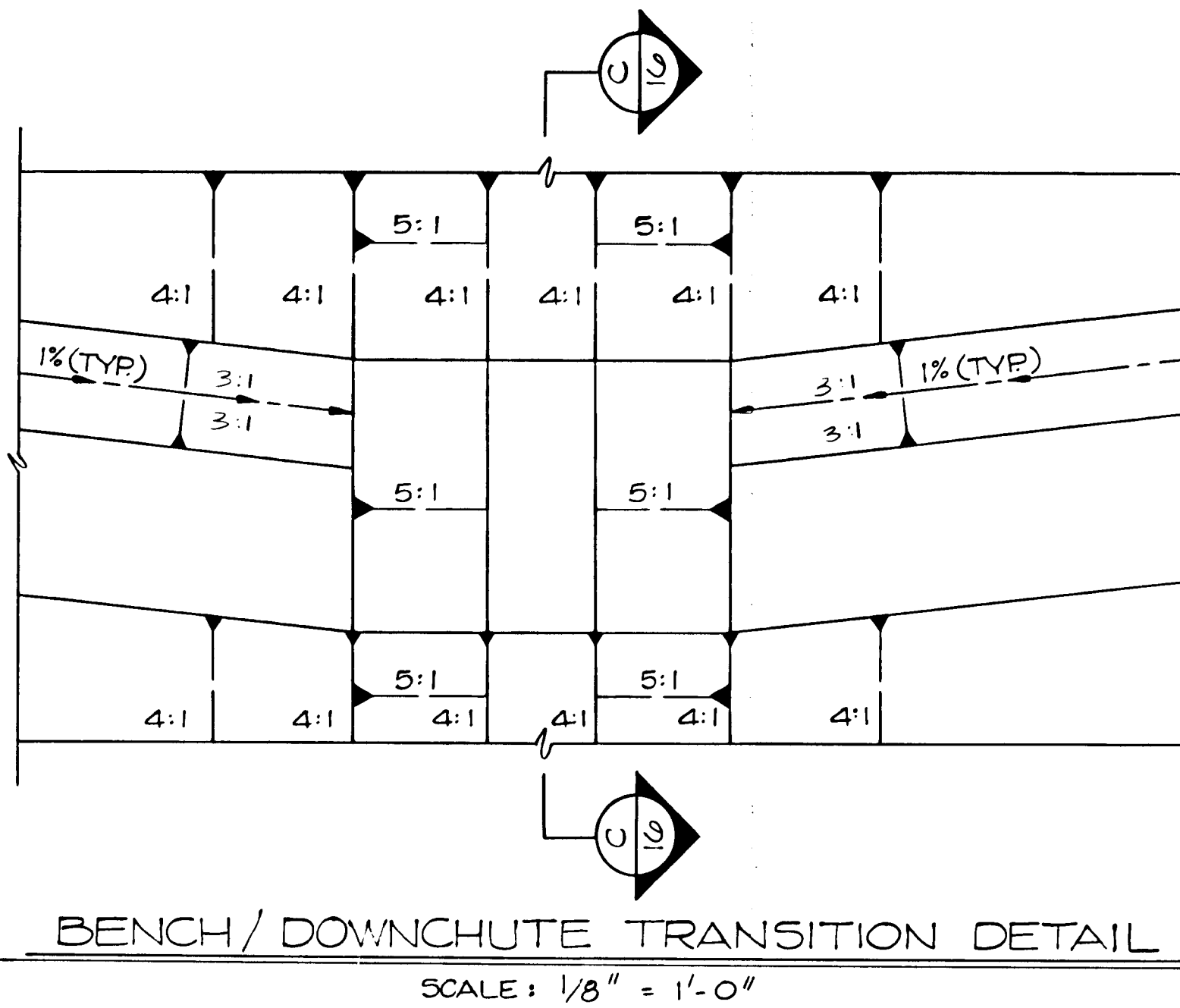
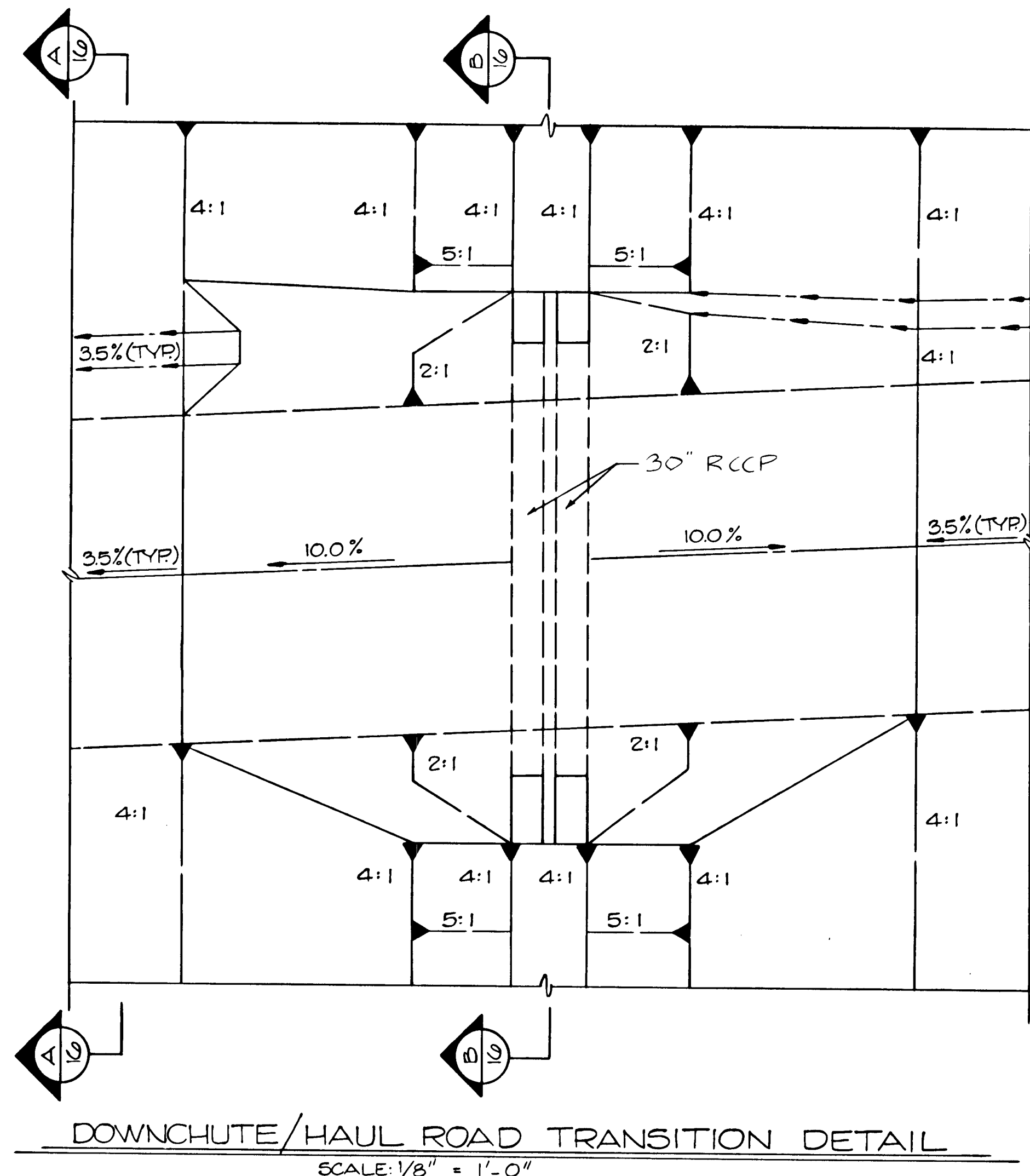
LIBER/FOLIO/BLOCK: 856.310
ZONE: R
TAX/ZONE MAP: 16
ELEC. DIST.: 3
CENSUS TR.: 6030

WATER CODE: Private, Existing
SEWER CODE: Private, Existing

OWNER/DEVELOPER: Howard County Government
ADDRESS: 3430 Court House Drive, Ellwood City, MD 21043

880

10293.01-015
XXAL-90-015
SDP 90-90



SEDIMENT CONTROL & POND CONSTRUCTION

BY THE DEVELOPER:
I WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

James B. Ray 8-23-90
SIGNATURE OF DEVELOPER DATE

NOT IN CONTRACT

BY THE ENGINEER:
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION.

David Davis 8/19/90
SIGNATURE OF ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

Robert Zichem 8/23/90
Robert Zichem 8/19/90
HOWARD SOIL CONSERVATION DISTRICT DATE

RECORD DRAWING
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
AUGUST 1992

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

James M. Boyd 8-23-90
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
DIRECTOR *James B. Ray* 8/23/90
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

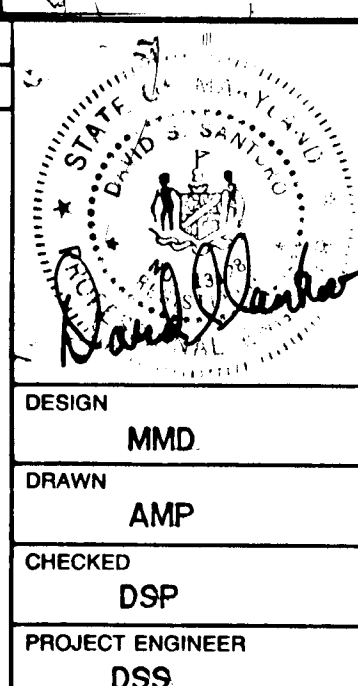
APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS.
HOWARD COUNTY DEPT. OF PUBLIC WORKS

James B. Ray 8/23/90
DIRECTOR DATE

James B. Ray 8-23-90
CHIEF, BUREAU OF ENGINEERING DATE

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA/LOT/PARCEL 54,253,220.11	
LEAD: 10-04-000	BLOCK: R	TAX/ZONE MAP: 10 & 18	ELEC. DIST. CENSUS TR.: 3 60-30
10-04-000			
10-04-000			
WATER CODE Private, Existing		SEWER CODE Private, Existing	
OWNER/DEVELOPER Howard County Government			
ADDRESS 3430 Court House Drive, Ellicott City, MD 21043			

REVISIONS			
NO.	DATE	BY	DESCRIPTION



ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND

OPERATIONAL EROSION & SEDIMENT CONTROL DETAILS

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
BALTIMORE, CHICAGO, LINCOLN, NEW YORK, NEW JERSEY, ATLANTA, DALLAS, LOS ANGELES, SAN FRANCISCO

DESIGN: MMD
DRAWN: AMP
CHECKED: DSP
PROJECT ENGINEER: DSS

DATE: JUNE 1990
SCALE: AS SHOWN
PROJECT NO.: 10293.01
SHEET NO.: 16 OF 25

880

CONSTRUCTION SPECIFICATIONS FOR BASINS

I. SITE PREPARATION

AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL. ALL TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED. THE FOUNDATION AND ANY EXISTING EARTH CONTACT SHALL BE SHAPED IN ACCORDANCE WITH THE CONTRACT DRAWINGS.

AREAS TO BE COVERED BY THE POND OR RESERVOIR WILL BE CLEARED OF ALL TREES, BRUSH, LOGS, FENCES, RUBBISH AND OTHER OBJECTIONABLE MATERIAL UNLESS OTHERWISE DESIGNATED ON THE PLANS. TREES, BRUSH AND STUMPS SHALL BE CUT APPROXIMATELY LEVEL WITH THE GROUND SURFACE.

ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE AND BELOW THE LIMITS OF THE DAM AND RESERVOIR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE. SOIL SHALL BE STOCKPILED AT LOCATIONS INDICATED ON THE PLANS. TOPSOIL SHALL BE SEGREGATED FROM FILL MATERIAL.

ALL STRUCTURES WITHIN THE WORKS LIMITS OF PONDS TO BE RECONSTRUCTED SHALL BE REMOVED. THE DISPOSAL SHALL BE COMPLETELY OFFSITE AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

II. EARTH FILL

MATERIAL

THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREA OR AREAS. ACCEPTABLE MATERIAL SHALL BE MATERIALS CLASSIFIED IN ASTM D2487 AS GC, SM, SC, ML, MH, CH OR CL. ACCEPTABLE MATERIAL SHALL NOT CONTAIN STONE WITH A MAXIMUM DIMENSION LARGER THAN 4" IN THE UPPER 6" OF FILL OR 6" FOR THE REMAINDER OF THE FILL. STONES SHALL NOT BE MORE THAN 25% BY VOLUME OF THE FILL MATERIAL. IT SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH, OVERSIZE STONES, FROZEN OR OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE CONSTRUCTED TO AN ELEVATION WHICH PROVIDES FOR ANTICIPATED SETTLEMENT TO THE DESIGN ELEVATION. THE FILL HEIGHT ALL ALONG THE LENGTH OF THE EMBANKMENT SHALL BE INCREASED ABOVE THE DESIGN ELEVATION (INCLUDING FREEBOARD) AS SHOWN ON THE PLANS. THE MOISTURE CONTENT OF THE FILL MATERIAL SHALL BE AT OR WITHIN TWO PERCENTAGE POINTS OF THE "OPTIMUM MOISTURE CONTENT" AS DETERMINED IN ACCORDANCE WITH AASHTO T-180.

III. STRUCTURAL BACKFILL

STRUCTURAL BACKFILL MATERIAL SHALL OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL. THE FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER COMPACTION EQUIPMENT. THE MATERIAL NEEDS TO FILL COMPLETELY ALL SPACES UNDER AND ADJACENT TO THE PIPE. THE PIPES SHALL BE LOADED SUFFICIENTLY DURING BACKFILLING AROUND THE SIDES TO PREVENT ITS BEING LIFTED FROM THE BEDDING RESULTING IN A LOSS OF CONTACT AND HIGH PIPING POTENTIAL. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN TWO FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A CONCRETE STRUCTURE OR PIPE UNLESS THERE IS A COMPACTED FILL OF TWENTY-FOUR INCHES OR GREATER OVER THE STRUCTURE OR PIPE.

IV. PIPE CONDUITS

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.

A. CORRUGATED METAL PIPE

- MATERIALS - (STEEL PIPE) -** THIS PIPE AND ITS APPURTENANCES SHALL BE GALVANIZED AND FULLY BITUMINOUS COATED AND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-190 TYPE A WITH WATER TIGHT COUPLING BANDS. ANY BITUMINOUS COATING DAMAGED OR OTHERWISE REMOVED SHALL BE REPLACED WITH COLD APPLIED BITUMINOUS COATING COMPOUND.
- CONNECTIONS -** ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATER TIGHT. THE DRAIN PIPE OR BARREL CONNECTION TO THE RISER SHALL BE WELDED ALL AROUND WHEN THE PIPE AND RISER ARE METAL WATER TIGHT COUPLING BANDS OR FLANGES SHALL BE USED AT ALL JOINTS. CRIMPED ENDS THAT ARE OUT OF LINE SHALL BE STRAIGHTENED AND ADDITIONAL MASTIC APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. DIMPLE BANDS ARE NOT CONSIDERED TO BE WATER TIGHT.

PLACEMENT

AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN 8-INCH MAXIMUM THICKNESS (BEFORE COMPACTION) LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST POROUS BORROW MATERIALS SHALL BE PLACED IN THE DOWNSTREAM PORTIONS OF THE EMBANKMENT.

COMPACTION

CONTROL THE MOVEMENT OF THE HAULING EQUIPMENT OVER THE FILL SO THAT THE ENTIRE SURFACE OF EACH LIFT IS COMPACTED TO 90% OF THE "MAXIMUM DRY DENSITY" AS DETERMINED IN ACCORDANCE WITH AASHTO T-180.

THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OF THE EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER TIRE OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION CAN BE OBTAINED WITH THE EQUIPMENT USED.

EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THE REQUIRED MINIMUM DENSITY AND IS TO BE CERTIFIED BY THE ENGINEER.

CUTOFF TRENCH

A CUTOFF TRENCH SHALL BE EXCAVATED ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE BOTTOM WIDTH OF THE TRENCH SHALL BE AS SHOWN ON THE DRAWING WITH THE MINIMUM WIDTH BEING FOUR FEET. THE DEPTH SHALL BE AT LEAST FOUR FEET OR AS SHOWN ON THE PLANS. THE SIDE SLOPES OF THE TRENCH SHALL BE AS SHOWN ON THE DRAWING WITH THE MAXIMUM SLOPE BEING 1 TO 1. THE BACKFILL MATERIAL FOR THE CUTOFF TRENCH SHALL BE CLASSIFIED AS CH, CL, SC, OR ML-CL IN ACCORDANCE WITH ASTM 1248. AND SHALL BE COMPACTED WITH EQUIPMENT OR ROLLERS TO ASSURE COMPACTION TO 90% MAXIMUM DENSITY IN ACCORDANCE WITH AASHTO T-180.

- BEDDING -** THE PIPES SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT THEIR ENTIRE LENGTH IN ACCORDANCE WITH THE PIPE BEDDING DETAILS AS SHOWN. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH COMPACTED EARTH CONTACTED TO PROVIDE ADEQUATE SUPPORT. IT SHALL BE UNDERCUT TO THE SHAPE OF THE PIPE DIAMETER AND FILLED IN WITH FRIABLE MATERIAL TO A MINIMUM DEPTH OF TWO FEET OF CORRUGATIONS. EXTRA CARE SHALL BE TAKEN TO ACHIEVE MAXIMUM CONTACT AND A MINIMUM OF VOIDS.
- LAYING PIPE -** THE PIPE SHALL BE PLACED WITH INSIDE CIRCUMFERENTIAL LAPS POINTING DOWNSTREAM AND WITH THE LONGITUDINAL LAPS AT THE SIDES.
- BACKFILLING** SHALL CONFORM TO STRUCTURAL BACKFILL AS SHOWN ABOVE.
- OTHER DETAILS (ANTI-SLEEP COLLARS, VALVES, ETC.)** SHALL BE AS SHOWN.

STABILIZATION

ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SLIGHTLY CONDITION. ALL EXPOSED SURFACES OF THE EMBANKMENT, STILLWAY, SPOIL AND BORROW AREAS, AND BERMS SHALL BE STABILIZED BY SEEDING, LIMING, FERTILIZING AND MULCHING (IF REQUIRED) IN ACCORDANCE WITH THE VEGETATIVE TREATMENT SPECIFICATIONS AS SHOWN.

EROSION AND SEDIMENT CONTROL

CONSTRUCTION OPERATIONS WILL BE CARRIED OUT IN SUCH A MANNER THAT EROSION WILL BE CONTROLLED AND WATER AND AIR POLLUTION MINIMIZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT WILL BE FOLLOWED. CONSTRUCTION PLANS SHALL DETAIL EROSION AND SEDIMENT CONTROL MEASURES TO BE EMPLOYED DURING THE CONSTRUCTION PROCESS.

VII. FILTER CLOTH

FILTER CLOTH SHALL BE TERRATEX NO. 8 OR EQUAL. NONWOVEN GEOTEXTILE MATERIAL SHALL BE USED FOR THIS PROJECT. THE MAXIMUM DROP OF THE RIPRAP ON TO THE GEOTEXTILE MATERIAL IS 3 FEET. THE MINIMUM LAP OF THE MATERIAL SHALL BE 18 INCHES.

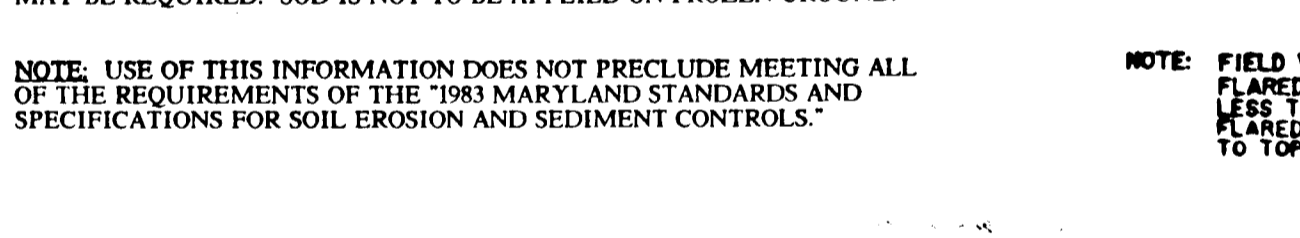
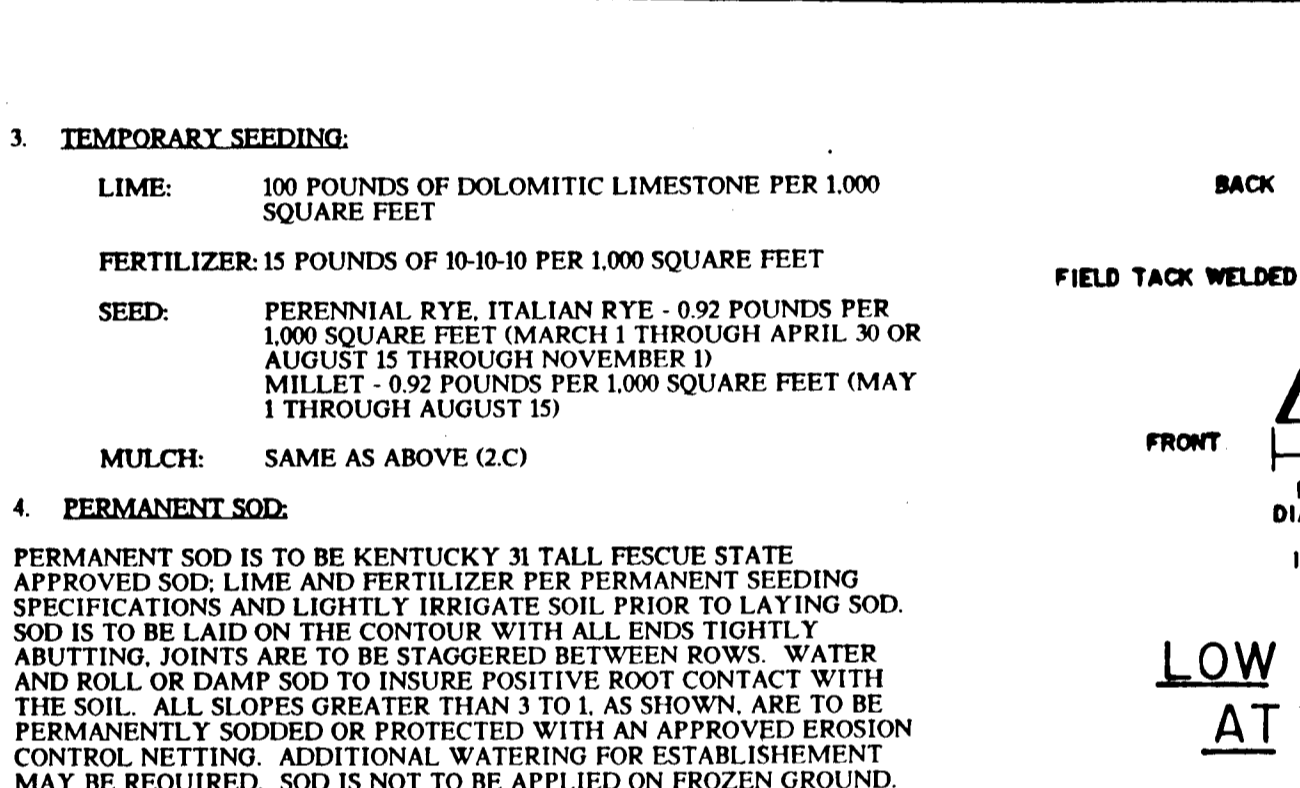
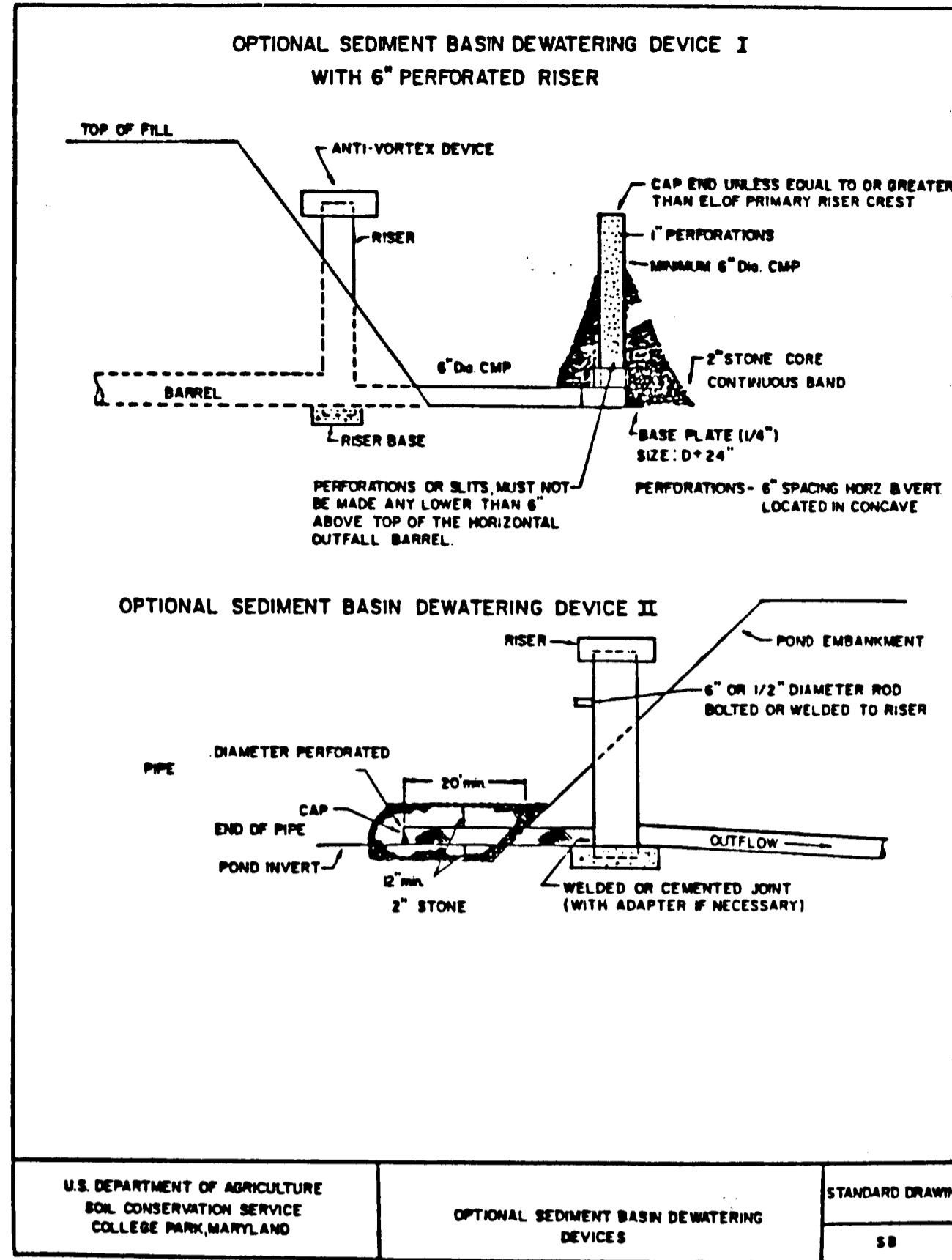
VIII. GABIONS

ALL GABIONS SHALL BE CLASS IV (PVC COATED).

