

ALPHA RIDGE LANDFILL PANELS  
COORDINATES IN NAD'83 FEET  
ELEVATIONS IN FEET

PANEL NUMBER	NORTH	EAST	ELEVATION
HV00	596654.78	1336886.02	526.35
PC01	595733.66	1337856.74	510.81
PC04	597298.09	1338453.33	495.55
PC05	598870.35	1339271.78	548.00
PC06	600370.18	1339244.20	513.06
PC07	598191.26	1336887.65	566.36
PC08	599855.00	1336882.66	561.11
PC09	602346.70	1336578.63	526.17
PC10	597186.12	1334540.67	574.07
PC11	598429.53	1334744.49	576.44
PC12	599799.43	1334659.45	585.44
PC13	601881.34	1335027.83	552.64

# HOWARD COUNTY

## Department of Public Works

6751 Gateway Drive, Suite 514  
Columbia, Maryland 21046

# ALPHA RIDGE LANDFILL UNLINED CELL CLOSURE

## CAPITAL PROJECT NO. C-0190-N SITE DEVELOPMENT PLAN

### DRAWING INDEX

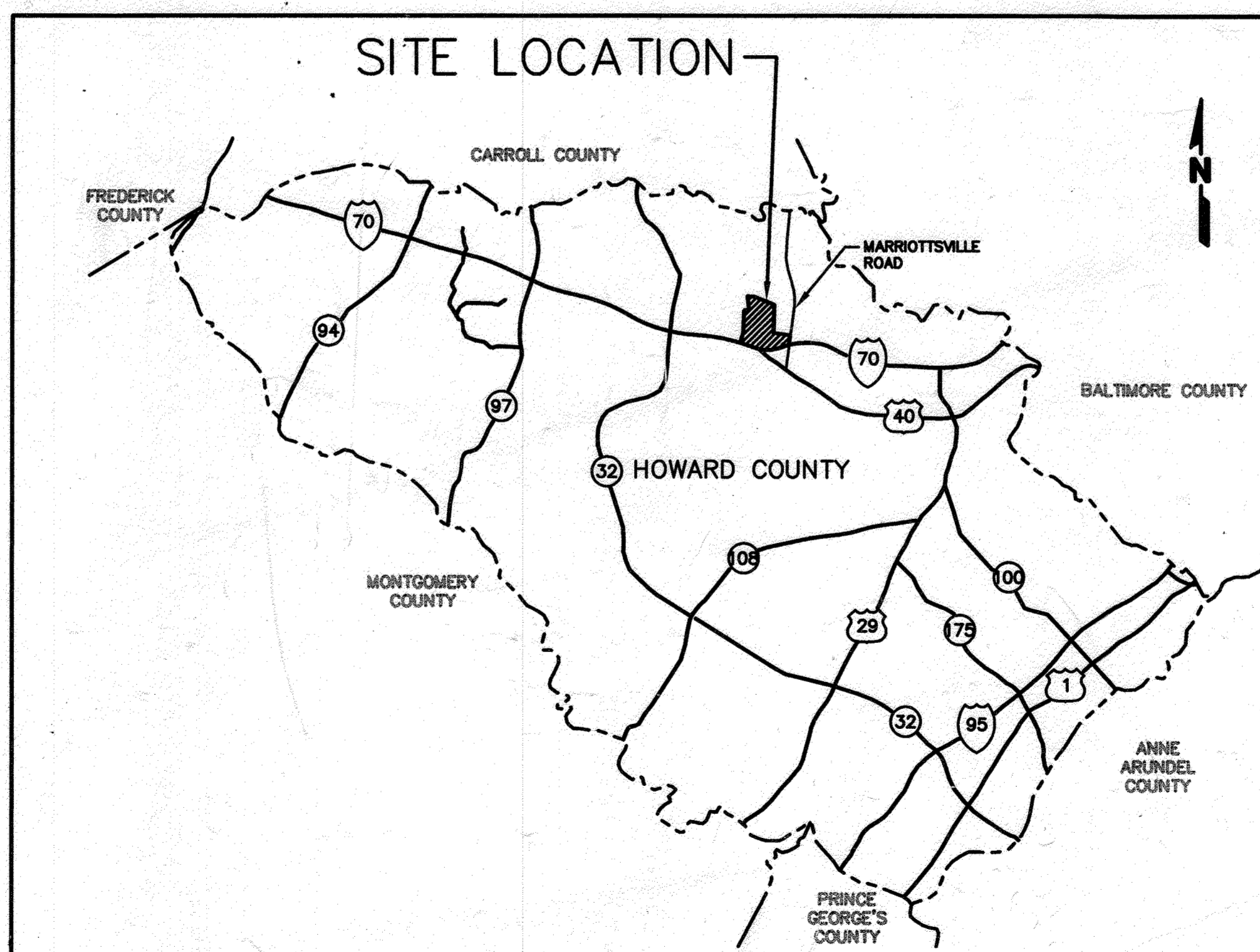
- COVER SHEET
- GENERAL NOTES
- OVERALL SITE PLAN
- EXISTING CONDITIONS PLAN
- BASE GRADING PLAN
- BASE GRADING PLAN - SE QUADRANT
- BASE GRADING PLAN - SW QUADRANT
- BASE GRADING PLAN - NW QUADRANT
- BASE GRADING PLAN - NE QUADRANT
- FINAL SURFACE GRADING PLAN
- LANDFILL CROSS-SECTIONS
- LANDFILL CROSS-SECTIONS
- EAST LEACHATE COLLECTION TRENCH PROFILE
- EAST LEACHATE COLLECTION TRENCH CROSS-SECTIONS
- EAST LEACHATE COLLECTION TRENCH CROSS-SECTIONS
- WEST LEACHATE COLLECTION TRENCH PROFILE
- WEST LEACHATE COLLECTION TRENCH CROSS-SECTIONS
- LEACHATE FACILITY LAYOUT AND DETAILS
- LEACHATE PUMP STATION DETAILS
- LEACHATE FORCE MAIN PLAN & PROFILE
- LEACHATE PUMP STATION - ELECTRICAL SITE PLAN
- LEACHATE PUMP STATION ELECTRICAL DETAILS
- POND CONSTRUCTION SPECIFICATIONS AND CERTIFICATIONS
- EAST SEDIMENT BASIN ENLARGED PLAN AND PROFILES
- EAST SEDIMENT BASIN DETAILS
- NORTH BASIN ENLARGED PLAN AND PROFILES
- NORTH BASIN DETAILS
- WEST DETENTION BASIN ENLARGED PLAN AND PROFILES
- WEST DETENTION BASIN DETAILS
- SOUTH SEDIMENT BASIN ENLARGED PLAN AND PROFILES
- SOUTH SEDIMENT BASIN DETAILS
- NORTH PERIMETER ACCESS ROAD PLAN & PROFILE
- NORTH BASIN ACCESS ROAD PROFILE
- NORTHEAST LANDFILL ACCESS ROAD PLAN & PROFILE
- CENTRAL ACCESS ROAD & EAST SIDE CHANNEL PLAN & PROFILE
- WEST SIDE CHANNEL PLAN AND PROFILE
- DOWNCHUTES & SWALE PROFILES
- DOWNCHUTES & SWALE PROFILES
- DOWNCHUTES & SWALE PROFILES
- SWALE CROSS-SECTIONS
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- VEGETATIVE COVER PLAN
- VEGETATIVE COVER DETAILS
- LANDFILL MAINTENANCE ACCESS ROAD PLAN
- MISCELLANEOUS DETAILS
- MISCELLANEOUS DETAILS
- MISCELLANEOUS DETAILS
- UNLINED CELL DRAINAGE DIVIDES
- UNLINED CELL EROSION & SEDIMENT CONTROL PLAN
- EROSION & SEDIMENT CONTROL NOTES-CONSTRUCTION SEQUENCE
- EROSION & SEDIMENT CONTROL DETAILS
- EROSION & SEDIMENT CONTROL AND MISCELLANEOUS DETAILS
- LEACHATE FACILITY LAYOUT AND DETAILS
- BORROW AREA EXISTING CONDITIONS PLAN
- BORROW AREA TEST PIT LOGS
- BORROW AREA TEST PIT LOGS
- BORROW AREA BORING LOGS
- BORROW AREA BORING LOGS
- SOIL BARRIER LAYER BORROW AREAS A1, A2, & A3
- SOIL BARRIER BORROW AREA CROSS-SECTIONS AND DETAILS
- BASE GRADING SOIL BORROW AREA B AND CROSS-SECTIONS
- VEGETATIVE COVER SOIL BORROW AREA C AND CROSS SECTIONS
- RECREATIONAL PLAN
- PROFILES AND CROSS SECTIONS
- RECREATIONAL PLAN DETAILS
- RECREATIONAL PLAN-DRAINAGE DIVIDES AND EROSION & SEDIMENT CONTROLS
- LANDFILL CONSTRUCTION SEQUENCE PLAN
- BORROW AREA SEQUENCE PLAN
- MISCELLANEOUS E&S DETAILS
- CLEARWATER 1 BASIN ENLARGED PLAN AND PROFILES
- CLEARWATER 1 BASIN DETAILS
- CLEARWATER 2 BASIN ENLARGED PLAN AND PROFILES
- CLEARWATER 2 BASIN DETAILS
- BORROW AREA DRAINAGE DIVIDES / EROSION & SEDIMENT CONTROL
- RISER MODIFICATIONS DURING CONSTRUCTION ACTIVITIES
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- LFG HEADER PROFILE
- BLOWER/FLARE STATION DETAILS
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- BLOWER STATION SHELTER DETAILS
- ELECTRICAL DETAILS
- ELECTRICAL DETAILS

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PREVIOUS SITE DEVELOPMENT PLAN NUMBER  
CAPITAL PROJECT C-4-0108  
CAPITAL PROJECT C-4-0109  
CAPITAL PROJECT C-0190-B OR SDP-90-90

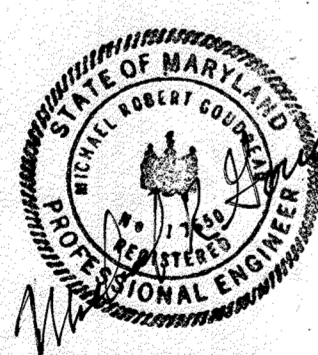
WETLANDS PERMIT TRACKING NO.: 1997-63409



- L-1 LINER AS-BUILT
- L-2 TRENCH LINER AS-BUILT NORTH
- L-3 TRENCH LINER AS-BUILT SOUTH
- U-1 ALARM SYSTEMS AND UTILITY AS-BUILT
- U-2 LEACHATE UST ELECTRICAL

- 5-AB BASE GRADING AS-BUILT AND VOLUME
- 10-AB FINAL SURFACE AS-BUILT
- 24-AB EAST BASIN AS-BUILT
- 26-AB AS-BUILT NORTH AND WEST BASINS
- 28-AB AS-BUILT PROFILES NORTH AND WEST BASINS
- 30-AB SOUTH BASIN AS-BUILT
- 34-AB NORTHEAST ACCESS ROAD AS-BUILT
- 70-AB CLEARWATER 1 BASIN-ENLARGED PLAN AS-BUILT
- 72-AB CLEARWATER 2 BASIN-ENLARGED PLAN AS-BUILT
- 61B-AB LINED CELL LANDFILL GAS AS-BUILT
- 61C-AB LINED CELL/LFG AS-BUILT PROFILES
- 61D-AB LINED CELL/LFG AS-BUILT PROFILES
- 62-AB AS-BUILT LANDFILL GAS
- 62A-AB AS-BUILT OF GAS LATERALS
- 68-AB FLARE STATION AS-BUILT

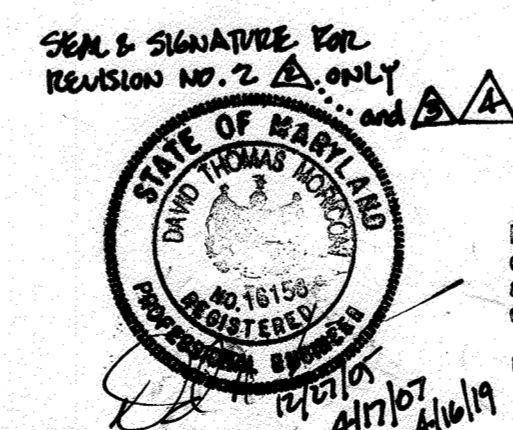
SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/606 16-878/215 10-891/214	ZONE PEC	TAX/ZONE MAP 10 & 16	
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30	



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 17650  
EXPIRATION DATE: 7-6-2024  
FOR REVISION NO. 5 ONLY

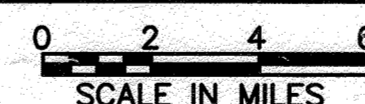
REFER TO SHEET 1 OF 140 FOR COMPLETE DRAWING INDEX AND AS CONTINUED HEREIN.



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

LICENSE NO. 16156, EXPIRATION DATE: 8-28-20

### LOCATION MAP



NOTE: This Site Development Plan is comprised of Plan Sheets 1-78 (excepting sheets 57 and 58 (Borrow Area Boring Logs)). Sheets 79-89 are architectural detail sheets not part of the SDP.

### DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

*[Signature]* 11/3/97  
DIRECTOR DATE

*[Signature]* 10/13/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

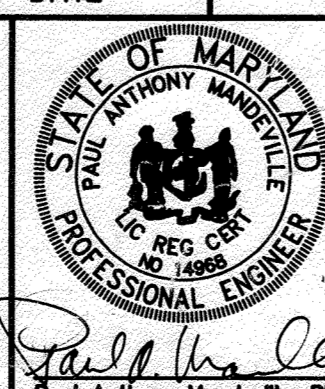
### DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

*[Signature]* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

*[Signature]* 10/30/97  
HOWARD COUNTY/ MARYLAND HEALTH OFFICER DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES. RTT, AST	BY	NO.	REVISION	DATE
MAG	▲		Wood Waste Area Eqs Control	3/6/23
DTM	▲		UPDATED DRAWING INDEX	4/16/19
DTM	▲		ADDED FOREST CONSERVATION PLANS	4/17/07
DTM	▲		ADDED SALT BARNS, REVISED SDP	10/27/05
MARG	▲		DELETED REC. AREA SHEETS 63-66	11/9/99

COVER SHEET

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

SCALE:  
AS NOTED  
SHEET 18 OF 140

3rd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SDP 97.128

GENERAL NOTES  
NON-RESIDENTIAL  
SITE DEVELOPMENT PLAN

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY AND THE MARYLAND STATE HIGHWAY ADMINISTRATION IF APPLICABLE.
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF WASTE MANAGEMENT AT (410) 313-6444 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
4. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
5. THE EXISTING TOPOGRAPHY IS TAKEN FROM AIR PHOTOGRAPHY WITH (MAXIMUM TWO FOOT) CONTOUR INTERVALS PREPARED BY AIR SURVEY CORPORATION, INC. JANUARY, 1997.
6. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM NAD, 1983(HORIZ.) & NAVD, 1988(VERT.) HOWARD COUNTY MONUMENT NOS. PC-06 AND PC-09 WERE USED FOR THIS PROJECT.
7. WATER IS PRIVATE.
8. SEWER IS PRIVATE.
9. STORMWATER MANAGEMENT CONTROL IS PRIVATE AND IS OWNED AND MAINTAINED BY HOWARD COUNTY.
10. EXISTING UTILITIES ARE BASED ON HOWARD COUNTY RECORDS.
11. THE FLOODPLAIN DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY CENTURY ENGINEERING, DATED 1978, UPDATED IN 1986 BY BERNARD JOHNSON, INC.
12. THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY HOWARD SOIL CONSERVATION SERVICE, DATED JANUARY 17, 1997, AND WAS APPROVED (PENDING) AS OF SEPTEMBER, 1997.
13. NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT.
14. SUBDIVISION NAME HOWARD COUNTY ALPHA RIDGE LANDFILL, TAX MAP 10 & 16.
15. CONTRACTOR SHALL PROTECT ALL EXISTING GROUNDWATER AND LANDFILL GAS WELLS BY MEANS OF BARRICADES AND OR CONCRETE JERSEY BARRIERS AS NECESSARY TO PREVENT DAMAGE FROM CONSTRUCTION VEHICLES. WELLS DAMAGED AS A RESULT OF CONTRACTOR'S OPERATION SHALL BE REPAIRED/REPLACED BY HOWARD COUNTY AT THE CONTRACTORS EXPENSE.
16. MAGNETIC LOCATION TAPE IS TO BE PLACED ABOVE ON ALL BURIED PLASTIC PIPELINE UTILITIES DURING CONSTRUCTION.

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11
LIBER/FOLIO 10-847/606 16-876/215 10-691/314	ZONE PEC	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

<i>James M. Beatty</i> DIRECTOR	11/3/97 DATE
<i>James M. Beatty</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	10/30/97 DATE
<i>James M. Beatty</i> CHIEF, DIVISION OF LAND DEVELOPMENT	11/3/97 DATE

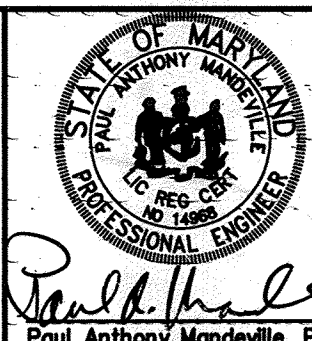
*James M. Beatty*  
HOWARD COUNTY, MARYLAND  
HEALTH OFFICER

10/30/97  
DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

<i>James M. Beatty</i> DIRECTOR OF PUBLIC WORKS	10/30/97 DATE	<i>John J. O'Hara</i> CHIEF BUREAU OF WASTE MANAGEMENT	10/30/97 DATE
--	------------------	---	------------------

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES. RTT, AST			
DRN. SPC			
CHK. PAM			
DATE: 10-30-97	DTM BY NG	UPDATED SHEET TOTAL	4/2019
		REVISION	DATE

GENERAL NOTES

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

SCALE:  
NO SCALE

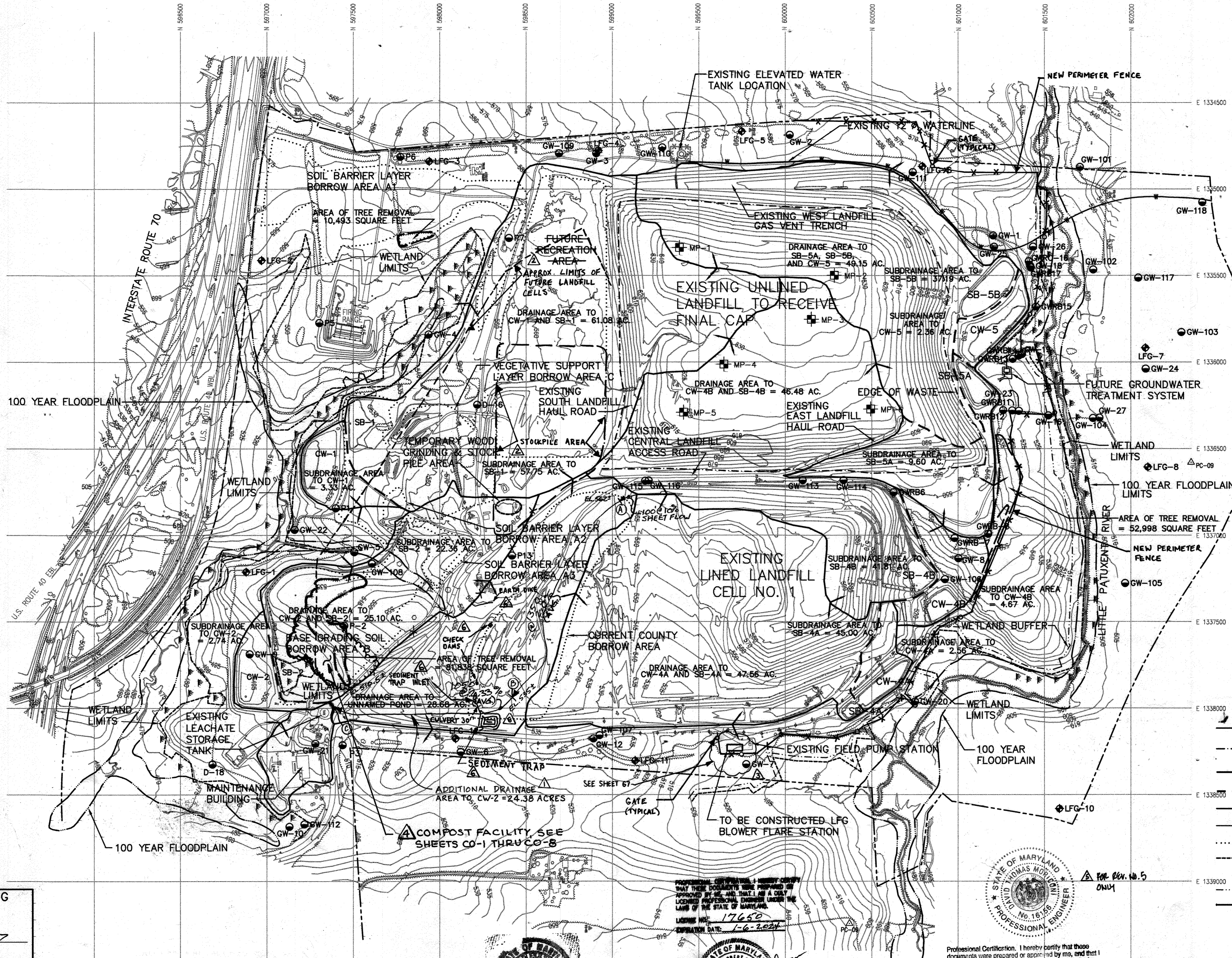
SHEET  
2 OF 140

3rd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SDP 97-128

GENNOTES-B  
M:\295077.01\FINAL



- NOTES:
1. TOPOGRAPHIC INFORMATION SHOWN ON THIS SHEET WAS COMPILED BY AIR SURVEY CORPORATION, INC. FROM AIR PHOTOGRAPHY DATED JANUARY, 1997.
  2. LFG PROBES INSTALLED IN APRIL, 1996.
  3. LFG MONITORING WELLS INSTALLED IN MAY, 1996.
  4. 100 YEAR FLOODPLAIN INFORMATION PROVIDED BY HOWARD CO. INFORMATION IS BASED ON THE 1978 FLOOD PLAIN DELINEATION BY CENTURY ENGINEERING AND THE 1986 UPDATE BY BERNARD JOHNSON, INC. HOWARD CO. MAPS: GC-0119-T-36-38, GC-0119-T-35-38, GC-0119-T-234-38, GC-0119-T-35-39.

- LEGEND
- SURVEY CONTROL MONUMENT
  - GROUNDWATER WELLS(EXISTING)
  - LFG PROBES(EXISTING)
  - LFG MONITORING WELLS(EXISTING)
  - PROPERTY LINE
  - EDGE OF WASTE
  - DRAINAGE DIVIDES
  - SUBDRAINAGE DIVIDES
  - 100 YEAR FLOODPLAIN
  - EXISTING WATER LINE
  - BORROW AREA LIMITS
  - WETLAND LIMITS
  - WETLANDS
  - WETLAND BUFFER
  - TREE REMOVE AREA

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT/PARCEL 54,253,220,11,302	
LIBER/FOLIO 10-847/808 16-878/215 10-891/314	ZONE RC-D60	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 1030-C9

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*[Signature]* 11/3/97  
DIRECTOR DATE

*[Signature]* 12/30/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 10/30/97  
HOWARD COUNTY MARYLAND HEALTH OFFICER DATE

PROFESSIONAL CERTIFICATION  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A TRULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 15452 EXPIRATION DATE: 7 JULY 2013. THIS SEAL APPLIES ONLY TO THIS DESIGN ON THIS SHEET.

*[Signature]* 10/30/97  
PAUL ANTHONY MANDELVILLE, PE DATE

SEAL & SIGNATURE FOR REV. ONLY

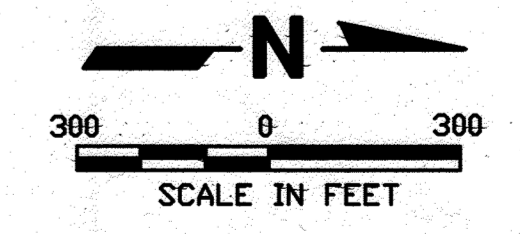
*[Signature]* 10/30/97  
PAUL ANTHONY MANDELVILLE, PE DATE

PROFESSIONAL ENGINEER  
STATE OF MARYLAND  
LICENSE NO. 17650  
EXPIRATION DATE: 1-6-2021

*[Signature]* 10/30/97  
FOR REVISION NO. 6 ONLY

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE NO. 16156, EXPIRATION DATE: 8-28-10

*[Signature]* 10/30/97  
FOR REVISION NO. 5 ONLY



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 10/30/97  
CHIEF BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676

PROFESSIONAL ENGINEER  
STATE OF MARYLAND  
LICENSE NO. 15452  
EXPIRATION DATE: 7 JULY 2013.

*[Signature]* 10/30/97  
PAUL ANTHONY MANDELVILLE, PE DATE

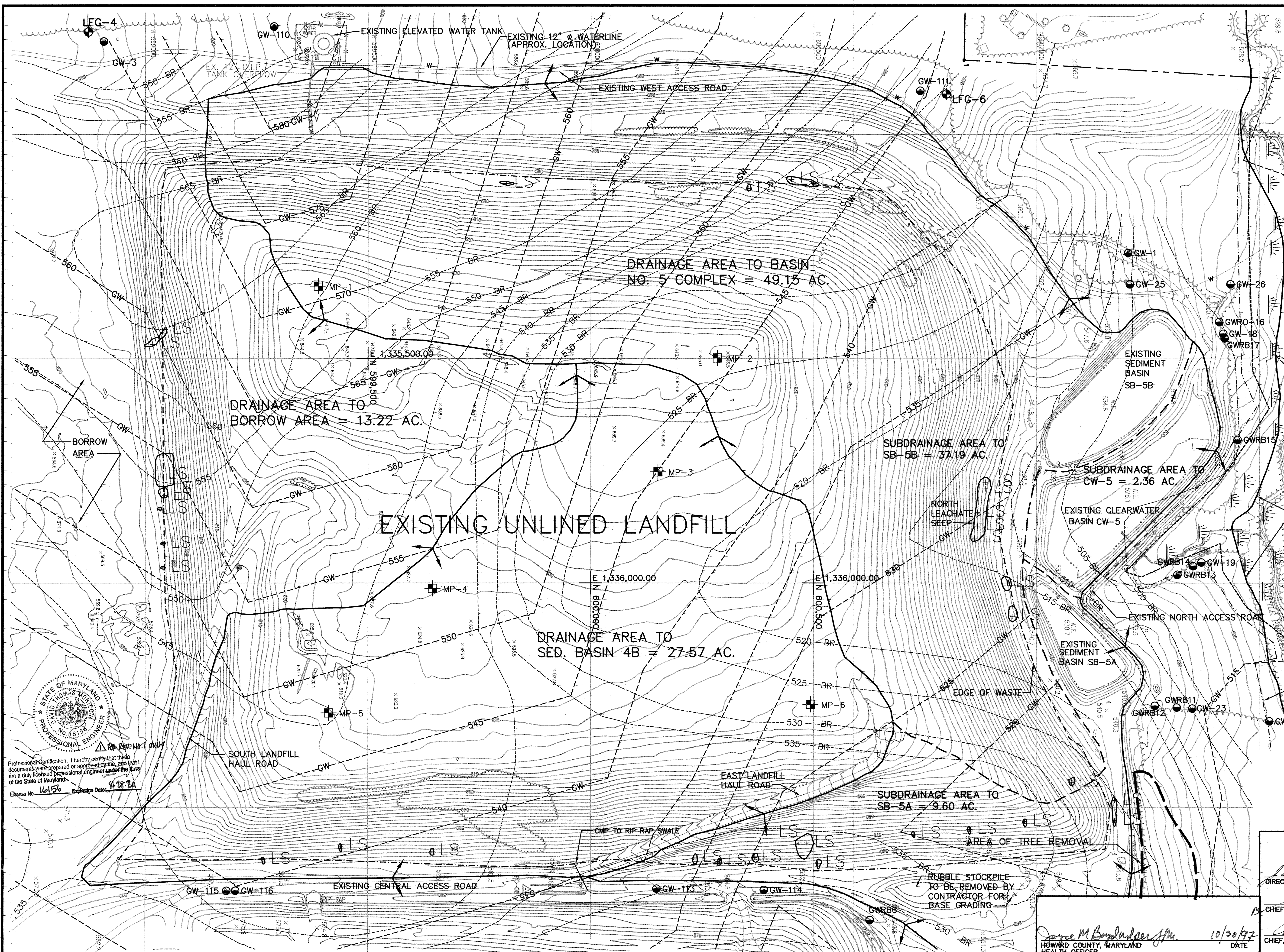
DES. RTT, AST	MRG	WOOD WASTE AREA E&S CONTROL	3/2/23
	DTM	UPDATED SHEET TOTAL	4-10-19
	CSN	ALPHA RIDGE LANDFILL COMPOST FACILITY	3/19/12
	CJS	ALPHA RIDGE LANDFILL GAS TO ENERGY PROJECT	10/4/11
	MRG	DELETED REC. AREA; ADDED STOCKPILE AREA, ETC.	11-9-11
		DRAINAGE AREA TO BASIN CW-2	4-28-99
DATE: 10-30-97	BY NO.	REVISION	DATE

OVERALL SITE PLAN

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

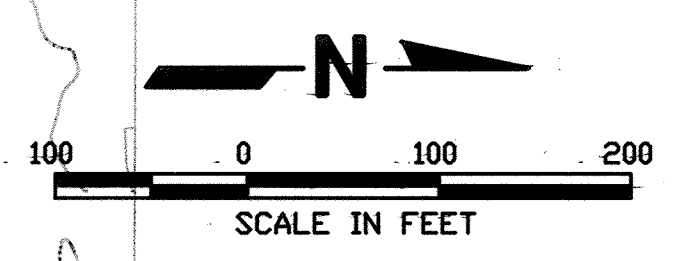
3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: 1"=300'  
SHEET 3 OF 140



- NOTES:
1. TOPOGRAPHIC INFORMATION SHOWN ON THIS SHEET WAS COMPILED BY AIR SURVEY CORPORATION, INC. FROM AIR PHOTOGRAPHY DATED JANUARY, 1997.
  2. LFG PROBES INSTALLED IN APRIL, 1996.
  3. LFG MONITORING WELLS INSTALLED IN MAY, 1996.
  4. GROUNDWATER CONTOUR ELEVATIONS BASED ON MAY 1994 MEASUREMENTS.
  5. 100 YEAR FLOODPLAIN INFORMATION PROVIDED BY HOWARD CO. INFORMATION IS BASED ON THE 1978 FLOOD PLAIN DELINEATION BY CENTURY ENGINEERING AND THE 1986 UPDATE BY BERNARD JOHNSON, INC. HOWARD CO. MAPS: GC-0119-T-36-38, GC-0119-T-35-38, GC-0119-T-234-38, GC-0119-T-35-39.

- LEGEND
- LS LEACHATE SEEP LOCATIONS
  - GW-102 GROUNDWATER WELLS(EXISTING)
  - MP-3 LFG PROBES(EXISTING)
  - LFG-6 LFG MONITORING WELLS(EXIST.)
  - PROPERTY LINE
  - - - - - CONFIRMED LIMITS OF WASTE
  - EXISTING DRAINAGE DIVIDE
  - - - - - DRAINAGE SUB-DIVIDES
  - GW- GROUNDWATER CONTOURS
  - BR- BEDROCK CONTOURS
  - EXISTING TREE LINE
  - EXISTING SCRUBS & WOODS VEGETATION
  - - - - - WETLAND LIMITS
  - WETLANDS
  - - - - - WETLAND BUFFER
  - - - - - EDGE OF WASTE
  - - - - - TREE REMOVE AREA



STATE OF MARYLAND  
 PROFESSIONAL ENGINEER  
 License No. 16156  
 Expiration Date: 8/28/14

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT/PARCEL 54,253,220,11
LIBER/FOLIO 10-847/806 16-878/215 10-591/314	ZONE PEC TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING CENSUS TR. 60-30

DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND

DIRECTOR: *[Signature]* DATE: 11/3/97

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 10/30/97

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 11/3/97

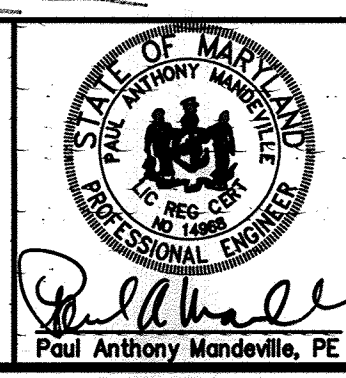
*[Signature]*  
 HOWARD COUNTY, MARYLAND  
 HEALTH OFFICER

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*[Signature]* DATE: 10/30/97  
 DIRECTOR OF PUBLIC WORKS

*[Signature]* DATE: 10/30/97  
 CHIEF, BUREAU OF WASTE MANAGEMENT

SCS ENGINEERS  
 CONSULTING ENGINEERS  
 11260 ROGER BACON DRIVE  
 SUITE 300  
 RESTON, VIRGINIA 22090  
 PH. (703) 471-6150  
 FAX. (703) 471-6676



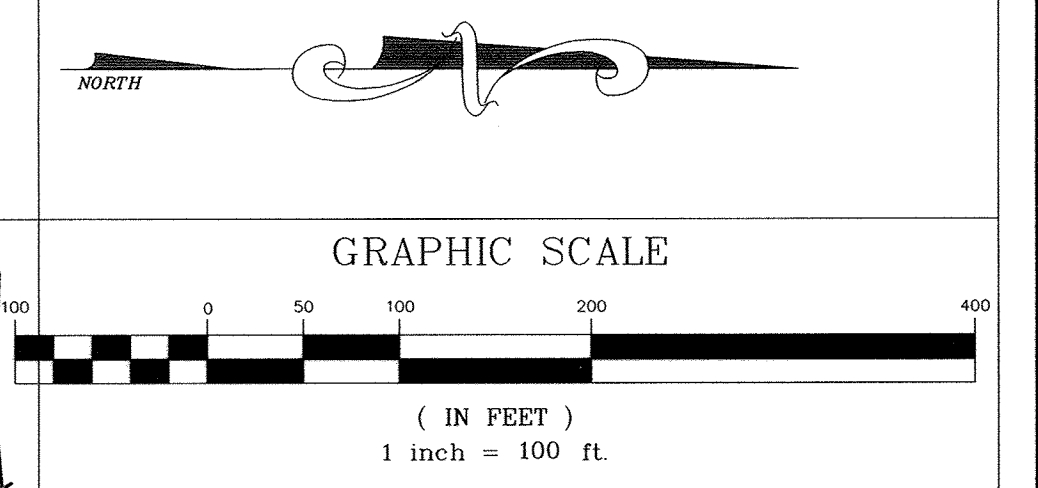
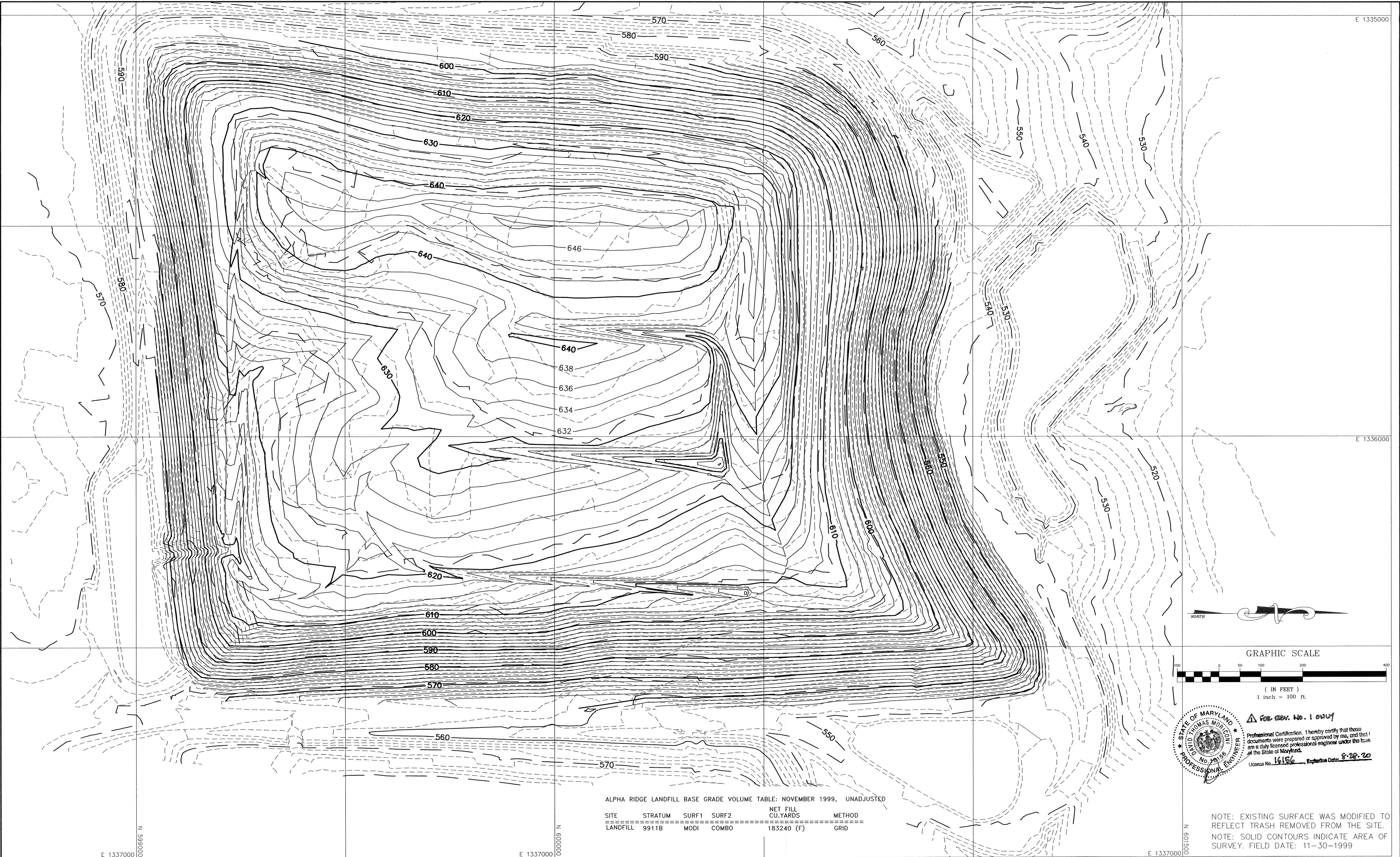
DES. RTT, EGC	△
DRN. EGC	△
CHK. PAM	△
DATE: 10-30-97	DTM
BY NO.	NO.
REVISION	REVISION
DATE: 4-2019	DATE

EXISTING CONDITIONS  
 PLAN

ALPHA RIDGE LANDFILL  
 UNLINED CELL CLOSURE  
 CAPITAL PROJECT NO. C-0190-N

3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE:  
 1"=100'  
 SHEET 4 OF 10



For Rev. No. 1 only  
 Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 16156, Expiration Date: 8-28-20

NOTE: EXISTING SURFACE WAS MODIFIED TO REFLECT TRASH REMOVED FROM THE SITE.  
 NOTE: SOLID CONTOURS INDICATE AREA OF SURVEY. FIELD DATE: 11-30-1999

ALPHA RIDGE LANDFILL BASE GRADE VOLUME TABLE: NOVEMBER 1999, UNADJUSTED

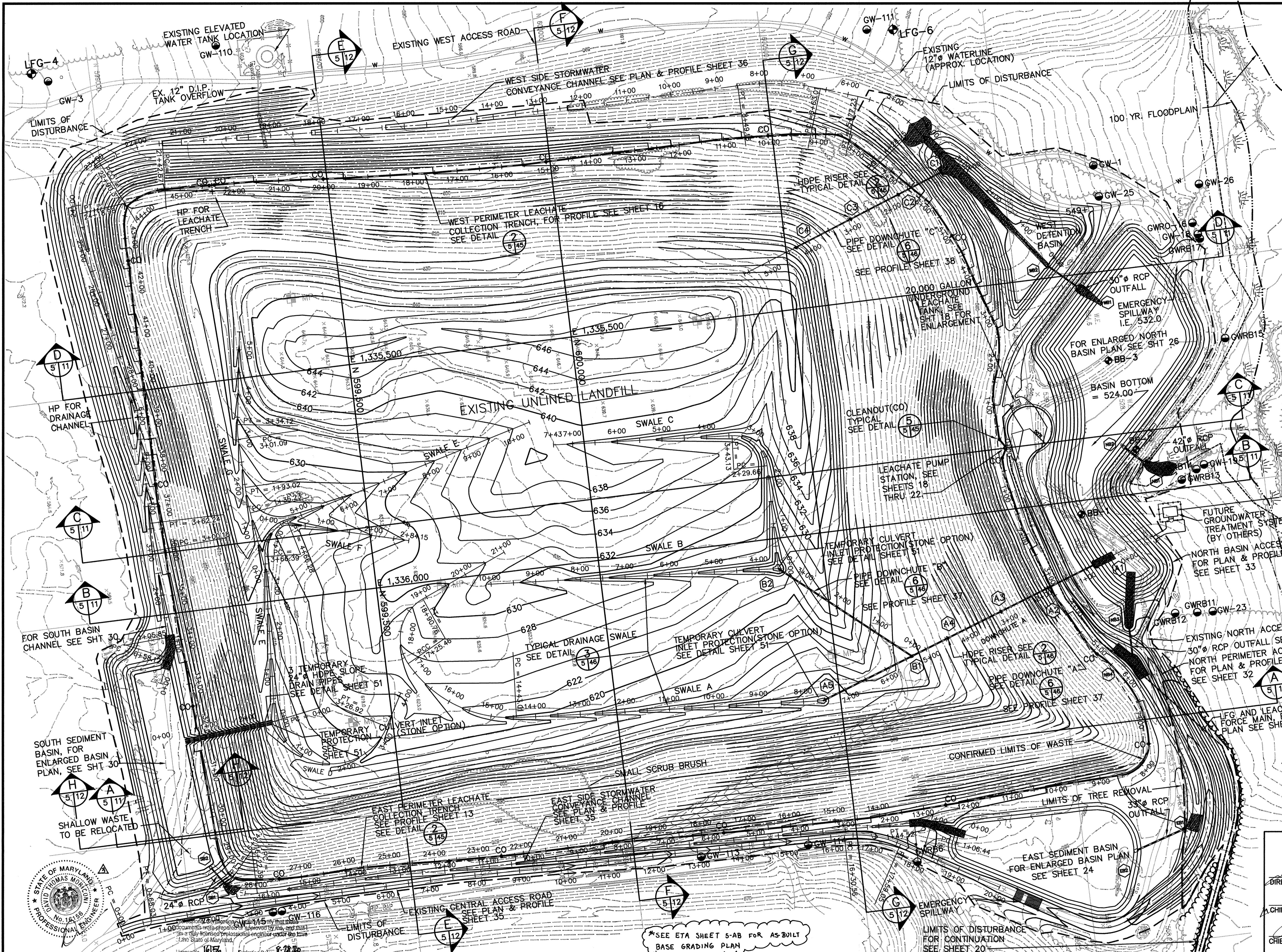
SITE	STRATUM	SURF1	SURF2	NET FILL CU.YARDS	METHOD
LANDFILL	9911B	MODI	COMBO	183240 (F)	GRID

DESIGNED BY:		DATE	REVISIONS	
DATE	BY	DESCRIPTION	DATE	BY
12-7	TWH	4-2019	SPM	UPDATED SHEET TOTAL
DATE				
DATE				

**ENGINEERING TECHNOLOGIES ASSOCIATES, INC.**  
 ENGINEERS \* PLANNERS \* SURVEYORS  
 3458 ELLICOTT CENTER DRIVE SUITE 101  
 ELLICOTT CITY, MARYLAND 21043  
 BALTO. (410)461-9920 FAX (410)750-8565



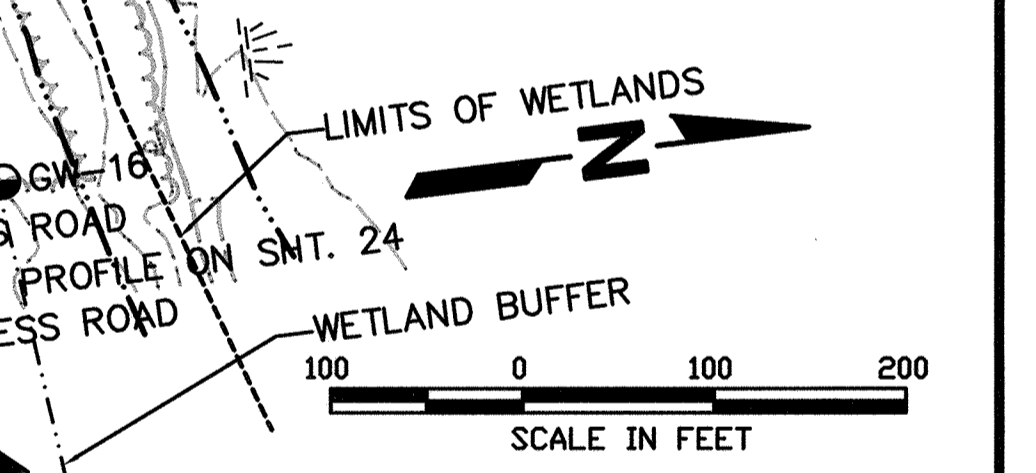
BASE GRADING AS-BUILT AND VOLUME  
**ALPHA RIDGE LANDFILL CELL CLOSURE**  
 HOWARD COUNTY MARYLAND  
 SCALE : 1"=100' CONTRACT NO.: 98301.10 DATE : 2-11-2000 SHEET : 5-AB



- NOTES:
- TOPOGRAPHIC INFORMATION SHOWN ON THIS SHEET WAS COMPILED BY AIR SURVEY CORPORATION, INC. FROM AIR PHOTOGRAPHY DATED JANUARY, 1997.
  - LFG PROBES INSTALLED APRIL, 1996.
  - LFG MONITORING WELLS INSTALLED IN MAY, 1996.
  - 100 YEAR FLOODPLAIN INFORMATION PROVIDED BY HOWARD CO. INFORMATION IS BASED ON THE 1978 FLOOD PLAIN DELINEATION BY CENTURY ENGINEERING AND THE 1986 UPDATE BY BERNARD JOHNSON, INC. HOWARD CO. MAPS: GC-0119-T-36-38, GC-0119-T-35-38, GC-0119-T-234-38, GC-0119-T-35-39.
  - LFG PROBES MP-1, MP-2, MP-4, MP-5, & AND MP-6 TO BE REMOVED BY CONTRACTOR (SEE SHEET G2).
  - HORIZONTAL AND VERTICAL SURVEY CONTROL WILL BE ESTABLISHED BY HOWARD COUNTY PRIOR TO CONSTRUCTION.

LEGEND

● GW-102	GROUNDWATER WELLS(EXISTING)
⊕ MP-3	LFG PROBES(TO BE REMOVED) SEE SHEET G2
⊕ LFG-6	LFG MONITORING WELLS(EXIST.)
---	PROPERTY LINE
---	CONFIRMED LIMITS OF WASTE
HP	HIGH POINT
ⓑ1	STRUCTURE DESIGNATION
---	NEW HDPE PIPE/DOWNCHUTES/ CONCRETE DRAINAGE PIPES
---	NEW LEACHATE COLLECTION TRENCH
---	NEW LEACHATE FORCEMAIN
---	EXISTING SCRUB BRUSH VEGETATION
---	PROPOSED TREE LINE
---	WETLAND LIMITS
---	WETLANDS
---	WETLAND BUFFER LIMITS (BY OTHERS)
---	LIMITS OF DISTURBANCE
---	TREE REMOVAL AREA
CO	CLEANOUT



SUBDIVISION NAME	ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT/PARCEL	54,253,220,11
LIBER/FOLIO	10-847/806 18-878/215 10-891/314	ZONE	PEC
TAX/ZONE MAP	10 & 16	WATER CODE	PRIVATE, EXISTING
SEWER CODE	PRIVATE, EXISTING	CENSUS TR.	80-30

*James M. Bond* 10/30/97  
 HOWARD COUNTY, MARYLAND HEALTH OFFICER

DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND

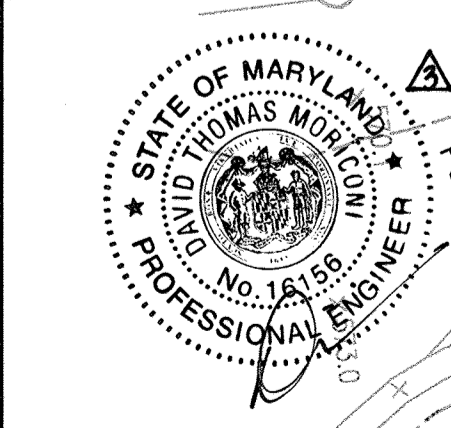
*James M. Bond* 11/5/97  
 DIRECTOR DATE

*James M. Bond* 11/5/97  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*James M. Bond* 11/5/97  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

\*SEE ETA SHEET 5-AB FOR AS-BUILT BASE GRADING PLAN

BGP-B  
 M:\295077.01\FINAL

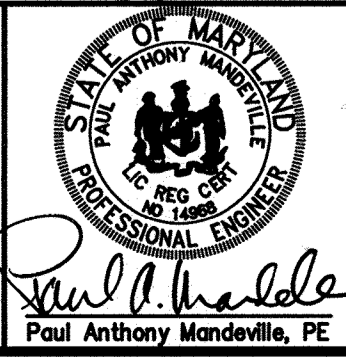


DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*James M. Bond* 10/30/97  
 DIRECTOR OF PUBLIC WORKS DATE

*John J. O'Hara* 10/30/97  
 CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
 CONSULTING ENGINEERS  
 11260 ROGER BACON DRIVE  
 SUITE 300  
 RESTON, VIRGINIA 22090  
 PH. (703) 471-6150  
 FAX. (703) 471-6676



DES. RTT, EGC			
DRN. EGC, WCB			
CHK. PAM			
DATE 10-30-97	BY NO.	REVISION	DATE
		UPDATED SUBMIT TOTAL	4-2019
		REVISED GRADES *	7/23/98
		REVISED GRADES *	7/17/98

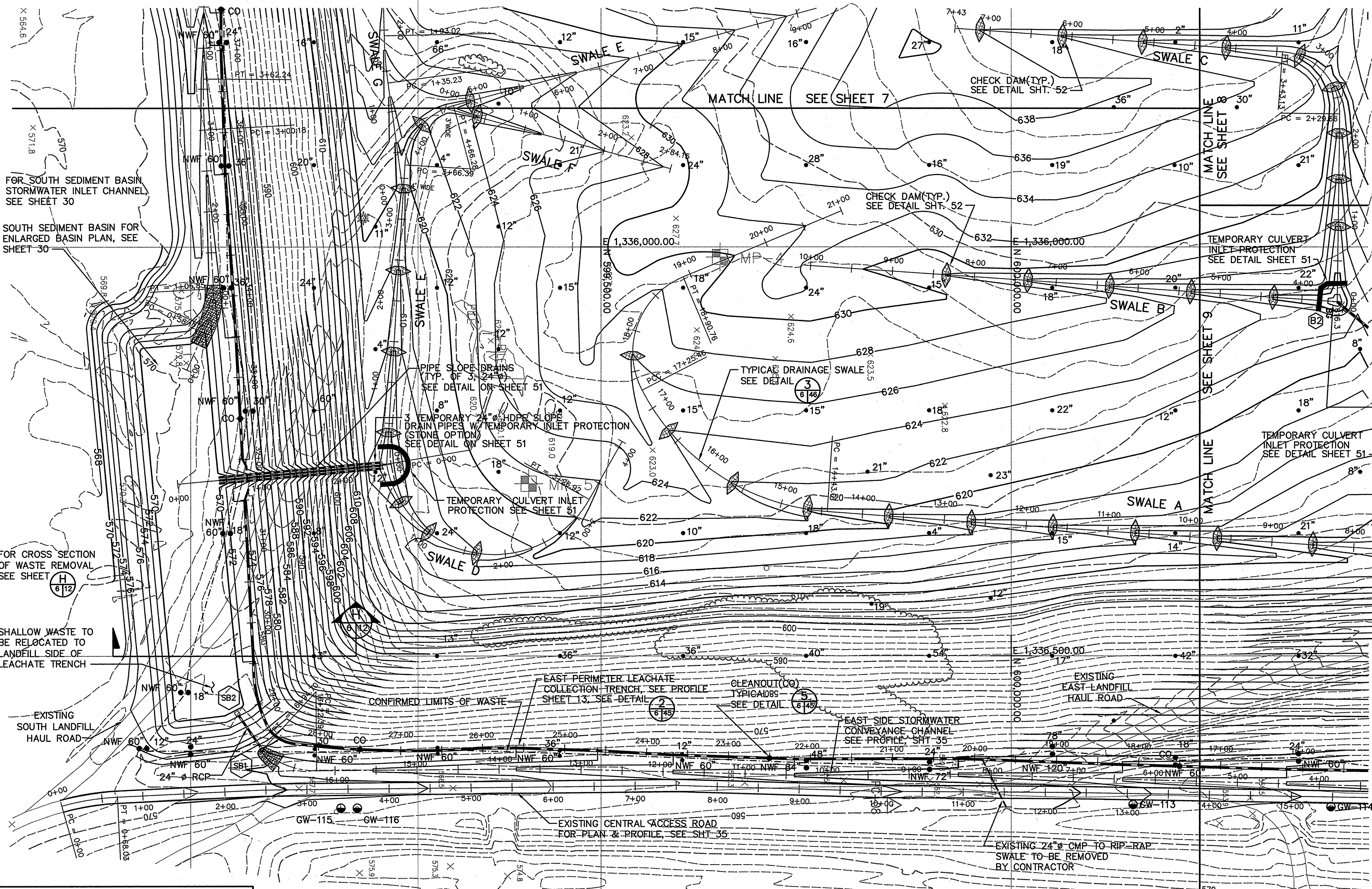
BASE GRADING PLAN

ALPHA RIDGE LANDFILL  
 UNLINED CELL CLOSURE  
 CAPITAL PROJECT NO. C-0190-N

3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE:  
 1"=100'  
 SHEET 5 OF 140

SDP-97-128



**LEGEND**

- GW-102 GROUNDWATER WELLS(EXIST.)
- ⊕ MP-3 LFG PROBES(TO BE REMOVED) SEE SHEET G2
- PROPERTY LINE
- CONFIRMED LIMITS OF WASTE
- 24" AUGER LOCATION W/ APPROX. EXISTING SOIL COVER OVER EXISTING WASTE NOTED.
- NWF 120" NO WASTE FOUND AT DEPTH SHOWN
- SB2 DRAINAGE STRUCTURE NUMBER
- NEW HDPE PIPE/DOWNCHUTES/ CONCRETE DRAINAGE PIPES
- NEW LEACHATE COLLECTION TRENCH
- NEW LEACHATE FORCEMAIN
- EXISTING TREE LINE
- EXISTING SCRUB BRUSH VEGETATION
- PROPOSED TREE LINE
- CO = CLEAN OUT
- ☪ CHECK DAM
- ☪ TEMPORARY CULVERT INLET PROTECTION

- NOTES:**
- FOR INDIVIDUAL DRAINAGE SWALE PROFILES, SEE SHEETS 37-39.
  - FOR EROSION AND SEDIMENT CONTROL PLAN SEE SHEET 49.

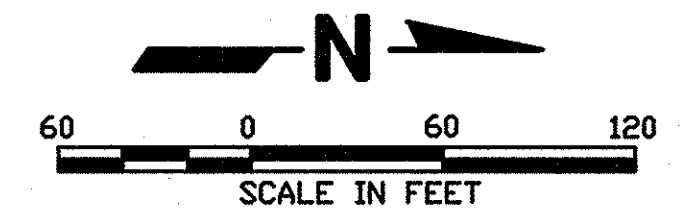
BGP-SE  
M:\2956077.01\FINAL  
BGP-SE-B

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	
<i>[Signature]</i> DIRECTOR	11/3/97 DATE
<i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	11/3/97 DATE
<i>[Signature]</i> CHIEF, DIVISION OF LAND DEVELOPMENT	11/3/97 DATE

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT/PARCEL 54,253,220,11
LIBER/FOLIO 10-847/606 16-879/215 10-891/314	ZONE PEC
TAX/ZONE MAP 10 & 16	
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING
CENSUS TR. 60-30	

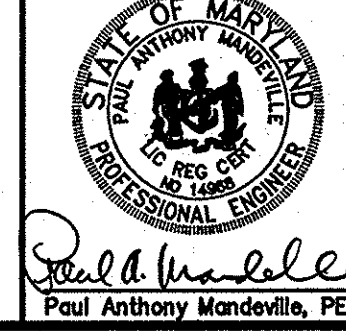
*[Signature]* 10/30/97  
JOYCE M. BONDARD  
HEALTH OFFICER  
HOWARD COUNTY, MARYLAND

\* SEE ETA SHEET 5-AB FOR AS-BUILT  
BASE GRADING PLAN



DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
<i>[Signature]</i> DIRECTOR OF PUBLIC WORKS	10/30/97 DATE
<i>[Signature]</i> JOHN O'HARA CHIEF, BUREAU OF WASTE MANAGEMENT	10/30/97 DATE

**SCS ENGINEERS**  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676

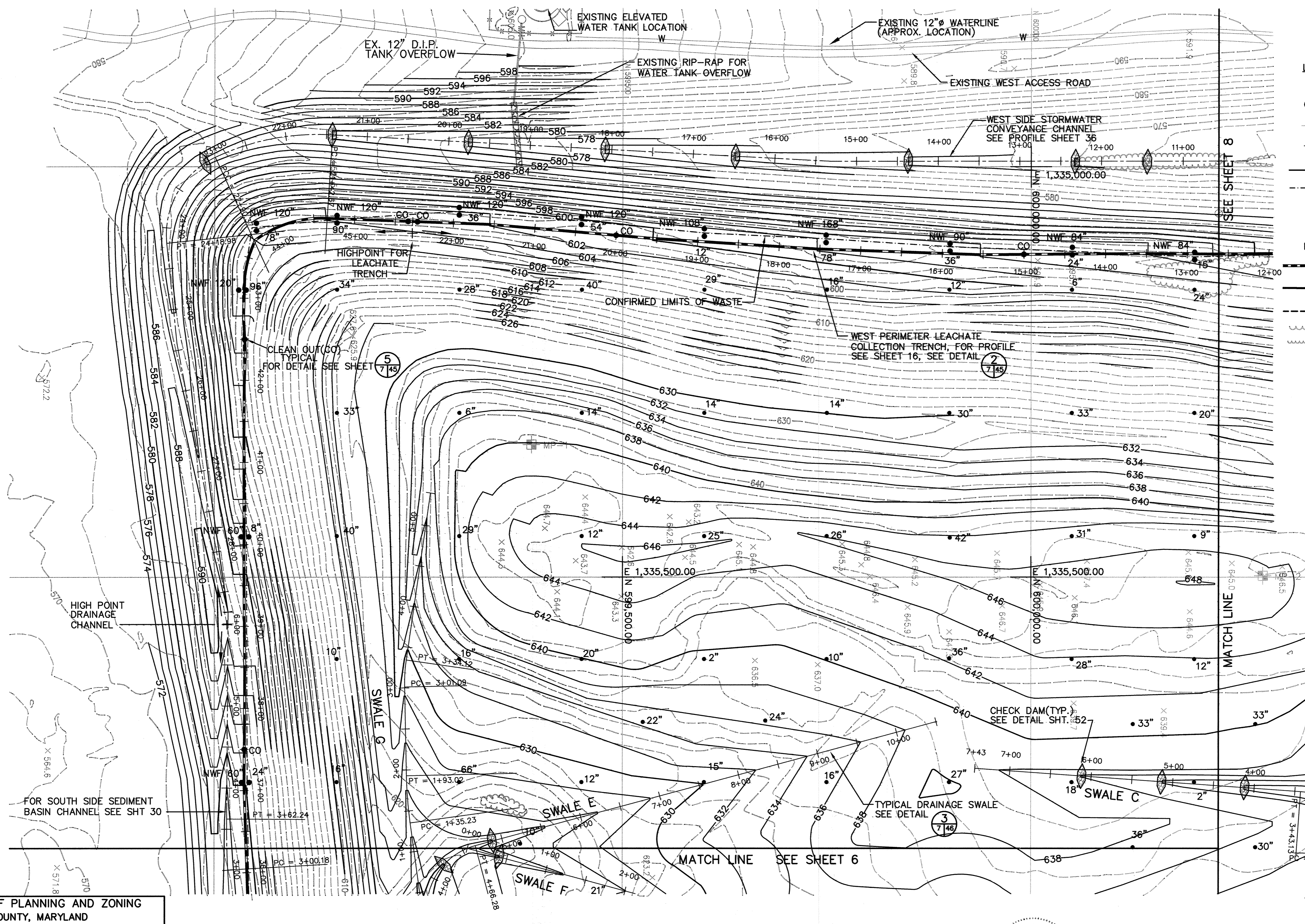


DES. RTT, EGC	▲		
DRN. EGC, JCB	▲		
CHK. PAM	▲		
DATE: 10-30-97	BY NO.	REVISION	DATE
		REVISED GRADES*	7/17/98

**BASE GRADING PLAN  
SE QUADRANT**

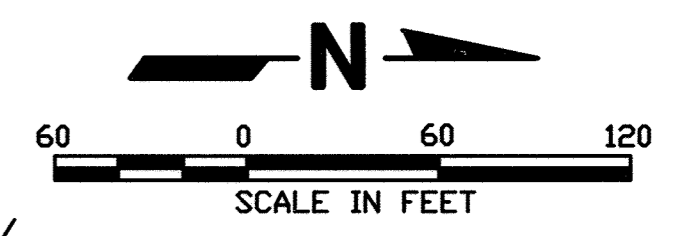
**ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE**  
CAPITAL PROJECT NO. C-0190-N  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE:  
1"=60'  
SHEET:  
6 OF 13



- LEGEND**
- GW-102 GROUNDWATER WELLS(EXISTING)
  - ⊕ MP-3 LFG PROBES(TO BE REMOVED) SEE SHEET G2
  - ⊕ LFG-6 LFG MONITORING WELLS(EXIST.)
  - PROPERTY LINE
  - - - - - CONFIRMED LIMITS OF WASTE
  - 24" AUGER LOCATION W/ APPROX. EXISTING SOIL COVER OVER EXISTING WASTE NOTED.
  - NWF 120" NO WASTE FOUND
  - NEW HDPE PIPE/DOWNSHUTES/ CONCRETE DRAINAGE PIPES
  - NEW LEACHATE COLLECTION TRENCH
  - NEW LEACHATE FORCEMAIN
  - EXISTING TREE LINE
  - EXISTING SCRUB BRUSH VEGETATION
  - CO = CLEAN OUT
  - ⊕ CHECK DAM
  - ⊕ TEMPORARY CULVERT INLET PROTECTION

- NOTES:**
- FOR INDIVIDUAL DRAINAGE SWALE PROFILES, SEE SHEETS 37 & 38.



M: \295077.01\FINAL BGP-SW-B

**DEPARTMENT OF PLANNING AND ZONING**  
HOWARD COUNTY, MARYLAND

*[Signature]* 11/3/97  
DIRECTOR DATE

*[Signature]* 12/21/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT/PARCEL 54,253,220,11	LIBER/FOLIO 10-847/605 16-878/215 10-891/314		ZONE PEC	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30		HOWARD COUNTY, MARYLAND HEALTH OFFICER <i>[Signature]</i> 10/30/97 DATE	

\* SEE ETA SHEET S-AB FOR AS-BUILT BASE GRADING PLAN



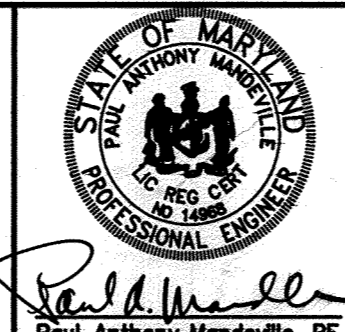
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 16156, Expiration Date: 8-28-20

**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND

*[Signature]* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

**SCS ENGINEERS**  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES. RTT, EGC	△		
DRN. EGC	△		
CHK. PAM	△		
DATE: 10-30-97	BY: NO.	REVISION	DATE
		UPDATED SHEET TOTAL	4/20/99
		REVISED GRADES*	7/17/98

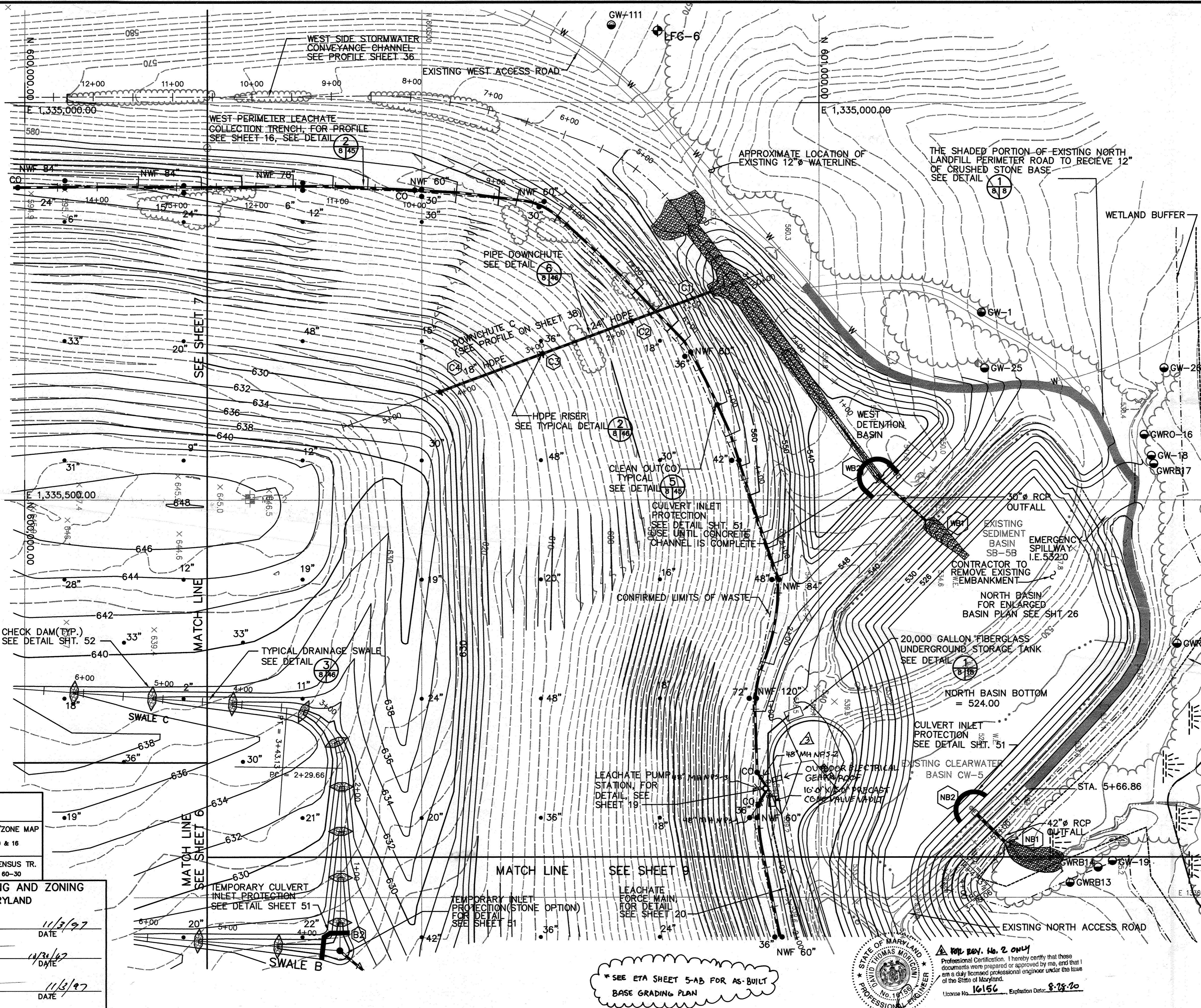
**BASE GRADING PLAN**  
SW QUADRANT

**ALPHA RIDGE LANDFILL**  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

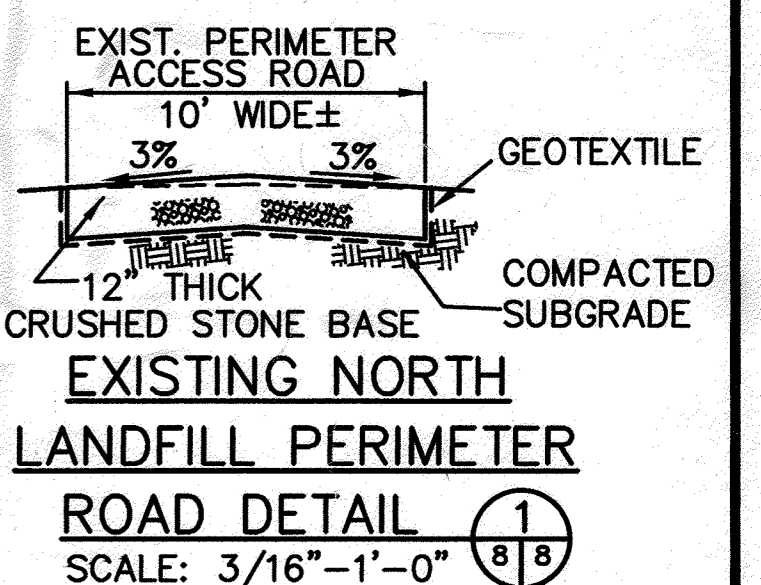
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE:  
1"=60'  
SHEET 7 OF 140





- LEGEND**
- GW-102 GROUNDWATER WELLS(EXIST.)
  - ⊕ MP-3 LFG PROBES(TO BE REMOVED) SEE SHEET G2
  - ⊕ LFG-6 LFG MONITORING WELLS(EXIST.)
  - PROPERTY LINE
  - - - - - CONFIRMED LIMITS OF WASTE
  - 24" AUGER LOCATION W/ APPROX. EXISTING SOIL COVER OVER EXISTING WASTE NOTED.
  - NWF 120" NO WASTE FOUND AT DEPTH SHOWN
  - (B1) DRAINAGE STRUCTURE DESIGNATION
  - NEW HDPE PIPE/DOWNCHUTES/ CONCRETE DRAINAGE PIPES
  - NEW LEACHATE COLLECTION TRENCH
  - NEW LEACHATE FORCEMAIN
  - - - - - EXISTING TREE LINE
  - - - - - EXISTING SCRUB BRUSH VEGETATION
  - - - - - WETLAND LIMITS
  - - - - - WETLAND BUFFER
  - - - - - WETLANDS
  - CO = CLEAN OUT
  - ⊕ CHECK DAM
  - ⊕ TEMPORARY CULVERT INLET PROTECTION



NOTES:  
 1. FOR INDIVIDUAL DOWNCHUTE & SWALE PROFILES, SEE SHEETS 37 & 38.

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/808 16-878/215 10-891/314		ZONE PEC	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING		SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30

DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND

*David H. Miller* 11/3/97  
 DIRECTOR DATE

*John J. O'Hara* 10/30/97  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Andy Hamilton* 11/3/97  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*James J. Lewis* 10/30/97  
 DIRECTOR OF PUBLIC WORKS DATE

*John J. O'Hara* 10/30/97  
 CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
 CONSULTING ENGINEERS  
 11260 ROGER BACON DRIVE  
 SUITE 300  
 RESTON, VIRGINIA 22090  
 PH. (703) 471-6150  
 FAX. (703) 471-6676

*Paul Anthony Mandeville, PE*

DES. RTT, EGC			
DRN. EGC, JCB			
CHK. PAM	DAD	PUMP STATION UPGRADES	1-20-24
	DTM	UPDATED SHEET TOTAL	4-20-19
		REVISED GRADES *	7/17/98
DATE: 10-30-97	BY NO.	REVISION	DATE

STATE OF MARYLAND  
 PAUL THOMAS MANDENVILLE  
 PROFESSIONAL ENGINEER  
 No. 12713  
 License No. 16156, Expiration Date: 8-18-20

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

BASE GRADING PLAN  
 NW QUADRANT

ALPHA RIDGE LANDFILL  
 UNLINED CELL CLOSURE  
 CAPITAL PROJECT NO. C-0190-N

3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE:  
 1"=60'

SHEET 8 OF 140

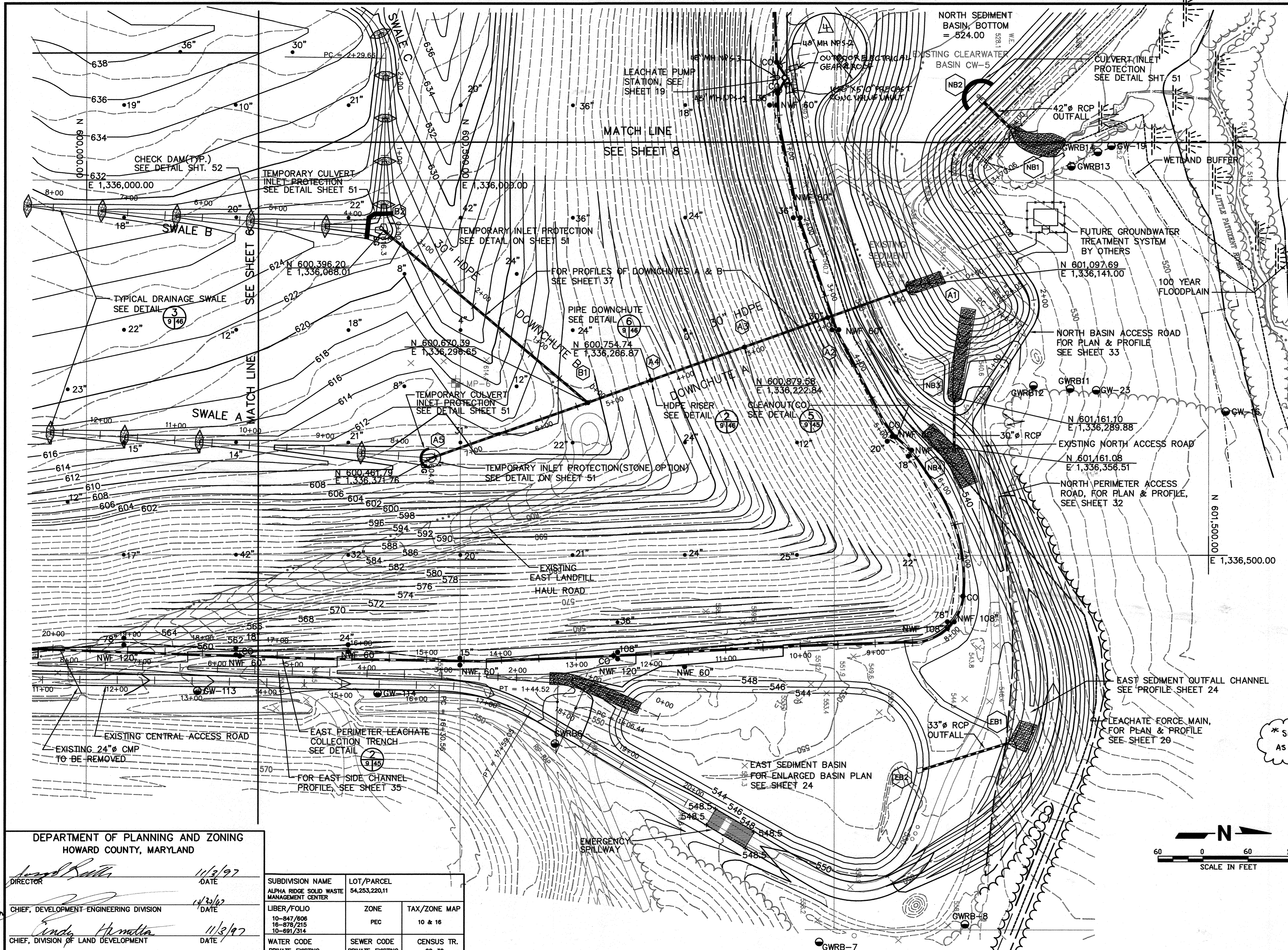
10/30/97 DATE

*James M. Boyd*

\* SEE ETA SHEET 5-AB FOR AS-BUILT BASE GRADING PLAN

BGP-NW-701 FINAL  
 M: 295077.01 FINAL  
 BGP-NW-B

SDP-97-128

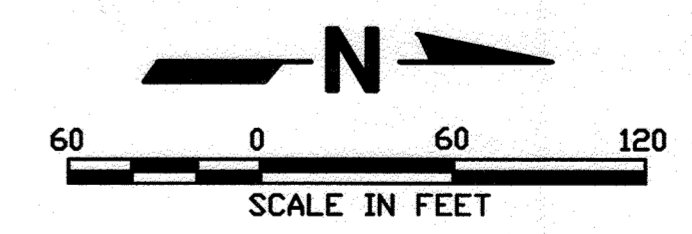


**LEGEND**

- GW-102 GROUNDWATER WELLS(EXIST.)
- ⊕ MP-3 LFG PROBES(TO BE REMOVED) SEE SHEET G2
- ⊕ LFG-6 LFG MONITORING WELLS
- PROPERTY LINE
- - - - - CONFIRMED LIMITS OF WASTE
- 24" AUGER LOCATION W/ APPROX. EXISTING SOIL COVER OVER EXISTING WASTE NOTED.
- NWF 120" NO WASTE FOUND TO DEPTH SHOWN
- ⓑ1 DRAINAGE STRUCTURE DESIGNATION
- NEW CONCRETE DRAINAGE PIPES
- NEW LEACHATE COLLECTION TRENCH
- NEW LEACHATE FORCEMAIN
- EXISTING TREE LINE
- EXISTING SCRUB BRUSH VEGETATION
- PROPOSED TREE LINE
- - - - - WETLAND LIMITS
- WETLANDS
- WETLAND BUFFER
- TREE REMOVAL AREA
- CO = CLEAN OUT
- CHECK DAM
- TEMPORARY CULVERT INLET PROTECTION

- NOTES:**
- FOR INDIVIDUAL DOWNCHUTE & SWALE PROFILES, SEE SHEETS 37 & 38
  - GROUNDWATER TREATMENT SYSTEM TO BE BUILT BY OTHERS.

\* SEE ETA SHEET 5-AB FOR AS-BUILT BASE GRADING PLAN



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 16156 Expiration Date: 8-28-20  
 JOYCE M. BOYD, PE  
 PROFESSIONAL ENGINEER

DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND

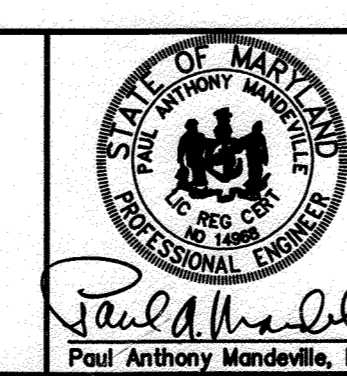
Director: *James P. Miller* 11/3/97  
 Chief, Development Engineering Division: *Linda H. Hattala* 11/3/97  
 Chief, Division of Land Development: *Linda H. Hattala* 11/3/97

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT/PARCEL 54,253,220,11	LIBER/FOLIO 10-847/606 16-878/215 10-691/314	ZONE PEC	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30		

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

Director of Public Works: *James P. Miller* 10/30/97  
 Chief, Bureau of Waste Management: *John O'Hara* 10/30/97

SCS ENGINEERS  
 CONSULTING ENGINEERS  
 11260 ROGER BACON DRIVE  
 SUITE 300  
 RESTON, VIRGINIA 22090  
 PH. (703) 471-6150  
 FAX. (703) 471-6676



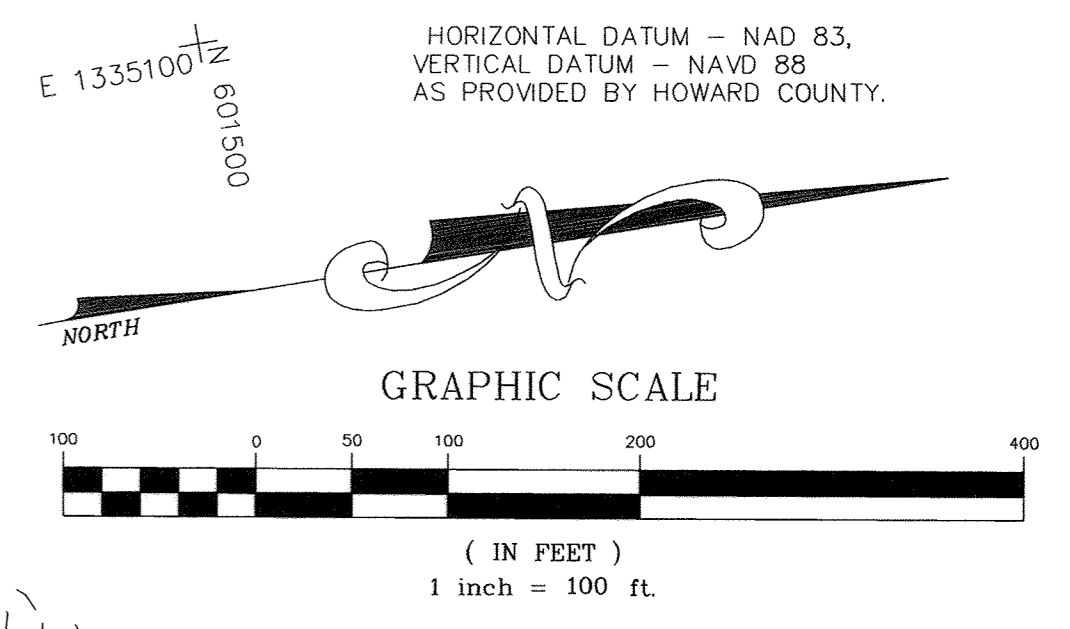
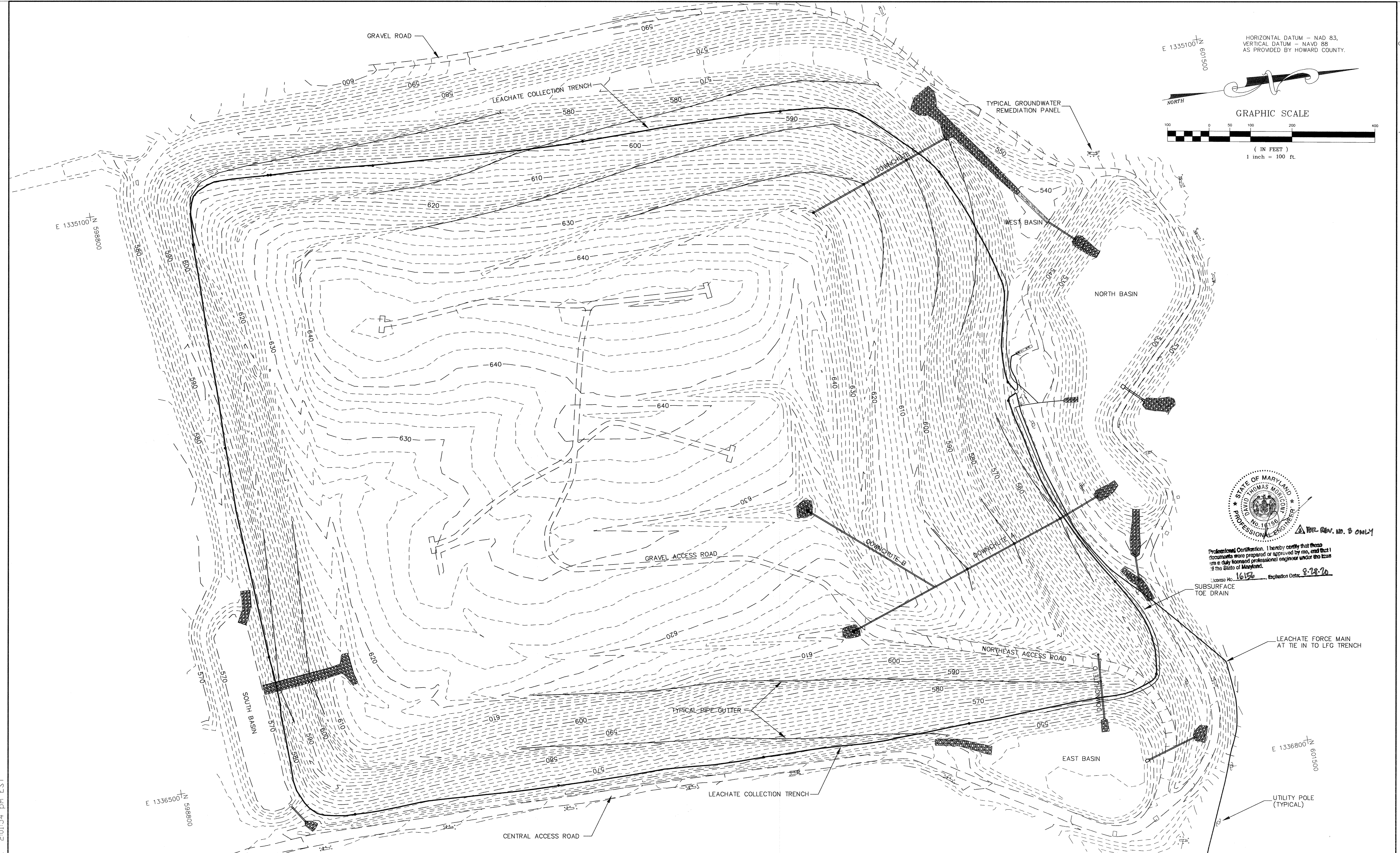
DES. RTT, EGC	DAO	PUMP STATION UPGRADES	1-2024
DRN. EGC	DTM	UPDATED SHEET DETAIL	4-2019
CHK. PAM		REVISED GRADES *	7/23/98
		REVISED GRADES *	7/17/98
DATE: 10-30-97	BY NO.	REVISION	DATE

BASE GRADING PLAN  
 NE QUADRANT

ALPHA RIDGE LANDFILL  
 UNLINED CELL CLOSURE  
 CAPITAL PROJECT NO. C-0190-N

3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: 1"=60'  
 SHEET 9 OF 140  
 SDP-97-128



HORIZONTAL DATUM - NAD 83,  
VERTICAL DATUM - NAVD 88  
AS PROVIDED BY HOWARD COUNTY.



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 16156, Expiration Date: 8-28-10

REV. NO. 3 ONLY

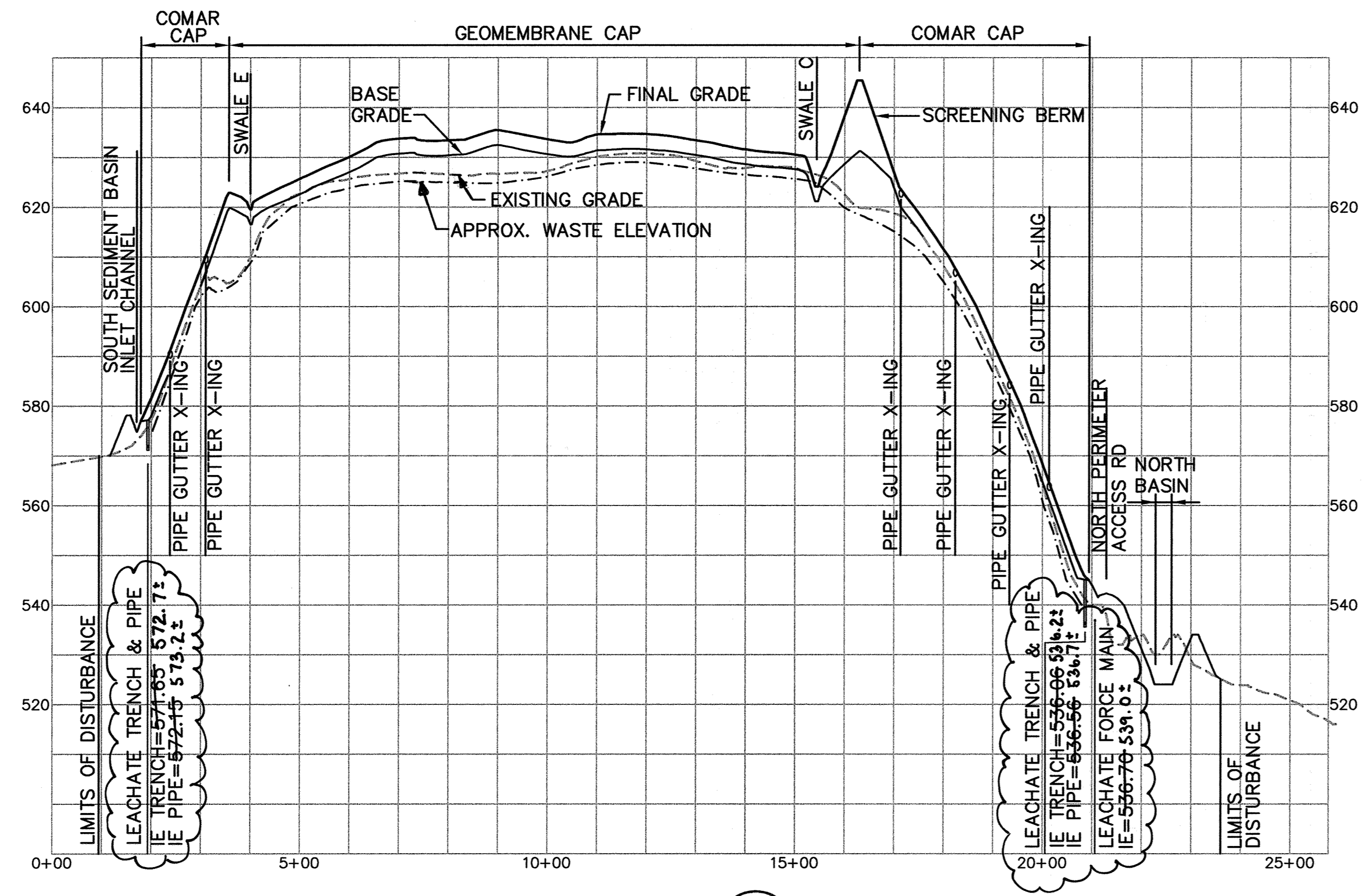
SUBSURFACE TOE DRAIN  
LEACHATE FORCE MAIN AT TIE IN TO LFG TRENCH  
UTILITY POLE (TYPICAL)

DESIGNED BY:		DATE		REVISIONS	
DATE	BY	DATE	BY	DESCRIPTION	
10-17-00	TWH	10-17-00	TWH	REMOVED GROUNDWATER TRENCH AND BUILDING.	
4-4-01	TWH	4-4-01	TWH	REVISED CONTOURS AROUND SOUTH BASIN.	
4-20-19	DTM	4-20-19	DTM	UPDATED SHEET TOTAL	
DATE		DATE			
DATE		DATE			

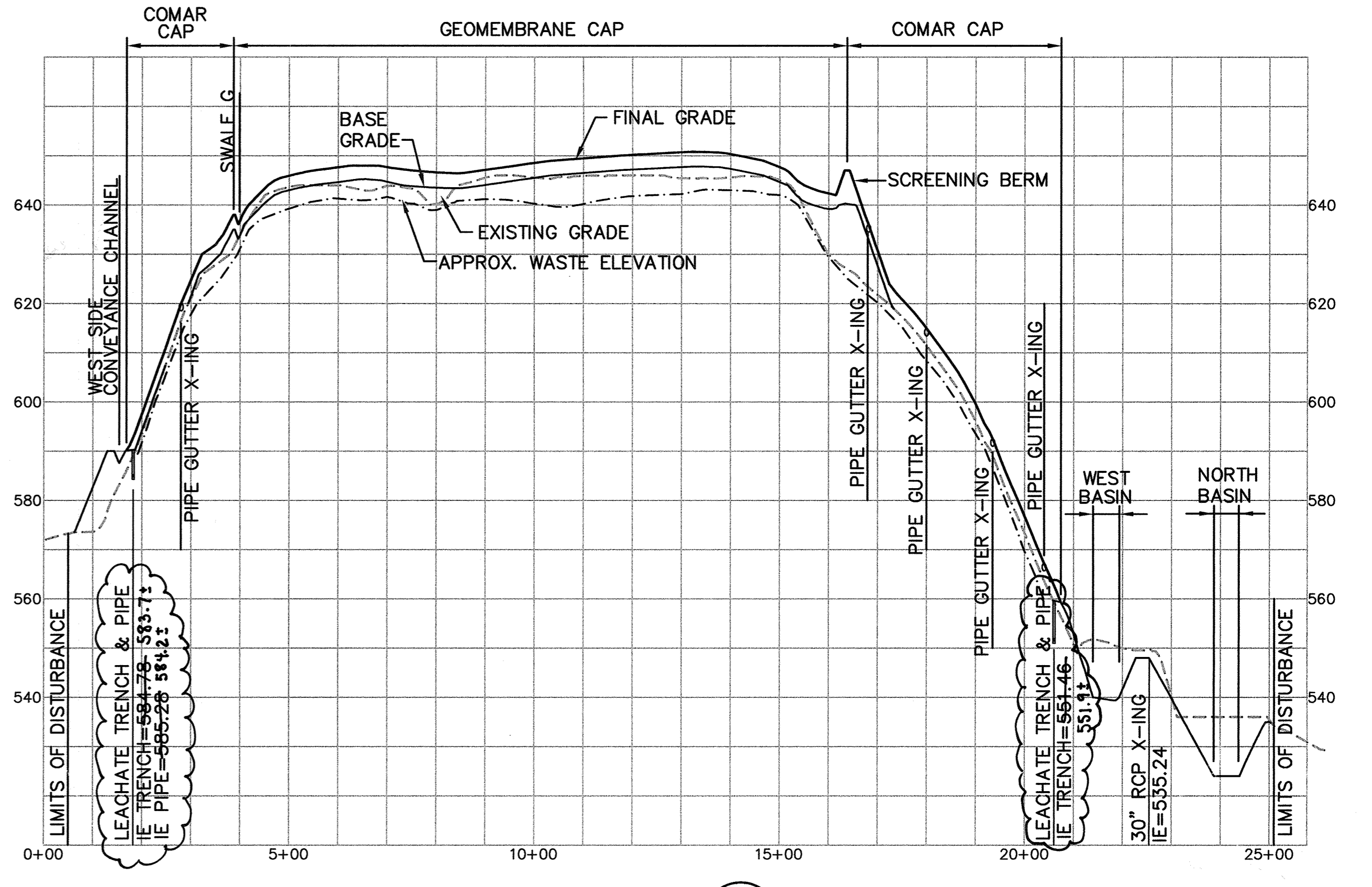
**ENGINEERING TECHNOLOGIES ASSOCIATES, INC.**  
ENGINEERS \* PLANNERS \* SURVEYORS  
3458 ELLICOTT CENTER DRIVE SUITE 101  
ELLICOTT CITY, MARYLAND 21043  
BALTO. (410)461-9920 FAX (410)750-8565



FINAL SURFACE AS-BUILT  
**ALPHA RIDGE LANDFILL CELL CLOSURE**  
HOWARD COUNTY MARYLAND  
SCALE : 1"=100' CONTRACT NO.: 98301.10 DATE : 2-26-2000 SHEET 10-AB OF 19



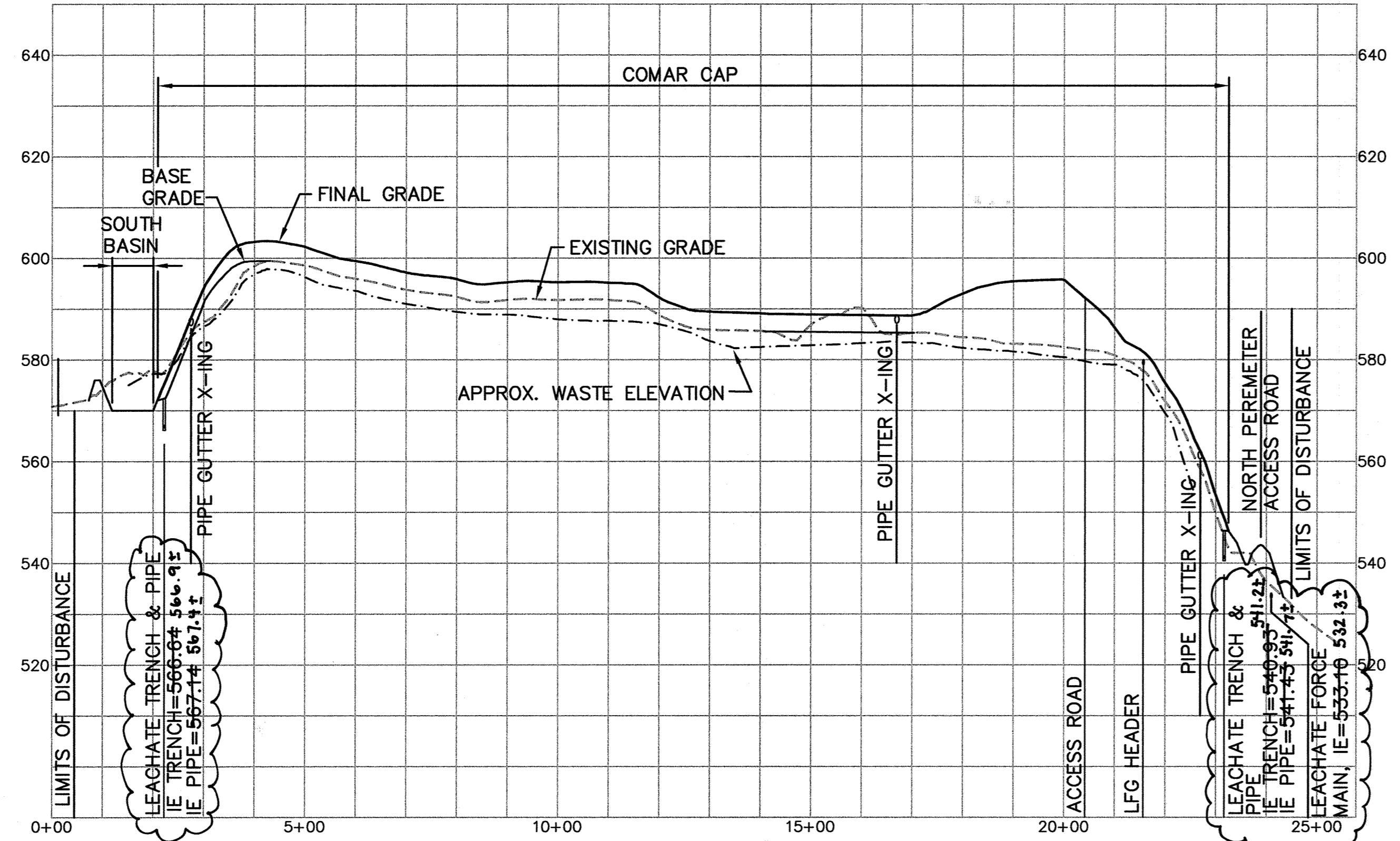
SECTION B  
SCALE: 1"=200'  
5, 10



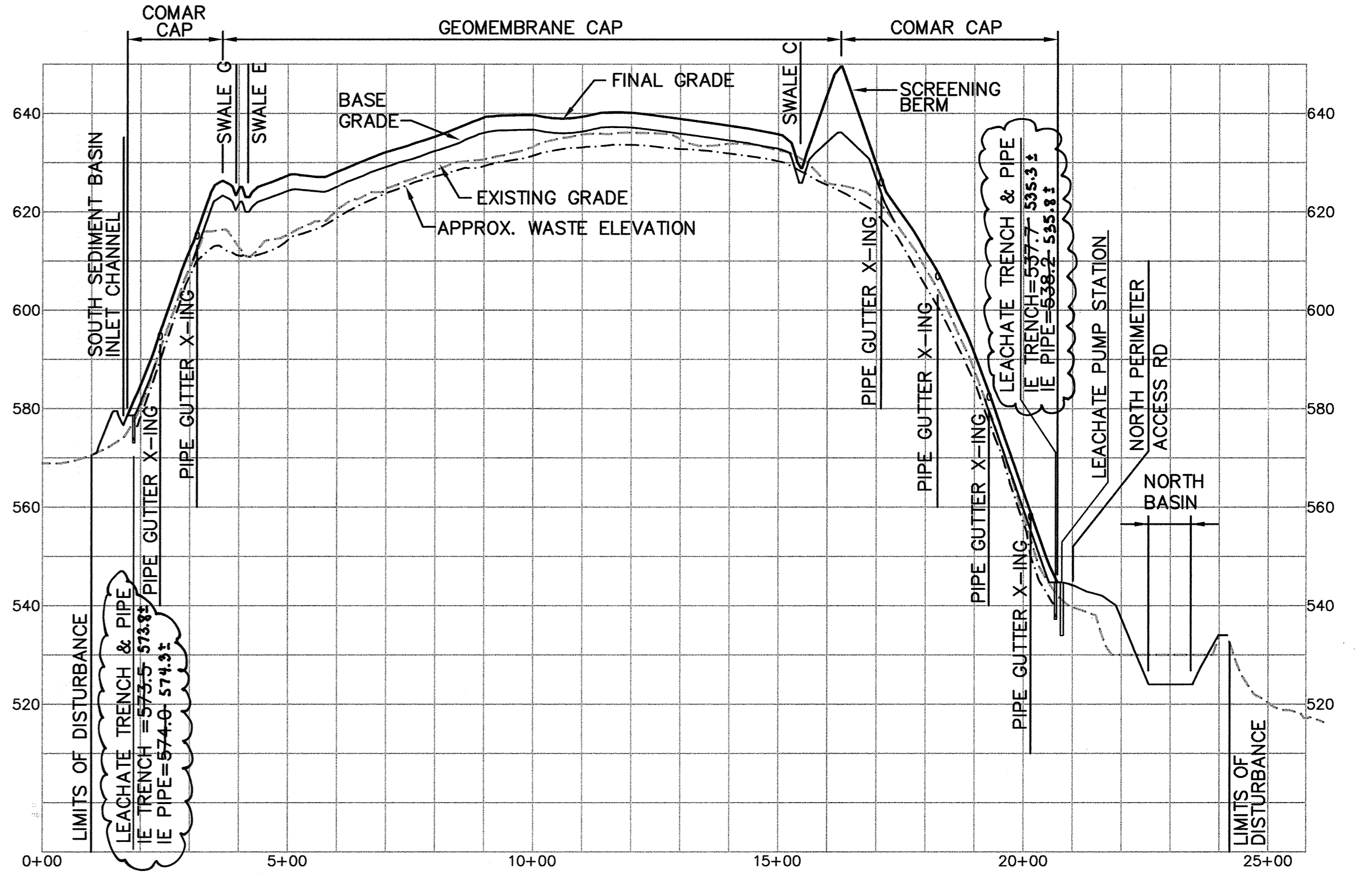
SECTION D  
SCALE: 1"=200'  
5, 10

FOR COMAR CAP DETAILS SEE 4/11/45

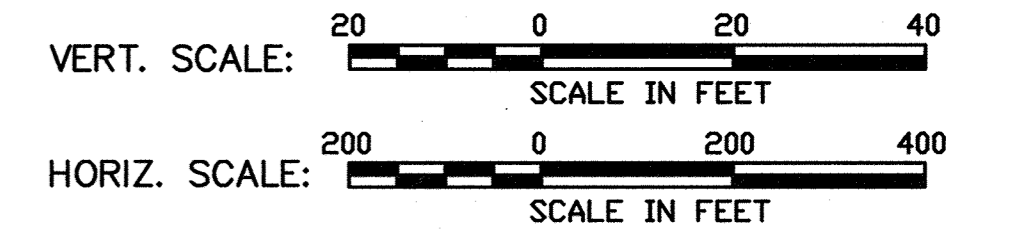
FOR GEOMEMBRANE CAP DETAILS SEE 3/11/45



SECTION A  
SCALE: 1"=200'  
5, 10



SECTION C  
SCALE: 1"=200'  
5, 10

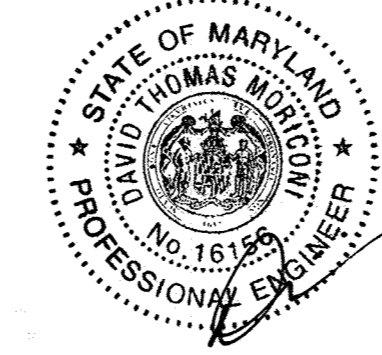


SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/606 16-878/215 10-891/314		ZONE PEC	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING		SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*Joseph R. Miller* 11/3/97  
DIRECTOR DATE

*Chris Hamstra* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE



FOR REV. NO. 1 ONLY

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

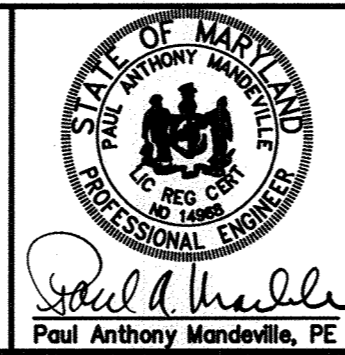
License No. 16156 Exp. Date 8-25-20

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James P. Lewis* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*John J. O'Hara* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



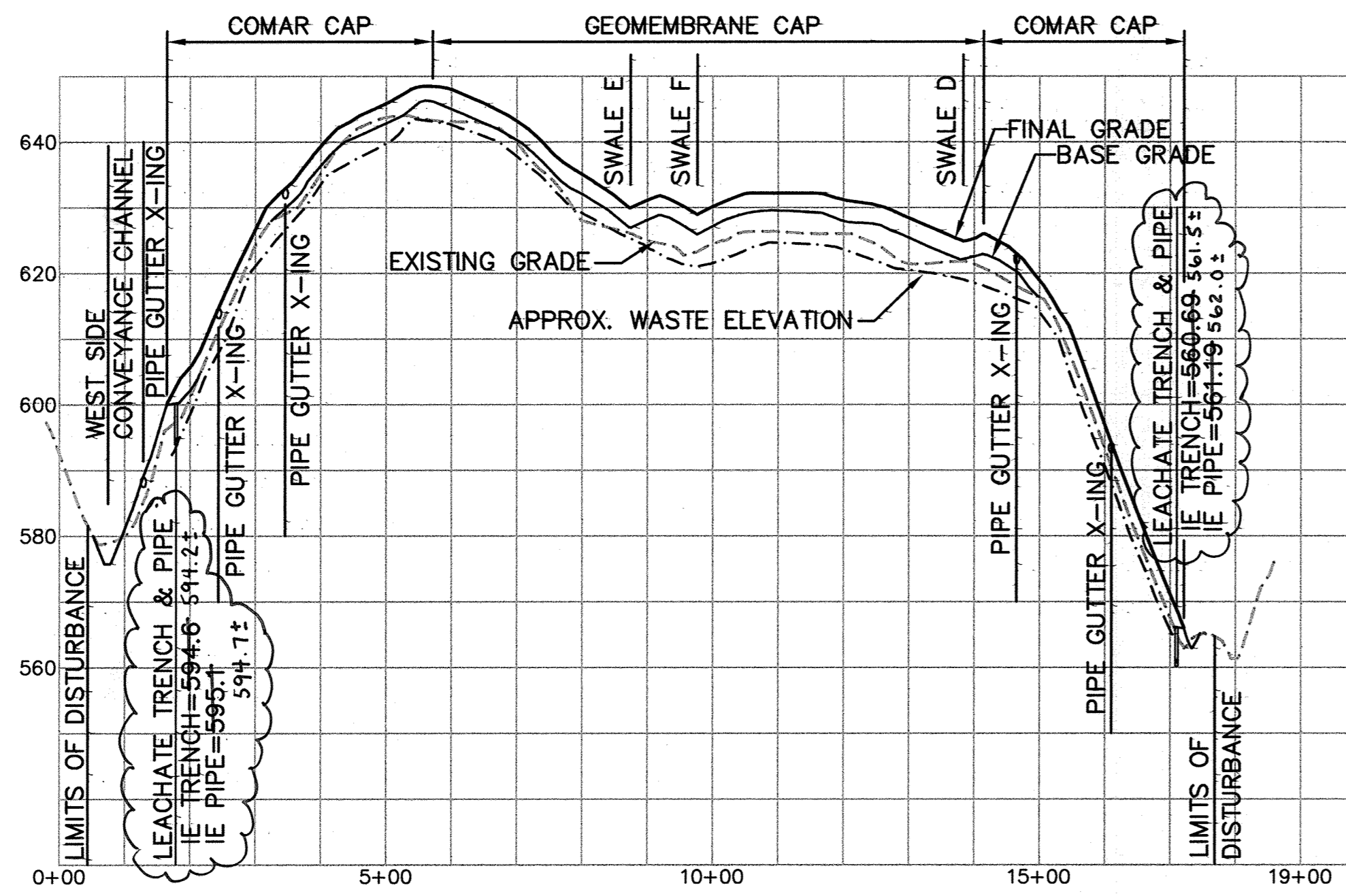
DES. RTT, EGC	△		
DRN. EGC	△		
CHK. PAM	△		
DATE: 10-30-97	BY: DTM	NO. UPDATED SHEET TOTAL	4-2019
		REVISION	DATE

LANDFILL  
CROSS-SECTIONS

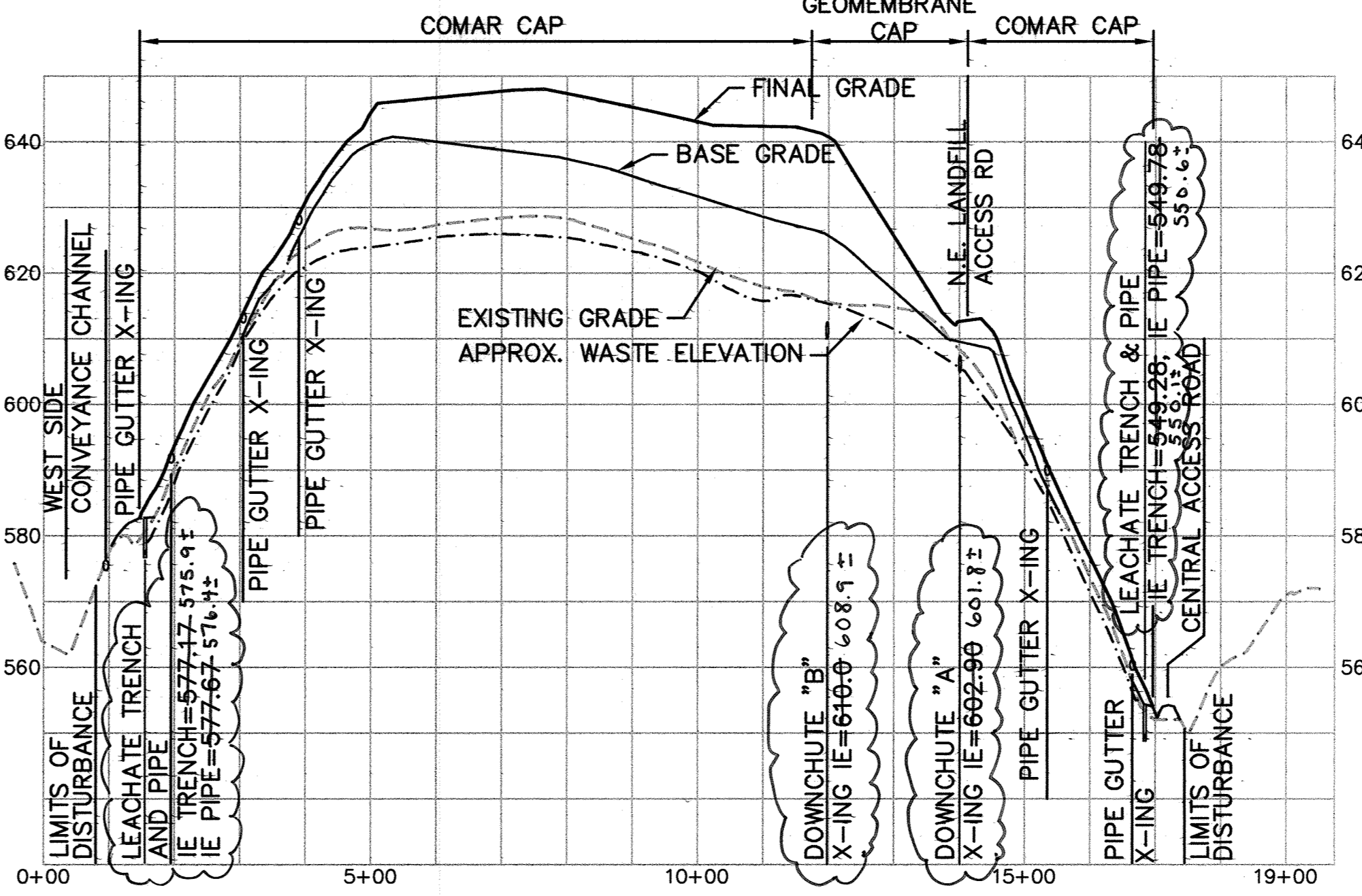
ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

SCALE:  
AS NOTED  
SHEET 11 OF 140

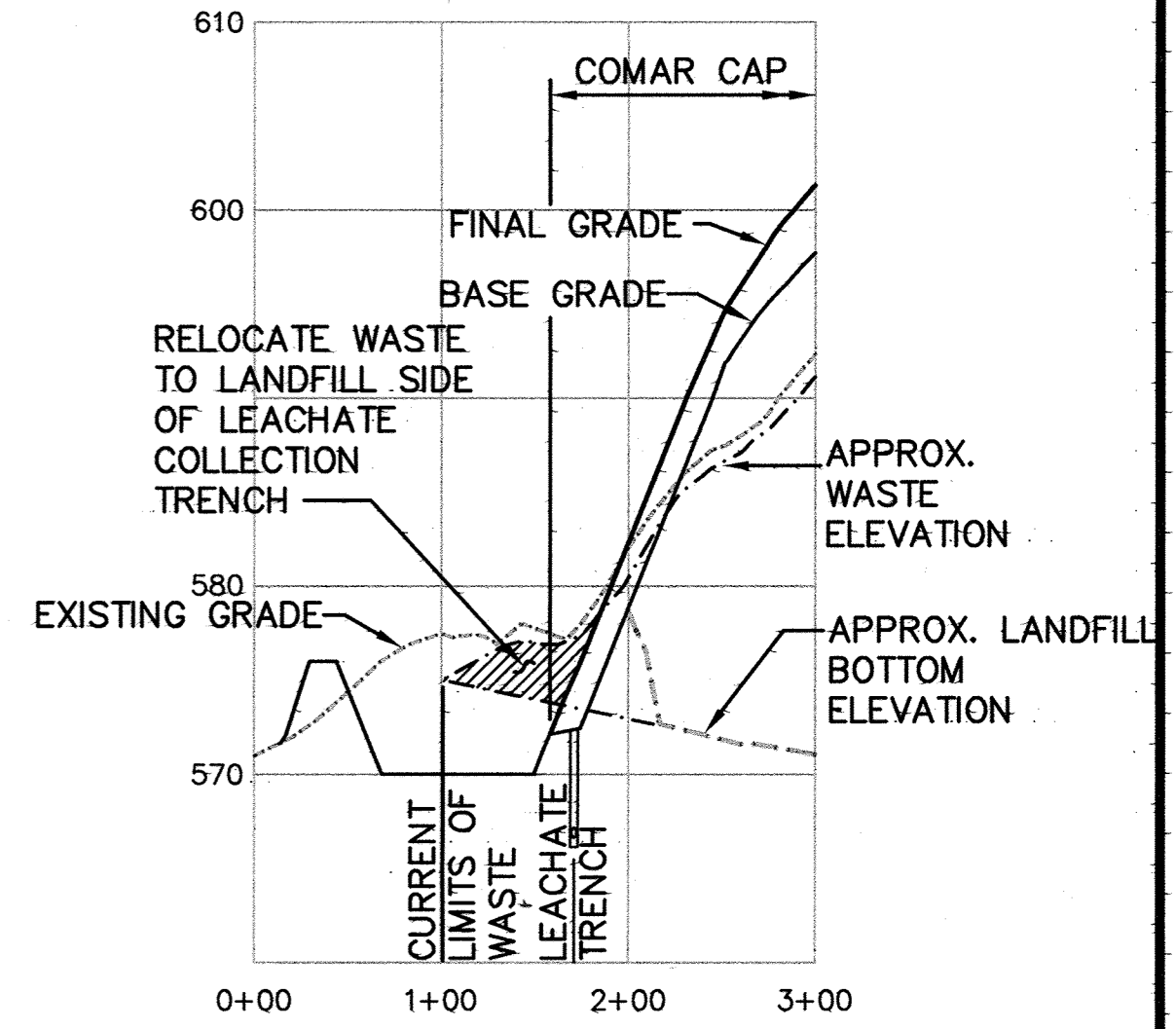
3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND



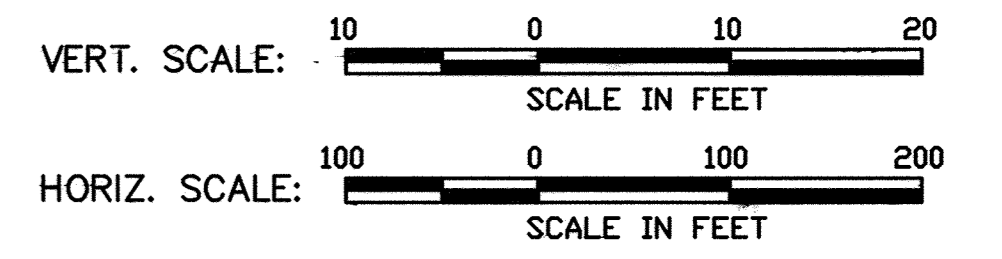
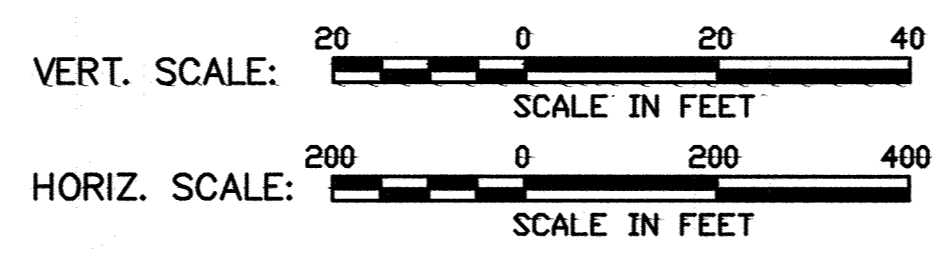
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5, 10



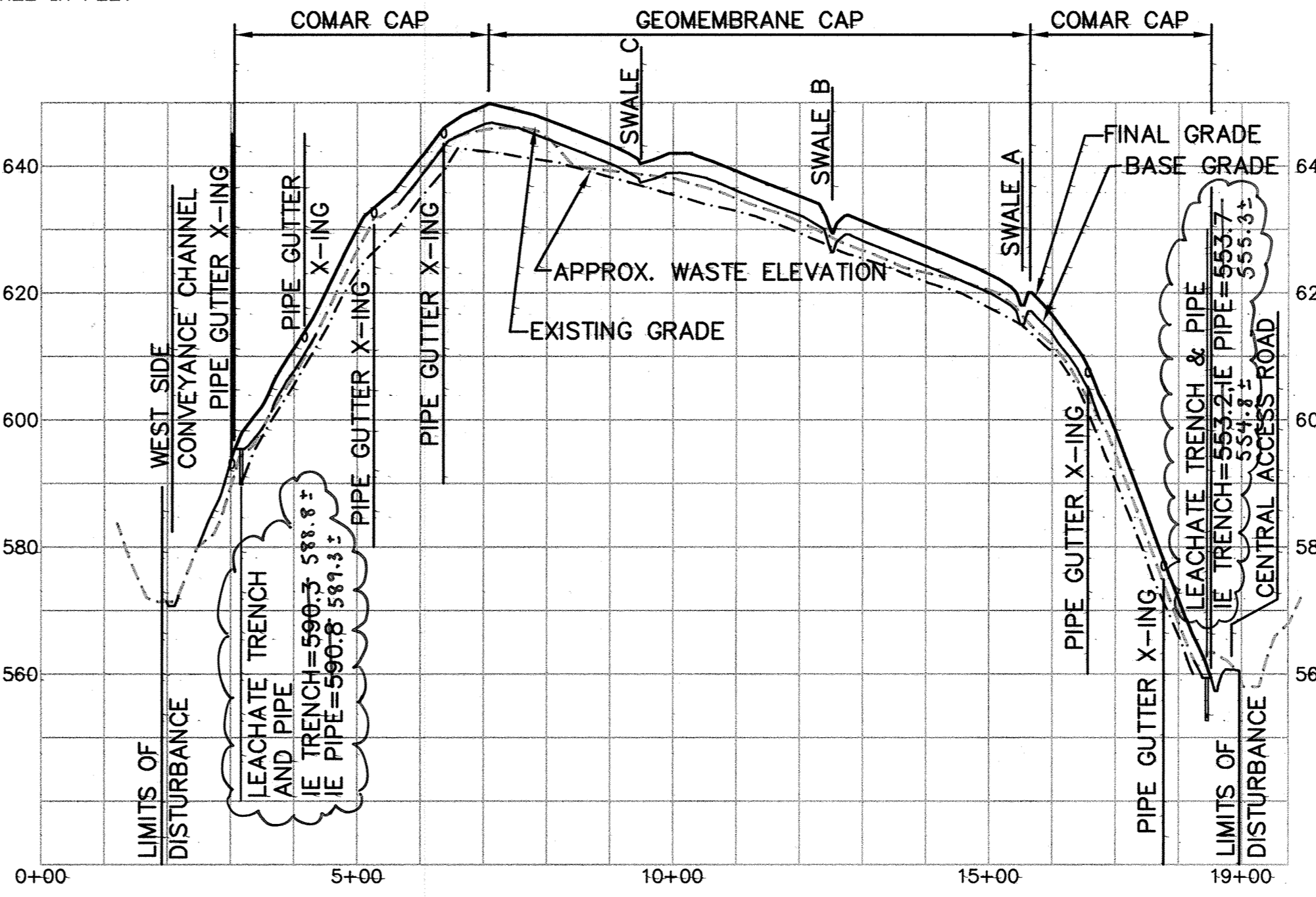
SECTION G  
SCALE: 1"=200'  
5, 10



SECTION H  
SCALE: 1"=100'  
5, 6, 10 & 39



FOR COMAR CAP DETAILS SEE 4/12/45  
FOR GEOMEMBRANE CAP DETAILS SEE 3/12/45



SECTION F  
SCALE: 1"=200'  
5, 10

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11
LIBER/FOLIO 10-847/606 16-878/215 10-891/314	ZONE PEC	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*David Smith* 11/3/97  
DIRECTOR DATE

*John J. [Signature]* 11/3/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Clayton Hamilton* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE



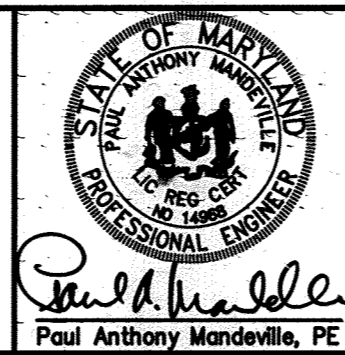
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
Licence No. 16156, Expiration Date: 8-28-20

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James P. [Signature]* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*John J. [Signature]* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES. RTT, EGC	▲		
DRN. EGC	▲		
CHK. PAM	▲		
DATE: 10-30-97	▲	UPDATED SHEET TITLE	4-10-99
BY: NO.	▲	REVISION	DATE

LANDFILL  
CROSS-SECTIONS

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE:  
AS NOTED

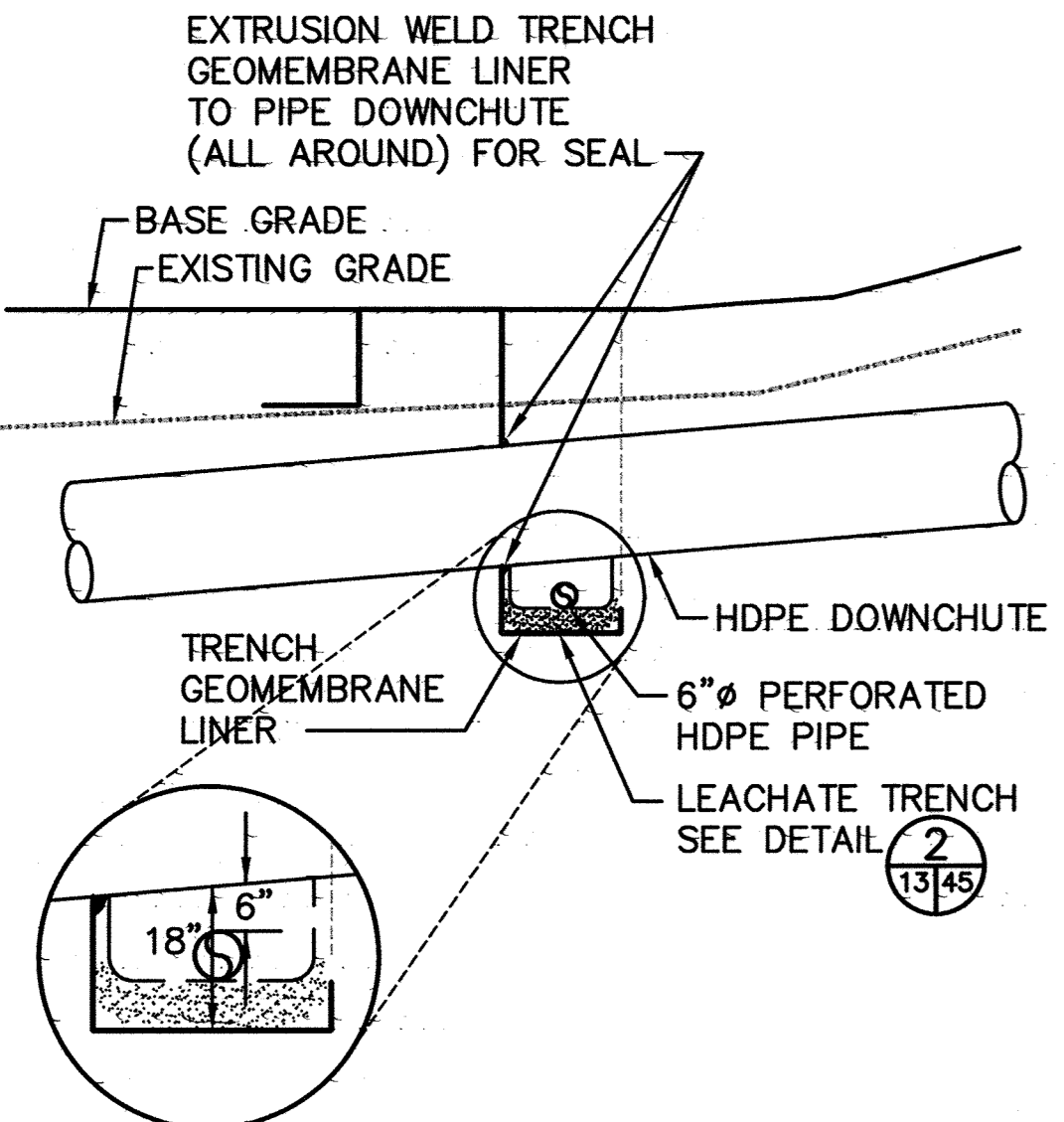
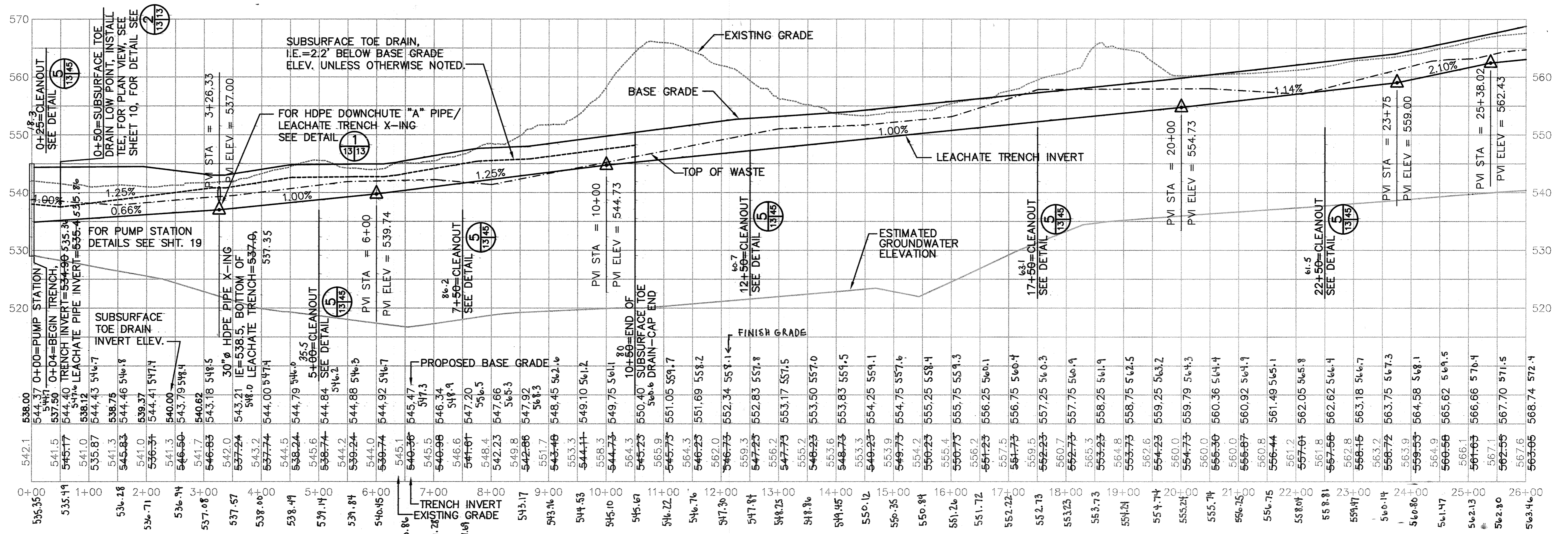
SHEET 12 of 140

M:\295077.01\FINAL\LF\SECT1\SECH

SDP-97-128

M: 295077.01\FINAL LPRO-E, TR-XING, TOCDRAIN

LEACHPROE



STATE OF MARYLAND  
THOMAS W. WOODWARD  
Professional Certification, I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 16152, Expiration Date: 6-25-20  
Professional Engineer

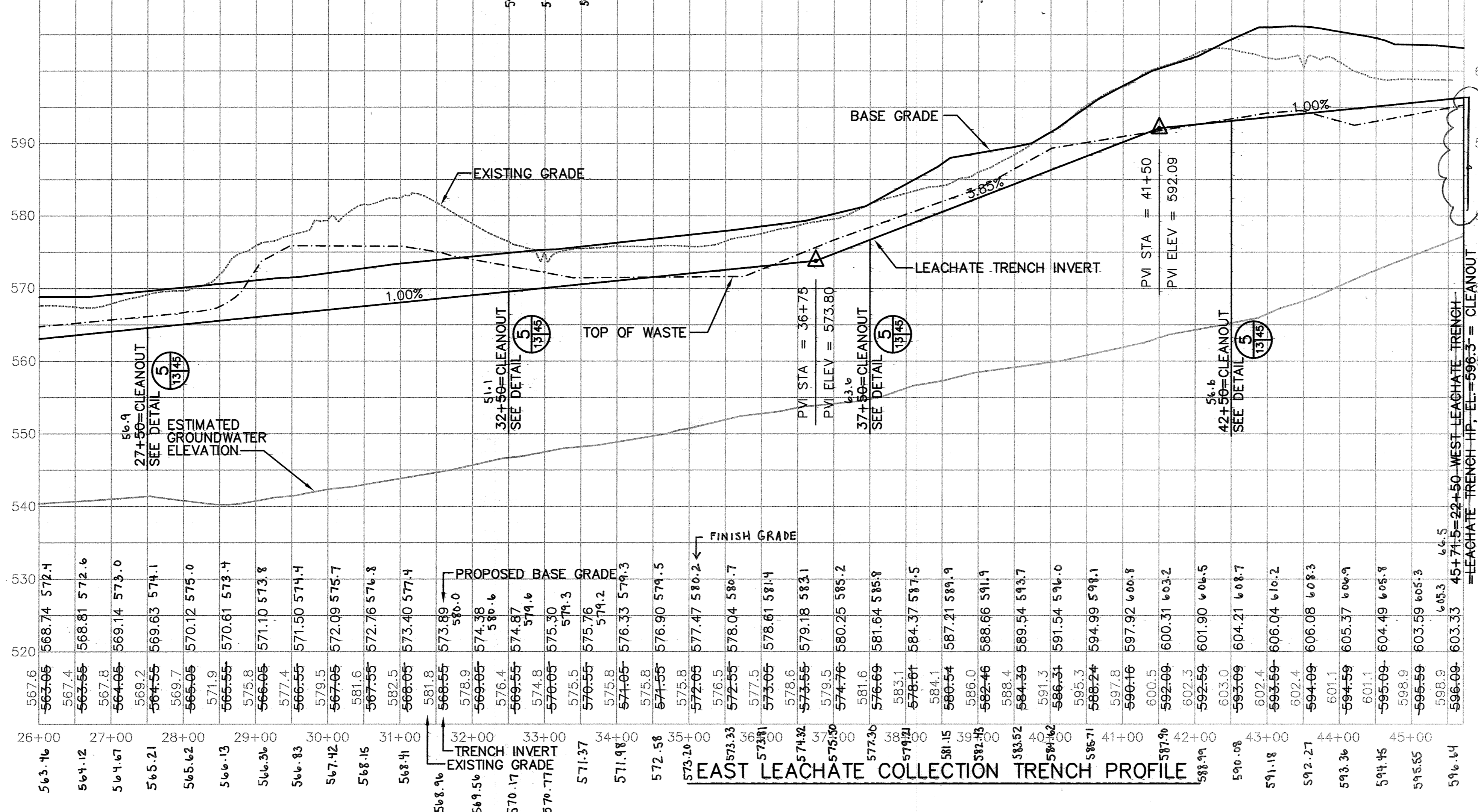
SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/606 18-878/215 10-891/314		ZONE PEC	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING		SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*August R. Miller* 11/3/97  
DIRECTOR DATE

*Charles H. Hamilton* 11/3/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Charles H. Hamilton* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James P. Lewis* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*John J. O'Hara* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676

STATE OF MARYLAND  
PAUL ANTHONY MANDVILLE  
Professional Engineer

DES. RTT, EGC	
DRN. EGC	
CHK. PAM	
DATE: 10-30-97	
BY NO.	DATE
REVISION	DATE
UPDATED SHEET TOTAL	4-2019

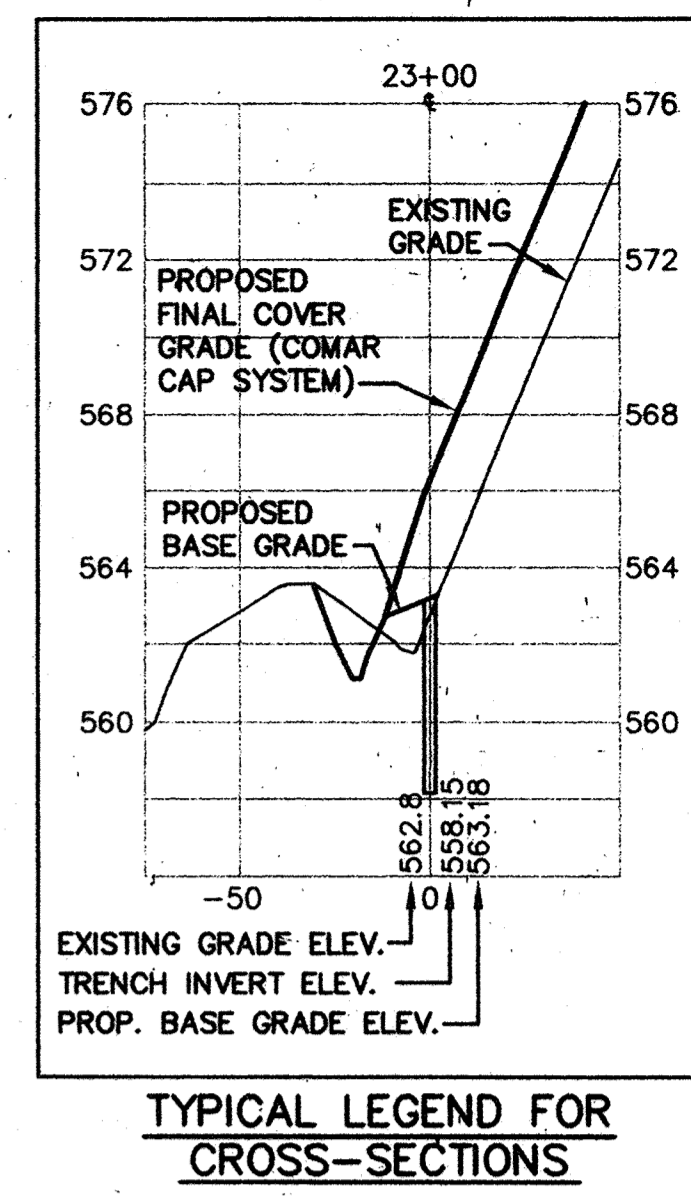
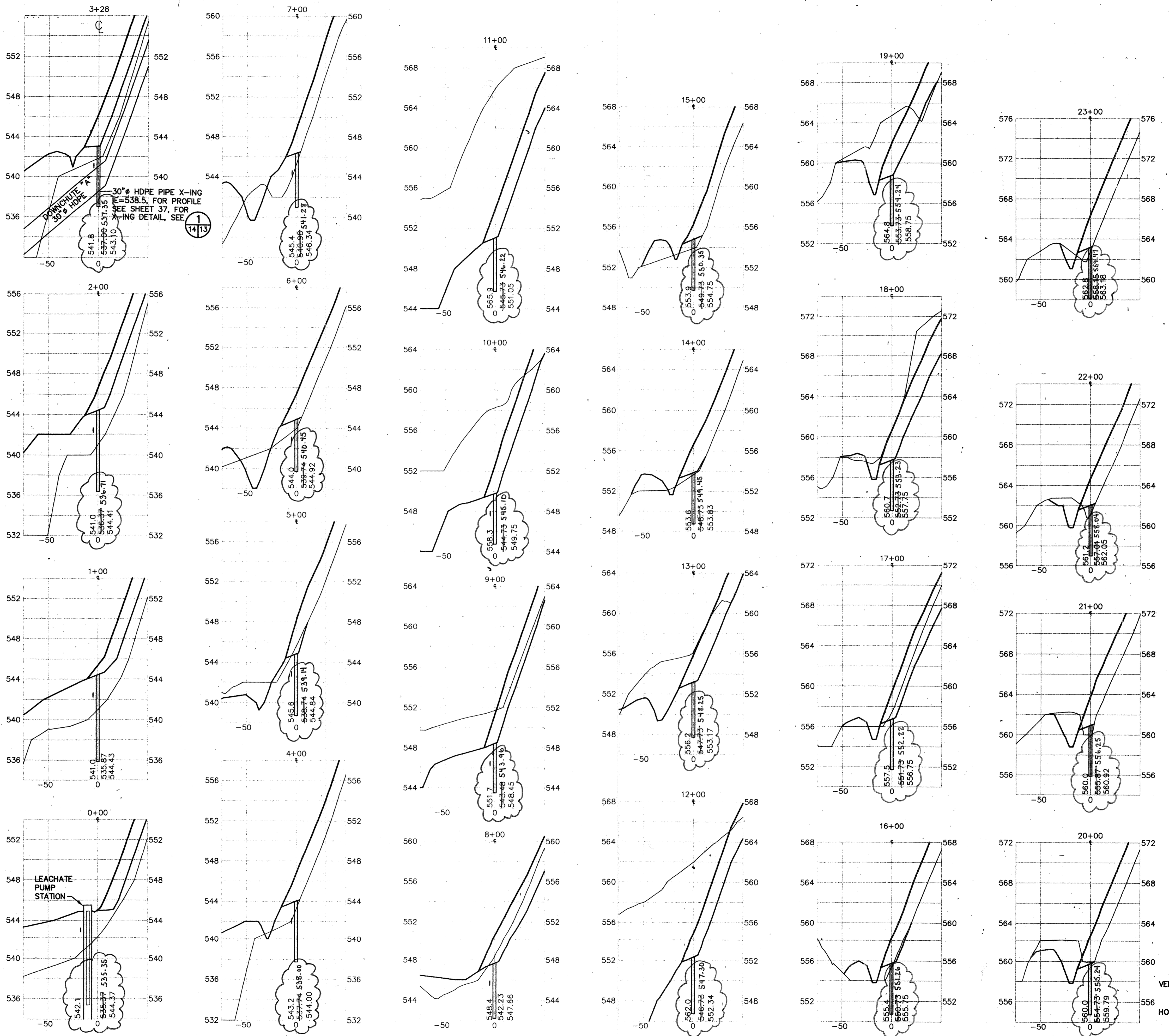
**EAST LEACHATE COLLECTION TRENCH PROFILE**

3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

SCALE: 1"=100'  
SHEET 13 OF 140

SDP-97-128

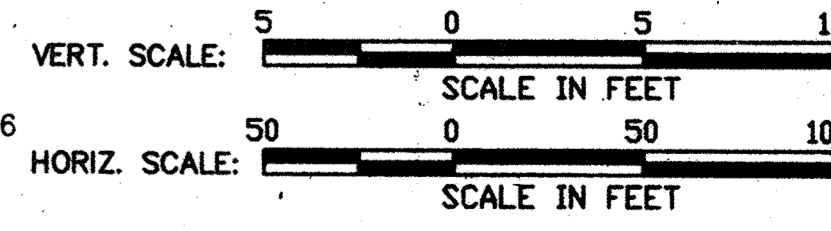


NOTE:  
FOR TYPICAL LEACHATE TRENCH CROSS-SECTION DETAILS, SEE SHEET 45.

AS-BUILT INFORMATION UNAVAILABLE FOR PROPOSED BASE GRADES



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
10/15/97, David Thomas Morrison, 8-25-20



SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT/PARCEL 54,253,220,11	ZONE PEC	TAX/ZONE MAP 10 & 16
LIBER/FOLIO 10-847/606 16-878/215 10-891/314		SEWER CODE PRIVATE, EXISTING	CENSUS TR. 80-30

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*David R. Miller* 11/3/97  
DIRECTOR DATE

*John Hanan* 10/30/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Andy Hanan* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James M. Lee* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*John O'Hara* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676

*Paul Anthony Mandeville, PE*

DES. RTT, EGC			
DRN. EGC			
CHK. PAM			
DATE: 10-30-97	DTM	UPDATES SHEET TOTAL	4-2019
	BY	NO.	REVISION

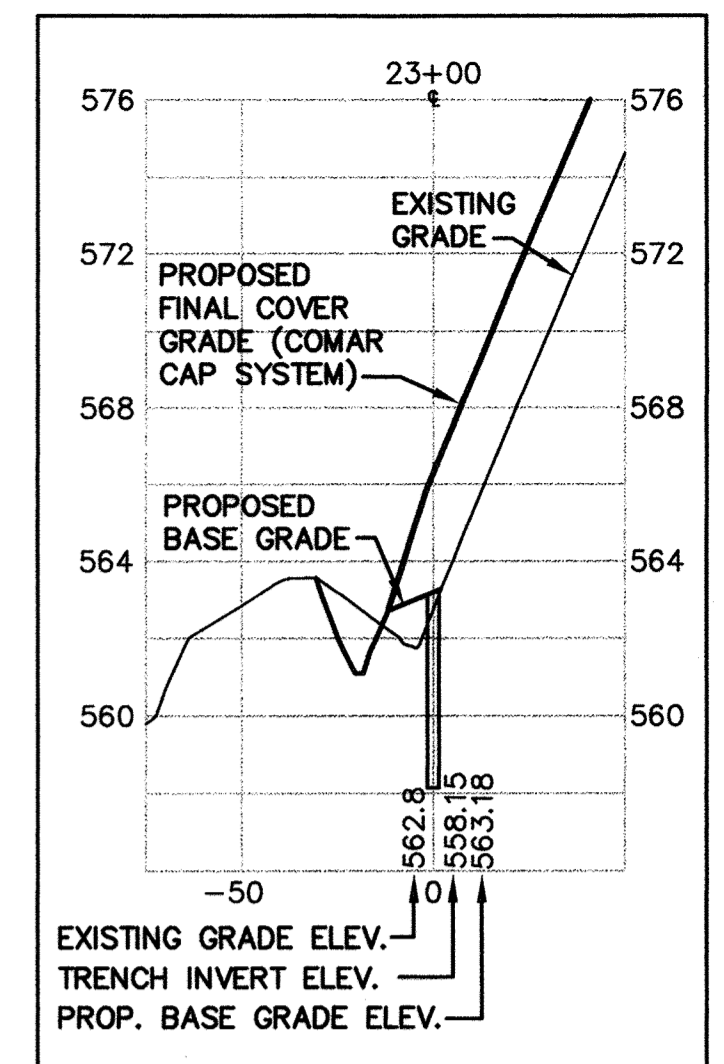
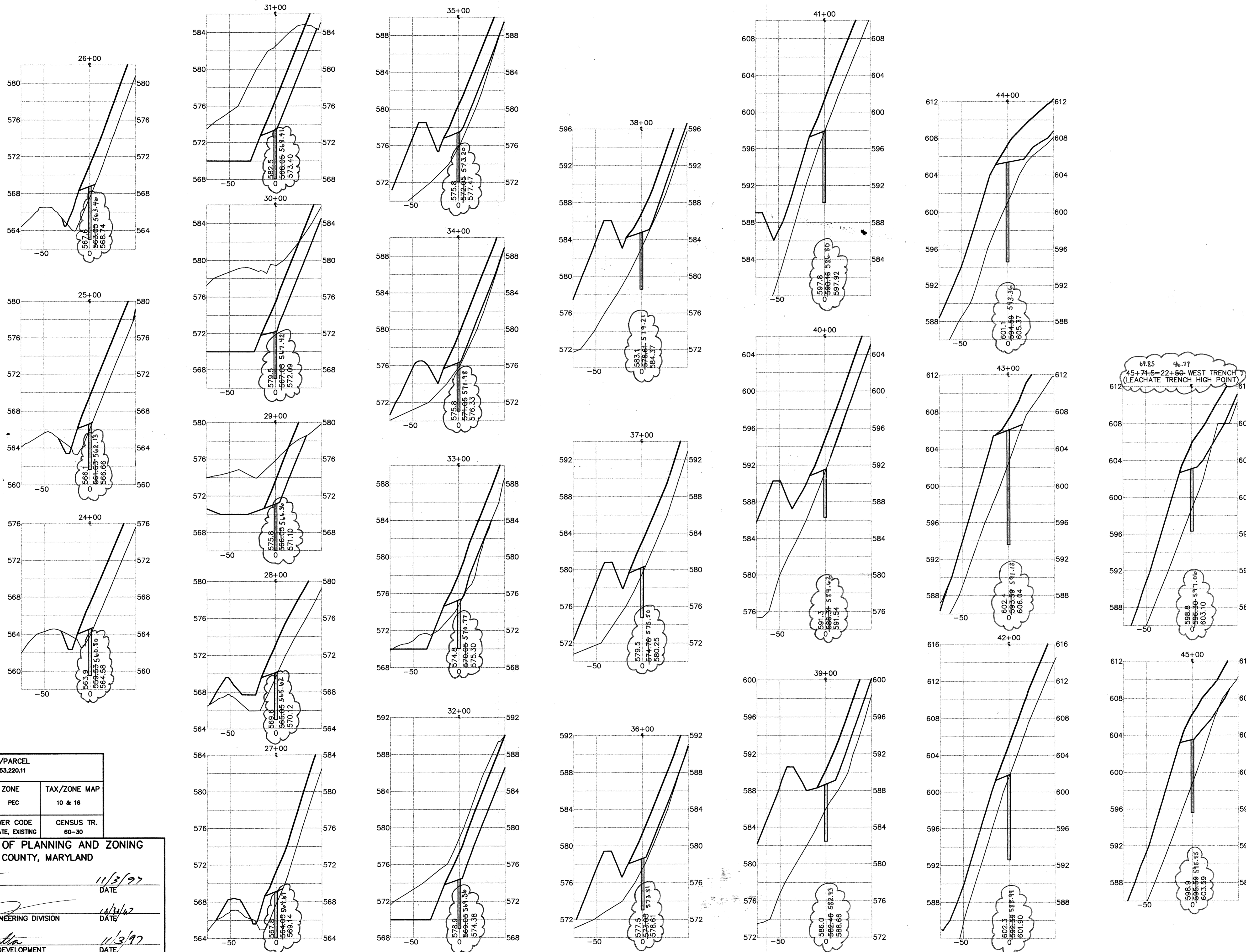
EAST LEACHATE COLLECTION  
TRENCH CROSS-SECTIONS

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE:  
AS NOTED

SHEET 14 OF 140

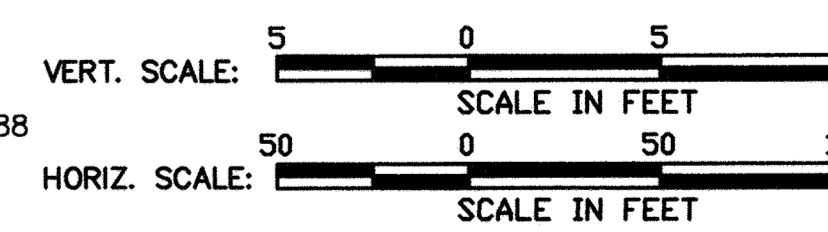


TYPICAL LEGEND FOR CROSS-SECTIONS

NOTE:  
FOR TYPICAL LEACHATE TRENCH CROSS-SECTION DETAILS, SEE SHEET 45.

AS-BUILT INFORMATION UNAVAILABLE FOR PROPOSED BASE GRADES

STATE OF MARYLAND  
PAUL ANTHONY MANDEVILLE  
PROFESSIONAL ENGINEER  
No. 1139  
Exp. 8-25-20



SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/808 18-878/215 10-891/314	ZONE PEC	TAX/ZONE MAP 10 & 16	
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30	

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*[Signature]* 11/3/97  
DIRECTOR DATE

*[Signature]* 11/3/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676

*[Signature]*  
Paul Anthony Mandeville, PE

DES. RTT, EGC	
DRN. EGC	
CHK. PAM	
BY	PMA
NO.	UPDATED SHEET TOTAL
REVISION	
DATE	10-30-97

EAST LEACHATE COLLECTION  
TRENCH CROSS-SECTIONS

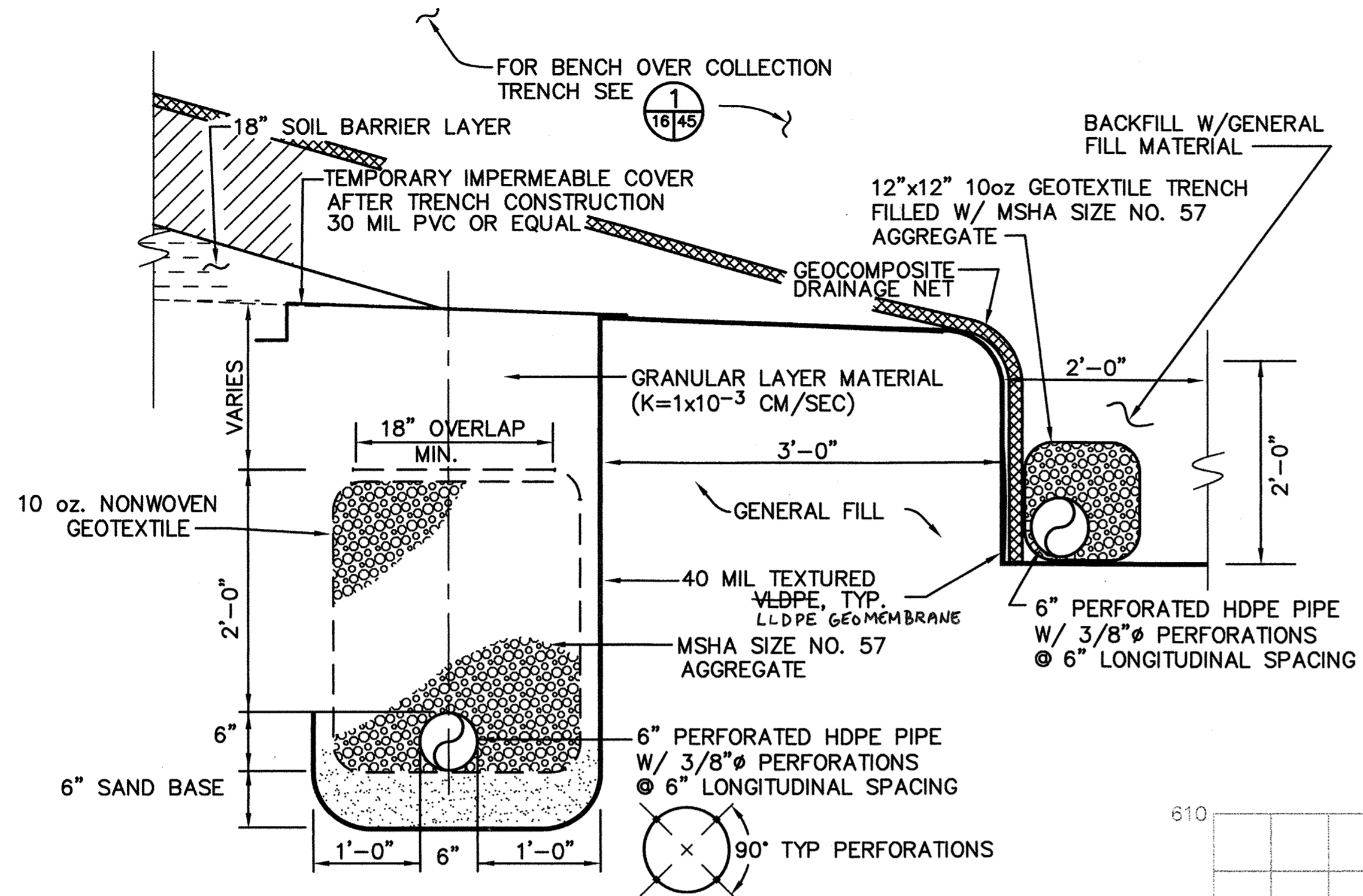
ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE:  
AS NOTED

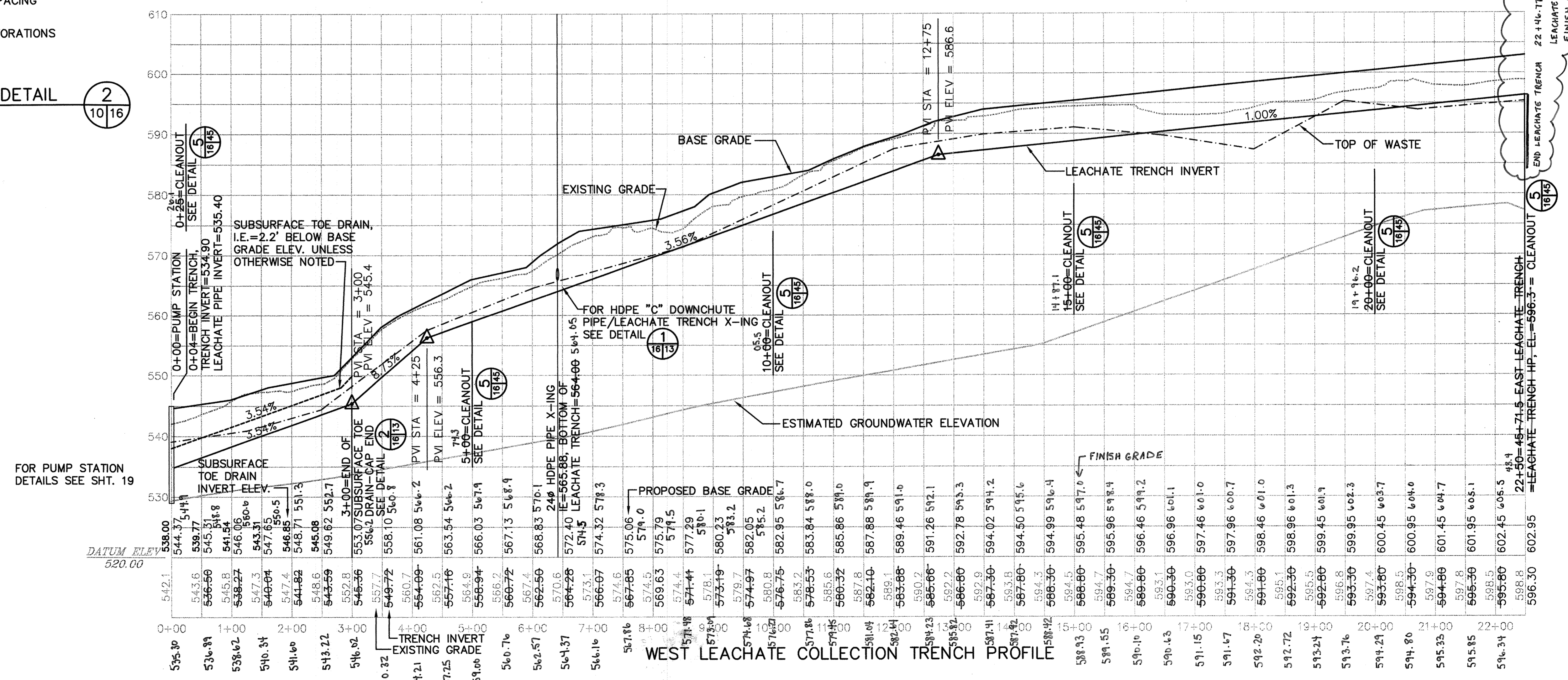
SHEET 15 OF 140





LEACHATE TRENCH WITH TOE DRAIN DETAIL  
SCALE: 1" = 1'-0"

AS-BUILT INFORMATION UNAVAILABLE FOR PROPOSED BASE GRADES



SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/806 16-878/215 10-881/314		ZONE PEC	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30	

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*[Signature]* 11/3/97  
DIRECTOR DATE

*[Signature]* 10/30/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

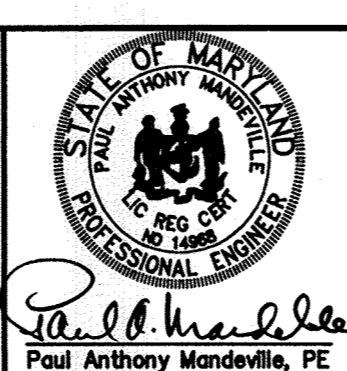
*[Signature]* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES. RTT, EGC	6
DRN. EGC	4
CHK. PAM	3
DATE: 10-30-97	DTM
BY NO.	UPDATE SHEET TOTAL
REVISION	4-7019
DATE	

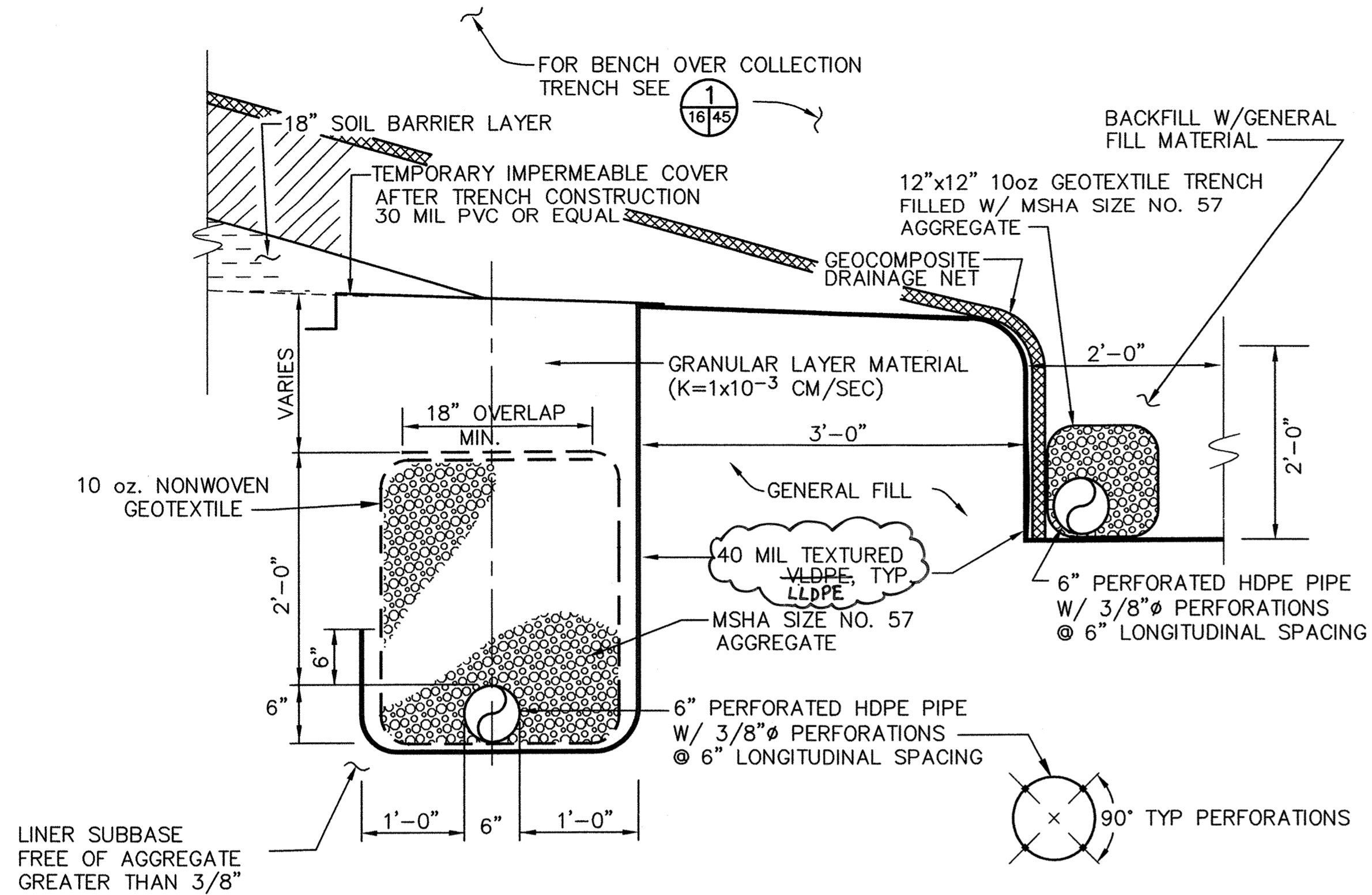
WEST LEACHATE COLLECTION  
TRENCH PROFILE

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

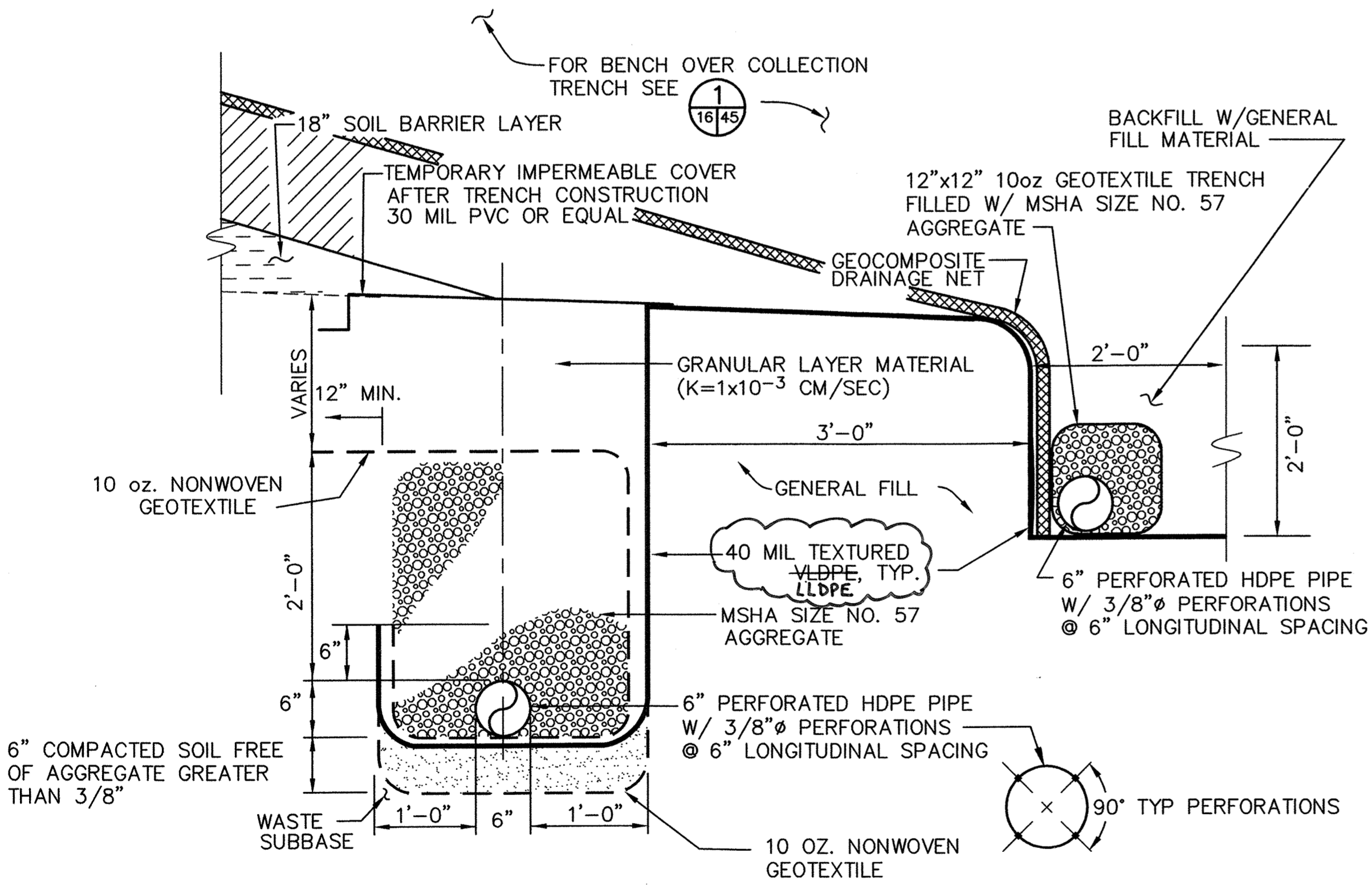
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE:  
1"=100'

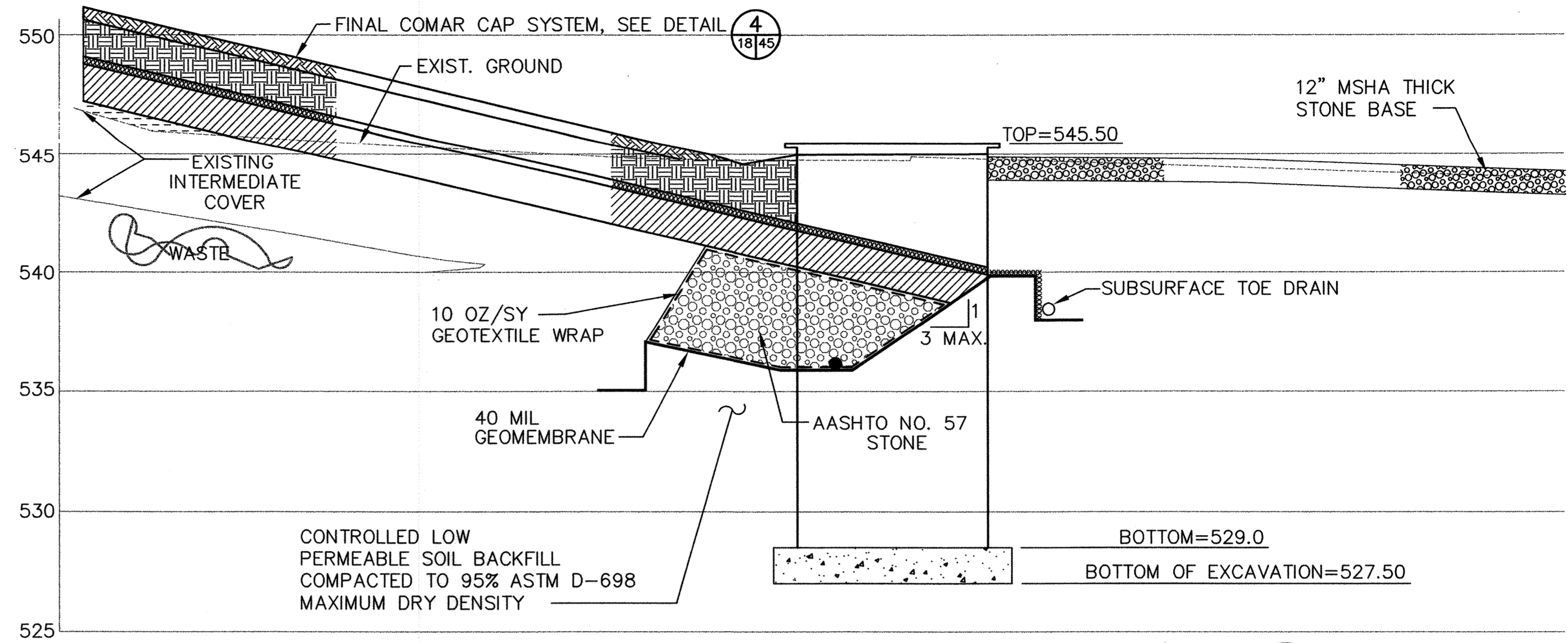
SHEET 16 OF 140



LEACHATE TRENCH WITH TOE DRAIN DETAIL IN SOIL (2A)  
SCALE: 1" = 1'-0"



LEACHATE TRENCH WITH TOE DRAIN DETAIL OVER WASTE (2B)  
SCALE: 1" = 1'-0"



SECTION THRU LEACHATE PUMP STATION (B)  
SCALE: 1/4" = 1'-0"



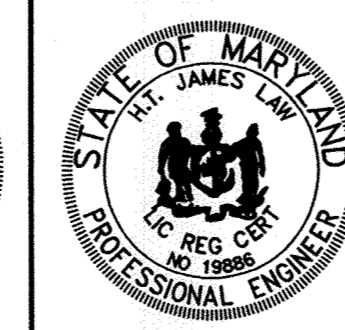
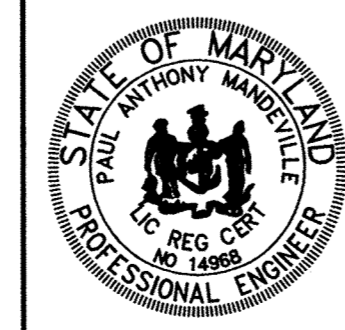
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 16156, Expiration Date: 8-25-20

M:\295077.01\ SHT-16A

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS      DATE      CHIEF, BUREAU OF WASTE MANAGEMENT      DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 20190  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES.	HJL				
DRN.	SPS				
CHK.	PAM				
DATE:	03-30-99	BY:	DTM	NO.	UPDATE SHEET TITL
				REVISION	DATE

MISCELLANEOUS DETAILS

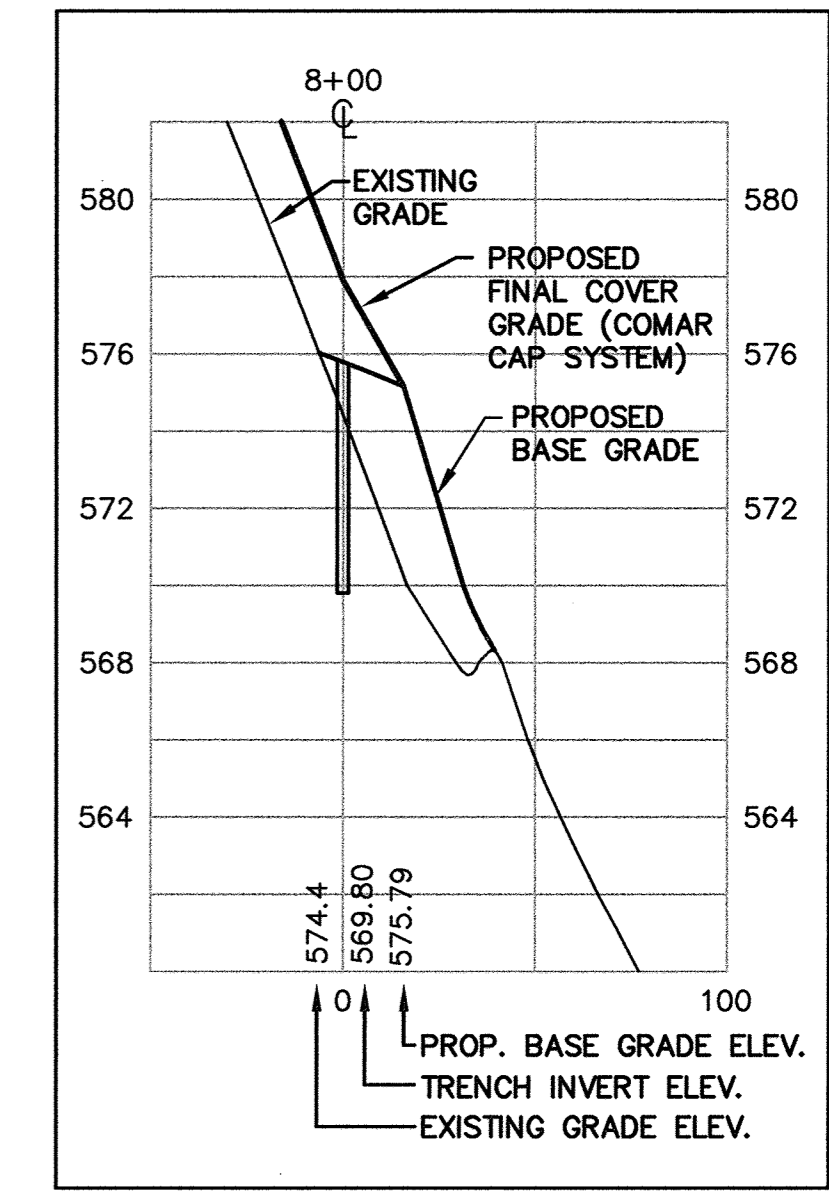
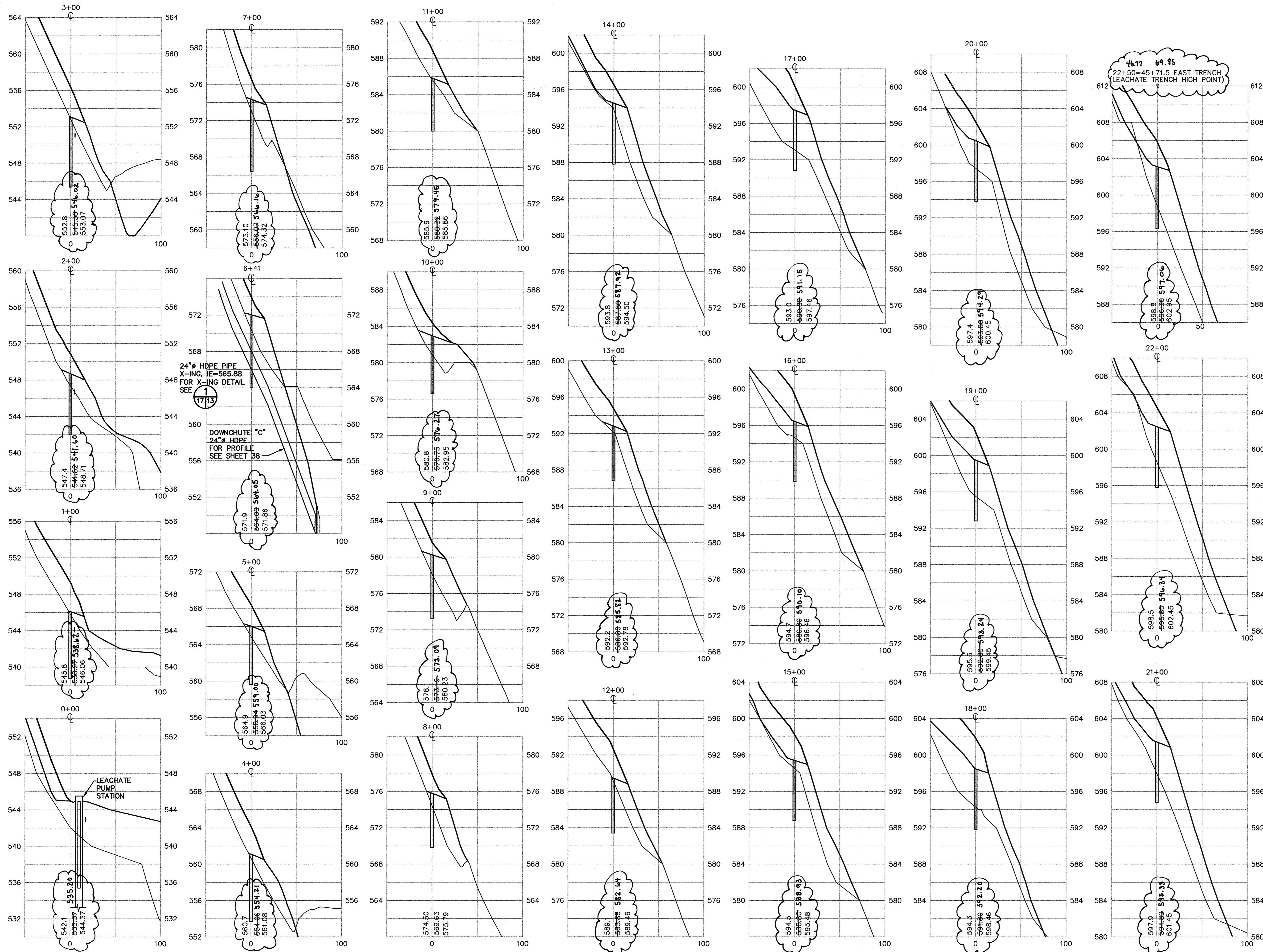
ALPHA RIDGE LANDFILL  
CELL CLOSURE  
CAPITAL PROJECT NO. C-0190

1st ELECTION DISTRICT      HOWARD COUNTY, MARYLAND

SCALE:  
AS NOTED

SHEET  
16A OF 140

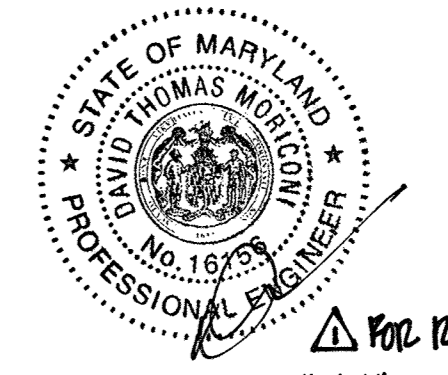
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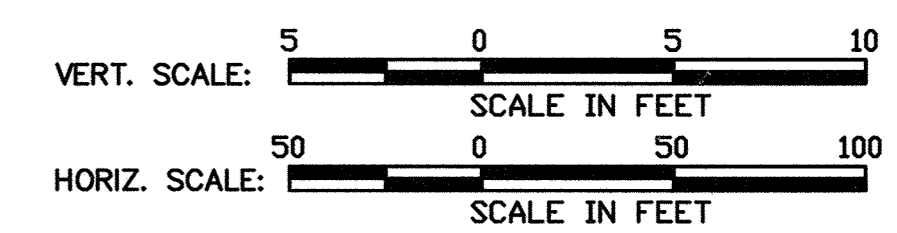
**TYPICAL LEGEND FOR CROSS-SECTIONS**

NOTE:  
FOR TYPICAL LEACHATE TRENCH CROSS-SECTION DETAILS, SEE SHEET 45.