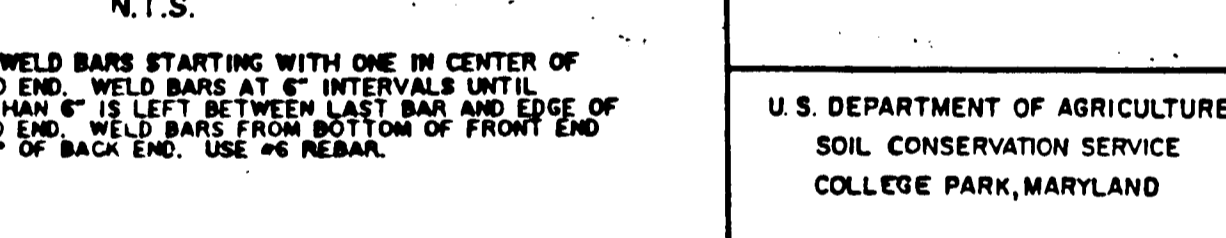
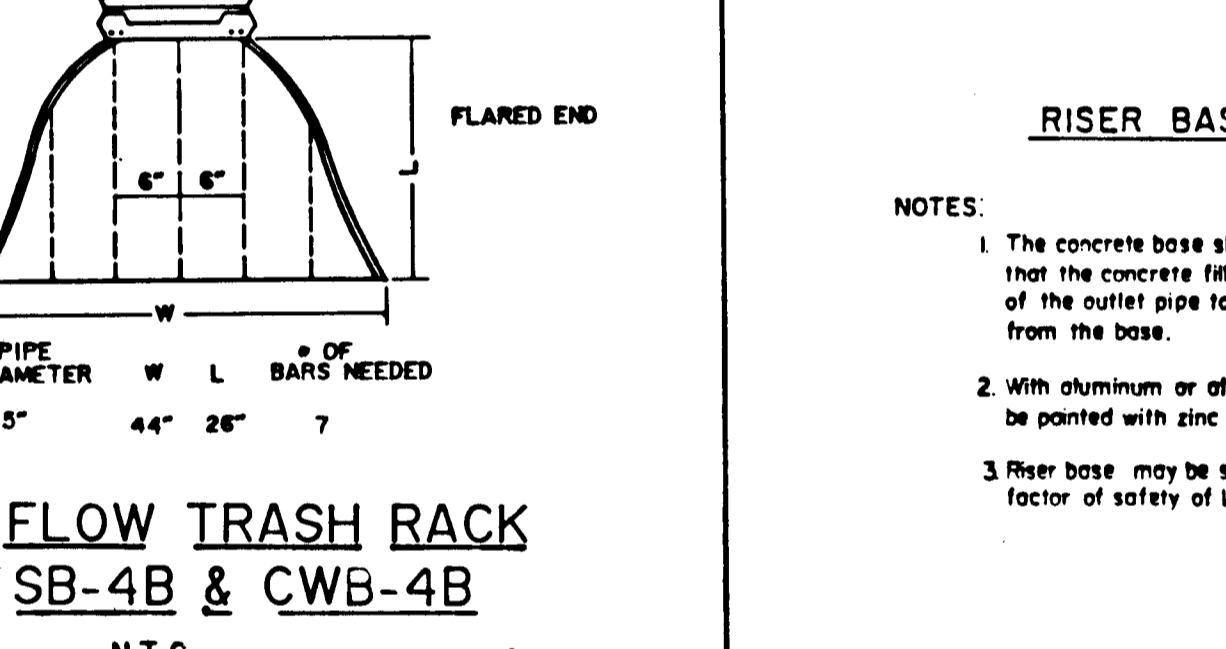
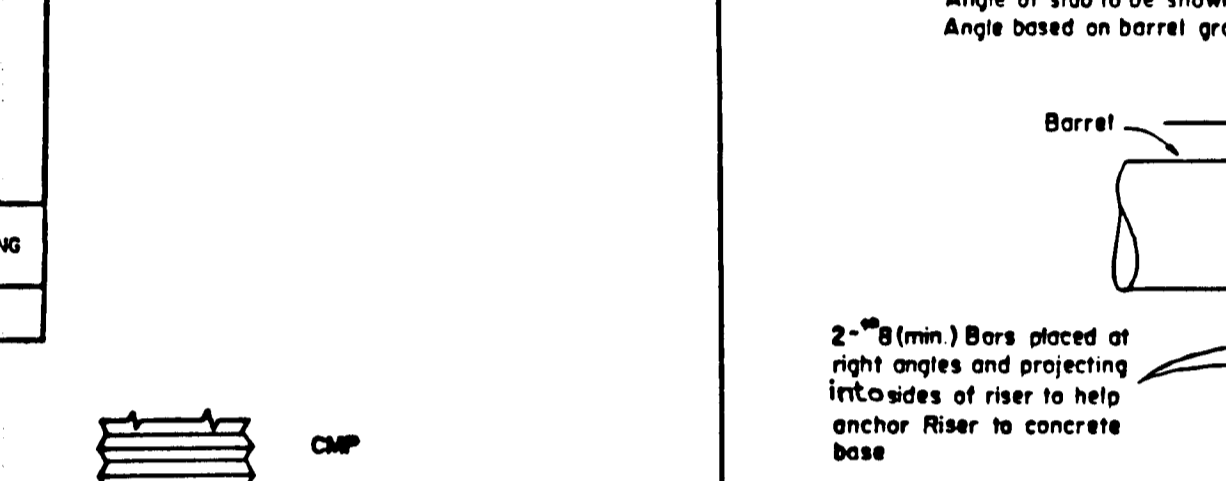
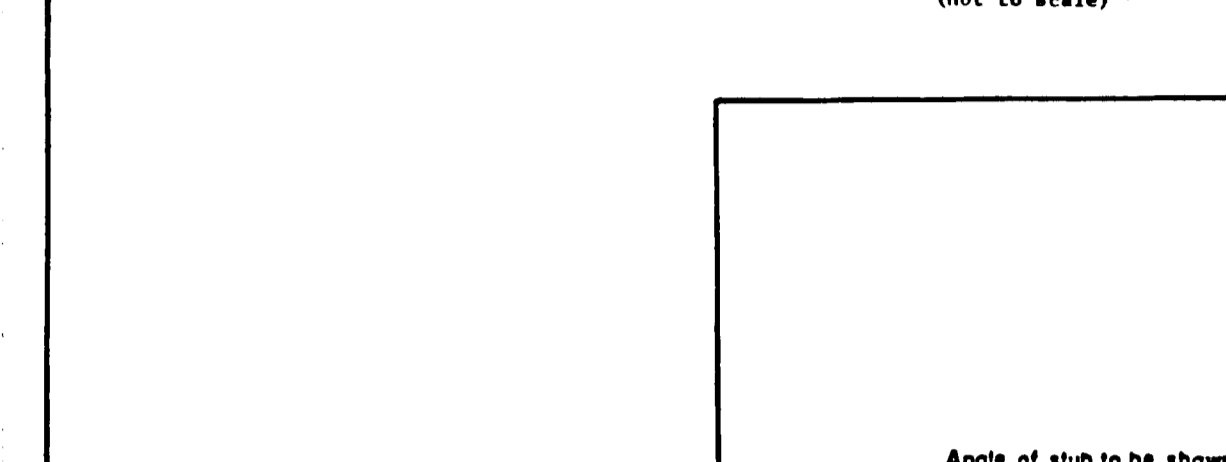
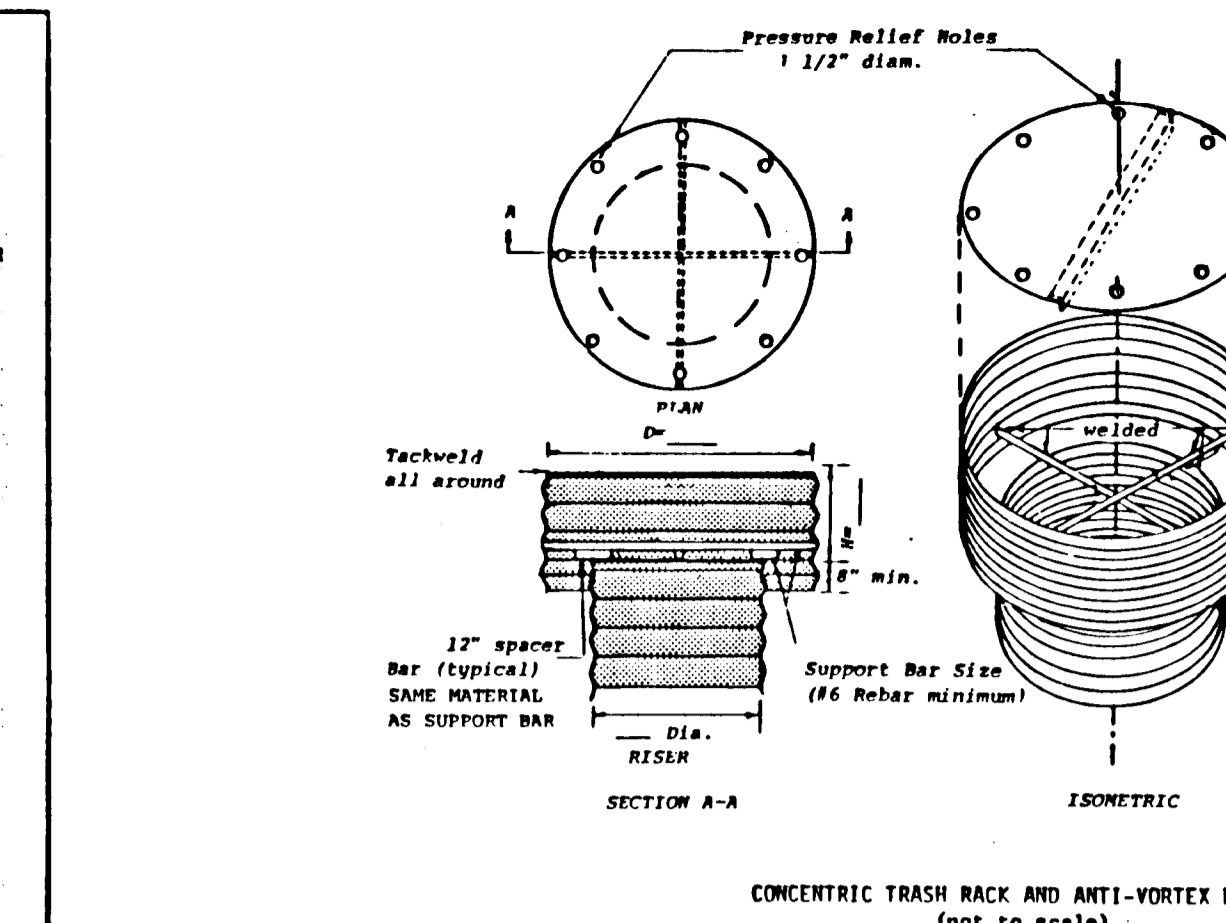
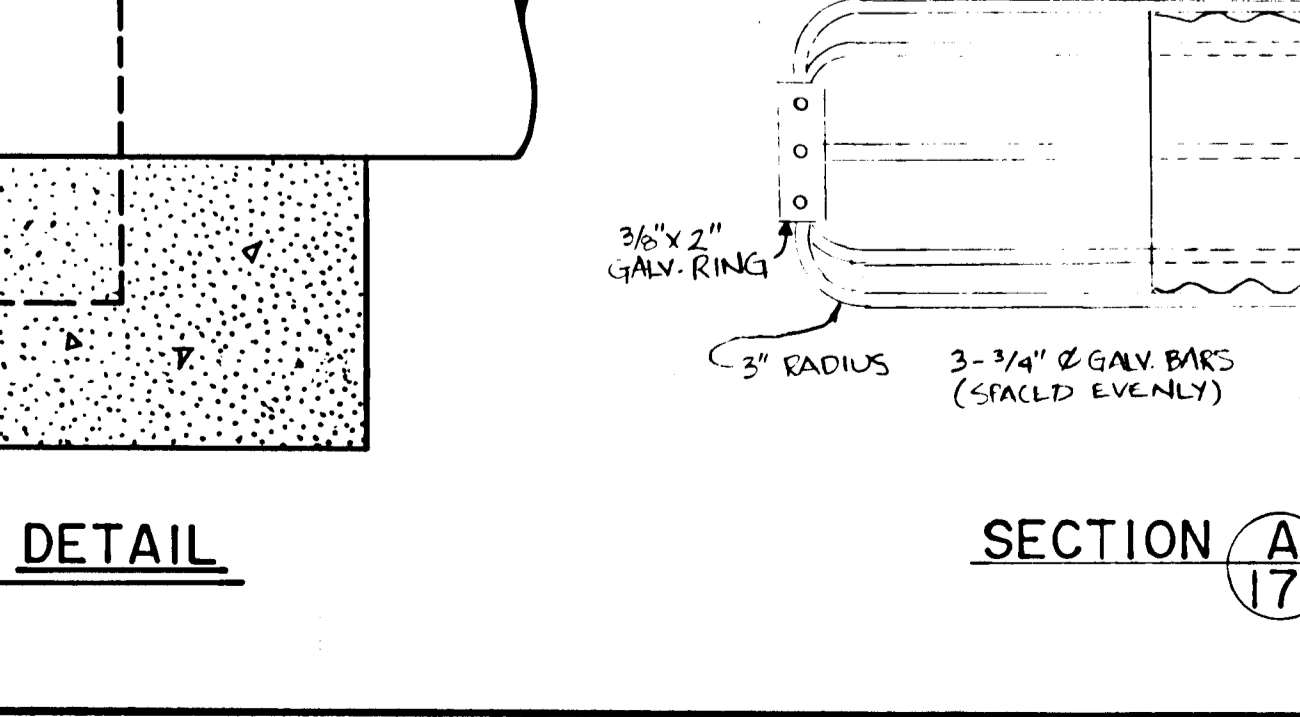
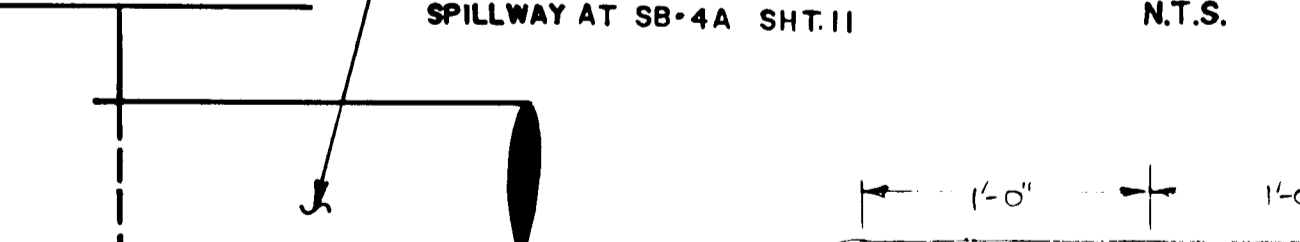
DETAILS AND SPECIFICATIONS FOR VEGETATIVE ESTABLISHMENT

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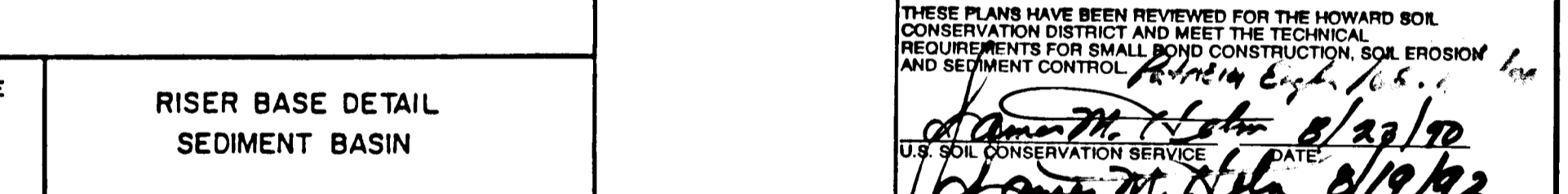
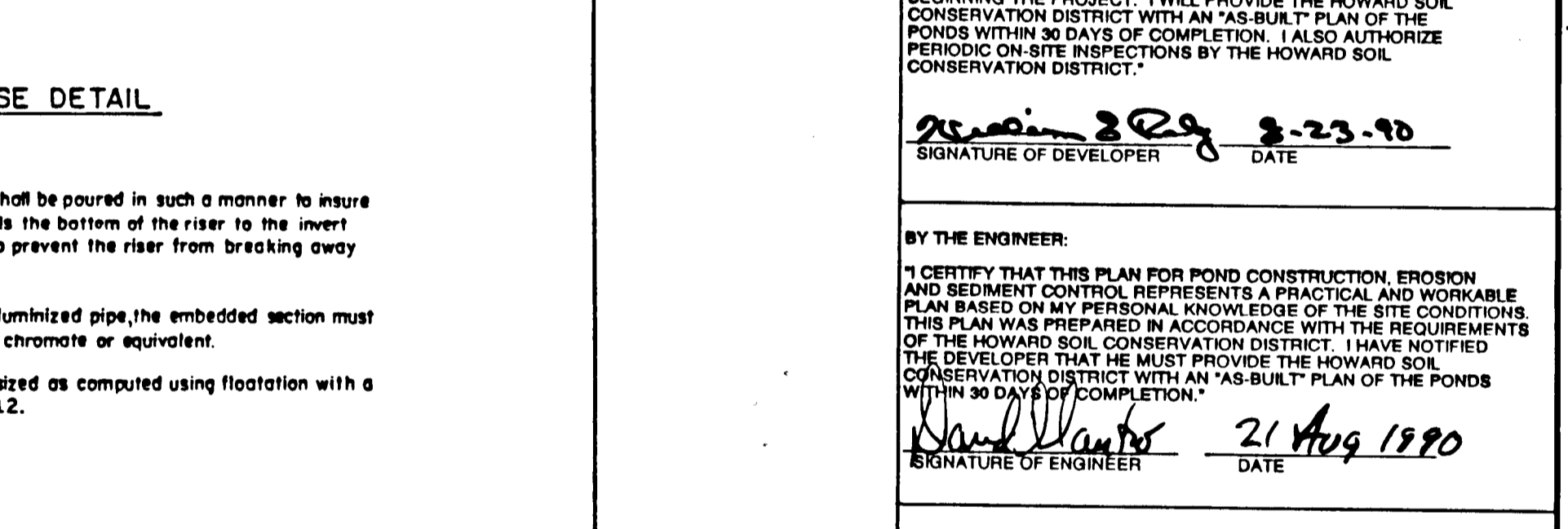
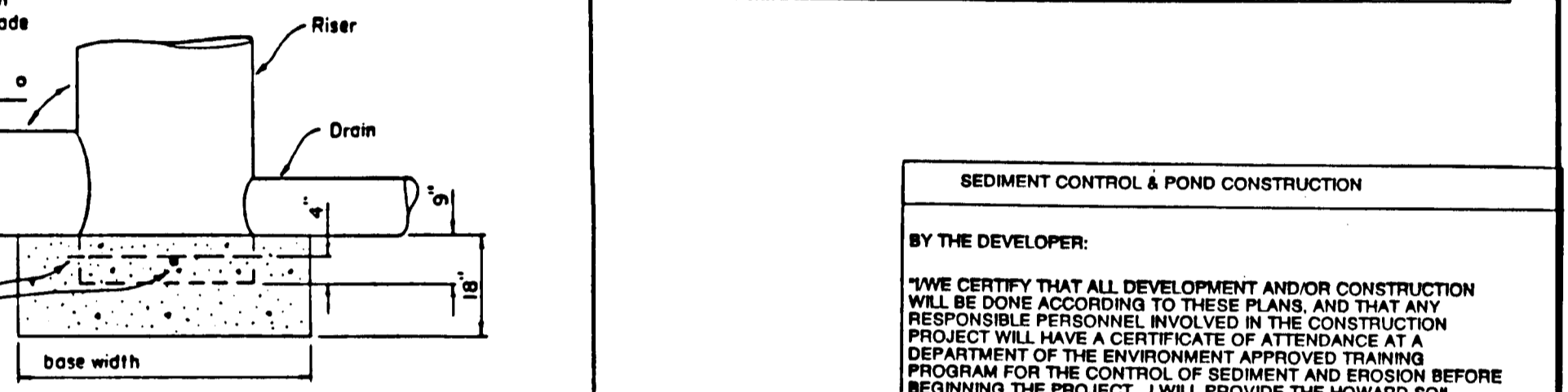
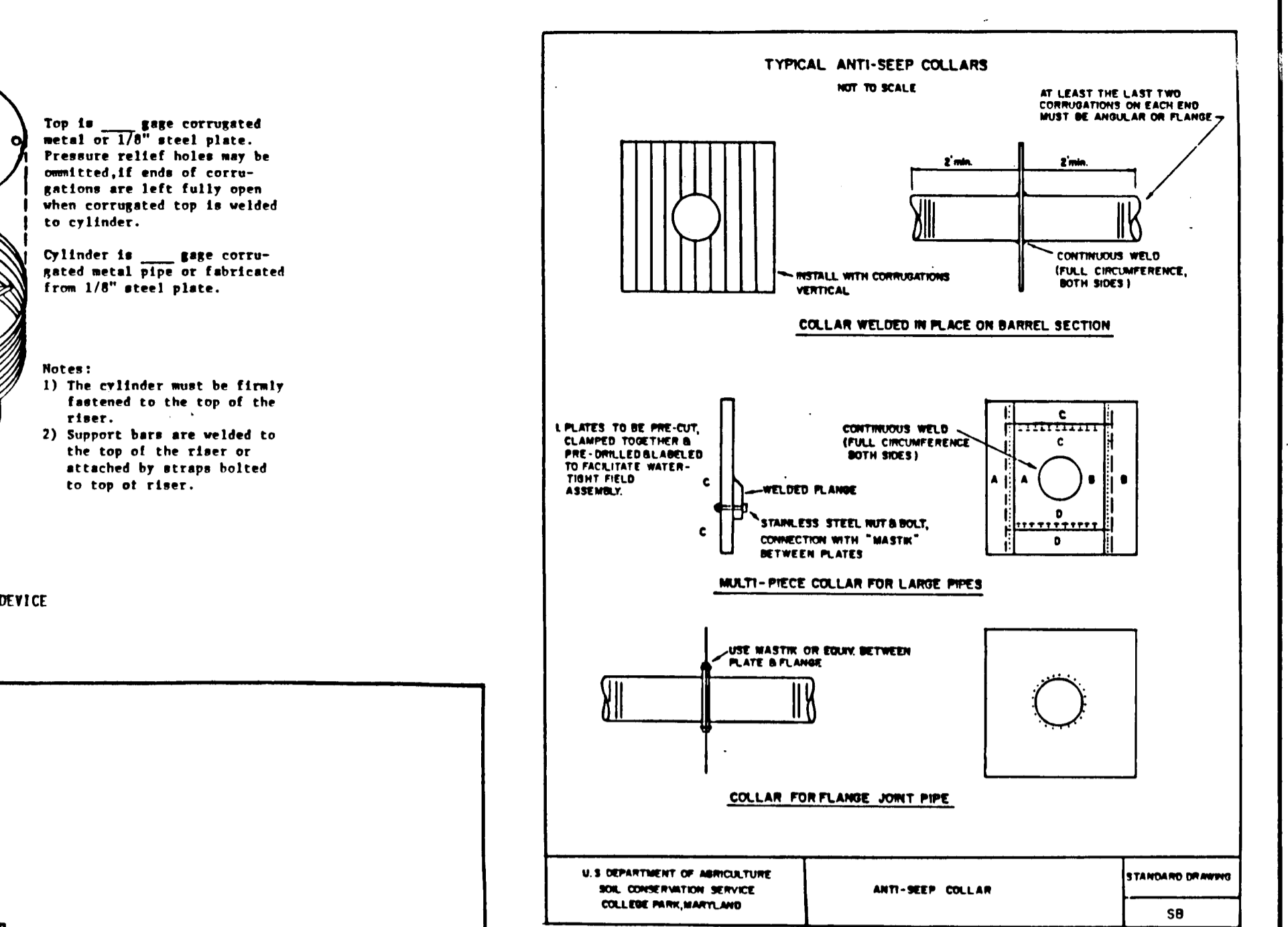
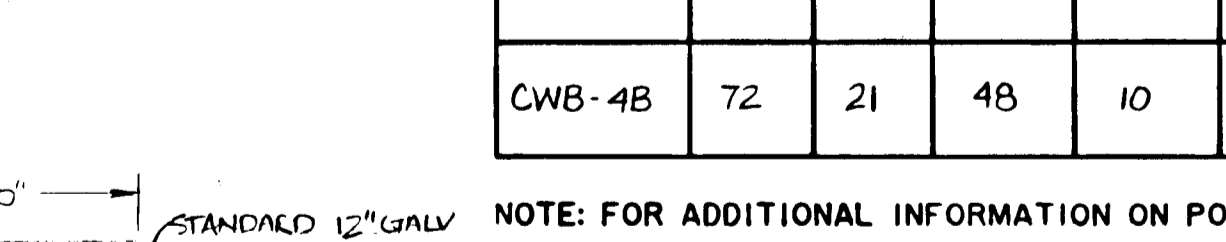
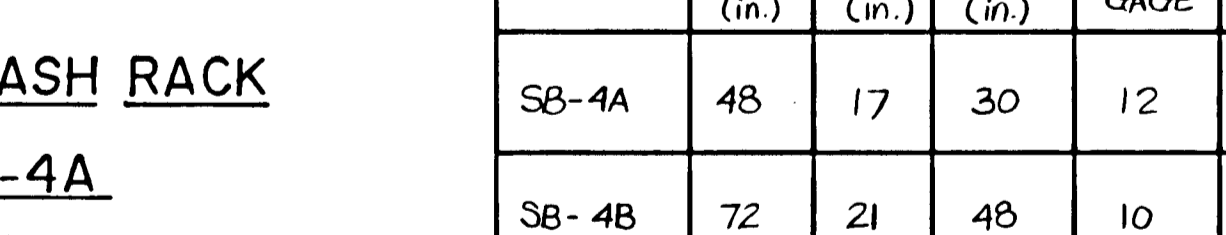
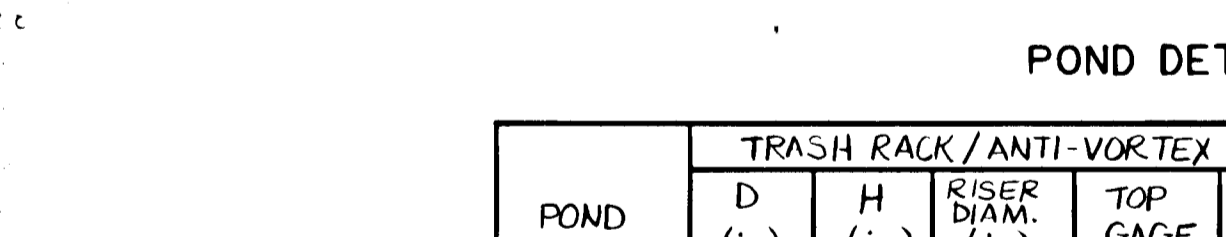
- TEMPORARY PERIMETER DIKES AND SILT TRAPS, ETC. ARE TO BE PROVIDED AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN PRIOR TO GRADING OPERATIONS WITH LOCATION ADJUSTMENTS TO BE MADE IN THE FIELD AS NECESSARY AND TO BE MAINTAINED AT THE END OF THE WORKING DAY. THE MINIMUM AREA PRACTICAL SHALL BE DISTURBED FOR THE MINIMUM AMOUNT OF TIME POSSIBLE.
- PERMANENT SEEDING:**
 - SEEDBED PREPARATION:** AREA TO BE SEEDDED SHALL BE LOOSE AND FRIABLE TO A DEPTH OF AT LEAST 3". THE TOP LAYER SHALL BE LOOSENEED BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING OCCURS. IN LIEU OF SOIL TEST RESULTS, APPLY 100 POUNDS OF DOLOMITIC LIMESTONE AND 25 POUNDS OF 10-10-10 FERTILIZER PER 1,000 SQUARE FEET. HARROW OR DISK LIME AND FERTILIZER INTO THE SOIL TO A DEPTH OF AT LEAST 3" ON SLOPES FLATTER THAN 3:1. NO ATTEMPT SHOULD BE MADE TO DRAG ANY DISKED AREA TO MAKE THE SOIL SURFACE SMOOTH AFTER DISKING.
 - SEEDING:** APPLY 5-6 POUNDS PER 1,000 SQUARE FEET OF KENTUCKY 31 TALL FESCUE BETWEEN MARCH 1 AND APRIL 30 OR BETWEEN AUGUST 15 AND OCTOBER 15. APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER DRILL, CULTIPACKER SEEDER OR HYDROSEEDER (SLURRY INCLUDES SEEDS AND FERTILIZER). SEEDING IS RECOMMENDED ON STEEP SLOPES ONLY ON A MOIST, FIRM SEEDBED. MAXIMUM SEED DEPTH SHOULD BE 1/4" IN CLAYEY SOILS AND 1/2" IN SANDY SOILS WHEN USING OTHER THAN THE HYDROSEEDER METHOD. IRRIGATE IF SOIL MOISTURE IS DEFICIENT TO SUPPORT ADEQUATE GROWTH. UNTIL VEGETATION IS FIRMLY ESTABLISHED.
 - MULCHING:** MULCH SHALL BE UNCHOPPED, UNROTTED, SMALL GRASS STRAW APPLIED AT A RATE OF 70 TO 90 POUNDS PER 1,000 SQUARE FEET. MULCH MATERIALS SHALL BE RELATIVELY FREE OF ALL KINDS OF WEEDS AND SHALL BE FREE OF PROHIBITED NOXIOUS WEEDS WHICH ARE: CANADA THISTLE, JOHNSONGRASS, AND QUACKGRASS. SPREAD MULCH MECHANICALLY OR UNIFORMLY BY HAND. MULCH ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER MULCH PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY PEG AND TWINE METHOD, MULCH ANCHORING TOOL, NETTING OR LIQUID MULCH BINDERS.



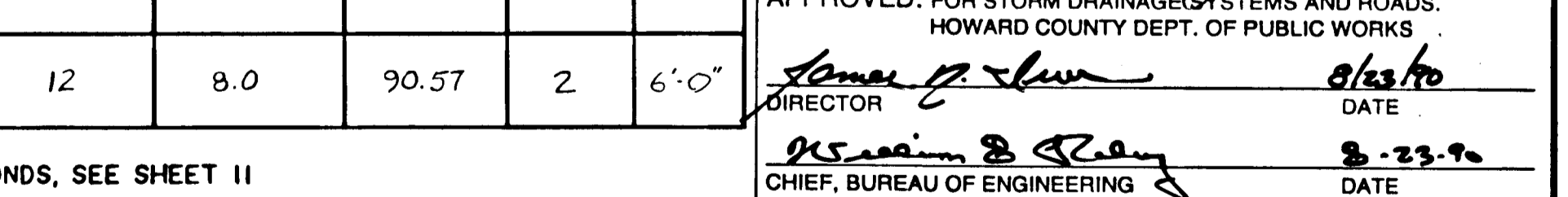
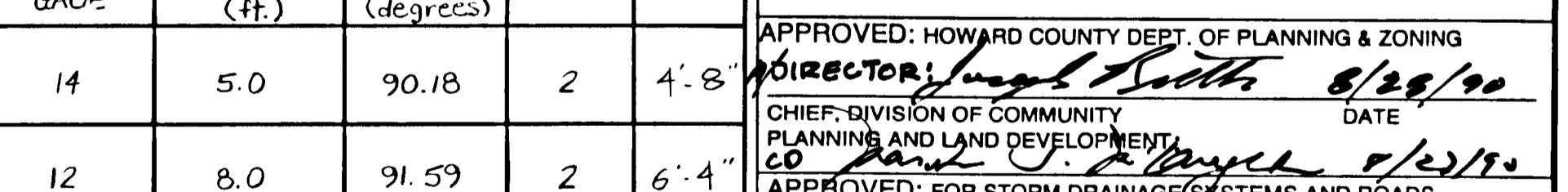
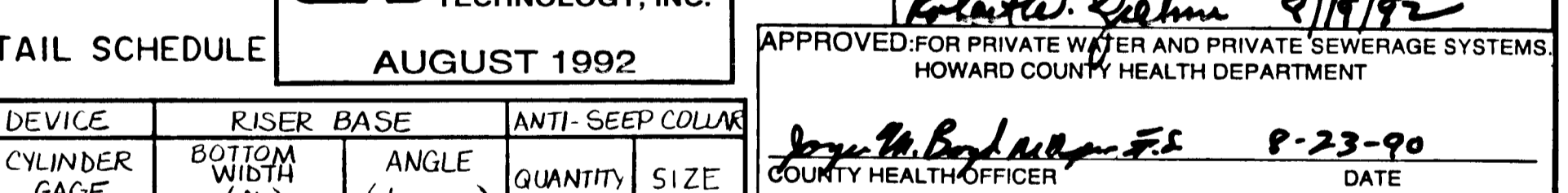
POND	TRASH RACK / ANTI-VORTEX DEVICE				RISER BASE		ANTI-SLEEP COLLAR		
	D (in.)	H (in.)	RISER DIA (in.)	TOP GAGE	CYLINDER GAGE	BOTTOM WIDTH (ft.)	ANGLE (degrees)	QUANTITY	SIZE
SB-4A	48	17	30	12	14	5.0	90.18	2	4'-8"
SB-4B	72	21	48	10	12	8.0	91.59	2	6'-4"
CWB-4B	72	21	48	10	12	8.0	90.57	2	6'-0"



POND	TRASH RACK / ANTI-VORTEX DEVICE				RISER BASE		ANTI-SLEEP COLLAR		
	D (in.)	H (in.)	RISER DIA (in.)	TOP GAGE	CYLINDER GAGE	BOTTOM WIDTH (ft.)	ANGLE (degrees)	QUANTITY	SIZE
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	D (in.)	H (in.)	RISER DIA (in.)	TOP GAGE	CYLINDER GAGE	BOTTOM WIDTH (ft.)	ANGLE (degrees)	QUANTITY	SIZE
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CWB-4B	72	21	48	10	12	8.0	90.57	2	6'-0"



RECORD DRAWING
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
DIRECTOR: *Joseph South* 8/28/90

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT:
CO DIRECTOR: *James M. Smith* 8/23/90

APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS, HOWARD COUNTY DEPT. OF PUBLIC WORKS
DIRECTOR: *James M. Smith* 8/23/90

CHIEF, BUREAU OF ENGINEERING
DATE: 8-23-90

ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER HOWARD COUNTY MARYLAND

BASIN DETAILS

DATE: JUNE 1990
SCALE: AS SHOWN
PROJECT NO.: 10293.01
SHEET NO.: 17 OF 25

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
BALTIMORE, CHICAGO, LINCOLN, NEW YORK, NEW JERSEY, ATLANTA, DALLAS, LOS ANGELES, SAN FRANCISCO