AS-BUILT INFORMATION UNAVAILABLE FOR PROPOSED BASE GRADES



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 16156, Expiration Date: 8-28-12



SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/808 10-878/215 10-891/314		ZONE PEC	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING		SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*[Signature]* DIRECTOR 11/3/97 DATE

*[Signature]* CHIEF, DEVELOPMENT ENGINEERING DIVISION 11/3/97 DATE

*[Signature]* CHIEF, DIVISION OF LAND DEVELOPMENT 11/3/97 DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 10/30/97 DATE  
DIRECTOR OF PUBLIC WORKS

*[Signature]* 10/30/97 DATE  
CHIEF, BUREAU OF WASTE MANAGEMENT

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES. RTT, EGC			
DRN. EGC			
CHK. PAM			
DATE: 10-30-97	BY: <i>[Signature]</i>	NO. 4209	REVISION: UPDATED SHEET TOTAL

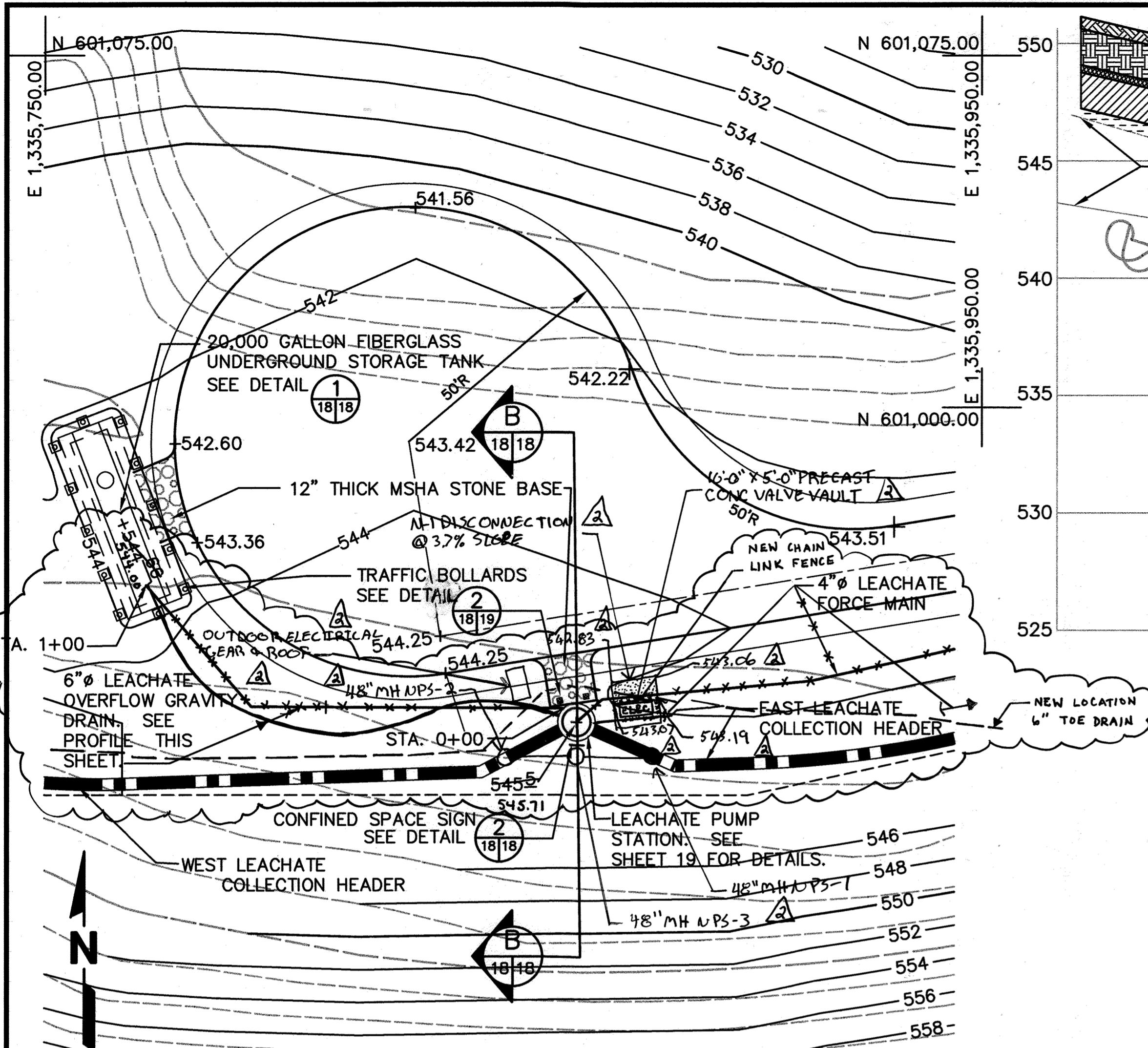
WEST LEACHATE COLLECTION  
TRENCH CROSS-SECTIONS

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

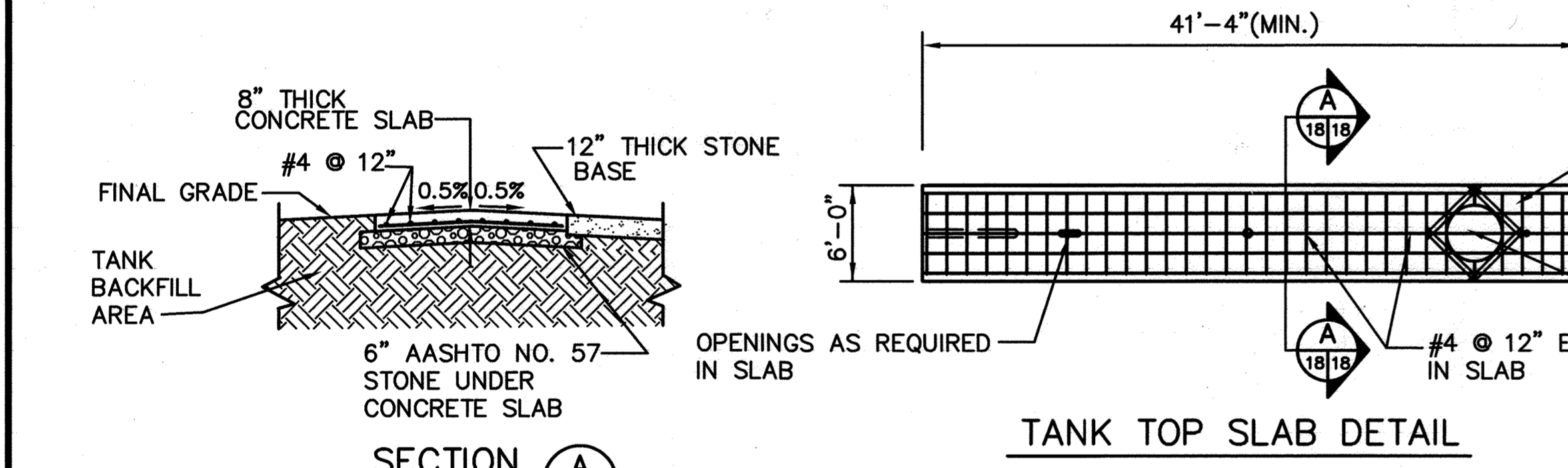
SCALE: AS NOTED

SHEET 17 OF 140

3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND



LEACHATE FACILITY - ENLARGED PLAN  
SCALE IN FEET



SECTION A  
TANK TOP SLAB DETAIL

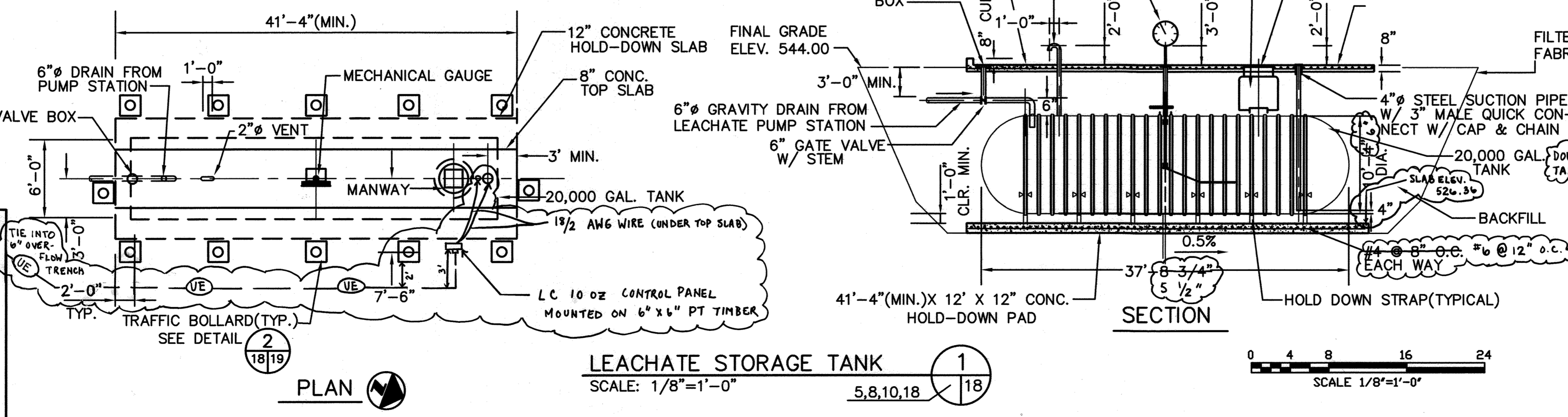
SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/808 16-878/215 10-891/314		TAX/ZONE MAP PEC 10 & 16	
WATER CODE PRIVATE, EXISTING		SEWER CODE PRIVATE, EXISTING	
CENSUS TR. 60-30			

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

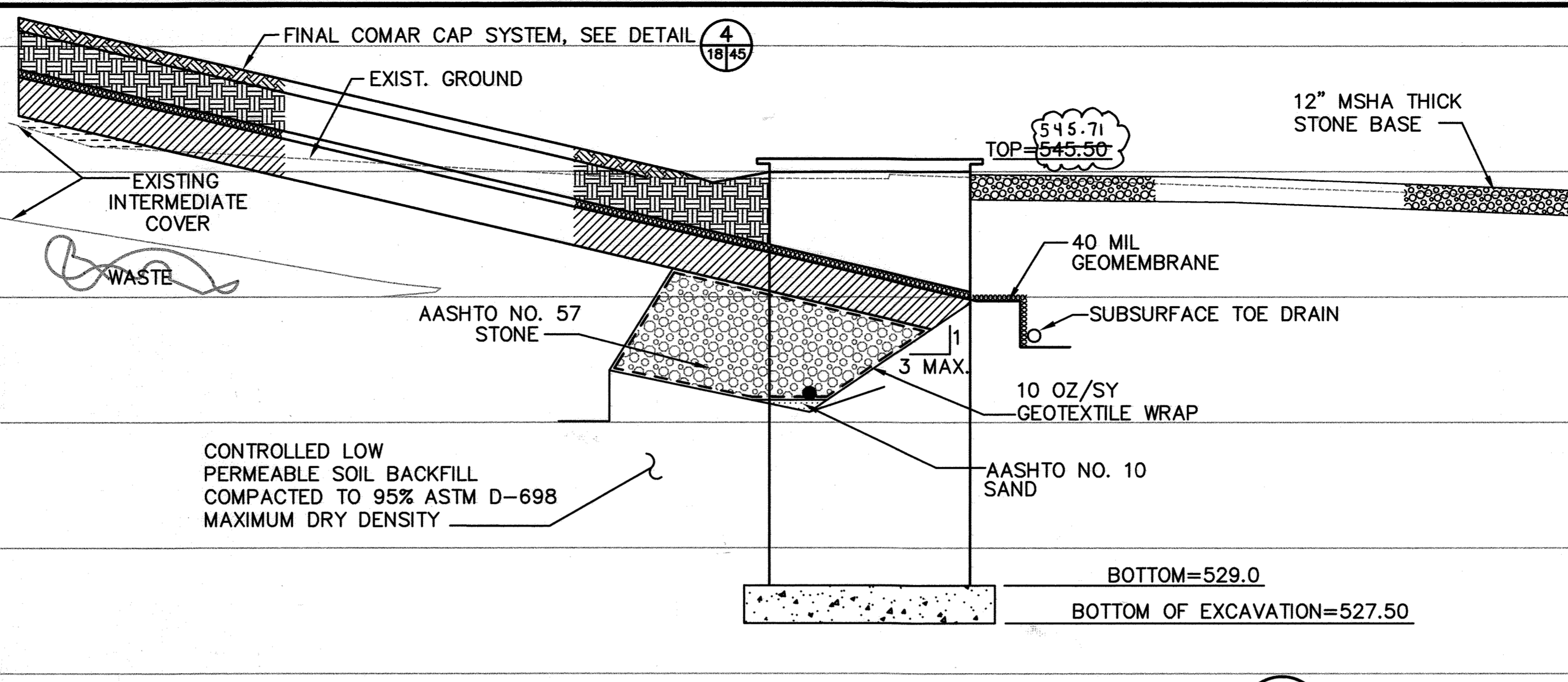
*[Signature]* 11/3/97  
DIRECTOR DATE

*[Signature]* 10/30/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

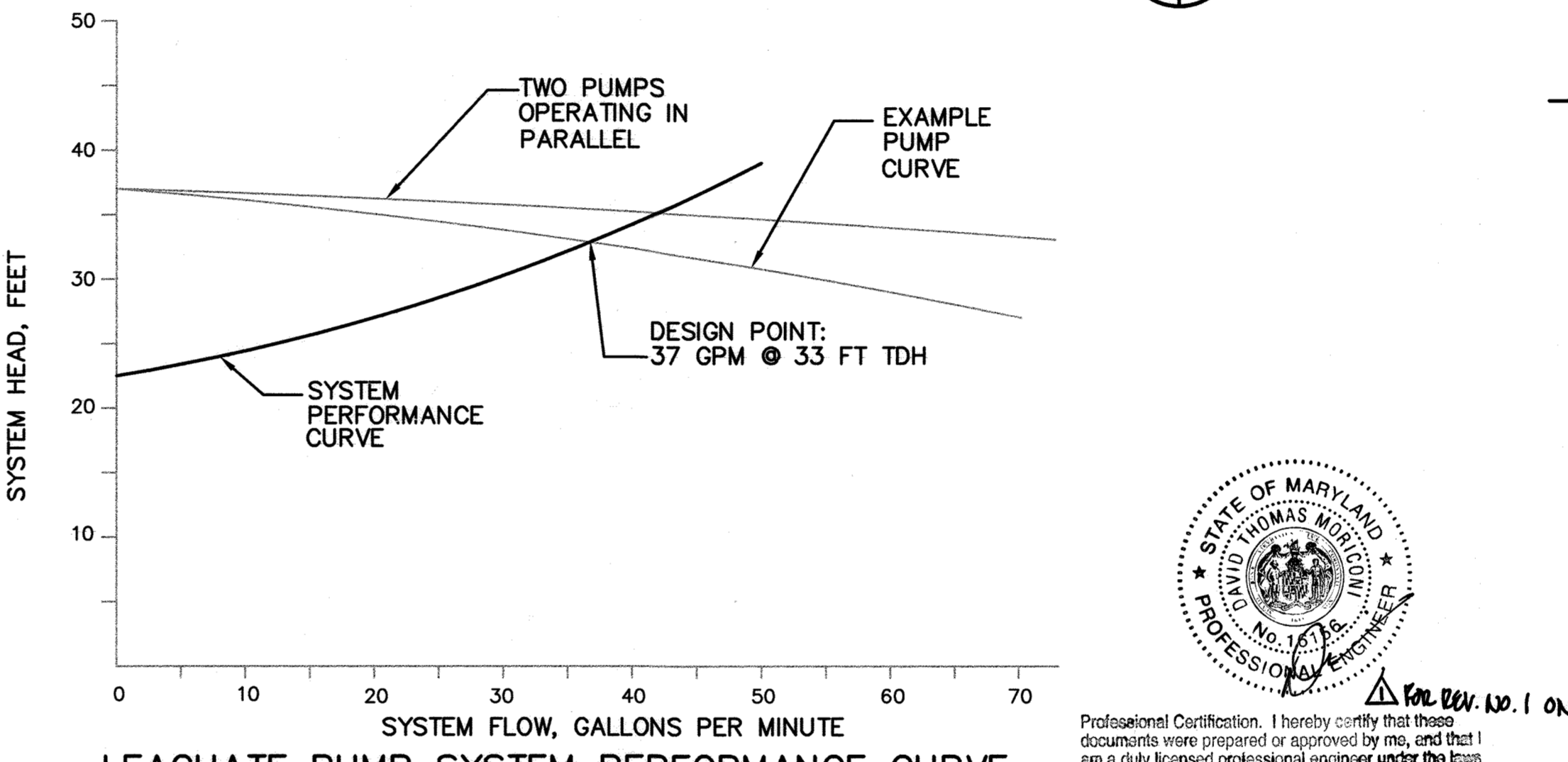
*[Signature]* 10/30/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE



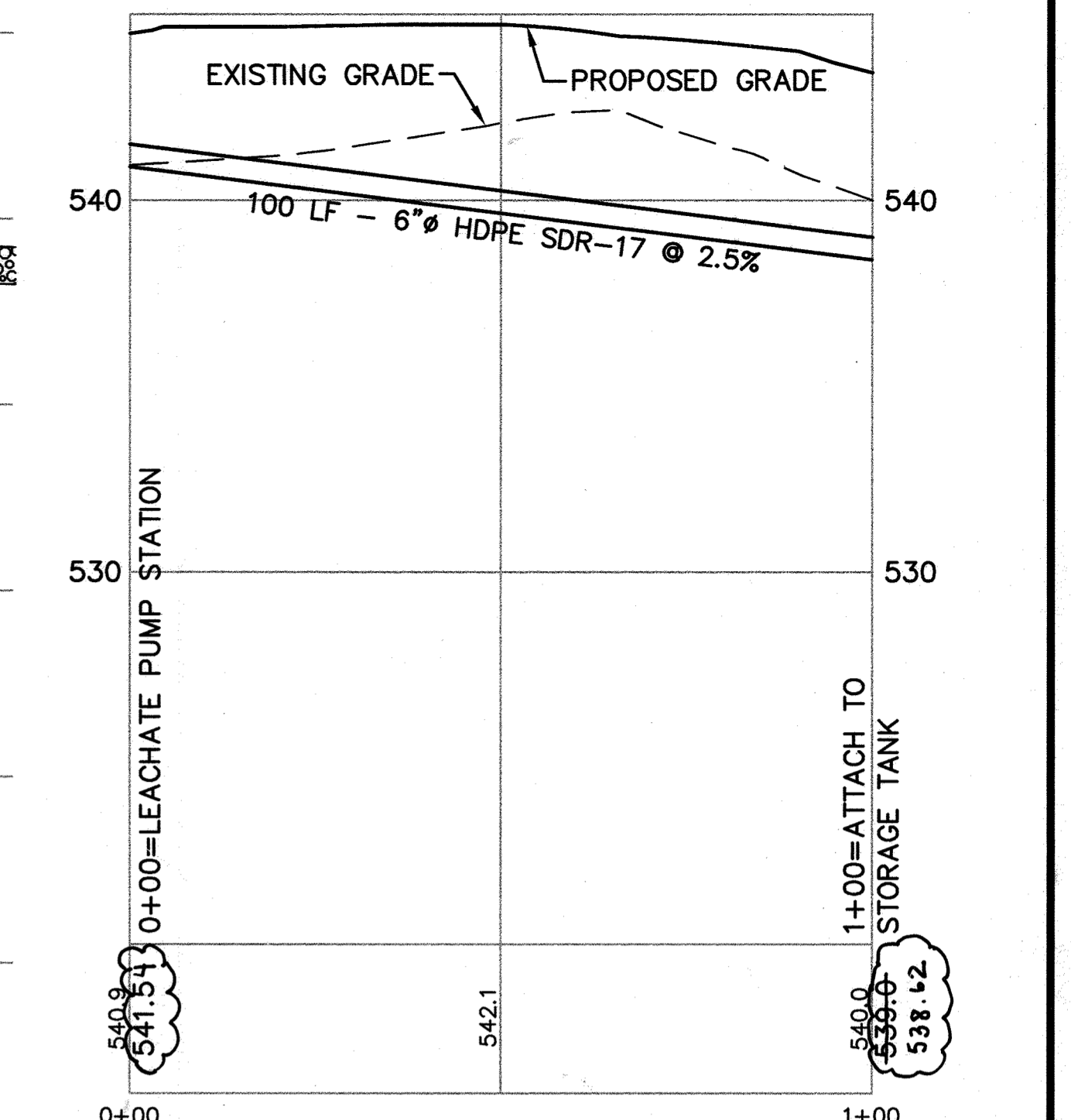
LEACHATE STORAGE TANK SECTION 1  
SCALE: 1/8"=1'-0"



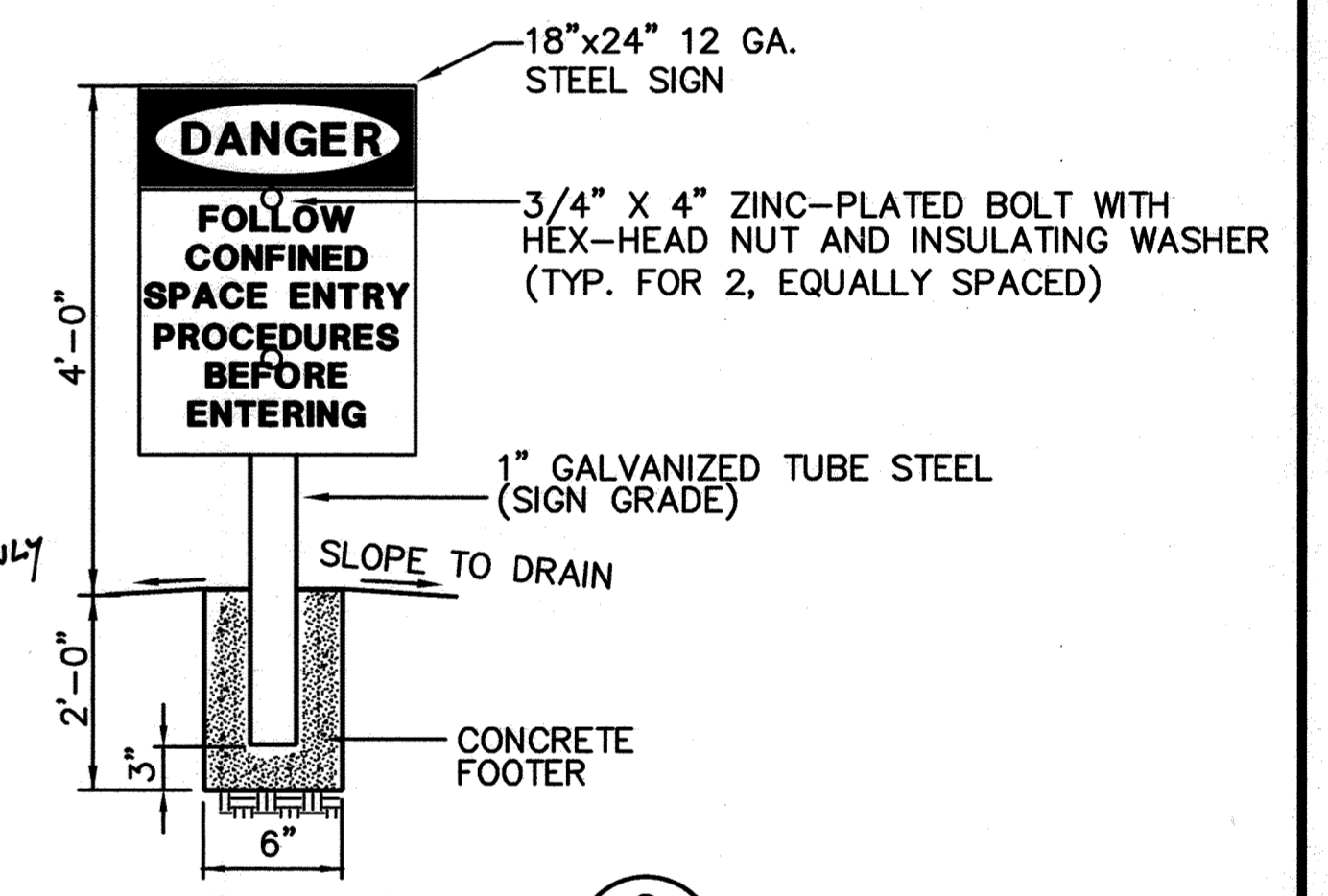
SECTION THRU LEACHATE PUMP STATION B  
SCALE: 1/4"=1'-0"



LEACHATE PUMP SYSTEM PERFORMANCE CURVE



LEACHATE OVERFLOW GRAVITY DRAIN PROFILE  
HORIZONTAL SCALE IN FEET  
VERTICAL SCALE IN FEET



CONFINED SPACE SIGN 2  
NOT TO SCALE

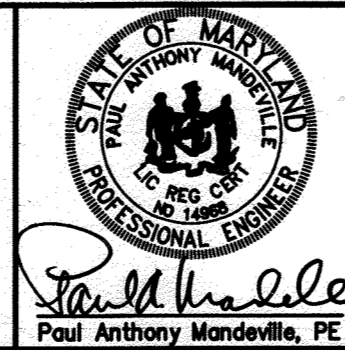
- NOTES:
- UNDERGROUND STORAGE TANK (UST) - PROVIDE 20,000 GALLON SINGLE WALL FIBERGLASS UST WITH OPENINGS AS INDICATED.
  - THE LOCATION PLACEMENT AND NUMBER OF HOLD DOWN STRAPS SHALL BE AS SPECIFIED BY THE MANUFACTURER.
  - UST BACKFILL SHALL BE AS SPECIFIED BY THE MANUFACTURER.
  - INSTALL THE UST IN ACCORDANCE WITH THE UST MANUFACTURER'S WRITTEN INSTRUCTIONS AND PETROLEUM EQUIPMENT INSTITUTE (PEI) 100-94.
  - CONCRETE SLAB SHALL BE CONSTRUCTED SO A 0.5% SLOPE IS MAINTAINED FROM THE CENTER (HIGH POINT) TO EACH CORNER OF SLAB (LOW POINT).
  - CONCRETE MINIMUM COMPRESSIVE STRENGTH SHALL BE 4,000 PSI AS PER SPECIFICATION 03300 "CONCRETE".
  - FOR ADDITIONAL OPENINGS OR IF OPENING LOCATIONS DIFFER FROM THOSE INDICATED DUE TO TANK MANUFACTURER'S REQUIREMENTS, CONTRACTOR SHALL SUBMIT A REVISED REINFORCING PLAN FOR ENGINEER'S APPROVAL.
  - CONCRETE PAD SHALL BE BROOM FINISHED.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES. RTT, FDB			
DRN. FTB, EGC			
CHK. PAM	D9-C	PUMP STATION UPGRADES	1-30-24
DATE: 10-30-97	DTM	UPDATED SHEET TOTAL	4-20-97
	BY NO.	REVISION	DATE

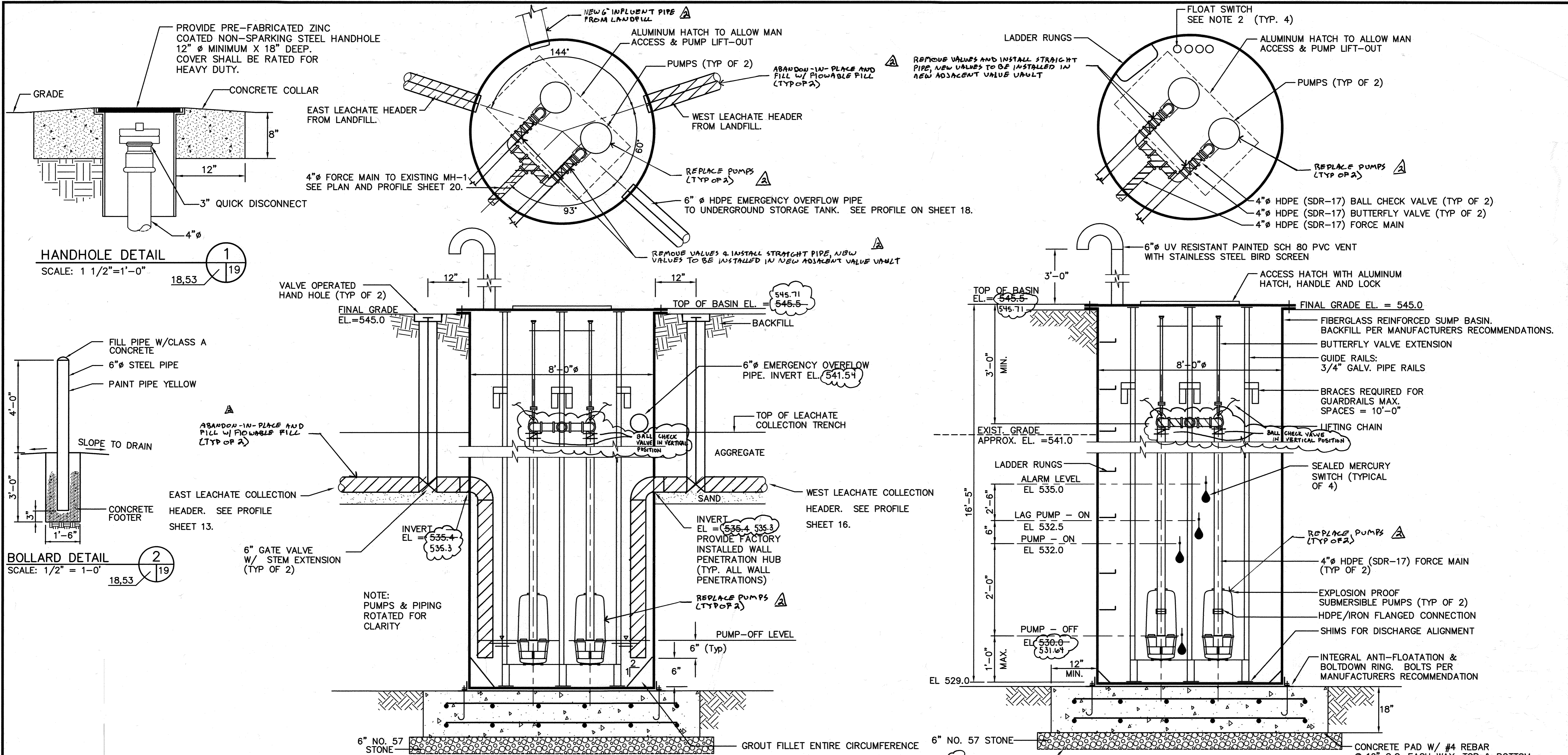
LEACHATE FACILITY LAYOUT AND DETAILS

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

SCALE: AS NOTED  
SHEET 18 OF 140

3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

LEACHFAC M: 29507701/FINAL PLAN2, GRAVPRO, L-TANK, PBNOTES, PUMPBASE, SYSTEMCURVE, SIGN



**HANDHOLE DETAIL**  
SCALE: 1 1/2" = 1'-0"

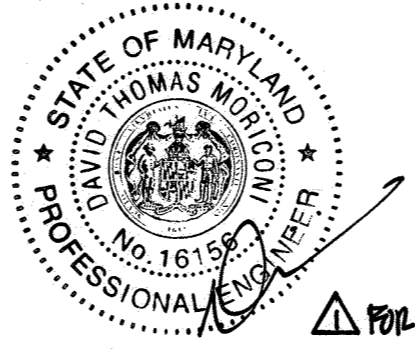
**BOLLARD DETAIL**  
SCALE: 1/2" = 1'-0"

**LEACHATE PUMP STATION CONNECTION**  
NO SCALE

**LEACHATE PUMP STATION DETAIL**  
NO SCALE

- NOTES:**
1. ALL BASIN WALL PENETRATIONS SHALL BE WATER-TIGHT, FACTORY-INSTALLED PENETRATION HUBS, CAST INTO BASIN WALL FIBERGLASS.

- NOTES:**
1. FOR INLET PIPE CONNECTIONS, SEE LEACHATE PUMP STATION CONNECTION DETAIL, THIS SHEET.
  2. COORDINATE FLOAT SWITCH HANGING LOCATIONS WITH BASIN PIPE PENETRATIONS
  3. ACCESS HATCH SHALL ALLOW REMOVAL/INSERTION OF PUMPS AND PERSONNEL ACCESS.



SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/606 16-878/215 10-891/314	ZONE PEC	TAX/ZONE MAP 10 & 16	
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30	

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*Paul S. Smith* 11/3/97  
DIRECTOR DATE

*John J. O'Hara* 11/3/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

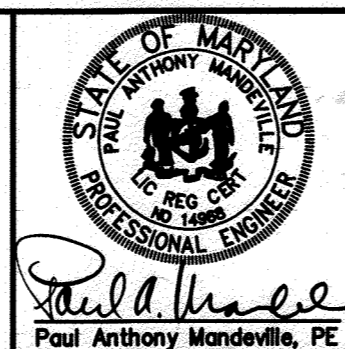
*Cindy Hamilton* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James P. Slone* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*John J. O'Hara* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676

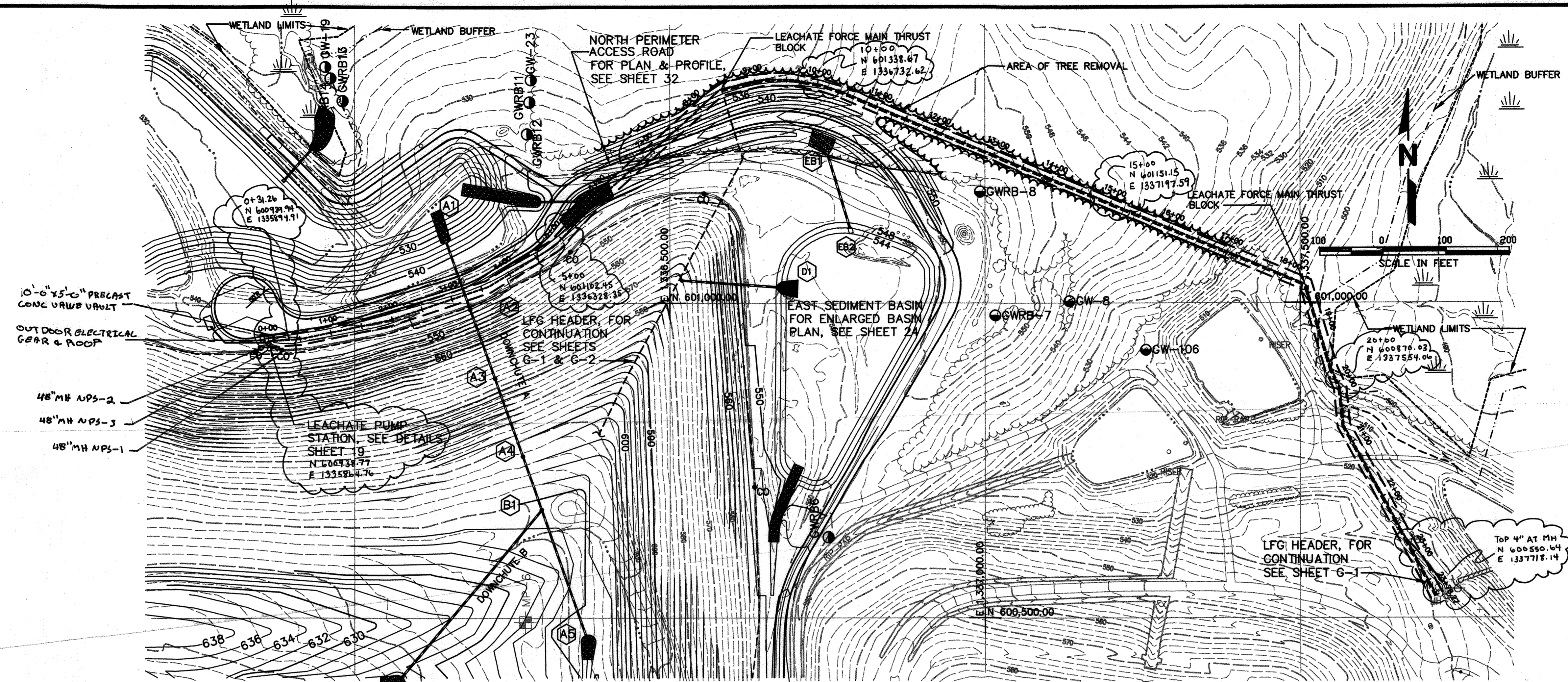


DES.	RTT				
DRN.	FDB				
CHK.	PAM	DAO	PUMP STATION UPGRADES	1-2024	
		DM	UPDATED SHEET TOTAL	4-2011	
DATE:	10-30-97	BY	NO.	REVISION	DATE

LEACHATE PUMP STATION DETAILS

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

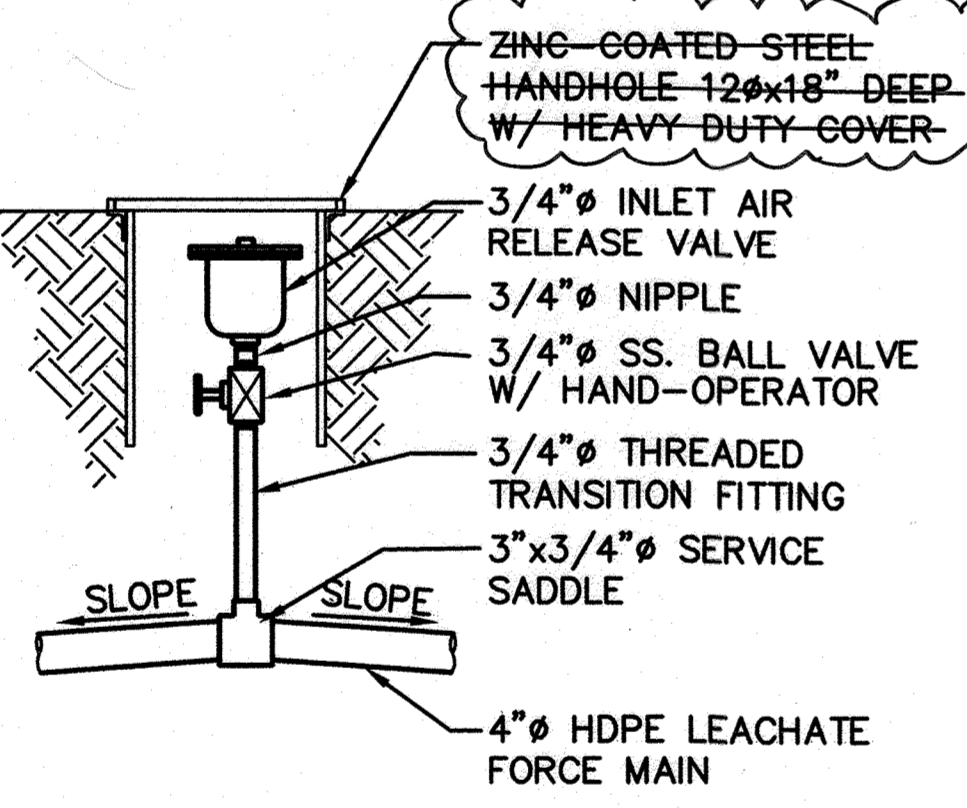
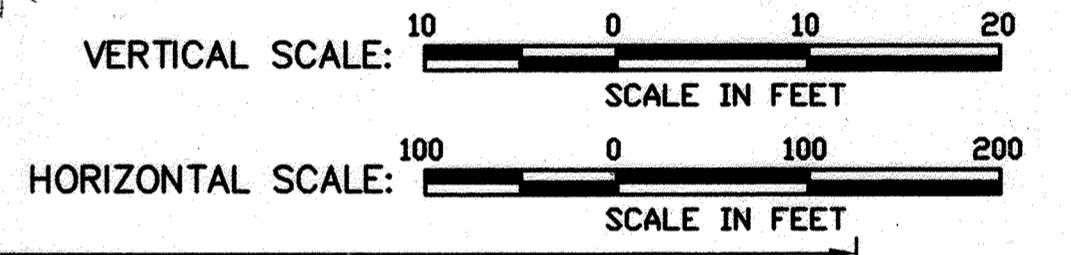
SCALE:  
AS NOTED  
SHEET 19 OF 140



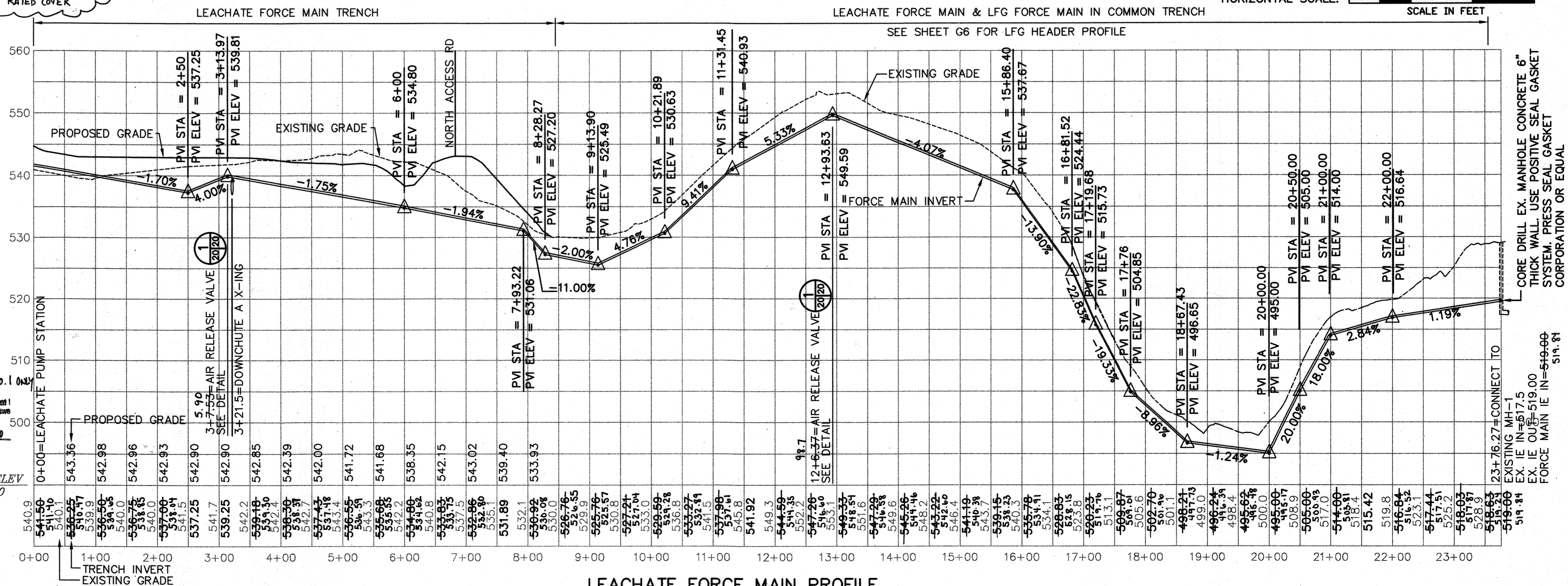
- LEGEND**
- GW-102 GROUNDWATER WELLS(EXIST.)
  - ⊕ MP-3 LFG PROBES(TO BE REMOVED) SEE SHEET G2
  - ⊕ LFG-6 LFG MONITORING WELLS(EXIST.)
  - PROPERTY LINE
  - - - - - CONFIRMED LIMITS OF WASTE
  - B = BERM
  - CO = CLEAN OUT
  - PG = PIPE GUTTER
  - HP = HIGH POINT
  - Ⓟ DRAINAGE STRUCTURE DESIGNATION
  - NEW HDPE PIPE/DOWNCHUTES/ CONCRETE DRAINAGE PIPES
  - NEW LEACHATE COLLECTION TRENCH
  - NEW LEACHATE FORCEMAIN
  - EXISTING SCRUB BRUSH VEGETATION
  - PROPOSED TREE LINE
  - WETLAND LIMITS
  - WETLANDS
  - WETLAND BUFFER
  - LIMITS OF TREE REMOVAL

THIS SHEET FOR CONSTRUCTION OF LEACHATE FORCE MAIN ONLY.

LEACHATE FORCE MAIN PLAN

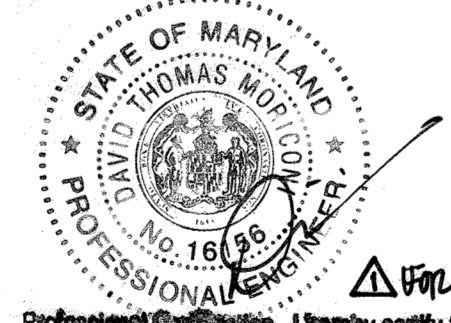


AIR RELEASE VALVE DETAIL  
SCALE: 1"=1'-0"



LEACHATE FORCE MAIN PROFILE

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/806 18-878/215 10-891/314		ZONE PEC	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING		SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30



DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*David Thomas* 11/3/97  
DIRECTOR DATE

*Randy Smith* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

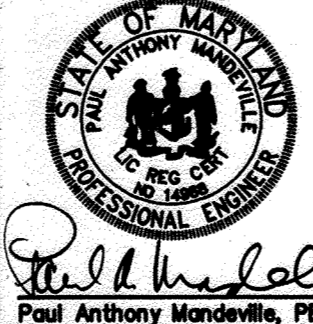
DATUM ELEV  
490.00

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James J. O'Hara* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*John J. O'Hara* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES. RTT, EGC			
DRN. EGC			
CHK. PAM	OAO	PUMP STATION UPGRADES	1-26-94
BY	DM	UPDATED SHEET TOTAL	4-20-99
NO.		REVISION	DATE

LEACHATE FORCE MAIN  
PLAN & PROFILE

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE:  
1"=100'

SHEET  
20 OF 140

THIS SHEET FOR LEACHATE PUMP STATION UTILITIES ONLY.

- LEGEND**
- GW-102 GROUNDWATER WELLS(EXIST.)
  - ⊕ MP-3 LFG PROBES(TO BE REMOVED) SEE SHEET G2
  - ⊕ LFG-6 LFG MONITORING WELLS(EXIST.)
  - PROPERTY LINE
  - - - - - CONFIRMED LIMITS OF WASTE
  - B = BERM
  - PG = PIPE GUTTER
  - HP = HIGH POINT
  - (B1) DRAINAGE STRUCTURE DESIGNATION
  - NEW HDPE PIPE/DOWNCHUTES/ CONCRETE DRAINAGE PIPES
  - NEW LEACHATE COLLECTION TRENCH
  - NEW LEACHATE FORCEMAIN
  - ~ ~ ~ ~ ~ EXISTING TREE LINE
  - ~ ~ ~ ~ ~ EXISTING SCRUB BRUSH VEGETATION
  - ~ ~ ~ ~ ~ PROPOSED TREE LINE
  - - - - - WETLAND LIMITS
  - WETLANDS
  - LIMITS OF GEOMEMBRANE CAP
  - CO = CLEAN OUT
  - CONDUIT AREA
  - DAYLIGHT SUBSURFACE TOE DRAIN PIPE
  - - - - - WETLAND BUFFER
  - - - - - LIMITS OF TREE REMOVAL
  - - - - - LIMITS OF DISTURBANCE

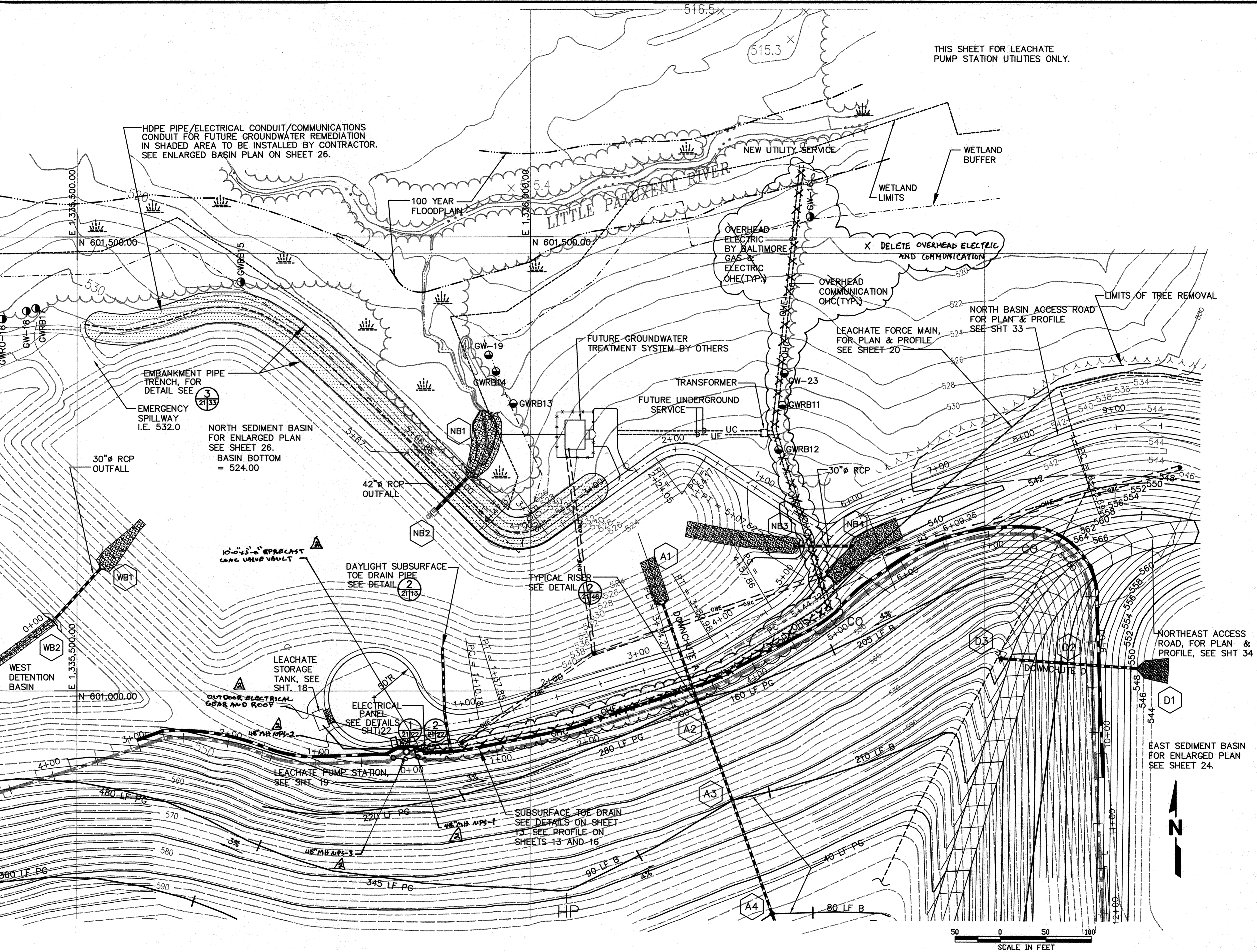
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 16196 Expiration Date: 8-28-10

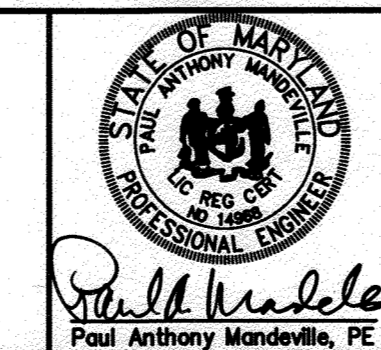
PAUL ANTHONY MANDEVILLE, P.E.

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/806 16-878/215 10-891/314	ZONE PEC	TAX/ZONE MAP 10 & 16	
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30	
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND			
Director: <i>David R. Smith</i>		DATE: 11/3/97	
Chief, Development Engineering Division: <i>Clayton Hamilton</i>		DATE: 10/30/97	
Chief, Division of Land Development: <i>Clayton Hamilton</i>		DATE: 11/3/97	

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND		SCS ENGINEERS CONSULTING ENGINEERS 11260 ROGER BACON DRIVE SUITE 300 RESTON, VIRGINIA 22090 PH. (703) 471-6150 FAX. (703) 471-6676	
Director: <i>James P. Lee</i>	DATE: 10/30/97	Chief, Bureau of Waste Management: <i>John O'Hara</i>	DATE: 10/30/97



ELECTRIC  
M:\295077\01\FINAL  
ELECPLAN-B



DES. RTT	DA	1-30-94
DRN. EGC,MEH	DM	4-20-94
CHK. PAM	BY NO.	REVISION
DATE: 10-30-97		

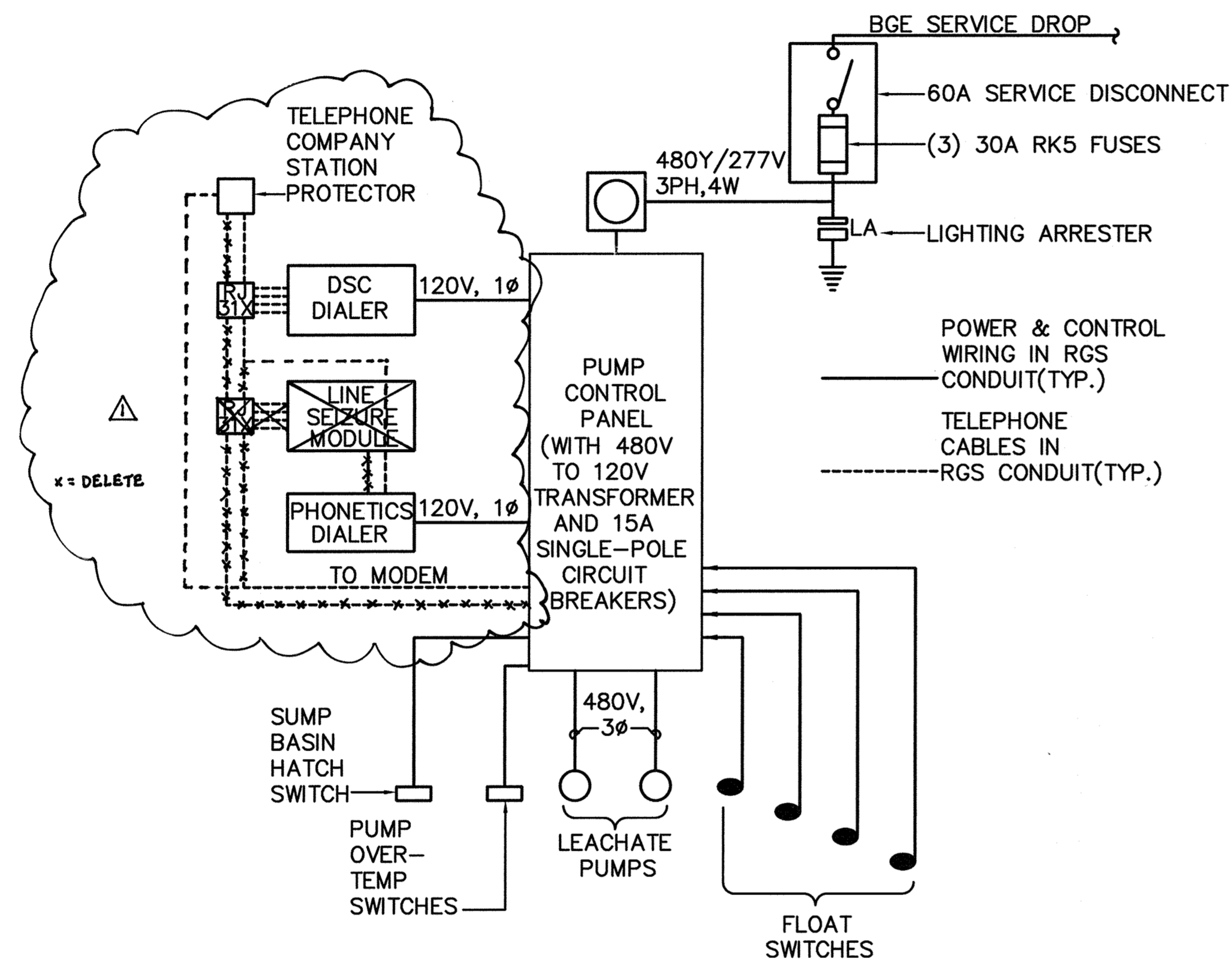
LEACHATE PUMP STATION  
ELECTRICAL SITE PLAN

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE: 1"=50'  
SHEET 21 OF 140

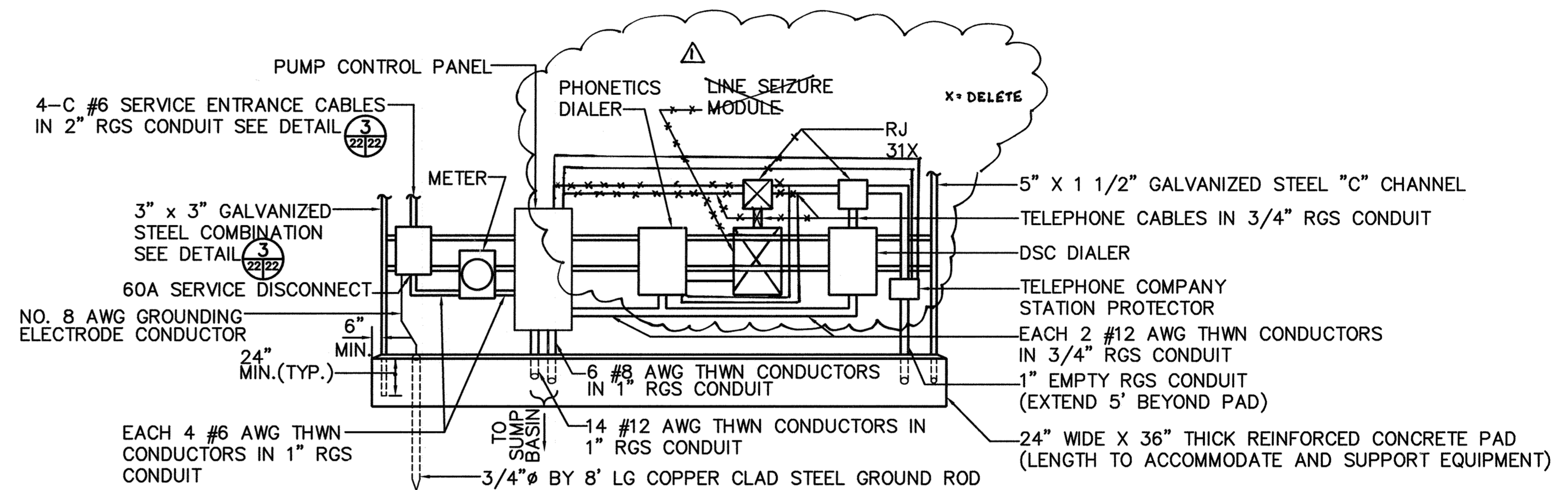
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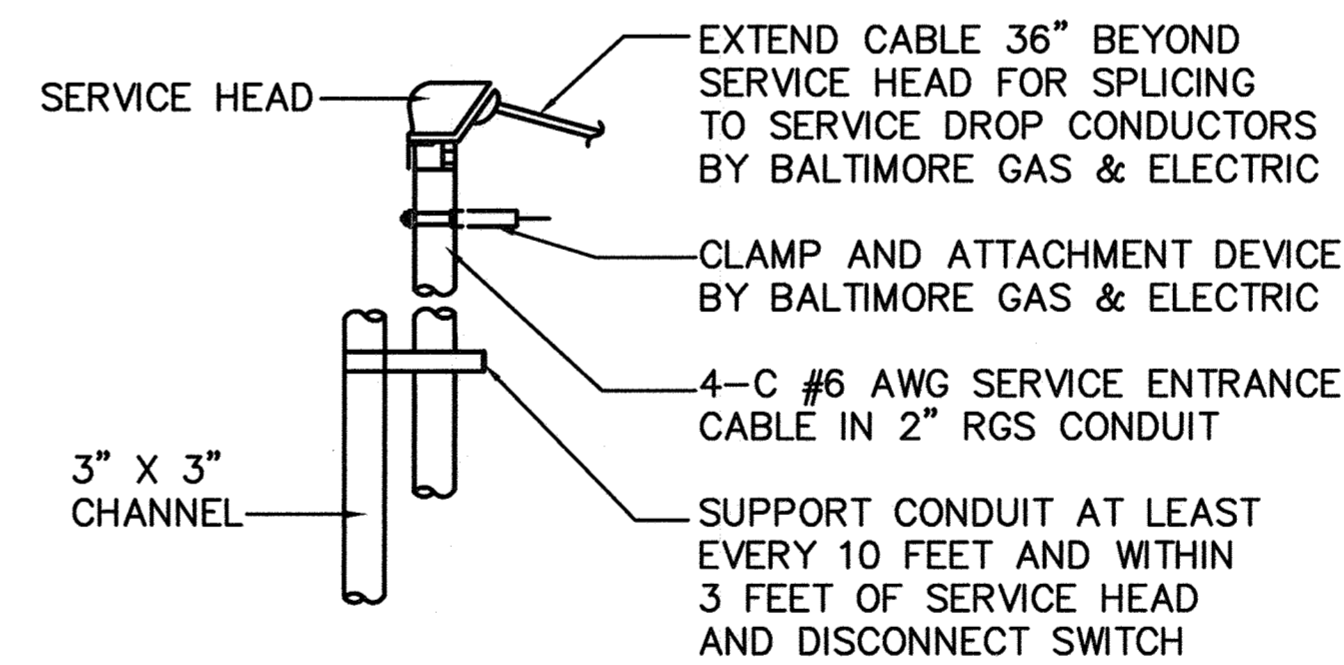
**SINGLE LINE DIAGRAM DETAIL 1**  
NO SCALE

**NOTES:**

- BALTIMORE GAS & ELECTRIC WILL INSTALL SERVICE CABLE FROM THEIR POWER SOURCE TO THE SERVICE HEAD
- EQUIPMENT SHALL BE ATTACHED TO THE CHANNELING WITH 3/4" GALVANIZED BOLTS, NUTS AND WASHERS.
- CONTRACTOR SHALL OBTAIN METER BASE FROM BALTIMORE GAS & ELECTRIC AND INSTALL IT.



**ELECTRICAL RISER DIAGRAM DETAIL 2**  
NO SCALE



**DETAIL 3**  
NO SCALE

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11
LIBER/FOLIO 10-847/606 16-876/215 10-891/314	ZONE PEC	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*[Signature]* 11/3/97  
DIRECTOR DATE

*[Signature]* 11/3/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

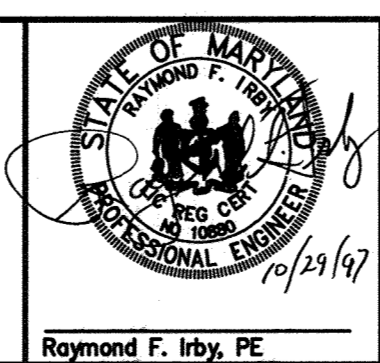
*[Signature]* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES.	RFI			
DRN.	MEH			
CHK.	PAM	DTM	UPDATED SHEET TOTAL	4-20-99
DATE:	10-30-97	RP1	MODIFICATION TO ELECTRICAL DIAGRAMS	8/26/98
BY	NO.		REVISION	DATE

LEACHATE PUMP STATION  
ELECTRICAL DETAILS

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

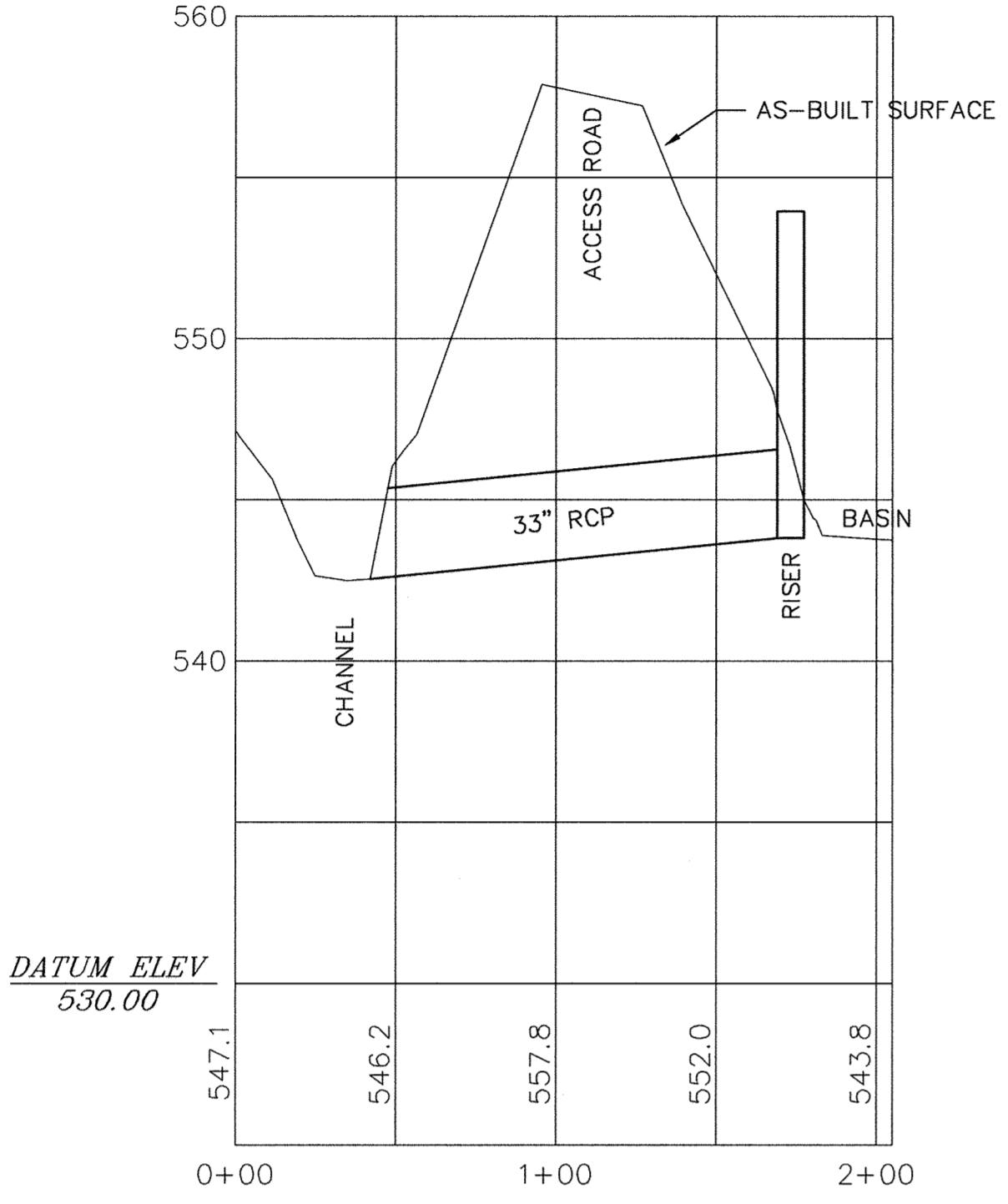
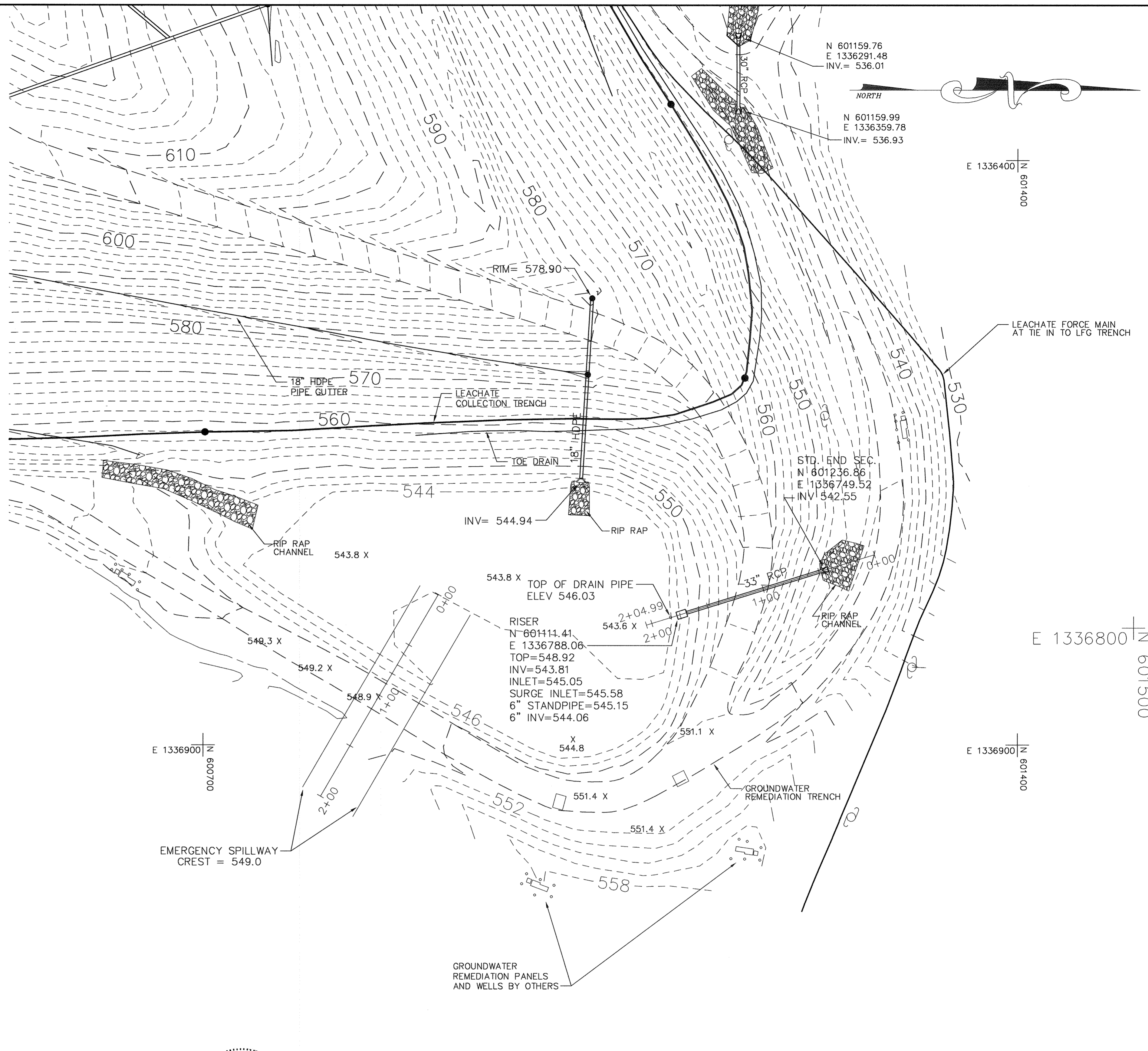
SCALE:  
AS NOTED

SHEET 22 OF 140

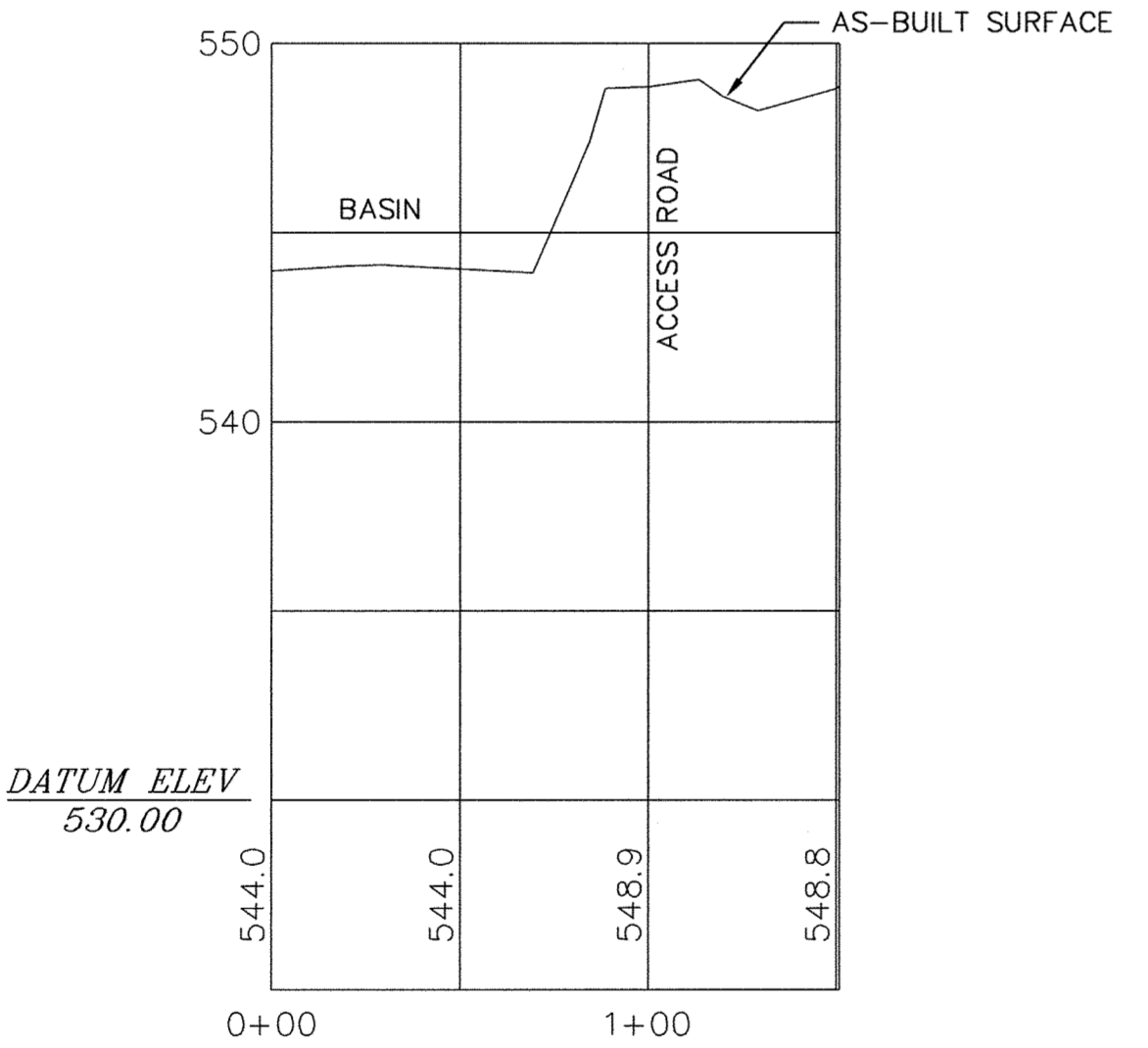
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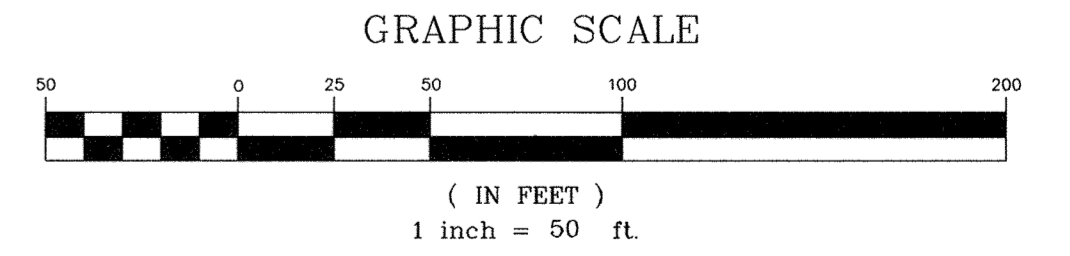
PROFILE ALONG OUTLET EAST BASIN



SPILLWAY PROFILE EAST BASIN



Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 16156, Expiration Date: 8-18-20



E:\b-a\slbt.dwg 10-25-00 10:18:49 am EST

E:\b-a\slbt.dwg 10-25-00 10:18:49 am EST

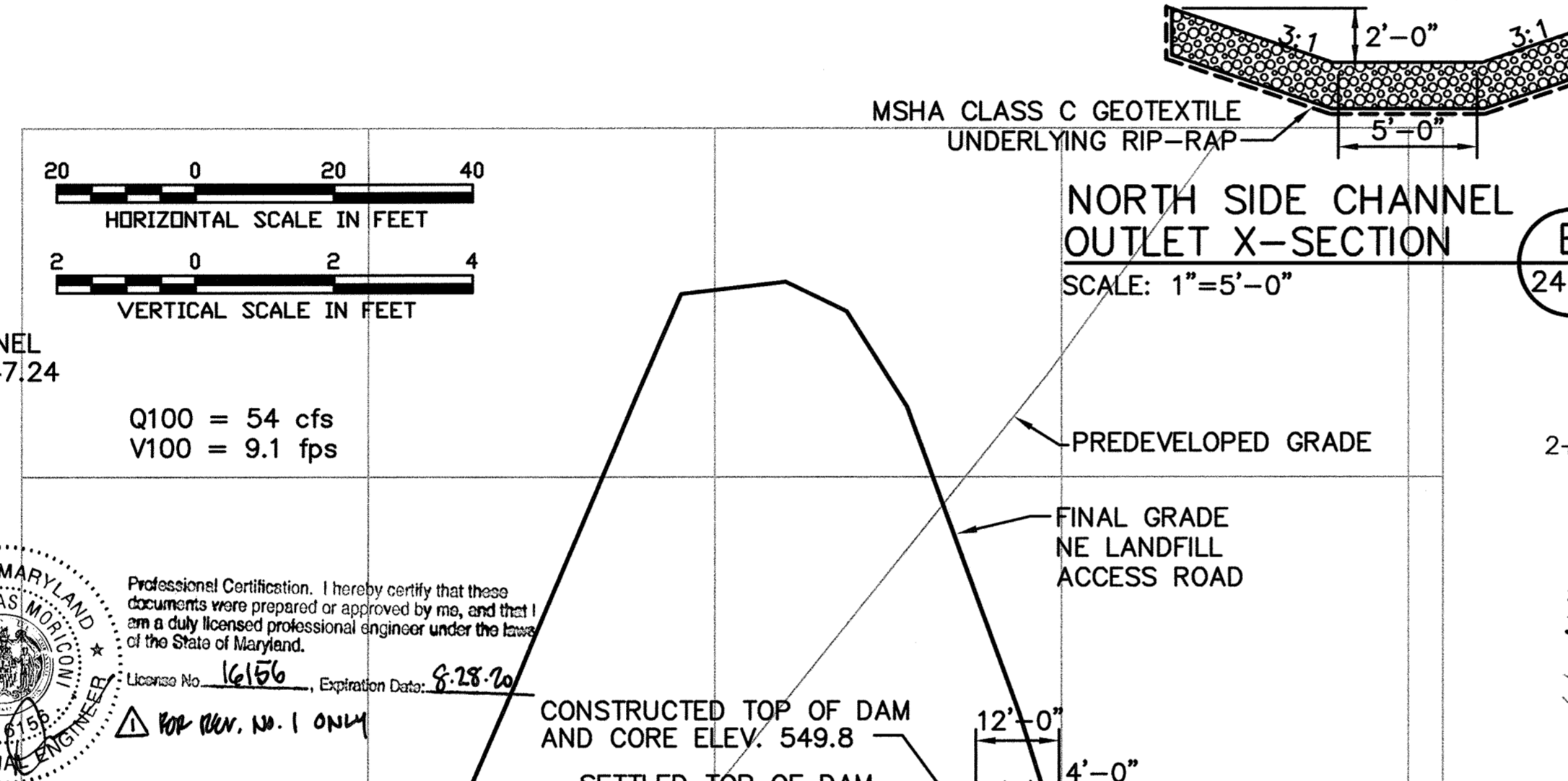
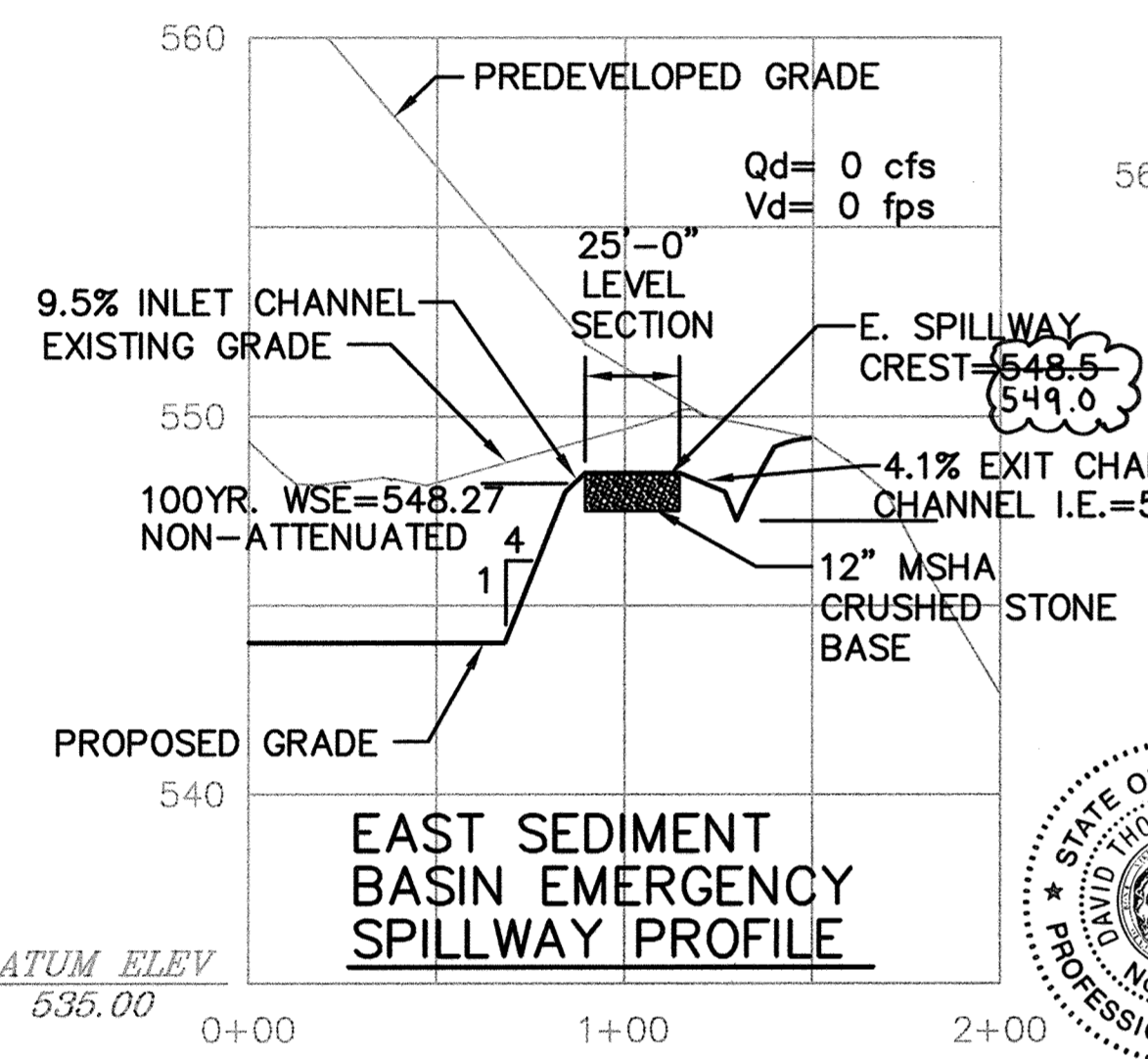
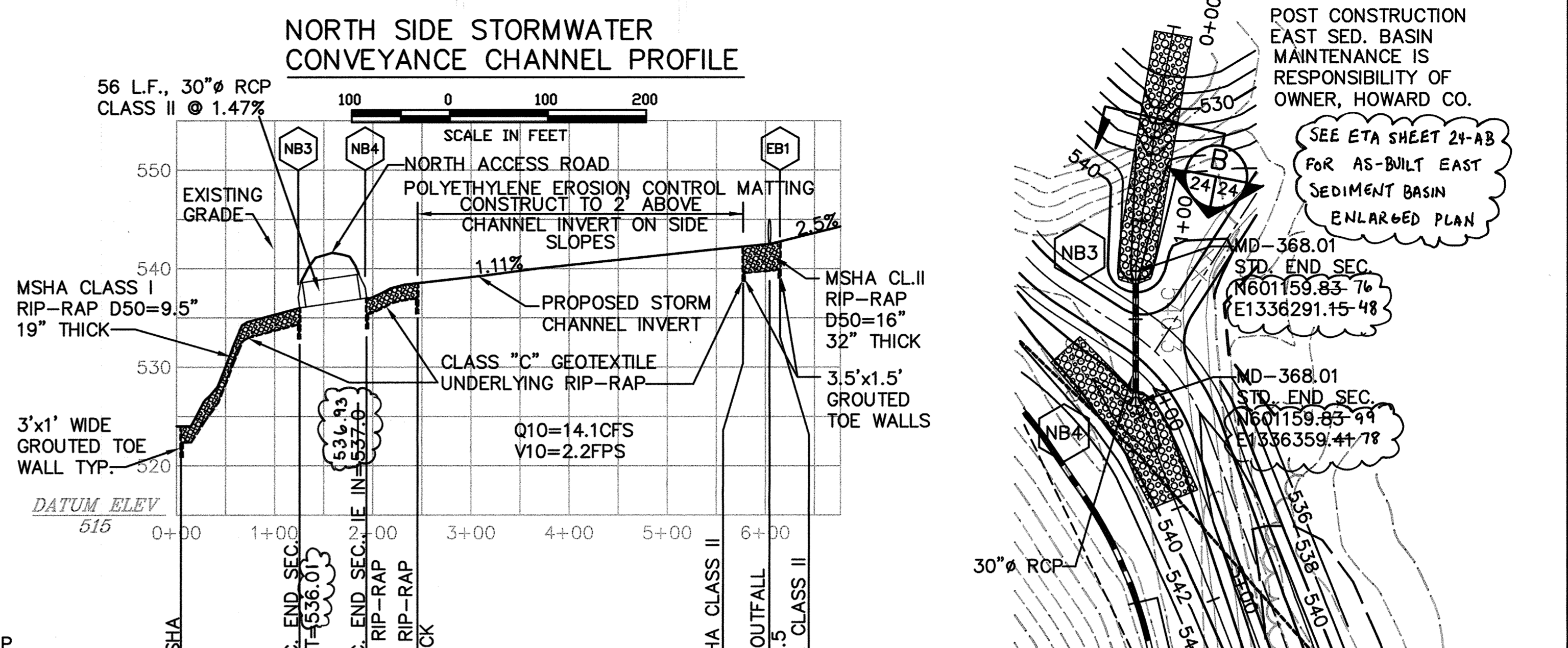
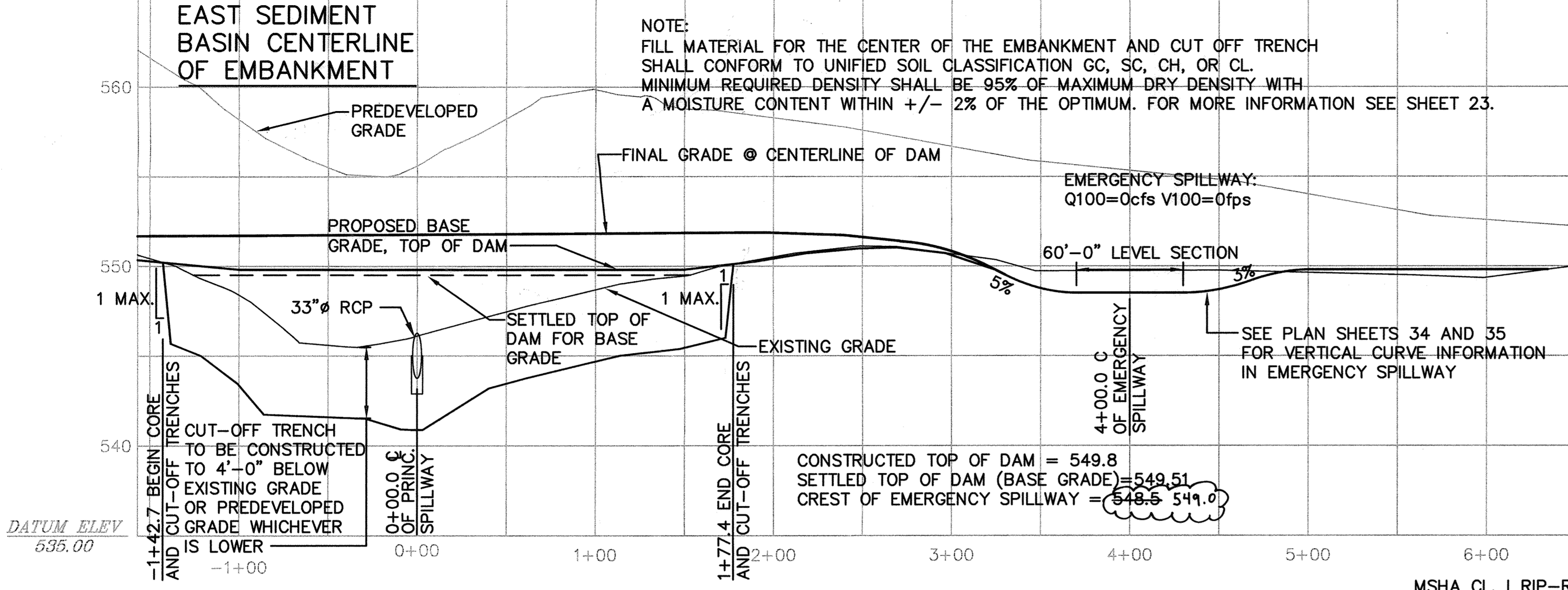
DESIGNED BY:		DATE		REVISIONS	
DATE	BY	DATE	BY	DESCRIPTION	
2-26-00	TWH	4-5-00	TWH	ADDED PROFILES	
10-17-00	TWH	4-20-01	DTM	LABEL EMERGENCY SPILLWAY.	
				UPDATED SHEET DTRL	

**ENGINEERING TECHNOLOGIES ASSOCIATES, INC.**  
 ENGINEERS \* PLANNERS \* SURVEYORS  
 3458 ELLICOTT CENTER DRIVE SUITE 101  
 ELLICOTT CITY, MARYLAND 21043  
 BALTO. (410)461-9920 FAX (410)750-8565



EAST BASIN AS-BUILT  
**ALPHA RIDGE LANDFILL CELL CLOSURE**  
 HOWARD COUNTY MARYLAND  
 SCALE: 1"=50' CONTRACT NO.: 98301.10 DATE: 2-27-2000 SHEET 24-AB OF 140

SDP 97-128



CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

OPERATION, MAINTENANCE AND INSPECTION INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE HOWARD SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATORS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

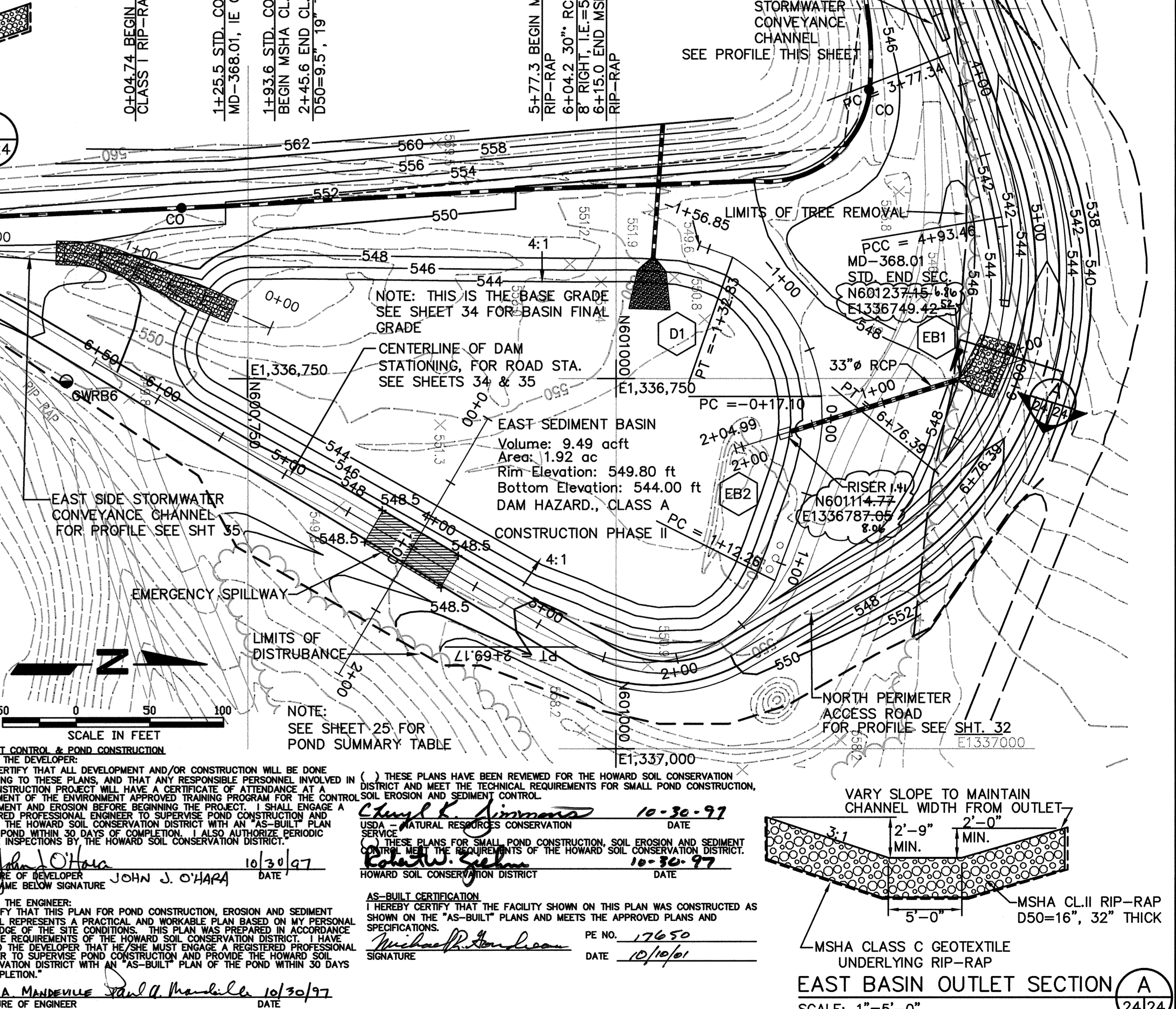
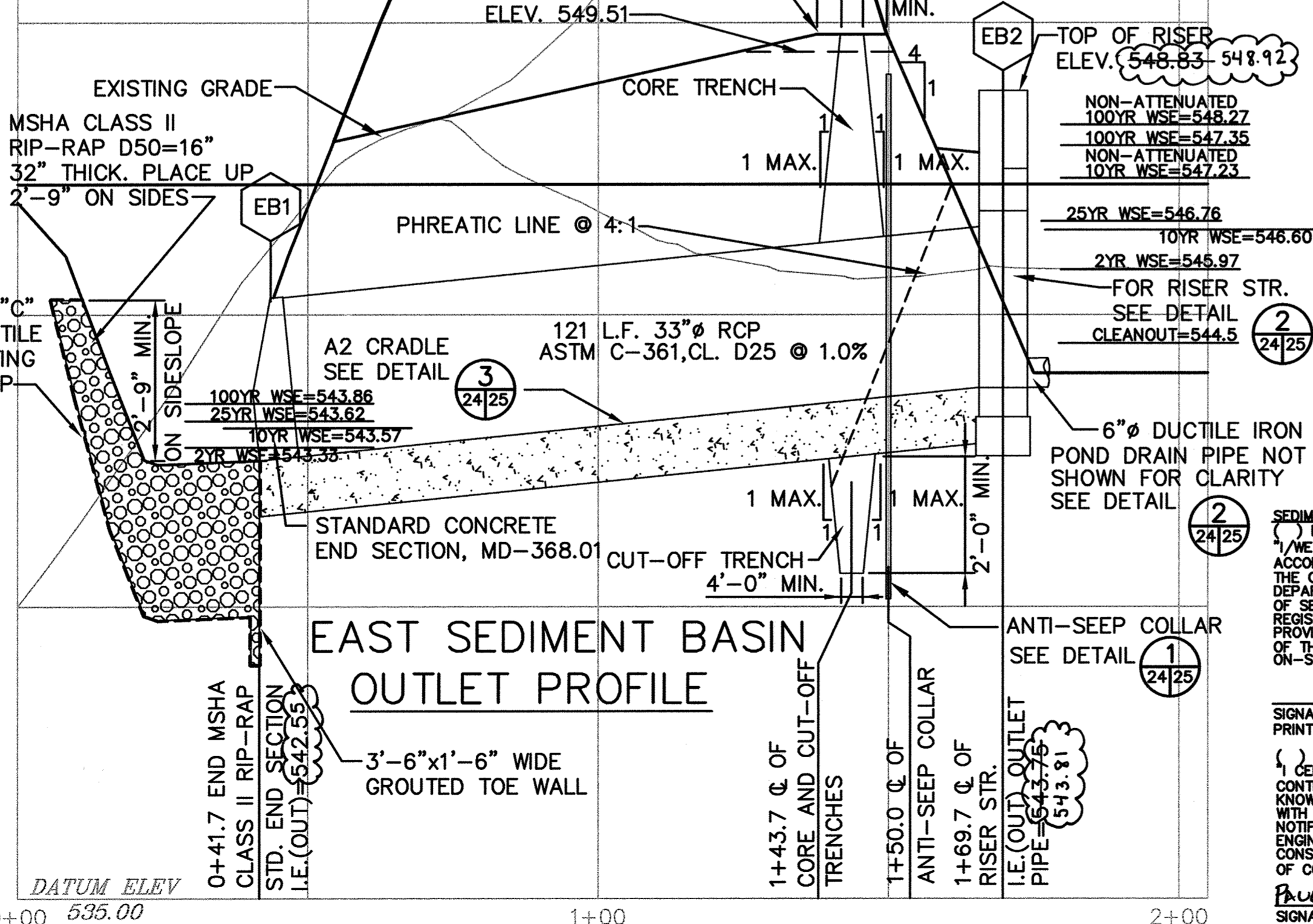
SUBDIVISION NAME		LOT/PARCEL	
ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		54,253,220,11	
LIBER/FOLIO		ZONE	TAX/ZONE MAP
10-847/606 16-878/215 10-691/314		PEC	10 & 16
WATER CODE		SEWER CODE	CENSUS TR.
PRIVATE, EXISTING		PRIVATE, EXISTING	60-30

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*James A. Miller* 11/3/97  
DIRECTOR DATE

*John J. O'Hara* 10/30/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Cindy Hamilton* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James P. ...* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*John J. O'Hara* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

**SCS ENGINEERS**  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676

*Paul A. Mandeville*  
Paul Anthony Mandeville, PE

DES. AST,RTT			
DRN. AST,EGC			
CHK. PAM			
DATE: 10-30-97	DTM	BY NO.	4.2019
	NO.	REVISION	DATE
		UPDATED SHEET TOTAL	4.2019

**EAST SEDIMENT BASIN ENLARGED PLAN AND PROFILES**

**ALPHA RIDGE LANDFILL UNLINED CELL CLOSURE**  
CAPITAL PROJECT NO. C-0190-N

SCALE: AS NOTED

SHEET 24 OF 140

3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

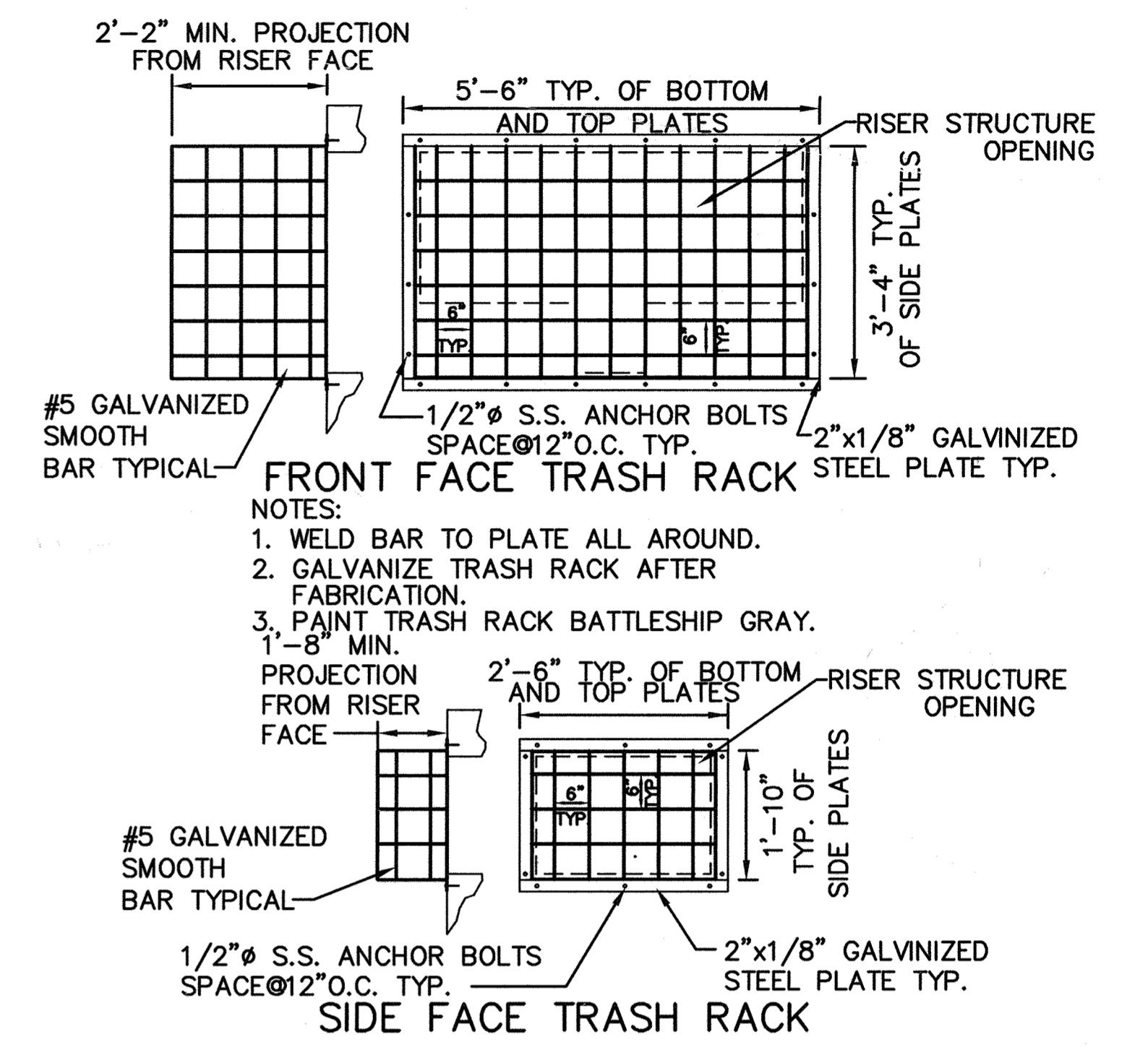
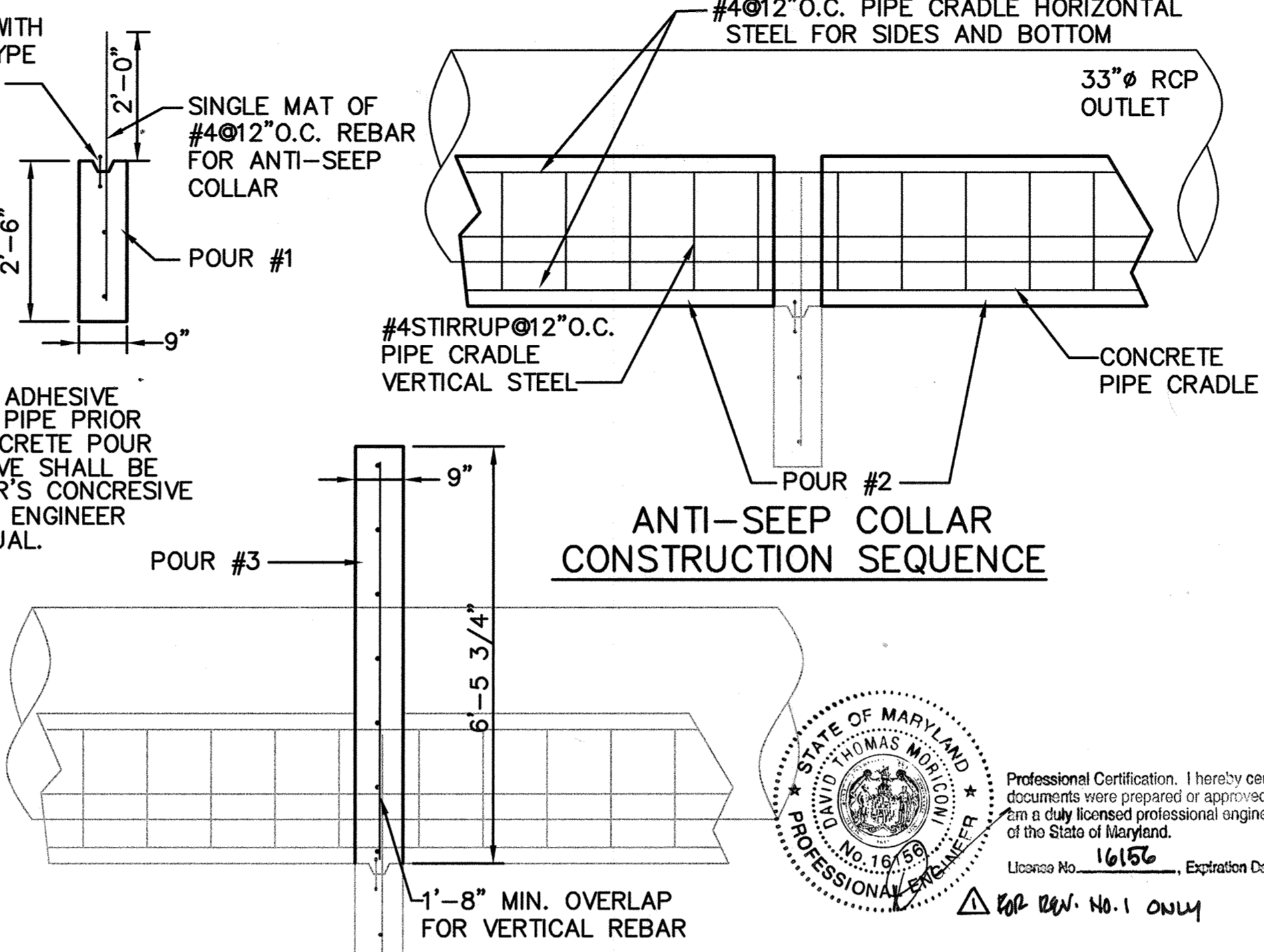
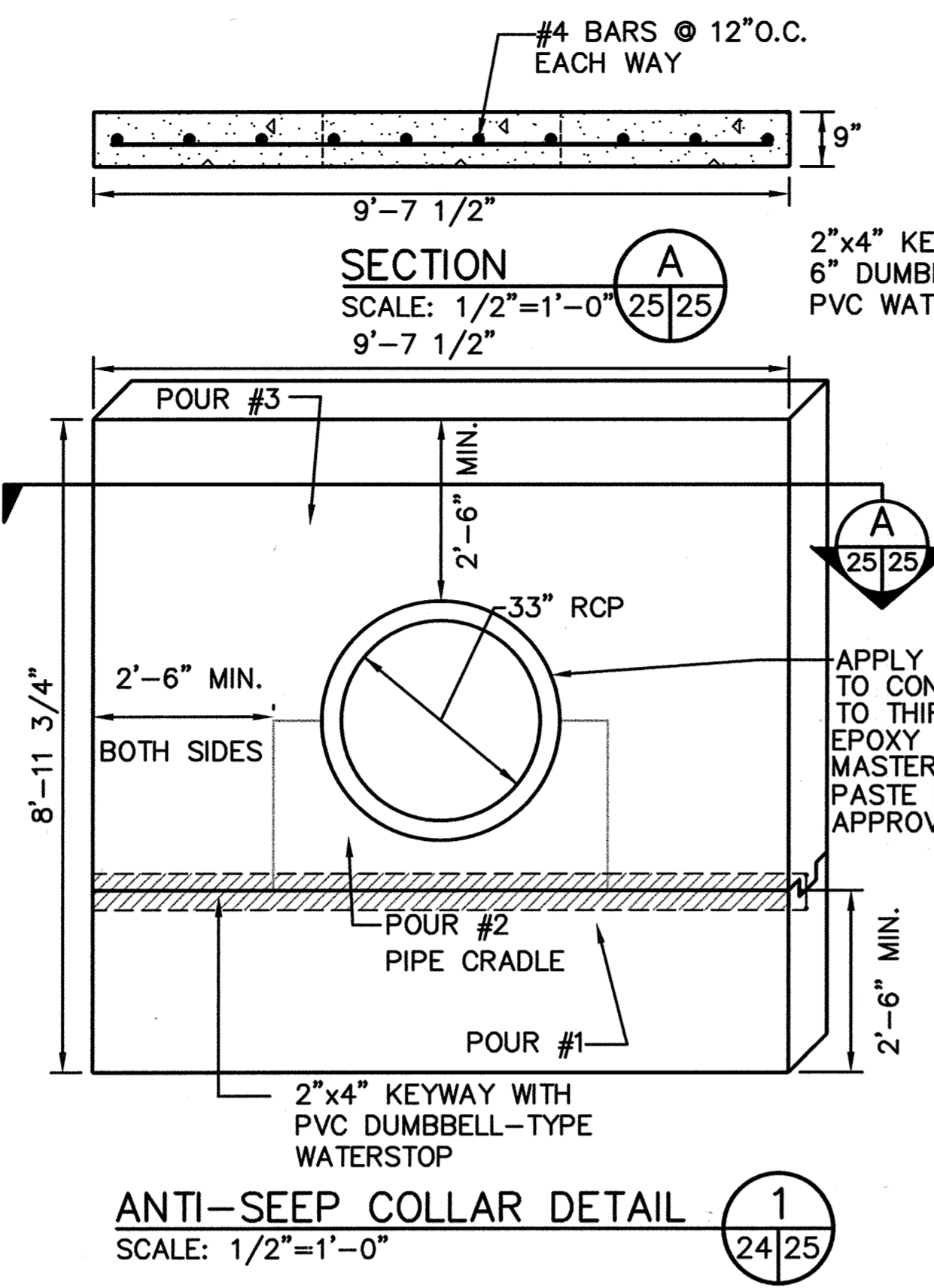
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SDA-97-128

POND	RISER				OUTLET PIPE				ANTI-SEEP COLLAR		DAM			EMERG. SPILLWAY		CORE TRENCH		CUT-OFF TRENCH		WATER SURFACE ELEV.			
	WEIR HT.	WEIR WIDTH	CREST ELEV.	STR. WIDTH	DIA. IN.	L FT.	U/S INV.	D/S INV.	QTY.	APPROX. SIZE	TOP WIDTH FT.	CONSTR. HEIGHT	SETTLED HEIGHT	ELEV.	BOTTOM WIDTH FT.	TOP WIDTH FT.	SIDE SLOPES	BOT. WIDTH FT.	SIDE SLOPES	2 YR.	10 YR.	25 YR.	100 YR.
EAST	2'-2"	5'	546.13	6.33' x 546.08	33	121	543.81	542.55	1	8.98' H. 9.63' W.	12'	549.8	549.51	549.0	60'	4'	1:1	4'	1:1	545.97	546.60	546.76	547.35

POST CONSTRUCTION EAST SEDIMENT BASIN MAINTENANCE IS RESPONSIBILITY OF OWNER, HOWARD COUNTY

- NOTES:
- ANTI-SEEP COLLAR TO BE POURED AT LEAST TWO (2) FEET FROM NEAREST PIPE JOINT
  - ANTI-SEEP COLLAR IS TO BE CONSTRUCTED IN THREE POURS.
  - BOTTOM HALF TO BE POURED FIRST.
  - PLACE PIPE AND POUR CRADLE SECOND.
  - TOP PORTION OF COLLAR POURED THIRD.
  - BACKFILL SHALL BE PLACED EVENLY ON BOTH SIDES OF THE ANTI-SEEP COLLAR.
  - REINFORCED CONCRETE: fc = 4,000 psi @ 28 DAYS.



**SEDIMENT CONTROL & POND CONSTRUCTION**  
( ) BY THE DEVELOPER:

I, John J. O'Hara, 10/30/97  
SIGNATURE OF DEVELOPER DATE  
PRINT NAME BELOW SIGNATURE JOHN J. O'HARA

( ) 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/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Paul A. Mandeville 10/30/97  
SIGNATURE OF ENGINEER DATE  
PRINT NAME BELOW SIGNATURE PAUL A. MANDEVILLE

( ) 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.

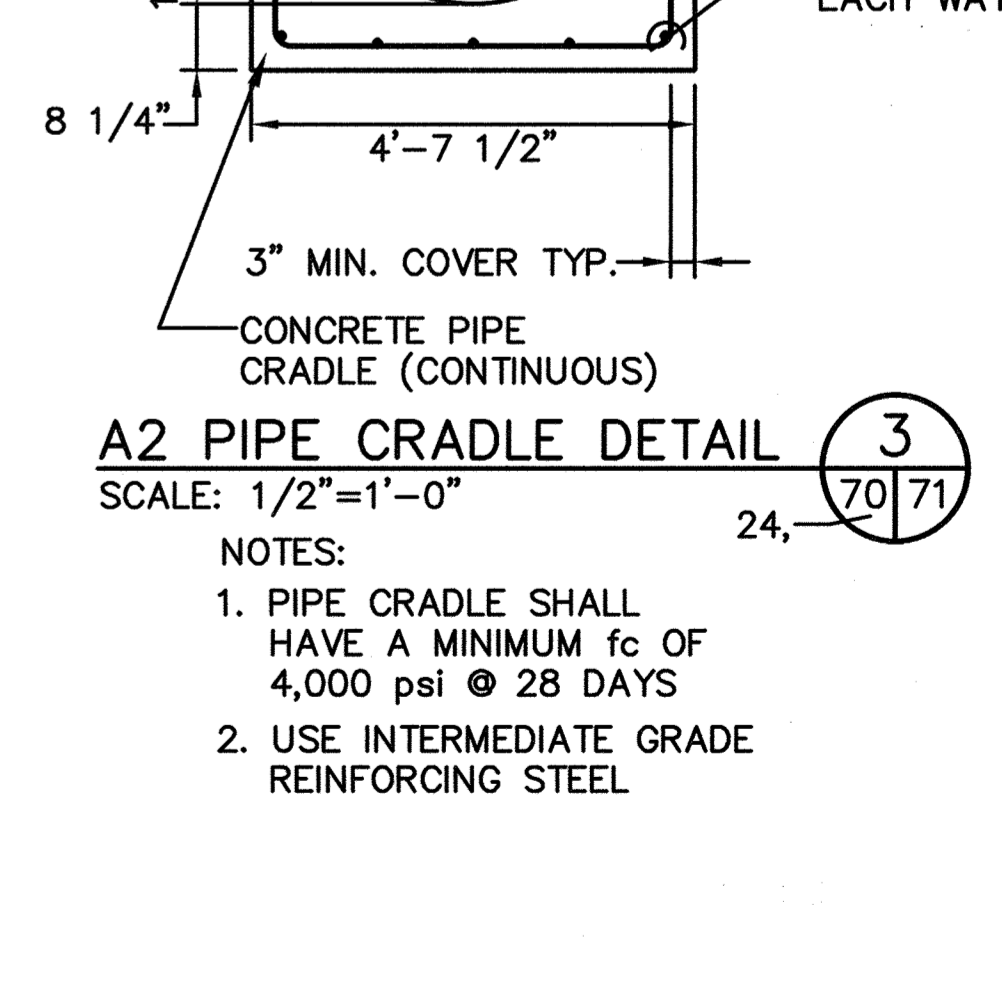
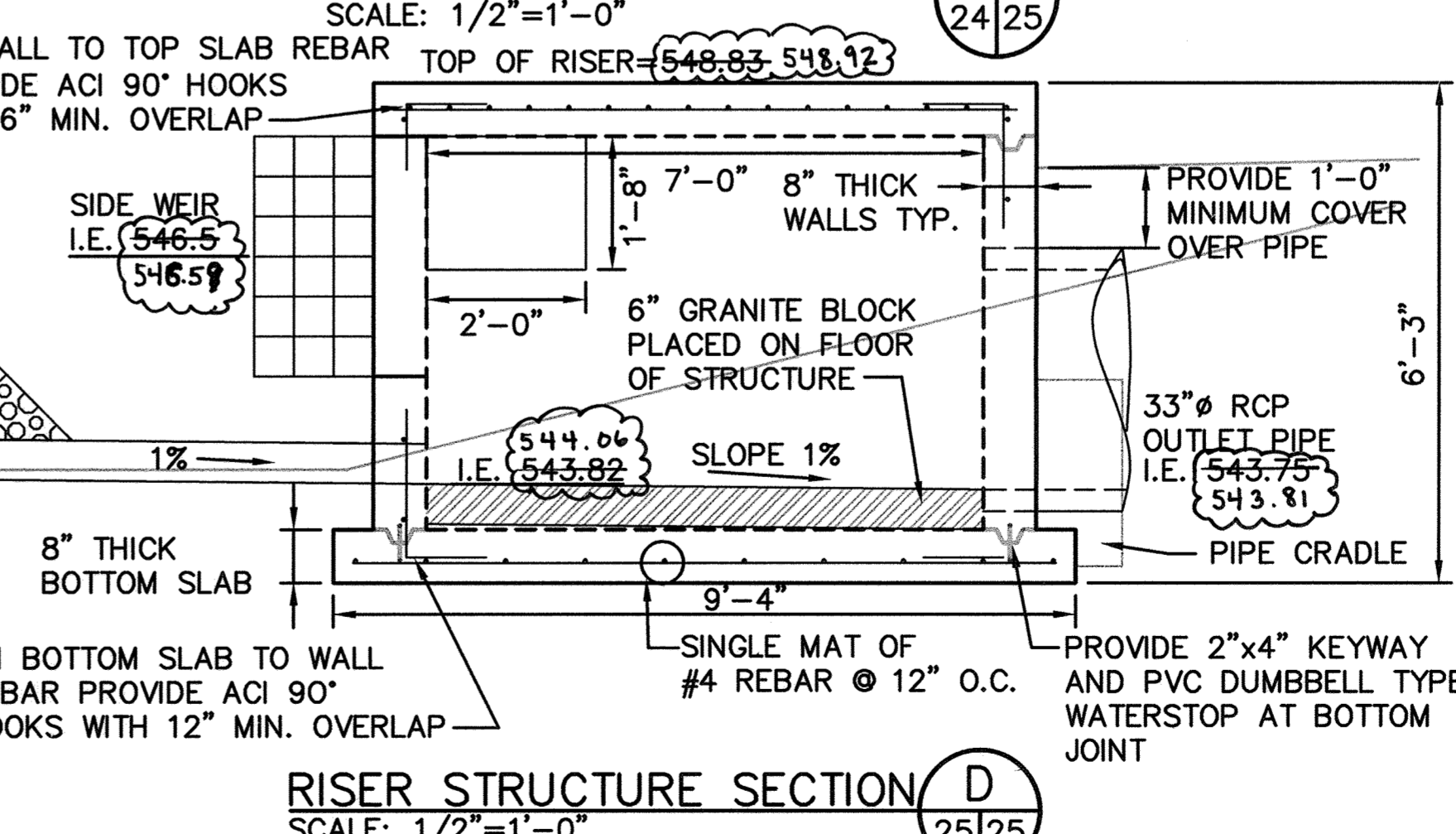
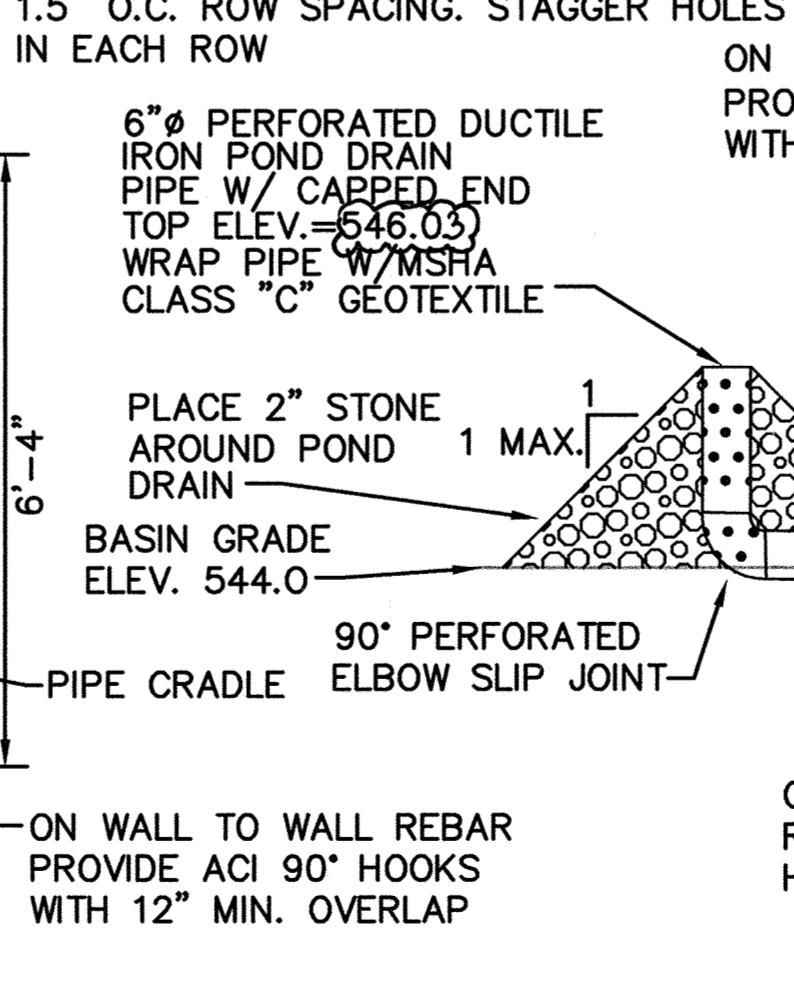
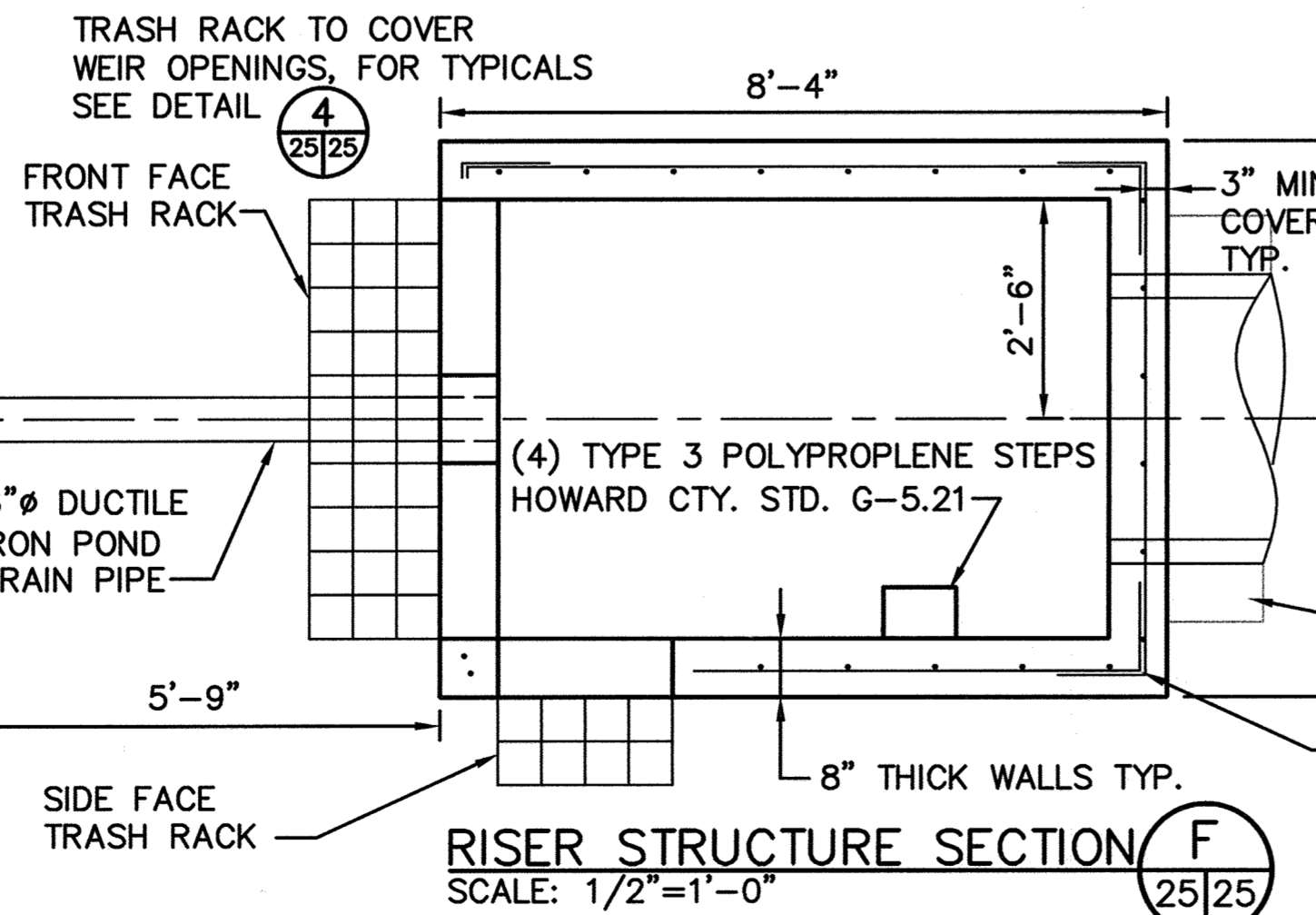
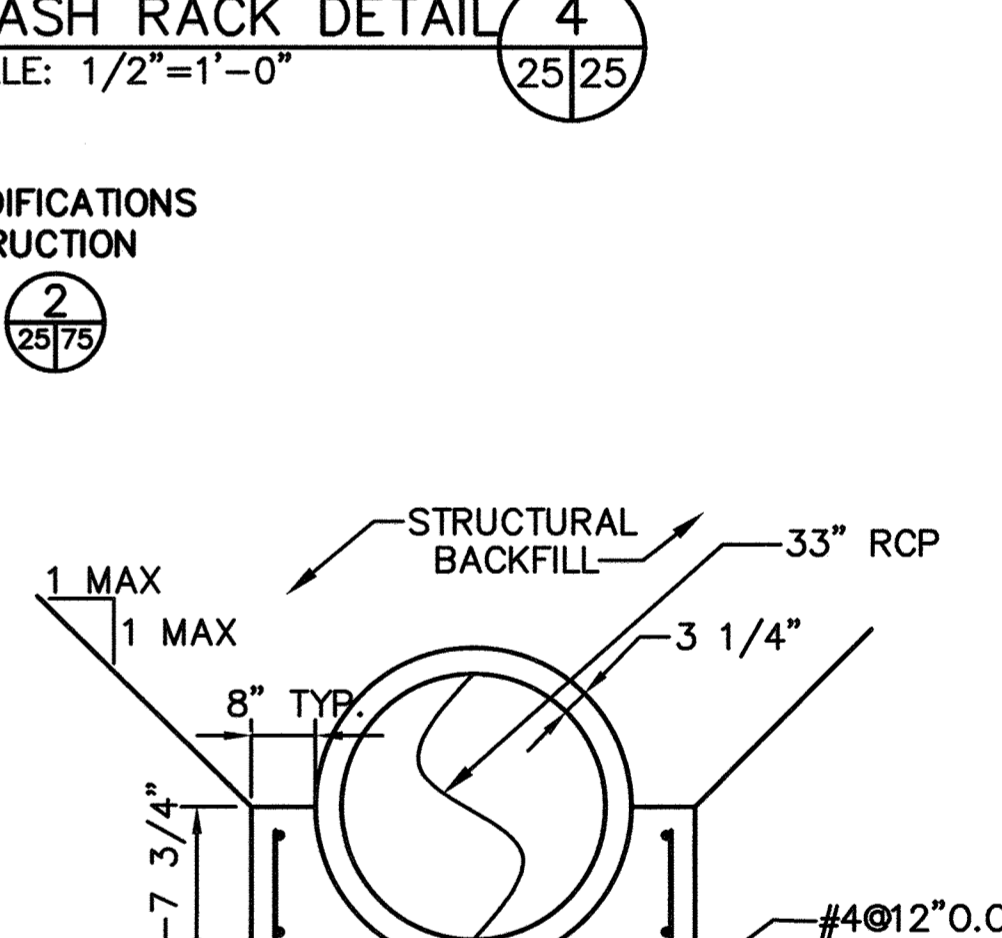
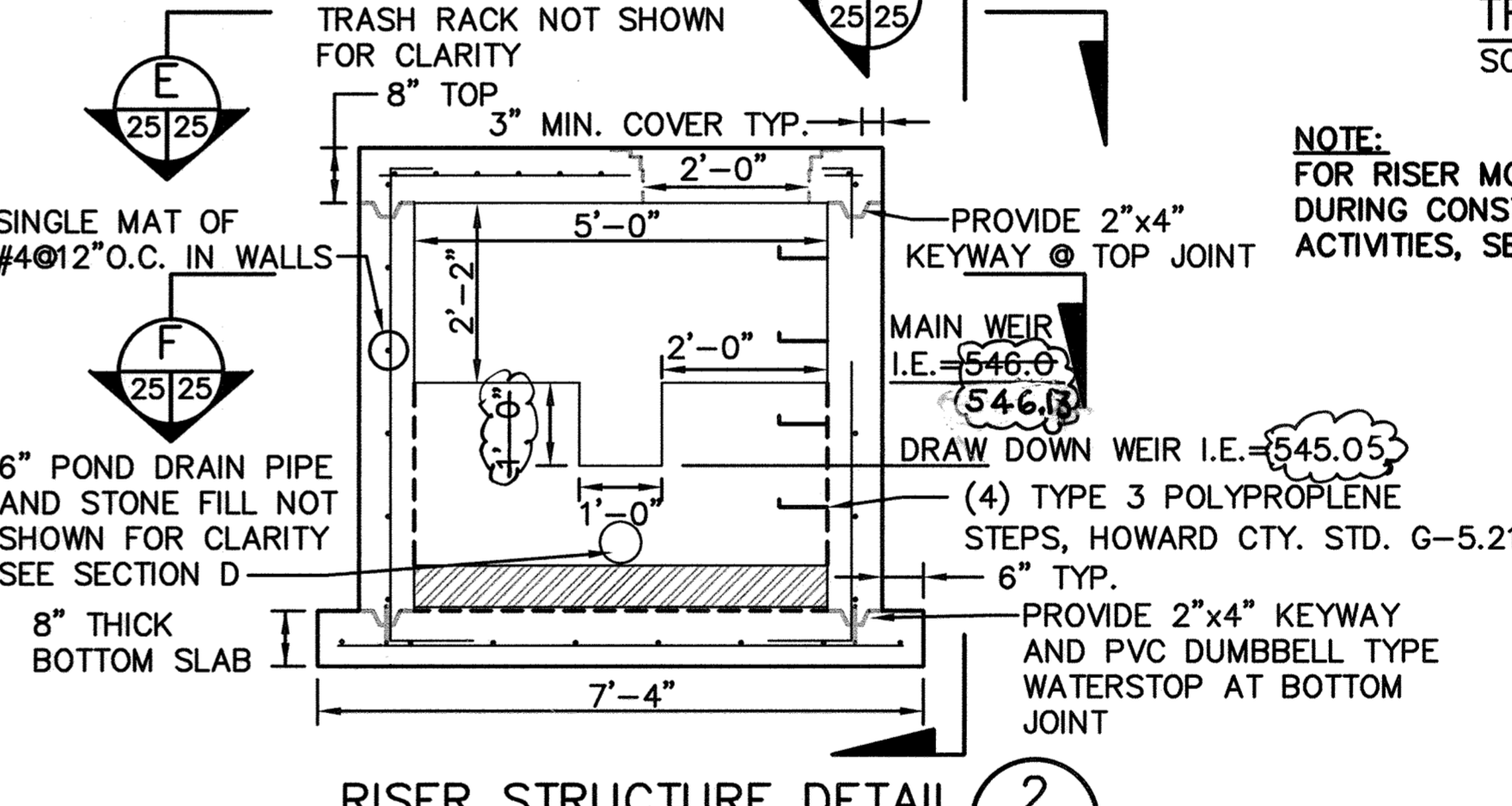
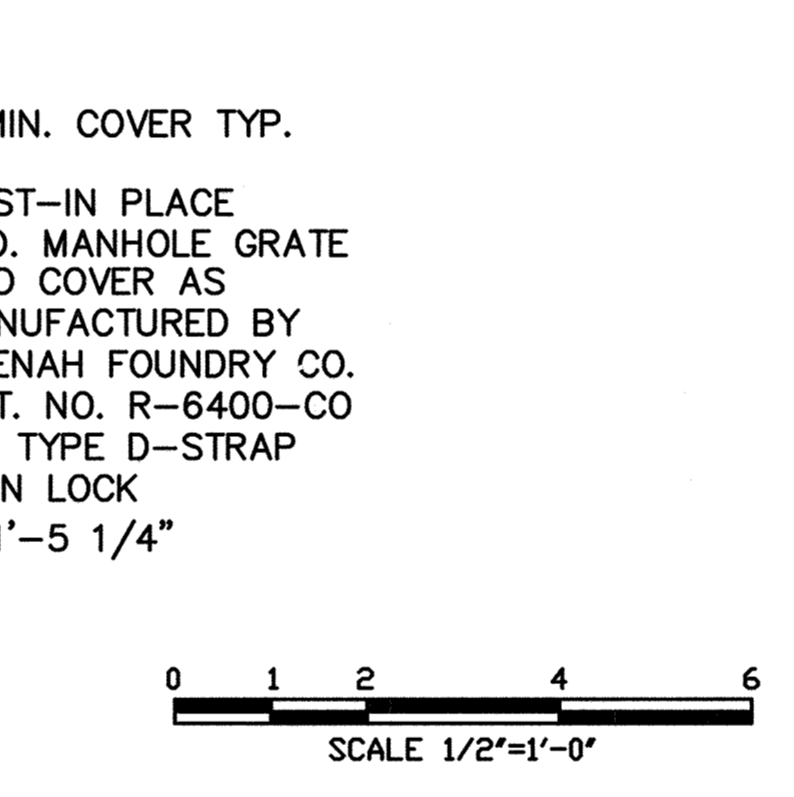
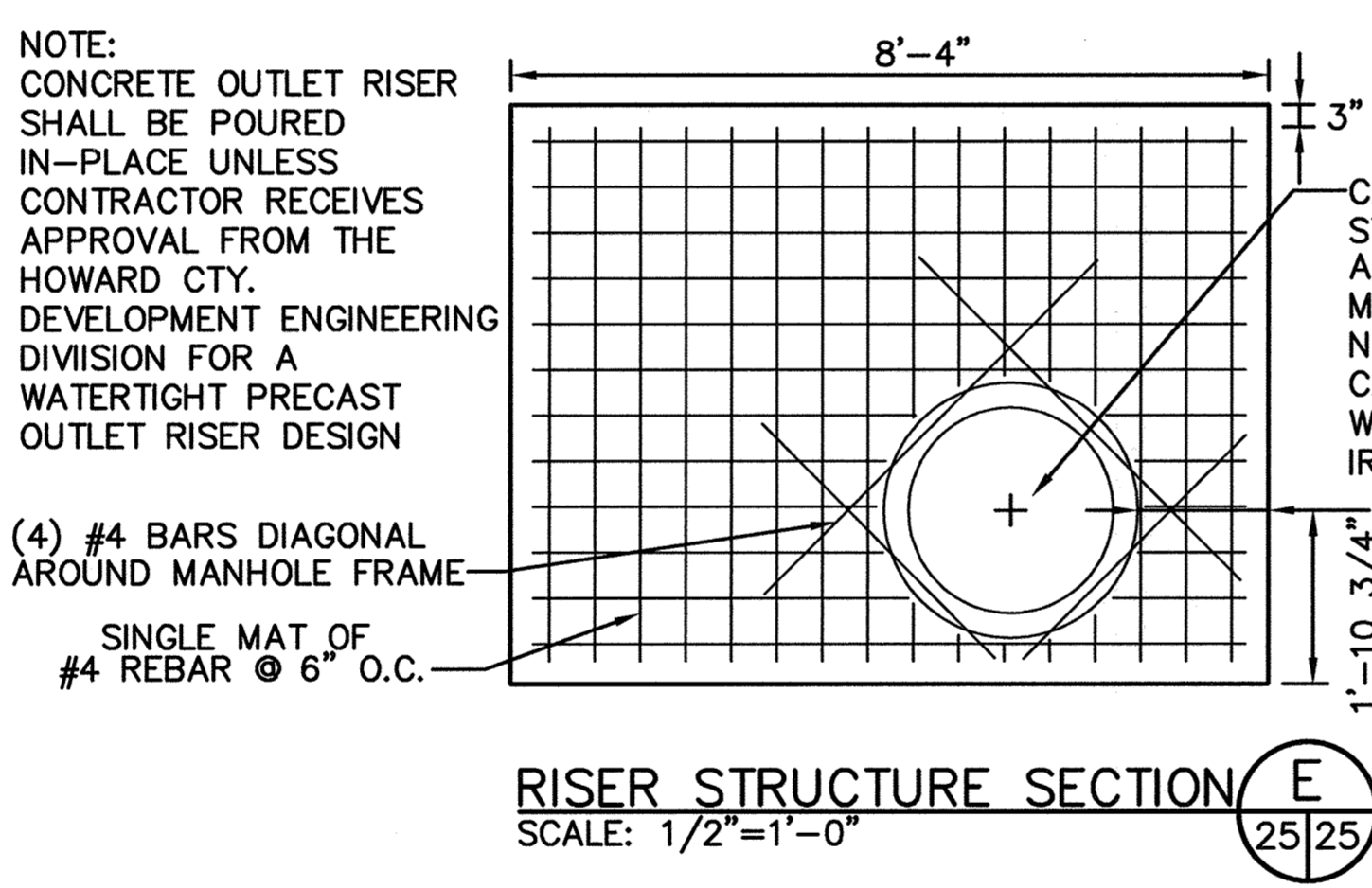
Carol K. Jennings 10-30-97  
SIGNATURE DATE  
USDA - NATURAL RESOURCES CONSERVATION SERVICE

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

Robert W. Ziller 10-30-97  
SIGNATURE DATE  
HOWARD SOIL CONSERVATION DISTRICT AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

Michael R. Gordon PE NO. 17650 10/10/01  
SIGNATURE DATE



SUBDIVISION NAME	LOT/PARCEL	
ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	54,253,220,11	
LIBER/FOLIO	ZONE	TAX/ZONE MAP
10-847/606 10-870/215 10-881/314	PEC	10 & 16
WATER CODE	SEWER CODE	CENSUS TR.
PRIVATE, EXISTING	PRIVATE, EXISTING	80-30

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

James S. Butler 11/3/97  
DIRECTOR DATE

Andy Harvatta 11/3/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

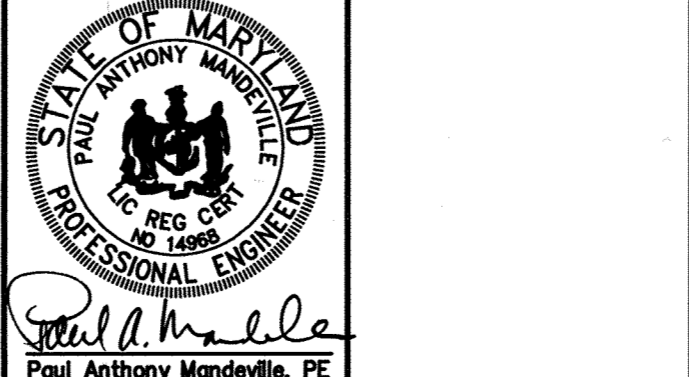
Andy Harvatta 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

James S. Butler 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

John J. O'Hara 10/30/97  
CHIEF BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES. AST,RTT	
DRN. AST,EGC	
CHK. PAM	
DATE: 10-30-97	BY NO. REVISION DATE
	4-2019

EAST SEDIMENT BASIN DETAILS

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS NOTED  
SHEET 25 OF 140

M: 285077.01 FINAL ANTSP-EB CRADLE-EB RISER-EB A2, TRK-EB, TBL-EB

SDP-97-128

No-osbl.t.dwg 4-18-01 9:21:06 am EST

N 601500

E 1335500

E 1336000

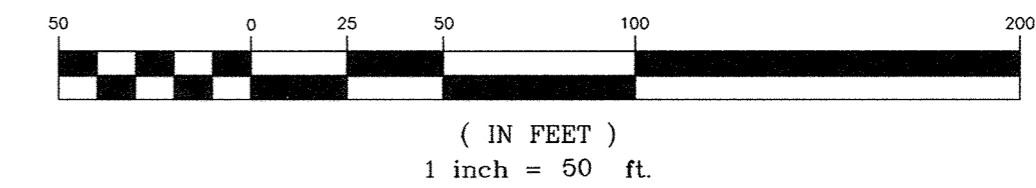
E 1336500

EMERGENCY SPILLWAY  
CREST = 532.3

GROUNDWATER  
REMEDATION PANELS  
AND WELLS BY OTHERS

GROUNDWATER  
REMEDATION TRENCH

GRAPHIC SCALE



N 601311.87  
E 1335946.95  
ELEV. = 519.2

N 801239.88  
E 1335935.90  
INV. = 521.85

N 601159.76  
E 1336291.48  
INV. = 536.01

N 601159.99  
E 1336359.78  
INV. = 536.93

C/L RISER  
N 601194.11  
E 1335893.56  
INV. = 522.47  
TOP = 533.26  
INLET = 528.05  
INV. 6" = 523.68  
TOP 6" RISER = 526.04  
6" DRAIN PIPE  
TOP = 527.82

N 601437.76  
E 1335528.65  
INV. 535.03

N 601078.03  
E 1335474.64  
INV. 537.03

6" PVC  
INV. 535.81

PUMP STATION  
N 800938.77  
E 1335864.76  
TOP ELEV. = 545.74

ELEC. PANEL

18" HDPE  
PIPE GUTTER

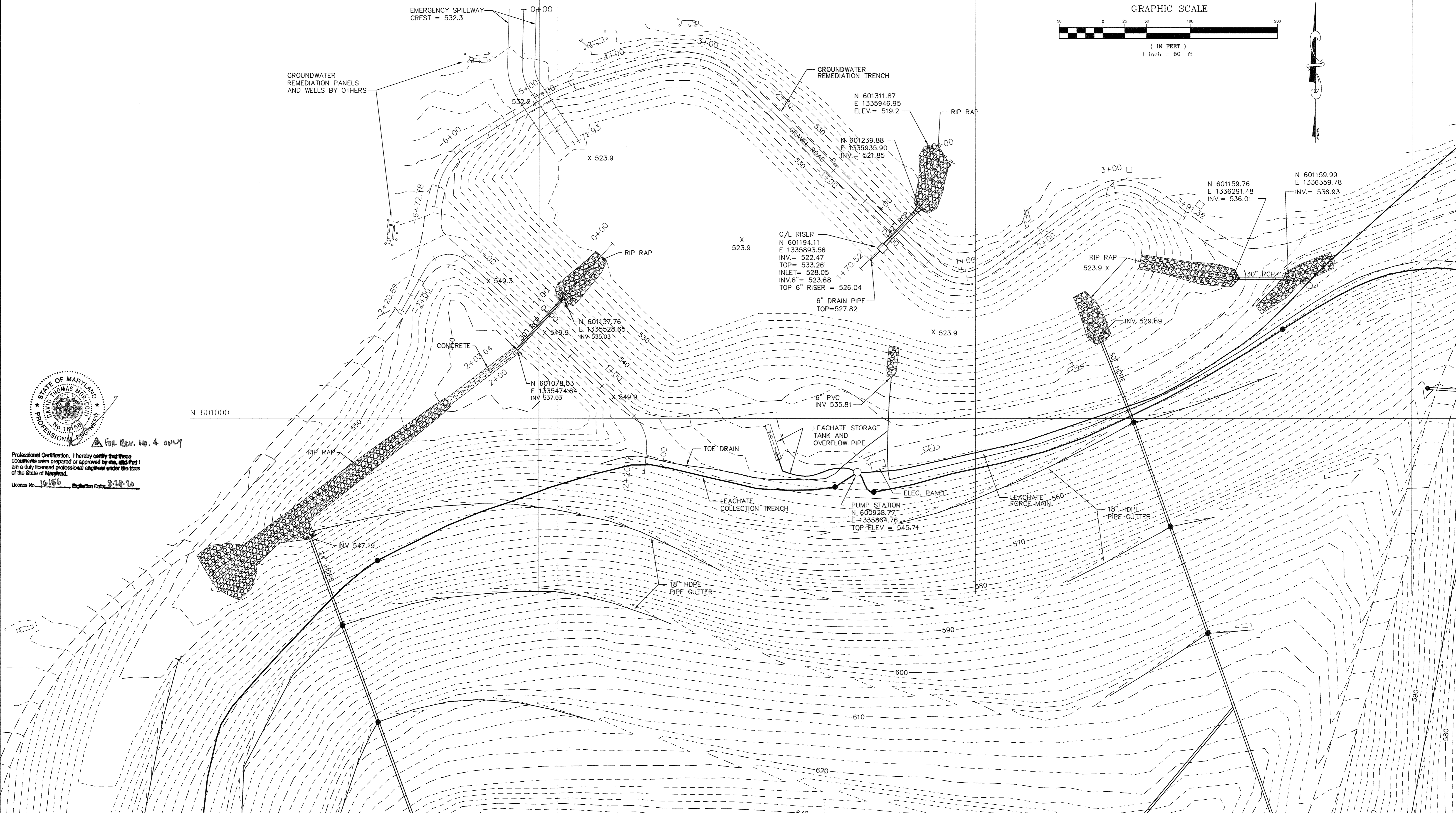


Prof. (Rev. No. 4) 09/17

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 16156, Expiration Date 8-28-10

No-osbl.t.dwg 4-18-01 9:21:06 am EST

N 601000

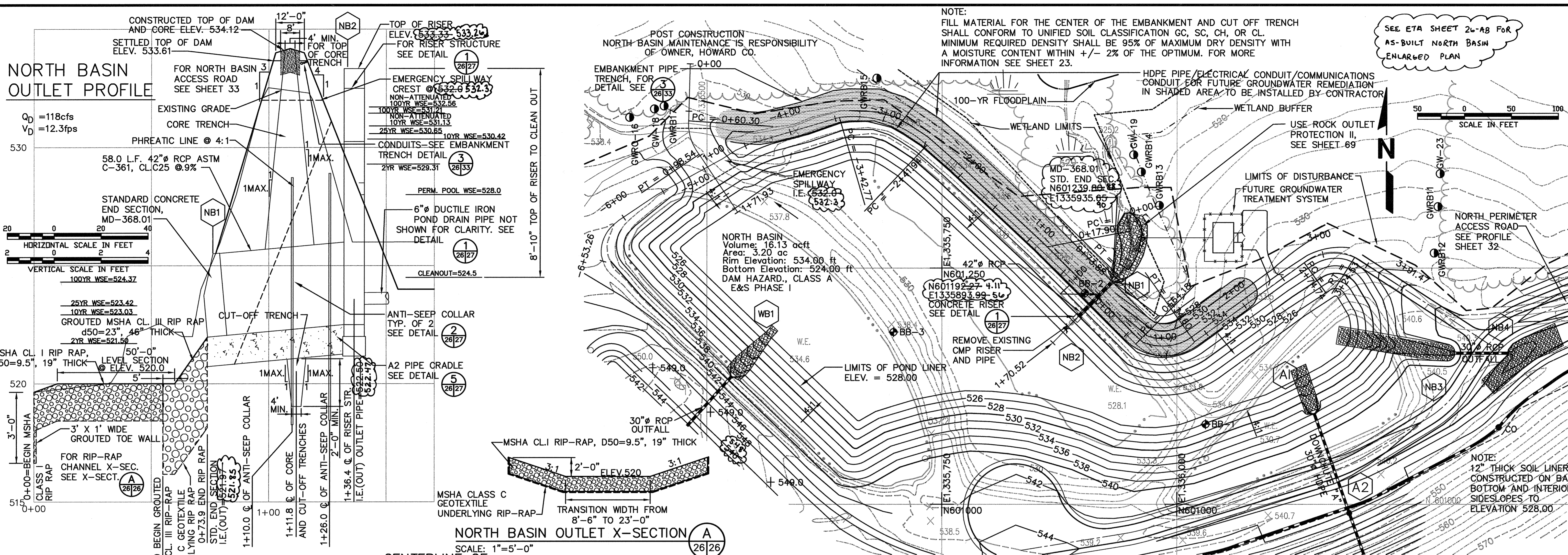


DESIGNED BY:		DATE		REVISIONS	
DATE	BY	DATE	BY	DESCRIPTION	
4-4-00	TWH	4-4-00	TWH	ADDED STATIONING FOR PROFILES.	
10-17-00	TWH	10-17-00	TWH	LABELED EMERGENCY SPILLWAY.	
4-18-01	TWH	4-18-01	TWH	ADDED 6" RISER ELEVATION.	
4-2019	DM	4-2019	DM	ADDED SHEET TOTAL	
DATE		DATE			

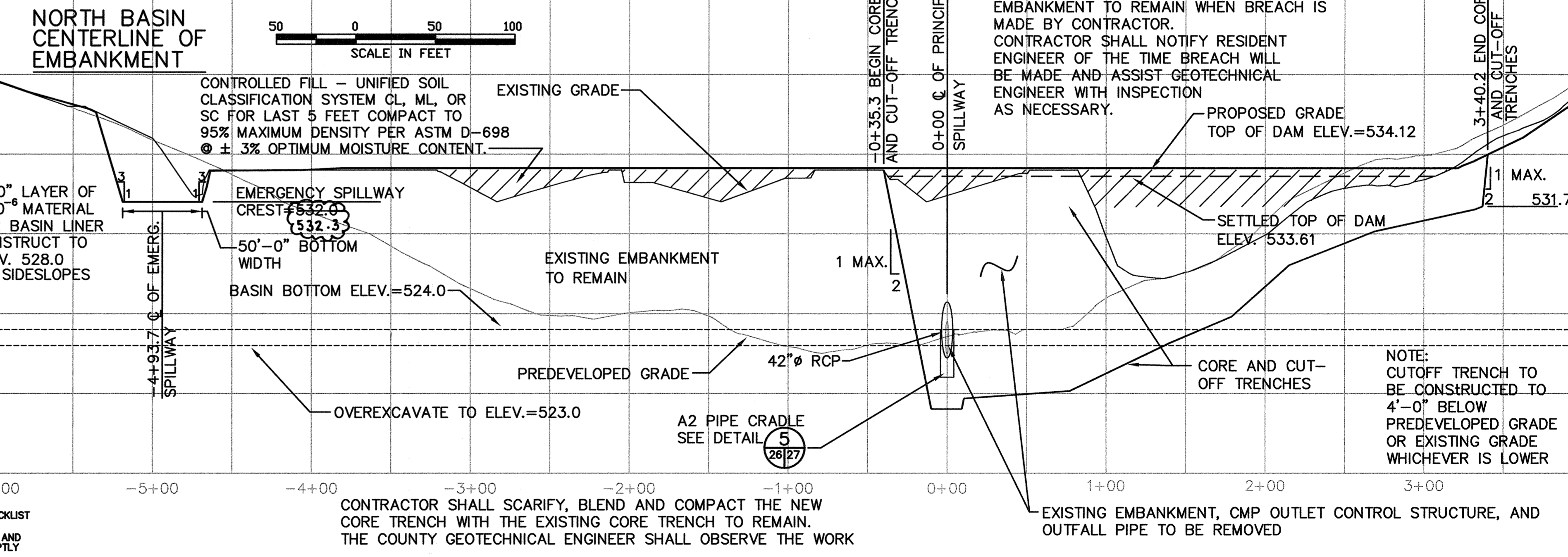
**ENGINEERING TECHNOLOGIES ASSOCIATES, INC.**  
 ENGINEERS \* PLANNERS \* SURVEYORS  
 3458 ELLICOTT CENTER DRIVE SUITE 101  
 ELLICOTT CITY, MARYLAND 21043  
 BALTO. (410)461-9920 FAX (410)750-8565



AS-BUILT NORTH AND WEST BASINS  
**ALPHA RIDGE LANDFILL  
 CELL CLOSURE**  
 HOWARD COUNTY MARYLAND  
 SCALE : 1"=50' CONTRACT NO.: 98301.10 DATE : 2-27-2000 SHEET 26-AB  
 OF 140



**NORTH BASIN OUTLET X-SECTION**  
 SCALE: 1"=5'-0"  
 (A) 26/26



**NORTH BASIN CENTERLINE OF EMBANKMENT**  
 SCALE IN FEET

NOTE: COUNTY GEOTECHNICAL ENGINEER SHALL INSPECT EXPOSED FACE OF EXISTING EMBANKMENT TO REMAIN WHEN BREACH IS MADE BY CONTRACTOR. CONTRACTOR SHALL NOTIFY RESIDENT ENGINEER OF THE TIME BREACH WILL BE MADE AND ASSIST GEOTECHNICAL ENGINEER WITH INSPECTION AS NECESSARY.

NOTE: CUTOFF TRENCH TO BE CONSTRUCTED TO 4'-0" BELOW PREDEVELOPED GRADE OR EXISTING GRADE WHICHEVER IS LOWER

AS-BUILT CERTIFICATION  
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN AND MEETS THE REQUIREMENTS AND MEETS THE APPROVAL OF THE DISTRICT ENGINEER.  
 SIGNATURE: *Michael R. Anderson*  
 DATE: 10/10/97  
 PE NO: 171690

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON THE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION AND THE ON-SITE INSPECTIONS AND TESTS COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT EMPLOYMENT, OR INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

( ) 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 CONSTRUCTION MEETS THE REQUIREMENTS OF THE DISTRICT.  
 DATE: 10-30-97

( ) THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 DATE: 10-30-97

SUBDIVISION NAME		LOT/PARCEL
ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		54,253,220,11
LIBER/FOLIO		
10-847/806	18-878/215	10-091/314
WATER CODE		SEWER CODE
PRIVATE, EXISTING	PRIVATE, EXISTING	CENSUS TR.
		60-30

**CENTERLINE OF EMERGENCY SPILLWAY**  
 Q100=52.4 cfs V100=3.4 fps

EXISTING GRADE  
 PREDEVELOPED GRADE  
 LEVEL SECTION  
 61.10' SECTION

0+29.0 BEGIN EXIT CHANNEL I.E.=530.61  
 0+65.6 BEGIN LEVEL SECTION I.E.=532.0  
 1+26.4 END LEVEL SECTION BEGIN ENTRANCE CHANNEL I.E.=528.0  
 1+50.4 END ENTRANCE CHANNEL

DATE: 10/30/97

PROFESSIONAL ENGINEER  
 PAUL A. MANDVILLE  
 No. 18153  
 UICORSE No. 16156

OPERATION, MAINTENANCE AND INSPECTION  
 INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.  
 SEDIMENT CONTROL & POND CONSTRUCTION  
 I, BY THE DEVELOPER, 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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE H.S.C.D. WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) DATE  
 JOHN J. CHARRA 10/30/97

DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND

*Joseph J. Smith* 11/3/97  
 DIRECTOR DATE

*John J. Charrar* 10/30/97  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*John J. Charrar* 11/3/97  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

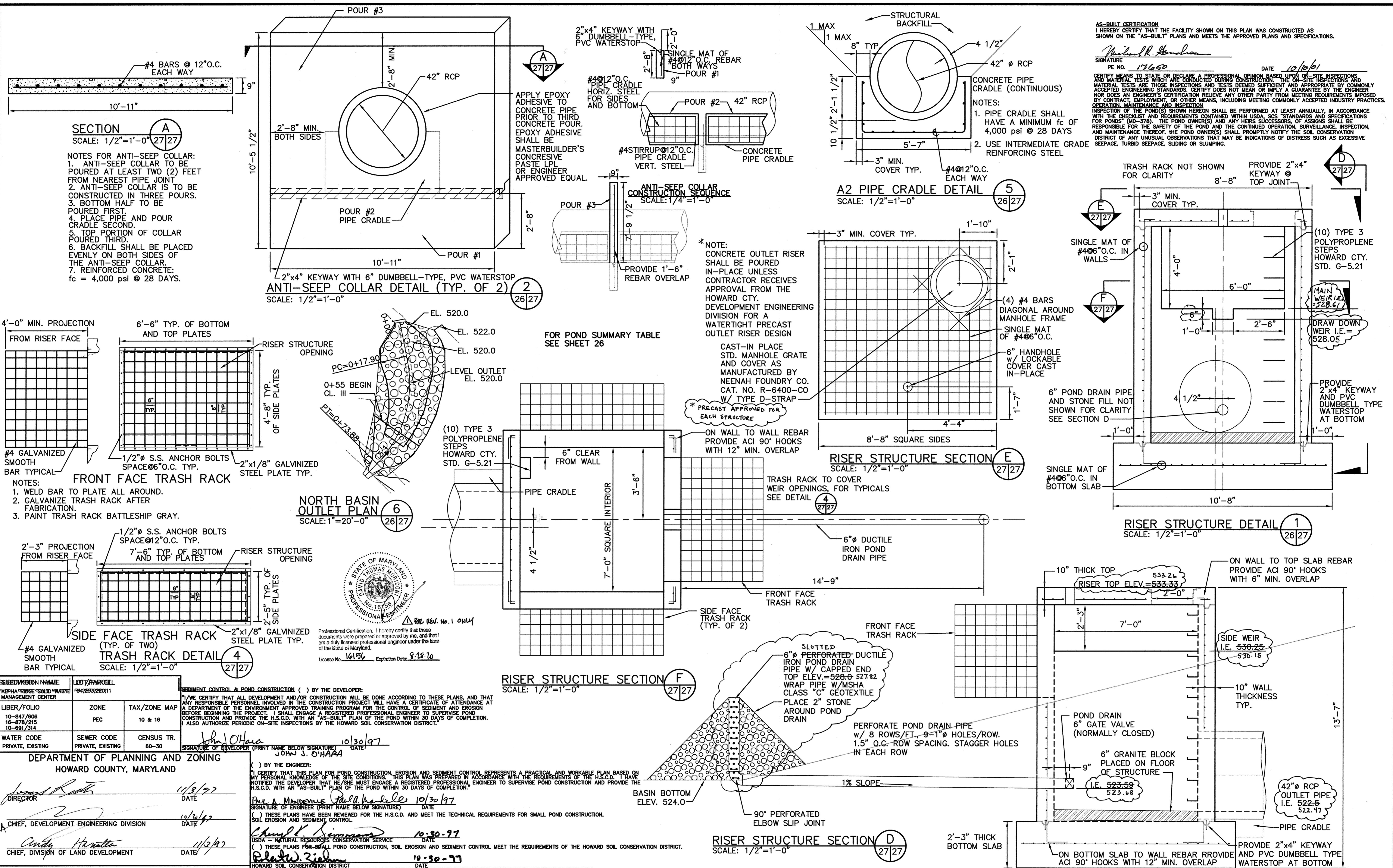
*James J. Sullivan* 10/30/97  
 DIRECTOR OF PUBLIC WORKS DATE

*John J. Charrar* 10/30/97  
 CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
 CONSULTING ENGINEERS  
 11260 ROGER BACON DRIVE  
 SUITE 300  
 RESTON, VIRGINIA 22090  
 PH. (703) 471-6150  
 FAX. (703) 471-6676

PAUL A. MANDVILLE  
 PROFESSIONAL ENGINEER

POND	RISER			OUTLET PIPE			ANTI-SEEP COLLAR		DAM		EMERG. SPILLWAY		CORE TRENCH		CUT-OFF TRENCH		WATER SURFACE ELEV.						
	WEIR HT.	WEIR WIDTH	CREST ELEV.	STR. WIDTH	DIA. IN.	L FT.	U/S INV.	D/S INV.	QTY.	APPROX. SIZE	TOP WIDTH FT.	CONSTR. HEIGHT	SETTLED HEIGHT	ELEV.	BOTTOM WIDTH FT.	TOP WIDTH FT.	SIDE SLOPES	BOT. WIDTH FT.	SIDE SLOPES	2 YR.	10 YR.	25 YR.	100 YR.
NORTH	4.0'	7.00'	(528.4)	8.67'	42	51	522.47	521.85	2	10.46' H 10.92' W	12'	534.12	533.61	(532.3)	25	4'	1:1	4'	1:1	529.31	530.42	530.65	531.21



**AS-BUILT CERTIFICATION**  
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

Signature: *Michael R. Homan*  
PE NO. 17650 DATE 10/10/97

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES, OPERATION, MAINTENANCE, AND INSPECTION.

INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS STANDARDS AND SPECIFICATIONS FOR PONDS (WD-378). THE POND OWNER(S) AND ANY HEIRS SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

M: 285077.01 FINAL ANTSP-5B-CRADLE-5B-RISER-5B-TBL-5B-TRK-5B-DEWTR-5B NBSN2-B

SUBMITTER NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/TRACT 10-4720322011	
LIBER/FOLIO 10-847/806 16-878/215 10-891/314		TAX/ZONE MAP PEC 10 & 16	
WATER CODE PRIVATE, EXISTING		SEWER CODE PRIVATE, EXISTING	
CENSUS TR. 60-30		SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) DATE <i>John J. O'Hara</i> 10/30/97	
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND			
Signature: <i>James R. Smith</i> DATE: 11/3/97		Signature: <i>Paul A. Mandeville</i> DATE: 10/30/97	
Signature: <i>Charles J. Semmes</i> DATE: 10/30/97		Signature: <i>Paul A. Mandeville</i> DATE: 10/30/97	
Signature: <i>Robert J. Ziehm</i> DATE: 10/30/97		Signature: <i>Paul A. Mandeville</i> DATE: 10/30/97	
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND			
Signature: <i>James R. Smith</i> DATE: 10/30/97		Signature: <i>Paul A. Mandeville</i> DATE: 10/30/97	
Signature: <i>John J. O'Hara</i> DATE: 10/30/97		Signature: <i>Paul A. Mandeville</i> DATE: 10/30/97	

**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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE H.S.C.D. WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

( ) 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 H.S.C.D. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE H.S.C.D. WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

( ) THESE PLANS HAVE BEEN REVIEWED FOR THE H.S.C.D. AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

USDA - NATURAL RESOURCES CONSERVATION SERVICE  
( ) THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

DES. AST,RTT	6		
DRN. AST,EGC	4		
CHK. PAM	4		
DATE: 10-30-97	DTM	NO.	4-219
	BY	NO.	REVISION

DESIGNATION NORTH BASIN DETAILS		SCALE: AS NOTED
PROJECT NO. CAPITAL PROJECT NO. C-0190-N		SHEET 27 OF 140
DISTRICT 3rd ELECTION DISTRICT		DATE 10/30/97

**SCS ENGINEERS**  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676

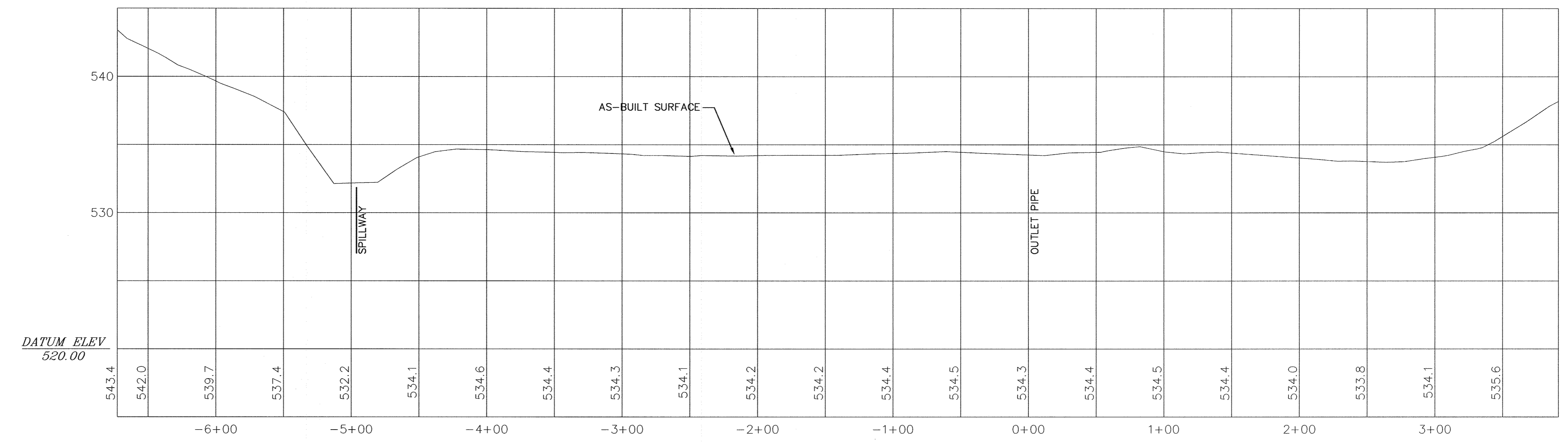
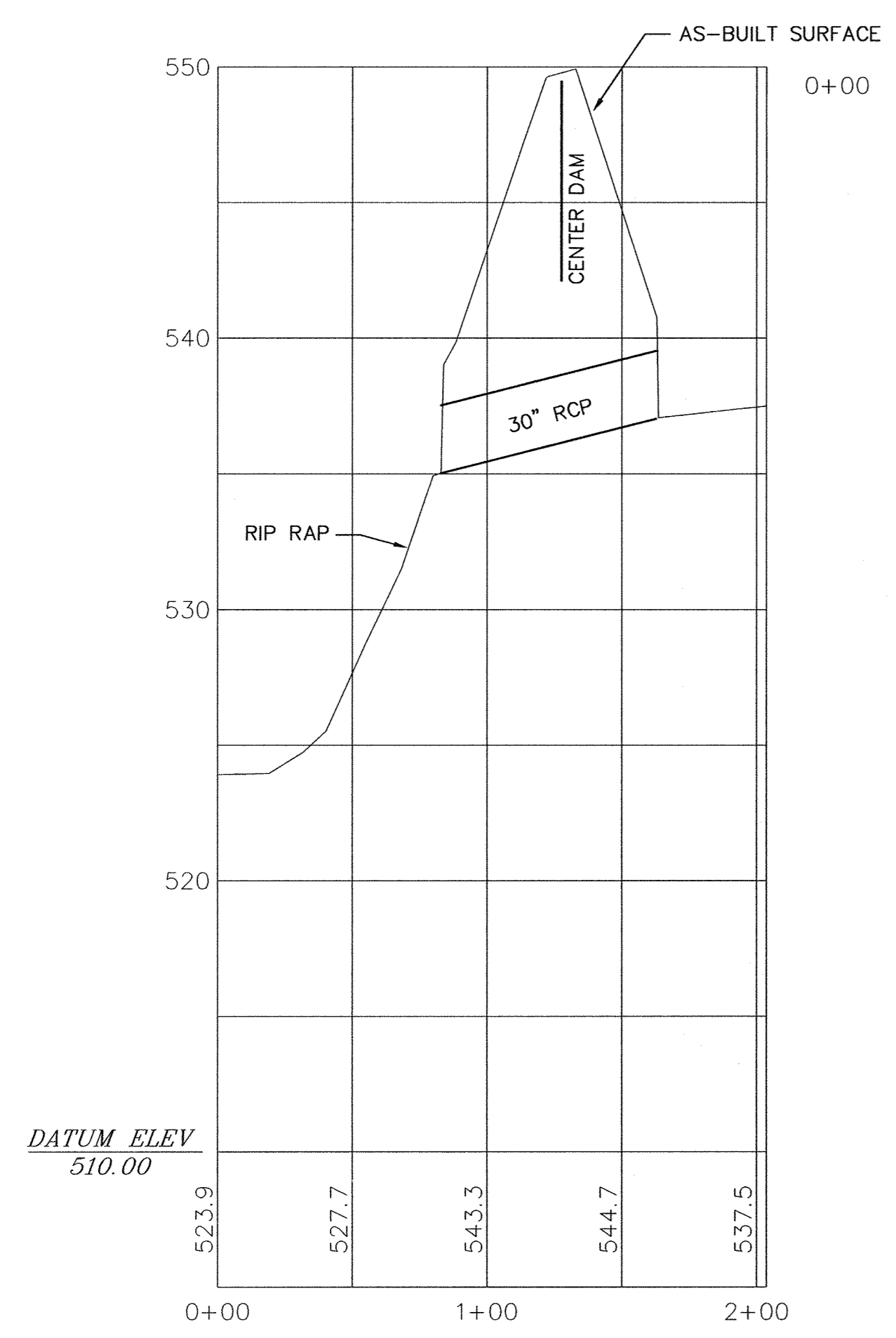
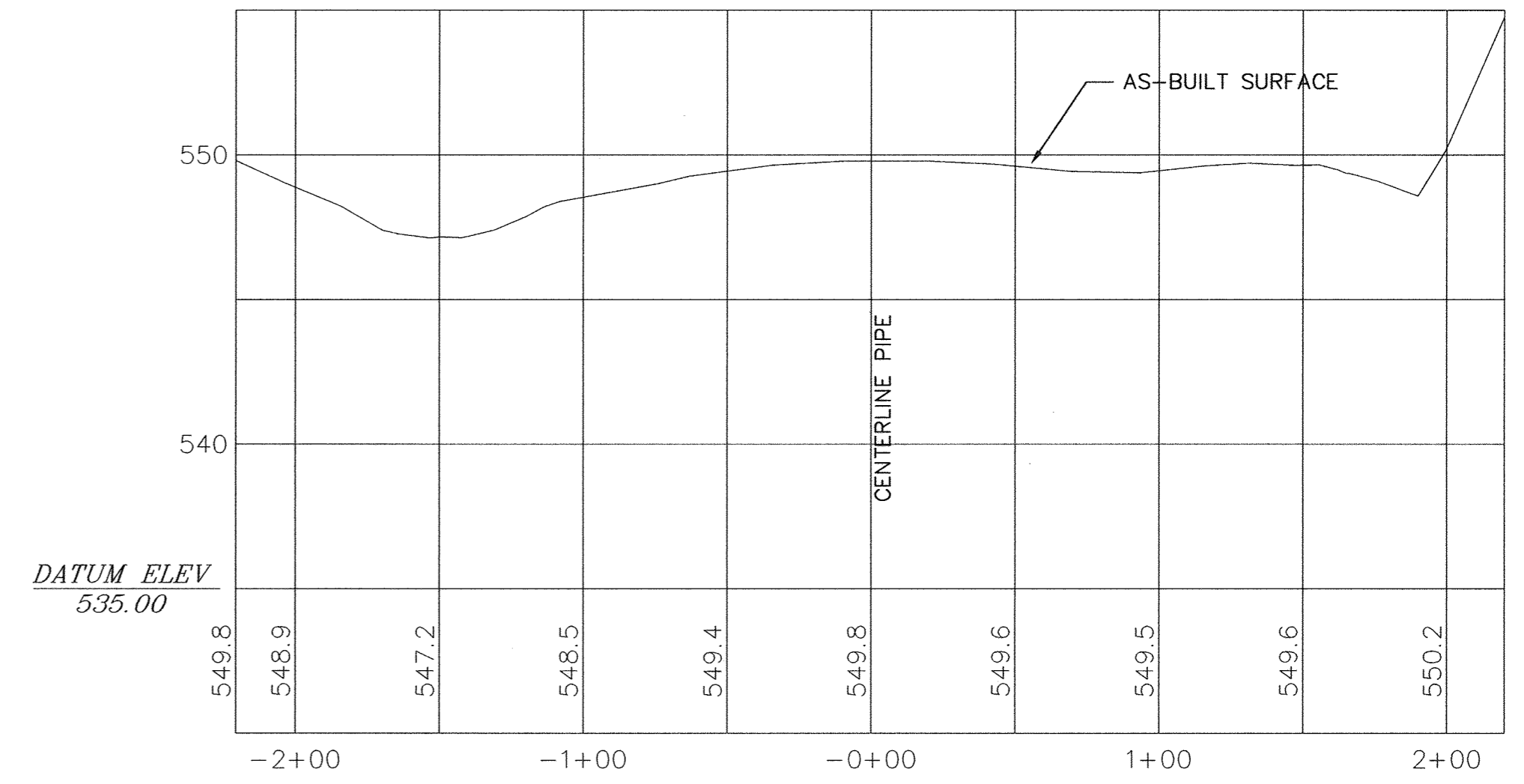
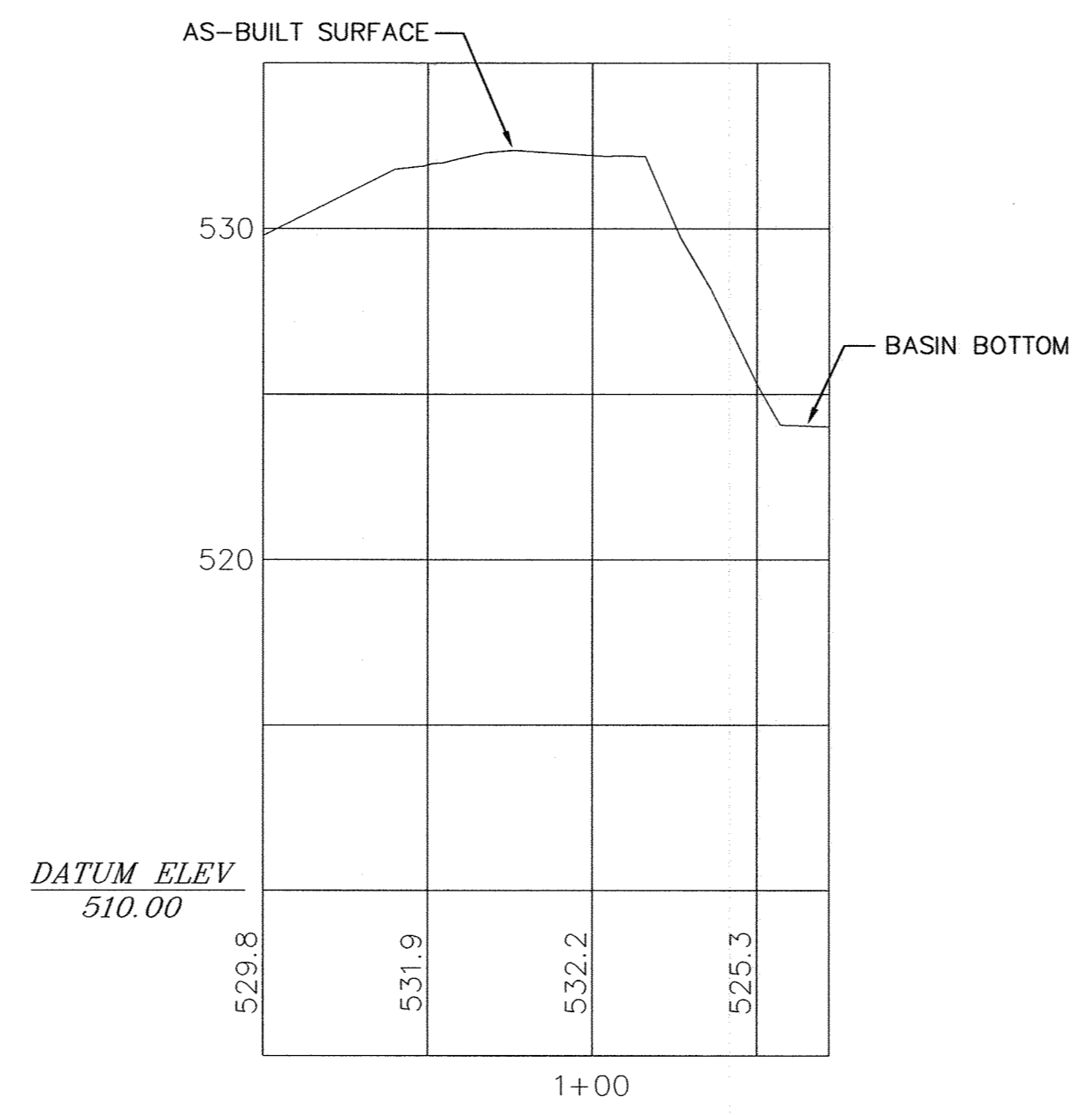
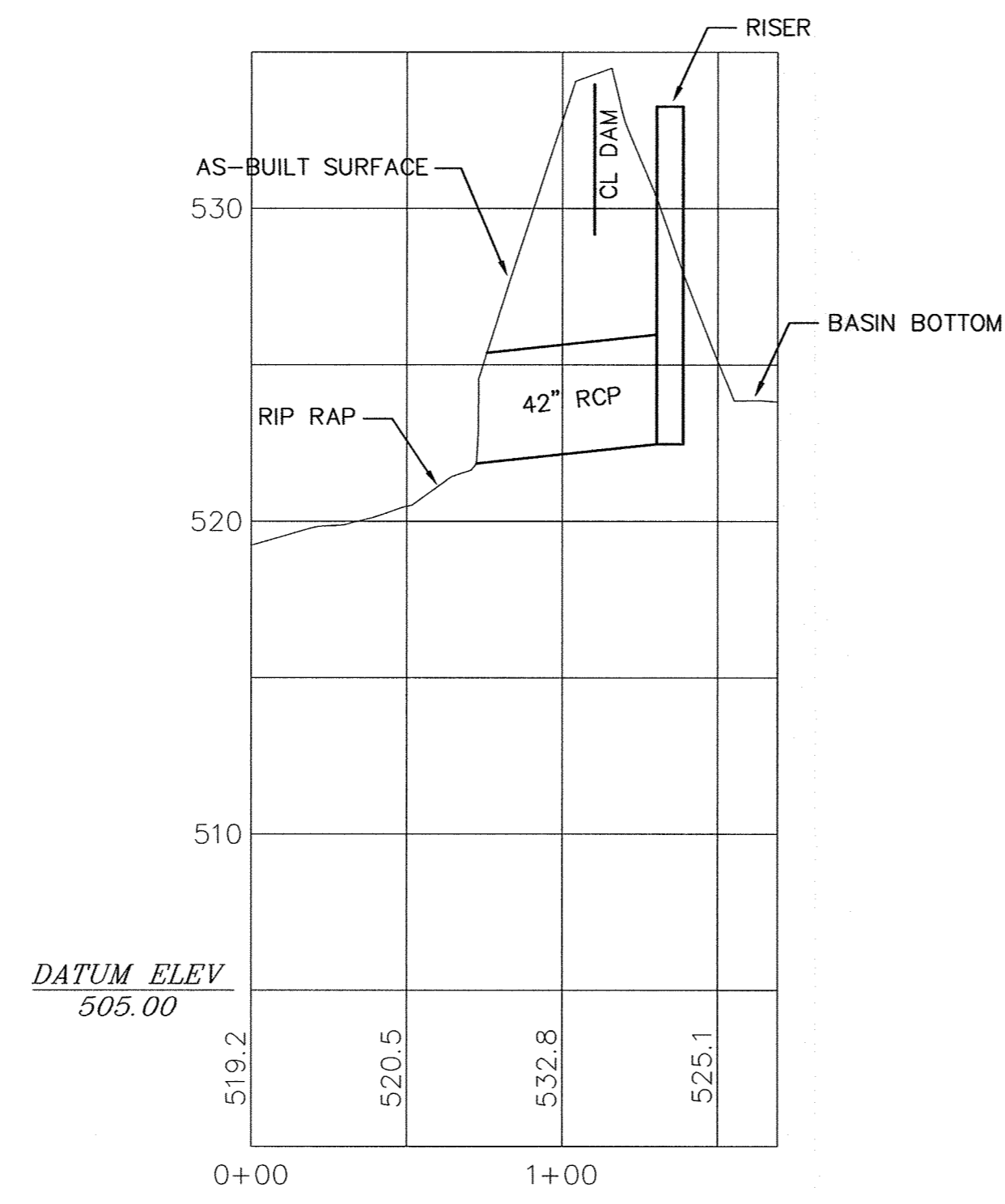
**STATE OF MARYLAND**  
PAUL A. MANDEVILLE  
REGISTERED PROFESSIONAL ENGINEER  
No. 16989

**STATE OF MARYLAND**  
JOHN J. O'HARA  
REGISTERED PROFESSIONAL ENGINEER  
No. 17650

**STATE OF MARYLAND**  
CHARLES J. SEMMES  
REGISTERED PROFESSIONAL ENGINEER  
No. 17650

**STATE OF MARYLAND**  
ROBERT J. ZIEHM  
REGISTERED PROFESSIONAL ENGINEER  
No. 17650

SDP-97-128



STATE OF MARYLAND  
 PROFESSIONAL ENGINEER  
 THOMAS M. JONES  
 No. 16156  
 License No. 16156, Expiration Date: 8-28-20

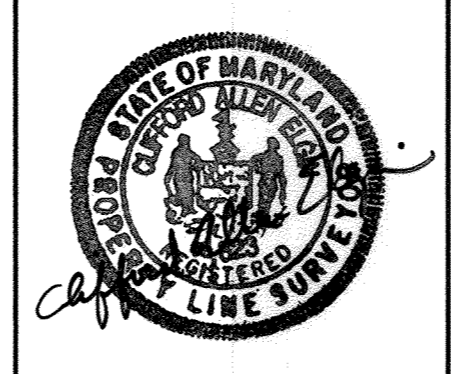
TOP OF DAM PROFILE NORTH BASIN

HORIZONTAL SCALE: 1"=50'  
 VERTICAL SCALE: 1"=5'

No-05011.dwg 4-4-00 3:56:11 pm EST

DESIGNED BY:	DATE	DATE	BY	DESCRIPTION
TWH	4-3-00	4-20-00	DTM	UPDATE SHEET TOTAL
CHECKED BY:	DATE			
APPROVED BY:	DATE			

**ENGINEERING TECHNOLOGIES ASSOCIATES, INC.**  
 ENGINEERS \* PLANNERS \* SURVEYORS  
 3458 ELLICOTT CENTER DRIVE SUITE 101  
 ELLICOTT CITY, MARYLAND 21043  
 BALTO. (410)461-9920 FAX (410)750-8565



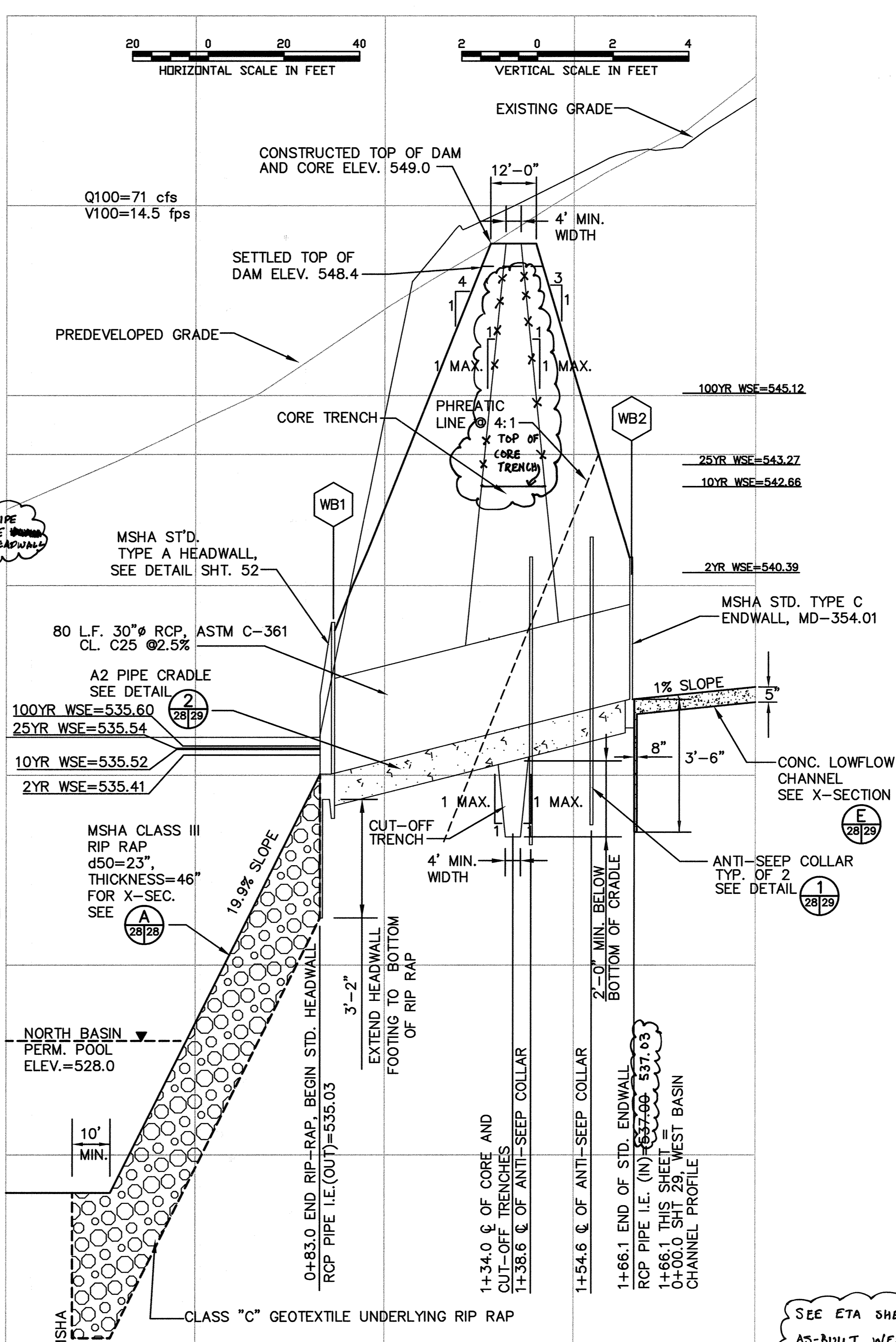
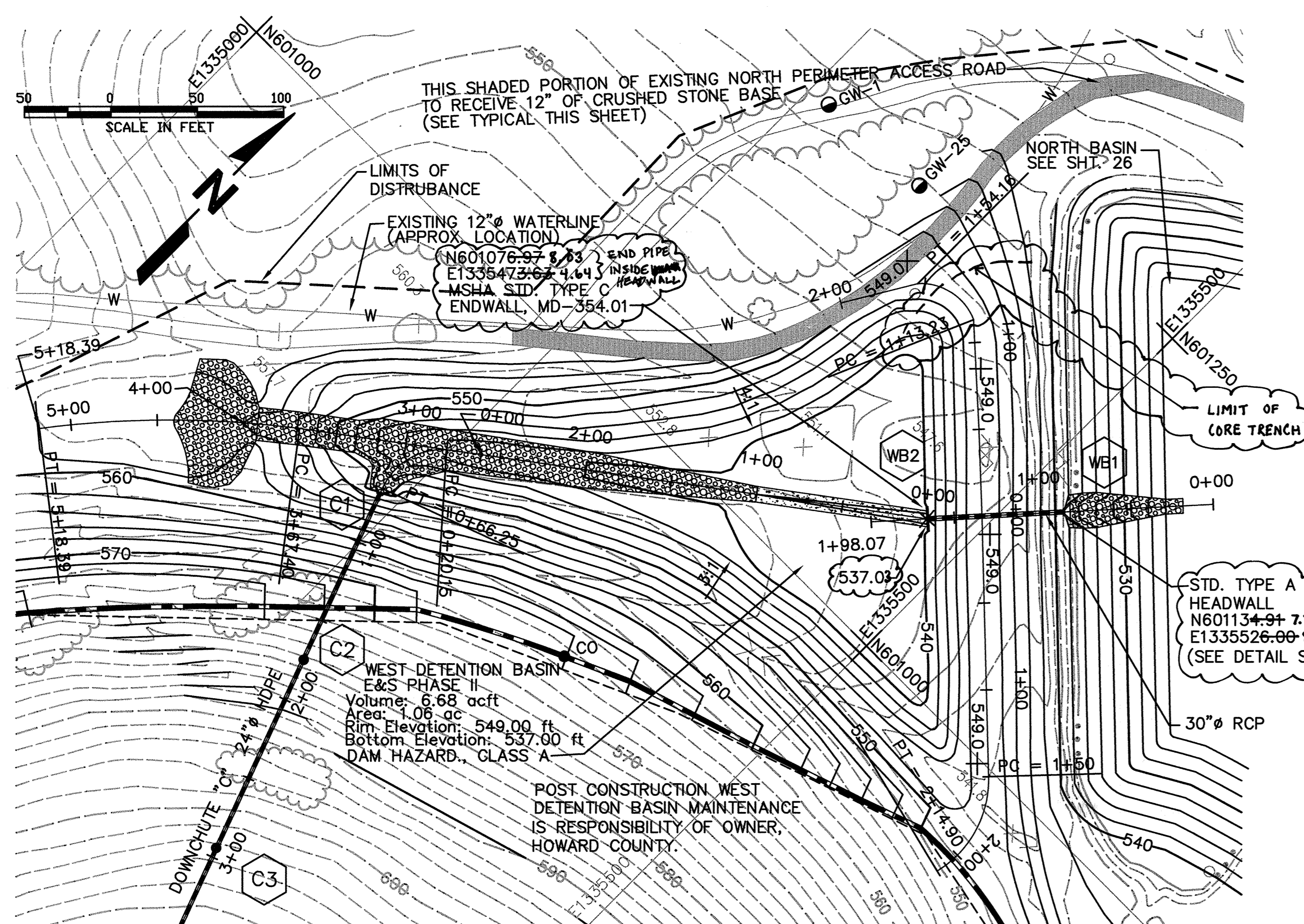
AS-BUILT PROFILES NORTH AND WEST BASINS

**ALPHA RIDGE LANDFILL CELL CLOSURE**

HOWARD COUNTY MARYLAND

SCALE : AS NOTED CONTRACT NO.: 98301.10 DATE : 4-3-2000 SHEET 28-AB OF 140





**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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

Signature of Developer: *John J. O'Hara* DATE: 10/30/97  
 JOHN J. O'HARA

( ) 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/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

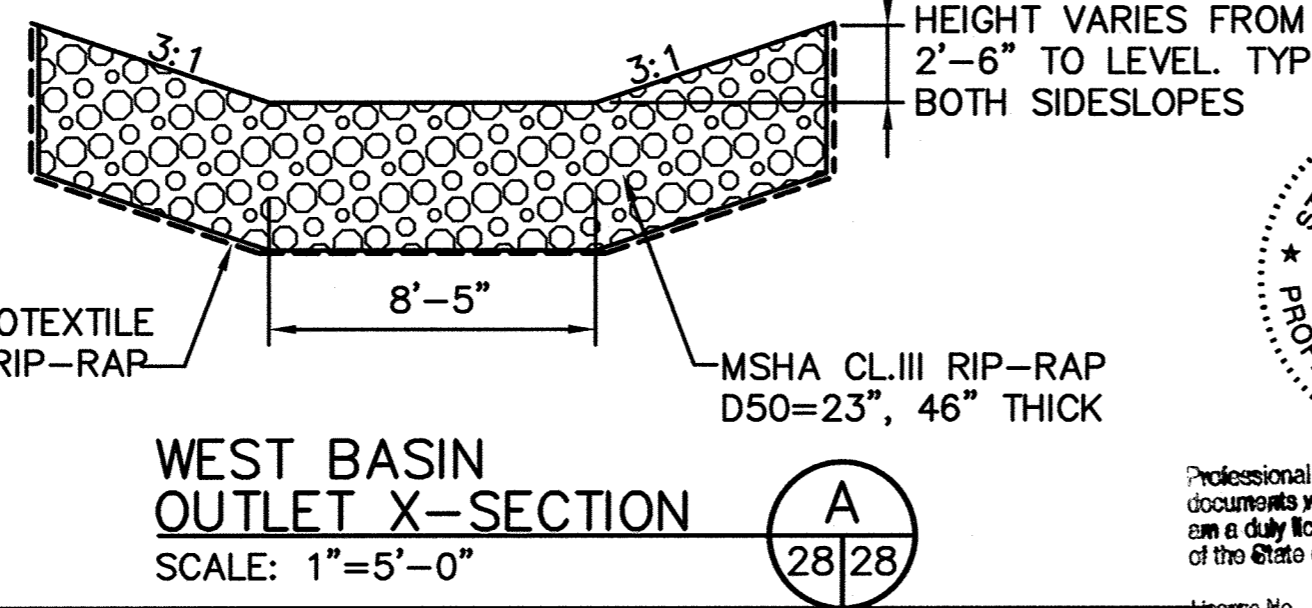
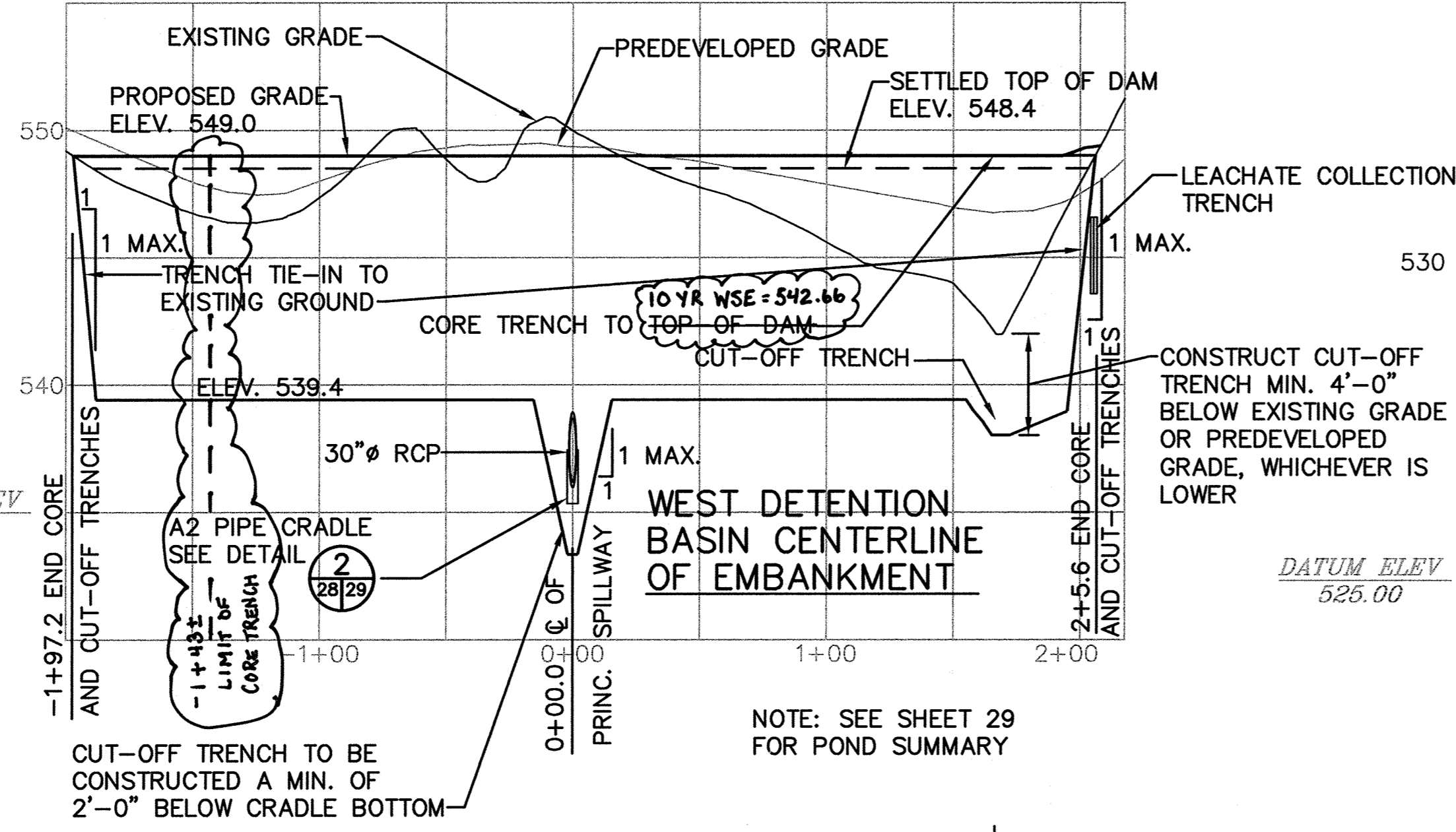
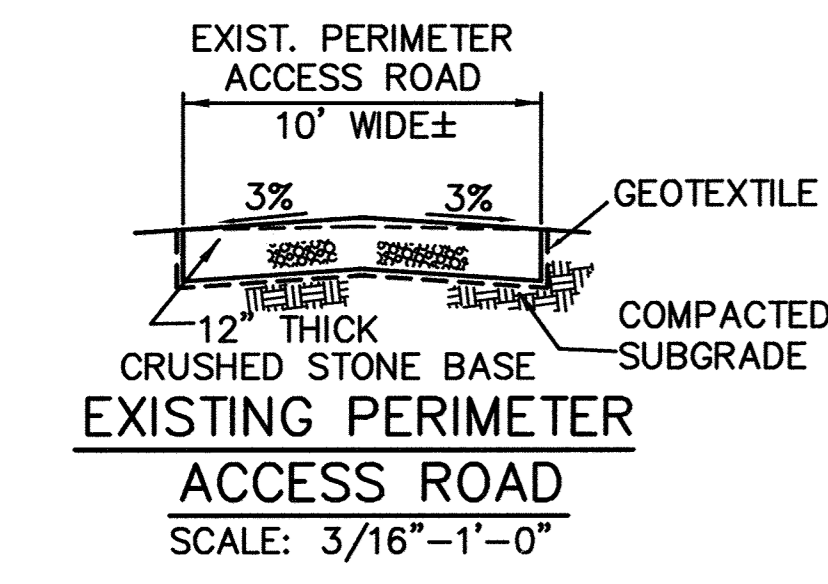
Signature of Engineer: *Paul A. Mandeville* DATE: 10/30/97  
 PAUL A. MANDEVILLE

( ) 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: *Cheryl S. Jimenez* DATE: 10-30-97  
 USDA - NATURAL RESOURCES CONSERVATION SERVICE

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

Signature: *Rolando Zieher* DATE: 10-30-97  
 HOWARD SOIL CONSERVATION DISTRICT



STATE OF MARYLAND  
 DAVID THOMAS MORTIMER  
 PROFESSIONAL ENGINEER  
 No. 16126  
 PROFESSIONAL ENGINEER

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 16126 Expiration Date: 8-28-20

SUBDIVISION NAME	LOT/PARCEL	
ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	54,253,220,11	
LIBER/FOLIO	ZONE TAX/ZONE MAP	
10-847/808	PEC	
16-878/215	10 & 16	
10-891/314		
WATER CODE	SEWER CODE	CENSUS TR.
PRIVATE, EXISTING	PRIVATE, EXISTING	60-30

DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND

*James R. ...* 11/3/97  
 DIRECTOR DATE

*...* 10/30/97  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*...* 11/3/97  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*...* 10/30/97  
 DIRECTOR OF PUBLIC WORKS DATE

*John J. O'Hara* 10/30/97  
 CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
 CONSULTING ENGINEERS  
 11260 ROGER BACON DRIVE  
 SUITE 300  
 RESTON, VIRGINIA 22090  
 PH. (703) 471-6150  
 FAX. (703) 471-6676

STATE OF MARYLAND  
 PAUL ANTHONY MANDEVILLE  
 PROFESSIONAL ENGINEER  
 No. 16126  
 PROFESSIONAL ENGINEER

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 16126 Expiration Date: 8-28-20

DES. AST,RTT			
DRN. AST,EGC			
CHK. PAM			
DATE: 10-30-97	BY: PAM	NO. 16126	REVISION: UPDATED SHEET TOTAL
			DATE: 4.2019

WEST DETENTION BASIN  
 ENLARGED PLAN AND PROFILES

ALPHA RIDGE LANDFILL  
 UNLINED CELL CLOSURE  
 CAPITAL PROJECT NO. C-0190-N

SCALE: AS NOTED

SHEET 28 OF 140

3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

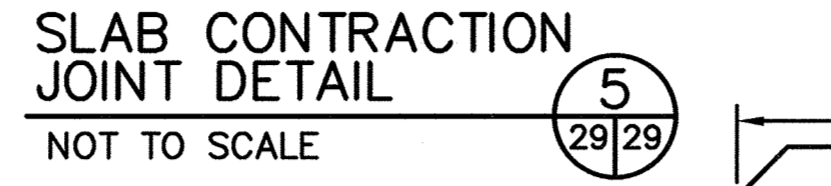
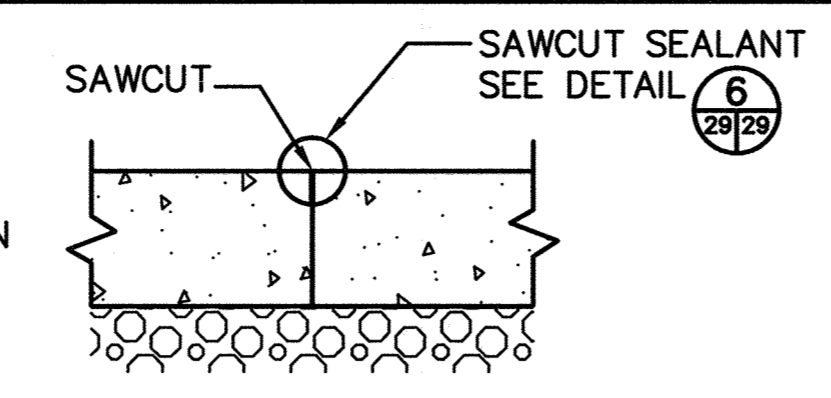
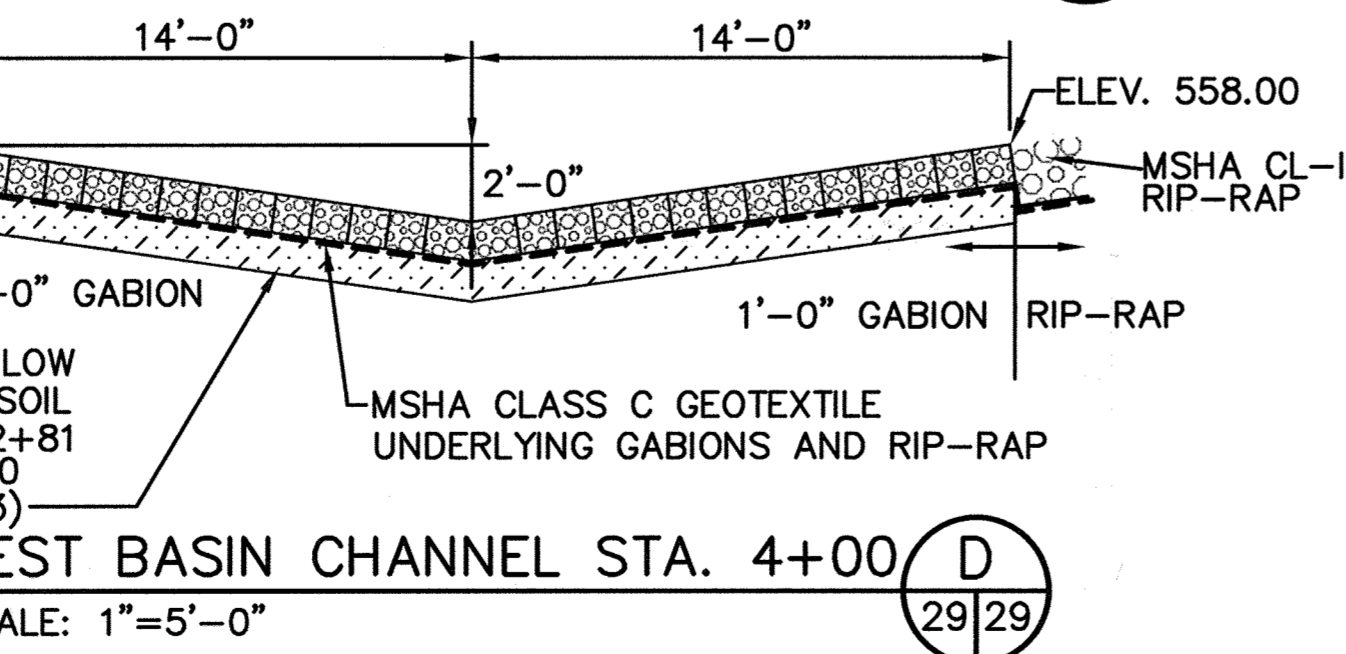
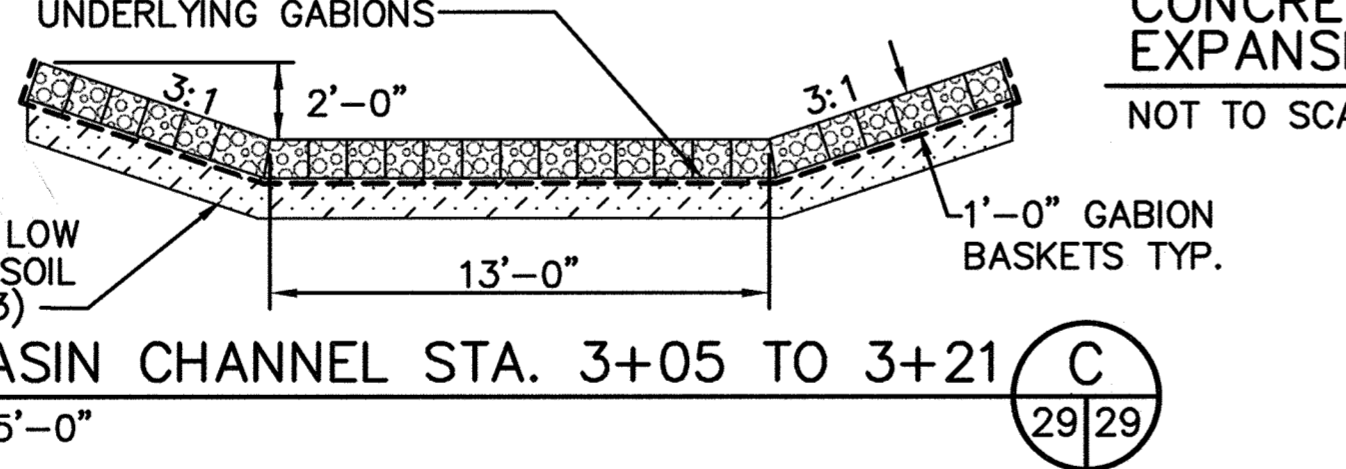
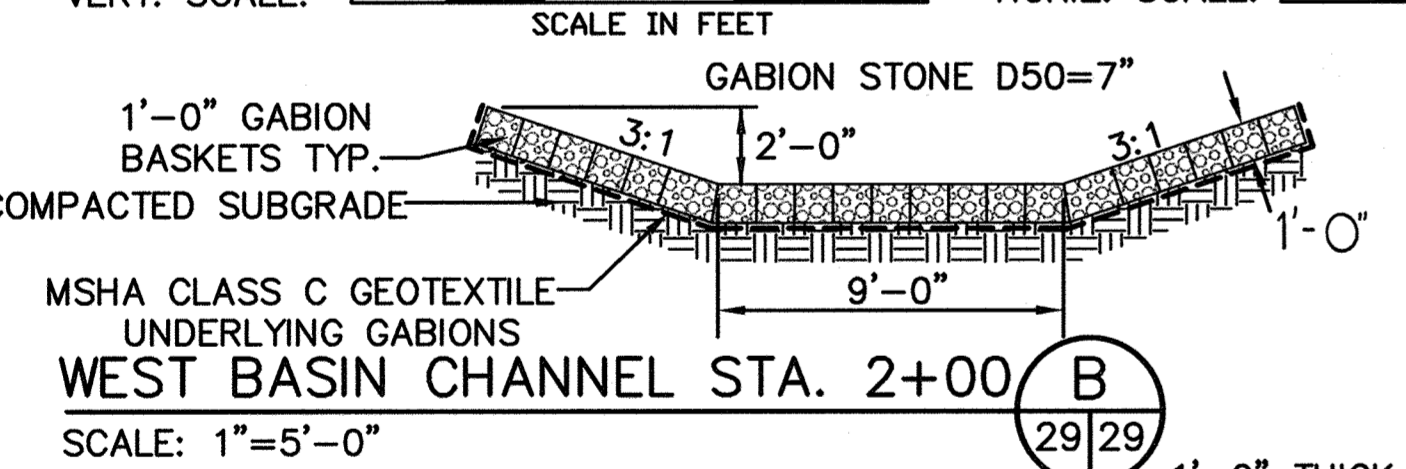
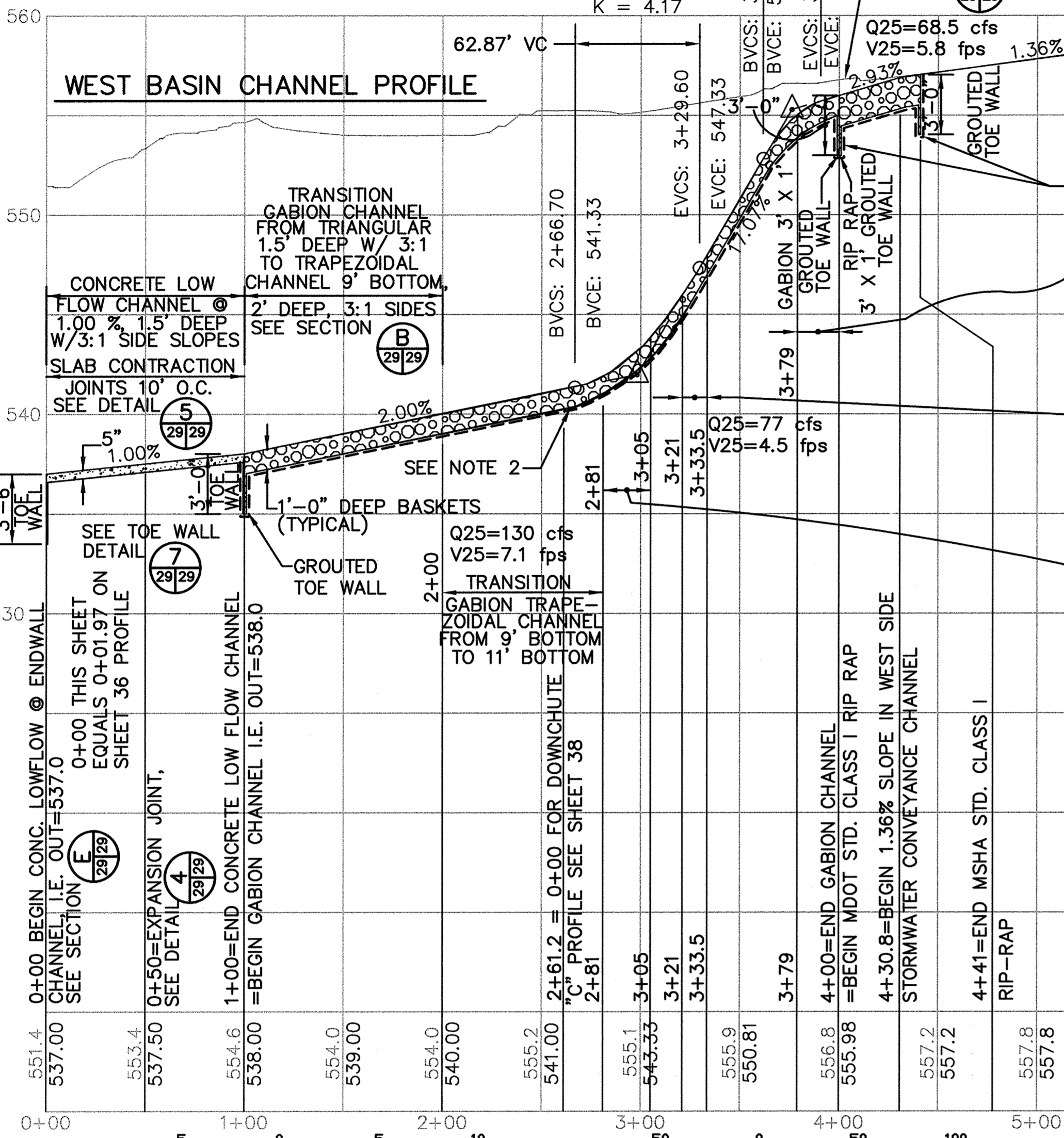
NOTE: FILL MATERIAL FOR THE CENTER OF THE EMBANKMENT AND CUT OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL. MINIMUM REQUIRED DENSITY SHALL BE 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN +/- 2% OF THE OPTIMUM. FOR MORE INFORMATION SEE SHEET 23.

SEE ETA SHEET 26AB AND 28AB FOR AS-BUILT WEST DETENTION BASIN ENLARGED PLAN AND PROFILES

WBSN-B WBSN-WBCLDAM/PRF-WBSX-MIKENOTE M: 2985077.01.FINAL

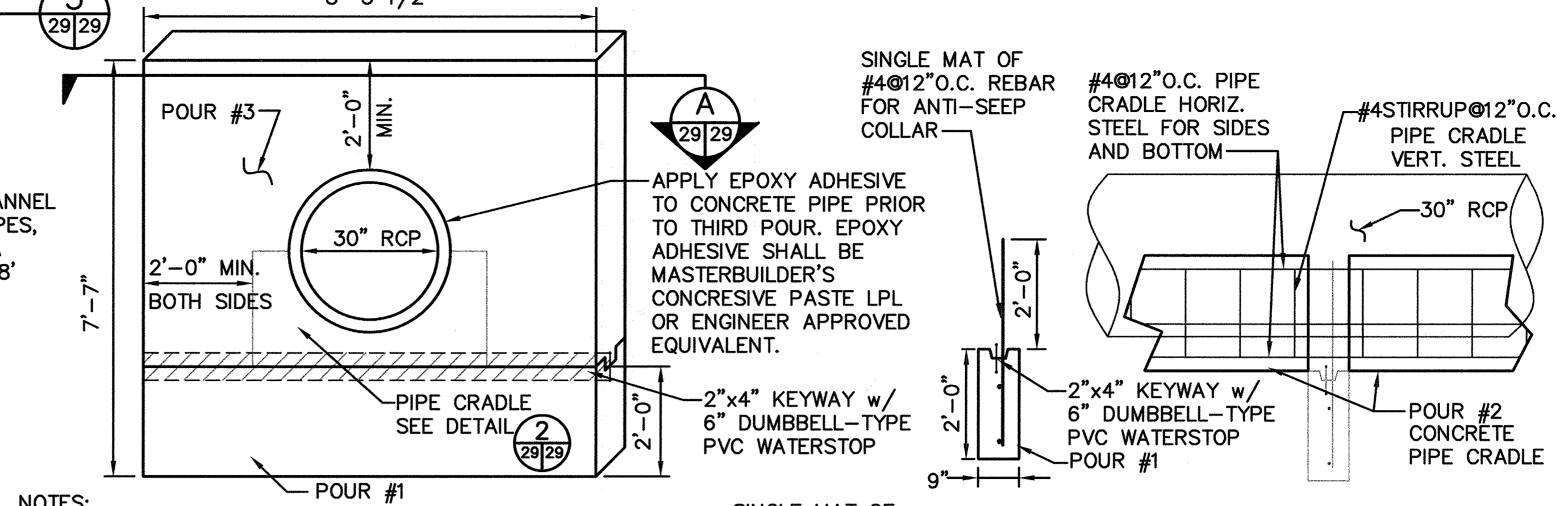
SDP-97-128

NOTES:  
 1. RIP-RAP FOR GABION BASKETS TO BE d50 = 7".  
 2. INSTALL CLASS C GEOTEXTILE UNDER ALL RIP-RAP AND GABIONS.  
 3. PROVIDE 1'-0" CL OR SC MATERIAL COMPACTED TO 95% (ASTM D698) BELOW GEOTEXTILE FROM STA. 2+81 TO STA. 4+00.

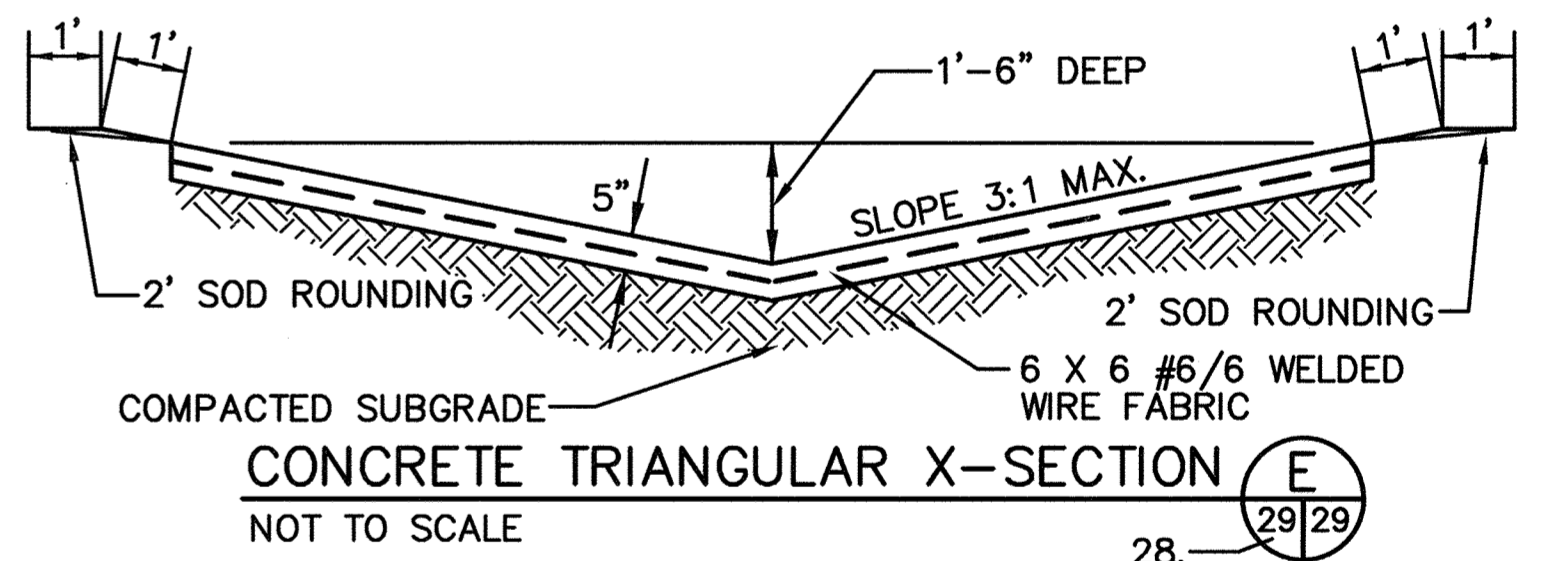
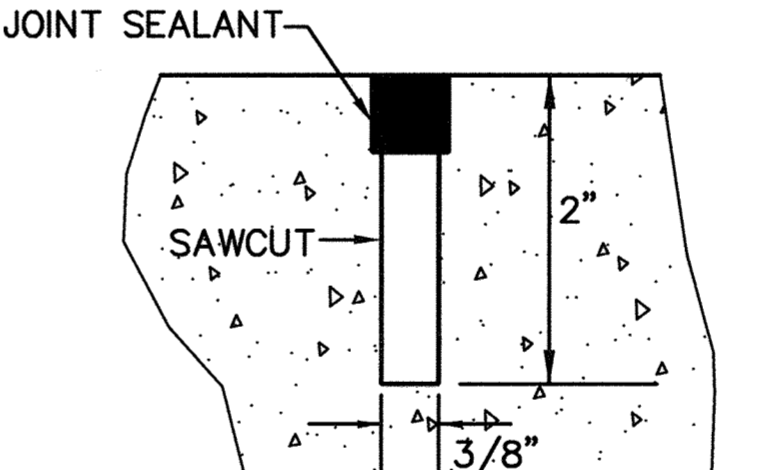
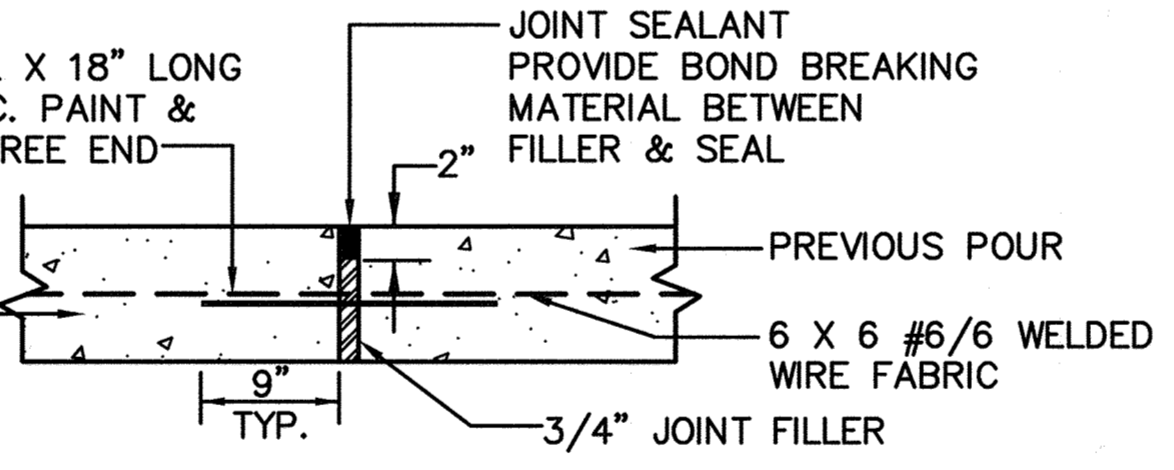
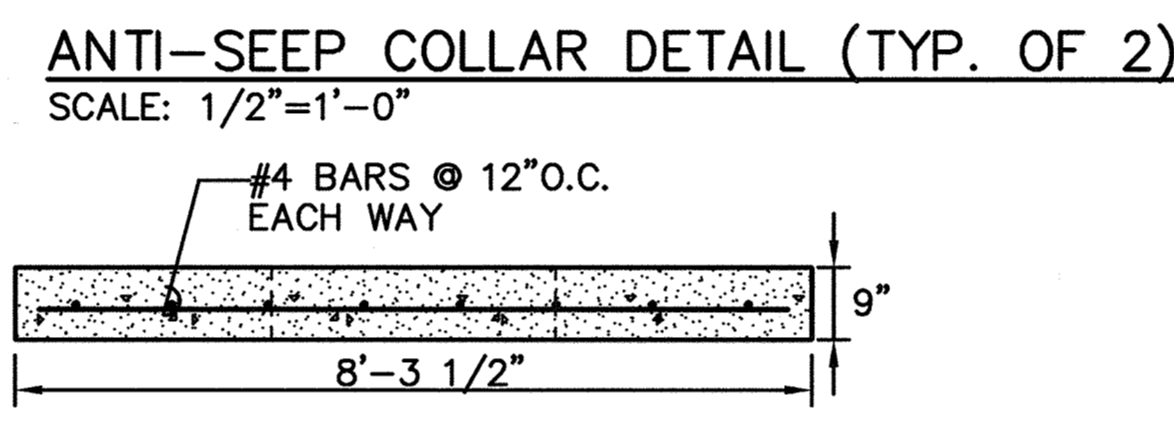


POND	RISER				OUTLET PIPE			ANTI-SEEP COLLAR	DAM		EMERG. SPILLWAY	CORE TRENCH		CUT-OFF TRENCH		WATER SURFACE ELEV.							
	WEIR HT.	WEIR WIDTH	CREST ELEV.	STR. WIDTH	DIA. IN.	L FT.	U/S INV.	D/S INV.	QTY.	APPROX. SIZE	TOP WIDTH FT.	CONSTR. HEIGHT	SETTLED HEIGHT	ELEV.	BOTTOM WIDTH FT.	TOP WIDTH FT.	SIDE SLOPES	BOT. WIDTH FT.	SIDE SLOPES	2 YR.	10 YR.	25 YR.	100 YR.
WEST	N/A	N/A	N/A	N/A	30	80.0	537.03	535.03	2	7.58' HT. 8.29' W.	12'	549.0	548.4	N/A	N/A	4'	1:1	4'	1:1	540.39	542.66	543.27	545.12

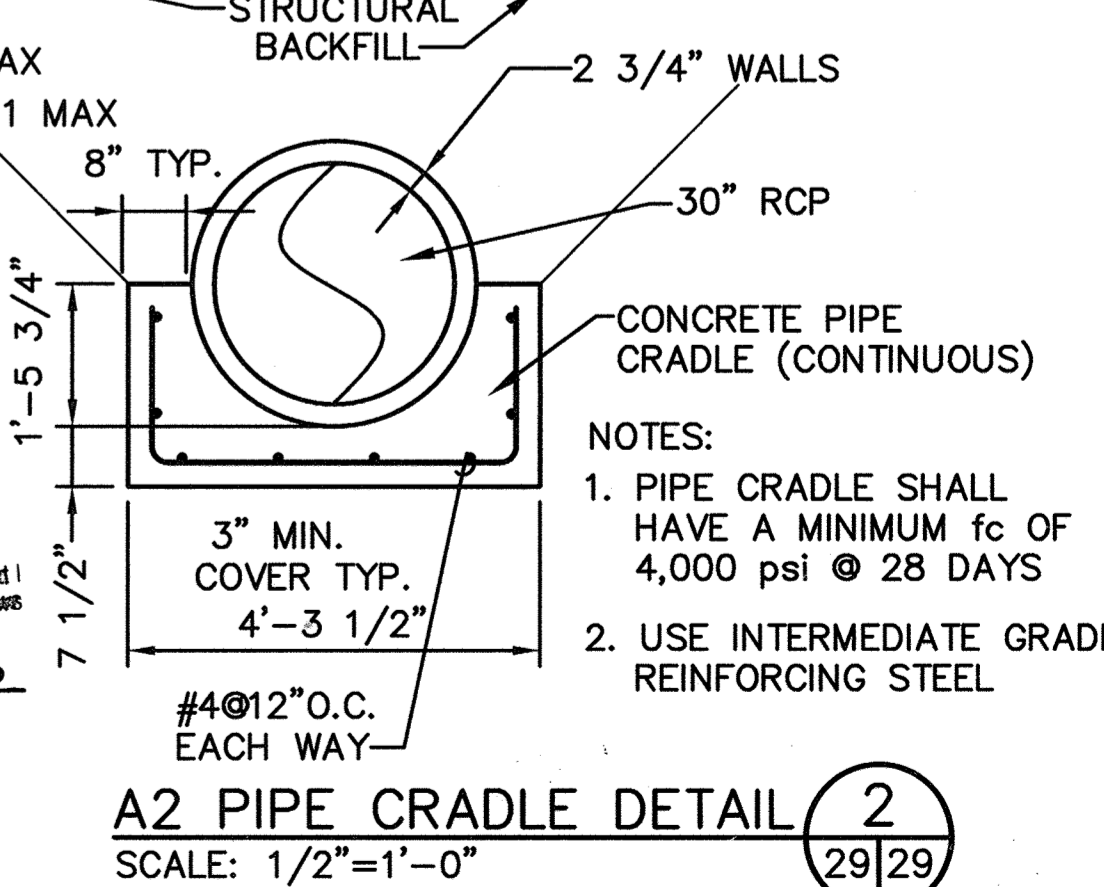
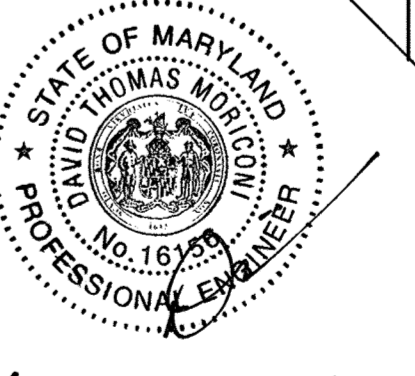
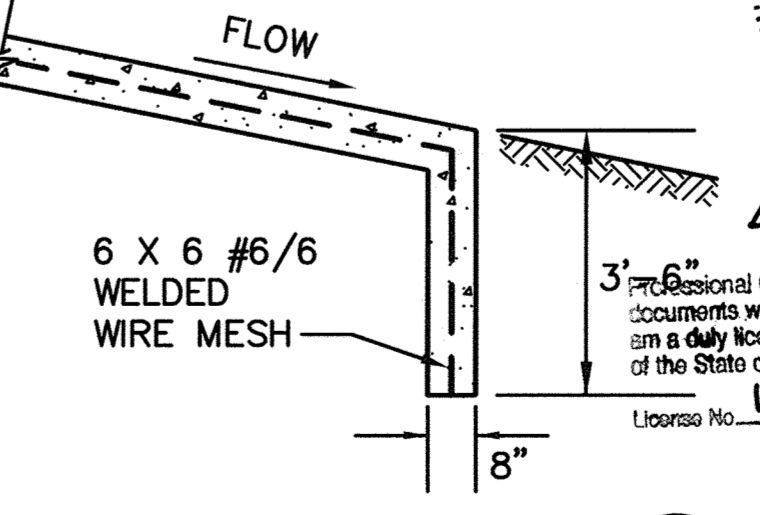
POST CONSTRUCTION WEST DETENTION BASIN MAINTENANCE IS RESPONSIBILITY OF OWNER, HOWARD COUNTY.



- NOTES:  
 1. ANTI-SEEP COLLAR TO BE POURED AT LEAST TWO (2) FEET FROM NEAREST PIPE JOINT.  
 2. ANTI-SEEP COLLAR TO BE CONSTRUCTED IN THREE POURS.  
 3. BOTTOM HALF TO BE POURED FIRST.  
 4. PLACE PIPE AND POUR CRADLE SECOND.  
 5. TOP PORTION OF COLLAR POURED THIRD.  
 6. BACKFILL SHALL BE PLACED EVENLY ON BOTH SIDES OF THE ANTI-SEEP COLLAR.  
 7. REINFORCED CONCRETE: fc = 4,000 psi @ 28 DAYS.



- LOWFLOW CHANNEL NOTES:  
 1. ALL SOD TO BE STAKED WITH 1/2" X 1" X 12" WOOD STAKES ON 24" CENTERS BOTH WAYS.  
 2. CONCRETE SHALL BE MSHA MIX NO. 2.



SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11
LIBER/FOLIO 10-897/806 10-897/215 10-891/314	ZONE PEC	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30

DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND

*[Signature]* 11/3/97  
 DIRECTOR DATE

*[Signature]* 11/3/97  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

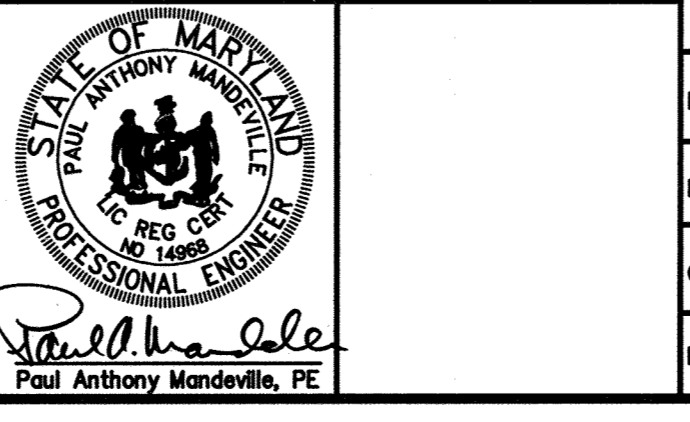
*[Signature]* 11/3/97  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*[Signature]* 10/30/97  
 DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 10/30/97  
 CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
 CONSULTING ENGINEERS  
 11260 ROGER BACON DRIVE  
 SUITE 300  
 RESTON, VIRGINIA 22090  
 PH. (703) 471-6150  
 FAX. (703) 471-6676



DES.	AST,RTT			
DRN.	AST,EGC			
CHK.	PAM			
DATE:	10-30-97	BY:	DTM	NO.
			UPDATED SHEET TOTAL	4-2019
			REVISION	DATE

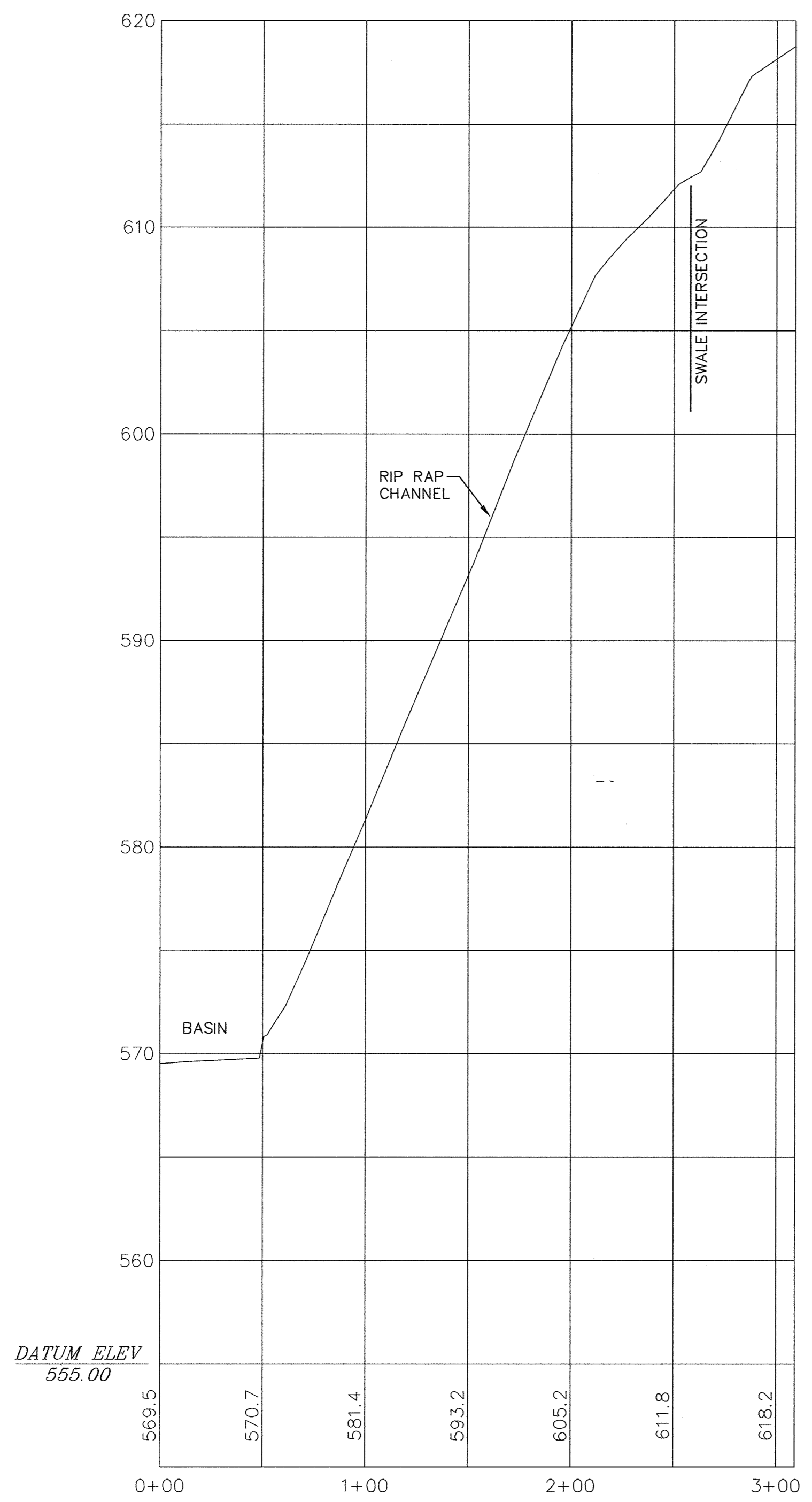
WEST DETENTION BASIN DETAILS

ALPHA RIDGE LANDFILL  
 UNLINED CELL CLOSURE  
 CAPITAL PROJECT NO. C-0190-N

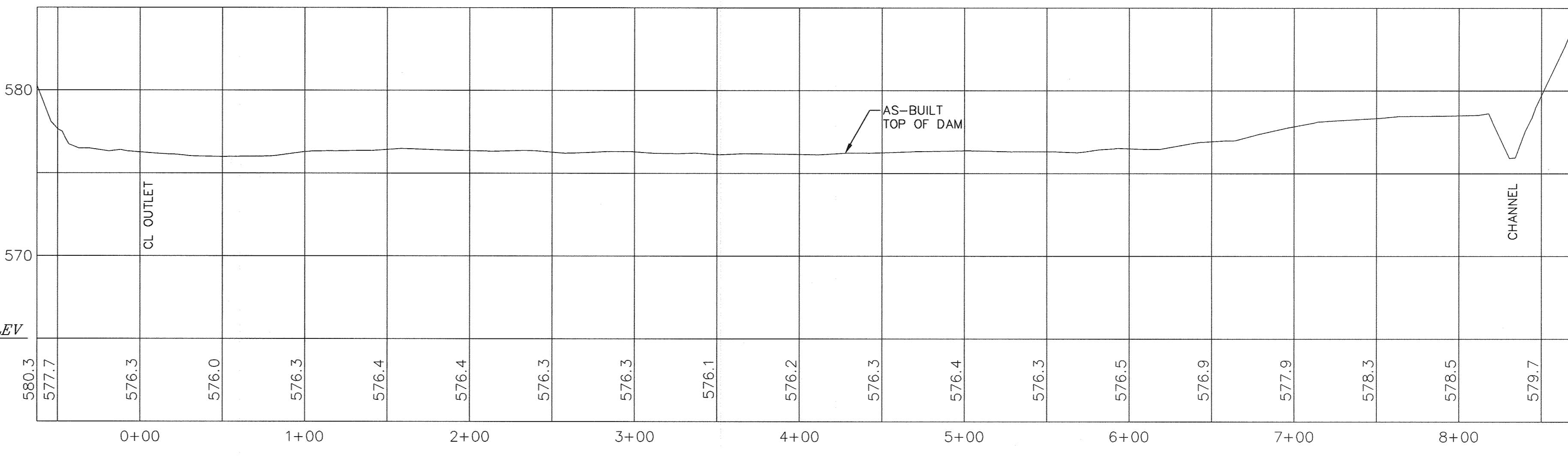
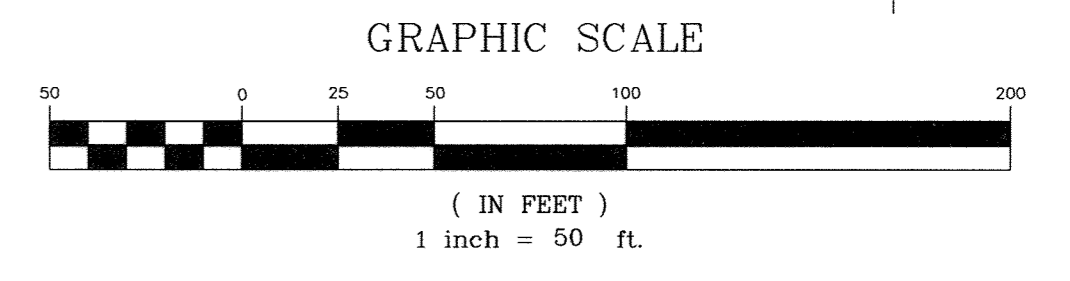
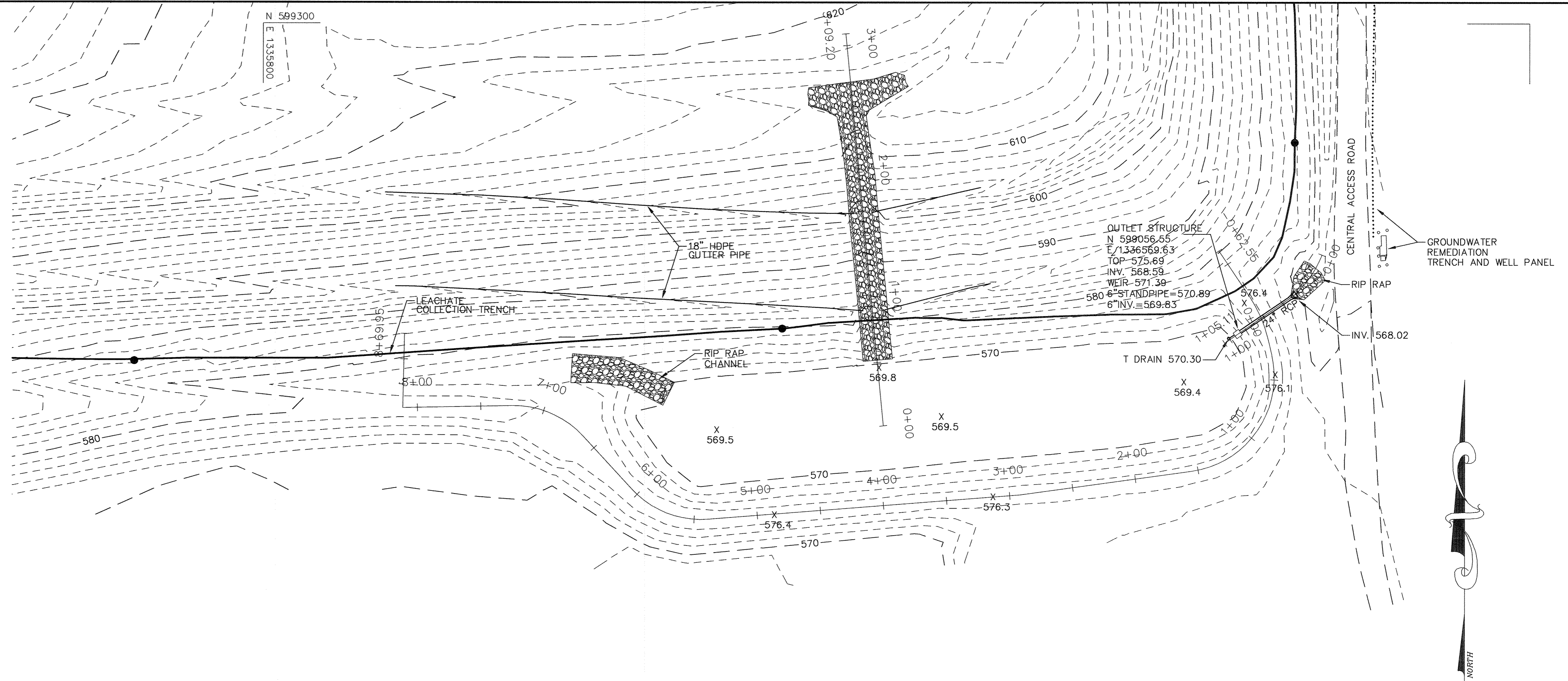
SCALE:  
 AS NOTED

SHEET  
 29 OF 140

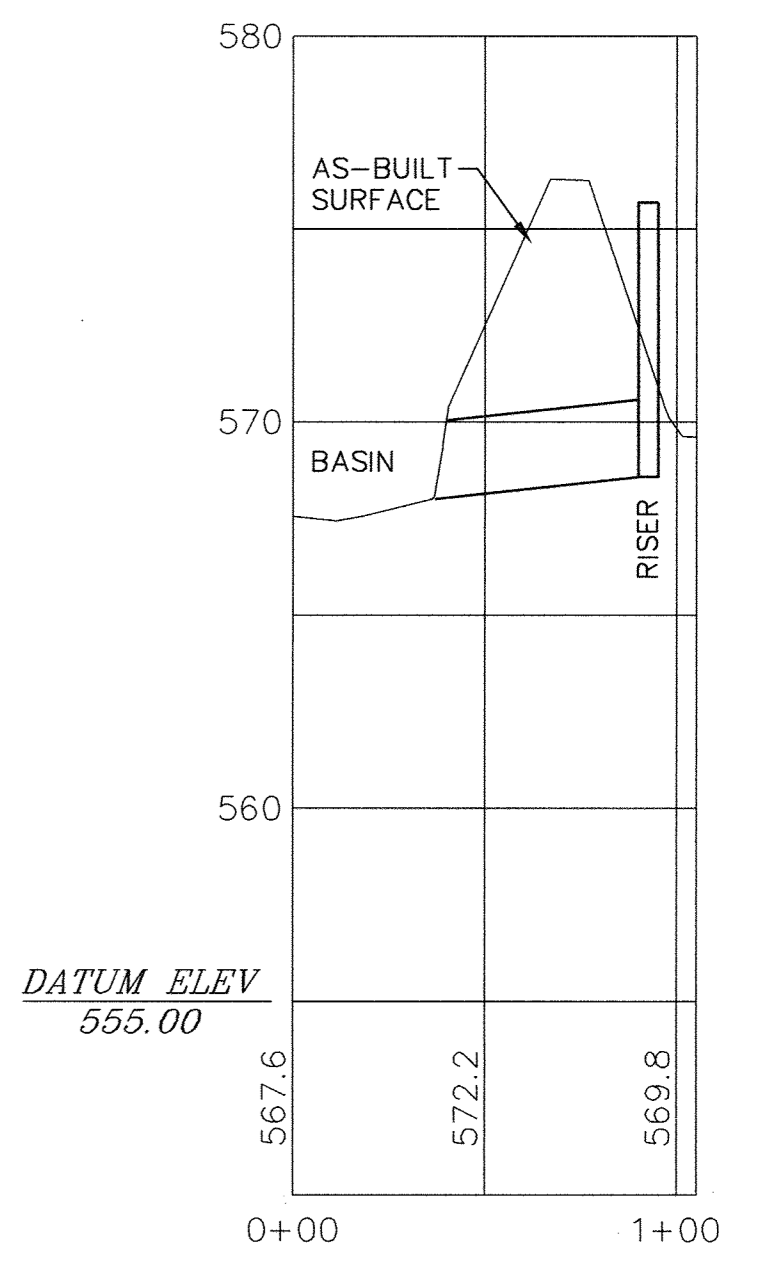
3rd ELECTION DISTRICT    HOWARD COUNTY, MARYLAND



DOWNCHUTE PROFILE  
SOUTH BASIN



TOP OF DAM PROFILE  
SOUTH BASIN



OUTLET PROFILE  
SOUTH BASIN

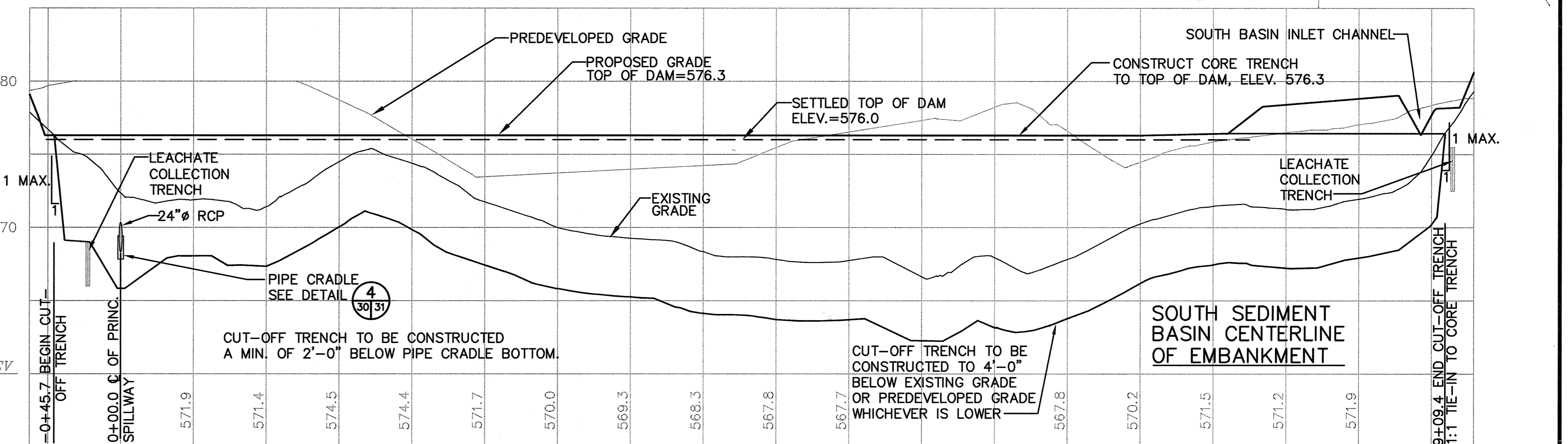
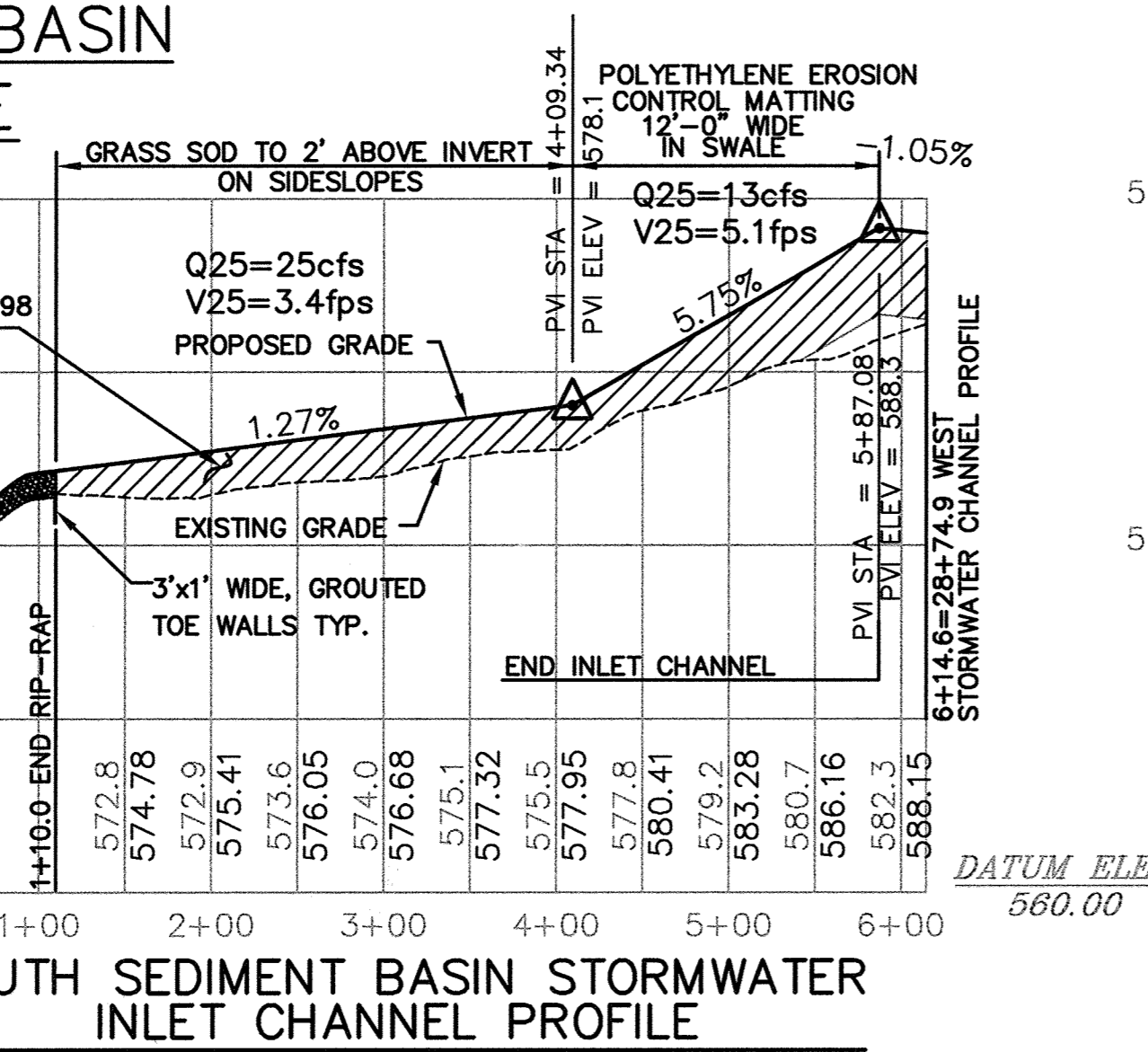
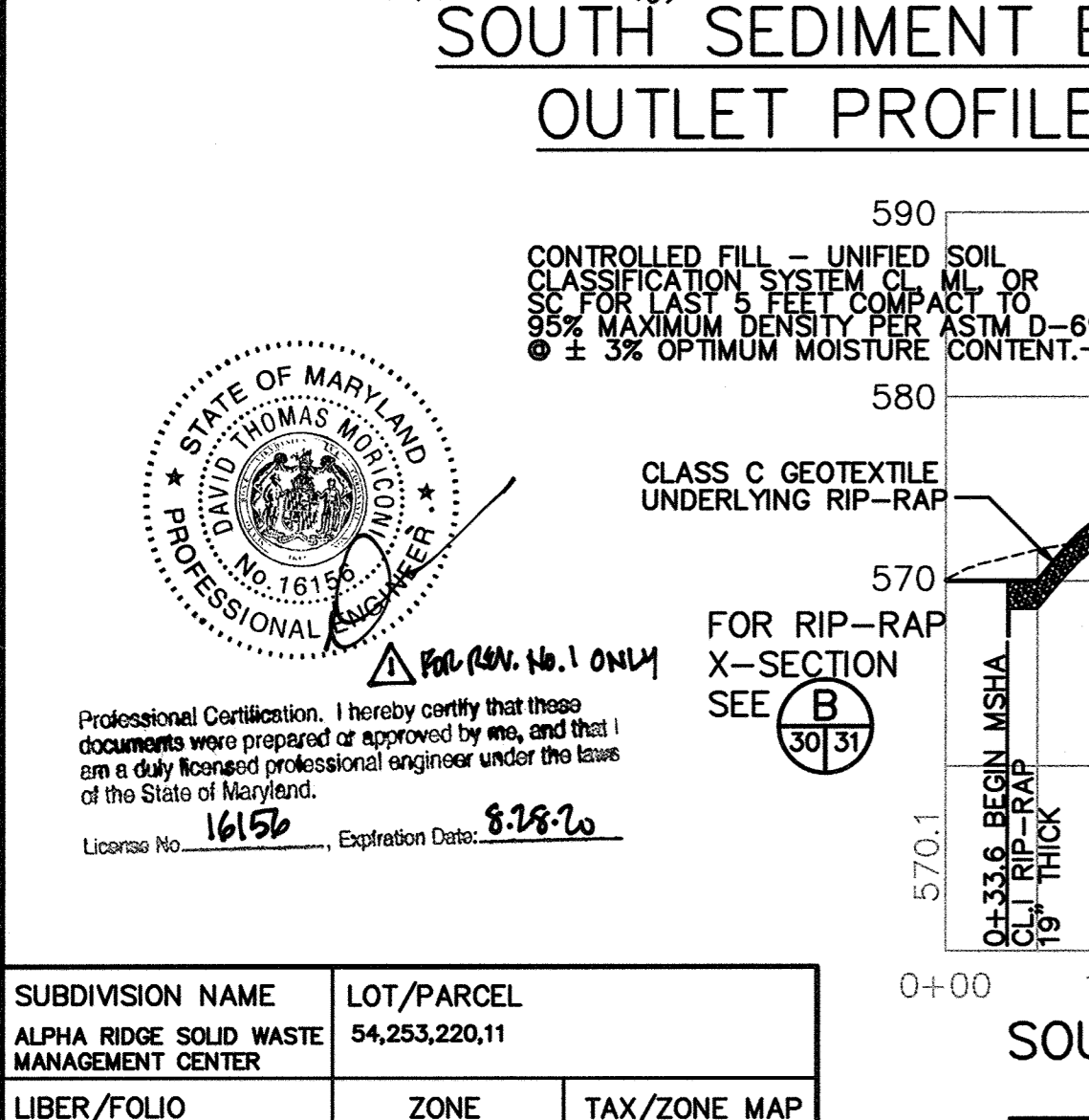
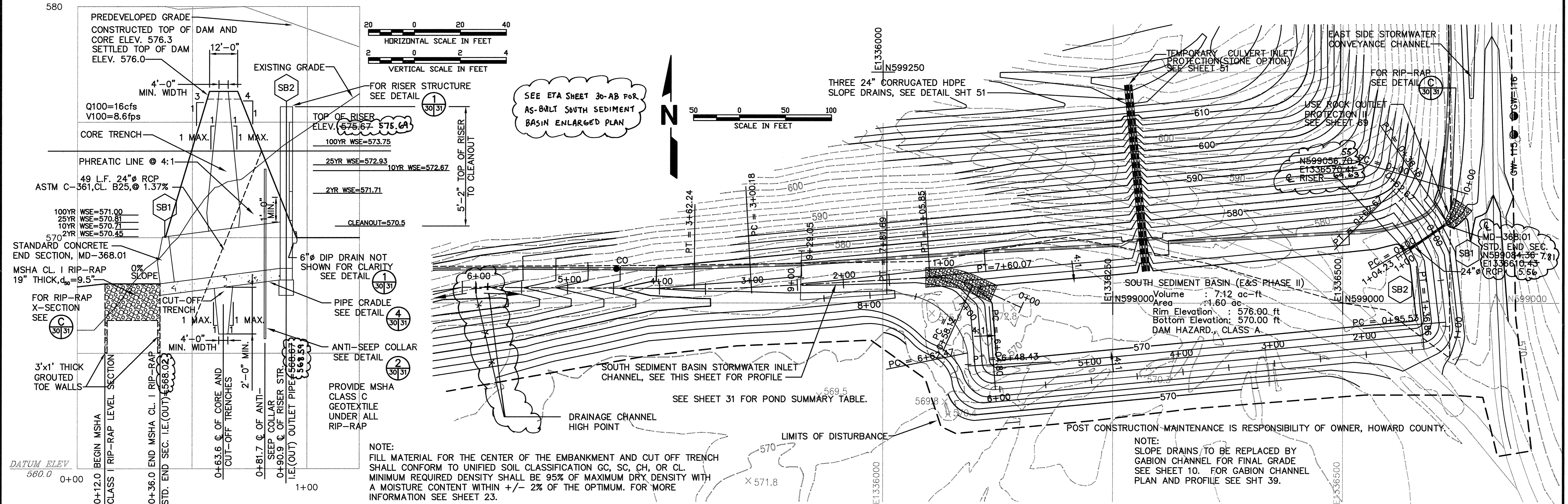
**REVISION NO. 4 ONLY**  
 Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. \_\_\_\_\_, Expiration Date: \_\_\_\_\_

DESIGNED BY:		DATE		REVISIONS	
DATE	BY	DATE	BY	DESCRIPTION	
11-21-98	TWH	4-6-00	TWH	ADDED PROFILES	
		10-30-00	TWH	ADDED RISER DRAIN ELEVATIONS.	
		4-18-01	TWH	REVISED CONTOURS OF BERM AND PROFILE GRADES.	
		4-20-01	DTM	ADDED SHEET DRINK	
DATE		DATE			

**ENGINEERING TECHNOLOGIES ASSOCIATES, INC.**  
 ENGINEERS \* PLANNERS \* SURVEYORS  
 3458 ELLICOTT CENTER DRIVE SUITE 101  
 ELLICOTT CITY, MARYLAND 21043  
 BALTO. (410)461-9920 FAX (410)750-8565



SOUTH BASIN AS-BUILT			
<b>ALPHA RIDGE LANDFILL CELL CLOSURE</b>			
HOWARD COUNTY	CONTRACT NO.: 98301.10	DATE: 2-27-2000	MARYLAND
SCALE: 1"=50'			SHEET 30-AB OF 120



SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/606 16-878/215 10-881/314		TAX/ZONE MAP PEC 10 & 16	
WATER CODE PRIVATE, EXISTING		SEWER CODE PRIVATE, EXISTING	
CENSUS TR. 60-30			

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*David Smith* 11/3/97  
DIRECTOR DATE

*John O'Hara* 10/30/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*John O'Hara* 10/30/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James P. O'Hara* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*John O'Hara* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

AS-BUILT CERTIFICATION  
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

*Michael B. Donohue* PE NO. 17650  
SIGNATURE DATE 10/10/97

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

OPERATION, MAINTENANCE AND INSPECTION  
INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676

*Paul Anthony Mandeville, PE*  
PAUL ANTHONY MANDEVILLE, PE  
REGISTERED PROFESSIONAL ENGINEER

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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

*John O'Hara* 10/30/97  
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/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

*Paul A. Mandeville* 10/30/97  
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.

*Charles J. Finerman* 10-30-97  
USDA - NATURAL RESOURCES CONSERVATION DATE

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

*Paul A. Mandeville* 10-30-97  
HOWARD SOIL CONSERVATION DISTRICT DATE

DES. AST,RTT			
DRN. AST,EGC			
CHK. PAM			
DATE: 10-30-97	BY NO.	REVISION	DATE

4-249

SOUTH SEDIMENT BASIN  
ENLARGED PLAN AND PROFILES

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

SCALE:  
AS NOTED

SHEET 30 OF 140

3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

580

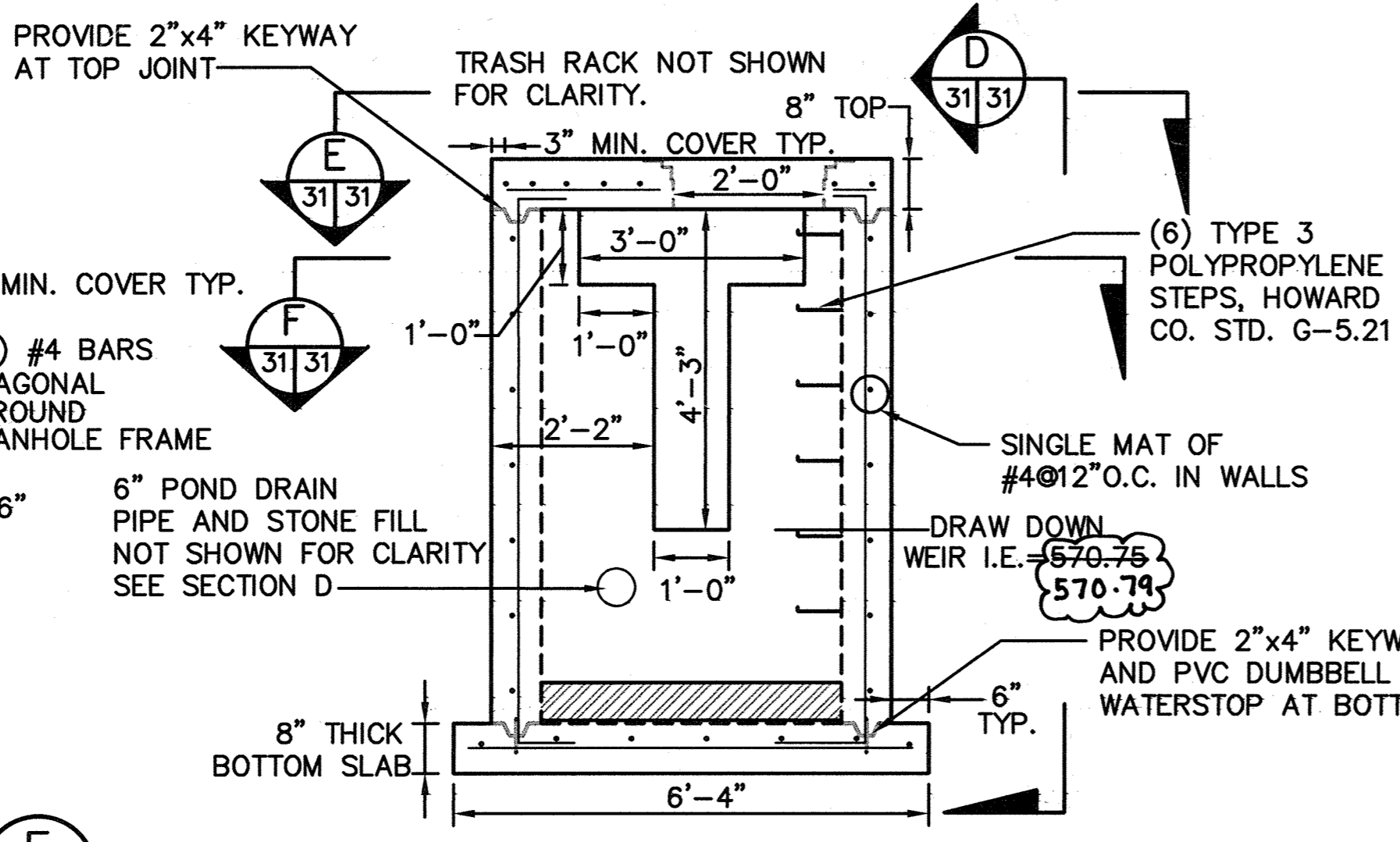
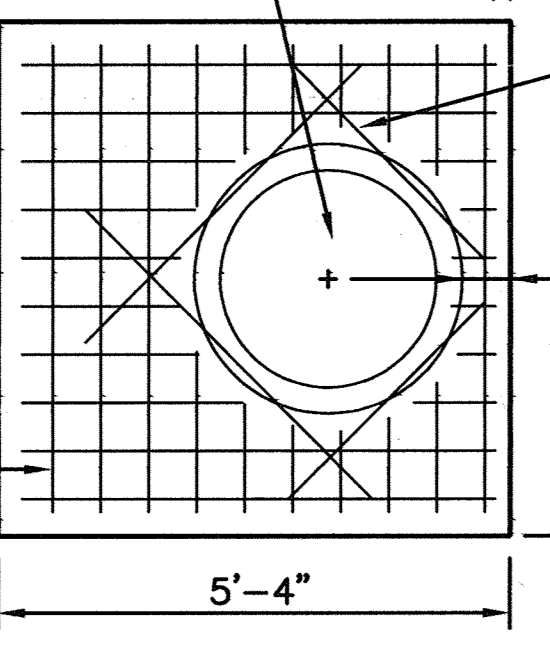
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M:\295077.01\FINAL

SBSN-B

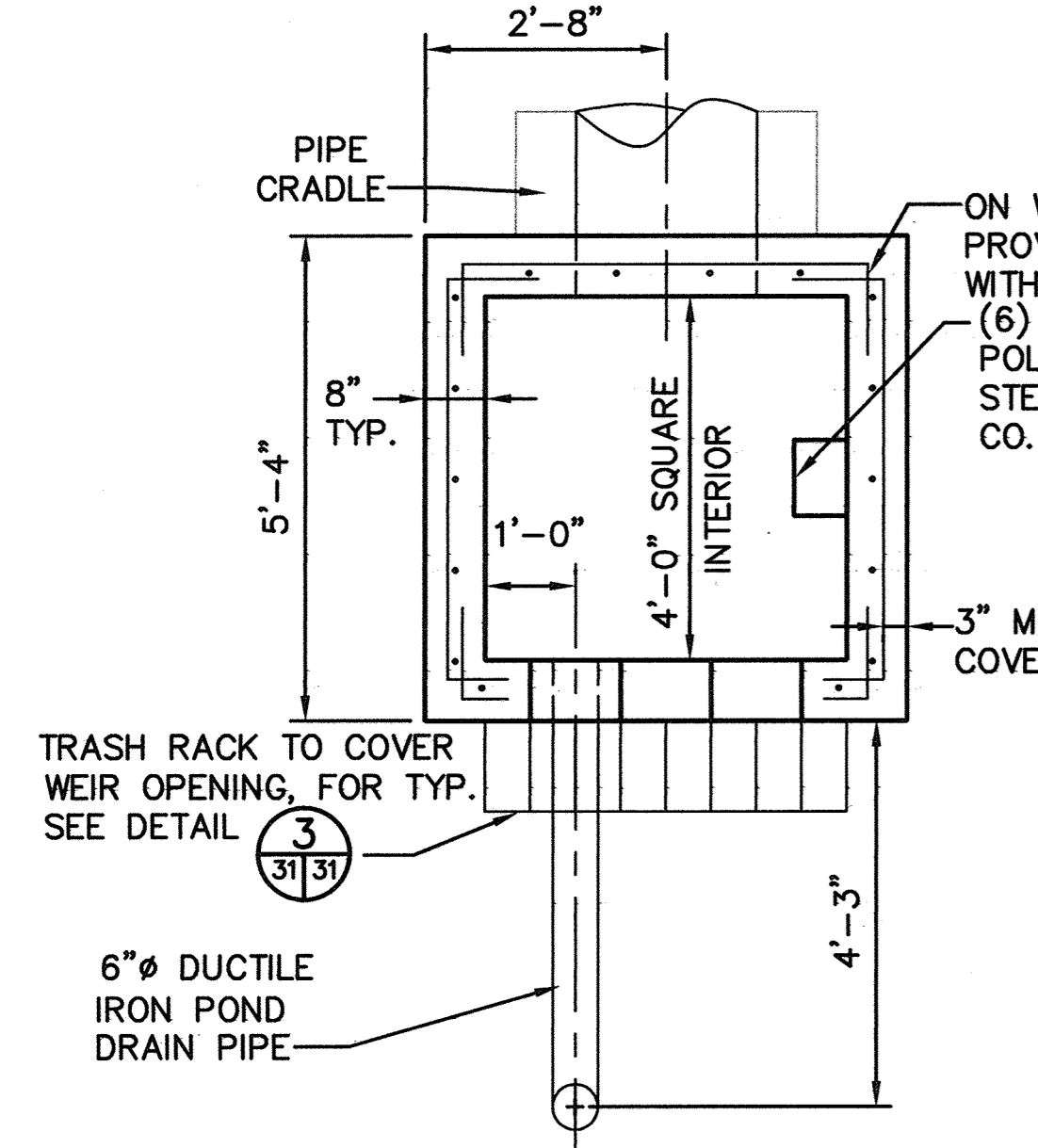
NOTE:  
CONCRETE OUTLET RISER SHALL BE POURED IN PLACE UNLESS CONTRACTOR RECEIVES APPROVAL FROM THE HOWARD CO. DEVELOPMENT ENGINEERING DIVISION FOR A WATERTIGHT PRECAST OUTLET RISER DESIGN.

CAST-IN PLACE STD. MANHOLE GRATE AND COVER AS MANUFACTURED BY NEENAH FOUNDRY CO. CAT. NO. R-6400-CO W/ TYPE D-STRAP IRON LOCK

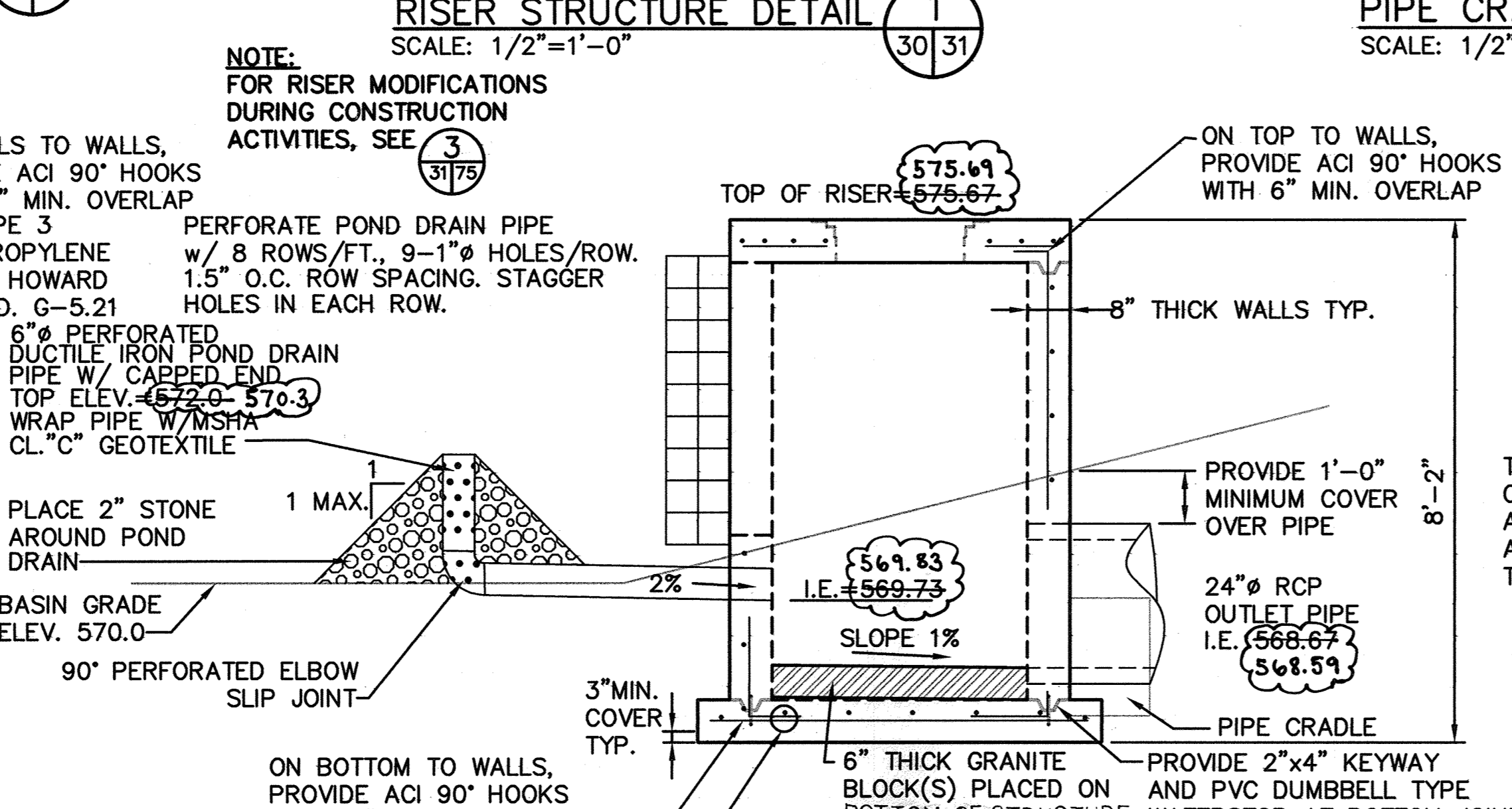


**RISER STRUCTURE SECTION E**  
SCALE: 1/2"=1'-0"

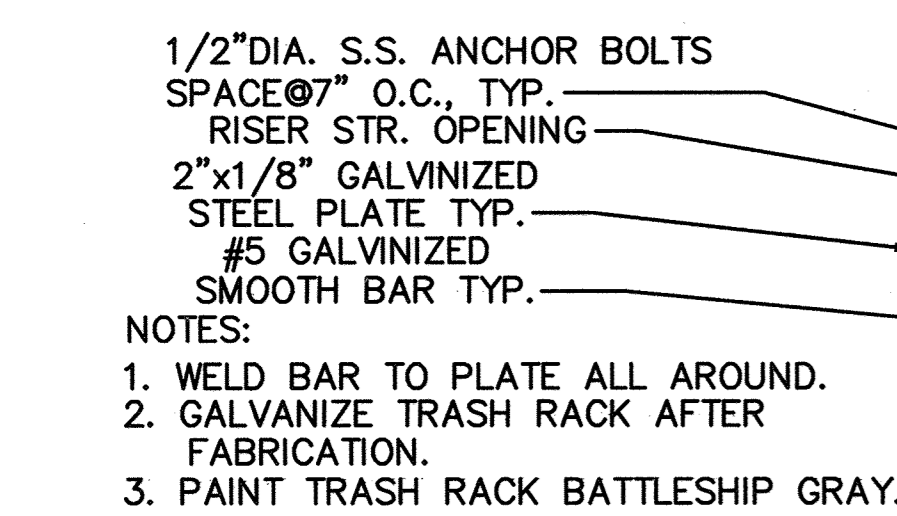
**RISER STRUCTURE DETAIL 1**  
SCALE: 1/2"=1'-0"



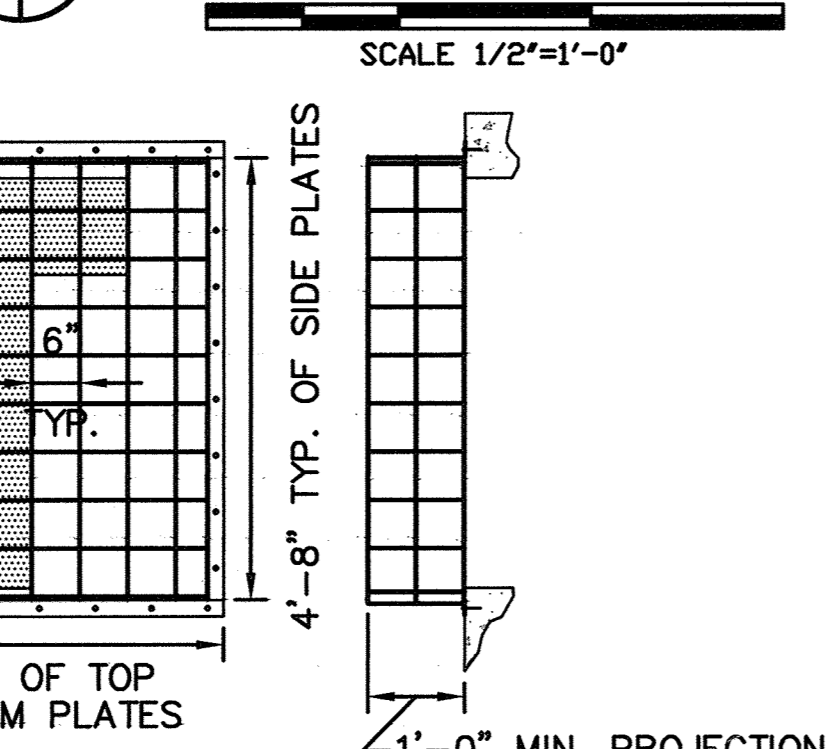
**RISER STRUCTURE SECTION F**  
SCALE: 1/2"=1'-0"



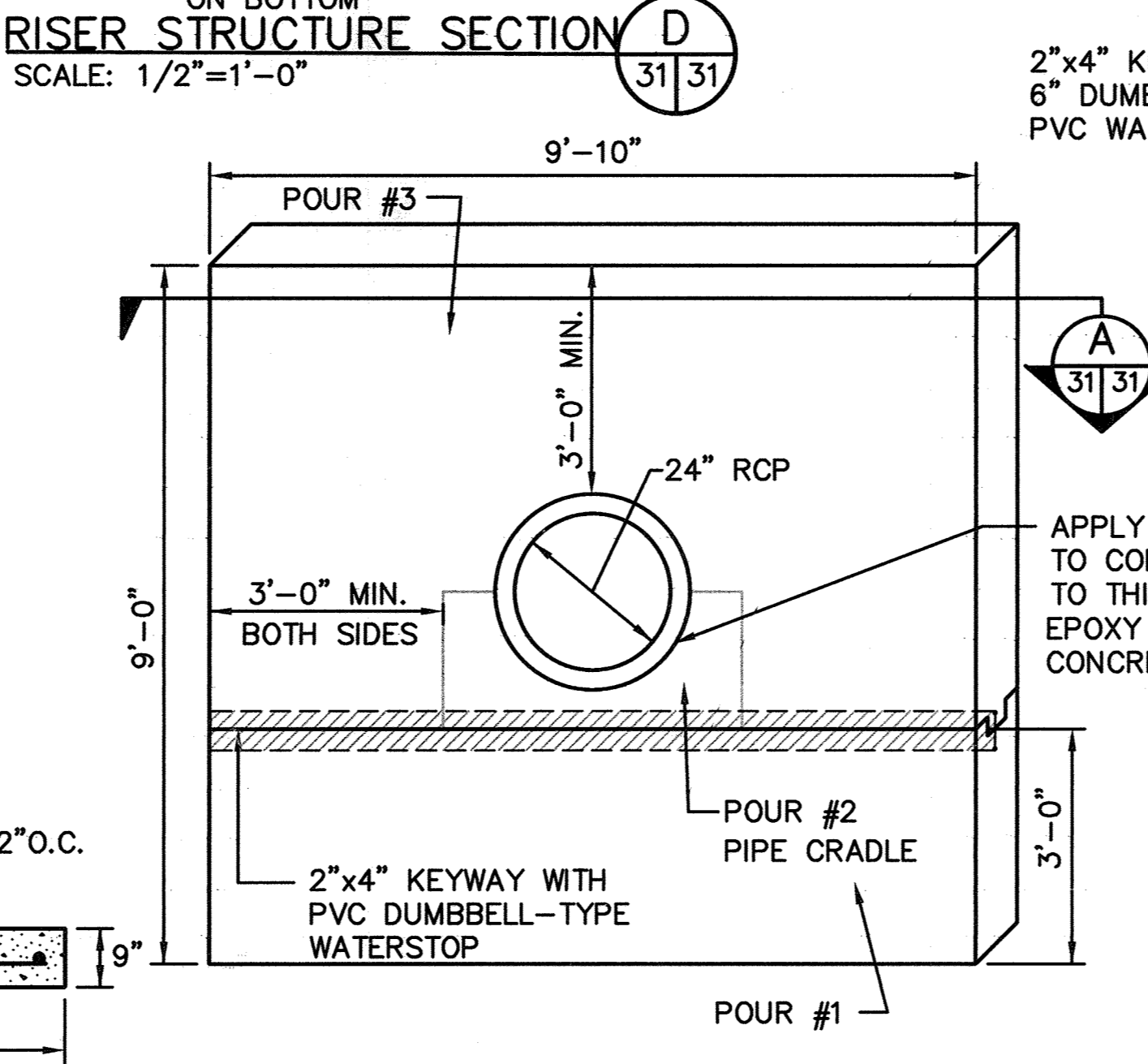
**RISER STRUCTURE SECTION D**  
SCALE: 1/2"=1'-0"



**TRASH RACK DETAIL 3**  
SCALE: 1/2"=1'-0"



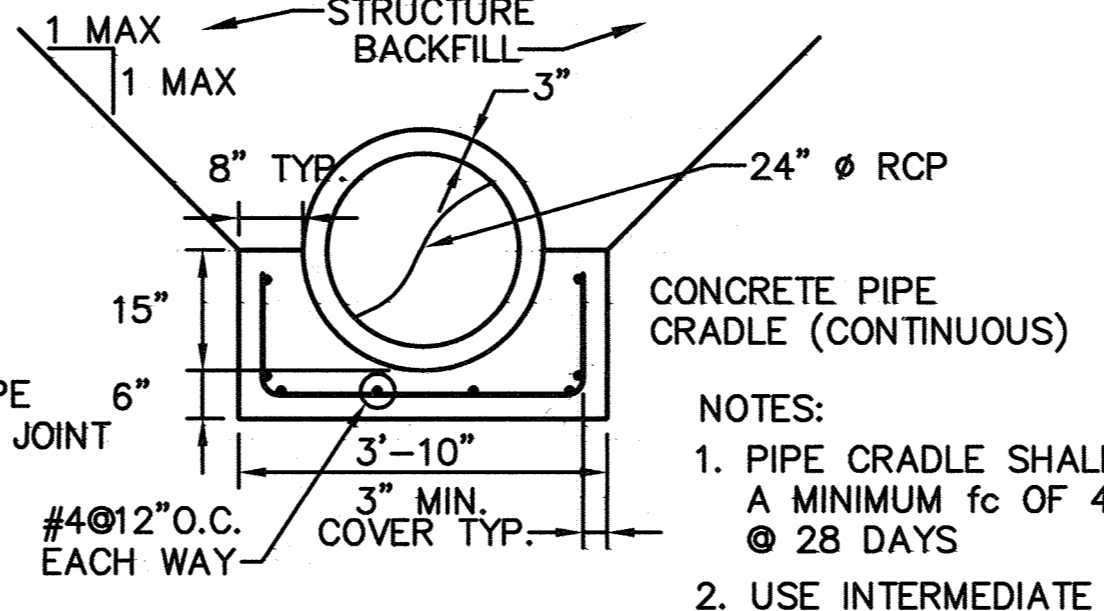
**SECTION A**  
SCALE: 1/2"=1'-0"



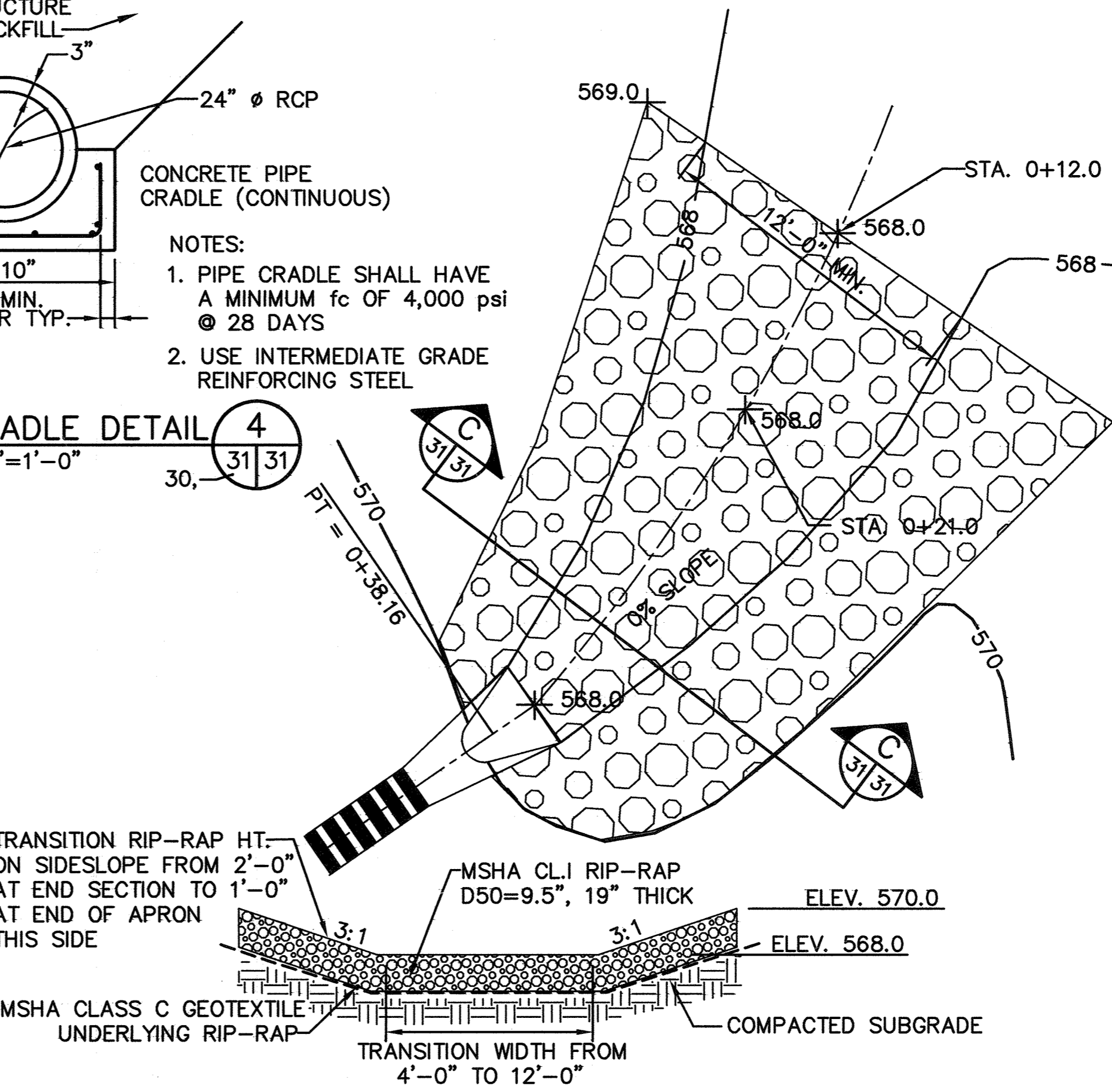
**ANTI-SEEP COLLAR DETAIL 2**  
SCALE: 1/2"=1'-0"

POND	RISER		OUTLET PIPE		ANTI-SEEP COLLAR		DAM		EMERG. SPILLWAY		CORE TRENCH		CUT-OFF TRENCH		WATER SURFACE ELEV.								
	WEIR HT.	WEIR WIDTH	CREST ELEV.	STR. WIDTH	DIA. IN.	L FT.	U/S INV.	D/S INV.	QTY.	APPROX. SIZE	TOP WIDTH FT.	CONSTR. HEIGHT	SETTLED HEIGHT	ELEV.	BOTTOM WIDTH FT.	TOP WIDTH FT.	SIDE SLOPES	BOT. WIDTH FT.	SIDE SLOPES	2 YR.	10 YR.	25 YR.	100 YR.
SOUTH	4'-3"	1'	573.96 572	5'-4"	24	49	568.59 568.67	568.02	1	9.00 H. 9.83 W.	12'	576.3	576.0	N/A	N/A	4'	1:1	4'	1:1	571.71	572.67	572.93	573.75

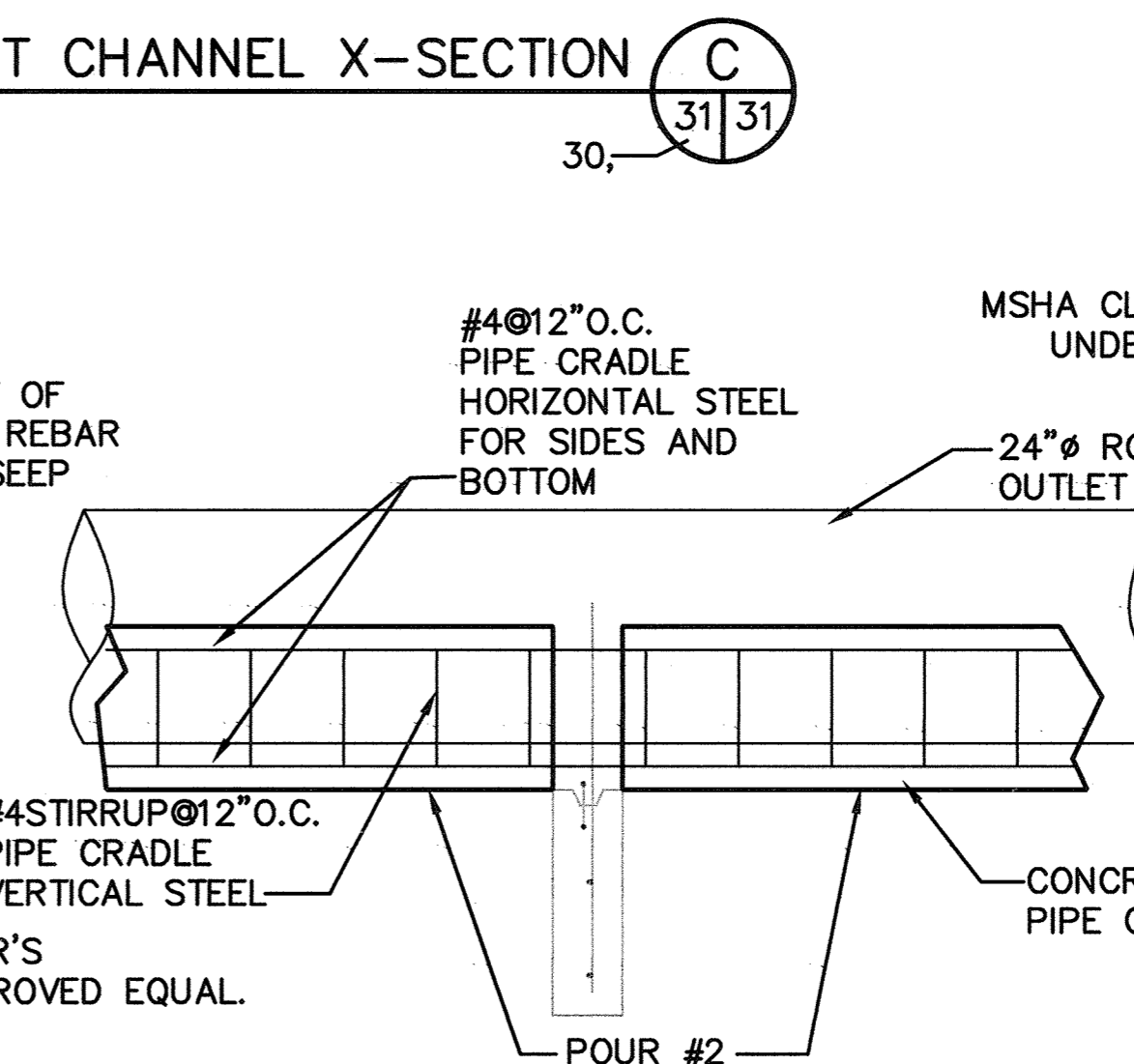
POST CONSTRUCTION SOUTH SEDIMENT BASIN MAINTENANCE IS RESPONSIBILITY OF OWNER, HOWARD COUNTY.



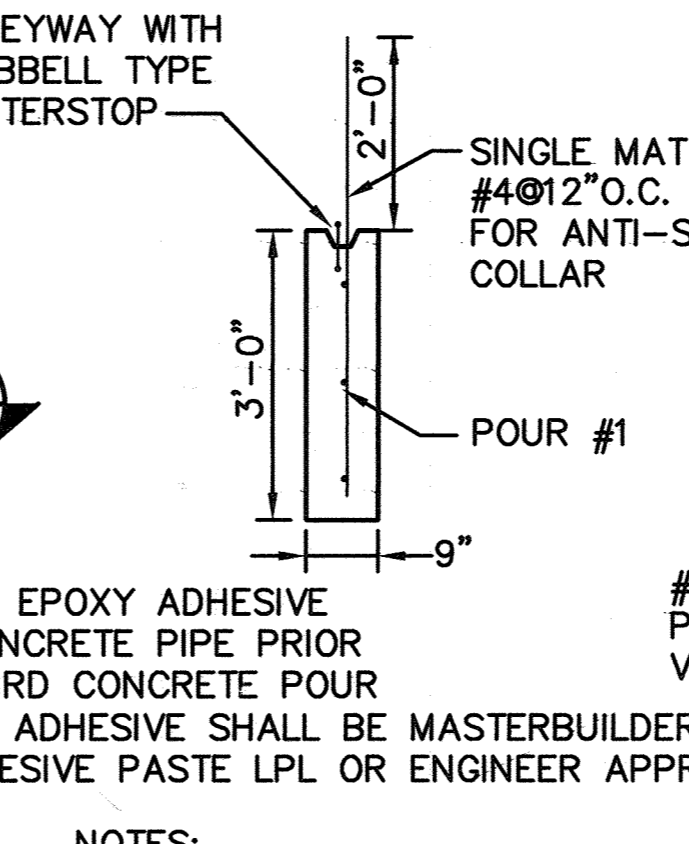
**PIPE CRADLE DETAIL 4**  
SCALE: 1/2"=1'-0"



**SOUTH BASIN OUTLET CHANNEL X-SECTION C**  
SCALE: 1"=5'-0"



**SOUTH SIDE STORMWATER INLET CHANNEL X-SECTION B**  
SCALE: 1"=5'-0"



- NOTES:
- ANTI-SEEP COLLAR TO BE POURED AT LEAST TWO (2) FEET FROM NEAREST PIPE JOINT
  - ANTI-SEEP COLLAR IS TO BE CONSTRUCTED IN THREE POURS.
  - BOTTOM HALF TO BE POURED FIRST.
  - PLACE PIPE AND POUR CRADLE SECOND.
  - TOP PORTION OF COLLAR POURED THIRD.
  - BACKFILL SHALL BE PLACED EVENLY ON BOTH SIDES OF THE ANTI-SEEP COLLAR.
  - REINFORCED CONCRETE: fc = 4,000 psi @ 28 DAYS.

AS-BUILT CERTIFICATION  
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.  
*Michael K. Anderson* PE NO. 17650  
DATE 10/10/01

SIGNATURE OF DEVELOPER *John J. O'Hara* DATE 10/30/97  
PRINT NAME BELOW SIGNATURE JOHN J. O'HARA

SIGNATURE OF ENGINEER *Paul A. Mandeville* DATE 10/30/97  
PRINT NAME BELOW SIGNATURE PAUL A. MANDEVILLE

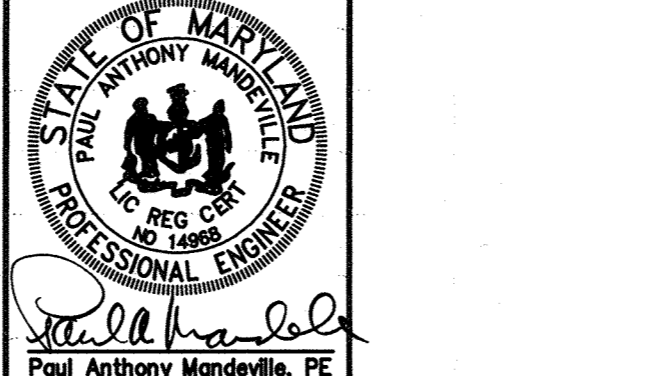
STATE OF MARYLAND  
PAUL A. MANDEVILLE  
PROFESSIONAL ENGINEER  
No. 16156  
Expiration Date: 8-28-00

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/808 16-879/215 10-89/314	ZONE PEC	TAX/ZONE MAP 10 & 16	
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 80-30	

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND  
*James S. Smith* 11/3/97  
DIRECTOR DATE  
*Chris Hamilton* 11/30/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*Chris Hamilton* 11/30/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
*James S. Smith* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE  
*John O'Hara* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676

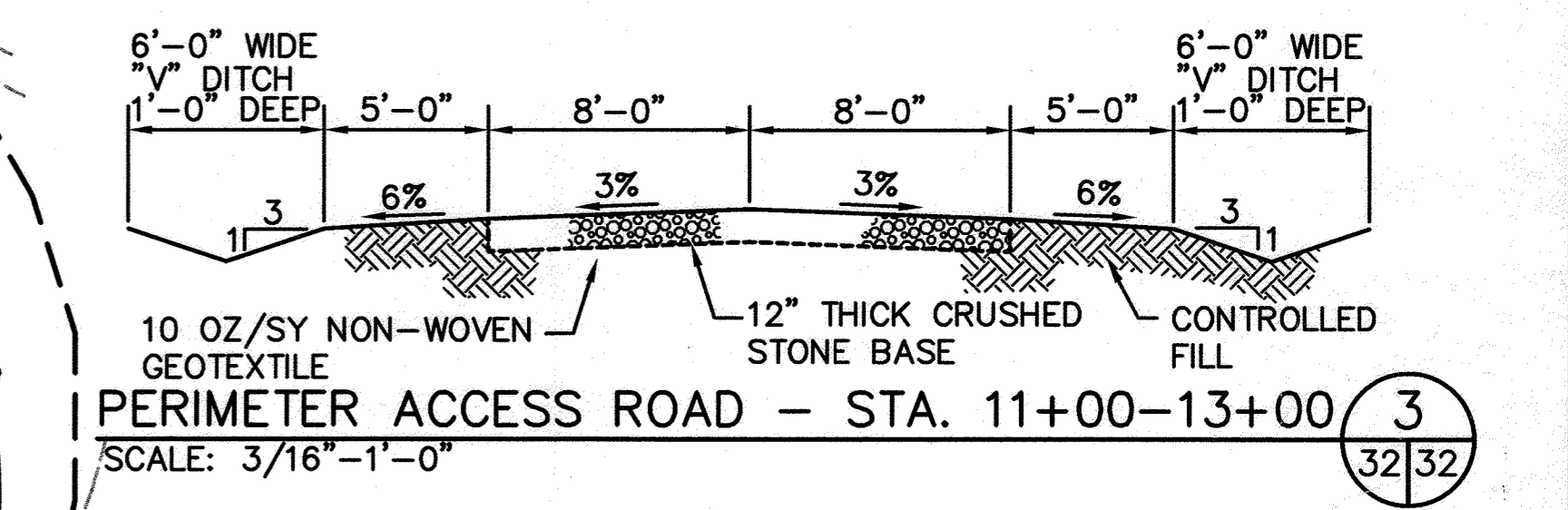
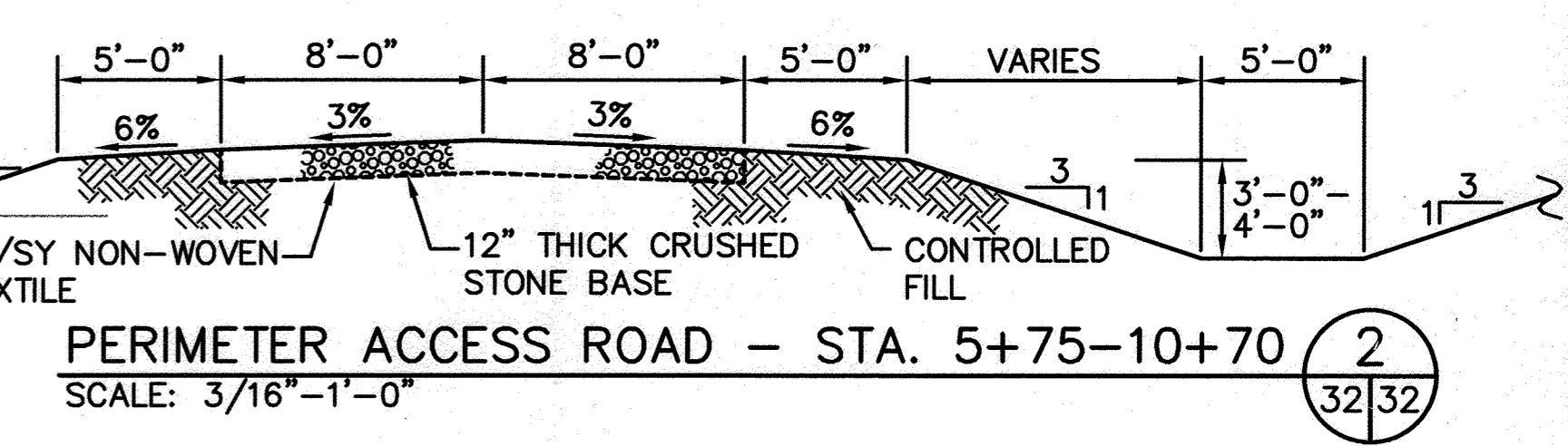
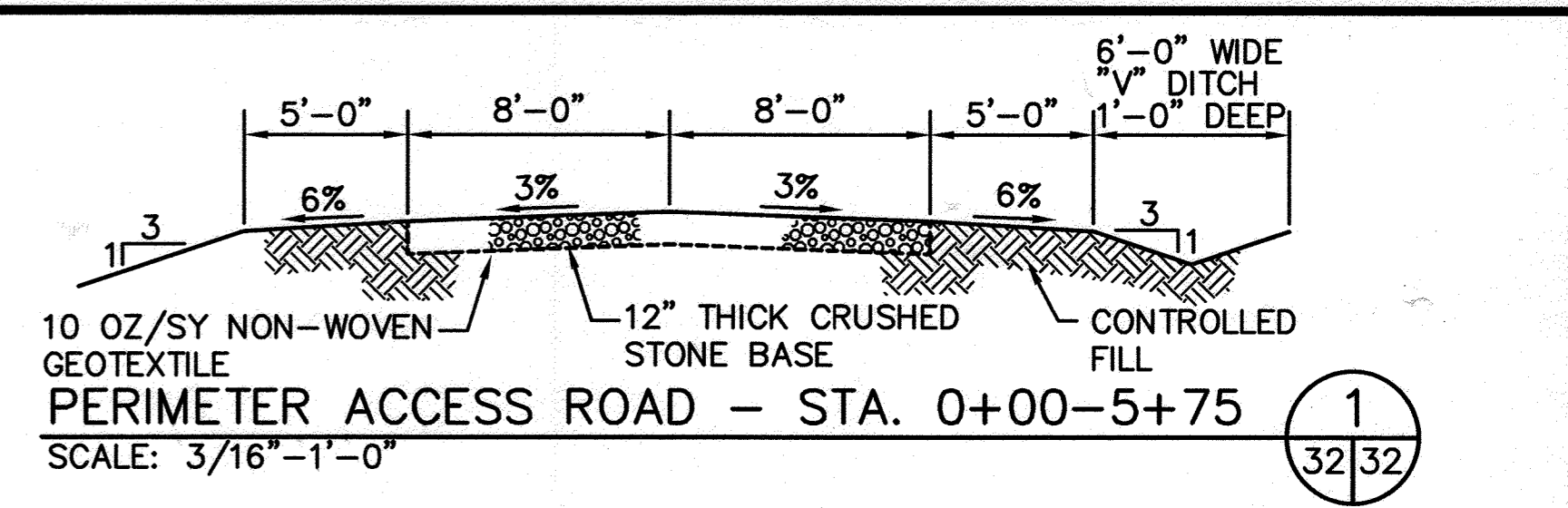
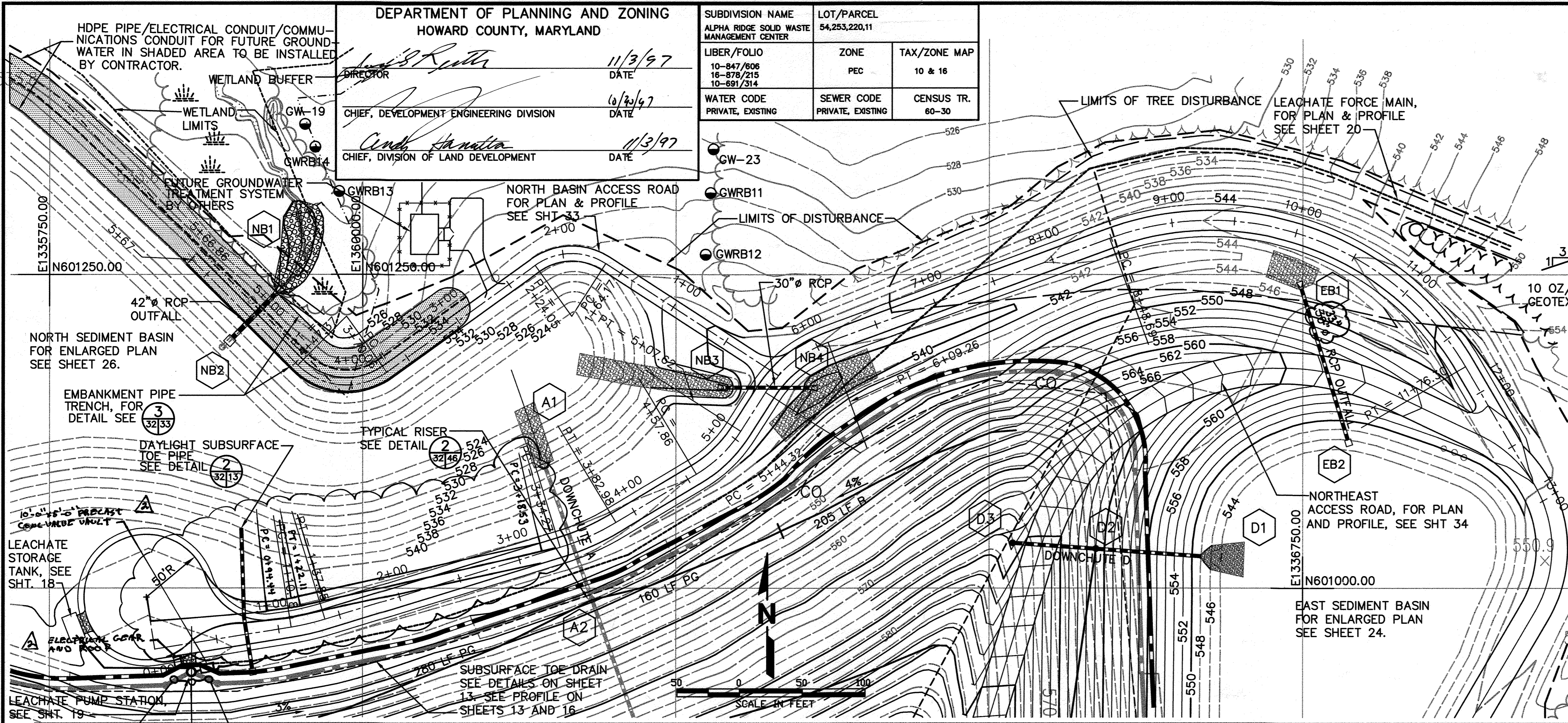


DES. AST,RTT	31	31	31
DRN. AST,EGC	31	31	31
CHK. PAM	31	31	31
DATE: 10-30-97	BY NO.	4-2019	DATE

SOUTH SEDIMENT BASIN DETAILS

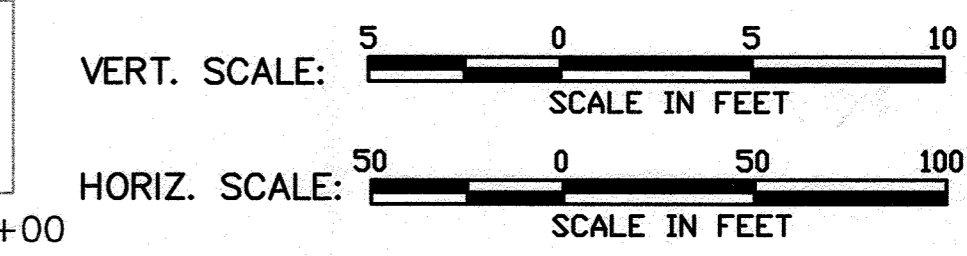
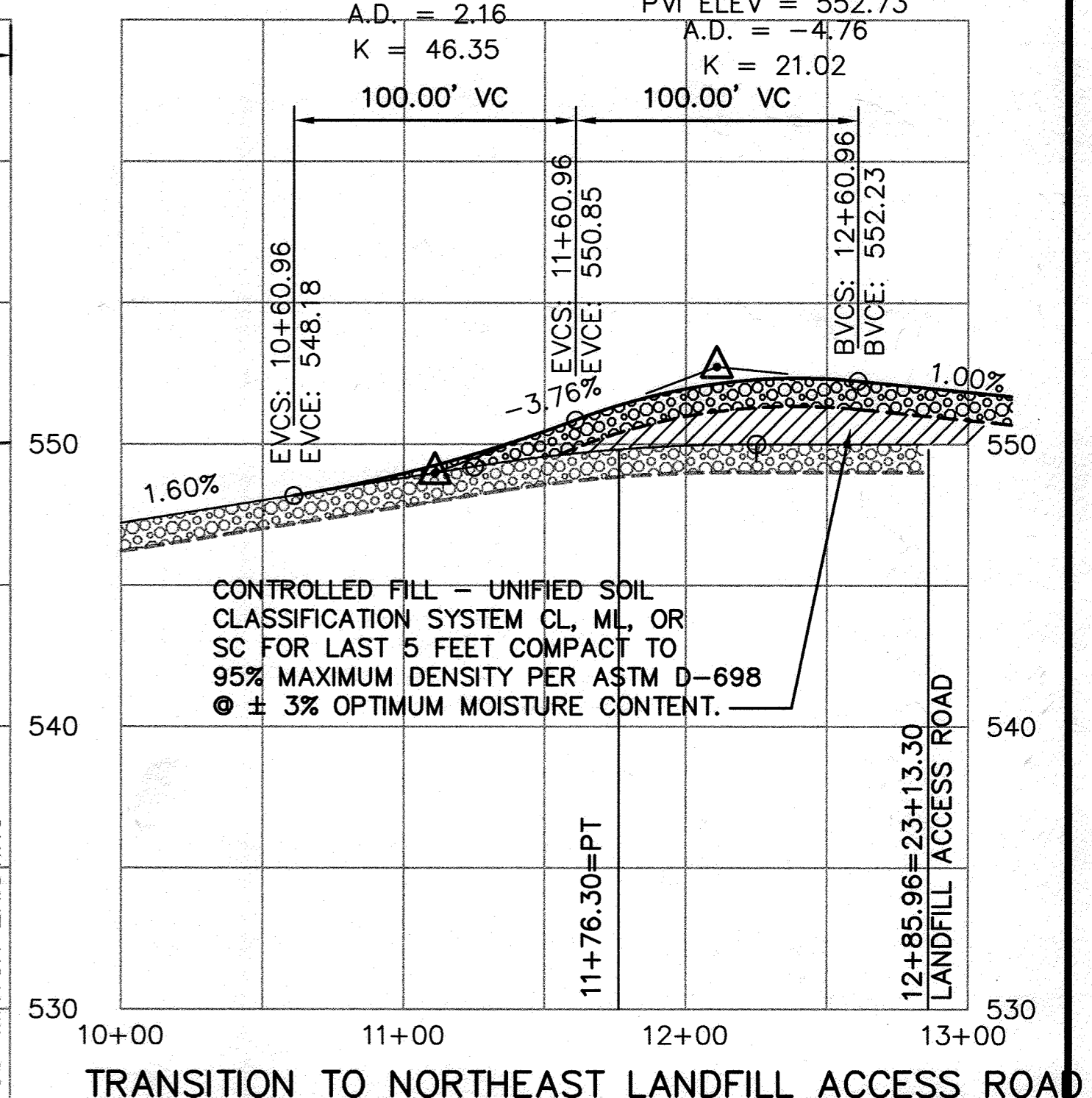
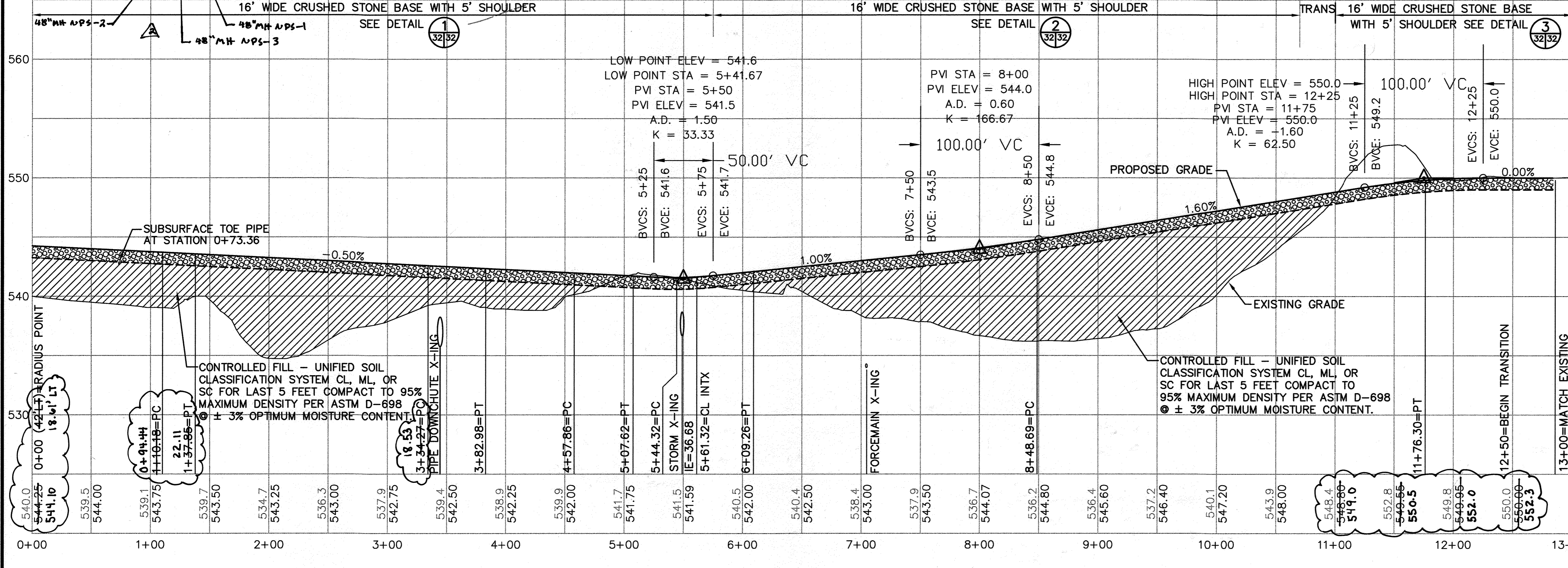
ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
SCALE: AS NOTED  
SHEET 31 OF 140

M: 2895077.01 FINAL ANTSP-SB CRADLE-SB RISER-SB TEL-SB TRK-SB XS-SBO XS-SBISC



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 16156, Expiration Date: 6-28-20

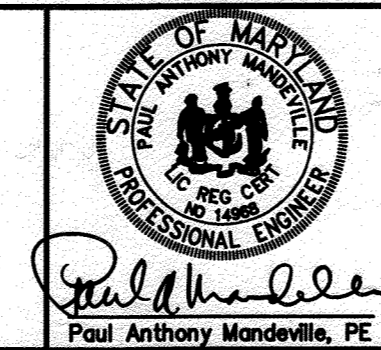
For Rev. No. 1 ONLY HIGH POINT ELEV = 552.34  
 PVI STA = 1+75 HIGH POINT STA = 0+46.02  
 PVI ELEV = 548.98 PVI STA = 0+75  
 A.D. = 2.16 PVI ELEV = 552.73  
 K = 46.35 A.D. = -4.76  
 K = 21.02



RDPLN-B  
 M:\295077\01\FINAL  
 RDPLN, ROSEC1, ROSEC2, ROSEC3

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director: [Signature] DATE: 10/30/97  
 Chief, Bureau of Waste Management: [Signature] DATE: 10/30/97

SCS ENGINEERS  
 CONSULTING ENGINEERS  
 11260 ROGER BACON DRIVE  
 SUITE 300  
 RESTON, VIRGINIA 22090  
 PH. (703) 471-6150  
 FAX. (703) 471-6676

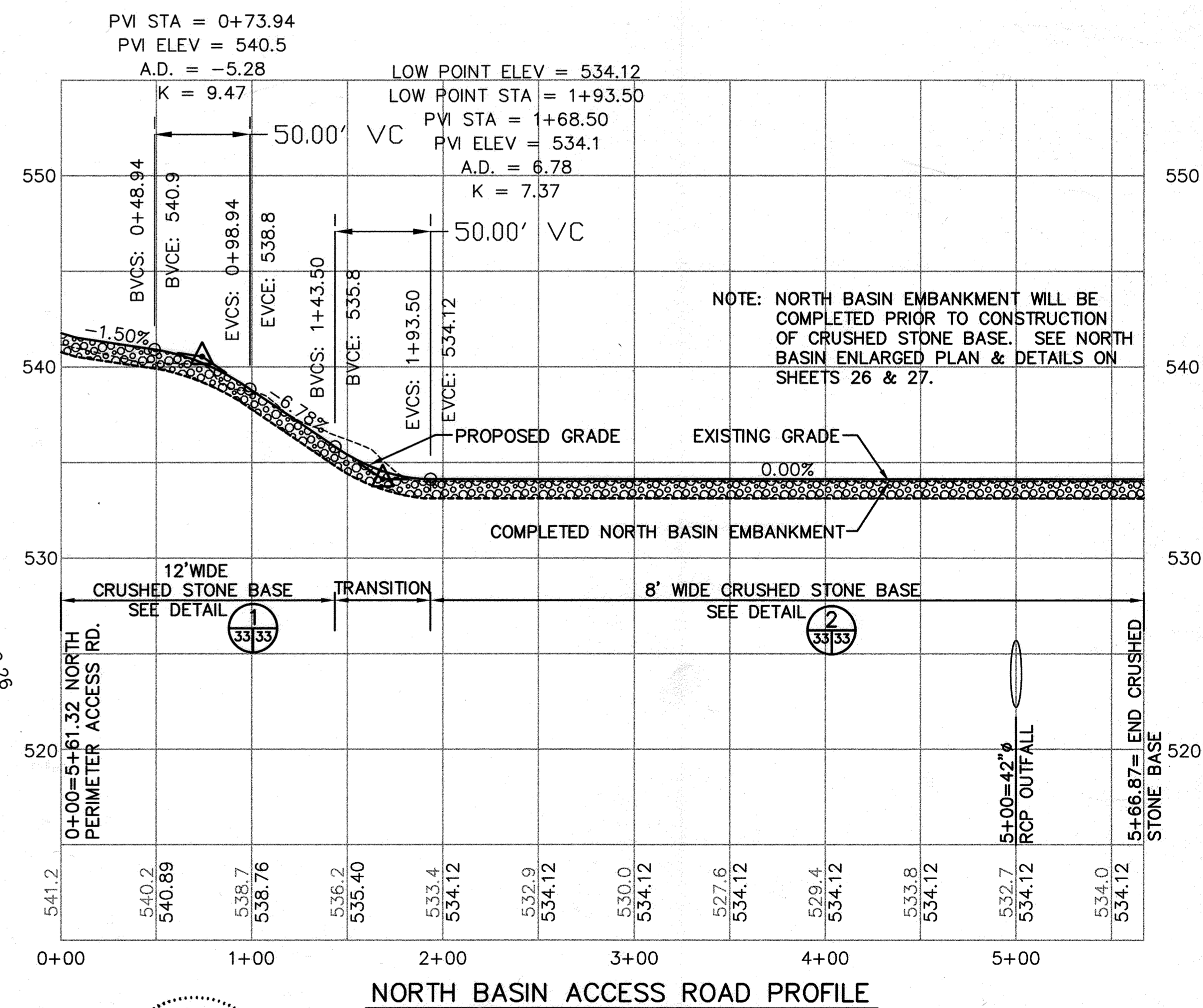
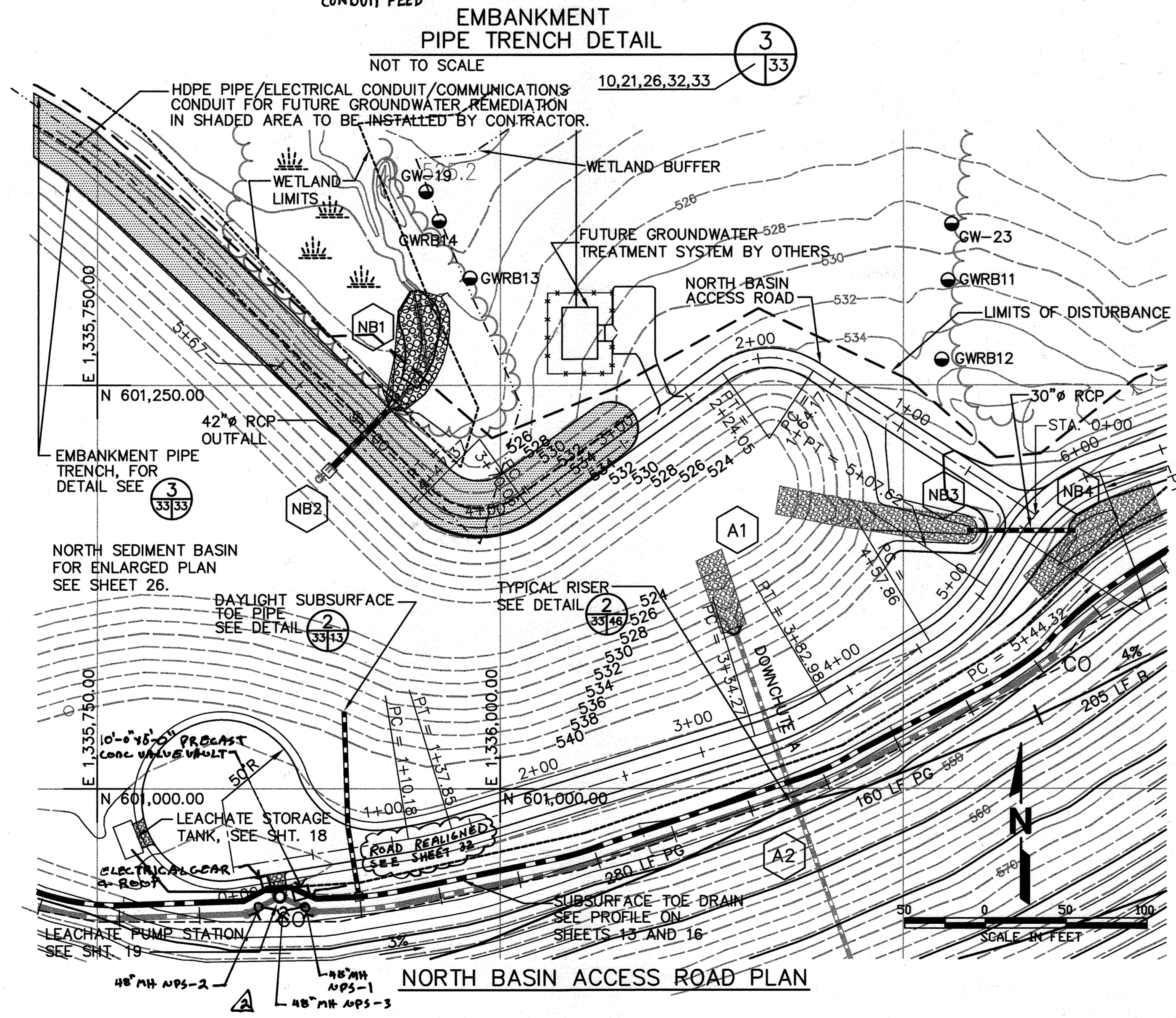
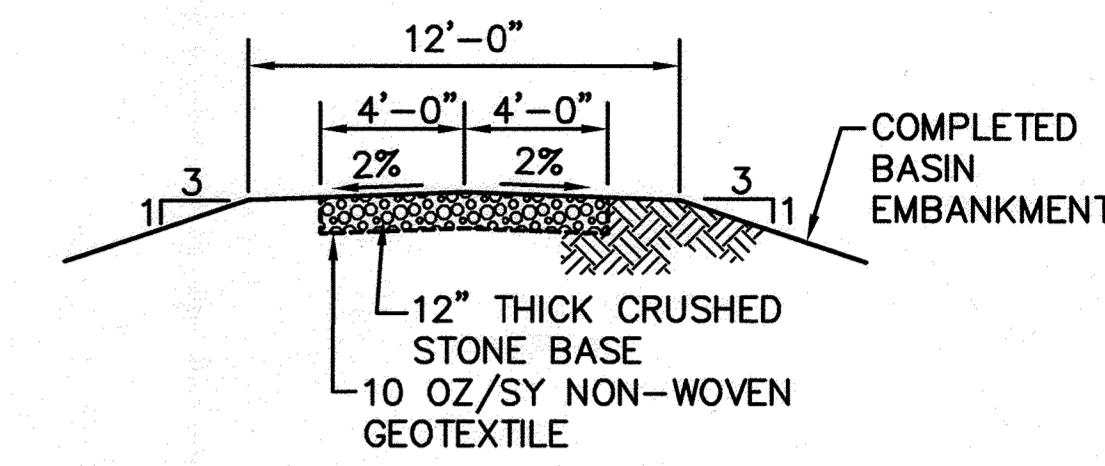
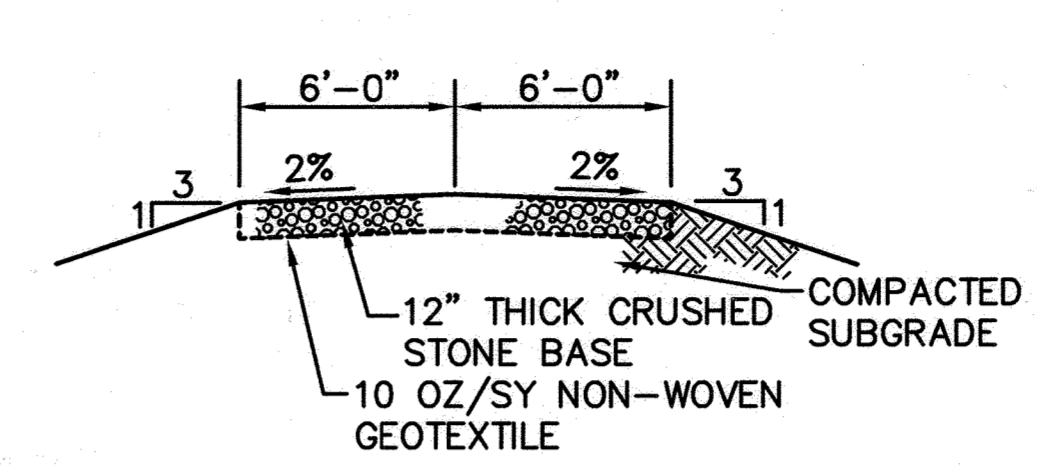
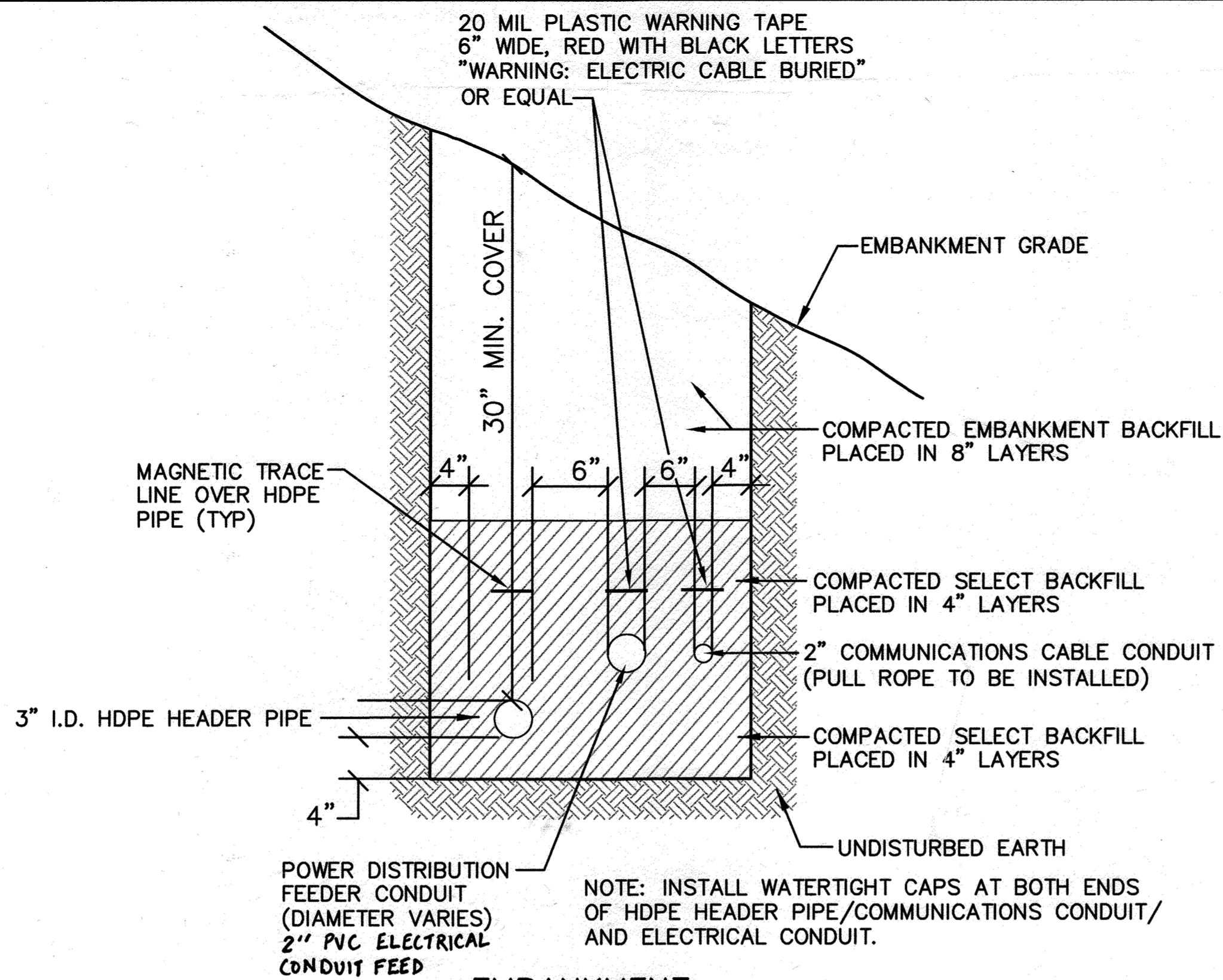


DES. RTT, EGC	[Signature]
DRN. EGC, JCB	[Signature]
CHK. PAM	[Signature]
DATE: 10-30-97	
BY NO.	REVISION
DAO	PUMP STATION UPGRADE 1-20-94
DTM	UPDATED SHEET TOTAL 4-10-94

NORTH PERIMETER ACCESS  
 ROAD PLAN & PROFILE

ALPHA RIDGE LANDFILL  
 UNLINED CELL CLOSURE  
 CAPITAL PROJECT NO. C-0190-N  
 3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: 1"=50'  
 SHEET 32 OF 140

SDP-97-128



SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT/PARCEL 54,253,220,11
LIBER/FOLIO 10-847/508 16-878/215 10-891/314	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING
CENSUS TR. 60-30	

DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND

*David St. John* 11/3/97  
 DIRECTOR DATE

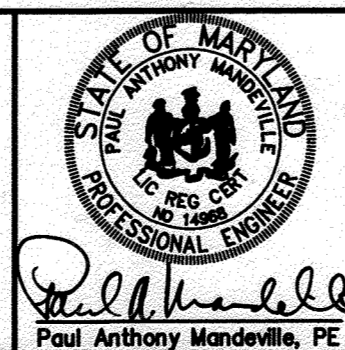
*Andy Hamilton* 11/3/97  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

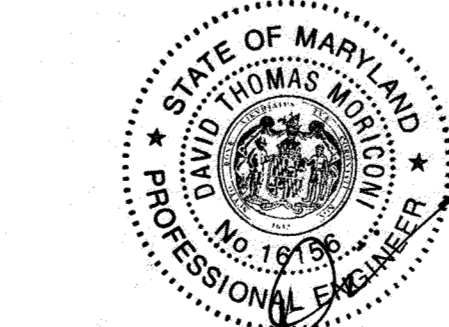
*James P. Shaw* 10/30/97  
 DIRECTOR OF PUBLIC WORKS DATE

*John O'Hara* 10/30/97  
 CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
 CONSULTING ENGINEERS  
 11260 ROGER BACON DRIVE  
 SUITE 300  
 RESTON, VIRGINIA 22090  
 PH. (703) 471-6150  
 FAX. (703) 471-6676



DES. EGC, RTT	▲	
DRN. EGC, JCB	▲	
CHK. PAM	▲	
DATE: 10-30-97	BY NO.	REVISION
	DAO	PUMP STATION UPGRADES 1-20-94
	DM	UPDATING SHEET DATA 4-20-95



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 16156, Expiration Date: 8-28-20

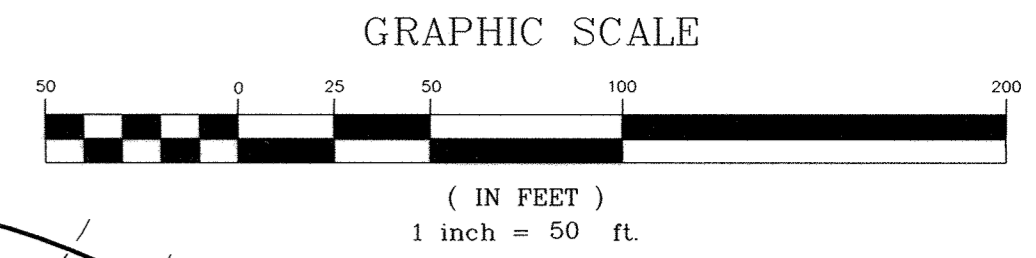
**NORTH BASIN ACCESS ROAD PROFILE**

ALPHA RIDGE LANDFILL  
 UNLINED CELL CLOSURE  
 CAPITAL PROJECT NO. C-0190-N

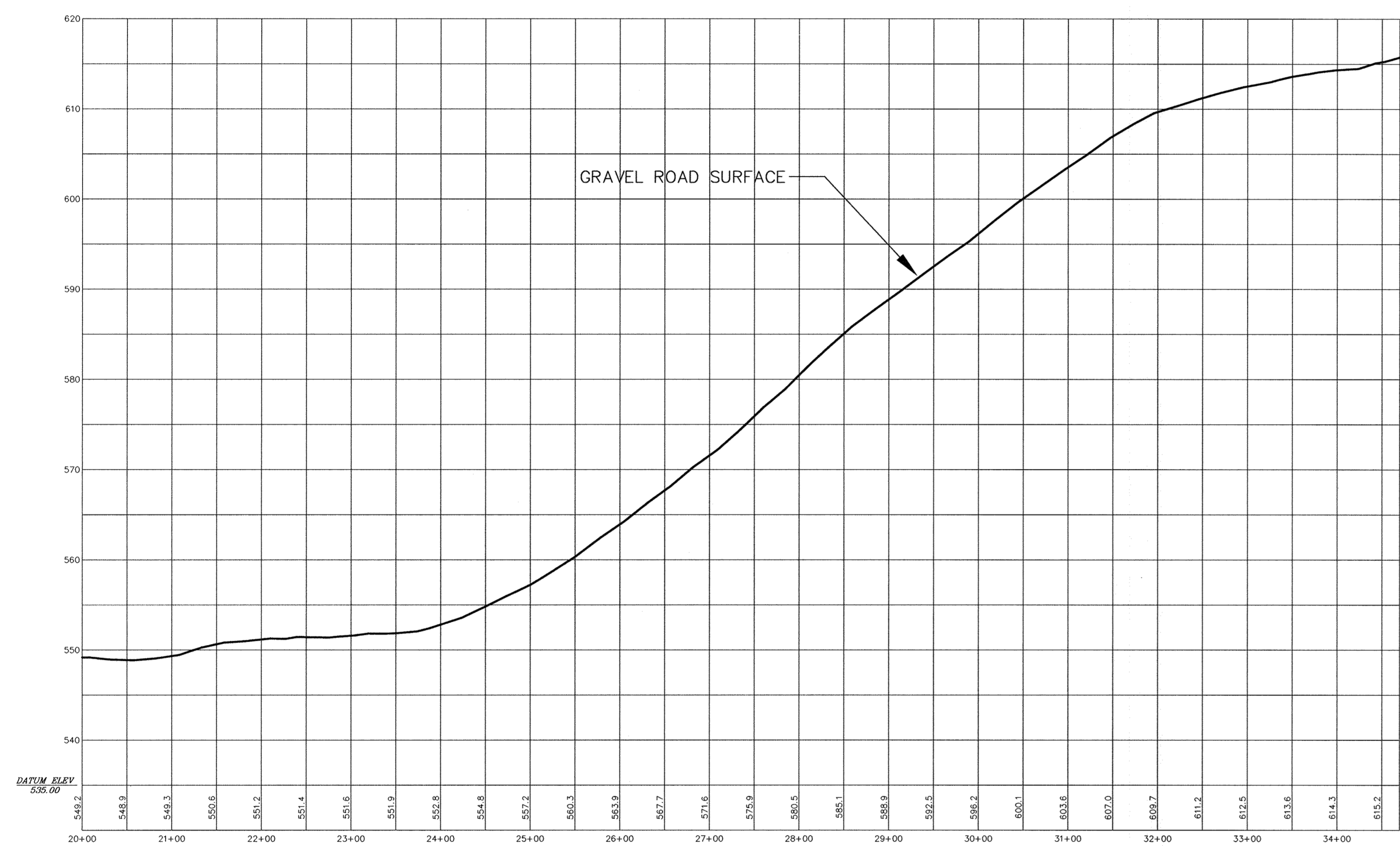
3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE: 1"=50'  
 SHEET 33 OF 140

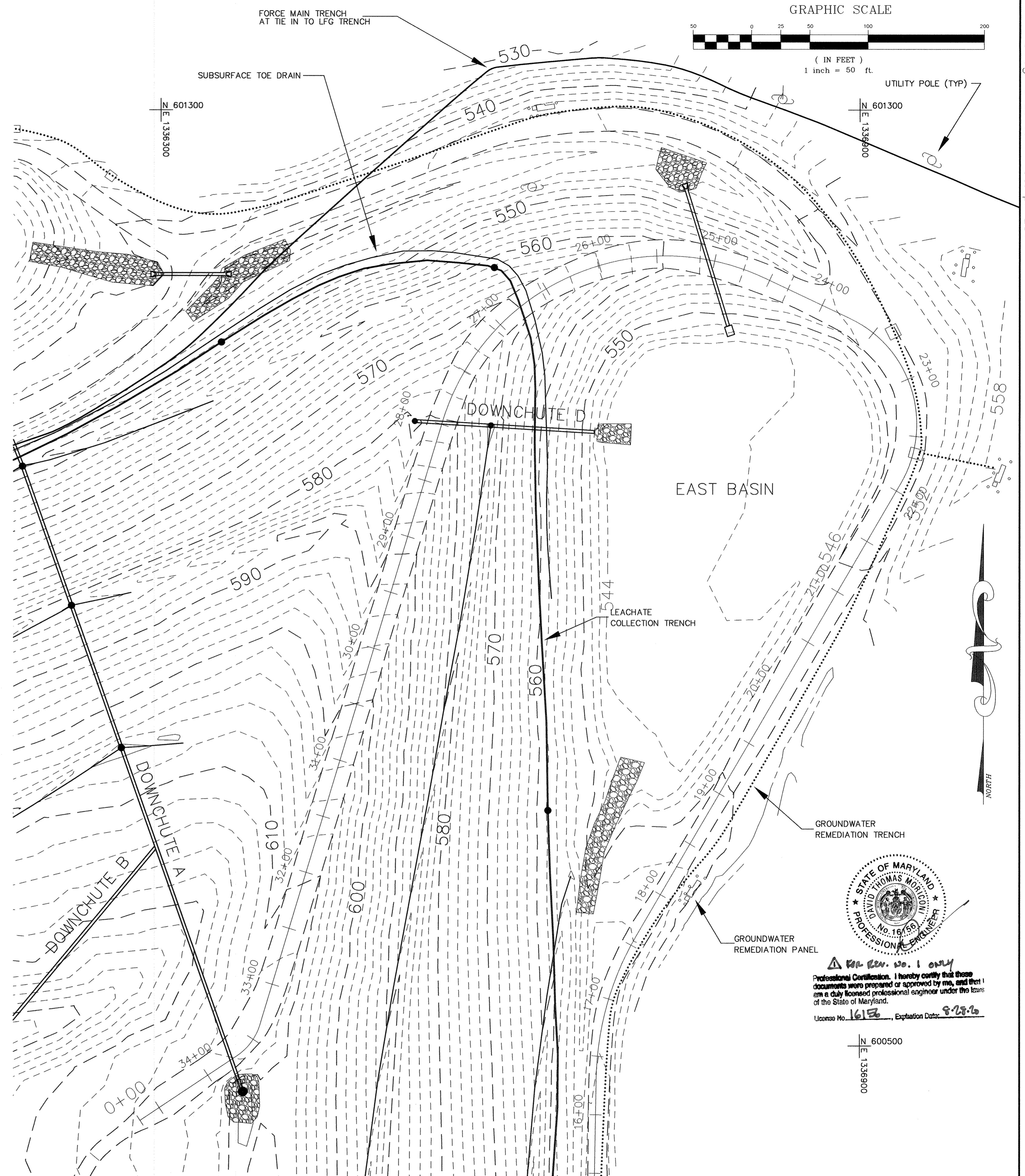
M: 295077.01 FINAL NBASINRD, RDSECB, RDSECC, RDSECC NBASINRD



HORIZONTAL SCALE - 1"=100'  
VERTICAL SCALE - 1"=10'



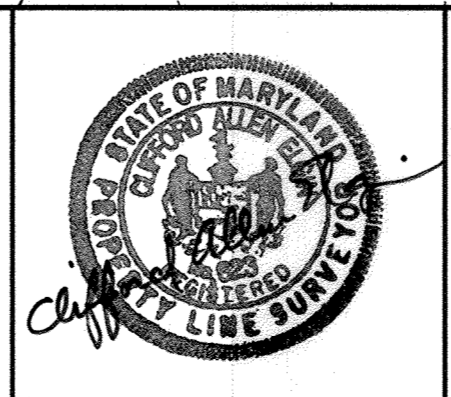
NORTHEAST LANDFILL ACCESS ROAD PROFILE



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 16150, Expiration Date: 8-28-06

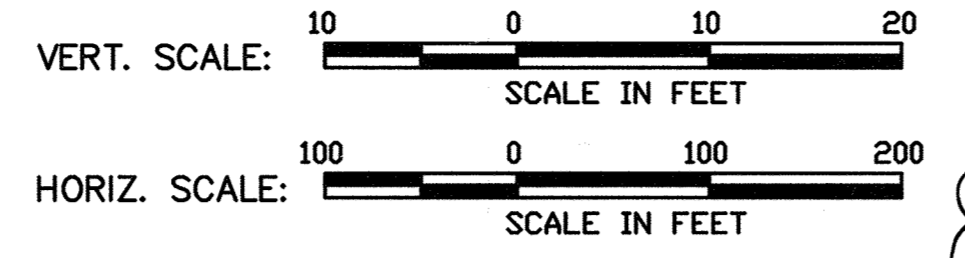
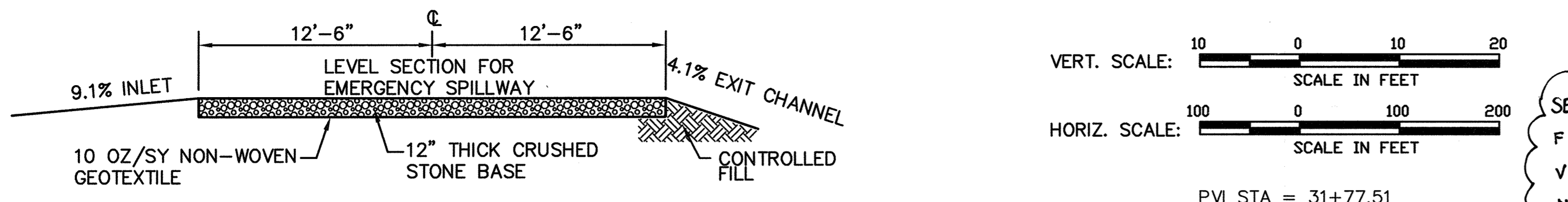
DESIGNED BY:	DATE	DATE	BY	DESCRIPTION
DRAWN BY: TWH	9-13-99	2-26-00	DM	UPDATED SHEET TOTAL
CHECKED BY:	DATE			
APPROVED BY:	DATE			

**ENGINEERING TECHNOLOGIES ASSOCIATES, INC.**  
ENGINEERS \* PLANNERS \* SURVEYORS  
3458 ELLICOTT CENTER DRIVE SUITE 101  
ELLICOTT CITY, MARYLAND 21043  
BALTO. (410)461-9920 FAX (410)750-8565



NORTHEAST ACCESS ROAD AS-BUILT  
**ALPHA RIDGE LANDFILL CELL CLOSURE**  
HOWARD COUNTY MARYLAND  
SCALE: AS NOTED CONTRACT NO.: 98301.10 DATE: 2-25-2000 SHEET 34-AB OF 142

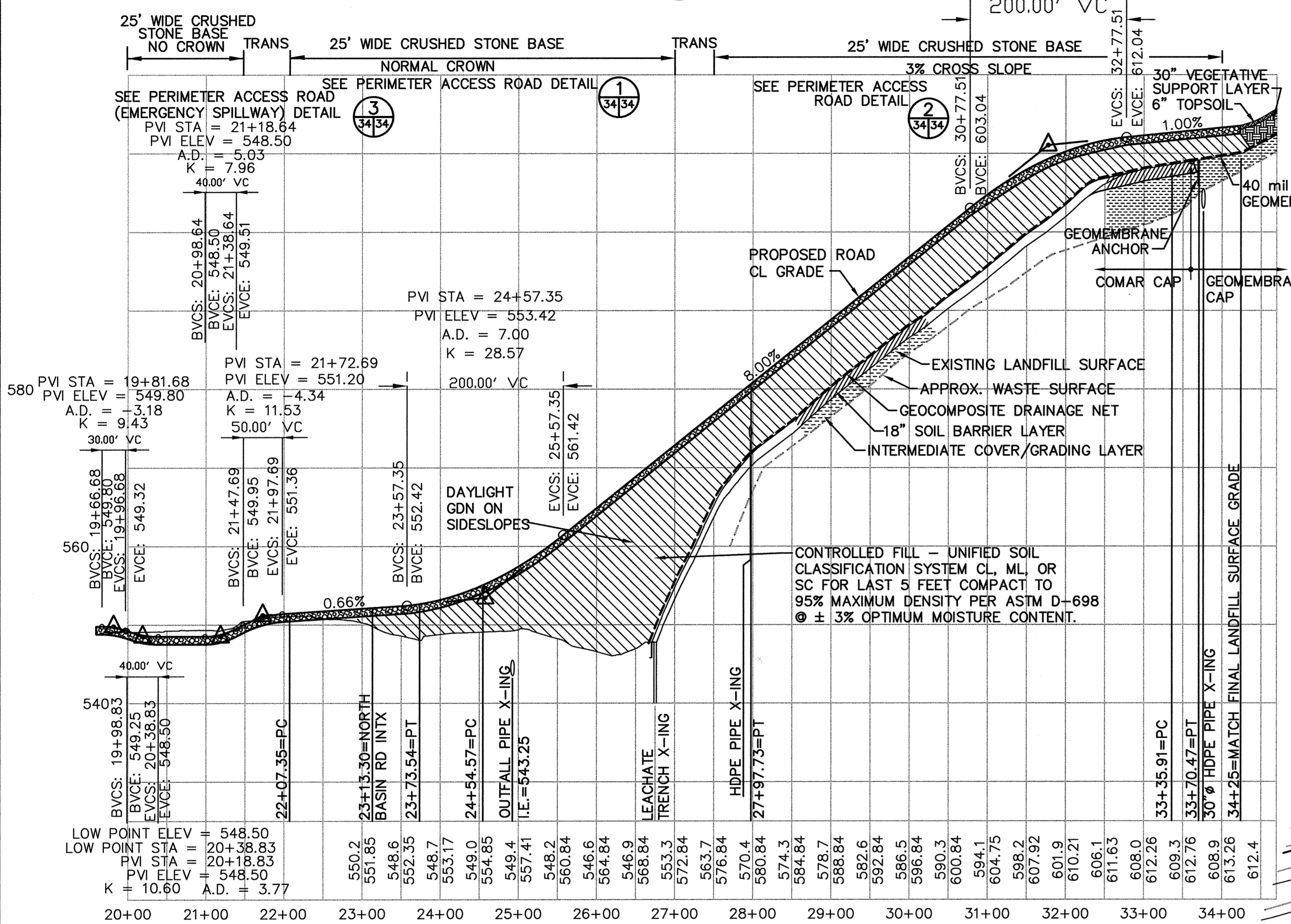




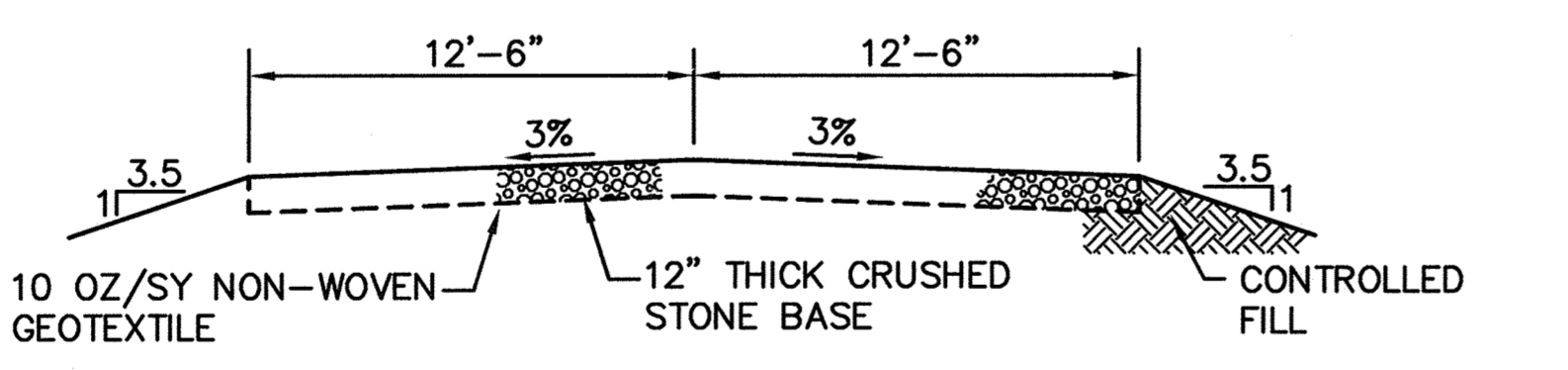
SEE ETA SHEET 34-AB FOR FINAL GRADE REVISION AND VERTICAL REALIGNMENT OF NORTHEAST ACCESS ROAD

PERIMETER ACCESS ROAD - STA. 19+99-21+48  
SCALE: 3/16"=1'-0" (3) 34/34

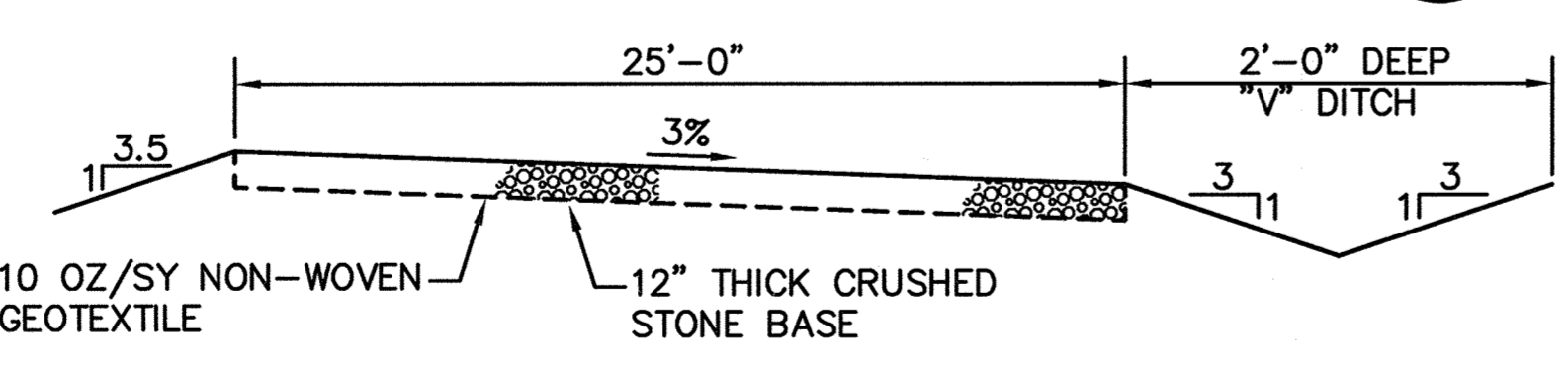
PVI STA = 31+77.51  
PVI ELEV = 611.04  
A.D. = -7.00  
K = 28.57  
200.00' VC



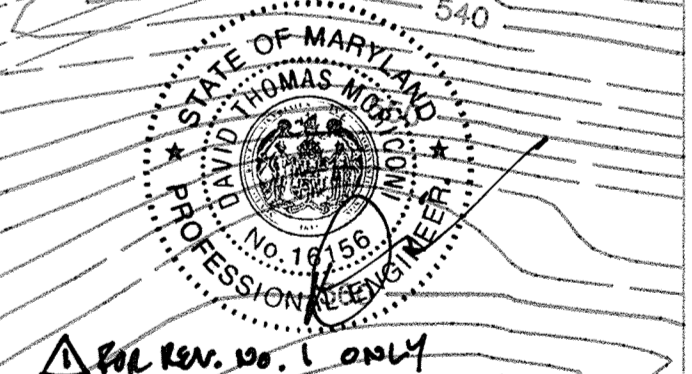
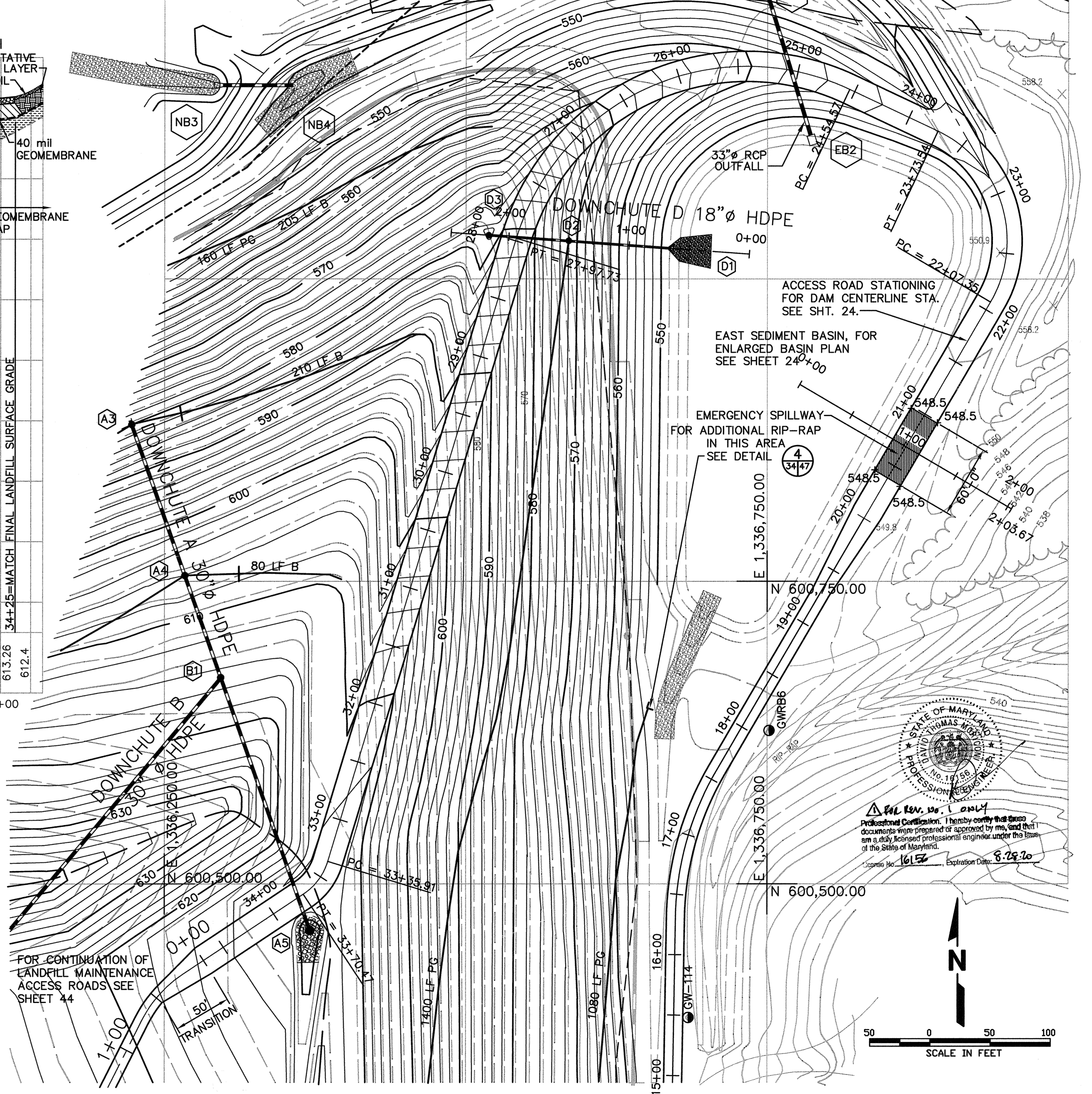
LANDFILL NORTHEAST ACCESS ROAD PROFILE



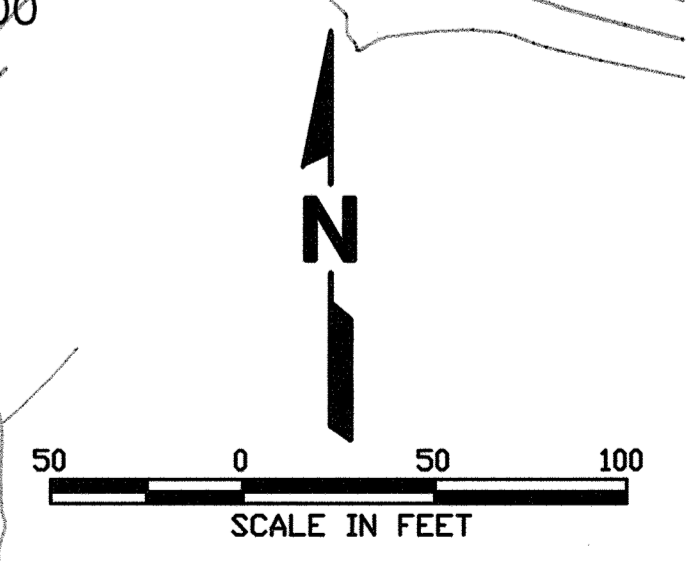
PERIMETER ACCESS ROAD - STA. 22+07-27+00  
SCALE: 3/16"=1'-0" (1) 34/34



PERIMETER ACCESS ROAD - STA. 27+50-34+25  
SCALE: 3/16"=1'-0" (2) 34/34



Professional Engineer, I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 16152 Expiration Date: 8-28-20



M: \295077.01\FINAL ACCRD, ACCRODNE, RDSECS, RDSECC6

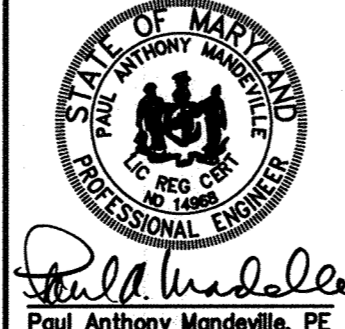
SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11
LIBER/FOLIO 10-847/806 16-876/215 10-891/314	ZONE PEC	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*James P. Satter* 11/3/97  
DIRECTOR DATE  
*John J. O'Hara* 10/30/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*Carlin Hammett* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
*James P. Satter* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE  
*John J. O'Hara* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676

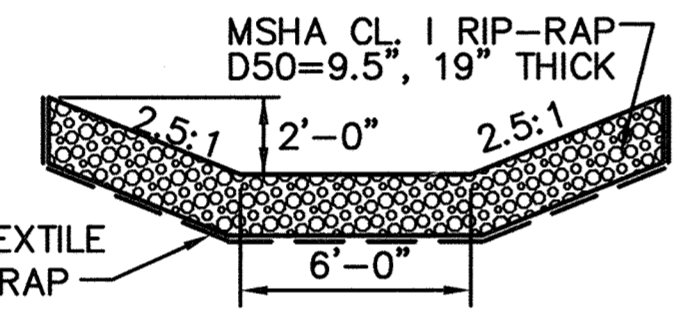
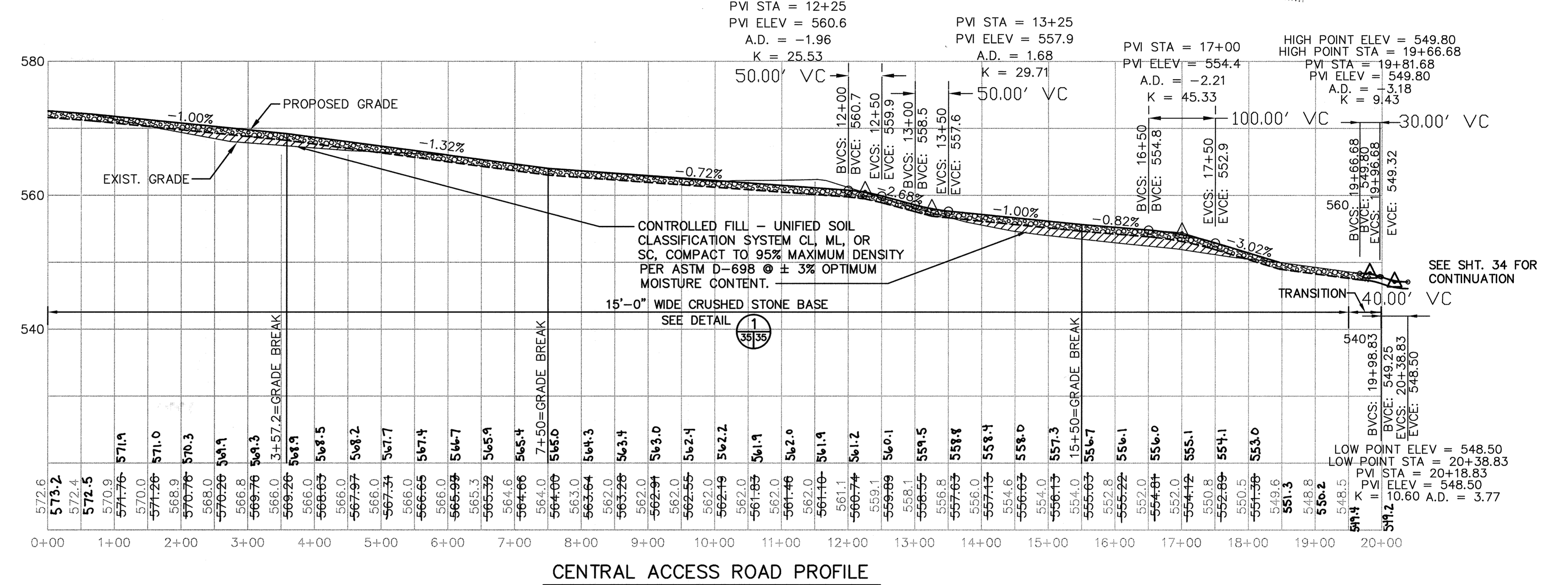
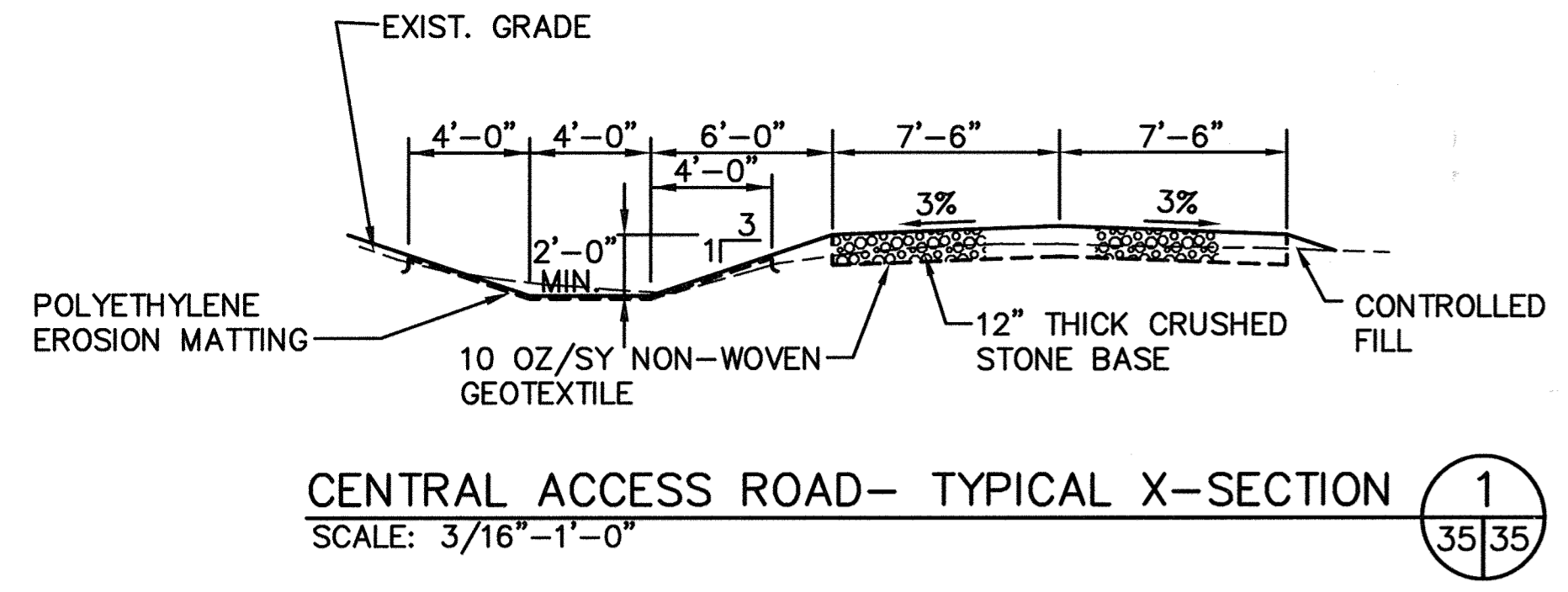
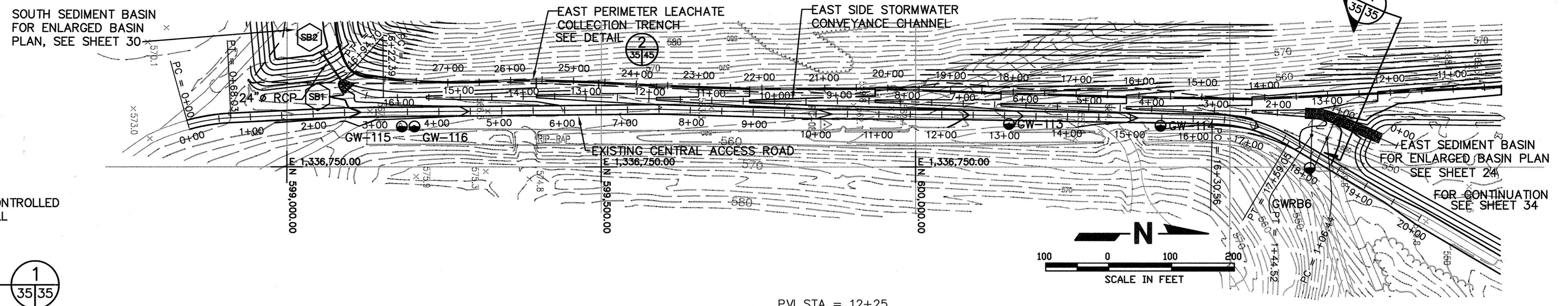


DES. RTT, EGC	△		
DRN. EGC/JCB	△		
CHK. PAM	△		
DATE: 10-30-97	BY: PAM	NO. 47219	DATE: 4-21-99
REVISION		DESCRIPTION	DATE

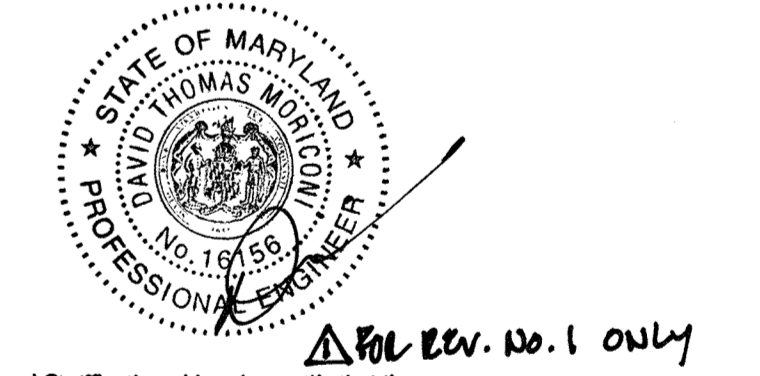
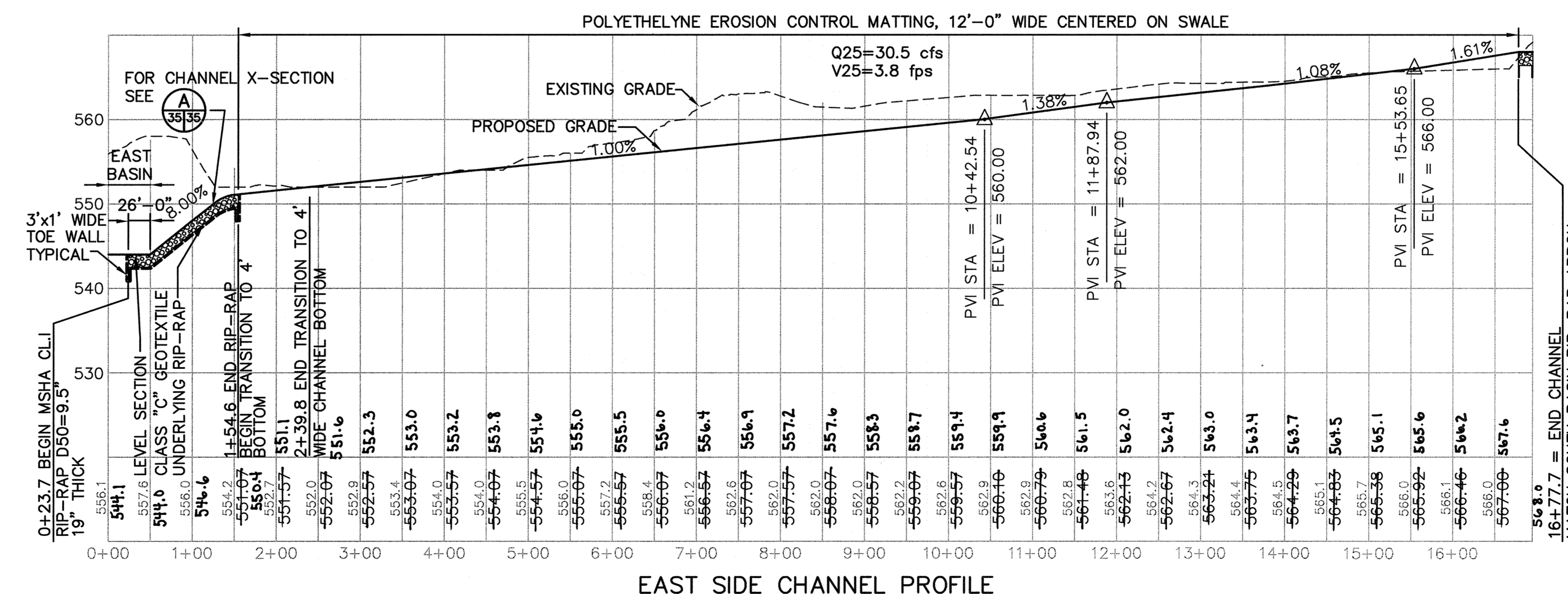
NORTHEAST LANDFILL  
ACCESS ROAD PLAN & PROFILE

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
SCALE: AS NOTED  
SHEET 34 OF 140

SDP-97-128



**EAST SEDIMENT BASIN AND RIPRAP STORMWATER INLET X-SECTION**  
SCALE: 1"=5'-0"



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 16196, Expiration Date: 8-28-20

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/606 16-878/215 10-891/314		ZONE PEC	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30	

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*[Signature]* 11/3/97  
DIRECTOR DATE

*[Signature]* 11/30/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

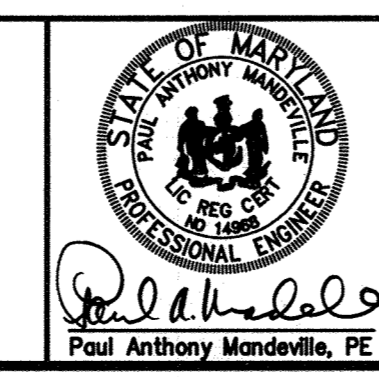
*[Signature]* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES. RTT, EGC	[Signature]	
DRN. EGC	[Signature]	
CHK. PAM	[Signature]	
DATE: 10-30-97	DTM BY NO.	REVISION
		4-2019

CENTRAL ACCESS ROAD &  
EAST SIDE CHANNEL  
PLAN & PROFILE

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE:  
1"=100'  
SHEET 35 OF 140

M:\295077.01\FINAL CENRDPLN, CENRDPRO, ECHANPRO, RDSECA CENRD-B

SDP-97-28

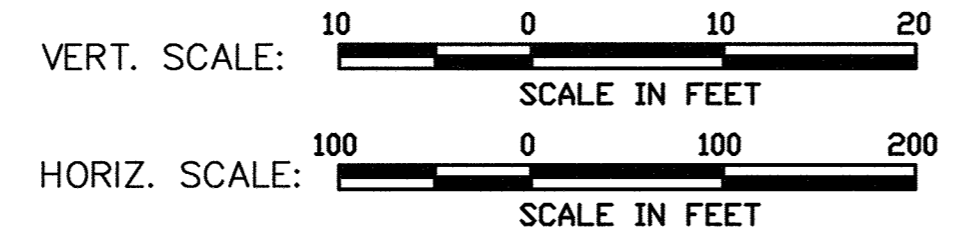
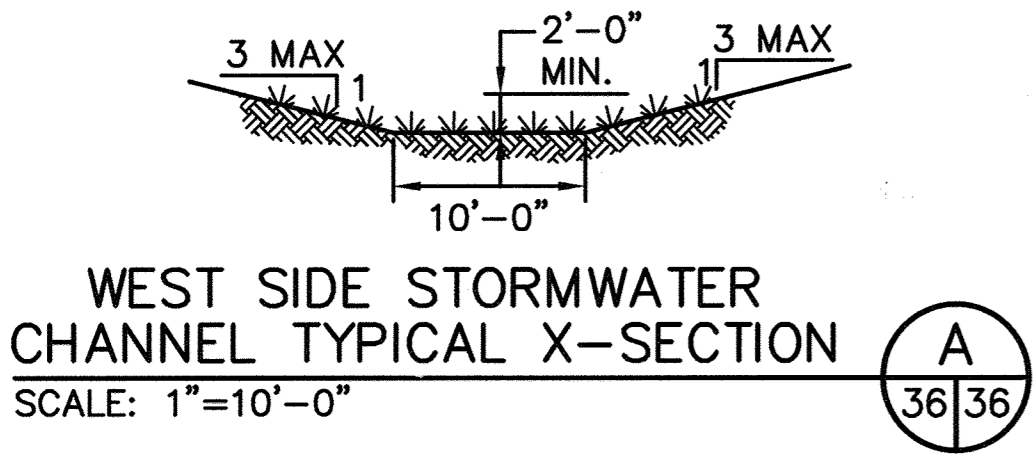
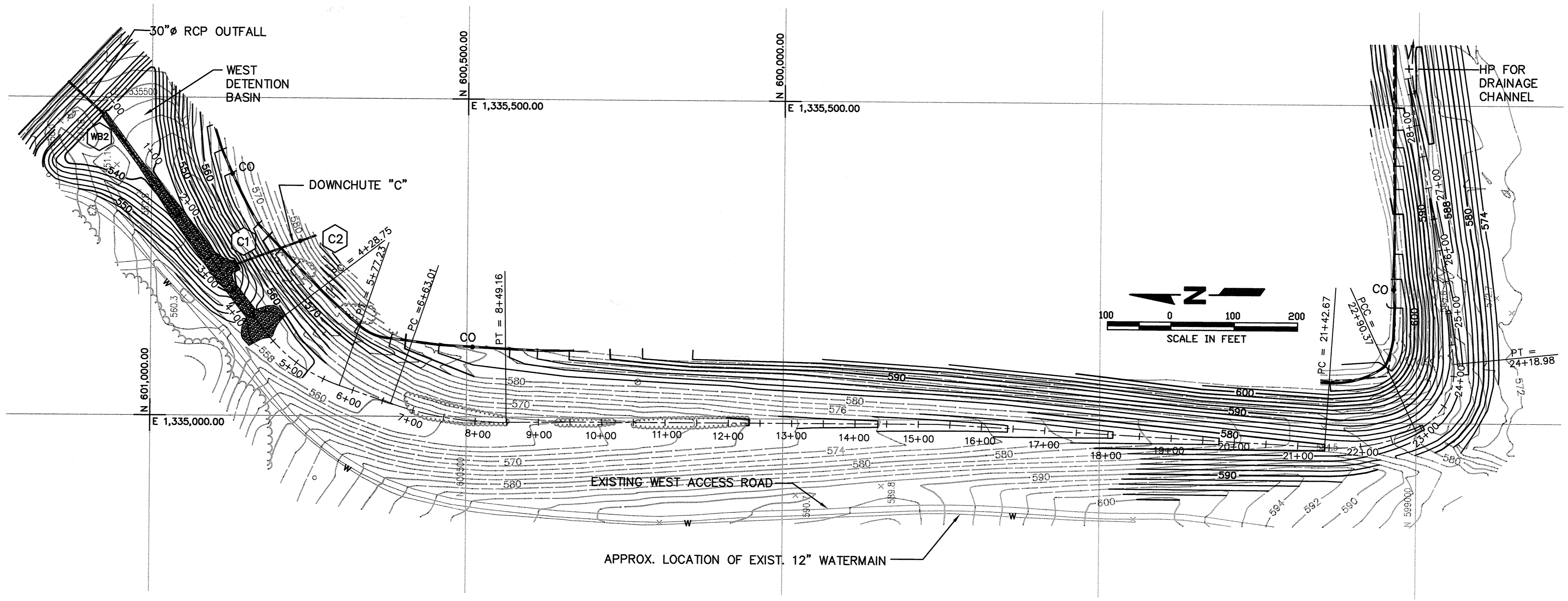
SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/806 16-878/215 10-891/314		ZONE PEC	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING		SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*Joseph B. Smith* 11/3/97  
DIRECTOR DATE

*Charles Hamilton* 10/20/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

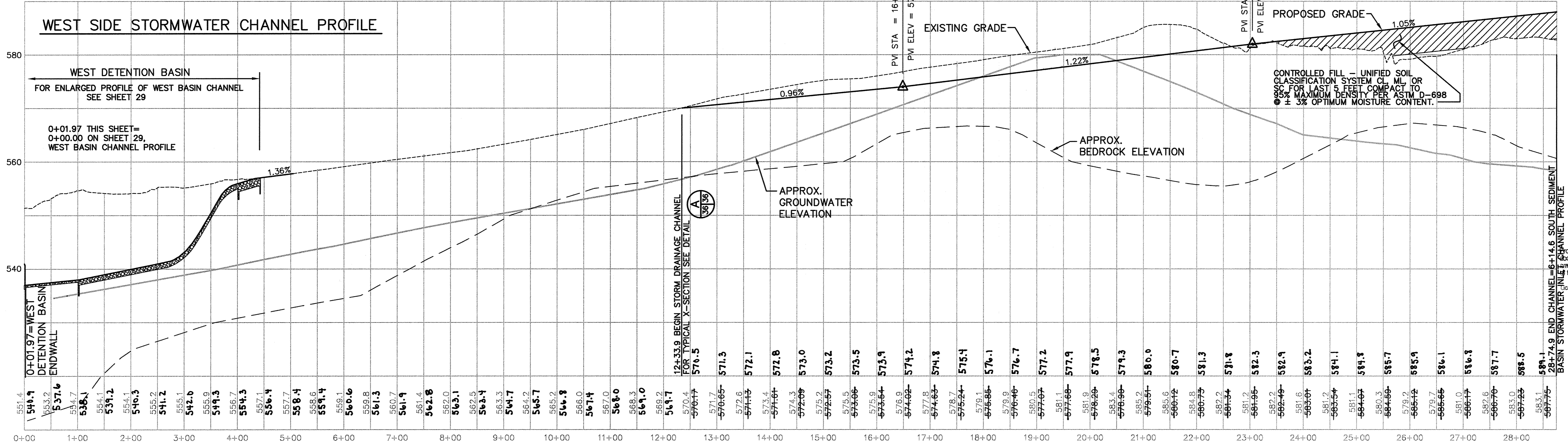
*Charles Hamilton* 11/2/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE



10'-0" WIDE BOTTOM W/ 4:1 SIDESLOPES

WEST SIDE CHANNEL - 10'-0" WIDE CHANNEL BOTTOM WIDTH  
GRASS SOD TO 2'-0" ABOVE INVERT ON SIDESLOPES, SEE DETAIL  
Q25 = 38.3 CFS  
V25 = 2.5 FPS