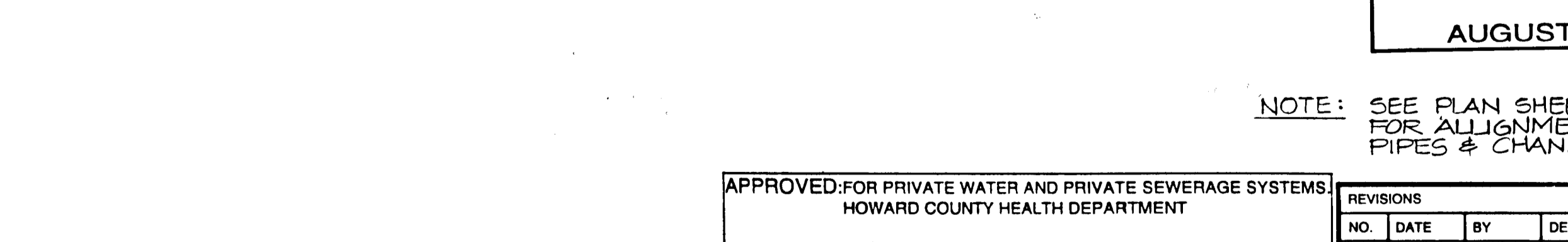
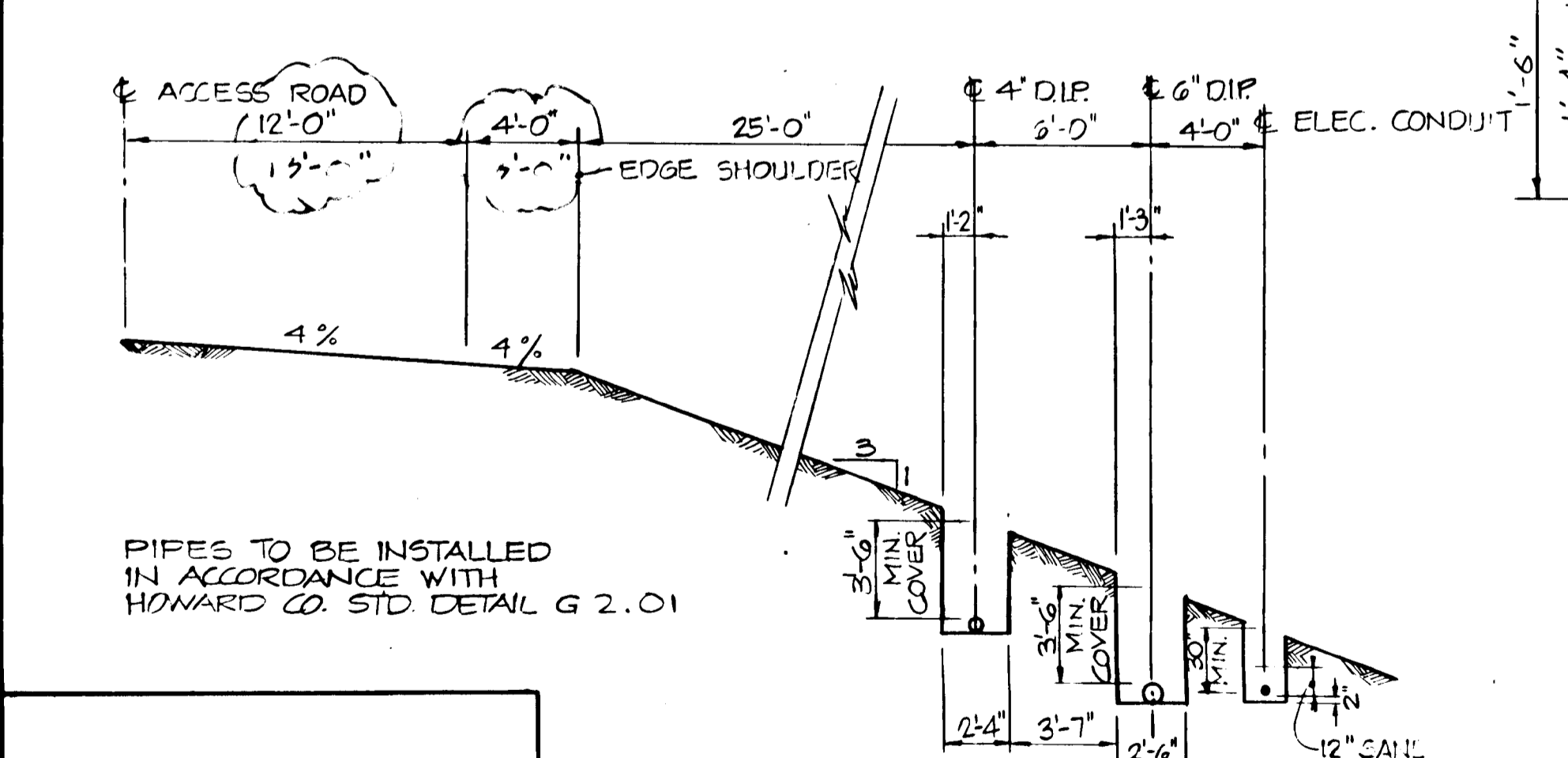
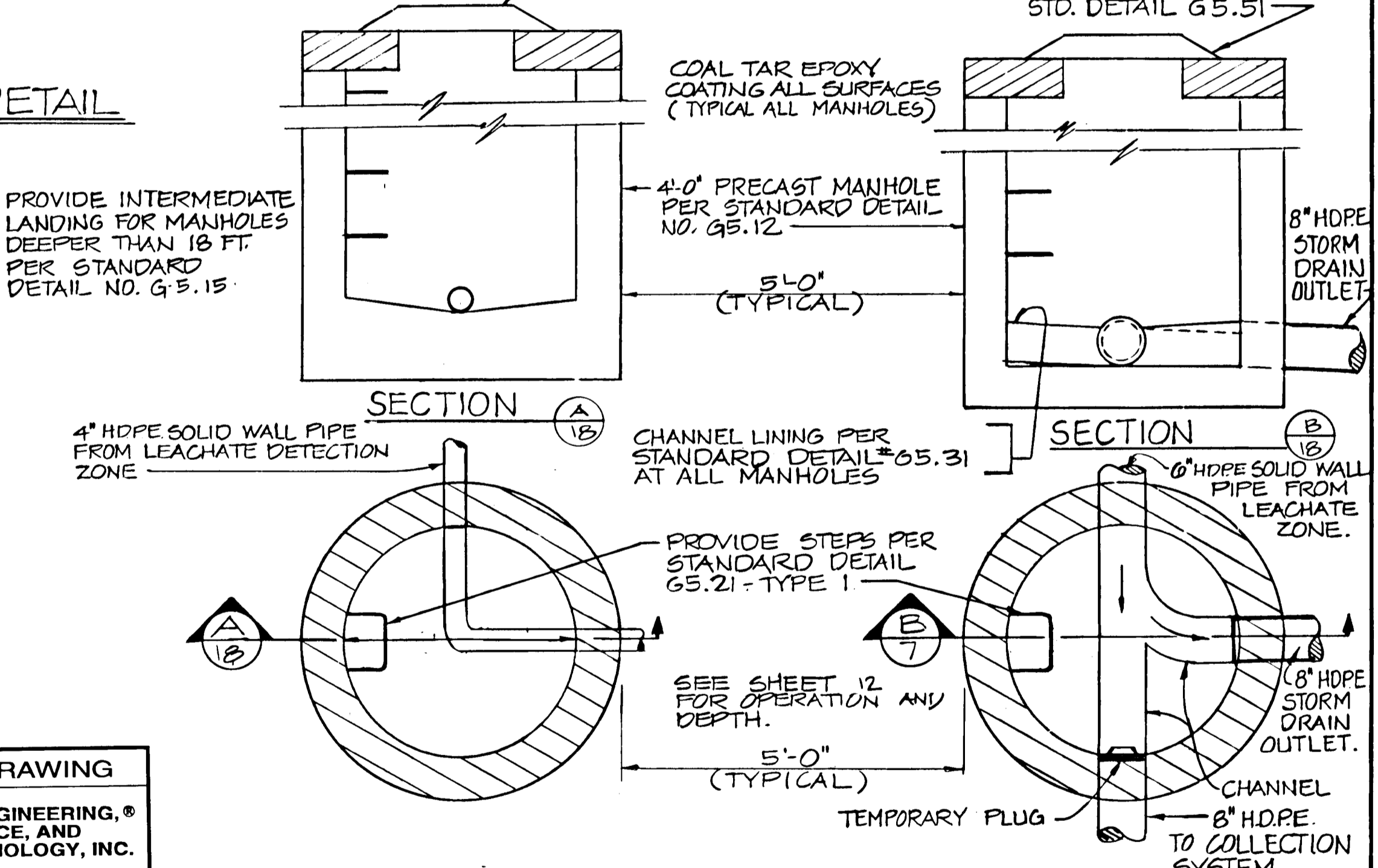
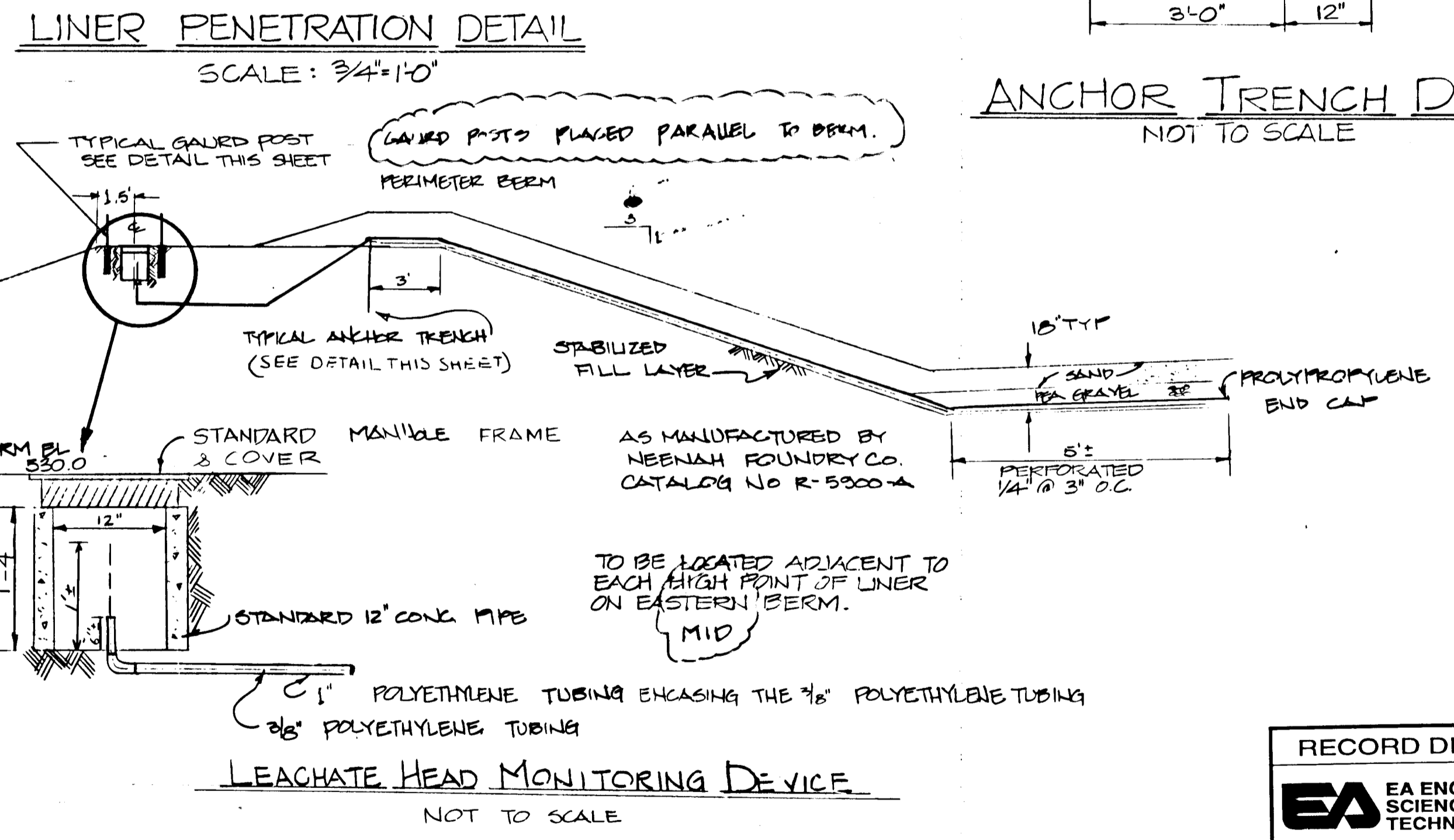
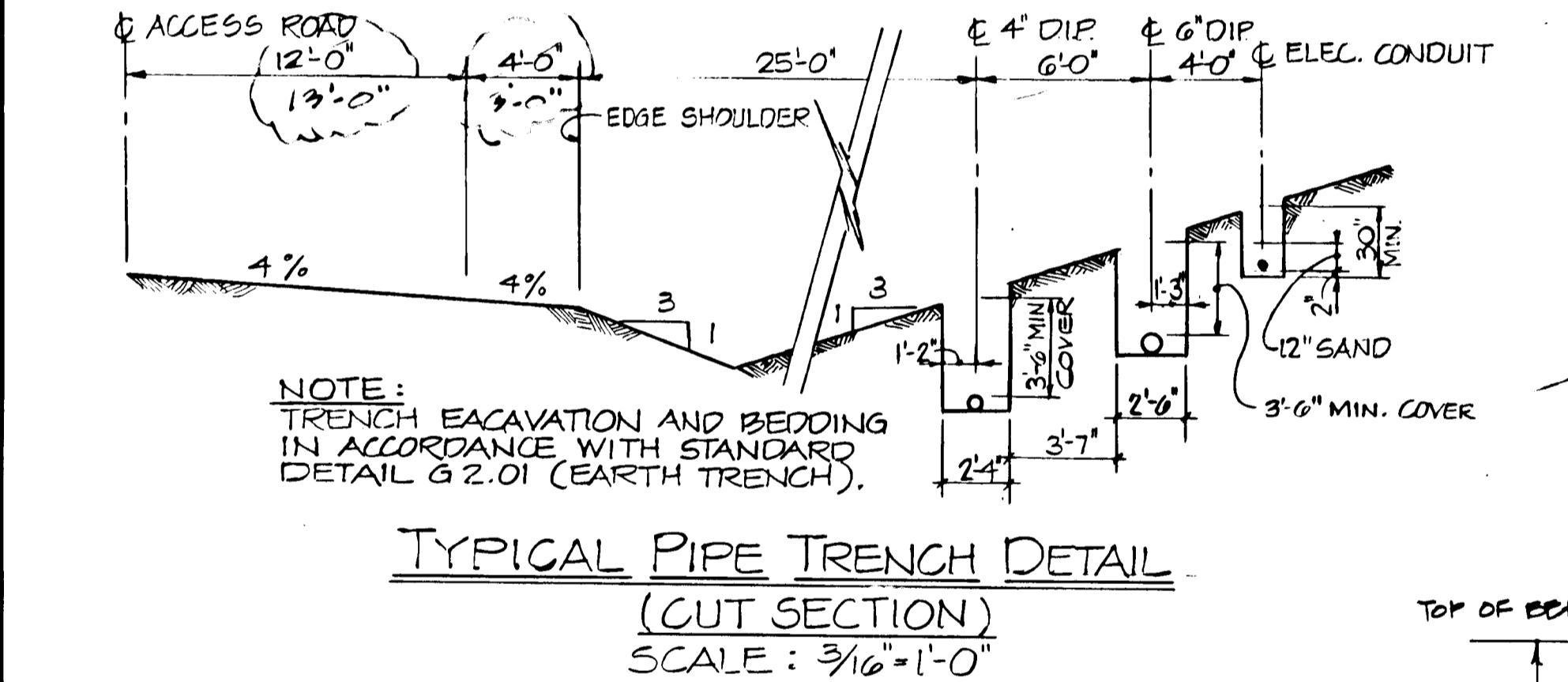
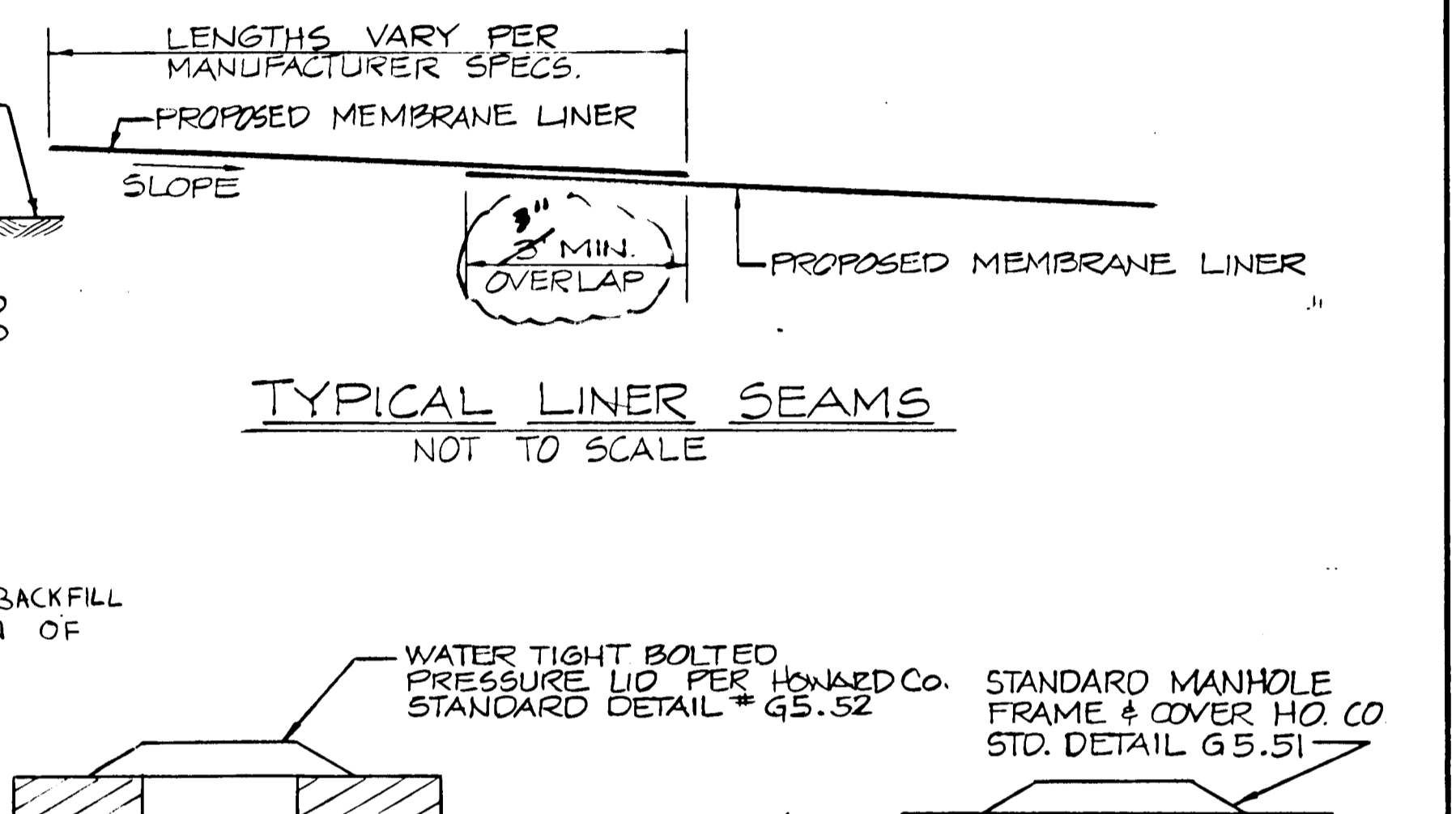
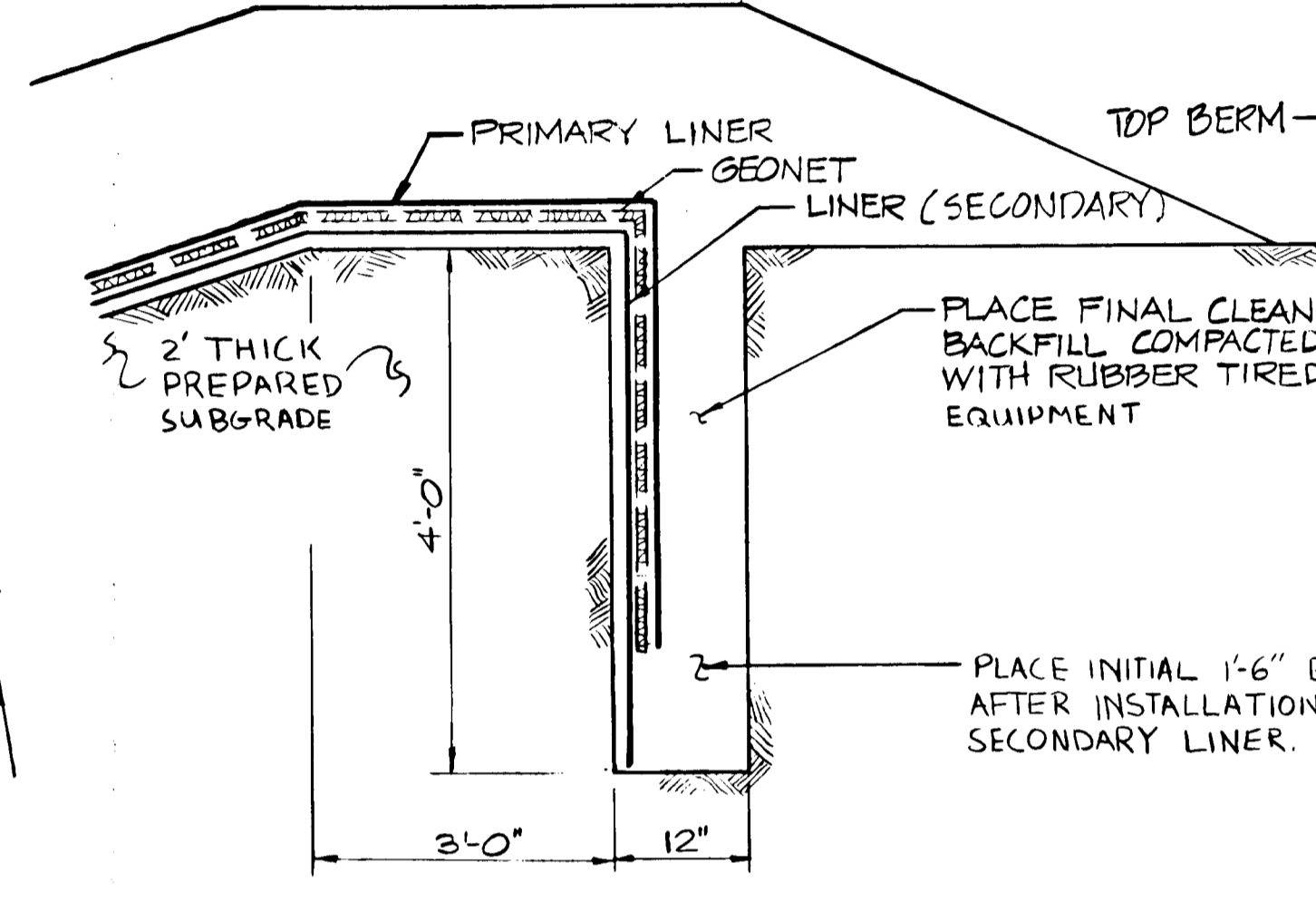
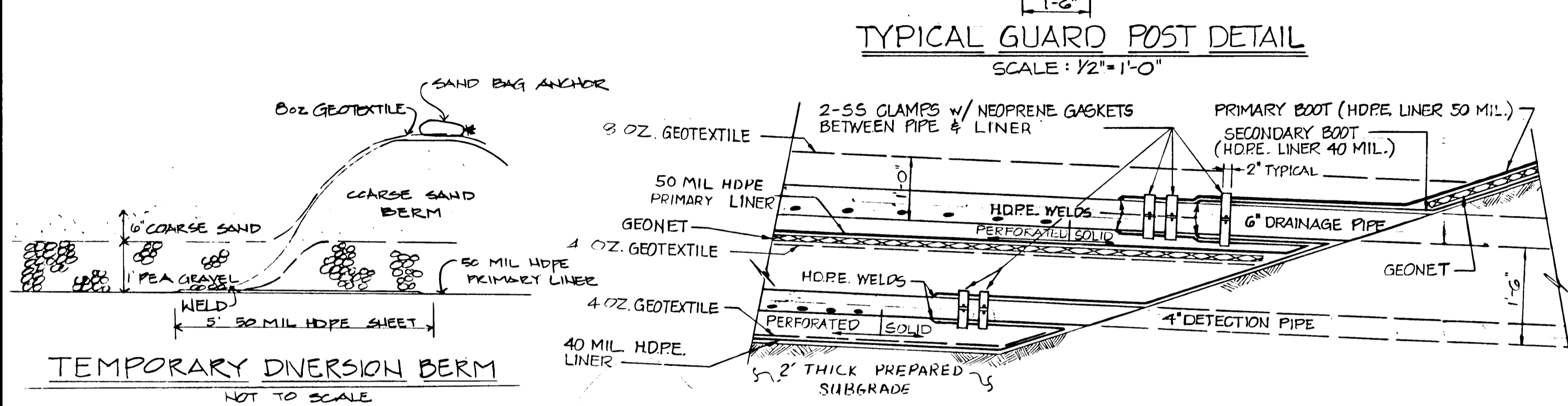
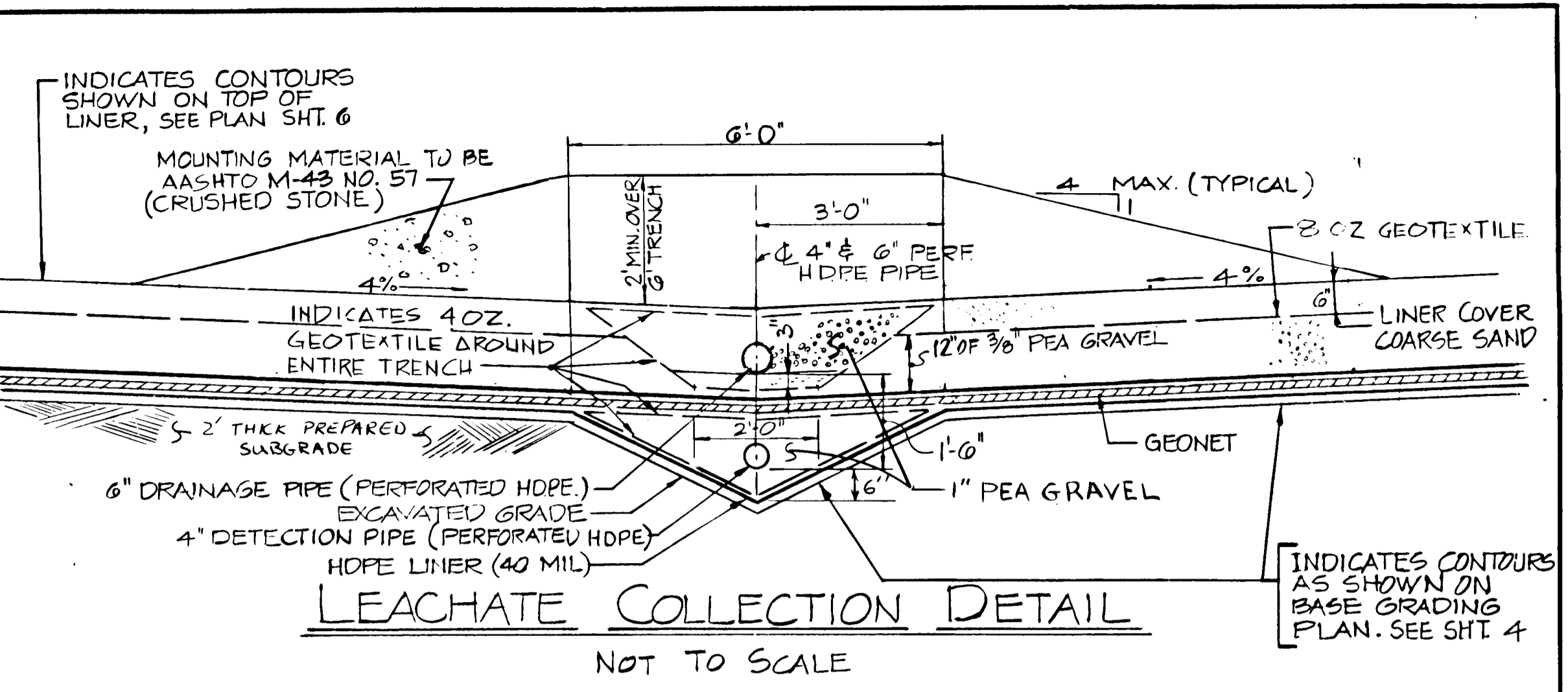
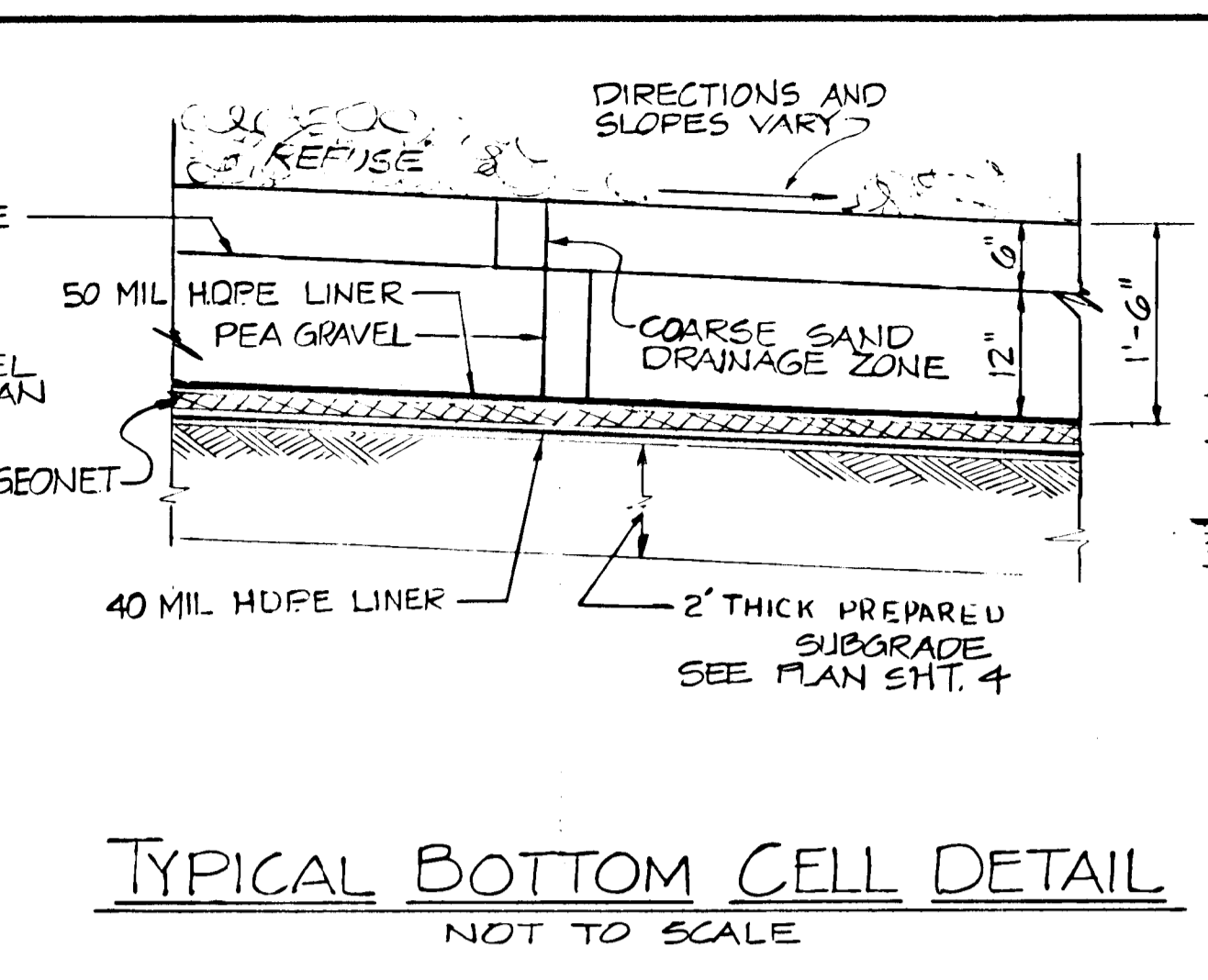
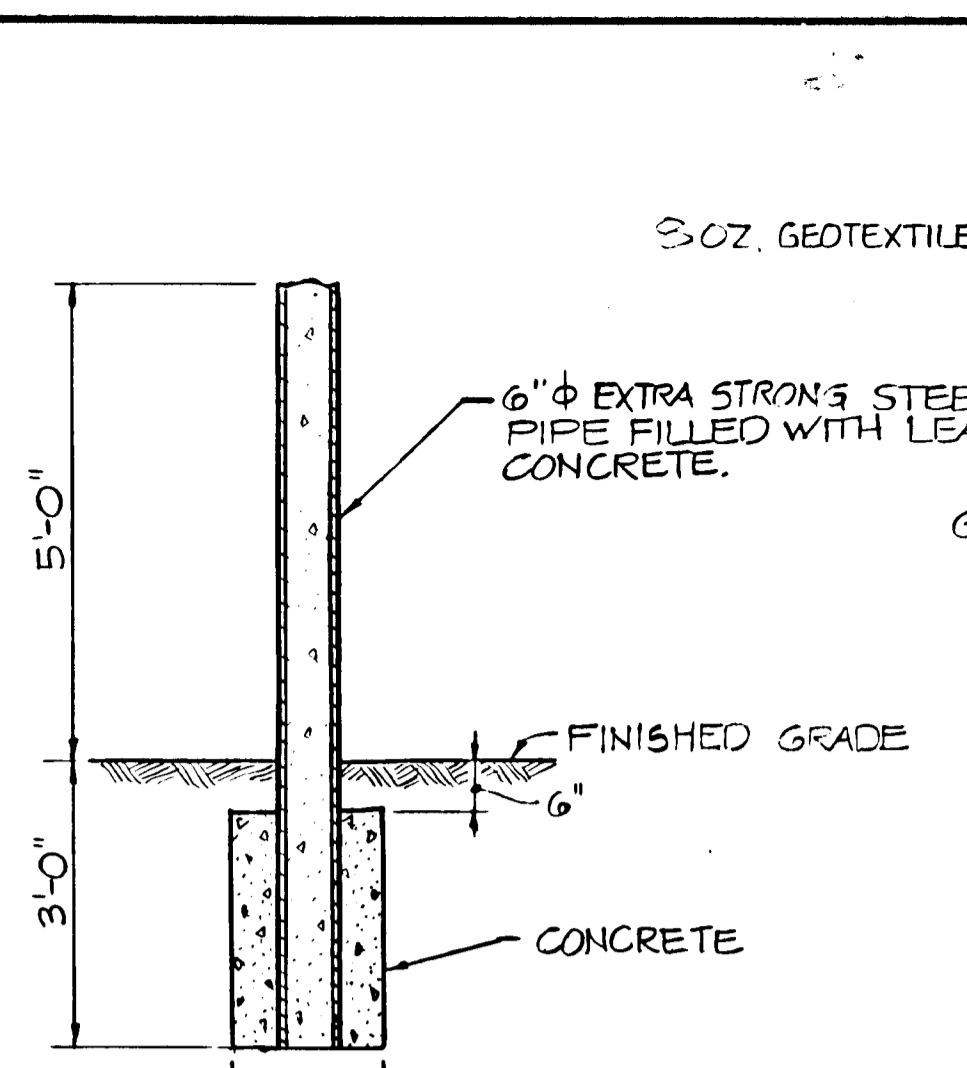
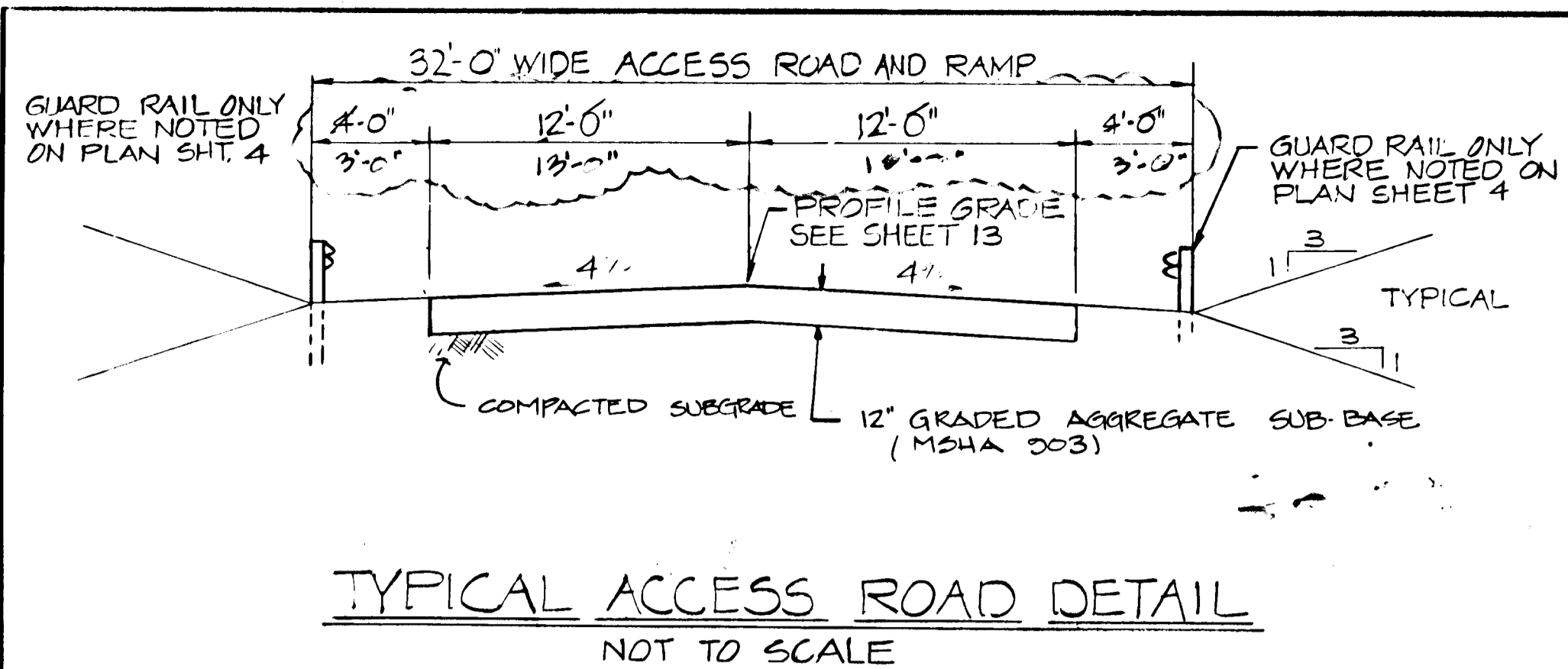
15 Loveton Circle, Sparks, Maryland 21162 (301) 771-4850

OWNER/DEVELOPER: Howard County Government
ADDRESS: 3430 Court House Drive, Elkton City, MD 21043

DESIGN: MMD
DRAWN: PMS
CHECKED: DSP
PROJECT ENGINEER: DSS

880

10293.01-017 XXAL-90-017 SDP-90-90

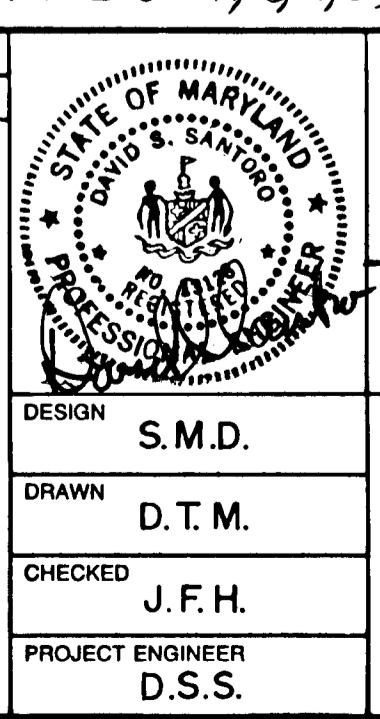


RECORD DRAWING
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 AUGUST 1992

NOTE: SEE PLAN SHEET FOR ALIGNMENT OF PIPES & CHANNELS.