SOUTH SIDE CHANNEL - TRANSITION CHANNEL BOTTOM WIDTH  
GRASS SOD TO 2'-0" ABOVE INVERT ON SIDESLOPES  
Q25 = 7.7 CFS  
V25 = 1.9 FPS



Professional Engineer  
David Thomas Hollinger  
No. 15136  
Expiration Date: 9-25-06

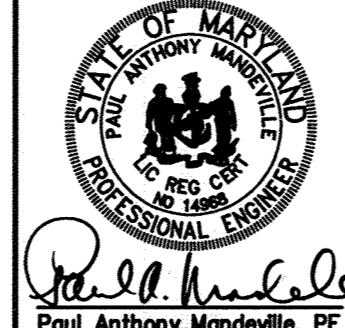
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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James P. Lee* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*John J. O'Hara* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES.	AST		
DRN.	EGC/JCB		
CHK.	PAM		
DATE:	10-30-97		
BY:	NO.	REVISION	DATE
		UPDATE SHEET TOTAL	4-20-99

WEST SIDE CHANNEL  
PLAN AND PROFILE

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE:  
AS NOTED

SHEET 36  
OF 140

SDP-97-128

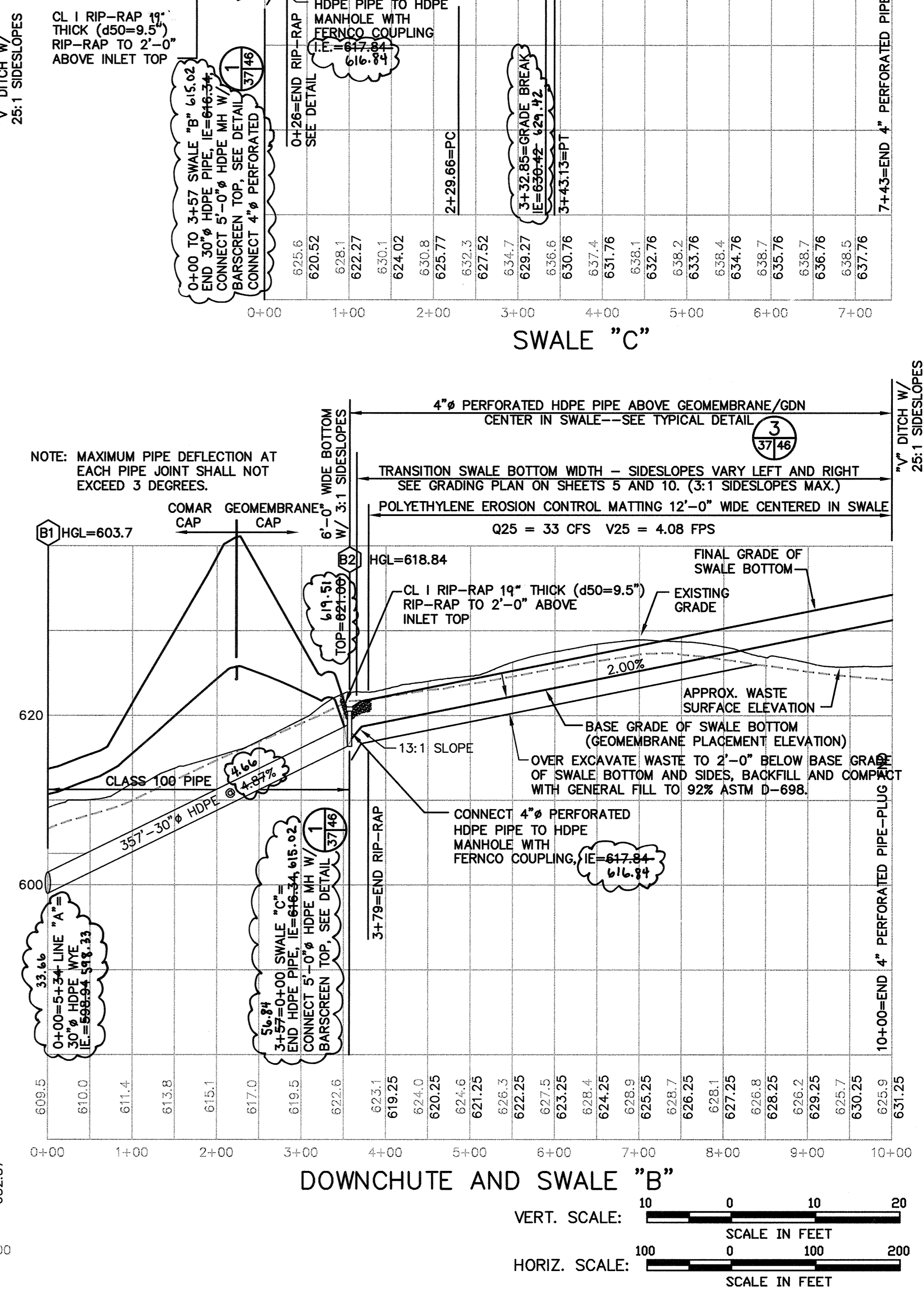
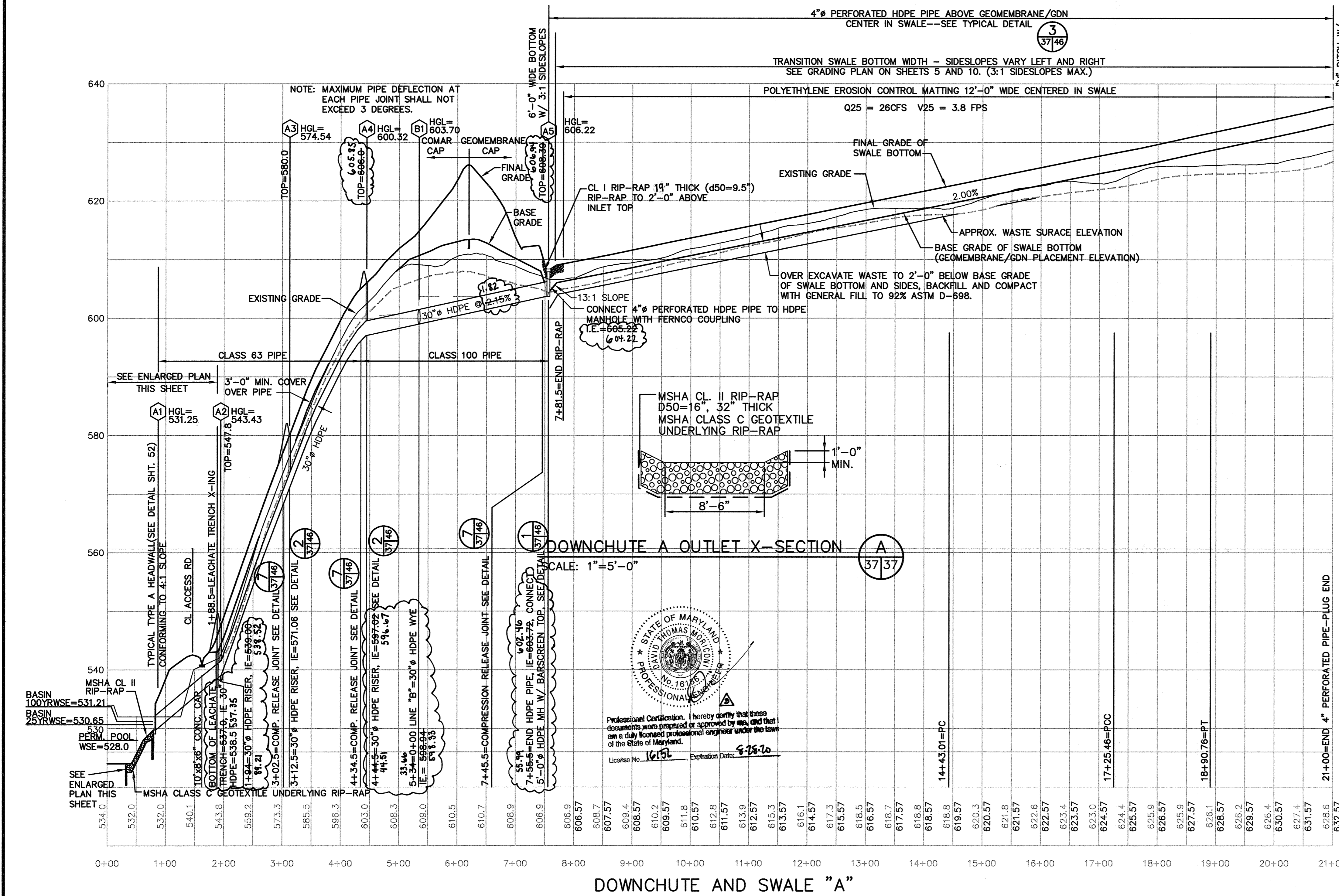
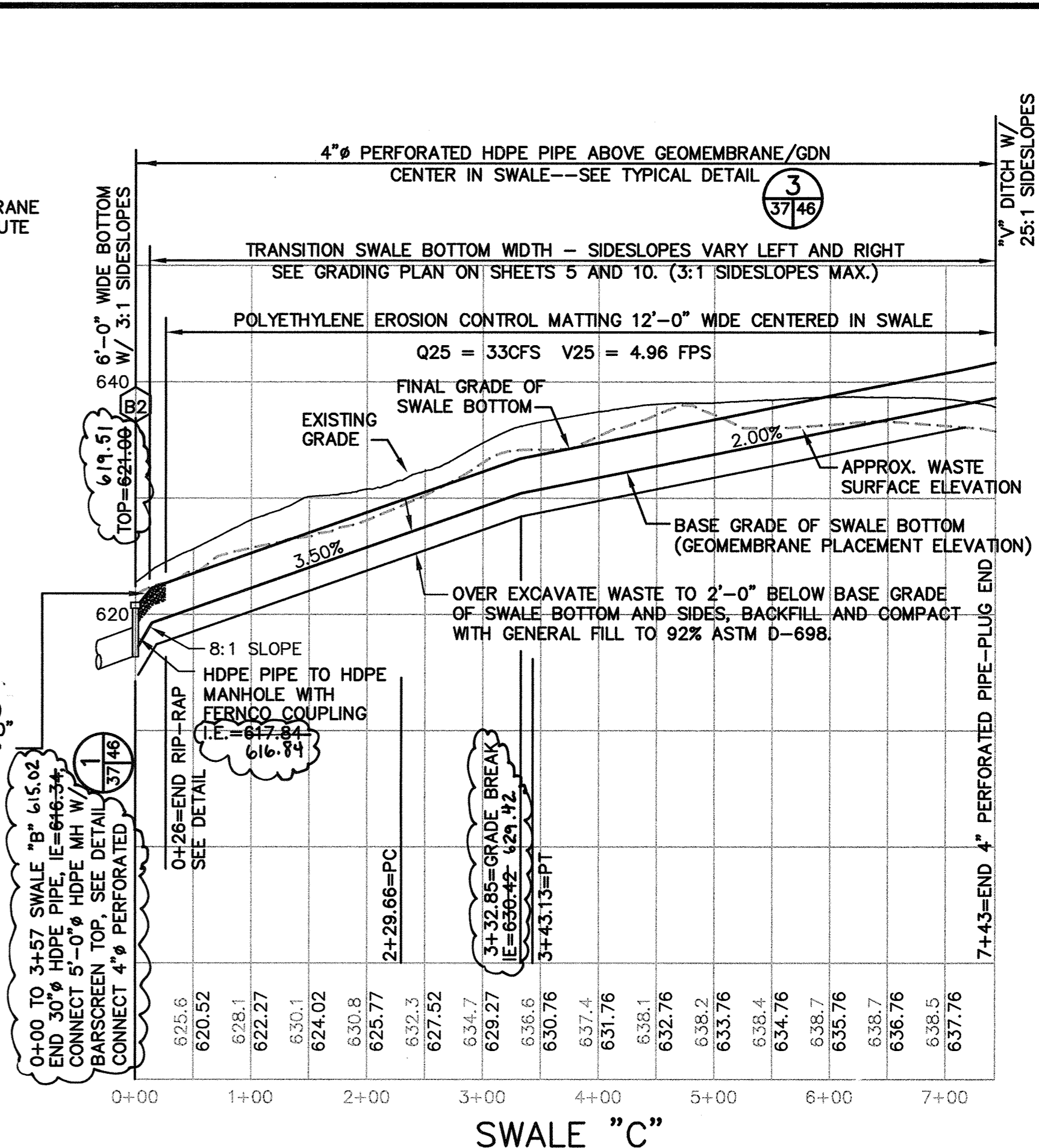
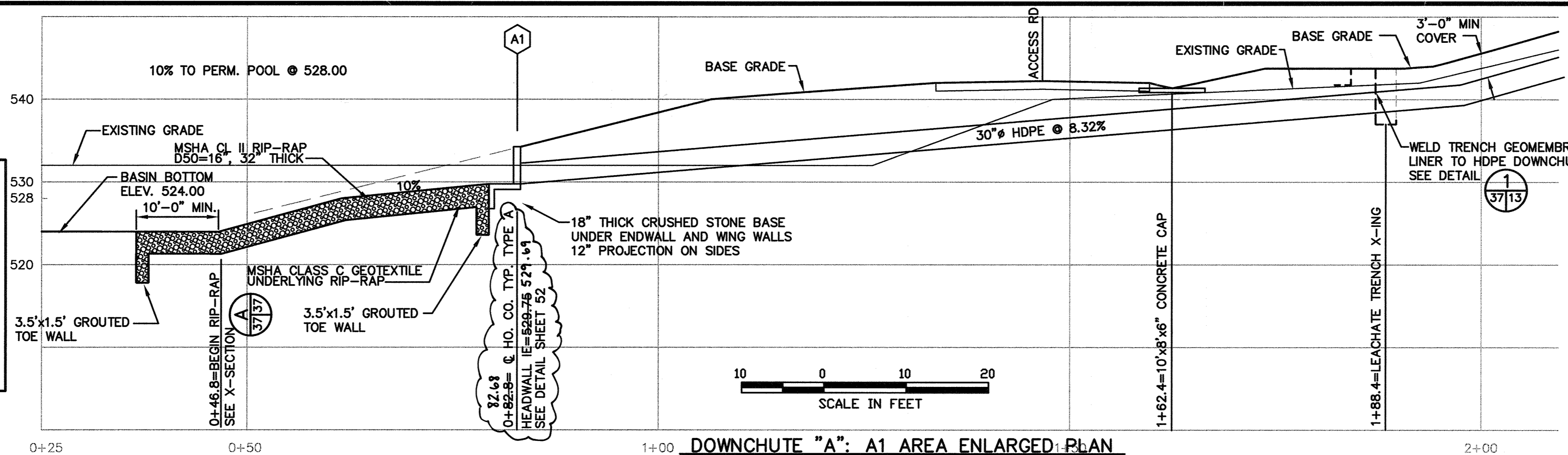
SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT/PARCEL 54,253,220.11
LIBER/FOLIO 10-847/606 16-878/215 10-691/314	ZONE PEC
WATER CODE PRIVATE, EXISTING	TAX/ZONE MAP 10 & 16
SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*[Signature]* 11/3/97  
DIRECTOR DATE

*[Signature]* 12/31/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

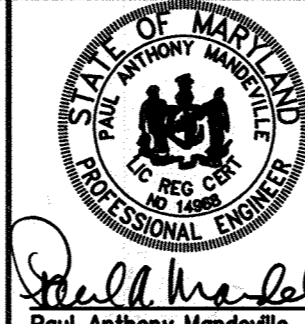


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SWLPRO-B

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

SCS ENGINEERS  
CONSULTING ENGINEERS  
11280 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES. RTT, EGC	
DRN. EGC, JCB	
CHK. PAM	REVISION SHEET DATE
	REVISED WASTE SURFACE ELEVATION 7/27/98
	REVISED GRADES 7/17/98
DATE: 10-30-97	
BY NO.	REVISION
	DATE

DOWNCHUTES  
& SWALE PROFILES

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

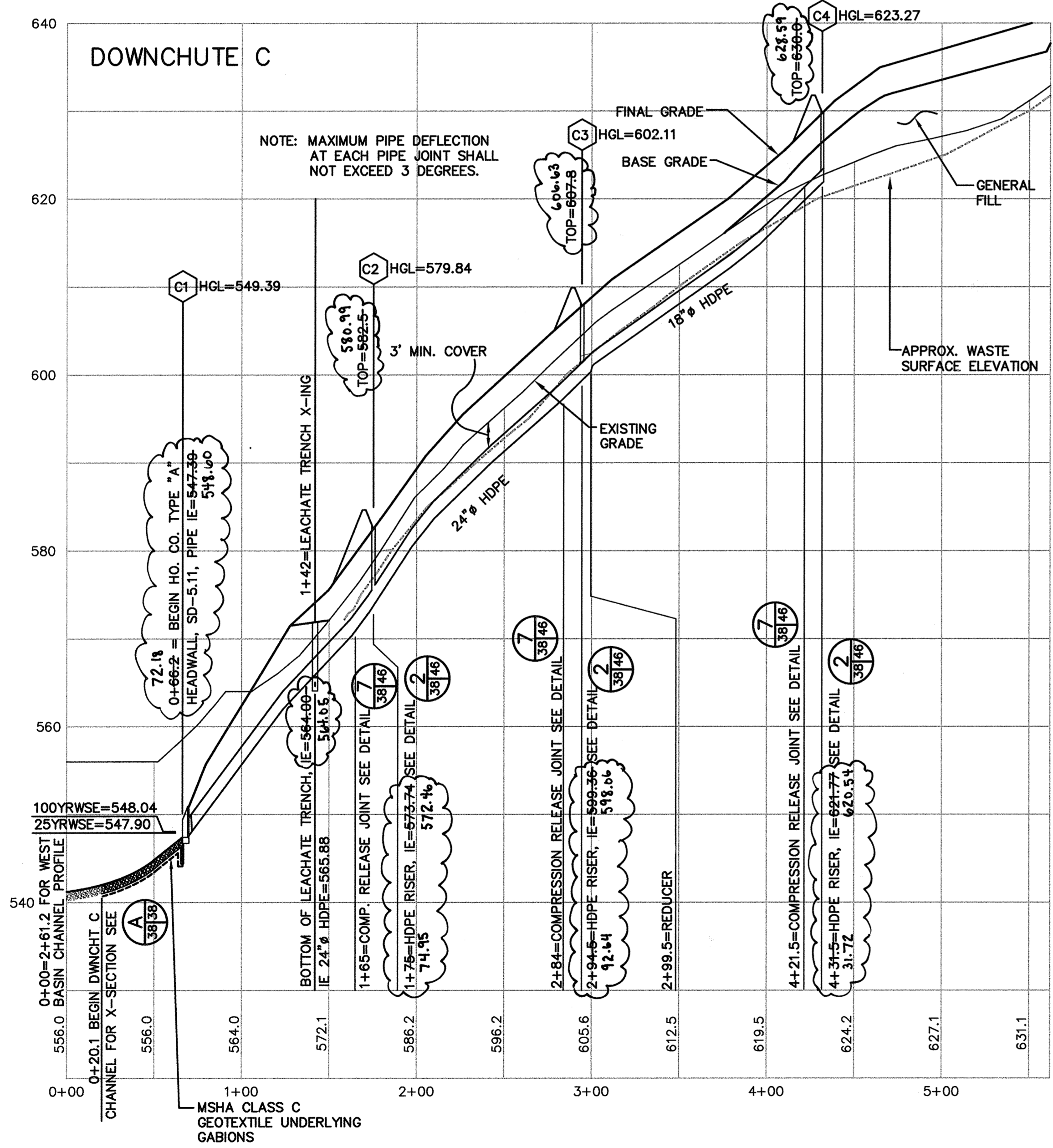
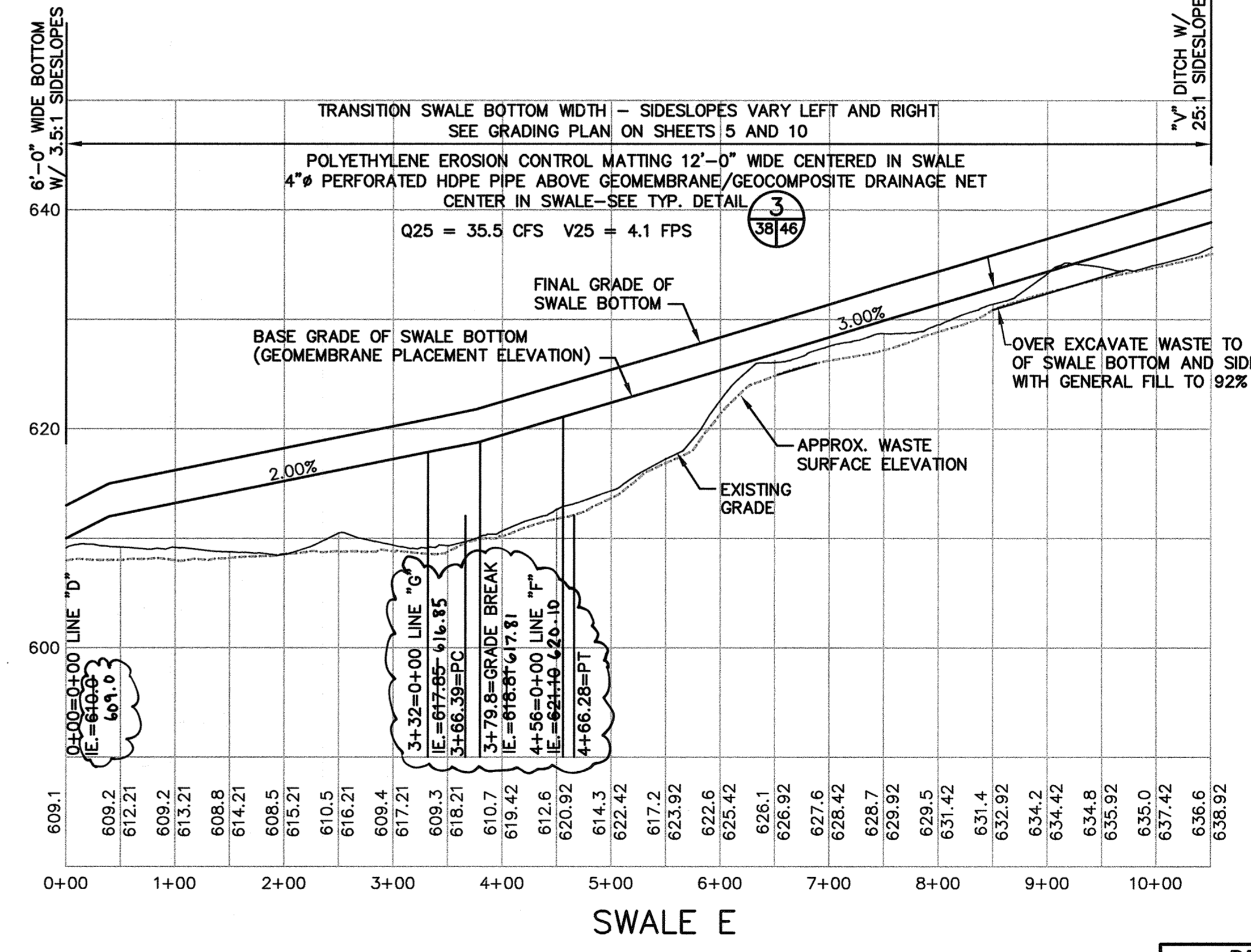
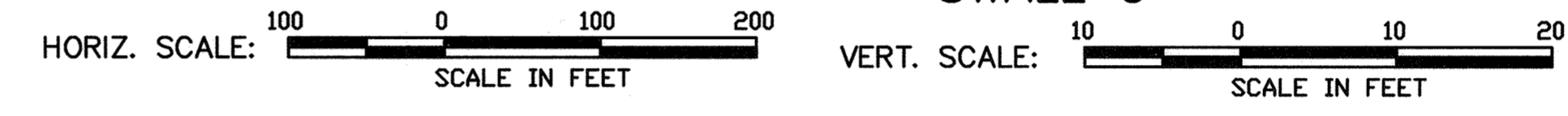
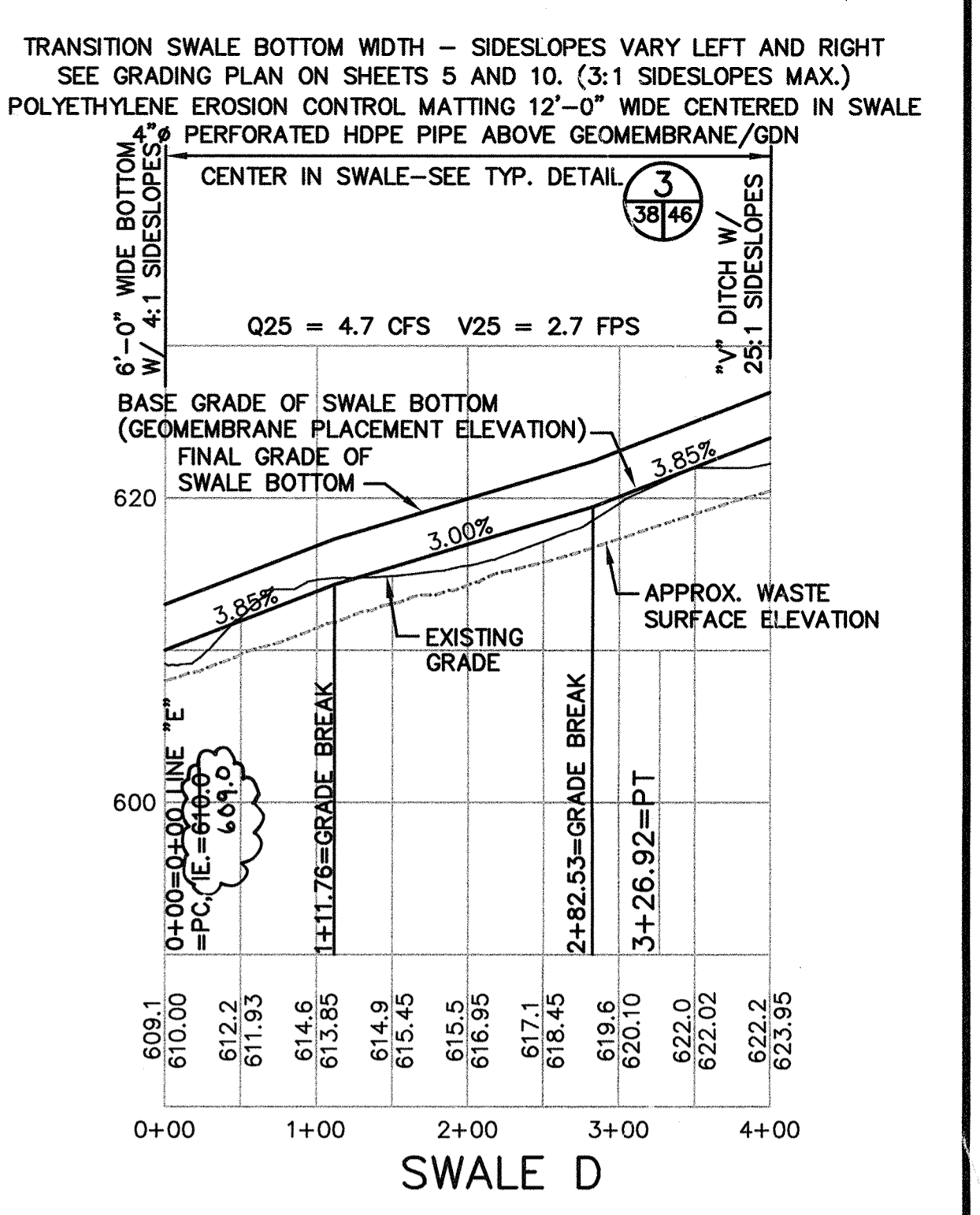
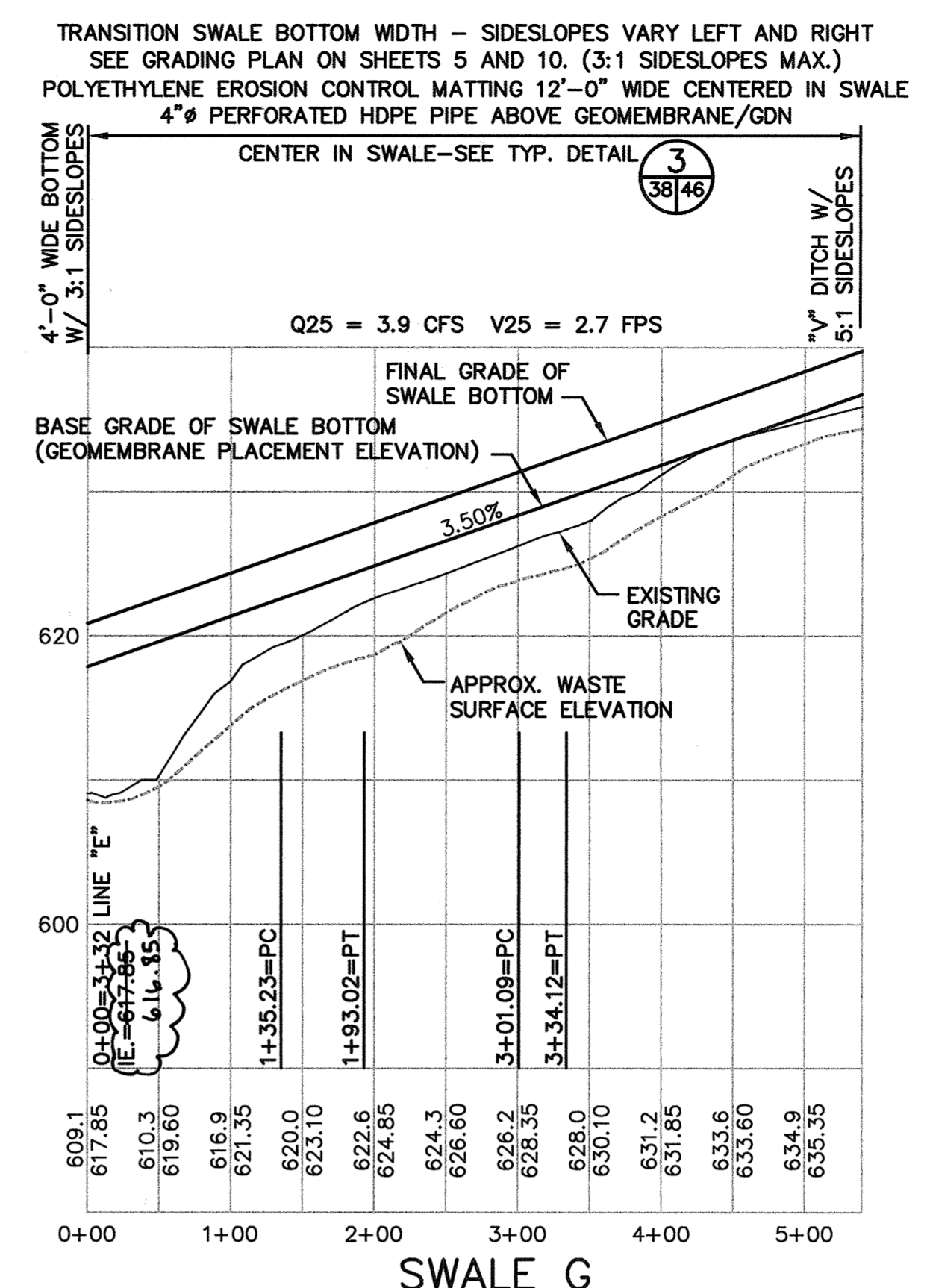
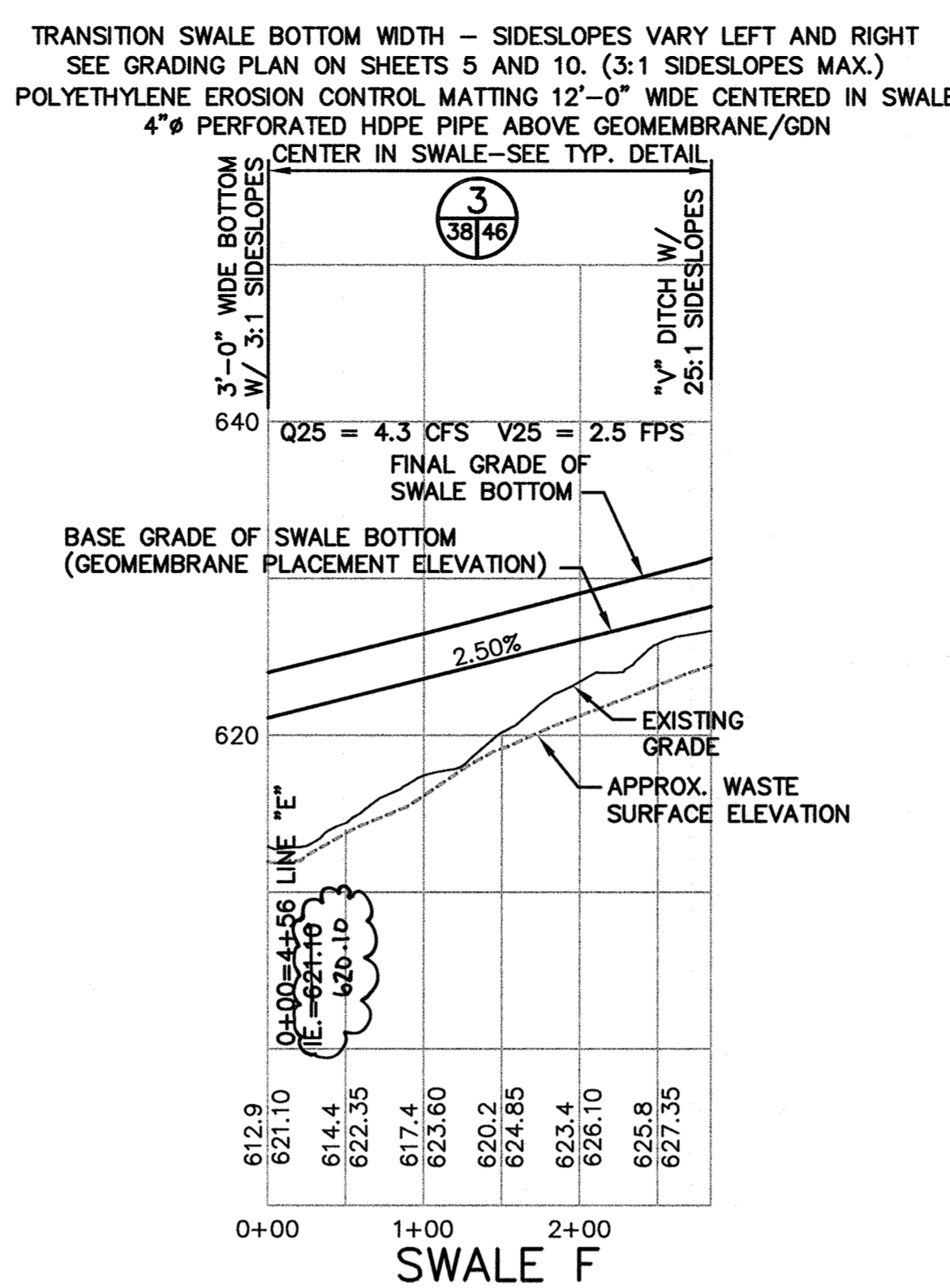
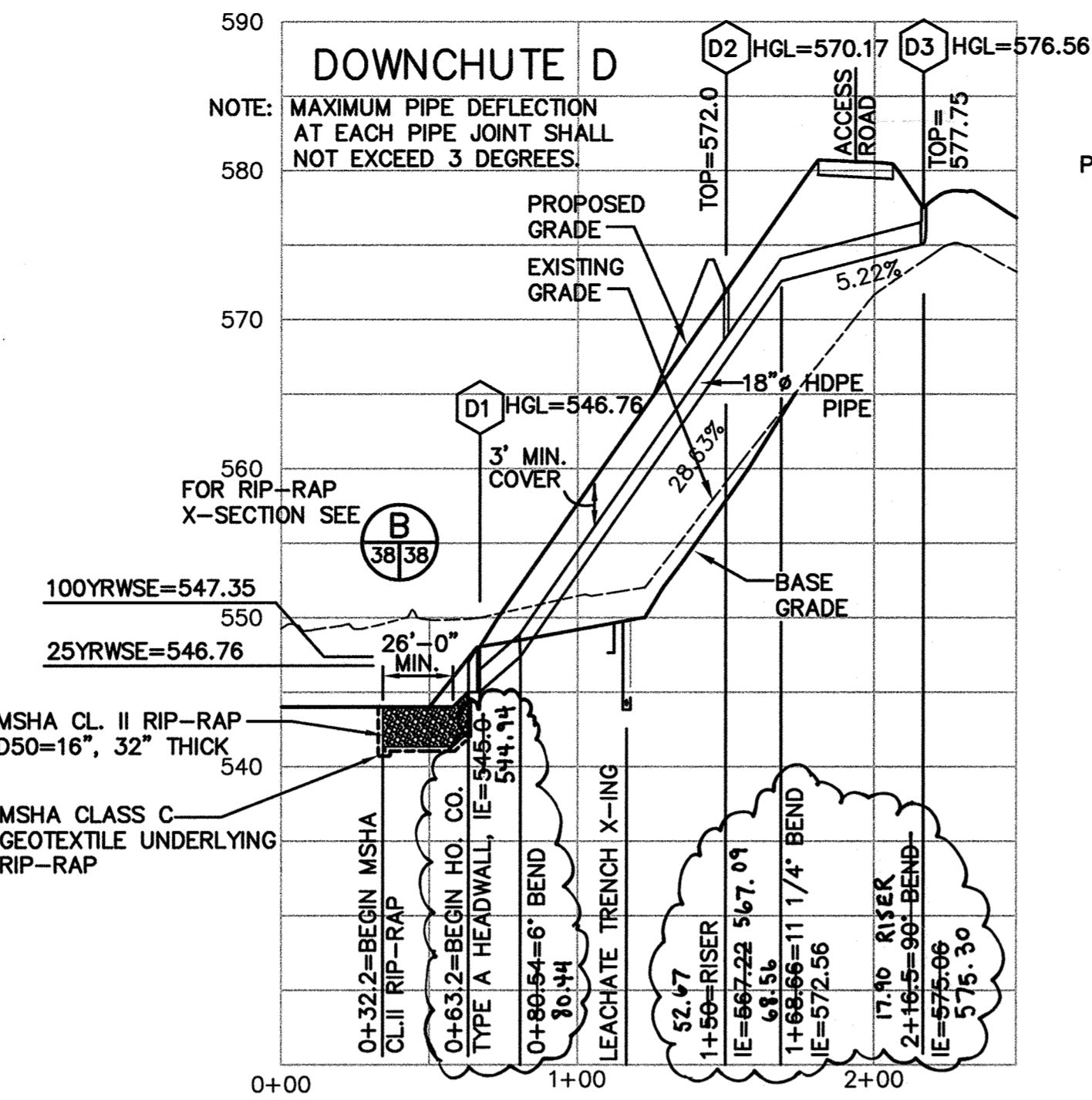
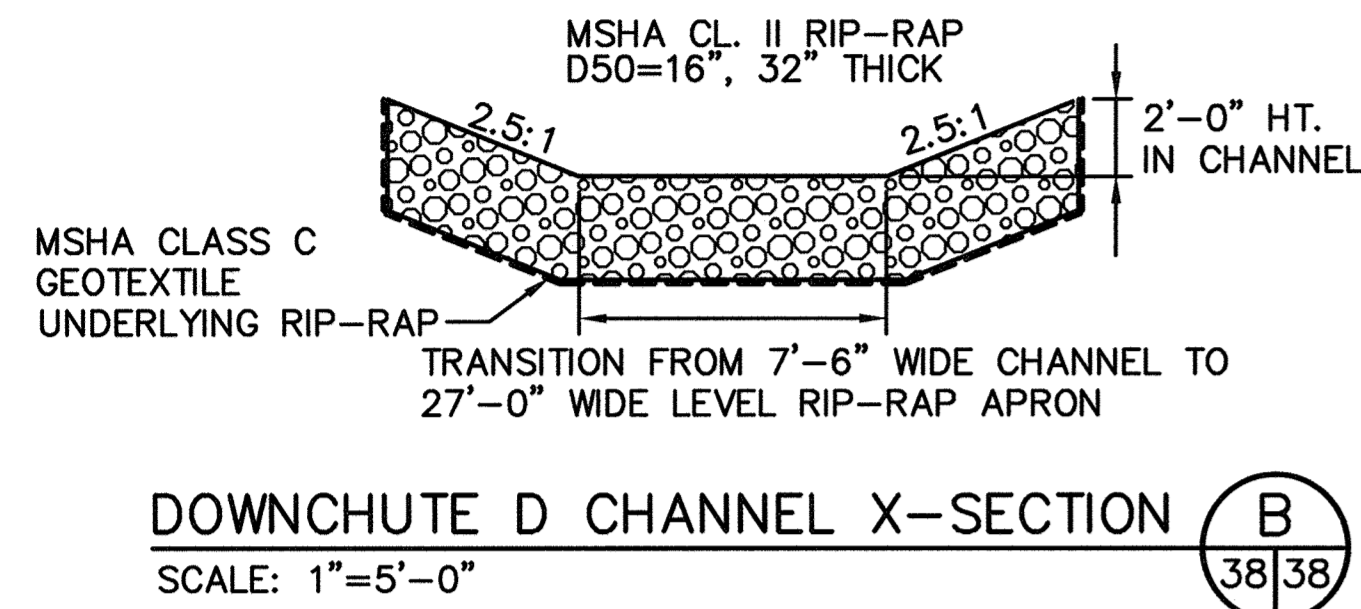
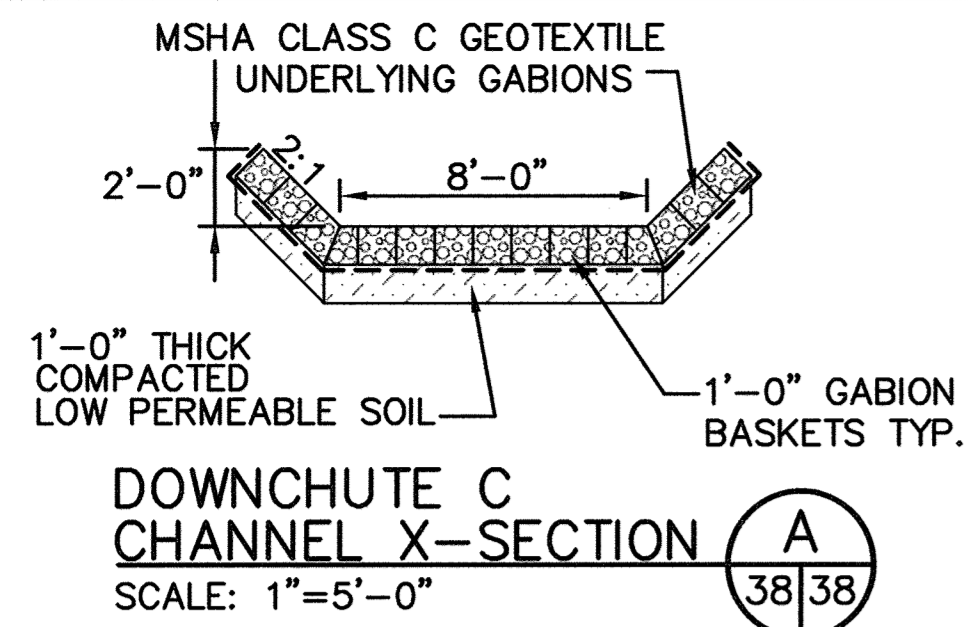
SCALE:  
AS NOTED

SHEET  
37 OF 140

3rd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SDA-97-128



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 16156, Expiration Date: 8-28-10

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT/PARCEL 54,253,220.11
LIBER/FOLIO 10-847/606 16-878/215 10-691/314	ZONE PEC TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING CENSUS TR. 60-30

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

DIRECTOR: *[Signature]* DATE: 11/3/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 10/30/97  
CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 11/3/97

M:\295077.01\FINAL SWLPRO1, PRF-DWIND, XS-MEDC, XS-EBIDD

SWLPRO1B

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS: *[Signature]* DATE: 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT: *[Signature]* DATE: 10/30/97

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES. RTT, EGC			
DRN. EGC, AST			
CHK. PAM	DTM	UPDATED SHEET TOTAL	4-2019
		REVISED WASTE SURFACE ELEVATION	7/27/98
		REVISED GRADES	7/17/99
DATE: 10-30-97	BY NO.	REVISION	DATE

DOWNCHUTES  
& SWALE PROFILES

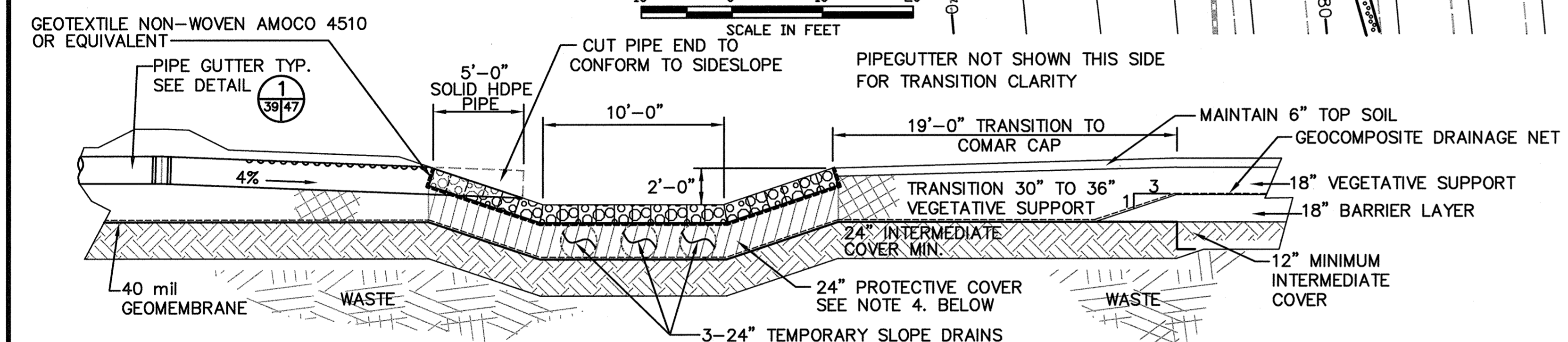
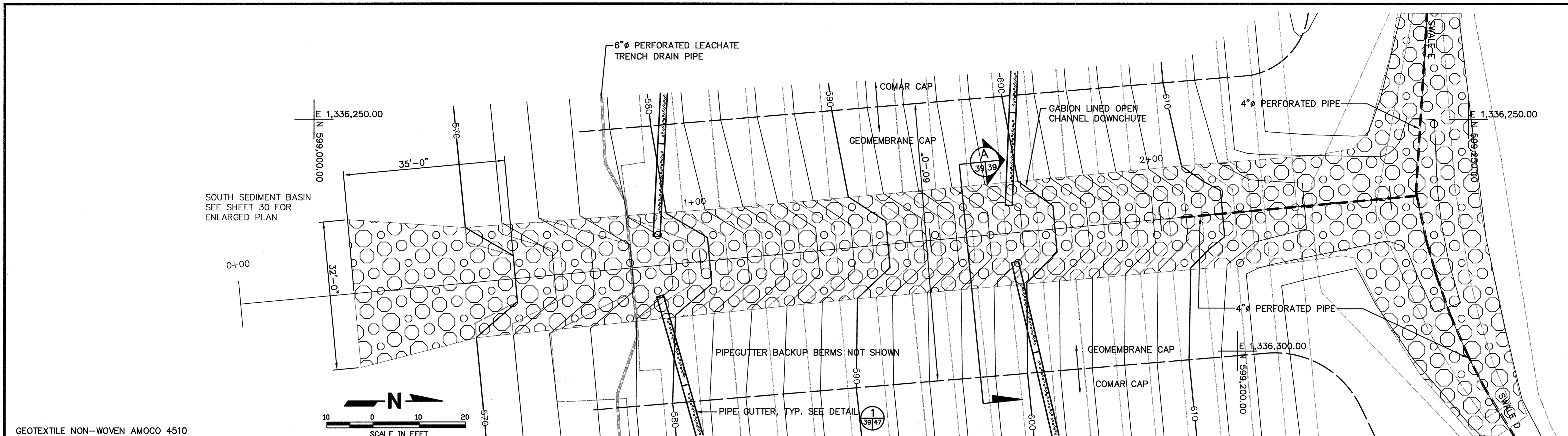
ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

SCALE:  
AS NOTED

SHEET 140  
38 OF 140

3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

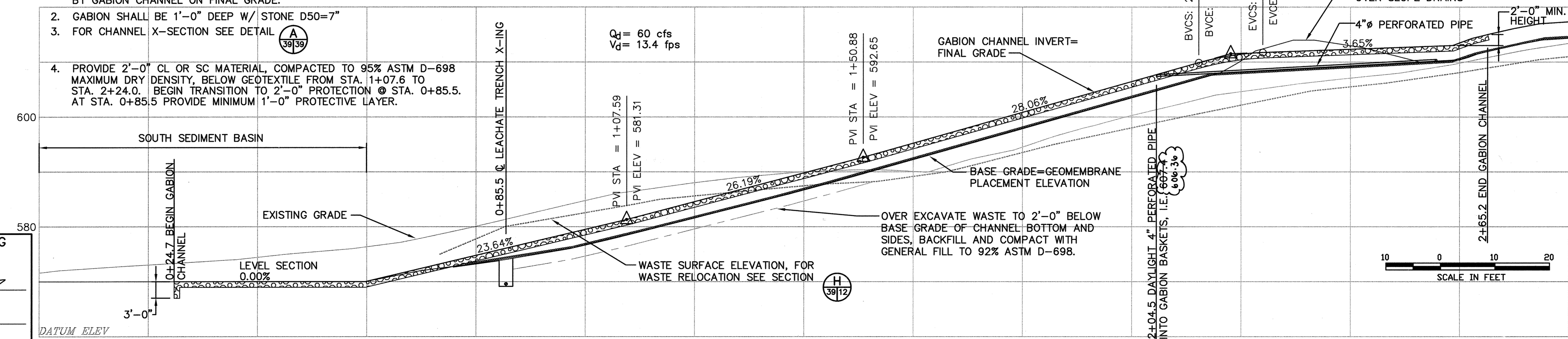
SDA-97-128



**SOUTH GATION CHANNEL AND CAP TRANSITION X-SECTION**  
SCALE: 1"=5'-0"

- NOTES:
- TEMPORARY 3-24" HDPE SLOPE DRAINS ON BASE GRADE TO BE REPLACED BY GATION CHANNEL ON FINAL GRADE.
  - GATION SHALL BE 1'-0" DEEP W/ STONE D50=7"
  - FOR CHANNEL X-SECTION SEE DETAIL
  - PROVIDE 2'-0" CL OR SC MATERIAL, COMPACTED TO 95% ASTM D-698 MAXIMUM DRY DENSITY, BELOW GEOTEXTILE FROM STA. 1+07.6 TO STA. 2+24.0. BEGIN TRANSITION TO 2'-0" PROTECTION @ STA. 0+85.5. AT STA. 0+85.5 PROVIDE MINIMUM 1'-0" PROTECTIVE LAYER.

**GATION DOWNCHUTE TO SOUTH BASIN**  
SCALE: 1"=10'



STATE OF MARYLAND  
PROFESSIONAL ENGINEER  
No. 16156  
Expiration Date: 8-28-20

PVI STA = 2+18.12  
PVI ELEV = 611.52  
A.D. = -24.41 K = 0.48

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/606 16-878/215 10-691/314	ZONE PEC	TAX/ZONE MAP 10 & 16	
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30	

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

Director: *[Signature]* 11/3/97  
Chief, Development Engineering Division: *[Signature]* 11/3/97  
Chief, Division of Land Development: *[Signature]* 11/3/97

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* 10/30/97  
Chief, Bureau of Waste Management: *[Signature]* 10/30/97

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676

STATE OF MARYLAND  
PROFESSIONAL ENGINEER  
No. 16156  
Expiration Date: 8-28-20

DES. RTT, EGC	
DRN. EGC	
CHK. PAM	
DATE: 10-30-97	
BY NO.	UPDATED SHEET TOTAL
REVISION	4-2019
DATE	

DOWNCHUTES  
& SWALE PROFILES

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

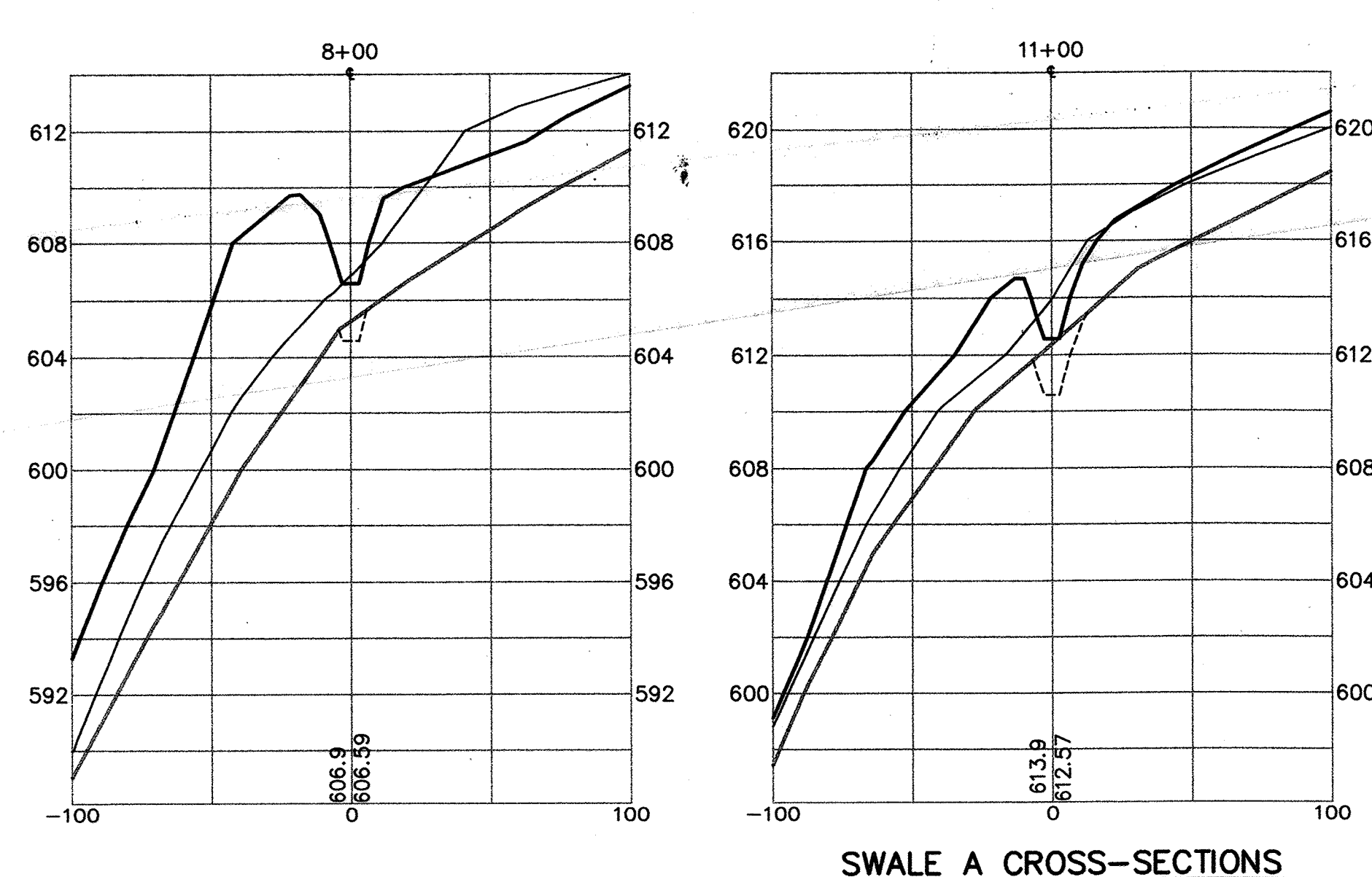
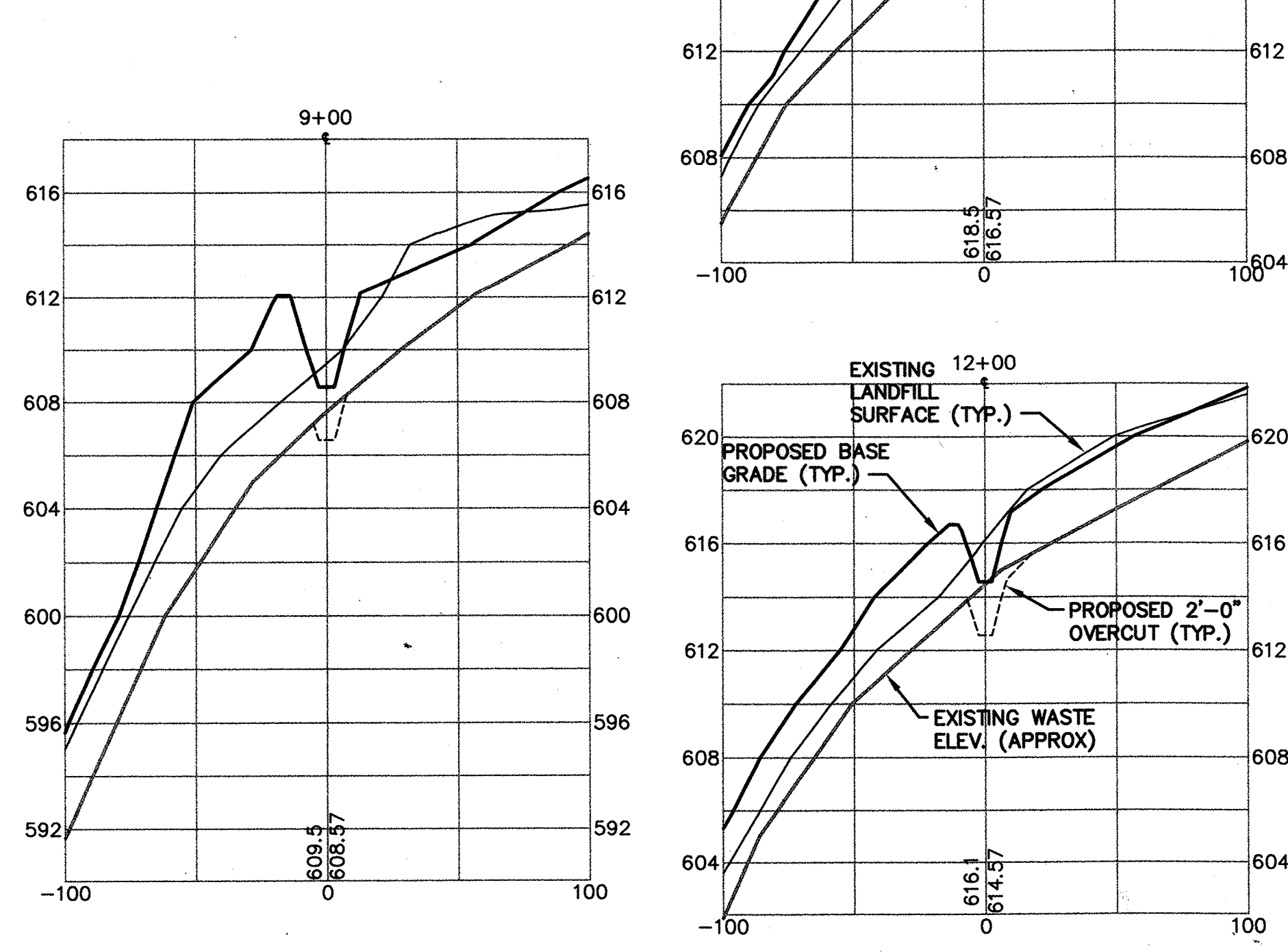
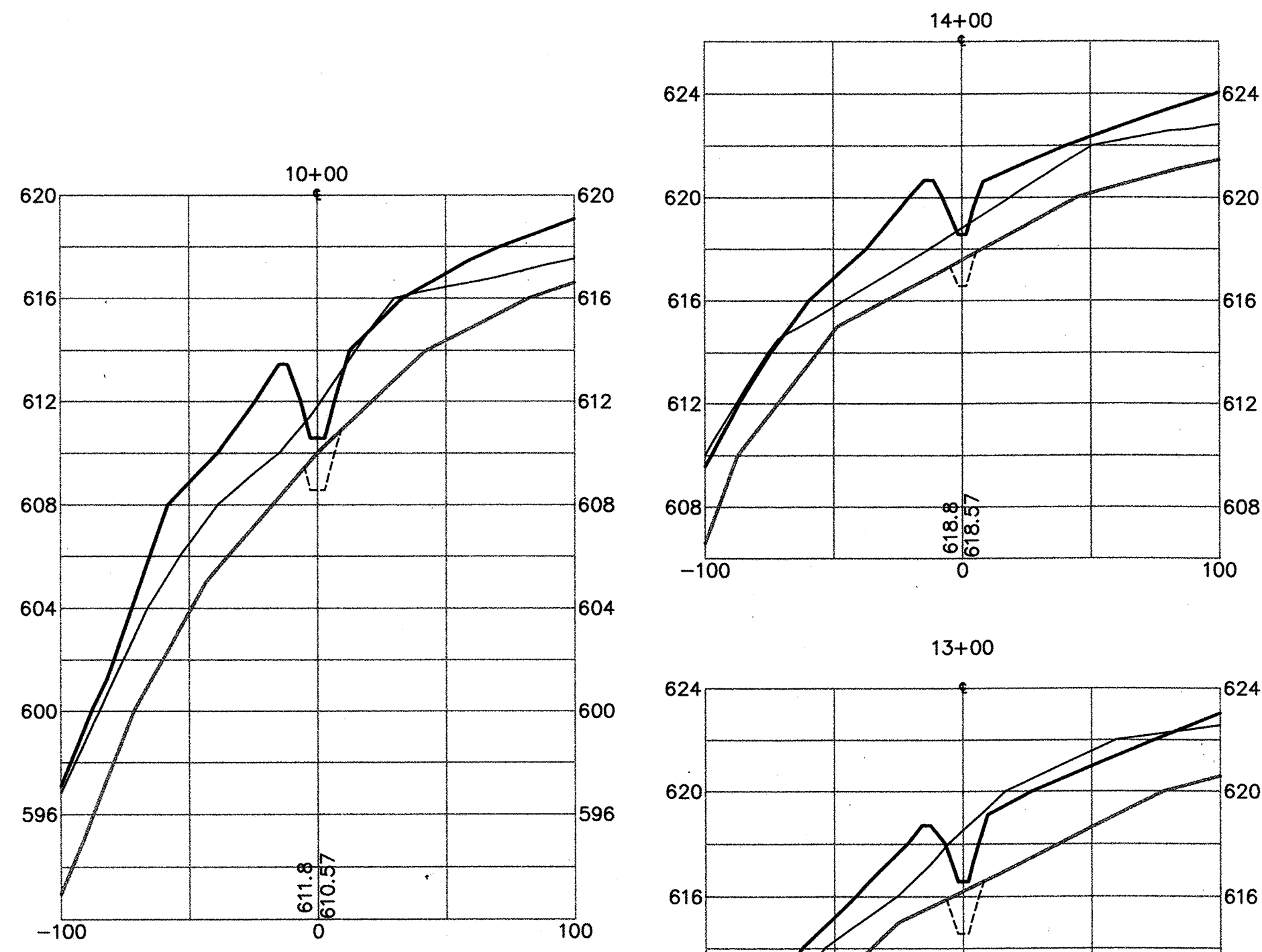
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE: AS NOTED  
SHEET 39 OF 140

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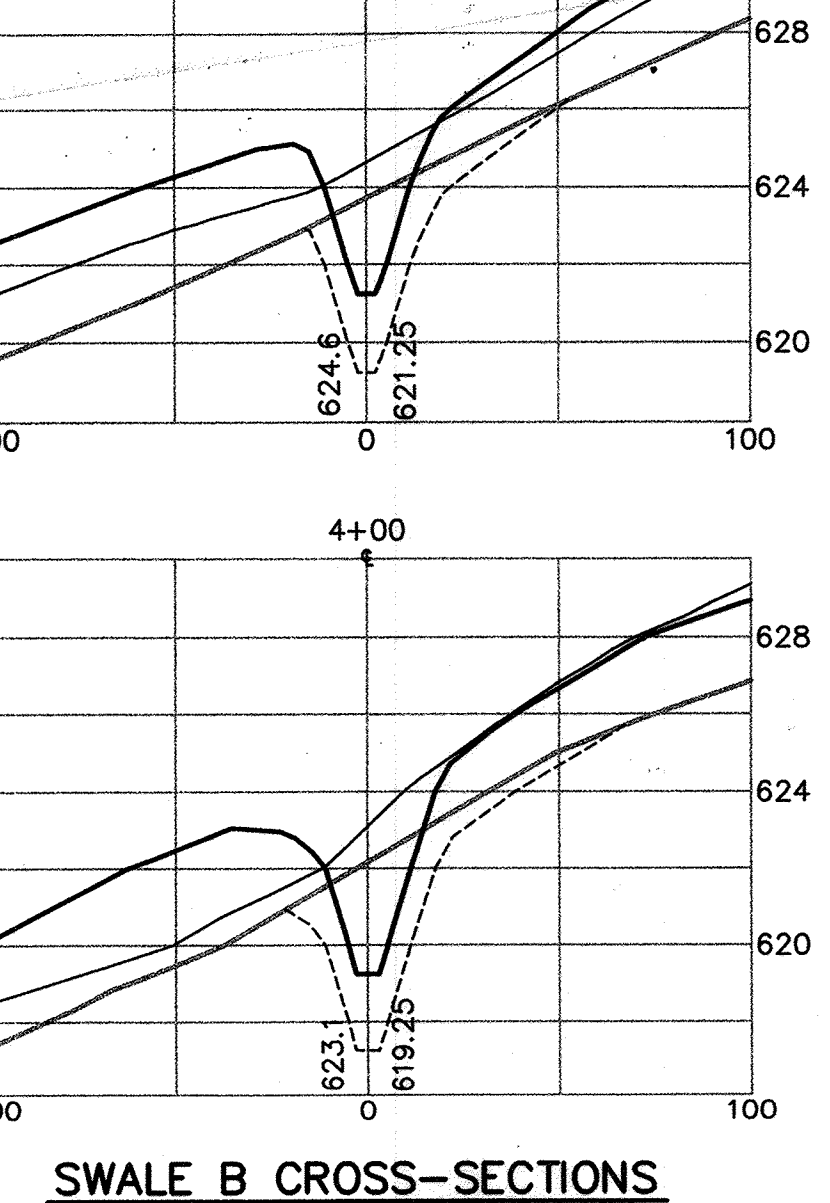
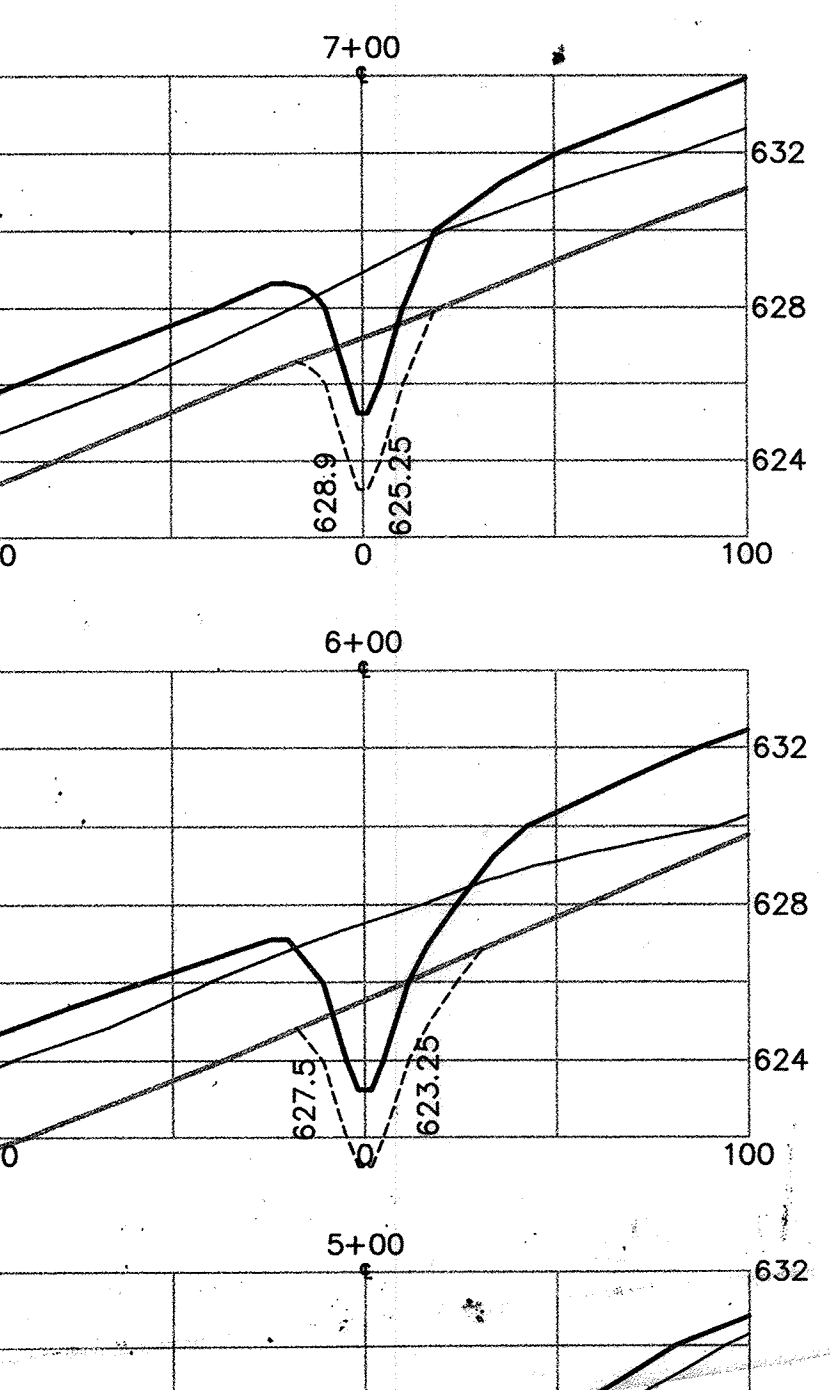
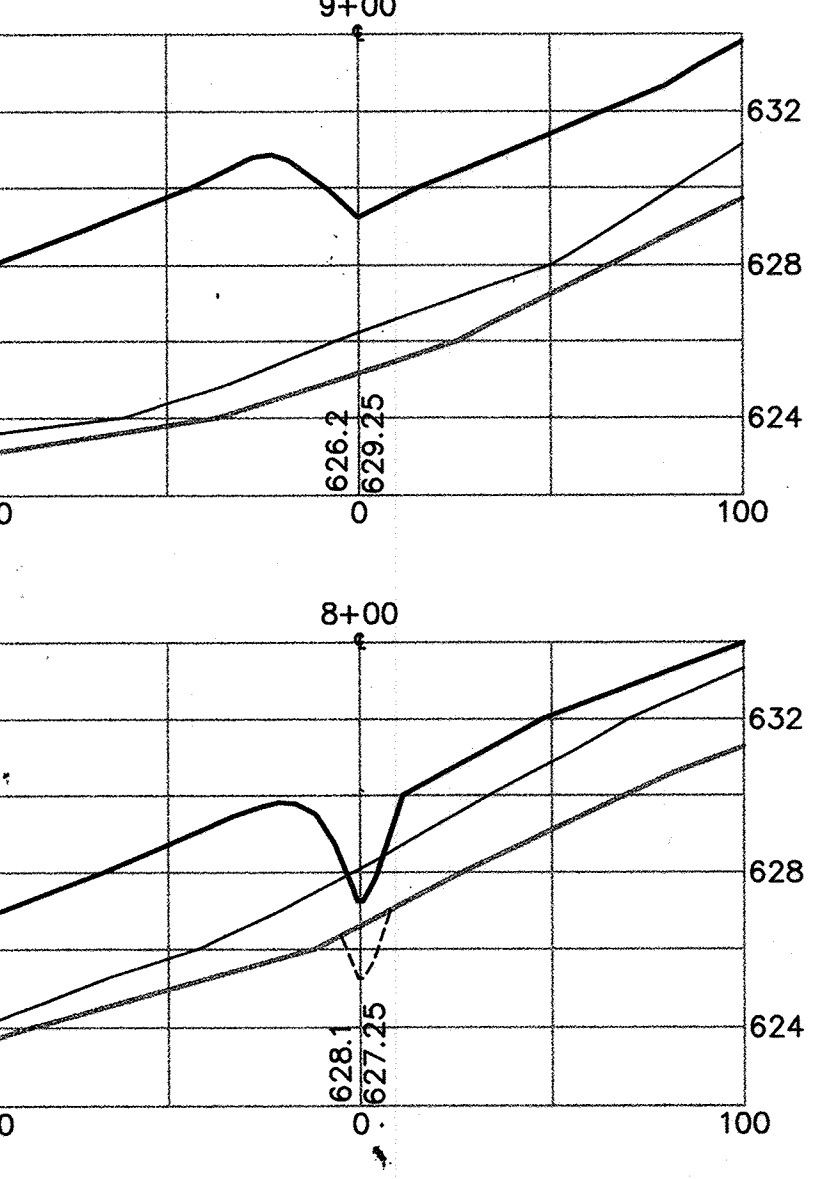
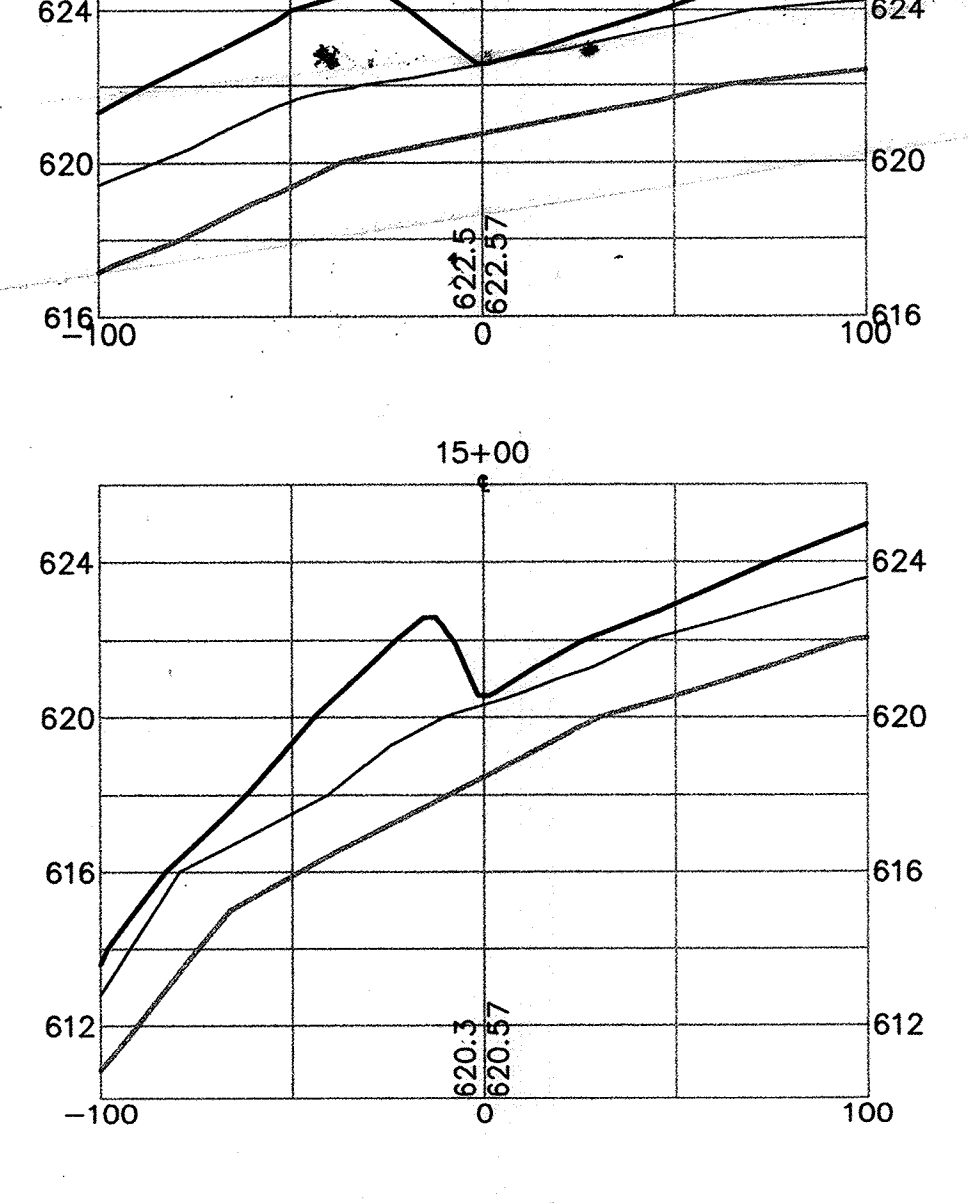
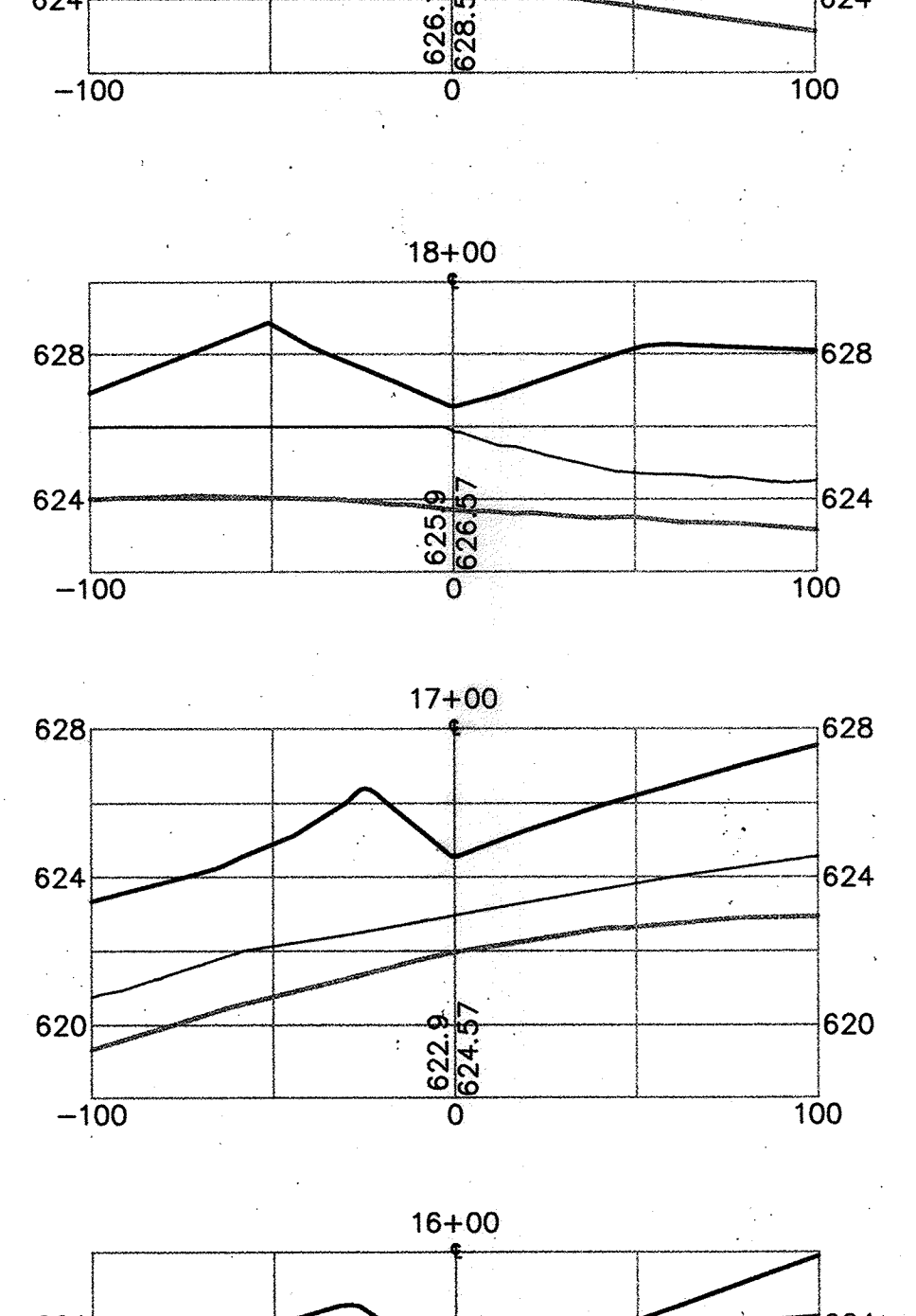
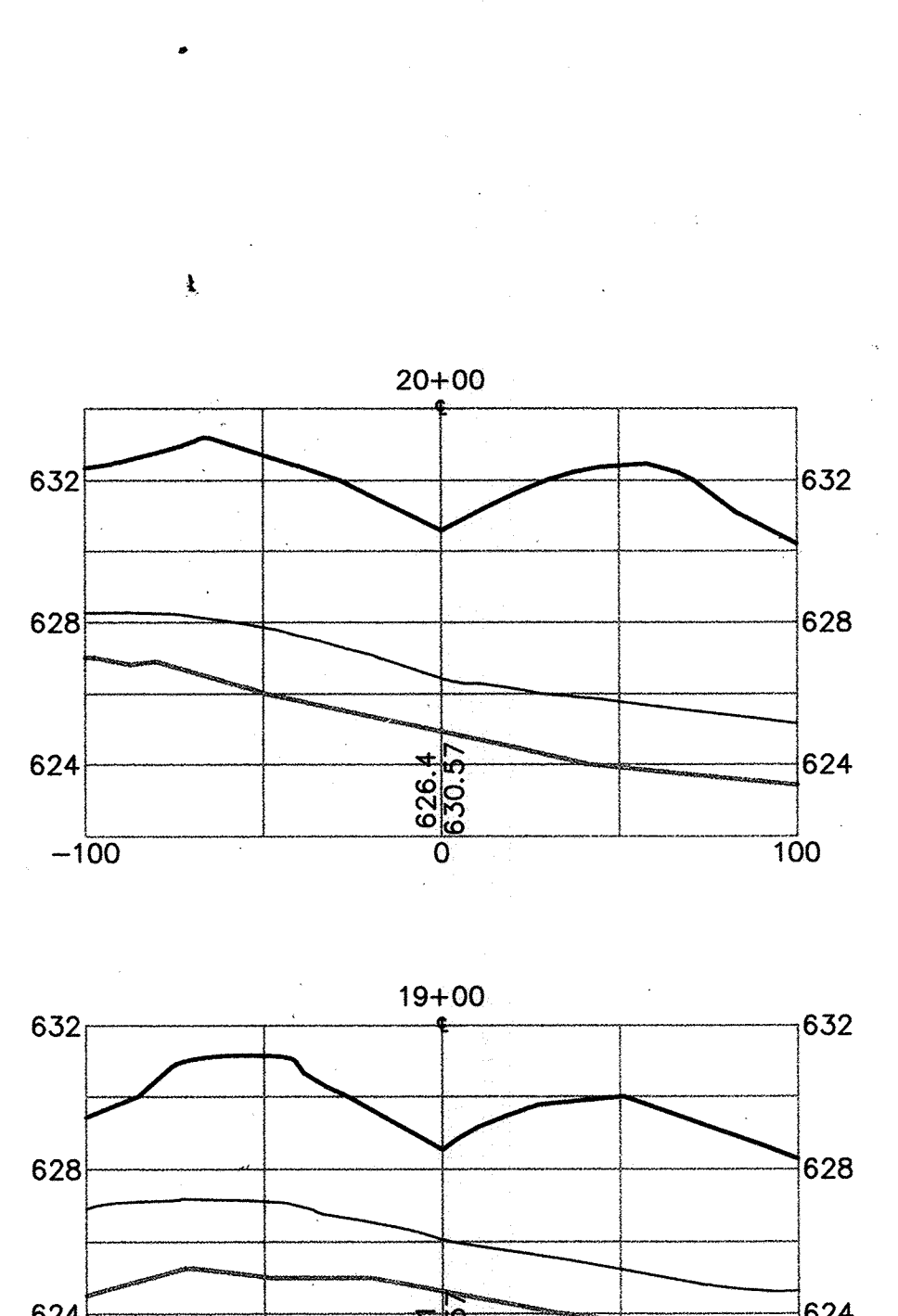
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SDP-97-128

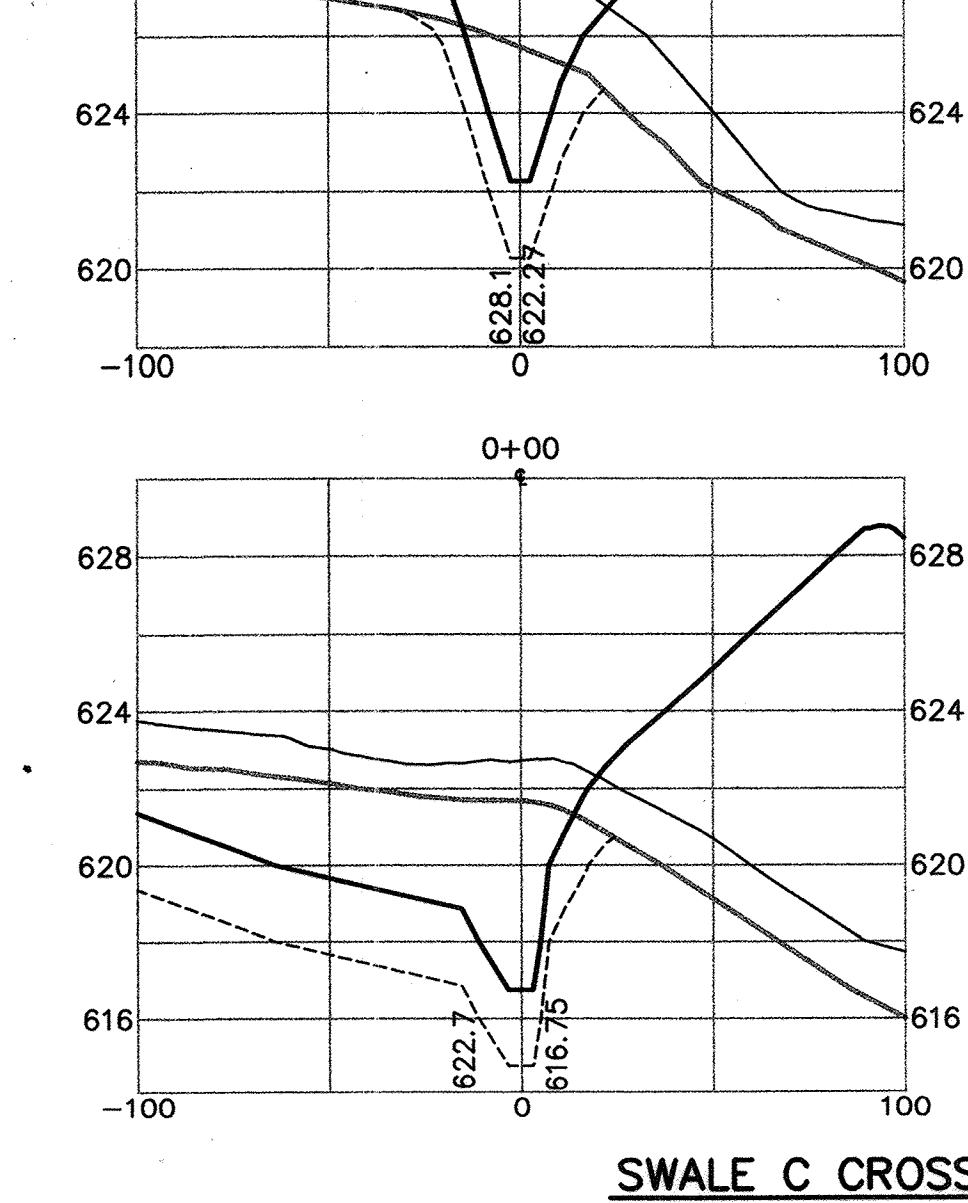
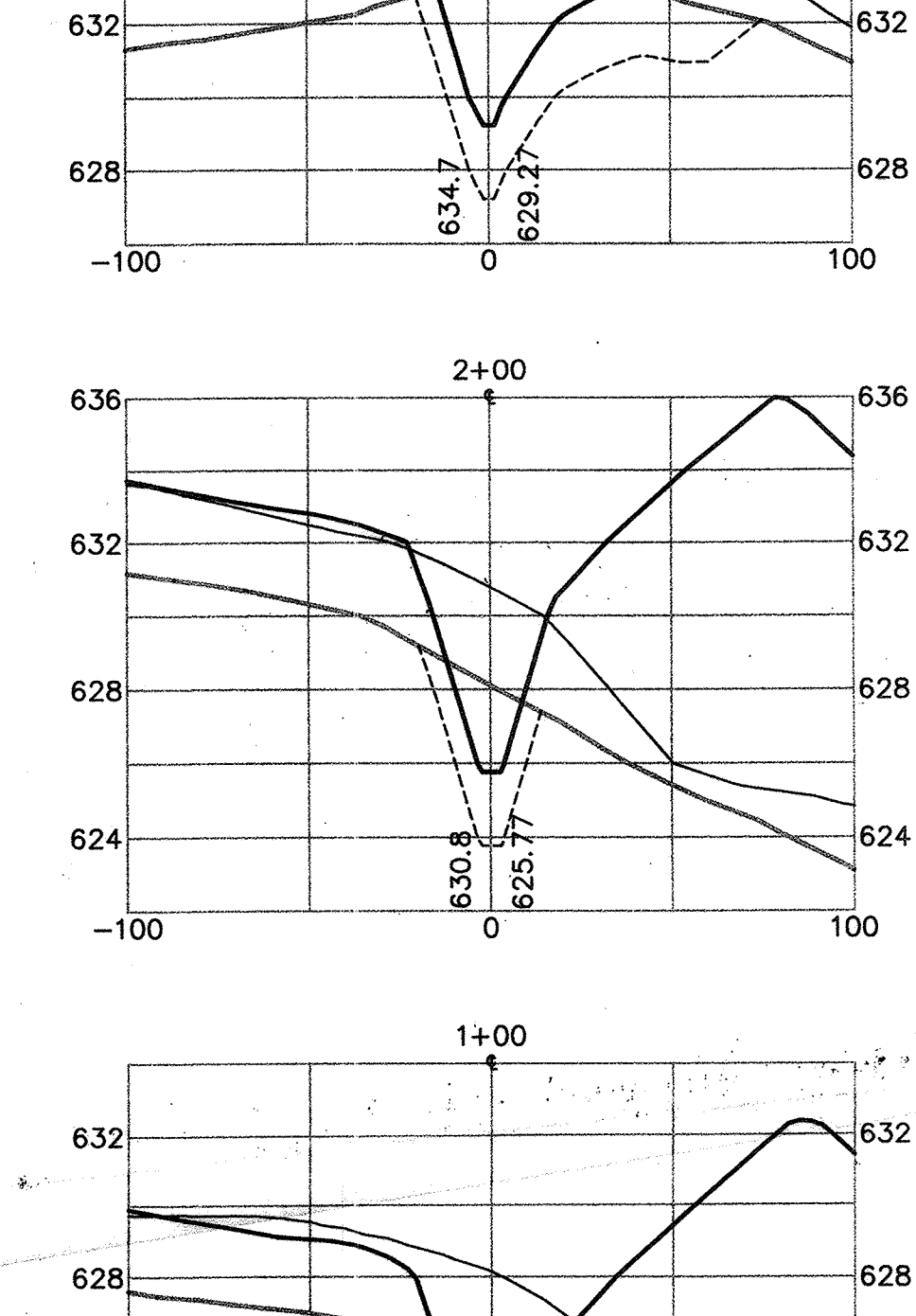
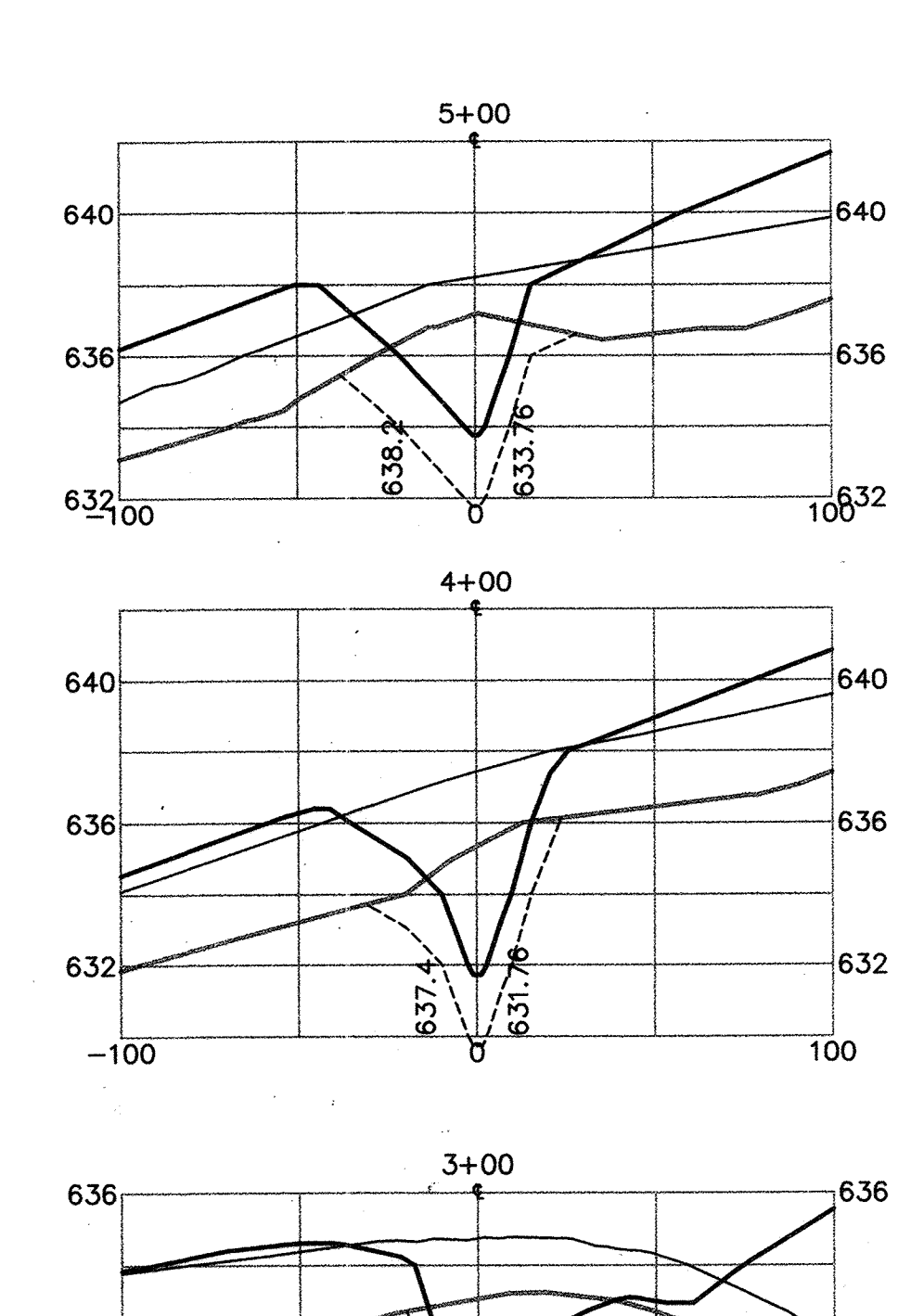


EXISTING LANDFILL SURFACE (TYP.)  
 PROPOSED BASE GRADE (TYP.)  
 PROPOSED 2'-0" OVERCUT (TYP.)  
 EXISTING WASTE ELEV. (APPROX)

SWALE A CROSS-SECTIONS

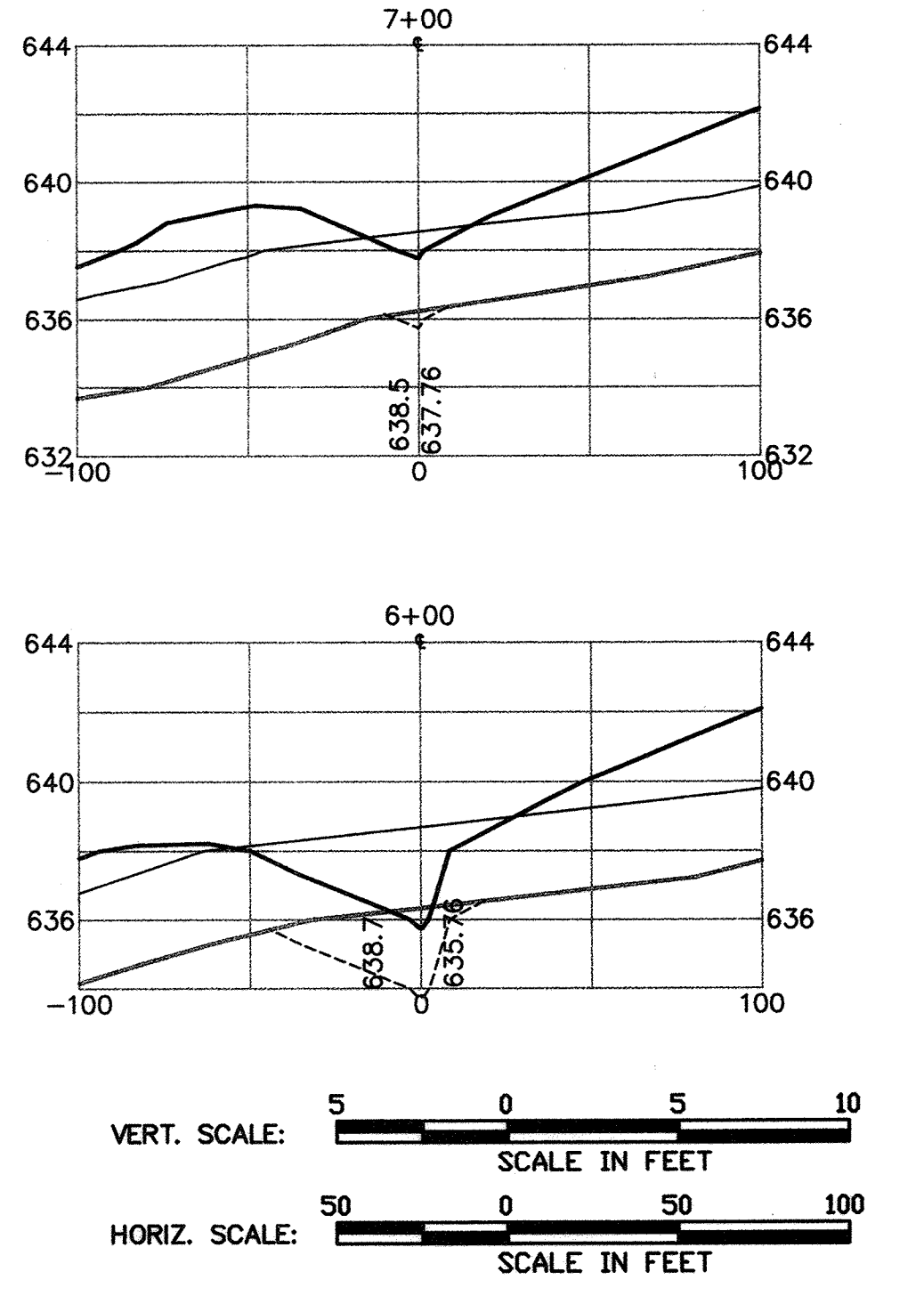


SWALE B CROSS-SECTIONS



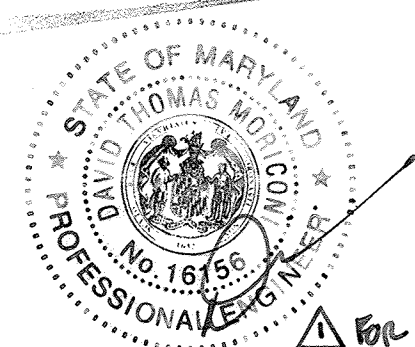
SWALE C CROSS-SECTIONS

LEGEND  
 — EXISTING LANDFILL SURFACE  
 — PROPOSED BASE GRADE  
 - - - PROPOSED 2'-0" OVERCUT  
 — EXISTING APPROX. WASTE ELEVATION



VERT. SCALE: 5 0 5 10  
 SCALE IN FEET  
 HORIZ. SCALE: 50 0 50 100  
 SCALE IN FEET

SEE ETA SHEET 10-A8 FOR AS-BUILT FINAL SURFACE GRADING PLAN



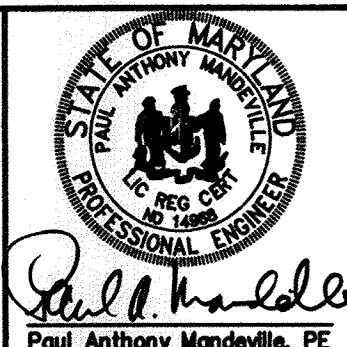
SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/806 16-878/215 10-891/314		ZONE PEC	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING		SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30

DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND  
 DIRECTOR: [Signature] DATE: 11/3/97  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: [Signature] DATE: 10/30/97  
 CHIEF, DIVISION OF LAND DEVELOPMENT: [Signature] DATE: 11/3/97

M:\295077\01\FINAL SWLX1-B

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works: [Signature] DATE: 10/30/97  
 Chief, Bureau of Waste Management: [Signature] DATE: 10/30/97

SCS ENGINEERS  
 CONSULTING ENGINEERS  
 11260 ROGER BACON DRIVE  
 SUITE 300  
 RESTON, VIRGINIA 22090  
 PH. (703) 471-6150  
 FAX. (703) 471-6676

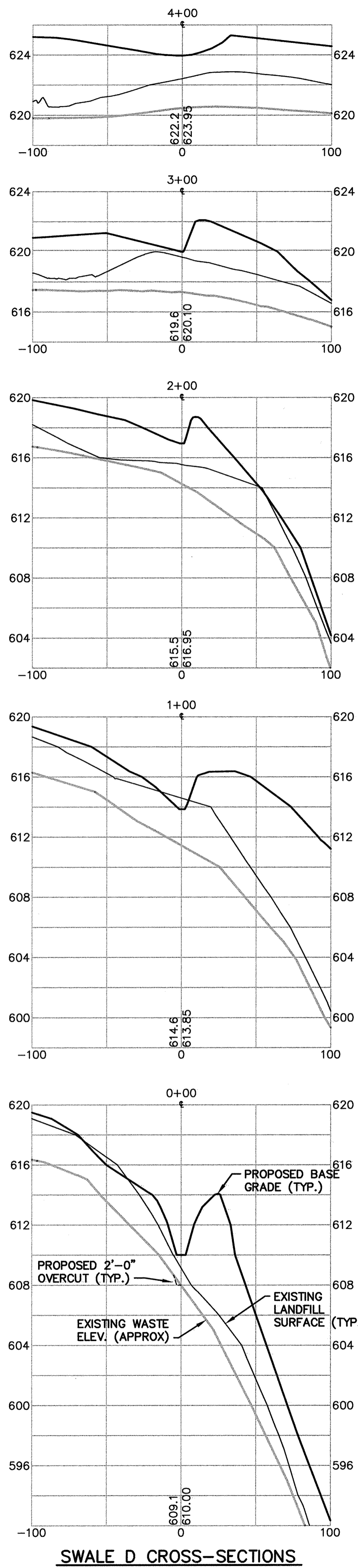


DES. RTT, EGC	
DRN. EGC	
CHK. PAM	
DATE: 10-30-97	
BY NO.	REVISION
	UPDATED SHEET DATA
	4-2019

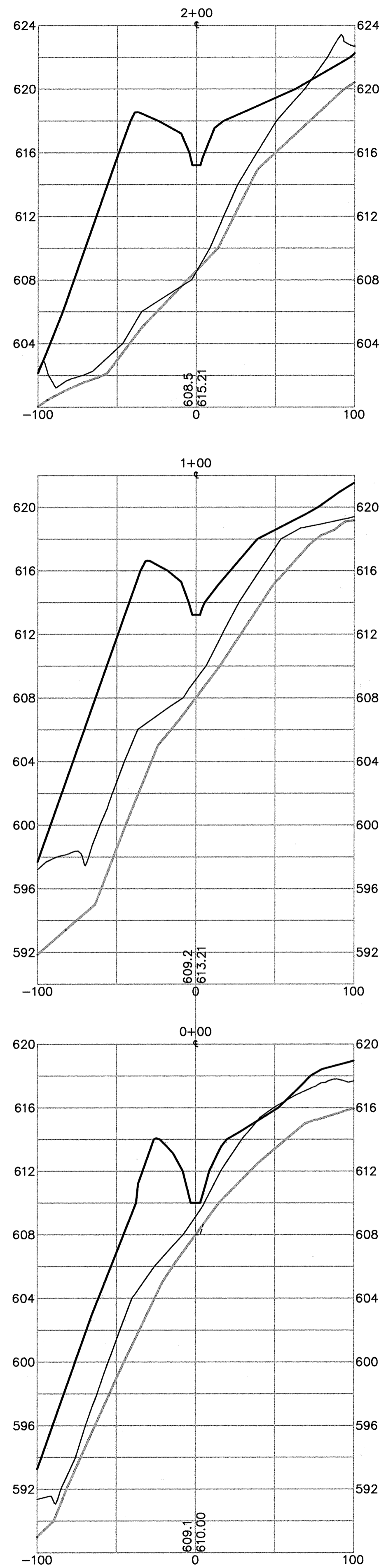
SWALE CROSS-SECTIONS

ALPHA RIDGE LANDFILL  
 UNLINED CELL CLOSURE  
 CAPITAL PROJECT NO. C-0190-N  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 SCALE: AS NOTED  
 SHEET 40 OF 140

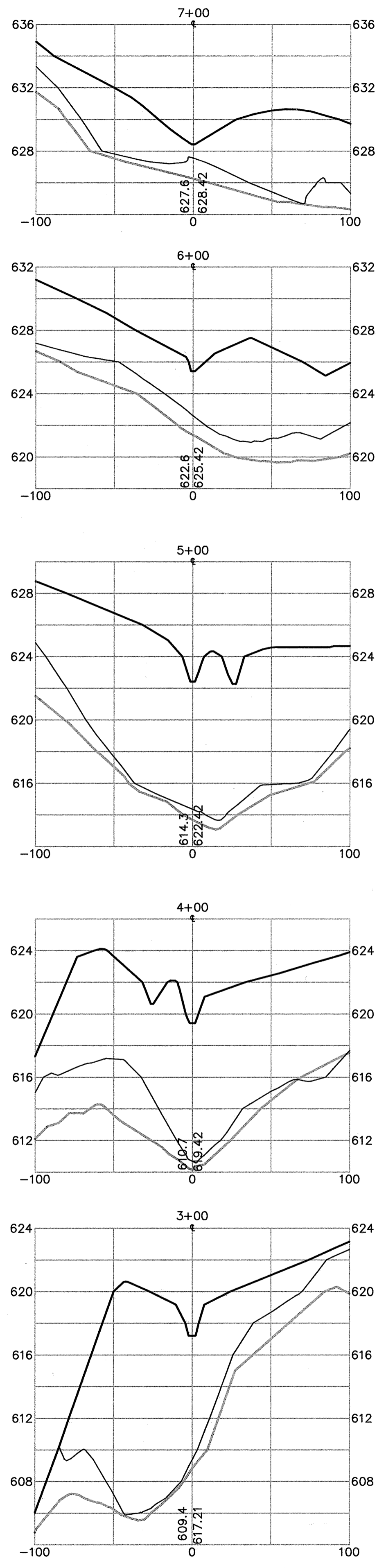
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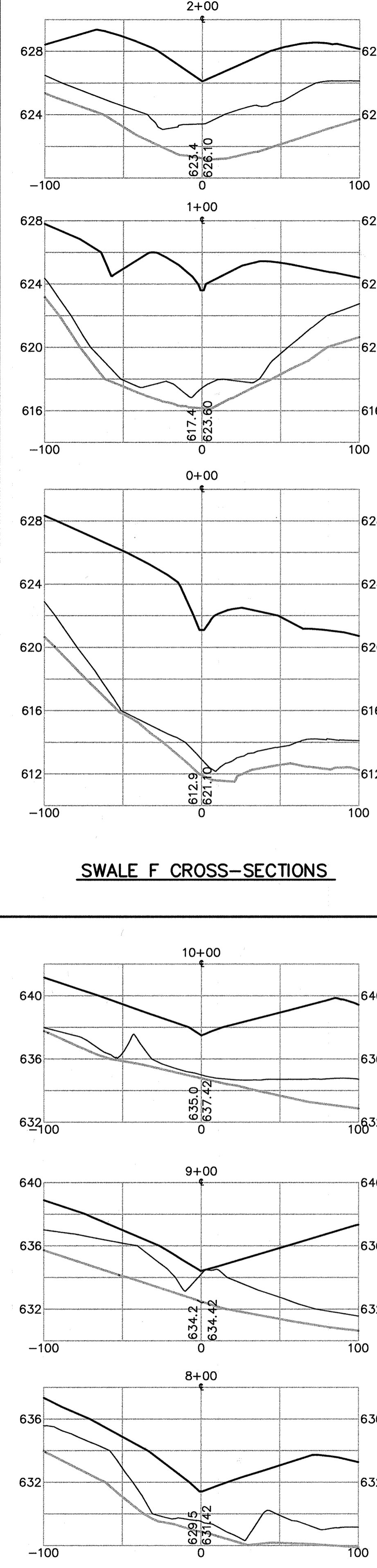
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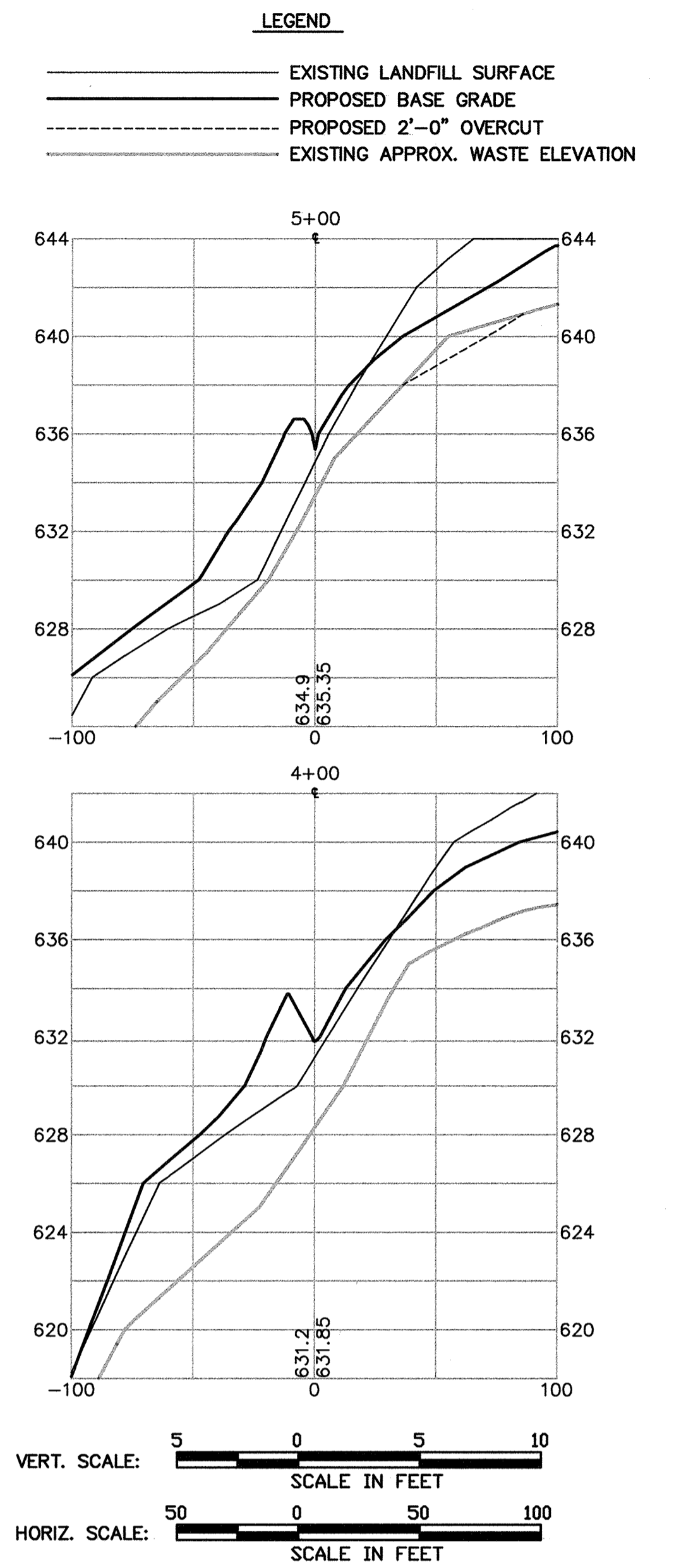
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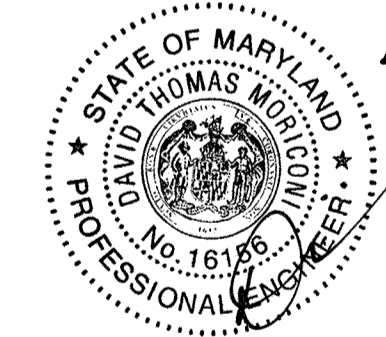
SWALE F CROSS-SECTIONS



SWALE G CROSS-SECTIONS



SEE ETA SHEET 10-AB FOR AS-BUILT FINAL SURFACE GRADING PLAN



Professional Certification, I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 16156, Expiration Date: 9-25-20

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11
LIBER/FOLIO 10-847/606 16-878/215 10-891/314	ZONE PEC	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30

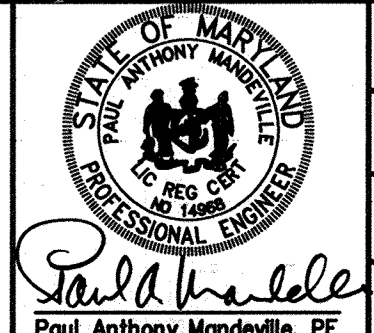
DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND

*James P. Lewis* 11/3/97  
 DIRECTOR DATE

*Cathy Hamilton* 11/3/97  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

SCS ENGINEERS  
 CONSULTING ENGINEERS  
 11260 ROGER BACON DRIVE  
 SUITE 300  
 RESTON, VIRGINIA 22090  
 PH. (703) 471-6150  
 FAX. (703) 471-6676



DES. RTT, EGC	
DRN. EGC	
CHK. PAM	
DATE: 10-30-97	
BY NO.	
REVISION	
DATE	4-20-99

SWALE CROSS-SECTIONS

3rd ELECTION DISTRICT

ALPHA RIDGE LANDFILL  
 UNLINED CELL CLOSURE  
 CAPITAL PROJECT NO. C-0190-N

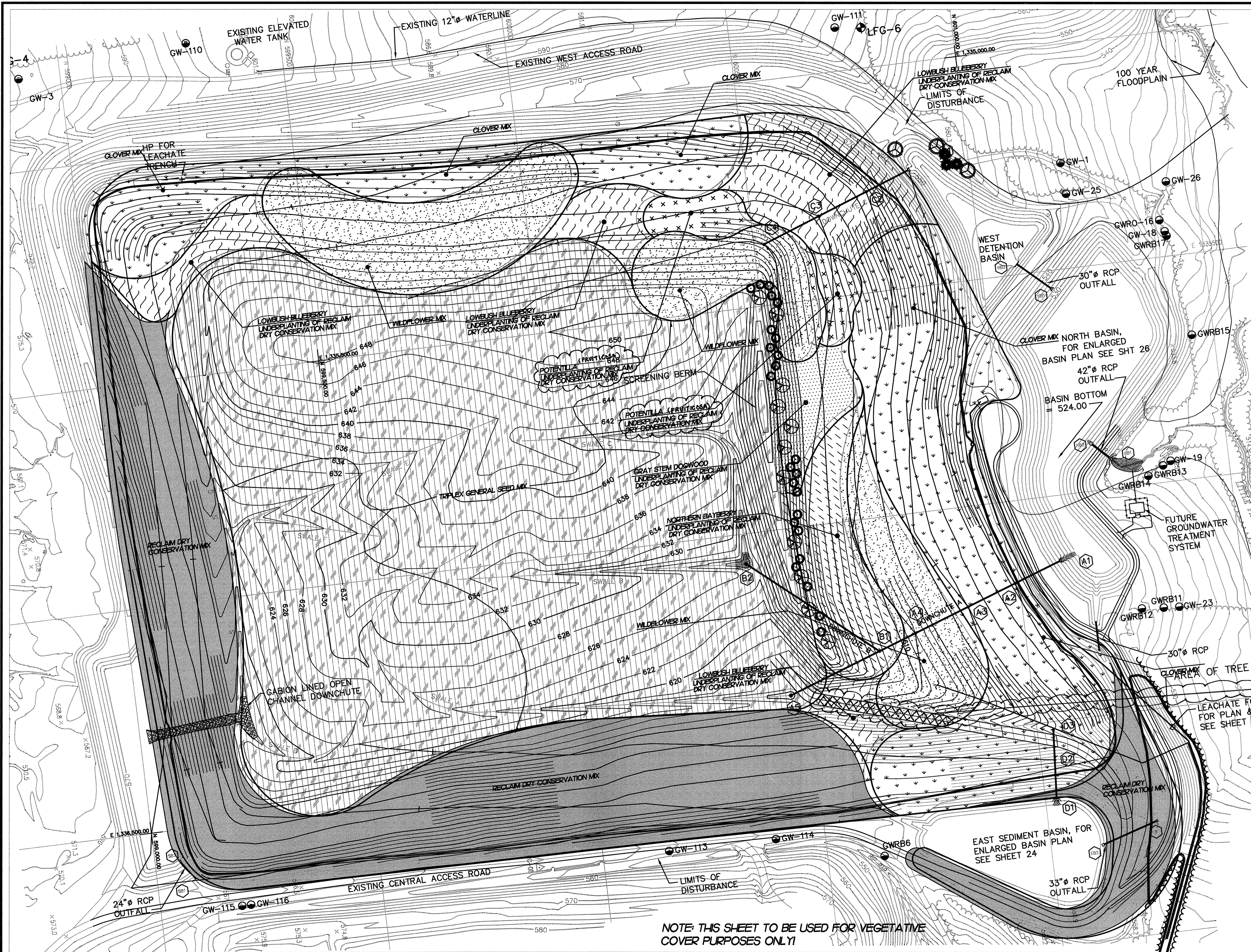
HOWARD COUNTY, MARYLAND

SCALE:  
 AS NOTED  
 SHEET 41 OF 140

SDP-97-128

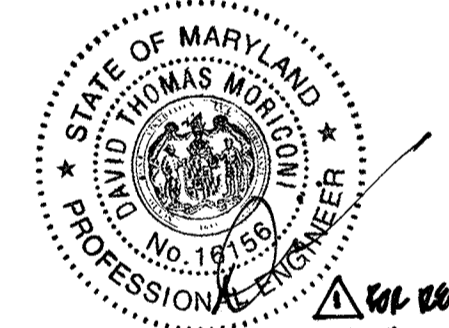
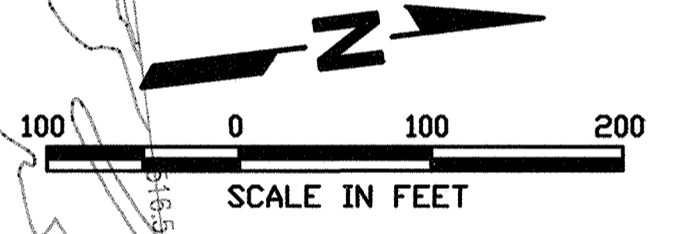


M:\295077\01\FINAL\PSA 2636BASE, 2638FILL  
2636LANDOLD



- LANDSCAPE NOTES:**
- SEEDING OPERATIONS TO OCCUR IN TWO PHASES DURING CONSTRUCTION.
    - PHASE I SEEDING SHALL INCLUDE TEMPORARY SEEDING MIX FOR INITIAL CAPPING OPERATIONS. THE PERIMETER OF LANDFILL SHALL INCLUDE BUT NOT BE LIMITED TO STORMWATER BASINS, ROADS, ETC. AND SHALL BE FINAL SEEDING WITH RECLAIM DRY CONSERVATION MIX.
    - PHASE II SEEDING INCLUDES FINAL GRADING FOR CAPPING OPERATIONS AND ROADWAYS WITH SEED MIXTURES AND VEGETATION SPECIFIED ON THIS PLAN.
  - LIMITS OF SEEDING ON THIS PLAN ARE FOR PHASE I GRADING AND VEGETATIVE COVER OPERATIONS ONLY.
  - ANY OTHER AREAS NOT SHOWN ON THIS PLAN, BUT ARE DISTURBED DURING CONSTRUCTION OPERATIONS SHALL BE SEEDING WITH RECLAIM DRY CONSERVATION MIX.
  - SEE SHEET 43 FOR PLANT LEGEND AND SEEDING MIXTURES.

- LANDSCAPE NOTES:**
- NORTHERN POND AREA:
    - RED MAPLE (2-2 1/2" CAL)
    - WHITE PINE (6-8" HIGH)
  - NORTHERN BERM AREA:
    - NORTHERN RED OAK (2-2 1/2" CAL)
    - SHORTLEAF PINE SEEDINGS (2" HIGH) PLANT ID SEEDINGS IN LOCATION OF SYMBOL



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 1452      Expiration Date: 8-29-06

NO PLANTINGS IN ROAD AREA  
 LEACHATE FORCE MAIN, FOR PLAN & PROFILE SEE SHEET 20

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220.11	
LIBER/FOLIO 10-847/606 16-878/215 10-891/314	ZONE R	TAX/ZONE MAP 10 & 16	
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30	

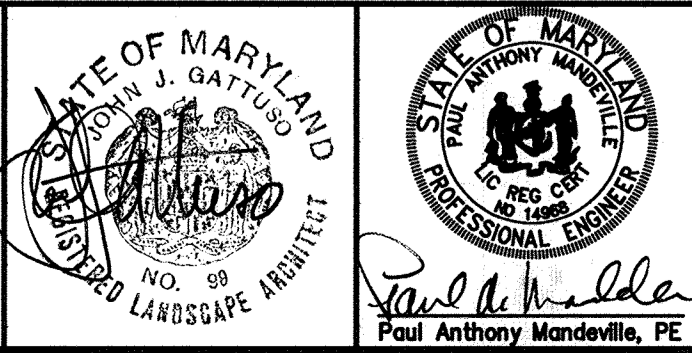
DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND

DIRECTOR: *[Signature]* 11/3/97 DATE  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* 10/30/97 DATE  
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH: *[Signature]* 11/10/97 DATE

NOTE: THIS SHEET TO BE USED FOR VEGETATIVE COVER PURPOSES ONLY!

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works: *[Signature]* 10/30/97 DATE  
 Chief, Bureau of Waste Management: *[Signature]* 10/30/97 DATE

SCS ENGINEERS  
 CONSULTING ENGINEERS  
 11260 ROGER BACON DRIVE  
 SUITE 300  
 RESTON, VIRGINIA 22090  
 PH. (703) 471-6150  
 FAX. (703) 471-6676



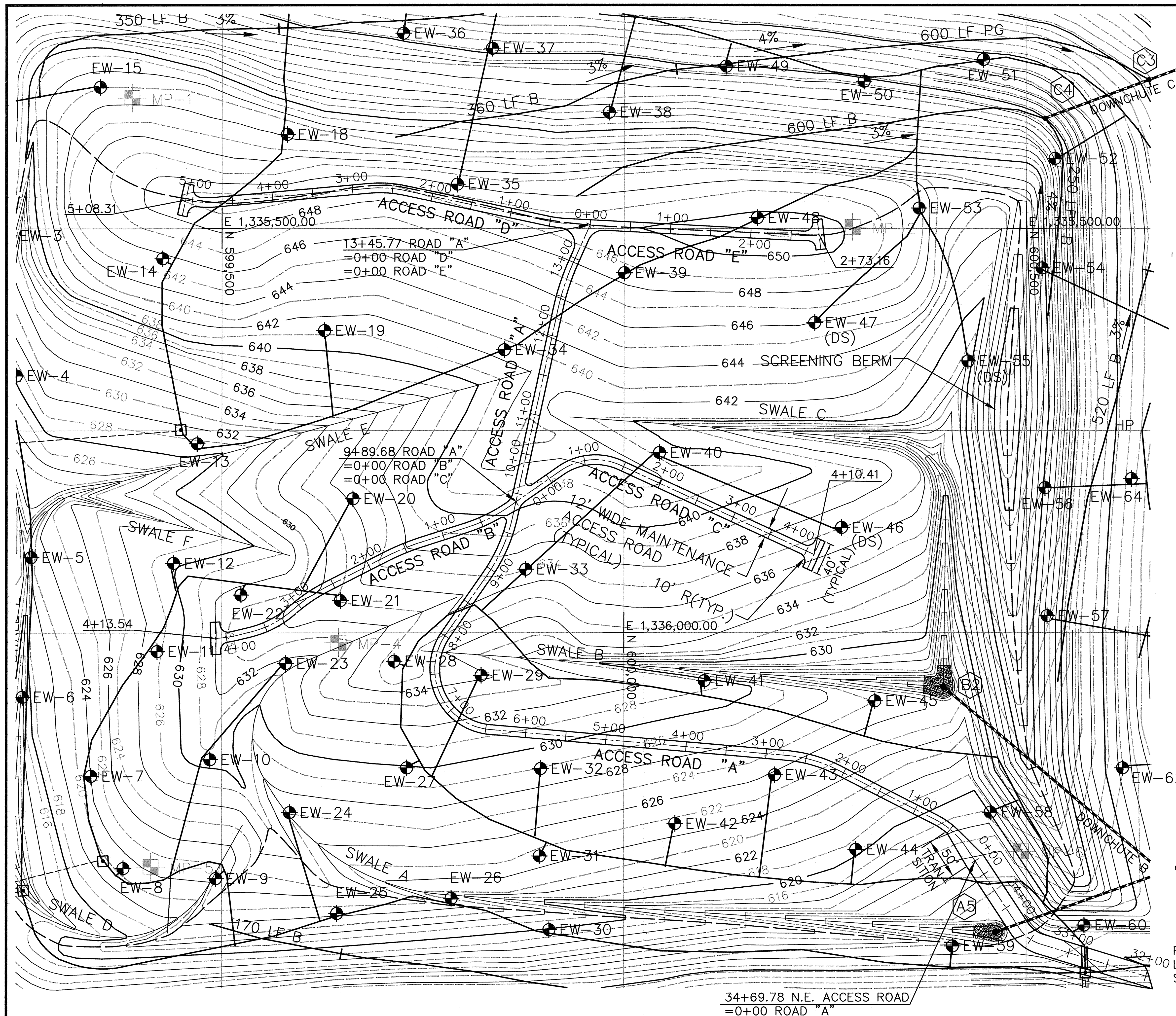
DES.	MB				
DRN.	KS				
CHK.	PAM				
DATE: 10-30-97	BY: <i>[Signature]</i>	NO. 1	DESCRIPTION: UPDATED SHEET TOTAL	DATE: 4-2-09	

VEGETATIVE COVER PLAN

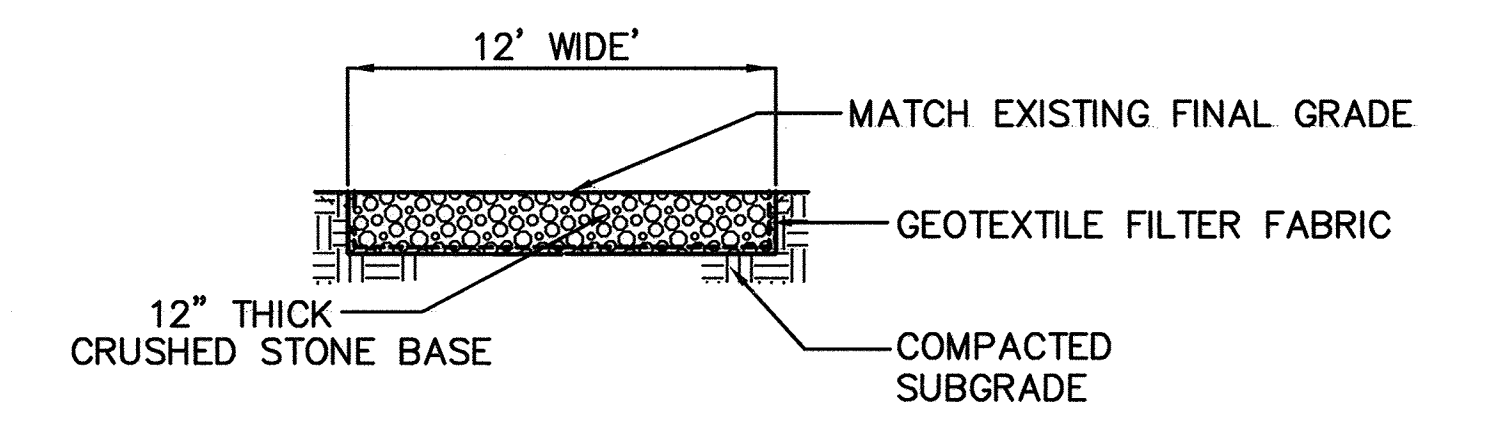
ALPHA RIDGE LANDFILL  
 UNLINED CELL CLOSURE  
 CAPITAL PROJECT NO. C-0190-N  
 3rd ELECTION DISTRICT      HOWARD COUNTY, MARYLAND  
 SCALE: 1"=100'  
 SHEET 42 OF 140

SDP-97-128





- NOTES:
1. LFG PROBES INSTALLED APRIL, 1996.
  2. LFG MONITORING WELLS INSTALLED IN MAY, 1996.



TYPICAL SECTION  
LANDFILL ACCESS ROAD  
SCALE: 3/16"=1'-0"

LEGEND

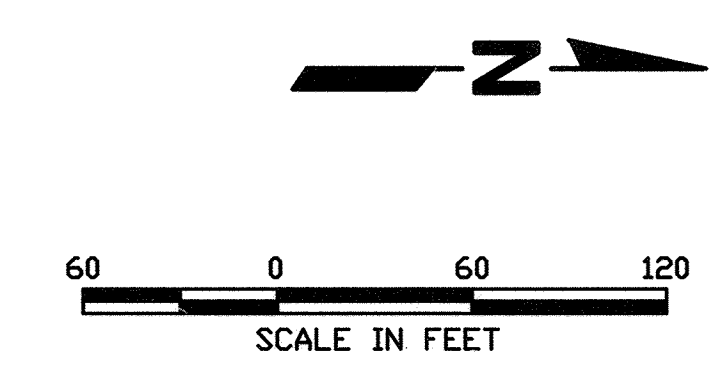
- MP-3 LFG PROBES (TO BE REMOVED - SEE SHEET G2)
- EW-62 LFG EXTRACTION WELL (EXISTING)
- EW-19 LFG EXTRACTION WELL (EXISTING) (DS = DOWNSLOPE)
- LFG HEADER/LATERAL
- CONDENSATE TRAP DETAIL
- B = BERM
- PG = PIPE GUTTER
- Ⓟ DRAINAGE STRUCTURE DESIGNATION
- NEW HDPE PIPE/DOWNCHUTES/ CONCRETE DRAINAGE PIPES

SEE ETA SHEET G2-AB FOR LANDFILL GAS WELLS AND PIPING LAYOUT

SEE ETA SHEET 10-AB FOR AS-BUILT FINAL SURFACE GRADING PLAN



FOR REV. NO. 1 ONLY  
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 16152 Expiration Date: 8-28-20



SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/806 16-878/215 10-681/314	ZONE PEC	TAX/ZONE MAP 10 & 16	
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30	

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

DIRECTOR	11/3/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION	4/2/97
CHIEF, DIVISION OF LAND DEVELOPMENT	11/8/97

FOR CONTINUATION OF N.E. LANDFILL ACCESS ROAD  
SEE SHEET 34

34+69.78 N.E. ACCESS ROAD  
=0+00 ROAD "A"

M. \295077.01\FINAL

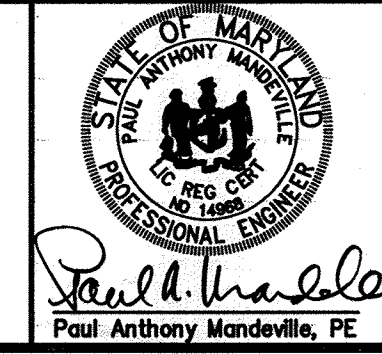
CSROADS

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Laura P. Slaw* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*John J. O'Hara* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



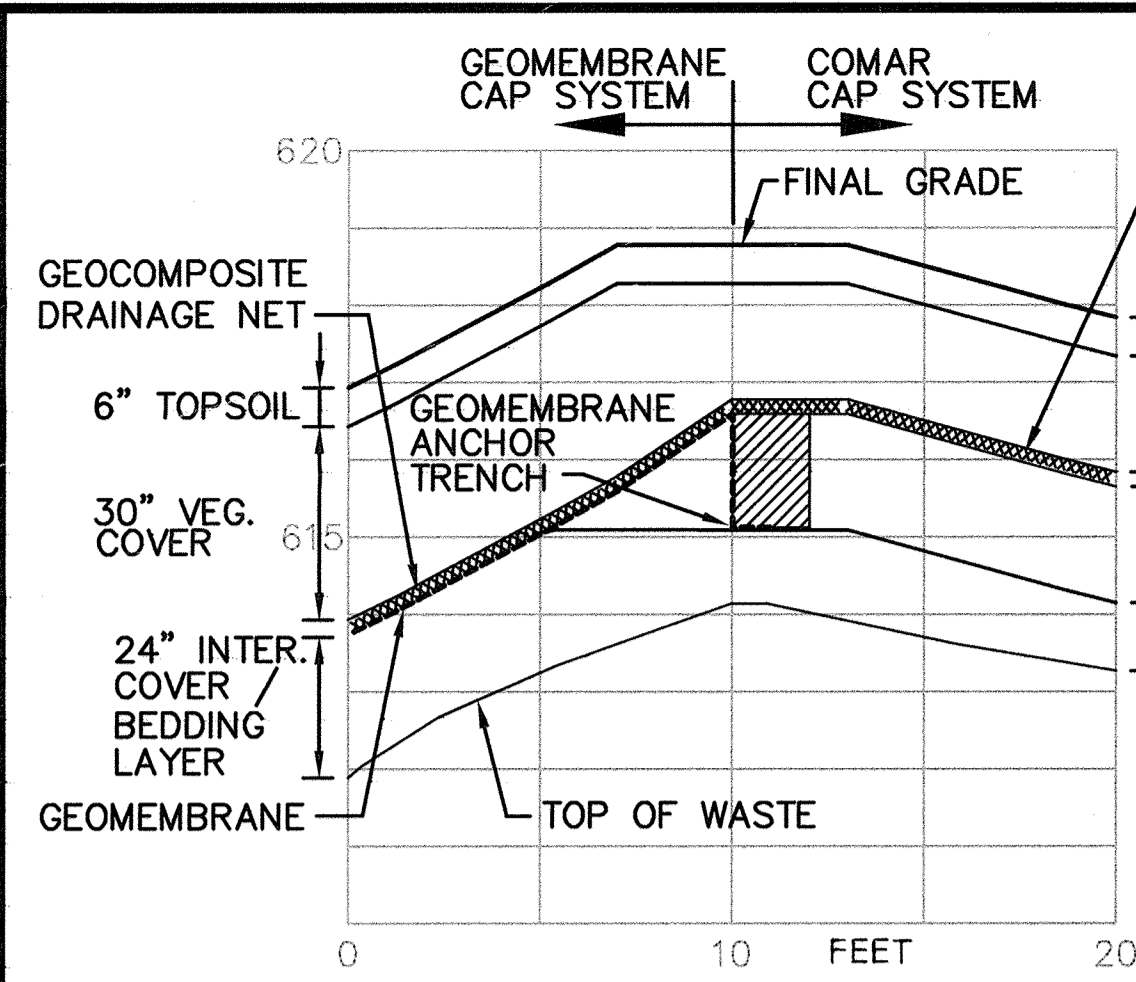
DES. RTT,EGC	▲		
DRN. EGC,MEH	▲		
CHK. PAM	▲		
DATE: 10-30-97	BY	NO.	REVISION
			4-2019

LANDFILL MAINTENANCE  
ACCESS ROAD PLAN

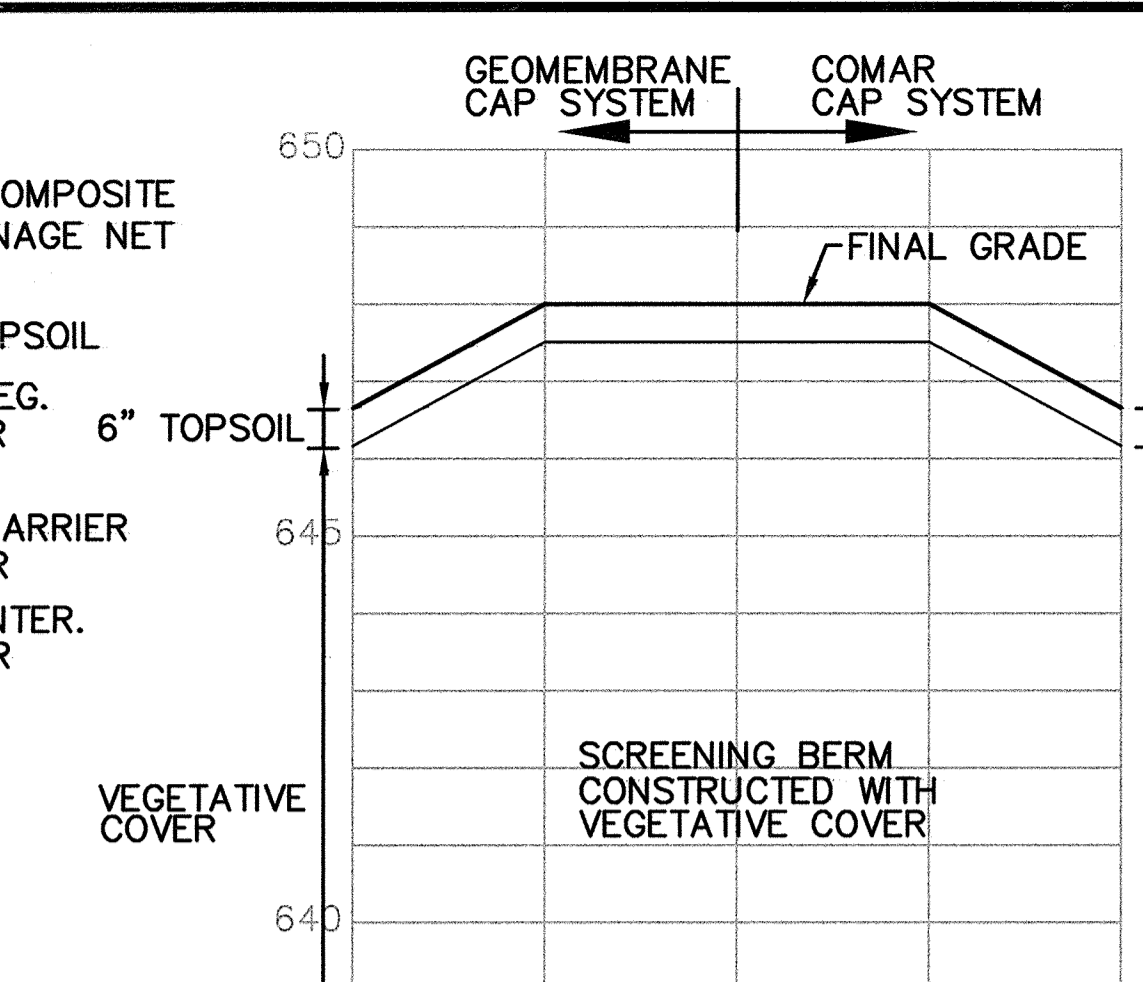
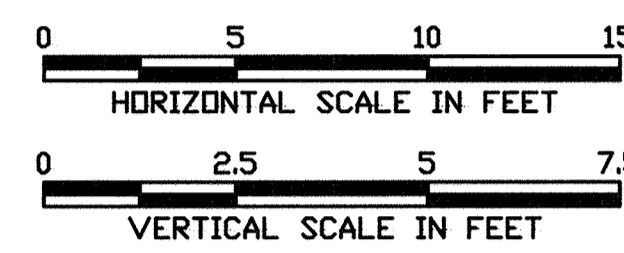
ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

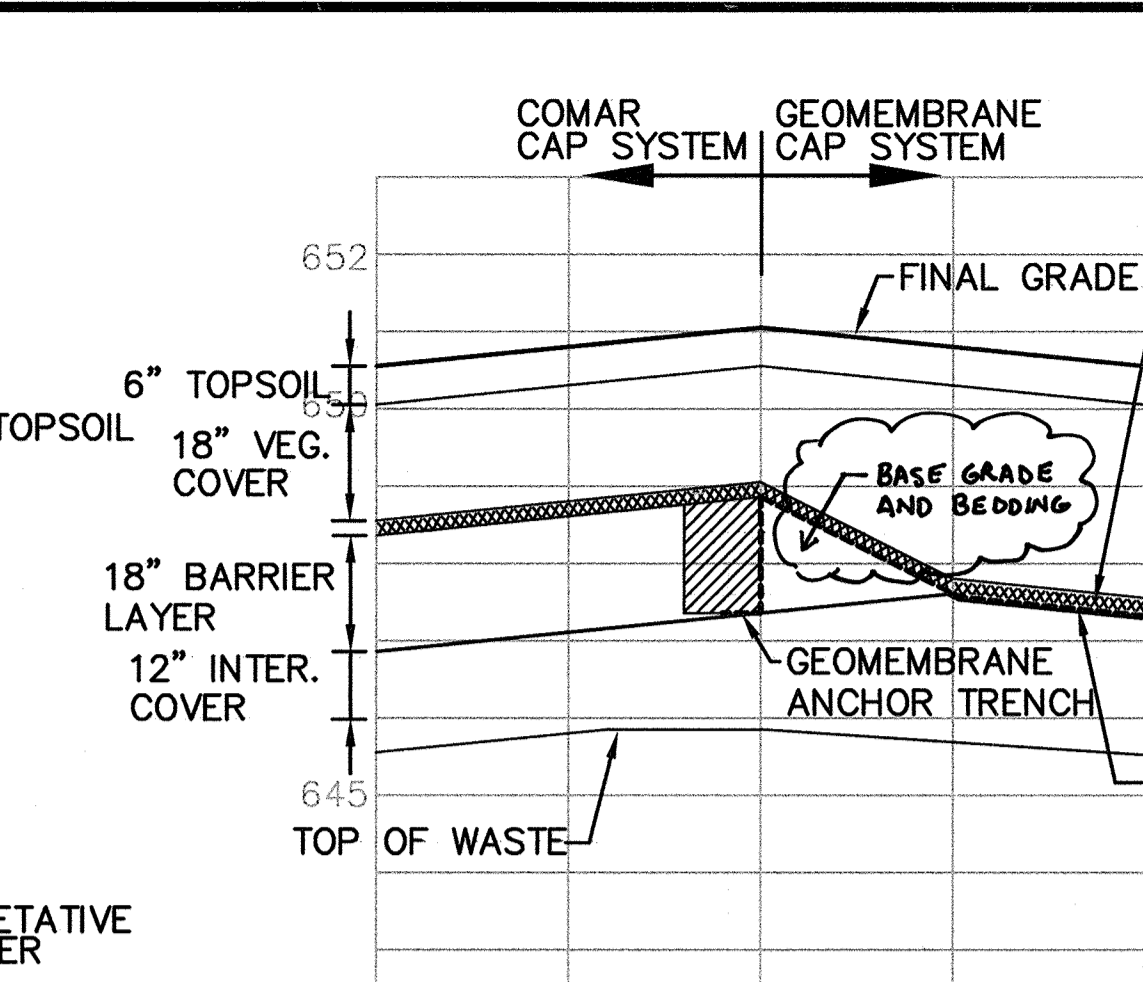
SCALE:  
1"=60'  
SHEET 44 OF 140



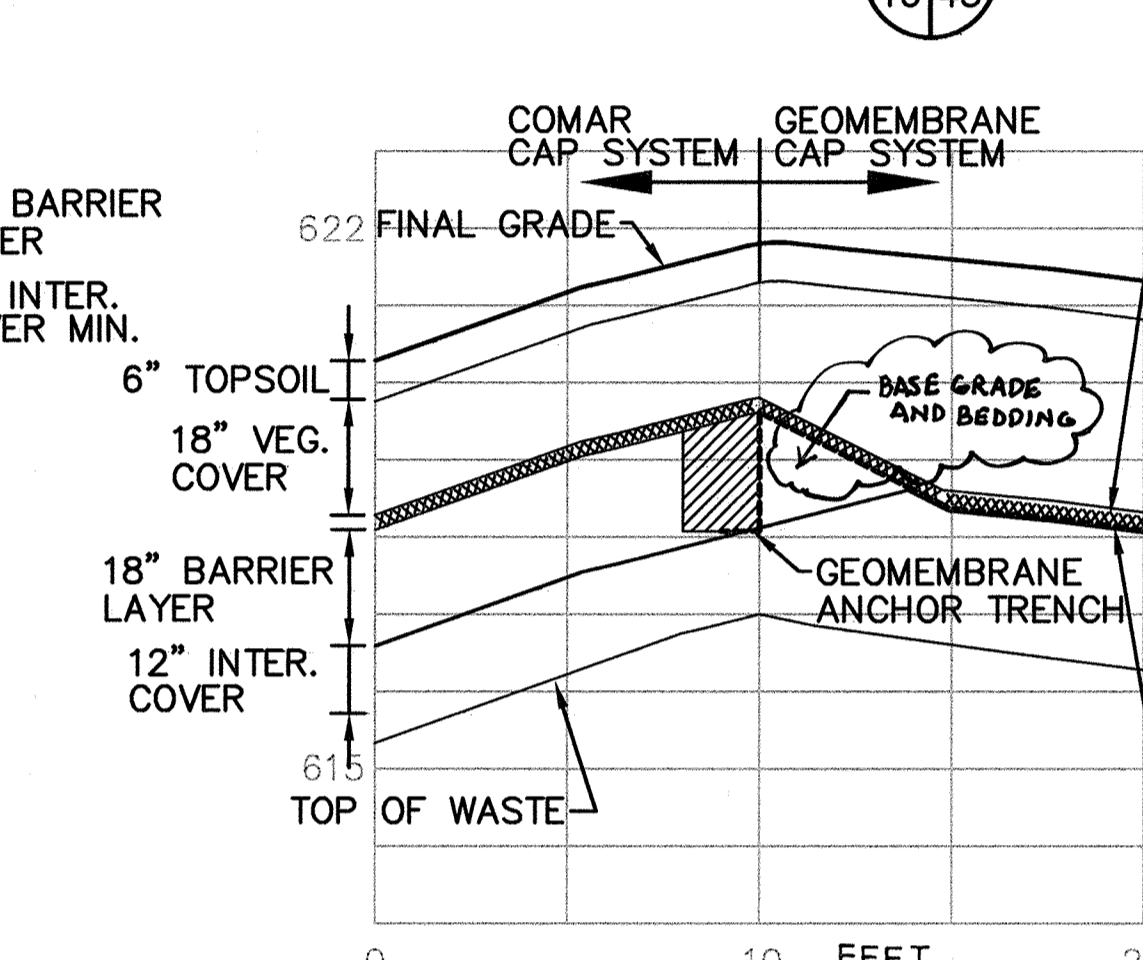
SECTION A  
10/45



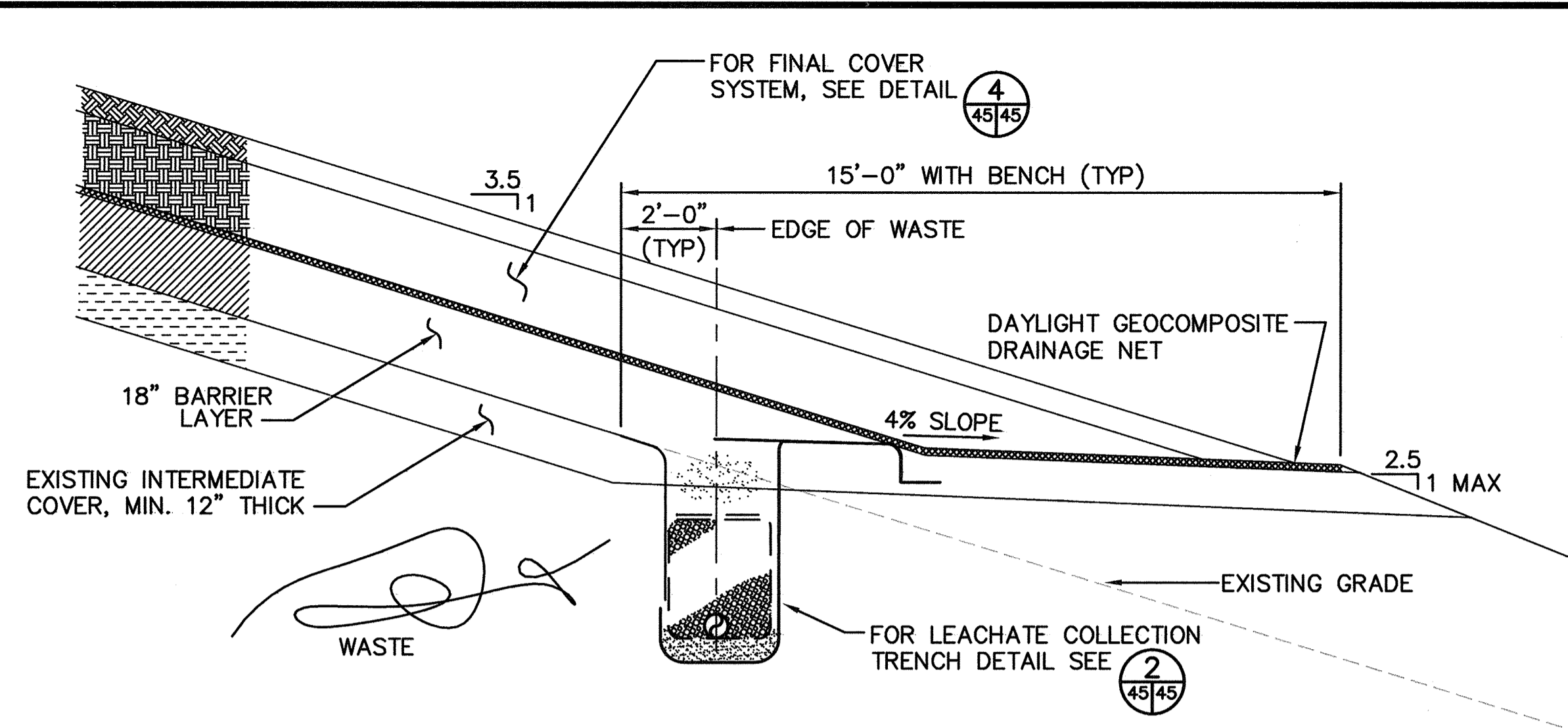
SECTION B  
10/45



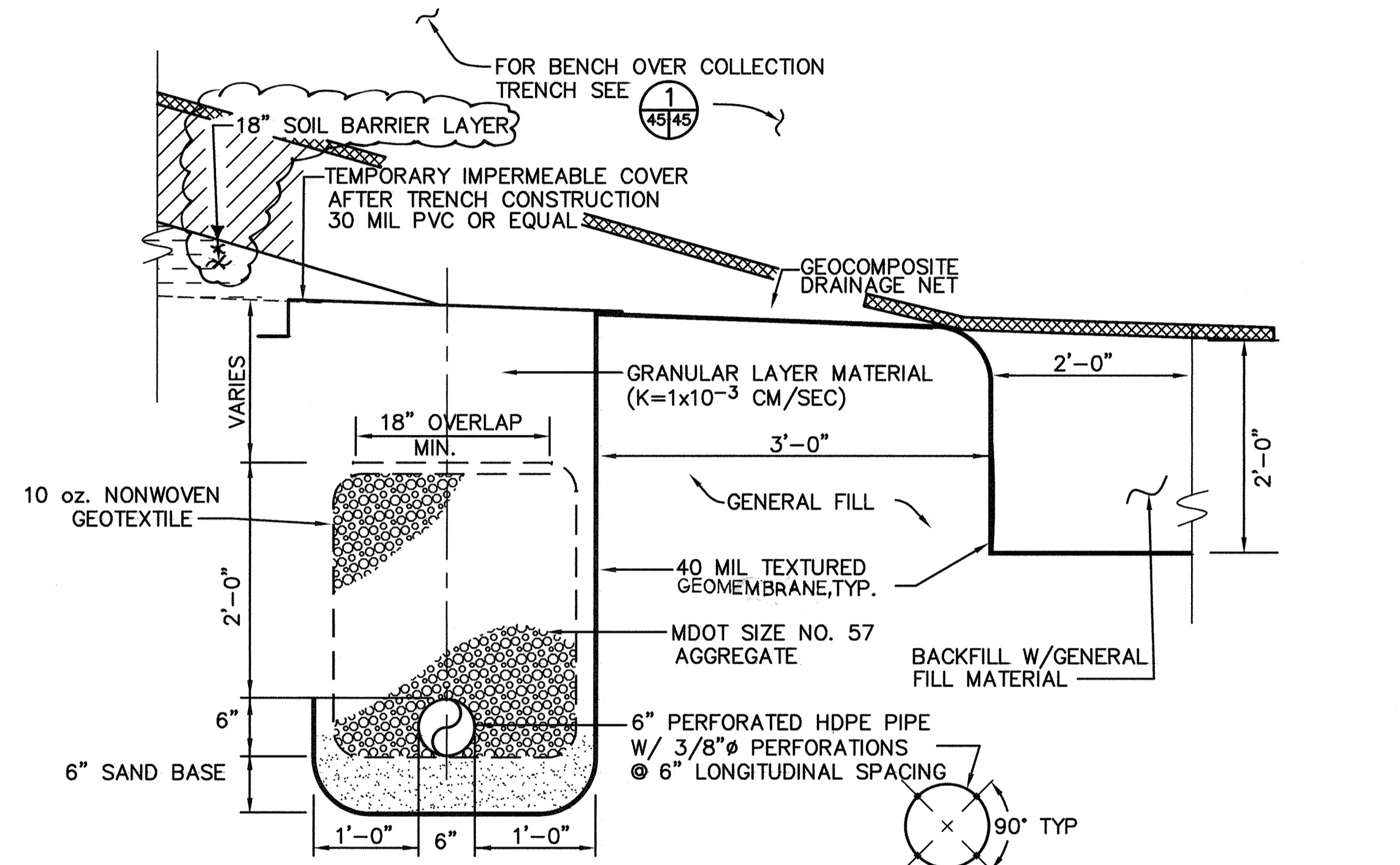
SECTION C  
10/45



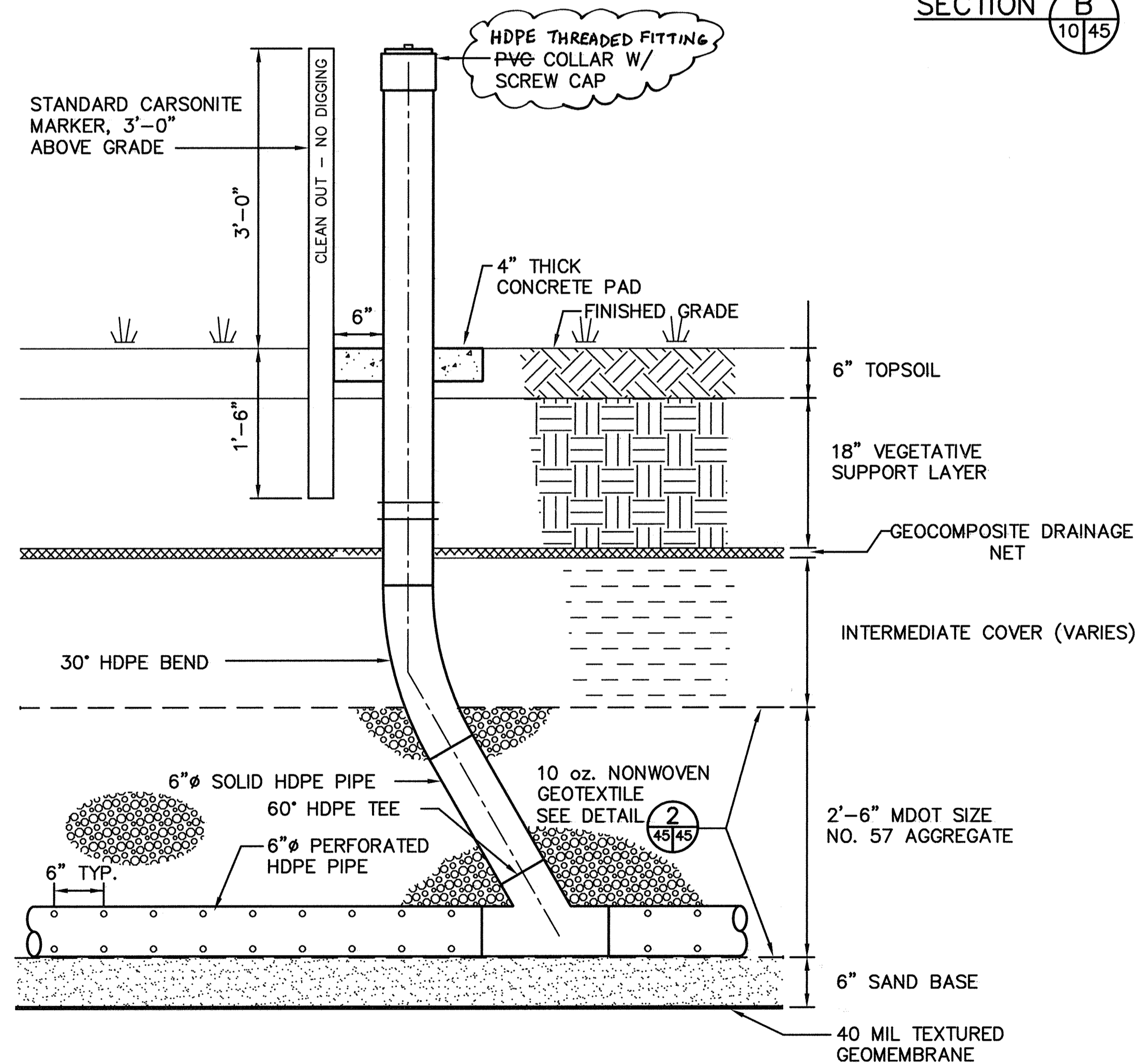
SECTION D  
10/45



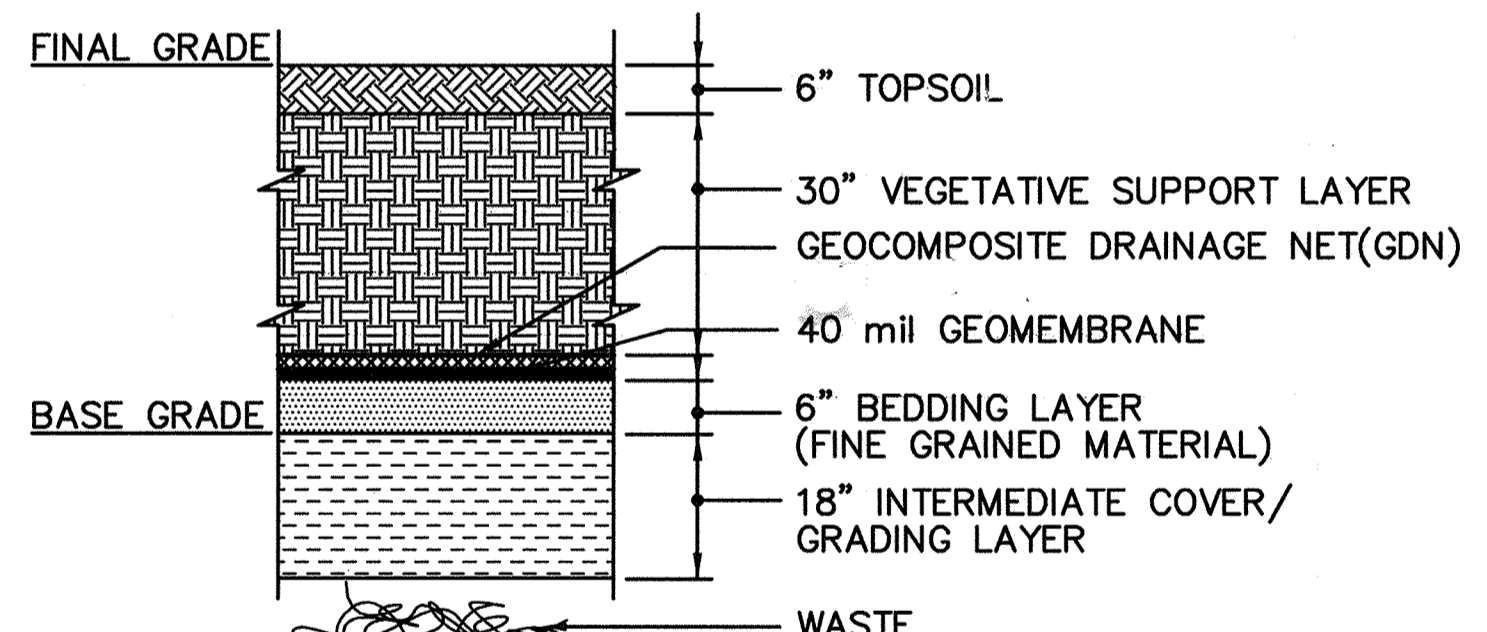
BENCH OVER LEACHATE COLLECTION TRENCH  
SCALE: 3/8" = 1'-0"  
10/45



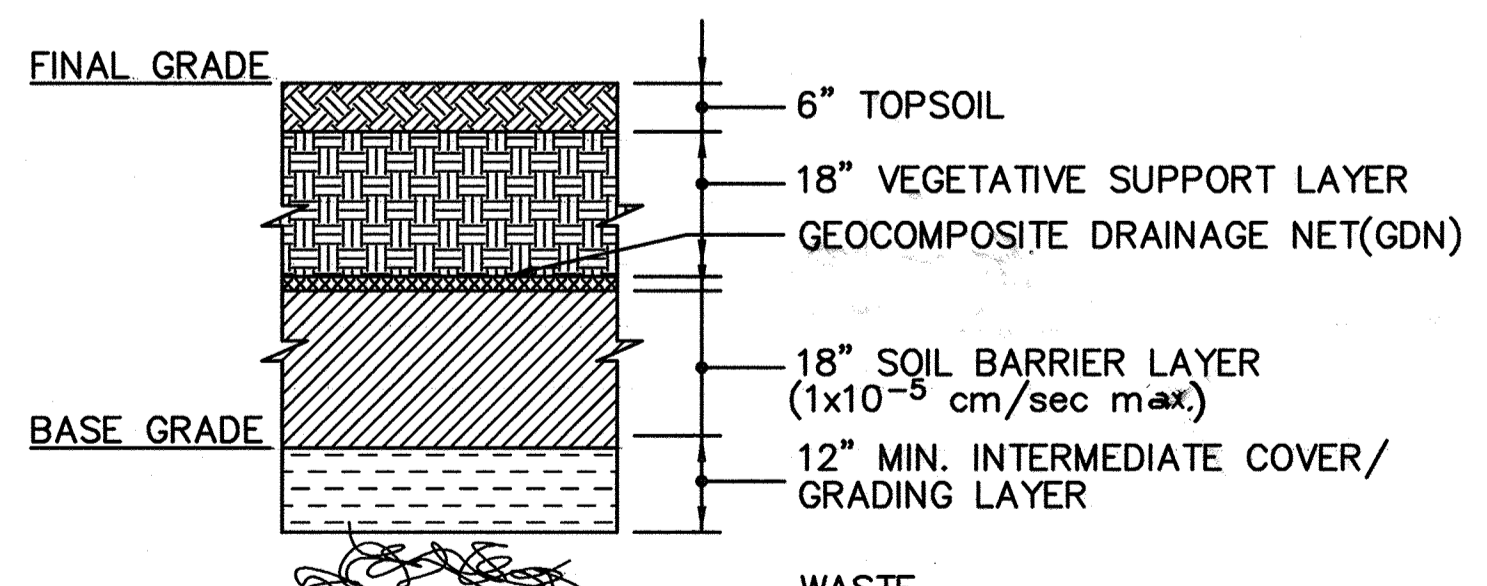
PERIMETER LEACHATE COLLECTION TRENCH  
SCALE: 1" = 1'-0"  
5,6,7,8,9,10,13,35,45,48,49  
10/45



PERIMETER LEACHATE COLLECTION TRENCH CLEANOUT  
SCALE: 1" = 1'-0"  
5,6,7,8,9,13,16,49  
10/45



FINAL COVER SYSTEM - TOP  
(GEOMEMBRANE CAP SYSTEM)  
SCALE: 1/2" = 1'-0"  
10,11,12  
10/45



FINAL COVER SYSTEM - SIDE SLOPES  
(COMAR CAP SYSTEM)  
SCALE: 1/2" = 1'-0"  
10,11,12,18  
10/45

SEE SHEET 45A FOR DETAILS OF PERIMETER LEACHATE COLLECTION TRENCH IN SOIL AND OVER WASTE



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
Licenses No. 16156, Expiration Date: 8-28-70

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/606 16-878/215 10-891/314	ZONE PEC	TAX/ZONE MAP 10 & 16	
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30	

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

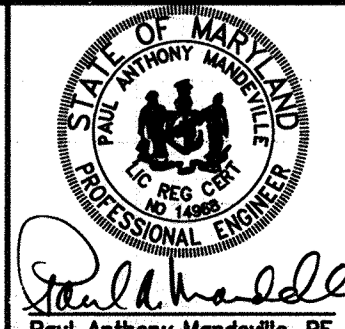
*[Signature]* 11/3/97  
DIRECTOR DATE

*[Signature]* 10/22/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES.	RTT				
DRN.	EGC				
CHK.	PAM				
DATE: 10-30-97	BY	NO.	REVISION	DATE	

MISCELLANEOUS DETAILS

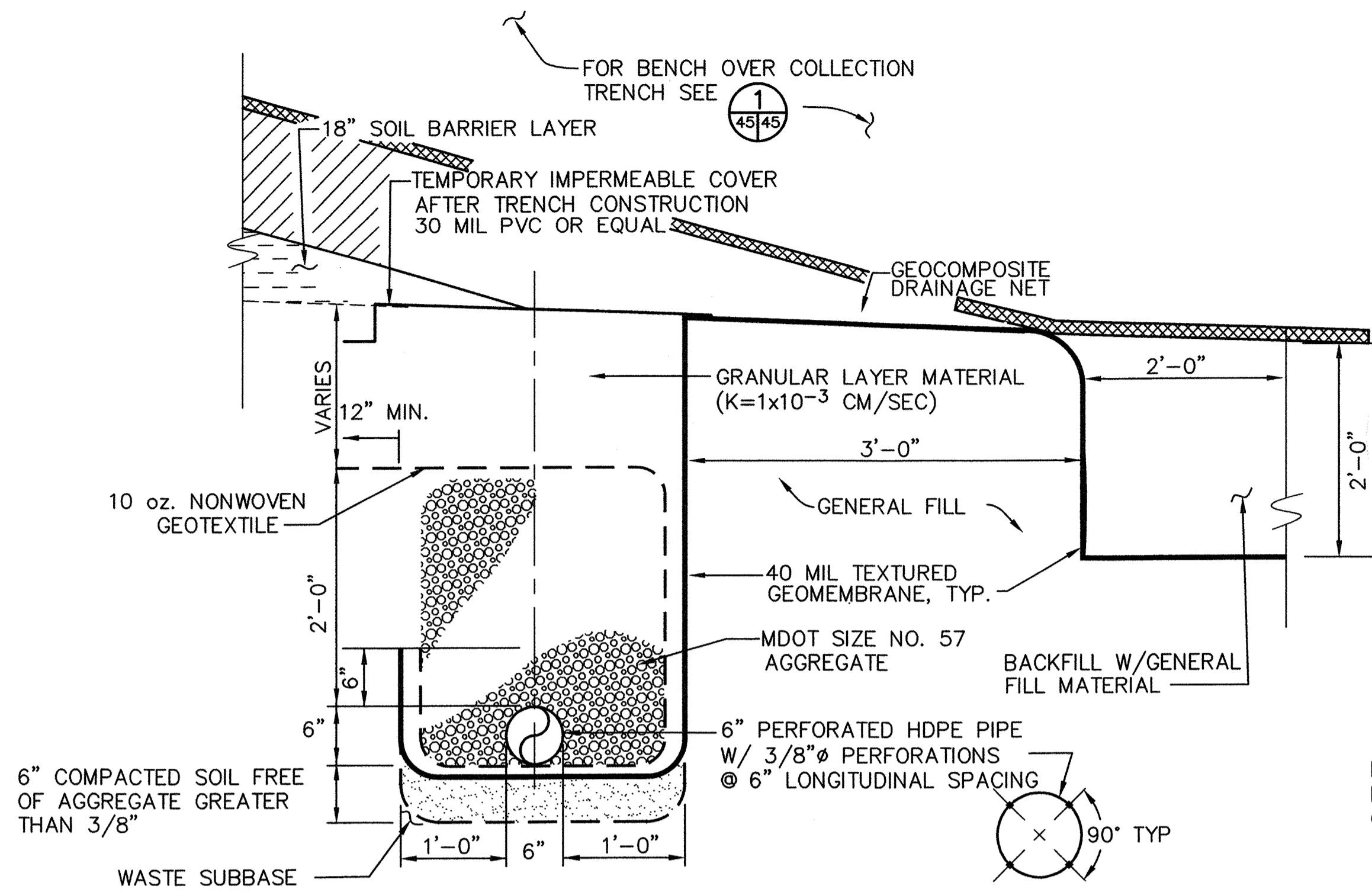
ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

3rd ELECTION DISTRICT

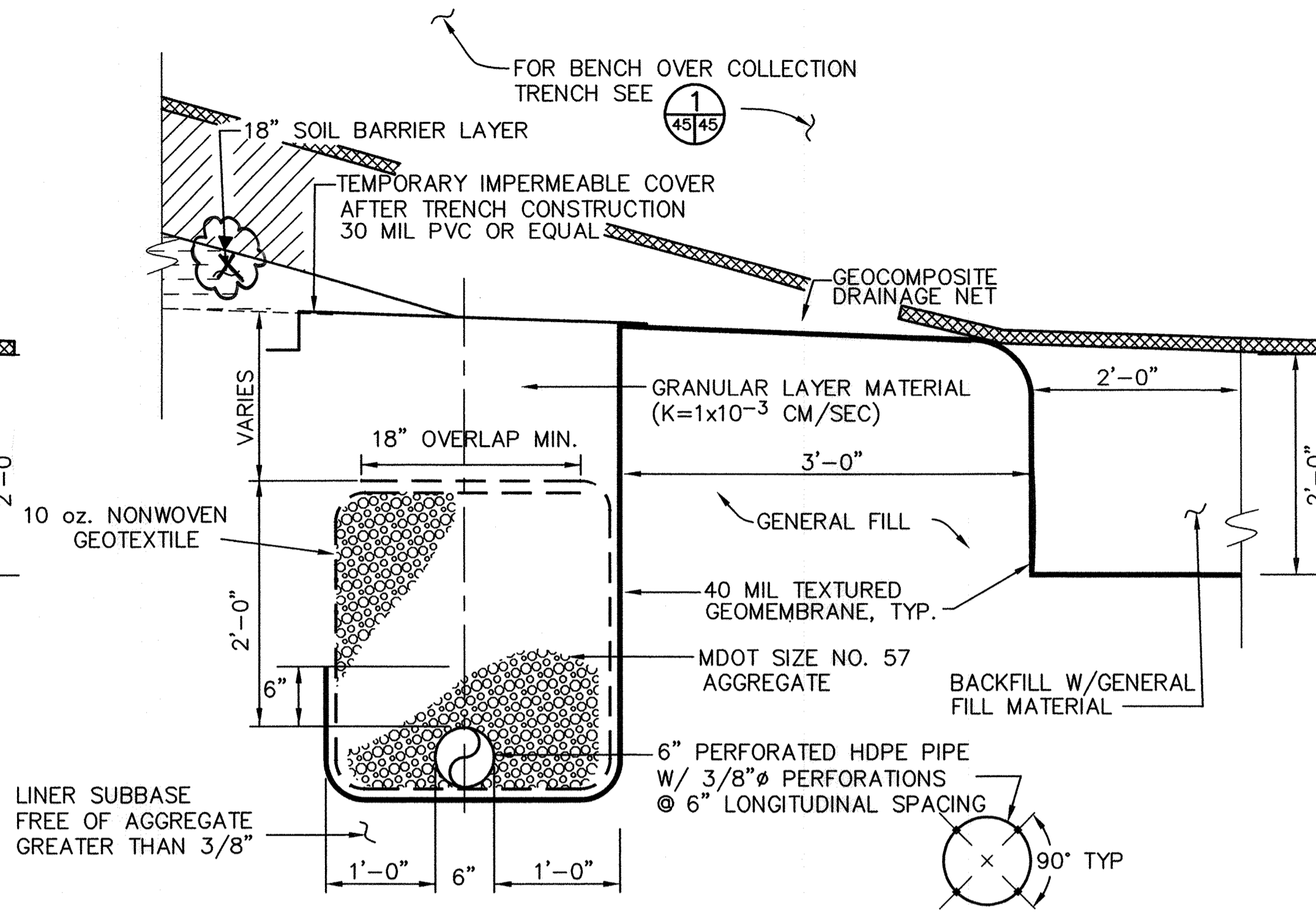
HOWARD COUNTY, MARYLAND

SCALE:  
AS NOTED  
SHEET 45 OF 140

M:\295077\01\FINAL\DETAILS CAPSYS, LEACHEN, LEACHICO, LEACHTR, XS-COMAR DET1



PERIMETER LEACHATE COLLECTION TRENCH OVER WASTE (2A)  
 SCALE: 1" = 1'-0"  
 5,6,7,8,9,10,13,35,45,48,49



PERIMETER LEACHATE COLLECTION TRENCH IN SOIL (2B)  
 SCALE: 1" = 1'-0"  
 5,6,7,8,9,10,13,35,45,48,49

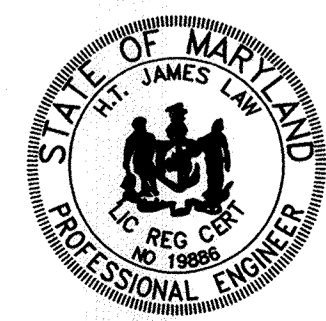
Professional Engineer, I hereby certify that I am the author of the design and drawings shown on this sheet and that I am duly licensed and registered in the State of Maryland.  
 David Thomas Wood, P.E.  
 No. 16156, Exp. 8-25-20

M: 295077.01  
 SHT-45A

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS \_\_\_\_\_ DATE \_\_\_\_\_ CHIEF, BUREAU OF WASTE MANAGEMENT \_\_\_\_\_ DATE \_\_\_\_\_

SCS ENGINEERS  
 CONSULTING ENGINEERS  
 11260 ROGER BACON DRIVE  
 SUITE 300  
 RESTON, VIRGINIA 20190  
 PH. (703) 471-6150  
 FAX. (703) 471-6676



DES.	HJL				
DRN.	SPS				
CHK.	PAM				
DATE:	03-30-99				
DTM BY	NO.	UPDATED SHEET TOTAL			
		REVISION			
					4-20-99

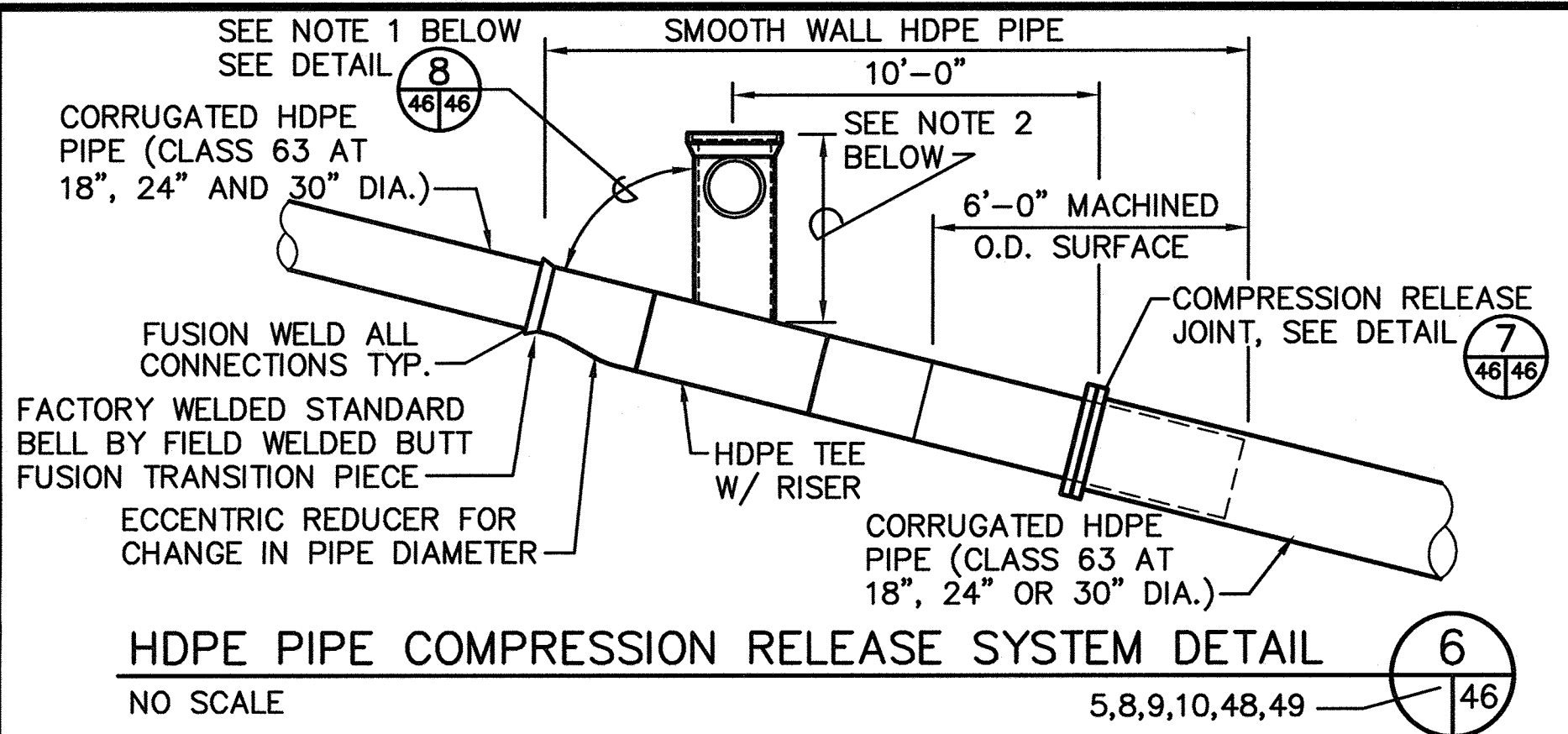
MISCELLANEOUS DETAILS

ALPHA RIDGE LANDFILL  
 CELL CLOSURE  
 CAPITAL PROJECT NO. C-0190

1st ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SCALE: AS NOTED  
 SHEET 45A OF 140

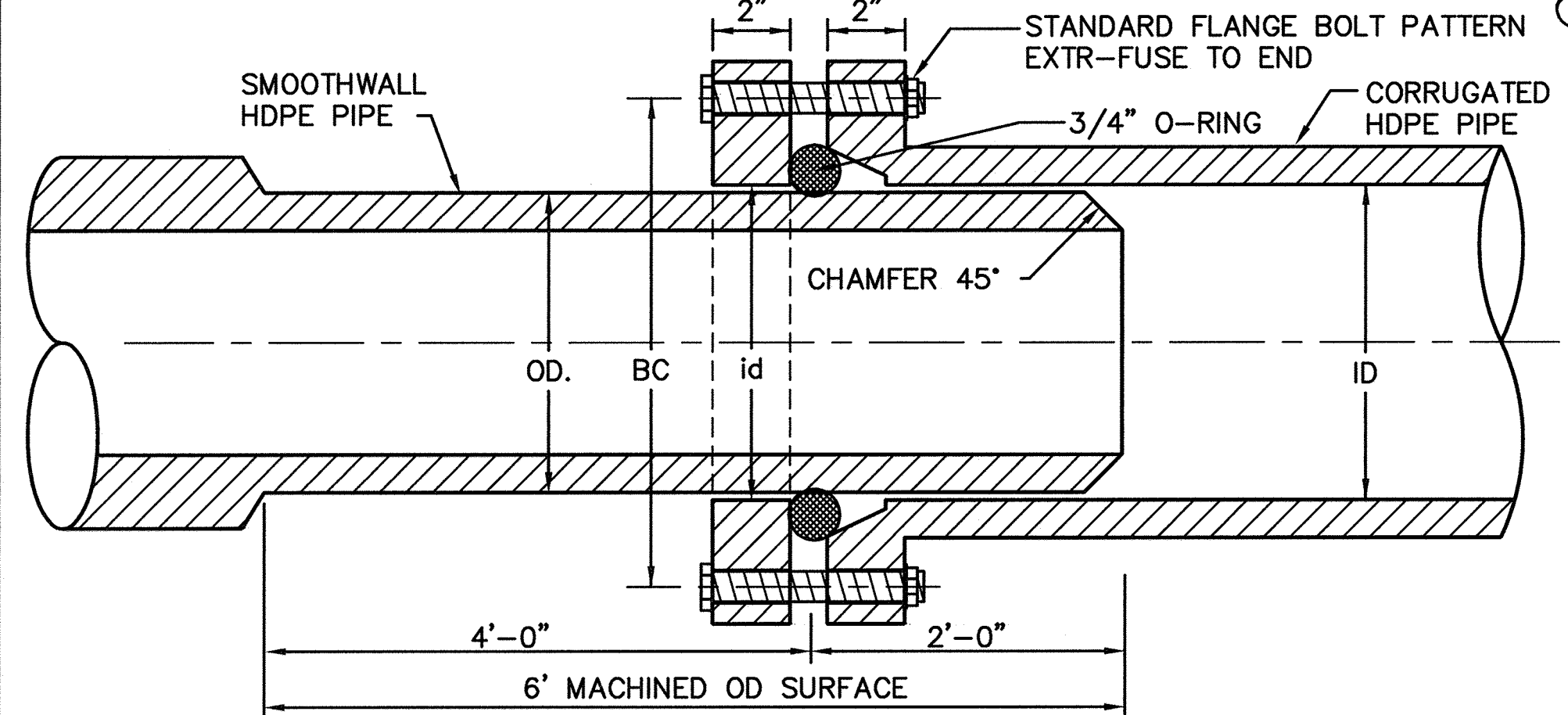


HDPE PIPE COMPRESSION RELEASE SYSTEM DETAIL

NO SCALE 5,8,9,10,48,49

- NOTES:
- THE ANGLE BETWEEN PIPE LINE AND RISER IS TO BE VERIFIED BY THE PIPE MANUFACTURER AND CONTRACTOR AND SHOWN ON SHOP DRAWINGS PRIOR TO FABRICATION OF EACH RISER.
  - THE HEIGHT OF RISER AND ALL DIMENSIONS ARE TO BE VERIFIED BY THE PIPE MANUFACTURER AND CONTRACTOR AND SHOWN ON SHOP DRAWINGS PRIOR TO FABRICATION OF EACH RISER.

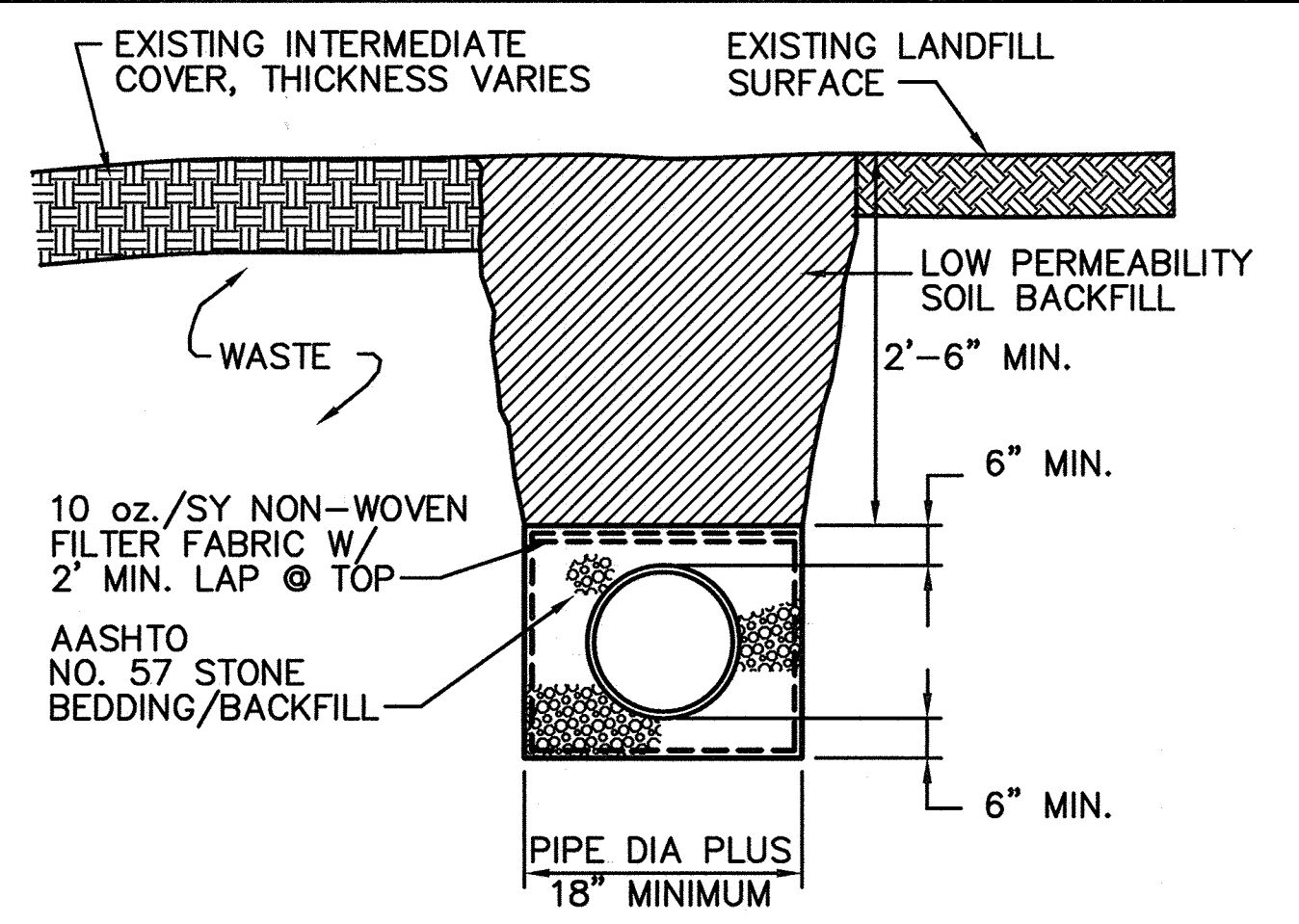
SMOOTH WALL SIZE: FEEDSTOCK	SMOOTH WALL SDR-IPS PIPE	SMOOTH WALL OD-MACHIN.	CORRUGATED HDPE ID-NOM. CLASS 63	FLANGE "id"	FLANGE BC.
18"	11	17 1/2"	18"	18 1/4"	22 3/4"
24"	17	23 1/2"	24"	24 1/4"	29 1/2"
30"	17	29 1/2"	30"	30 1/4"	36"



COMPRESSION RELEASE JOINT DETAIL

NO SCALE 37,38,46

BOLTS: ASTM A 193/A193M, GRADE B8, STAINLESS STEEL  
 NUTS: ASTM A 194/194M, GRADE 8, STAINLESS STEEL  
 WASHERS: ASTM F 436, FLAT CIRCULAR STAINLESS STEEL LOCK WASHERS

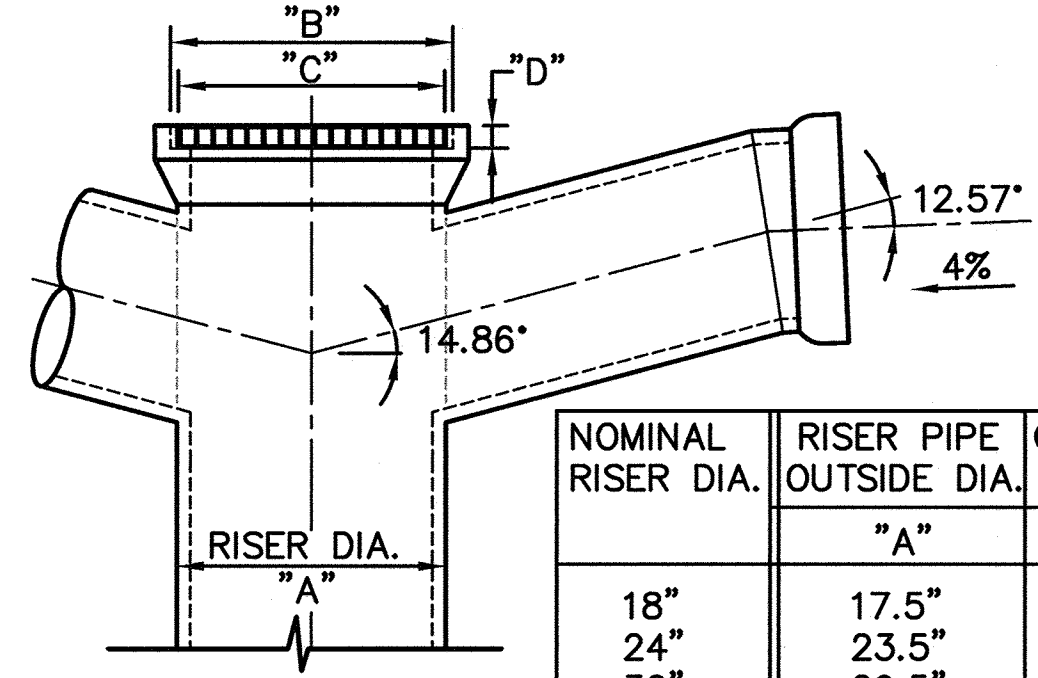


HDPE PIPE BEDDING AND TRENCH DETAIL

NTS 46/46

- NOTES:
- EXISTING LANDFILL COVER MATERIALS SHALL BE STOCKPILED SEPARATELY AS TO TYPE AND NOT MIXED DURING EXCAVATION OR BACKFILL OPERATIONS.
  - EXCAVATED REFUSE SHALL BE DISPOSED OF AS ON-SITE FILL OR AT ACTIVE LANDFILL.