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT	
<i>James H. Boydner, Sr.</i> COUNTY HEALTH OFFICER	8-23-90 DATE
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	
<i>James H. Boydner, Sr.</i> DIRECTOR	8/26/90 DATE
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT	
APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS. HOWARD COUNTY DEPT. OF PUBLIC WORKS	
<i>James H. Boydner, Sr.</i> DIRECTOR	8/23/90 DATE
CHIEF, BUREAU OF ENGINEERING	

REVISIONS			
NO.	DATE	BY	DESCRIPTION
1	8/92	MDL	RECORD CHANGES



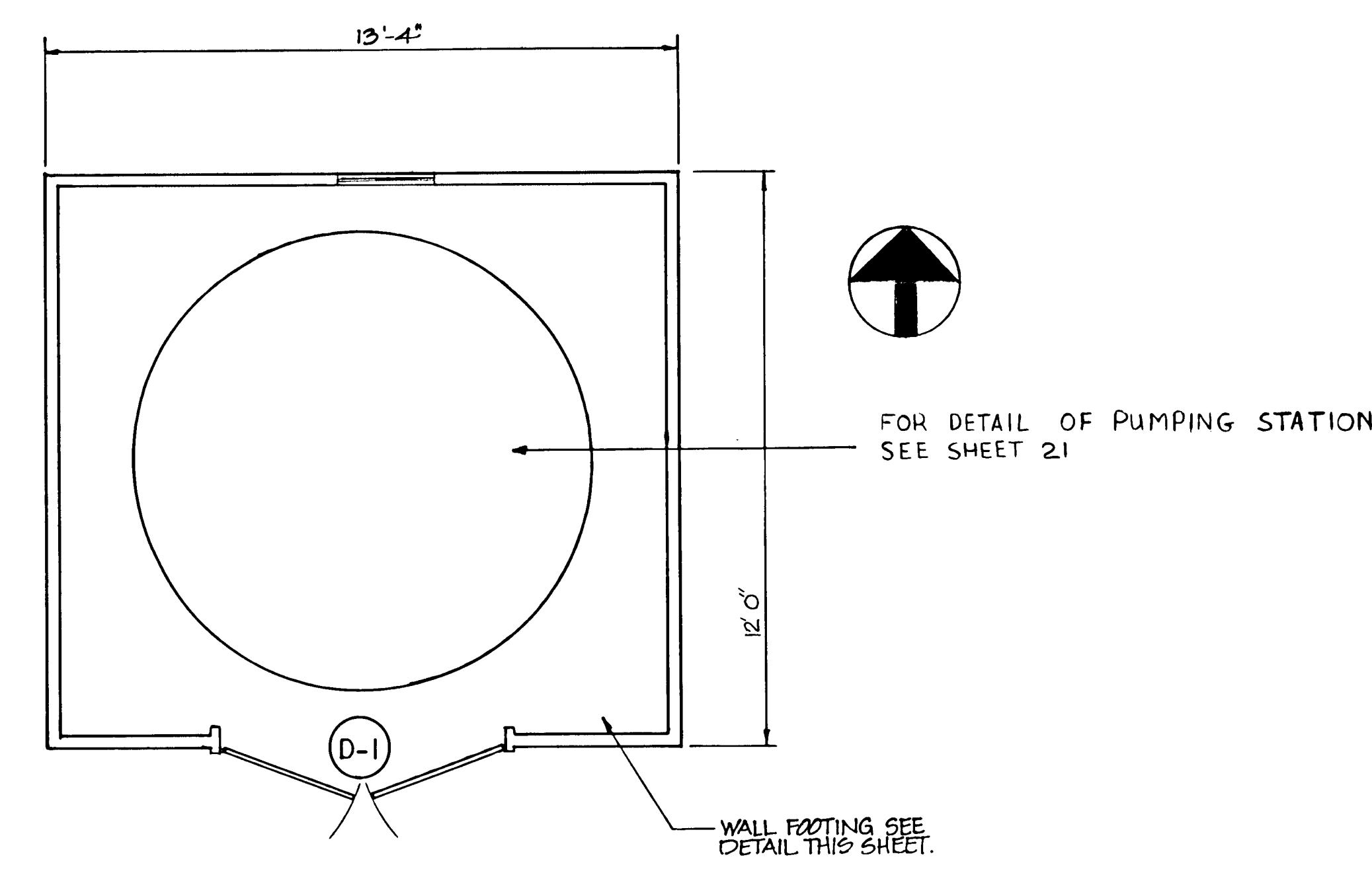
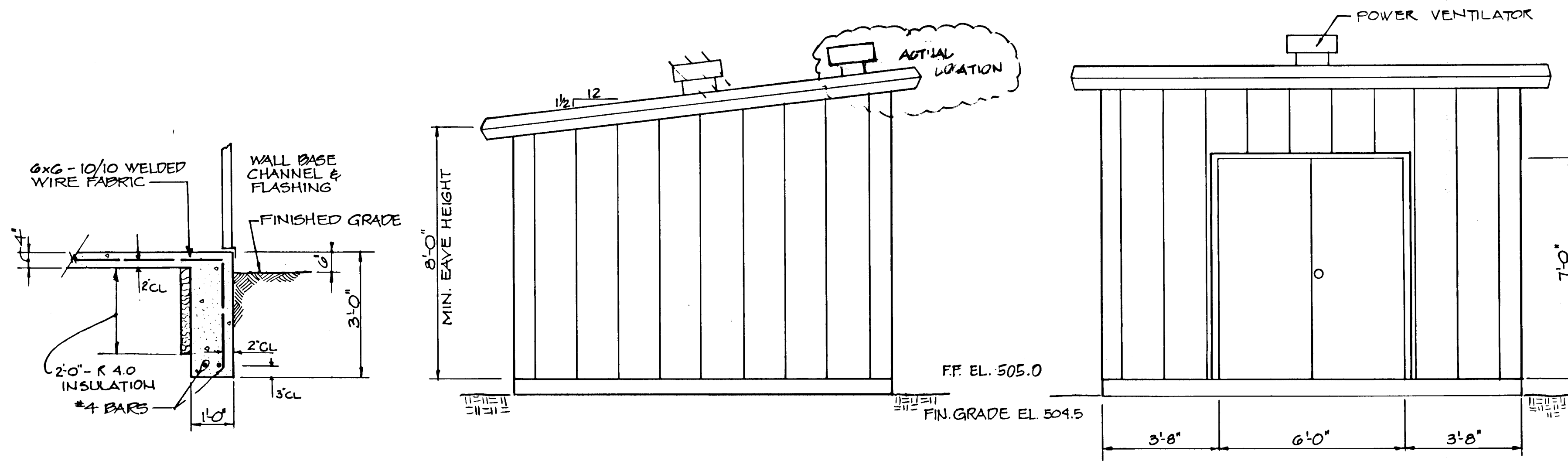
**ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
 HOWARD COUNTY MARYLAND**

CELL I DETAILS

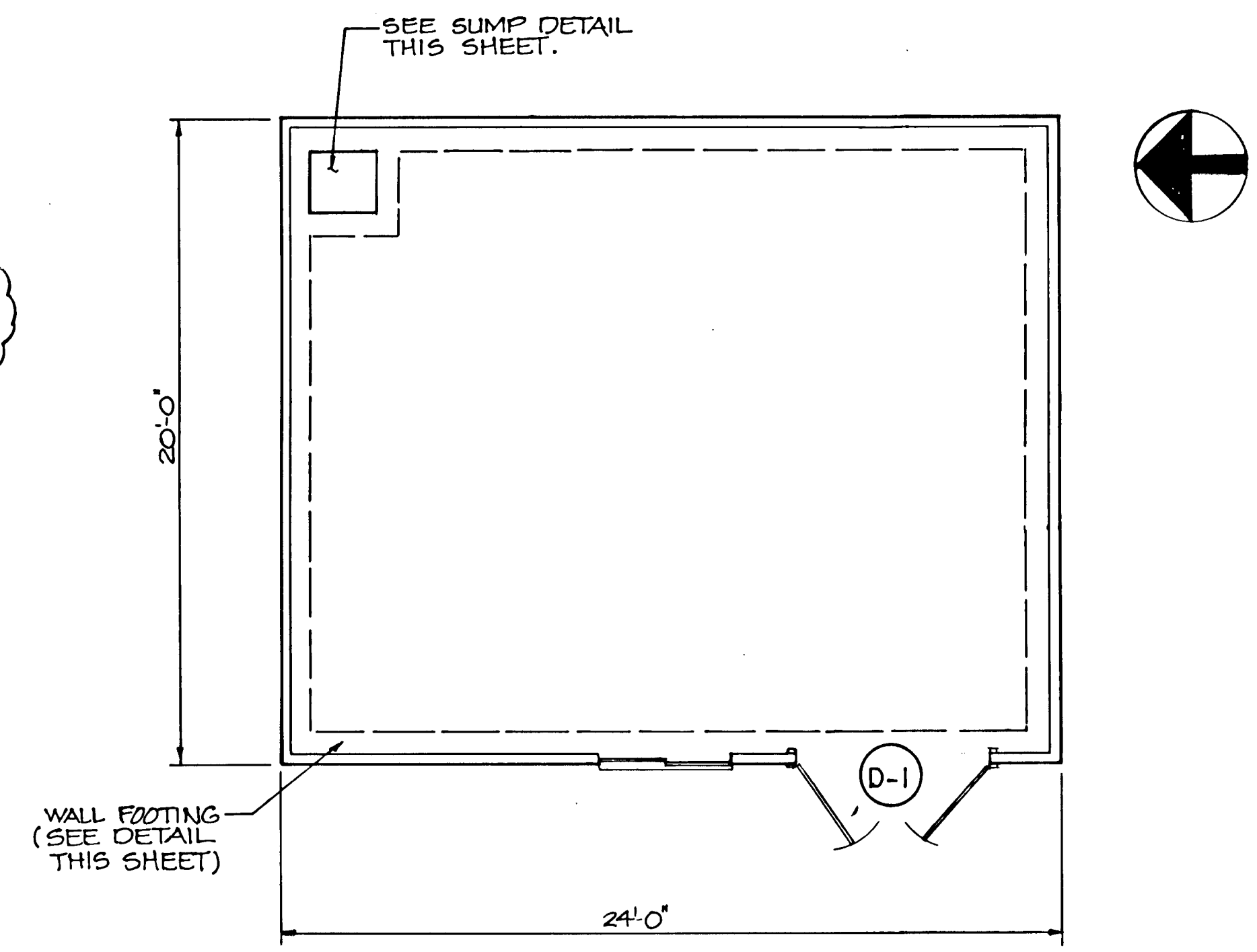
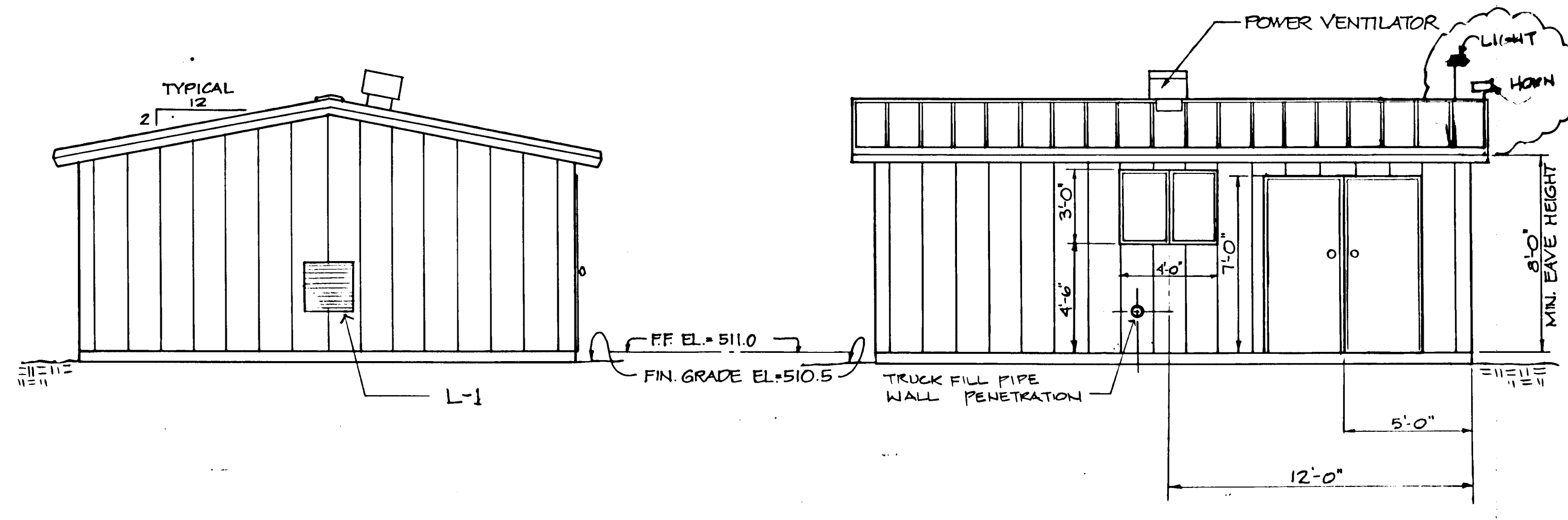
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 Loveton Center
 15 Loveton Circle
 Sparks, Maryland 21162
 (301) 771-4960

DATE: JUNE 1990
 SCALE: AS SHOWN
 PROJECT NO.: 10293.01
 SHEET NO.: 18 OF 25

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA/LOT/PARCEL 54,283,220.11	
LIBERTY/0300 12-347/008 18-879/216 12-281/214	BLOCK R	TAX/ZONE MAP 10 & 19	ELEC. DIST. CENSUS TR. 3 60-30
WATER CODE Private, Existing		SEWER CODE Private, Existing	
OWNER/DEVELOPER Howard County Government			
ADDRESS 3430 Court House Drive, Elkton City, MD 21043			

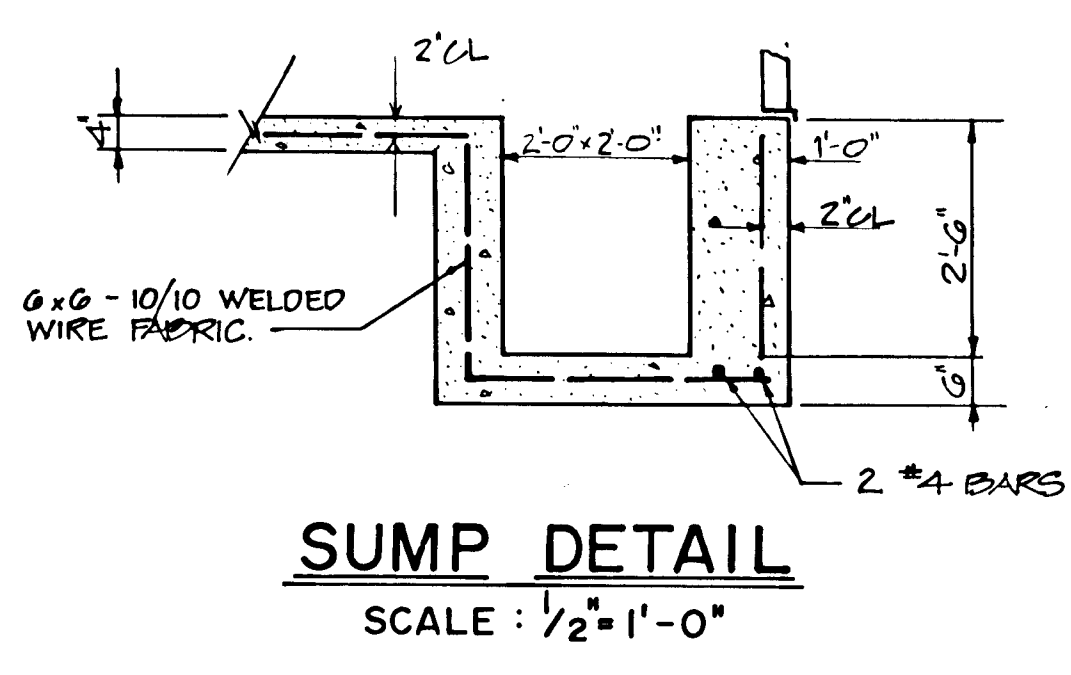


LEACHATE PUMPING STATION



LEACHATE PUMP BUILDING

- NOTES:
1. ANCHOR BUILDING TO FOOTING IN ACCORDANCE WITH SPEC.
 2. PROVIDE FLASHING & CAULK FOR PIPE PENETRATION THROUGH WALL.
 3. D-1: TWO 3' DOORS
 4. L-1: OUTSIDE AIR INTAKE LOUVER



APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

James M. Boyd 8-23-90
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
James M. Boyd 8/28/90
DIRECTOR DATE

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
James M. Boyd 8/23/90
DATE

APPROVED FOR STORM DRAINAGE SYSTEMS AND ROADS.
HOWARD COUNTY DEPT. OF PUBLIC WORKS

James M. Boyd 8/23/90
DIRECTOR DATE

James M. Boyd 8-23-90
CHIEF, BUREAU OF ENGINEERING DATE

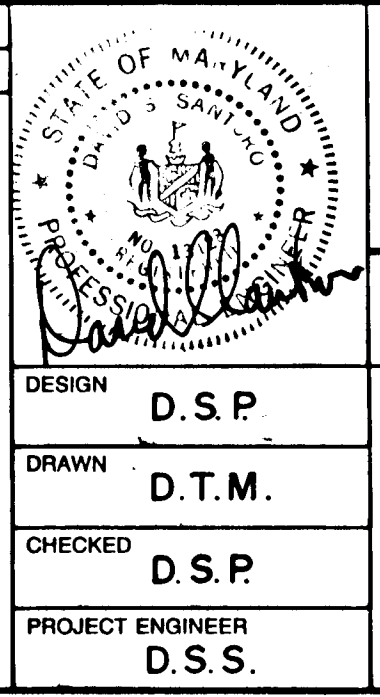
SUBDIVISION NAME		SECT./AREA/LOT/PARCEL	
Alpha Ridge Solid Waste Management Center		54 253.220.11	
LEAST/PLAT	BLOCK	ZONE	TAX/ZONE MAP
10-84/906	R	10 & 16	ELEC. DIST. CENSUS TR.
10-876/215			3 80-30
10-881/214			
WATER CODE	SEWER CODE		
Private, Existing	Private, Existing		
OWNER/DEVELOPER			
Howard County Government			
ADDRESS			
3430 Court House Drive, Ellicott City, MD 21043			

RECORD DRAWING

EA EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

AUGUST 1992

REVISIONS			
NO.	DATE	BY	DESCRIPTION
1	8/14	SP	REWORK DRAWINGS



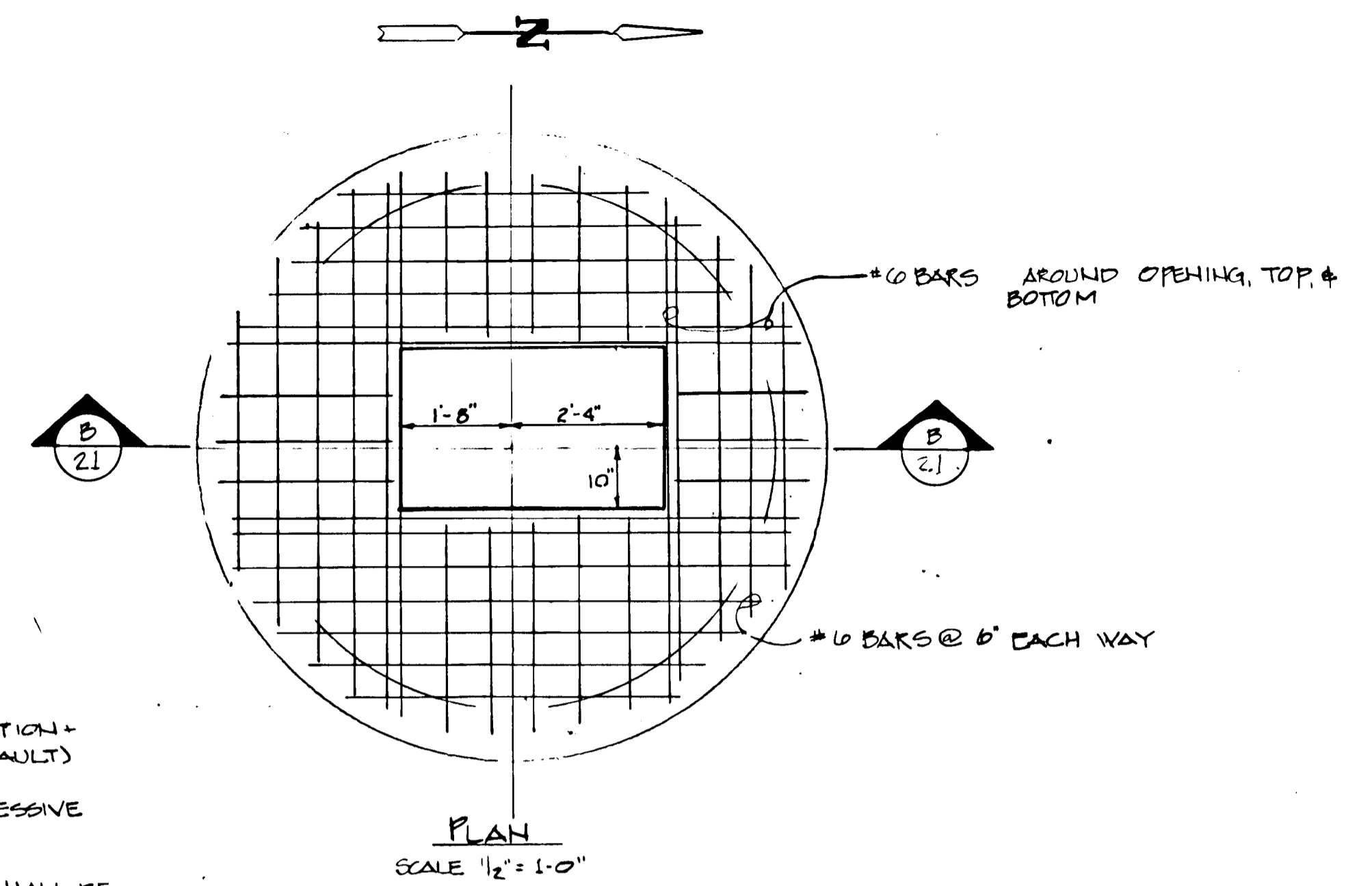
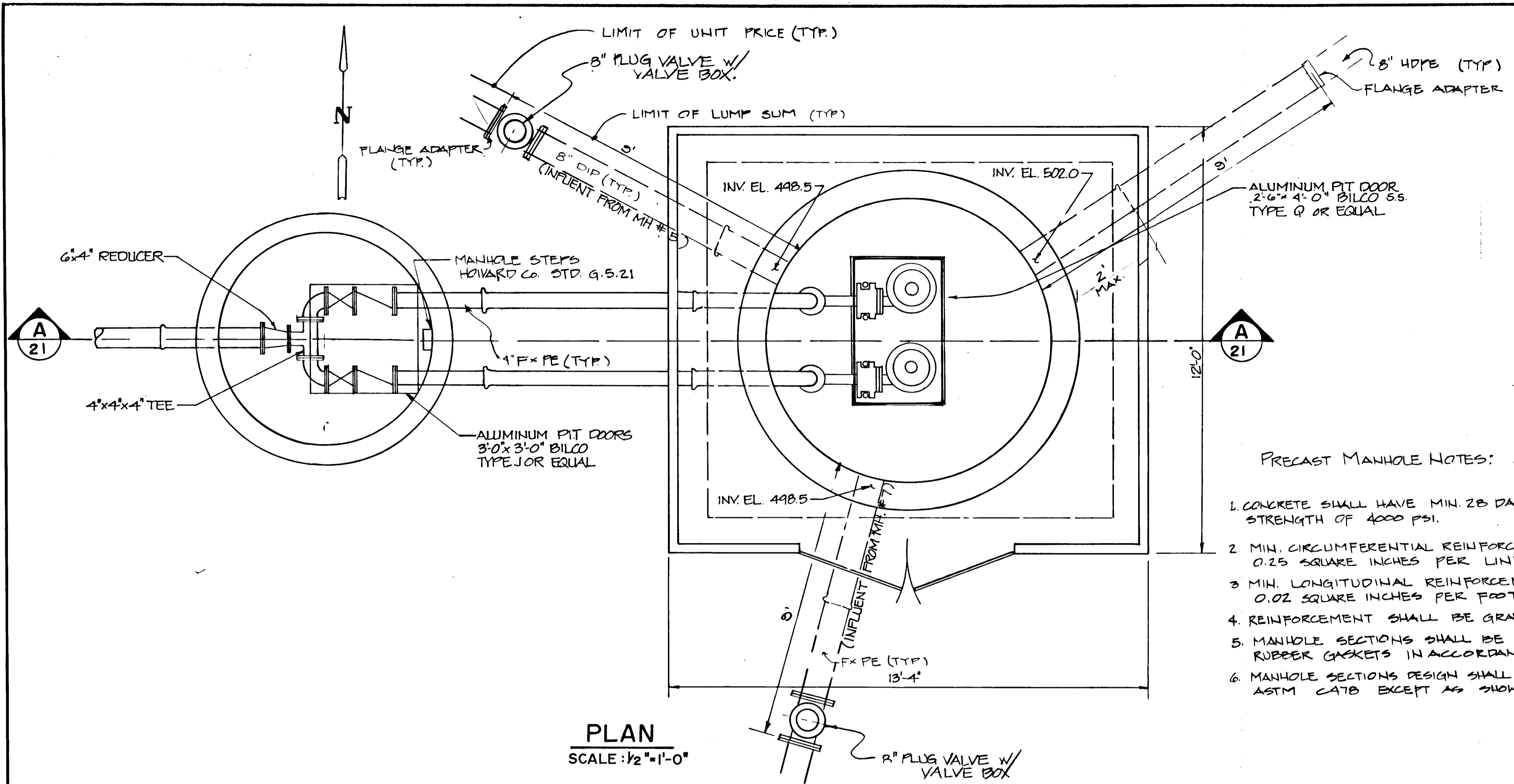
ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND

ARCHITECTURAL PLANS

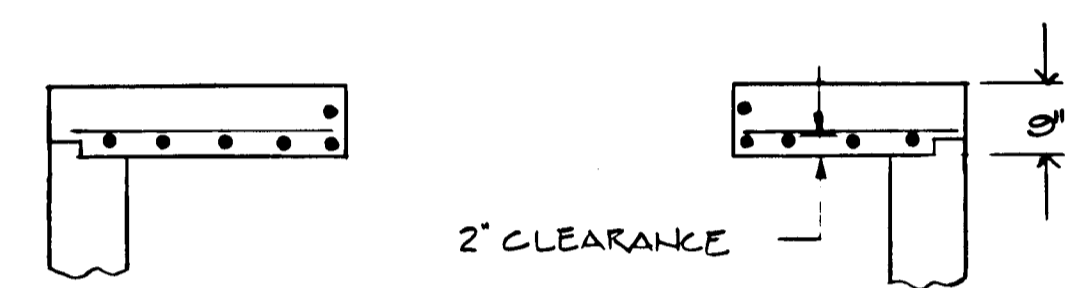
EA EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
BALTIMORE, CHICAGO, LINCOLN, NEW JERSEY, ATLANTA, DALLAS, LOS ANGELES, SAN FRANCISCO, CHARLOTTE, BOSTON

DATE: JUNE 1990
SCALE: AS SHOWN
PROJECT NO: 10293.01
SHEET NO: 19 OF 25

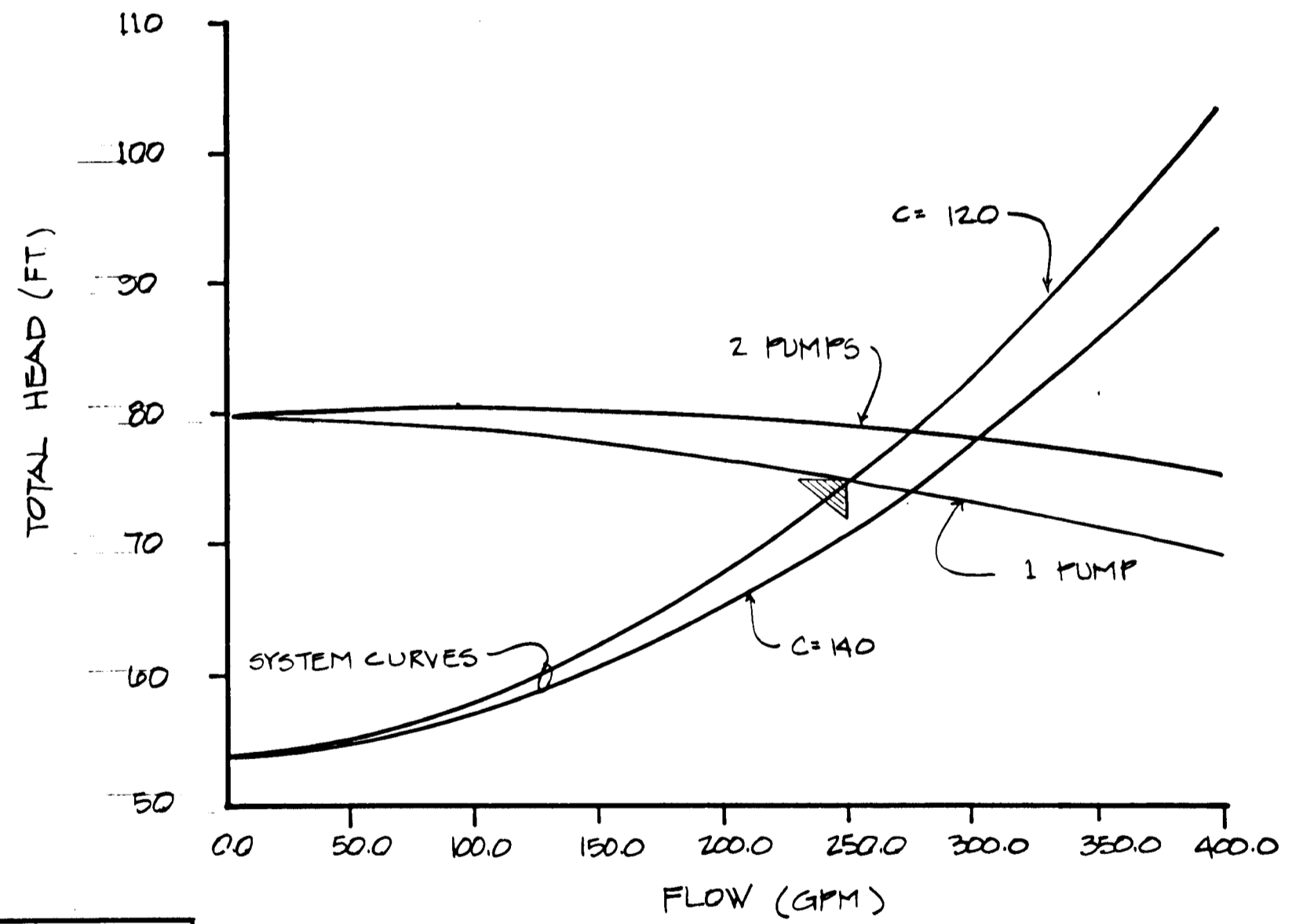
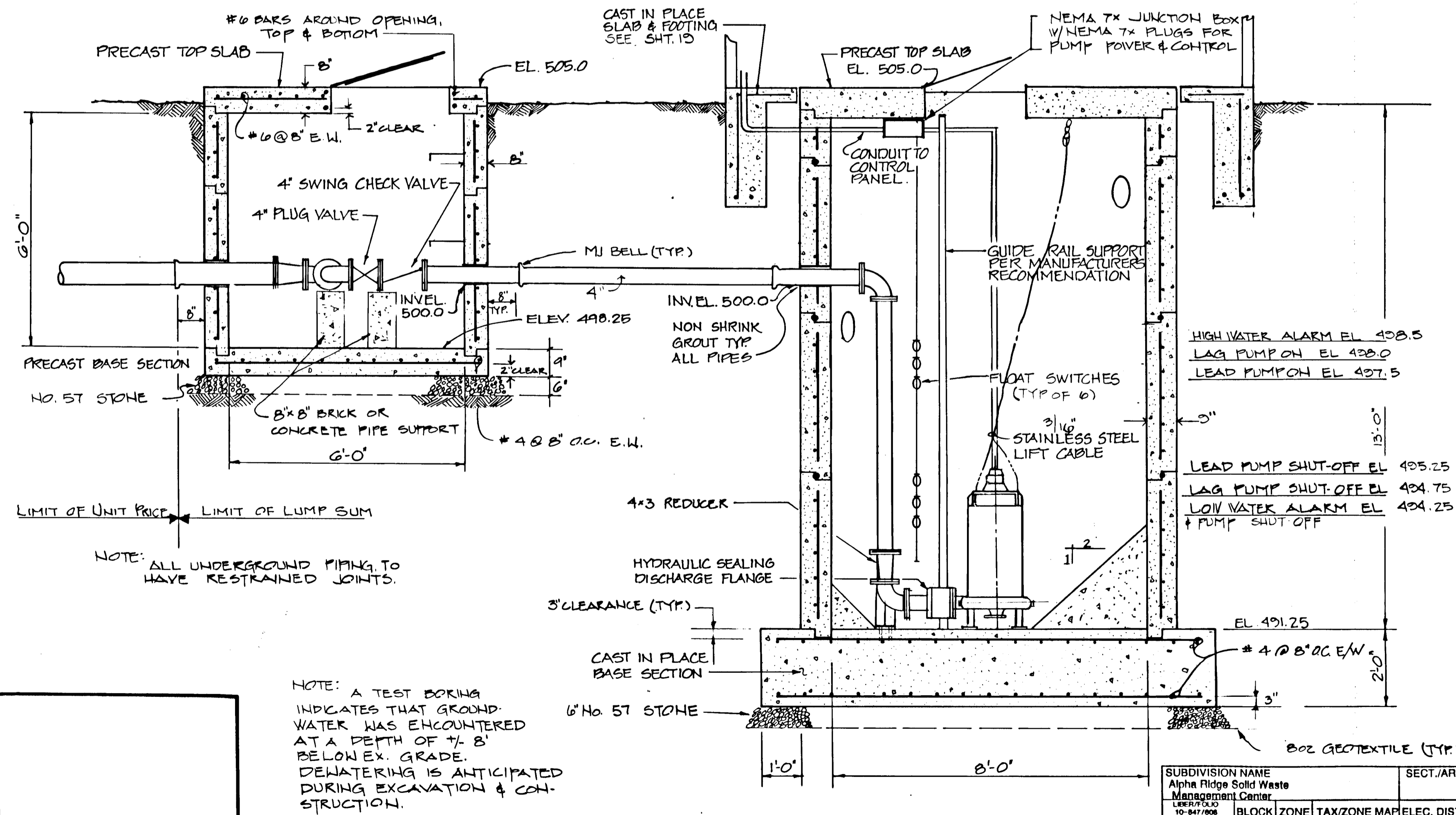
Hunt Valley/Loveton Center
15 Loveton Circle
Sparks, Maryland 21152
(301) 771-4950



- PRECAST MANHOLE NOTES:** (PUMP STATION + VALVE VAULTS)
1. CONCRETE SHALL HAVE MIN. 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI.
 2. MIN. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.25 SQUARE INCHES PER LINEAR FOOT.
 3. MIN. LONGITUDINAL REINFORCEMENT SHALL BE 0.02 SQUARE INCHES PER FOOT.
 4. REINFORCEMENT SHALL BE GRADE 60 STEEL.
 5. MANHOLE SECTIONS SHALL BE JOINED WITH RUBBER GASKETS IN ACCORDANCE WITH ASTM C493.
 6. MANHOLE SECTIONS DESIGN SHALL CONFORM TO ASTM C478 EXCEPT AS SHOWN.

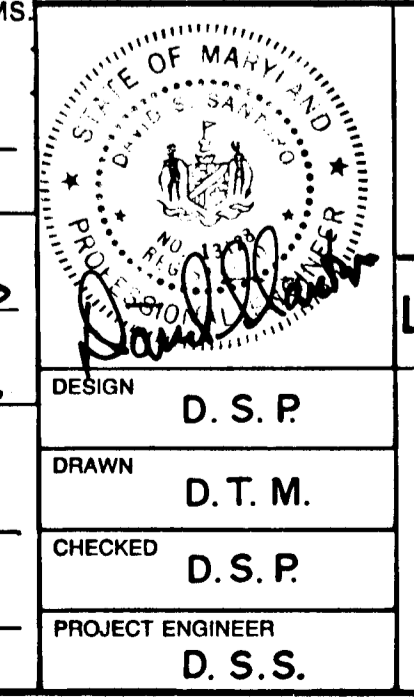


PUMP STATION - TOP SLAB DETAIL



RECORD DRAWING
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 AUGUST 1992

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
 HOWARD COUNTY HEALTH DEPARTMENT
 COUNTY HEALTH OFFICER [Signature] DATE 8-23-90
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
 DIRECTOR: [Signature] DATE 8/23/90
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
 APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS
 HOWARD COUNTY DEPT. OF PUBLIC WORKS
 DIRECTOR: [Signature] DATE 8/23/90
 CHIEF, BUREAU OF ENGINEERING



ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND

LEACHATE PUMP STATION MECHANICAL PLAN

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 HUNT VALLEY/LOVETON CENTER
 15 LOVETON CIRCLE
 SPARKS, MARYLAND 21152
 (301) 771-4950

DESIGN: D.S.P.
 DRAWN: D.T.M.
 CHECKED: D.S.P.
 PROJECT ENGINEER: D.S.S.

DATE: JUNE 1990
 SCALE: AS SHOWN
 PROJECT NO. 10293.01
 SHEET NO. 21 OF 25

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA/LOT/PARCEL 84.253.220.11
LEADER 10-847/008 16-878/216 10-812/14	BLOCK R	TAX/ZONE MAP 10 & 16
WATER CODE Private, Existing		SEWER CODE Private, Existing
OWNER/DEVELOPER Howard County Government		
ADDRESS 3430 Court House Drive, Elkport City, MD 21043		

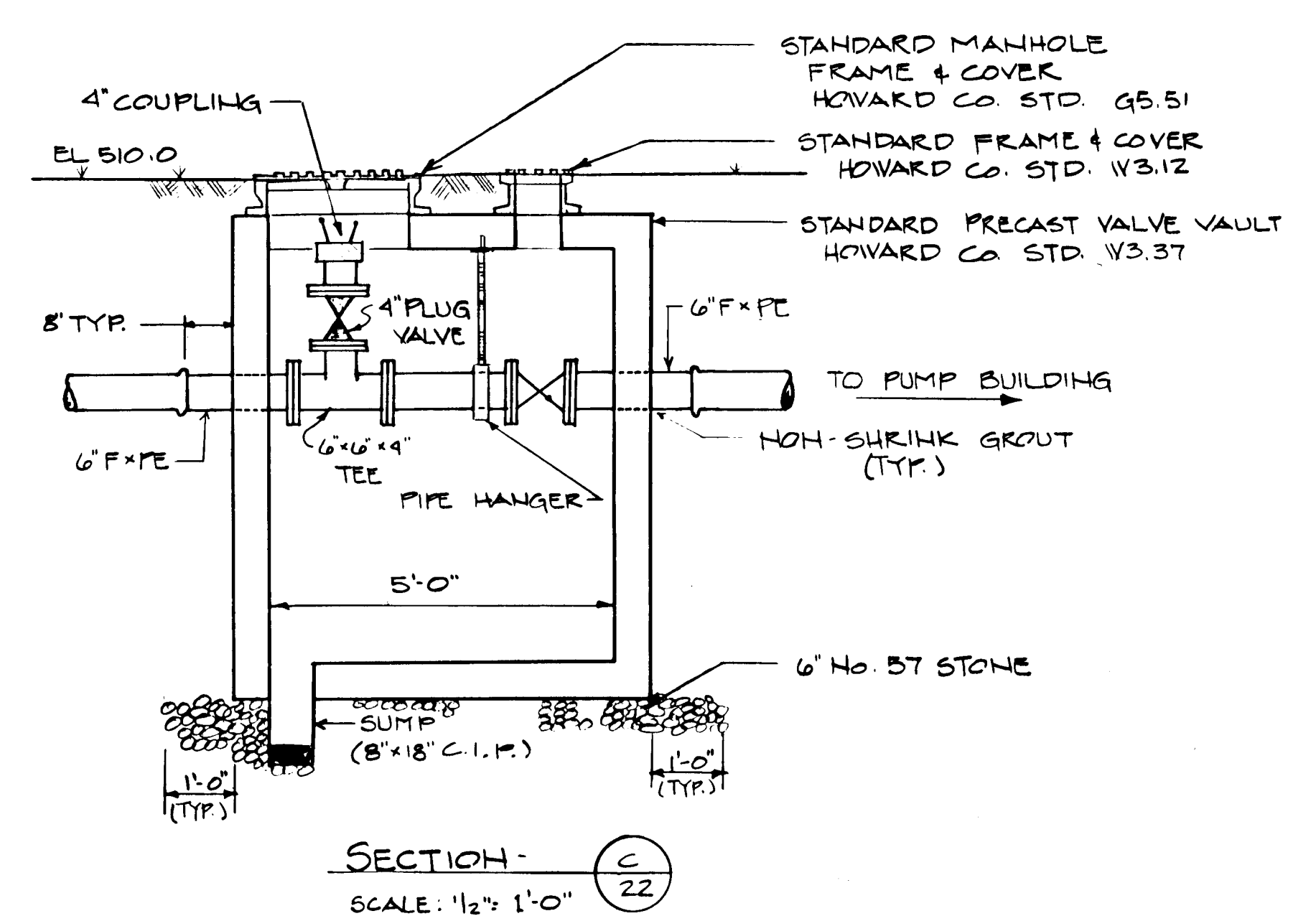
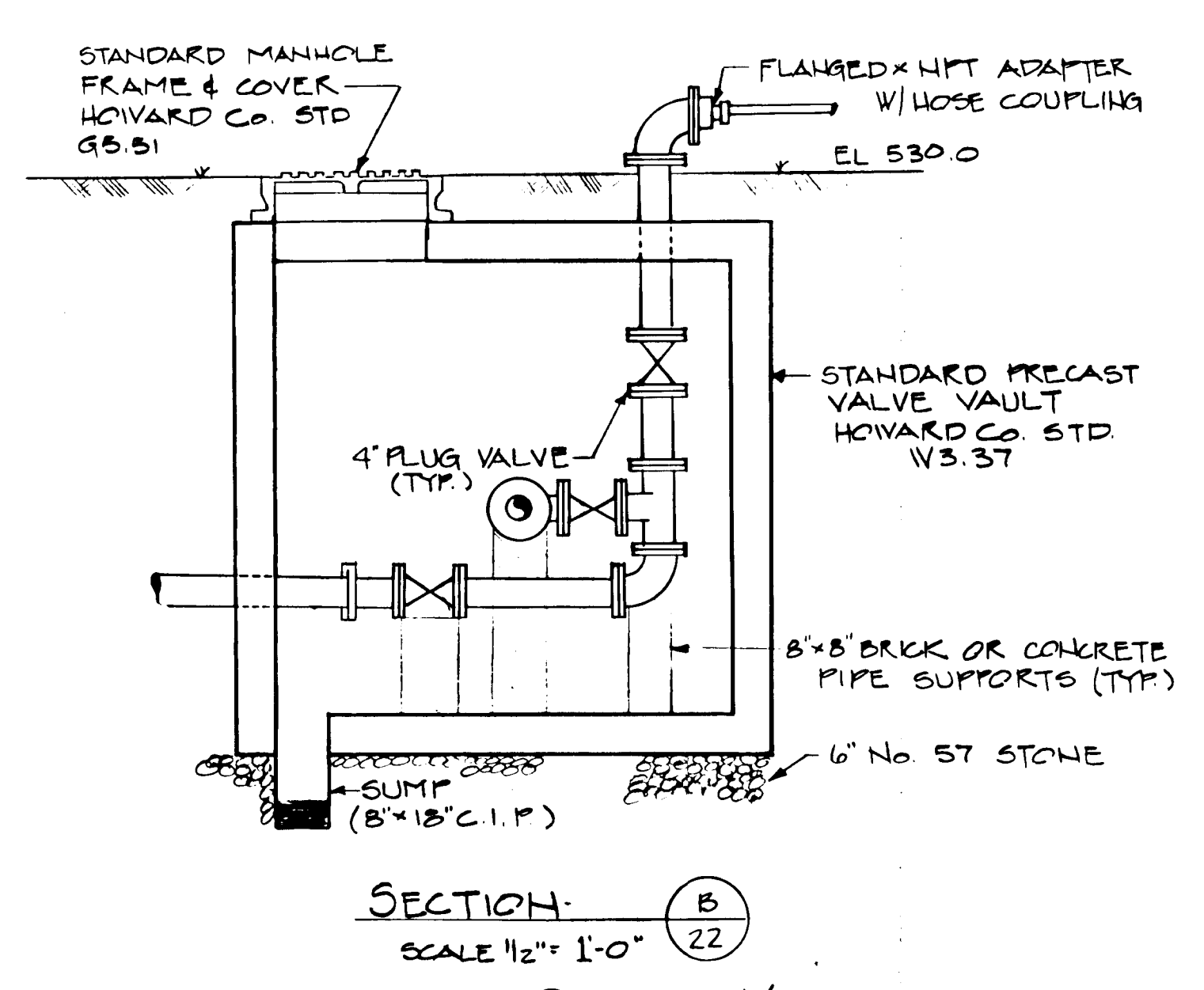
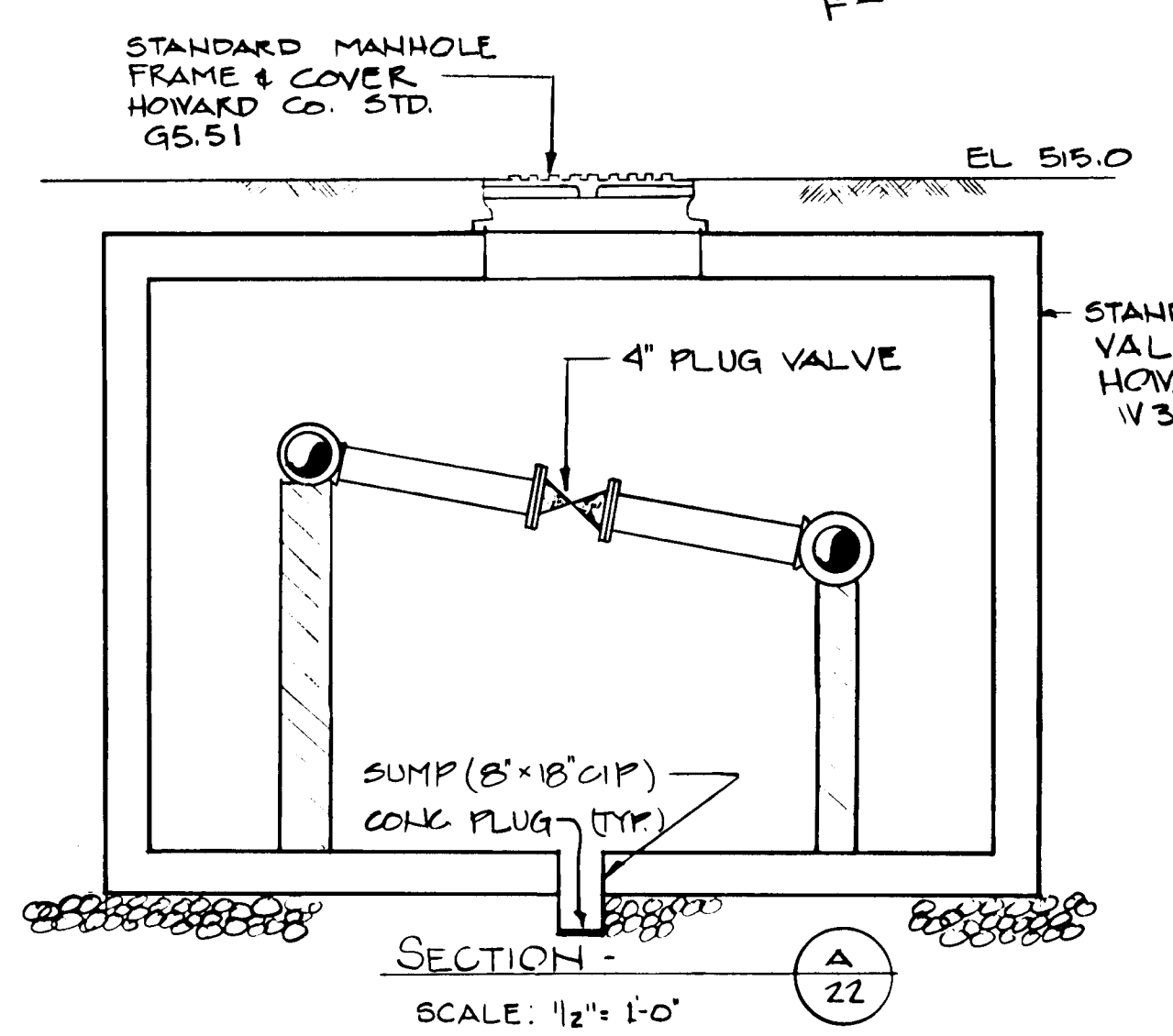
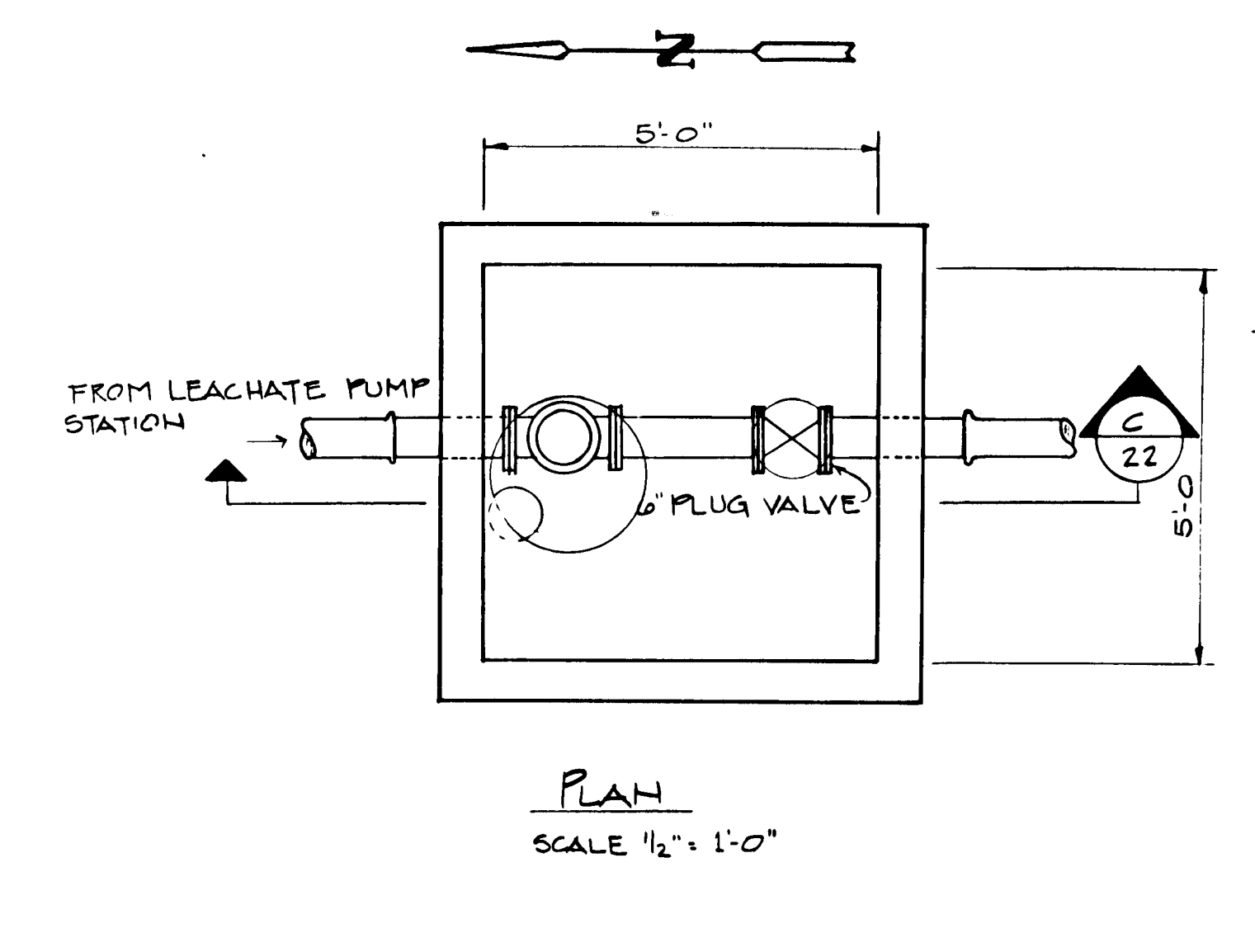
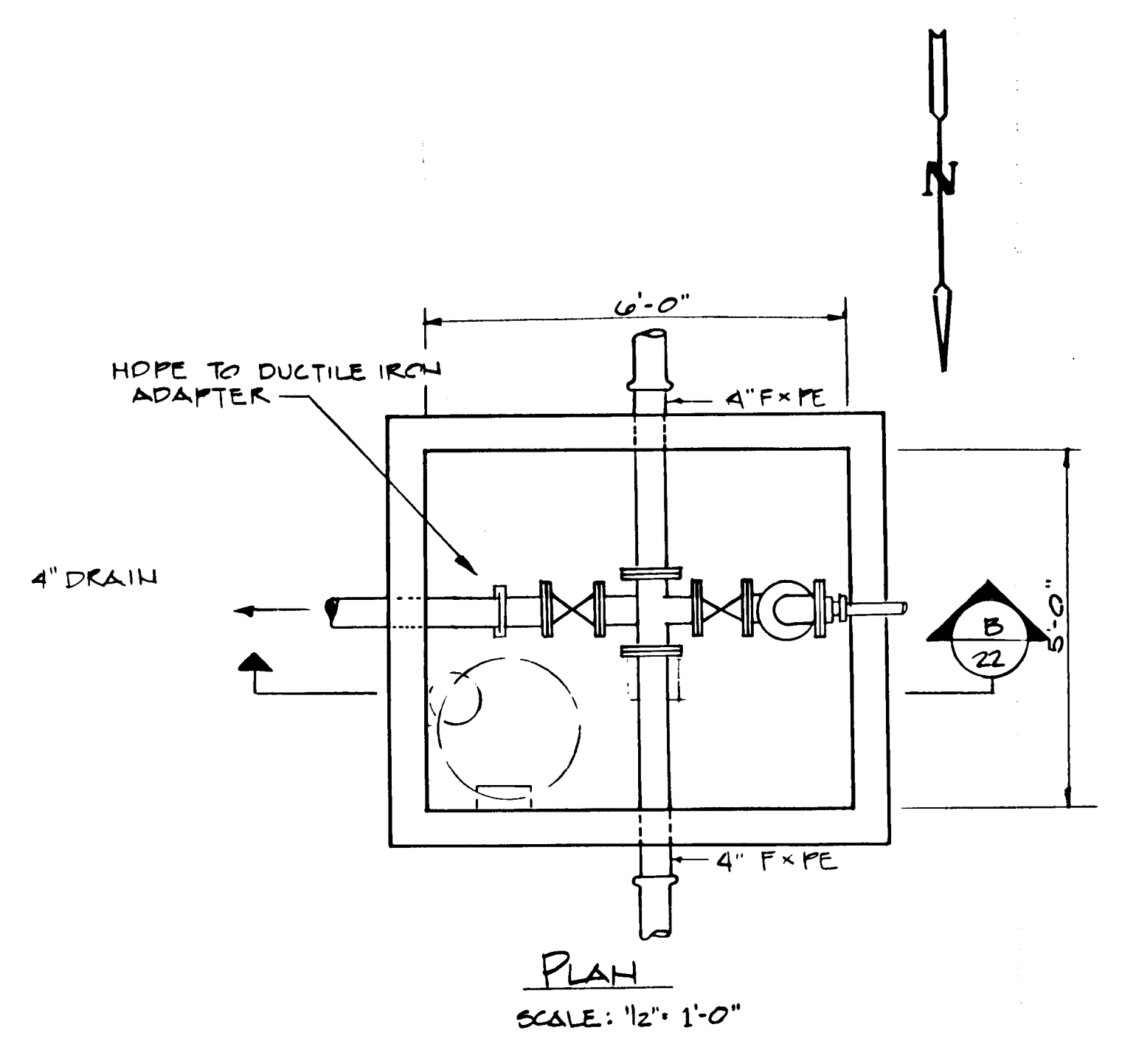
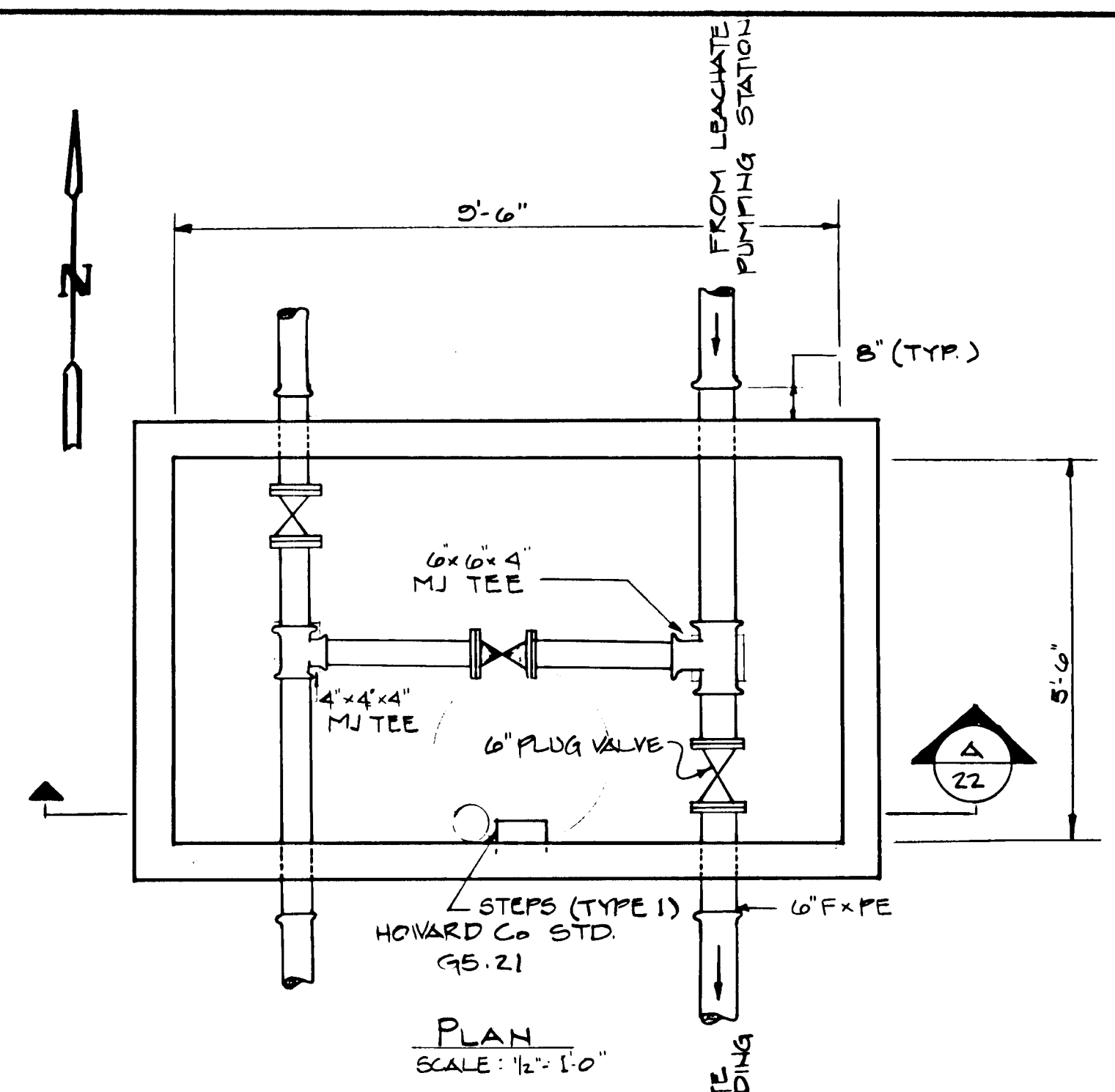
NOTE: A TEST BORING INDICATES THAT GROUND WATER WAS ENCOUNTERED AT A DEPTH OF 7'-8" BELOW EX. GRADE. DEWATERING IS ANTICIPATED DURING EXCAVATION & CONSTRUCTION.

SECTION A SCALE: 1/2\"/>

880

XXAL-90-021 10293.01-021

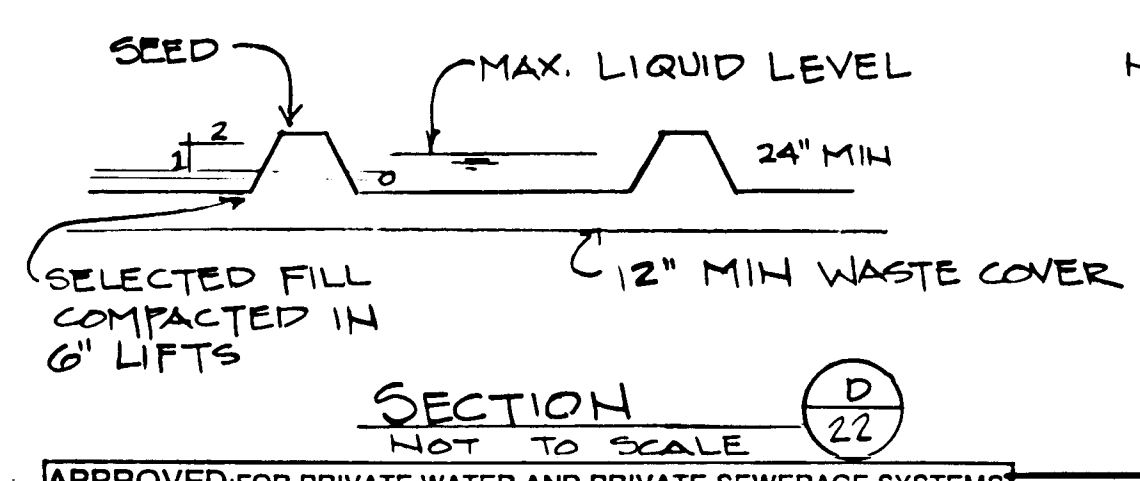
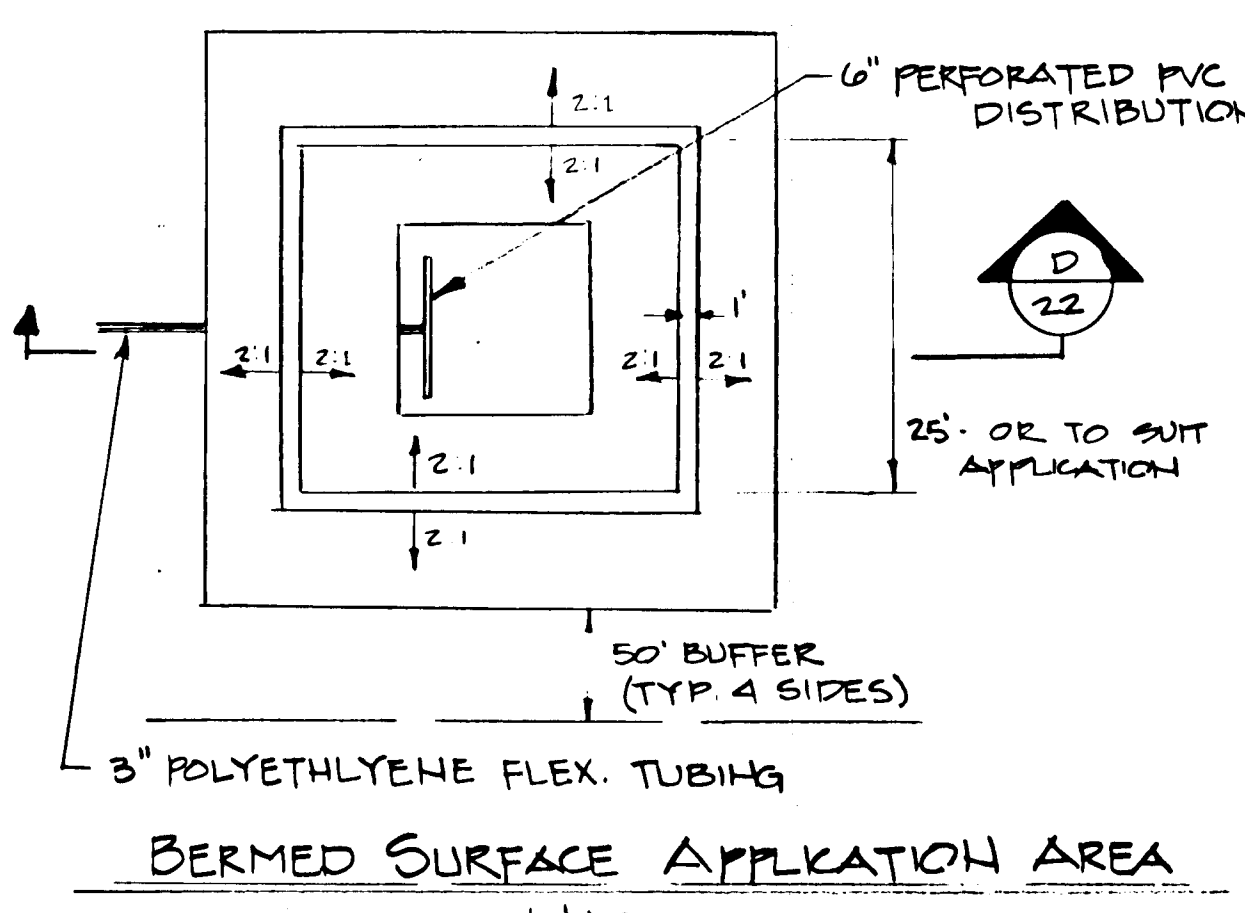
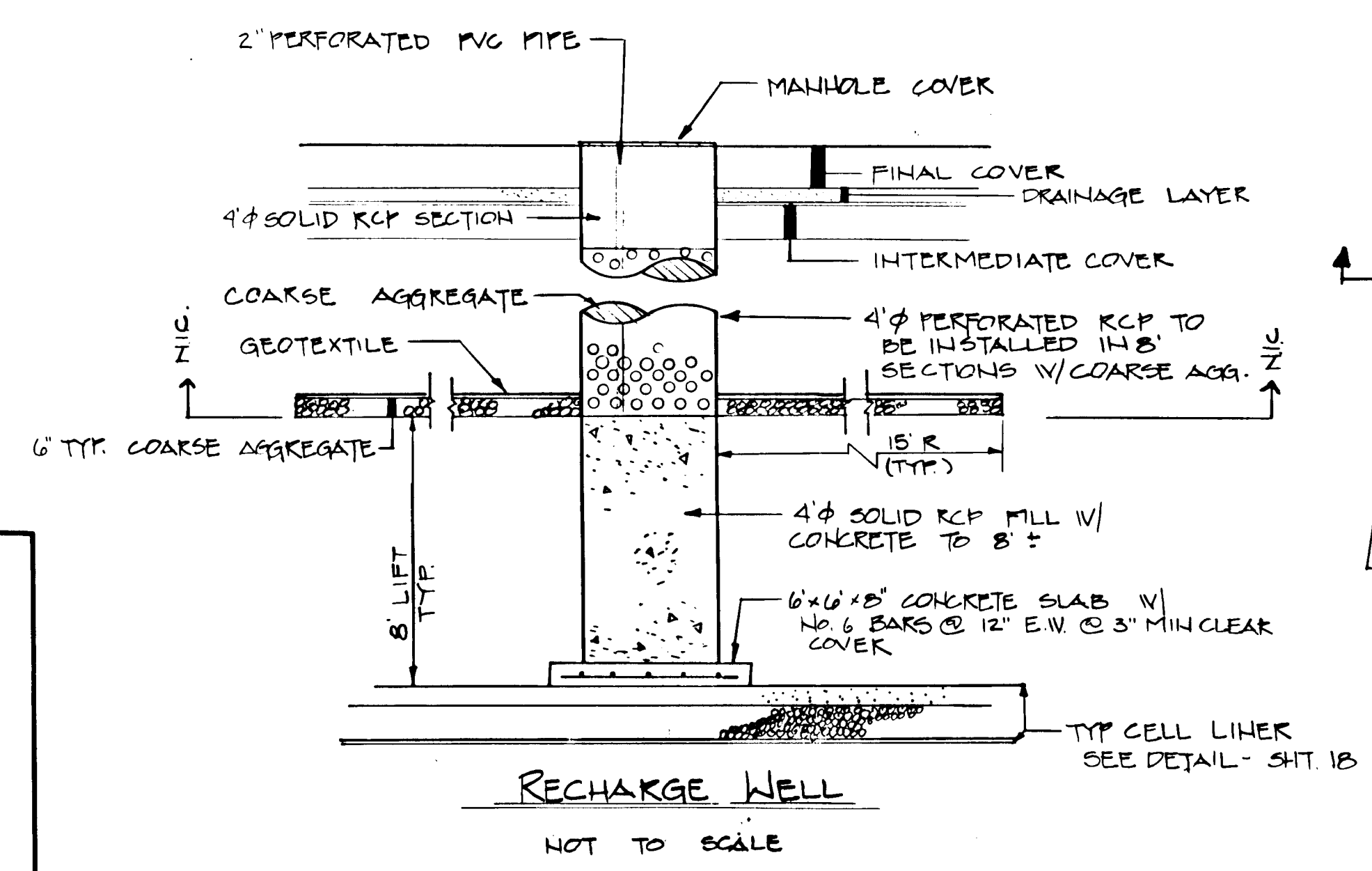
SDP 90-90