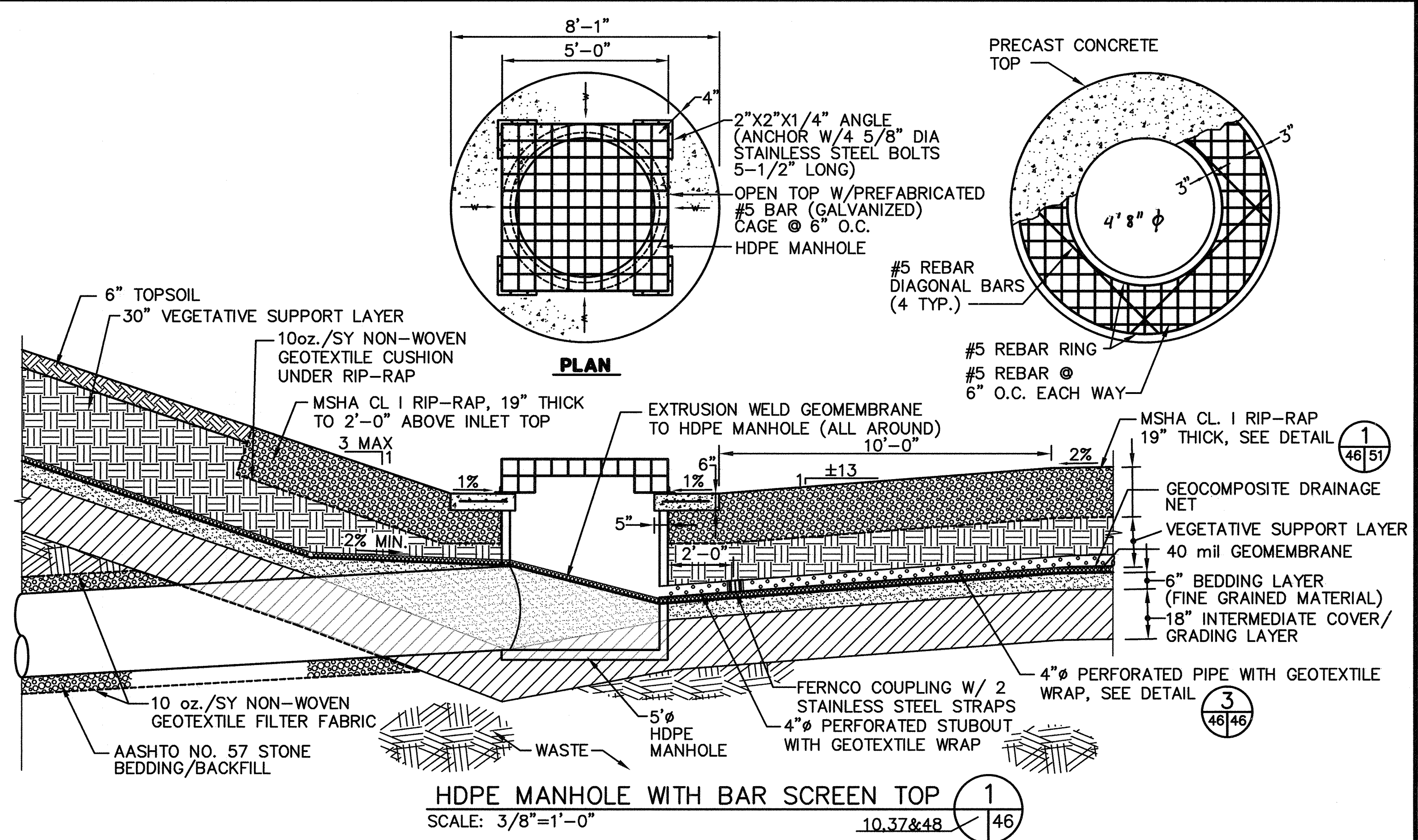
3. DETAIL DOES NOT APPLY TO DOWNHUTE "D"



RISER TOP DETAIL

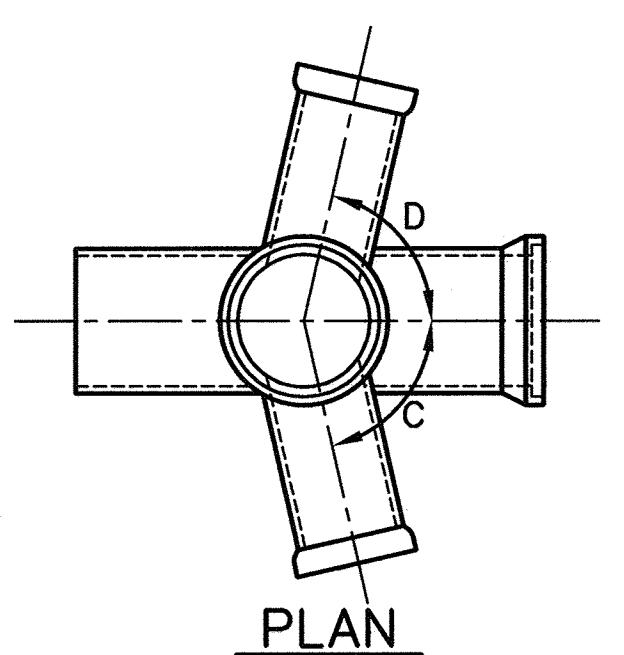
NO SCALE 5,46,49

NOMINAL RISER DIA.	RISER PIPE OUTSIDE DIA.	CLOSURE BELL INSIDE DIA.	NEENAH R-4040 DIA. THICKNESS
"A"	"B"	"C"	"D"
18"	17.5"	22.5"	22.0" 2.75"
24"	23.5"	26.0"	25.5" 3.0"
30"	29.5"	33.25"	32.75" 3.5"



HDPE MANHOLE WITH BAR SCREEN TOP

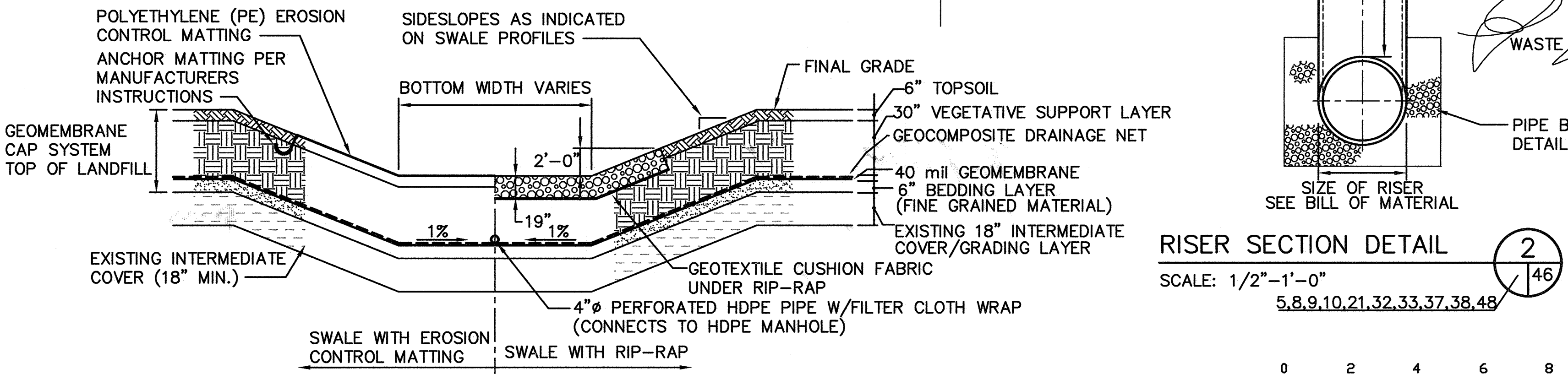
SCALE: 3/8"=1'-0" 10,37&48



RISER FABRICATION DETAIL

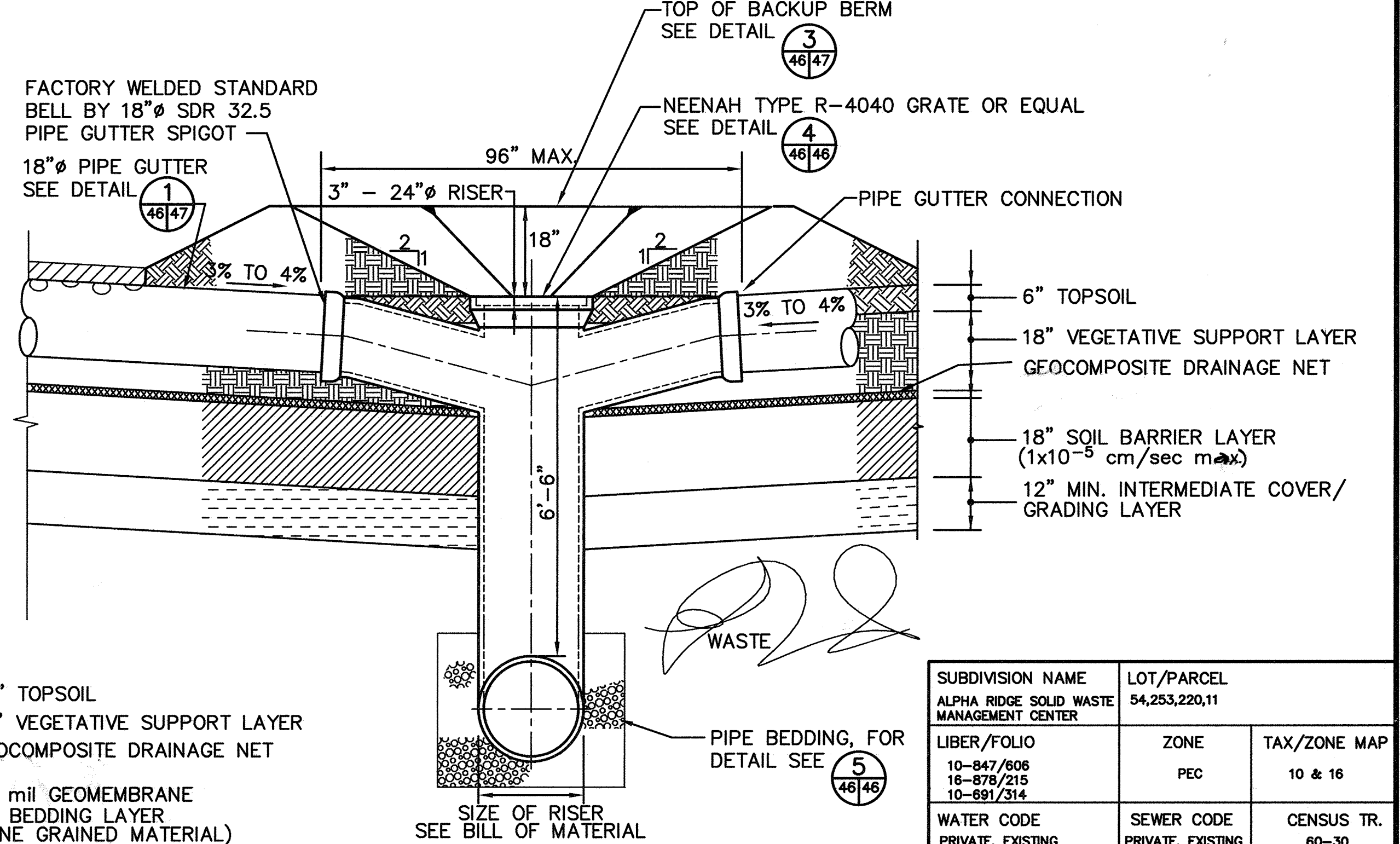
NO SCALE 46/46

RISER	SIZE	A	B	C	D
A2	30" Ø	6'-6"	82'00"	82'69"	84'14"
A3	30" Ø	6'-6"	75'31"	78'26"	83'44"
A4	30" Ø	6'-6"	84'00"	77'08"	72'31"
C2	24" Ø	6'-6"	79'00"	70'46"	83'33"
C3	24" Ø	6'-6"	79'00"	49'06"	84'00"
C4	18" Ø	6'-6"	73'00"	38'89"	93'00"
D2	18" Ø	3'-0"	74'00"	N/A	85'82"



TYPICAL SURFACE DRAINAGE SWALE DETAIL

NO SCALE 5,6,7,8,9,10,12,37,38,46&49



RISER SECTION DETAIL

SCALE: 1/2"-1'-0" 5,8,9,10,21,32,33,37,38,48

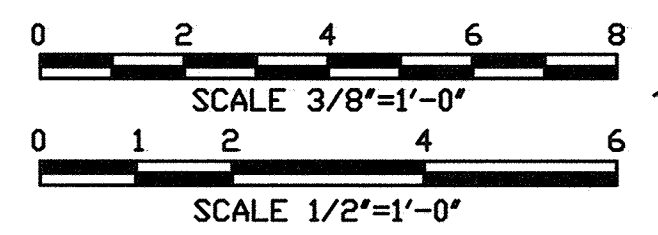
SUBDIVISION NAME	LOT/PARCEL
ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	54,253,220,11

LIBER/FOLIO	ZONE	TAX/ZONE MAP
10-847/606 18-878/215 10-891/314	PEC	10 & 16

WATER CODE	SEWER CODE	CENSUS TR.
PRIVATE, EXISTING	PRIVATE, EXISTING	60-30

DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND

DIRECTOR: [Signature] DATE: 11/2/97  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: [Signature] DATE: 11/3/97  
 CHIEF, DIVISION OF LAND DEVELOPMENT: [Signature] DATE: 11/3/97



M:\295077\01\FINAL\DETAILS COMPSYS, SWALE, INLET, CMPSYS, GRATE, TRENCH, RISER, RISERDET

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works: [Signature] DATE: 10/30/97  
 Chief, Bureau of Waste Management: [Signature] DATE: 10/30/97

SCS ENGINEERS  
 CONSULTING ENGINEERS  
 11260 ROGER BACON DRIVE  
 SUITE 300  
 RESTON, VIRGINIA 22090  
 PH. (703) 471-6150  
 FAX. (703) 471-6676

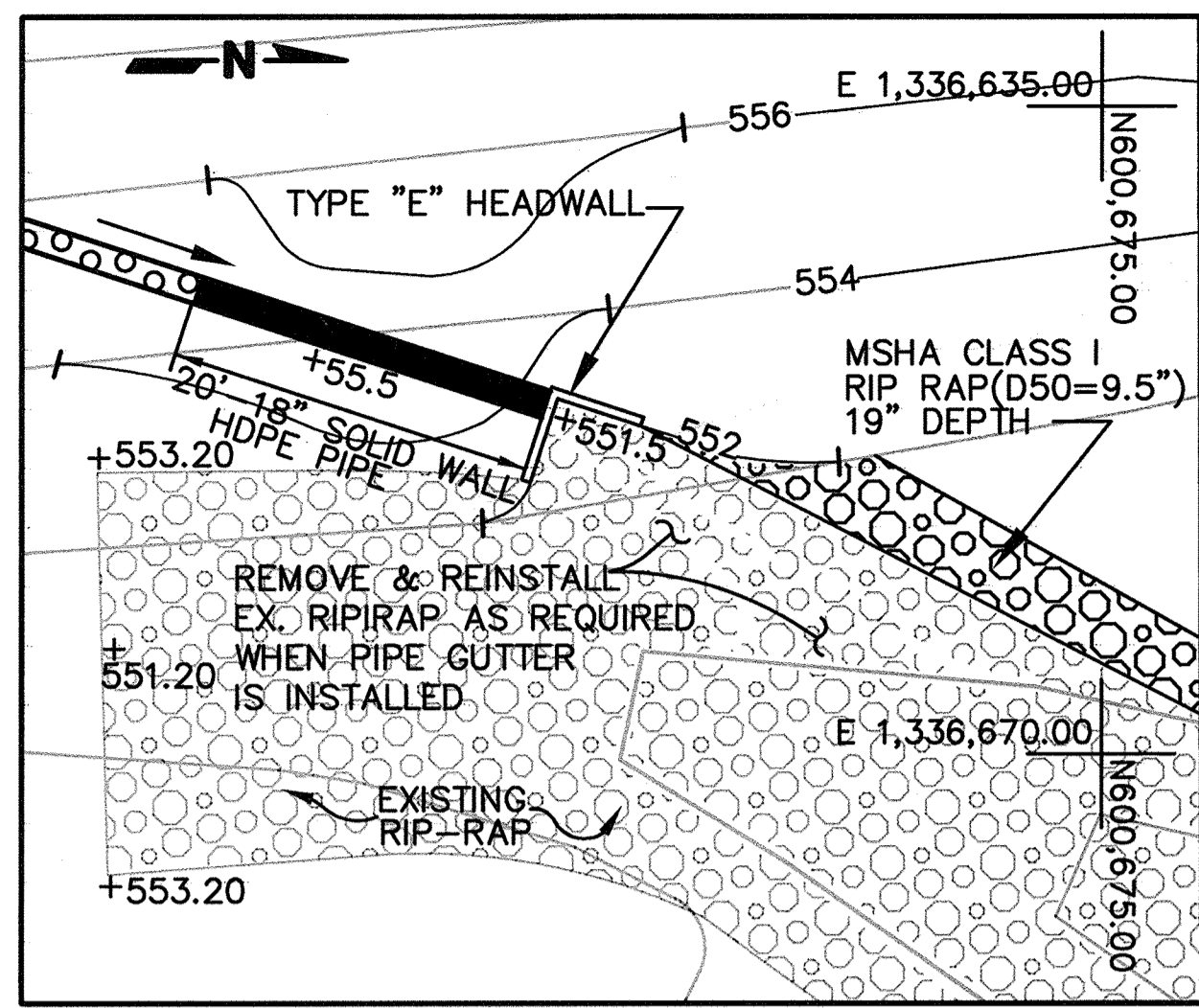
STATE OF MARYLAND  
 PROFESSIONAL ENGINEER  
 Paul Anthony Mandville, PE

DES.	RTT	DRN.	EGC	CHK.	PAM	DATE	BY	NO.	REVISION	DATE
						10-30-97	DTM		UPDATED SHEET TOTAL	4-2019

MISCELLANEOUS DETAILS

ALPHA RIDGE LANDFILL  
 UNLINED CELL CLOSURE  
 CAPITAL PROJECT NO. C-0190-N  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 SCALE: AS NOTED  
 SHEET 46 OF 140

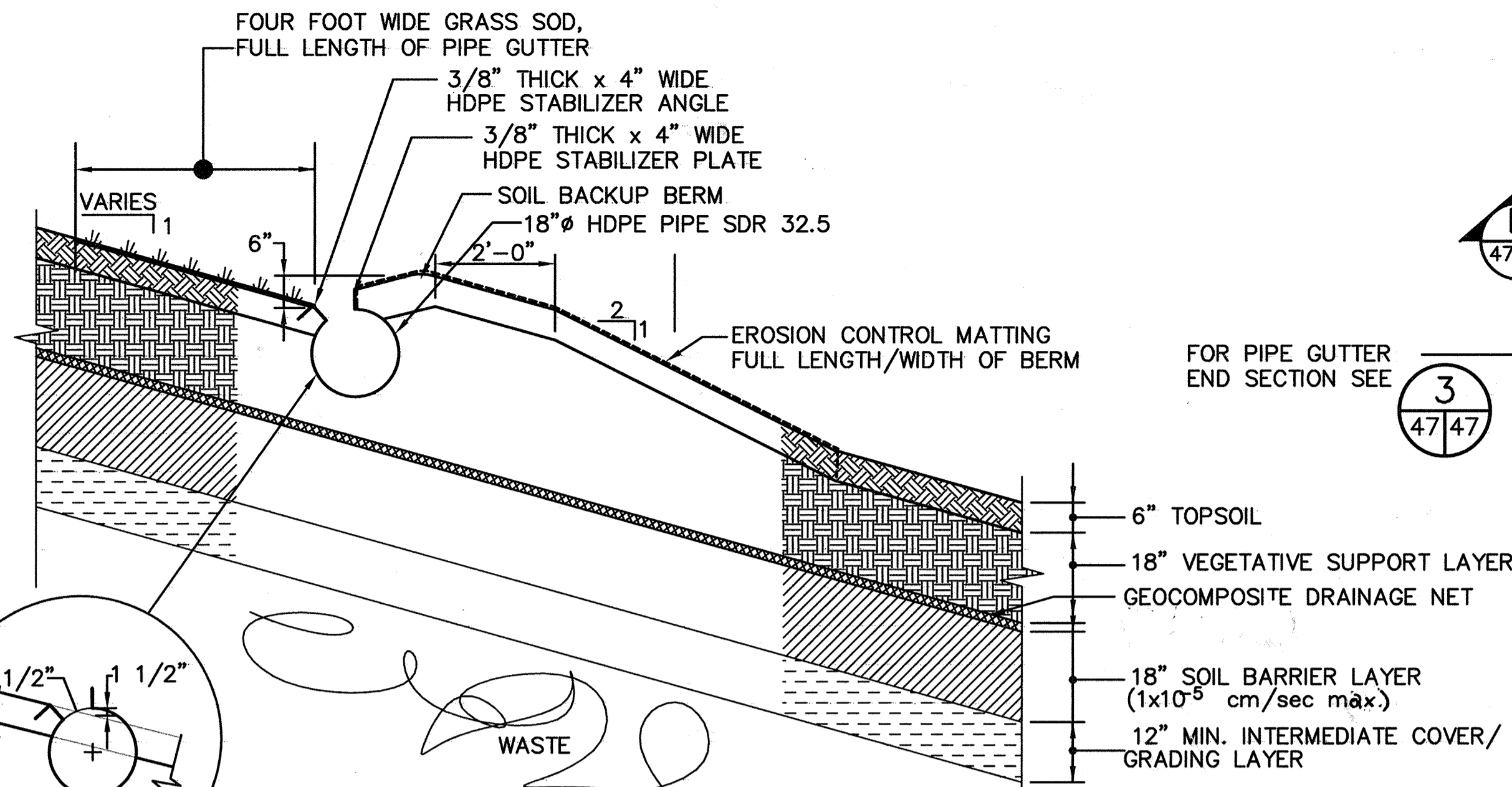
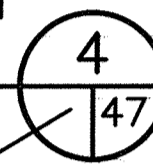
SDP-97-128



PIPEGUTTER OUTFALL INTO EAST BASIN DETAIL

SCALE: 1"=10'

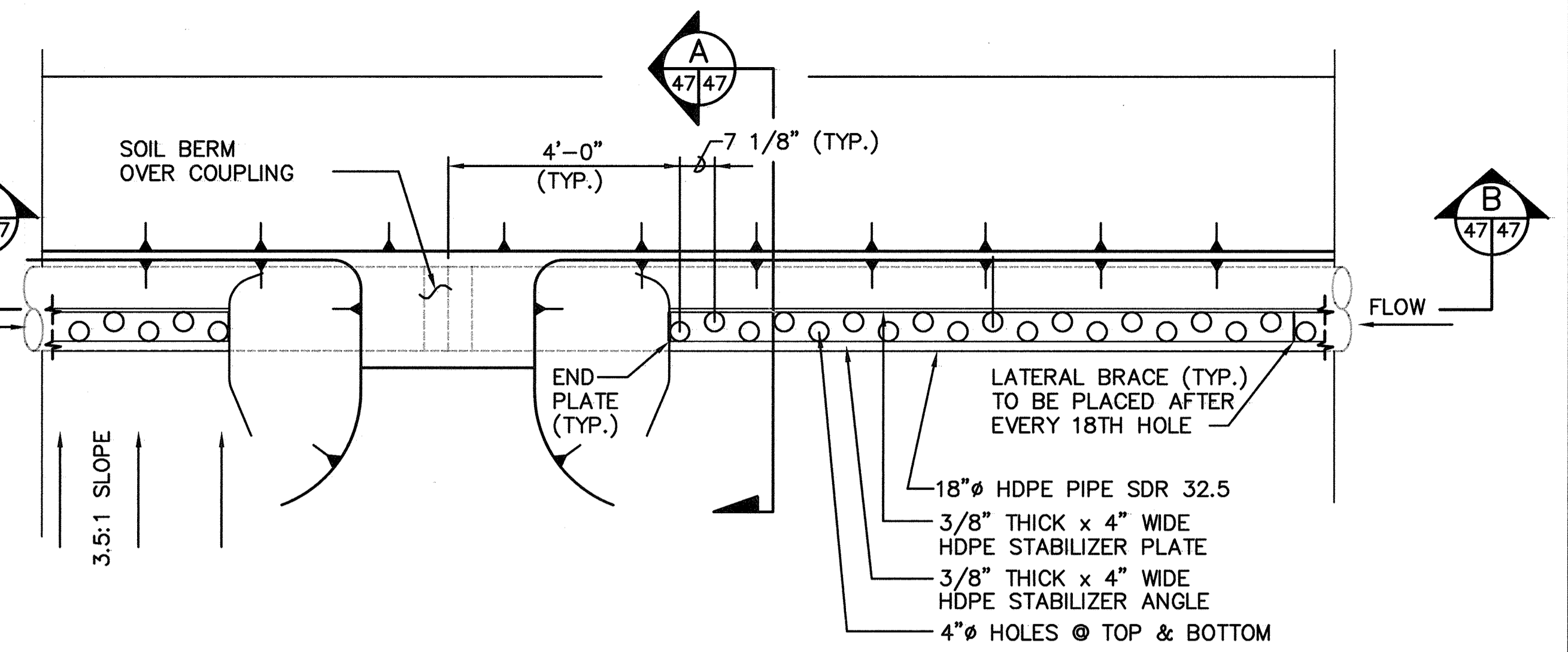
10,34,48



SECTION (FINAL SURFACE)

SCALE: 1/2"=1'-0"

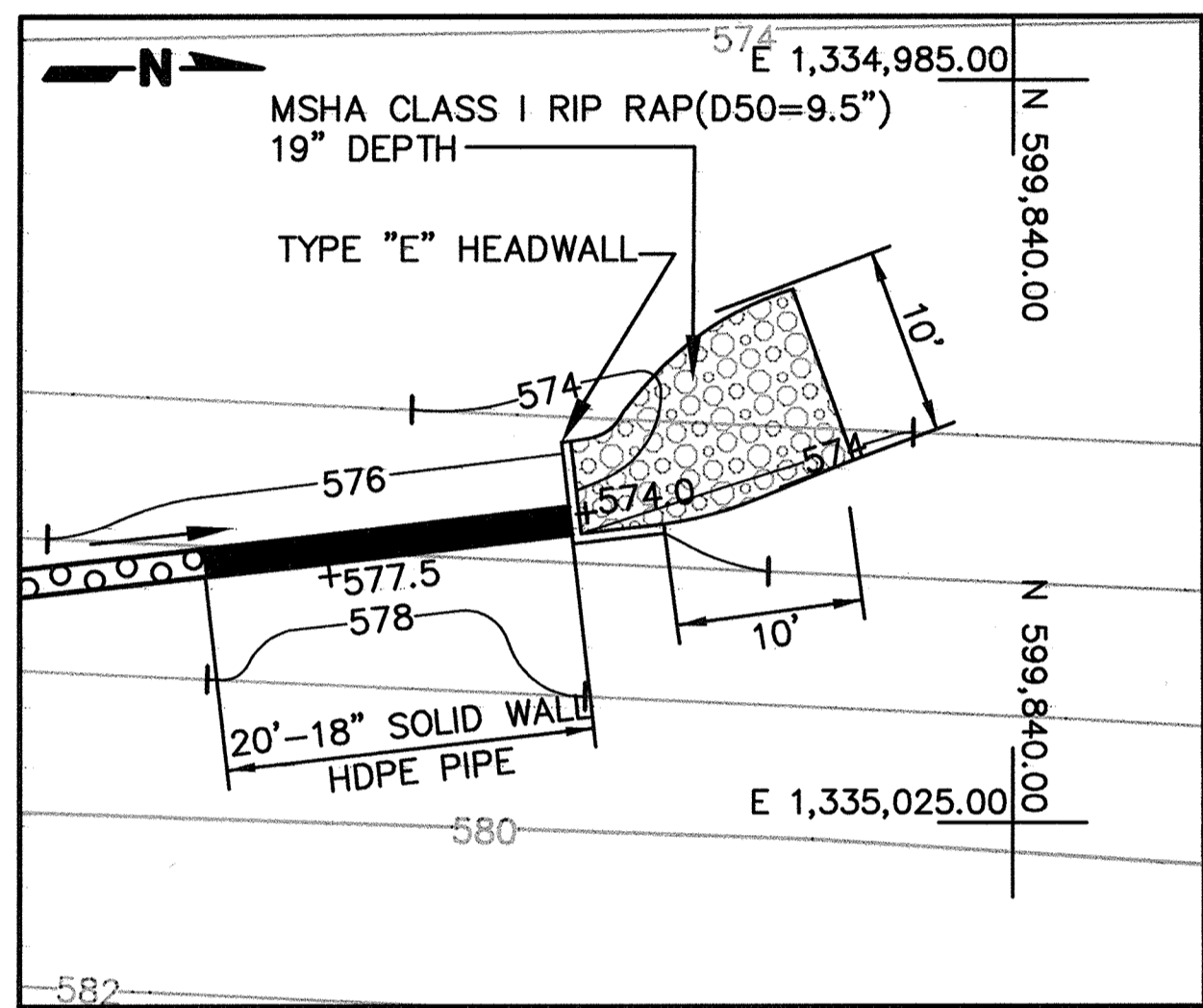
47/47



HDPE SIDESLOPE PIPE GUTTER DRAINAGE SYSTEM

SCALE: 1/2"=1'-0"

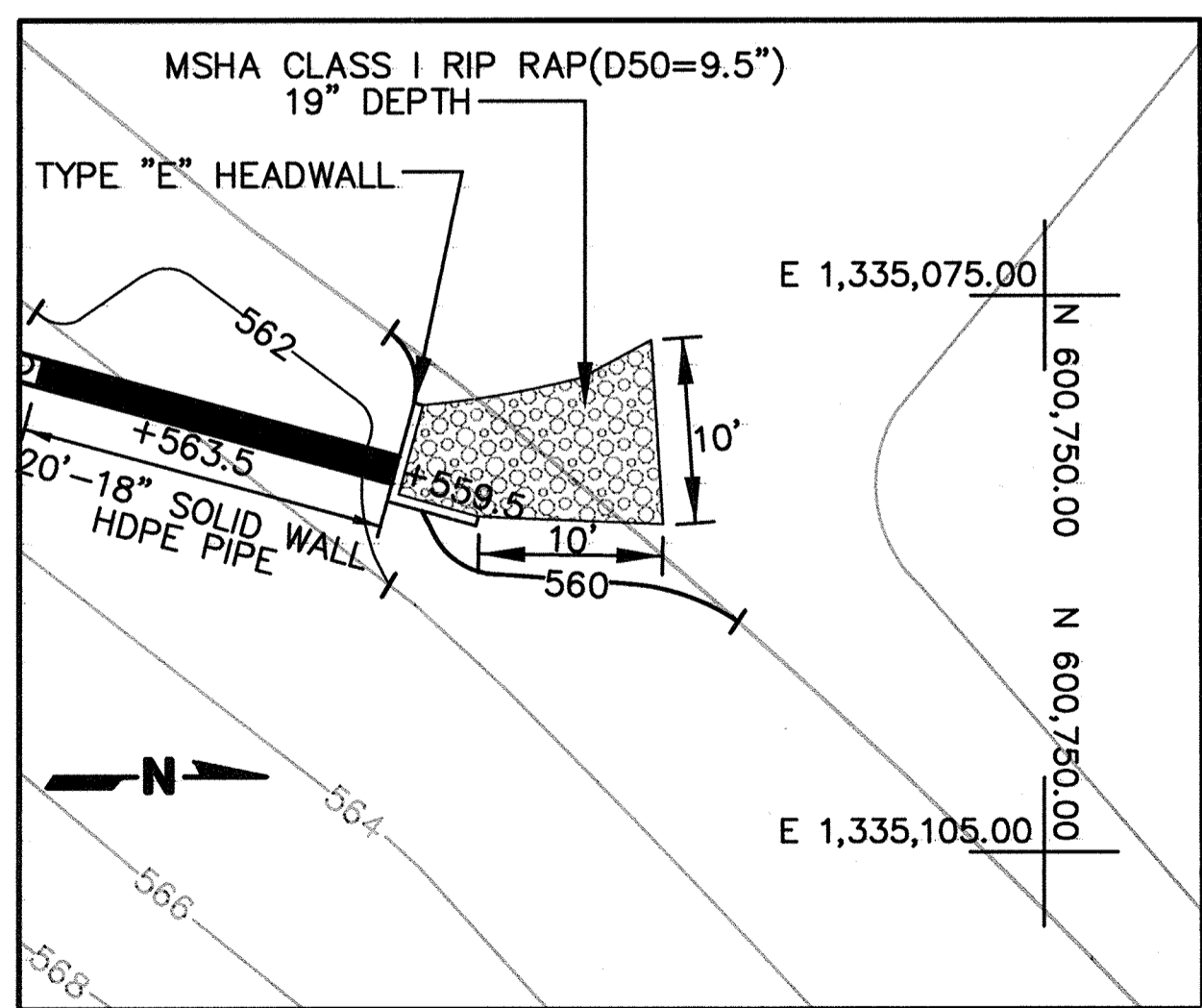
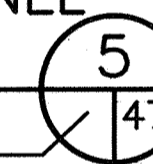
10,39,46,48



PIPEGUTTER OUTFALL INTO WEST CHANNEL DETAIL

SCALE: 1"=10'

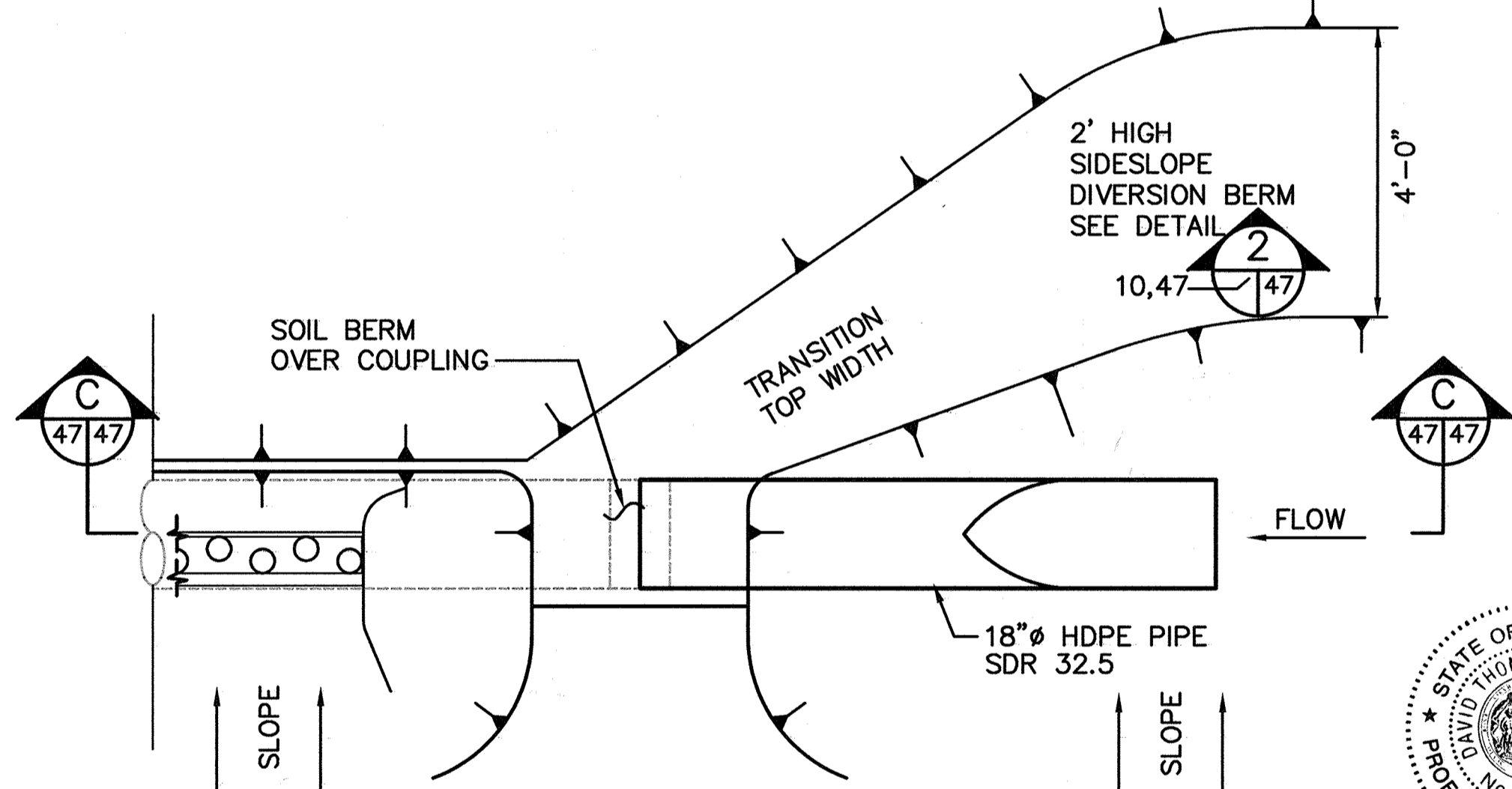
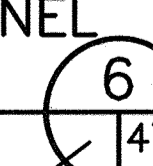
10,48



PIPEGUTTER OUTFALL INTO WEST CHANNEL DETAIL

SCALE: 1"=10'

10,48



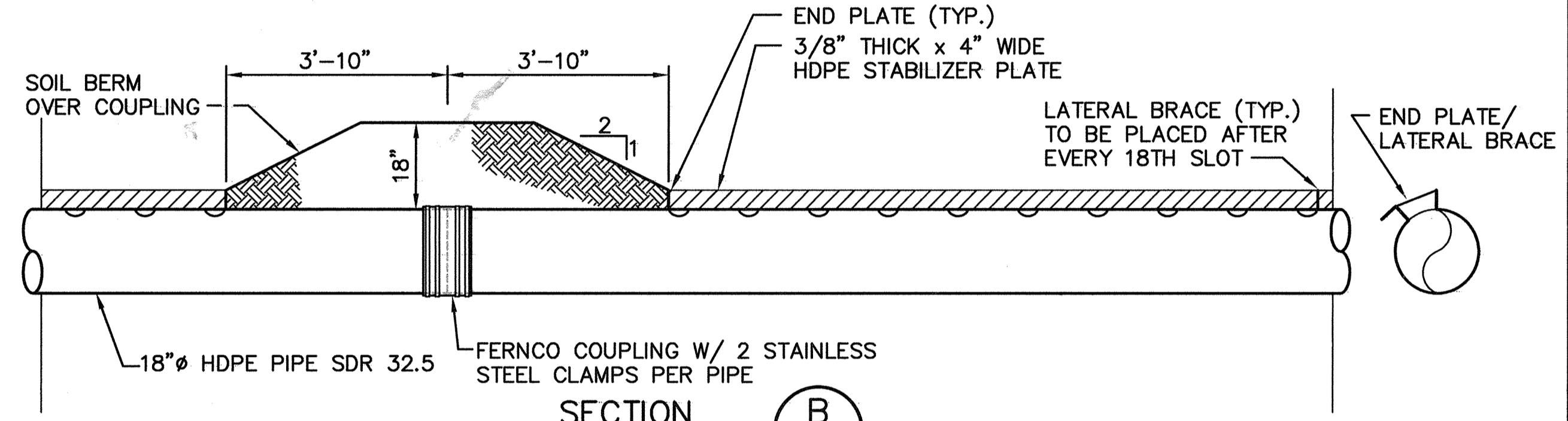
PIPE GUTTER END SECTION

SCALE: 1/2"=1'-0"

47/47



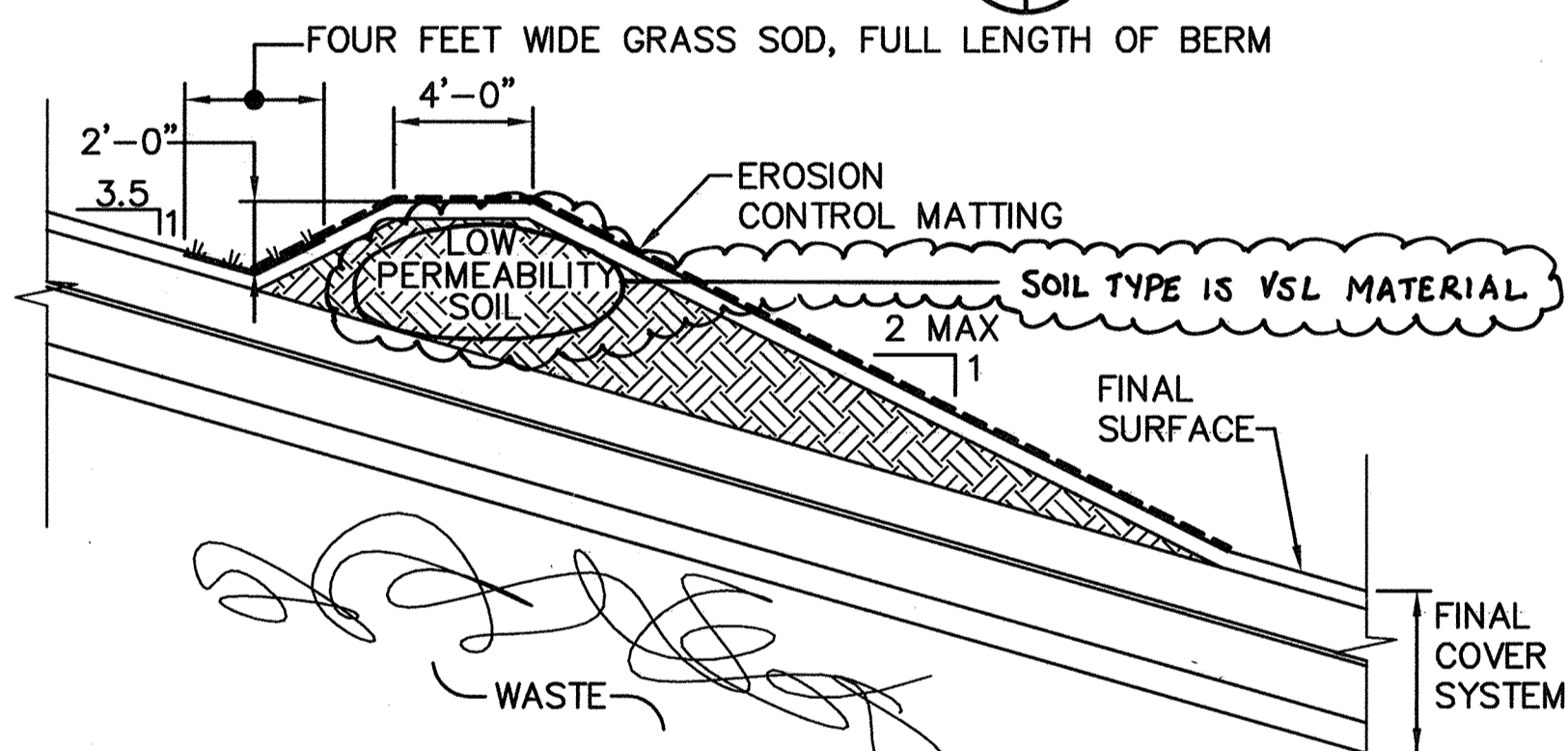
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 16156, Expiration Date: 8-28-20



SECTION B

SCALE: 1/2"=1'-0"

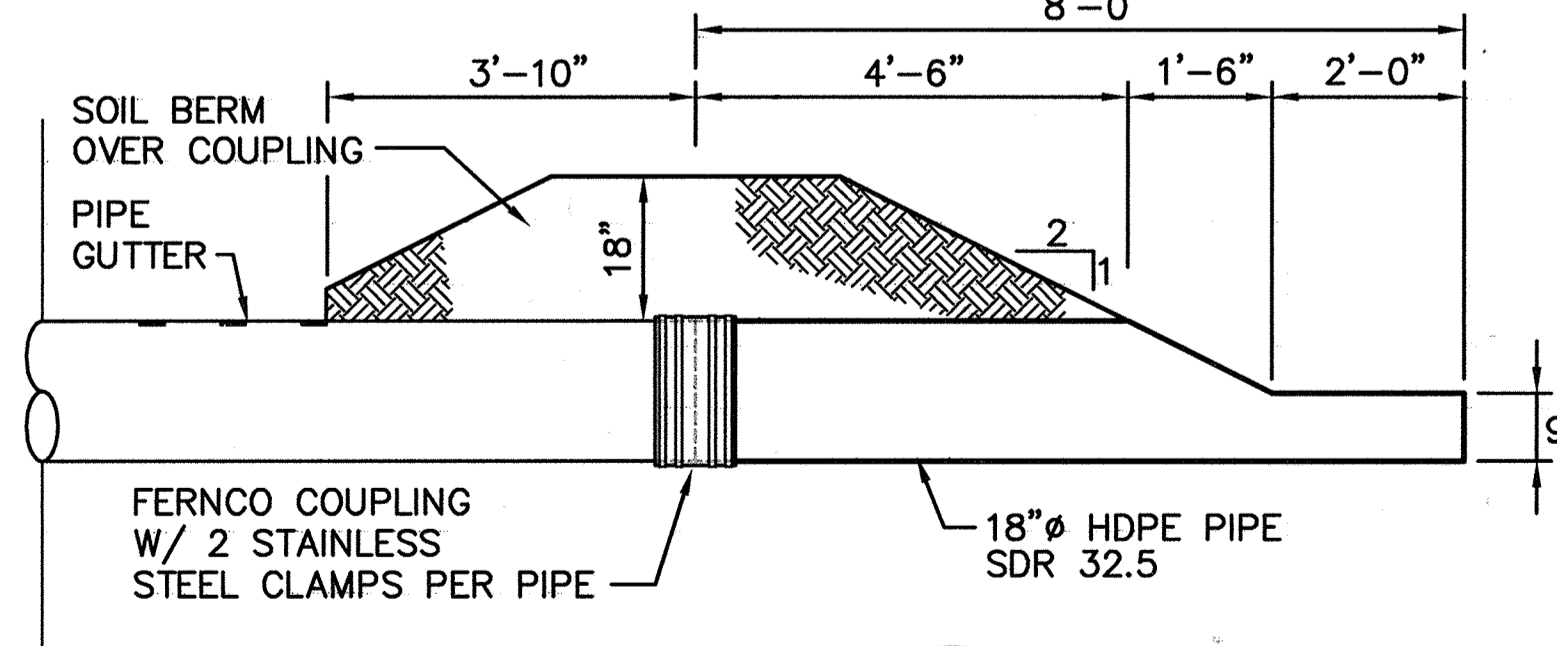
47/47



SIDESLOPE DIVERSION BERM DETAIL

SCALE: 3/16"=1'-0"

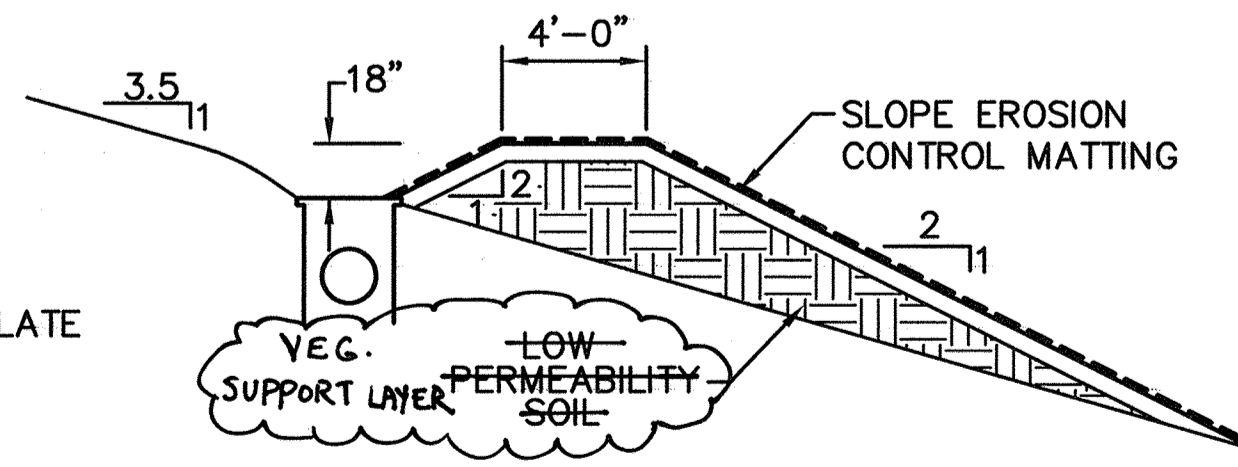
10,47,48



SECTION C

SCALE: 1/2"=1'-0"

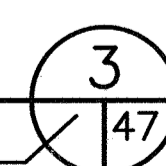
47/47



SIDESLOPE DIVERSION BERM AT HDPE RISER DETAIL

SCALE: 3/16"=1'-0"

10,46



SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT/PARCEL 54,253,220,11	TAX/ZONE MAP 10 & 16
LIBER/FOLIO 10-847/606 16-878/215 10-891/314	ZONE PEC	CENSUS TR. 60-30
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

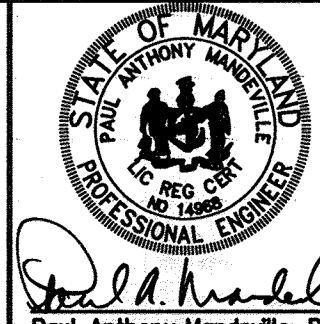
<i>[Signature]</i> DIRECTOR	11/13/27 DATE
<i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	10/30/27 DATE
<i>[Signature]</i> CHIEF, DIVISION OF LAND DEVELOPMENT	11/2/27 DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 10/30/27  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 10/30/27  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES. RTT			
DRN. EGC			
CHK. PAM			
DATE: 10-30-27	BY: PAM	NO. 47019	REVISION

MISCELLANEOUS DETAILS

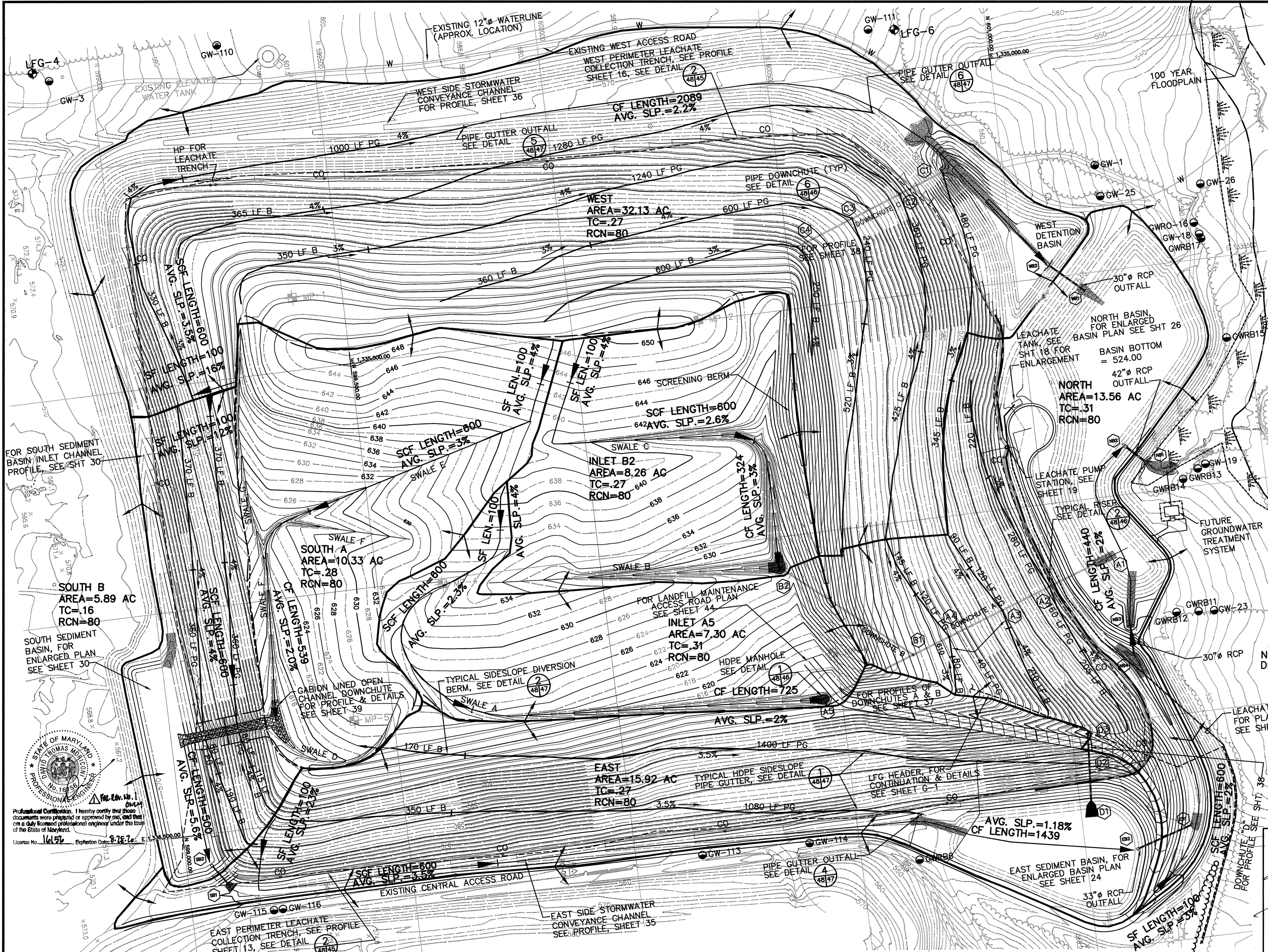
3rd ELECTION DISTRICT

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

HOWARD COUNTY, MARYLAND

SCALE:  
AS NOTED  
SHEET 47 OF 140

SDP-97-128



TOTAL DRAINAGE AREA=93.39 AC.  
10% IMPERVIOUS AREA

NOTES:

- TOPOGRAPHIC INFORMATION SHOWN ON THIS SHEET WAS COMPILED BY AIR SURVEY CORPORATION, INC. FROM AIR PHOTOGRAPHY DATED JANUARY, 1997.
- ALL SOIL CONSIDERED TYPE D IN THE POSTDEVELOPED CONDITION.
- LFG MONITORING WELLS INSTALLED IN MAY, 1996.
- 100 YEAR FLOODPLAIN INFORMATION PROVIDED BY HOWARD CO. INFORMATION IS BASED ON THE 1978 FLOOD PLAIN DELINEATION BY CENTURY ENGINEERING AND THE 1986 UPDATE BY BERNARD JOHNSON, INC. HOWARD CO. MAPS: GC-0119-T-36-38, GC-0119-T-35-38, GC-0119-T-234-38, GC-0119-T-35-39.

100 0 100 200  
SCALE IN FEET

**LEGEND**

- MP-3 LFG PROBES (TO BE REMOVED) SEE SHEET G-2
- GW-102 GROUNDWATER WELLS (EXIST.)
- LFG-6 LFG MONITORING WELLS (EXIST.)
- PROPERTY LINE
- CONFIRMED LIMITS OF WASTE
- 100 YR. FLOODPLAIN
- DRAINAGE FLOW
- SUB-DRAINAGE DIVIDE
- DRAINAGE DIVIDE
- CF = CHANNEL FLOW
- SCF = SHALLOW CONC. FLOW
- SF = SHALLOW FLOW
- B = BERM
- PG = PIPE GUTTER
- HP = HIGH POINT
- B1 DRAINAGE STRUCTURE DESIGNATION
- NEW HDPE PIPE/DOWNSHUTES/ CONCRETE DRAINAGE PIPES
- NEW LEACHATE COLLECTION TRENCH
- NEW LEACHATE FORCEMAIN
- EXISTING TREE LINE
- EXISTING SCRUB BRUSH VEGETATION
- PROPOSED TREE LINE
- WETLAND LIMITS
- WETLANDS

NOTE: THIS SHEET TO BE USED FOR OVERALL DRAINAGE DIVIDE PURPOSES ONLY.

SEE ETA SHEET 10 AB FOR AS-BUILT FINAL SURFACE GRADING PLAN

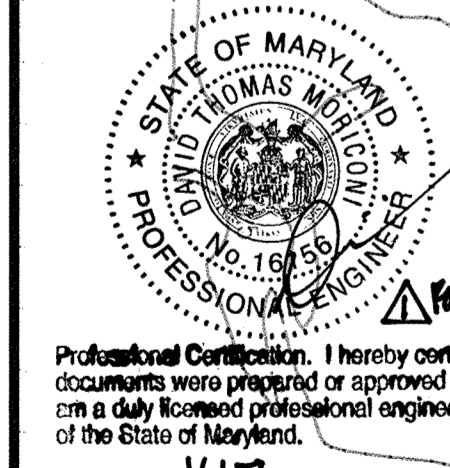
SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT/PARCEL 54,253,220,11	ZONE PEC	TAX/ZONE MAP 10 & 16
LIBER/FOLIO 10-847/606 18-878/215 10-881/314		SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

DIRECTOR: *[Signature]* 11/3/97 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* 10/31/97 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* 11/3/97 DATE



Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

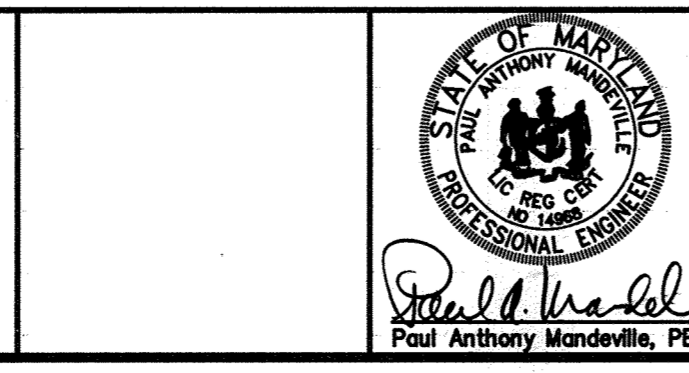
License No. 16157, Expiration Date: 8-25-98

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 10/30/97 DATE  
DIRECTOR OF PUBLIC WORKS

*[Signature]* 10/30/97 DATE  
CHIEF, BUREAU OF WASTE MANAGEMENT

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES. AST,RTT					
DRN. AST,EGC					
CHK. PAM					
DATE: 10-30-97	BY: DPM	NO. 1	REVISION: UPDATED SHEET INDEX	DATE: 4-20-99	

UNLINED CELL  
DRAINAGE DIVIDES

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

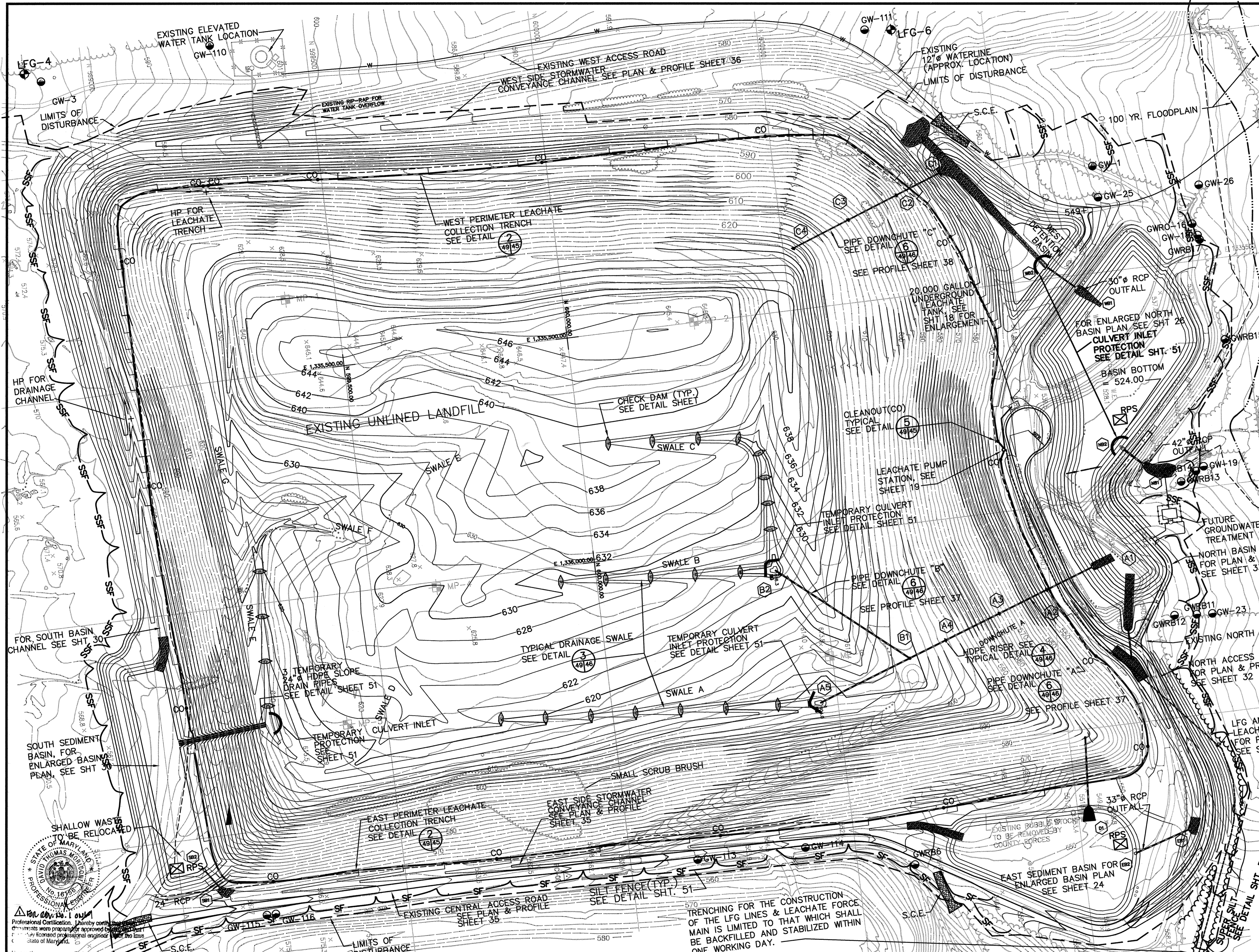
SCALE:  
1"=100'

SHEET 48 OF 140

3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

M: 295077 01/FINAL FGP-DD FGP-DD-B





- NOTES:
1. TOPOGRAPHIC INFORMATION SHOWN ON THIS SHEET WAS COMPILED BY AIR SURVEY CORPORATION, INC. FROM AIR PHOTOGRAPHY DATED JANUARY, 1997.
  2. 100 YEAR FLOODPLAIN INFORMATION PROVIDED BY HOWARD CO. INFORMATION IS BASED ON THE 1978 FLOOD PLAIN DELINEATION BY CENTURY ENGINEERING AND THE 1986 UPDATE BY BERNARD JOHNSON, INC. HOWARD CO. MAPS: GC-0119-T-36-38, GC-0119-T-35-38, GC-0119-T-234-38, GC-0119-T-35-39.
  3. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT "MARYLAND STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL".
  4. FOR TEMPORARY CONDITIONS POND TABLES, SEE SHEET 76

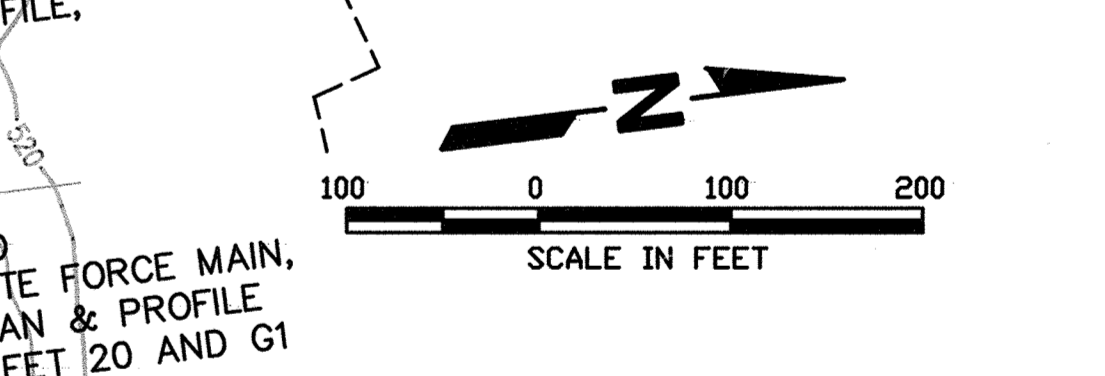
- LEGEND
- GW-102 GROUNDWATER WELLS (EXISTING)
  - ⊕ MP-3 LFG PROBES (TO BE REMOVED, SEE SHT. 12)
  - ⊕ LFG-6 LFG MONITORING WELLS (EXISTING)
  - PROPERTY LINE
  - - - - - CONFIRMED LIMITS OF WASTE
  - - - - - LIMITS OF DISTURBED AREA
  - - - - - SILT FENCE
  - - - - - SUPER SILT FENCE
  - ▬ STABILIZED CONSTRUCTION ENTRANCE (S.C.E.)
  - - - - - SUB-DRAINAGE DIVIDE
  - DRAINAGE DIVIDE
  - ⊗ RPS REMOVABLE PUMP STATION FOR DETAIL AND SPECIFICATIONS SEE 1994 MARYLAND STDS. & SPECS. FOR SOIL EROSION AND SEDIMENT CONTROL MANUAL, PAGES D-12-3 TO D-12-5

NOTE: THIS SHEET TO BE USED FOR EROSION & SEDIMENT CONTROL PURPOSES ONLY.

SEE ETA SHEET 10 AB FOR AS-BUILT FINAL SURFACE GRADING PLAN

LIMITS OF WETLANDS

THE AREA OF DISTURBANCE FOR THIS SHEET IS 95.4 ACRES.



SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/806 18-878/215 10-891/314	ZONE PEC	TAX/ZONE MAP 10 & 16	
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30	

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

DIRECTOR: *[Signature]* 11/3/97 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* 11/3/97 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* 11/3/97 DATE

STATE OF MARYLAND  
DAVID THOMAS MORRIS, JR.  
PROFESSIONAL ENGINEER  
No. 16,152  
Professional Certification. I hereby certify that the plans were prepared or approved by me or under my direct supervision and that I am a duly licensed professional engineer under the laws of the State of Maryland.

Professional Certification. I hereby certify that the plans were prepared or approved by me or under my direct supervision and that I am a duly licensed professional engineer under the laws of the State of Maryland.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 10/30/97 DATE  
DIRECTOR OF PUBLIC WORKS

*[Signature]* 10/30/97 DATE  
CHIEF, BUREAU OF WASTE MANAGEMENT

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES. RTT, EGC	▲			
DRN. EGC, JCB	▲			
CHK. PAM	▲			
DATE: 10-30-97	BY	NO.	REVISION	DATE
			UPDATED SHEET TOTAL	4-2019

UNLINED CELL EROSION & SEDIMENT CONTROL PLAN

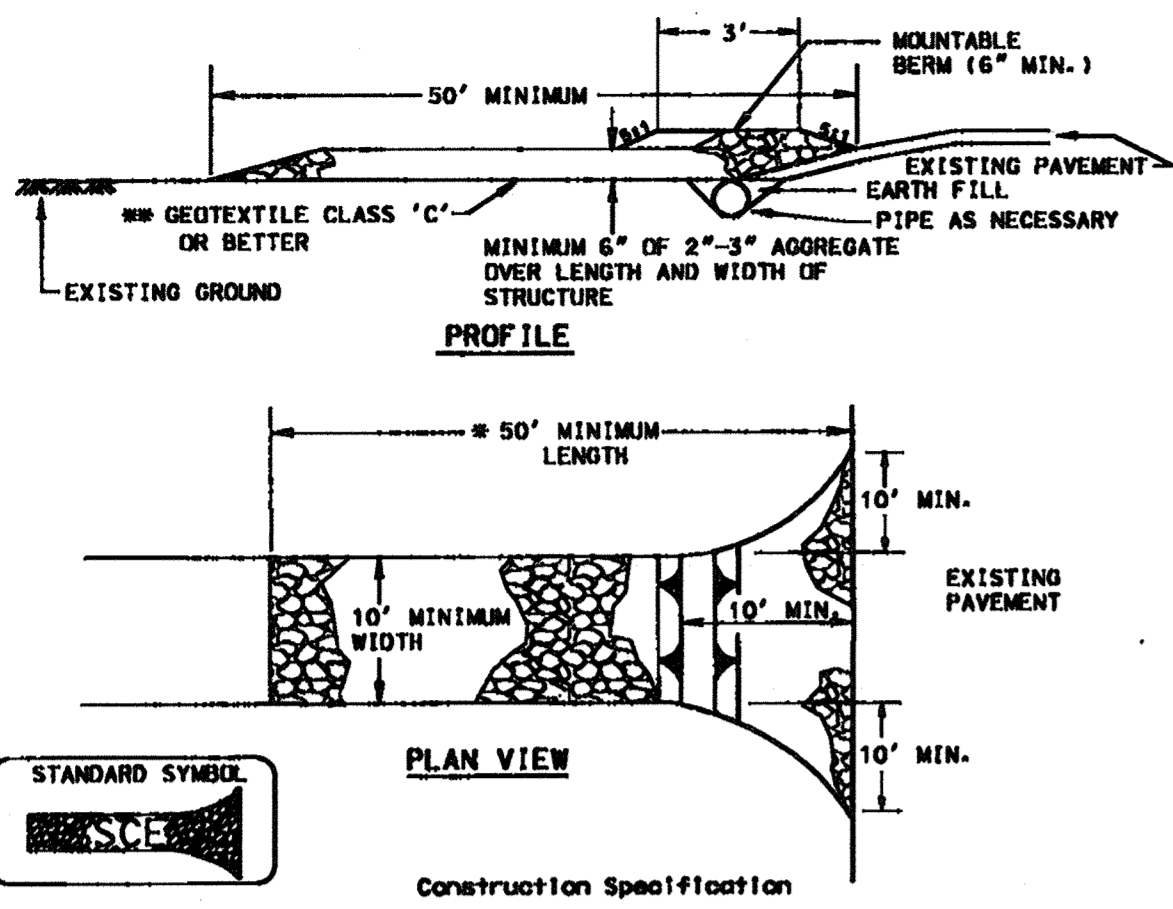
ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

SCALE: 1"=100'  
SHEET 49 OF 140

3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND



**DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE**



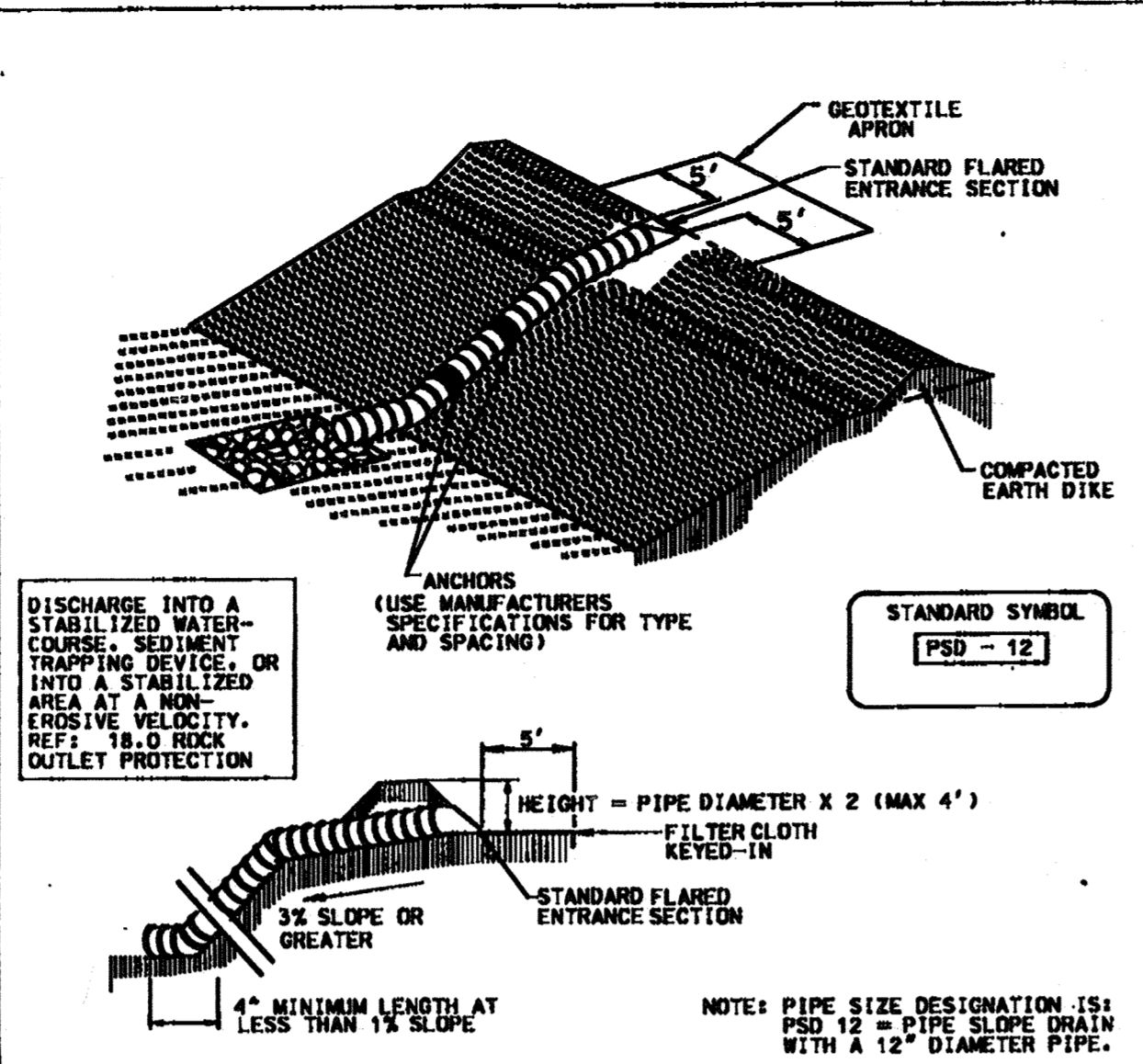
- Construction Specifications**
- Length - minimum of 50' (40' for single residence lot).
  - Width - 10' minimum, should be flared at the existing road to provide a turning radius.
  - Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. The plan approval authority may not require single family residences to use geotextile.
  - Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

- Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
- Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 7-37-8 MARYLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES WATER MANAGEMENT ADMINISTRATION

1994

**DETAIL 4 - PIPE SLOPE DRAIN**



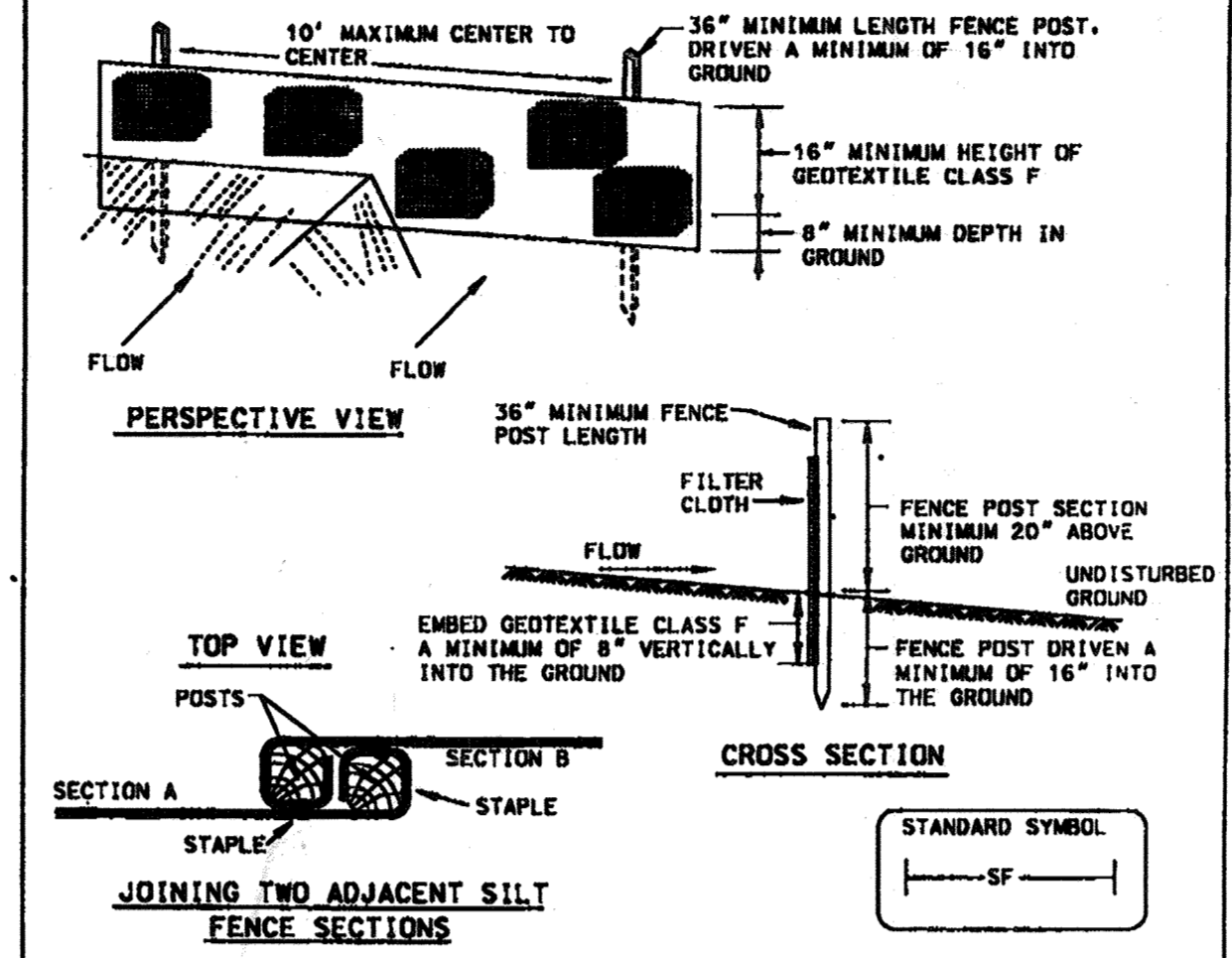
**Table 6 Design Criteria for Pipe Slope Drain**

Size	Pipe/Tubing Diameter (D) in	Maximum Drainage Area (Acres)
PSD-12	12	0.5
PSD-18	18	1.5
PSD-21	21	2.5
PSD-24	24	3.5
PSD-24 (2)	24	5.0

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 8-8-4 MARYLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES WATER MANAGEMENT ADMINISTRATION

1994

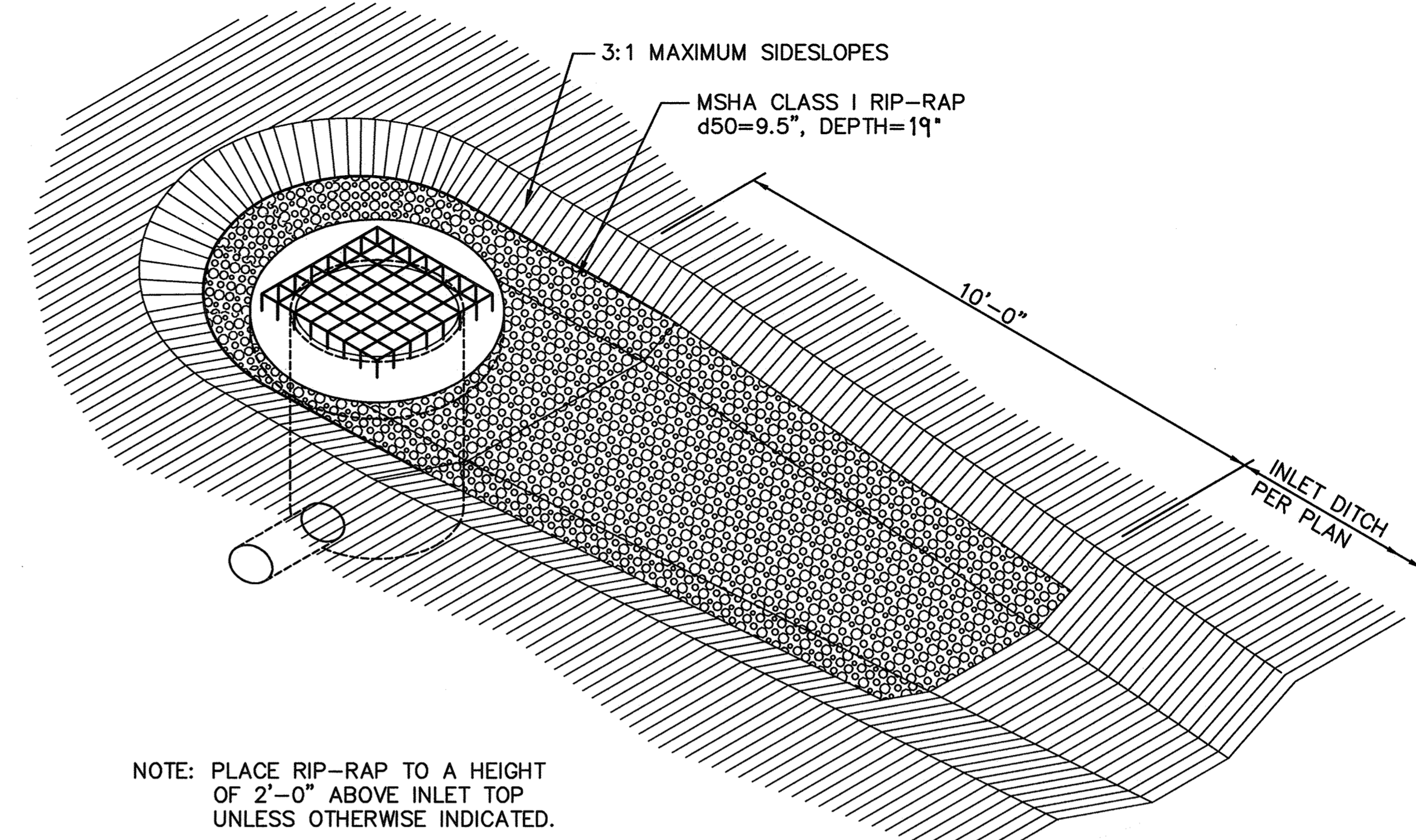
**DETAIL 22 - SILT FENCE**



- Construction Specifications**
- Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pound per linear foot.
  - Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:
    - Tensile Strength: 50 lbf/in (min.)
    - Tensile Modulus: 20 lbf/in (min.)
    - Flow Rate: 0.3 gal ft<sup>2</sup>/minute (max.)
    - Filtering Efficiency: 75% (min.)
  - Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
  - Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 8-35-8 MARYLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES WATER MANAGEMENT ADMINISTRATION

1994



NOTE: PLACE RIP-RAP TO A HEIGHT OF 2'-0" ABOVE INLET TOP UNLESS OTHERWISE INDICATED.

**INLET PROTECTION DETAIL**  
NO SCALE

5, 46 1 51

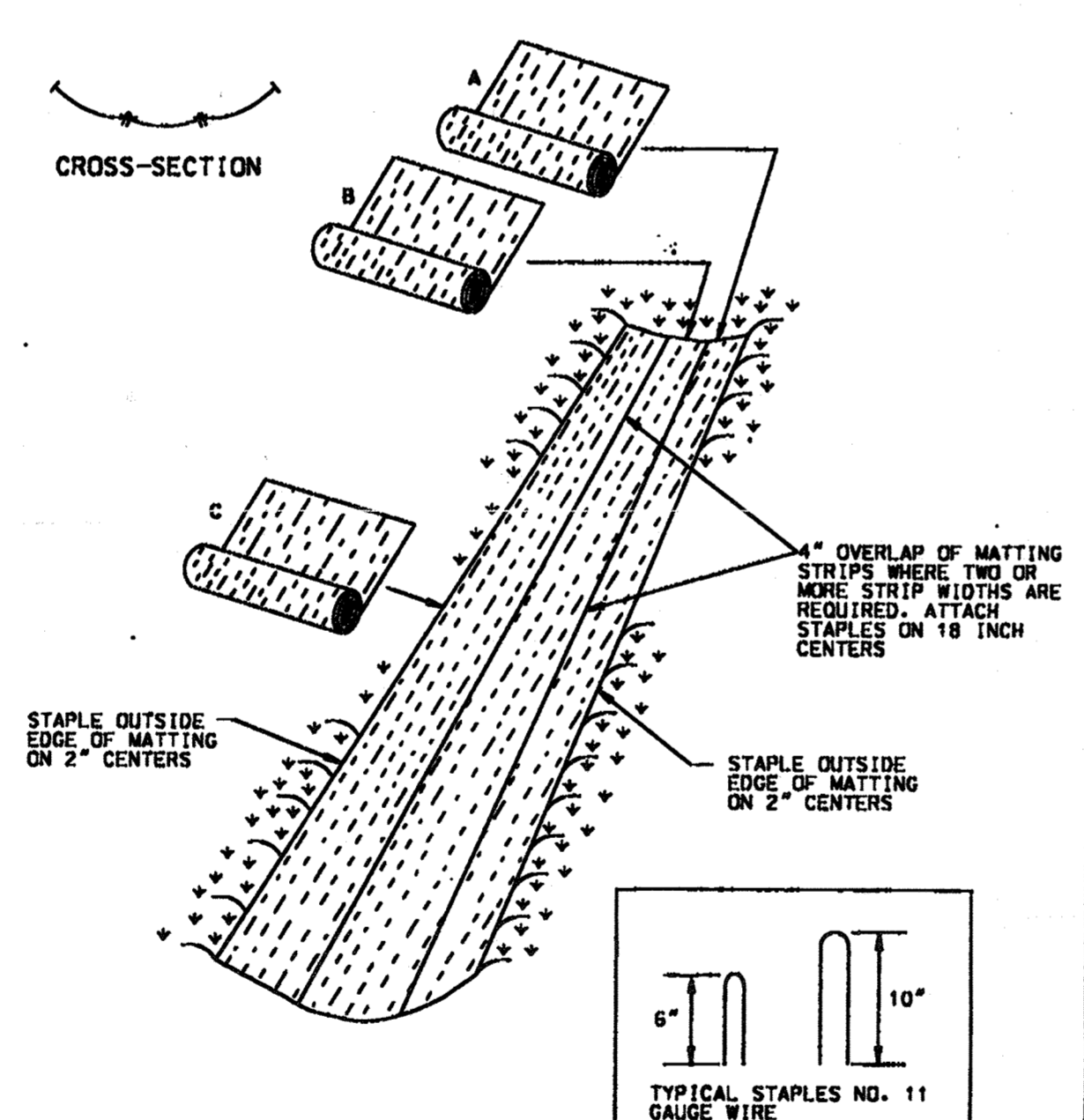
**EROSION CONTROL MATTING**

**Construction Specifications**

- Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4' down slope from the trench. Spacing between staples is 6'.
- Staple the 4' overlap in the channel center using an 18" spacing between staples.
- Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.
- Staples shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.
- Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4', shingle fashion. Reinforce the overlap with a double row of staples spaced 6' apart in a staggered pattern on either side.
- The discharge end of the matting liner should be similarly secured with 2 double rows of staples.

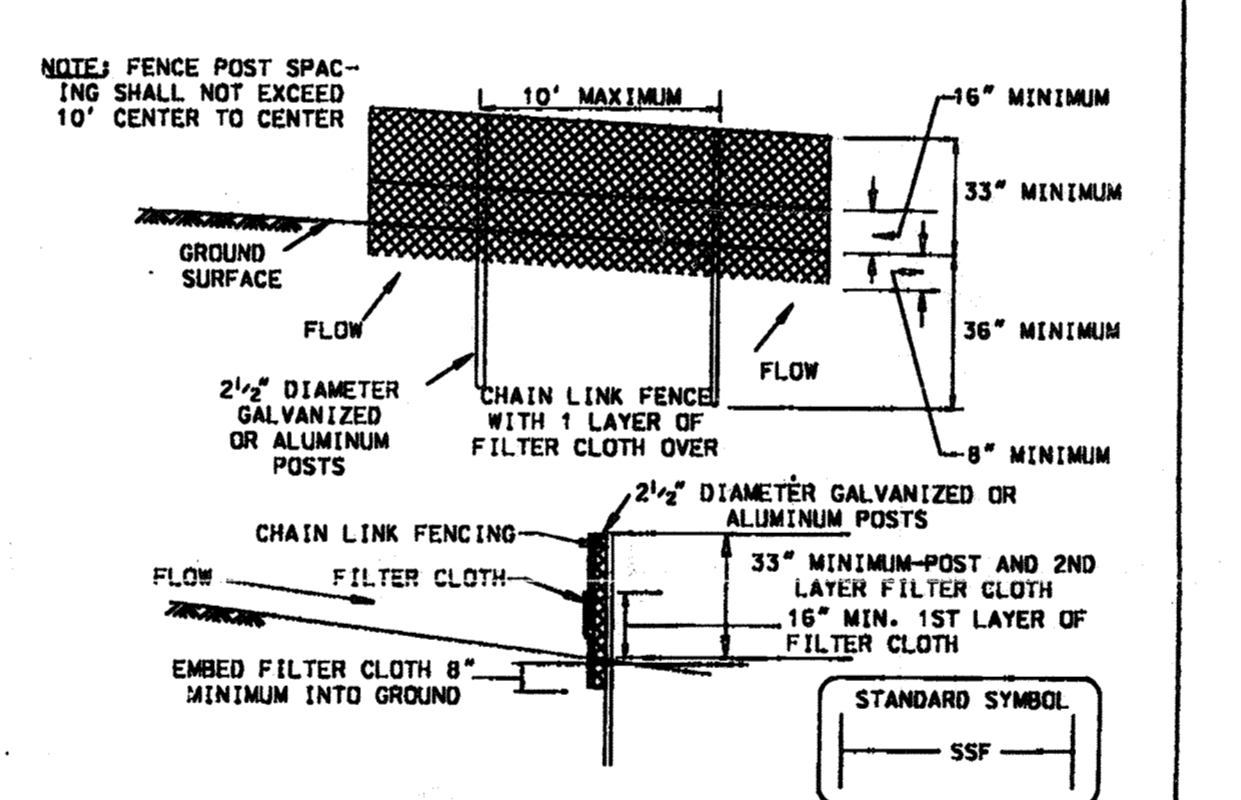
Note: If flow will enter from the edge of the matting then the area effected by the flow must be keyed-in.

**DETAIL 30 EROSION CONTROL MATTING**



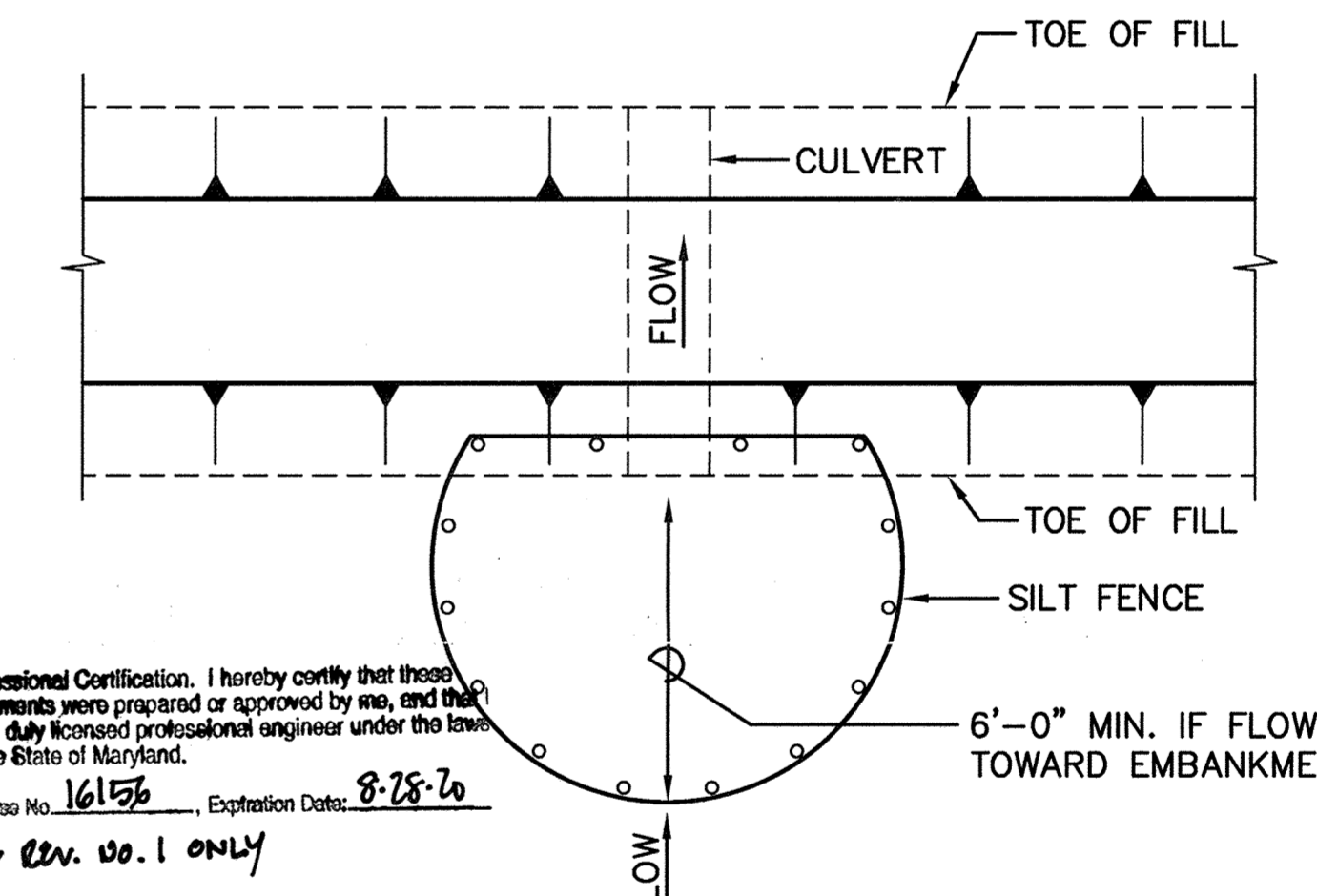
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 9-35-5 MARYLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES WATER MANAGEMENT ADMINISTRATION

**DETAIL 33 - SUPER SILT FENCE**

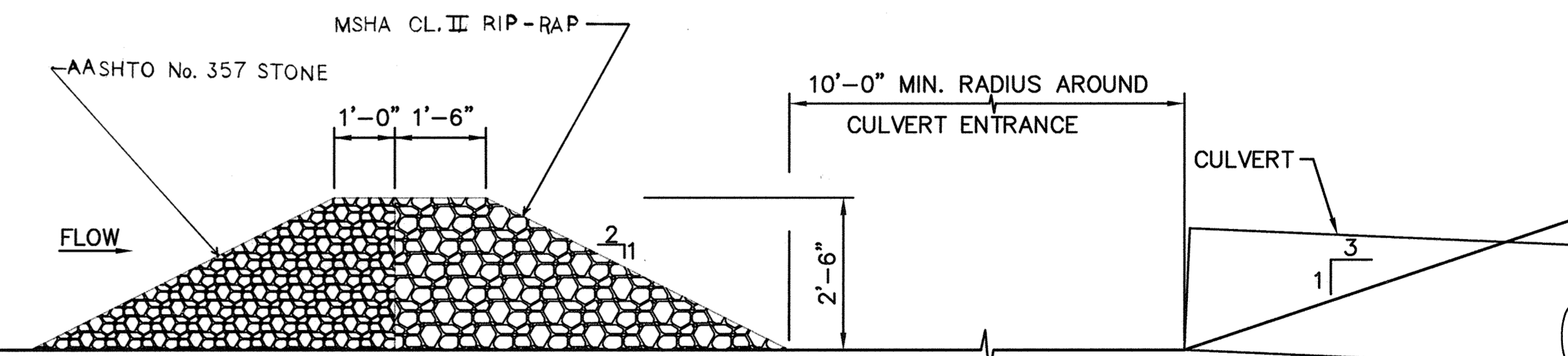


- Construction Specifications**
- The poles do not need to set in concrete.
  - Chain link fence shall be fastened securely to the fence posts with wire ties or staples.
  - Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
  - Filter cloth shall be embedded a minimum of 6" into the ground.
  - When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
  - Maintenance shall be performed as needed and all bulges removed when "bulges" develop in the silt fence.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 8-35-8 MARYLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES WATER MANAGEMENT ADMINISTRATION



**TEMPORARY CULVERT INLET PROTECTION SILT FENCE OPTION**



**TEMPORARY CULVERT INLET PROTECTION STONE COMBINATION OPTION**

SCALE: 1/2"=1'-0"

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT/PARCEL 54,253,220,11	LIBER/FOLIO 10-847/806 16-878/215 10-891/314	ZONE PEC	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30		

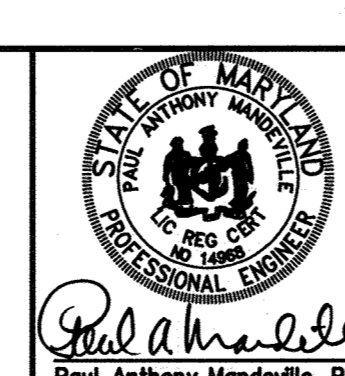
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

Director: *John P. Butler* 11/3/97  
 Chief, Development Engineering Division: *David J. Williams* 10/30/97  
 Chief, Division of Land Development: *Constance Hamilton* 11/3/97

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Director of Public Works: *James J. Lewis* 10/30/97  
 Chief, Bureau of Waste Management: *John P. Butler* 10/30/97

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES. RTT, EGC	
DRN. EGC	
CHK. PAM	
DATE: 10-30-97	BY: NO. REVISION DATE

EROSION & SEDIMENT CONTROL DETAILS

ALPHA RIDGE LANDFILL UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE: AS NOTED  
SHEET 51 OF 140

SDP-97-128

Section IV - Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).

A. General specifications

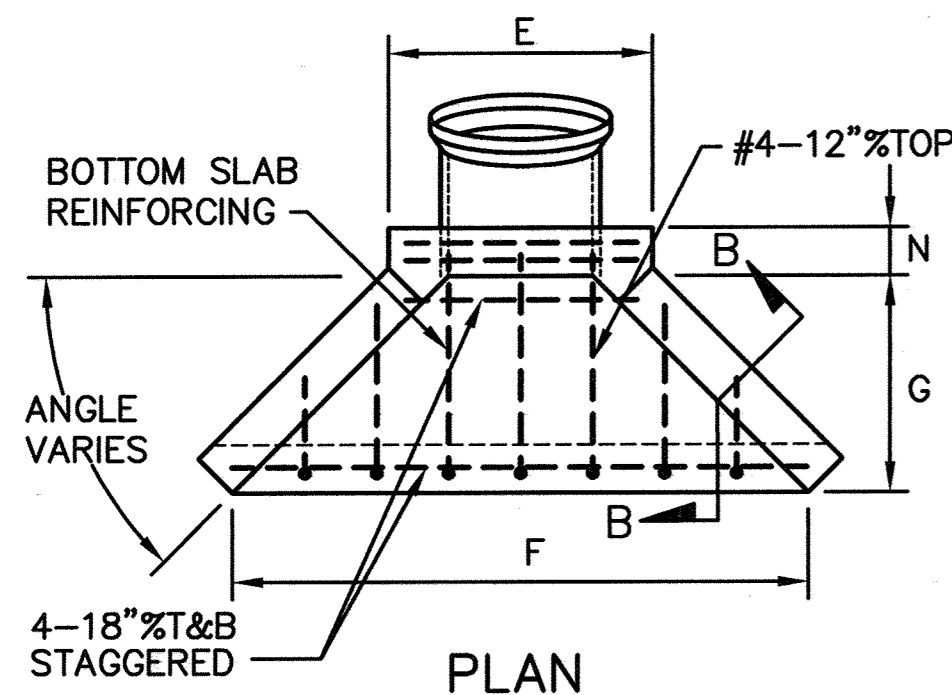
- Class of turfgrass sod shall be Maryland or Virginia State Certified or Approved. Sod labels shall be made available to the job foreman and inspector.
- Sod shall be machine cut at a uniform soil thickness of 3/4", plus or minus 1/4", at the time of cutting. Measurement for thickness shall exclude top growth and thatch. Individual pieces of sod shall be cut to the suppliers' width and length. Maximum allowable deviation from standard widths and lengths shall be 5 percent. Broken pads and torn or uneven ends will not be acceptable.
- Standard size sections of sod shall be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
- Sod shall not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
- Sod shall be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period shall be approved by an agronomist or soil scientist prior to its installation. B. Sod Installation

B. Sod Installation

- During periods of excessively high temperature or in areas having dry subsoil, the subsoil shall be lightly irrigated immediately prior to laying the sod.
- The first row of sod shall be laid in a straight line with subsequent rows placed parallel to and tightly wedged against each other. Lateral joints shall be staggered to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.
- Wherever possible, sod shall be laid with the long edges parallel to the contour and with staggering joints. Sod shall be rolled and tamped, pegged or otherwise secured to prevent slippage on slopes and to ensure solid contact between sod roots and the underlying soil surface.
- Sod shall be watered immediately following rolling or tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. The operations of laying, tamping and irrigating for any piece of sod shall be completed within eight hours. C. Sod Maintenance

B. Sod Maintenance

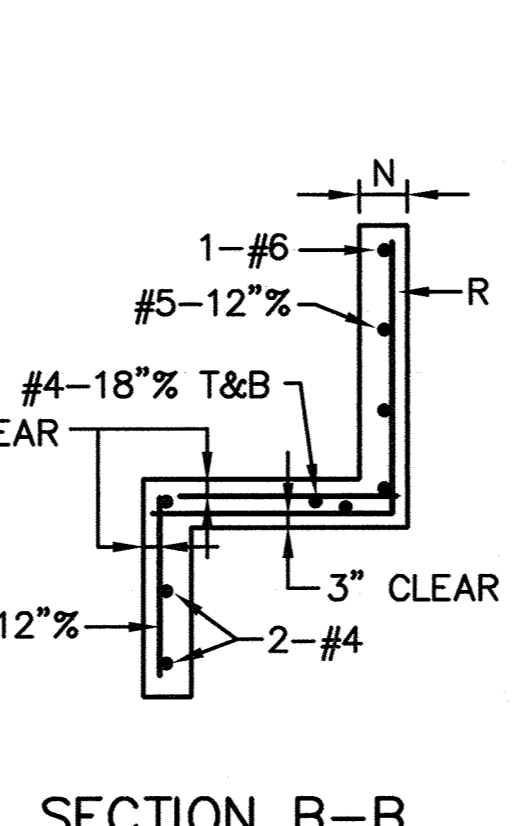
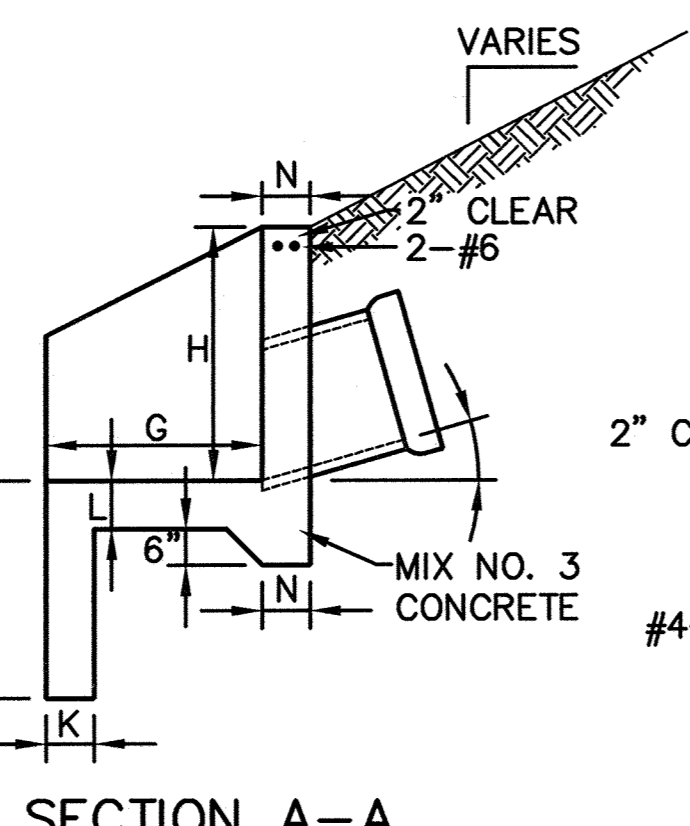
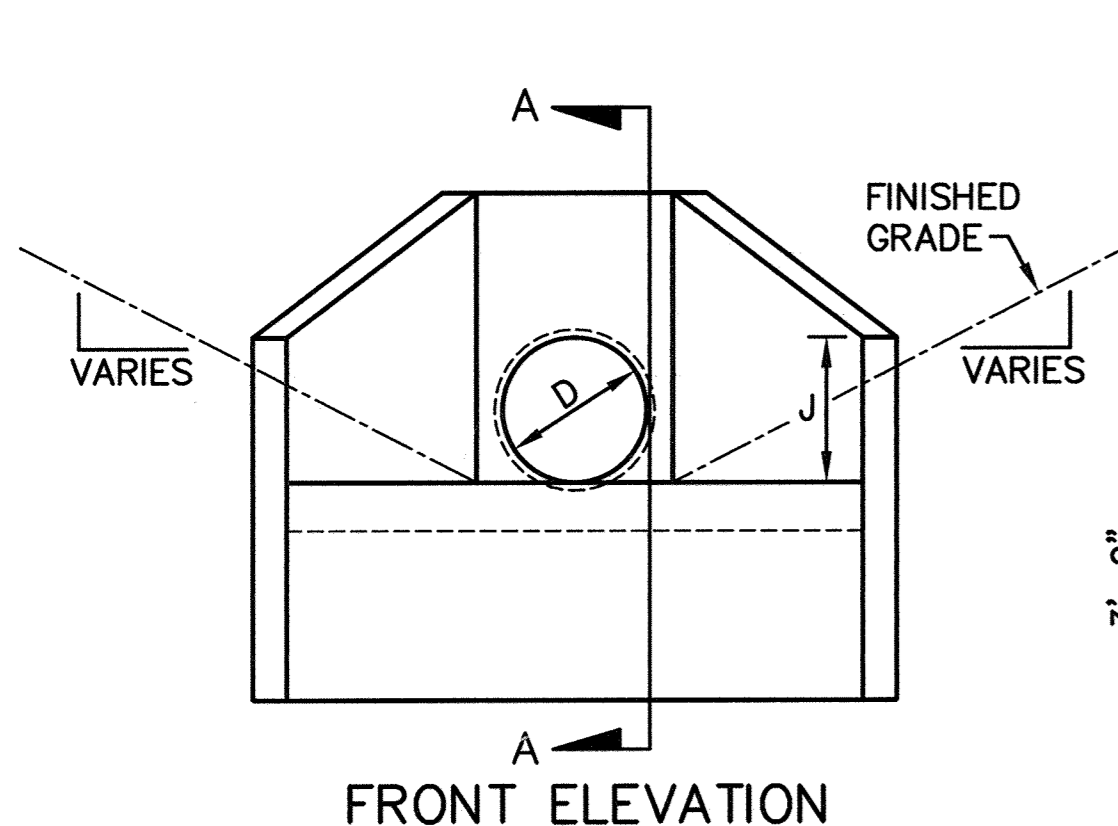
- In the absence of adequate rainfall, watering shall be performed daily or as often as necessary during the first week and in sufficient quantities to maintain moist soil to a depth of 4". Watering should be done during the heat of the day to prevent wilting.
- After the first week, sod watering is required as necessary to maintain adequate moisture content.
- The first mowing of sod should not be attempted until the sod is firmly rooted. No more than 1/3 of the grass leaf shall be removed by the initial cutting or subsequent cuttings. Grass height shall be maintained between 2" and 3" unless otherwise specified. G-20-10



D	E	F	G	H	J	K	L	N	R	VOL. C.Y.
18"	3'-0"	7'-6"	3'-0"	3'-0"	2'-0"	8"	8"	8"	#5-12%*	1.70
24"	3'-8"	8'-0"	3'-0"	3'-6"	2'-0"	8"	8"	8"	#5-12%*	1.90
30"	4'-2"	8'-6"	3'-0"	4'-0"	2'-0"±	8"	8"	10"	#5-12%*	2.85

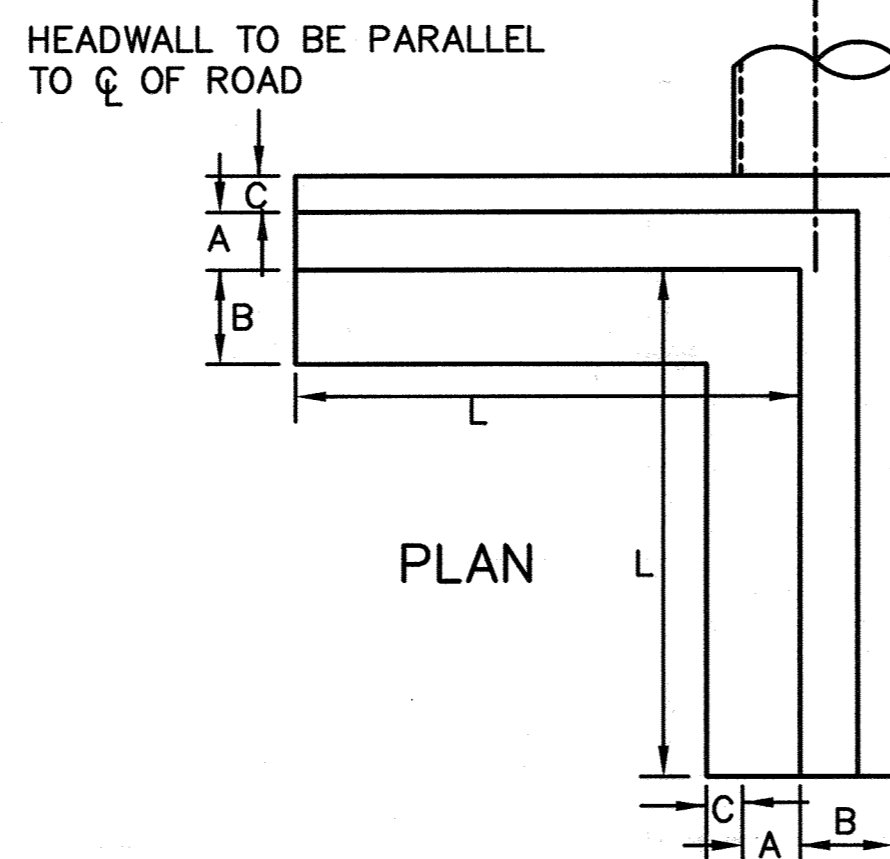
\* - BASED ON 2:1 CHANNEL SIDE SLOPES AND 45° ANGLE

NOTE:  
CONTRACTOR SHALL PROVIDE  
3"-45° BEVEL AROUND PIPE  
OPENINGS ON UPSTREAM HEADWALLS



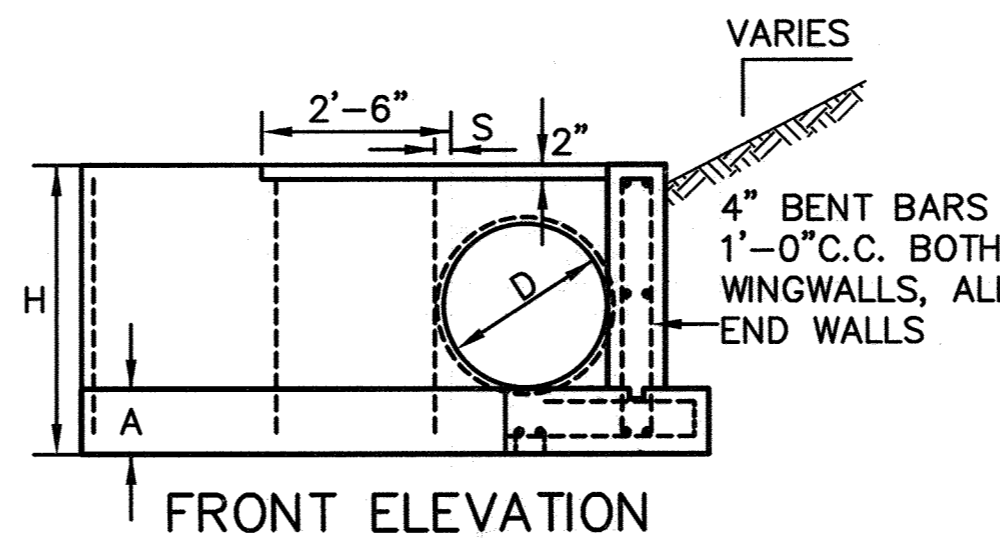
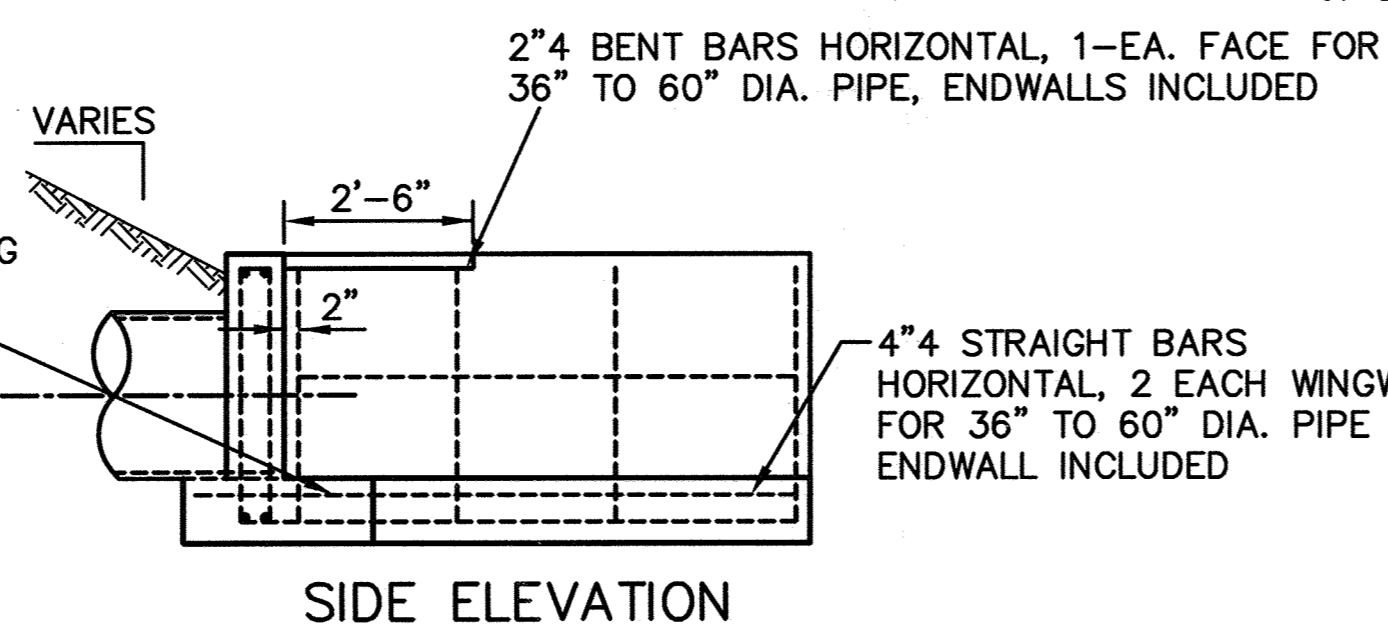
TYPE "A" HEADWALL

PIPE DIA-D	DIMENSIONS					VOL. Con.Cy	STEEL LBS.
	A	B	C	H	L		
12"	9"	6"	6"	1'-9"	3'-6"	0.73	56
15"	9"	6"	6"	2'-0"	4'-3"	0.93	77
18"	9"	6"	6"	2'-3"	5'-0"	1.14	89
24"	9"	14"	6"	2'-9"	6'-6"	1.8	124
30"	9"	14"	6"	3'-6"	8'-0"	2.6	160
36"	12"	16"	10"	4'-0"	9'-6"	5.0	287
42"	12"	16"	10"	4'-6"	11'-0"	6.2	333
48"	12"	16"	10"	5'-0"	12'-6"	7.4	387
54"	12"	20"	12"	5'-6"	14'-0"	9.2	458
60"	12"	20"	12"	6'-0"	15'-6"	9.2	519

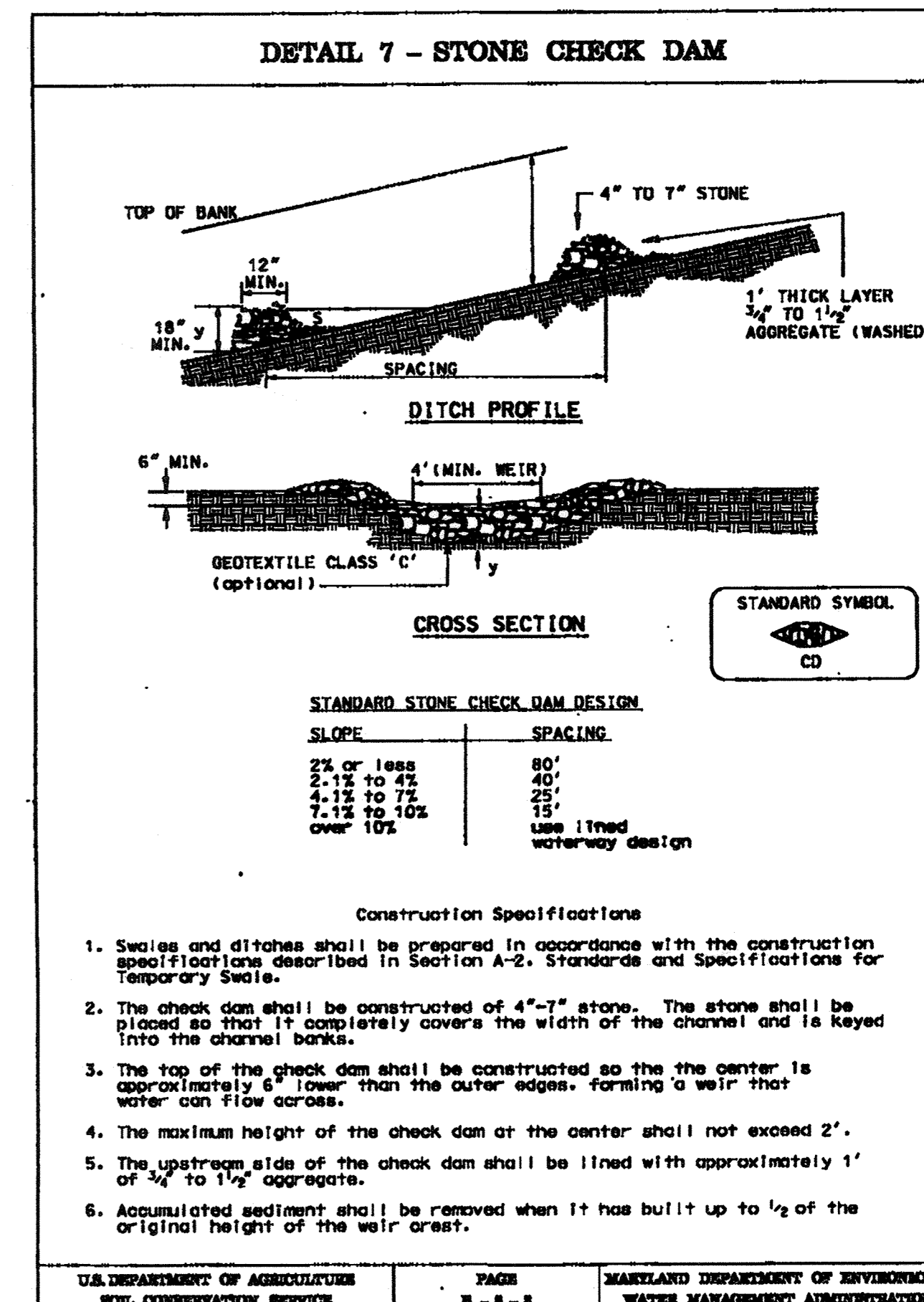


NOTES

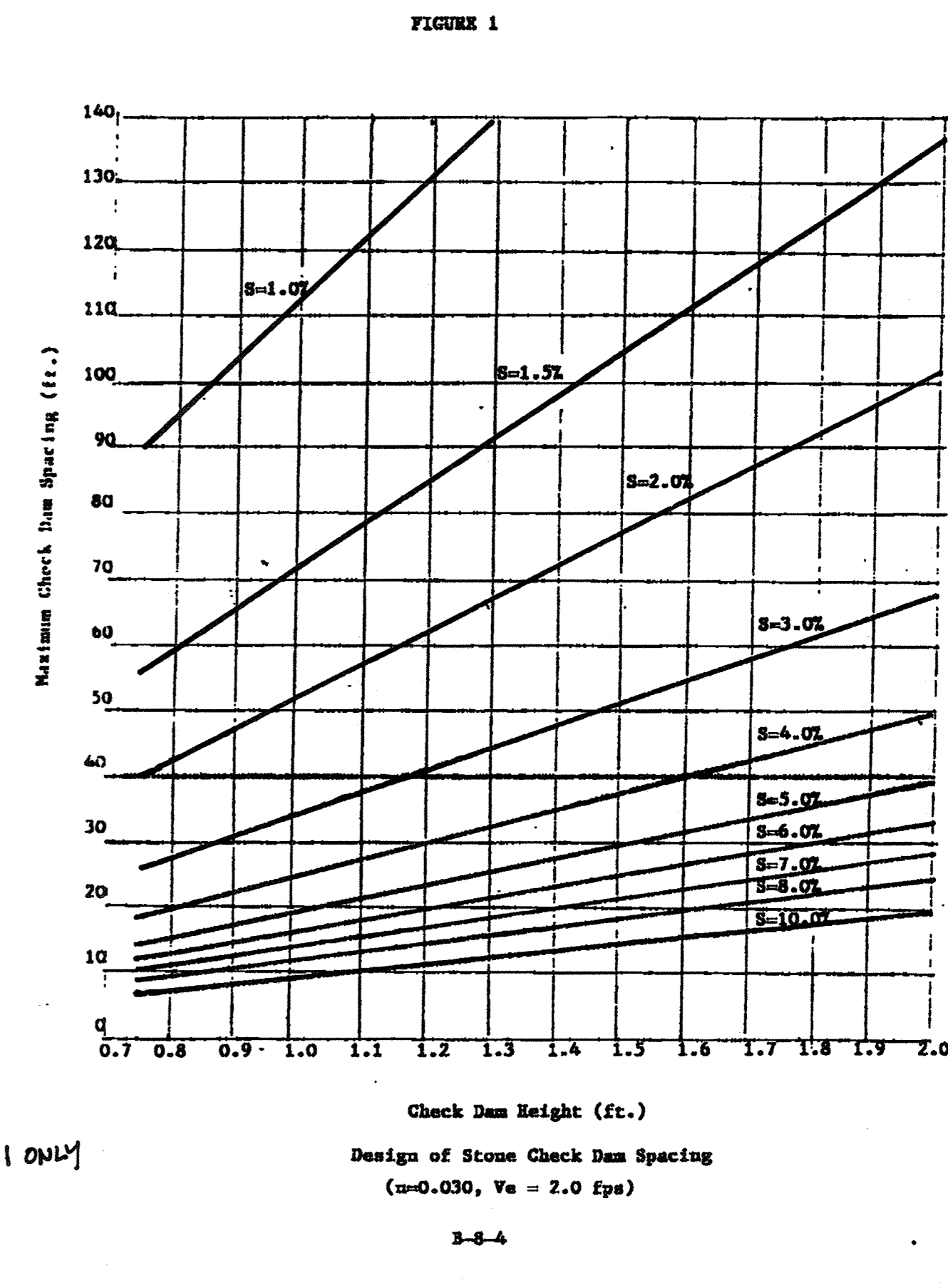
- CHAMFER ALL EXPOSED EDGES 1" X 1".
- USE 4" STEEL BARS 1/2"φ.
- "S" DISTANCE (INSIDE PIPE SURFACE TO VERTICAL BARS) IS 4" FOR 12" DIA. TO 18" DIA. PIPE INCLUDED, 6" FOR 24" DIA. PIPE INCLUDED, 8" FOR 42" TO 60" DIA. PIPE INCLUDED.
- SPACE VERTICAL BARS 12" TO 18" MAX. FOR 12" TO 18" DIA. PIPE INCLUDED, 18" MIN. TO 24" TO 60" DIA. PIPE INCLUDED.
- QUANTITIES IN TABLE FOR ESTIMATING ONLY.
- CONCRETE TO BE S.H.A. MIX NO. 2.



TYPE "E" HEADWALL



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | MARYLAND DEPARTMENT OF ENVIRONMENT & WATER MANAGEMENT | 1994



SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT/PARCEL 54,253,220,11
LIBER/FOLIO 10-847/806 18-878/215 10-891/314	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING
CENSUS TR. 60-30	

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

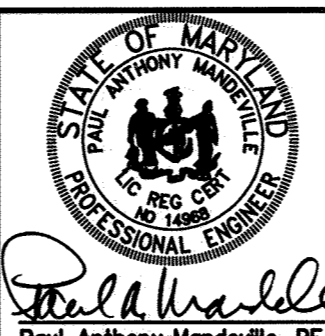
*[Signature]* 11/3/97  
DIRECTOR DATE

*[Signature]* 10/30/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 11/8/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES. RTT, EGC			
DRN. EGC			
CHK. PAM			
DATE: 10-30-97	DTM	BY NO.	REVISION
			4-2019

EROSION & SEDIMENT CONTROL  
AND MISCELLANEOUS DETAILS

3rd ELECTION DISTRICT

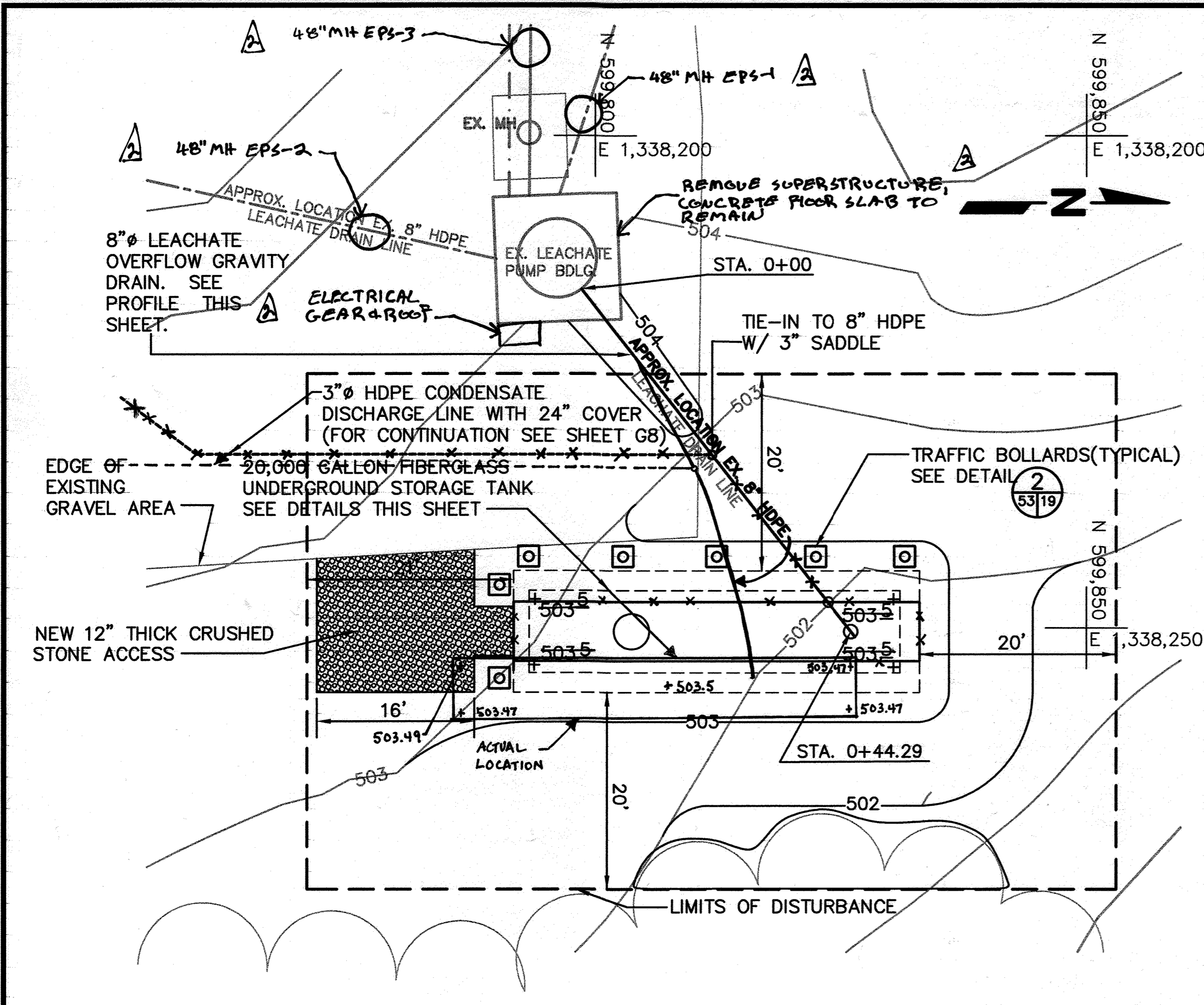
ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

HOWARD COUNTY, MARYLAND

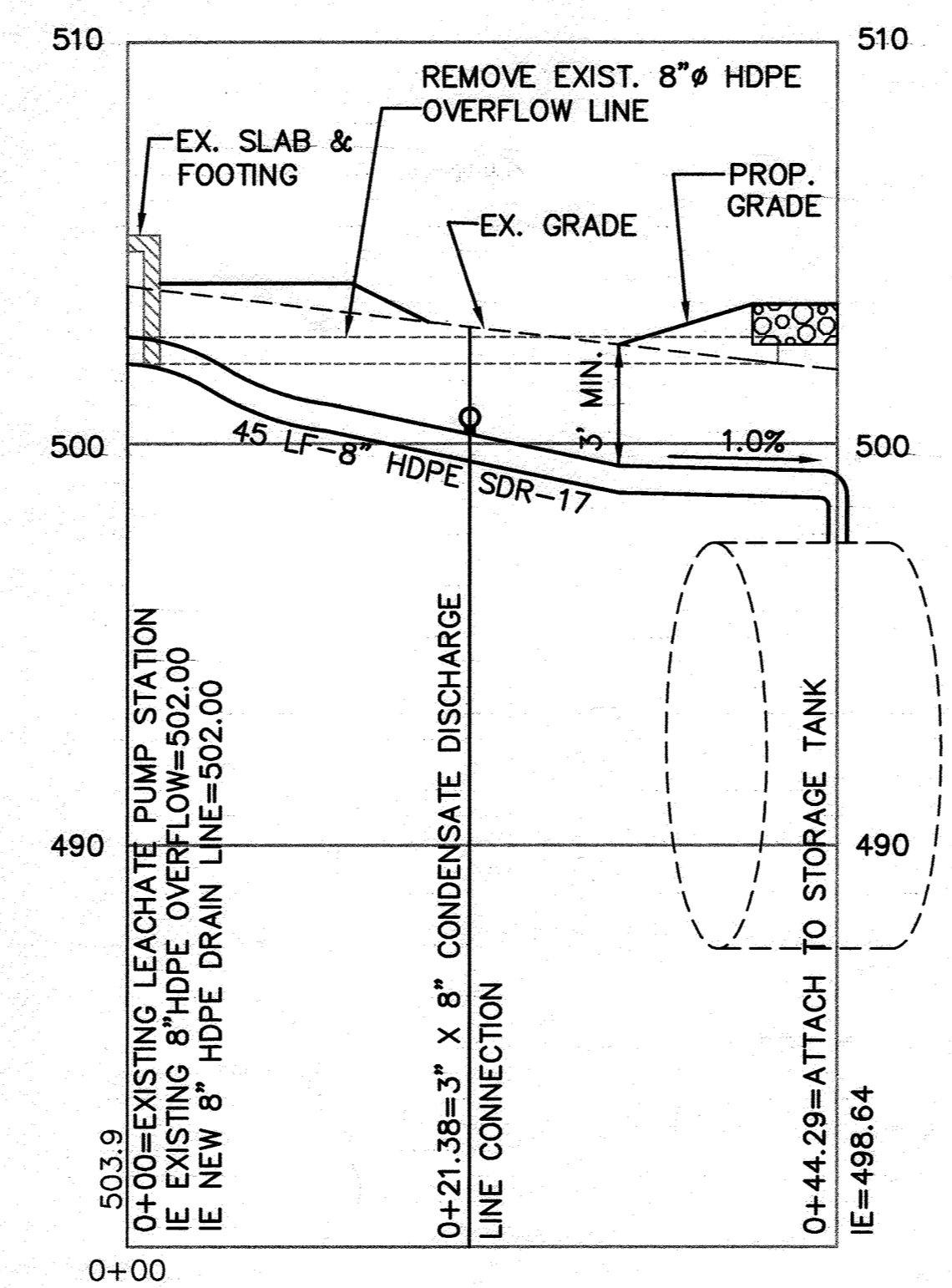
SCALE:  
AS NOTED

SHEET 11  
52 OF 140

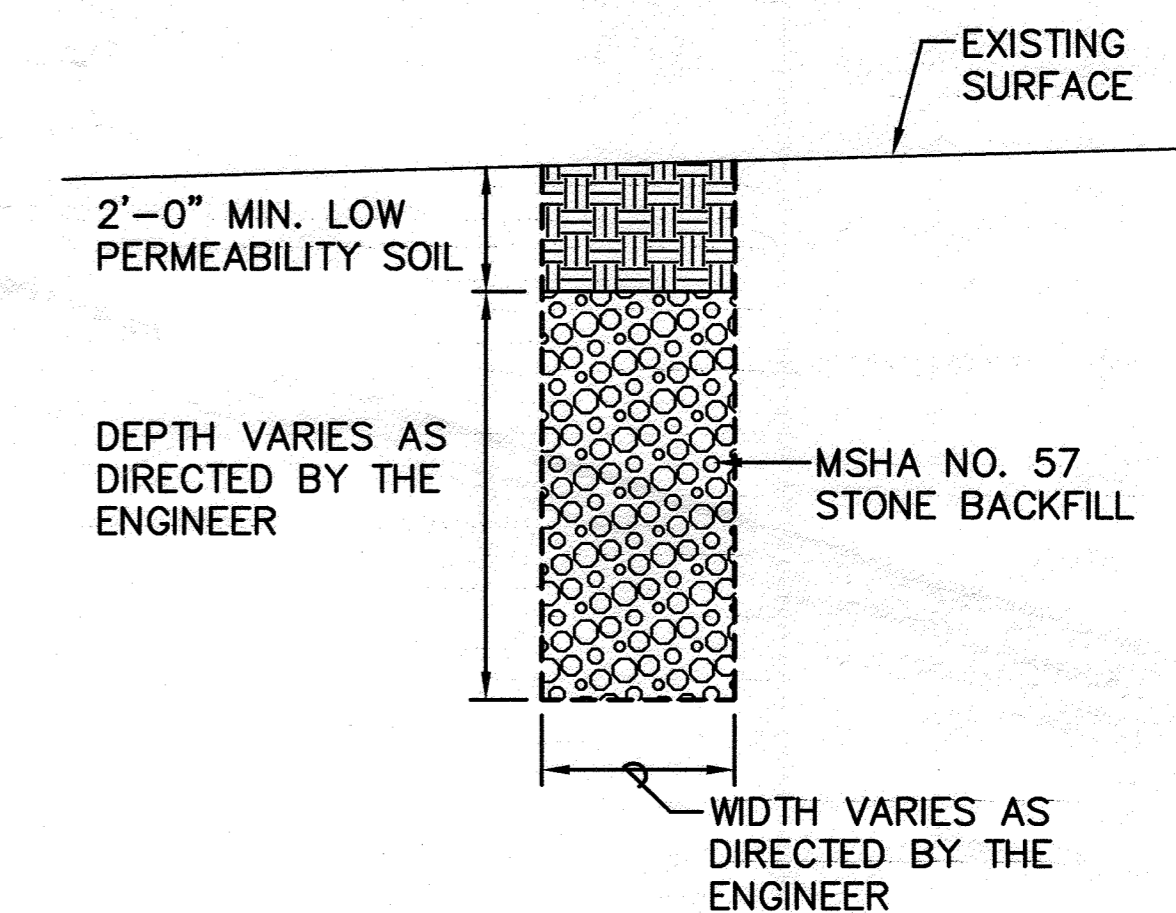
SDP-97-128



LEACHATE FACILITY - ENLARGED PLAN  
SCALE: 1" = 10'-0"

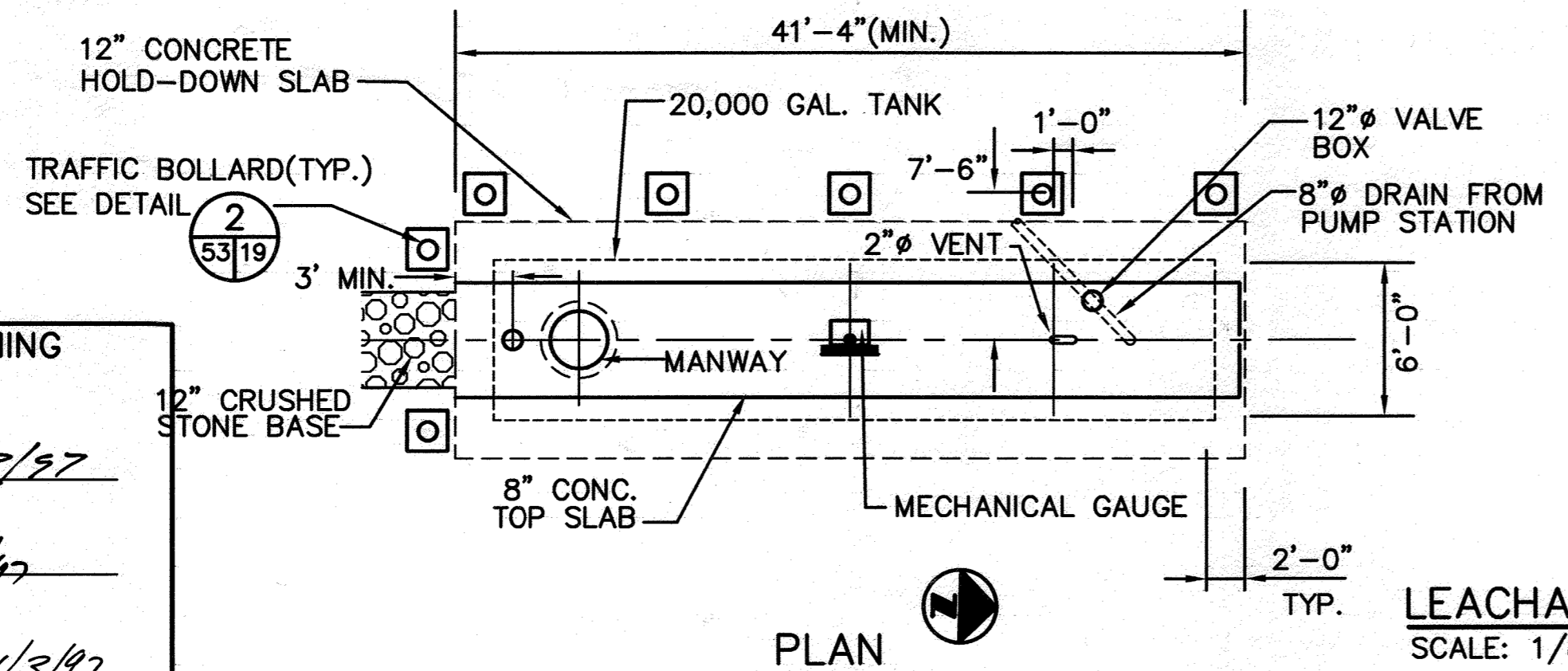
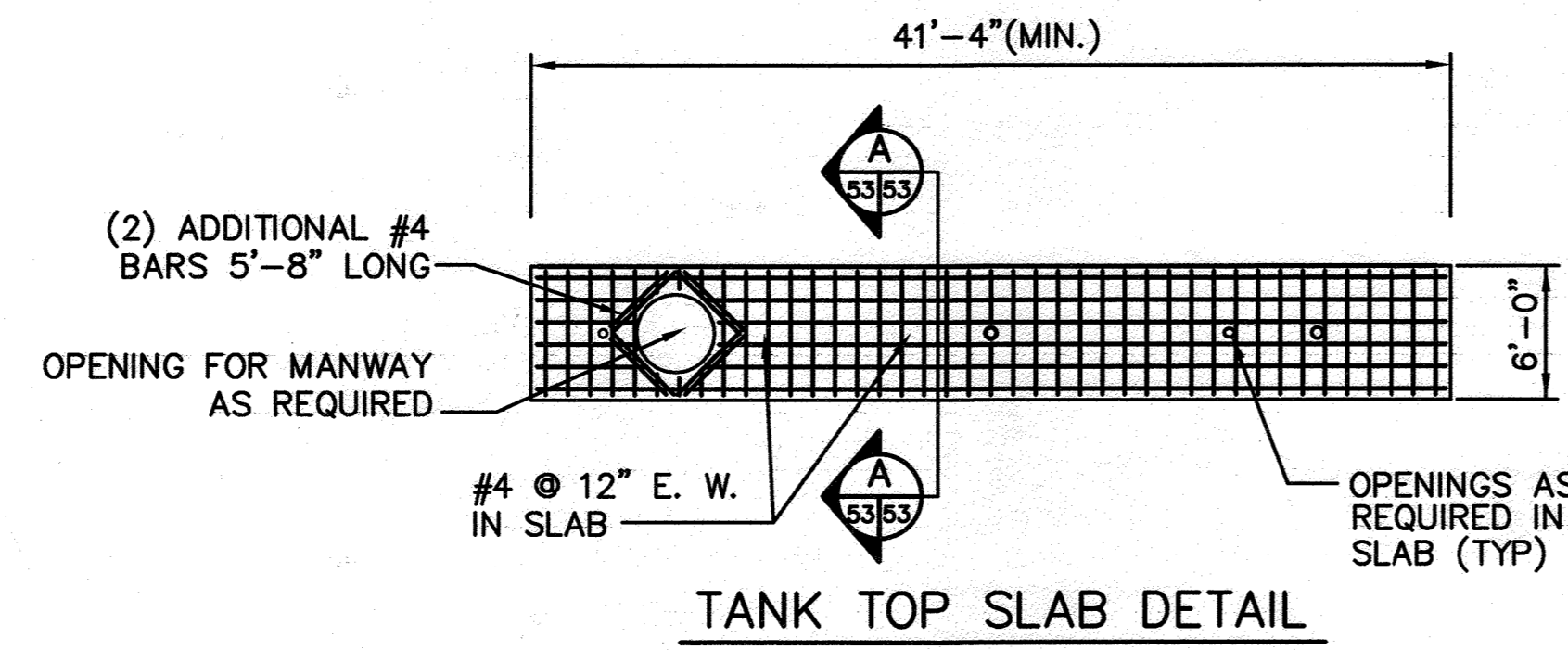
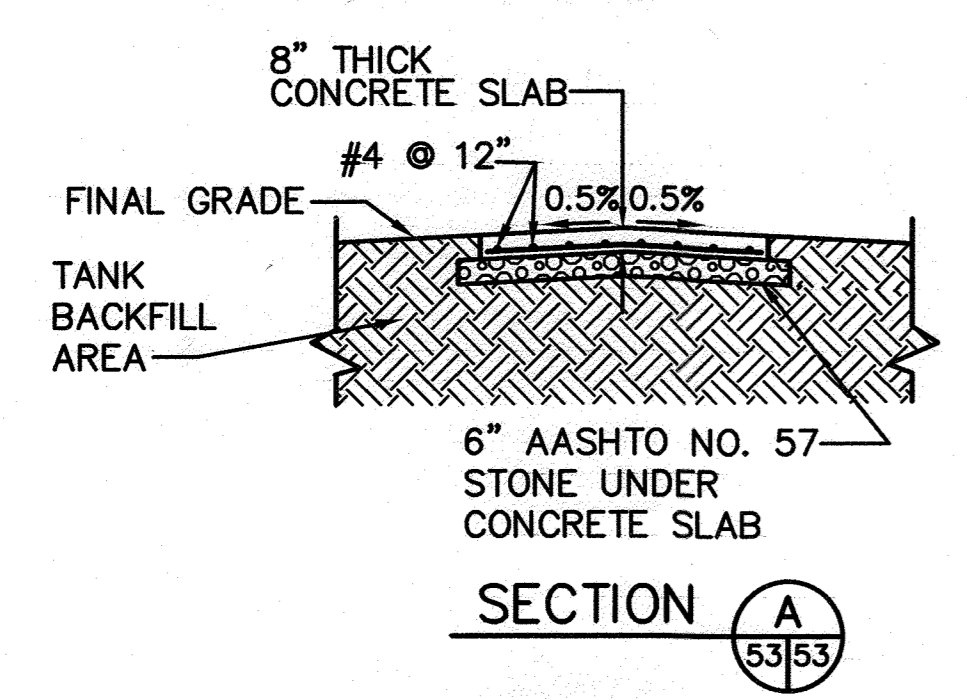


LEACHATE OVERFLOW GRAVITY DRAIN PROFILE  
HORIZONTAL SCALE IN FEET: 1" = 20'-0"  
VERTICAL SCALE IN FEET: 1" = 4'-0"

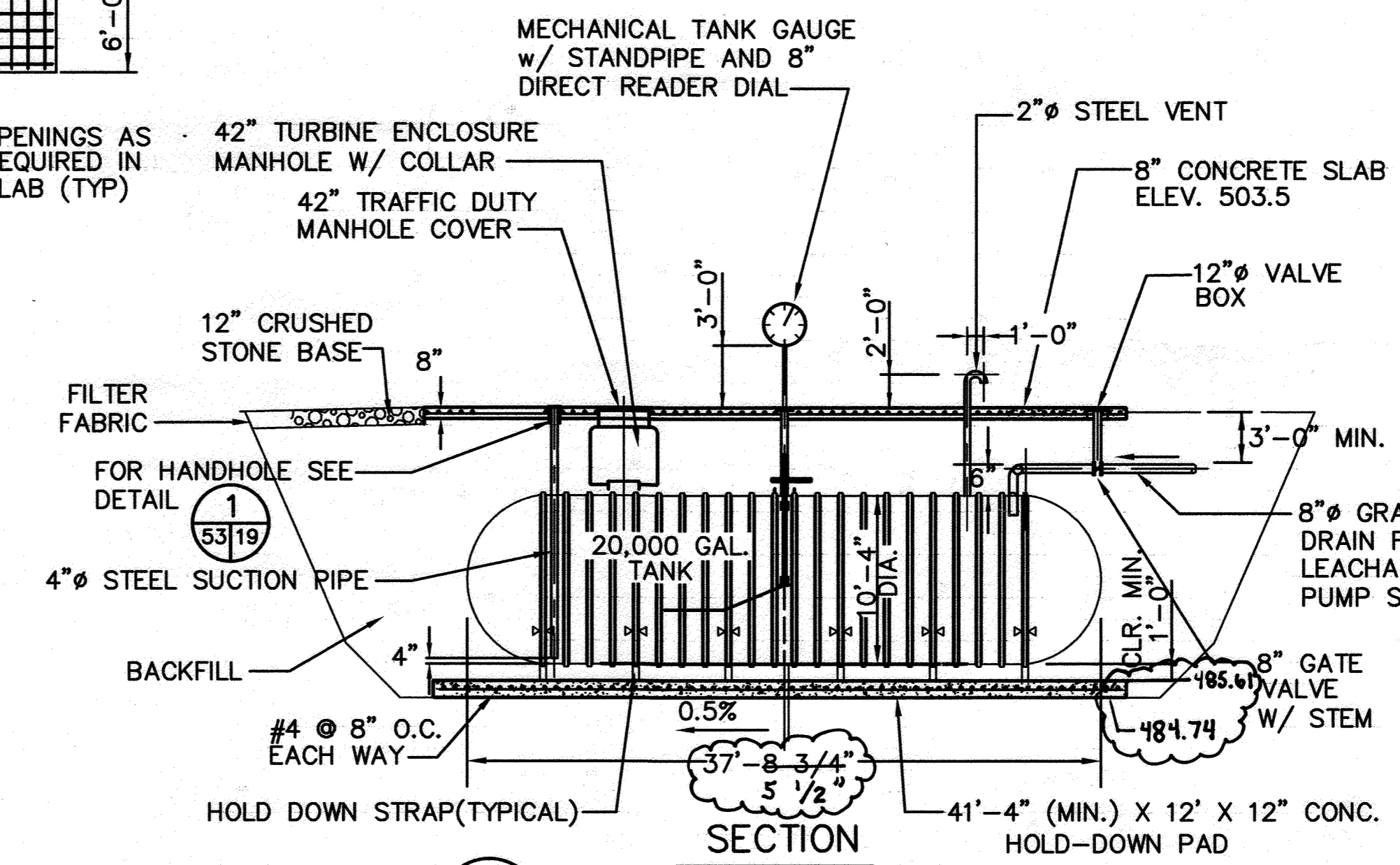


TYPICAL LEACHATE CONTROL TRENCH DETAIL  
NO SCALE

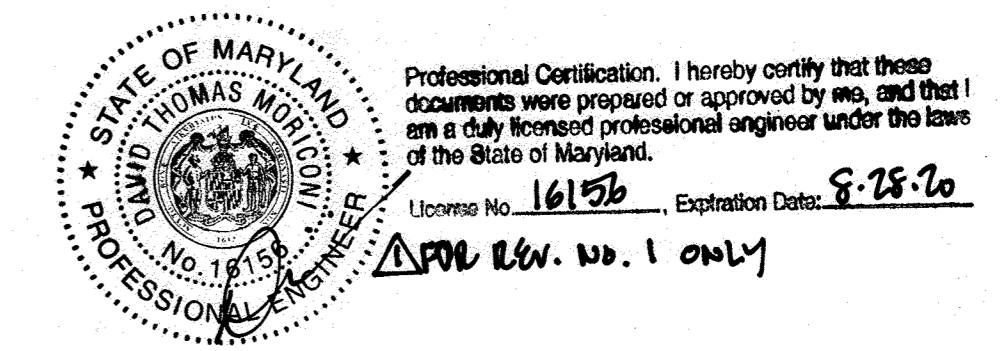
NOTE:  
THIS DETAIL OF CONSTRUCTION WILL BE USED WHEN REQUIRED TO CONTROL LEACHATE FROM ESCAPING TO THE ENVIRONMENT WHEN EXCESSIVE LEACHATE IS ENCOUNTERED DURING CONSTRUCTION. THE TRENCH WILL BE AUTHORIZED BY THE ENGINEER/COUNTY THROUGH A FIELD ORDER. QUANTITIES OF EXCAVATION, GEOTEXTILE, MSHA NO. 57, AND BACKFILL WILL BE PAID FOR BY THE CONTINGENCY UNIT PRICES. ACTUAL DIMENSIONS OF THE LEACHATE CONTROL TRENCH WILL BE SPECIFIED BY THE ENGINEER PRIOR TO CONSTRUCTION.



LEACHATE STORAGE TANK  
SCALE: 1/8" = 1'-0"  
SCALE IN FEET: 1" = 8'-0"



- NOTES:
- UNDERGROUND STORAGE TANK (UST) - PROVIDE 20,000 GALLON SINGLE WALL FIBERGLASS UST WITH OPENINGS AS INDICATED.
  - THE LOCATION PLACEMENT AND NUMBER OF HOLD DOWN STRAPS SHALL BE AS SPECIFIED BY THE MANUFACTURER.
  - UST BACKFILL SHALL BE AS SPECIFIED BY THE MANUFACTURER.
  - INSTALL THE UST IN ACCORDANCE WITH THE UST MANUFACTURER'S WRITTEN INSTRUCTIONS AND PETROLEUM EQUIPMENT INSTITUTE (PEI) 100-94.
  - CONCRETE SLAB SHALL BE CONSTRUCTED SO A 0.5% SLOPE IS MAINTAINED FROM THE CENTER (HIGH POINT) TO EACH CORNER OF SLAB (LOW POINT).
  - CONCRETE MINIMUM COMPRESSIVE STRENGTH SHALL BE 4,000 PSI AS PER SPECIFICATION 03300 "CONCRETE".
  - FOR ADDITIONAL OPENINGS OR IF OPENING LOCATIONS DIFFER FROM THOSE INDICATED DUE TO TANK MANUFACTURER'S REQUIREMENTS, CONTRACTOR SHALL SUBMIT A REVISED REINFORCING PLAN FOR ENGINEERS APPROVAL.
  - CONCRETE PAD SHALL BE BROOM FINISHED.



SUBDIVISION NAME		LOT/PARCEL	
ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		54,253,220,11	
LIBER/FOLIO	ZONE	TAX/ZONE MAP	
10-847/806 16-878/215 10-881/314	PEC	10 & 16	
WATER CODE	SEWER CODE	CENSUS TR.	
PRIVATE, EXISTING	PRIVATE, EXISTING	60-30	

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*James R. Smith* 11/3/97  
DIRECTOR DATE

*Chris Hamill* 11/3/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

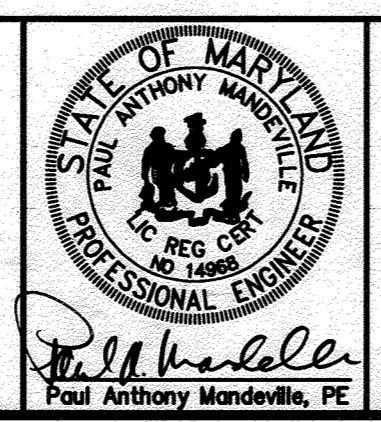
*John O'Hara* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James R. Smith* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*John O'Hara* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



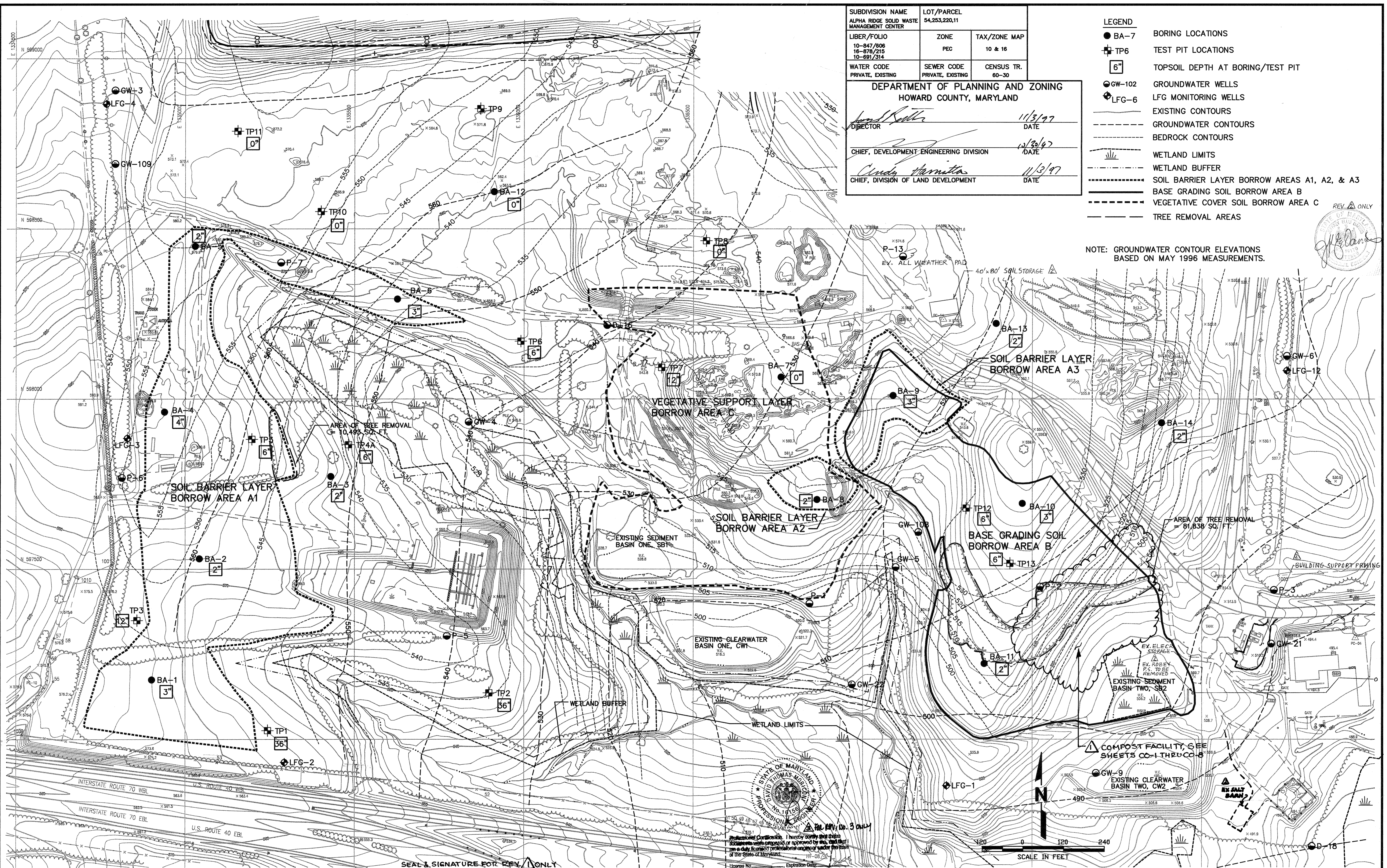
DES.	RTT,MEH			
DRN.	MEH			
CHK.	PAM	DAD	PUMP STATION UPGRADES	1-20-94
DATE:	10-30-97	BY:	NO.	REVISION
				DATE

LEACHATE FACILITY LAYOUT AND DETAILS

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

SCALE:  
AS NOTED  
SHEET 53 OF 140

3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND



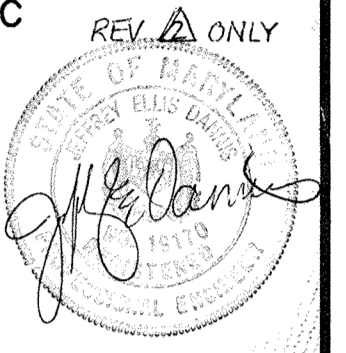
SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/806 16-878/215 10-881/314	ZONE PEC	TAX/ZONE MAP 10 & 16	
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30	

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	
DIRECTOR <i>[Signature]</i>	DATE 11/3/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION <i>[Signature]</i>	DATE 12/30/97
CHIEF, DIVISION OF LAND DEVELOPMENT <i>[Signature]</i>	DATE 11/3/97

- LEGEND**
- BA-7 BORING LOCATIONS
  - ⊕ TP6 TEST PIT LOCATIONS
  - 6" TOPSOIL DEPTH AT BORING/TEST PIT
  - GW-102 GROUNDWATER WELLS
  - LFG-6 LFG MONITORING WELLS
  - EXISTING CONTOURS
  - GROUNDWATER CONTOURS
  - BEDROCK CONTOURS
  - WETLAND LIMITS
  - WETLAND BUFFER
  - SOIL BARRIER LAYER BORROW AREAS A1, A2, & A3
  - BASE GRADING SOIL BORROW AREA B
  - VEGETATIVE COVER SOIL BORROW AREA C
  - TREE REMOVAL AREAS

NOTE: GROUNDWATER CONTOUR ELEVATIONS BASED ON MAY 1996 MEASUREMENTS.



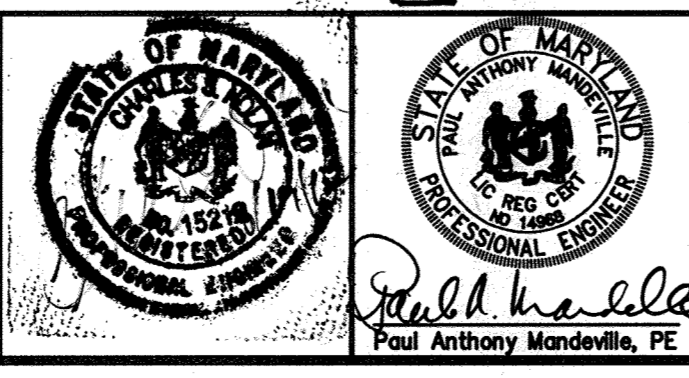
BORROW M: 2955077.01 BORROW

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES. RTT, EGC				
DRN. EGC				
CHK. PAM	DTM	UPDATE SHEET TOTAL	4-2019	
	JED	ADD EX. STRUCTURES, SUPPORT PARKING	6/9/14	
	CSN	ALPHA RIDGE LANDFILL COMPOST FACILITY	3/19/12	
DATE: 10-30-97	BY NO.	REVISION	DATE	

BORROW AREA EXISTING CONDITIONS PLAN

REVISED SDP (JUNE 2014)

ALPHA RIDGE LANDFILL UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: 1"=120'  
SHEET 54 OF 140

SDA-97-128



TEST PIT LOG				
PROJECT NAME: ALPHA RIDGE LANDFILL		TEST PIT NO. 11		
CLIENT: HOWARD COUNTY, MD.				
SCS JOB NO.: 285077.01				
DATE: 2-24-97		SURFACE ELEV.: 572.40		
EXCAVATED BY: HOWARD COUNTY		COORDINATES: N 588787.120		
LOGGED BY: R. BARTOLDUS		E 1335154.765		
		TOTAL DEPTH: 13		
DEPTH (FT)	ELEV.	SAMPLE NUMBER	SYMBOL LOG	DESCRIPTION
1				TOPSOIL
2				GRAY-BROWN FINE SAND, SILT AND BROKEN ROCK, SOME BOULDERS, SOME ORGANIC BOG, RAGS (FILL)
3				
4				
5				
6				
7				
8				
9				
10				TAN AND GRAY FINE SAND AND SILT, TRACE OF DECOMPOSED ROCK (SM)(NP)
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

TEST PIT LOG				
PROJECT NAME: ALPHA RIDGE LANDFILL		TEST PIT NO. 12		
CLIENT: HOWARD COUNTY, MD.				
SCS JOB NO.: 285077.01				
DATE: 2-21-97		SURFACE ELEV.: 542.10		
EXCAVATED BY: HOWARD COUNTY		COORDINATES: N 587879.289		
LOGGED BY: R. BARTOLDUS		E 1337304.636		
		TOTAL DEPTH: 10 FT		
DEPTH (FT)	ELEV.	SAMPLE NUMBER	SYMBOL LOG	DESCRIPTION
1				TOPSOIL
2				
3				
4				
5				RED BROWN SANDY SILT AND CLAY, SOME WEATHERED AND DECOMPOSED ROCK (SM)(NP)
6				
7				
8				
9				WEATHERED ROCK (SHALE)
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

TEST PIT LOG				
PROJECT NAME: ALPHA RIDGE LANDFILL		TEST PIT NO. 13		
CLIENT: HOWARD COUNTY, MD.				
SCS JOB NO.: 285077.01				
DATE: 2-21-97		SURFACE ELEV.: 545.40		
EXCAVATED BY: HOWARD COUNTY		COORDINATES: N 587516.920		
LOGGED BY: R. BARTOLDUS		E 1337434.084		
		TOTAL DEPTH: 9 FT		
DEPTH (FT)	ELEV.	SAMPLE NUMBER	SYMBOL LOG	DESCRIPTION
1				TOPSOIL
2				
3				
4				
5				ORANGE BROWN CLAY, SOME SILT (SM)
6				
7				
8				RED BROWN SANDY SILT AND CLAY, SOME ROCK (SM)(NP)
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

LOGS1-B M: 285077.01 BORINGS TP11, TP12, TP13

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*James P. Lewis* 11/3/97  
DIRECTOR DATE

*Linda Hamilton* 11/3/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Linda Hamilton* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

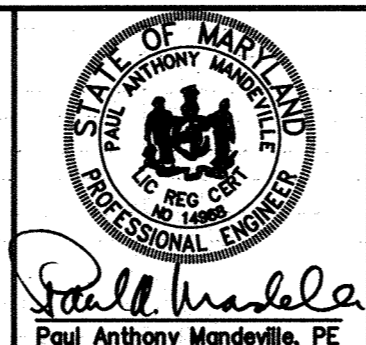
SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT/PARCEL 54,253,220.11
LIBER/FOLIO 10-847/606 16-878/215 10-891/314	ZONE PEC
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING
	TAX/ZONE MAP 10 & 16
	CENSUS TR. 60-30

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James P. Lewis* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*John J. O'Hara* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES. EGC, RTT			
DRN. EGC			
CHK. PAM			
DATE: 10-30-97	BY: <i>Paul Mandeville</i>	NO. 4-1019	REVISION

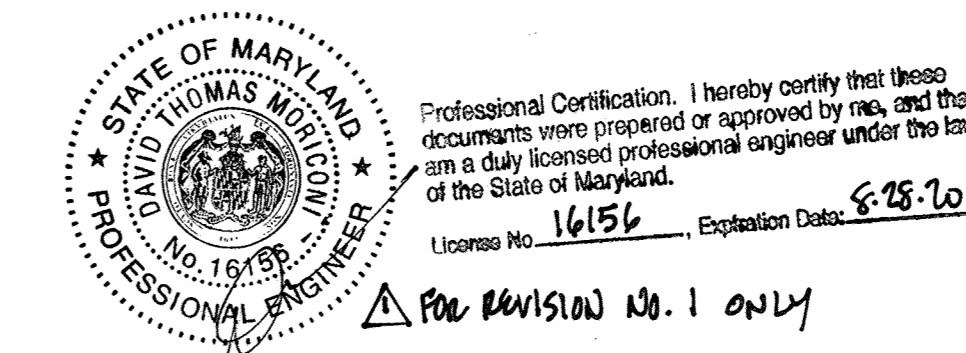
BORROW AREA  
TEST PIT LOGS

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE:  
AS NOTED

SHEET 56 OF 146



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 16156, Expiration Date: 8-28-00

For Revision No. 1 ONLY

SDP-974728







SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/806 16-878/215 10-891/314	ZONE PEC	TAX/ZONE MAP 10 & 16	
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 80-30	

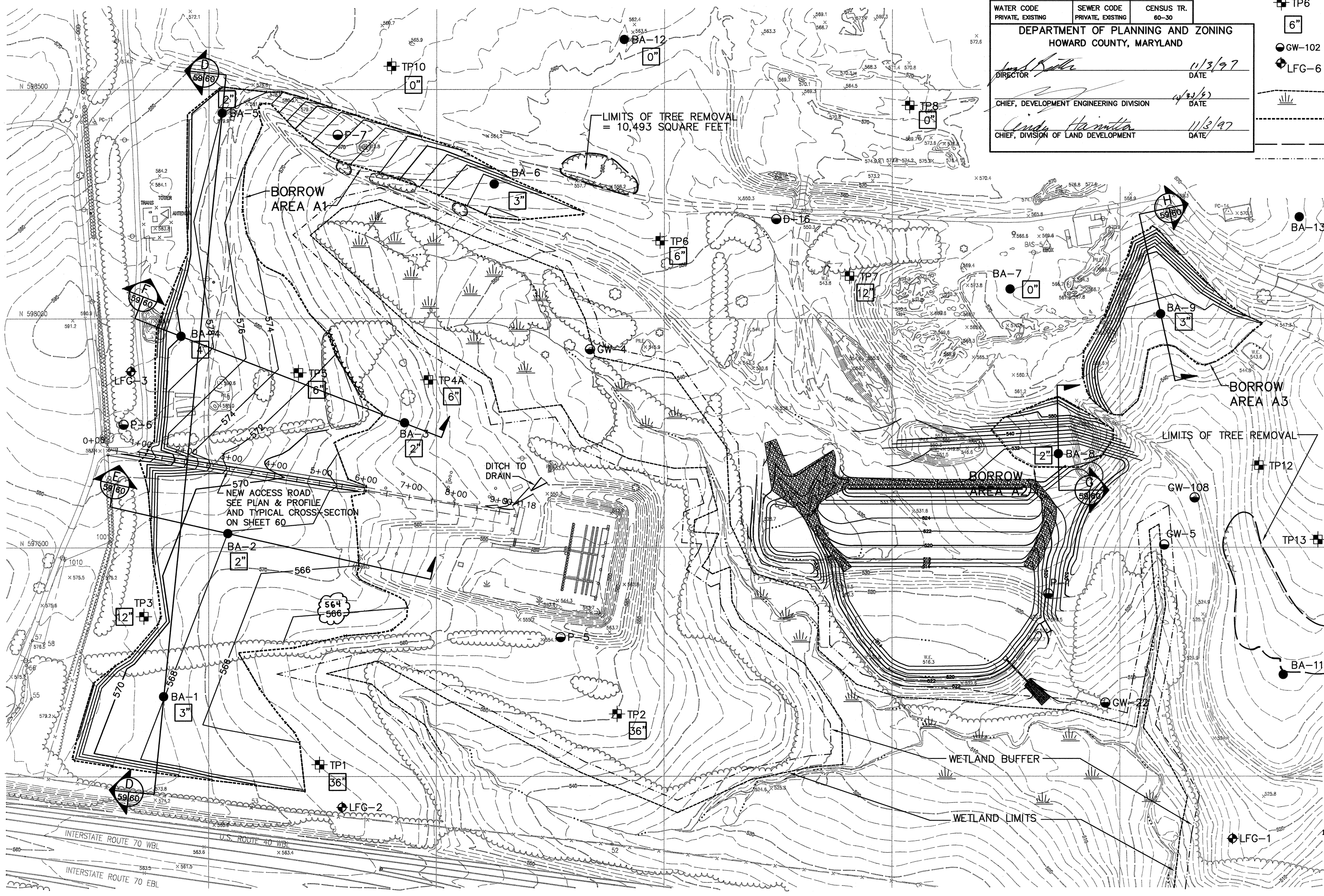
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*[Signature]* 11/3/97  
DIRECTOR DATE

*[Signature]* 11/3/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

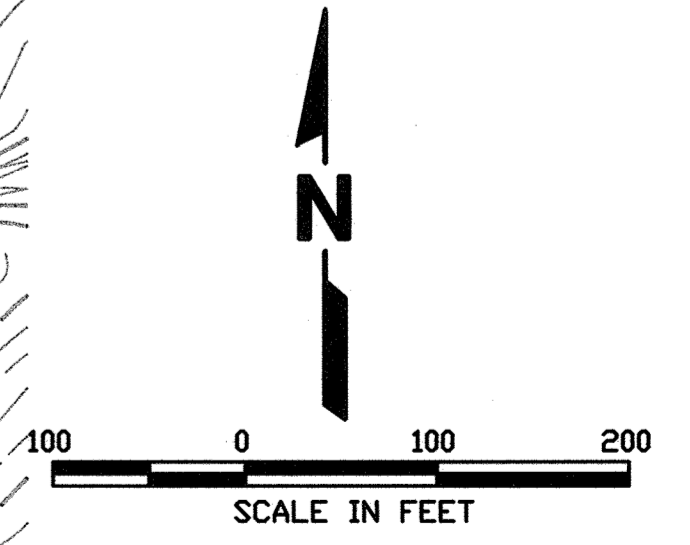
- LEGEND**
- BA-7 BORING LOCATIONS
  - ⊕ TP6 TEST PIT LOCATIONS
  - 6" TOPSOIL DEPTH AT BORING/TEST PIT
  - GW-102 GROUNDWATER WELLS
  - LFG-6 LFG MONITORING WELLS
  - EXISTING CONTOURS
  - WETLAND LIMITS
  - SOIL BARRIER LAYER
  - BORROW AREAS A1, A2, & A3
  - TREE REMOVAL AREAS
  - WETLAND BUFFER



SEE ETA SHEET 70-AB  
FOR AS BUILT CLEARWATER 1  
BASIN PLAN



Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 16156, Expiration Date: 8-28-90



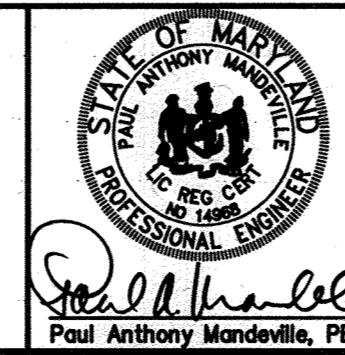
M: \285077.01 BORROW BORR3

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES. EGC, RTT	▲			
DRN. EGC	▲			
CHK. PAM	▲			
DATE: 10-30-97	BY	NO.	REVISION	DATE
			UPDATED SHEET TOTAL	4-2/97

SOIL BARRIER LAYER  
BORROW AREAS A1, A2, & A3

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

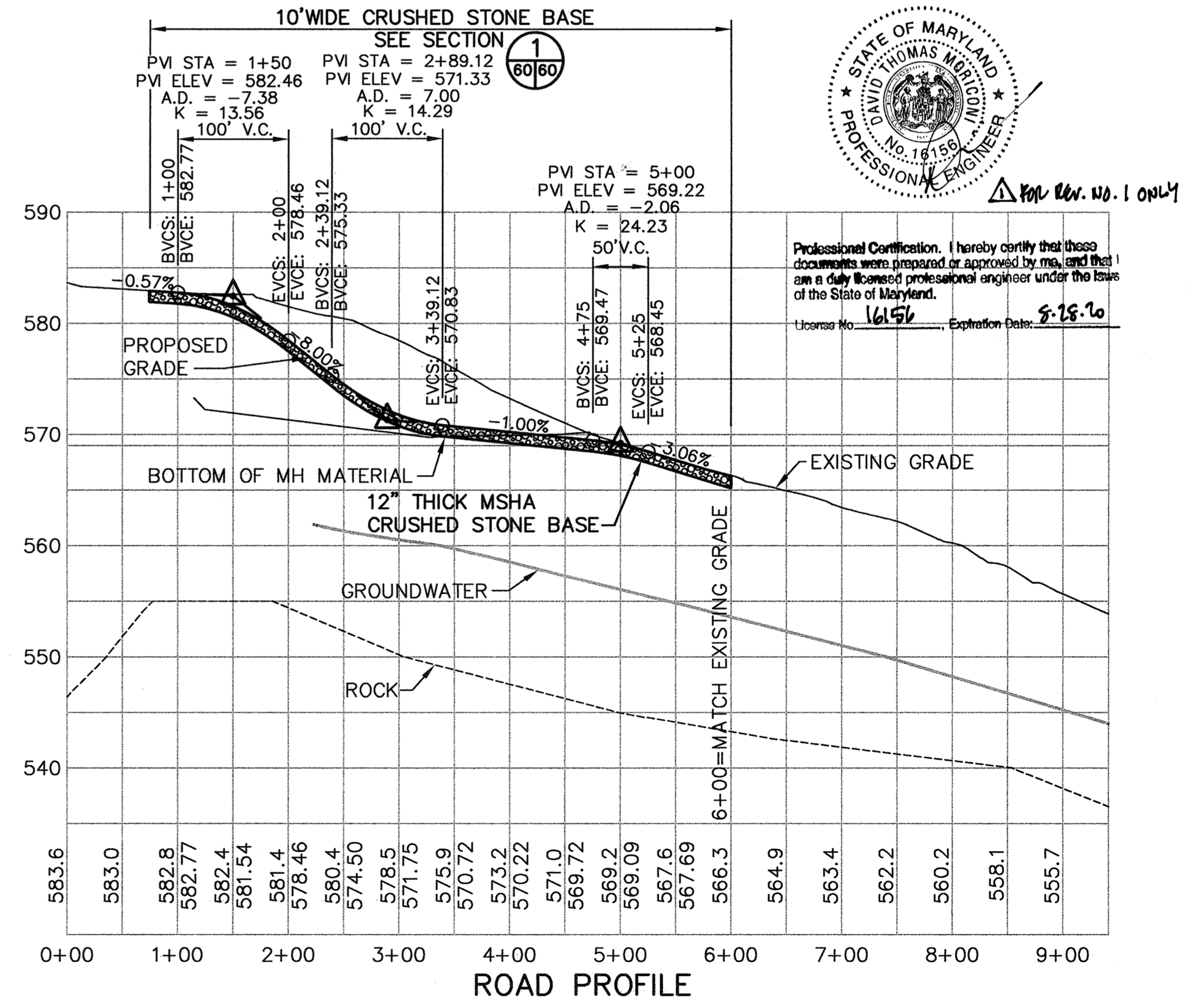
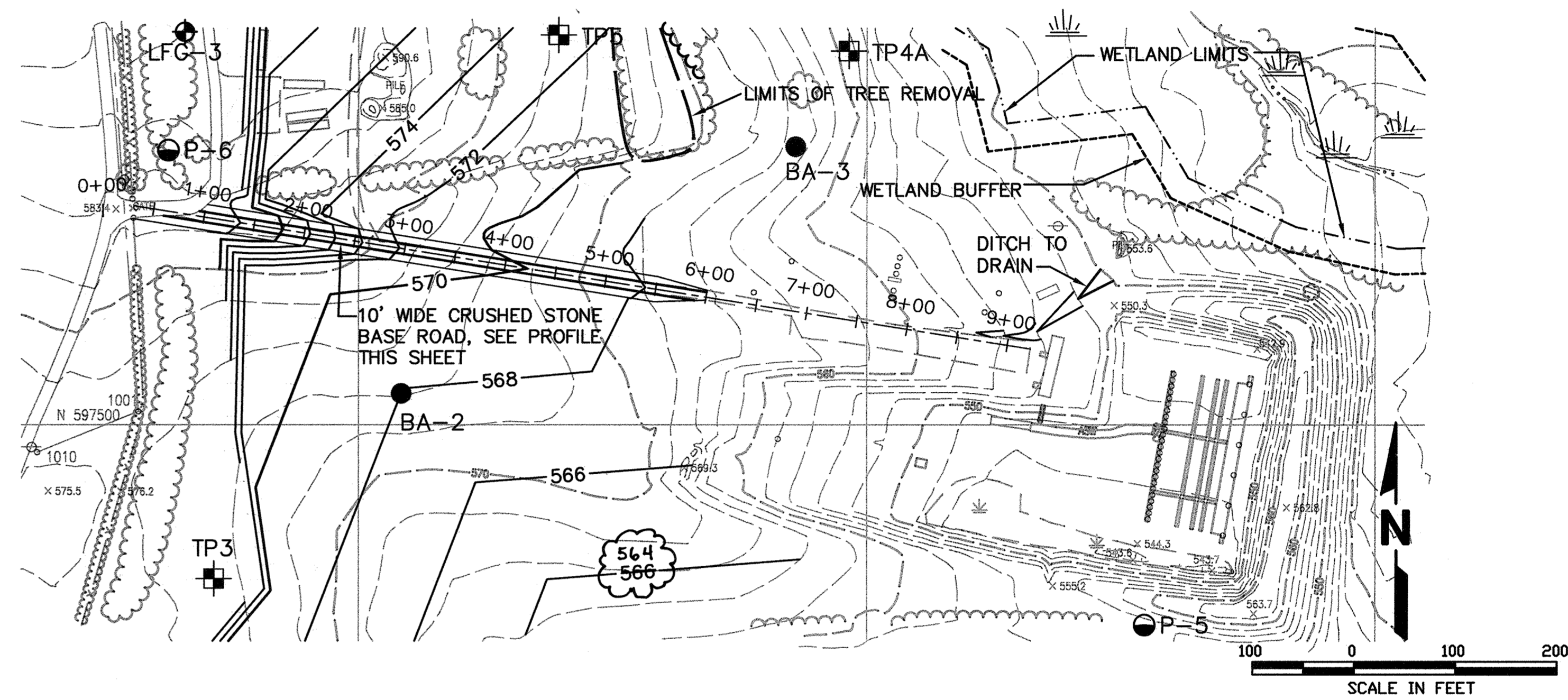
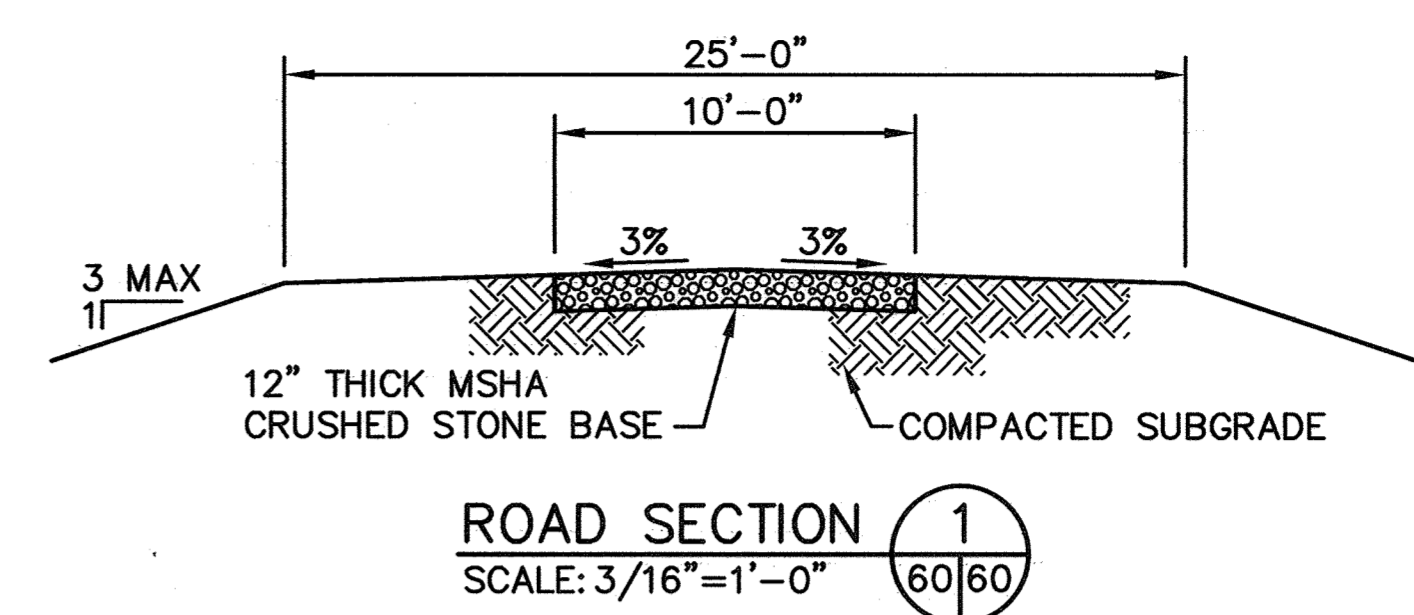
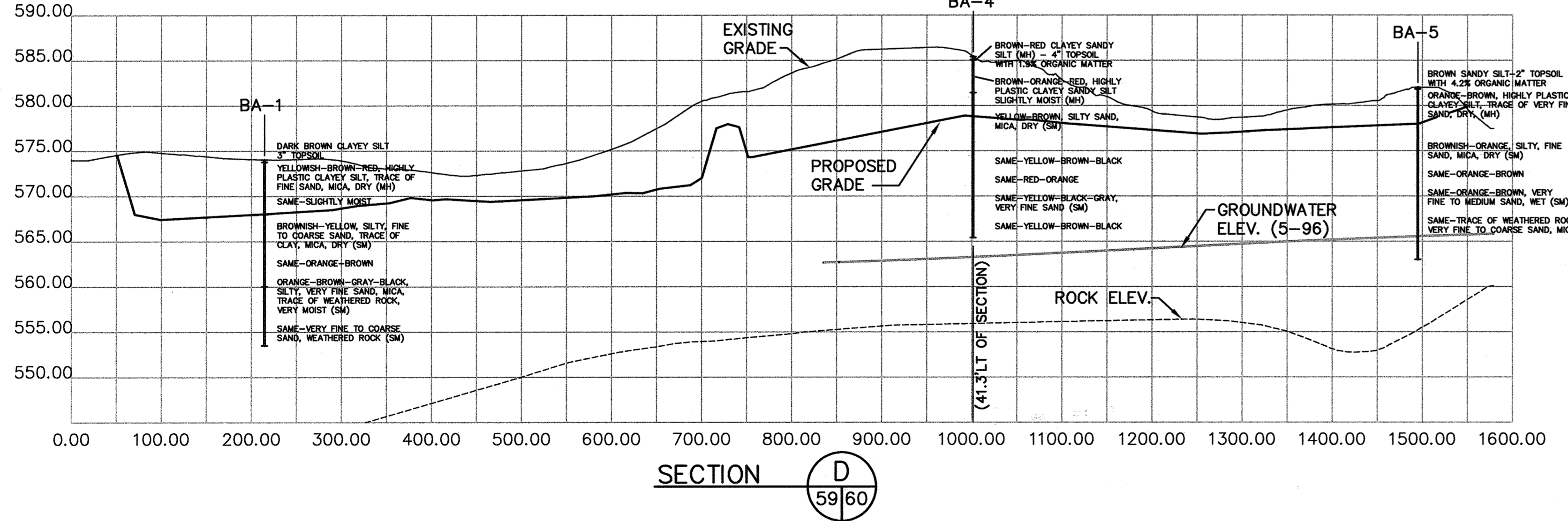
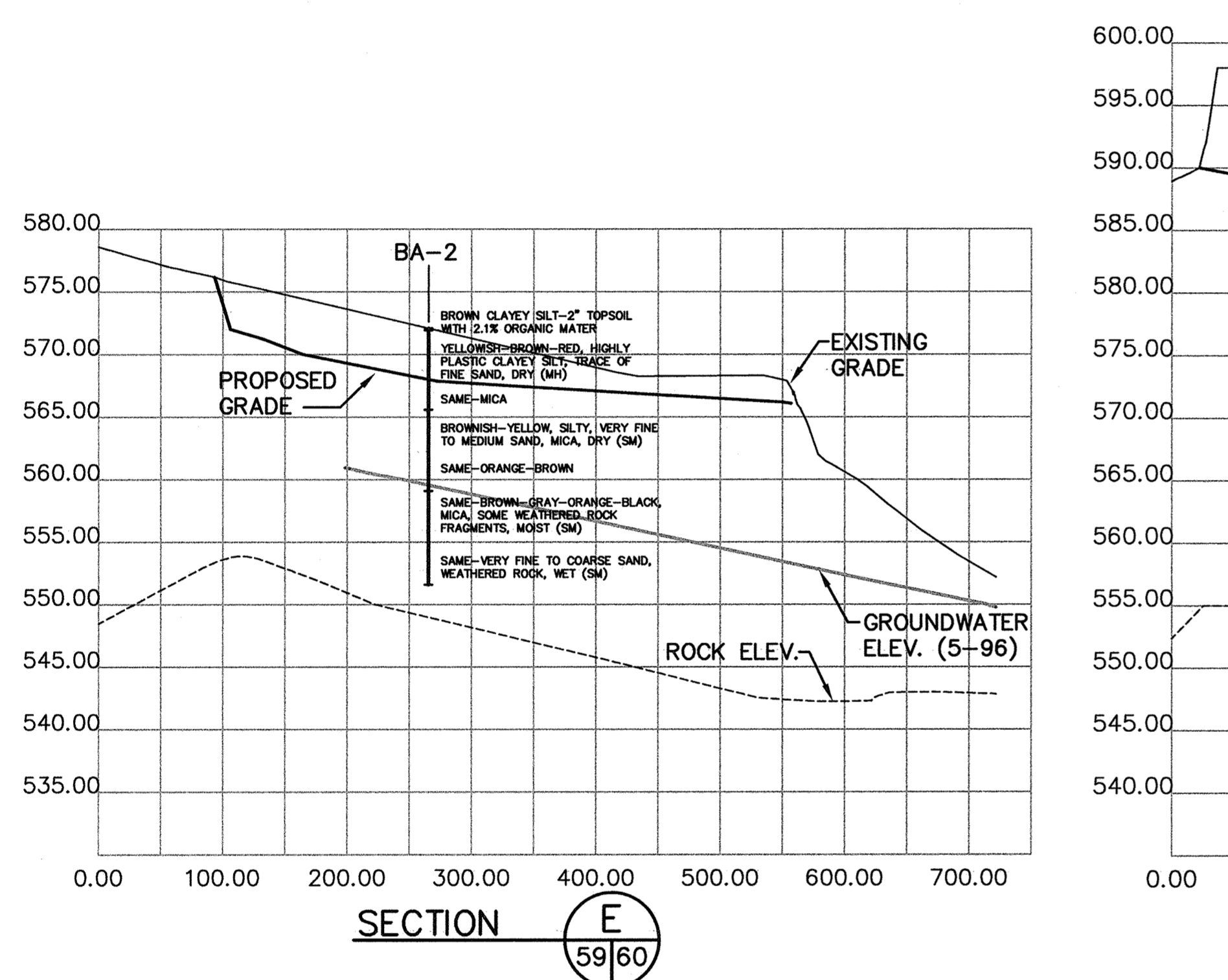
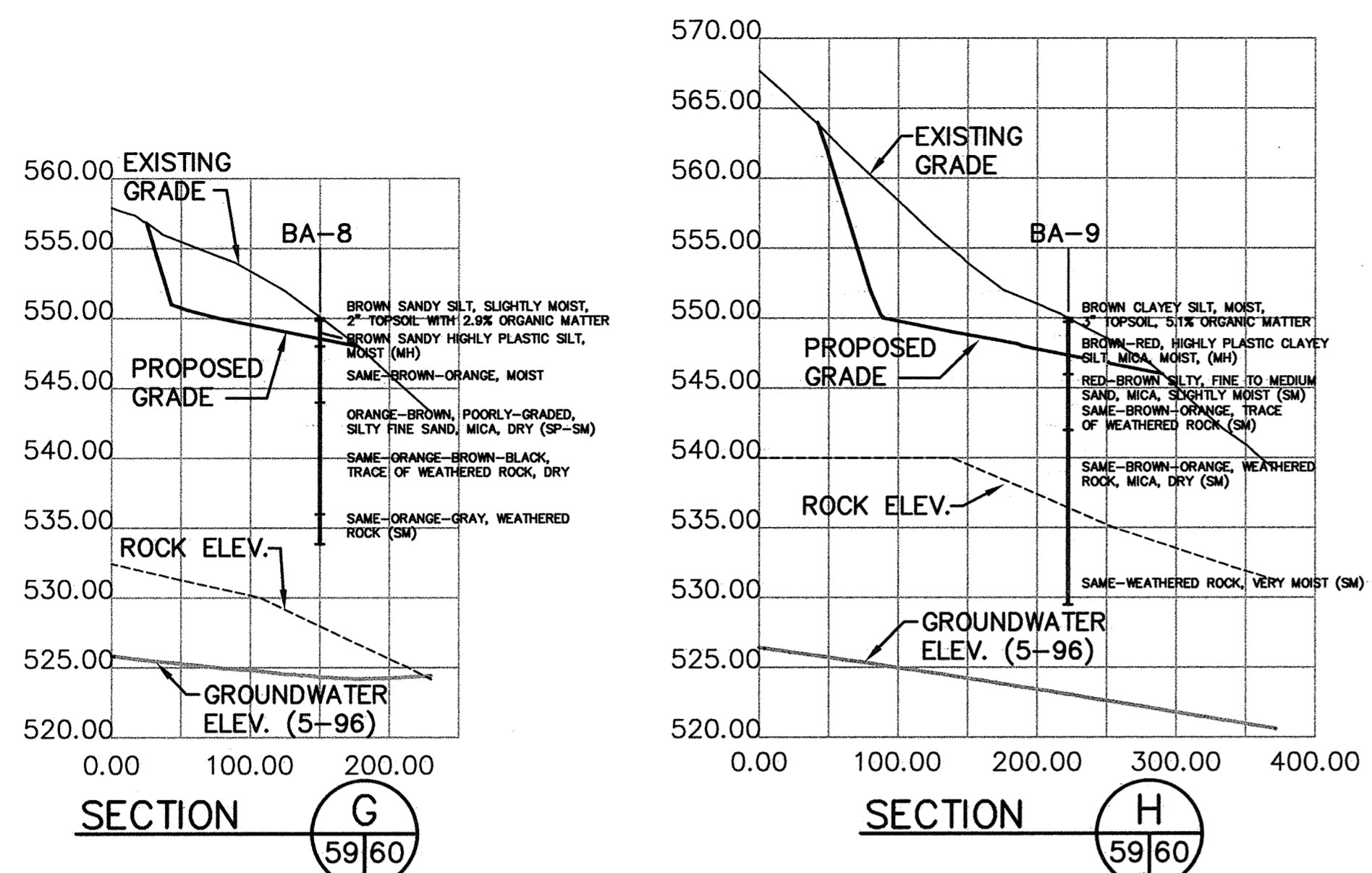
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE:  
1"=100'

SHEET 59 of 140

SDP-97-128

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/606 16-878/215 10-891/314	ZONE PEC	TAX/ZONE MAP 10 & 16	
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30	
<b>DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND</b>			
DIRECTOR <i>[Signature]</i>		DATE 11/3/97	
CHIEF, DEVELOPMENT ENGINEERING DIVISION		DATE 12/31/97	
CHIEF, DIVISION OF LAND DEVELOPMENT <i>[Signature]</i>		DATE 11/3/97	



STATE OF MARYLAND  
PAUL THOMAS HINDLICH  
PROFESSIONAL ENGINEER  
No. 16156  
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 16156  
Expiration Date: 5-28-00

M:\295077.01\BORROW SECDEFG. ROADPRO BORR3A

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
DIRECTOR OF PUBLIC WORKS: *[Signature]* DATE: 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT: *[Signature]* DATE: 10/30/97

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676

STATE OF MARYLAND  
PAUL THOMAS HINDLICH  
PROFESSIONAL ENGINEER  
No. 16156

DES. EGC, RTT	BY	DATE	REVISION
DRN. EGC	NO.	10-30-97	UPON SHEET TOTAL
CHK. PAM	NO.	4-20-99	

SOIL BARRIER BORROW AREA  
CROSS-SECTIONS AND DETAILS

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE:  
1"=100'  
SHEET 60 OF 140

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*Paul S. Kelle* 11/3/97  
DIRECTOR DATE

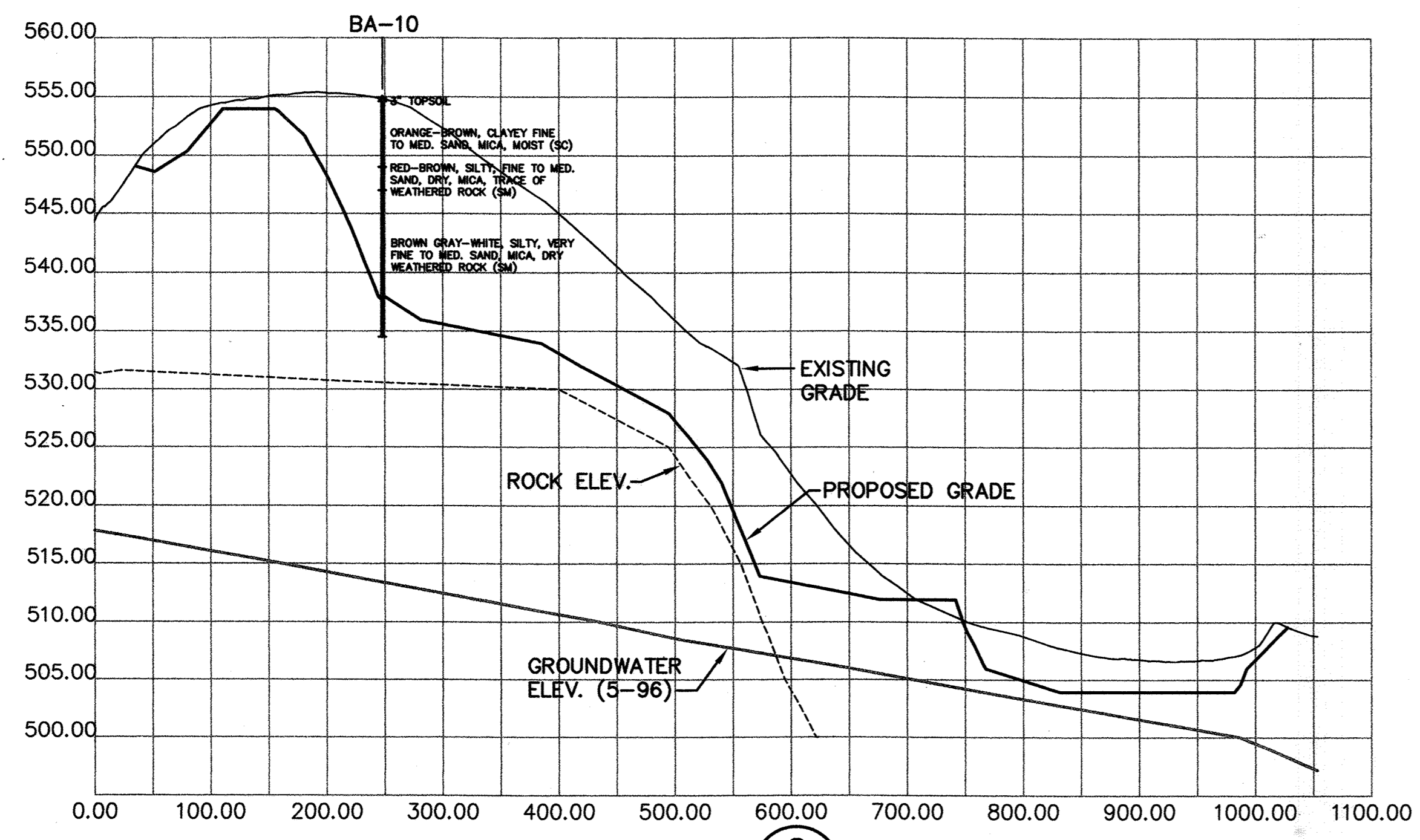
*John J. O'Hara* 10/30/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Paul Anthony Mandeville* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

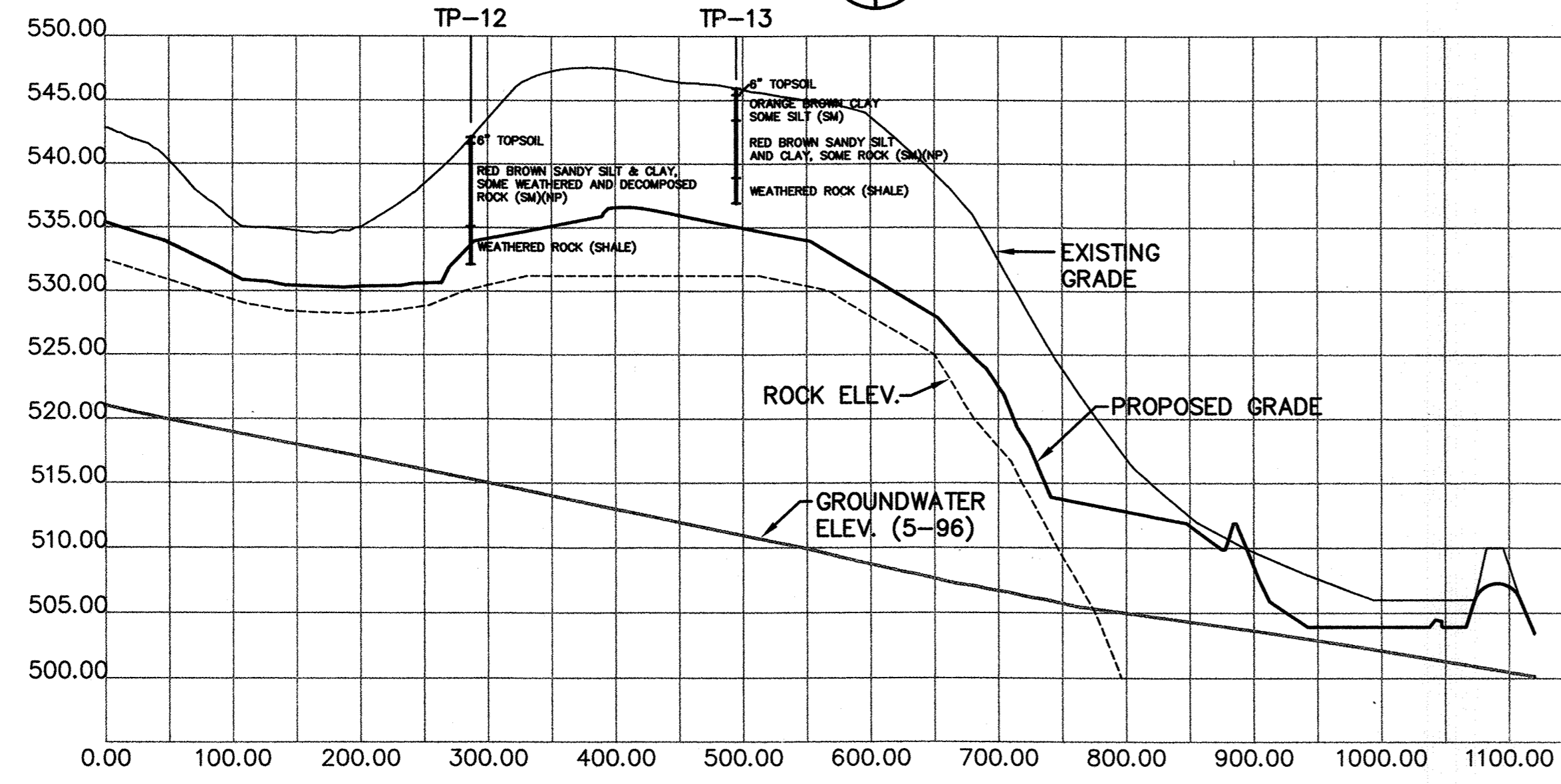
SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT/PARCEL 54,253,220,11
LIBER/FOLIO 10-847/806 16-878/215 10-891/314	ZONE PEC
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING
TAX/ZONE MAP 10 & 16	CENSUS TR. 60-30

- LEGEND**
- BA-7 BORING LOCATIONS
  - ⊕ TP6 TEST PIT LOCATIONS
  - 6" TOPSOIL DEPTH AT BORING/TEST PIT
  - GW-102 GROUNDWATER WELLS
  - ⊕ LFG-6 LFG MONITORING WELLS
  - EXISTING CONTOURS
  - WETLAND LIMITS
  - WETLAND BUFFER
  - BASE GRADING SOIL BORROW AREA B
  - TREE REMOVAL AREAS
- EX. MAINTENANCE SHOP PARKING 18 (1 HC)  
REQUIRED PARKING 10  
PARKING LOST BY CONSTRUCTION 3 (0 HC)  
PARKING DISTURBED BY CONSTR. 3 (0 HC)  
NEW PARKING 17  
TOTAL PARKING 32

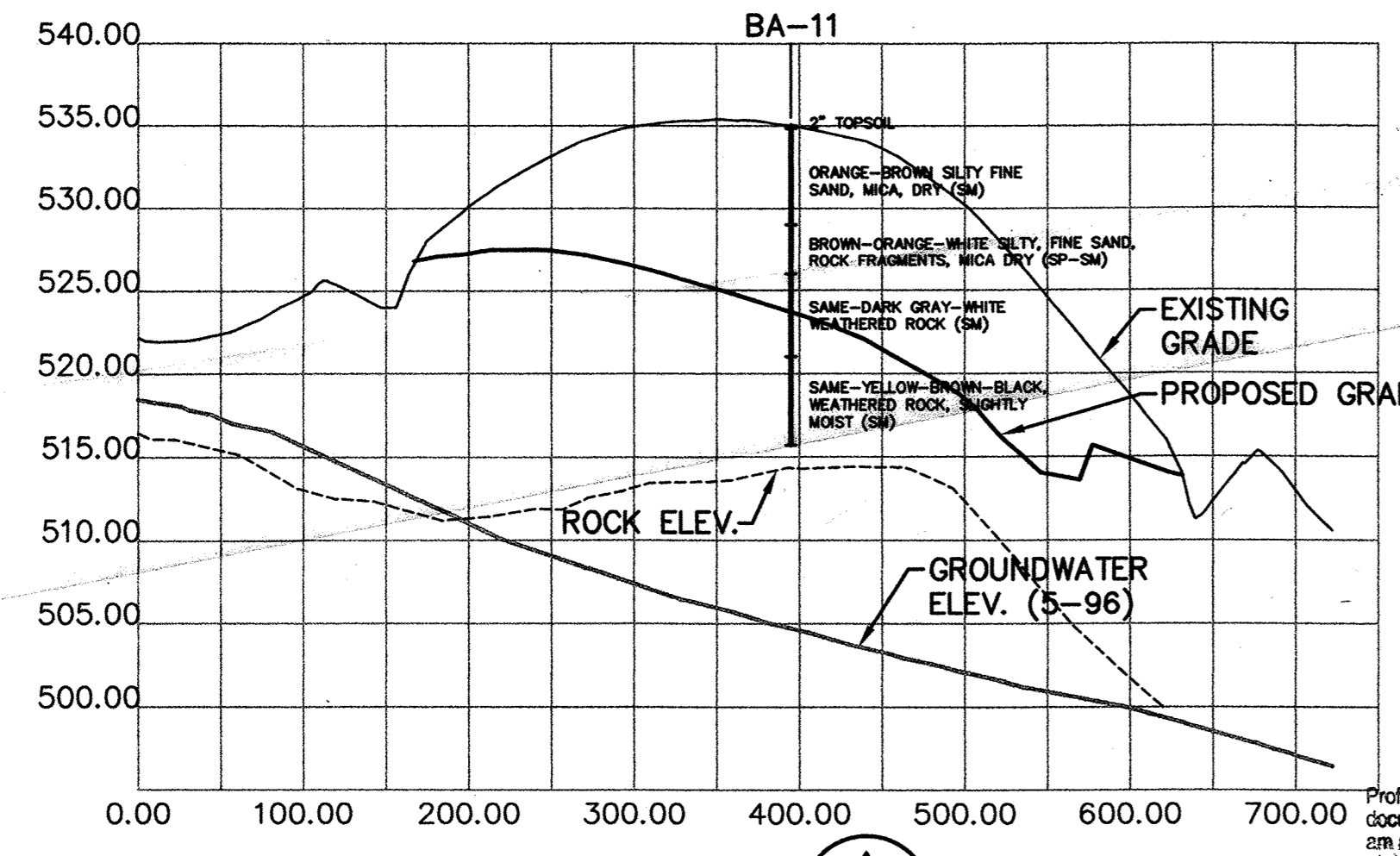
ADDITIONAL PARKING IS EXEMPT FROM FOREST CONSERVATION IN ACCORDANCE WITH APPENDIX D OF THE FOREST CONSERVATION MANUAL WHICH EXEMPTS ACTIVITIES DISTURBING LESS THAN 40,000 SF OF FOREST.



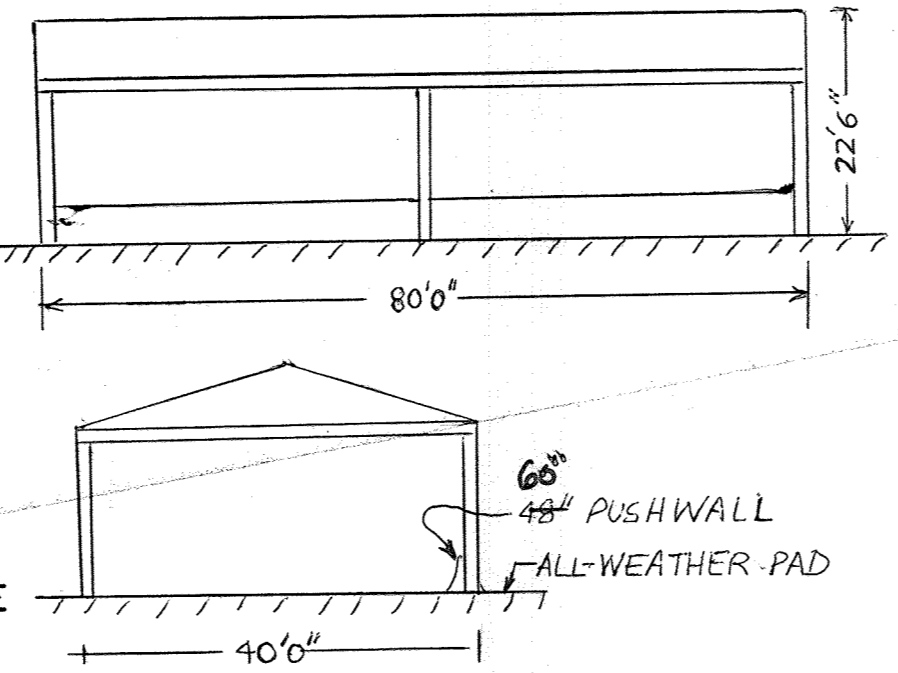
SECTION C  
61|61



SECTION B  
61|61



SECTION A  
61|61



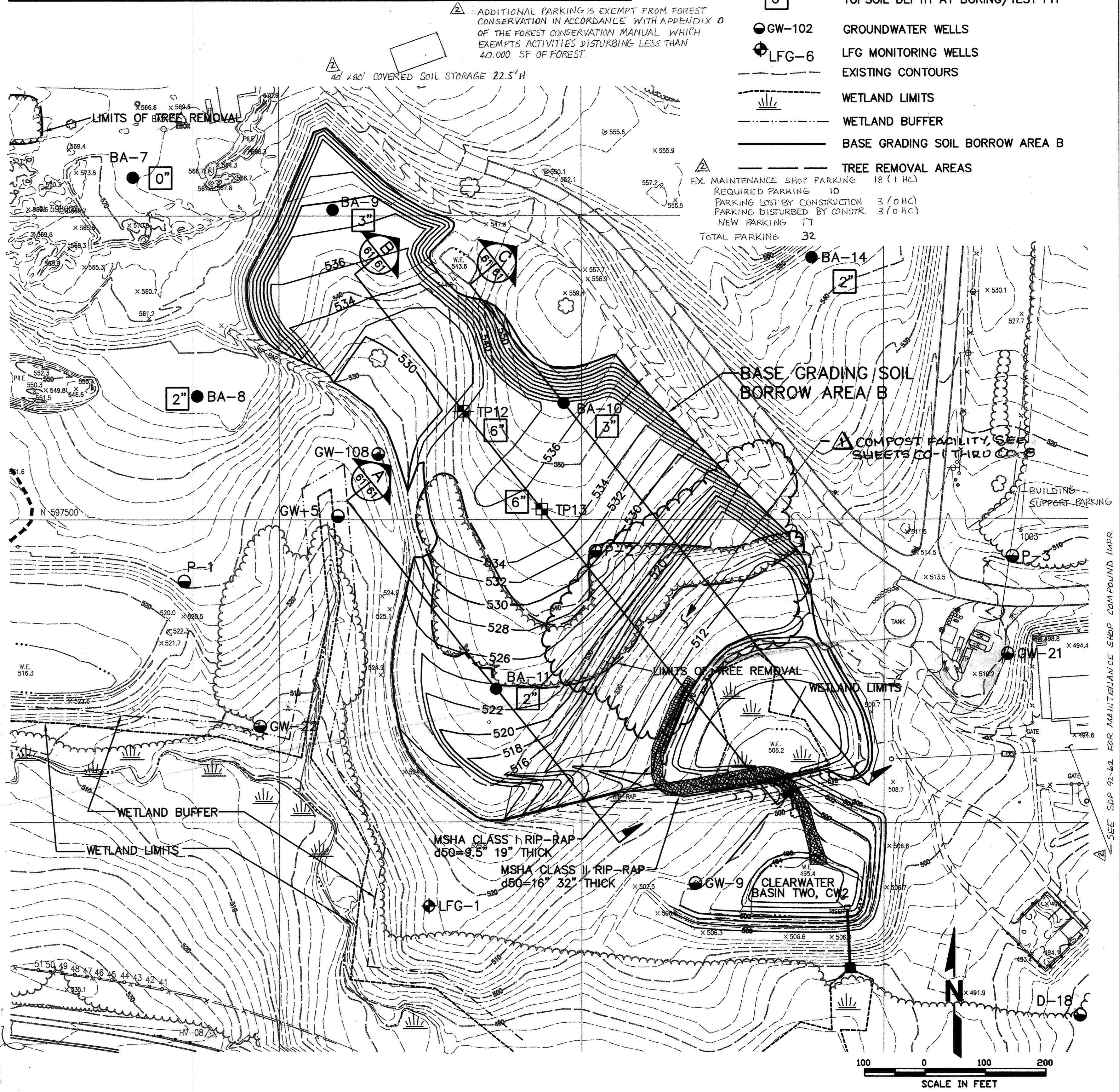
COVERED SOIL STORAGE

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 16196, Expiration Date: 8-15-20

REV ONLY

*Paul Anthony Mandeville*



SCALE IN FEET

BORR2  
M:\295077.01\BORROW2

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676

Professional Engineer Seal for Paul Anthony Mandeville, License No. 16196, State of Maryland.

DES. EGC, RTT			
DRN. EGC			
CHK. PAM	JED	4-2019	4-2019
BY NO.	CSN	619114	619114
		319112	319112

DATE: 10-30-97

BASE GRADING SOIL BORROW AREA B AND CROSS-SECTIONS

ALPHA RIDGE LANDFILL UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

SCALE: 1"=100'  
SHEET 61 OF 140

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

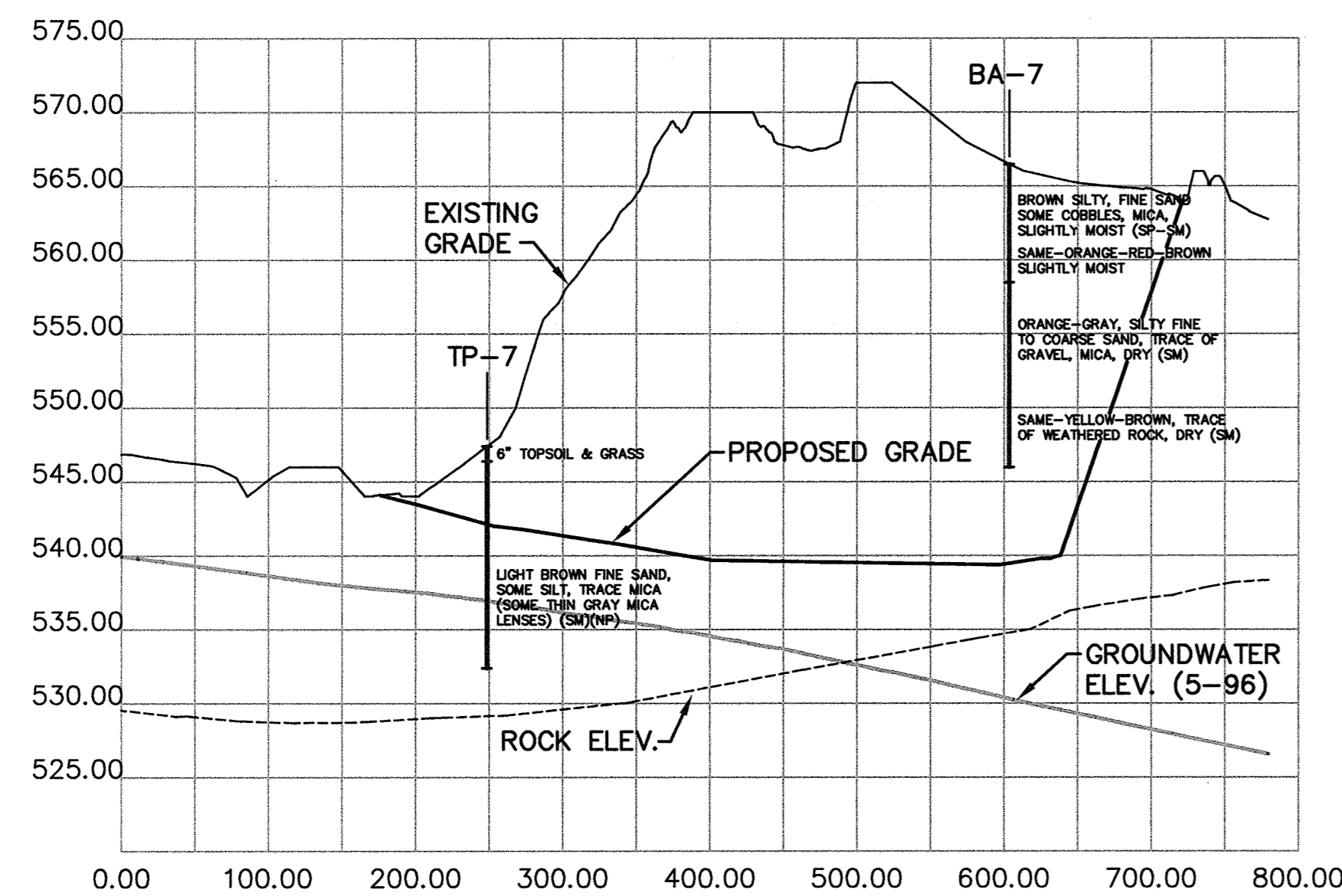
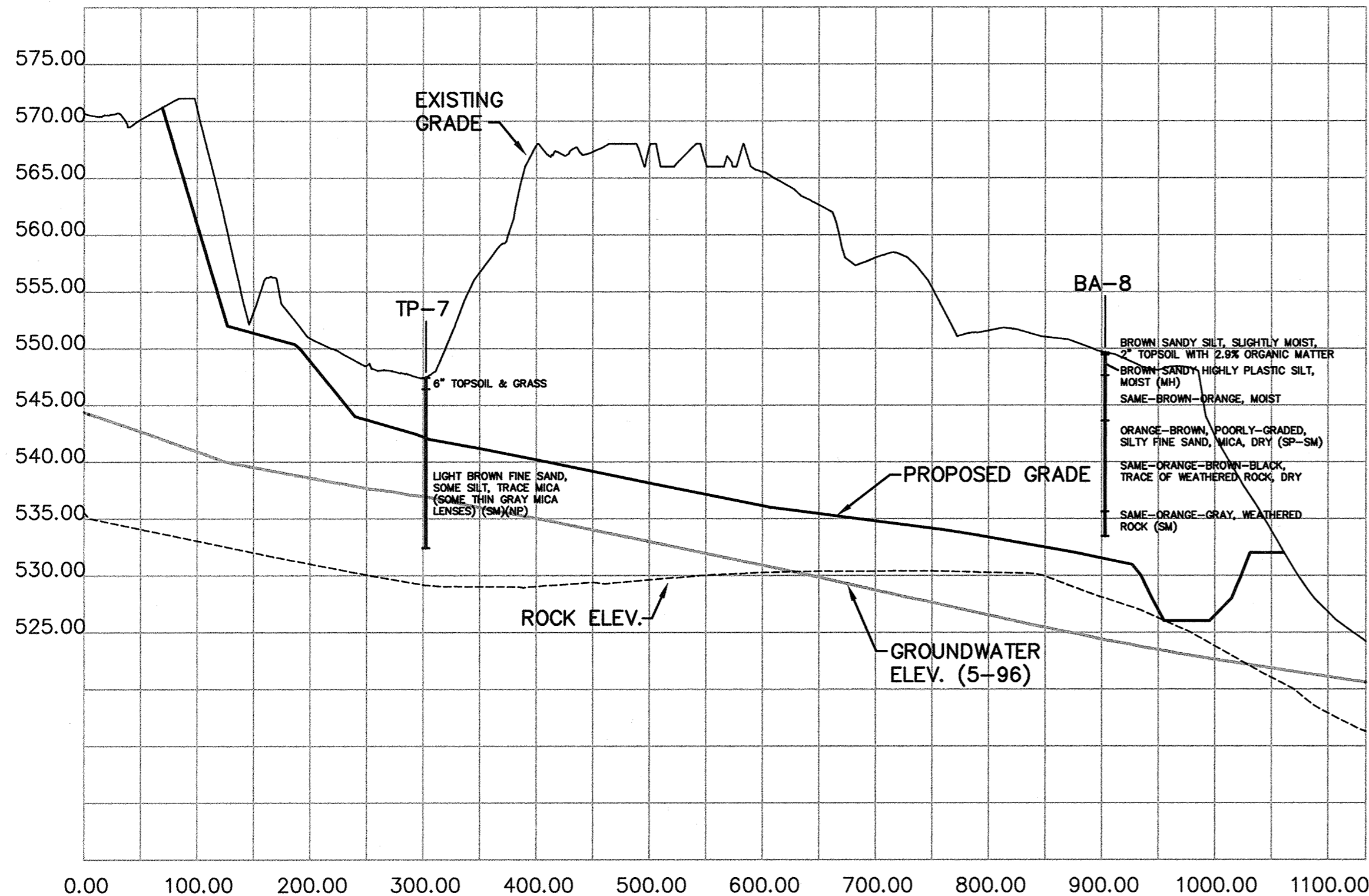
*[Signature]* 11/3/97  
DIRECTOR DATE

*[Signature]* 10/30/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

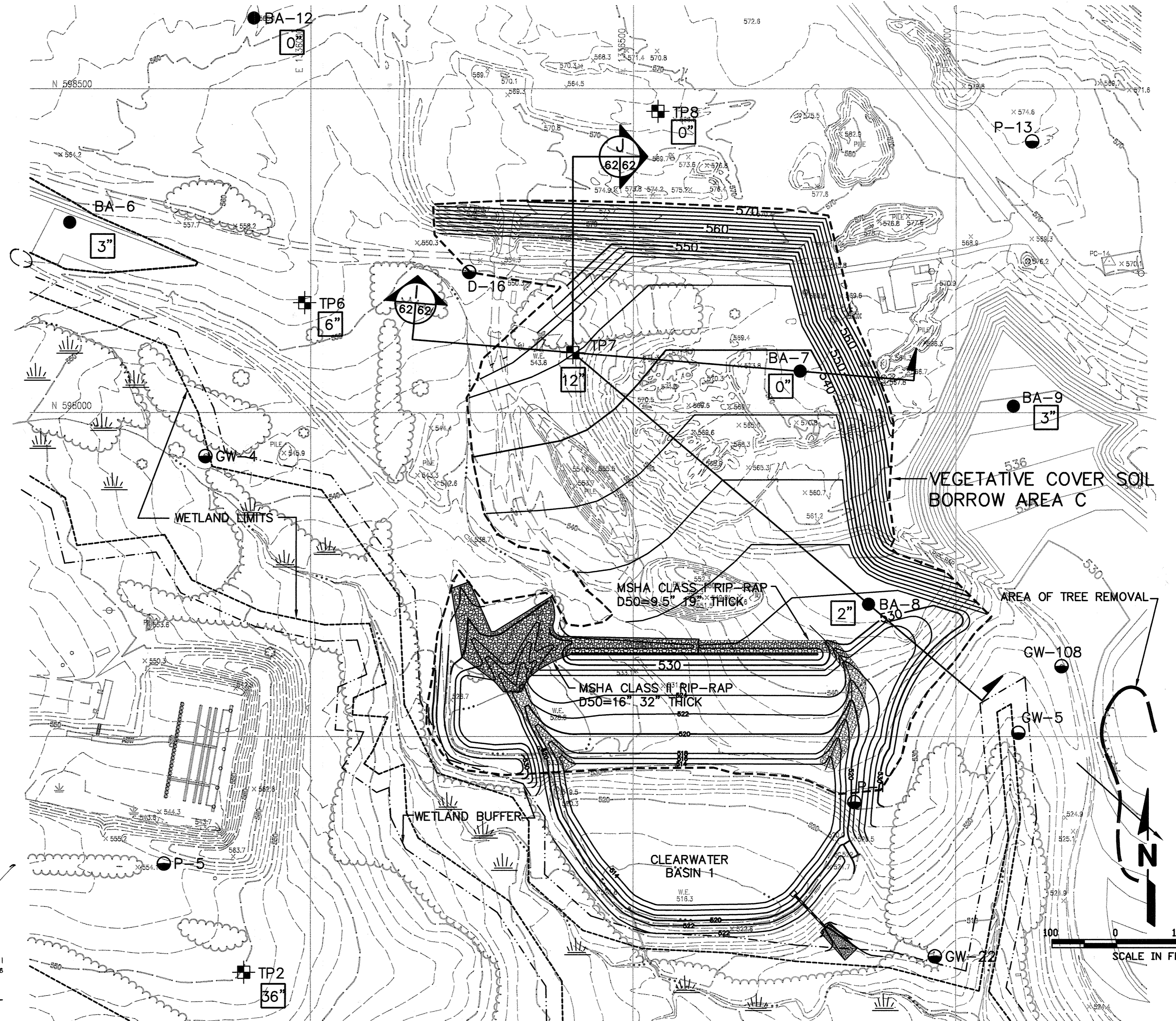
*[Signature]* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

SUBDIVISION NAME		LOT/PARCEL
ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		54,253,220,11
LIBER/FOLIO		ZONE
10-847/806 16-878/215 10-891/314		PEC
WATER CODE		TAX/ZONE MAP
PRIVATE, EXISTING		10 & 16
SEWER CODE		CENSUS TR.
PRIVATE, EXISTING		60-30

- LEGEND
- BA-7 BORING LOCATIONS
  - ⊕ TP6 TEST PIT LOCATIONS
  - 6" TOPSOIL DEPTH AT BORING/TEST PIT
  - GW-102 GROUNDWATER WELLS
  - ⊕ LFG-6 LFG MONITORING WELLS
  - EXISTING CONTOURS
  - WETLAND LIMITS
  - VEGETATIVE COVER SOIL BORROW AREA C
  - WETLAND BUFFER
  - TREE REMOVAL AREAS



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 16176, Expiration Date: 5-25-20



M:\285077.01\BORROW SEC-J BORROW SEC-J

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES. EGC, RTT	6		
DRN. EGC	4		
CHK. PAM	3		
DATE: 10-30-97	BY: [Signature]	NO. 4-2019	DATE

VEGETATIVE COVER SOIL BORROW AREA C AND CROSS-SECTIONS

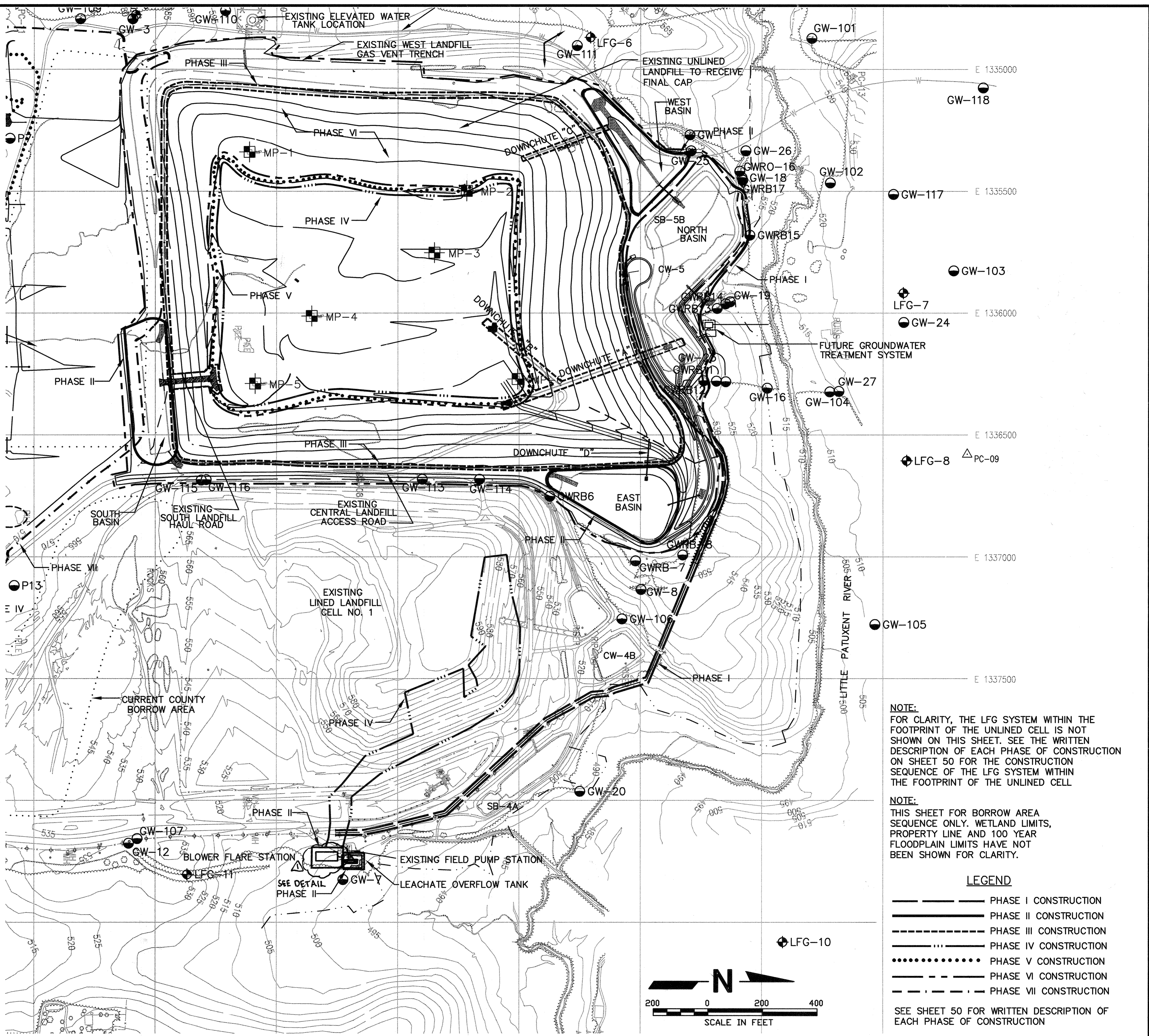
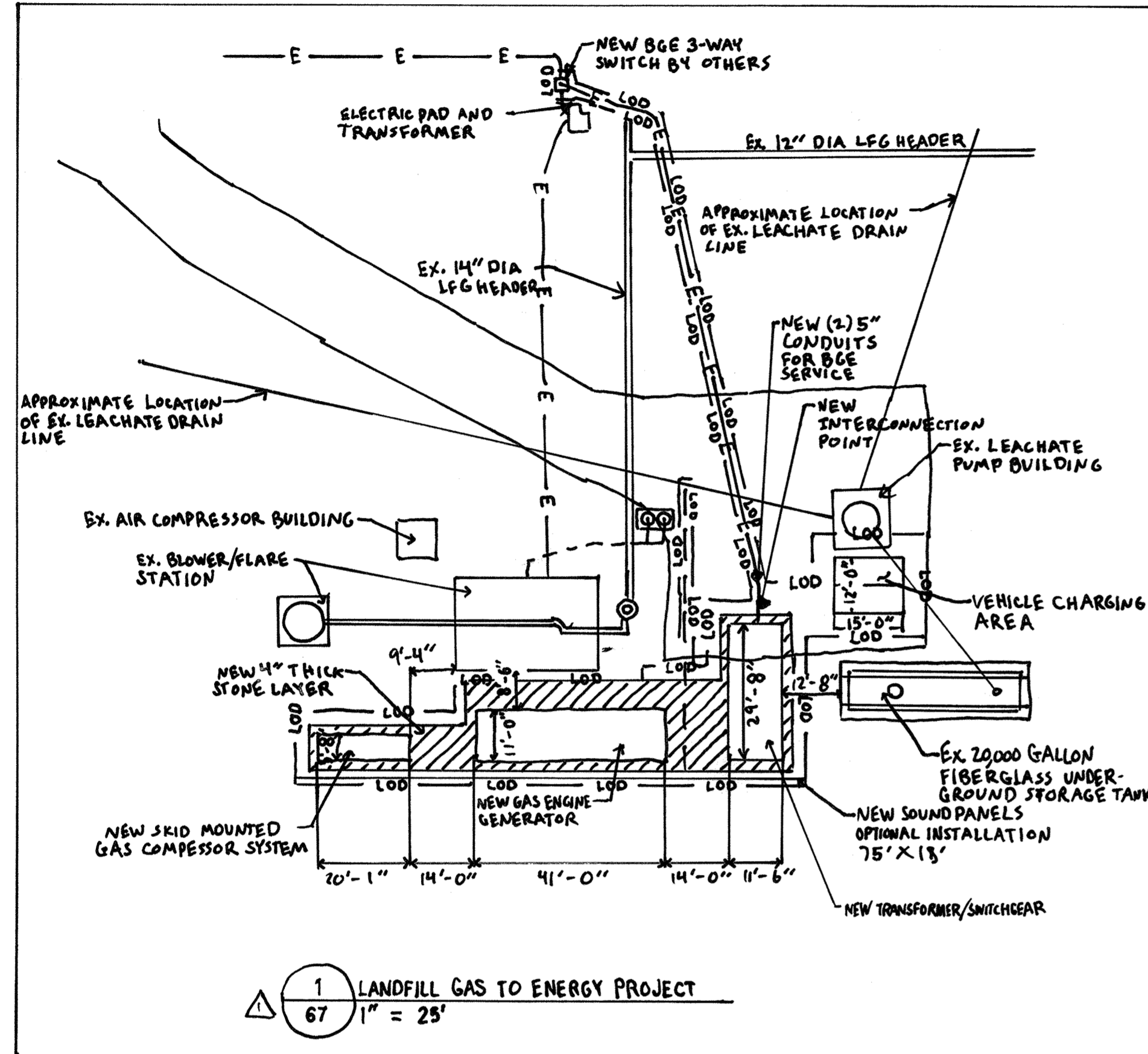
ALPHA RIDGE LANDFILL UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

SCALE: 1"=100'  
SHEET 62 OF 140

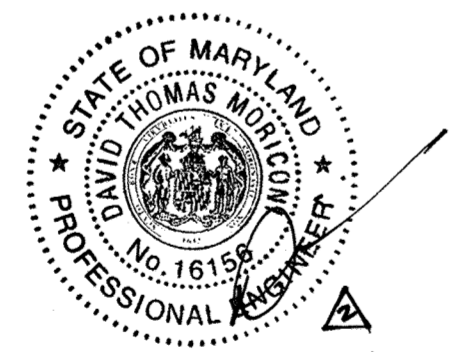
3rd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

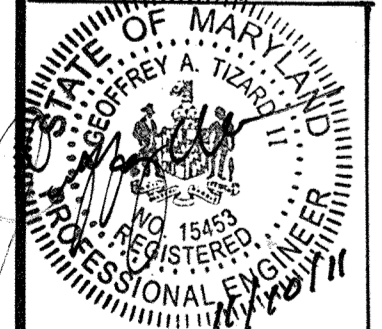
SDP-97-128



PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 15453, EXPIRATION DATE: 2 JULY 2013. THIS SEAL APPLIES ONLY TO REVISION 1 ON THIS SHEET.



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 16156 Expiration Date: 8-28-20



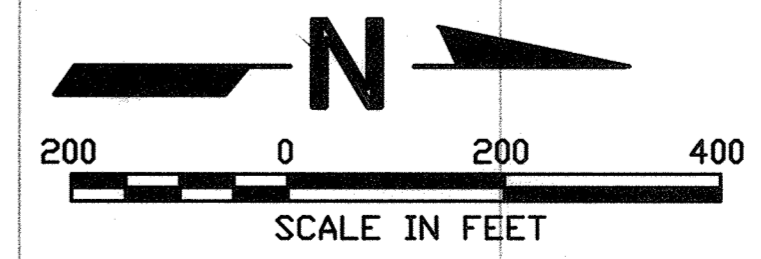
NOTE:  
 FOR CLARITY, THE LFG SYSTEM WITHIN THE FOOTPRINT OF THE UNLINED CELL IS NOT SHOWN ON THIS SHEET. SEE THE WRITTEN DESCRIPTION OF EACH PHASE OF CONSTRUCTION ON SHEET 50 FOR THE CONSTRUCTION SEQUENCE OF THE LFG SYSTEM WITHIN THE FOOTPRINT OF THE UNLINED CELL

NOTE:  
 THIS SHEET FOR BORROW AREA SEQUENCE ONLY. WETLAND LIMITS, PROPERTY LINE AND 100 YEAR FLOODPLAIN LIMITS HAVE NOT BEEN SHOWN FOR CLARITY.

**LEGEND**

- PHASE I CONSTRUCTION
- PHASE II CONSTRUCTION
- PHASE III CONSTRUCTION
- PHASE IV CONSTRUCTION
- ..... PHASE V CONSTRUCTION
- PHASE VI CONSTRUCTION
- PHASE VII CONSTRUCTION

SEE SHEET 50 FOR WRITTEN DESCRIPTION OF EACH PHASE OF CONSTRUCTION

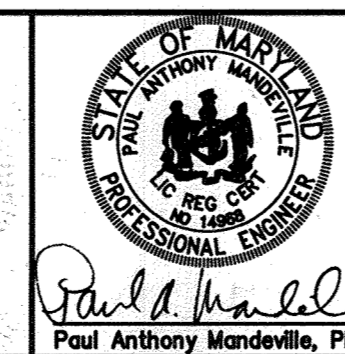


DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	
DIRECTOR	11/3/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION	10/30/97
CHIEF, DIVISION OF LAND DEVELOPMENT	11/3/97

SUBDIVISION NAME	LOT/PARCEL	
ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	54,253,220,11,302	
LIBER/FOLIO	ZONE	TAX/ZONE MAP
10-847/606 16-876/215 10-891/314	RC-DE O	10 & 16
WATER CODE	SEWER CODE	CENSUS TR.
PRIVATE, EXISTING	PRIVATE, EXISTING	6030-26-30

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
DIRECTOR OF PUBLIC WORKS	10/30/97
CHIEF, BUREAU OF WASTE MANAGEMENT	10/30/97

SCS ENGINEERS  
 CONSULTING ENGINEERS  
 11260 ROGER BACON DRIVE  
 SUITE 300  
 RESTON, VIRGINIA 22090  
 PH. (703) 471-6150  
 FAX. (703) 471-6676



DES.	RTT,MEH	
DRN.	MEH	
CHK.	PAM	
DATE:	10-30-97	
BY	NO.	REVISION
		DATE
		4-2019
		10/4/11
		ALPHA RIDGE LANDFILL GAS TO ENERGY PROJECT

LANDFILL CONSTRUCTION SEQUENCE PLAN

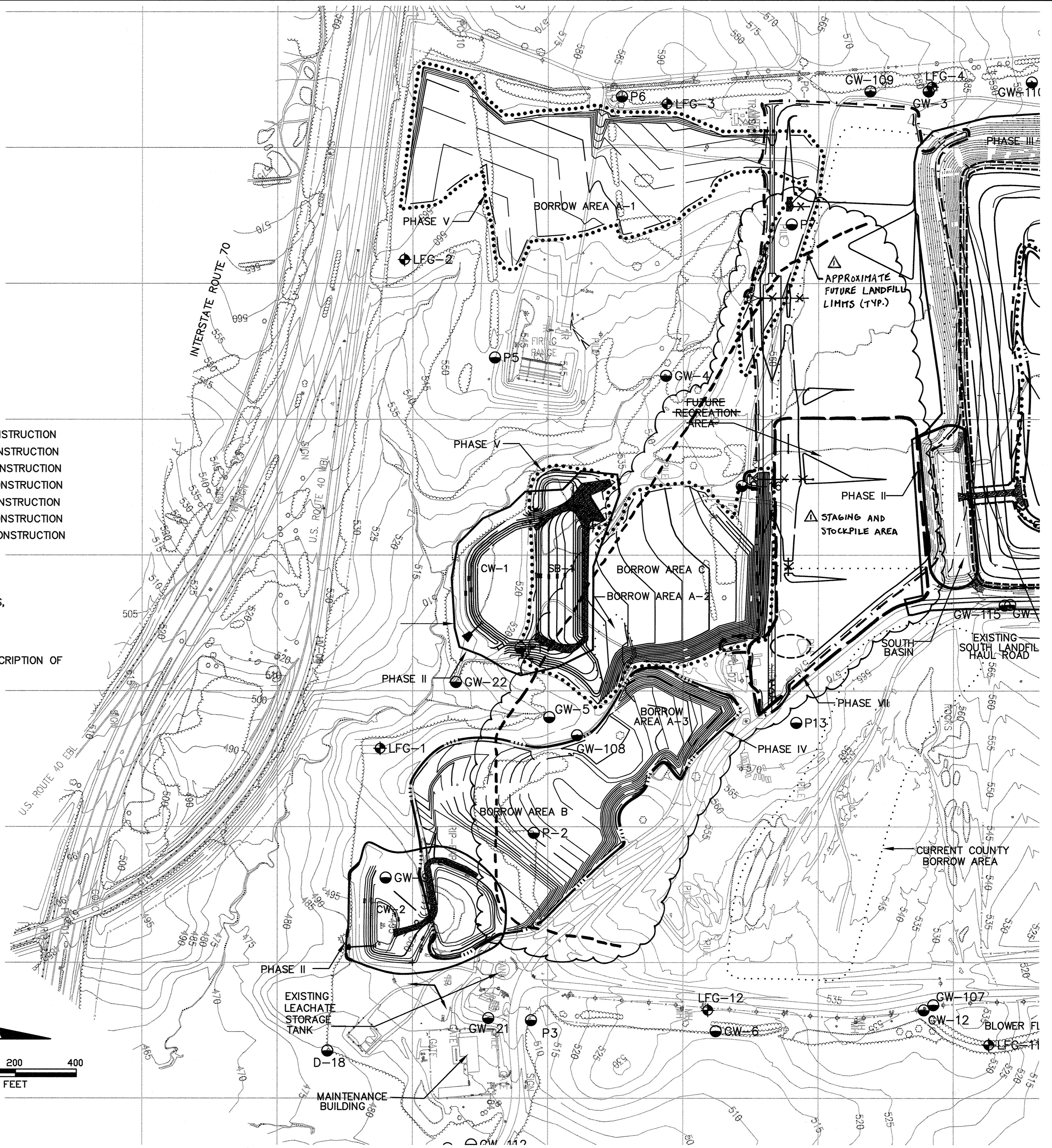
ALPHA RIDGE LANDFILL UNLINED CELL CLOSURE CAPITAL PROJECT NO. C-0190-N	SCALE: 1"=200'
3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SHEET 67 OF 140

M: 1295077.01 BORROW OVERALL-C LFSEQUENCE

OVERALL-O

M: 285077.01 \BORROW

BWSEQUENCE



**LEGEND**

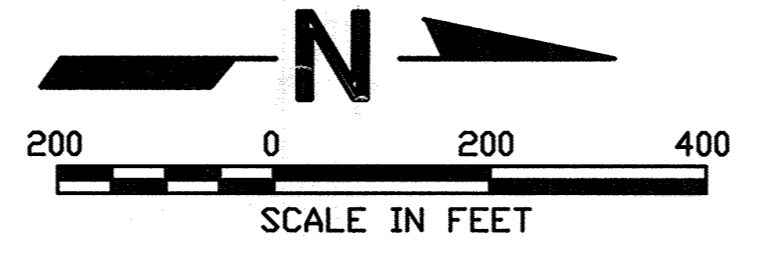
- PHASE I CONSTRUCTION
- PHASE II CONSTRUCTION
- PHASE III CONSTRUCTION
- PHASE IV CONSTRUCTION
- ..... PHASE V CONSTRUCTION
- PHASE VI CONSTRUCTION
- PHASE VII CONSTRUCTION

**NOTE:**  
 THIS SHEET FOR BORROW AREA SEQUENCE ONLY. WETLAND LIMITS, PROPERTY LINE AND 100 YEAR FLOODPLAIN LIMITS HAVE NOT BEEN SHOWN FOR CLARITY.

SEE SHEET 50 FOR WRITTEN DESCRIPTION OF EACH PHASE OF CONSTRUCTION

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 16196, Expiration Date: 8-25-20



DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND

<i>Joseph R. Kauter</i> DIRECTOR	11/3/97
<i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	10/30/97
<i>Candy Hemminger</i> CHIEF, DIVISION OF LAND DEVELOPMENT	11/3/97

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT/PARCEL 54,253,220,11
LIBER/FOLIO 10-847/606 16-878/215 10-691/314	ZONE PEC
TAX/ZONE MAP 10 & 16	
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING
CENSUS TR. 60-30	

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
<i>Ronald J. Linn</i> DIRECTOR OF PUBLIC WORKS	10/30/97
<i>John O'Hara</i> CHIEF, BUREAU OF WASTE MANAGEMENT	10/30/97

**SCS ENGINEERS**  
 CONSULTING ENGINEERS  
 11260 ROGER BACON DRIVE  
 SUITE 300  
 RESTON, VIRGINIA 22090  
 PH. (703) 471-6150  
 FAX. (703) 471-6676

Professional Engineer Seal for Paul Anthony Mandeville, PE, License No. 16196, State of Maryland.

DES. RTT,MEH		
DRN. MEH		
CHK. PAM		
DATE: 10-30-97		
BY NO.	REVISION	DATE
	1	4-20-99
	2	11/9/99
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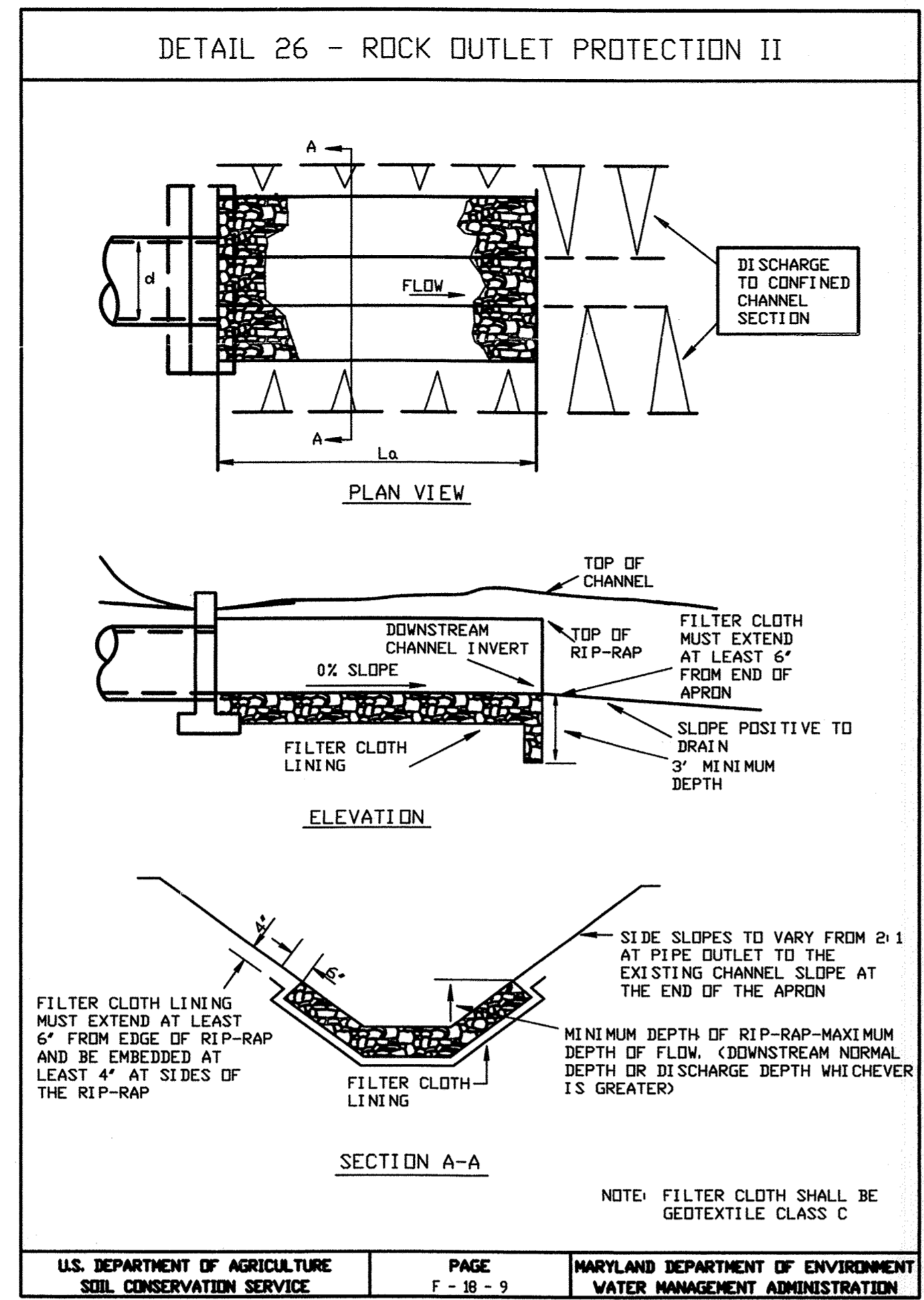
**BORROW AREA SEQUENCE PLAN**

**ALPHA RIDGE LANDFILL UNLINED CELL CLOSURE**  
 CAPITAL PROJECT NO. C-0190-N  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE:  
 1"=200'  
 SHEET 68 OF 140

SDA-97-128

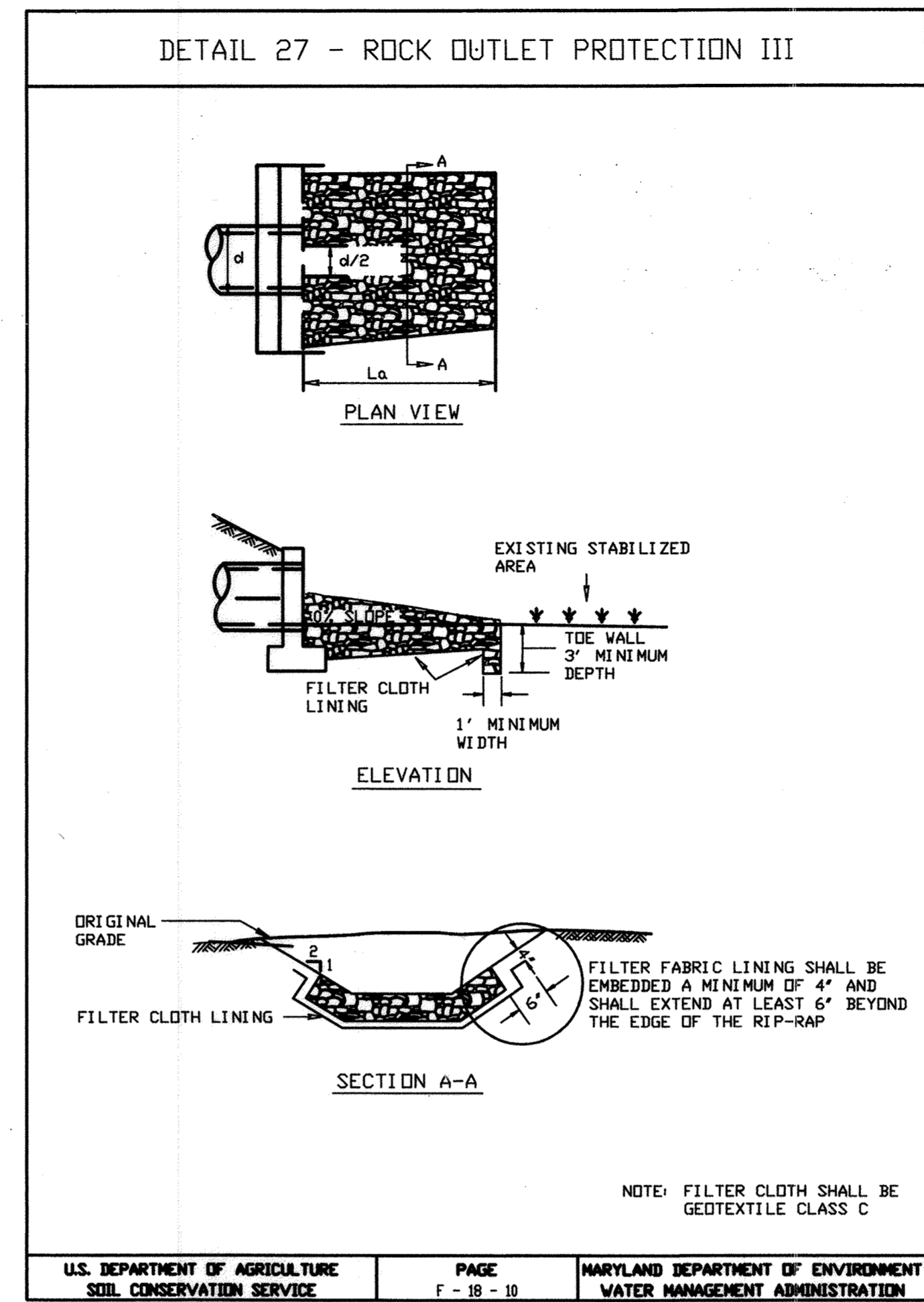




NOTE: USE ROCK OUTLET PROTECTION II FOR NORTH BASIN, SOUTH SEDIMENT BASIN

ROCK OUTLET PROTECTION II  
Construction Specifications

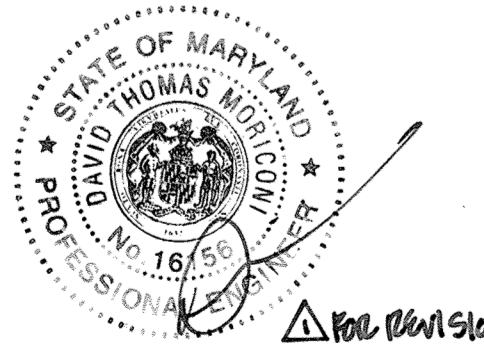
- The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
- The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.
- Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.
- Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works.
- The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.



NOTE: USE ROCK OUTLET PROTECTION III FOR CLEARWATER BASIN ONE, CLEARWATER BASIN TWO

Rock Outlet Protection III  
Construction Specifications

- The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
- The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.
- Geotextile shall be protected from punching, cutting or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.
- Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works.
- The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.



Professional Certification. I hereby certify that these drawings were prepared or approved by me, a duly licensed Professional Engineer in the State of Maryland.  
Signature: [Signature] License No. 16155 Expiration Date: 8-25-20

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT/PARCEL 54,253,220,11
LIBER/FOLIO 10-847/606 16-878/215 10-691/314	ZONE PEC TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING CENSUS TR. 60-30

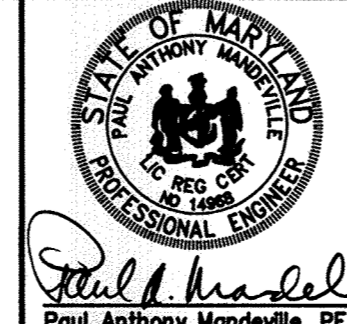
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	
[Signature] DIRECTOR	11/3/97 DATE
[Signature] CHIEF, DEVELOPMENT ENGINEERING DIVISION	11/5/97 DATE
[Signature] CHIEF, DIVISION OF LAND DEVELOPMENT	11/5/97 DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

[Signature] 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES. RTT			
DRN. JCB			
CHK. PAM			
DATE: 10-30-97	DTM	BY NO.	NO.
			REPORTED SHEET TOTAL 4-2019
			REVISION
			DATE

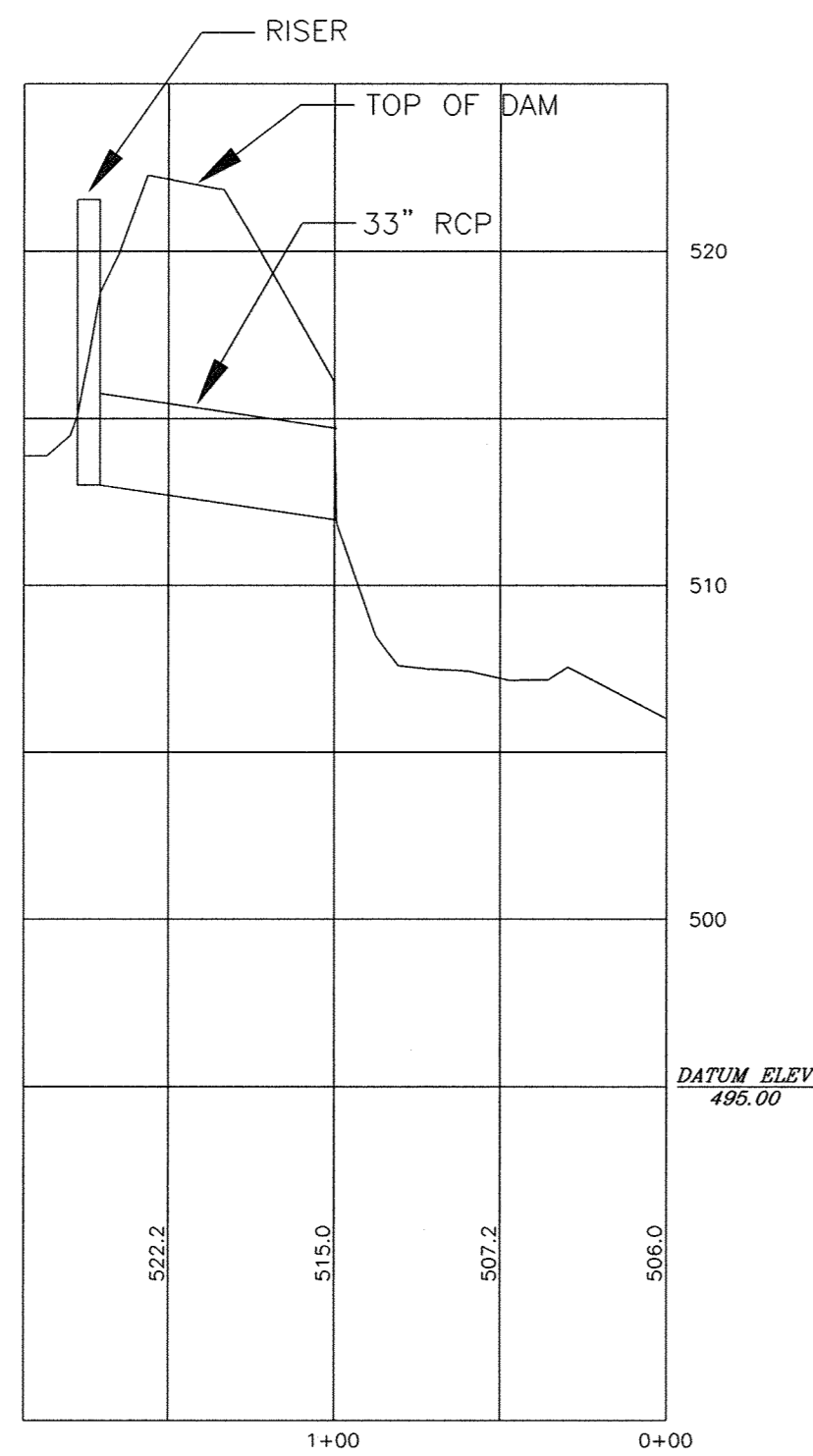
MISCELLANEOUS, E & S  
DETAILS FILES

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N  
CAPITAL PROJECT NO. C-1150  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

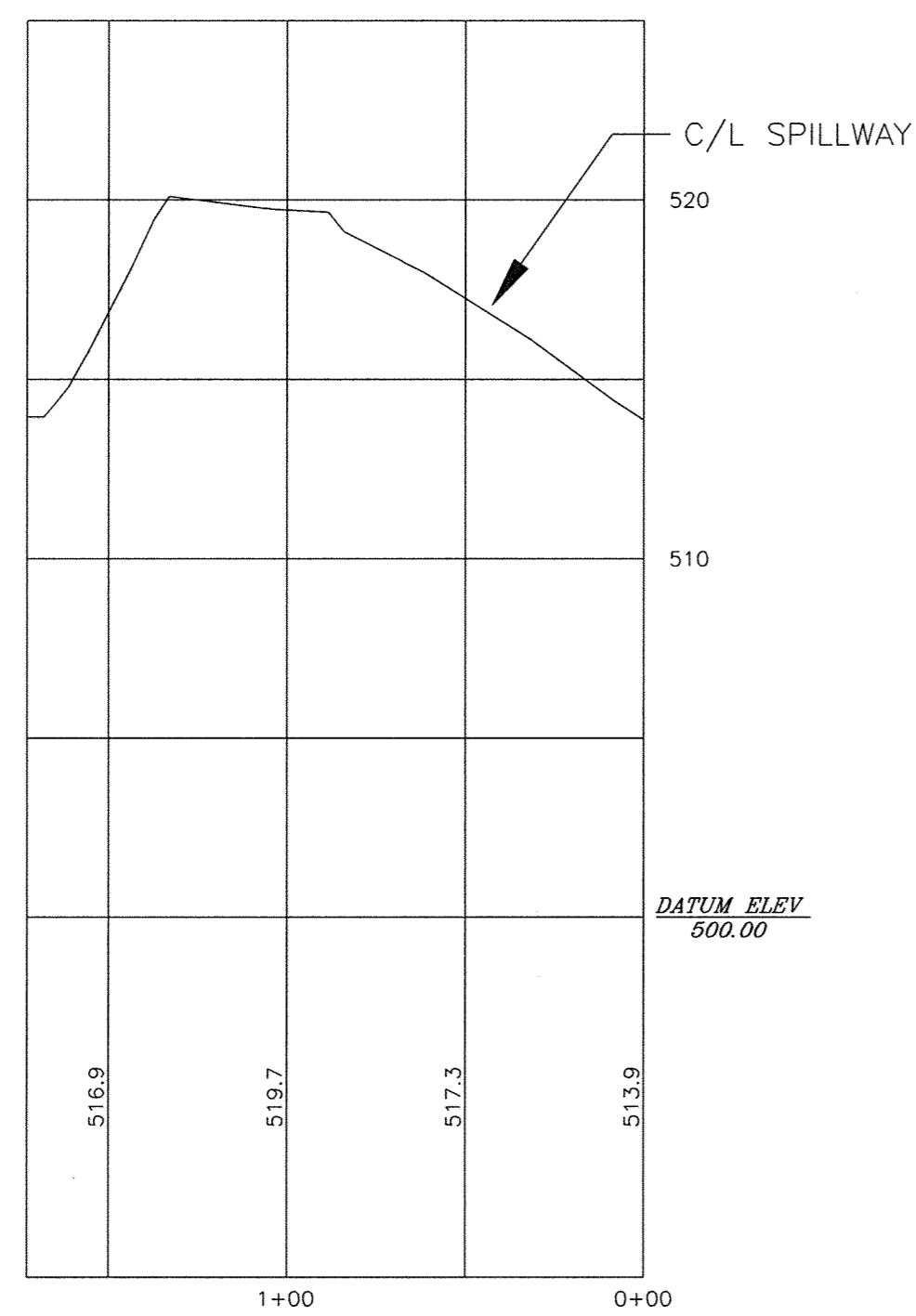
SCALE:  
AS NOTED  
SHEET 69 OF 140

M:\295077\01\FINAL\DETAILS  
DETA

C:\DWG 10-25-00 105550.dwg on EST



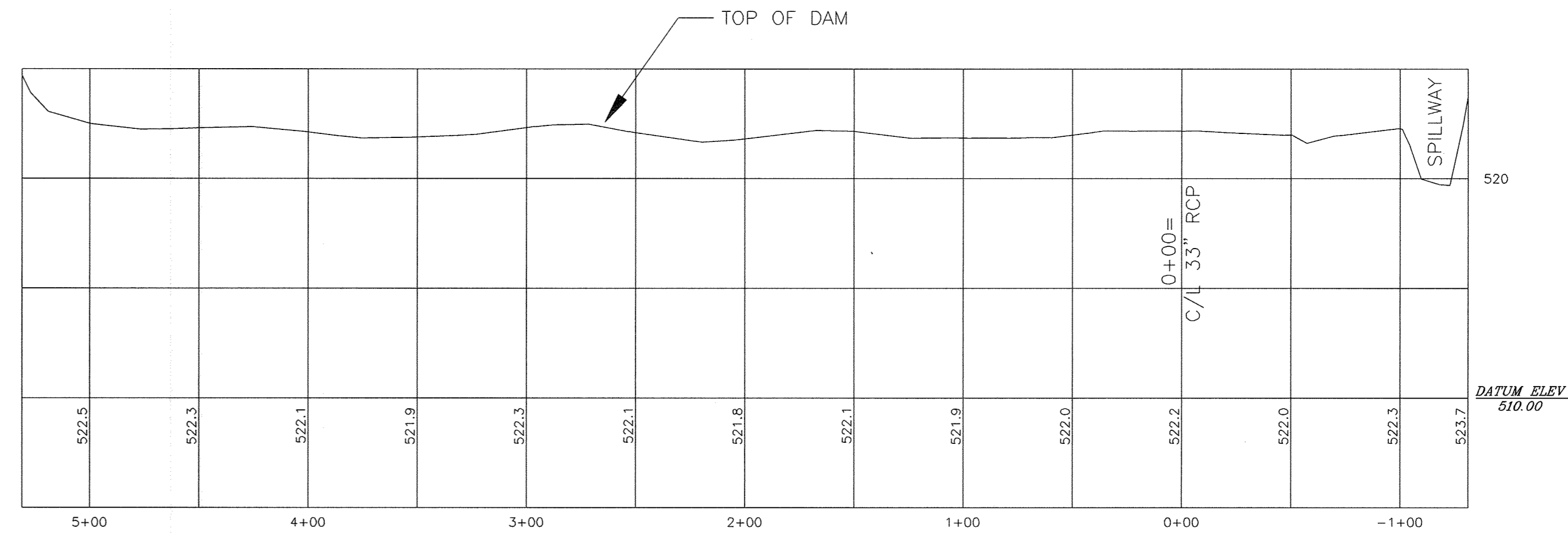
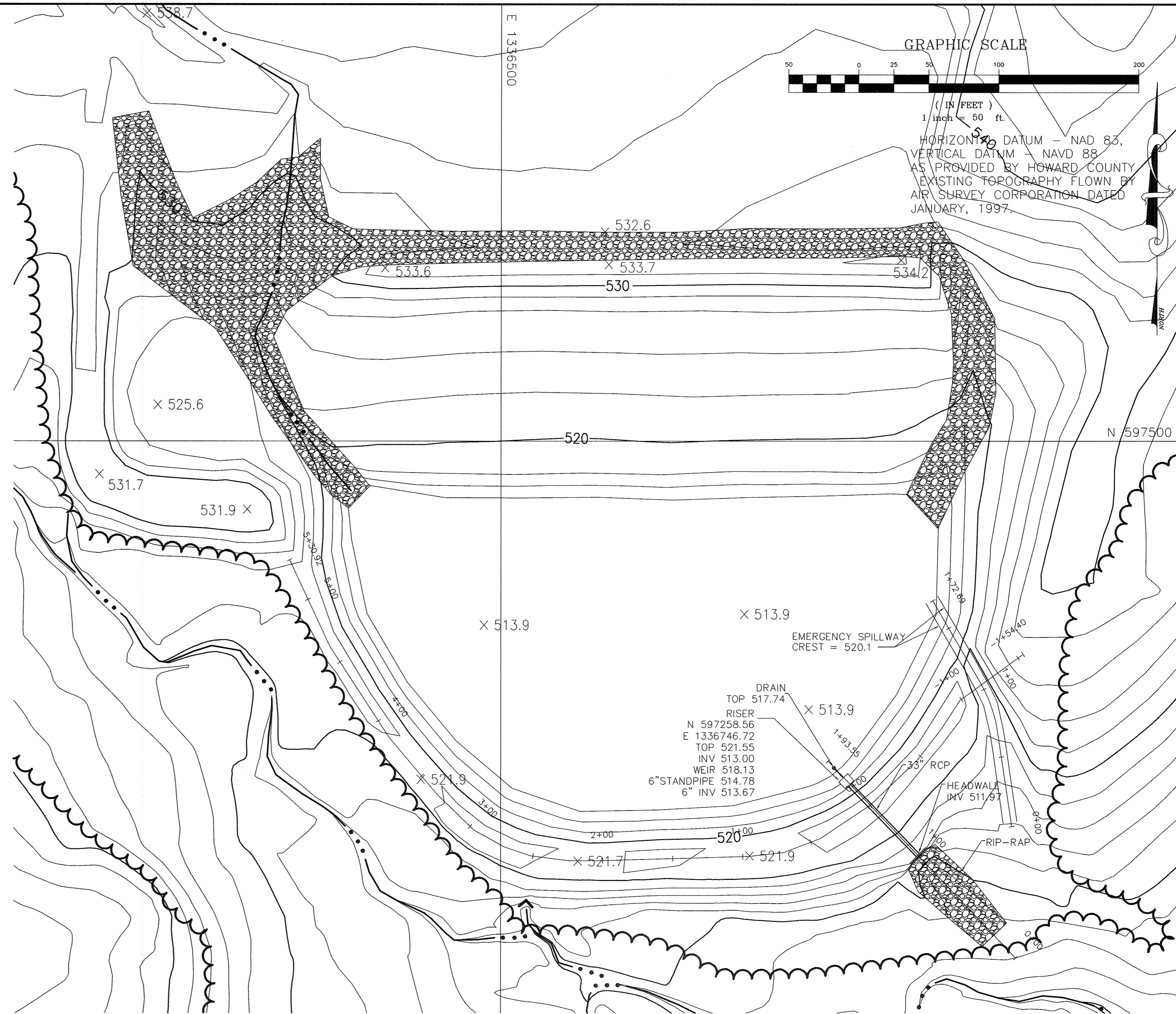
AS-BUILT OUTLET PIPE PROFILE  
CLEARWATER 1



AS-BUILT SPILLWAY PROFILE  
CLEARWATER 1

Professional Engineer  
 No. 16156  
 State of Maryland  
 David Thomas  
 Professional Engineer

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 16156, Expiration Date: 8-28-12

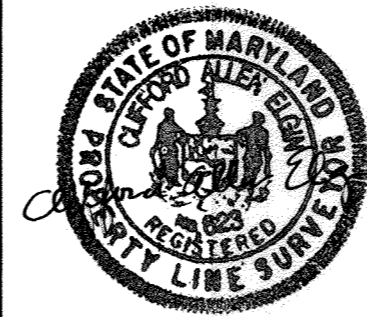


AS-BUILT DAM PROFILE  
CLEARWATER 1

C:\DWG 10-25-00 105550.dwg on EST

DESIGNED BY:	DATE	DATE	BY	DESCRIPTION
TWH	2-23-00	3-30-2000	TWH	ADDED ALIGNMENTS AND PROFILES
		10-17-00	TWH	LABELLED EMERGENCY SPILLWAY.
		4-20-19	DTM	UPDATED SHEET TOTAL
CHECKED BY:	DATE			
APPROVED BY:	DATE			

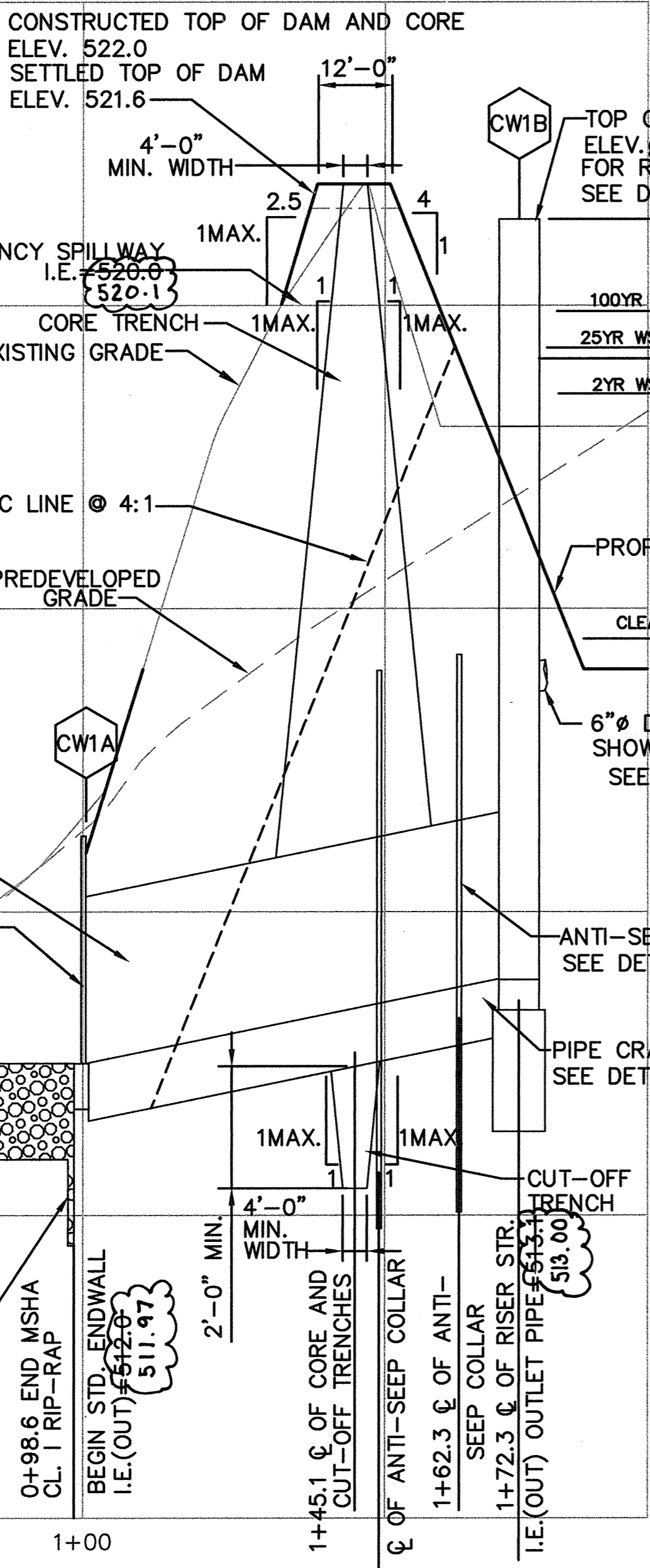
**ENGINEERING TECHNOLOGIES ASSOCIATES, INC.**  
 ENGINEERS \* PLANNERS \* SURVEYORS  
 3458 ELLICOTT CENTER DRIVE SUITE 101  
 ELLICOTT CITY, MARYLAND 21043  
 BALTO. (410)461-9920 FAX (410)750-8565



CLEARWATER 1 BASIN - ENLARGED PLAN AS-BUILT			
<b>ALPHA RIDGE LANDFILL CELL CLOSURE</b>			
HOWARD COUNTY	CONTRACT NO.: 98301.10	DATE : 2-23-2000	MARYLAND
SCALE : 1"=50'			SHEET 70-AB OF 140

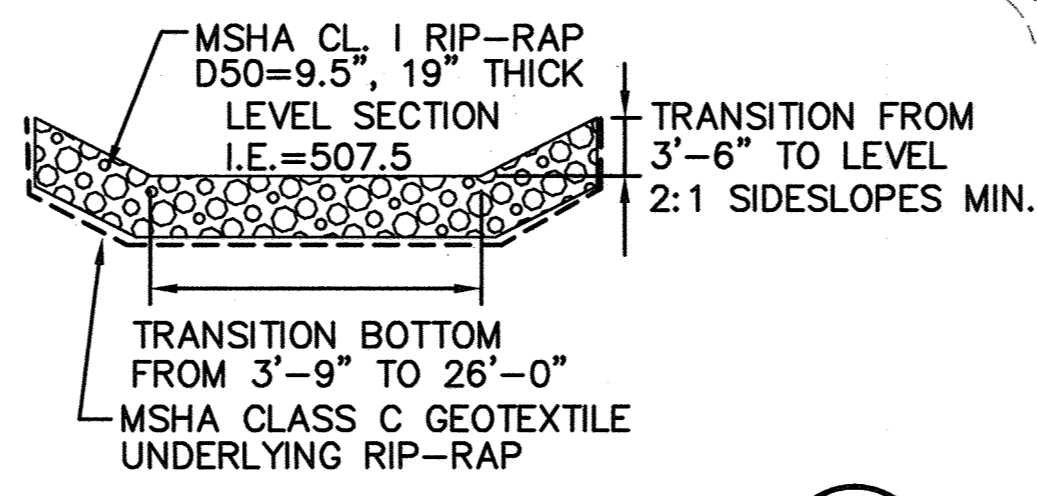
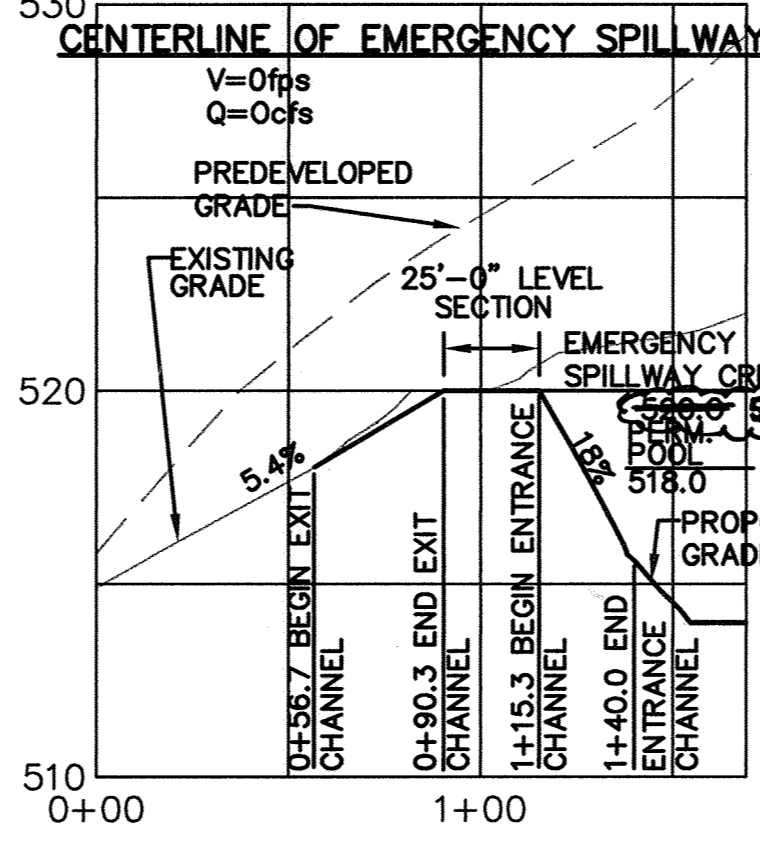
**CW1 OUTLET PROFILE**

Q100=70cfs  
V100=14.2fps

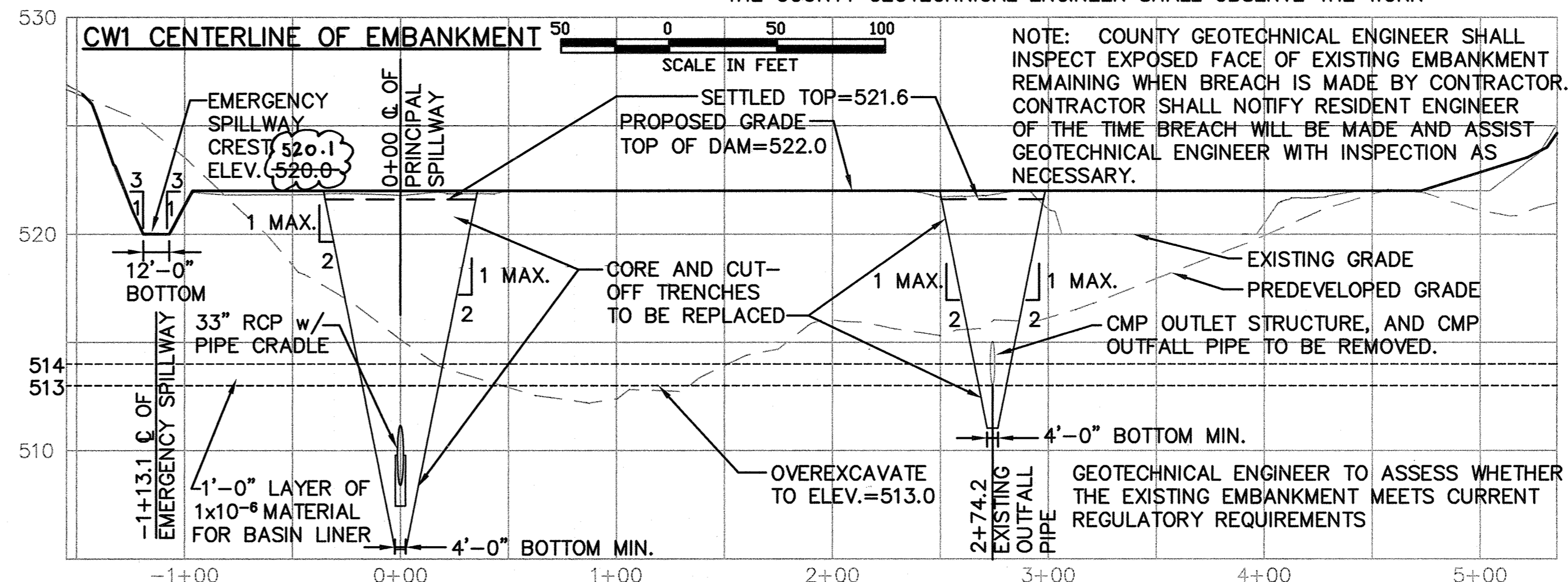


FOR POND SUMMARY TABLE SEE SHT. 71

SEE ETA SHEET 70A8 FOR AS BUILT CLEARWATER BASIN ENLARGED PLAN

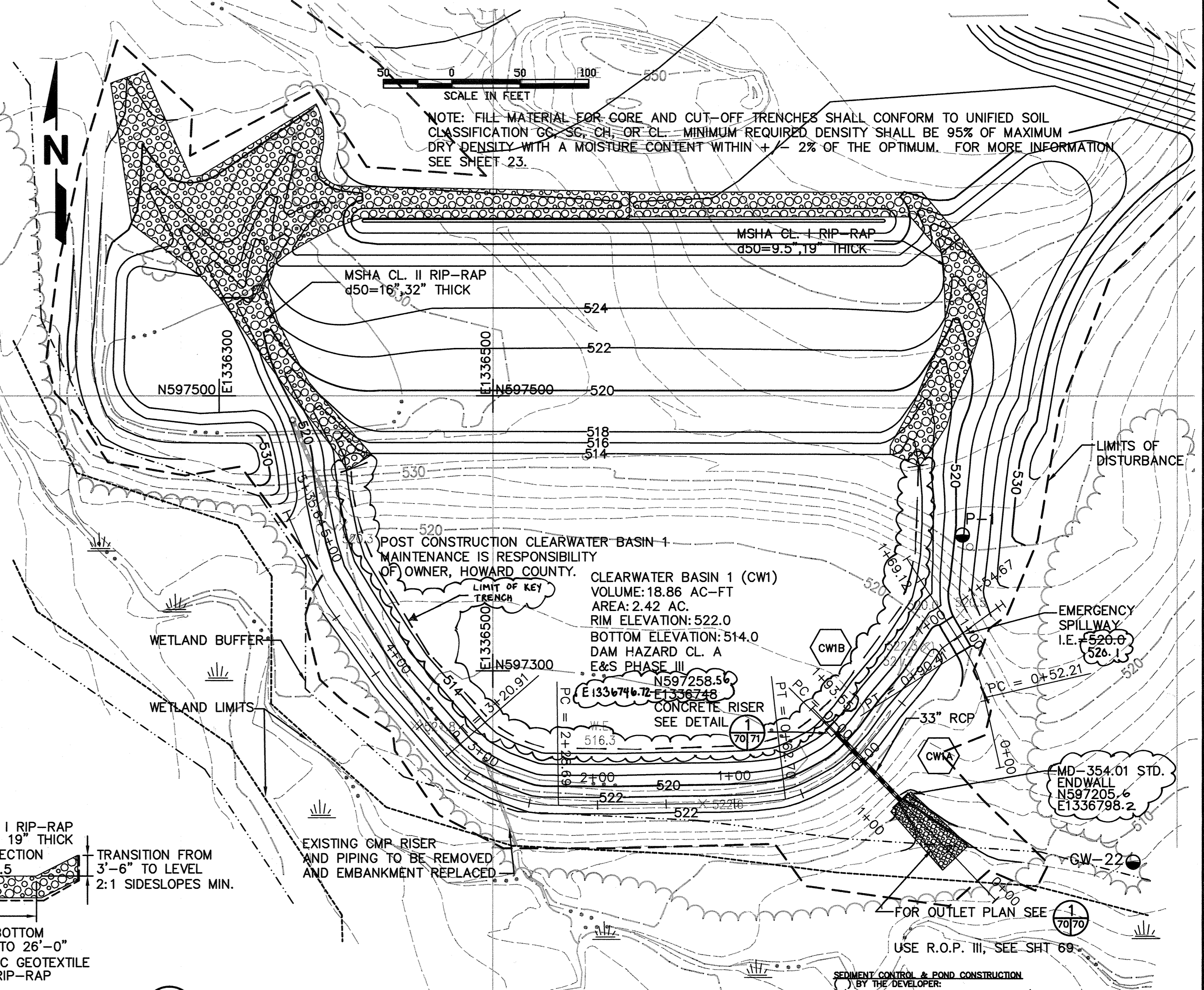


**CW1 OUTLET X-SECTION**  
SCALE: 1"=5'-0"



**CW1 CENTERLINE OF EMBANKMENT**  
SCALE: 1"=20'-0"

NOTE: FILL MATERIAL FOR CORE AND CUT-OFF TRENCHES SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GS, SC, CH, OR CL. MINIMUM REQUIRED DENSITY SHALL BE 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN +/- 2% OF THE OPTIMUM. FOR MORE INFORMATION SEE SHEET 23.



**CLEARWATER BASIN 1 (CW1)**  
VOLUME: 18.86 AC-FT  
AREA: 2.42 AC.  
RIM ELEVATION: 522.0  
BOTTOM ELEVATION: 514.0  
DAM HAZARD CL. A  
E&S PHASE III  
N597258.56  
E1336748  
CONCRETE RISER  
SEE DETAIL

**SEDIMENT CONTROL & POND CONSTRUCTION**  
I, THE DEVELOPER, 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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

**Signature of Developer:** JOHN J. O'HARA, DATE 10/30/97  
**Signature of Engineer:** PAUL A. MANDEVILLE, DATE 10/30/97

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

**AS-BUILT CERTIFICATION**  
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.  
**Signature:** Paul A. Mandeville, DATE 10/30/97

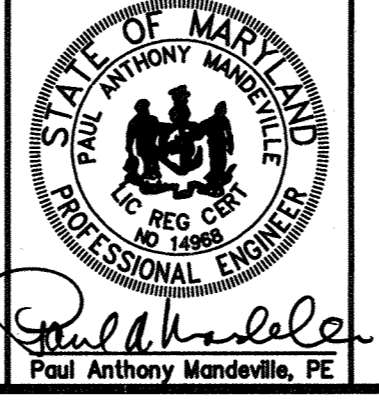
CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

SUBDIVISION NAME	LOT/PARCEL	
ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	54,253,220,11	
LIBER/FOLIO	ZONE	TAX/ZONE MAP
10-847/806 16-878/215 10-891/314	PEC	10 & 16
WATER CODE	SEWER CODE	CENSUS TR.
PRIVATE, EXISTING	PRIVATE, EXISTING	60-30

**DEPARTMENT OF PLANNING AND ZONING**  
HOWARD COUNTY, MARYLAND  
**Signature:** Paul A. Mandeville, DATE 10/30/97  
**Signature:** Paul A. Mandeville, DATE 10/30/97  
**Signature:** Paul A. Mandeville, DATE 10/30/97

**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND  
**Signature:** Paul A. Mandeville, DATE 10/30/97  
**Signature:** Paul A. Mandeville, DATE 10/30/97

**SCS ENGINEERS**  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



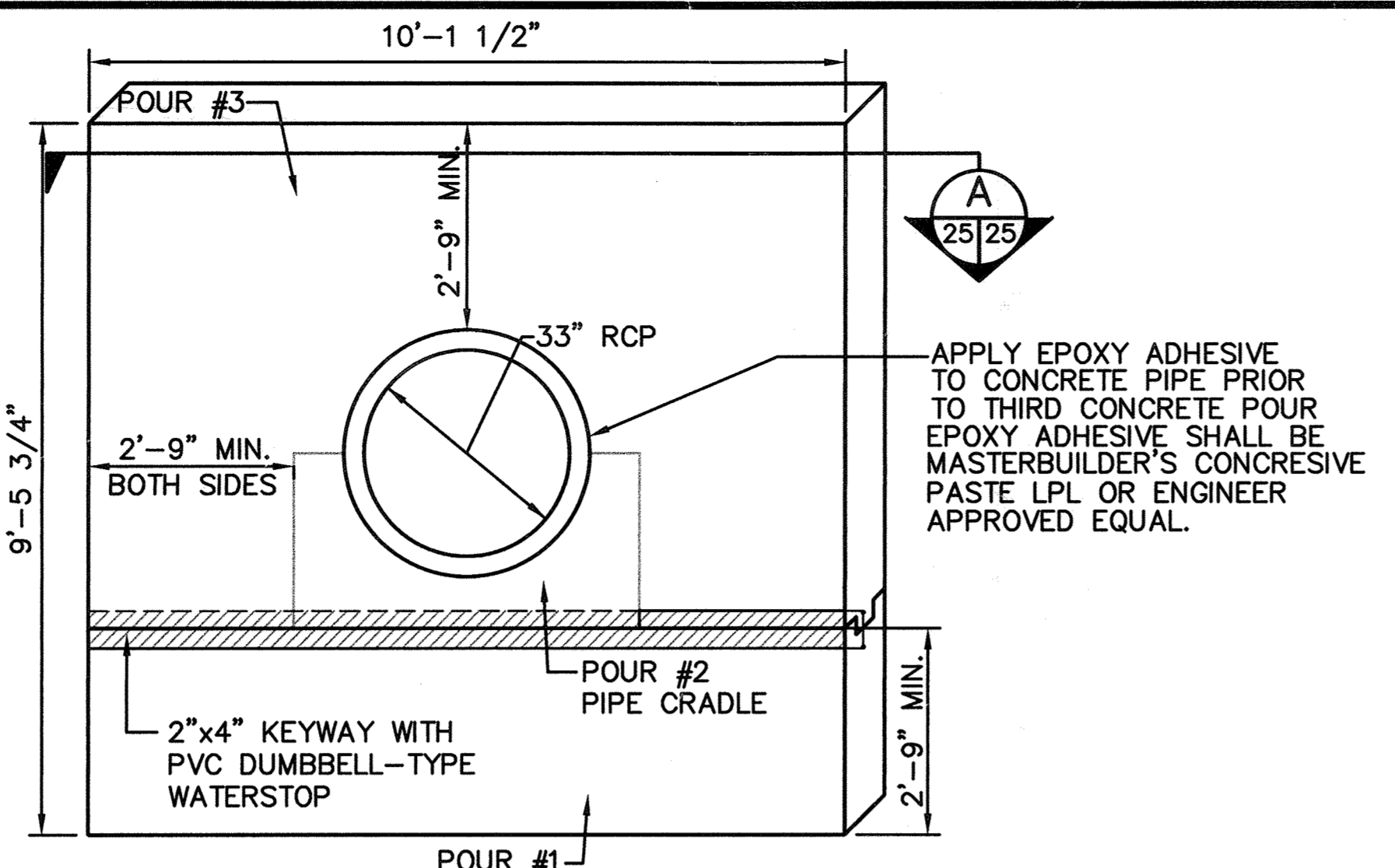
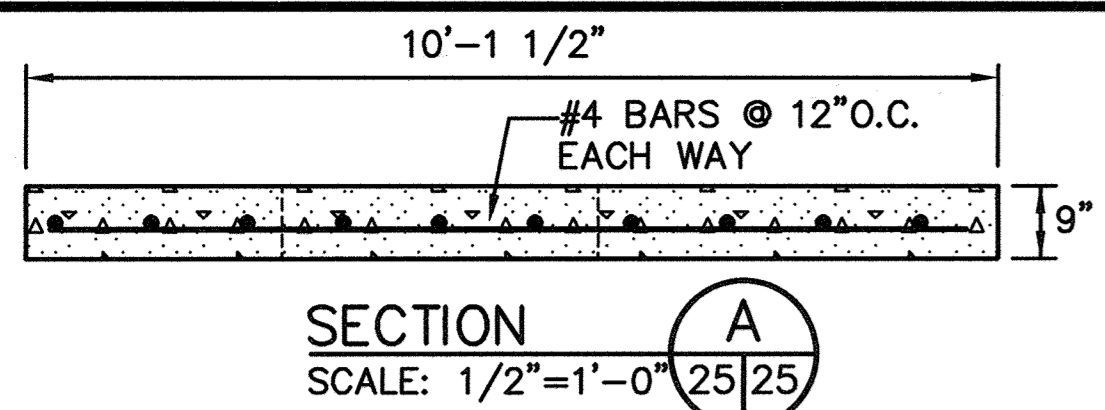
DES.	AST			
DRN.	AST			
CHK.	PAM			
DATE: 10-30-97	BY	NO.	REVISION	DATE
			UPDATED SHEET TOTAL	4/04

**CLEARWATER 1 BASIN ENLARGED PLAN AND PROFILES**

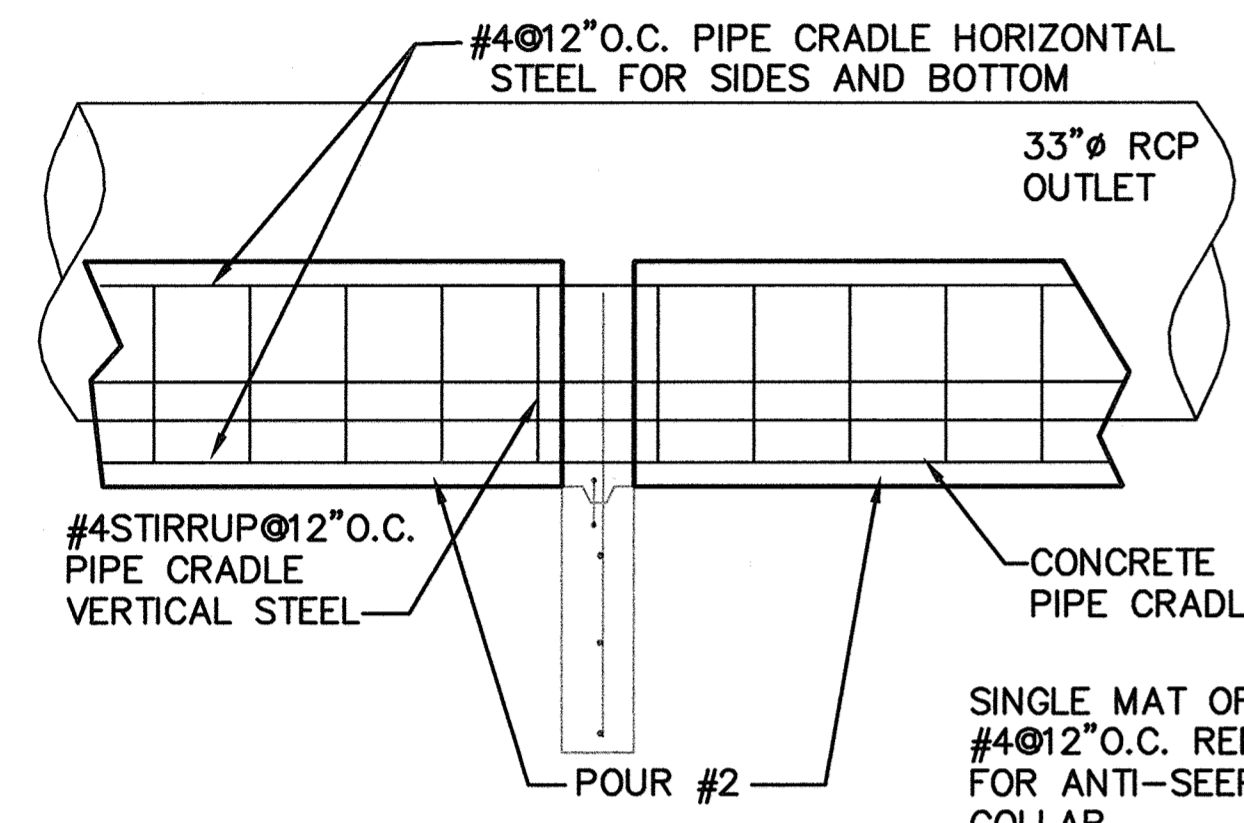
**ALPHA RIDGE LANDFILL UNLINED CELL CLOSURE**  
CAPITAL PROJECT NO. C-0190-N

SCALE: AS NOTED  
SHEET 70 OF 140

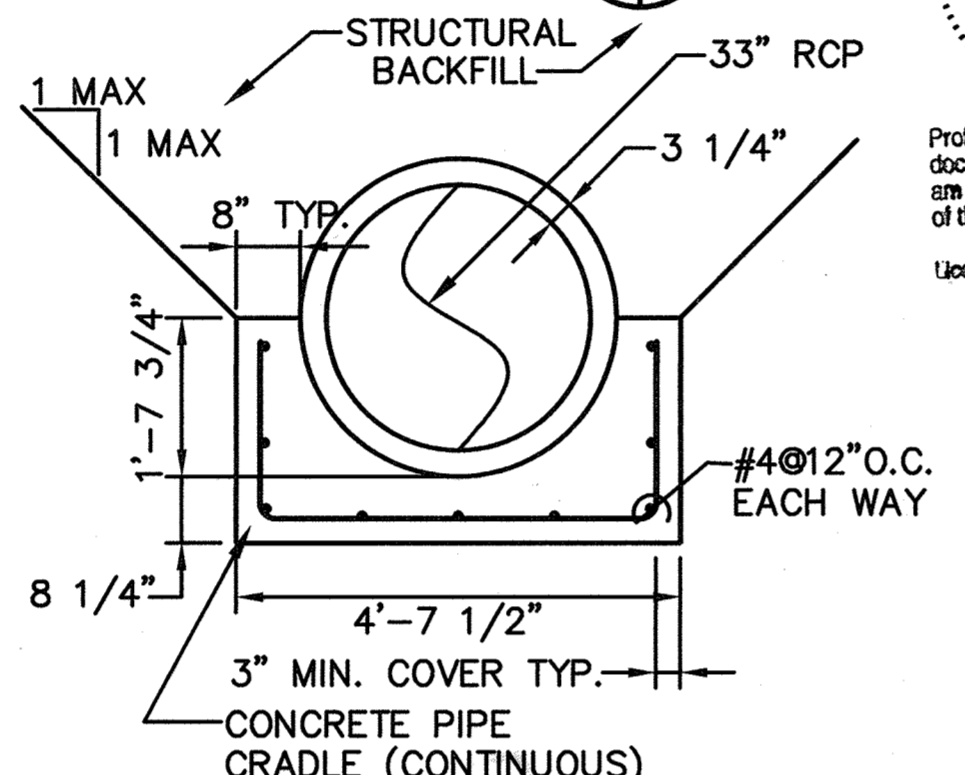
M:\295077\01\FINAL\BRW4CW1.PRF-CW1OUT.PRF-SCSW1.PRF-CW1DAM.CW1RIPPLAN.XS-CW1O



NOTES:  
 1. ANTI-SEEP COLLAR TO BE POURED AT LEAST TWO (2) FEET FROM NEAREST PIPE JOINT  
 2. ANTI-SEEP COLLAR IS TO BE CONSTRUCTED IN THREE POURS. BOTTOM HALF TO BE POURED FIRST.  
 3. PLACE PIPE AND POUR CRADLE SECOND.  
 4. TOP PORTION OF COLLAR POURED THIRD.  
 5. BACKFILL SHALL BE PLACED EVENLY ON BOTH SIDES OF THE ANTI-SEEP COLLAR.  
 6. REINFORCED CONCRETE: fc = 4,000 psi @ 28 DAYS.

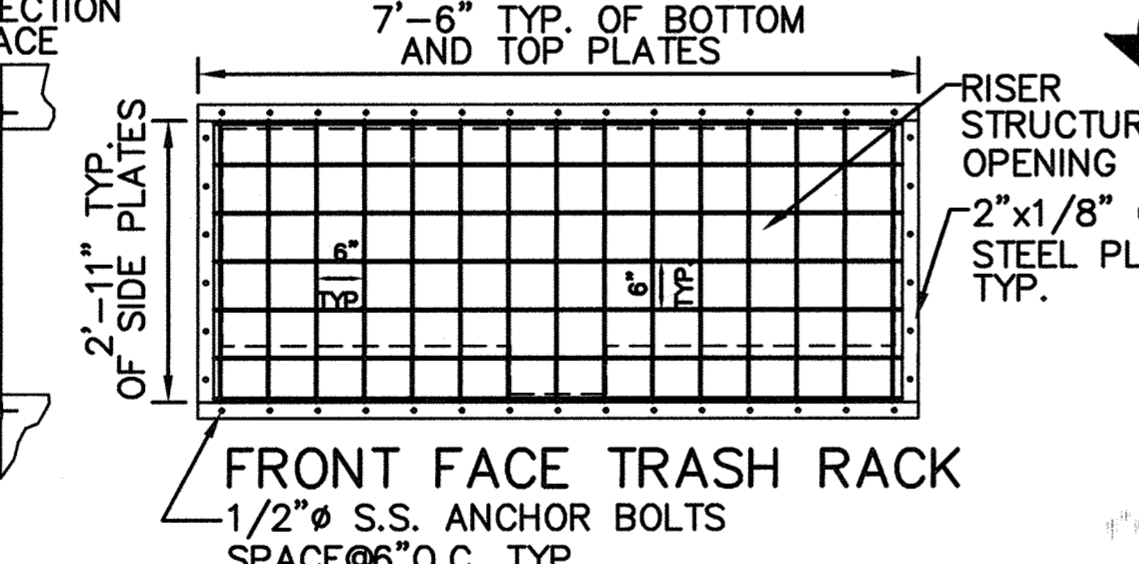


ANTI-SEEP COLLAR DETAIL (TYPICAL OF TWO)  
 SCALE: 1/2"=1'-0"

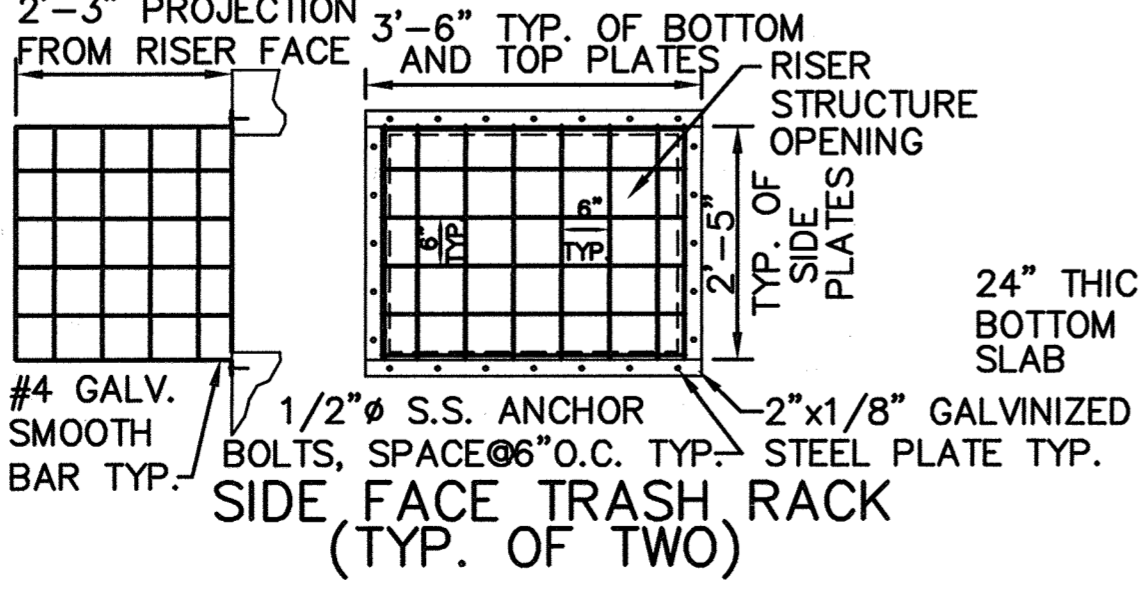


A2 PIPE CRADLE DETAIL  
 SCALE: 1/2"=1'-0"  
 NOTES:  
 1. PIPE CRADLE SHALL HAVE A MINIMUM fc OF 4,000 psi @ 28 DAYS  
 2. USE INTERMEDIATE GRADE REINFORCING STEEL

ANTI-SEEP COLLAR CONSTRUCTION SEQUENCE



FRONT FACE TRASH RACK  
 SCALE: 1/2"=1'-0"



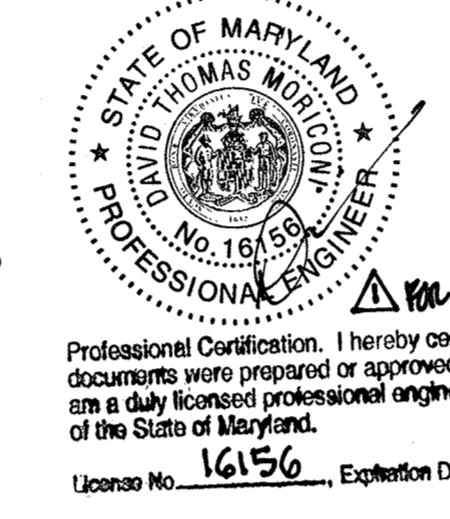
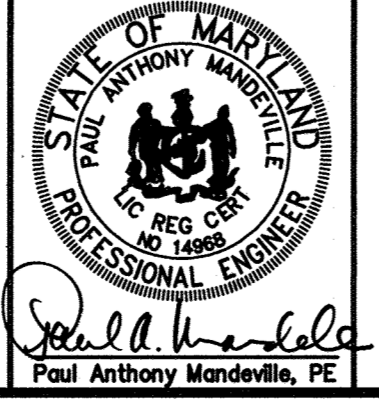
SIDE FACE TRASH RACK (TYP. OF TWO)  
 SCALE: 1/2"=1'-0"

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/606 16-878/215 10-891/314		ZONE PEC	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING		SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30

DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND  
 Director: [Signature] 11/3/97  
 Chief, Development Engineering Division: [Signature] 12/30/97  
 Chief, Division of Land Development: [Signature] 11/3/97

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works: [Signature] 10/30/97  
 Chief, Bureau of Waste Management: [Signature] 10/30/97

SCS ENGINEERS  
 CONSULTING ENGINEERS  
 11260 ROGER BACON DRIVE  
 SUITE 300  
 RESTON, VIRGINIA 22090  
 PH. (703) 471-6150  
 FAX. (703) 471-6676



POND	RISER				OUTLET PIPE			ANTI-SEEP COLLAR	DAM			EMERG. SPILLWAY	CORE TRENCH	CUT-OFF TRENCH		WATER SURFACE ELEV.							
	WEIR HT.	WEIR WIDTH	CREST ELEV.	STR. WIDTH	DIA. IN.	L FT.	U/S INV.		D/S INV.	QTY.	APPROX. SIZE			TOP WIDTH FT.	CONSTR. HEIGHT	SETTLED HEIGHT	ELEV.	BOTTOM WIDTH FT.	TOP WIDTH FT.	SIDE SLOPES	BOT. WIDTH FT.	SIDE SLOPES	2 YR.
CW1	2'-3"	12'	518.63	6.67' x 518.58	33	69	518.00	511.97	2	9.48' H. 10.13' W.	12'	522	521.6	520.0	12	4'	1:1	4'	1:1	518.54	519.13	519.31	519.89

POST CONSTRUCTION CLEARWATER 1 BASIN MAINTENANCE IS RESPONSIBILITY OF OWNER, HOWARD COUNTY

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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature: [Signature] 10/30/97  
 DATE: 10/30/97  
 PRINT NAME BELOW SIGNATURE: JOHN J. O'HARA

BY THE ENGINEER:  
 I HEREBY 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/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Signature: [Signature] 10/31/97  
 DATE: 10/31/97  
 PRINT NAME BELOW SIGNATURE: PAUL A. MANDEVILLE

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: [Signature] 10-30-97  
 DATE: 10-30-97  
 USDA - NATURAL RESOURCES CONSERVATION SERVICE

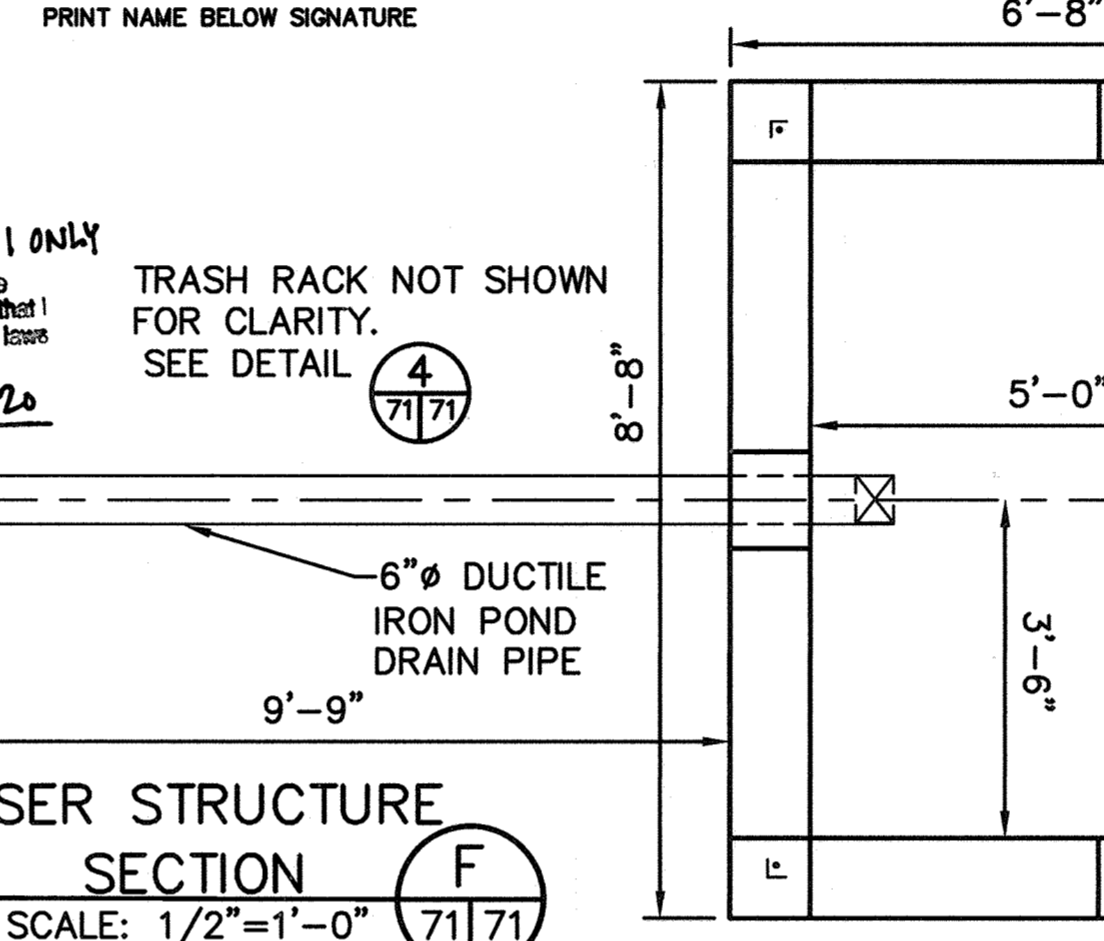
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 Signature: [Signature] 10-30-97  
 DATE: 10-30-97  
 HOWARD SOIL CONSERVATION DISTRICT AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

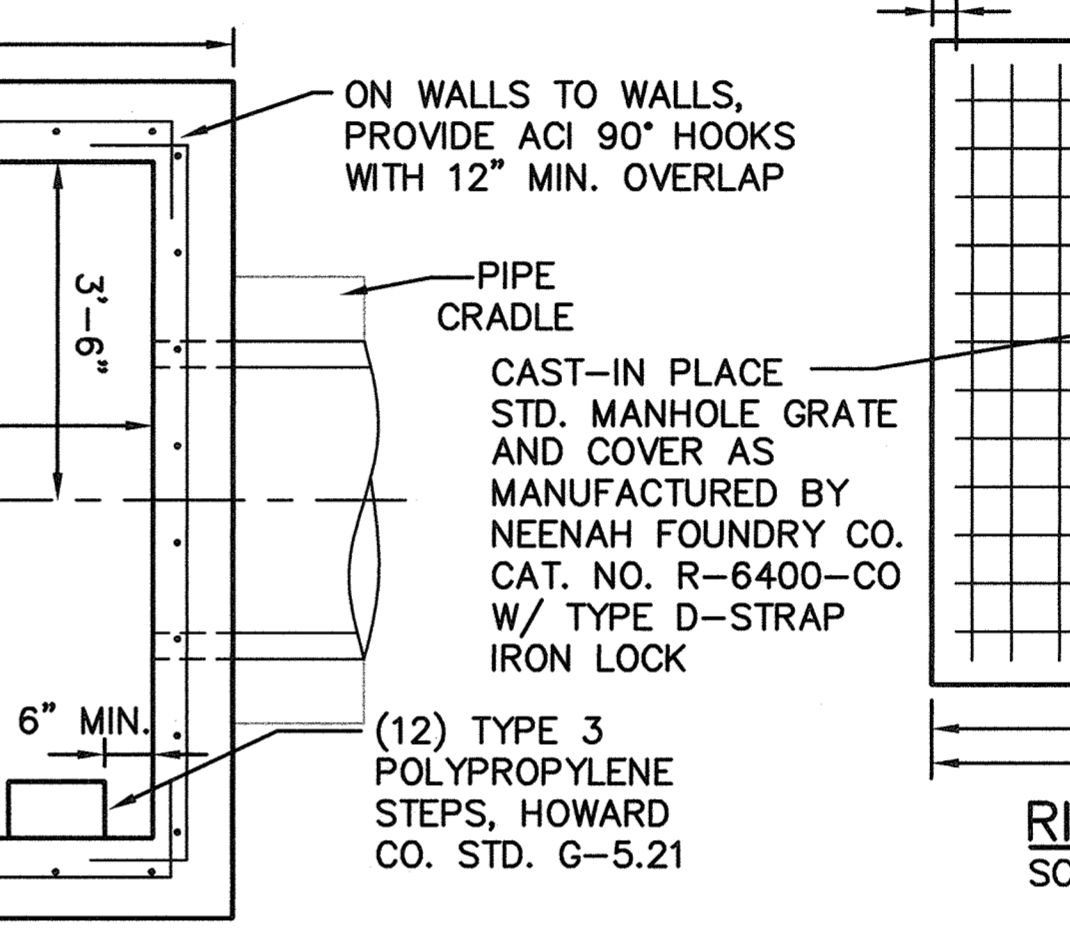
Signature: [Signature] PE NO. 17650  
 DATE: 10/10/01

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

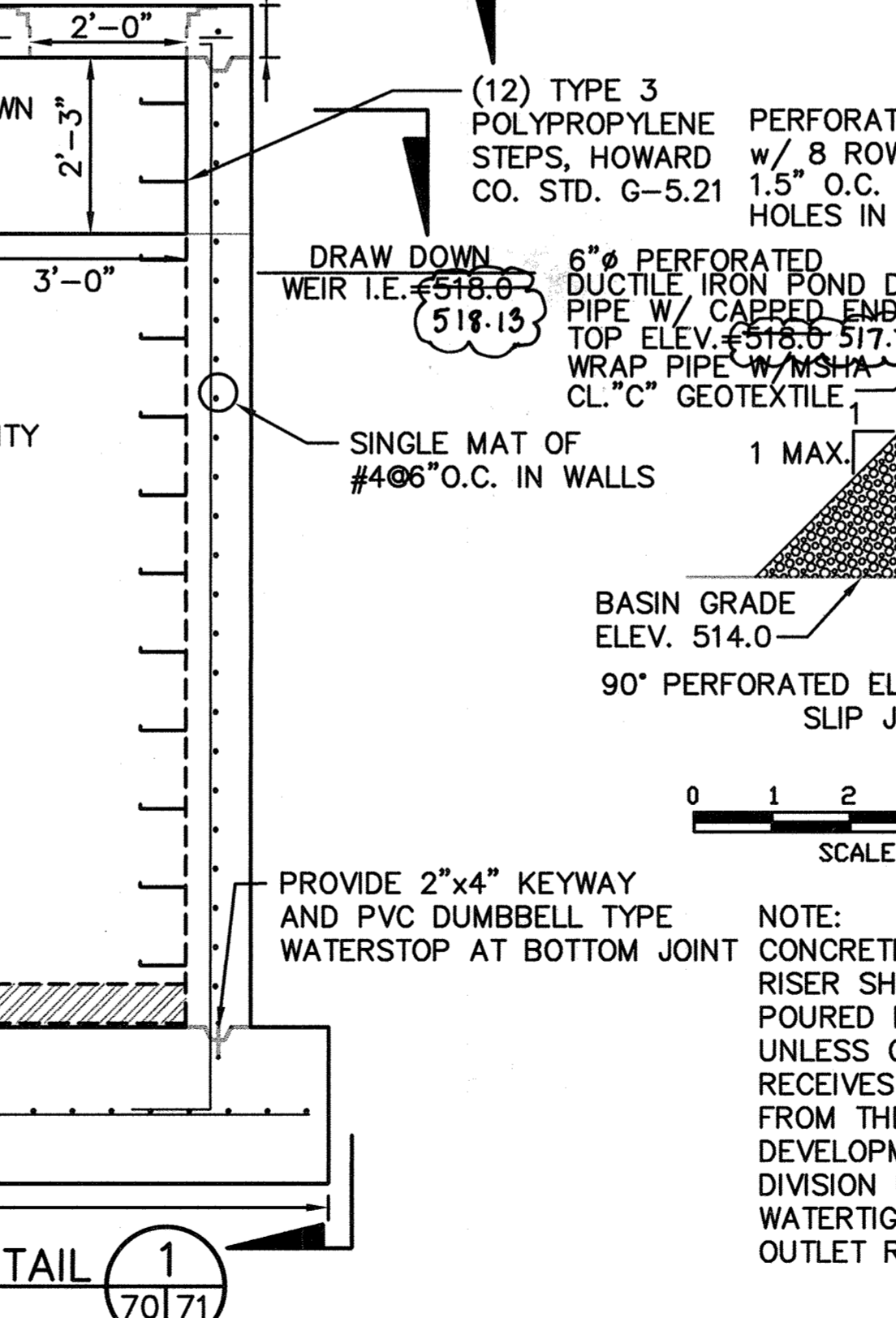
OPERATION, MAINTENANCE AND INSPECTION  
 INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATORS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.



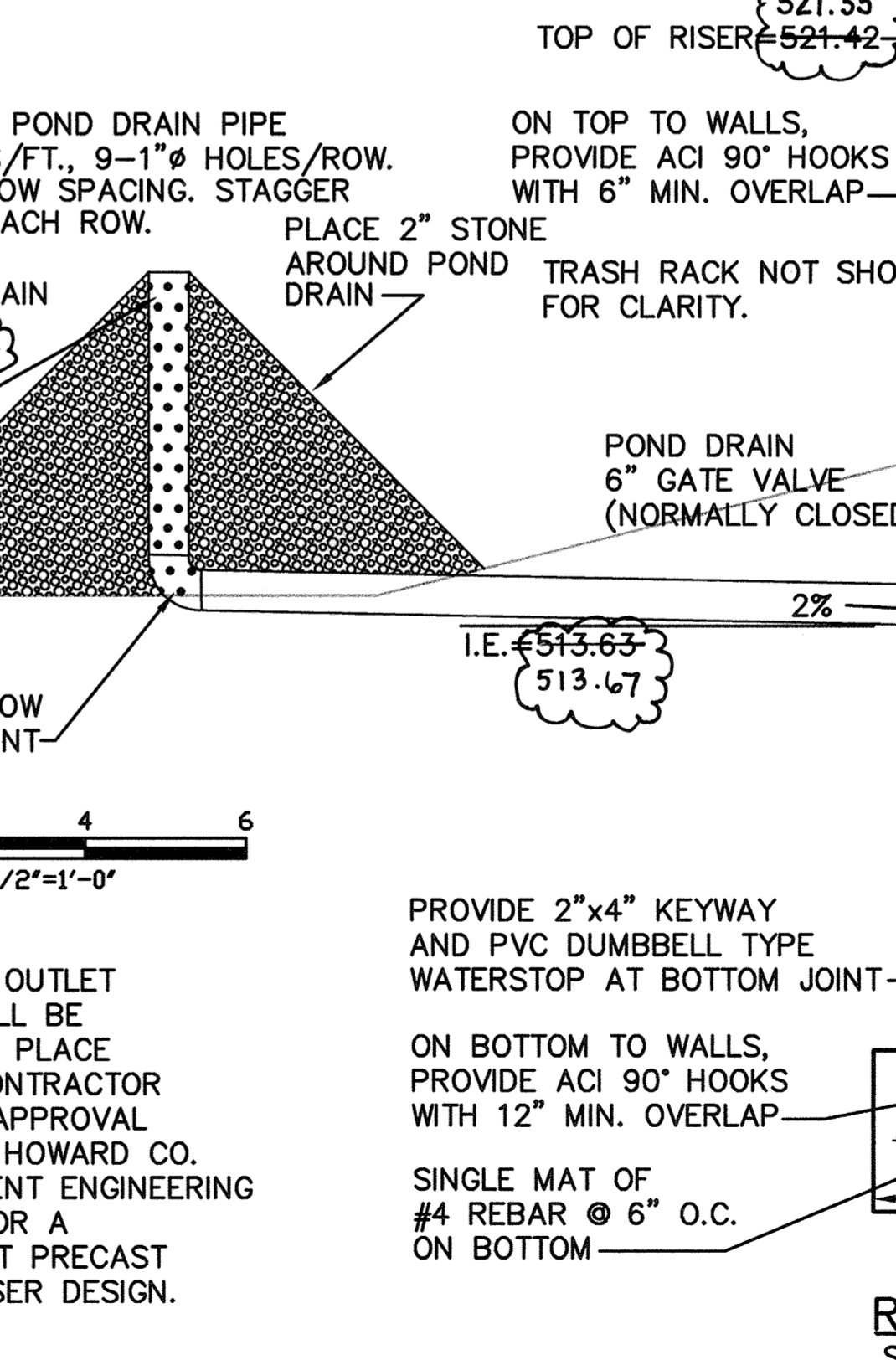
RISER STRUCTURE SECTION F  
 SCALE: 1/2"=1'-0"



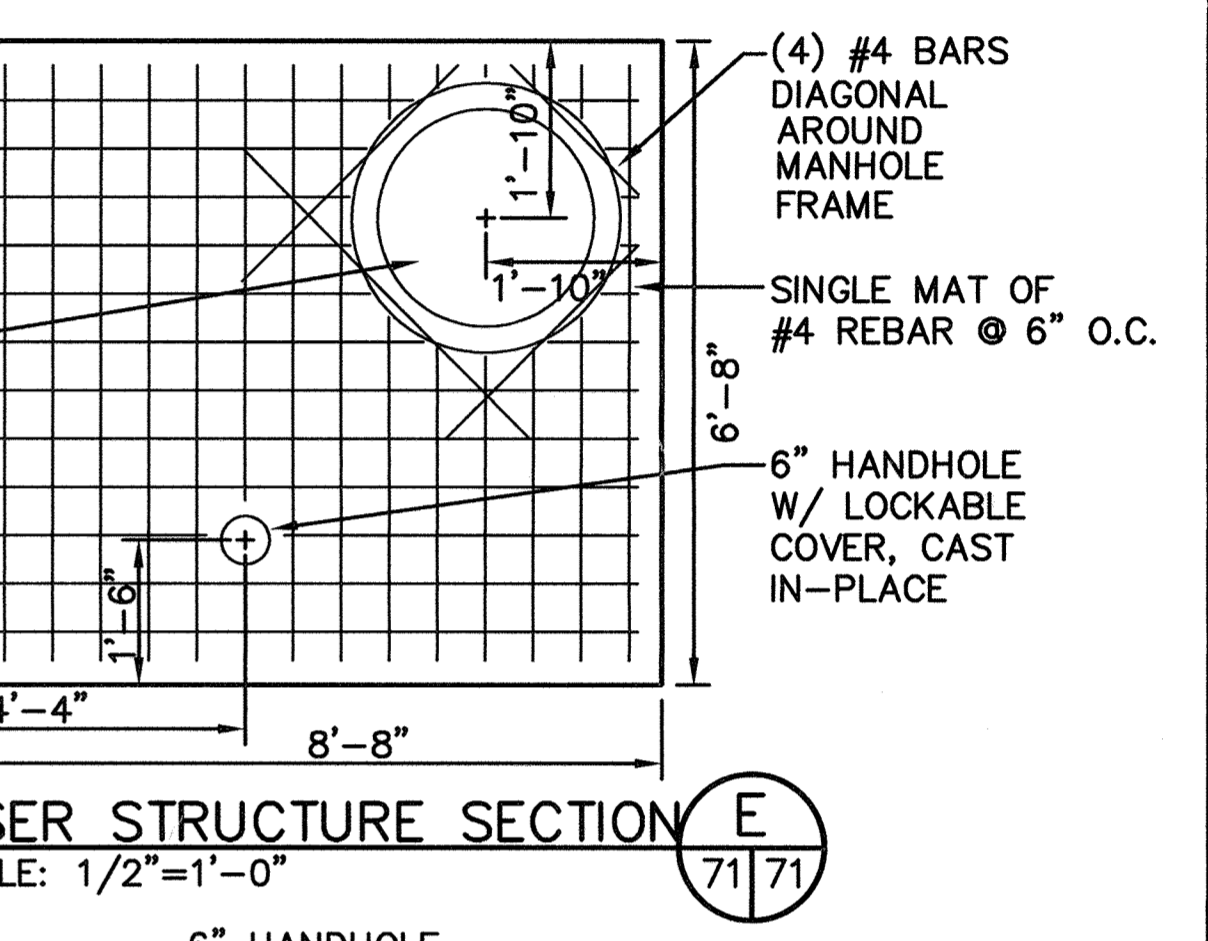
RISER STRUCTURE SECTION E  
 SCALE: 1/2"=1'-0"



RISER STRUCTURE DETAIL 1  
 SCALE: 1/2"=1'-0"



RISER STRUCTURE SECTION D  
 SCALE: 1/2"=1'-0"



RISER STRUCTURE SECTION G  
 SCALE: 1/2"=1'-0"

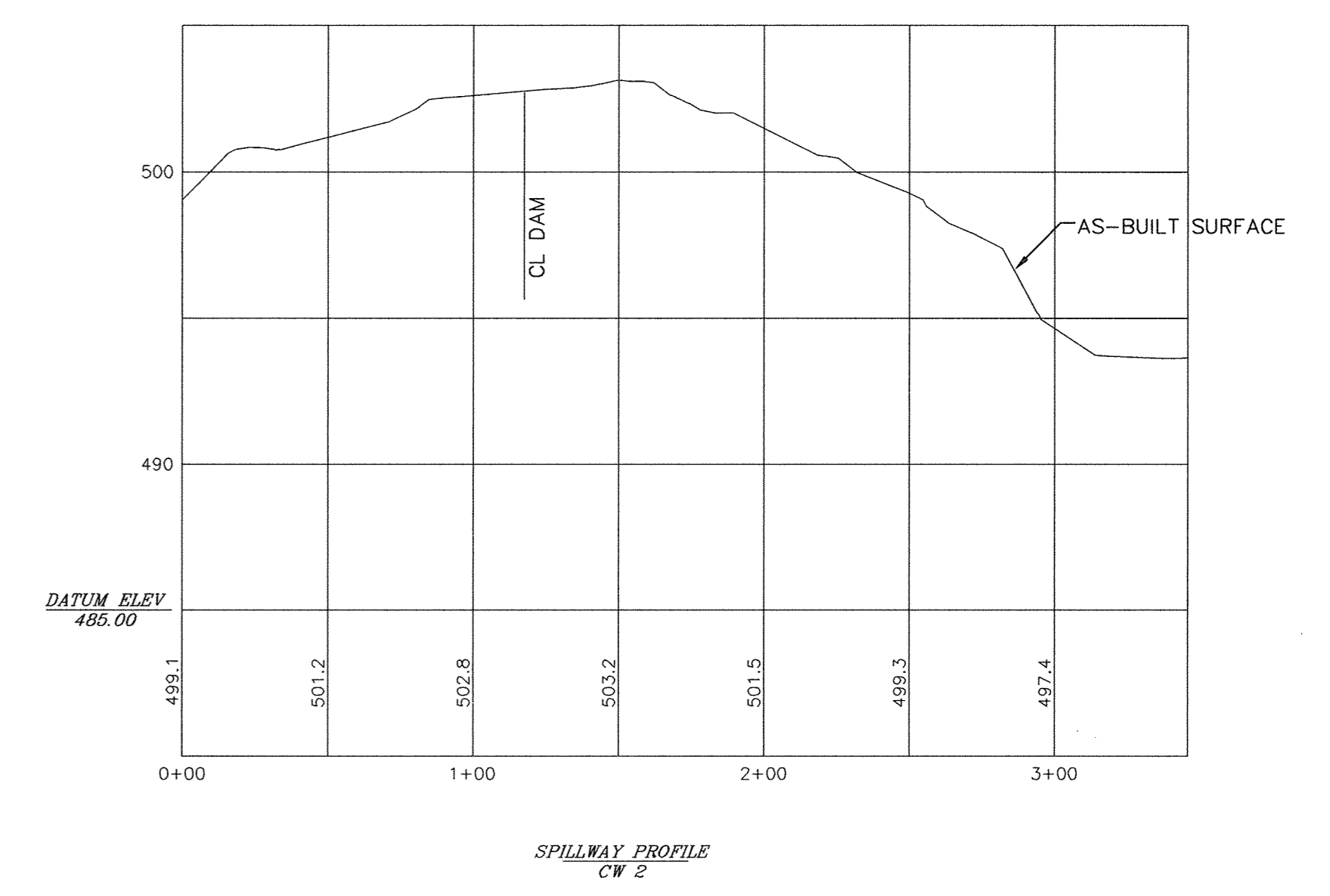
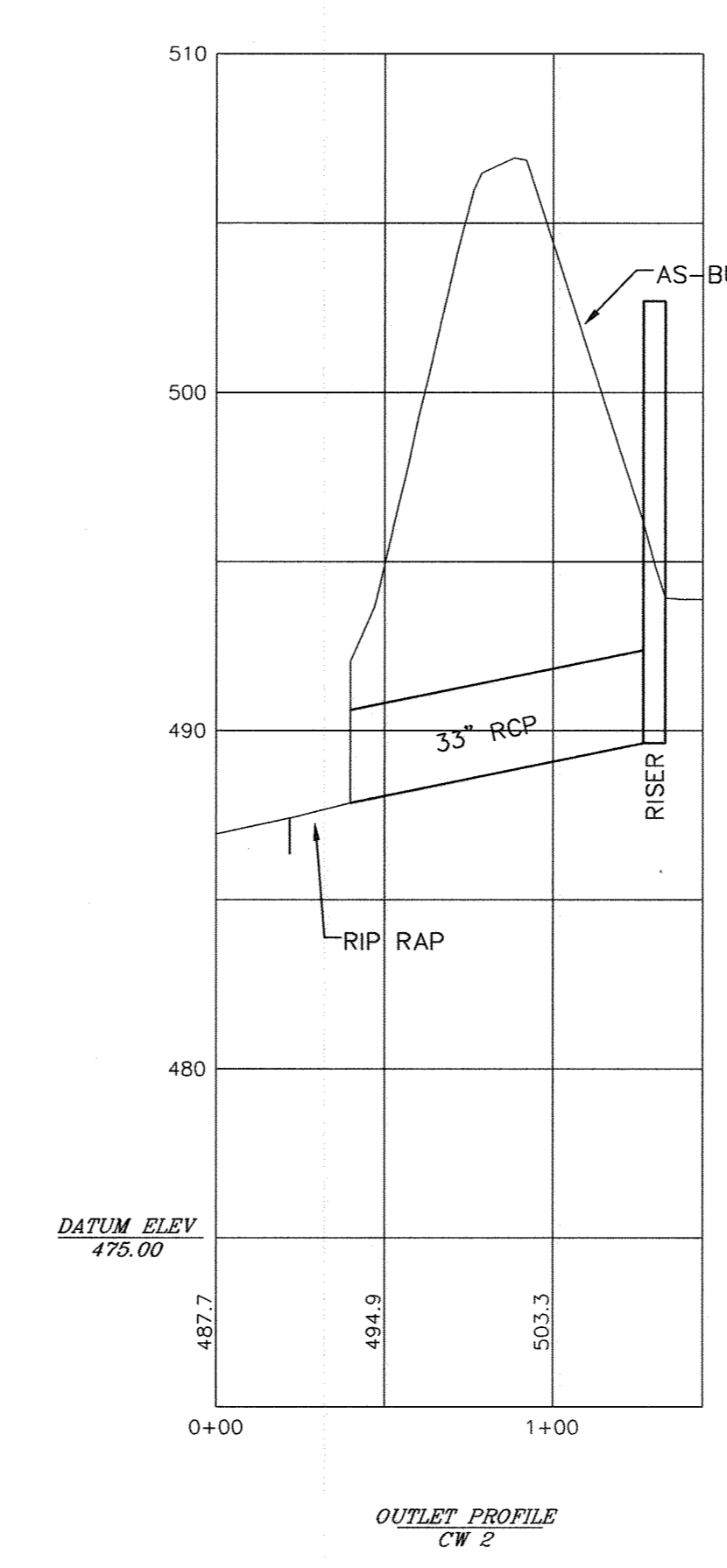
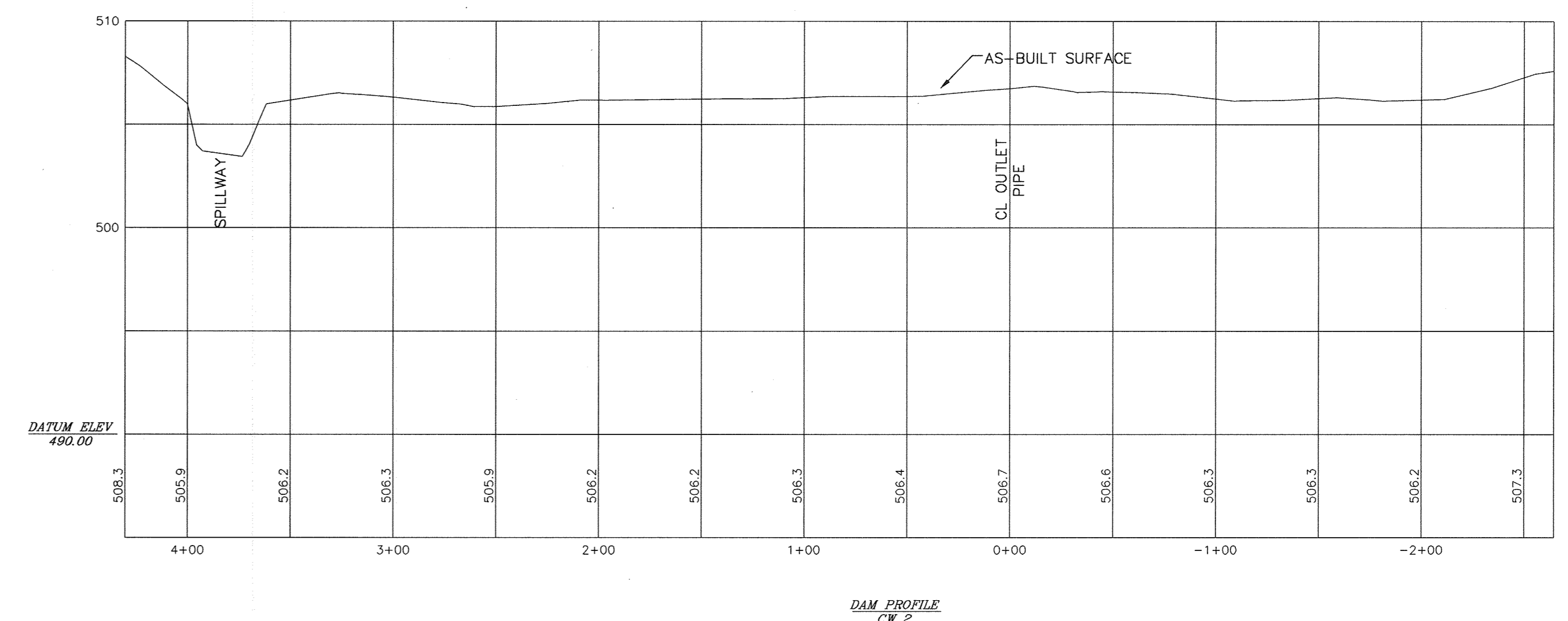
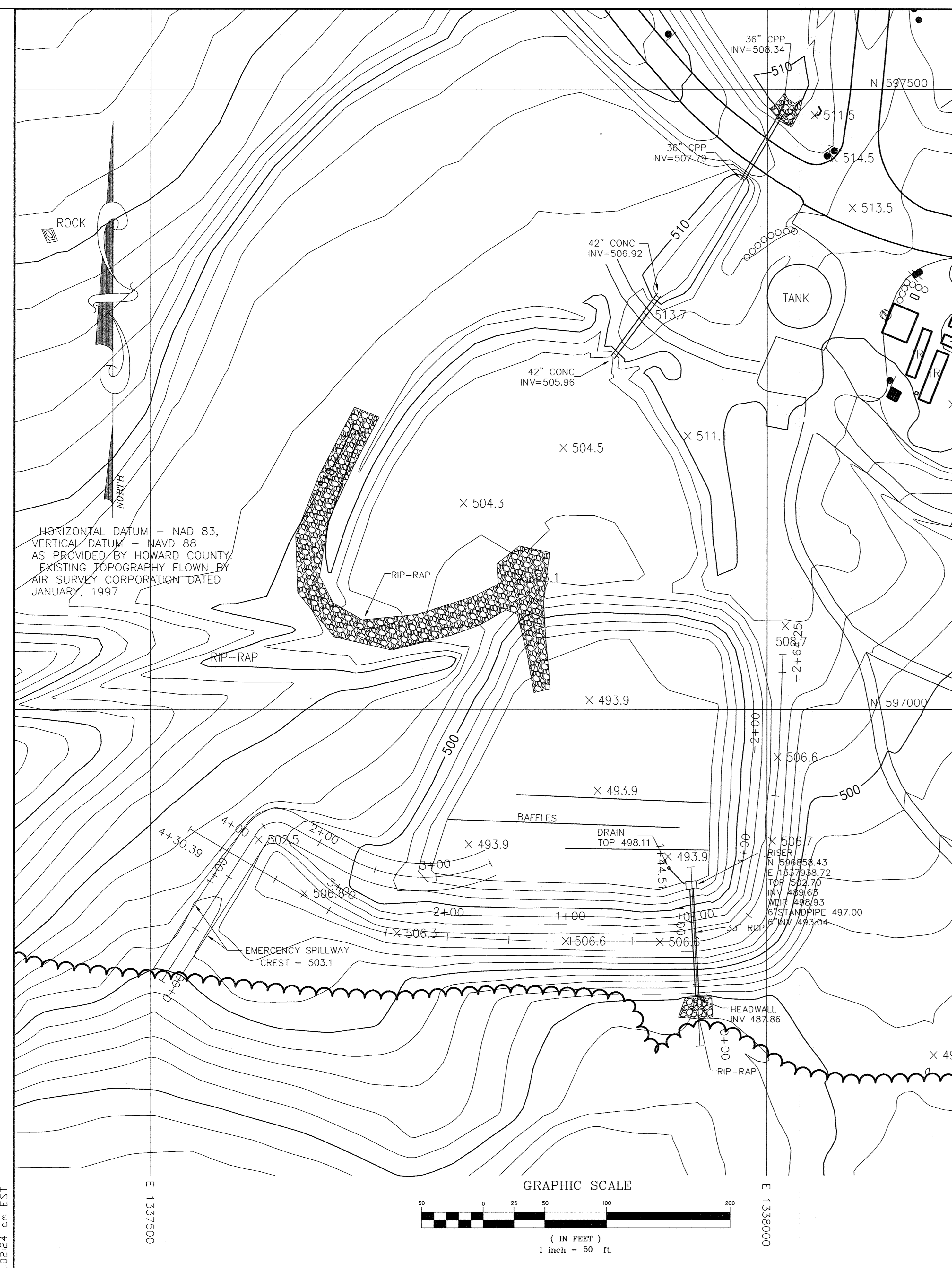
DES.	AST				
DRN.	AST				
CHK.	PAM				
DATE: 10-30-97	BY: [Signature]	NO.:	REVISION:	DATE:	

CLEARWATER 1 BASIN DETAILS

ALPHA RIDGE LANDFILL UNLINED CELL CLOSURE  
 CAPITAL PROJECT NO. C-0190-N  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE: AS NOTED  
 SHEET 71 OF 140

ANTSP-CWI, CRADLE-CWI, RISER-CWI, TRK-CWI, TBL-CWI  
 CWIDETS-B M: \285077.01\FINAL  
 SDF-97-128



STATE OF MARYLAND  
DAVID THOMAS HOLDEN  
PROFESSIONAL ENGINEER  
No. 3 00114  
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 66156, Expiration Date: 8-28-20

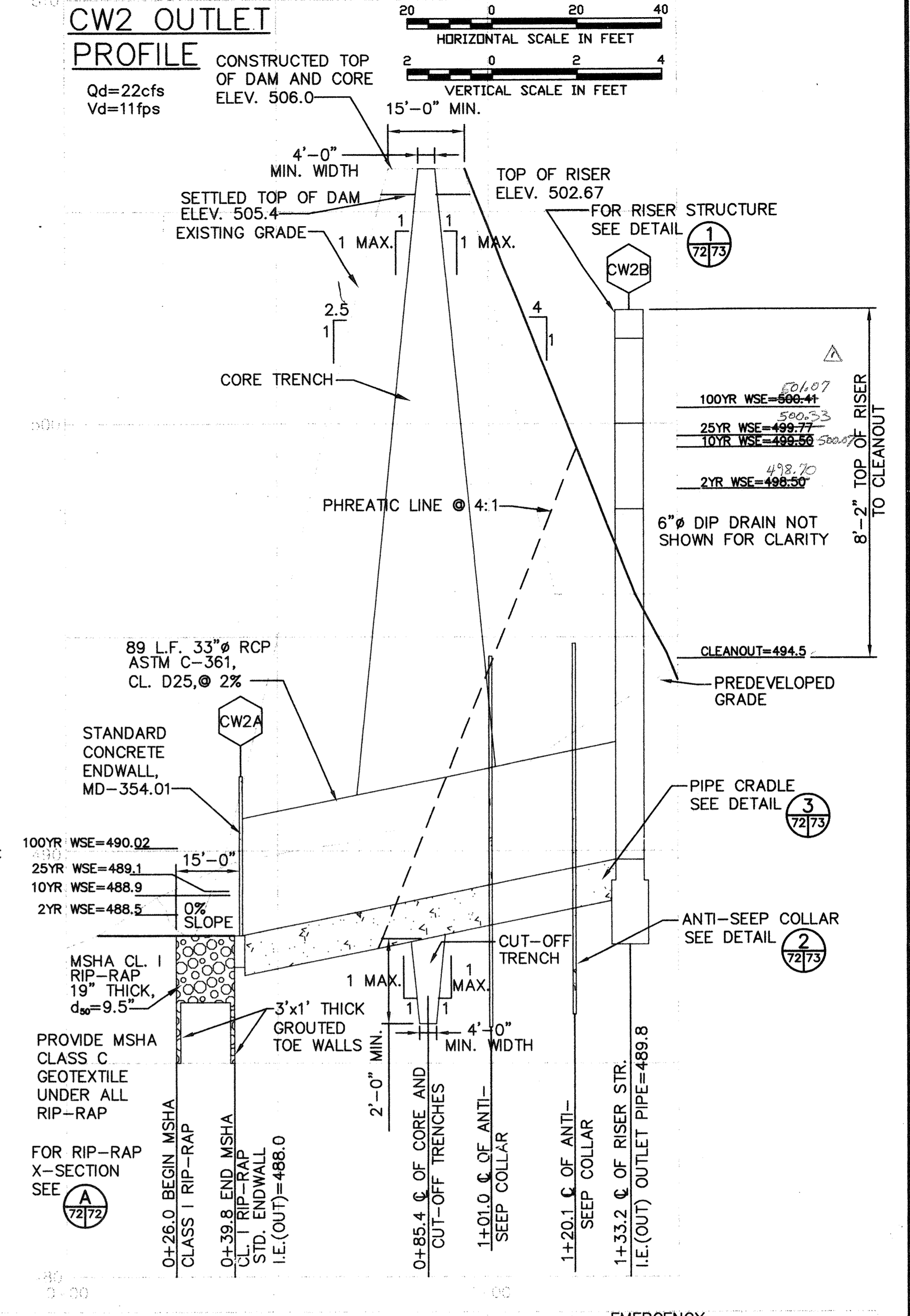
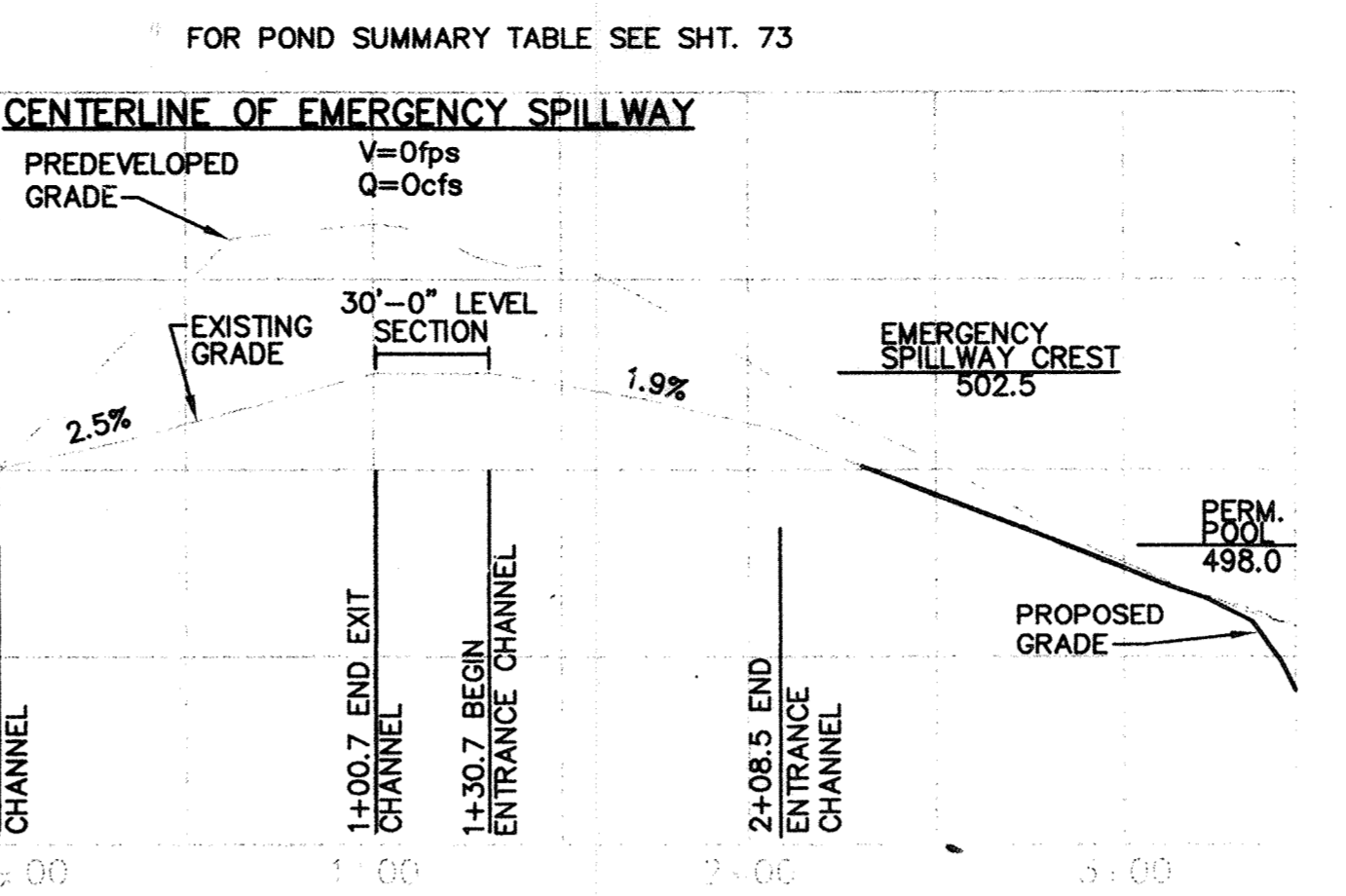
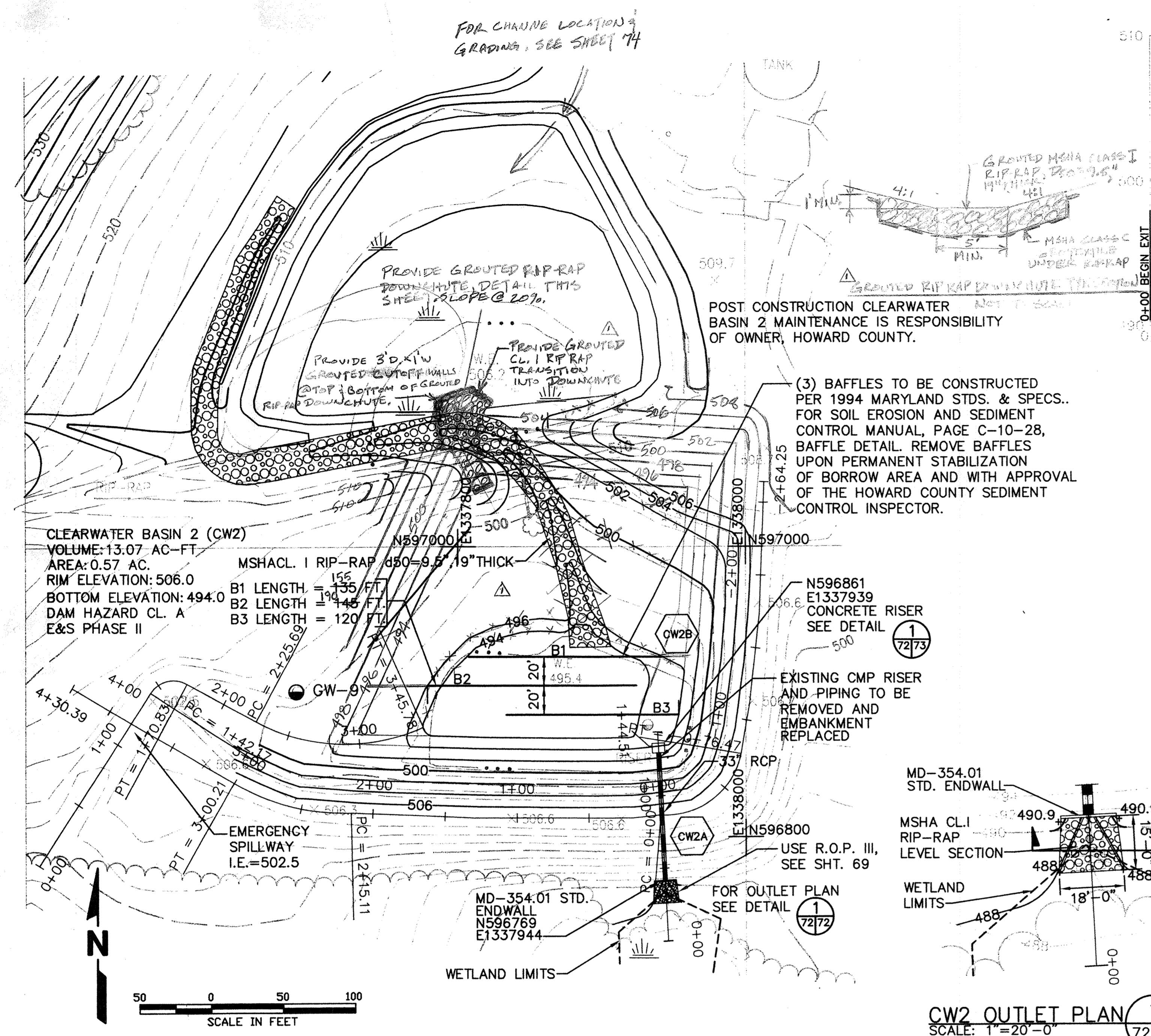
DESIGNED BY:		DATE		REVISIONS	
DRAWN BY:	TWH	DATE	2-23-00	DATE	4-6-00
CHECKED BY:		DATE	10-17-00	BY	TWH
APPROVED BY:		DATE	4-20-00	DESCRIPTION	ADDED PROFILES
					LABELLED EMERGENCY SPILLWAY.
					ADDED SUBMIT TOTAL

**ENGINEERING TECHNOLOGIES ASSOCIATES, INC.**  
ENGINEERS \* PLANNERS \* SURVEYORS  
3458 ELLICOTT CENTER DRIVE SUITE 101  
ELLICOTT CITY, MARYLAND 21043  
BALTO. (410)461-9920 FAX (410)750-8565



CLEARWATER 2 BASIN - ENLARGED PLAN AS-BUILT  
**ALPHA RIDGE LANDFILL CELL CLOSURE**  
HOWARD COUNTY MARYLAND  
SCALE : 1"=50'  
CONTRACT NO.: 98301.10  
DATE : 2-23-2000  
SHEET 72-AB OF 140

M: 2295077:01.FINAL CW2PLAN-B BRW2CW2.PRF - CW2OUTL.PRFESCW2.PRFECW2DAM.CW2RRPLAN.XS - CW2D



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/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Paul A. Mandeville Paul Mandeville 10/30/97  
 SIGNATURE OF ENGINEER DATE

PRINT NAME BELOW SIGNATURE

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.

Charles L. Hommons 10-30-97  
 SIGNATURE OF ENGINEER DATE

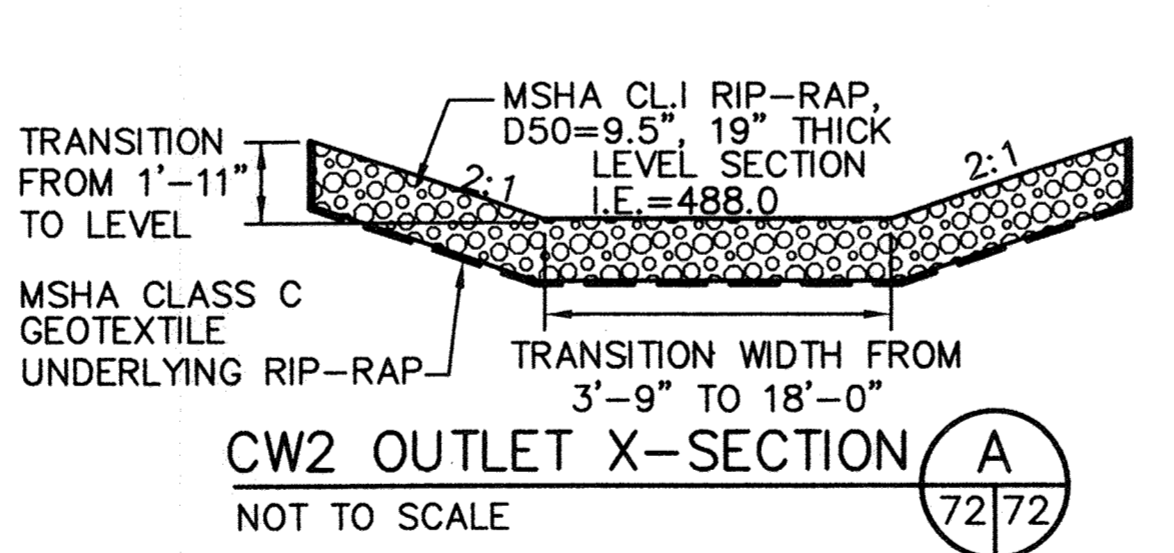
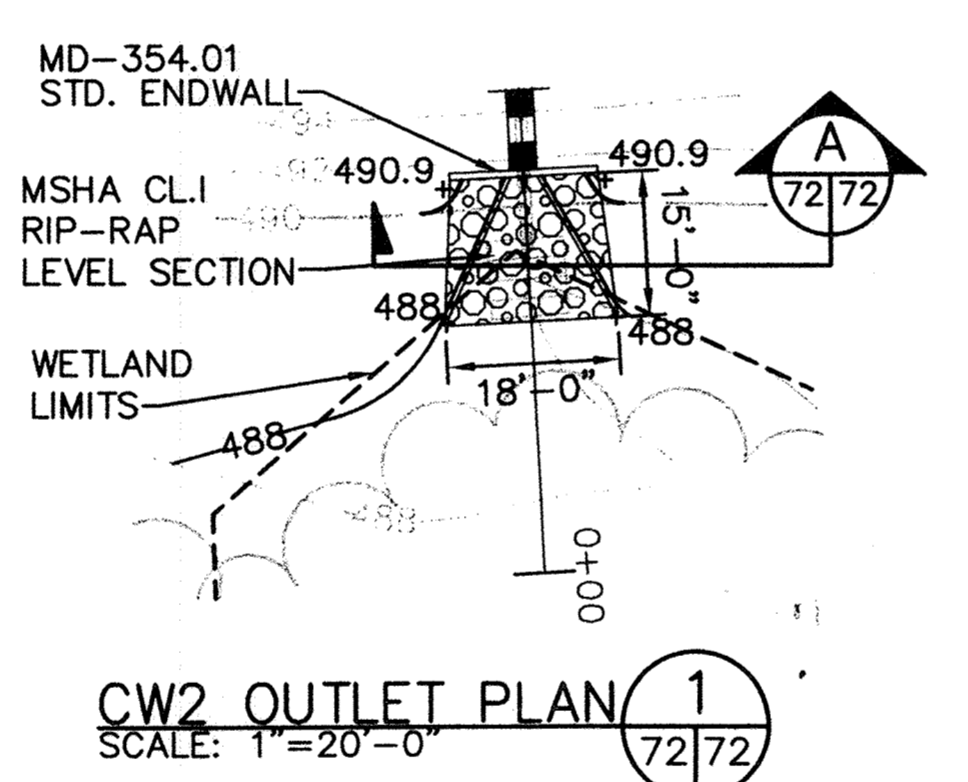
USDA - NATURAL RESOURCES CONSERVATION SERVICE  
 HOWARD SOIL CONSERVATION DISTRICT

AS-BUILT CERTIFICATION  
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

PE NO. \_\_\_\_\_  
 SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES, OPERATION, MAINTENANCE AND INSPECTION.

INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.



NOTE: COUNTY GEOTECHNICAL ENGINEER SHALL INSPECT EXPOSED FACE OF EXISTING EMBANKMENT REMAINING WHEN BREACH IS MADE BY CONTRACTOR. CONTRACTOR SHALL NOTIFY RESIDENT ENGINEER OF THE TIME BREACH WILL BE MADE AND ASSIST GEOTECHNICAL ENGINEER WITH INSPECTION AS NECESSARY.

CONTRACTOR SHALL SCARIFY, BLEND AND COMPACT THE NEW CORE TRENCH WITH THE EXISTING CORE TRENCH TO REMAIN. THE COUNTY GEOTECHNICAL ENGINEER SHALL OBSERVE THE WORK.

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/808 16-878/215 10-891/314	ZONE PEC	TAX/ZONE MAP 10 & 16	
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30	

**DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND**

Director: [Signature] 11/2/97  
 Chief, Development Engineering Division: [Signature] 10/31/97  
 Chief, Division of Land Development: [Signature] 11/3/97

**DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND**

Director of Public Works: [Signature] 10/30/97  
 Chief, Bureau of Waste Management: [Signature] 10/30/97

**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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

John J. O'Hara 10/30/97  
 SIGNATURE OF DEVELOPER DATE  
 PRINT NAME BELOW SIGNATURE JOHN J. O'HARA

**SCS ENGINEERS**  
 CONSULTING ENGINEERS  
 11260 ROGER BACON DRIVE  
 SUITE 300  
 RESTON, VIRGINIA 22090  
 PH. (703) 471-6150  
 FAX. (703) 471-6676

Paul Anthony Mandeville, PE

DES.	AST		
DRN.	AST		
CHK.	PAM	DATE	4-20-99
DATE:	10-30-97	BY:	NO.
		REVISION	DATE

**CW2 CENTERLINE OF EMBANKMENT**

EXISTING GRADE

TOP OF DAM=506.0

SETTLED TOP=505.4

GEOTECHNICAL ENGINEER TO ASSESS WHETHER THE EXISTING EMBANKMENT MEETS CURRENT REGULATORY REQUIREMENTS

PREDEVELOPED GRADE

EMERGENCY SPILLWAY CREST ELEV. 502.5

3'-82.5 Ø OF EMERGENCY SPILLWAY

1'-0" BOTTOM MIN.

SCALE IN FEET

**CLEARWATER 2 BASIN  
 ENLARGED PLAN AND PROFILES**

**ALPHA RIDGE LANDFILL  
 UNLINED CELL CLOSURE**  
 CAPITAL PROJECT NO. C-0190-N

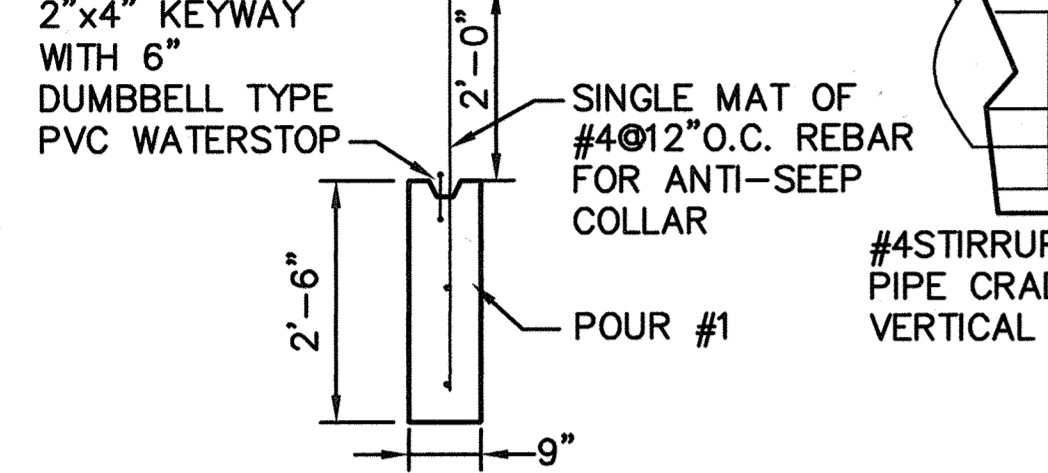
3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS NOTED  
 SHEET 72 OF 140

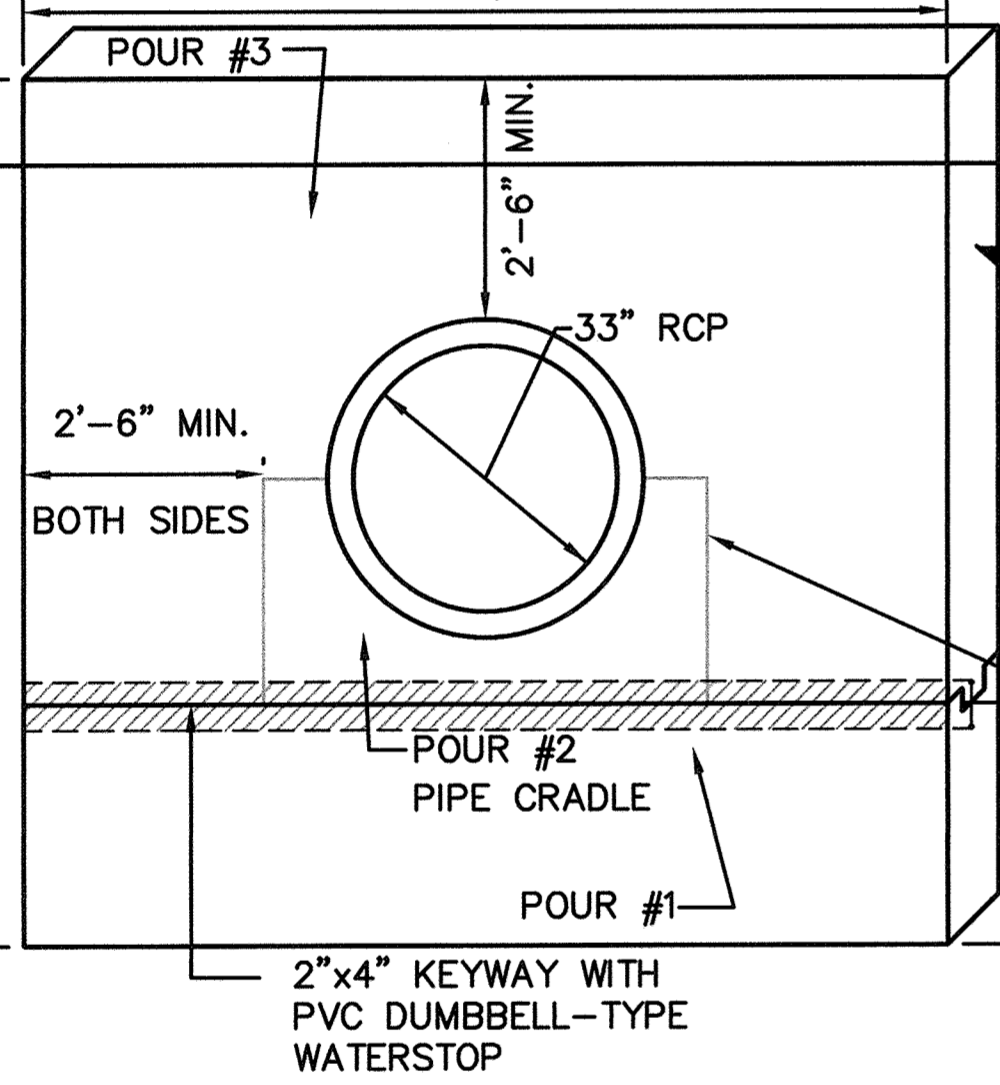
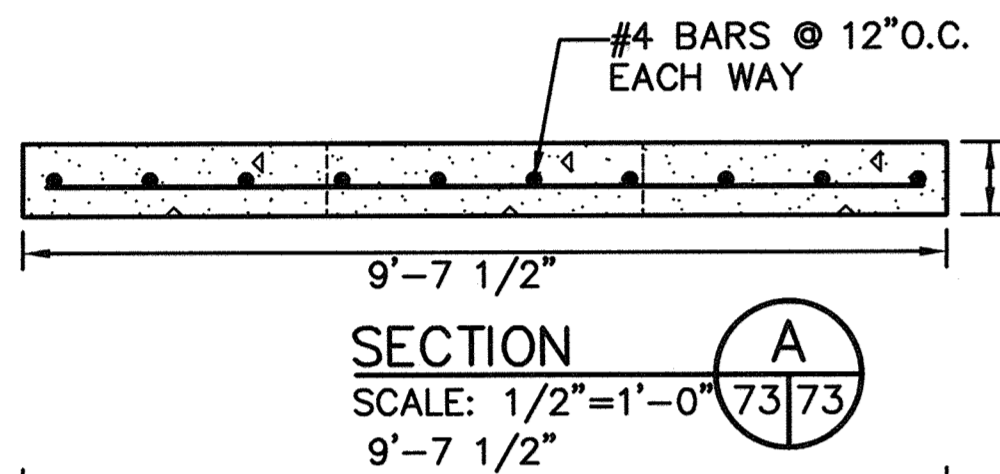
SDP 91-128

POND	RISER		OUTLET PIPE		ANTI-SEEP COLLAR		DAM		EMERG. SPILLWAY		CORE TRENCH		CUT-OFF TRENCH		WATER SURFACE ELEV.								
	WEIR HT.	WEIR WIDTH	CREST ELEV.	STR. WIDTH	DIA. IN.	L FT.	U/S INV.	D/S INV.	QTY.	APPROX. SIZE	TOP WIDTH FT.	CONSTR. HEIGHT	SETTLED HEIGHT	ELEV.	BOTTOM WIDTH FT.	TOP WIDTH FT.	SIDE SLOPES	BOT. WIDTH FT.	SIDE SLOPES	2 YR.	10 YR.	25 YR.	100 YR.
CW2	2'-0"	12'	500.16	6.67' x 500.0	33	89	489.63	487.86	2	8.98' H. 9.63' W.	15'	506	505.4	503.1	10	4'	1:1	4'	1:1	498.70	500.07	500.33	501.07

- NOTES:
- ANTI-SEEP COLLAR TO BE POURED AT LEAST TWO (2) FEET FROM NEAREST PIPE JOINT
  - ANTI-SEEP COLLAR IS TO BE CONSTRUCTED IN THREE POURS.
  - BOTTOM HALF TO BE POURED FIRST.
  - PLACE PIPE AND POUR CRADLE SECOND.
  - TOP PORTION OF COLLAR POURED THIRD.
  - BACKFILL SHALL BE PLACED EVENLY ON BOTH SIDES OF THE ANTI-SEEP COLLAR.
  - REINFORCED CONCRETE:
    - fc = 4,000 psi @ 28 DAYS.