LEACHATE/RECYCLE CROSSOVER VAULT

LEACHATE RECYCLE VAULT

TRUCK FILL VAULT



NOTE: ALL UNDERGROUND AND VAULT MECHANICAL JOINT PIPING SHALL HAVE RESTRAINED JOINTS.
NIC = NOT IN CONTRACT

RECORD DRAWING
EA EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
AUGUST 1992

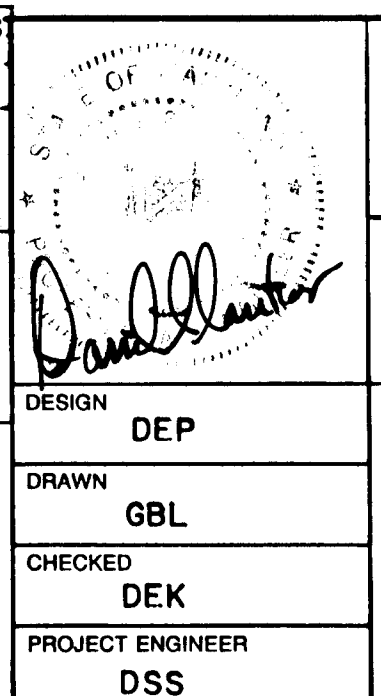
APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

Joyce M. Roper, M.S.E. 8-23-90
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
James H. Roper 8/28/90
CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED FOR STORM DRAINAGE SYSTEMS AND ROADS
HOWARD COUNTY DEPT. OF PUBLIC WORKS
James H. Roper 8/28/90
DIRECTOR DATE

James H. Roper 8-23-90
CHIEF, BUREAU OF ENGINEERING DATE



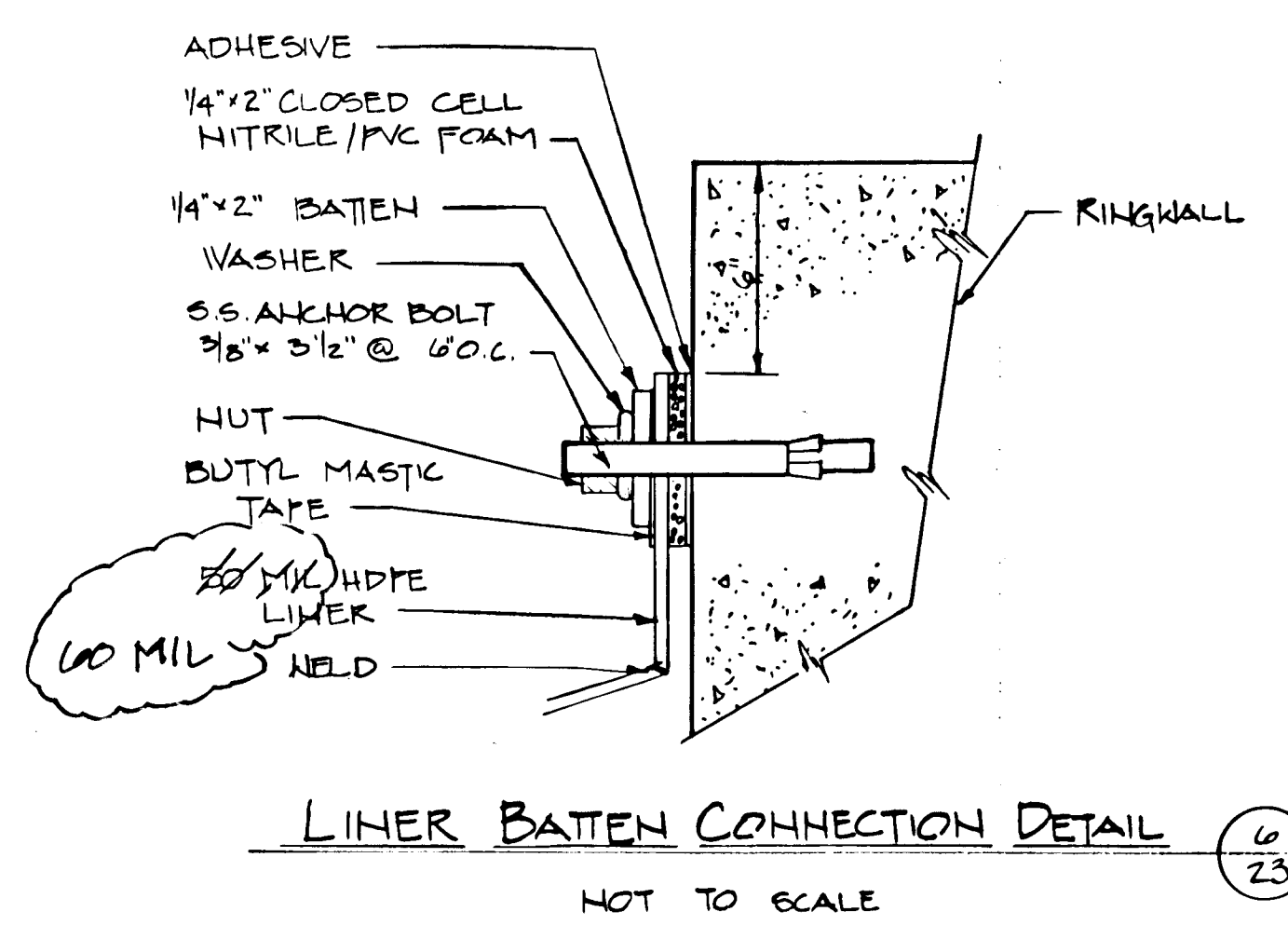
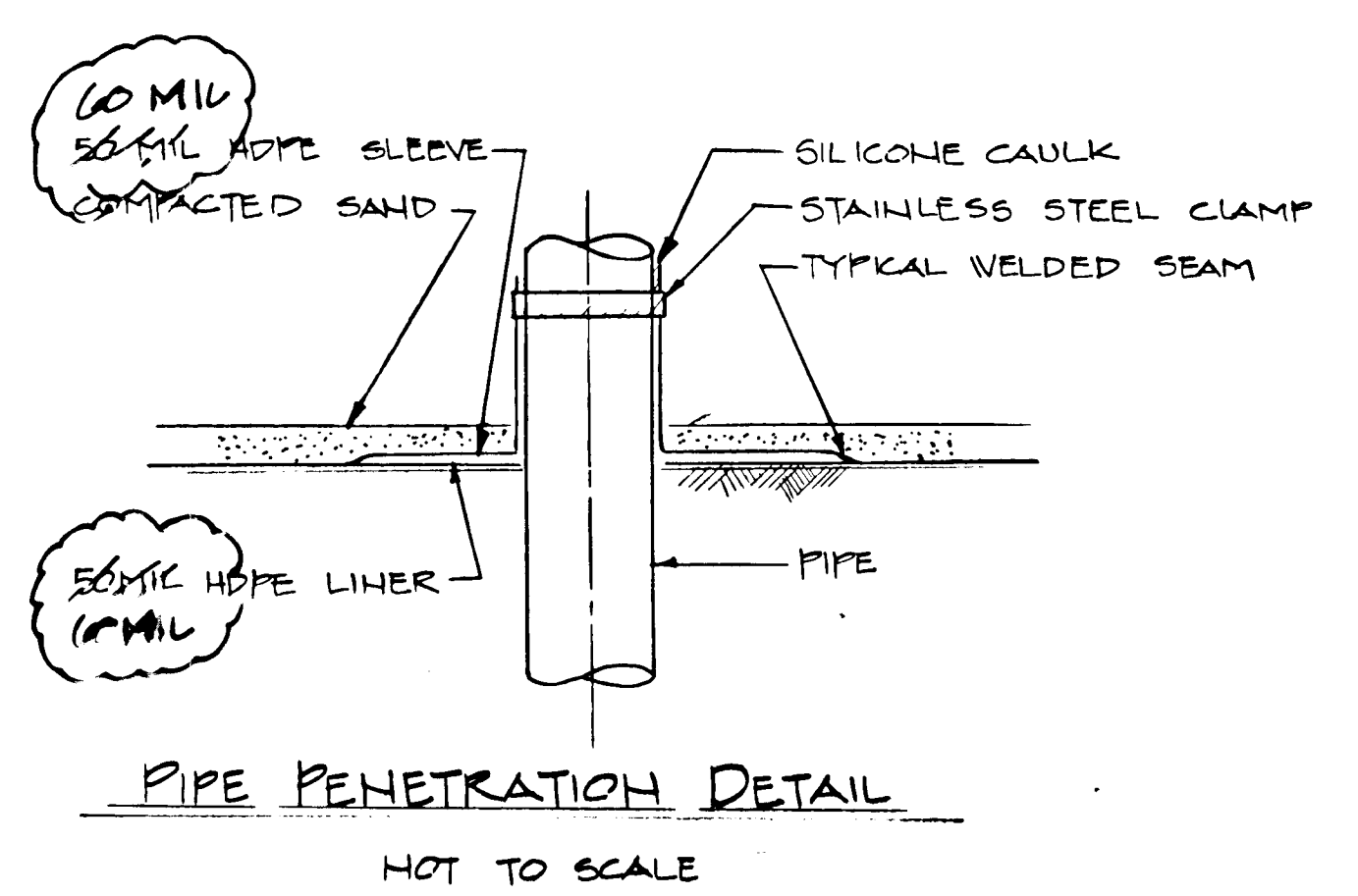
ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND

LEACHATE MNG. SYSTEM DETAILS

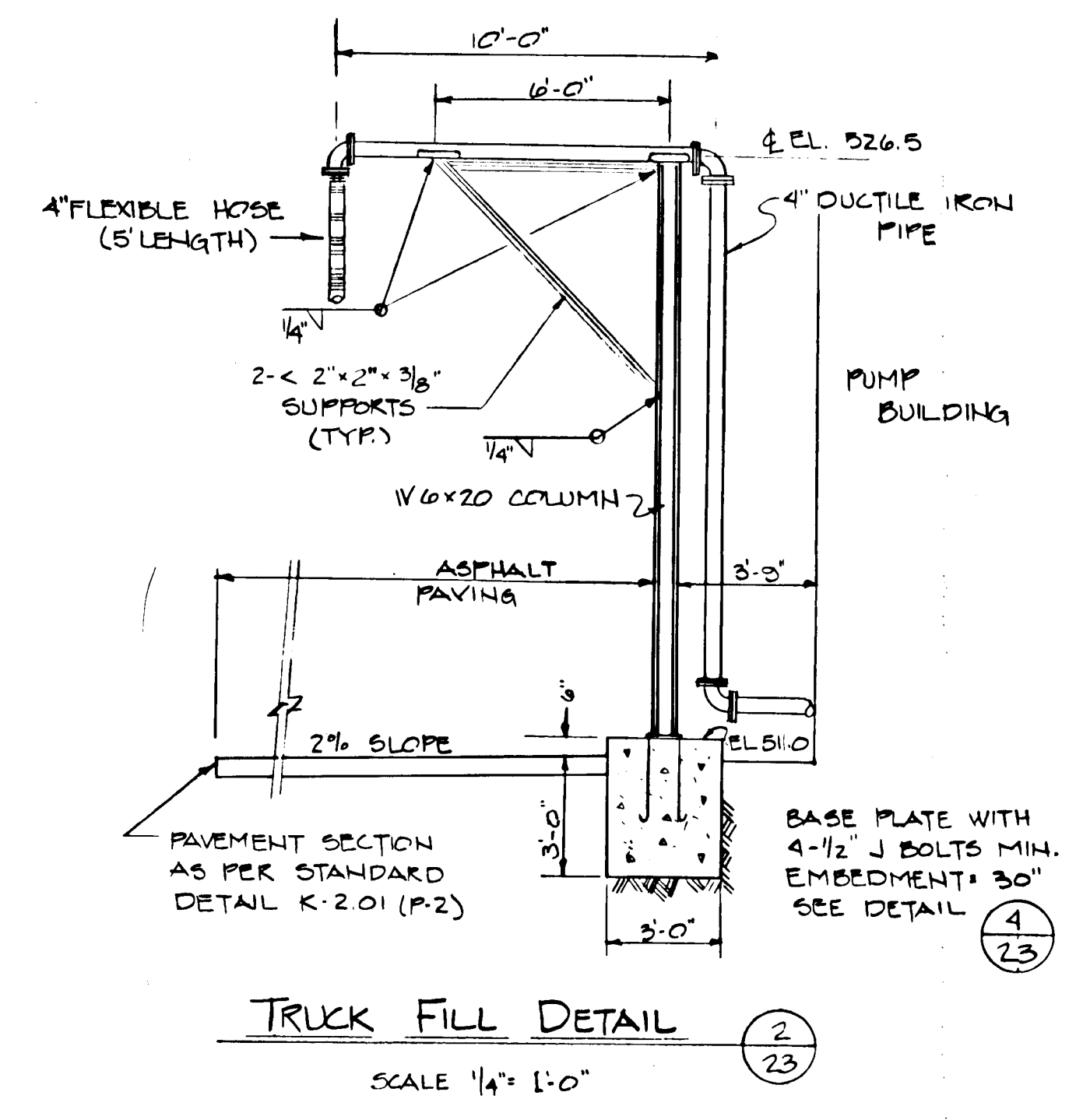
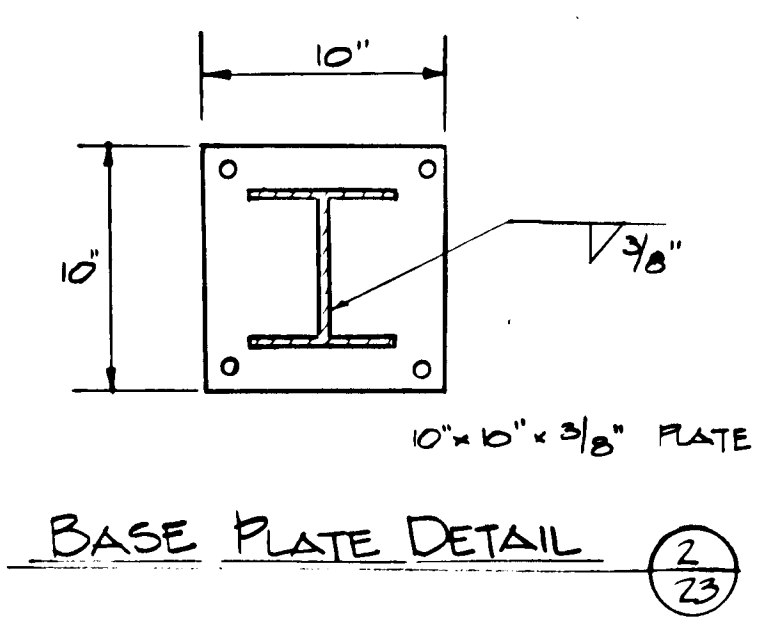
EA EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
Lowtown Center
15 Loveton Circle
Sparks, Maryland 21152
(301) 771-4950

DATE: JUNE 1990
SCALE: AS SHOWN
PROJECT NO.: 10293.01
SHEET NO.: 22 OF 25

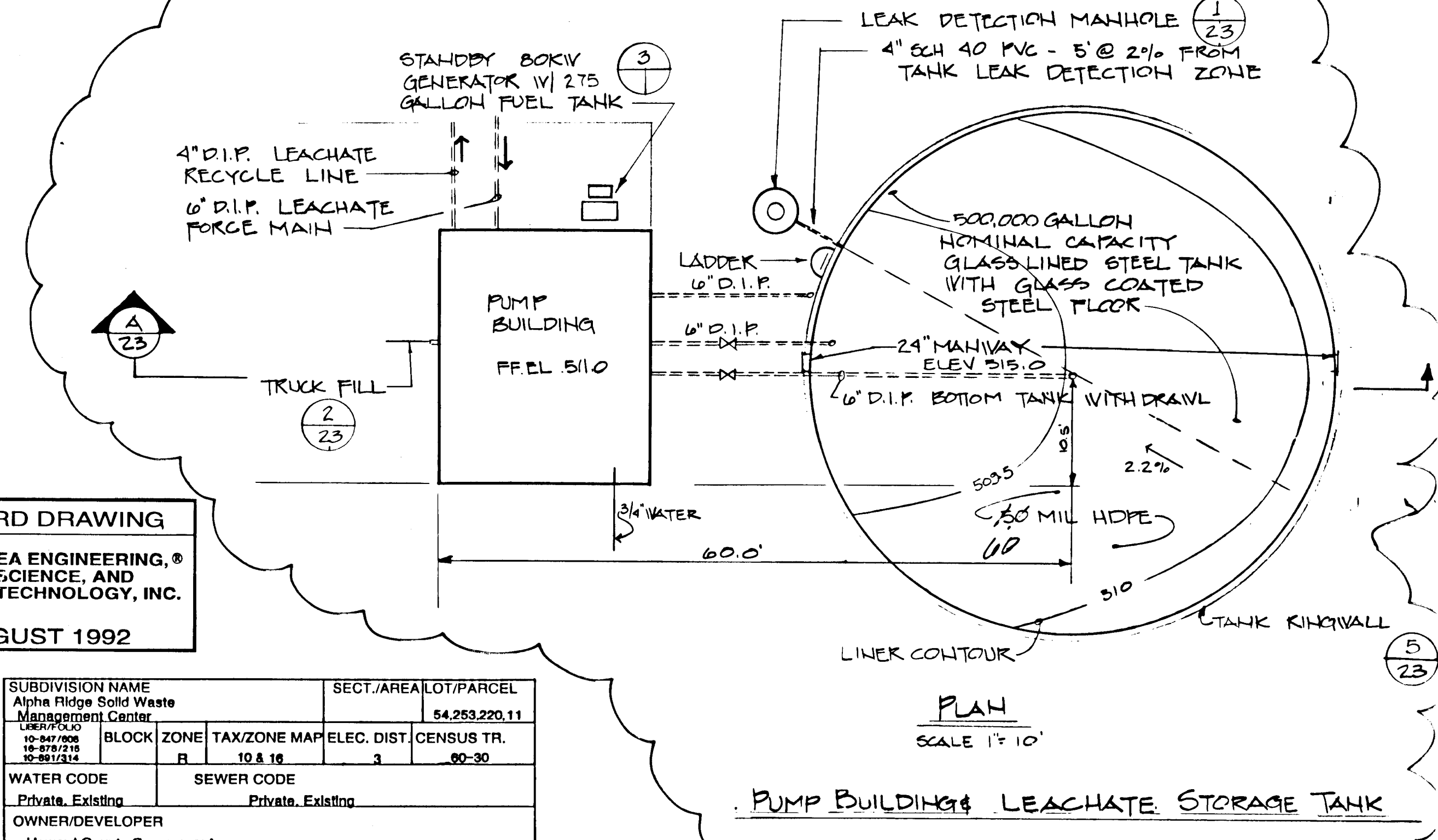
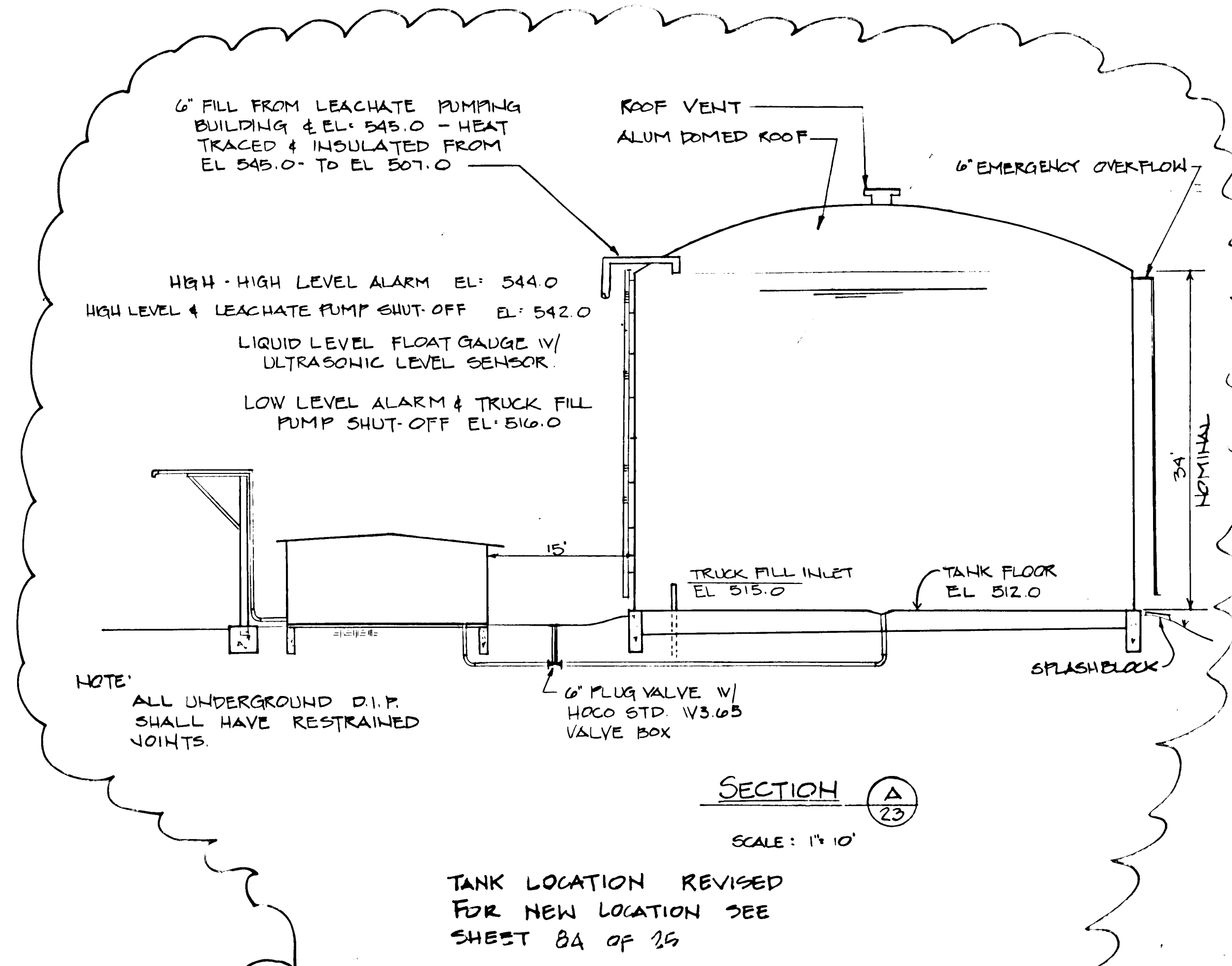
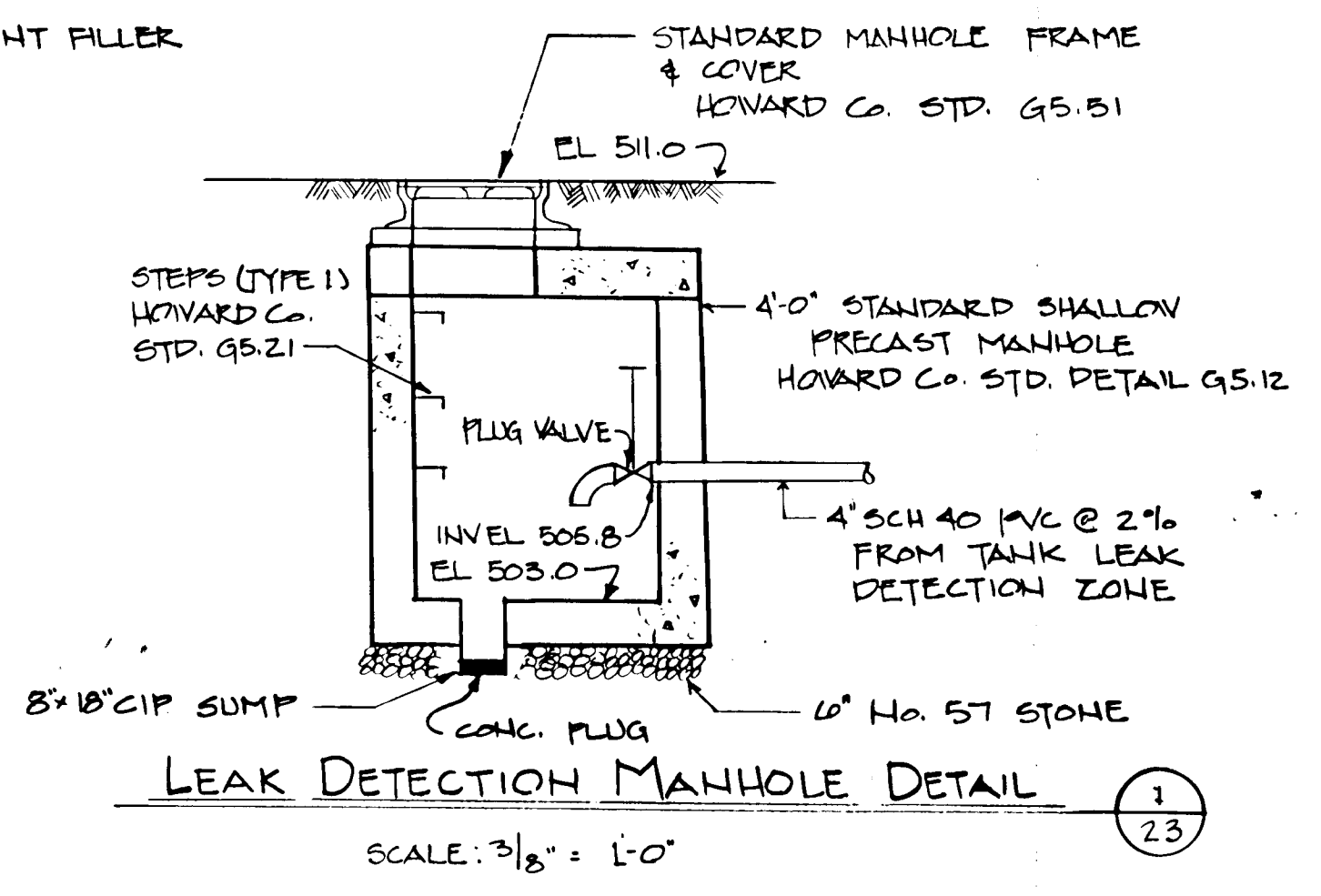
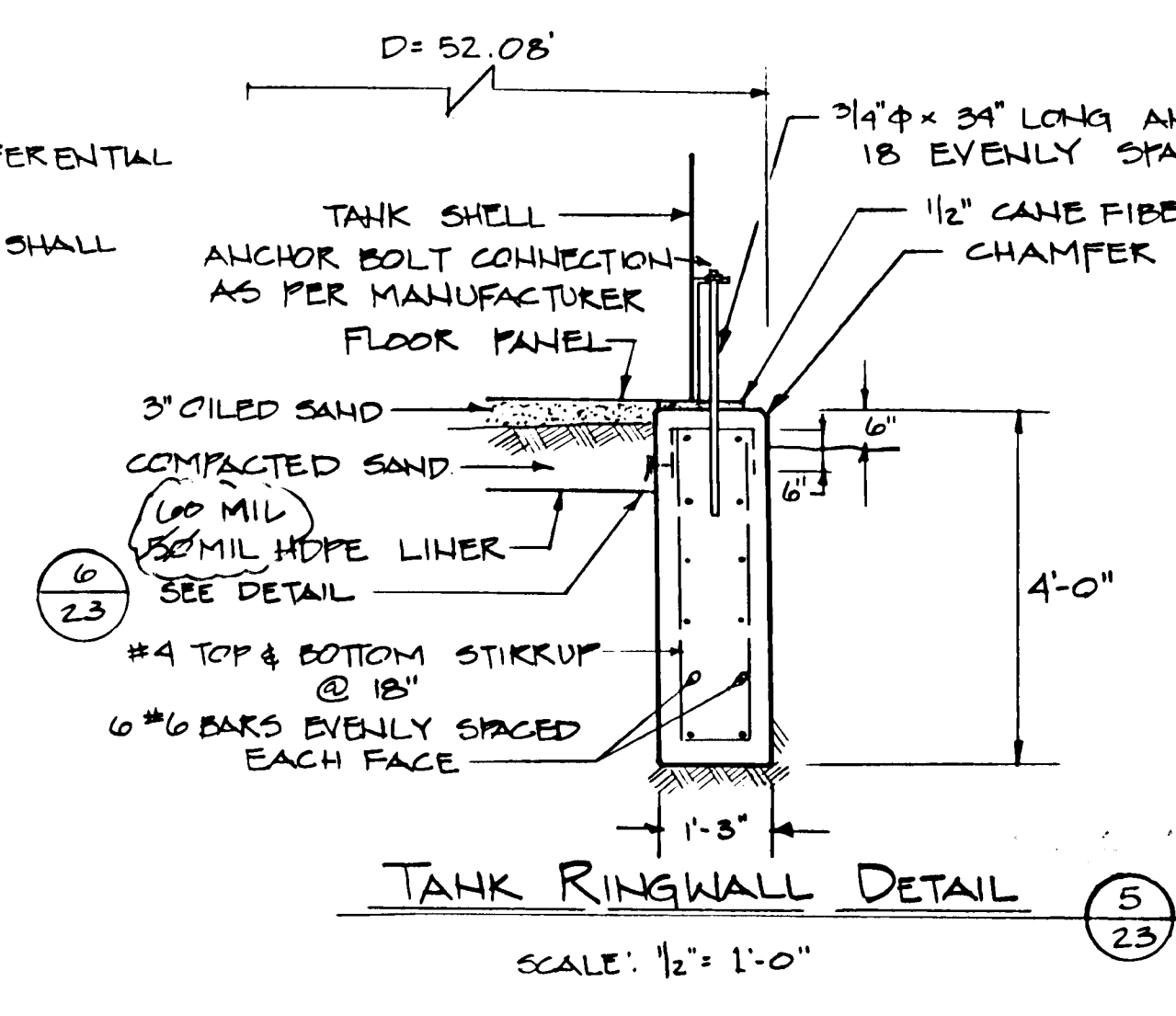
SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA	LOT/PARCEL
10-27-210 10-27-210 10-27-214		10 & 16	64,253,220,11
BLOCK	ZONE	TAX/ZONE MAP	ELEC. DIST.
R		10 & 16	3
OWNER/DEVELOPER Howard County Government		ADDRESS 3430 Court House Drive - Ellicott City, MD 21043	



BASE PLATE NOTES:
 1. ALL STEEL PLATES & SHAPES SHALL BE IN ACCORDANCE WITH ASTM A36
 2. J-BOLTS SHALL BE FABRICATED OF ASTM A325 STEEL
 3. CONCRETE SHALL HAVE 28-DAY COMPRESSIVE STRENGTH, $f_c = 3000$ PSI

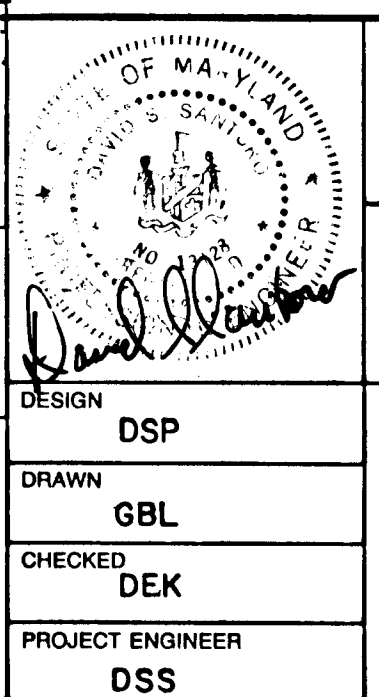


RINGWALL NOTES:
 1. MINIMUM LAP FOR CIRCUMFERENTIAL BARS SHALL BE 24"
 2. ALL REINFORCING STEEL SHALL BE GRADE 40.



RECORD DRAWING
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 AUGUST 1992

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA/Lot/PARCEL 54,263,220.11	
10-847-008 10-847-015 10-847-014	BLOCK ZONE B 10 & 16	TAX/ZONE MAP 1	ELEC. DIST. CENSUS TR. 1 80-30
WATER CODE Private, Existing		SEWER CODE Private, Existing	
OWNER/DEVELOPER Howard County Government			
ADDRESS 3430 Court House Drive Ellicott City, MD 21043			
APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT			
County Health Officer <i>James M. [Signature]</i> 8-23-90		DATE	
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING PLANNING AND LAND DEVELOPMENT			
DIRECTOR: <i>James [Signature]</i> 8/28/90		DATE	
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT <i>[Signature]</i> 8/23/90			
APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS HOWARD COUNTY DEPT. OF PUBLIC WORKS			
Director: <i>James [Signature]</i> 8/23/90		DATE	
CHIEF, BUREAU OF ENGINEERING <i>[Signature]</i> 8-23-90			



**ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND**

LEACHATE MNG. AREA DETAILS

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 Loveton Center
 15 Loveton Circle
 Sparks, Maryland 21162
 (301) 771-4050

DATE: JUNE 1990
 SCALE: AS SHOWN
 PROJECT NO.: 10293.01
 SHEET NO.: 23 OF 25

PANEL BOARD: PP MAINS: MLO AMPS: 225 MIN AIC: 14,000
 LOCATION: PUMP BLDG VOLTS: 480 PHASE: 3 WIRES: 3
 ENCL: NEMA 1 MOUNTING: SURFACE NOTES:

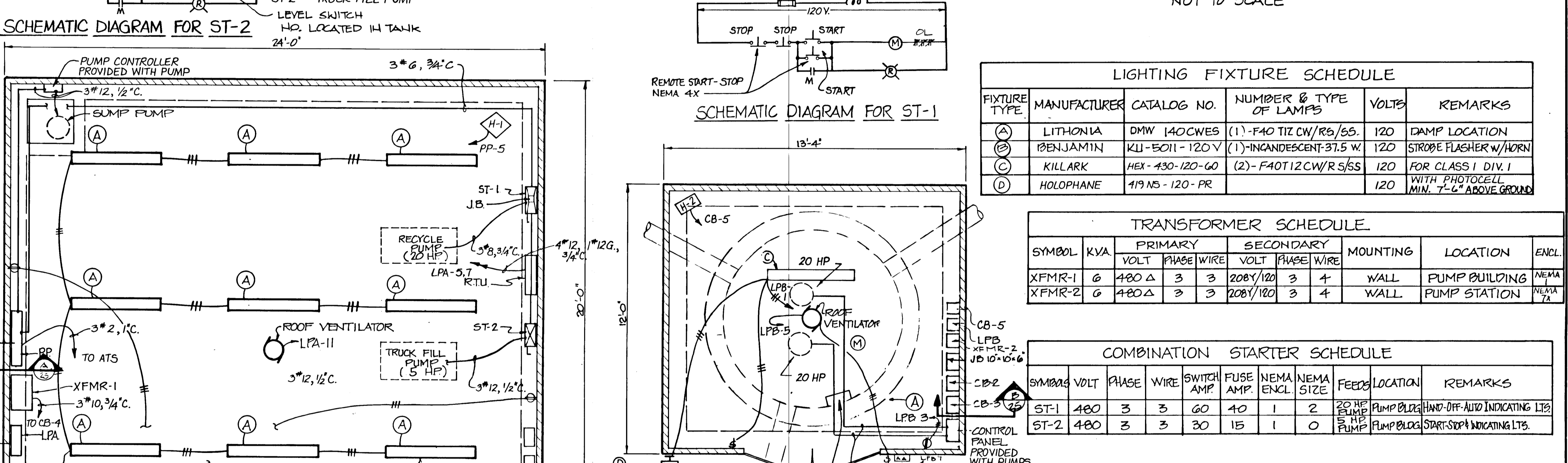
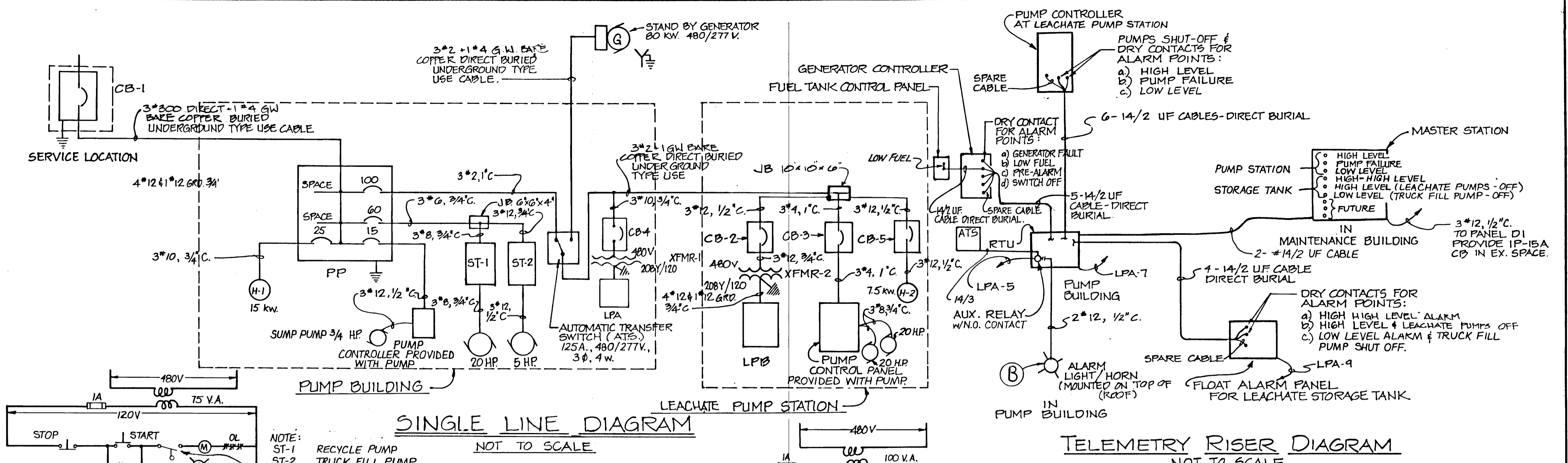
SERVES	SPACE	BUS		SERVES
		A	B	
		1	2	
		3	4	LEACHATE PUMP STA
		5	6	
		7	8	
		9	10	ST-1 & ST-2
		11	12	
		13	14	
		15	16	SUMP PUMP
		17	18	
		19	20	
		21	22	
		23	24	
		25	26	
		27	28	
		29	30	
		31	32	
		33	34	
		35	36	
		37	38	
		39	40	
		41	42	

PANEL BOARD: LPA MAINS: MCB AMPS: 100 MIN AIC: 10,000
 LOCATION: PUMP BLDG VOLTS: 208/120 PHASE: 3 WIRES: 4
 ENCL: NEMA 1 MOUNTING: SURFACE NOTES: 12 CIRCUITS BOLT ON BRKRS.

SERVES	SPACE	BUS		SERVES
		A	B	
		1	2	BLACK HEATER IN GEN. SET
		3	4	BATTERY CHARGER GEN. SET
		5	6	OIL TANK FOR GEN. SET
		7	8	HEAT TRACE STORAGE TANK
		9	10	SPARE
		11	12	
		13	14	
		15	16	
		17	18	
		19	20	
		21	22	
		23	24	
		25	26	
		27	28	
		29	30	
		31	32	
		33	34	
		35	36	
		37	38	
		39	40	
		41	42	

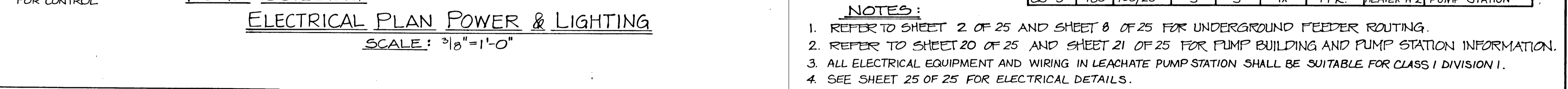
PANEL BOARD: LPB MAINS: MCB AMPS: 20 MIN AIC: 10,000
 LOCATION: PUMP STATION VOLTS: 208/120 PHASE: 3 WIRES: 4
 ENCL: NEMA 1 MOUNTING: SURFACE NOTES: 12 CIRCUITS BOLT ON BRKRS.

SERVES	SPACE	BUS		SERVES
		A	B	
		1	2	SPACE
		3	4	
		5	6	
		7	8	
		9	10	
		11	12	
		13	14	
		15	16	
		17	18	



SCHEMATIC DIAGRAM FOR ST-2
NOTE: ST-1 RECYCLE PUMP TRUCK FILL PUMP LEVEL SWITCH HO. LOCATED IN TANK 24'-0"

SCHEMATIC DIAGRAM FOR ST-1
NEMA 4X



LIGHTING FIXTURE SCHEDULE

FIXTURE TYPE	MANUFACTURER	CATALOG NO.	NUMBER & TYPE OF LAMPS	VOLTS	REMARKS
(A)	LITHONIA	DMW 140CWES	(1) - FA0 TIZ CW/R5/SS	120	DAMP LOCATION
(B)	BENJAMIN	KLI-5011-120V	(1) - INCANDESCENT-37.5 W	120	STROBE FLASHER W/HORN
(C)	KILLARK	HEX-430-120-60	(2) - FA0 TIZ CW/R5/SS	120	FOR CLASS I DIV. 1
(D)	HOLOPHANE	419 NS-120-PR		120	WITH PHOTOCELL MIN. 7'-6" ABOVE GROUND

TRANSFORMER SCHEDULE

SYMBOL	KVA	PRIMARY		SECONDARY		MOUNTING	LOCATION	ENCL.
		VOLT	PHASE WIRE	VOLT	PHASE WIRE			
XFMR-1	6	480 Δ	3	208Y/120	3	4	WALL	PUMP BUILDING NEMA 7A
XFMR-2	6	480 Δ	3	208Y/120	3	4	WALL	PUMP STATION NEMA 7A

COMBINATION STARTER SCHEDULE

SYMBOL	VOLT	PHASE	WIRE	SWITCH AMP	FUSE AMP.	NEMA ENCL.	NEMA SIZE	FEEDS	LOCATION	REMARKS
ST-1	480	3	3	60	40	1	2	20 HP PUMP	PUMP BLDG	HAND-OFF-AUTO INDICATING LTS
ST-2	480	3	3	30	15	1	0	5 HP PUMP	PUMP BLDG	START-STOP INDICATING LTS

UNIT CIRCUIT BREAKER SCHEDULE

SYMBOL	VOLT	AMP FRAME/TRIP	PHASE	WIRE	NEMA ENCL.	MIN. AIC	FEEDS	LOCATION
CB-1	480	250/150	3	3	3R	14 K	PP	SERVICE LOCATION
CB-2	480	100/15	3	3	7X	14 K	XFMR-2	PUMP STATION
CB-3	480	100/70	3	3	7X	14 K	CONT. PANEL	PUMP STATION
CB-4	480	100/15	3	3	1	14 K	XFMR-1	PUMP BUILDING
CB-5	480	100/20	3	3	7X	14 K	HEATER H-2	PUMP STATION

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
 HOWARD COUNTY HEALTH DEPARTMENT
 County Health Officer: *Joyce M. Boyd* 8-23-90
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
 Director: *Joseph R. Smith* 8/23/90
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
 APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS
 HOWARD COUNTY DEPT. OF PUBLIC WORKS
 Director: *Lance J. ...* 8/23/90
 CHIEF, BUREAU OF ENGINEERING

COMBUSTIBLE GAS DETECTION SYSTEM
 (M) = REMOTE METHANE SENSOR MOUNTED IN WET WELL.
 (AA) = CONTROL/INDICATING MODULE & TRANSFORMER MODULE.
RECORD DRAWING
 EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 AUGUST 1992
 PORTIONS OF THIS DRAWING SUPERSEDED SEE SHEETS 27A AND 25A

REVISIONS

NO.	DATE	BY	DESCRIPTION

ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
 HOWARD COUNTY MARYLAND

ELECTRICAL

DESIGN: K.C.
 DRAWN: D.T.M.
 CHECKED: K.C.
 PROJECT ENGINEER: D.S.S.

DATE: JUNE 1990
 SCALE: AS SHOWN
 PROJECT NO: 10293.01
 SHEET NO: 24 OF 25

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 Loveton Center
 15 Loveton Circle
 Sparks, Maryland 21152
 (301) 771-4950

BALTIMORE CHICAGO LINCOLN NEW YORK NEW JERSEY ATLANTA DALLAS LOS ANGELES SAN FRANCISCO

PANELBOARD: PP	MAINS: MLO	AMPS: 225	MIN. AIC: 14,000
LOCATION: PUMP BLDG.	VOLTS: 480	PHASE: 3	WIRES: 3
ENCL. NEMA: 1	MOUNTING: SURFACE	NOTES:	

SERVES:	CB			BUS PHASES			ZONES			SERVES:
	P	TA	ZONES	A	B	C	P	TA	ZONES	
LEACHATE P.S.	3	100	1				2	3	25	UNIT HEATER
							4			
							6			
SPARE	3	15	7				8	3	60	ST-1 & ST-2
							9			
							11			
BLANK							13			BLANKS
							15			
							17			

TRANSFORMER SCHEDULE										
SYMBOL	K.V.A.	PRIMARY			SECONDARY			MOUNTING	LOCATION	ENCL.
		VOLT	PHASE	WIRE	VOLT	PHASE	WIRE			
XFMR-1	6	480Δ	3	3	208Y/120	3	4	WALL	PUMP BUILDING	NEMA 1
XFMR-2	6	480Δ	3	3	208Y/120	3	4	WALL	PUMP STATION	NEMA 3R

COMBINATION STARTER SCHEDULE									
SYMBOL	VOLT	PHASE	WIRE	SWITCH AMP	FUSE AMP	NEMA ENCL.	NEMA SIZE	FEEDS	LOCATION
ST-1	480	3	3	60	40	1	2	20HP PUMP	PUMP BUILDING
ST-2	480	3	3	30	15	1	0	5HP PUMP	PUMP BUILDING

△ H.O.A. SWITCH △ INDICATING LIGHTS △ START/STOP SWITCH

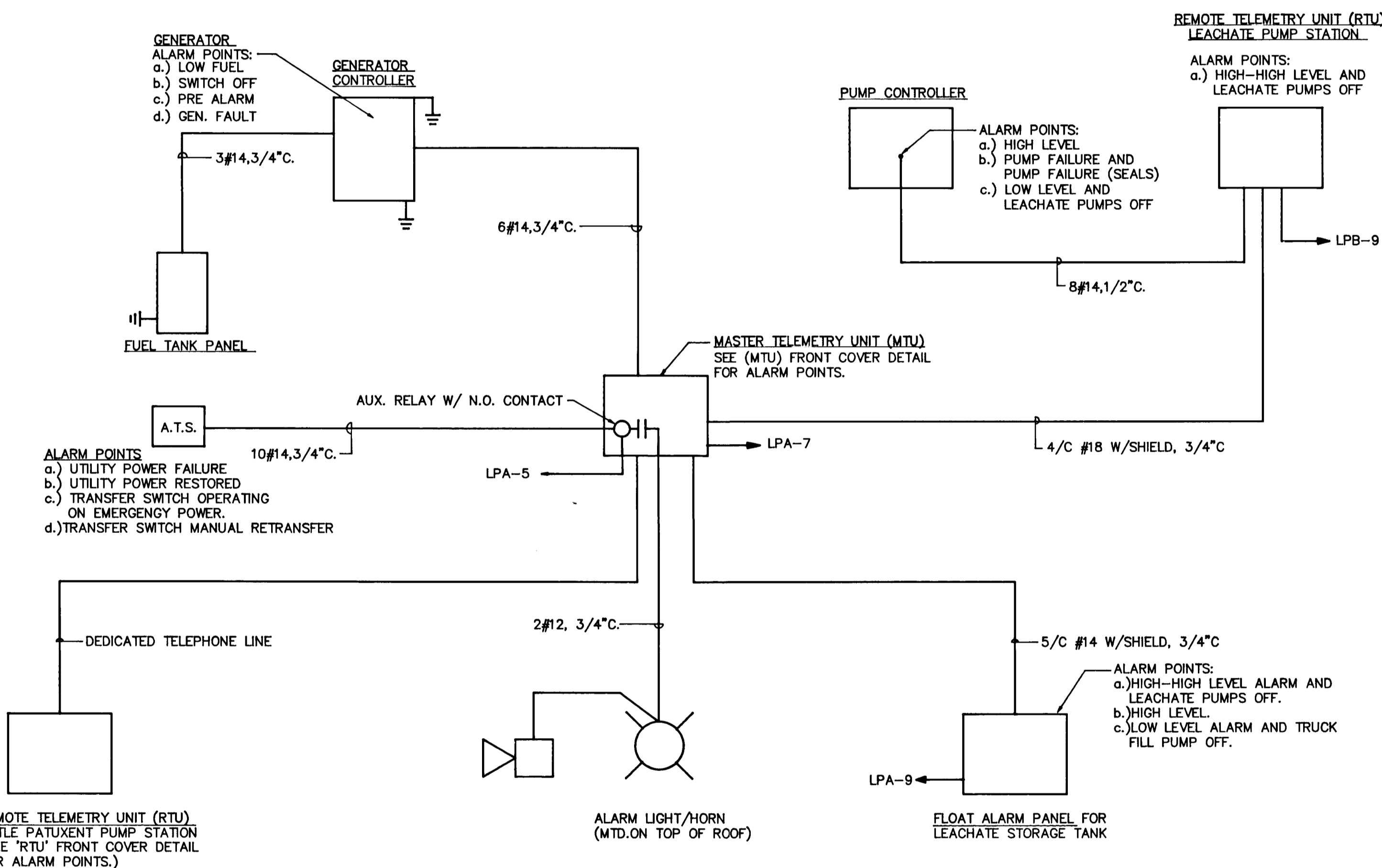
LIGHTING FIXTURE SCHEDULE					
TYPE	MANUFACTURER	CATALOG NO.	NO. AND TYPE OF LAMPS	VOLTS	REMARKS
Ⓐ	LITHONIA	DMW 140CWES	(1)F40-T12CW/RS/SS	120	DAMP LOCATION
Ⓑ	BENJAMIN	KU-5011-120V	(1)INCAND.-37.5W	120	STROBE FLASHER W/HORN
Ⓒ	CROUSE HINDS	EVFT 22320	(2)T5-39W	120	FOR CLASS 1 DIV. 1
Ⓓ	HOLOPHANE	419 NS-120-PR		120	W/PC MIN. 7'-6" ABOVE GRD.

UNIT CIRCUIT BREAKER SCHEDULE								
SYMBOL	VOLT	AMP FRAME/TRIP	PHASE	WIRE	NEMA ENCL.	MIN. AIC	FEEDS	LOCATION
CB-1	480	250/150	3	3	3R	14K	PP	SERVICE LOCATION
CB-2	480	100/15	3	3	7X	14K	XFMR-2	PUMP STATION
CB-3	480	100/70	3	3	7X	14K	CONT. PNL.	PUMP STATION
CB-4	480	100/15	3	3	1	14K	XFMR-1	PUMP BUILDING
CB-5	480	100/20	3	3	7X	14K	HEATER H-2	PUMP STATION

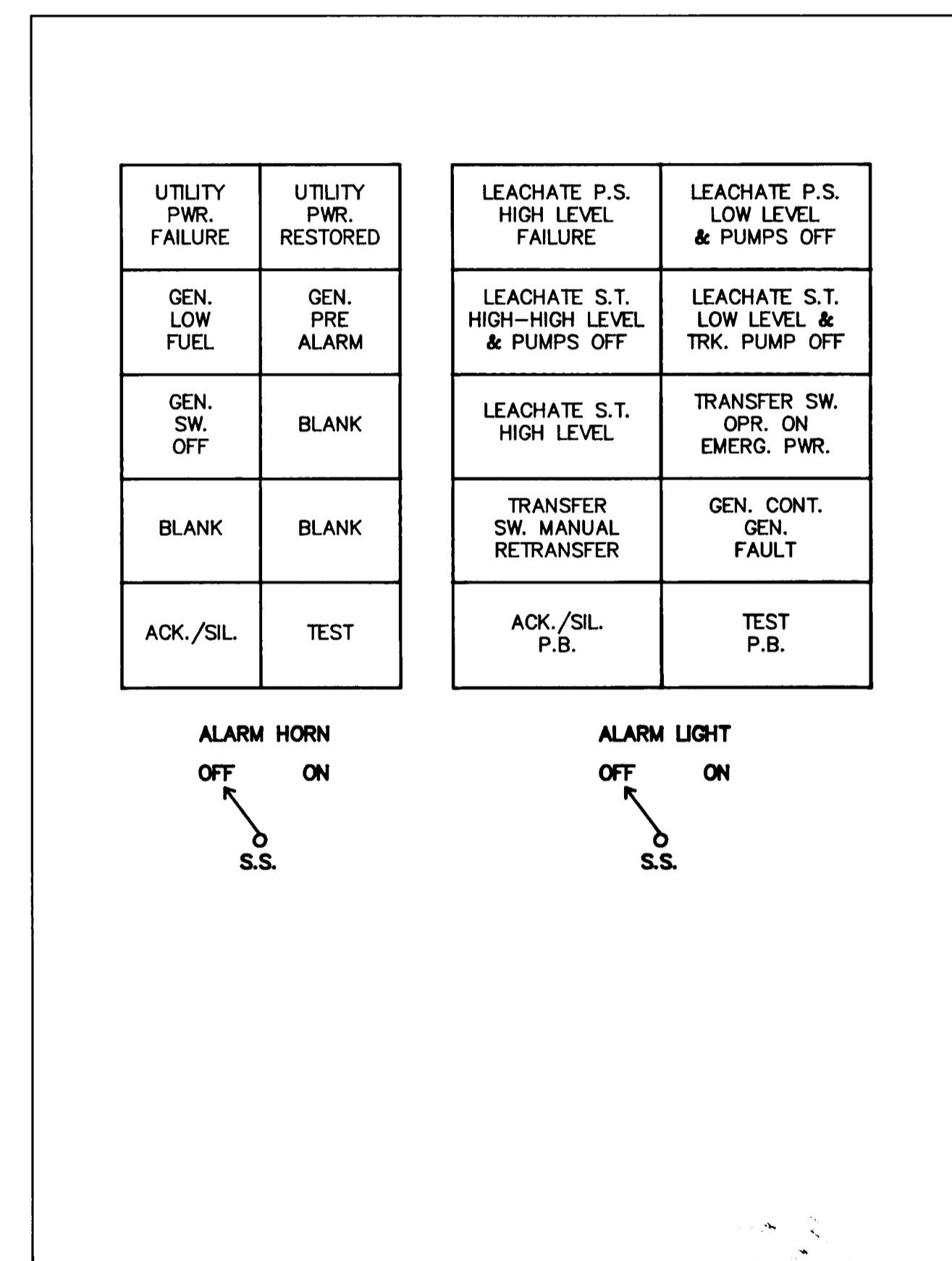
PANELBOARD: LPA	MAINS: 20A M.C.B.	AMPS: 100	MIN. AIC: 10,000
LOCATION: PUMP BLDG.	VOLTS: 208Y/120	PHASE: 3	WIRES: 4
ENCL. NEMA: 1	MOUNTING: SURFACE	NOTES: 12 CKTS. BOLT ON BKRS.	

SERVES:	CB			BUS PHASES			ZONES			SERVES:
	P	TA	ZONES	A	B	C	P	TA	ZONES	
LIGHTING	1	20	1				2	1	20	HEATER FAN
RECEPTACLE	1	20	3				4	1	20	SPARE
AUX. RELAY IN MTU.	1	20	5				6	1	20	SPARE
POWER SUPPLY TO MTU.	1	20	7				8	1	20	SPARE
LIQUID LEVEL ALARM *	1	20	9				10	1	20	BATTERY CHARGER
ROOF VENTILATOR	1	20	11				12	1	20	SPARE
FLOW METER	1	20	13				14	1	20	SPARE
FLOW METER	1	20	15				16	2	15	SUMP PUMP
HEAT TRACE	1	20	17				18			BLANKS
BLANKS										BLANKS

* LOCATED AT FLOW ALARM PANEL NEAR LEACHATE STORAGE TANK



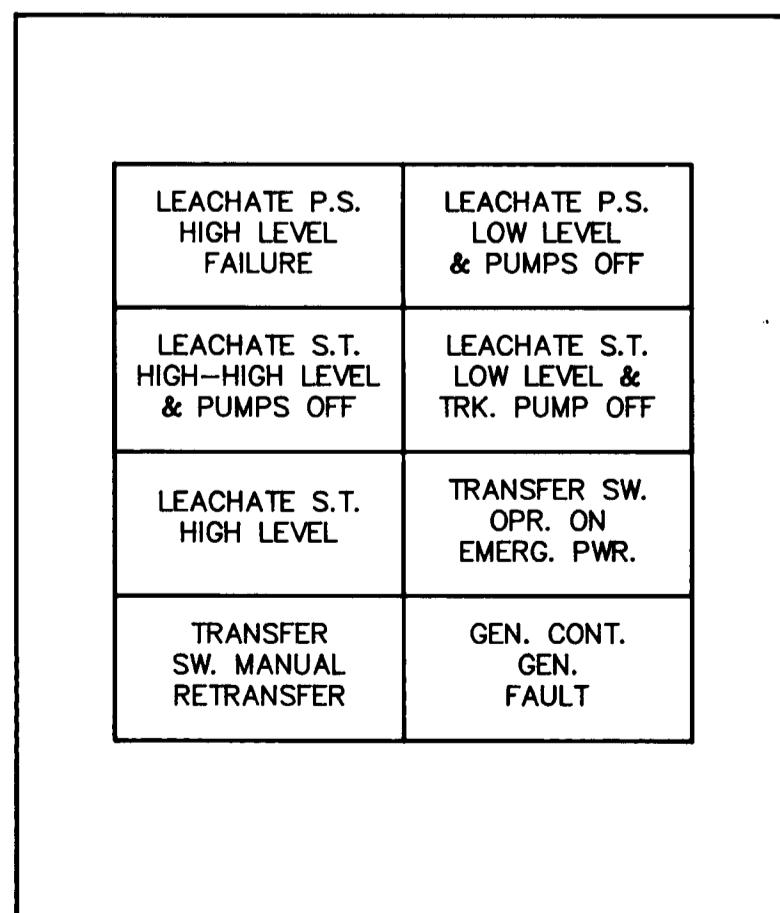
TELEMETRY RISER DIAGRAM
NOT TO SCALE



MASTER TELEMETRY UNIT - FRONT COVER
NOT TO SCALE

PANELBOARD: LPB	MAINS: M.C.B.	AMPS: 20	MIN. AIC: 10,000
LOCATION: PUMP STATION	VOLTS: 208Y/120	PHASE: 3	WIRES: 4
ENCL. NEMA: 7	MOUNTING: SURFACE	NOTES: 24 CKTS BOLT ON BKRS.	

SERVES:	CB			BUS PHASES			ZONES			SERVES:
	P	TA	ZONES	A	B	C	P	TA	ZONES	
LIGHTING	1	20	1				2	1	20	SPARE
RECEPTACLE	1	20	3				4	1	20	
ROOF VENTILATOR	1	20	5				6	1	20	
GAS DETECTOR	1	20	7				8	1	20	
AUTOCON TELEMETRY	1	20	9				10			BLANK
BLANK							11			
							13			
							15			
							17			
							19			
							21			
							23			



REMOTE TELEMETRY UNIT - FRONT COVER
NOT TO SCALE

THIS DRAWING REFLECTS RECORD CONDITIONS AND SUBLEGED PORTIONS OF SHEETS 24 AND 25 OF THE CONTRACT DRAWINGS.