ANTI-SEEP COLLAR CONSTRUCTION SEQUENCE



ANTI-SEEP COLLAR DETAIL (TYPICAL OF TWO) SCALE: 1/2"=1'-0"

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT/PARCEL 54,253,220,11
LIBER/FOLIO 10-847/608 16-876/215 10-891/314	ZONE PEC TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING CENSUS TR. 60-30

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*[Signature]* 10/3/97  
DIRECTOR DATE

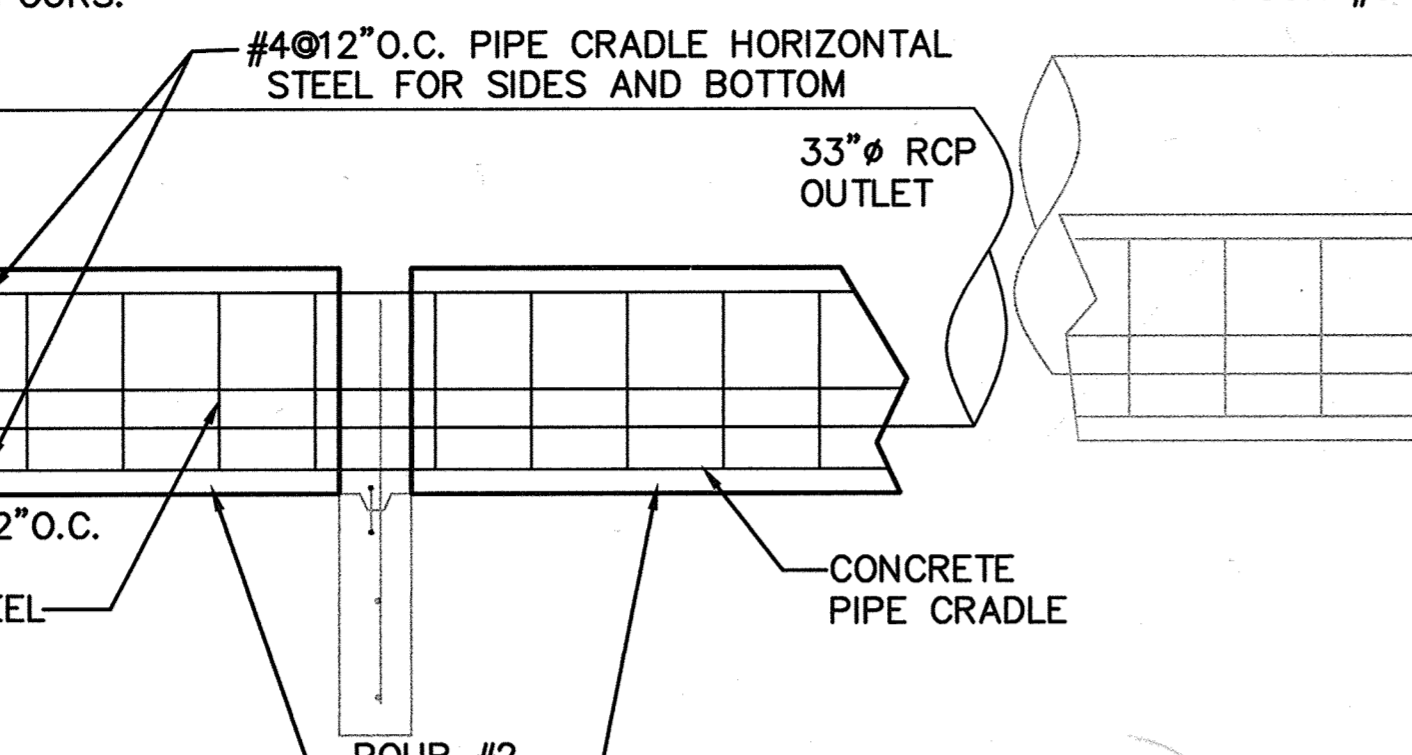
*[Signature]* 10/30/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 10/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

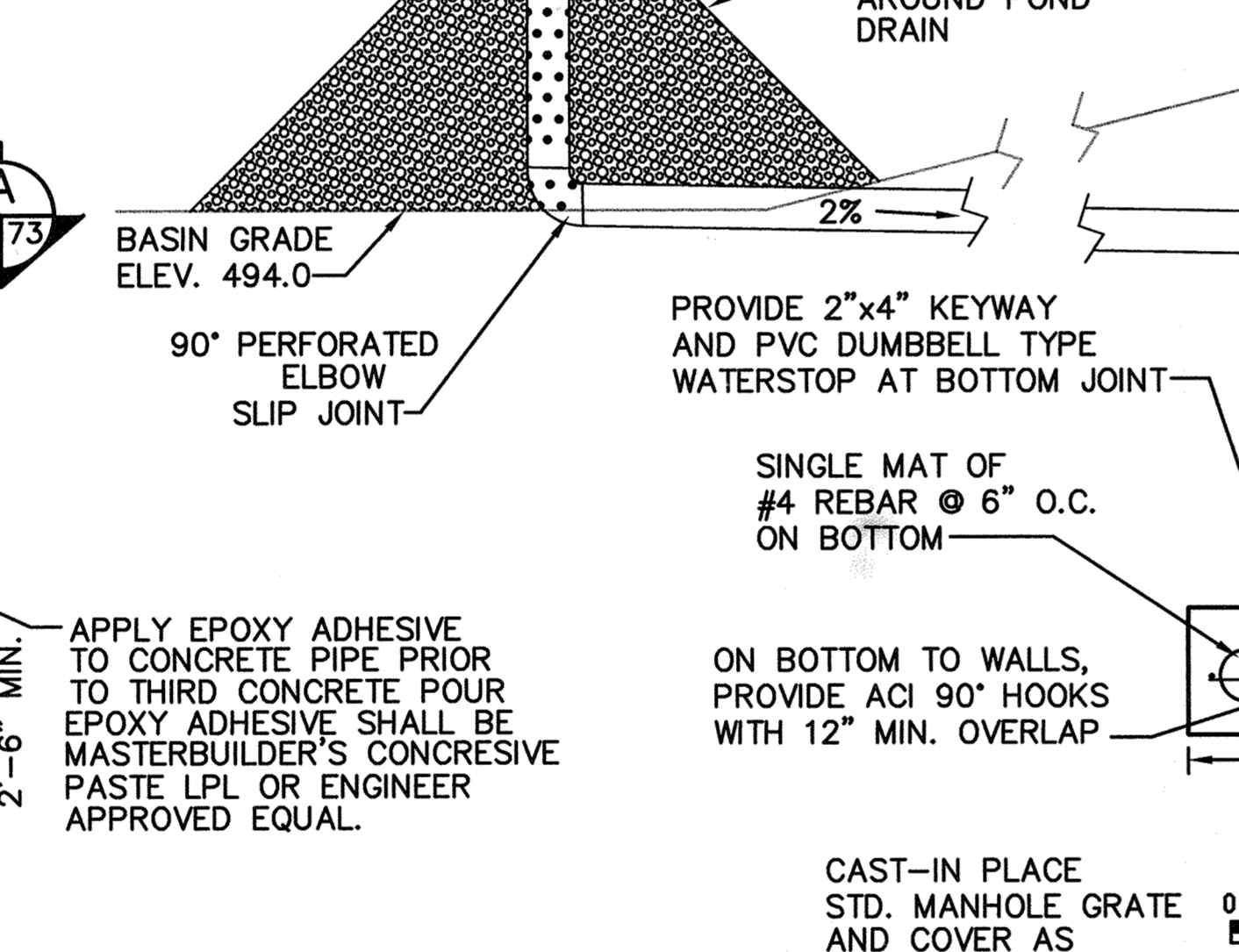
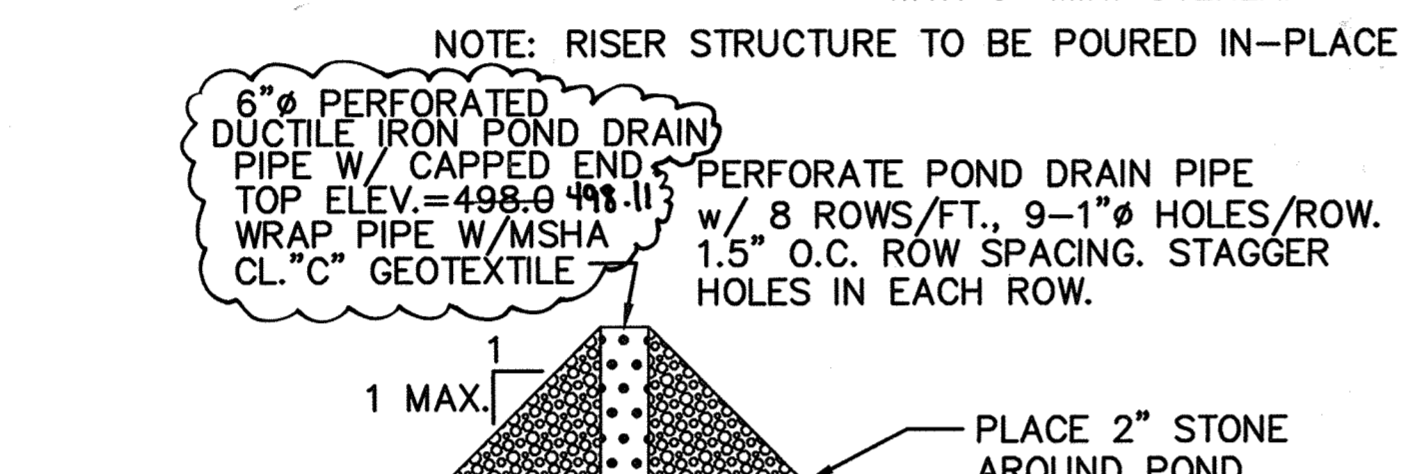
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

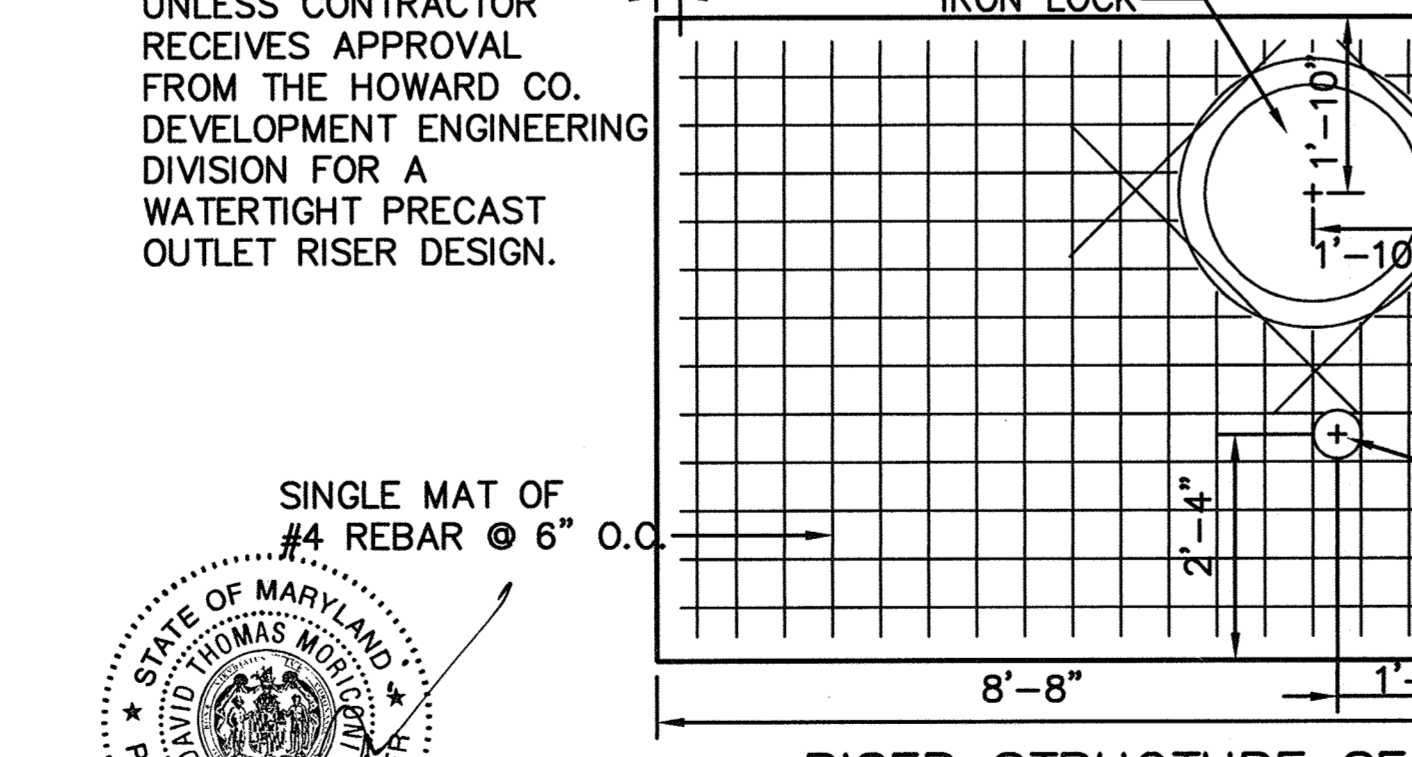
*[Signature]* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE



NOTE: RISER STRUCTURE TO BE POURED IN-PLACE



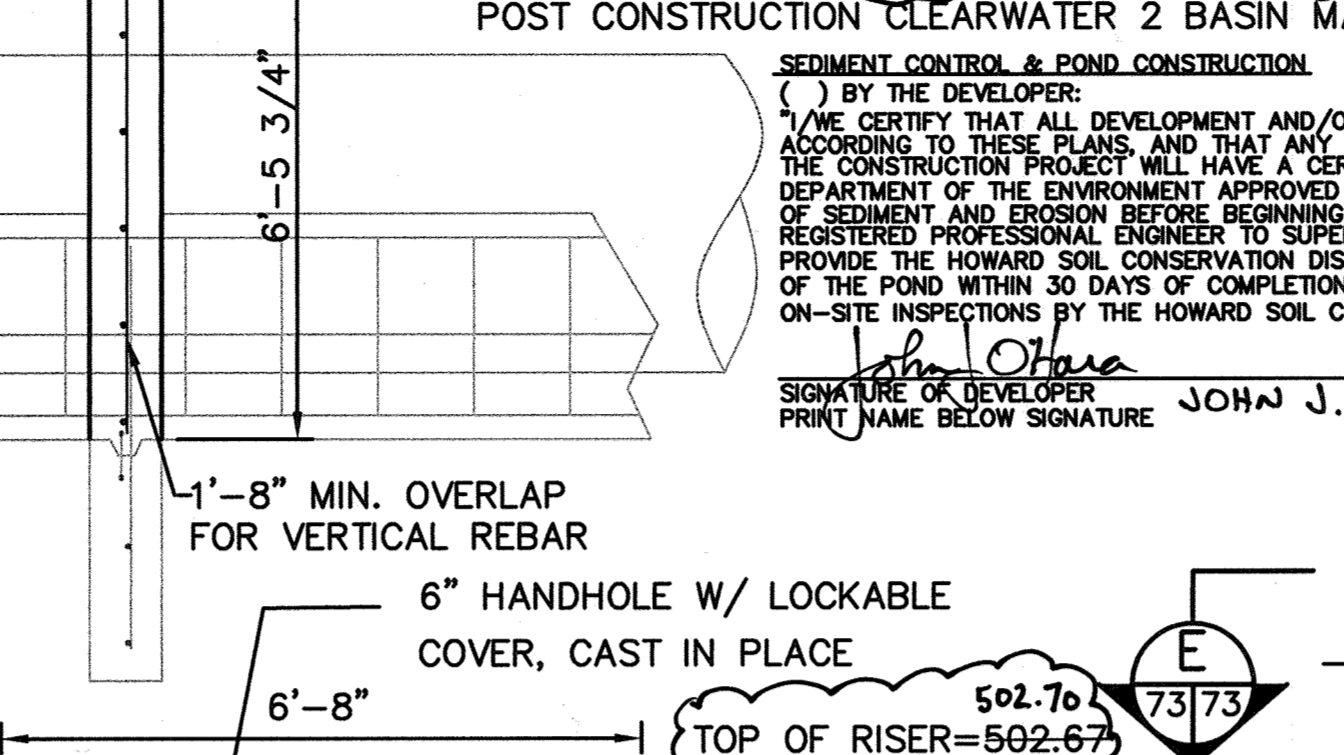
RISER STRUCTURE SECTION D SCALE: 1/2"=1'-0"



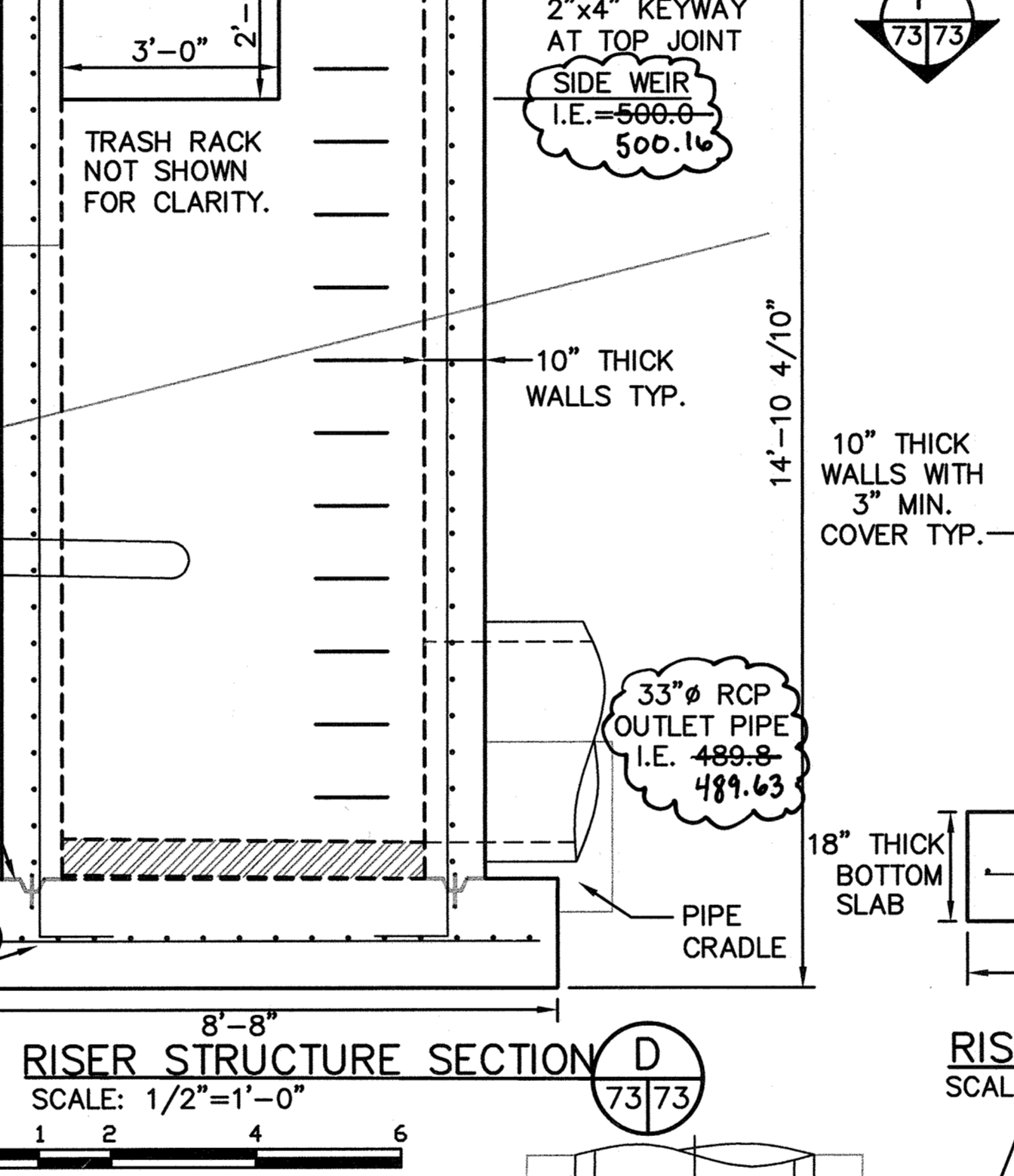
RISER STRUCTURE SECTION E SCALE: 1/2"=1'-0"

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676

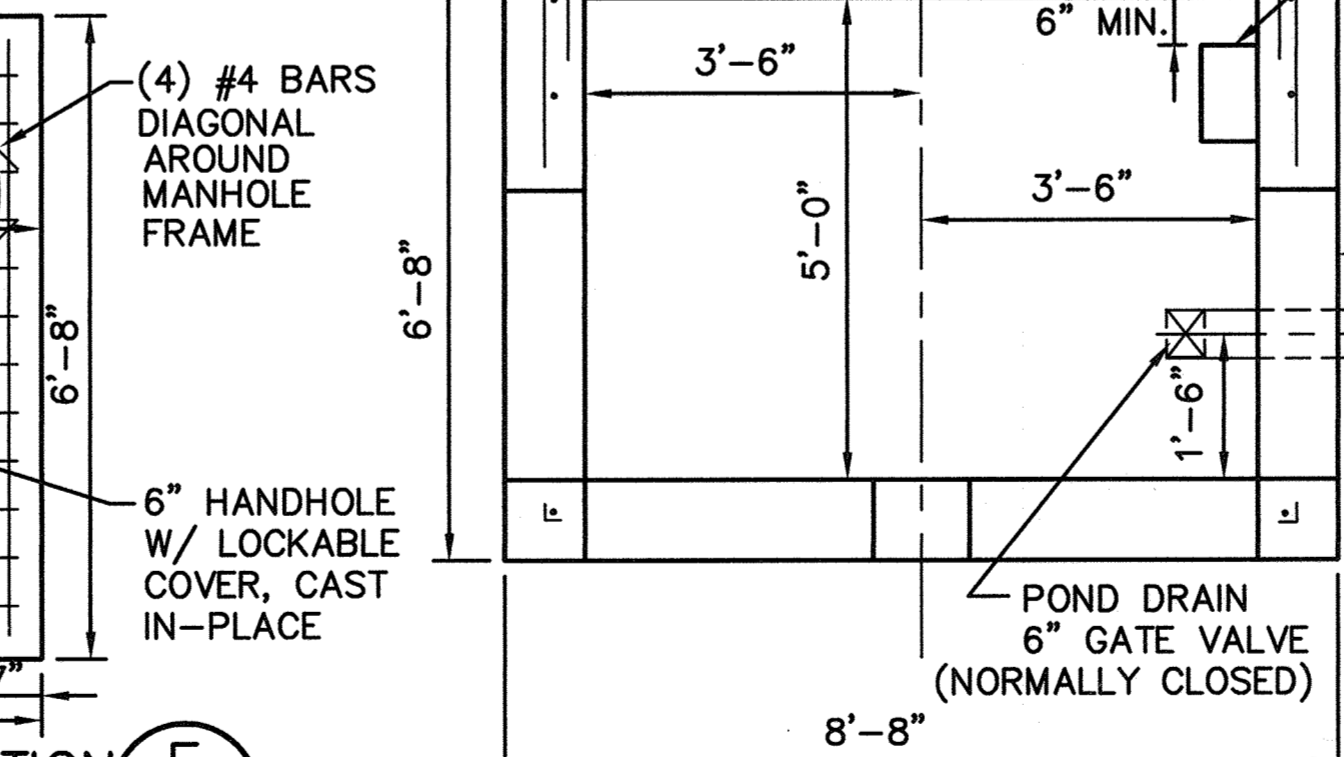
*[Signature]*  
Paul Anthony Mandeville, PE



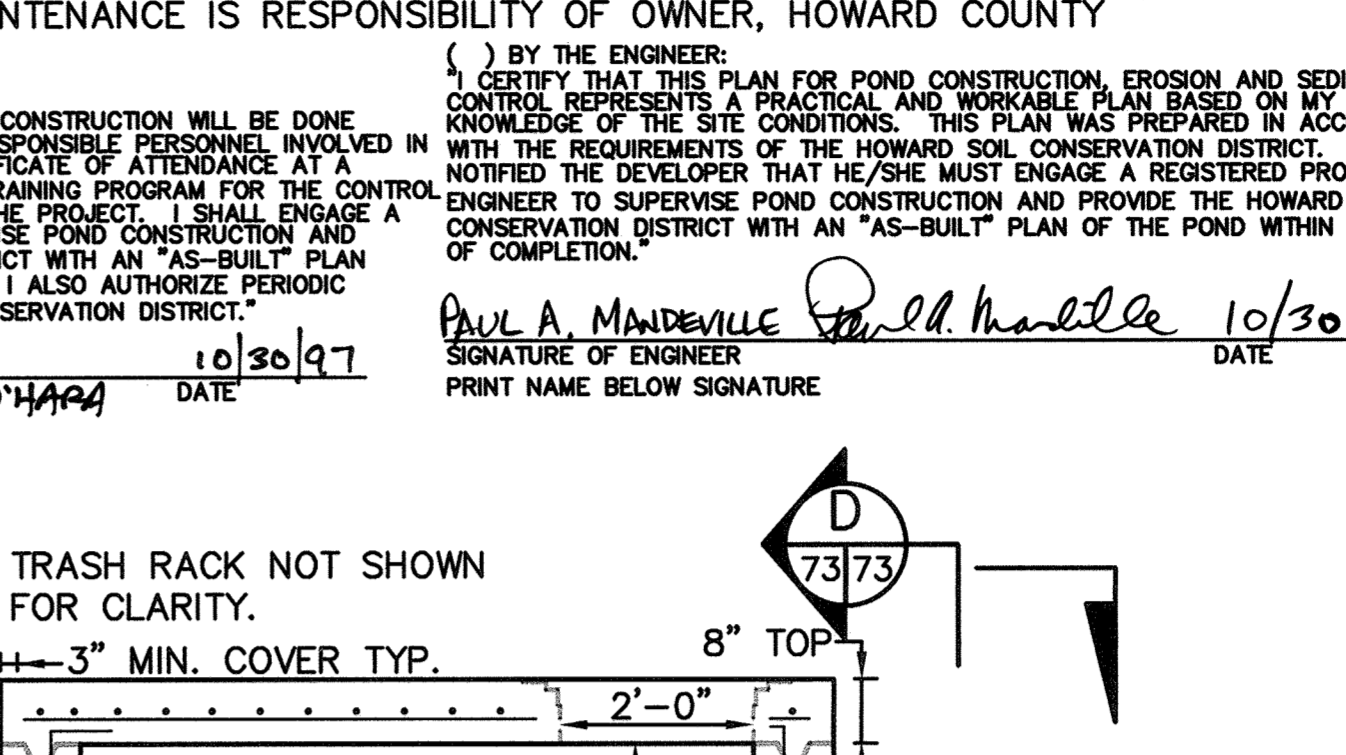
RISER STRUCTURE SECTION F SCALE: 1/2"=1'-0"



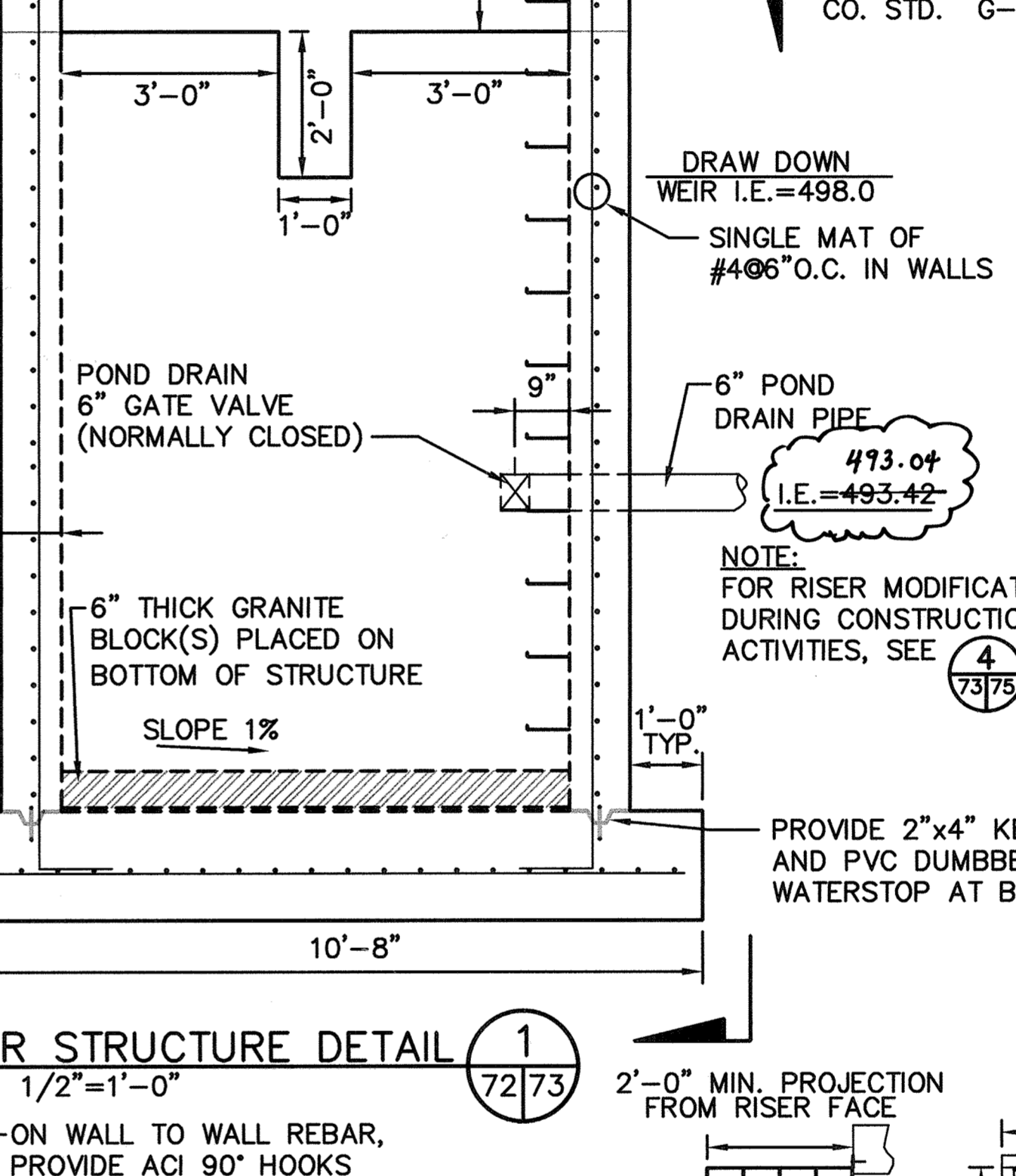
RISER STRUCTURE DETAIL 1 SCALE: 1/2"=1'-0"



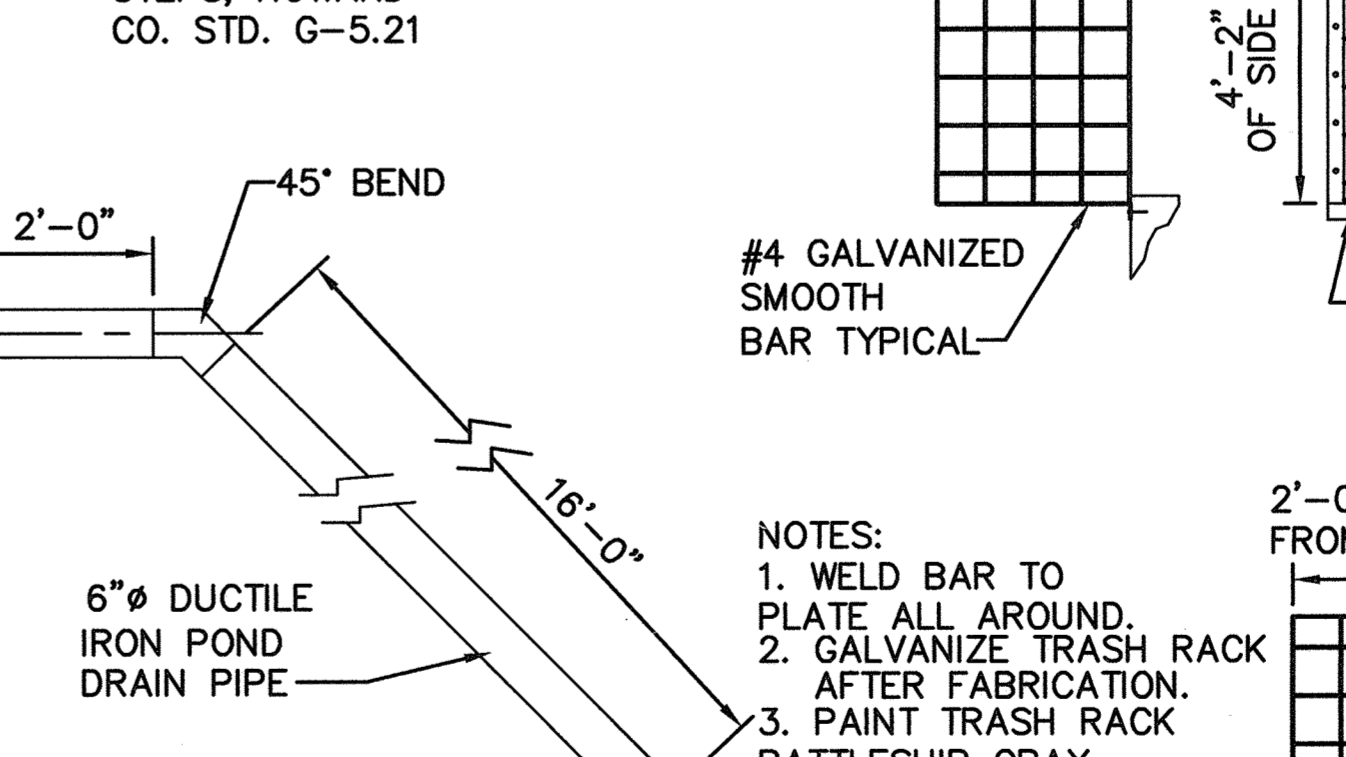
RISER STRUCTURE DETAIL 2 SCALE: 1/2"=1'-0"



RISER STRUCTURE DETAIL 3 SCALE: 1/2"=1'-0"



RISER STRUCTURE DETAIL 4 SCALE: 1/2"=1'-0"



RISER STRUCTURE DETAIL 5 SCALE: 1/2"=1'-0"

POST CONSTRUCTION CLEARWATER 2 BASIN MAINTENANCE IS RESPONSIBILITY OF OWNER, HOWARD COUNTY

SEDIMENT CONTROL & POND CONSTRUCTION

( ) BY THE DEVELOPER:  
I 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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 10/30/97  
JOHN J. O'HARA 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/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

*[Signature]* 10/30/97  
PAUL A. MANDEVILLE DATE

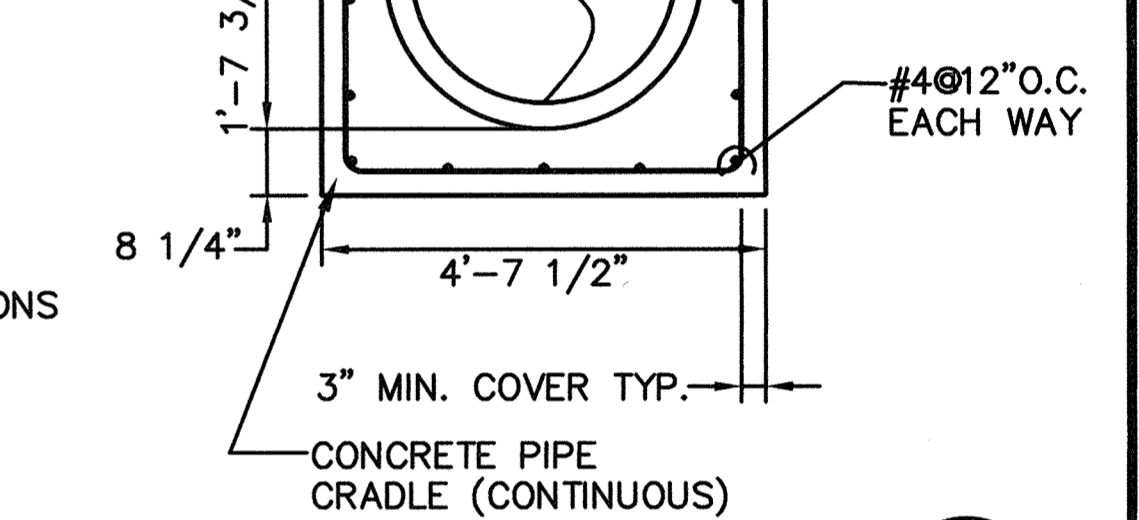
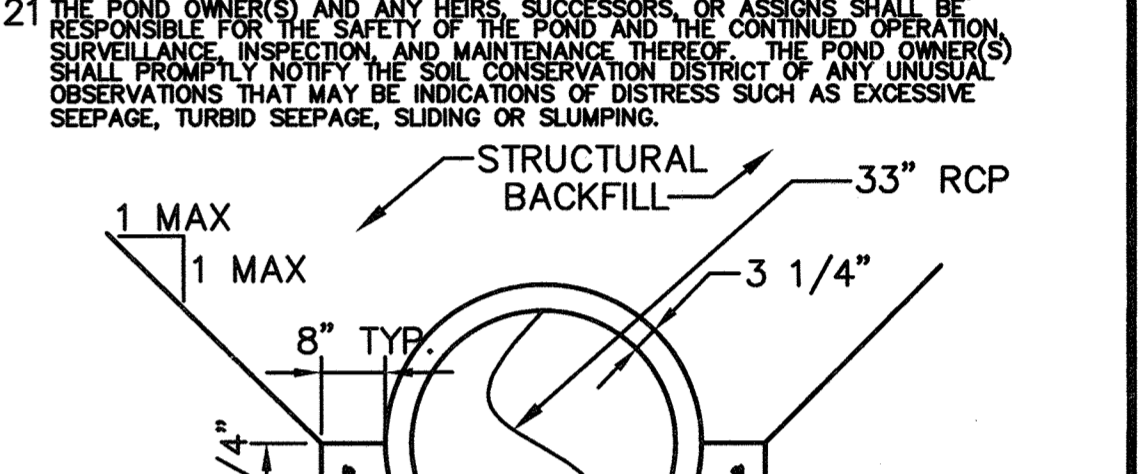
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

*[Signature]* 10/30/97  
ROBERT D. ZIEGLER DATE

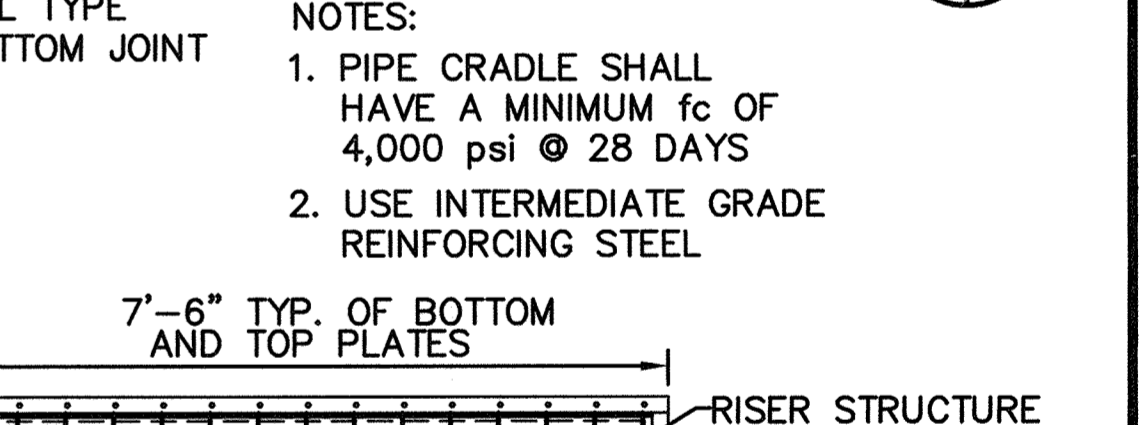
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

*[Signature]* 10/30/97  
MICHAEL R. STODOLSKY DATE

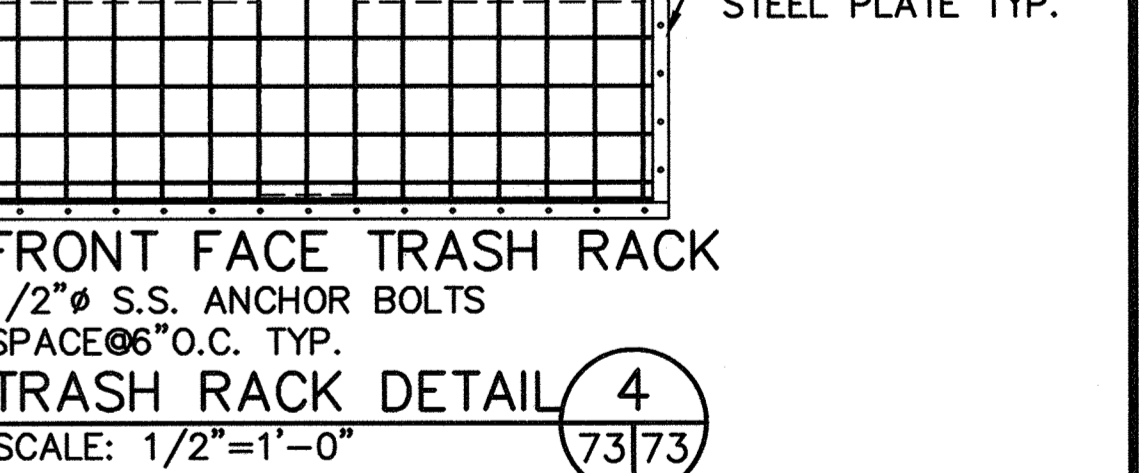
SECTION A SCALE: 1/2"=1'-0"



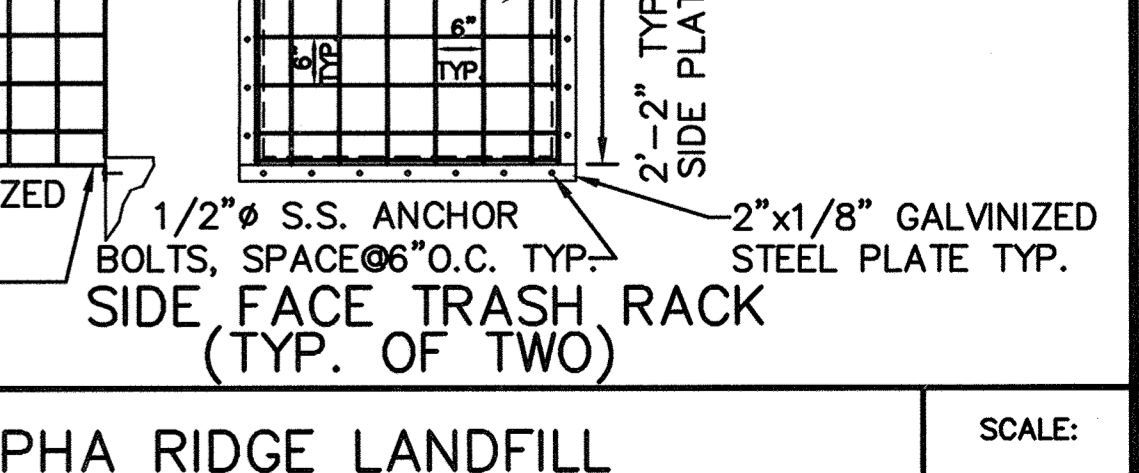
A2 PIPE CRADLE DETAIL 3 SCALE: 1/2"=1'-0"



FRONT FACE TRASH RACK SCALE: 1/2"=1'-0"



TRASH RACK DETAIL 4 SCALE: 1/2"=1'-0"



SIDE FACE TRASH RACK (TYP. OF TWO) SCALE: 1/2"=1'-0"

DES. AST			
DRN. AST			
CHK. PAM	DTM	UPDATED SHEET TOTAL	6-2019
DATE: 10-30-97	BY NO.	REVISION	DATE
		POND GRADING, USE'S AND DOWNCUTS (SEE SHEET 72)	1/2/19

CLEARWATER 2  
BASIN DETAILS

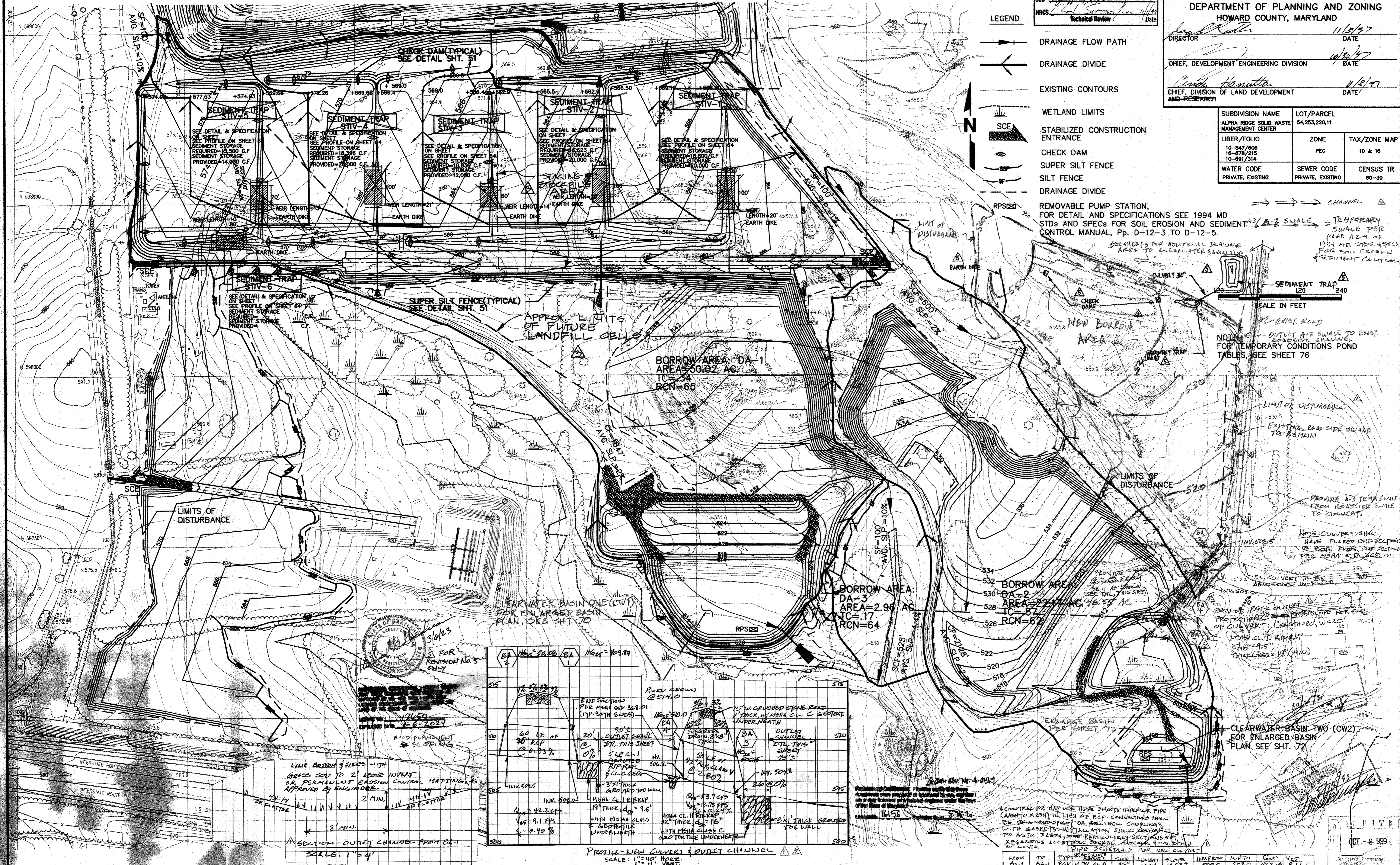
ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE:  
AS NOTED

SHEET 73 OF 140

M:\298077.01\FINAL ANTSP-CW2-CRADLE-CW2-RISER-CW2-TRK-CW2-TBL-CW2-CW2ETS-B



APPROVED PLAN REVISION  
 SCD [Signature]  
 NRCS [Signature]  
 Technical Review (Date)

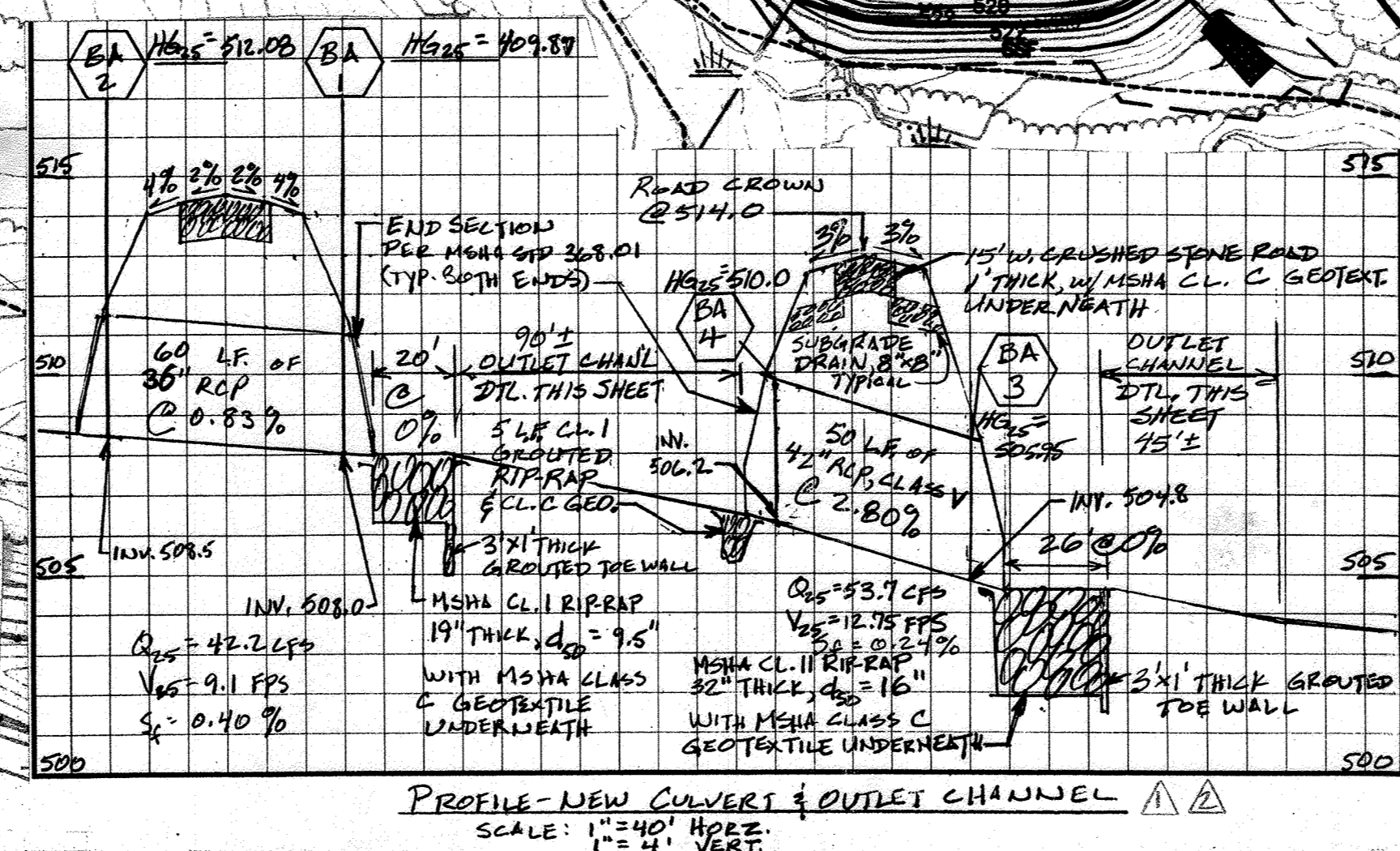
DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND  
 DIRECTOR [Signature] 11/3/97 DATE  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION [Signature] 10/30/97 DATE  
 CHIEF, DIVISION OF LAND DEVELOPMENT [Signature] 11/8/97 DATE  
 A&D-RESEARCH

LEGEND

- DRAINAGE FLOW PATH
- DRAINAGE DIVIDE
- EXISTING CONTOURS
- WETLAND LIMITS
- STABILIZED CONSTRUCTION ENTRANCE
- CHECK DAM
- SUPER SILT FENCE
- SILT FENCE
- DRAINAGE DIVIDE
- REMOVABLE PUMP STATION, FOR DETAIL AND SPECIFICATIONS SEE 1994 MD STDs AND SPECS FOR SOIL EROSION AND SEDIMENT CONTROL MANUAL, Pp. D-12-3 TO D-12-5.
- CHANNEL

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT/PARCEL 54,253,220,11	TAX/ZONE MAP 10 & 16
LIBER/FOLIO 10-847/808 16-878/215 10-891/314	ZONE PEC	CENSUS TR. 60-30
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	

SCALE IN FEET  
 0 100 200  
 NOTE: OUTLET A-B SWALE TO EXIST. CHANNEL FOR TEMPORARY CONDITIONS POND TABLES, SEE SHEET 76  
 SEE SHEETS FOR ADDITIONAL DRAINAGE AREA TO CLEARWATER BASIN TWO  
 TEMPORARY SWALE PER PAGE A-2.4 OF 1994 MD. STDs. SPECS. FOR SOIL EROSION & SEDIMENT CONTROL



LINE BOTTOM & SIDES WITH GRASS SOD TO 2' ABOVE INVERT OR PERMANENT EROSION CONTROL MATTING AS APPROVED BY ENGINEER.  
 4"X14" OR FLATIR  
 2" MIN. 4"X14" OR FLATIR  
 8" MIN.

Professional Engineer, I hereby certify that these drawings were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 [Signature]  
 10/15/97

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 [Signature] 10/30/97 DATE  
 DIRECTOR OF PUBLIC WORKS  
 CHIEF, BUREAU OF WASTE MANAGEMENT

SCS ENGINEERS  
 CONSULTING ENGINEERS  
 11260 ROGER BACON DRIVE  
 SUITE 300  
 RESTON, VIRGINIA 22090  
 PH. (703) 471-6150  
 FAX. (703) 471-6676

STATE OF MARYLAND  
 PROFESSIONAL ENGINEER  
 [Signature]  
 Paul Anthony Mandeville, PE  
 DATE: 10-30-97

DES.	AST	MRG	Wood Waste Area ERS control	3/6/25
DRN.	LTJ	DTM	UPDATED SHEET TOTAL	4-20-99
CHK.	PAM	MEG	ADDED STAKES & STOCKPILE AREA AND FENCED LANDFILL CELL AREA	11-9-99
			ADDED CULVERT BA3-BA4 & RIPRAP	10-6-99
			BORROW AREA GRADING ERS CONTROL, NEW CHANNELS	7-28-99
BY	NO.		REVISION	DATE

BORROW AREA DRAINAGE DIVIDES / EROSION & SEDIMENT CONTROL

ALPHA RIDGE LANDFILL UNLINED CELL CLOSURE  
 CAPITAL PROJECT NO. C-0190-N  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 SHEET 74 OF 140  
 SCALE: 1"=20'

E&SDIVIDE  
 W. 2895077.01.FINAL  
 SEDCTR

SDA-97-128

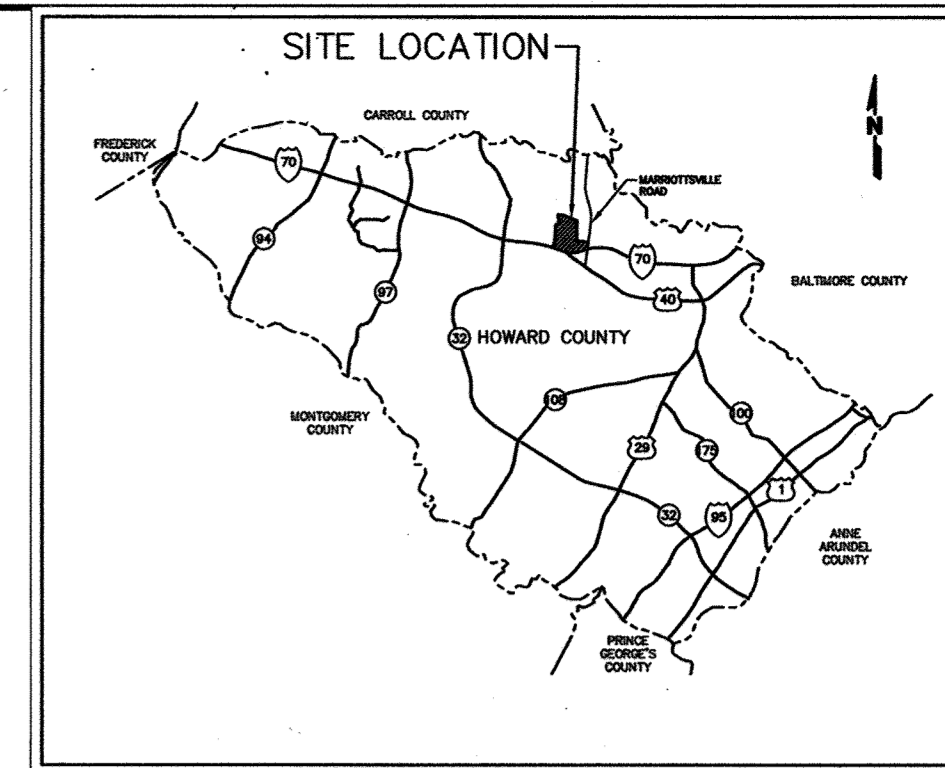


# ALPHA RIDGE SALT BARN

## HOWARD COUNTY CAPITAL PROJECT NO. C-0254

### HOWARD COUNTY, MARYLAND

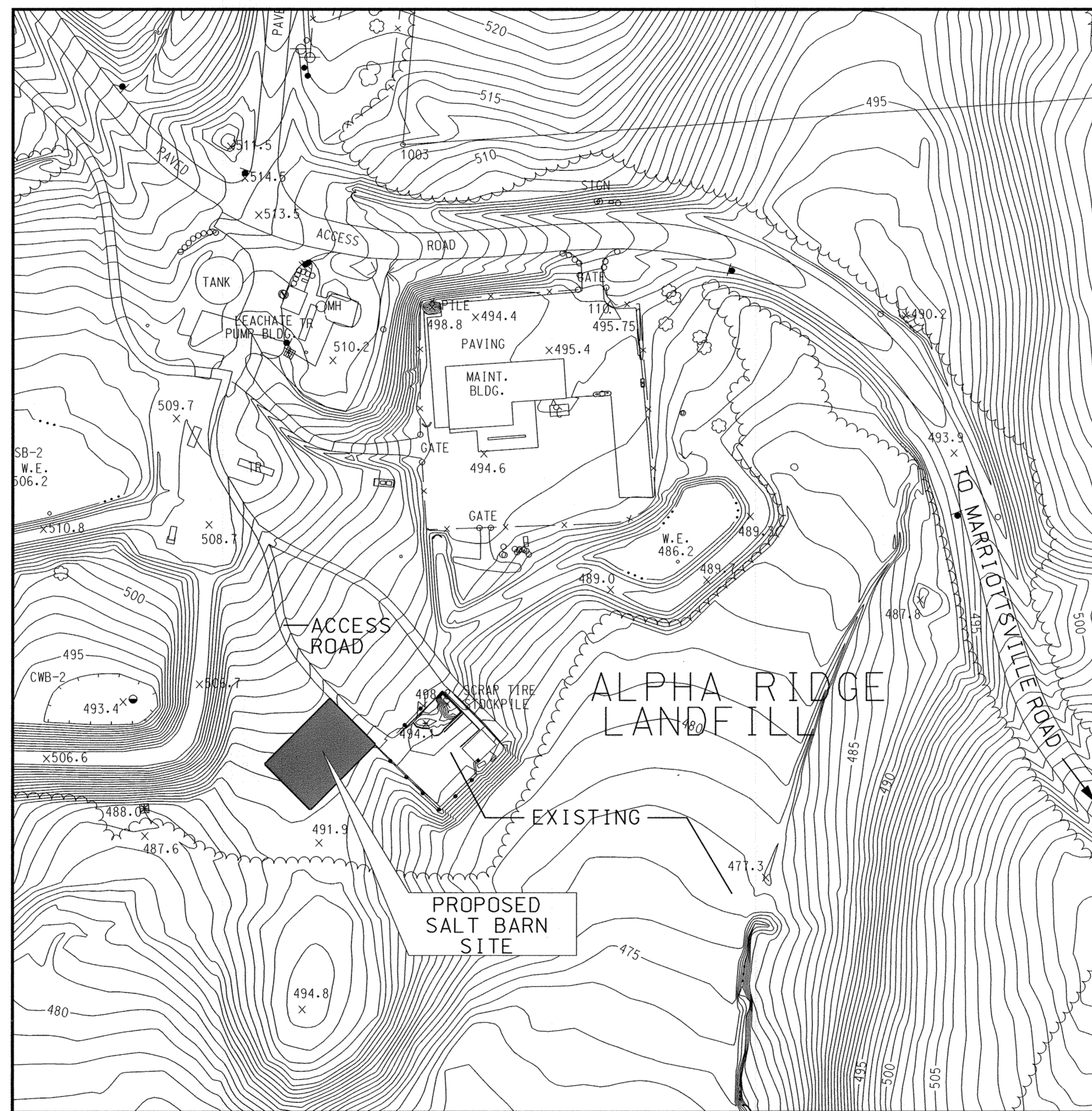
# SITE DEVELOPMENT PLAN



VICINITY MAP  
NTS

#### INDEX OF DRAWINGS

SHEET NO.	TITLE
74A	TITLE SHEET
74B	SITE GRADING PLAN AND EROSION & SEDIMENT CONTROL PLAN
74C	EROSION & SEDIMENT CONTROL NOTES & DETAILS



#### GENERAL NOTES:

- CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY AND MSHA STANDARDS AND SPECIFICATIONS WHERE APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTION DIVISION AT (410)313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- PLAN DIMENSIONS ARE TO THE EDGES OF PAVED SURFACES UNLESS OTHERWISE NOTED.
- HORIZONTAL DATUM: MARYLAND STATE PLANE COORDINATE GRID. BASED ON NORTH AMERICAN ADJUSTMENT OF 1983.
- VERTICAL DATUM: BASED ON NORTH AMERICAN VERTICAL ADJUSTMENT OF 1988.
- AERIAL TOPOGRAPHY FROM ASC, STERLING, VA. 703 471-4510.
- EXISTING UTILITIES TO BE FIELD VERIFIED.
- A TRAFFIC CONTROL PLAN IS NOT REQUIRED.
- STORMWATER MANAGEMENT IS PROVIDED BY GRASS CHANNEL AND/OR SHEET FLOW CREDITS.
- NO WETLANDS OR FLOODPLAINS EXIST WITHIN THE PROPOSED AREA OF WORK.
- NO LANDSCAPING IS REQUIRED. NO LANDSCAPE SURETY IS REQUIRED SINCE THIS IS A HOWARD COUNTY CAPITAL PROJECT.
- SUPER SILT FENCE WILL SERVE AS TREE PROTECTION FENCE.

**ENGINEER'S CERTIFICATE**  
 "I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

*David T. Moriconi*  
 Signature of Engineer (print name below signature) DAVID T. MORICONI  
 Date 12/23/05

**DEVELOPER'S CERTIFICATE**  
 "I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all 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 also authorize periodic on-site inspection by the Howard Soil Conservation District."

*William F. Mulens, Jr.*  
 Signature of Developer (print name below signature) William F. Mulens, Jr.  
 Date 3-17-06

**APPROVED: DEPARTMENT OF PLANNING AND ZONING**

Chief, Development Engineering Division [Signature] Date 2/21/06  
 Chief, Division of Land Development [Signature] Date 4/4/06  
 Director [Signature] Date 4/15/06

Reviewed for Howard SCD and meets Technical Requirements

*Jim Meyer*  
 USDA - Natural Resources Conservation Service Date 2/19/06

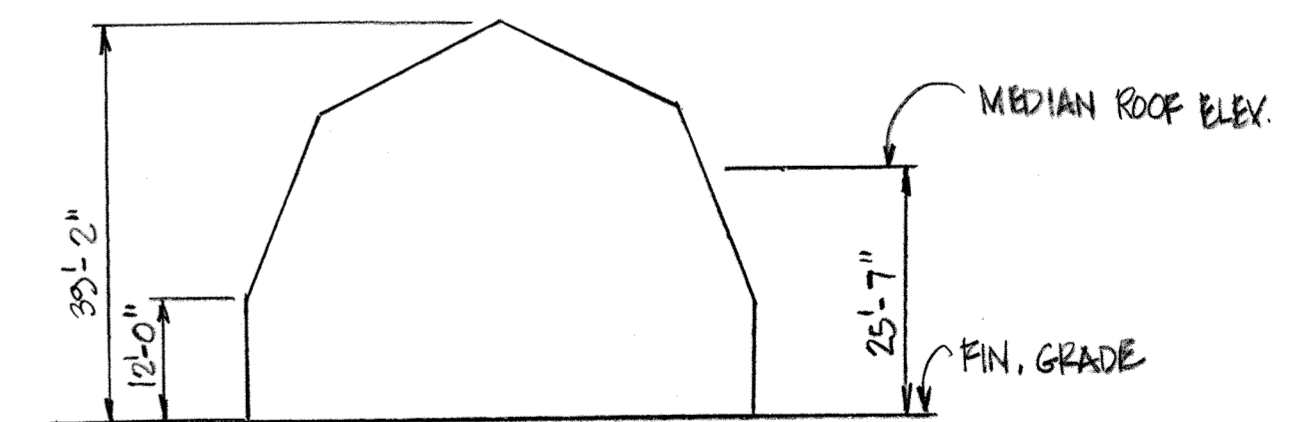
This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT

*John R. Robinson*  
 Howard SCD Date 2/19/06

**APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS**

*Robert J. Weber*  
 County Health Officer Date 3/3/06  
 Howard County Health Department

VICINITY MAP  
 SCALE 1" = 100'  
 SEE SDP-97-128

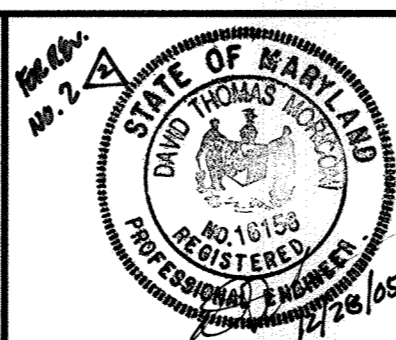


SALT STORAGE BLDG ELEV.  
 SCALE: 1" = 20'

**DEPARTMENT OF PUBLIC WORKS**  
 HOWARD COUNTY, MARYLAND

Director of Public Works [Signature] Date 3/16/06  
 Chief, Bureau of Engineering [Signature] Date 3/16/06  
 Chief, Bureau of Environmental Services [Signature] Date 3/16/06  
 Chief, Bureau of Highways [Signature] Date 3-16-06

PREPARED BY  
**URS**  
 4 NORTH PARK DRIVE  
 HUNT VALLEY, MARYLAND  
 TEL: (410) 785-7220



DES: DTM/RKK			
DRN: WHS			
CHK: DTM/RKK	DTM	UPDATED SHEET TOTAL	4-2619
DATE: 12/05	DTM	NEW SHEET FOR PROP. SALT BARN; REVISED SDP-97-128	12/05
	BY	NO.	REVISION
			DATE

TITLE SHEET

SCALE MAP NO. N/A BLOCK NO.

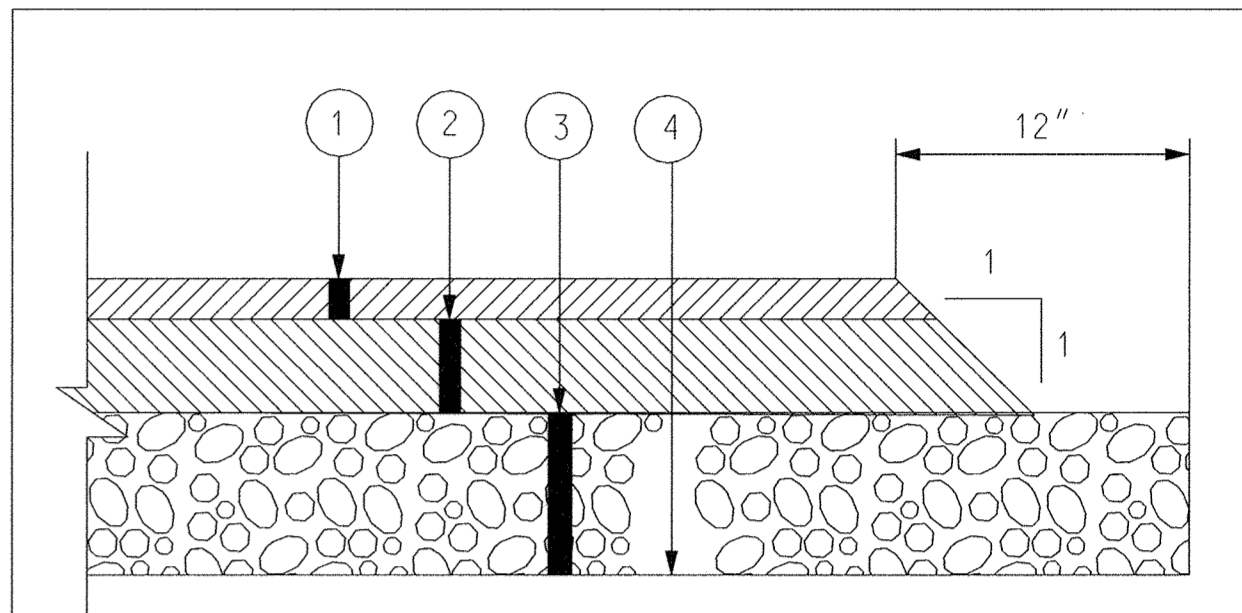
REVISIION SITE DEVELOPMENT PLAN  
 ALPHA RIDGE SALT BARN

3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

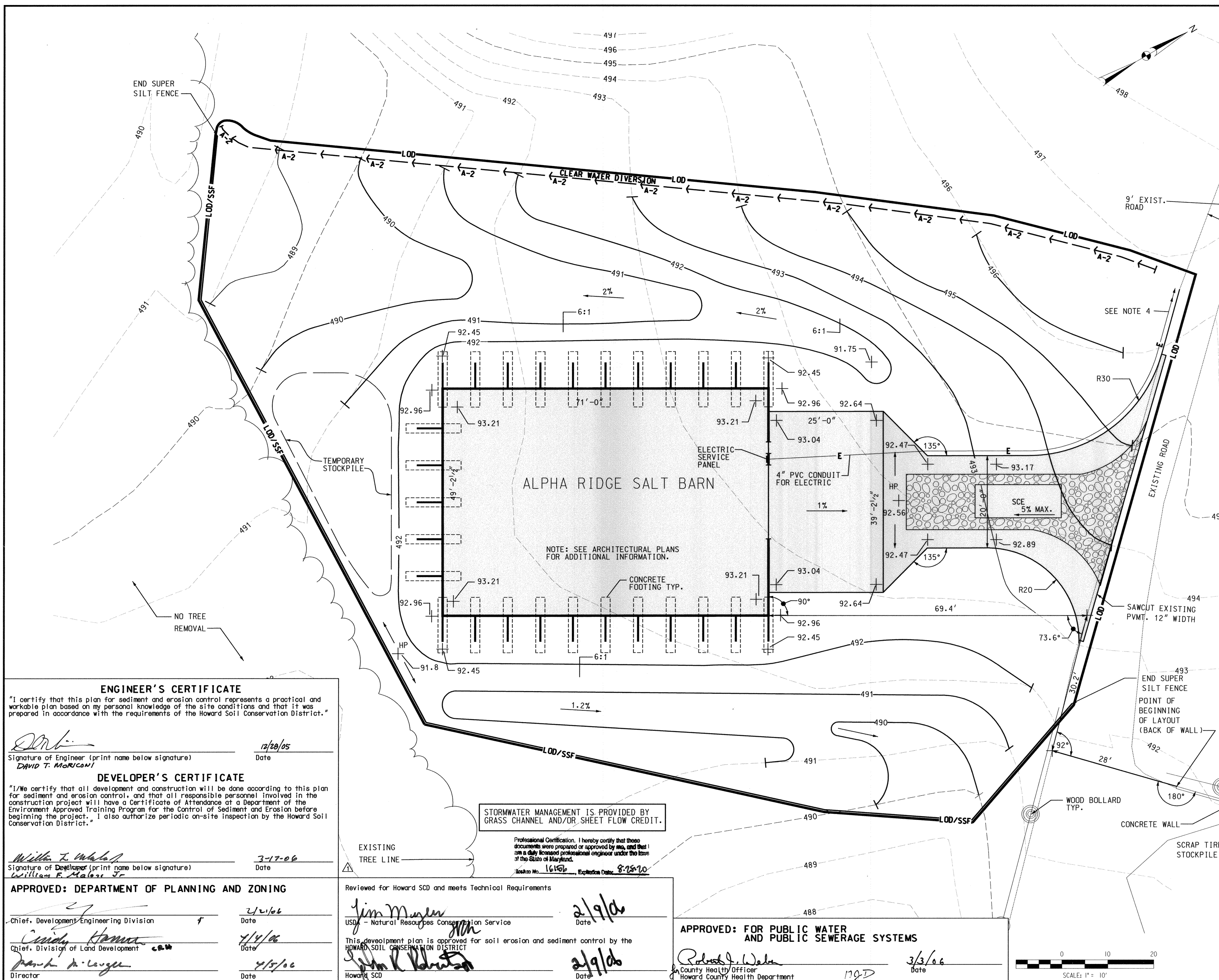
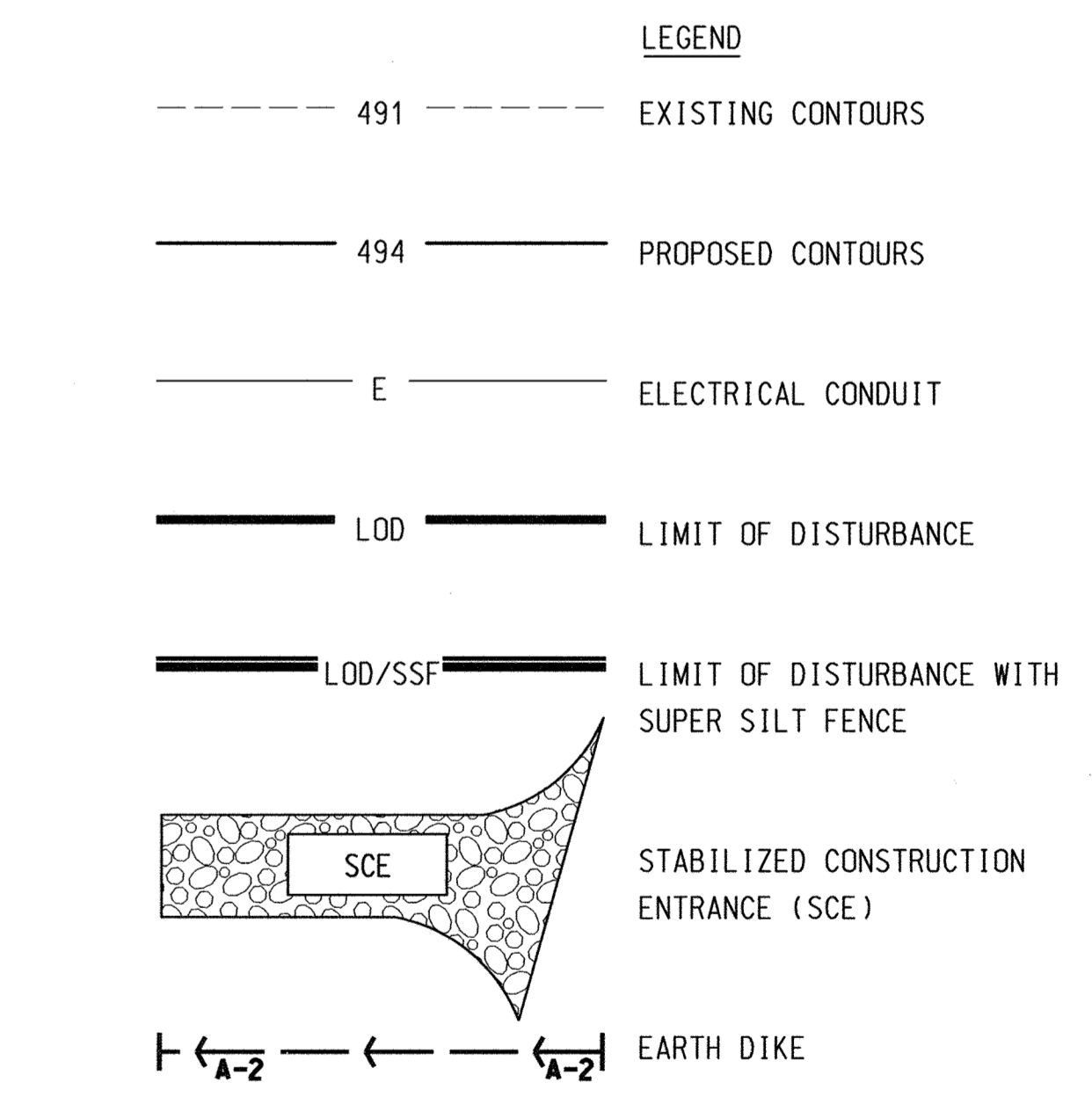
SCALE AS SHOWN

SHEET 74A OF 140

NOTES:  
 1. SURVEY BASED ON MARYLAND STATE PLANE COORDINATE SYSTEM NAD 1983.  
 2. VERTICAL DATUM BASED ON NAVD 1988.  
 3. CONTRACTOR SHALL STAKE THE IMPROVEMENTS IN THE FIELD AND OBTAIN APPROVAL FROM THE COUNTY PRIOR TO CONSTRUCTION.  
 4. ELECTRICAL SERVICE TO BE COORDINATED WITH BGE FOR CONNECTION TO NEAREST POLE FOR SERVICE.



- ① 1.5" SURFACE COURSE - HMA SUPERPAVE 9.5 MM FOR BASE - PG 76-22, LEVEL 3
- ② 3.5" BASE COURSE - HMA SUPERPAVE 19.5 MM FOR BASE - PG 76-22, LEVEL 3
- ③ 6.0" GRADED AGGREGATE BASE COURSE
- ④ LIMIT OF EXCAVATION / BOTTOM OF BASE COURSE



**ENGINEER'S CERTIFICATE**  
 "I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer (print name below signature) DAVID T. MORICANI Date 12/28/05

**DEVELOPER'S CERTIFICATE**  
 "I/we certify that all development and construction will be done according to this plan for sediment and erosion control, and that all 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 also authorize periodic on-site inspection by the Howard Soil Conservation District."

Signature of Developer (print name below signature) William F. Maloni Jr Date 3-17-06

**APPROVED: DEPARTMENT OF PLANNING AND ZONING**

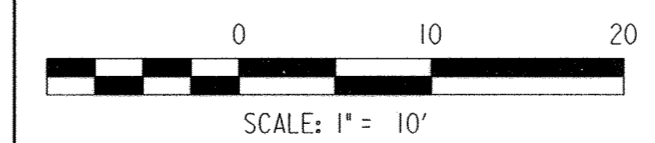
Chief, Development Engineering Division [Signature] Date 2/2/06  
 Chief, Division of Land Development [Signature] Date 2/4/06  
 Director [Signature] Date 2/5/06

STORMWATER MANAGEMENT IS PROVIDED BY GRASS CHANNEL AND/OR SHEET FLOW CREDIT.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 16156 Expiration Date: 8-28-20

Reviewed for Howard SCD and meets Technical Requirements  
 Chief, Natural Resources Conservation Service [Signature] Date 2/9/06  
 This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT  
 Chief, Howard SCD [Signature] Date 2/9/06

**APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS**  
 County Health Officer [Signature] Date 3/3/06  
 Howard County Health Department



**DEPARTMENT OF PUBLIC WORKS**  
 HOWARD COUNTY, MARYLAND

Director of Public Works [Signature] DATE 3/9/06  
 Chief, Bureau of Engineering [Signature] DATE 3/16/06  
 Chief, Bureau of Environmental Services [Signature] DATE 3/9/06  
 Chief, Bureau of Highways [Signature] DATE 3-16-06

PREPARED BY  
**URS**  
 4 NORTH PARK DRIVE  
 HUNT VALLEY, MARYLAND  
 TEL: (410) 785-7220

DES: DTM/RKK	
DRN: WHS	
CHK: DTM/RKK	
DATE: 12/05	
DTM	BY NO.
DTM	BY NO.
DATE: 12/05	DATE

**SITE GRADING AND EROSION & SEDIMENT CONTROL PLAN**  
 SCALE MAP NO. N/A BLOCK NO.

**REVISED SITE DEVELOPMENT PLAN**  
 ALPHA RIDGE SALT BARN  
 3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

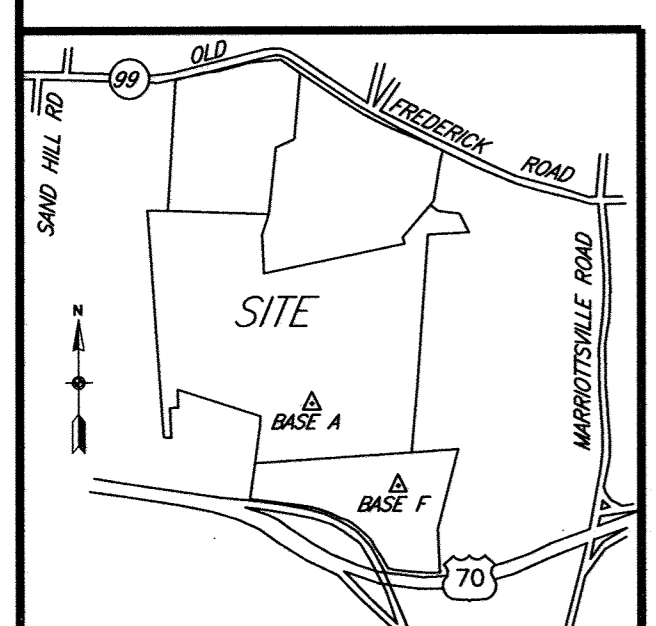
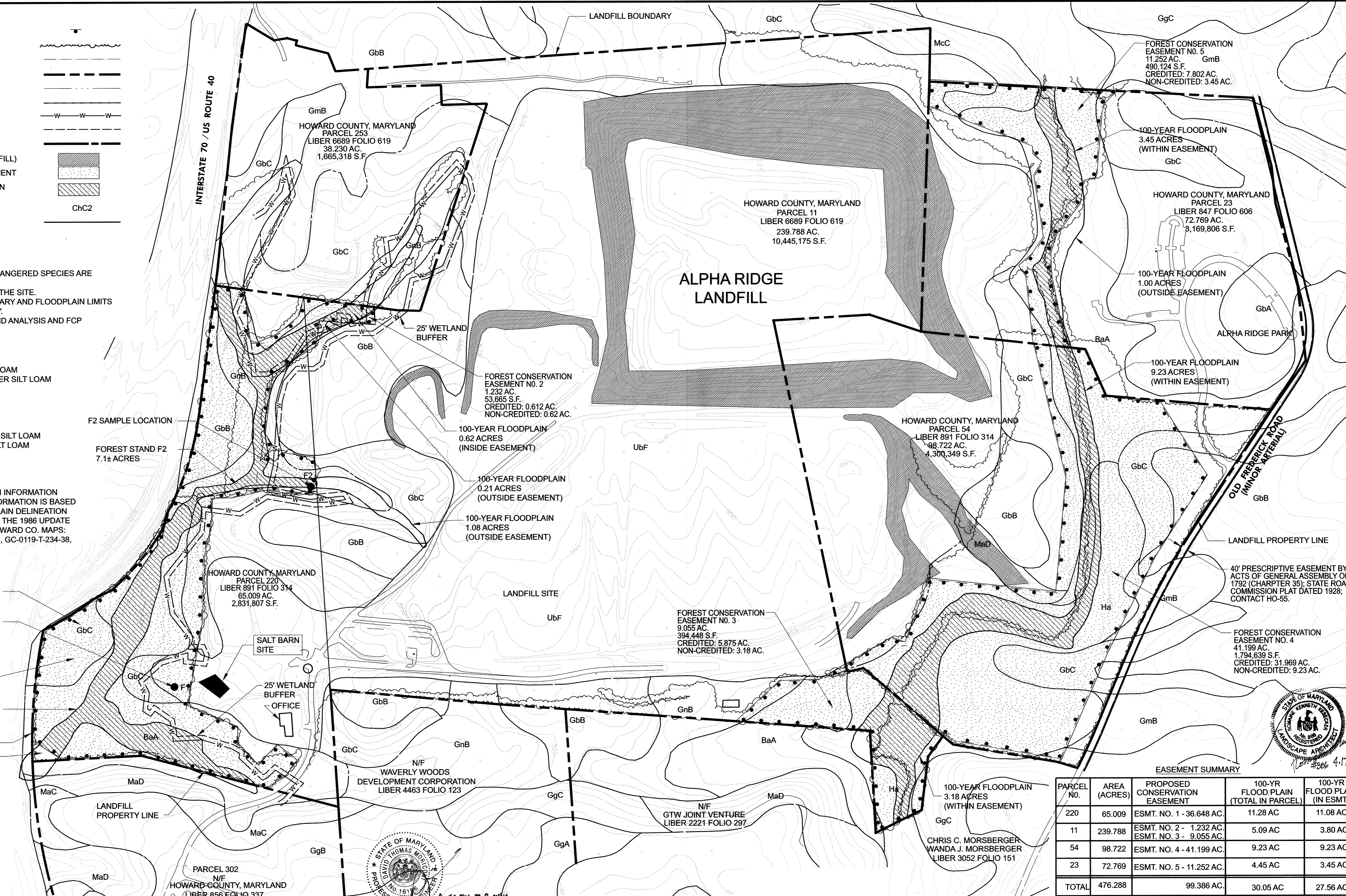
SCALE AS SHOWN  
 SHEET 2 OF 140



- LEGEND**
- FOREST CONSERVATION SIGN
  - EXISTING TREE LINE
  - EXISTING STREAM
  - PARCEL BOUNDARY
  - CONSERVATION EASEMENT
  - 100-YEAR FLOODPLAIN
  - WETLAND BOUNDARY
  - 25' WETLAND BUFFER
  - 50' STREAM BUFFER
  - STEEP SLOPES (RELATED TO LANDFILL)
  - PROPOSED CONSERVATION EASEMENT
  - NON-CREDITED FLOODPLAIN WITHIN CONSERVATION EASEMENT
  - SOILS TYPE
  - SOILS AREA BOUNDARY

- NOTE:**
1. NO RARE, THREATENED OR ENDANGERED SPECIES ARE KNOWN TO EXIST ON THE SITE.
  2. NO SPECIMEN TREES EXIST ON THE SITE.
  3. EXISTING TOPOGRAPHY BOUNDARY AND FLOODPLAIN LIMITS PROVIDED BY HOWARD COUNTY.
  4. SEE SHEET 2 FOR FOREST STAND ANALYSIS AND FCP WORKSHEETS.
  5. SOILS DATA
    - F1
    - Ba - BAILE SILT LOAM
    - CgC2 - CESTER GRAVELLY SILT LOAM
    - ChB2, ChC2, ChC3, ChD2 - CHESTER SILT LOAM
    - Ha - HATBORO SILT LOAM
    - MID2 - MANOR LOAM
  - F2
  - Ba - BAILE SILT LOAM
  - Cgb2, CgC2 - CESTER GRAVELLY SILT LOAM
  - ChB2, ChC2, ChC3 - CHESTER SILT LOAM
  - GnB2 - GLENVILLE SILT LOAM
  - Ha - HATBORO SILT LOAM
  - MID2 - MANOR LOAM

6. EXISTING 100 YEAR FLOODPLAIN INFORMATION PROVIDED BY HOWARD CO. INFORMATION IS BASED IS BASED ON THE 1978 FLOODPLAIN DELINEATION BY CENTURY ENGINEERING AND THE 1986 UPDATE BY BERNARD JOHNSON, INC. HOWARD CO. MAPS: GC-0119-T-36-38, GC-0119-T-35-38, GC-0119-T-234-38, GC-0119-T-35-39.



Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 6152      Expiration Date: 8-24-10

**SHEET INDEX:**  
 FOREST CONSERVATION PLAN - 74D  
 FOREST CONSERVATION DETAILS - 74E

SCALE: 1" = 250'

**EASEMENT SUMMARY**

PARCEL NO.	AREA (ACRES)	PROPOSED CONSERVATION EASEMENT	100-YR FLOODPLAIN (TOTAL IN PARCEL)	100-YR FLOODPLAIN (IN ESMT)
220	65.009	ESMT. NO. 1 - 36.648 AC.	11.28 AC	11.08 AC
11	239.788	ESMT. NO. 2 - 1,232 AC. ESMT. NO. 3 - 9,055 AC.	5.09 AC	3.80 AC
54	98.722	ESMT. NO. 4 - 41,199 AC.	9.23 AC	9.23 AC
23	72.769	ESMT. NO. 5 - 11,252 AC.	4.45 AC	3.45 AC
<b>TOTAL</b>	<b>476.288</b>	<b>99.386 AC.</b>	<b>30.05 AC</b>	<b>27.56 AC</b>

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 Director, Dept of Planning & Zoning  
 DATE: 6/12/07

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 6/12/07

**OWNER**  
 HOWARD COUNTY GOVERNMENT  
 3430 COURT HOUSE DRIVE  
 ELLICOTT CITY, MD 21043  
 410-313-2330

PREPARED BY  
**URS**  
 4 NORTH PARK DRIVE  
 HUNT VALLEY, MARYLAND  
 TEL: (410) 785-7220

DES:	DTM/RKK	DATE:	NO.	REVISION	DATE
DRN:	WJG	11/06			
CHK:	DTM/RKK			UPDATED SHEET TOTAL	4-20-09
	DTM			ADDED NEW SHEET TO SDP 97-128	4/11/07

**COMBINED FOREST STAND DELINEATION AND FOREST CONSERVATION PLAN**

ALPHA RIDGE LAND FILL  
 TAX MAP 10 - GRID 2,3 & 7  
 TAX MAP 16 - GRID 8

3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE: 1" = 250'

SHEET 74D OF 140

**FOREST STAND ANALYSIS TABLE**

Applicant: URS Corp Project Name: Alpha Ridge Salt Barn Submission No.:

KEY	A. TYPE OF COMMUNITY	B. AREA	C. SOIL INFORMATION			D. EXISTING VEGETATION (Dominant Species and Approximate %)	E. STAND CHARACTERISTICS			F. FOREST AREA IN SENSITIVE ENVIRONMENTS (Area)	G. HABITAT VALUE
			1. Soil Types	2. Typical forest cover for soil type*	3. Woodland Suitability Index		1. Size (Diam)	2. Age	3. General Conditions		
F1	Tree Layer Maple/Oak	23.82 Acres	Chester	Oak	74-84	Red Maple 50%	2"-10"	25	Fair	Floodplain 7.2 Acres Wetland and Buffers 5.3 Acres	Good
	Shrub Layer		Baile	Oak/Maple	65-74	White Oak 20%	20"-28"	40		Total 12.5 Acres	
Ground Layer	Hatboro	Oak/Maple/Holly	95	Hickory 15%	8"-15"	25	25				
	Manor	Mixed Oak	65-74	Tulip Poplar 10%	20"-28"	25					
						Spice Bush 60% Blackhaw Viburnum 40%					
						Invasives 95%					

**FOREST STAND ANALYSIS TABLE**

Applicant: URS Corp Project Name: Alpha Ridge Salt Barn Submission No.:

KEY	A. TYPE OF COMMUNITY	B. AREA	C. SOIL INFORMATION			D. EXISTING VEGETATION (Dominant Species and Approximate %)	E. STAND CHARACTERISTICS			F. FOREST AREA IN SENSITIVE ENVIRONMENTS (Area)	G. HABITAT VALUE
			1. Soil Types	2. Typical forest cover for soil type*	3. Woodland Suitability Index		1. Size (Diam)	2. Age	3. General Conditions		
F2	Tree Layer Cherry/Walnut	7.12 Acres	Chester	Oak	75-84	Black Cherry 50%	8"-15"	20	Fair	Floodplain 3.5 Acres Wetland and Buffers 0.8 Acres	Good
			Baile	Oak/Maple	65-74	Black Walnut 25%	8"-15"				
			Glenville	Wet Tolerant Hardwoods	65-74	Tulip Poplar 15%	12"-20"				
Shrub Layer	Manor	Mixed Oak	65-74	Red Oak 10%	10"-15"				Total 4.3 Acres		
Ground Layer											
						Spice Bush 100%					
						Invasives 100%					

**FOREST STAND DELINEATION NARRATIVE – PARCEL 220**

**Stand F1**  
 Stand F1 is a middle successional Maple/Oak forest. It is about 40 to 50 years old in its growth. Very little understory exists due to deer browse. What little understory that does exist is either not palatable (Spice Bush) or too high to browse (Blackhaw Viburnum). The ground layer consists of predominately invasive species (Garlic Mustard, Tear Thumb, Japanese Stilt Grass etc) with a few Jack-in-the-Pulpit and Christmas Ferns scattered throughout, an more so in wet areas. Not withstanding the deer browse trees seem to be in good condition and growing well.

Because 76% of Stand F1 covers environmentally sensitive lands (wetlands and 100 year floodplain) it is recommended that the forest be preserved in conservation easement. In addition, the canopy is in good condition and dense. With control of the deer population the understory may recover.

**Stand F2**  
 Stand F2 is an early successional mixed hardwood forest. It is about 20 to 30 years old in its growth. Very little understory exists due to deer browse. What little understory that does exist is not palatable (Spice Bush). The ground layer consists of Japanese Stilt Grass. Not withstanding the deer browse trees seem to be in good condition and growing well.

Because 81% of Stand F2 covers environmentally sensitive lands (wetlands and 100 year floodplains) it is recommended that the forest be preserved in conservation easement. While the canopy is open the trees are in good condition and will eventually fill in. The added area outside of the wetlands will act as additional filtering area for runoff.

**FOREST CONSERVATION WORKSHEET  
 VERSION 1.0  
 (Enter in Yellow Cells)**

**NET TRACT AREA:**

A. Total tract area.....= 476.29  
 B. Area within 100 year floodplain.....= 30.05  
 C. Area to remain in agricultural production.....= 0.00  
 D. Net tract area.....= **446.24**

**LAND USE CATEGORY:** (from table 3.2.1, page 40, Manual)  
 Input the number "1" under the appropriate land use zoning, and limit to only one entry.

ARA	MDR	IDA	HDR	MPD	CIA
0	0	0	0	0	1

E. Afforestation Threshold..... 15% x D = 66.94  
 F. Conservation Threshold..... 15% x D = 66.94

**EXISTING FOREST COVER:**

G. Existing forest cover (excluding floodplain).....= 83.70  
 H. Area of forest above afforestation threshold.....= 16.76  
 I. Area of forest above conservation threshold.....= 16.76

**BREAK EVEN POINT:**

J. Forest retention above threshold with no mitigation.....= 70.29  
 K. Clearing permitted without mitigation.....= 13.41

**PROPOSED FOREST CLEARING:**

L. Total area of forest to be cleared.....= 11.87  
 M. Total area of forest to be retained.....= 71.83

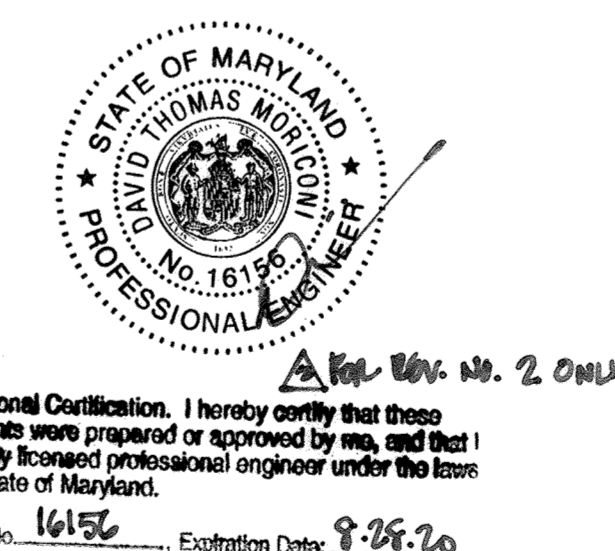
**PLANTING REQUIREMENTS:**

N. Reforestation for clearing above conservation threshold...= 2.97  
 P. Reforestation for clearing below conservation threshold...= 0.00  
 Q. Credit for retention above conservation threshold.....= 4.89  
 R. Total reforestation required.....= 0.00  
 S. Total afforestation required.....= 0.00  
 T. Total reforestation and afforestation required.....= 0.00

**Note: Howard County proposes to provide 99.39 acres of Conservation Easement on the four parcels for FCP requirements of which 71.83 is "credited" FCE with 27.56 acres of "non-credited".**



Min. 15"

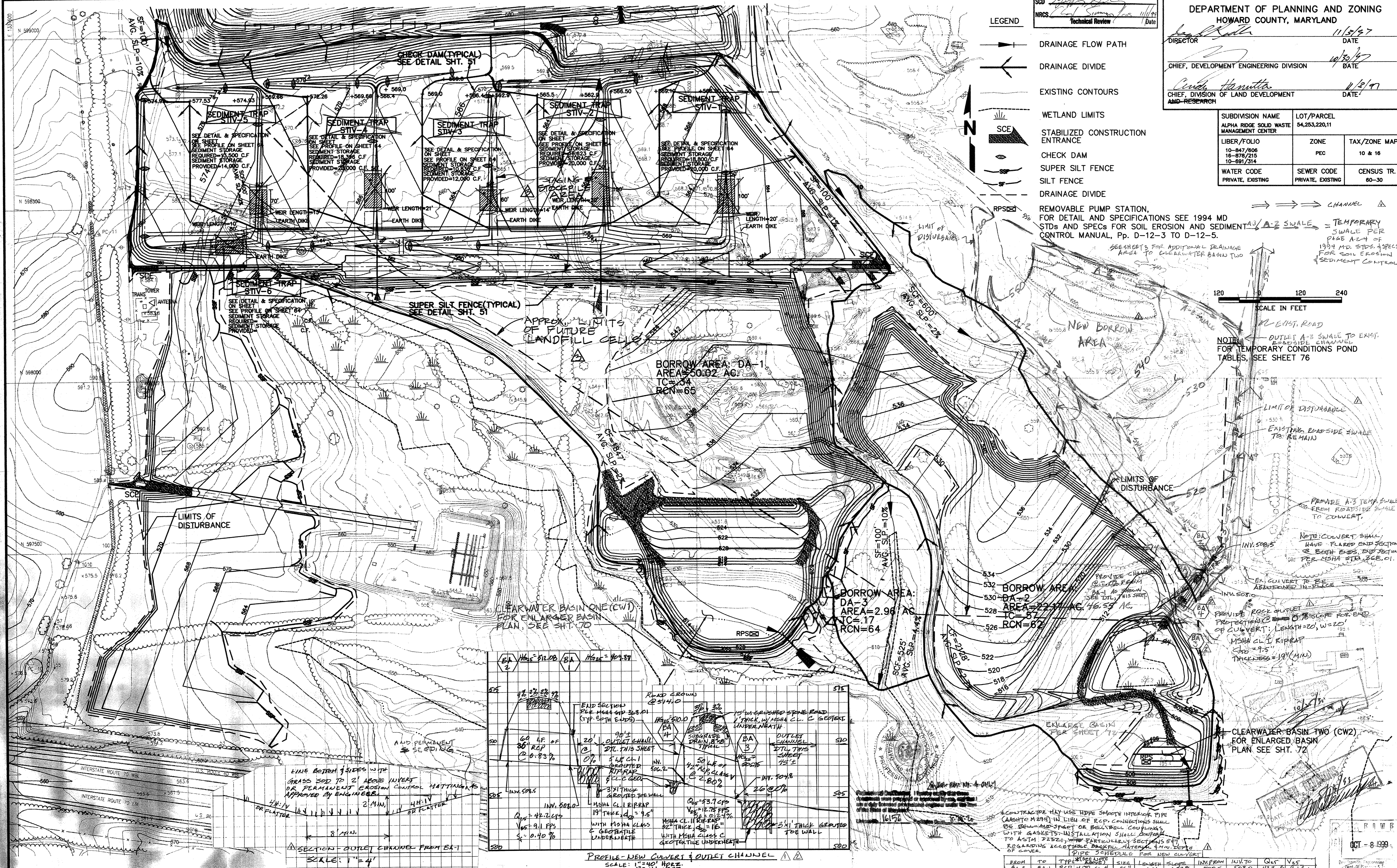


- Note:**
- Signs shall be of high-impact, durable, waterproof plastic. Background color shall be white, and text / graphics color shall be forest green.
  - Signs shall be mounted on metal 'T' or 'U' posts of 7' length, painted (green color) with welded anchor flange. Drive post 2.5' into ground. Mount signs flush to top of post with 2 galvanized bolts and washers per sign, with anti-theft security nuts.
  - Signs shall be located at each turn of conservation easement, and at 100' maximum spacing.

**FOREST CONSERVATION SIGN  
 NOT TO SCALE**

**DETAILS  
 COMBINED FOREST STAND DELINEATION AND  
 FOREST CONSERVATION PLAN**

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING <i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 11/10/07	<b>OWNER</b> HOWARD COUNTY GOVERNMENT 3430 COURT HOUSE DRIVE ELLICOTT CITY, MD 21043 410-313-2330	PREPARED BY <b>URS</b> 4 NORTH PARK DRIVE HUNT VALLEY, MARYLAND TEL: (410) 785-7220	DES: DTM/RKK DRN: WJG CHK: DTM/RKK DATE: 11/06	DTM BY: WJG	REVISION 1. ADDED NEW SHEET TO SDP 97-128 4/17/07 2.	SCALE: NONE ALPHA RIDGE LAND FILL 3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND SHEET 74E OF 140
--	---	---	---	----------------	--	---



APPROVED PLAN REVIEW  
 SCD [Signature]  
 NRCS [Signature]  
 Technical Review [Signature]  
 Date

DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND  
 DIRECTOR [Signature] 11/3/97 DATE  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION [Signature] 10/30/97 DATE  
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH [Signature] 11/3/97 DATE

SUBDIVISION NAME	LOT/PARCEL		
ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	54,253,220,11		
LIBER/FOLIO	ZONE	TAX/ZONE MAP	
10-847/606 16-878/215 10-691/314	PEC	10 & 16	
WATER CODE	SEWER CODE	CENSUS TR.	
PRIVATE, EXISTING	PRIVATE, EXISTING	60-30	

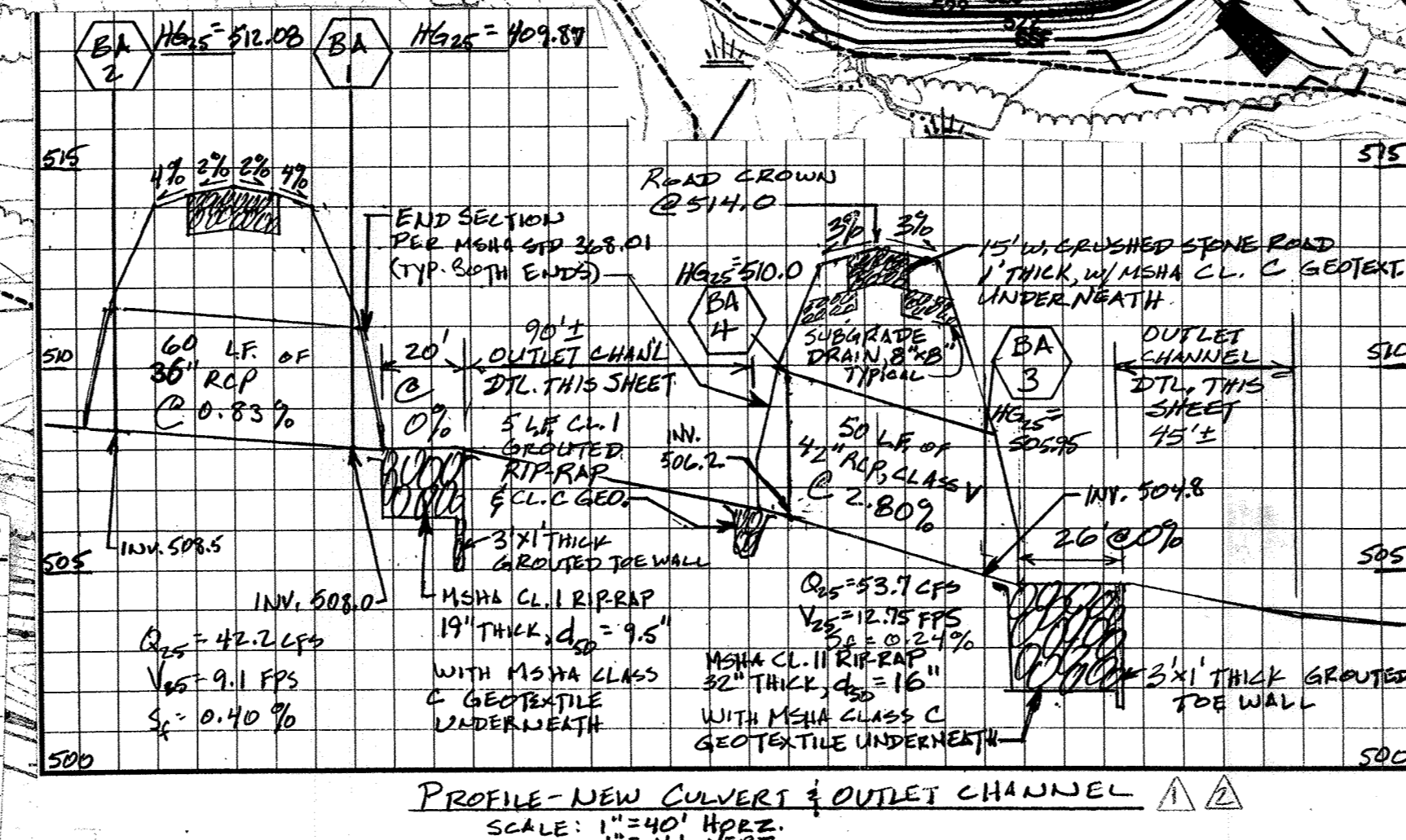
LEGEND

- DRAINAGE FLOW PATH
- DRAINAGE DIVIDE
- EXISTING CONTOURS
- WETLAND LIMITS
- STABILIZED CONSTRUCTION ENTRANCE
- CHECK DAM
- SUPER SILT FENCE
- SILT FENCE
- DRAINAGE DIVIDE
- REMOVABLE PUMP STATION, FOR DETAIL AND SPECIFICATIONS SEE 1994 MD STDs AND SPECS FOR SOIL EROSION AND SEDIMENTATION CONTROL MANUAL, Pp. D-12-3 TO D-12-5.

CHANNEL  
 SWALE = TEMPORARY SWALE PER PAGE A-2.4 OF 1994 MD STDs & SPECS FOR SOIL EROSION & SEDIMENT CONTROL  
 SEE SHEETS FOR ADDITIONAL DRAINAGE AREA TO CLEARWATER BASIN TWO



NOTE: OUTLET A-3 SWALE TO EXIST. PROPOSED CHANNEL FOR TEMPORARY CONDITIONS POND TABLES. SEE SHEET 76



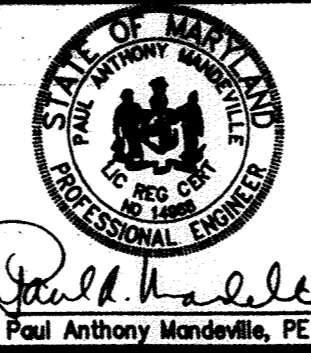
PROVIDE CHANNEL PROTECTION PER BA-1 AS SHOWN SEE DET. THIS SHEET

FROM	TO	TYPE	SCHEDULE	SIZE	LENGTH	SLOPE	INV. FROM	INV. TO	Q <sub>15'</sub>	V <sub>15'</sub>
BA-2	BA-1	RCP	H170 CL. 4	36"	60'	0.83%	508.5	508.0	92.26	9.16
BA-4	BA-3	RCP	H170 CL. 5*	42"	50'	2.80%	506.2	504.8	53.76	12.56

\*RCP ONLY

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

SCS ENGINEERS  
 CONSULTING ENGINEERS  
 11260 ROGER BACON DRIVE  
 SUITE 300  
 RESTON, VIRGINIA 22090  
 PH. (703) 471-6150  
 FAX. (703) 471-6676



DES.	AST			
DRN.	LITJ	DTM	UPDATED SHEET TOTAL	4-10-97
CHK.	PAM	PJD	ADDED STAGING & STOCKPILE AREA AND FENCED LANDFILL CELL AREA	11-9-97
		MRG	ADDED CULVERT BAS-BAM & RIPRAP	10-6-97
			BORROW AREA GRASSING E.I.S. CONTRA. & FENCING	4-28-97
DATE:	10-30-97	BY:	NO.	REVISION

BORROW AREA DRAINAGE DIVIDES / EROSION & SEDIMENT CONTROL

ALPHA RIDGE LANDFILL UNLINED CELL CLOSURE  
 CAPITAL PROJECT NO. C-0190-N

3rd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

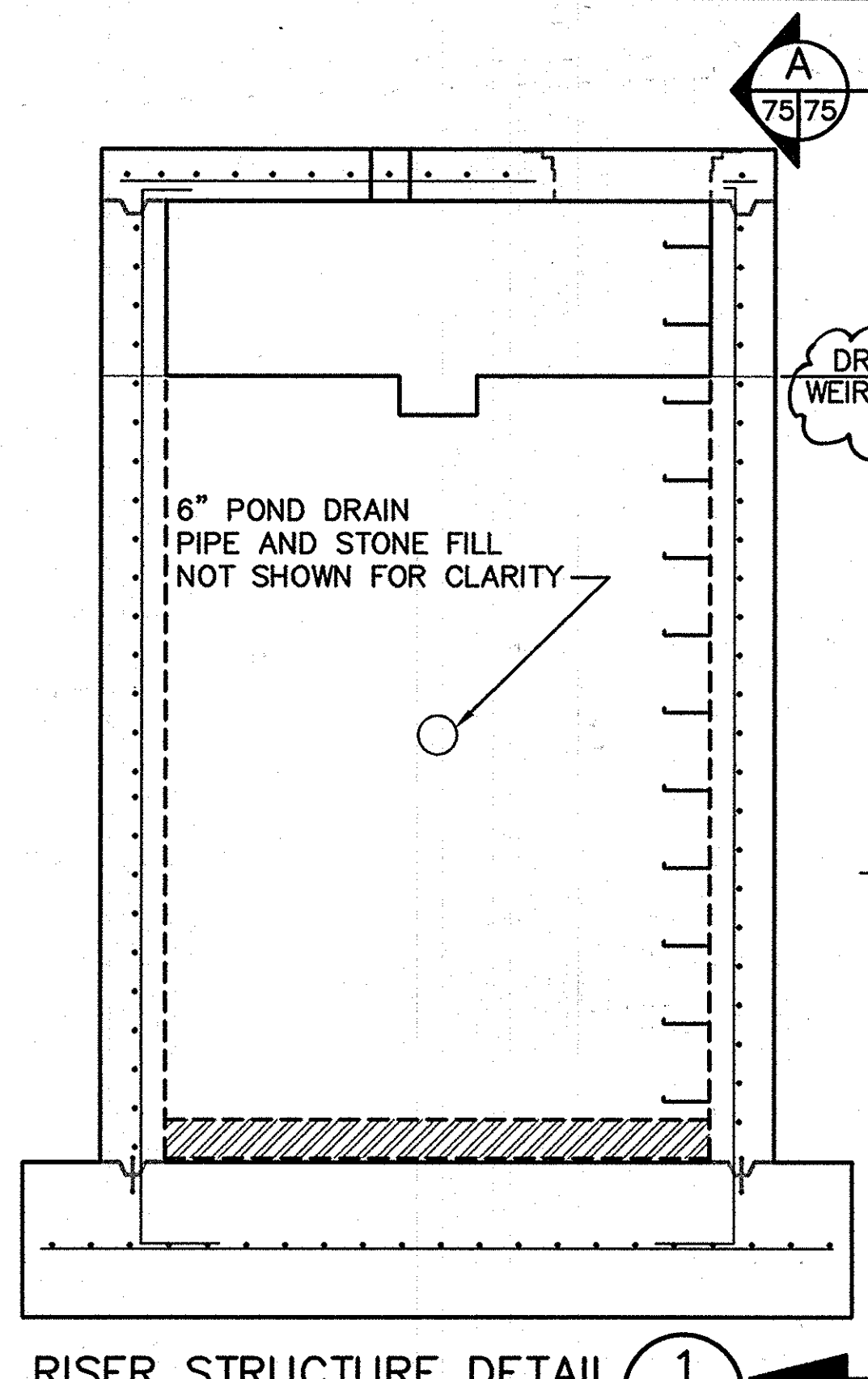
SHEET 74 OF 140

EAS/DIVIDE M: 1295077.01 \FINAL

SDF-97-128

Ms:\298077.01\FINAL\DETAILS ES12DET

ESDET2



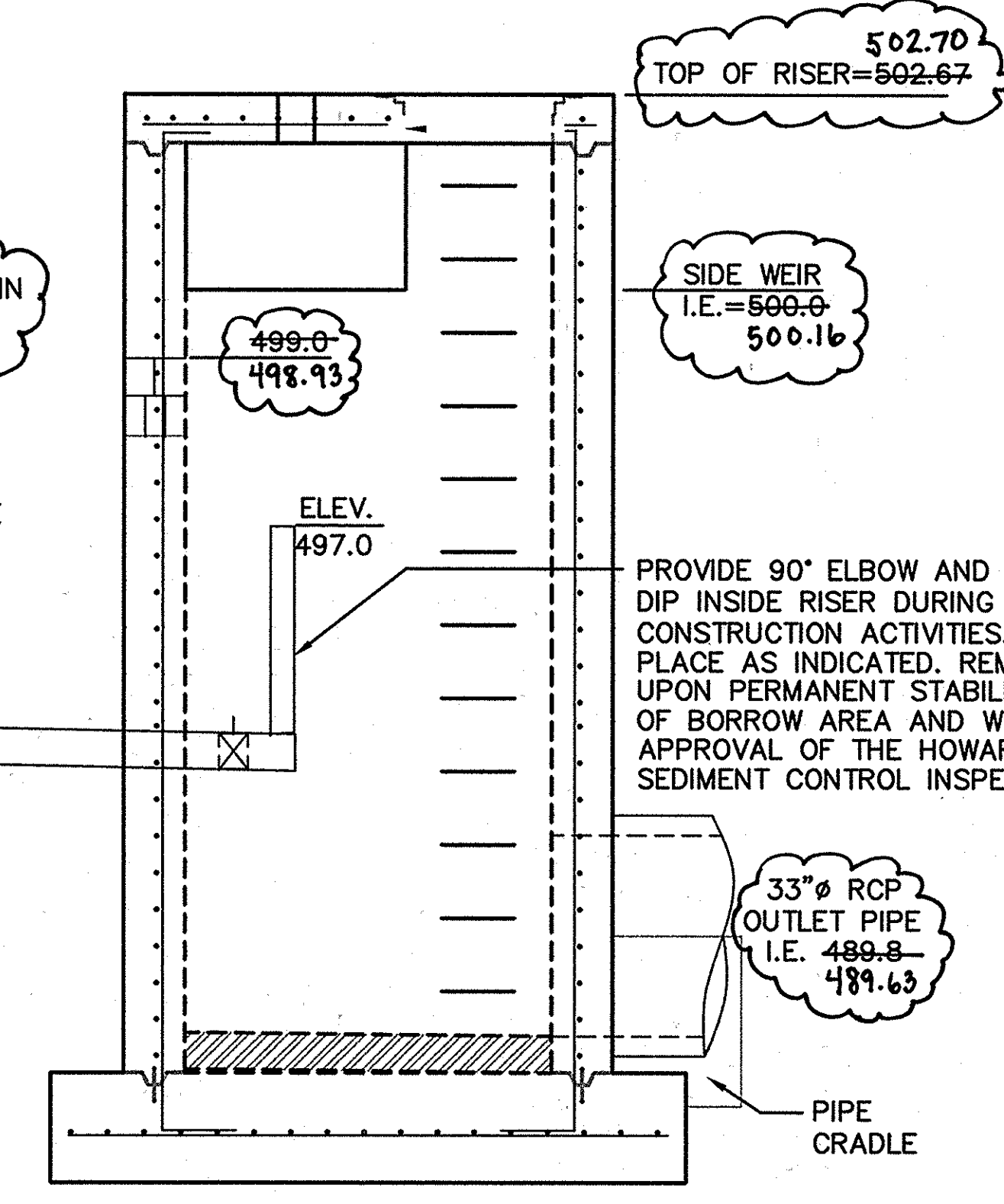
CW1 RISER STRUCTURE DETAIL 1  
SCALE: 1/2"=1'-0"

DRAW DOWN WEIR I.E.=518.6  
518.13

6" PERFORATED DUCTILE IRON POND DRAIN PIPE W/ CAPPED END TOP ELEV.=498.0-498.11 WRAP PIPE W/MSHA CL."C" GEOTEXTILE

PLACE 2" STONE AROUND POND DRAIN

BASIN GRADE ELEV. 494.0



CW2 RISER STRUCTURE SECTION B  
SCALE: 1/2"=1'-0"

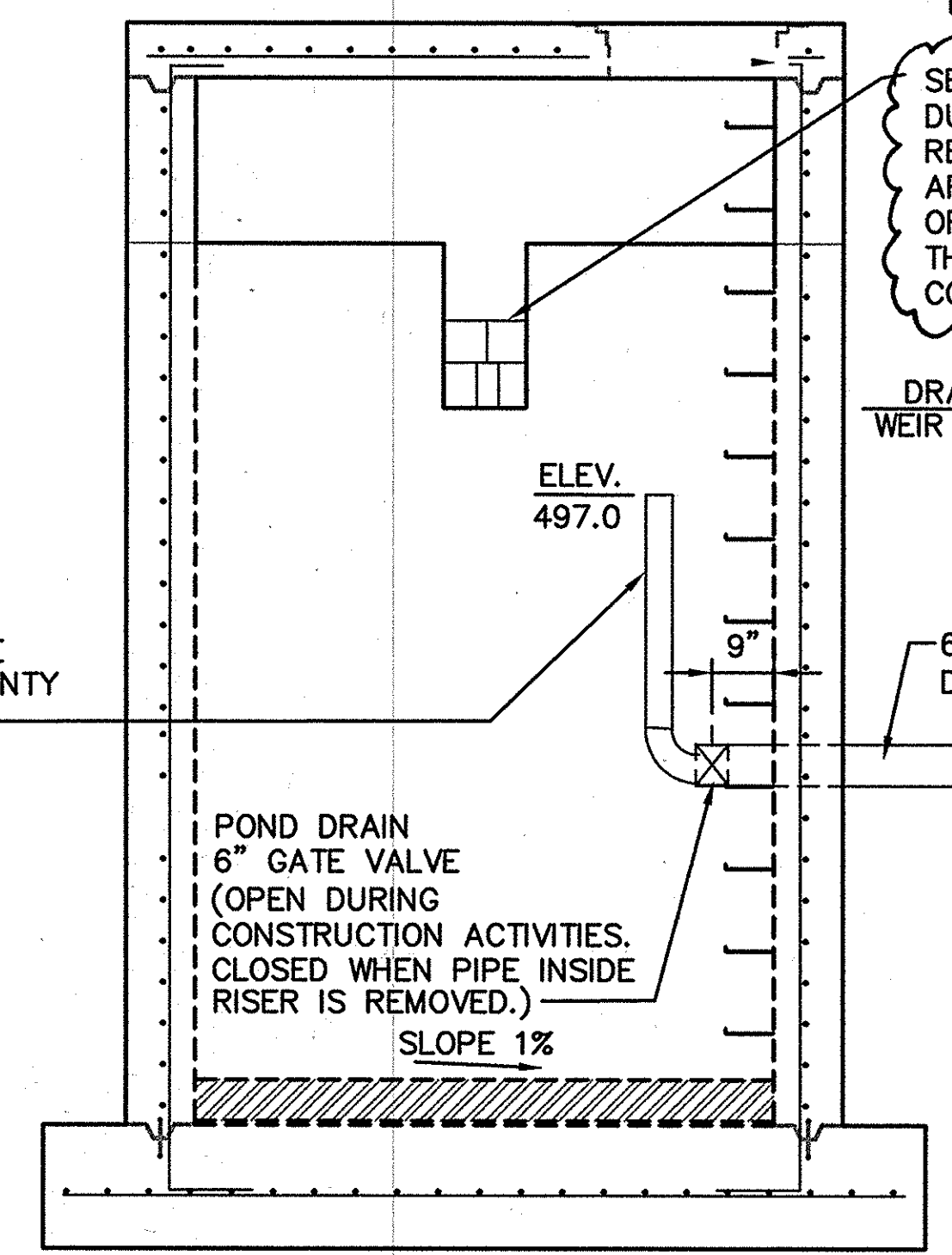
502.70  
TOP OF RISER=502.67

SIDE WEIR I.E.=500.6  
500.16

PROVIDE 90° ELBOW AND 6" DIP INSIDE RISER DURING CONSTRUCTION ACTIVITIES. PLACE AS INDICATED. REMOVE UPON PERMANENT STABILIZATION OF BORROW AREA AND WITH THE APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

33" RCP OUTLET PIPE I.E. 489.8  
489.63

PIPE CRADLE

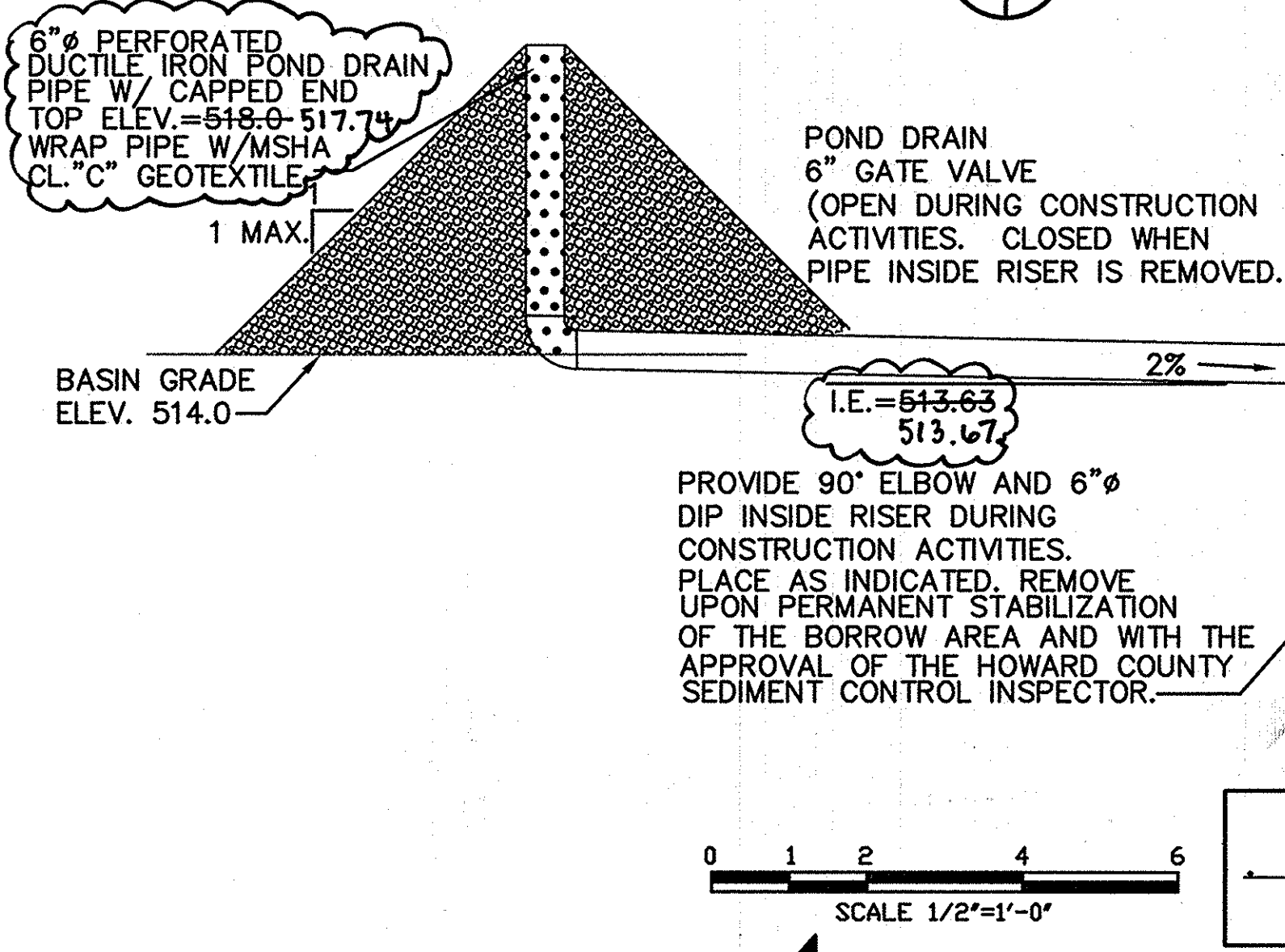


CW2 RISER STRUCTURE DETAIL 4  
SCALE: 1/2"=1'-0"

SEAL WEIR UP TO ELEVATION 499.0-498.93 DURING CONSTRUCTION ACTIVITIES. REMOVE ALL SEALING MATERIALS AFTER PERMANENT STABILIZATION OF THE BORROW AREA AND WITH THE APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

DRAW DOWN WEIR I.E.=498.0

FOR FURTHER CONSTRUCTION DETAILS AND DIMENSIONS FOR RISERS, SEE THE FOLLOWING SHEETS:  
CLEARWATER BASIN ONE, SHEET 71  
CLEARWATER BASIN TWO, SHEET 73  
EAST SEDIMENT BASIN, SHEET 25  
SOUTH SEDIMENT BASIN, SHEET 31



CW1 RISER STRUCTURE SECTION A  
SCALE: 1/2"=1'-0"

6" PERFORATED DUCTILE IRON POND DRAIN PIPE W/ CAPPED END TOP ELEV.=518.0-517.74 WRAP PIPE W/MSHA CL."C" GEOTEXTILE

POND DRAIN 6" GATE VALVE (OPEN DURING CONSTRUCTION ACTIVITIES. CLOSED WHEN PIPE INSIDE RISER IS REMOVED.)

PROVIDE 90° ELBOW AND 6" DIP INSIDE RISER DURING CONSTRUCTION ACTIVITIES. PLACE AS INDICATED. REMOVE UPON PERMANENT STABILIZATION OF THE BORROW AREA AND WITH THE APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

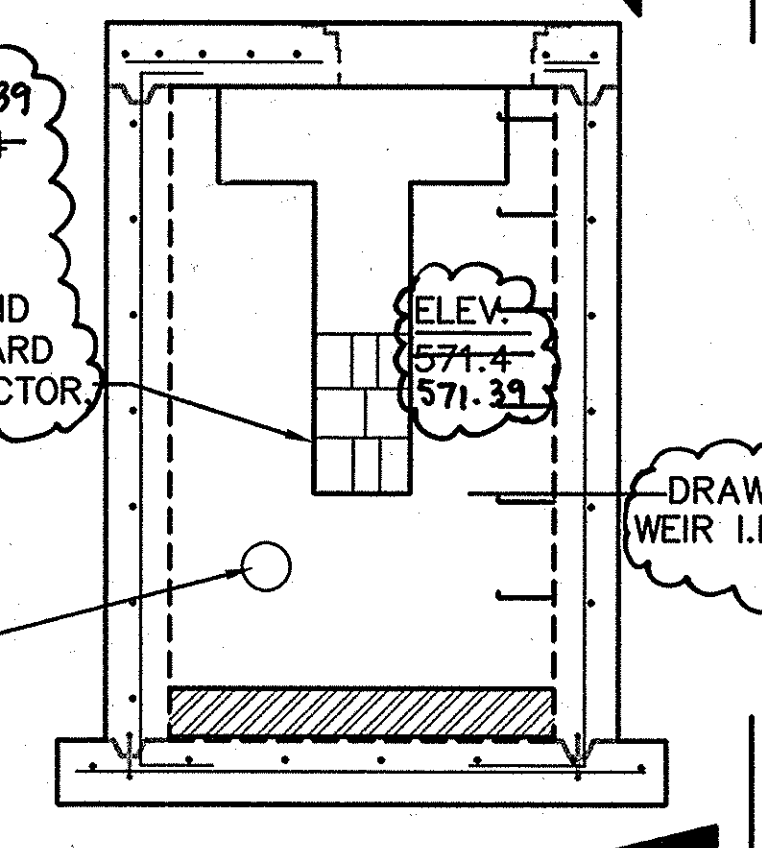
TOP OF RISER=521.42  
521.55

SIDE WEIR I.E.=518.5  
518.63

33" RCP OUTLET PIPE I.E. 508.88  
513.00

SEAL WEIR UP TO ELEVATION 471.4 DURING CONSTRUCTION ACTIVITIES. REMOVE ALL SEALING MATERIALS AFTER PERMANENT STABILIZATION OF THE LANDFILL'S SOUTH SIDE AND WITH THE APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

6" POND DRAIN PIPE AND STONE FILL NOT SHOWN FOR CLARITY



SOUTH SEDIMENT BASIN RISER STRUCTURE DETAIL 3  
SCALE: 1/2"=1'-0"

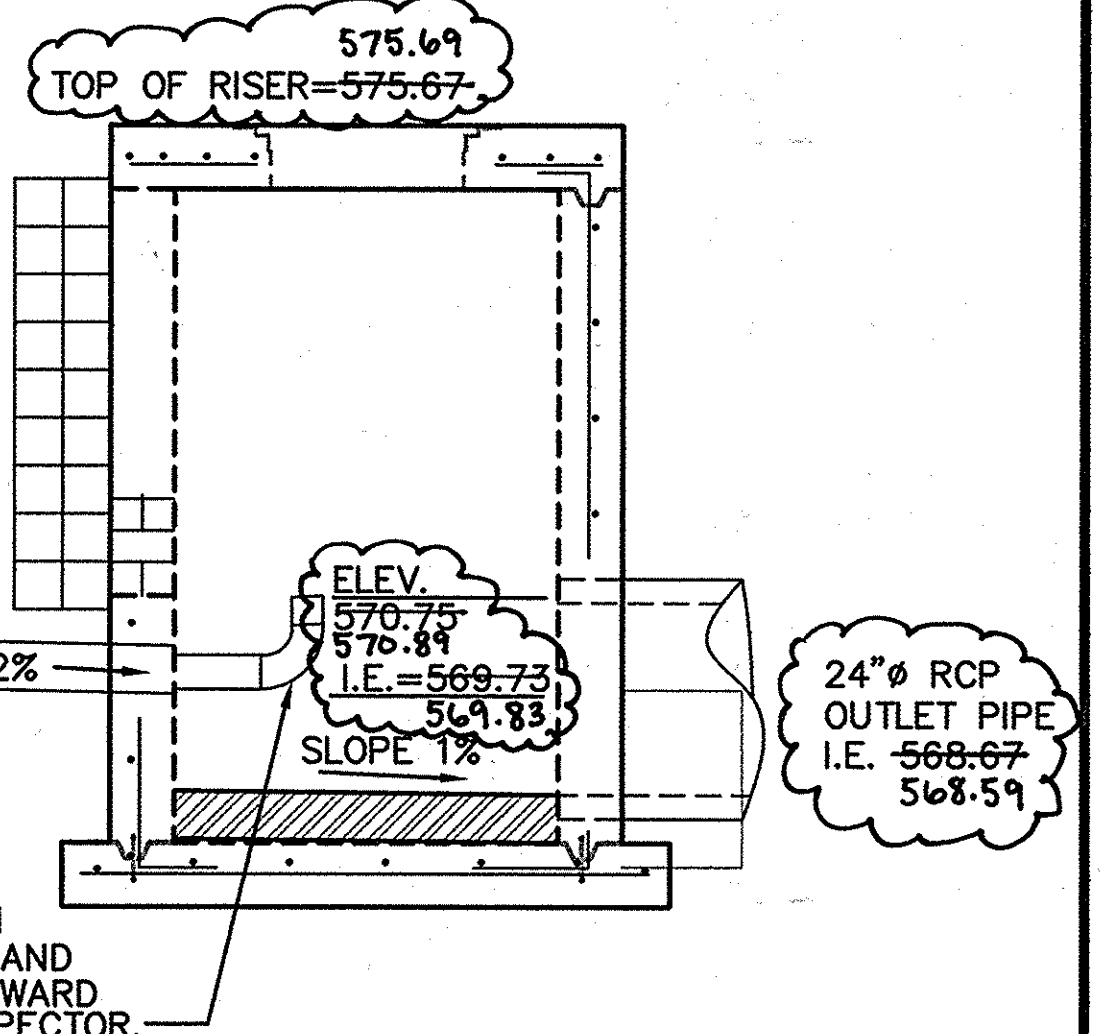
SEAL WEIR UP TO ELEVATION 471.4 DURING CONSTRUCTION ACTIVITIES. REMOVE ALL SEALING MATERIALS AFTER PERMANENT STABILIZATION OF THE LANDFILL'S SOUTH SIDE AND WITH THE APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

6" POND DRAIN PIPE AND STONE FILL NOT SHOWN FOR CLARITY

DRAW DOWN WEIR I.E.=570.75  
570.79

6" PERFORATED DUCTILE IRON POND DRAIN PIPE W/ CAPPED END TOP ELEV.=572.0-570.3 WRAP PIPE W/MSHA CL."C" GEOTEXTILE

PROVIDE 90° ELBOW AND 6" DIP INSIDE RISER DURING CONSTRUCTION ACTIVITIES. PLACE AS INDICATED. REMOVE UPON PERMANENT STABILIZATION OF THE LANDFILL'S SOUTH SIDE AND WITH THE APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

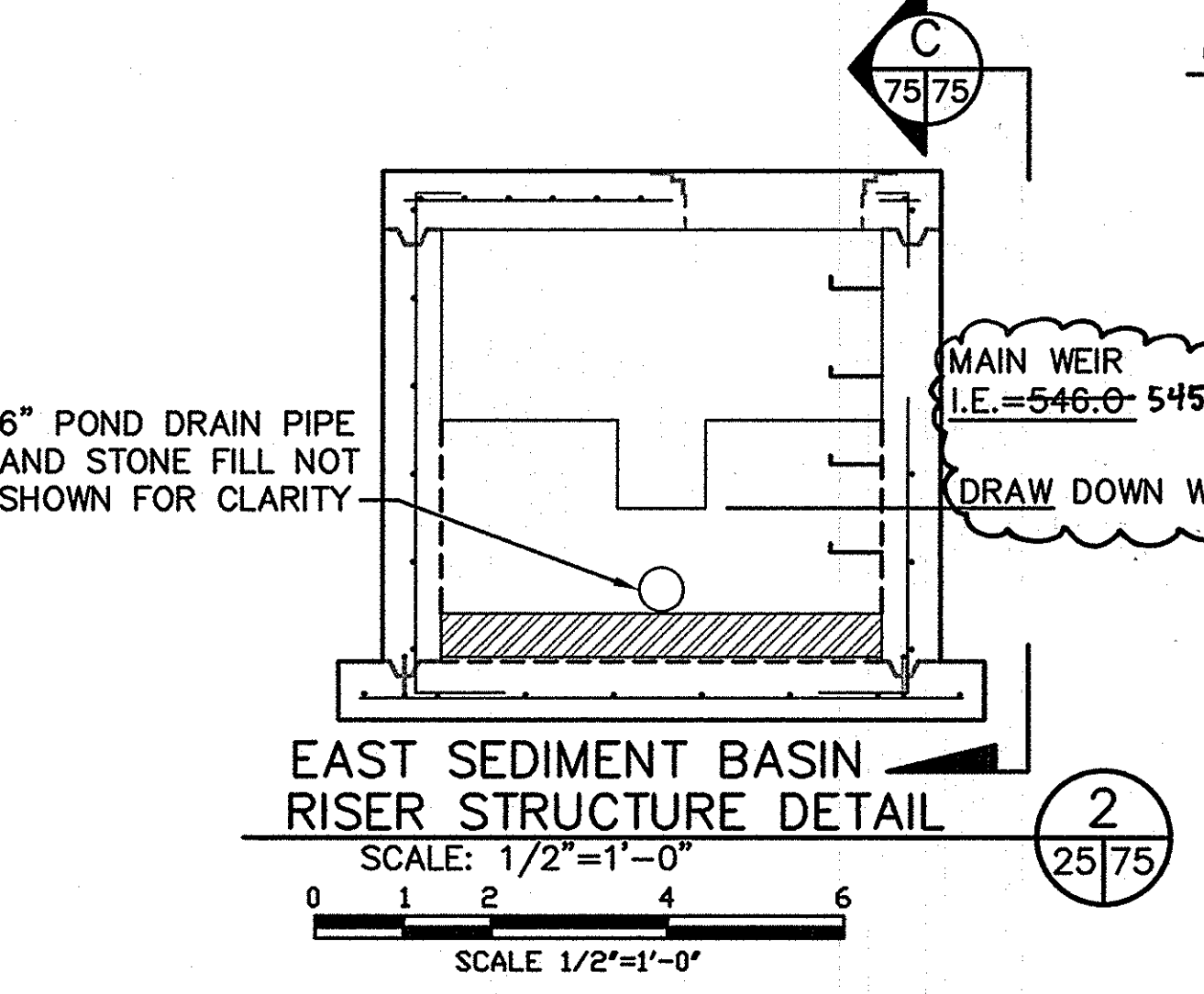


SOUTH SEDIMENT BASIN RISER STRUCTURE SECTION D  
SCALE: 1/2"=1'-0"

575.69  
TOP OF RISER=575.67

ELEV. 570.75  
570.84  
I.E.=569.73  
569.33

24" RCP OUTLET PIPE I.E. 568.67  
568.59

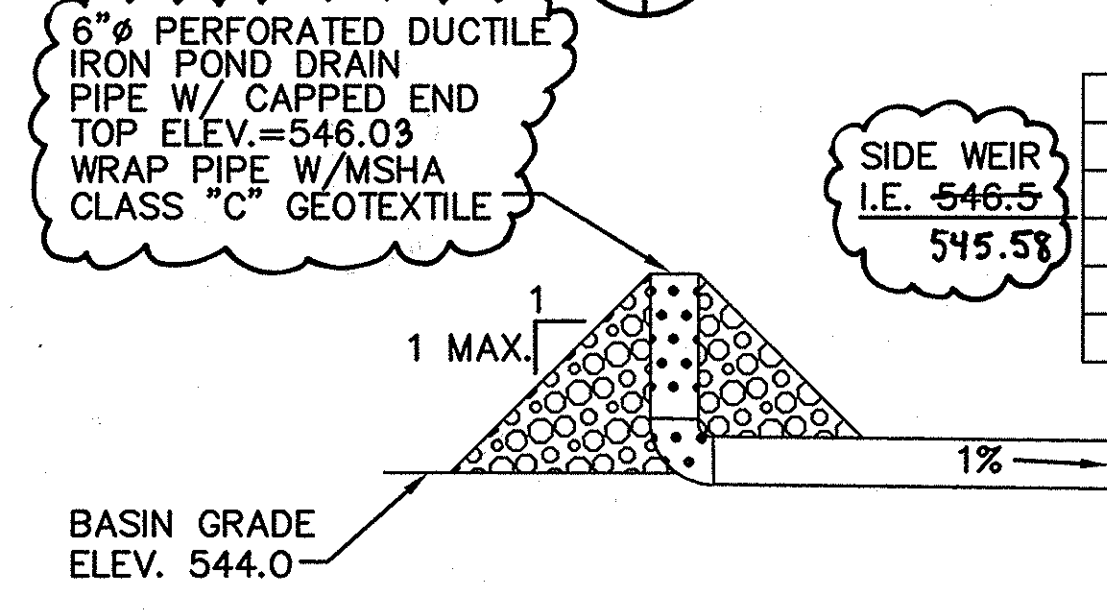


EAST SEDIMENT BASIN RISER STRUCTURE DETAIL 2  
SCALE: 1/2"=1'-0"

6" POND DRAIN PIPE AND STONE FILL NOT SHOWN FOR CLARITY

MAIN WEIR I.E.=546.0  
545.58

DRAW DOWN WEIR I.E.=545.05



EAST SEDIMENT BASIN RISER STRUCTURE SECTION C  
SCALE: 1/2"=1'-0"

6" PERFORATED DUCTILE IRON POND DRAIN PIPE W/ CAPPED END TOP ELEV.=546.03 WRAP PIPE W/MSHA CLASS "C" GEOTEXTILE

SIDE WEIR I.E. 546.5  
545.5

548.92  
TOP OF RISER=548.83

ELEV. 545.0  
545.15  
I.E. 543.82  
543.81

PROVIDE 90° ELBOW AND 6" DIP INSIDE RISER DURING CONSTRUCTION ACTIVITIES. PLACE AS INDICATED. REMOVE UPON PERMANENT STABILIZATION OF THE LANDFILL'S EASTSIDE AND WITH THE APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT/PARCEL 54,253,220,11	ZONE PEC	TAX/ZONE MAP 10 & 16
LIBER/FOLIO 10-847/606 16-878/215 10-891/314	WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*[Signature]* 11/3/97  
DIRECTOR DATE

*[Signature]* 12/3/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

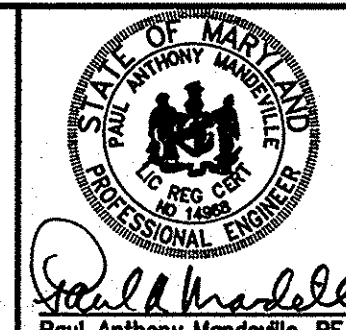
*[Signature]* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES. AST			
DRN. LTJ			
CHK. PAM			
DATE: 10-30-97	BY: NO.	REVISION	DATE

RISER MODIFICATIONS DURING CONSTRUCTION ACTIVITIES

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
SCALE: AS NOTED  
SHEET 75 OF 131

SDA-97-128

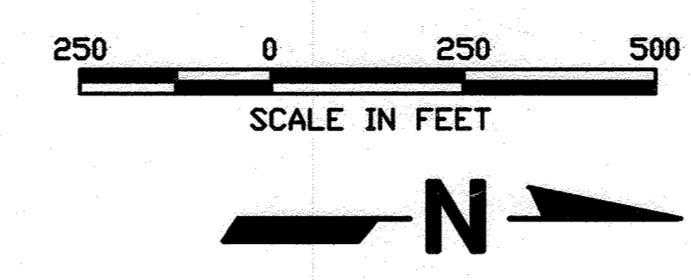
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*[Signature]* 11/3/97  
DIRECTOR DATE

*[Signature]* 10/30/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT/PARCEL 54,253,220,11,302
LIBER/FOLIO 10-847/606 16-878/215 10-891/314	ZONE -REG RC-DEO
TAX/ZONE MAP 10 & 16	
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING
CENSUS TR. 6090-00-30	



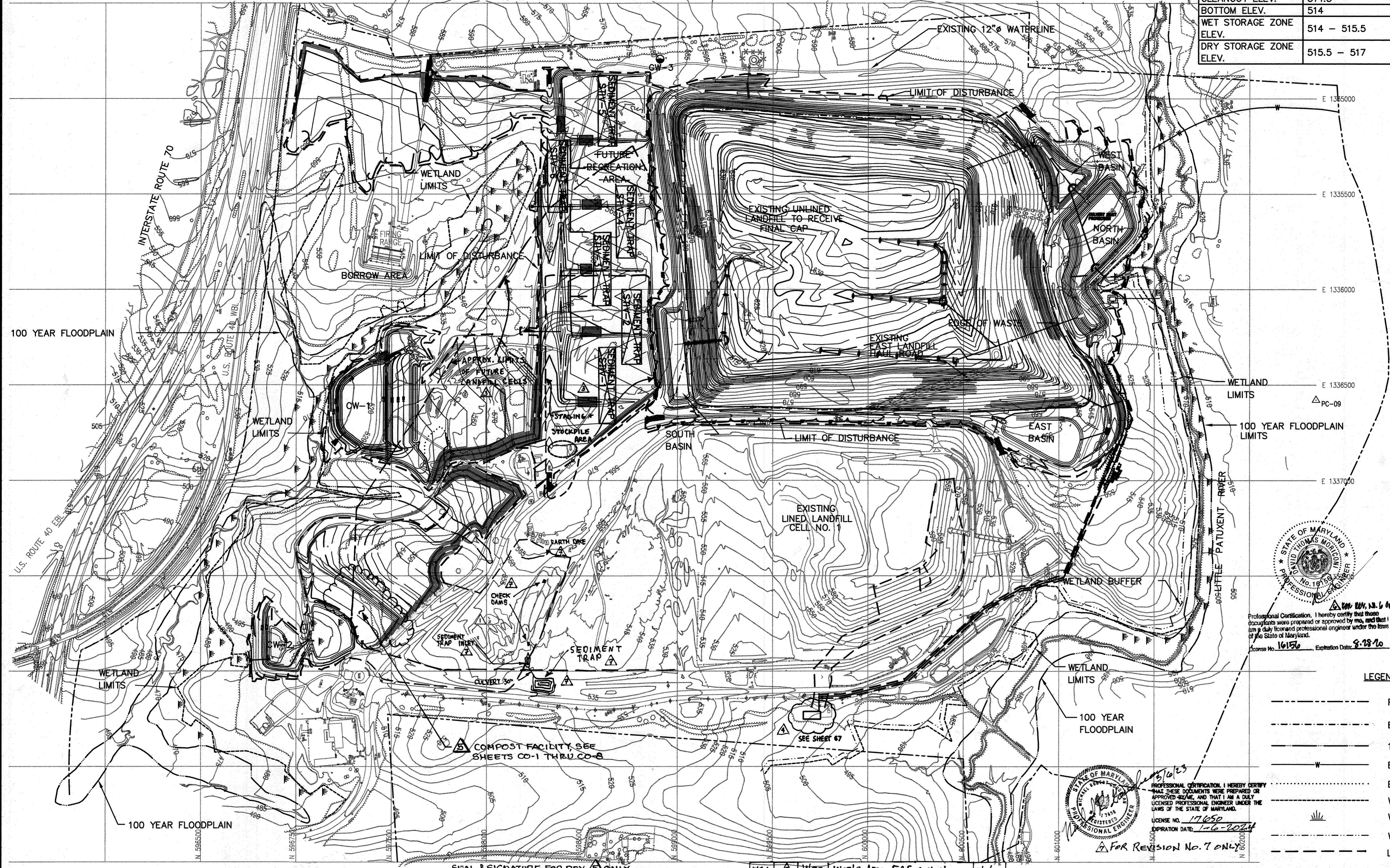
BASIN NAME	CLEARWATER 1
DRAINAGE AREA (AC)	50.02
STORAGE WET	90036
REQUIRED DRY	90036
(cf) TOTAL	180072
STORAGE WET	90036
PROVIDED DRY	90036
(cf) TOTAL	180072
RISER CREST ELEV.	518.0
WET STORAGE ELEV.	515.5
CLEANOUT ELEV.	514.5
BOTTOM ELEV.	514
WET STORAGE ZONE ELEV.	514 - 515.5
DRY STORAGE ZONE ELEV.	515.5 - 517

BASIN NAME	EAST SEDIMENT
DRAINAGE AREA (AC)	15.92
STORAGE WET	28656
REQUIRED DRY	28656
(cf) TOTAL	57312
STORAGE WET	28656
PROVIDED DRY	28656
(cf) TOTAL	57312
RISER CREST ELEV.	545
WET STORAGE ELEV.	544.5
CLEANOUT ELEV.	544.5
BOTTOM ELEV.	544.0
WET STORAGE ZONE ELEV.	544.0 - 544.5
DRY STORAGE ZONE ELEV.	544.5 - 545.0

BASIN NAME	SOUTH SEDIMENT
DRAINAGE AREA (AC)	16.22
STORAGE WET	29196
REQUIRED DRY	29196
(cf) TOTAL	58392
STORAGE WET	29196
PROVIDED DRY	29196
(cf) TOTAL	58392
RISER CREST ELEV.	571.43
WET STORAGE ELEV.	570.75
CLEANOUT ELEV.	570.5
BOTTOM ELEV.	570.0
WET STORAGE ZONE ELEV.	570.0 - 570.75
DRY STORAGE ZONE ELEV.	570.75 - 571.43

BASIN NAME	NORTH SEDIMENT
DRAINAGE AREA (AC)	61.53
STORAGE WET	110754
REQUIRED DRY	110754
(cf) TOTAL	221508
STORAGE WET	110754 + 175,111
PROVIDED DRY	110754 + 203,425
(cf) TOTAL	221508 + 378,536
RISER CREST ELEV.	528
WET STORAGE ELEV.	525.29 - 526.0
CLEANOUT ELEV.	524.5
BOTTOM ELEV.	524
WET STORAGE ZONE ELEV.	524 - 526.0
DRY STORAGE ZONE ELEV.	526.0 - 528.0

BASIN NAME	CLEARWATER 2
DRAINAGE AREA (AC)	22.17 46.55
STORAGE WET	39906 83,790
REQUIRED DRY	39906 83,790
(cf) TOTAL	79812 167,580
STORAGE WET	39906 - 105,000
PROVIDED DRY	39906 - 95,000
(cf) TOTAL	79812 - 200,000
RISER CREST ELEV.	499.0
WET STORAGE ELEV.	496.9
CLEANOUT ELEV.	494.5
BOTTOM ELEV.	494
WET STORAGE ZONE ELEV.	494 - 496.9
DRY STORAGE ZONE ELEV.	496.9 - 498.7



STATE OF MARYLAND  
PROFESSIONAL ENGINEER  
No. 17650  
1988  
17650  
8-28-90

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 17650 Expiration Date: 8-28-90

- LEGEND
- PROPERTY LINE
  - - - EDGE OF WASTE
  - - - 100 YEAR FLOODPLAIN
  - - - EXISTING WATER LINE
  - - - BORROW AREA LIMITS
  - - - WETLAND LIMITS
  - - - WETLANDS
  - - - WETLAND BUFFER
  - - - LIMIT OF DISTURBANCE

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 17650 EXPIRATION DATE: 8-28-90

M:\295077.01\FINAL DISTURB. B-TABLE - 5 LOD

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 10/30/97  
CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676

STATE OF MARYLAND  
PROFESSIONAL ENGINEER  
No. 17650  
1988  
17650  
8-28-90

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 17650 Expiration Date: 8-28-90

DES.	LTJ	DTM	3/6/23
DRN. <td>LTJ</td> <td>CJS</td> <td>3/19/12</td>	LTJ	CJS	3/19/12
CHK. <td>PAM</td> <td>BJD</td> <td>11/9/99</td>	PAM	BJD	11/9/99
BY <td>NO. <td>REVISION <td>DATE</td> </td></td>	NO. <td>REVISION <td>DATE</td> </td>	REVISION <td>DATE</td>	DATE

OVERALL LIMITS OF DISTURBANCE

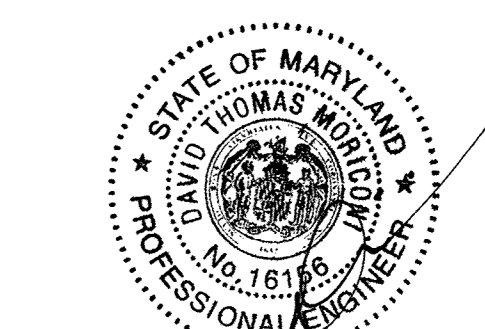
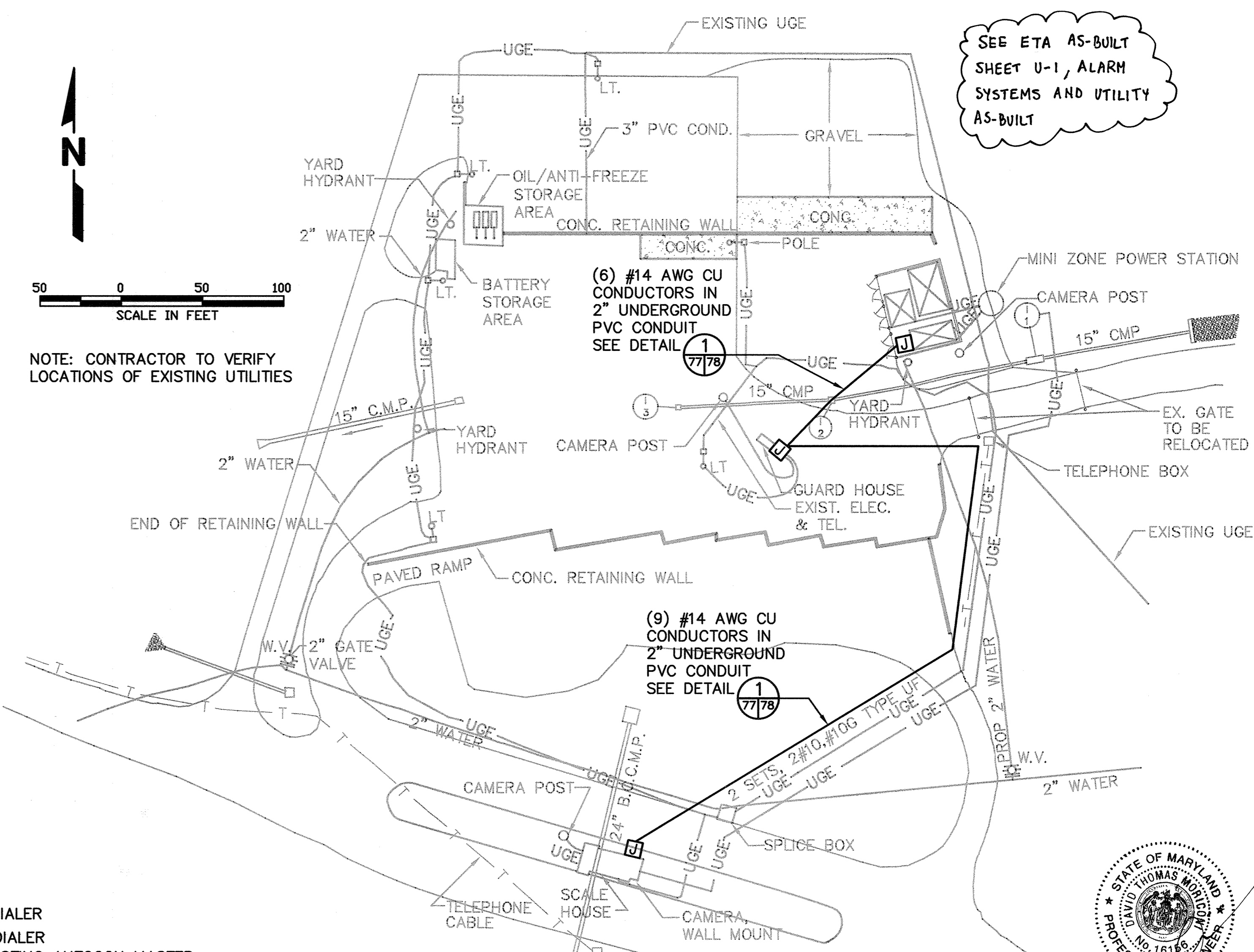
ALPHA RIDGE LANDFILL UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

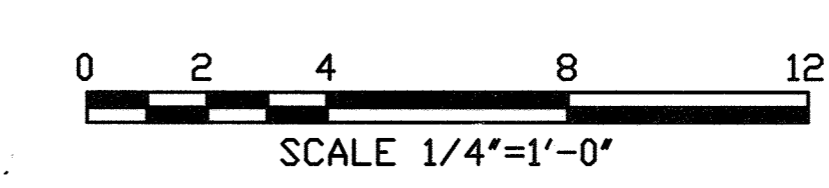
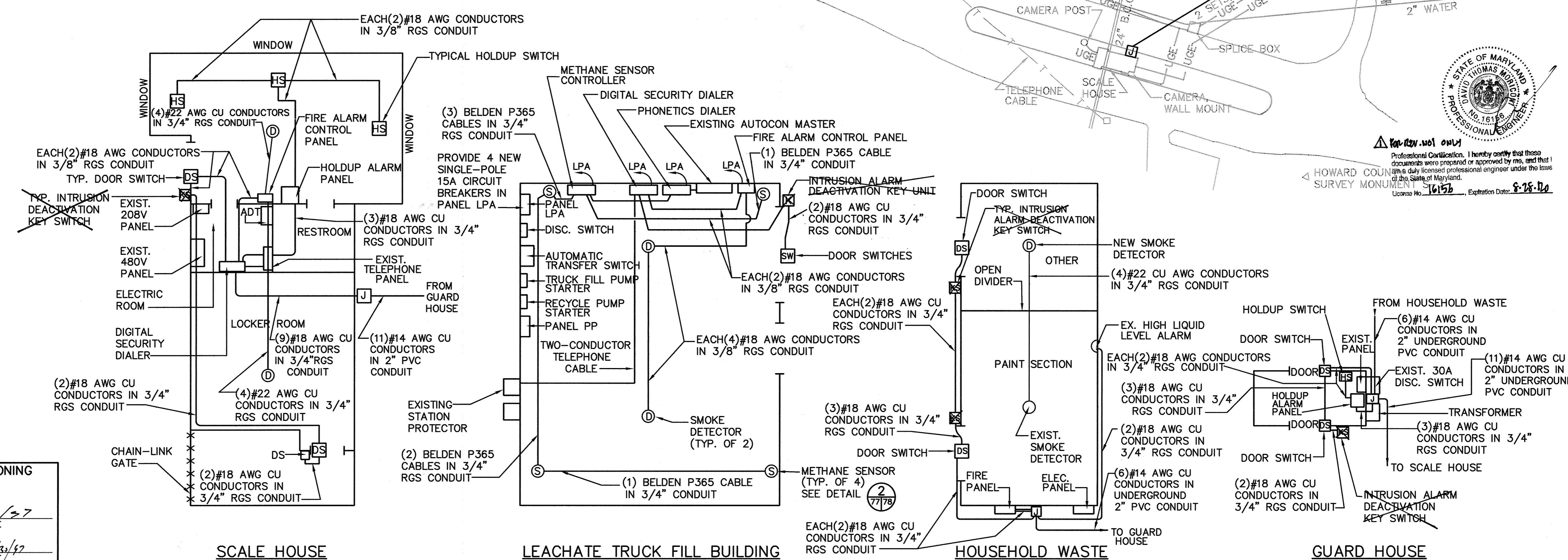
SCALE: 1"=250'  
SHEET 76 OF 140

SDP-97-128





Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 16156, Expiration Date: 8-28-00



SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/606 16-878/215 10-891/314		ZONE R	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30	

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

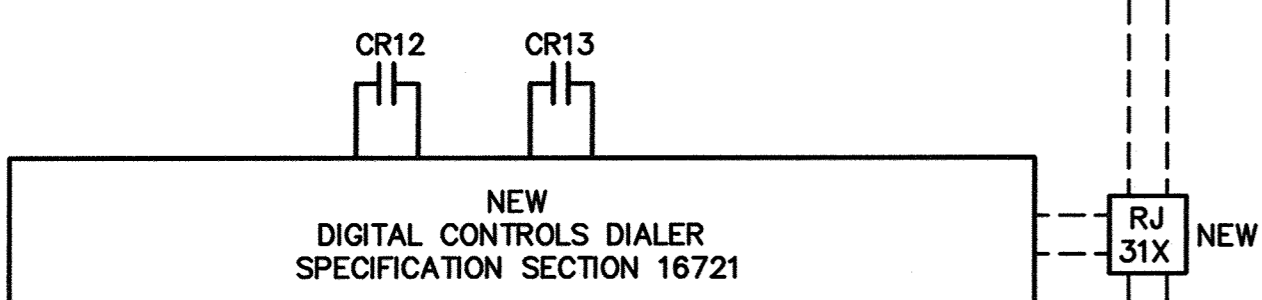
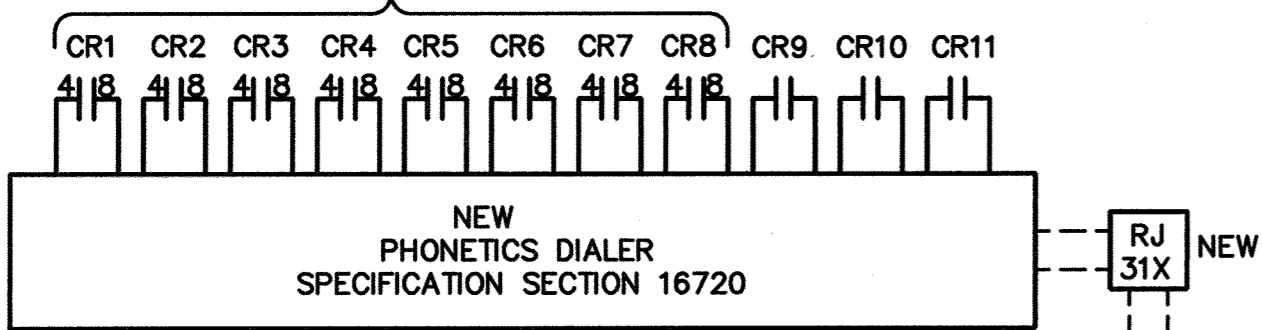
Director: *[Signature]* 11/3/97  
 Chief, Development Engineering Division: *[Signature]* 10/30/97  
 Chief, Division of Land Development: *[Signature]* 11/3/97

M: 285077.01\FINAL\ ELEC-SITE-ALARM- B

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director: <i>[Signature]</i> 10/30/97 Chief, Bureau of Waste Management: <i>[Signature]</i> 10/30/97		SCS ENGINEERS CONSULTING ENGINEERS 11260 ROGER BACON DRIVE SUITE 300 RESTON, VIRGINIA 22090 PH. (703) 471-6150 FAX. (703) 471-6676				<table border="1"> <tr><td>DES.</td><td>RFI</td><td>6</td></tr> <tr><td>DRN.</td><td>MEH</td><td>3</td></tr> <tr><td>CHK.</td><td>PAM</td><td>3</td></tr> <tr><td>DATE:</td><td>10-30-97</td><td></td></tr> <tr><td>BY:</td><td>NO.</td><td></td></tr> <tr><td colspan="2">DIA</td><td>UPDATED SHEET TOTAL</td></tr> <tr><td colspan="2">REVISION</td><td>4-2/19</td></tr> <tr><td colspan="2">DATE</td><td></td></tr> </table>		DES.	RFI	6	DRN.	MEH	3	CHK.	PAM	3	DATE:	10-30-97		BY:	NO.		DIA		UPDATED SHEET TOTAL	REVISION		4-2/19	DATE			MISCELLANEOUS BUILDING ALARM SYSTEMS		ALPHA RIDGE LANDFILL UNLINED CELL CLOSURE CAPITAL PROJECT NO. C-0190-N 3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND		SCALE: AS NOTED SHEET 77 OF 140	
DES.	RFI	6																																			
DRN.	MEH	3																																			
CHK.	PAM	3																																			
DATE:	10-30-97																																				
BY:	NO.																																				
DIA		UPDATED SHEET TOTAL																																			
REVISION		4-2/19																																			
DATE																																					

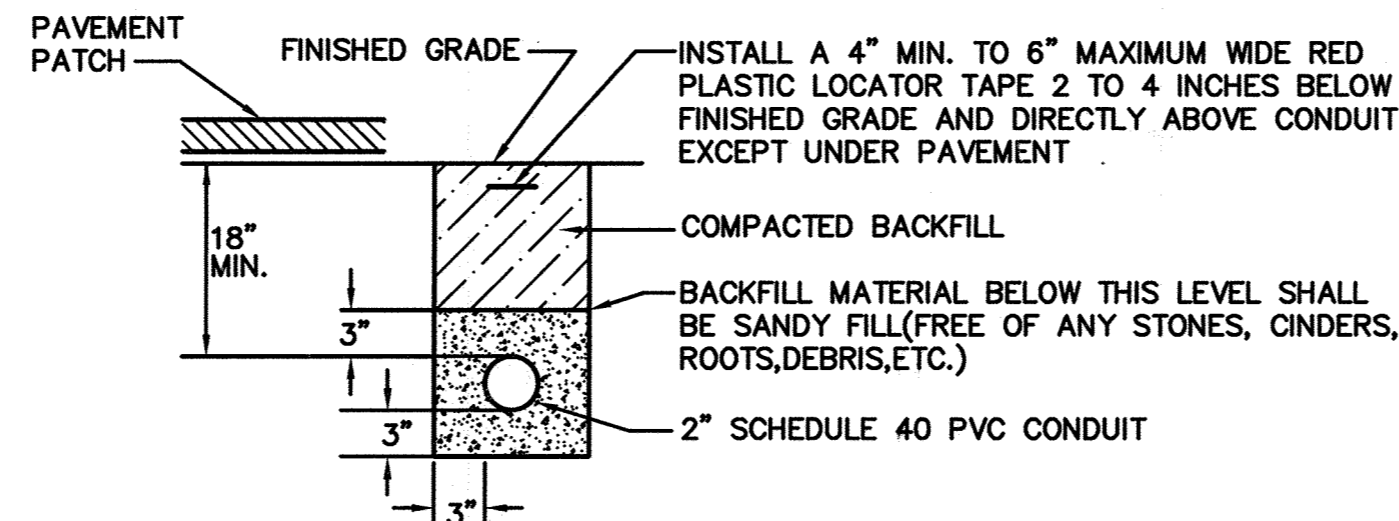
SDA-97-128

CONTACTS LOCATED IN EXISTING AUTOCON MASTER  
(SEE NOTE 1)

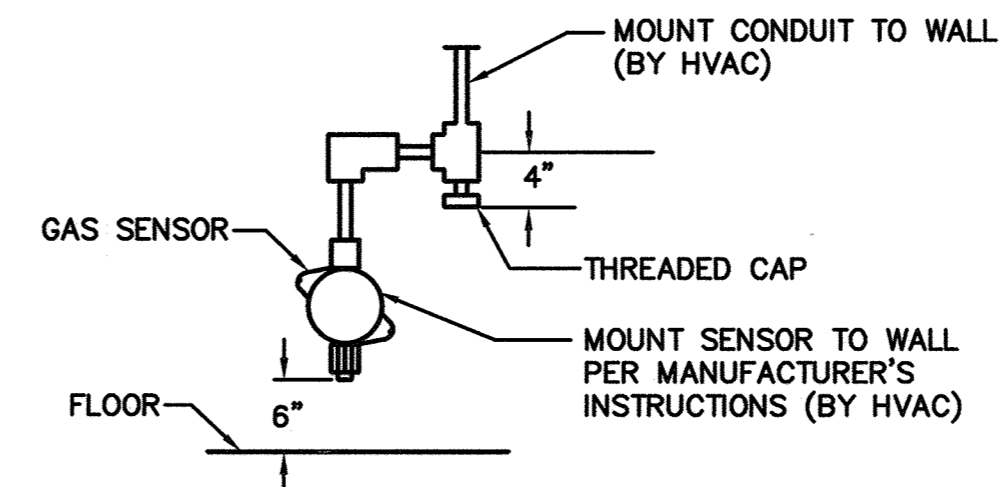


- LEGEND**
- CR1 LEACHATE PUMPS HIGH LEVEL (EXIST.)
  - CR2 LEACHATE PUMPS LOW LEVEL/PUMPS OFF(EXIST.)
  - CR3 LEACHATE CONTROL HIGH LEVEL/PUMPS OFF(EXIST.)
  - CR4 LEACHATE CONTROL HIGH LEVEL(EXIST.)
  - CR5 LEACHATE CONTROL LOW LEVEL/TRUCK PUMP OFF(EXIST.)
  - CR6 GENERAL CONTROL GENERAL FAULT(EXIST.)
  - CR7 AUTO TRANSFER SWITCH OP. EMERGENCY POWER(EXIST.)
  - CR8 AUTO TRANSFER SWITCH MAN. TRANSFER(EXIST.)
  - CR9 METHANE SENSOR HIGH(NEW)
  - CR10 METHANE SENSOR LOW(NEW)
  - CR11 METHANE SENSOR TROUBLE(NEW)
  - CR12 SMOKE ALARM(NEW)
  - CR13 INTRUSION ALARM(NEW)
- EXISTING STATION PROTECTOR TELEPHONE LINE
- NOTE: 1. REMOVE THE WIRES CONNECTED TO THESE TERMINALS AND ADD WIRES TO CONNECT TO THE NEW PHONETICS DIALER.