RECORD DRAWING
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
AUGUST 1992

REVISIONS			
NO.	DATE	BY	DESCRIPTION

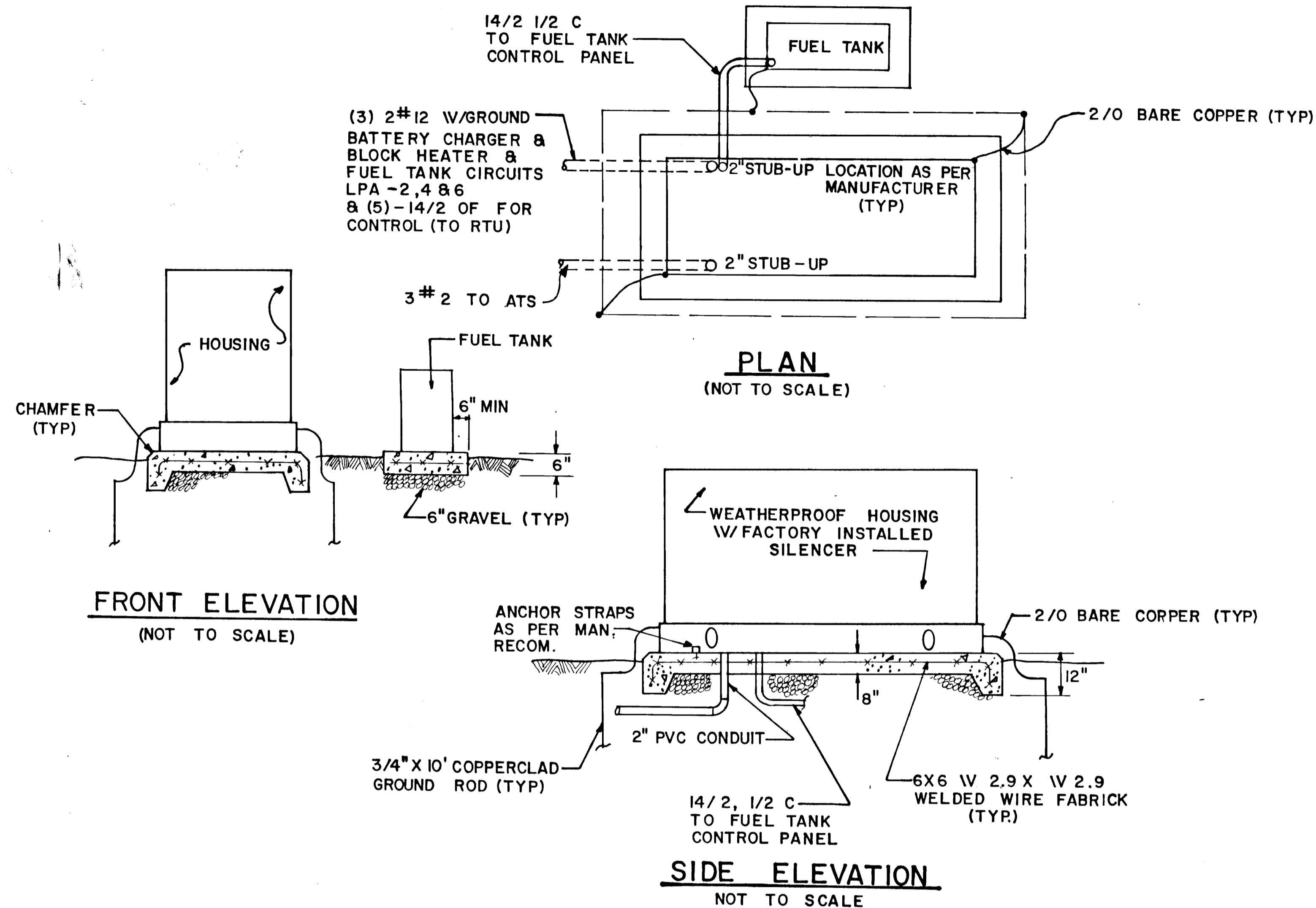
**ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND**

ELECTRICAL

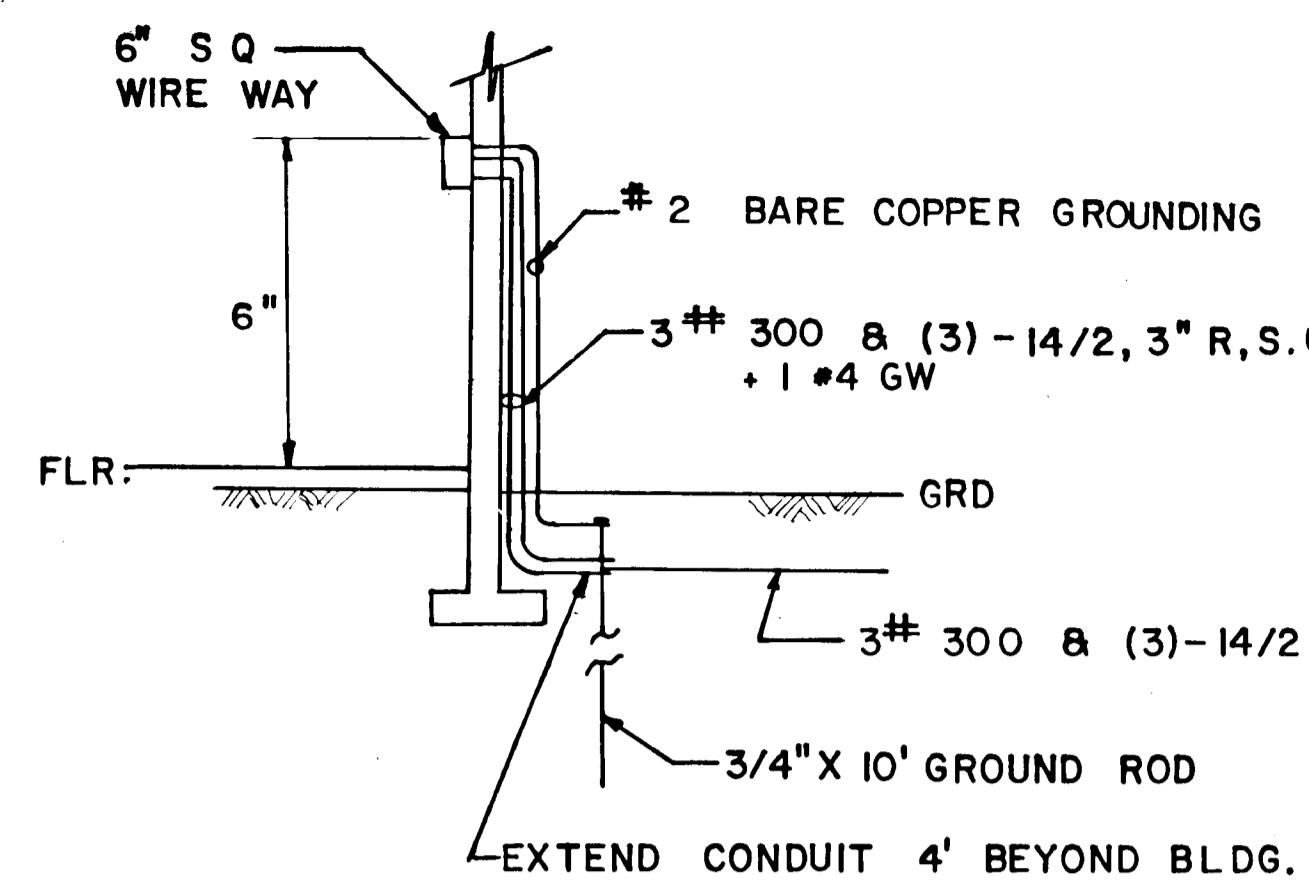
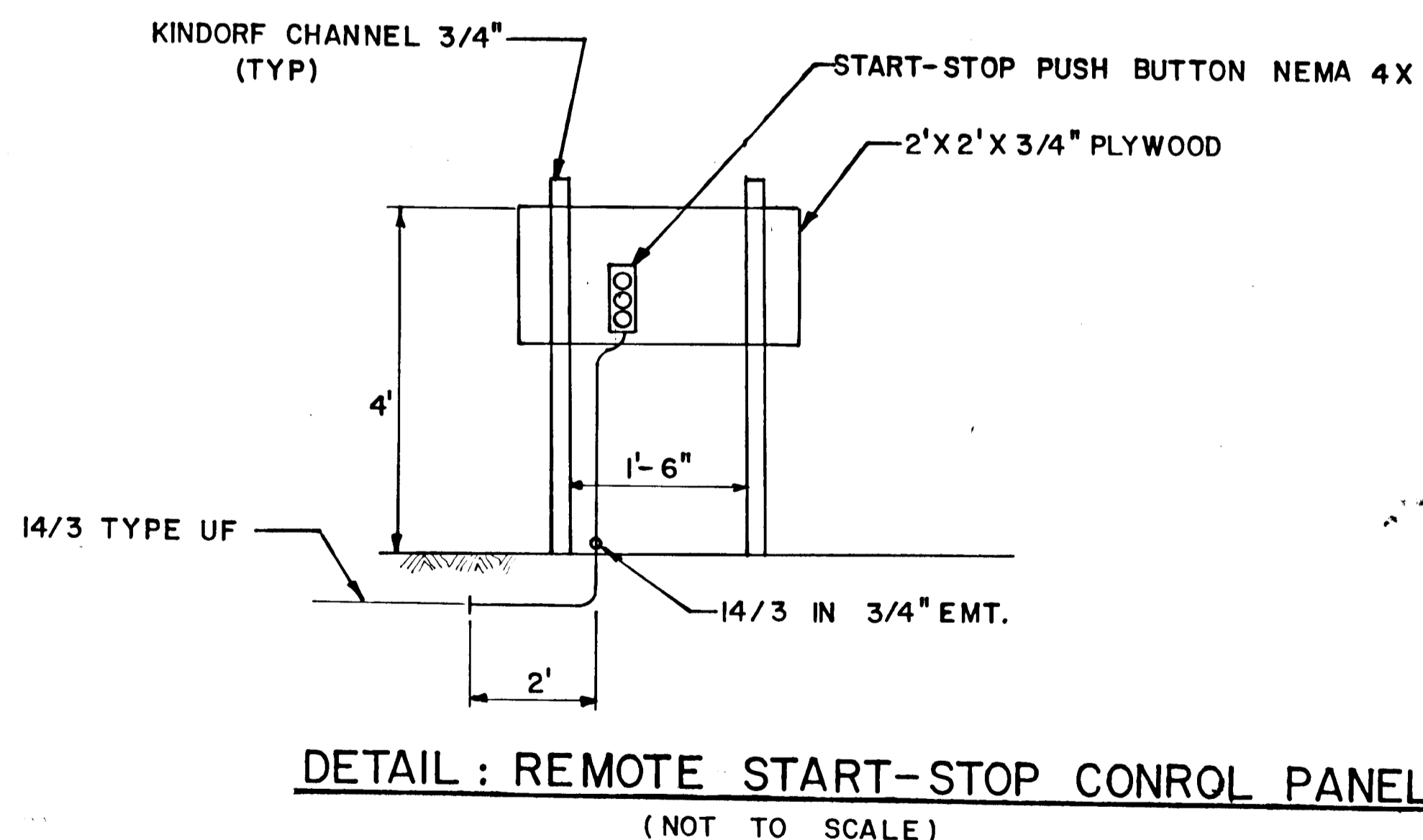
DESIGN: EOL & GOMP
DRAWN: EOL & GOMP
CHECKED: P.A.P.
PROJECT ENGINEER: D.S.S.

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
BALTIMORE CHICAGO LINCOLN NEW YORK NEW JERSEY ATLANTA DALLAS LOS ANGELES SAN FRANCISCO

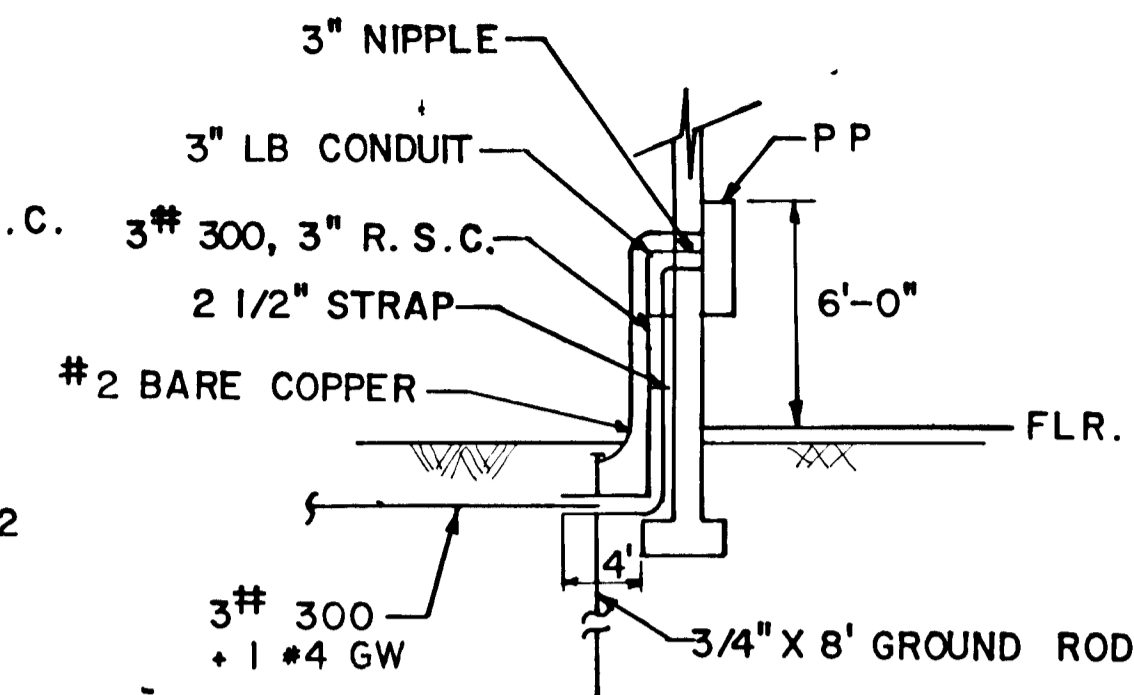
DATE: 10/92
SCALE: AS SHOWN
PROJECT NO.: 10293.01
SHEET NO.: 24A



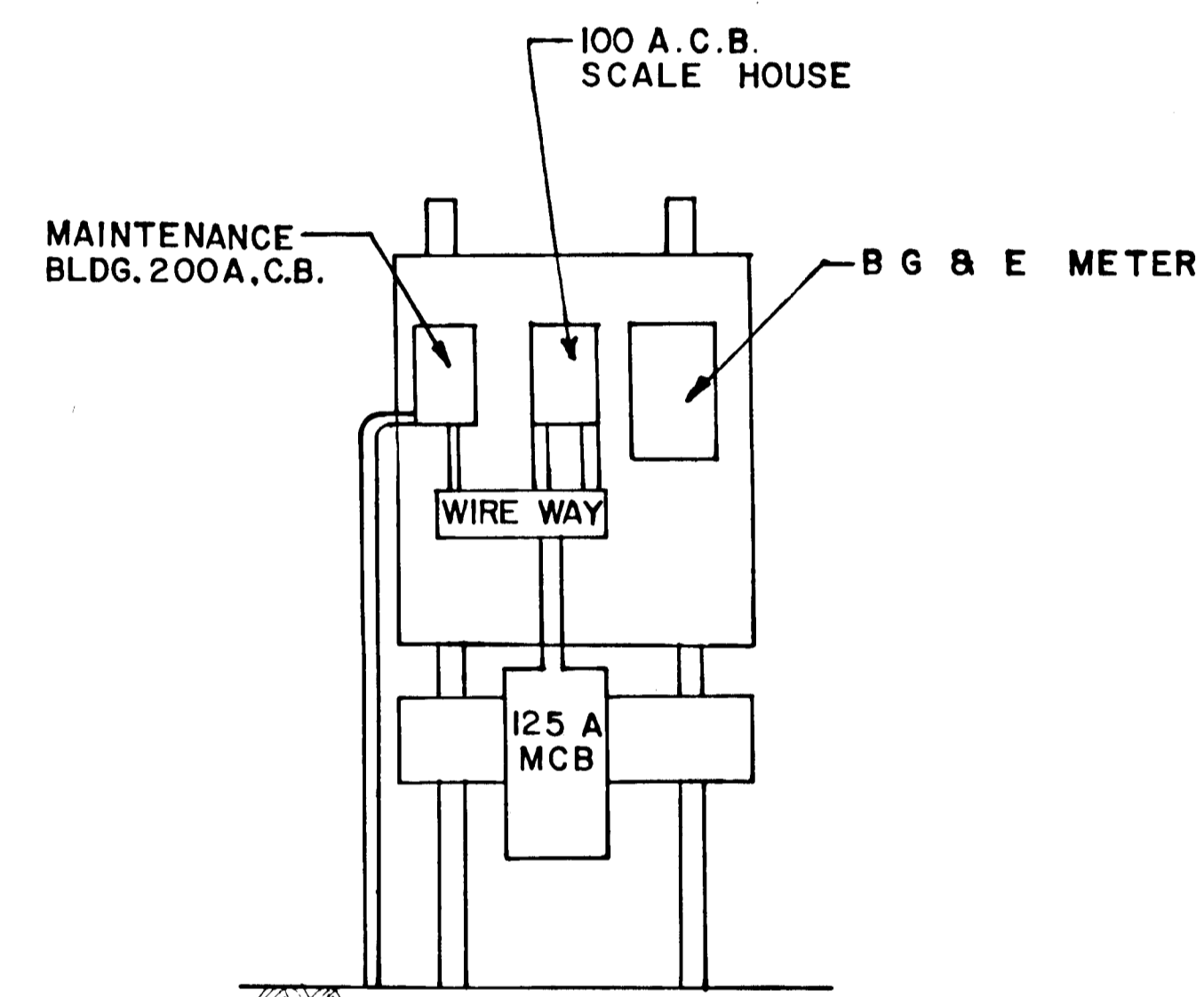
80KW EMERGENCY GENERATOR



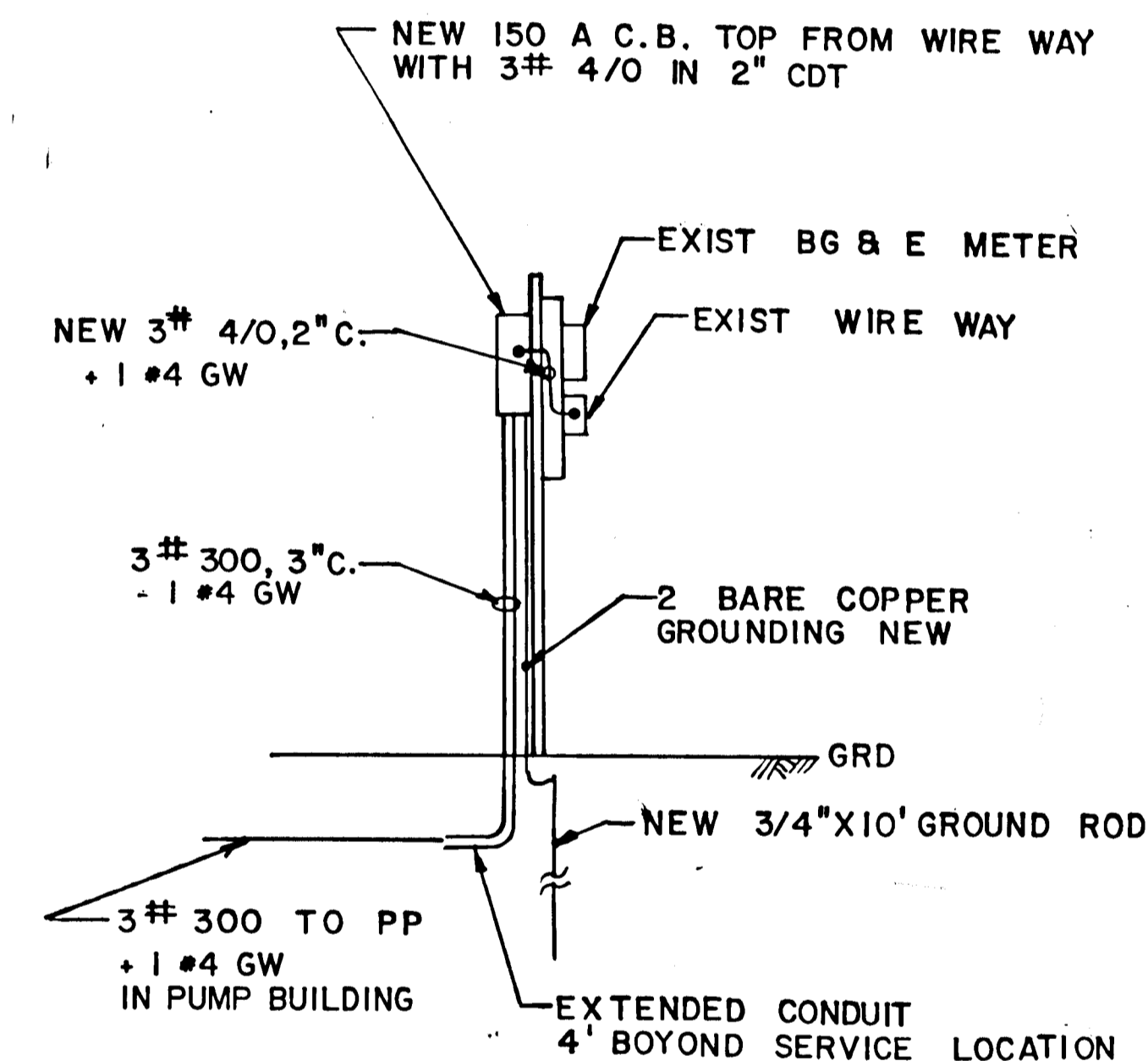
SECTION B
NOT TO SCALE



SECTION A
NOT TO SCALE



ELEVATION: EXIST. MAIN SERVICE
NOT TO SCALE



SIDE VIEW: MAIN SERVICE
NOT TO SCALE

NOTE: MOUNT NEW 150 A.C.B. ON OPPOSITE SIDE. SEE SIDEVIEW FOR NEW CIRCUIT BRKR.

MAIN SERVICE & SERVICE ENTRANCE DETAILS

RECORD DRAWING
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
AUGUST 1992

PORTIONS OF THIS DRAWING SUPERSEDED.
SEE SHEETS 24A & 25A

880

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA/LOT/PARCEL 84-263-220.11	
Block 10-27-002	Zone R	Tax/Zone Map 10 & 18	Elec. Dist 3
WATER CODE Private, Existing		SEWER CODE Private, Existing	
OWNER/DEVELOPER Howard County Government			
ADDRESS 3430 Court House Drive, Ellicott City, MD 21043			

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT	
<i>Joyella Boyer</i> COUNTY HEALTH OFFICER	8-23-90 DATE
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	
<i>Joseph R. Korte</i> DIRECTOR	8/28/90 DATE
APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS. HOWARD COUNTY DEPT. OF PUBLIC WORKS	
<i>Thomas J. Ryan</i> DIRECTOR	8/23/90 DATE
<i>William J. Ryan</i> CHIEF, BUREAU OF ENGINEERING	8-23-90 DATE

REVISIONS			
NO.	DATE	BY	DESCRIPTION

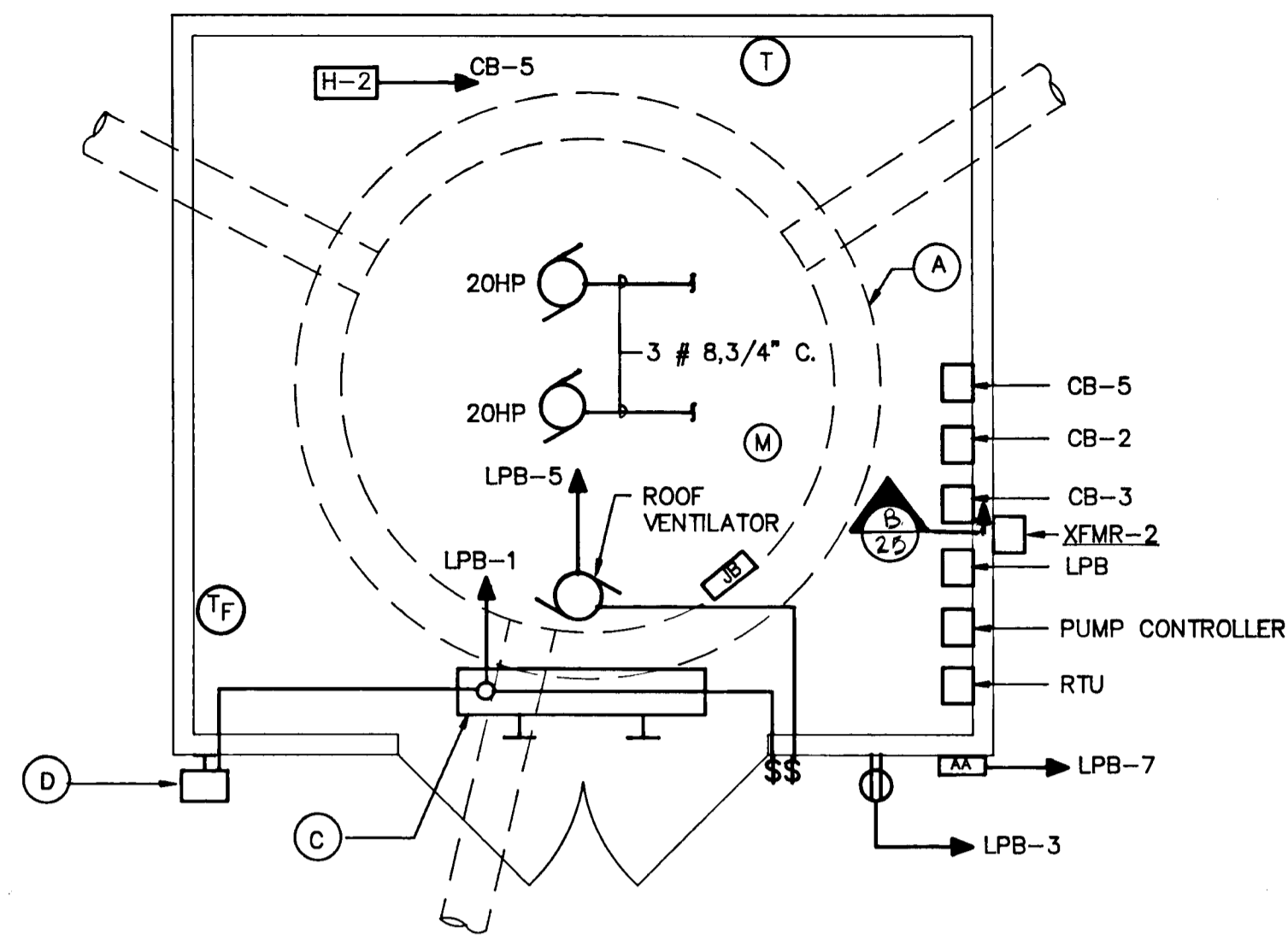
DESIGN
K. C.
DRAWN
A. Z.
CHECKED
D. E. K.
PROJECT ENGINEER
D. S. S.

**ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND**

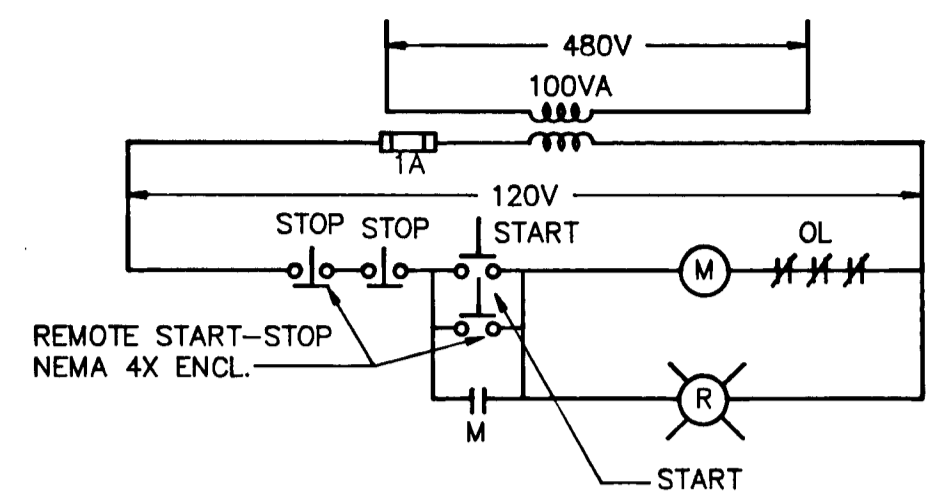
ELECTRICAL DETAILS

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
15 Loveton Circle
Sparks, Maryland 21152
(301) 771-4950

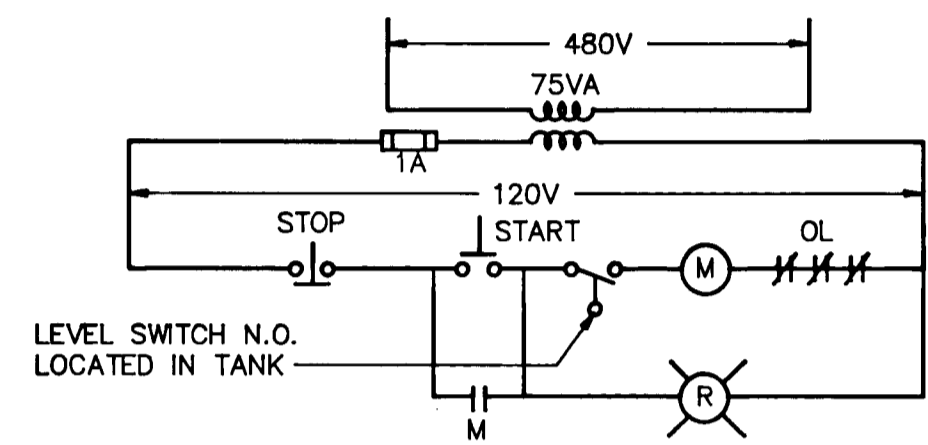
DATE
JUNE 1990
SCALE
NOT TO SCALE
PROJECT NO.
10293.01
SHEET NO.
25 OF 25



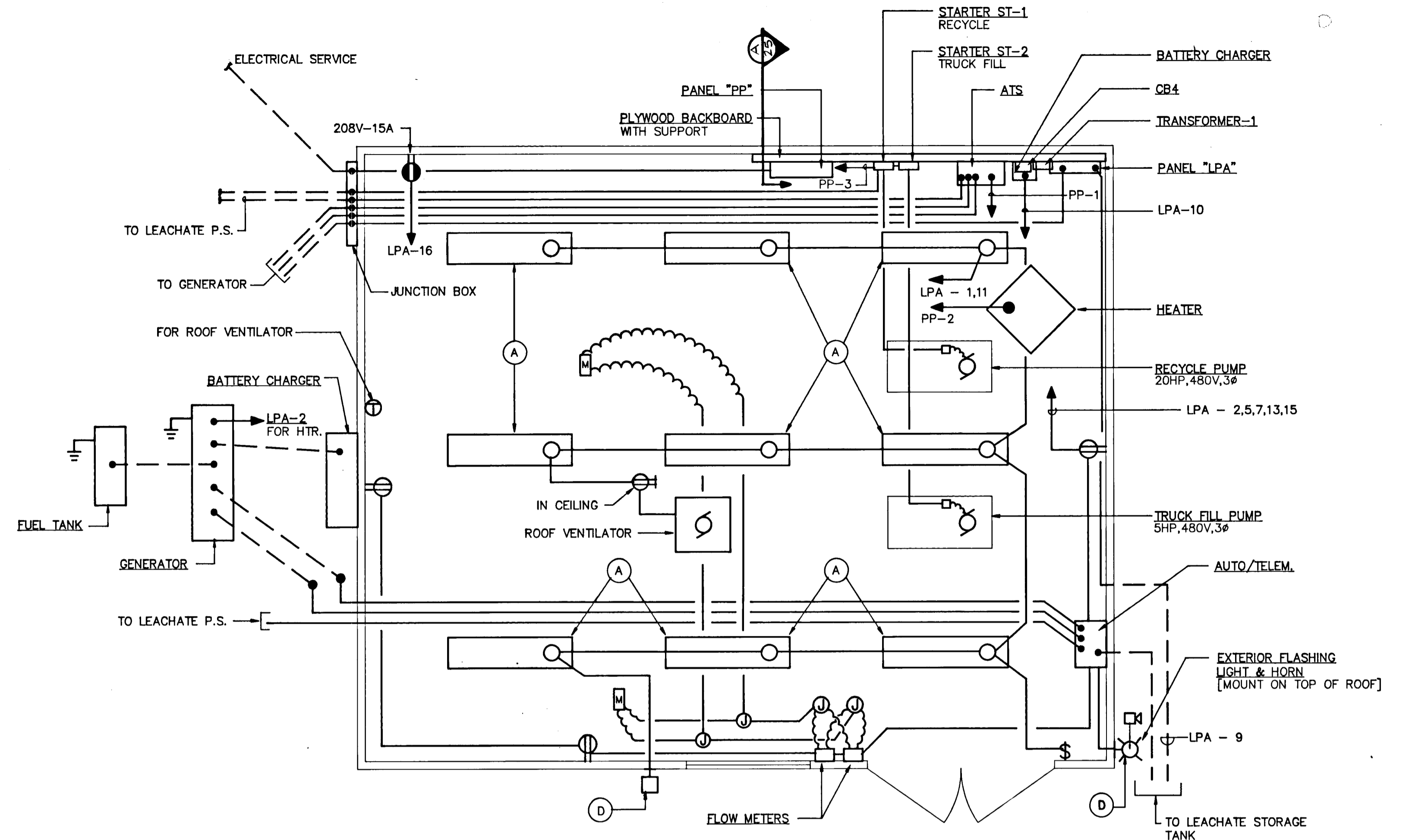
LEACHATE PUMP STATION
SCALE: 3/8" = 1' - 0"



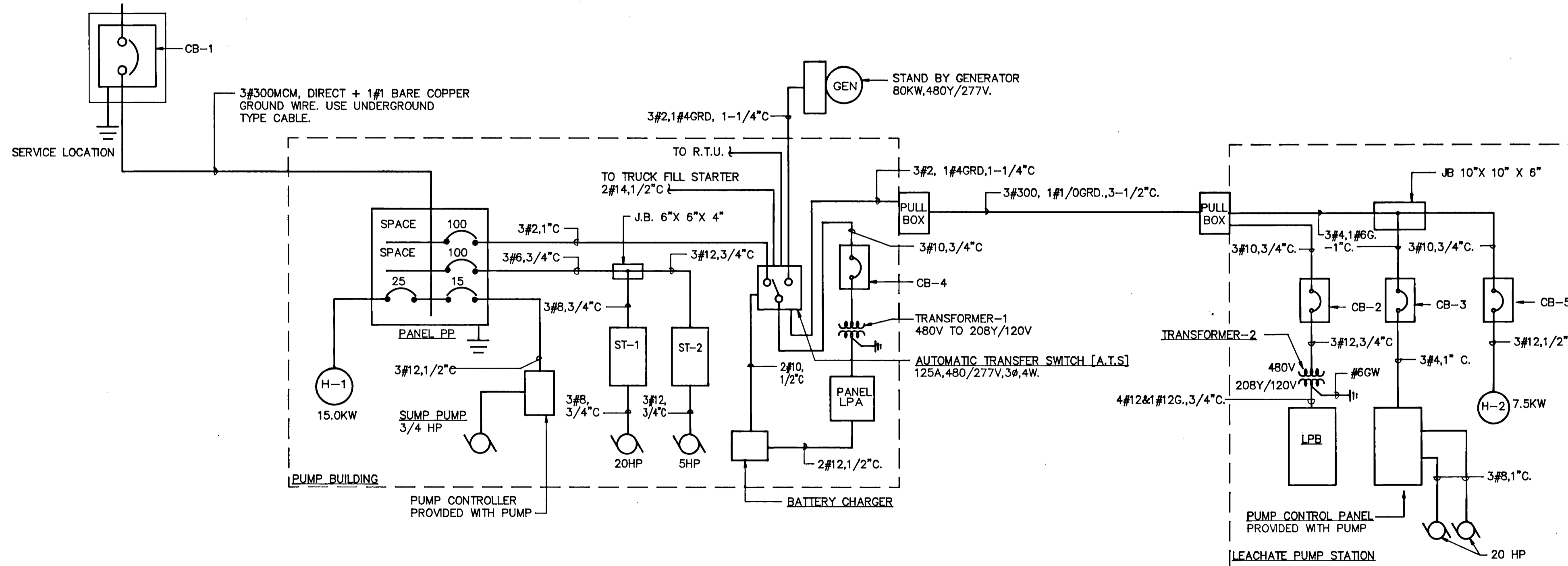
SCHEMATIC DIAGRAM FOR ST-1
NOT TO SCALE



SCHEMATIC DIAGRAM FOR ST-2
NOT TO SCALE
NOTE: ST-1 (RECYCLE PUMP)
ST-2 (TRUCK FILL PUMP)



PUMP BUILDING
ELECTRICAL PLAN POWER & LIGHTING
SCALE: 3/8" = 1' - 0"



SINGLE LINE DIAGRAM
NOT TO SCALE

THIS DRAWING REFLECTS RECORD CONDITIONS AND SUPERSEDES PORTIONS OF SHEETS 24 AND 25 OF THE CONTRACT DRAWINGS.



REVISIONS			
NO.	DATE	BY	DESCRIPTION

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC. 15 Loveton Circle Sparks, Maryland 21152 (301) 771-4950		DATE	10/92
		SCALE	AS SHOWN
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC. BALTIMORE CHICAGO NEW YORK NEW JERSEY ATLANTA DALLAS LOS ANGELES SAN FRANCISCO		PROJECT NO.	10293.01
PROJECT ENGINEER D. S. S.		SHEET NO.	25A

RECORD DRAWING
AUGUST 1992

ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND

ELECTRICAL

10293.01-025A
XXAL-90-025A
SDP 90-90