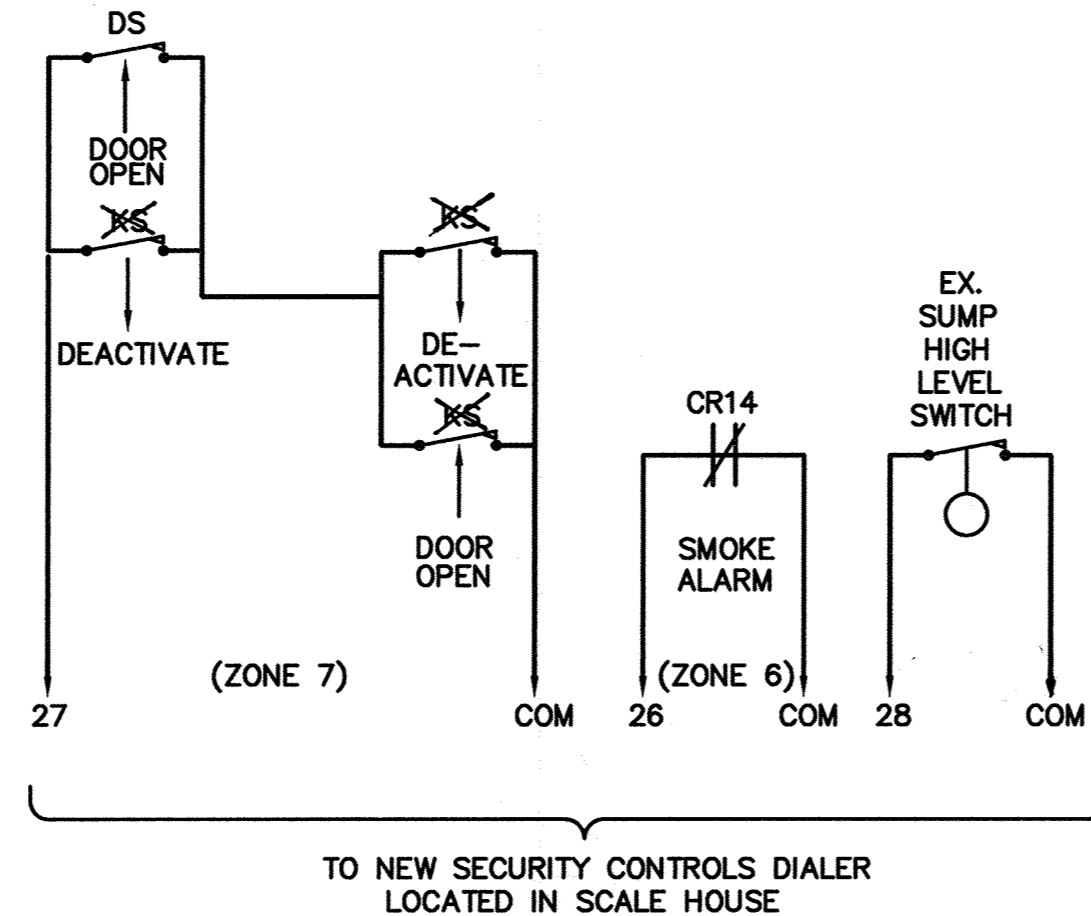
ALARM DIALER CONNECTIONS IN LEACHATE TRUCK  
FILL STATION



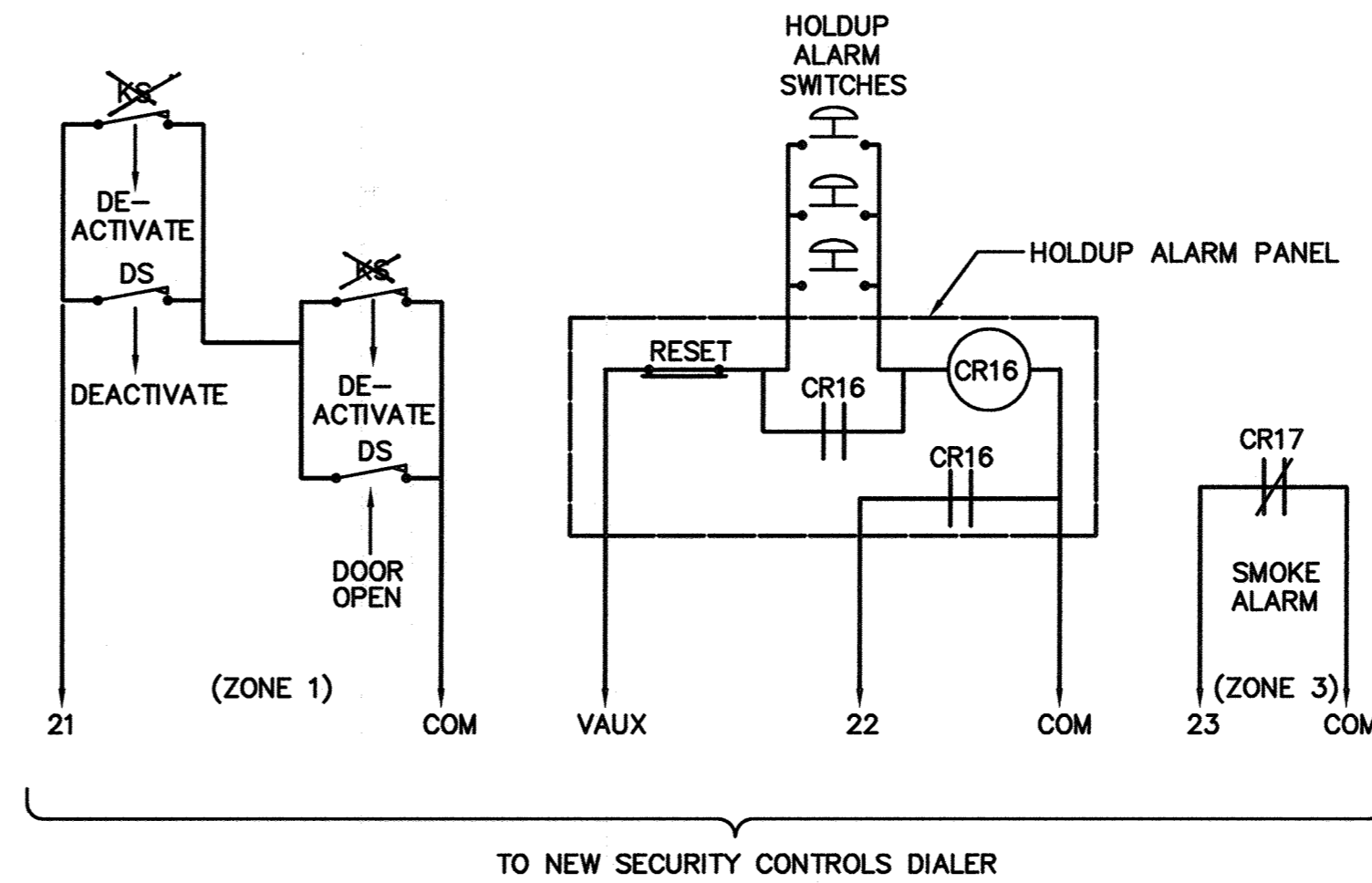
DETAIL OF INSTALLATION OF ELECTRICAL  
CONDUIT UNDERGROUND



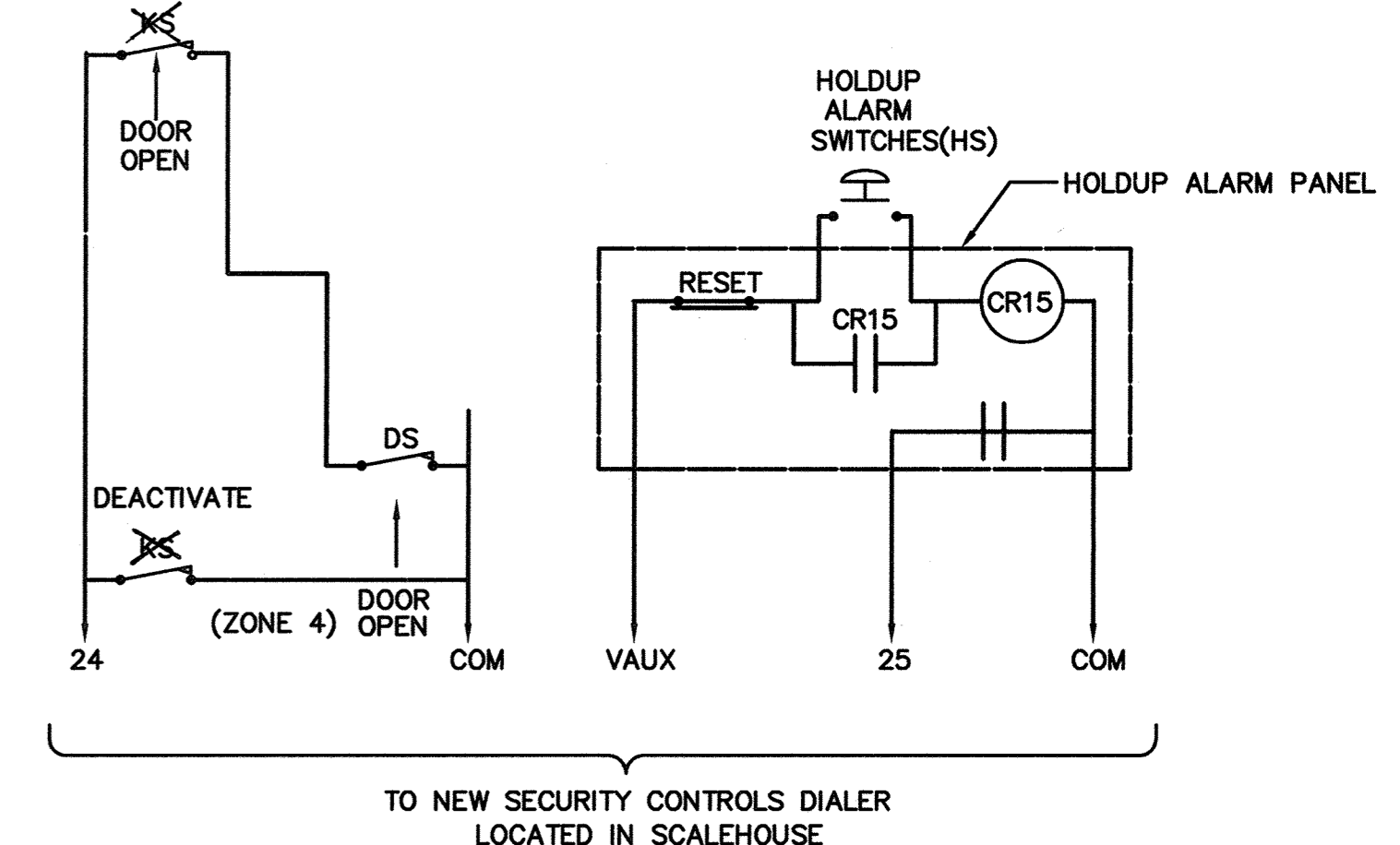
METHANE SENSOR MOUNTING DETAIL



ALARM CONNECTIONS IN HOUSEHOLD  
HAZARD WASTE AREA



ALARM CONNECTIONS IN SCALE HOUSE



ALARM CONNECTIONS IN GUARD HOUSE

X - DELETED

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/806 16-878/215 10-891/314		ZONE R	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30	

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*[Signature]* 11/3/97  
DIRECTOR DATE

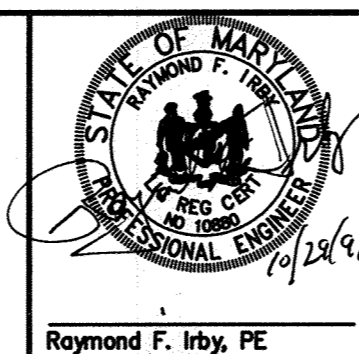
*[Signature]* 10/31/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 11/3/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 10/30/97 *[Signature]* 10/30/97  
DIRECTOR OF PUBLIC WORKS DATE CHIEF, BUREAU OF WASTE MANAGEMENT DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES.	RFI		
DRN.	MEH		
CHK.	PAM		
DATE:	10-30-97		
DIM BY	NO.	NO.	NO.
		UPDATED SHEET TITLE	4-2019
		REVISION	DATE

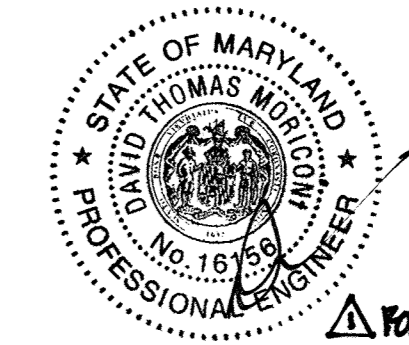
MISCELLANEOUS BUILDING  
ALARM SYSTEMS DETAILS

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

3rd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SCALE:  
NO SCALE  
SHEET 78 of 140

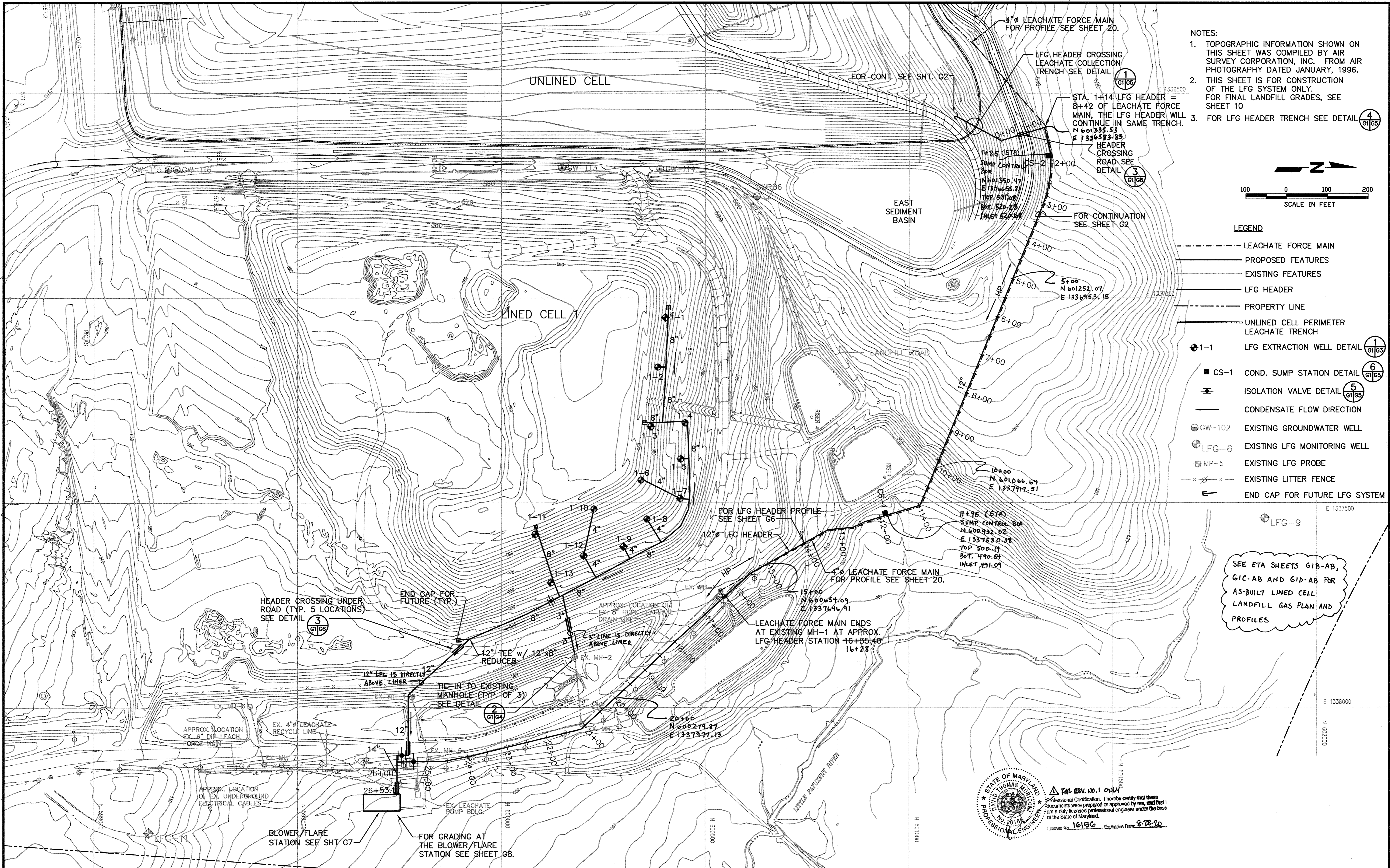


Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 16156, Expiration Date: 8-28-20

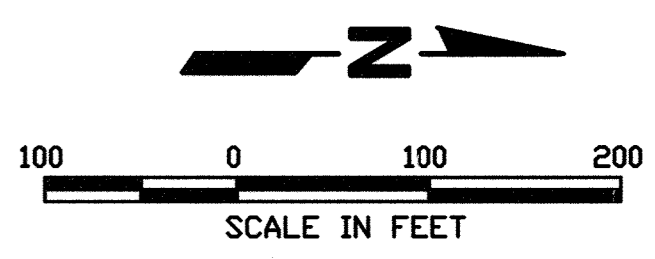
FOR REV. NO. 1 ONLY

ALARM-DETAIL M: 295077.01\FINAL

SDP-97-128

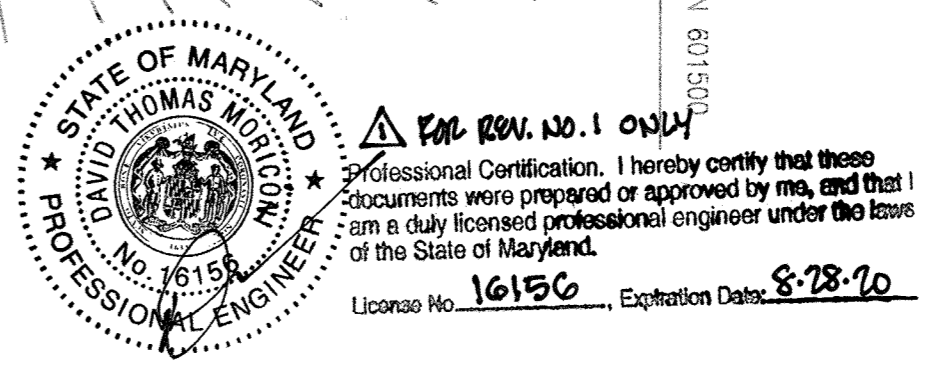


- NOTES:
- TOPOGRAPHIC INFORMATION SHOWN ON THIS SHEET WAS COMPILED BY AIR SURVEY CORPORATION, INC. FROM AIR PHOTOGRAPHY DATED JANUARY, 1996.
  - THIS SHEET IS FOR CONSTRUCTION OF THE LFG SYSTEM ONLY. FOR FINAL LANDFILL GRADES, SEE SHEET 10
  - FOR LFG HEADER TRENCH SEE DETAIL 4



- LEGEND
- LEACHATE FORCE MAIN
  - PROPOSED FEATURES
  - EXISTING FEATURES
  - LFG HEADER
  - PROPERTY LINE
  - UNLINED CELL PERIMETER LEACHATE TRENCH
  - 1-1 LFG EXTRACTION WELL DETAIL (1/63)
  - CS-1 COND. SUMP STATION DETAIL (6/65)
  - ISOLATION VALVE DETAIL (5/65)
  - CONDENSATE FLOW DIRECTION
  - GW-102 EXISTING GROUNDWATER WELL
  - LFG-6 EXISTING LFG MONITORING WELL
  - MP-5 EXISTING LFG PROBE
  - EXISTING LITTER FENCE
  - END CAP FOR FUTURE LFG SYSTEM

SEE ETA SHEETS G1B-AB, G1C-AB AND G1D-AB FOR AS-BUILT LINED CELL LANDFILL GAS PLAN AND PROFILES



M: \295077.02\FINAL\ 200SITE

SHT-G1

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676

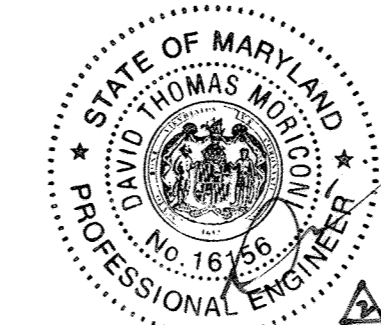
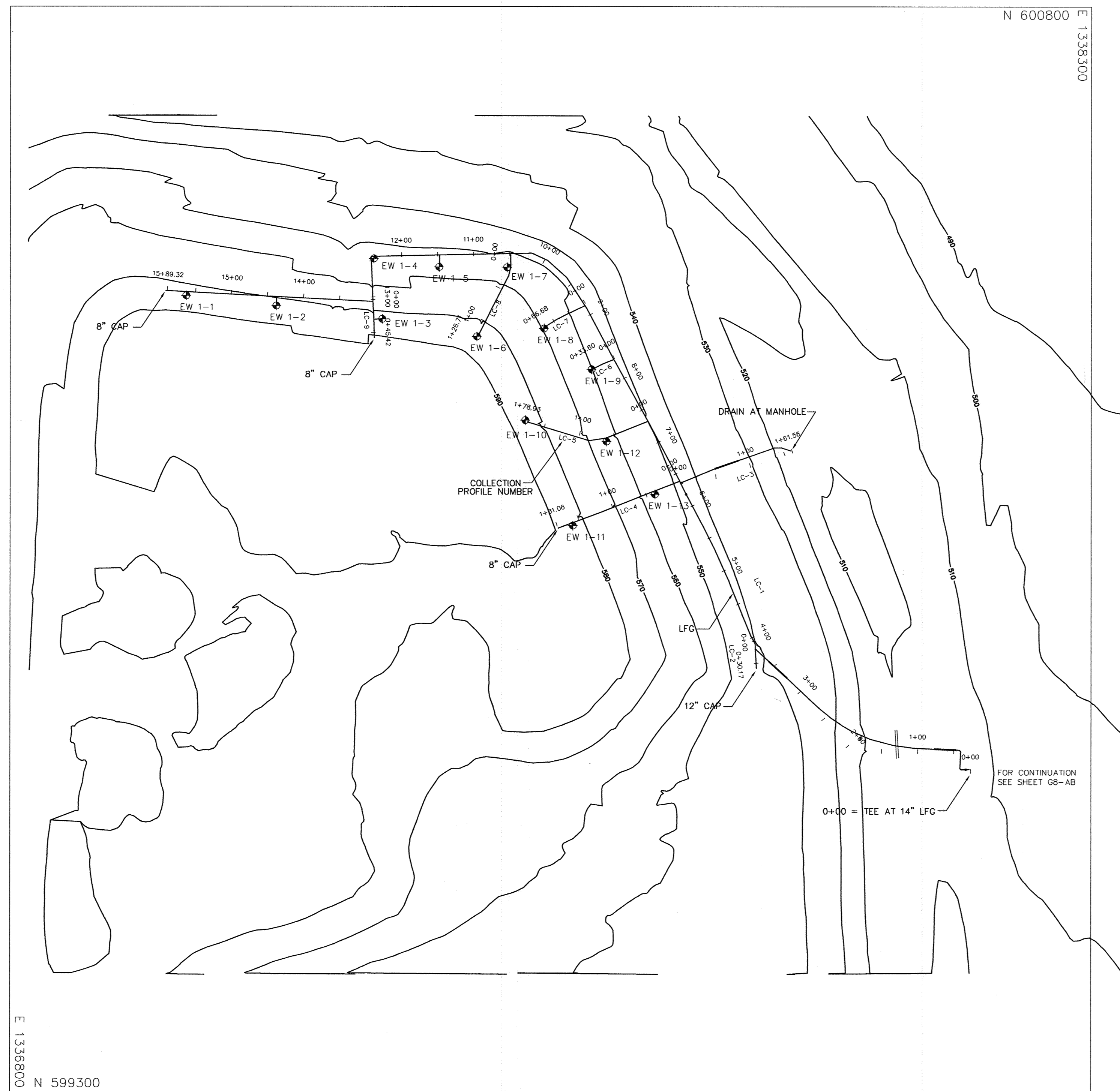


DES.	SCW				
DRN.	BJD				
CHK.	ERP				
DATE:	10-30-97	BY:	NO.	NO.	DATE
				UPDATED SHEET TYPAL	4-2014
				REVISION	

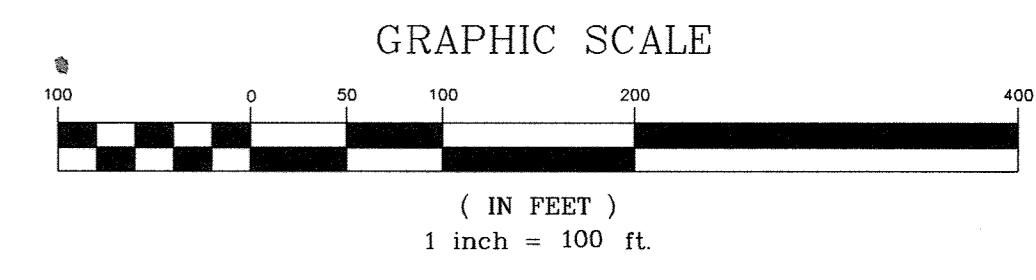
LINED CELL  
UNLINED CELL CLOSURE  
LFG SYSTEM LAYOUT

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE:  
1"=100'-0"  
(SHT 79)  
SHEET 1  
G1 OF 140



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 16156, Expiration Date: 8-28-20



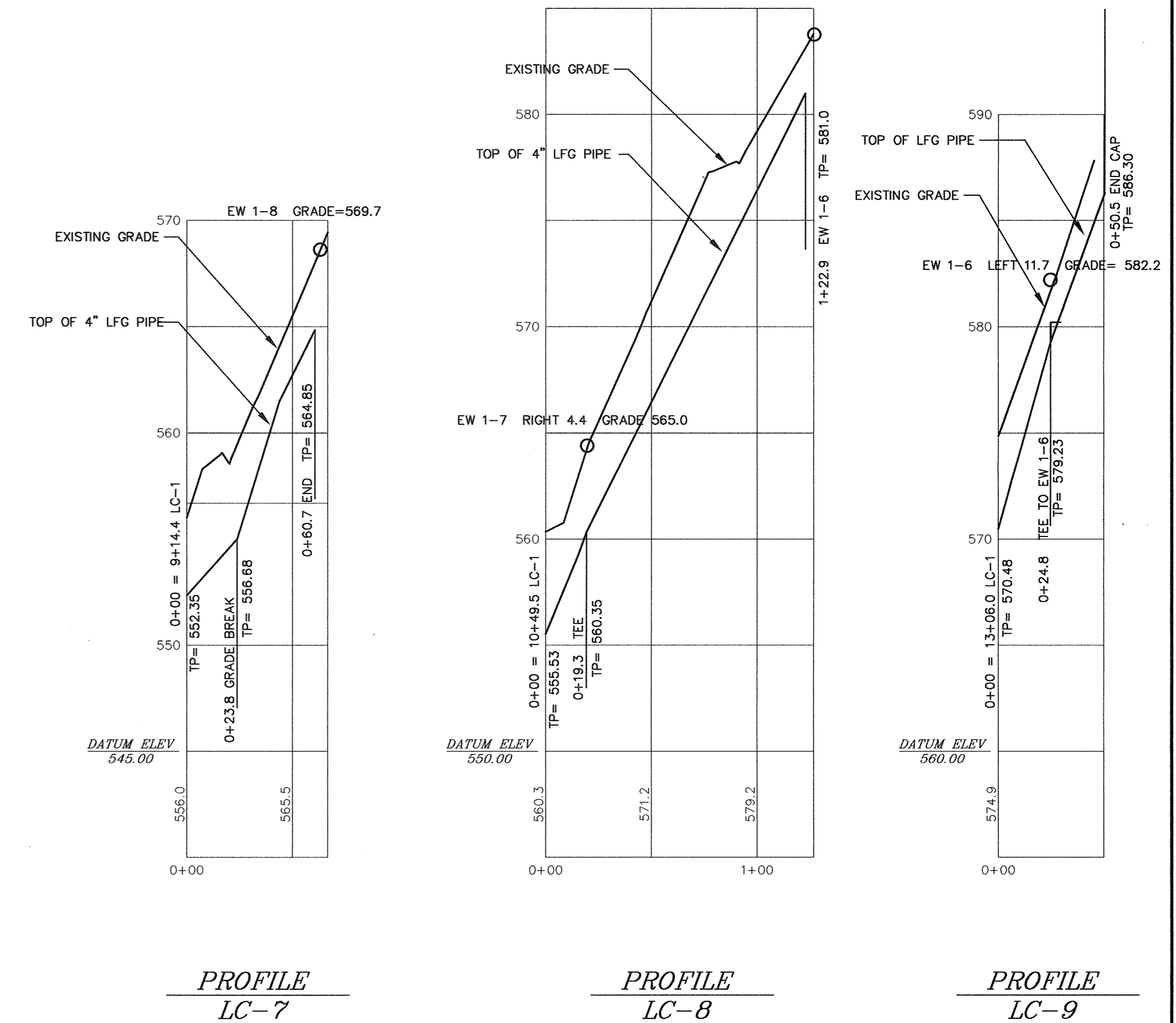
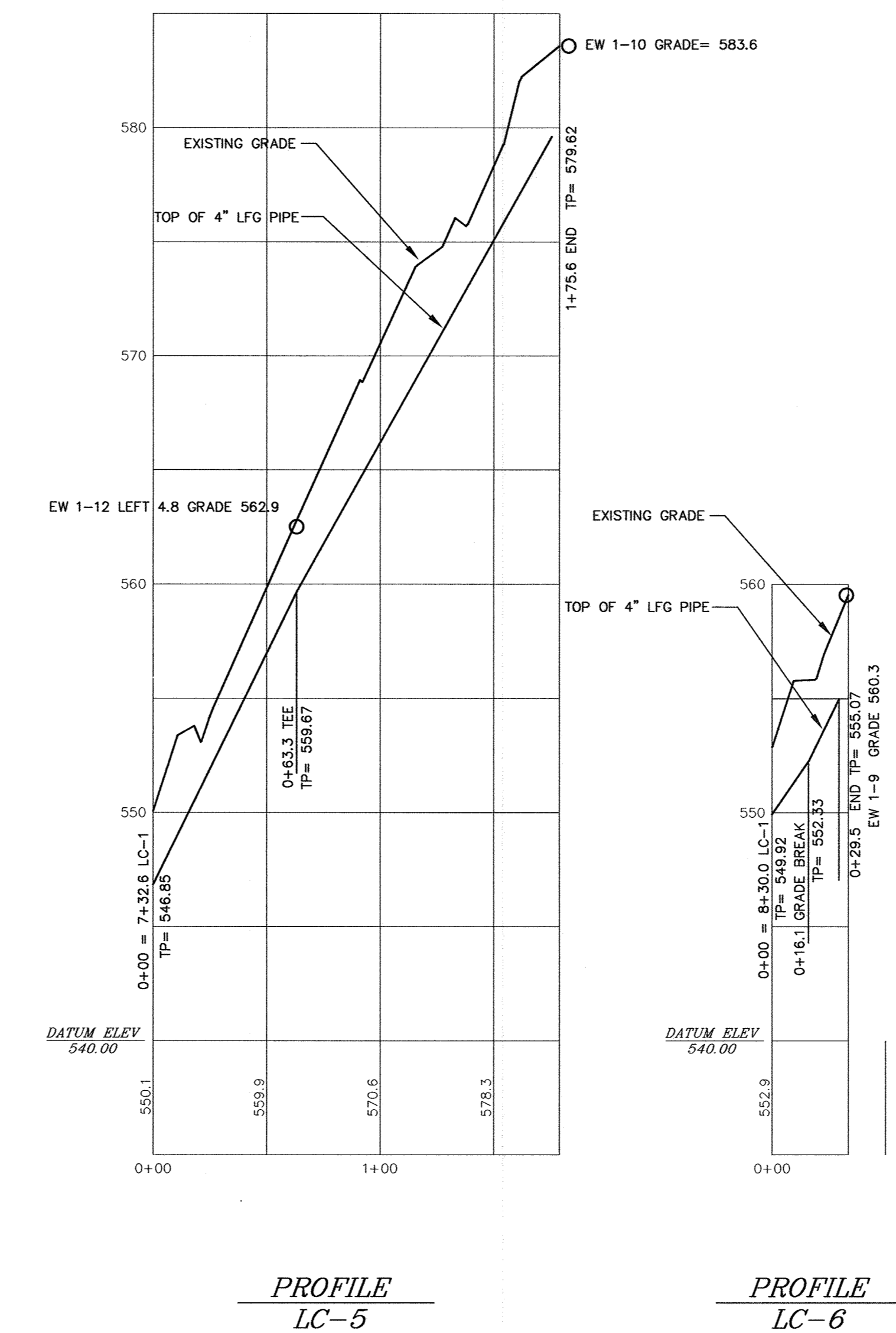
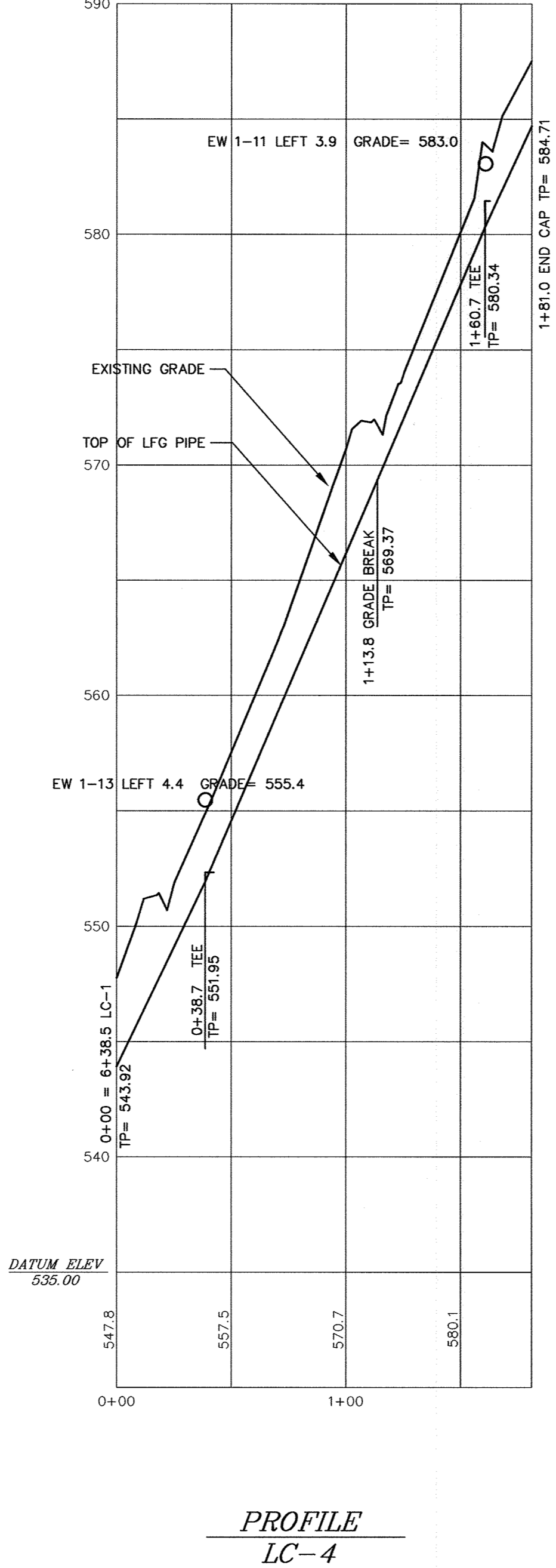
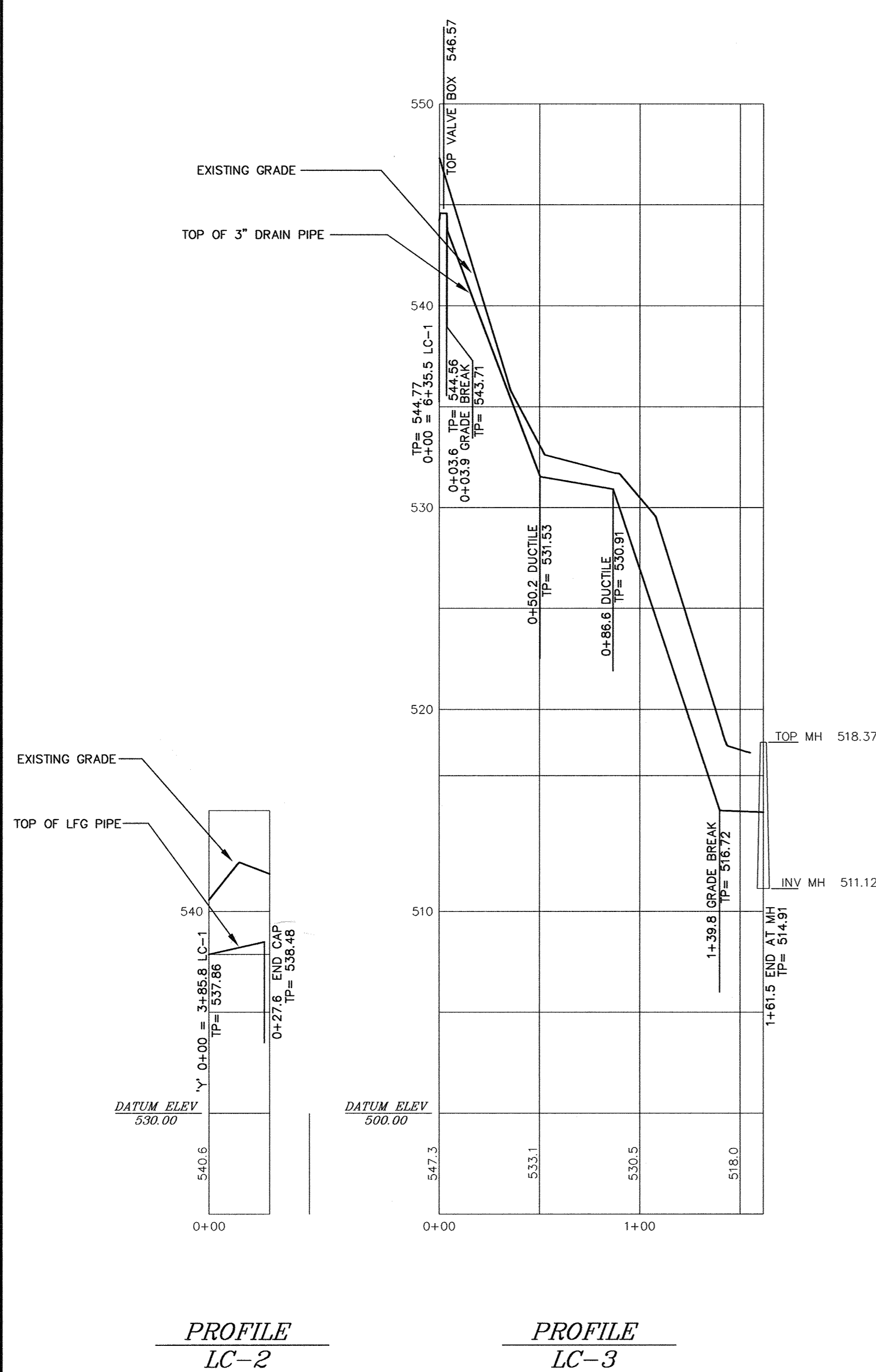
DESIGNED BY: \_\_\_\_\_ DATE \_\_\_\_\_  
 DRAWN BY: TWH 12-28 DATE 10-19-00  
 CHECKED BY: \_\_\_\_\_ DATE \_\_\_\_\_  
 APPROVED BY: \_\_\_\_\_ DATE \_\_\_\_\_

REVISIONS			
DATE	BY	DESCRIPTION	
10-19-00	TWH	ADDED WELLS AND LABELS.	
6-20-19	DTM	UPDATED SHEET TITLE	

**ENGINEERING TECHNOLOGIES ASSOCIATES, INC.**  
 ENGINEERS \* PLANNERS \* SURVEYORS  
 3458 ELLICOTT CENTER DRIVE SUITE 101  
 ELLICOTT CITY, MARYLAND 21043  
 BALTO. (410)461-9920 FAX (410)750-8565



LINED CELL LANDFILL GAS AS-BUILT  
**ALPHA RIDGE LANDFILL CELL CLOSURE**  
 HOWARD COUNTY MARYLAND  
 SCALE : 1"=100' CONTRACT NO.: 98301.10 DATE : 12-28-1998 SHEET 101B-AB OF 140



STATE OF MARYLAND  
 DAVID HOWARD  
 PROFESSIONAL ENGINEER  
 No. 18163  
 Exp. 08/28/04  
 Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 16156, Expiration Date: 8-28-20

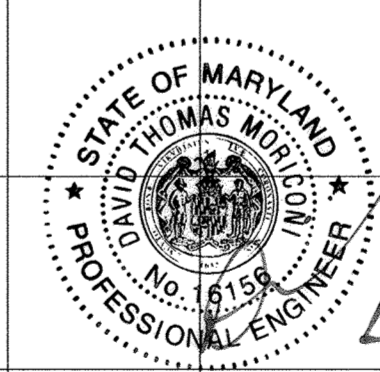
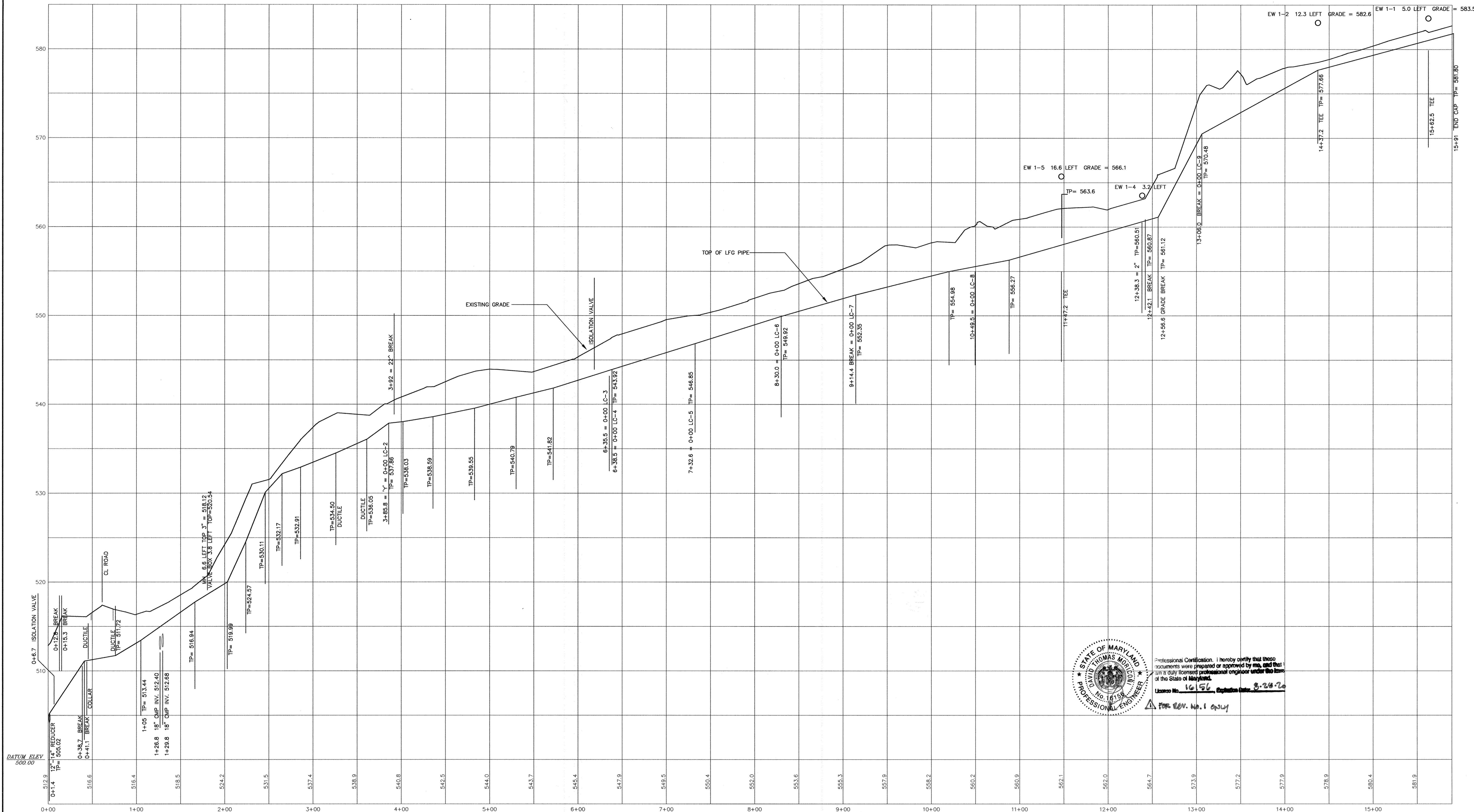
HORIZONTAL: 1"=50'  
 VERTICAL: 1"=5'

DESIGNED BY:	DATE	REVISIONS	
DRAWN BY: TWH	12-28	DATE	DESCRIPTION
CHECKED BY:	DATE	4-2019	DTM <b>UPDATED SHEET TOTAL</b>
APPROVED BY:	DATE		

**ENGINEERING TECHNOLOGIES ASSOCIATES, INC.**  
 ENGINEERS \* PLANNERS \* SURVEYORS  
 3458 ELLICOTT CENTER DRIVE SUITE 101  
 ELLICOTT CITY, MARYLAND 21043  
 BALTO. (410)461-9920 FAX (410)750-8565



LINED CELL / LFG AS-BUILT PROFILES  
**ALPHA RIDGE LANDFILL CELL CLOSURE**  
 HOWARD COUNTY MARYLAND  
 SCALE : AS NOTED CONTRACT NO.: 98301.10 DATE : 12-28-1998  
 SHEET 81 OF 140 GIC-AB  
 SDP 97-128



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 16156, Expiration Date 8-24-20  
 FOR REV. No. 1 ONLY

PROFILE  
LC-1

HORIZONTAL: 1"=50'  
VERTICAL: 1"=5'

DESIGNED BY:	DATE	DATE	BY	DESCRIPTION
DRAWN BY: TWH	12-28	4-2019	DTM	UPDATED SHEET TOTAL
CHECKED BY:	DATE			
APPROVED BY:	DATE			

**ENGINEERING TECHNOLOGIES ASSOCIATES, INC.**  
 ENGINEERS \* PLANNERS \* SURVEYORS  
 3458 ELLICOTT CENTER DRIVE SUITE 101  
 ELLICOTT CITY, MARYLAND 21043  
 BALTO. (410)461-9920 FAX (410)750-8565



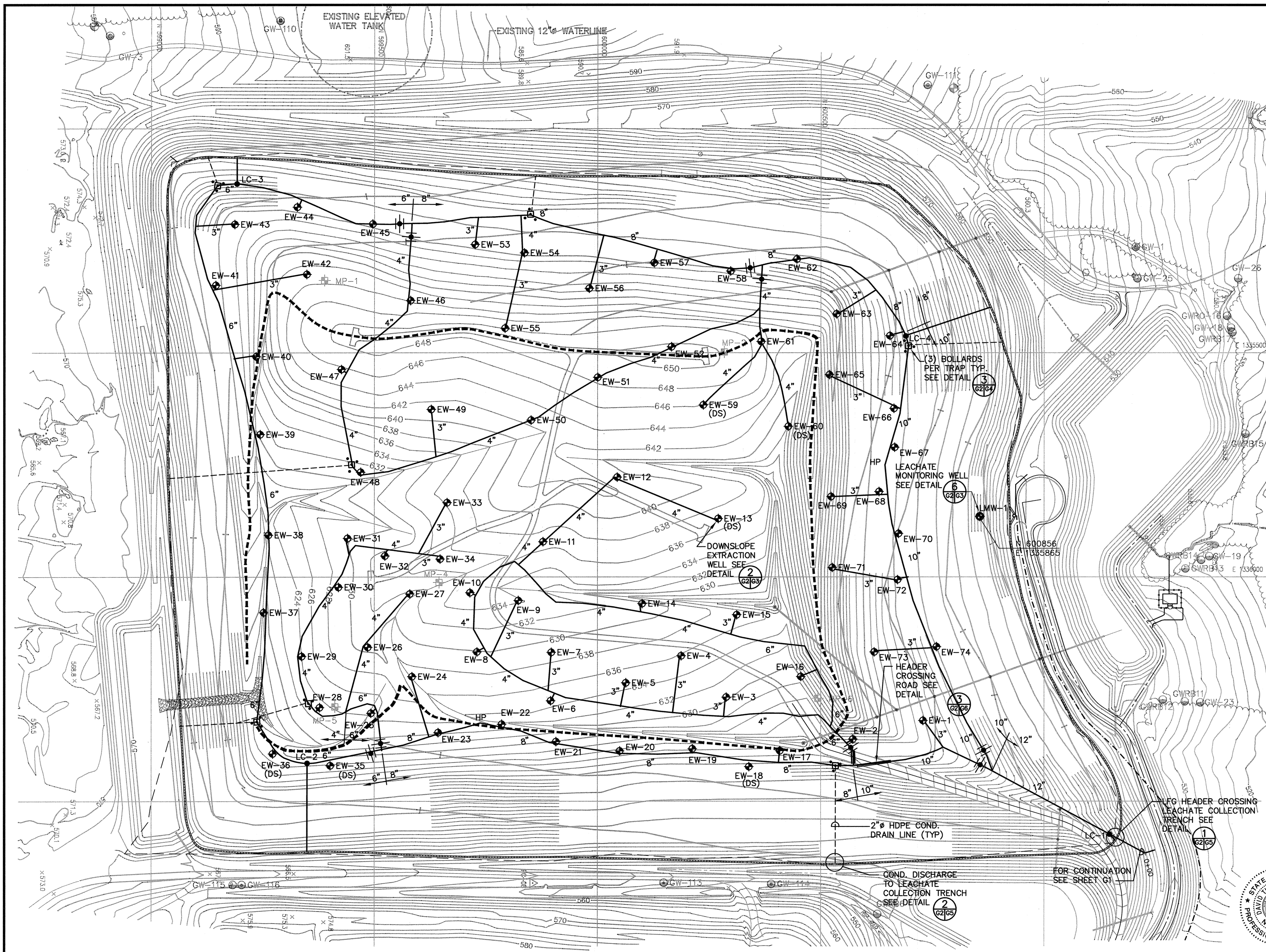
LINED CELL / LFG AS-BUILT PROFILES

**ALPHA RIDGE LANDFILL CELL CLOSURE**

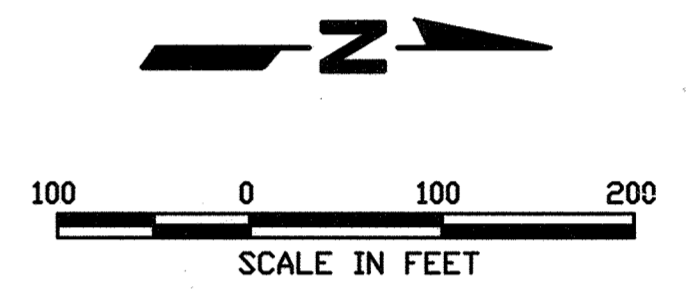
HOWARD COUNTY

SCALE: AS NOTED CONTRACT NO.: 98301.10 DATE: 12-28-1998

SHEET 82 OF 140 G1D-AB



- NOTES:
1. TOPOGRAPHIC INFORMATION SHOWN ON THIS SHEET WAS COMPILED BY AIR SURVEY CORPORATION, INC. FROM AIR PHOTOGRAPHY DATED JANUARY, 1996.
  2. THIS SHEET IS FOR CONSTRUCTION OF THE LFG SYSTEM ONLY. FOR FINAL LANDFILL GRADES, SEE SHEET 10.
  3. FOR LFG HEADER TRENCH SEE DETAIL (4) (62165)
  4. EXISTING LFG MONITORING PROBES TO BE ABANDONED BY CUTTING OFF TOP OF PROBE TO A MIN. OF 3' BELOW FINAL CAP SYSTEM.



- LEGEND
- LIMITS OF GEOMEMBRANE
  - LEACHATE TRENCH GAS COLLECTOR SEE DETAIL (3) (62165)
  - EW-62 LFG EXTRACTION WELL SEE DETAIL (1) (62163)
  - EW-19 LFG EXTRACTION WELL (DS = DOWNSLOPE) SEE DETAIL (2) (62163)
  - ⊕ CONDENSATE TRAP WITH BOLLARDS, SEE (1) (62164) (3) (62164)
  - ⊕ ISOLATION VALVE DETAIL (5) (62165)
  - LFG HEADER/LATERAL
  - CONDENSATE GRAVITY DRAIN LINE
  - GW-102 EXISTING GROUNDWATER WELL
  - ⊕ MP-3 EXISTING LFG PROBE (SEE NOTE 4)
  - LFG-6 EXISTING LFG MONITORING WELL
  - PROPERTY LINE
  - LEACHATE COLLECTION TRENCH
  - LMW-1 LEACHATE MONITORING WELL (6) (62163)
  - STORM DRAIN

SEE ETA SHEETS G2-AB AND G2A-AB FOR AS-BUILT UNLINED CELL LANDFILL GAS PLAN AND LATERALS

STATE OF MARYLAND  
 PROFESSIONAL ENGINEER  
 DAVID THOMAS MURPHY  
 License No. 16156  
 Exp. Date 8-28-20  
 Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

M:\295077.02\FINAL\ FG-LFG

SHT-G2

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

SCS ENGINEERS  
 CONSULTING ENGINEERS  
 11260 ROGER BACON DRIVE  
 SUITE 300  
 RESTON, VIRGINIA 22090  
 PH. (703) 471-6150  
 FAX. (703) 471-6676



DES.	CMS	DTM	REVISION	DATE
			UPDATED SHEET TOTAL	4-2019
			REALIGNMENT OF LFG HEADER, MODIFICATIONS TO HEADER SIZE, AND CHANGE TO DOWN-SLOPE (FROM NORMAL) EXTRACTION WELLS	4/22/99
			REALIGNMENT OF LFG HEADER AND MODIFICATIONS TO HEADER SIZE	4/22/99
			REALIGNMENT OF LFG HEADER	4/22/99
			ADD HC-1,2,3, AND EW-31A, B; DEL. EW-26,27,31,38	7/18/98
			BY NO. REVISION	DATE

UNLINED CELL LFG  
 COLLECTION SYSTEM LAYOUT

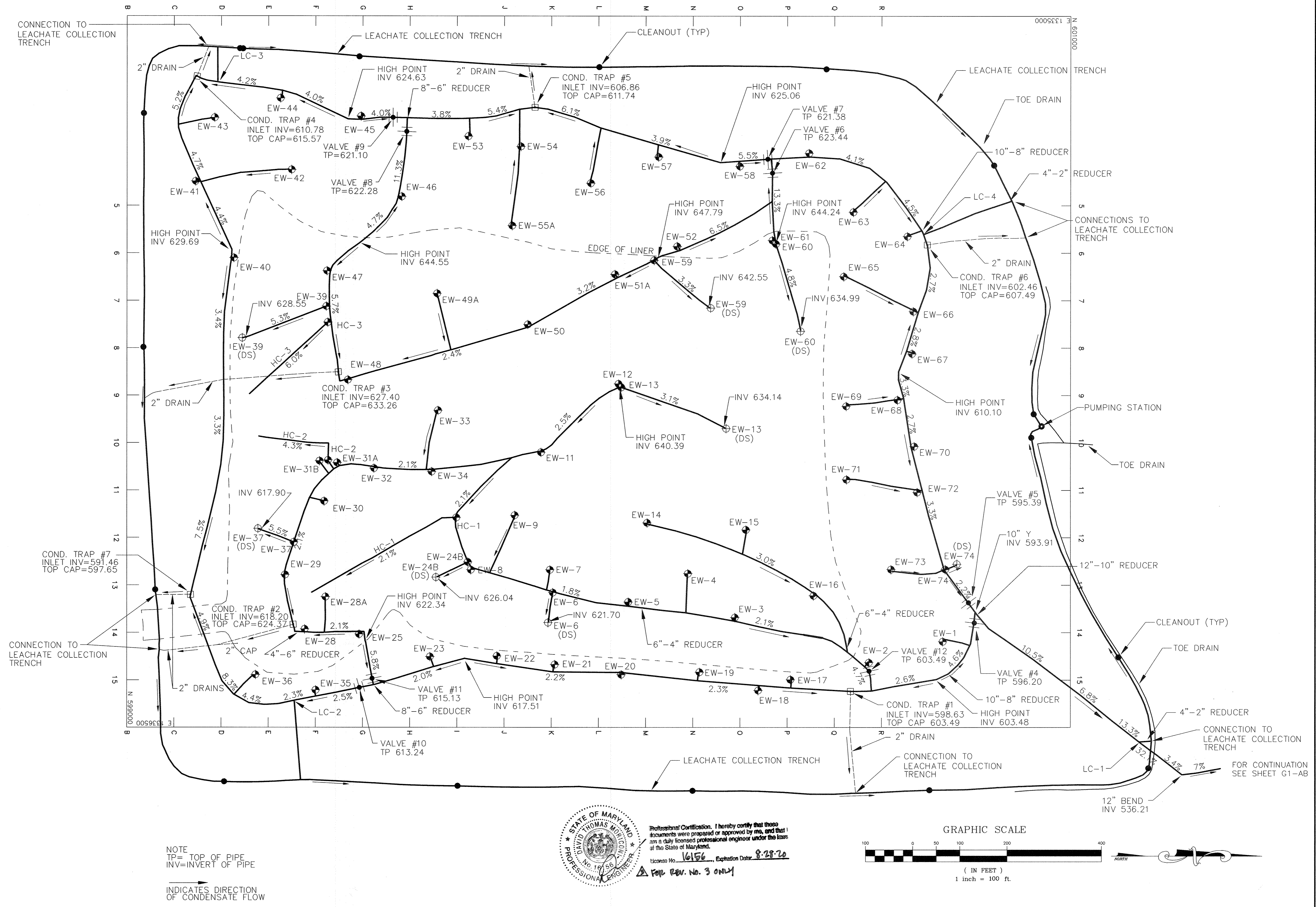
3rd ELECTION DISTRICT

ALPHA RIDGE LANDFILL  
 UNLINED CELL CLOSURE  
 CAPITAL PROJECT NO. C-0190-N

HOWARD COUNTY, MARYLAND

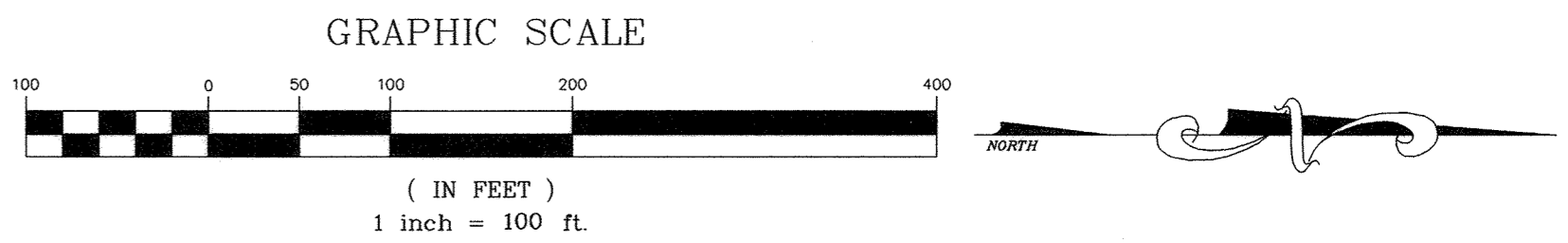
SCALE:  
 1"=100'  
 SHEET 83  
 G2 OF 140

SDP 97-128



NOTE  
 TP= TOP OF PIPE  
 INV=INVERT OF PIPE  
 INDICATES DIRECTION  
 OF CONDENSATE FLOW

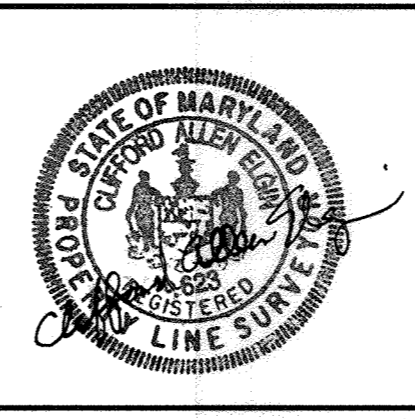
STATE OF MARYLAND  
 PROFESSIONAL ENGINEER  
 DAVID THOMAS WILKINS  
 LICENSE NO. 16156  
 EXPIRATION DATE: 8-28-20  
 PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 FOR REV. NO. 3 ONLY



LF0909.dwg 1-12-01 12:23:17 pm EST

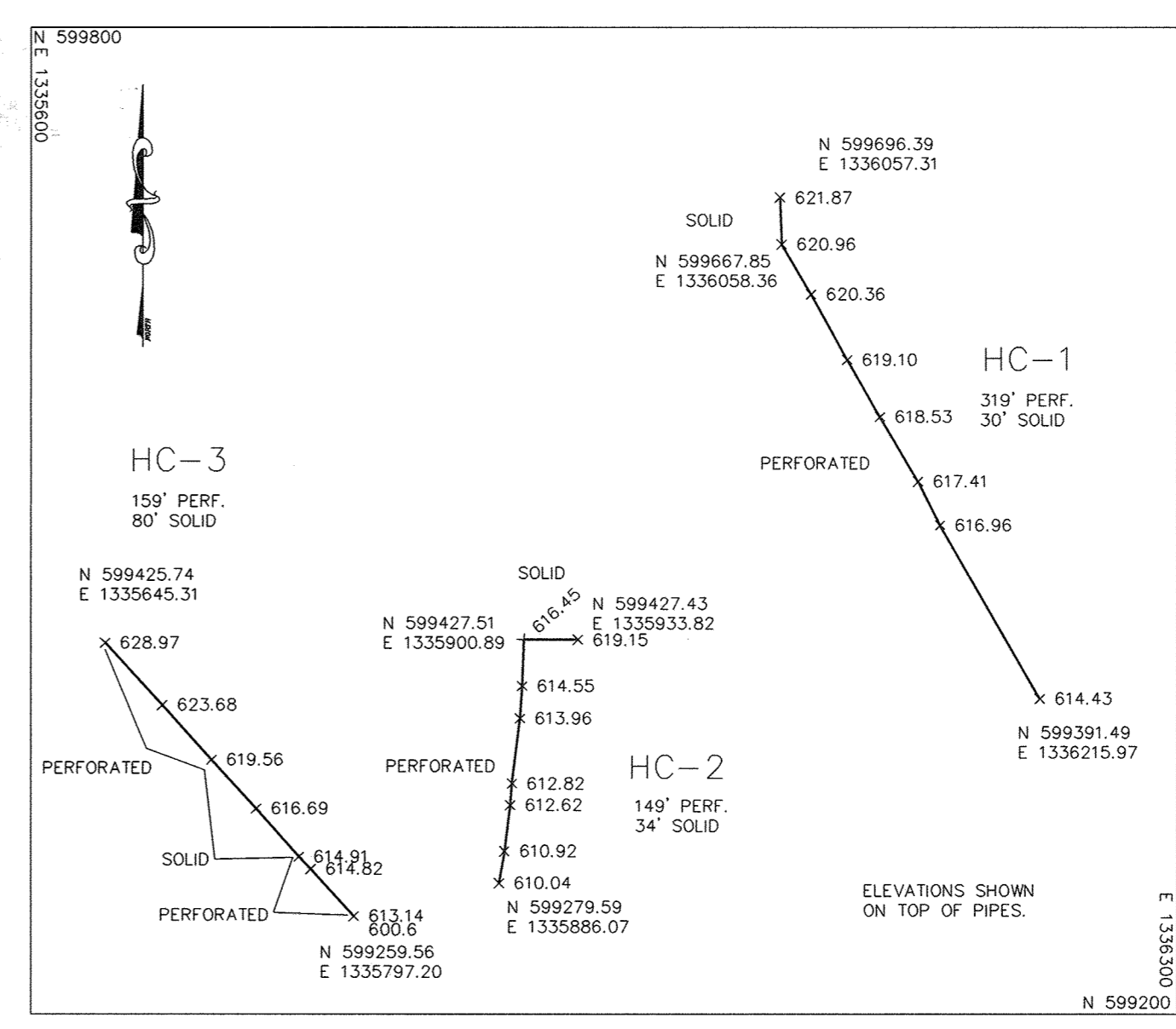
DESIGNED BY:		DATE		REVISIONS	
DATE	BY	DATE	BY	DESCRIPTION	
12-21-00	TWH			NOTE FOR CLARIFICATION OF ELEVATIONS.	
1-12-01	TWH			INDICATORS FOR DIRECTION OF CONDENSATE FLOW.	
4-10-19	DTM			UPDATE SHEET TOTAL	

**ENGINEERING TECHNOLOGIES ASSOCIATES, INC.**  
 ENGINEERS \* PLANNERS \* SURVEYORS  
 3458 ELLICOTT CENTER DRIVE SUITE 101  
 ELLICOTT CITY, MARYLAND 21043  
 BALTO. (410)461-9920 FAX (410)750-8565



AS-BUILT LANDFILL GAS  
**ALPHA RIDGE LANDFILL CELL CLOSURE**  
 HOWARD COUNTY MARYLAND  
 SCALE: 1"=100' CONTRACT NO.: 98301.10 DATE: 1-11-2000  
 SHEET G2-AB OF 140  
 50P 97-12B





**FOR REV. NO. 2 ONLY**  
 Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 16155 Expiration Date: 8-28-20

DESIGNED BY:		DATE		REVISIONS	
_____	_____	_____	_____	DATE	DESCRIPTION
DRAWN BY:	TWH	9-25-98	10-19-00	BY	TWH
CHECKED BY:	_____	_____	4-20-19	DTM	ADDED NOTE FOR ELEVATIONS.
APPROVED BY:	_____	_____	_____	_____	ADDED NOTE FOR ELEVATIONS.
_____	_____	_____	_____	_____	ADDED NOTE FOR ELEVATIONS.
_____	_____	_____	_____	_____	ADDED NOTE FOR ELEVATIONS.

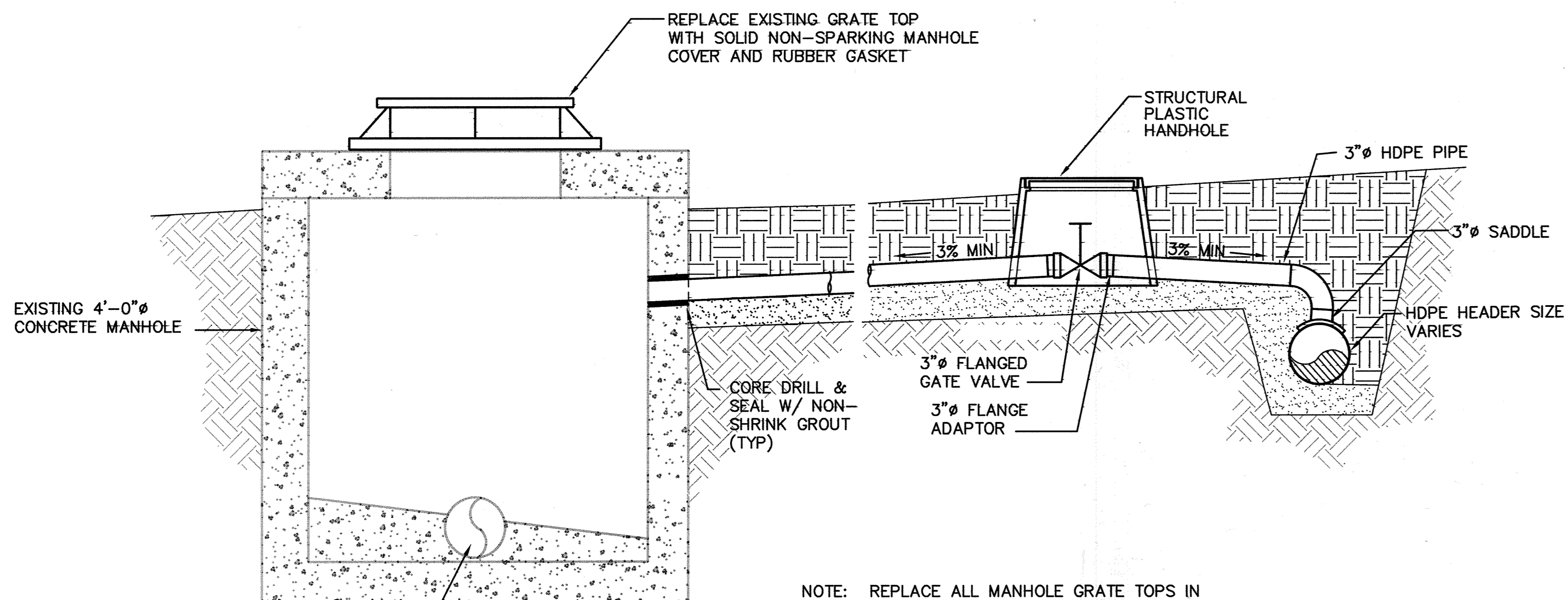
**ENGINEERING TECHNOLOGIES ASSOCIATES, INC.**  
 ENGINEERS \* PLANNERS \* SURVEYORS  
 3458 ELLICOTT CENTER DRIVE SUITE 101  
 ELLICOTT CITY, MARYLAND 21043  
 BALTO. (410)461-9920 FAX (410)750-8565



AS-BUILTS OF GAS LATERALS			
<b>ALPHA RIDGE LANDFILL CELL CLOSURE</b>			
HOWARD COUNTY	CONTRACT NO.: 98301.10	DATE : 9-25-1998	STATE OF MARYLAND
SCALE : 1"=100'			SHEET 86 OF 140



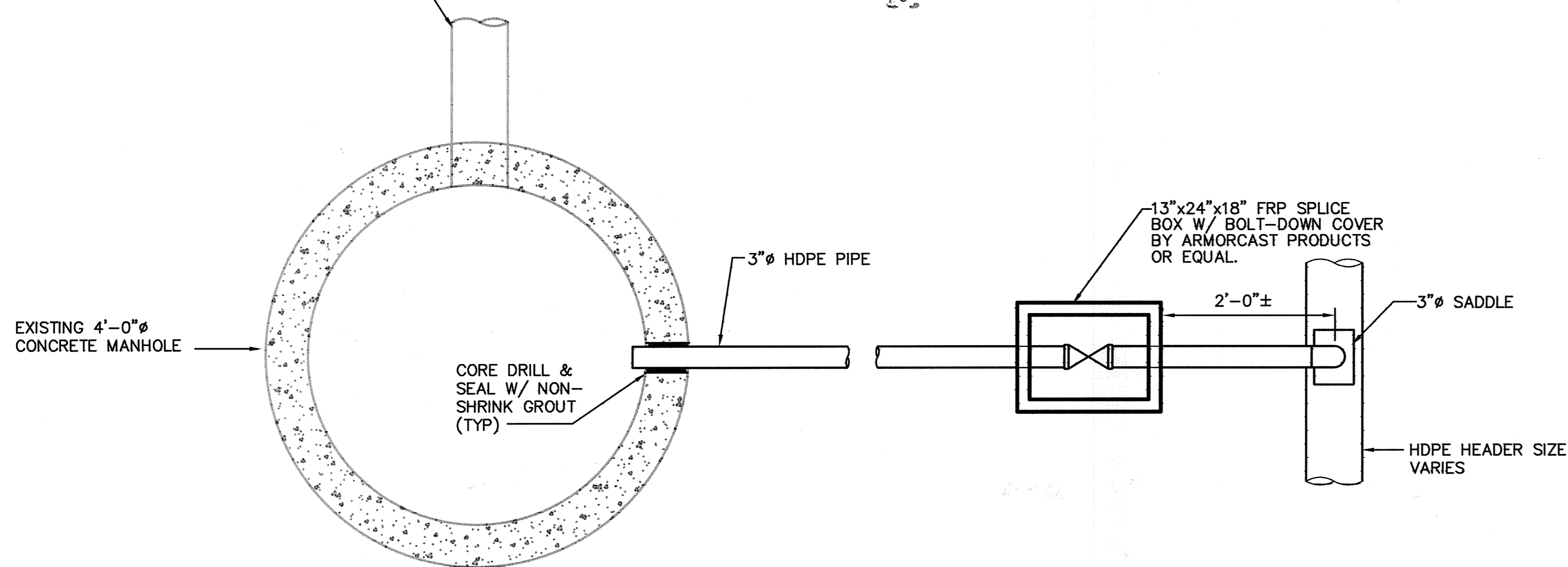
M:\295077\02\FINAL\CONTEN. CONDTRAP. SECT-A SHT-G4



NOTE: REPLACE ALL MANHOLE GRATE TOPS IN EXISTING LEACHATE COLLECTION SYSTEM WITH GASKETS AND SOLID MANHOLE COVERS.

EX. 8" HDPE TO LEACHATE COLLECTION SYSTEM

SECTION VIEW



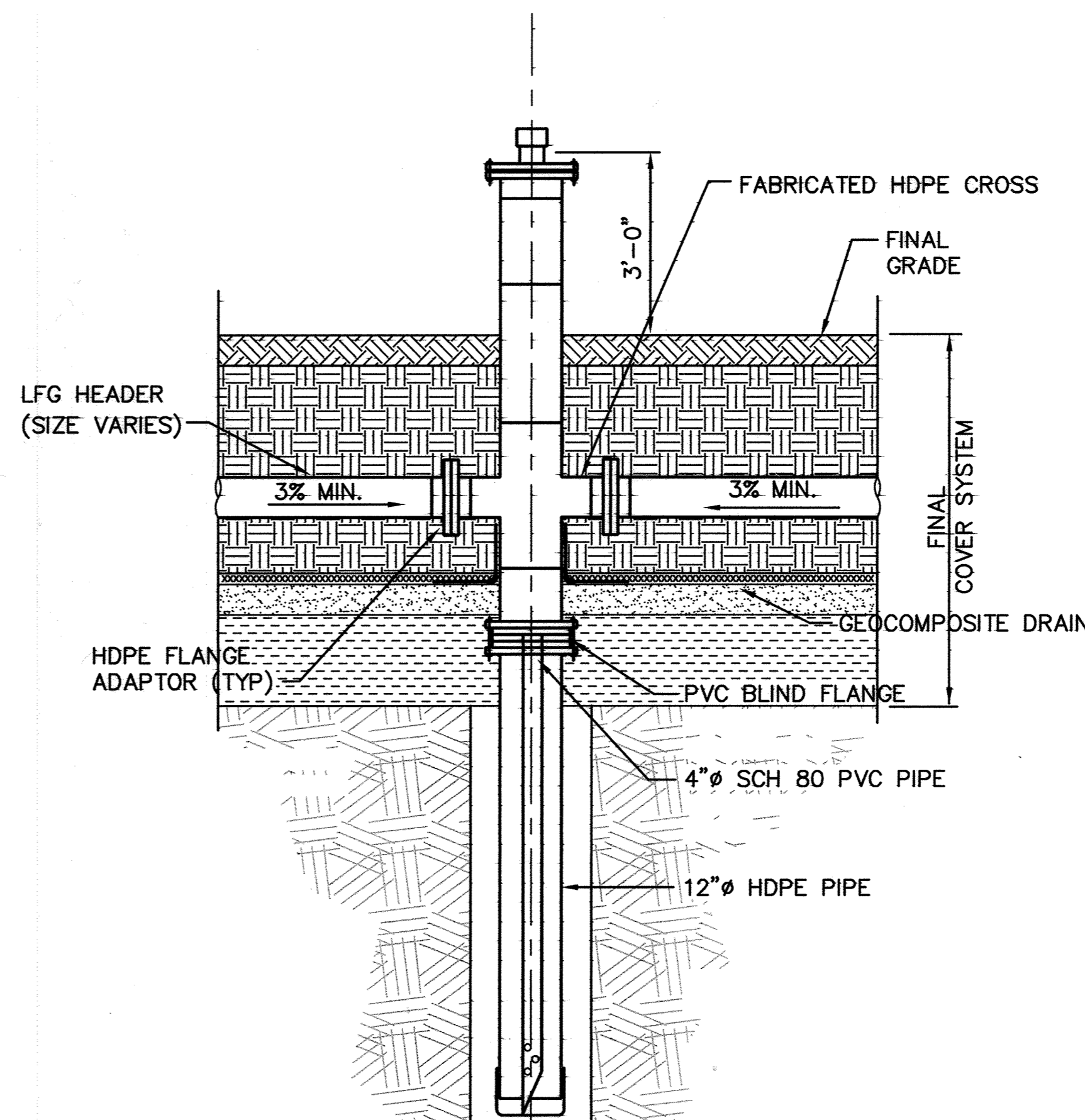
PLAN VIEW

TIE-IN TO EXISTING MH-1,2, & 4 DETAIL  
SCALE: 1"=1'-0"

2  
G1/G4

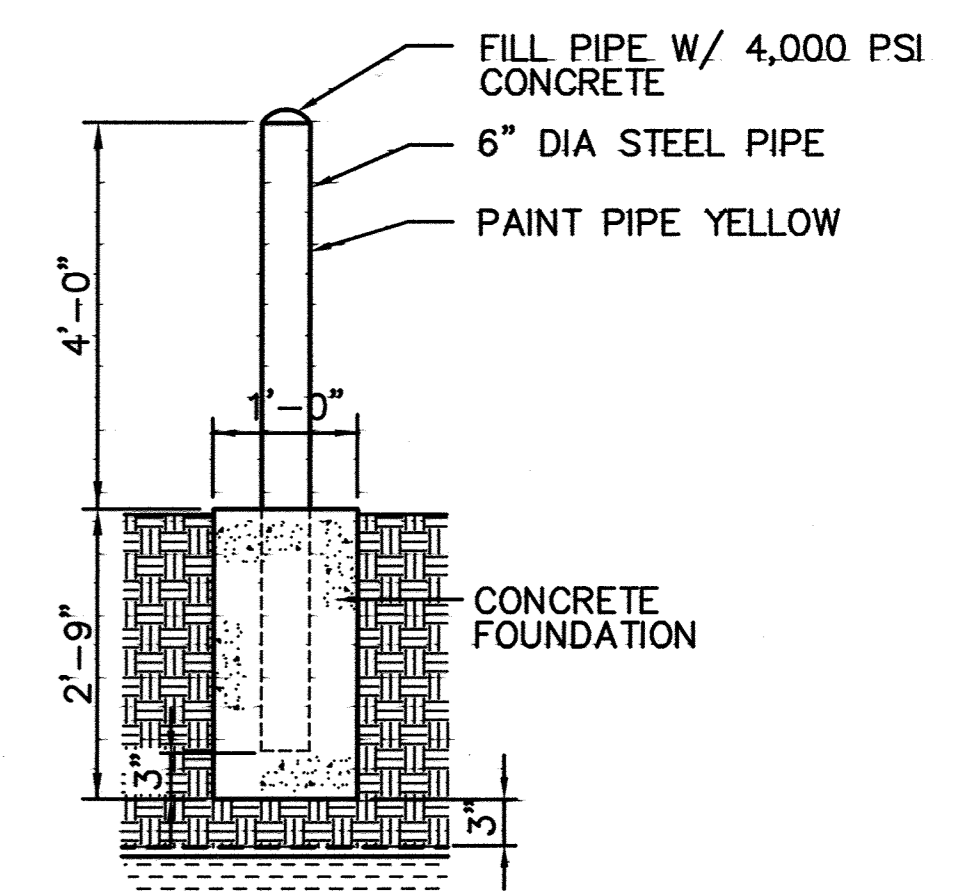


Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 16156, Expiration Date: 5-28-10



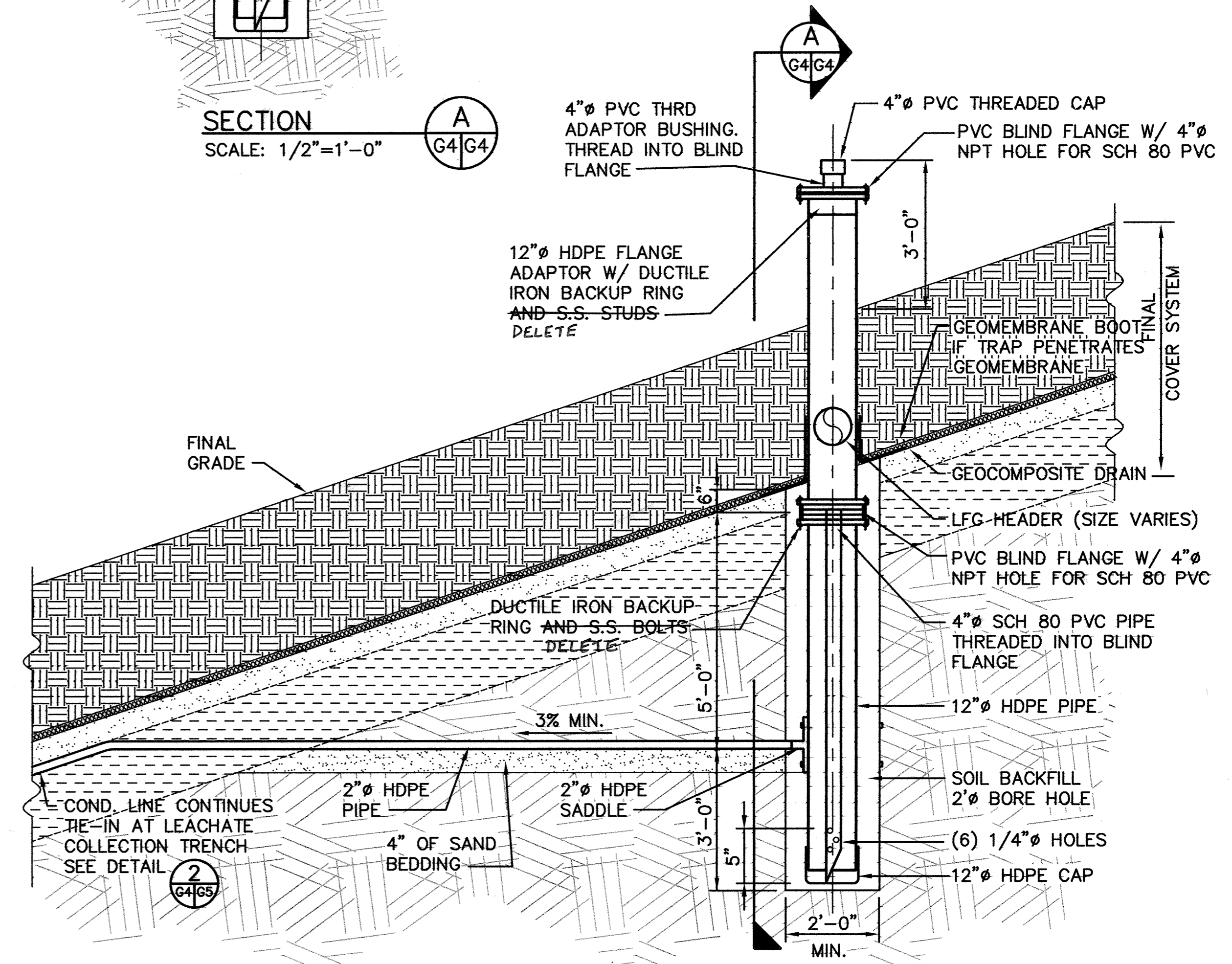
SECTION  
SCALE: 1/2"=1'-0"

A  
G4/G4



PROTECTION BOLLARD DETAIL  
SCALE: 1/2"=1'-0"

3  
G2/G4

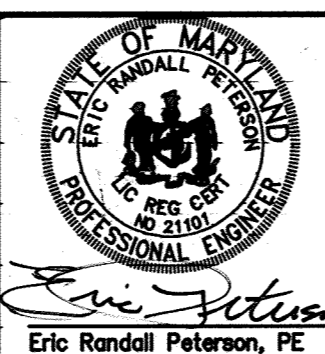


CONDENSATE TRAP DETAIL  
SCALE: 1/2"=1'-0"

1  
G2/G5

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



DES.	SCW				
DRN.	BJD				
CHK.	ERP				
DATE:	10-30-97	BY:	NO.	REVISION	DATE
				UPDATED SHEET DETAIL	4-21-99

LFG COLLECTION SYSTEM DETAILS

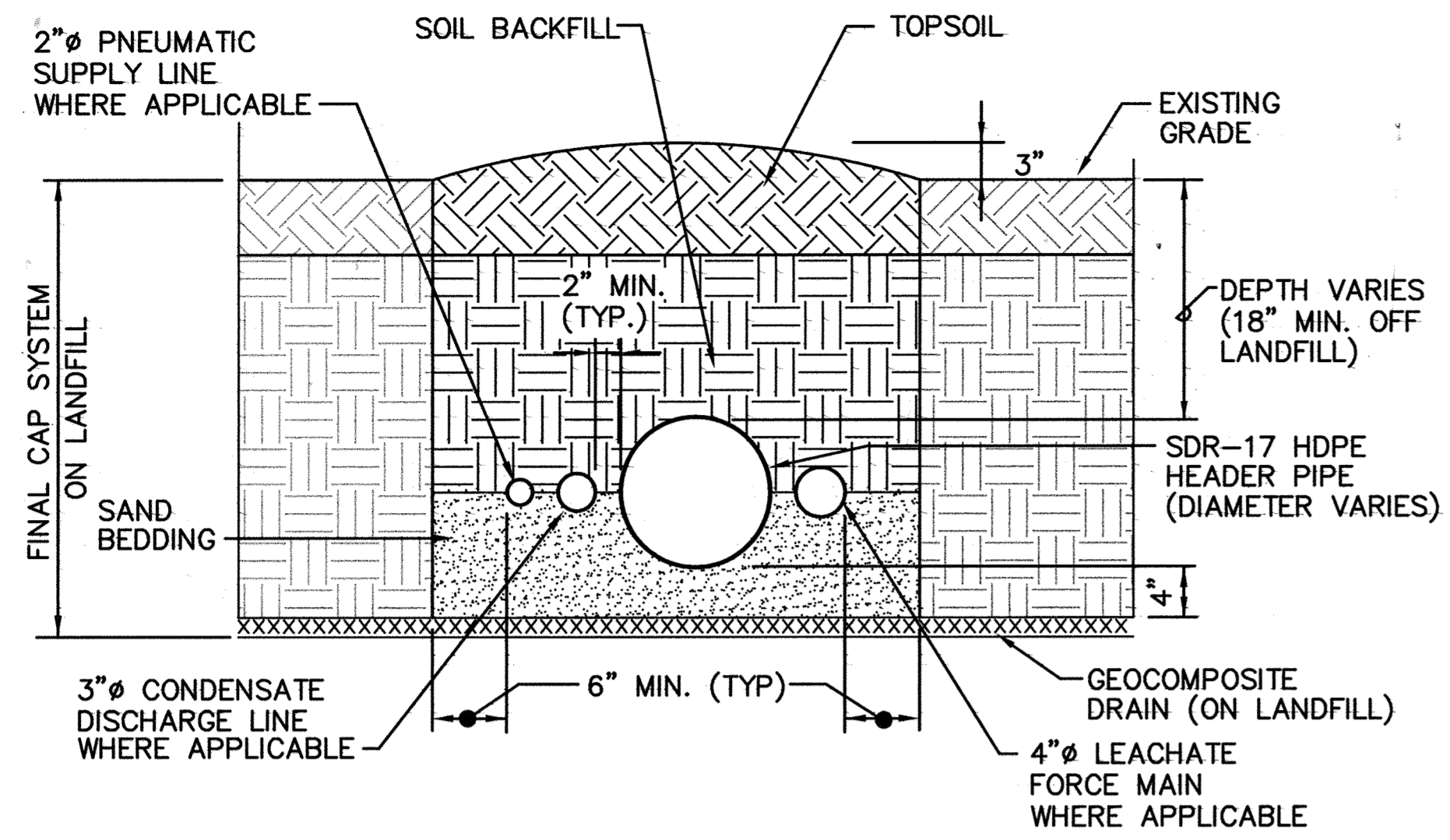
ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

SCALE:  
AS NOTED  
(SHEET 37)  
SHEET 4  
G4 OF 140

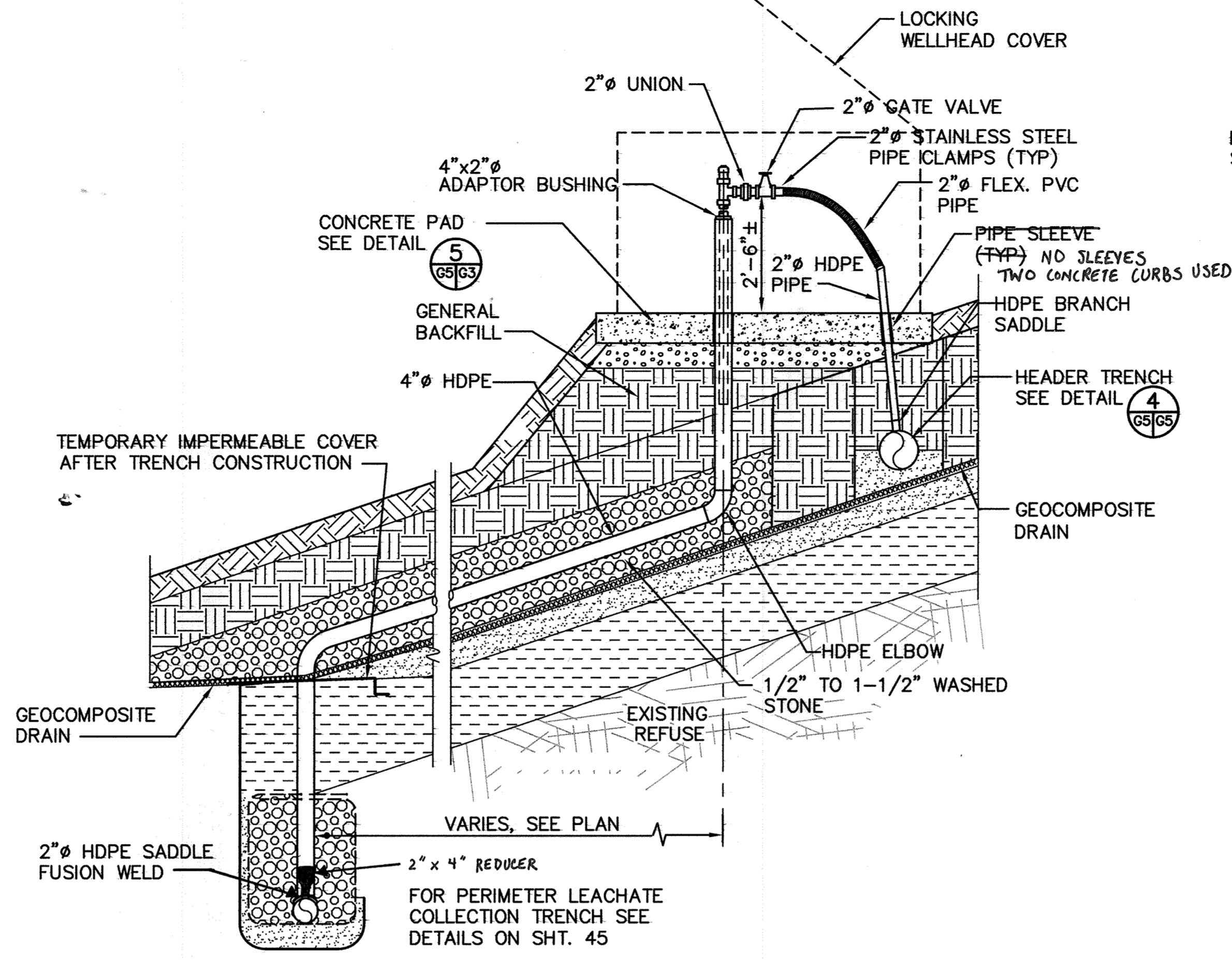
3rd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

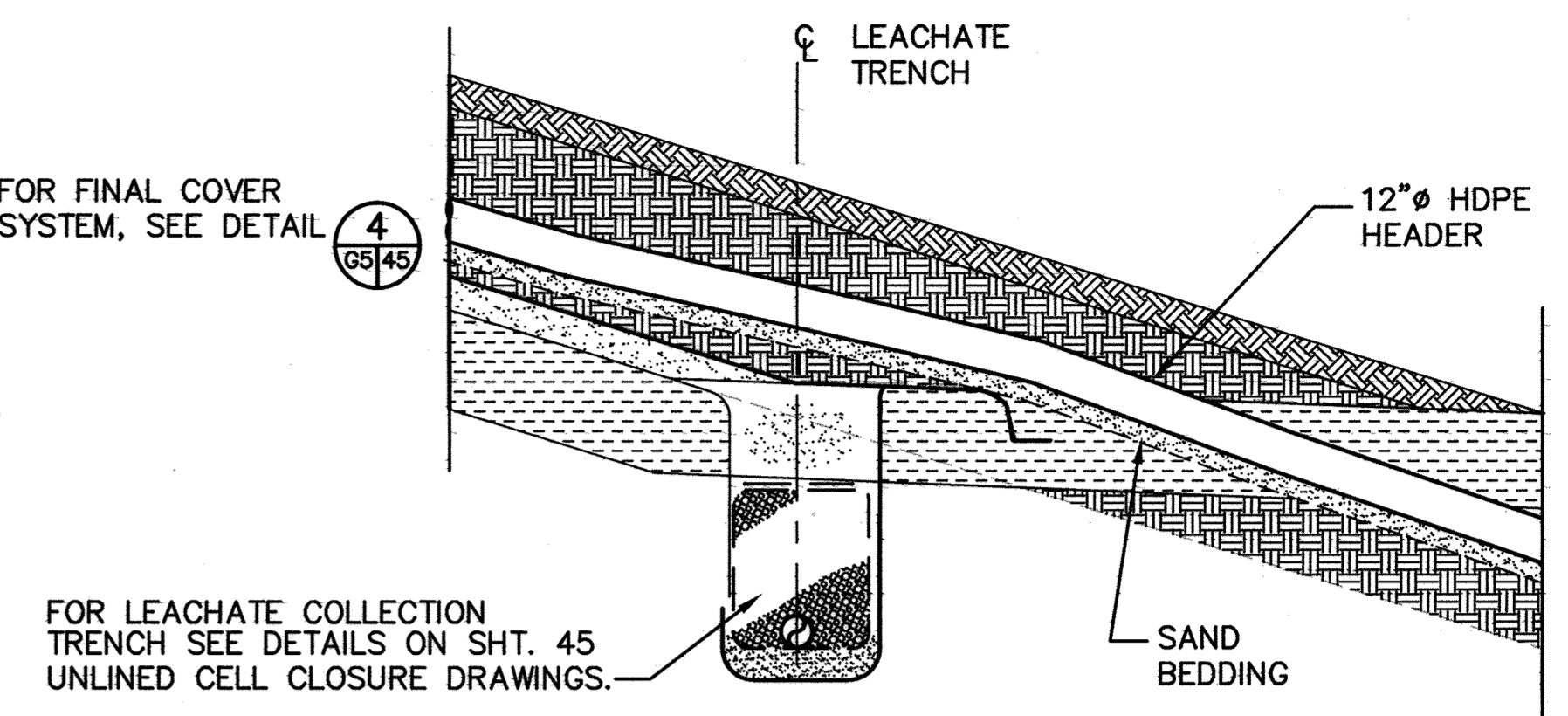
SDP 97-120



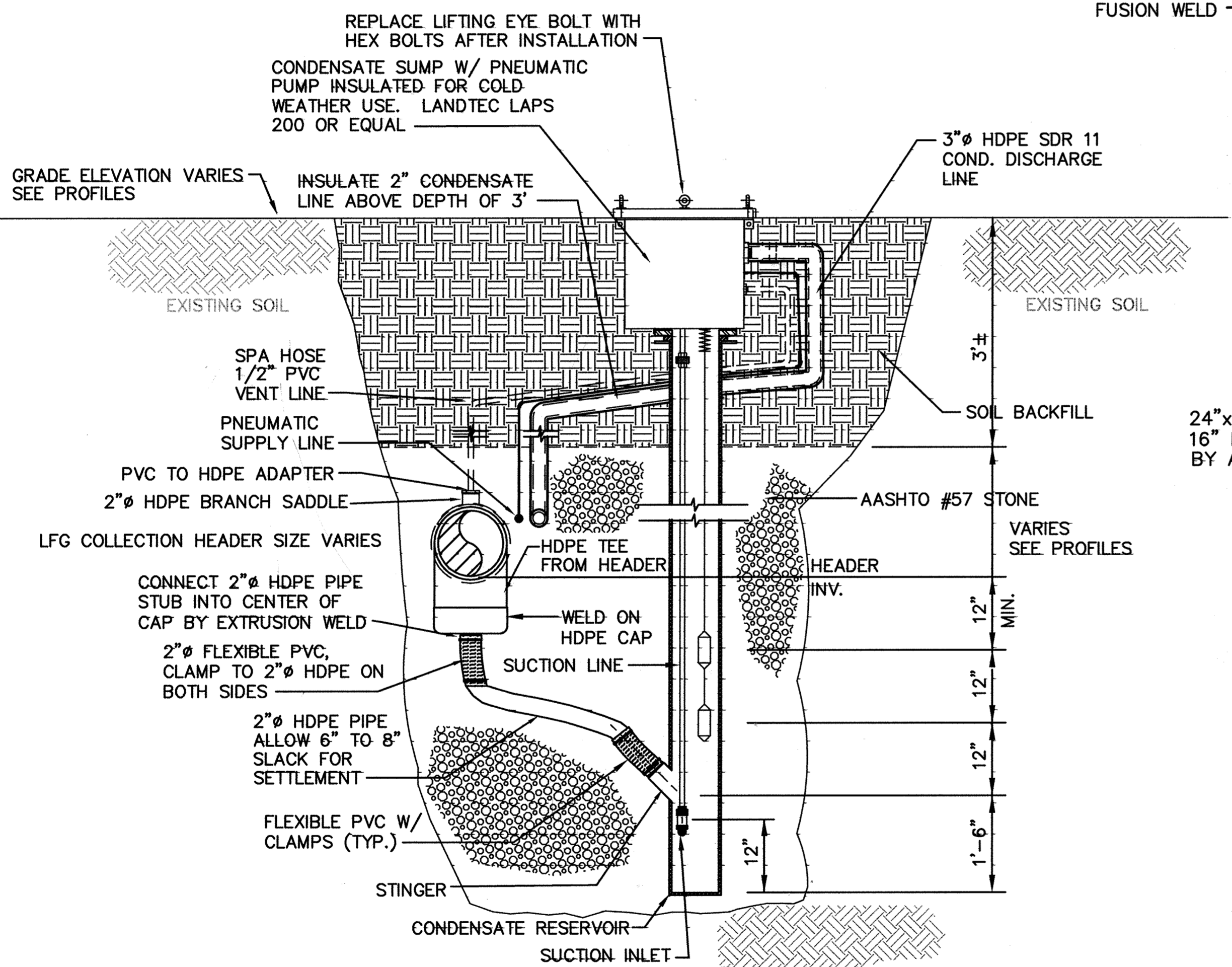
**PIPE TRENCH DETAIL 4**  
NO SCALE  
G1, G2, G3, G5



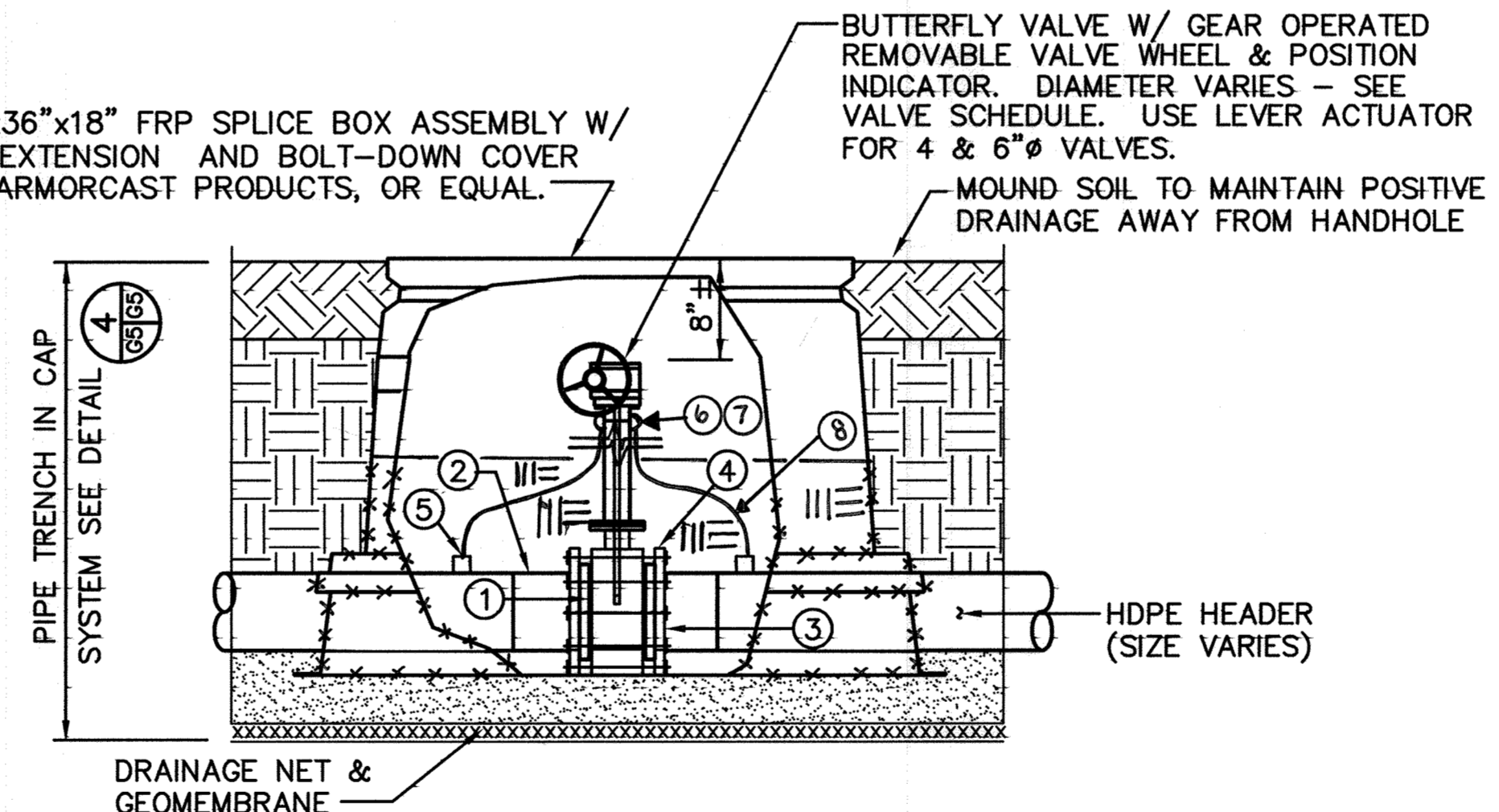
**LEACHATE TRENCH GAS COLLECTOR DETAIL 3**  
SCALE: 1/2" = 1'-0"  
G2, G5



**LFG HEADER CROSSING LEACHATE TRENCH DETAIL 1**  
SCALE: 3/8" = 1'-0"  
G1, G2, G5



**CS-1, CS-2, AND CS-3 CONDENSATE SUMP OFF LANDFILL DETAIL 6**  
SCALE: 3/4" = 1'-0"  
G1, G6, G7, G5

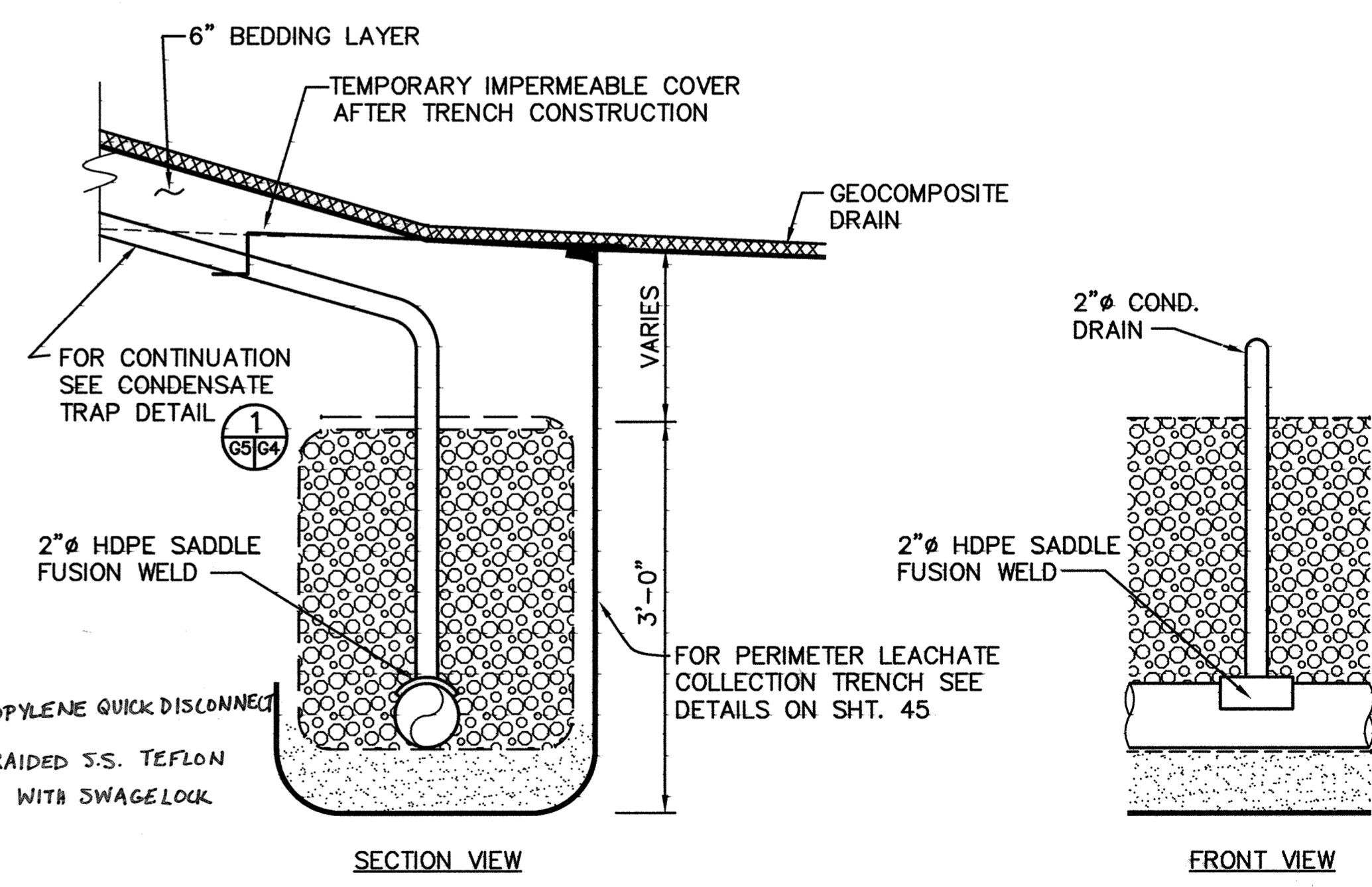


**BURIED ISOLATION VALVE ON LANDFILL DETAIL 5**  
NO SCALE  
G1, G2, G5

1 VALVE SPACER  
2 FLANGE ADAPTER  
3 DUCTILE IRON BACKUP RING  
4 GALVANIZED STUDS & NUTS  
5 1/4" FEMALE QUICK CONNECT  
6 THREADED FEMALE CONNECTOR 1/4" SWAGELOCK x 1/4" NPT  
7 1/4" POLYPROPYLENE QUICK DISCONNECT  
8 2'-LONG BRAIDED S.S. TEFLON LINED HOSE WITH SWAGELOCK TUBE ENDS

NOTE:  
CONTRACTOR SHALL HAND EXCAVATE IN AREAS WHERE BOX IS INSTALLED DIRECTLY ON HDPE MEMBRANE.

STATE OF MARYLAND  
DAVID THOMAS MCDONALD  
No. 16156  
PROFESSIONAL ENGINEER  
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 16156, Expiration Date: 8-28-20

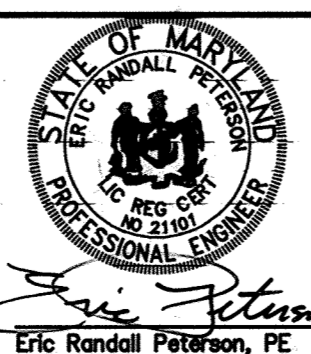


**CONDENSATE DISCHARGE TO PERIMETER LEACHATE COLLECTION TRENCH DETAIL 2**  
SCALE: 1" = 1'-0"  
G1, G2, G4, G5

M:\295077\02\FINAL\CONSUMP, LT-XING, LTGASCOL, RDNG, TRENCH2, PER-TRN, VALVE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676

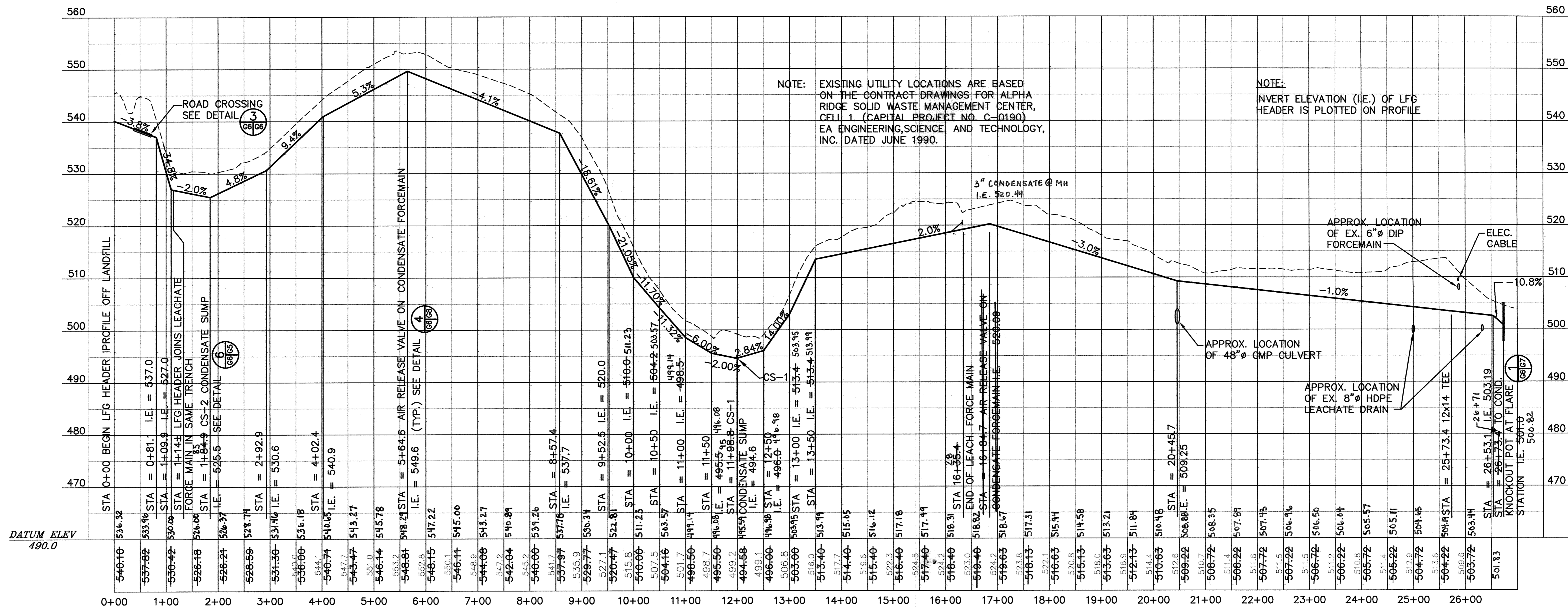


DES.	SCW/CMS				
DRN.	BJD				
CHK.	ERP				
DATE:	10-30-97	DTM	UPDATED SHEET TOTAL	4-2-19	
BY:		NO.	REVISION	DATE	

LFG COLLECTION SYSTEM DETAILS

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

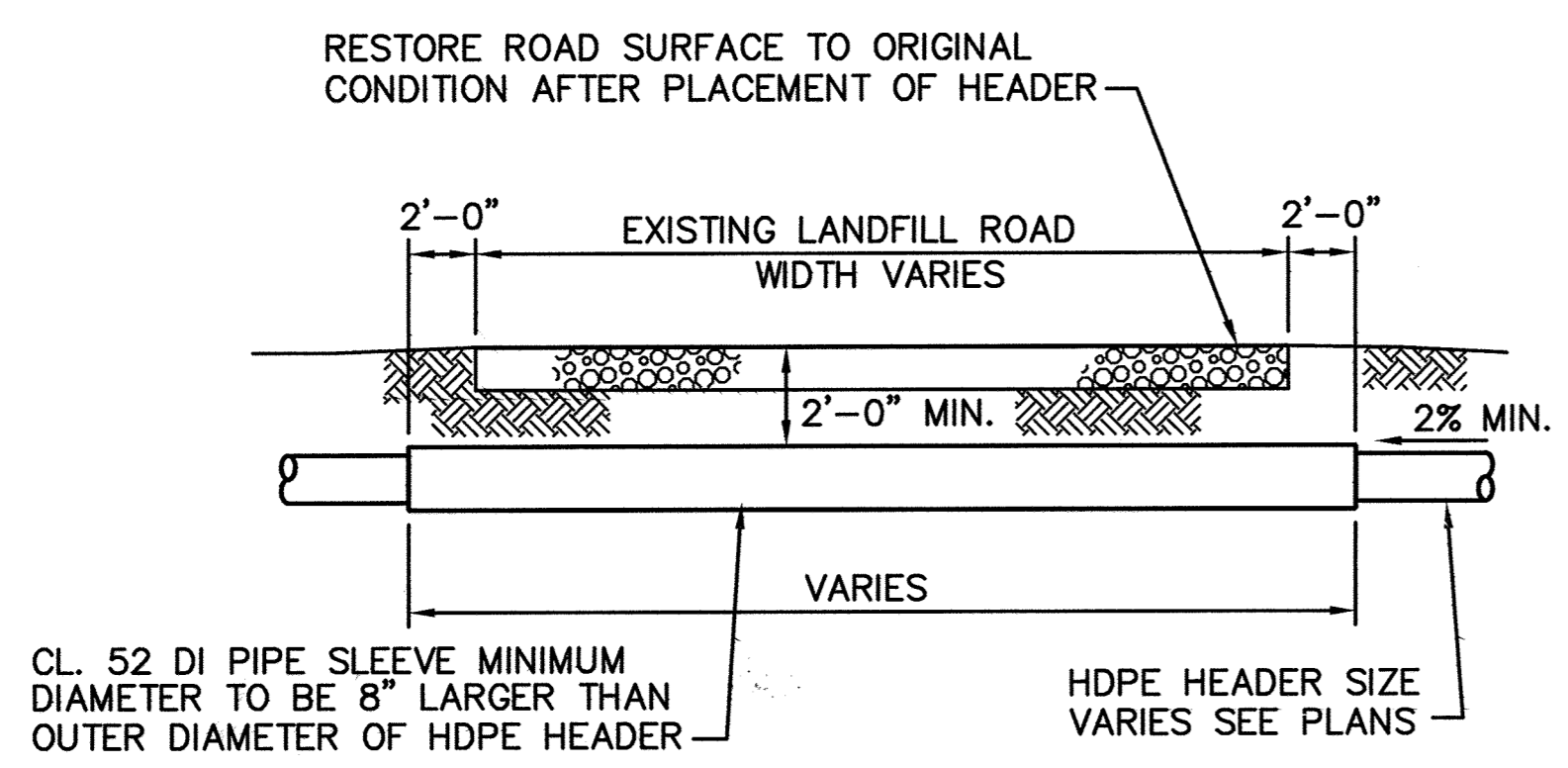
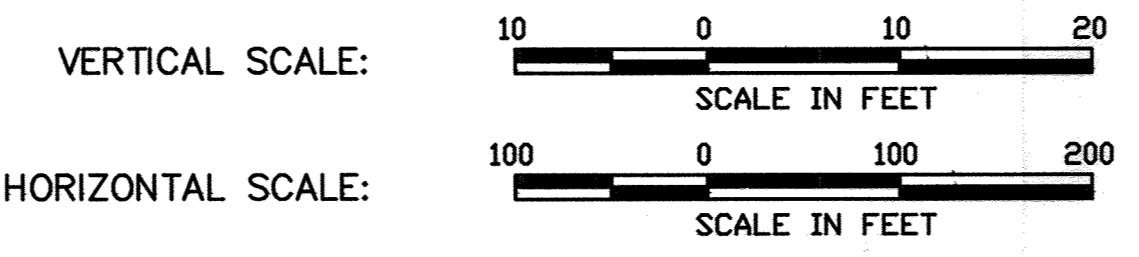
SCALE:  
AS NOTED  
SHEET 8  
G5 OF 140



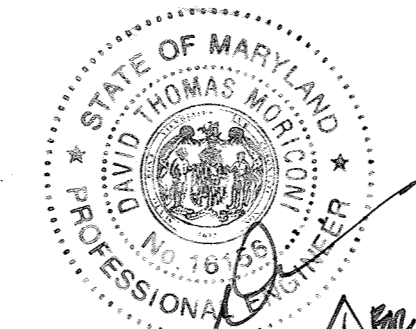
NOTE: EXISTING UTILITY LOCATIONS ARE BASED ON THE CONTRACT DRAWINGS FOR ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER, CELL 1 (CAPITAL PROJECT NO. C-0190) EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC. DATED JUNE 1990.

NOTE: INVERT ELEVATION (I.E.) OF LFG HEADER IS PLOTTED ON PROFILE

LFG MAIN HEADER PROFILE  
LFG CONDENSATE FORCE MAIN PROFILE



HEADER CROSSING UNDER ROAD DETAIL 3  
NO SCALE G1, G2, G6 G6



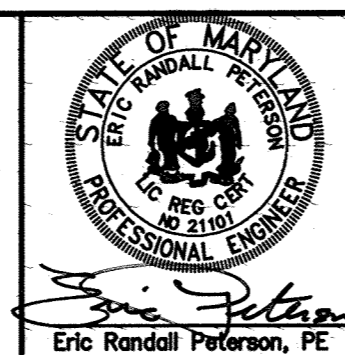
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 16156, Expiration Date: 8-28-20

M:\295077.02\FINAL\PROFILE

SHT-G6

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
Director of Public Works: [Signature] 10/30/97  
Chief, Bureau of Waste Management: [Signature] 10/30/97

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



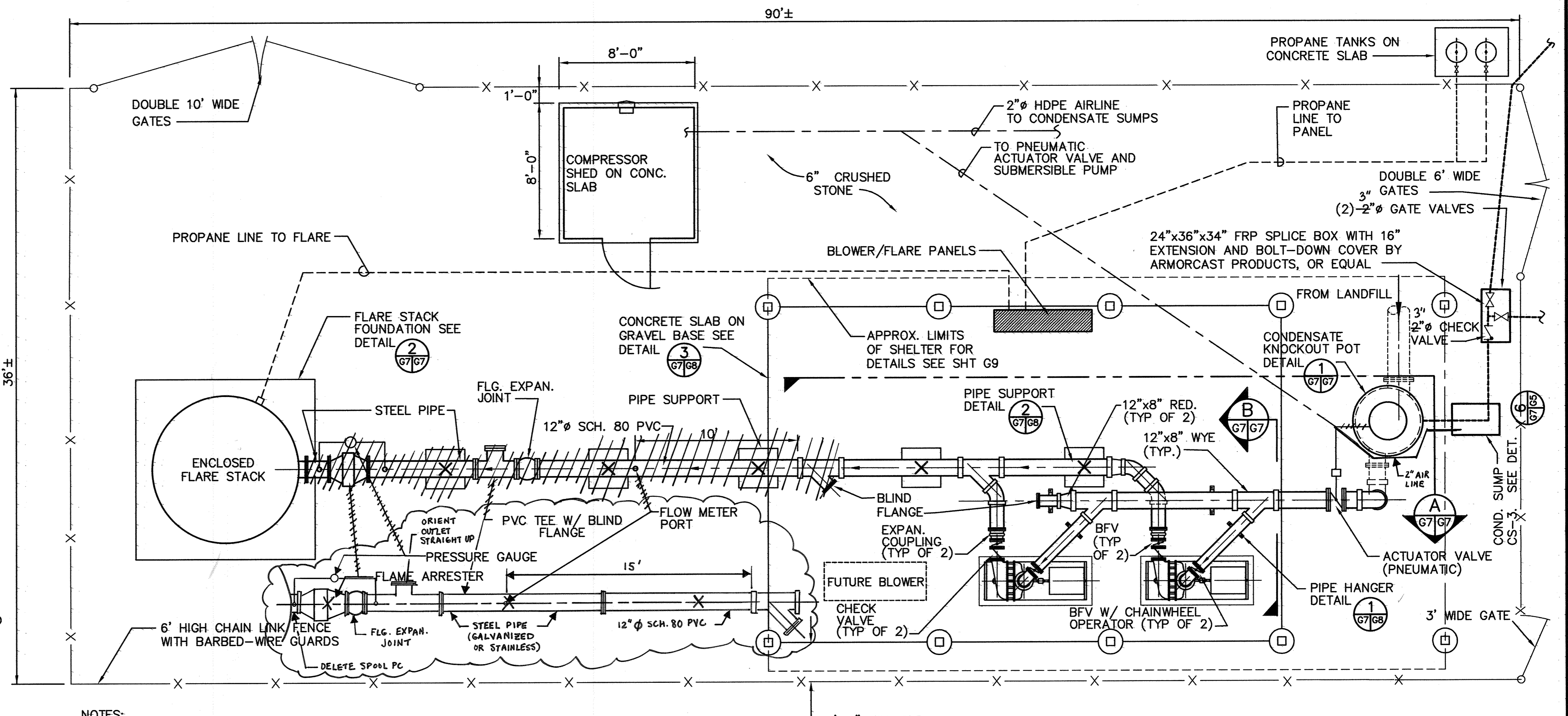
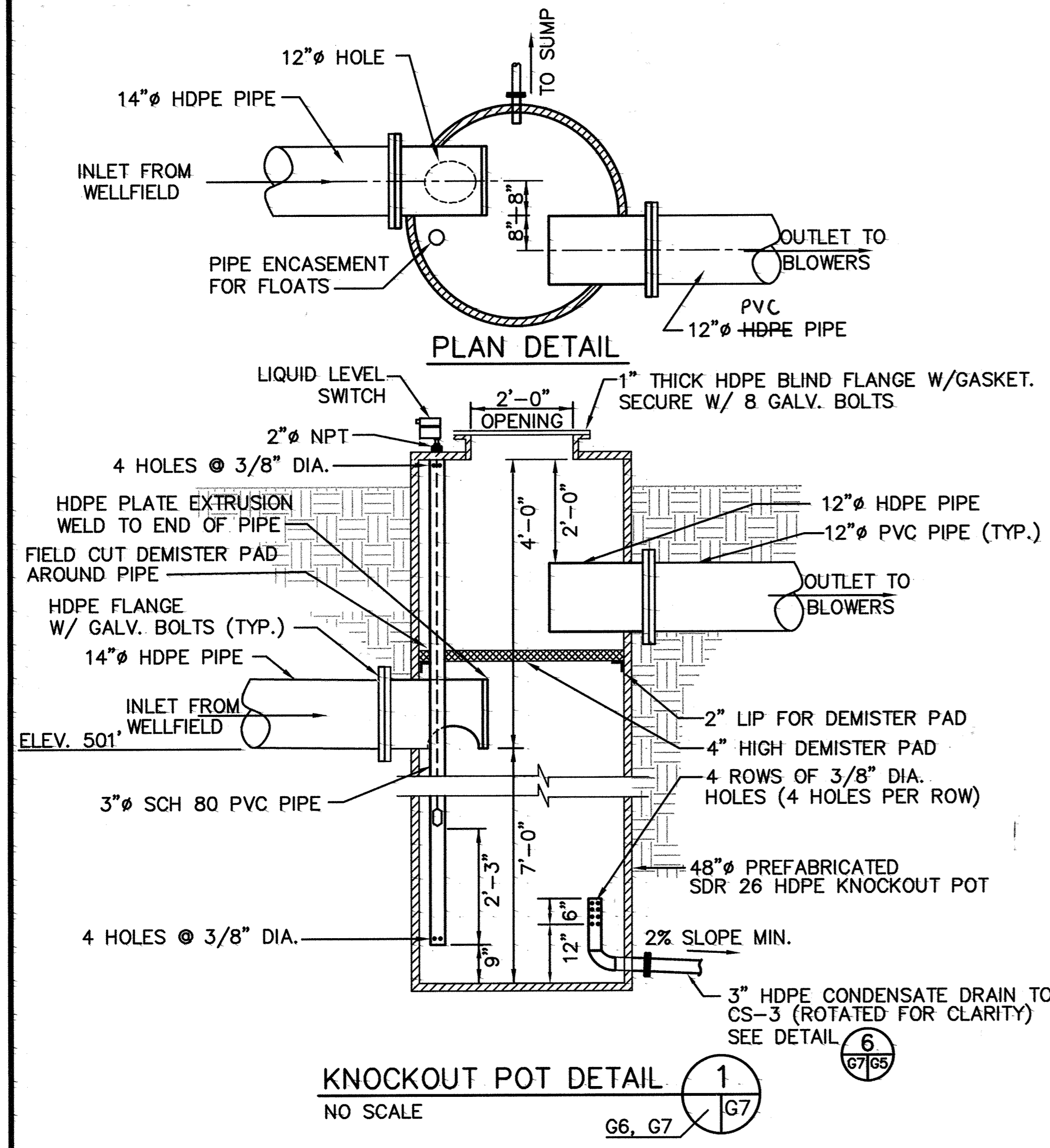
Eric Randall Peterson, PE

DES. SCW/CMS	
DRN. BUD/SCW	
CHK. ERP	
DATE: 10-30-97	
BY	UPDATED SHEET TYPAL
NO.	4-2019
REVISION	
DATE	

LFG HEADER PROFILE

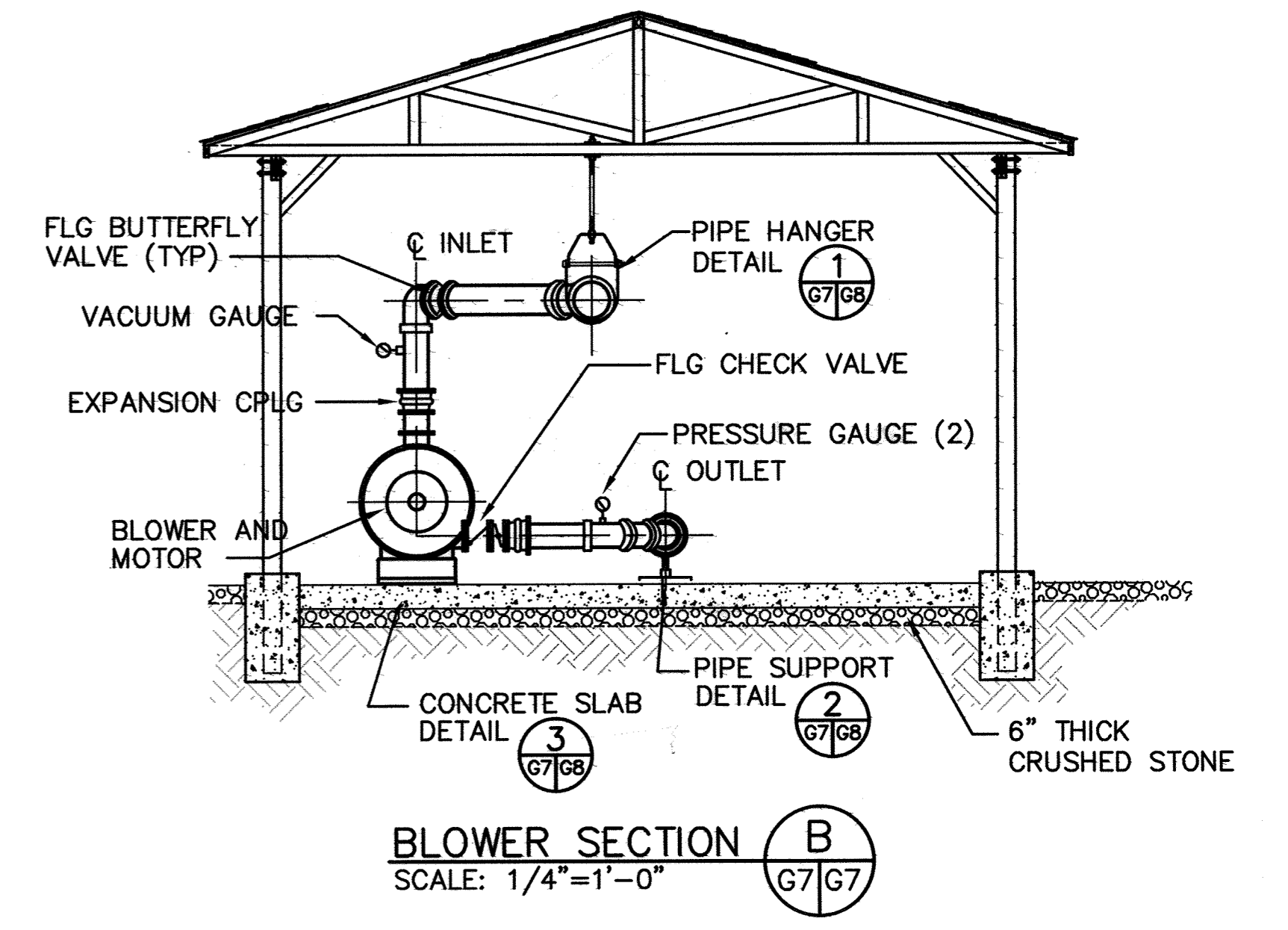
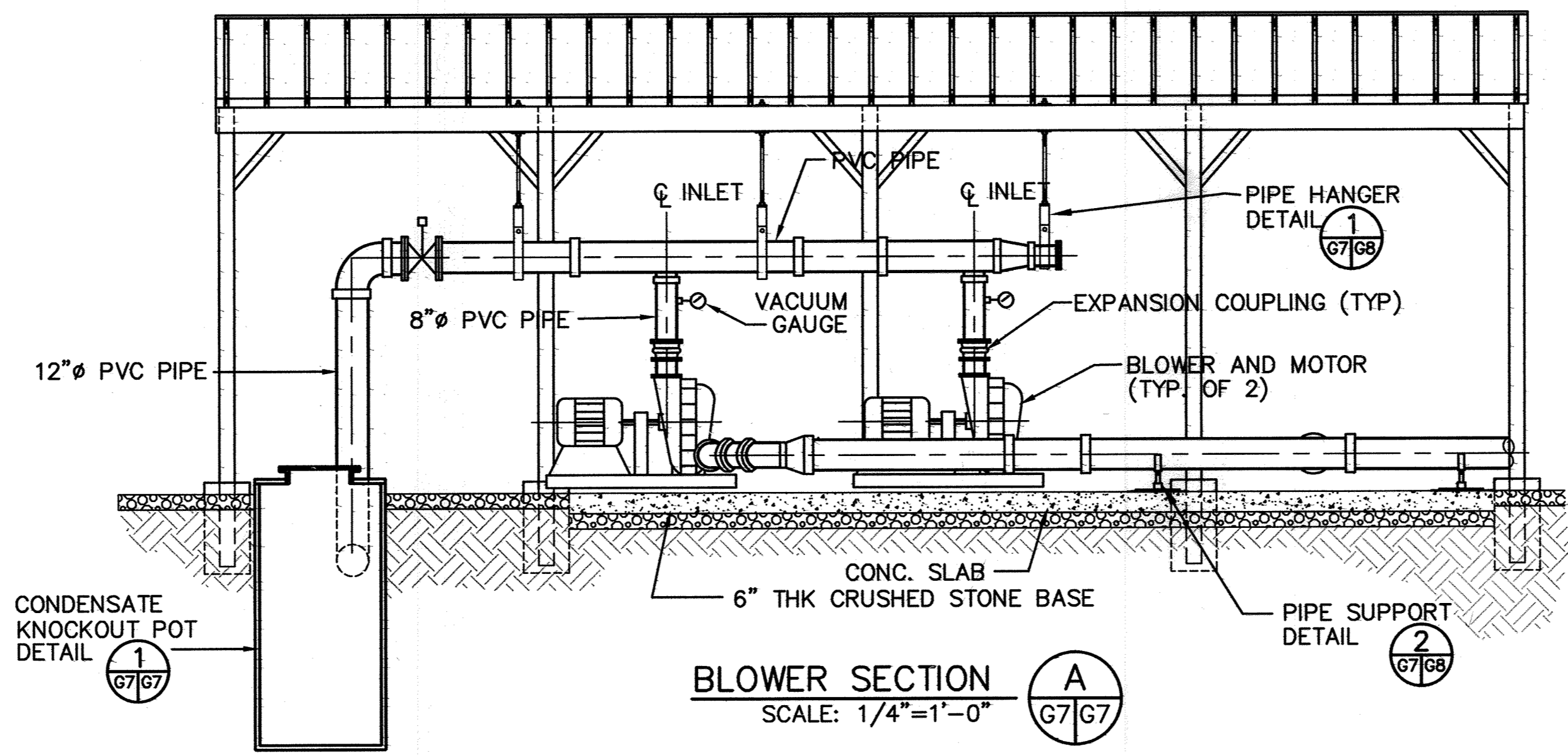
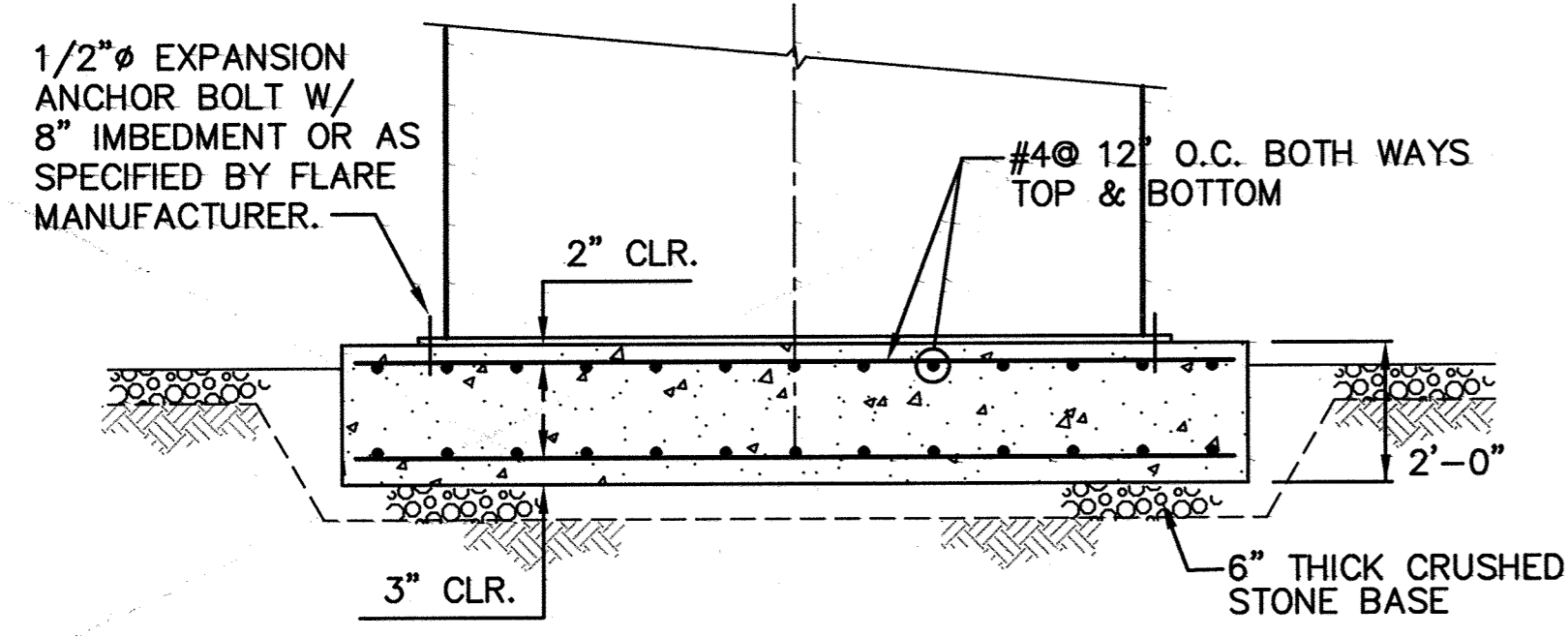
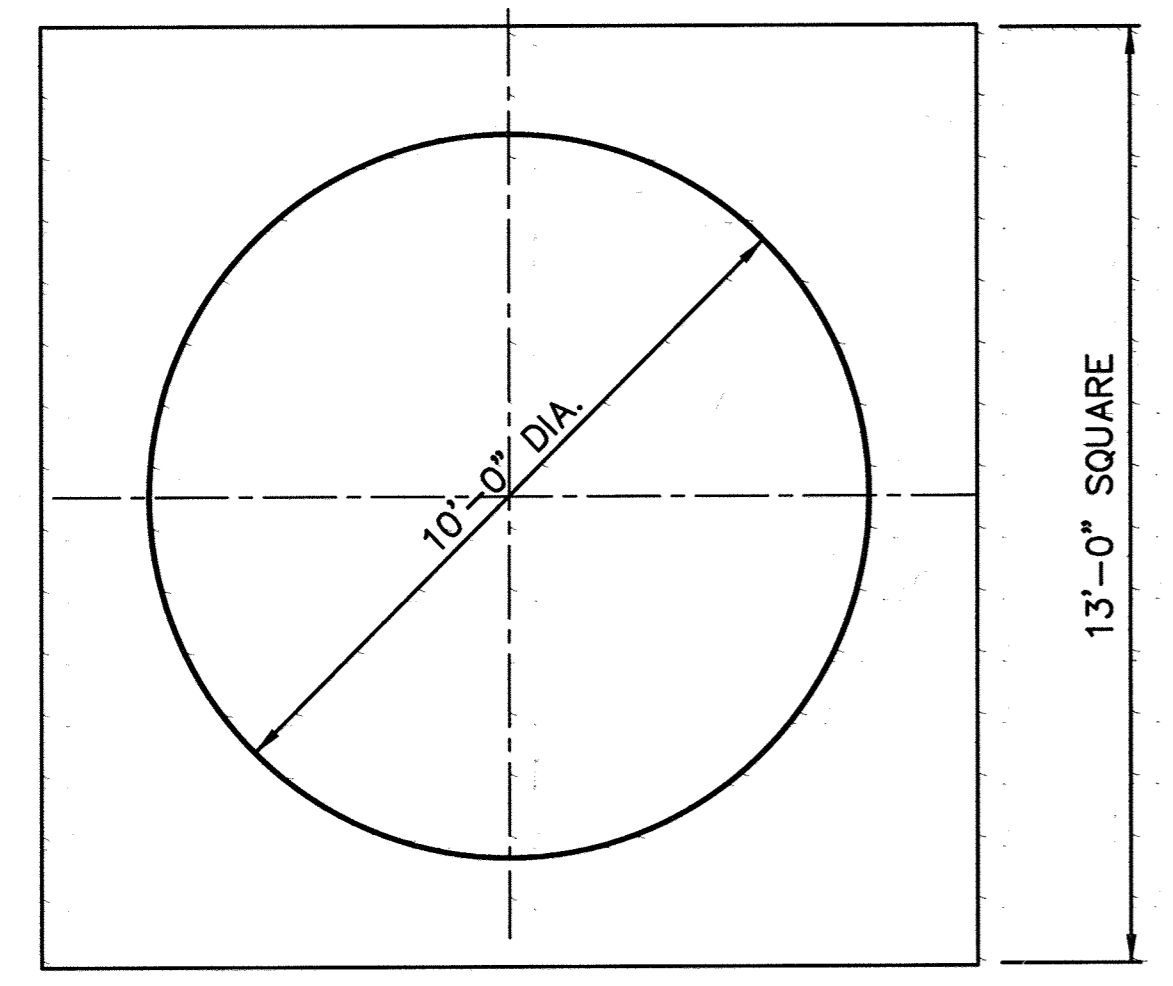
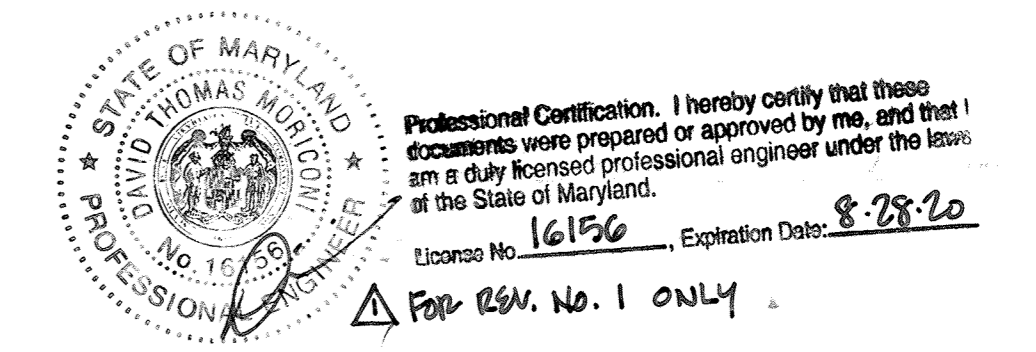
ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE: AS NOTED  
Sheet 09  
G6 of 140



- NOTES:**
1. ALL EXPOSED CONDENSATE DRAIN PIPING TO BE INSULATED.
  2. ALL PVC PIPE SHALL BE SCH 80 UNLESS OTHERWISE NOTED.
  3. SIZE SHED PER COMPRESSOR MANUFACTURER'S RECOMMENDATIONS TO PROVIDE NECESSARY CLEARANCE BETWEEN EQUIPMENT AND BUILDING WALLS.

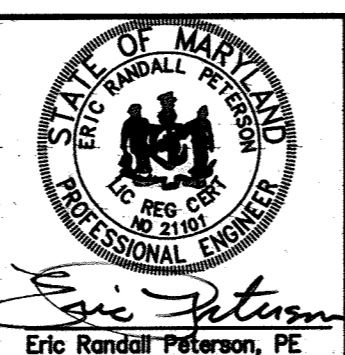
**BLOWER/FLARE STATION PLAN**  
 SCALE: 1/4"=1'-0"



M: 285077.02 (FINAL) BF-SITE, BSECTA, BSECTB, FLARE, KOPOT SHT-G7

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

SCS ENGINEERS  
 CONSULTING ENGINEERS  
 11260 ROGER BACON DRIVE  
 SUITE 300  
 RESTON, VIRGINIA 22090  
 PH. (703) 471-6150  
 FAX. (703) 471-6676



DES.	CMS				
DRN.	BJD				
CHK.	ERP				
DATE:	10-30-97	BY:	NO.	REVISION	DATE
				UPDATED SHEET TOTAL	4-2019

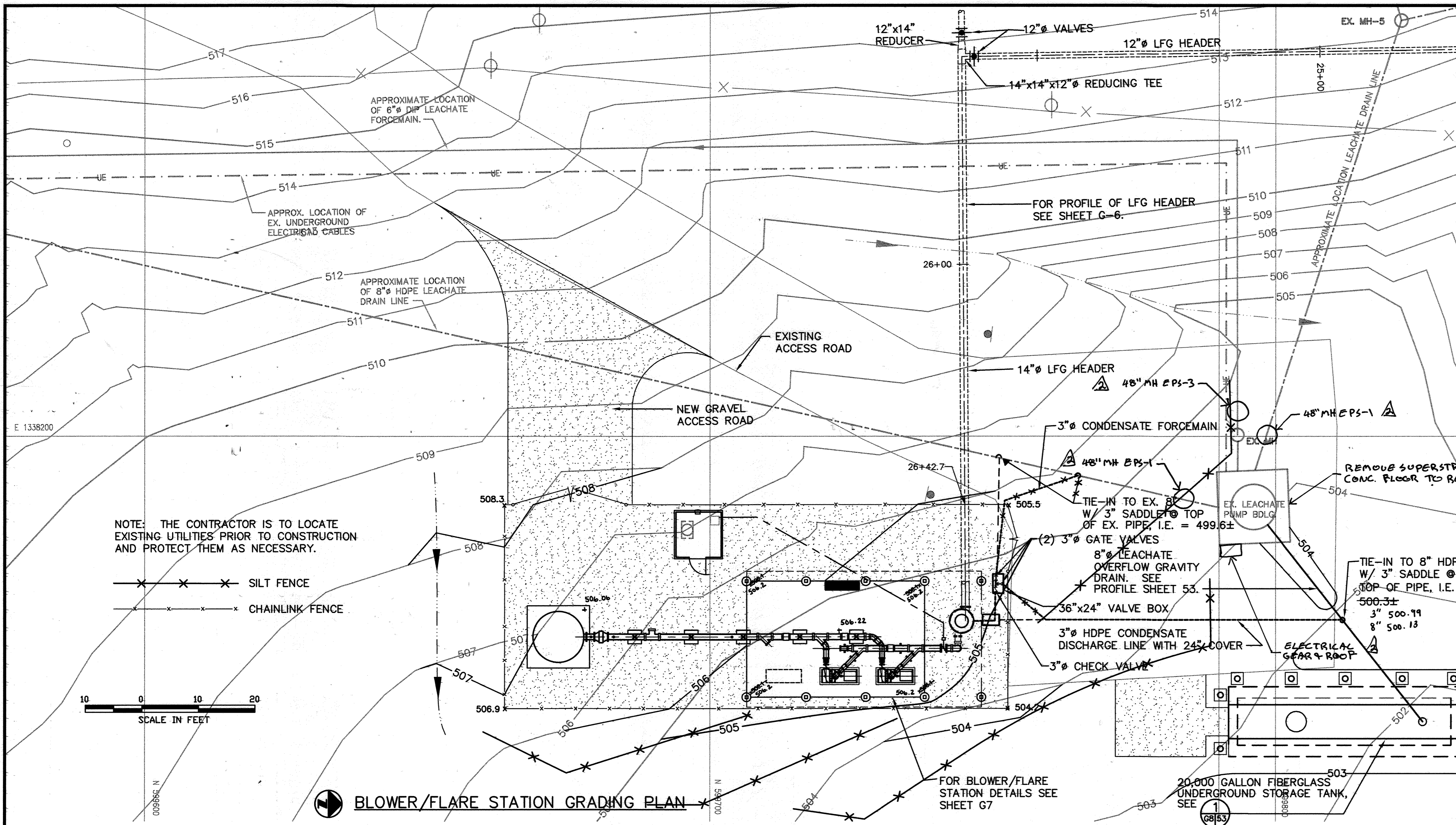
**BLOWER/FLARE STATION DETAILS**

ALPHA RIDGE LANDFILL  
 UNLINED CELL CLOSURE  
 CAPITAL PROJECT NO. C-0190-N

3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

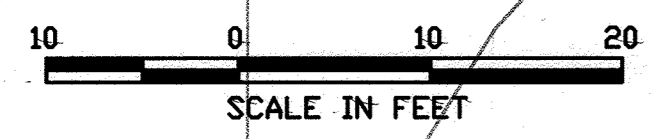
SCALE: AS NOTED  
 (Sht 90)  
 SHEET 1  
 G7 OF 140

SUP 97-12B

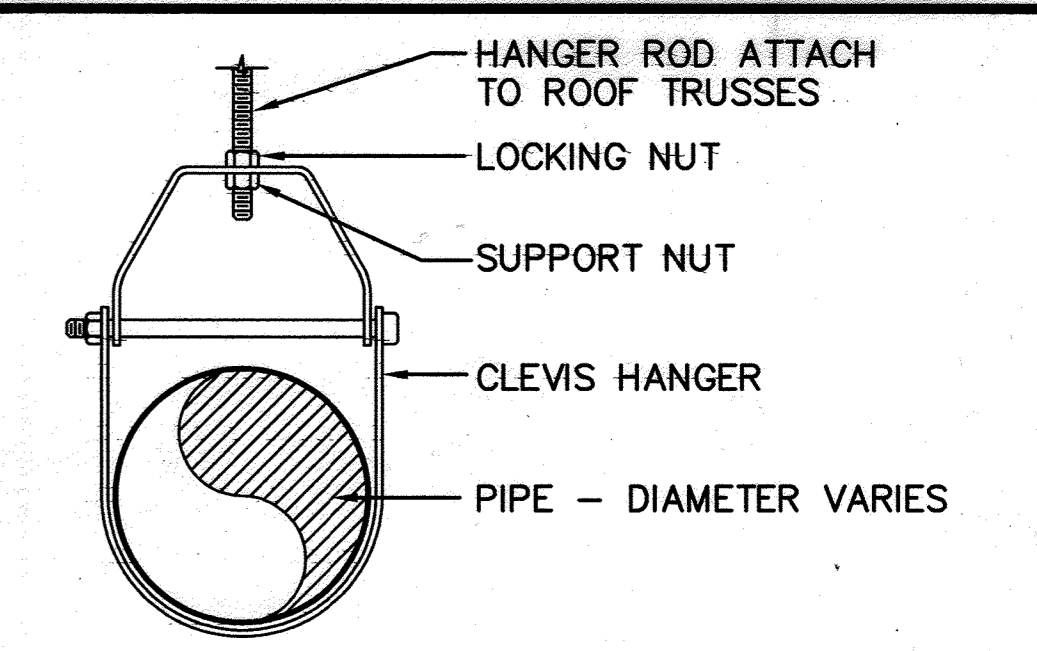


NOTE: THE CONTRACTOR IS TO LOCATE EXISTING UTILITIES PRIOR TO CONSTRUCTION AND PROTECT THEM AS NECESSARY.

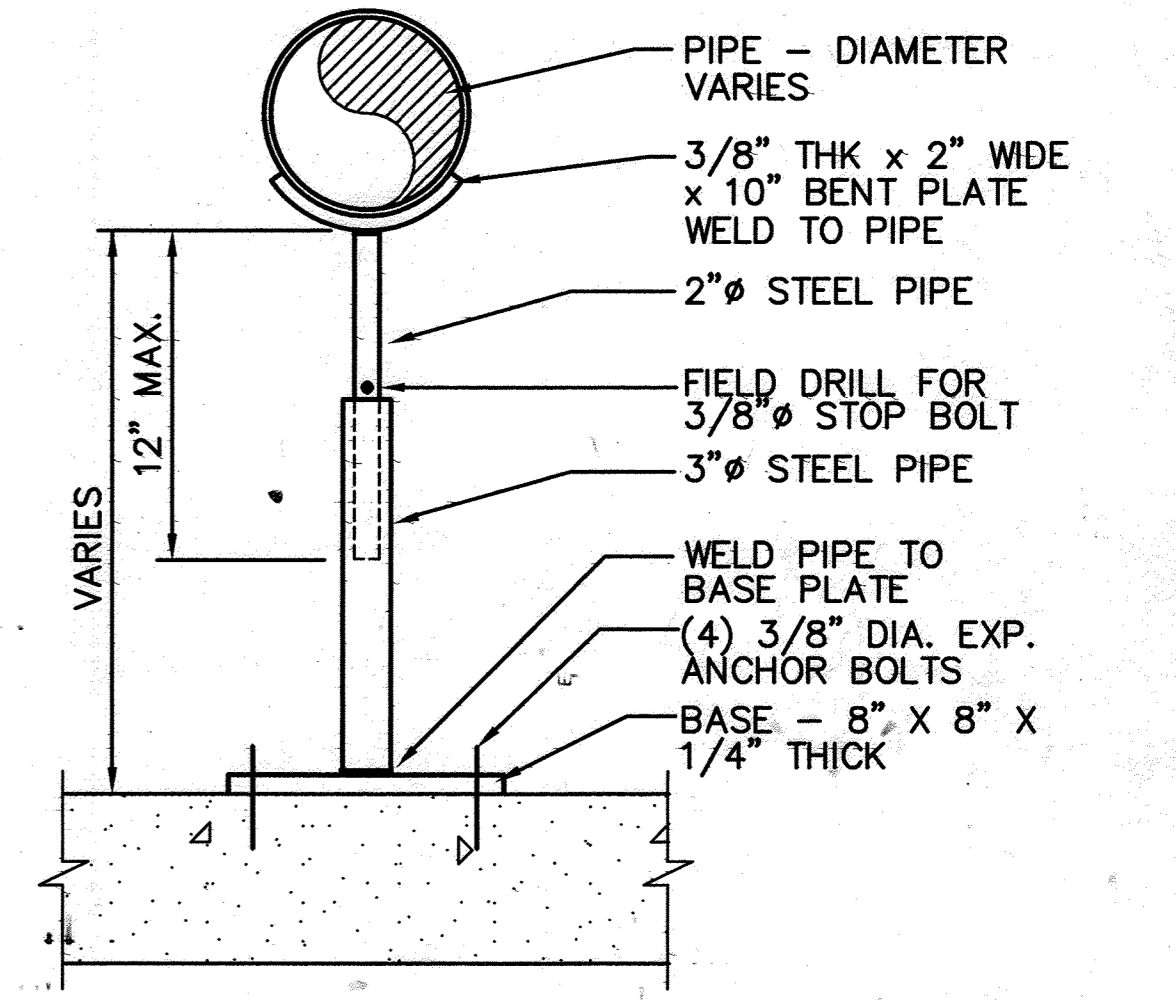
--- SILT FENCE  
 --- CHAINLINK FENCE



**BLOWER/FLARE STATION GRADING PLAN**

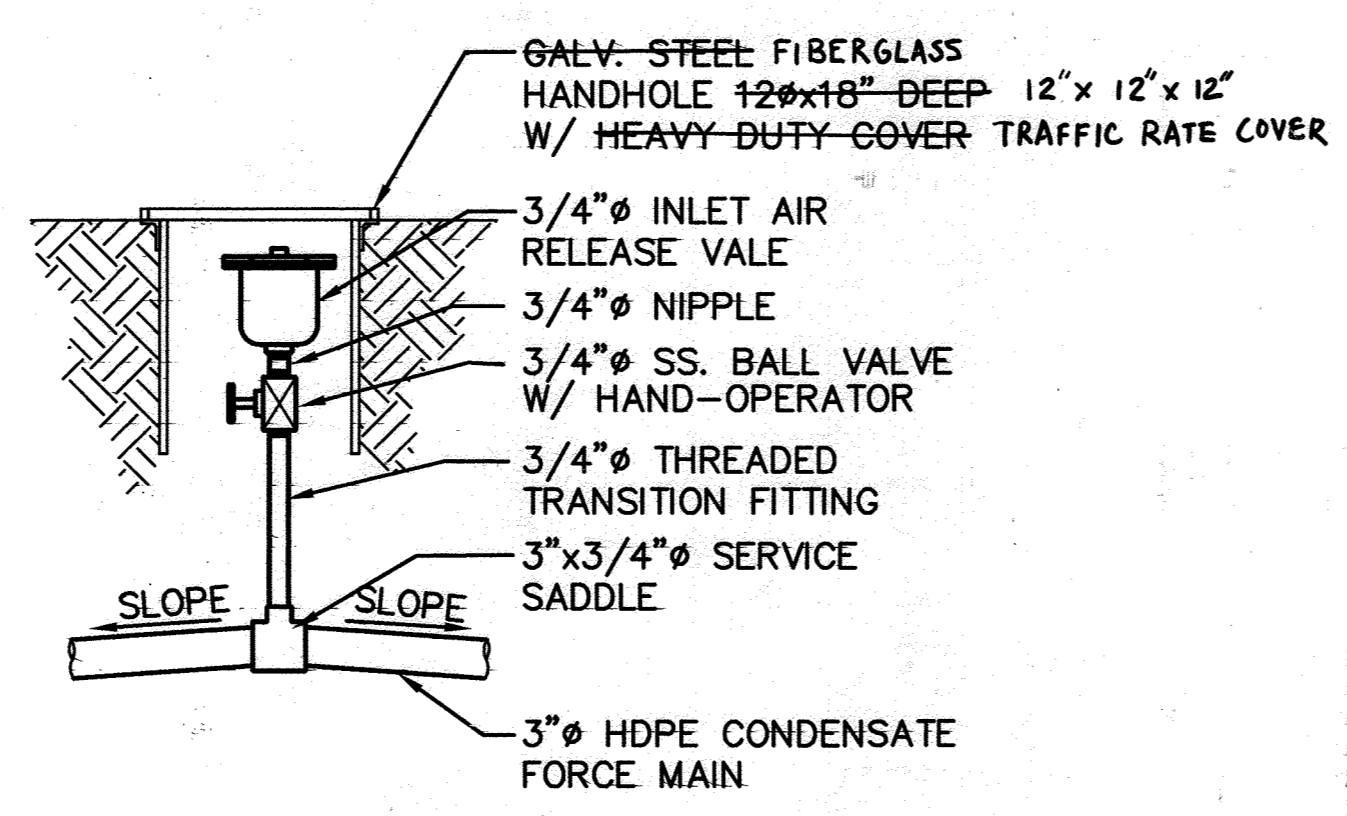


**PIPE HANGER DETAIL 1**  
 NO SCALE  
 G7/G8

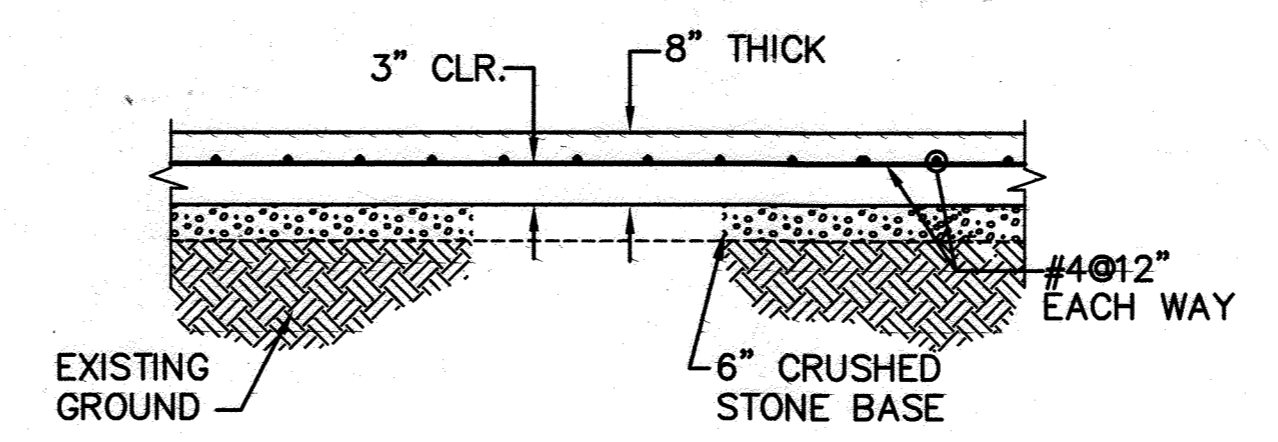


**PIPE SUPPORT DETAIL 2**  
 NO SCALE  
 G7/G8

STATE OF MARYLAND  
 PROFESSIONAL ENGINEERING  
 License No. 16156, Expiration Date: 8-28-20  
 Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.



**AIR RELEASE VALVE DETAIL 4**  
 SCALE: 1\"/>



**STRUCTURAL NOTES:**

1. CONCRETE SLAB SHALL BE CONSTRUCTED SO THAT A 0.5% SLOPE IS MAINTAINED FROM THE CENTER (HIGH POINT) TO EACH CORNER OF SLAB (LOW POINT).
2. CONCRETE MINIMUM COMPRESSIVE STRENGTH SHALL BE 4000 PSI.
3. CONCRETE SLAB SHALL BE BROOM FINISHED.

**CONCRETE SLAB DETAIL 3**  
 SCALE: 3/8\"/>

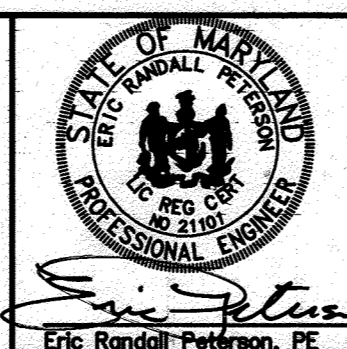
SEE ETA SHEET G8-AB FOR FLARE STATION AS-BUILT

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
LIBER/FOLIO 10-847/808 16-878/215 10-891/314		ZONE PEC	TAX/ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30	

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	
DIRECTOR	DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH	DATE

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

SCS ENGINEERS  
 CONSULTING ENGINEERS  
 11260 ROGER BACON DRIVE  
 SUITE 300  
 RESTON, VIRGINIA 22090  
 PH. (703) 471-6150  
 FAX. (703) 471-6676



DES.	BJD				
DRN.	BJD				
CHK.	ERP	DATE	DESCRIPTION	DATE	
		10-30-97	PUMP STATION UPGRADES	1-25-20	
			UPDATED SHEET TOTAL	4-2014	
DATE:	10-30-97	BY:	NO.	REVISION	DATE

BLOWER STATION  
 MISCELLANEOUS DETAILS

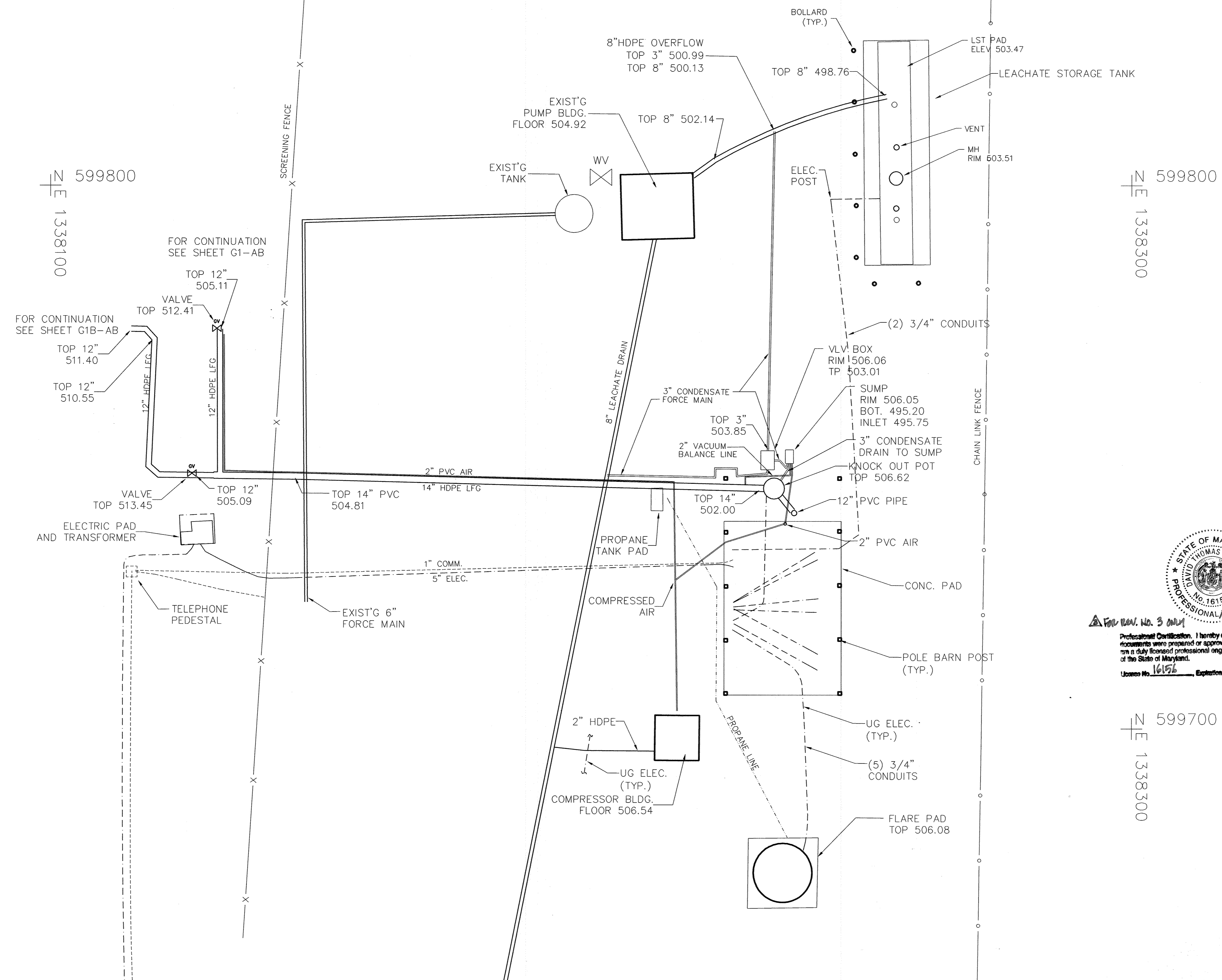
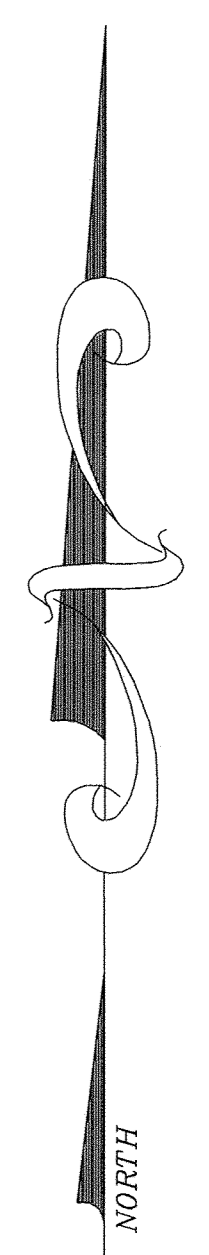
ALPHA RIDGE LANDFILL  
 UNLINED CELL CLOSURE  
 CAPITAL PROJECT NO. C-0190-N

SCALE:  
 AS NOTED  
 SHEET 8  
 G8 OF 140

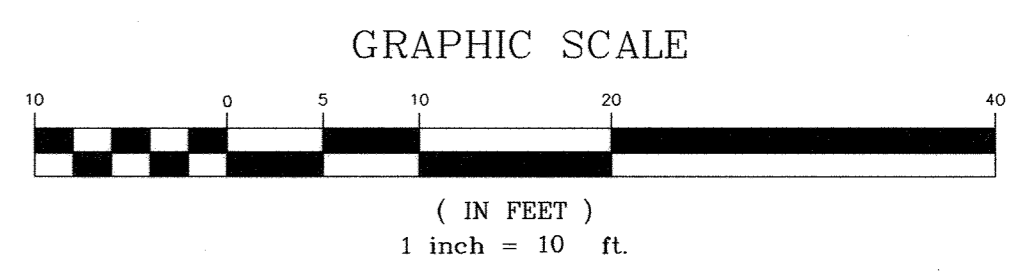
3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SDP 47-128

M:\285077\02\FINAL\PSUPPORT\_HANGER\_BFGRAD\_CFM-PROF\_PRV\_SLAB



David Thomas, No. 3 only
   
 Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
   
 License No. 16156, Expiration Date: 8-28-21



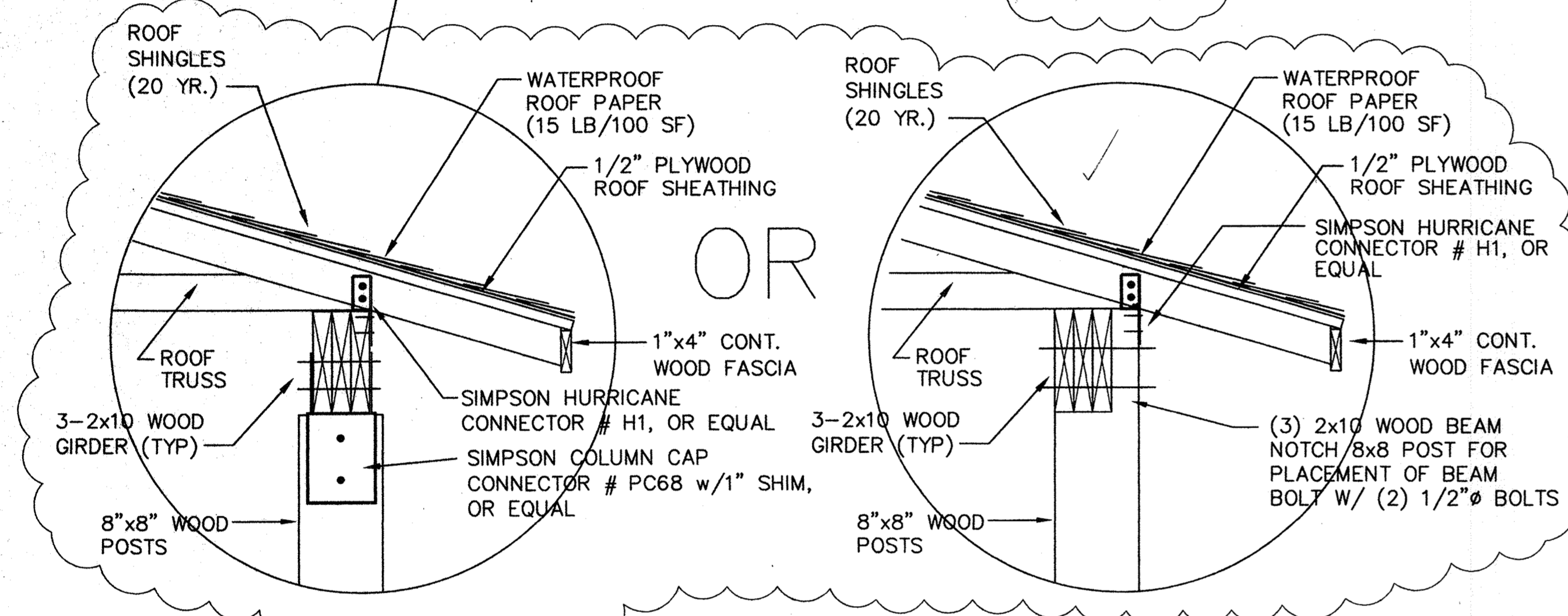
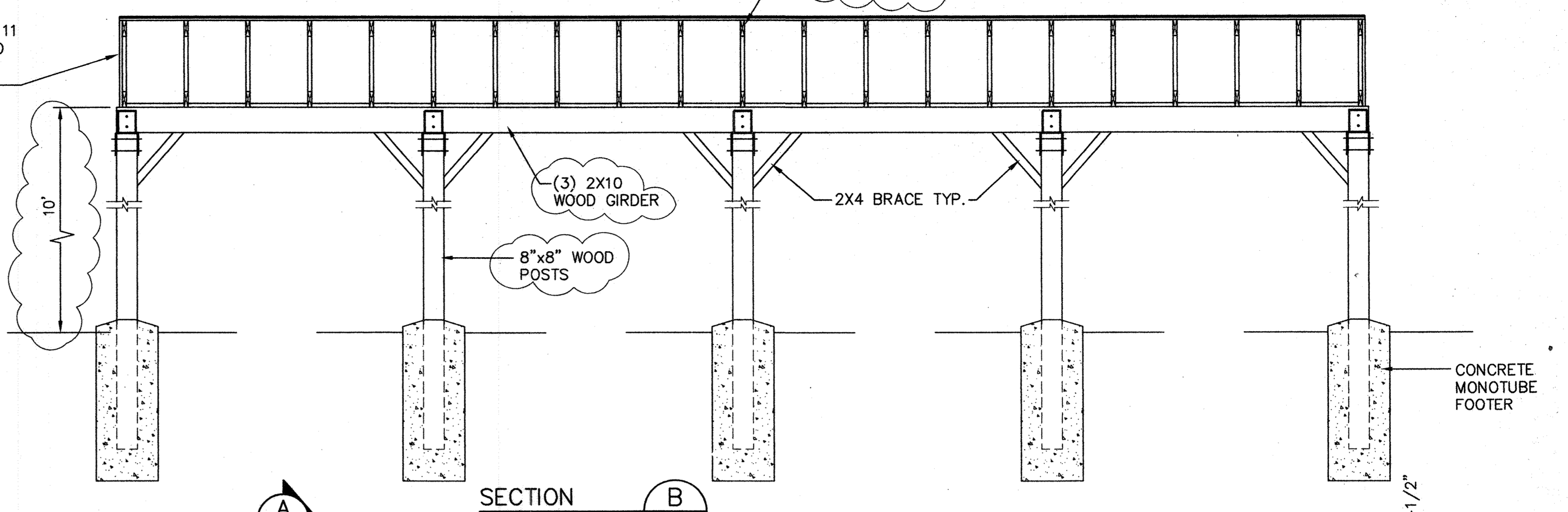
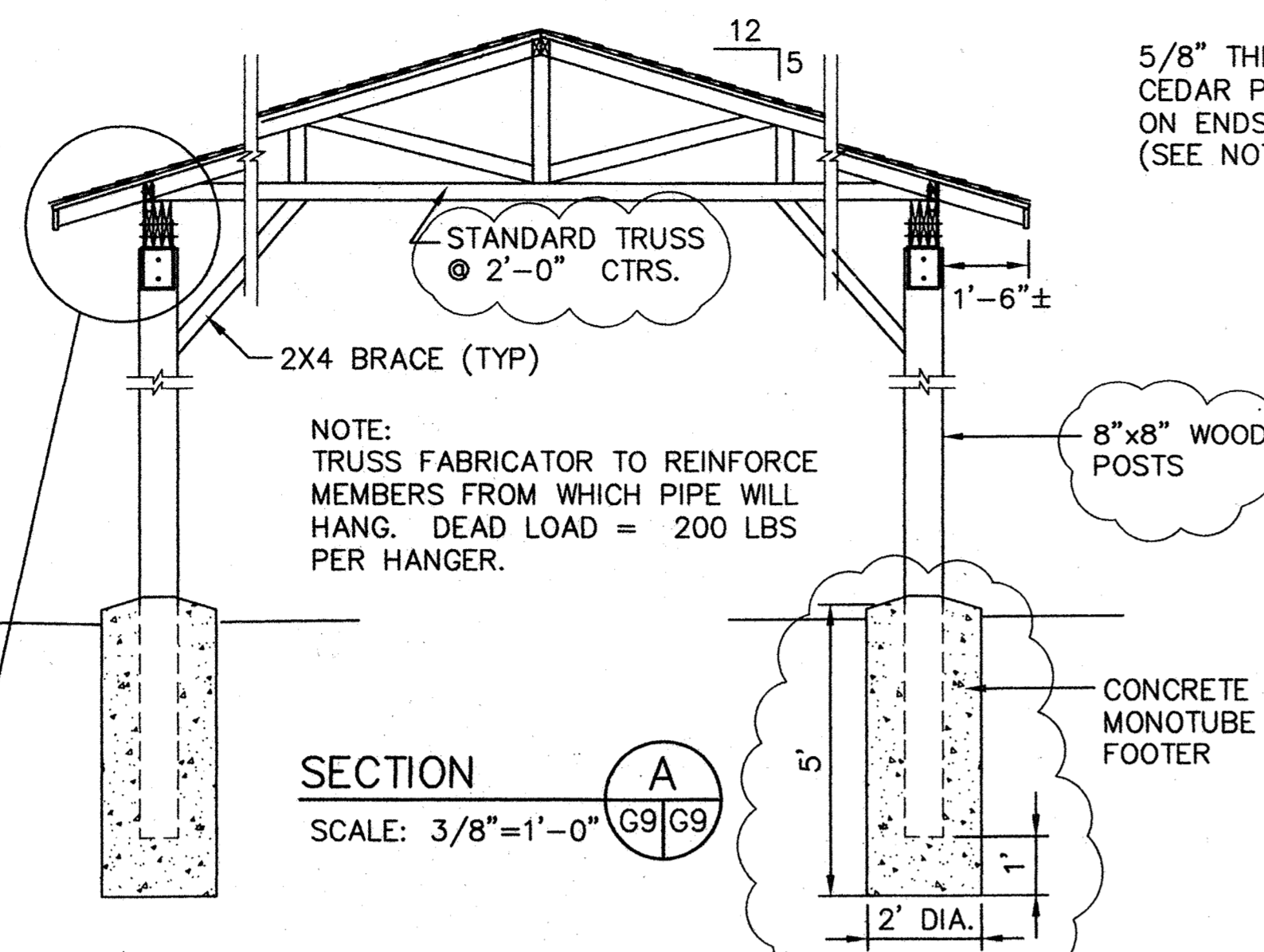
DESIGNED BY:		DATE		REVISIONS	
DATE	BY	DATE	BY	DESCRIPTION	
12-8-98	TWH	12-21-2000	TWH	AMENDED PIPING LABELS AND ROUTING.	
4-9-2001	TWH			AMENDED PIPING LABELS AND ROUTING.	
4-2019	DTU			UPDATE SHEET TOTAL	
DATE		DATE			
DATE		DATE			

**ENGINEERING TECHNOLOGIES ASSOCIATES, INC.**
  
 ENGINEERS \* PLANNERS \* SURVEYORS
   
 3458 ELLICOTT CENTER DRIVE SUITE 101
   
 ELLICOTT CITY, MARYLAND 21043
   
 BALTO. (410)461-9920 FAX (410)750-8565



FLARE STATION AS-BUILT
   
**ALPHA RIDGE LANDFILL CELL CLOSURE**
  
 HOWARD COUNTY MARYLAND
   
 SCALE : 1"=10' CONTRACT NO.: 98301.10 DATE : 2-14-2000
   
 SHEET 92 OF 140 98-AB





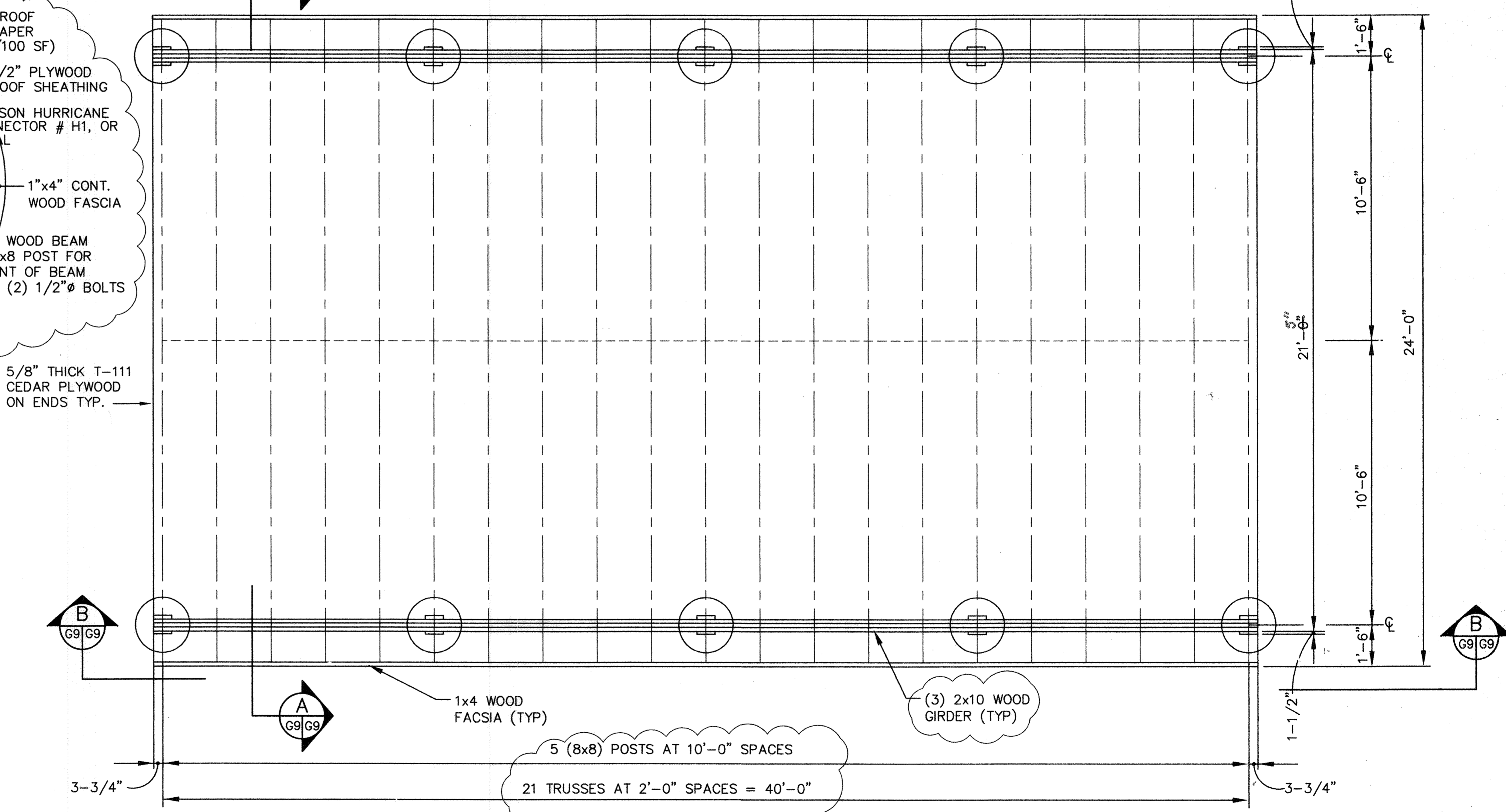
TRUSSES SHALL BE DESIGNED FOR THE FOLLOWING MINIMUM LOADS:

WIND LOAD:	15 PSF
SNOW LOAD:	12 PSF
ROOF LIVE LOAD:	20 PSF
ROOF DEAD LOAD:	*15 PSF

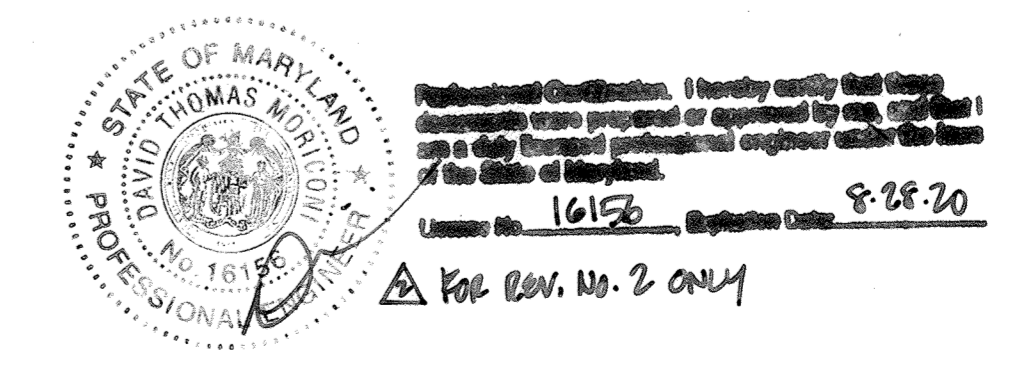
\* ROOF DEAD LOADS ESTIMATED FOR GABLE TRUSSES AND MAY VARY DEPENDING ON ACTUAL DESIGN.

NOTES:

- ALL WOOD TO BE PRESSURE TREATED.
- THESE SHELTER PLANS HAVE BEEN REVISED TO INCORPORATE THE TRUSS DESIGN AS SUBMITTED BY H.E. SARGENT AND FABCO @ 2' TRUSS SPACING



SHELTER - PLAN  
SCALE: 3/8"=1'-0"

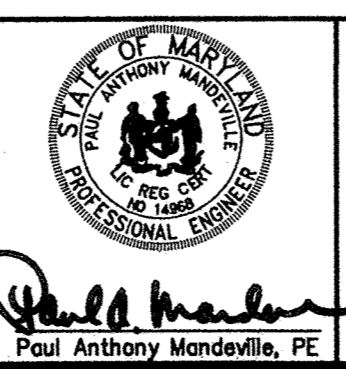


SHP40  
M:\295077.02\FINAL  
SHT-G9

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS    DATE    CHIEF, BUREAU OF WASTE MANAGEMENT    DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



PCS.	BJD				
DRN.	BJD				
CHK.	ERP	DTM	UPDATED SHEET TOTAL		4-2019
DATE:	10-30-97	SCW	TRUSS SPACING, BEAMS, COLS, FTNGS, LENGTH, CON		10-16-98
BY	NO.		REVISION		DATE

BLOWER STATION  
SHELTER DETAILS

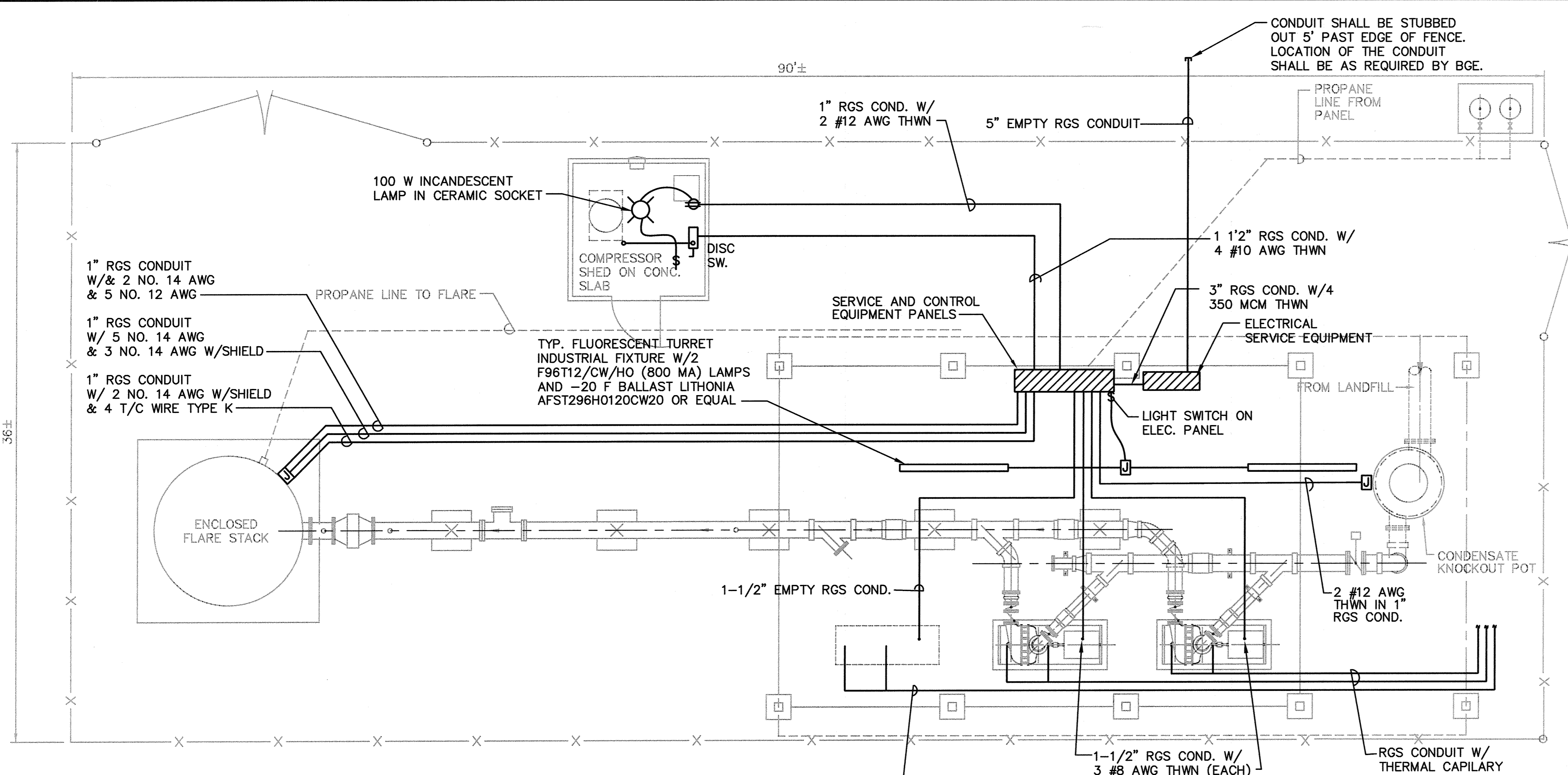
ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190-N

SCALE:  
AS NOTED

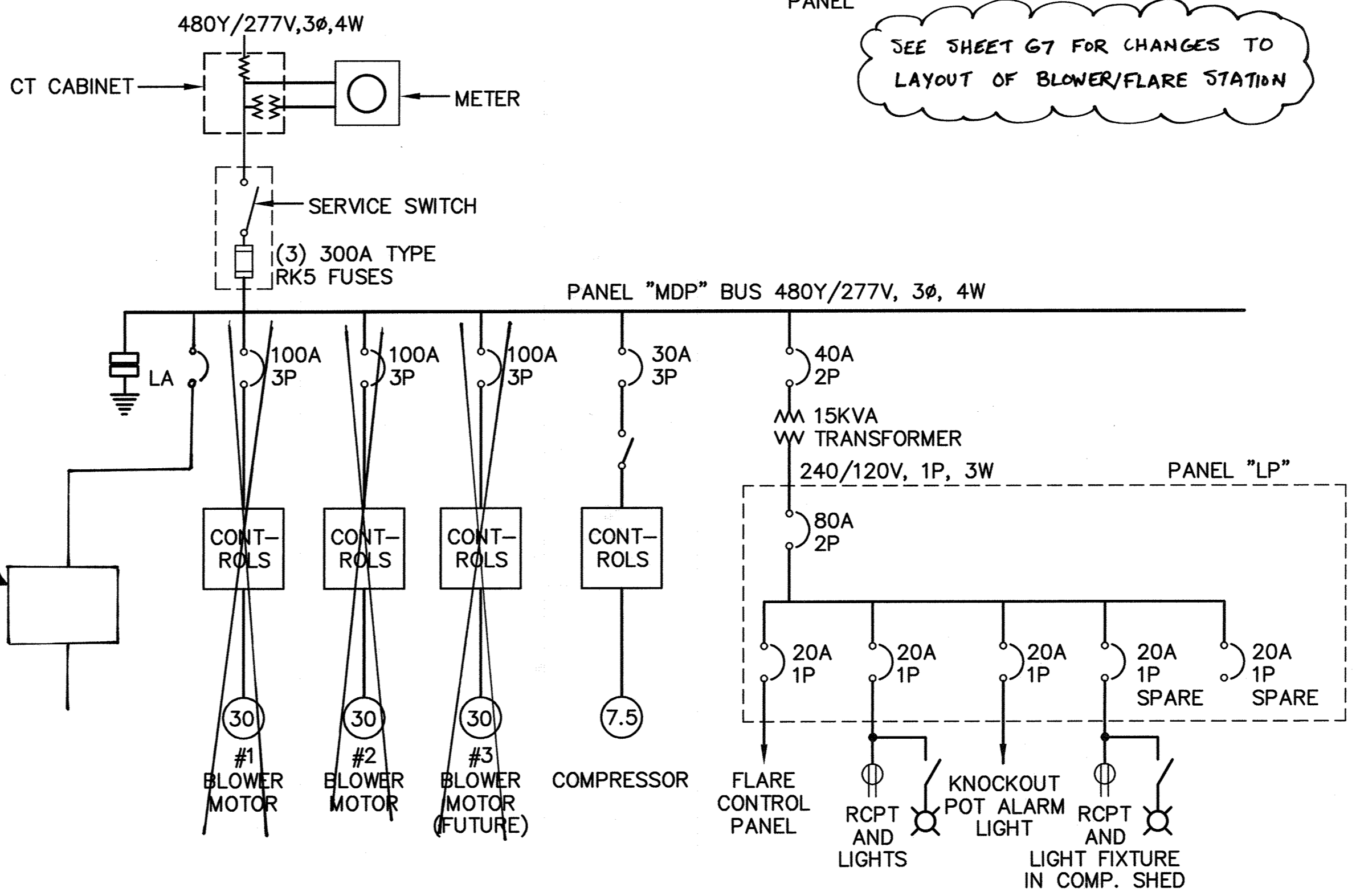
(Sht 93)  
SHEET  
G9 OF 140

3rd ELECTION DISTRICT    HOWARD COUNTY, MARYLAND

50P 97-12B



**BLOWER/FLARE STATION PLAN**  
SCALE: 1/4" = 1'-0"



SEE SHEET G7 FOR CHANGES TO LAYOUT OF BLOWER/FLARE STATION

**SINGLE-LINE DIAGRAM**  
NO SCALE

- ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 70-1993 & APPLICABLE LOCAL CODES. THE MANUFACTURER'S RECOMMENDATIONS SHALL BE FOLLOWED AS REQUIRED. ALL MATERIALS, AS A MINIMUM, SHALL BE NEW AND UNDERWRITERS LABORATORY (U.L.) LISTED.
- THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, CERTIFICATES OF INSPECTION, ETC. REQUIRED BY THE AUTHORITIES HAVING JURISDICTION OVER THIS WORK.
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND/OR MANUFACTURER'S LITERATURE, FOR ALL EQUIPMENT AND MATERIAL PROPOSED FOR INSTALLATION TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO RELEASING AN ORDER FOR FABRICATION AND/OR SHIPMENT. EQUIPMENT AND MATERIAL INCLUDED SHALL BE ITEMS SUCH AS, BUT NOT LIMITED TO, METERING EQUIPMENT, SERVICE EQUIPMENT, SWITCHES, DISCONNECTS, PANELBOARDS, BREAKERS, LIGHTING FIXTURES, OUTLET DEVICES, WIRING AND CONDUIT, ETC.
- STATEMENT OF WORK: THE CONTRACTOR SHALL PROVIDE ALL NECESSARY ELECTRICAL EQUIPMENT AND LABOR TO ENSURE THE COMPLETE WORKING ORDER OF THE LANDFILL GAS EXTRACTION SYSTEM, INCLUDING A NEW ELECTRICAL SERVICE AS DESCRIBED ON CONTRACT DRAWINGS.
- THE CONTRACTOR SHALL PROVIDE ALL SUPERVISION, LABOR, MATERIALS, EQUIPMENT, MACHINERY, AND ANY AND ALL OTHER ITEMS NECESSARY TO COMPLETE THE SYSTEM. IT IS THE INTENT OF THESE PLANS AND DOCUMENTS TO PROVIDE A COMPLETELY FINISHED, TESTED, AND OPERATIONAL ELECTRICAL SYSTEM. ANY INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE WORK COMPLETE AND READY FOR OPERATION, EVEN IF NOT COMPLETELY SHOWN, SHALL BE FURNISHED, DELIVERED AND INSTALLED BY THE CONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
- THE CONTRACTOR AND SUB-CONTRACTORS SHALL BE EXPERIENCED AND KNOWLEDGEABLE OF INSTALLATION PRACTICES AND LOCAL CODE REQUIREMENTS. EACH SHALL MAKE KNOWN TO THE OWNER'S REPRESENTATIVE WITH THE SUBMISSION OF HIS PROPOSAL OF ANY MATERIALS OR APPARATUS BELIEVED TO BE INADEQUATE, UNSUITABLE, IN VIOLATION OF APPLICABLE LAWS, ORDINANCES, OR RULES, AND OF ANY NECESSARY ITEMS OF WORK OMITTED. IN THE ABSENCE OF SUCH WRITTEN NOTICE, IT IS MUTUALLY AGREED THAT THE CONTRACTOR AND HIS SUB-CONTRACTORS HAVE INCLUDED THE COST OF ALL REQUIRED ITEMS IN THEIR BID, AND THAT THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE APPROVED SATISFACTORY FUNCTIONING OF THE ENTIRE SYSTEM WITHOUT EXTRA COMPENSATION.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL "OWNER FURNISHED REQUIREMENTS" REQUIRED BY LOCAL POWER COMPANY TO PROVIDE ELECTRICAL SERVICE. COORDINATION WITH THE LOCAL POWER COMPANY, BALTIMORE GAS AND ELECTRIC COMPANY, SOUTH/WEST CUSTOMER OPERATIONS 7317 PARKWAY DRIVE SOUTH, HANOVER, MARYLAND 21078. PHONE (410) 850-4620, SHALL BE PART OF THIS WORK. THE OWNER SHALL PAY ALL ELECTRIC CO. FEES.
- THE ELECTRICAL CONTRACTOR SHALL CONSULT DRAWINGS OF ALL OTHER TRADES FOR RELATED AND ADJOINING WORK AND COORDINATE INSTALLATION INTERFERENCES.
- THE DRAWING(S) IS DIAGRAMMATIC AND DOES NOT PURPORT TO SHOW ALL MATERIAL NECESSARY FOR A COMPLETE AND USABLE SYSTEM. THE CONTRACTOR SHALL PROVIDE ALL MATERIAL NECESSARY FOR A COMPLETE USABLE SYSTEM AND SHALL BE RESPONSIBLE FOR APPROVAL OF WORK BY THE AUTHORITY HAVING JURISDICTION.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL BRACES/SUPPORTS FOR HIS WORK.
- ALL LIGHTING FIXTURES SHALL BE PROVIDED COMPLETE WITH LENS, BALLASTS, TRIMS, LAMPS, ETC.
- PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR WITH ALL CIRCUITS IAW NFPA 70 ARTICLE 250 WHETHER SHOWN OR NOT ON THE PLANS. ADJUST FEEDER AND BRANCH CIRCUIT RACEWAY SIZE IF REQUIRED.
- VERIFY EQUIPMENT LOCATIONS FOR ELECTRICAL ROUGH-INS WITH OWNER/USER REPRESENTATIVE, FIELD MEASUREMENTS, AND WITH THE REQUIREMENTS OF THE ACTUAL EQUIPMENT TO BE CONNECTED. CONFLICTS WITH OTHER EQUIPMENT AND FEATURES SHALL BE RESOLVED PRIOR TO INSTALLATIONS.
- COORDINATE THE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND CONDUIT TO BE SET IN POURED IN PLACE CONCRETE.
- WHERE MOUNTING HEIGHTS ARE NOT DETAILED OR DIMENSIONED, COORDINATE WITH OWNER'S REPRESENTATIVE.
- INSTALL ELECTRICAL EQUIPMENT TO FACILITATE MAINTENANCE AND REPAIR OR REPLACEMENT OF EQUIPMENT COMPONENTS. AS MUCH AS PRACTICAL, CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM OF INTERFERENCE WITH OTHER INSTALLATIONS.
- COORDINATE CONNECTION OF ELECTRICAL SYSTEMS WITH EXTERIOR UNDERGROUND UTILITIES AND SERVICES. COMPLY WITH REQUIREMENTS OF GOVERNING REGULATIONS, FRANCHISED SERVICE COMPANIES, AND CONTROLLING AGENCIES. PROVIDE REQUIRED CONNECTION FOR ELECTRICAL SERVICE.
- PROVIDE AND ARRANGE FOR REPAIRS REQUIRED TO RESTORE OTHER WORK BECAUSE OF DAMAGE CAUSED AS A RESULT OF ELECTRICAL INSTALLATIONS.
- NO ADDITIONAL COMPENSATION WILL BE AUTHORIZED FOR CUTTING AND PATCHING WORK THAT IS NECESSITATED BY ILL-TIMED, DEFECTIVE, OR NON-CONFORMING INSTALLATIONS.
- IN GENERAL, THE WORD "PROVIDE" MEANS TO FURNISH AND INSTALL.
- ALL CONDUCTORS SHALL BE COPPER AND HAVE 75 DEGREE C. INSULATION. ALL EQUIPMENT LUGS SHALL BE U. L. LISTED FOR 75 DEGREE C. WHERE EQUIPMENT IS NOT LISTED AS SUCH, ADJUST CONDUCTOR AMPACITY IAW NFPA 70 ARTICLE 310, TABLE 16.
- THE DESIGN OF ALL BRANCH CIRCUITS IS BASED ON COPPER CONDUCTORS.
- MINIMUM CONDUCTOR SIZE IS #12 AWG. (UNLESS OTHERWISE NOTED)
- CONTRACTOR SHALL PROVIDE CONDUCTORS/CABLE/CONDUIT I.A.W. N.E.C. AND PRECEDING 3 NOTES.
- ANY BRANCH CIRCUIT REQUIRING A NEUTRAL SHALL BE PROVIDED WITH ITS OWN NEUTRAL. NO COMMON NEUTRAL SHALL BE PERMITTED.
- THE CONTRACTOR SHALL PROVIDE CONNECTIONS FOR ALL ELECTRICAL EQUIPMENT INSTALLED ON THIS PROJECT. CONNECTIONS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND/OR CONSISTENT WITH INDUSTRY PRACTICE.
- ALL CONDUIT SHALL BE RIGID GALVANIZED STEEL UNLESS OTHERWISE NOTED.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 16156 Expiration Date: 8-28-20  
 JOHN ZINK, PROFESSIONAL ENGINEER

JOHN ZINK CONTROL RACK (SEE OPERATION AND MAINTENANCE MANUAL)

<b>DEPARTMENT OF PLANNING AND ZONING</b> HOWARD COUNTY, MARYLAND		SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		LOT/PARCEL 54,253,220,11	
DIRECTOR	DATE	LIBER/FOLIO 10-847/606 16-878/215 10-891/314	ZONE R	TAX/ZONE MAP 10 & 16	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 10/30/97	WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30	
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH	DATE				

<b>DEPARTMENT OF PUBLIC WORKS</b> HOWARD COUNTY, MARYLAND		<b>SCS ENGINEERS</b> CONSULTING ENGINEERS 11260 ROGER BACON DRIVE SUITE 300 RESTON, VIRGINIA 22090 PH. (703) 471-6150 FAX. (703) 471-6676	
DIRECTOR OF PUBLIC WORKS	DATE 10/30/97	CHIEF BUREAU OF WASTE MANAGEMENT	DATE 10/30/97

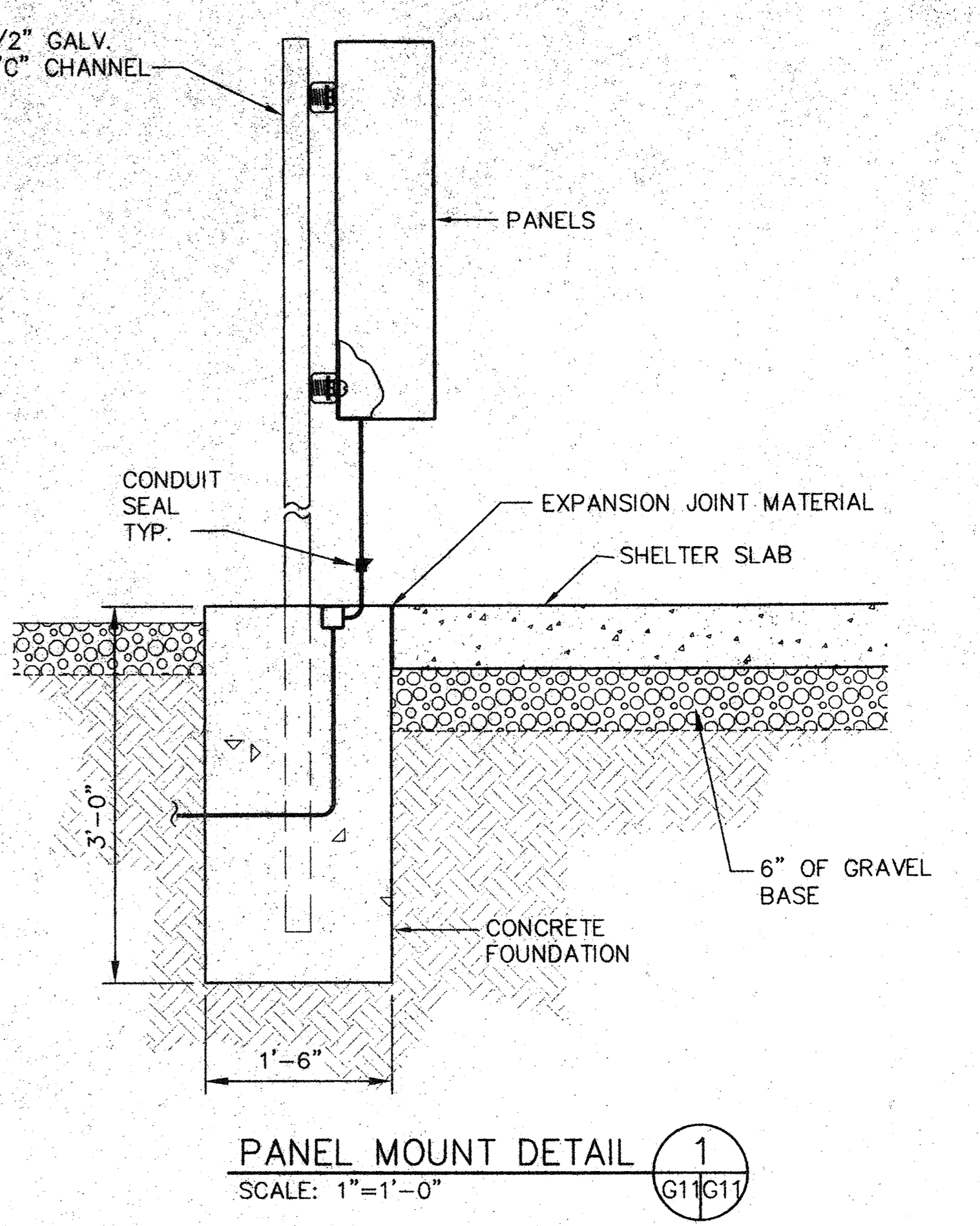
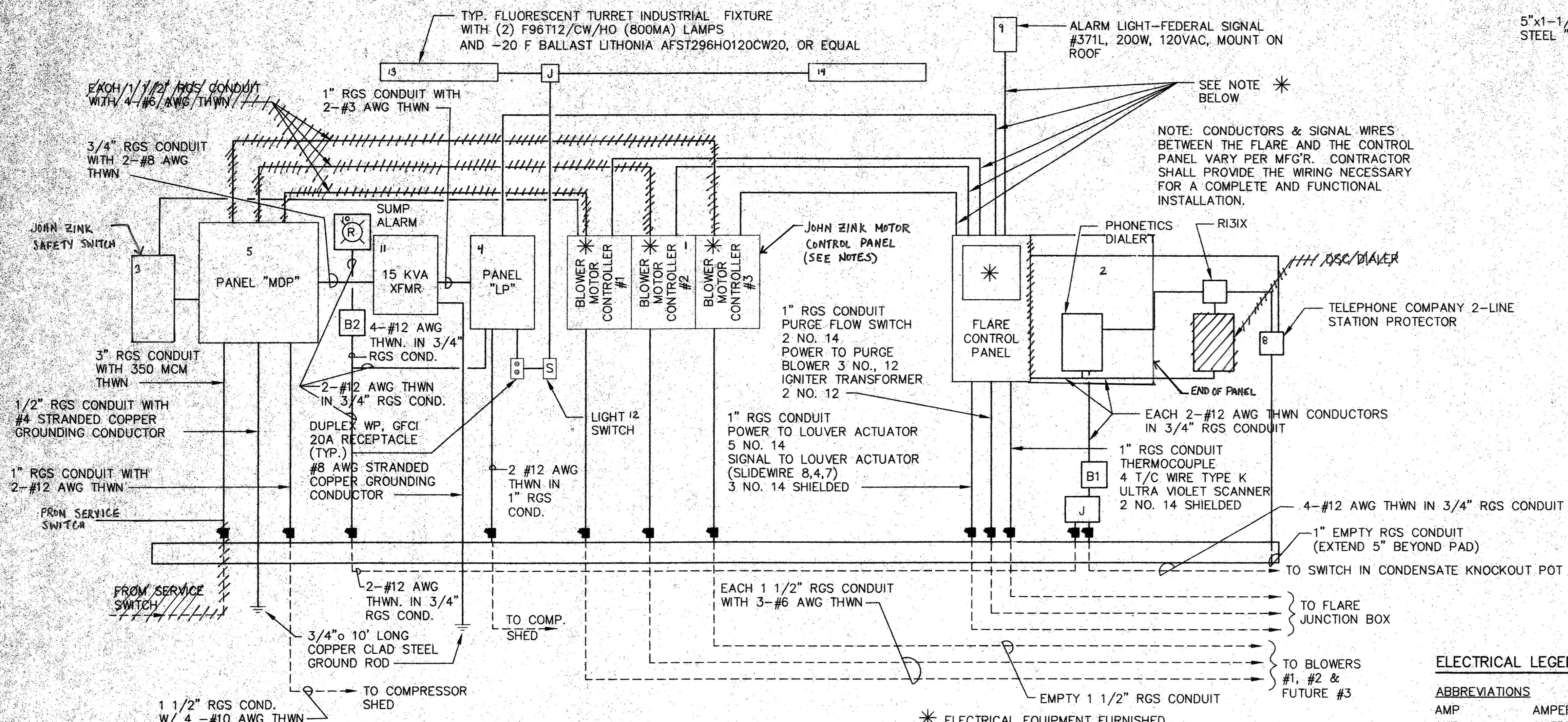
Professional Engineer  
 Raymond F. Irby, PE

DES. RFI			
DRN. BJD/SPC			
CHK. RI			
DATE: 10-30-97			
DTM	UPONED SHEET 10/29	4-2019	
BY	NO.	REVISION	DATE

**ELECTRICAL DETAILS**

<b>ALPHA RIDGE LANDFILL</b> UNLINED CELL CLOSURE CAPITAL PROJECT NO. C-0190-N		SCALE: AS NOTED Sht 94 SHEET 140 G10 of 140
3rd ELECTION DISTRICT	HOWARD COUNTY, MARYLAND	

SHT-G10 M:\295077\02\FINAL\ E-BLOWER, LDIAGRAM, ENOTES



**SERVICE AND CONTROL EQUIPMENT RISER**  
NO SCALE

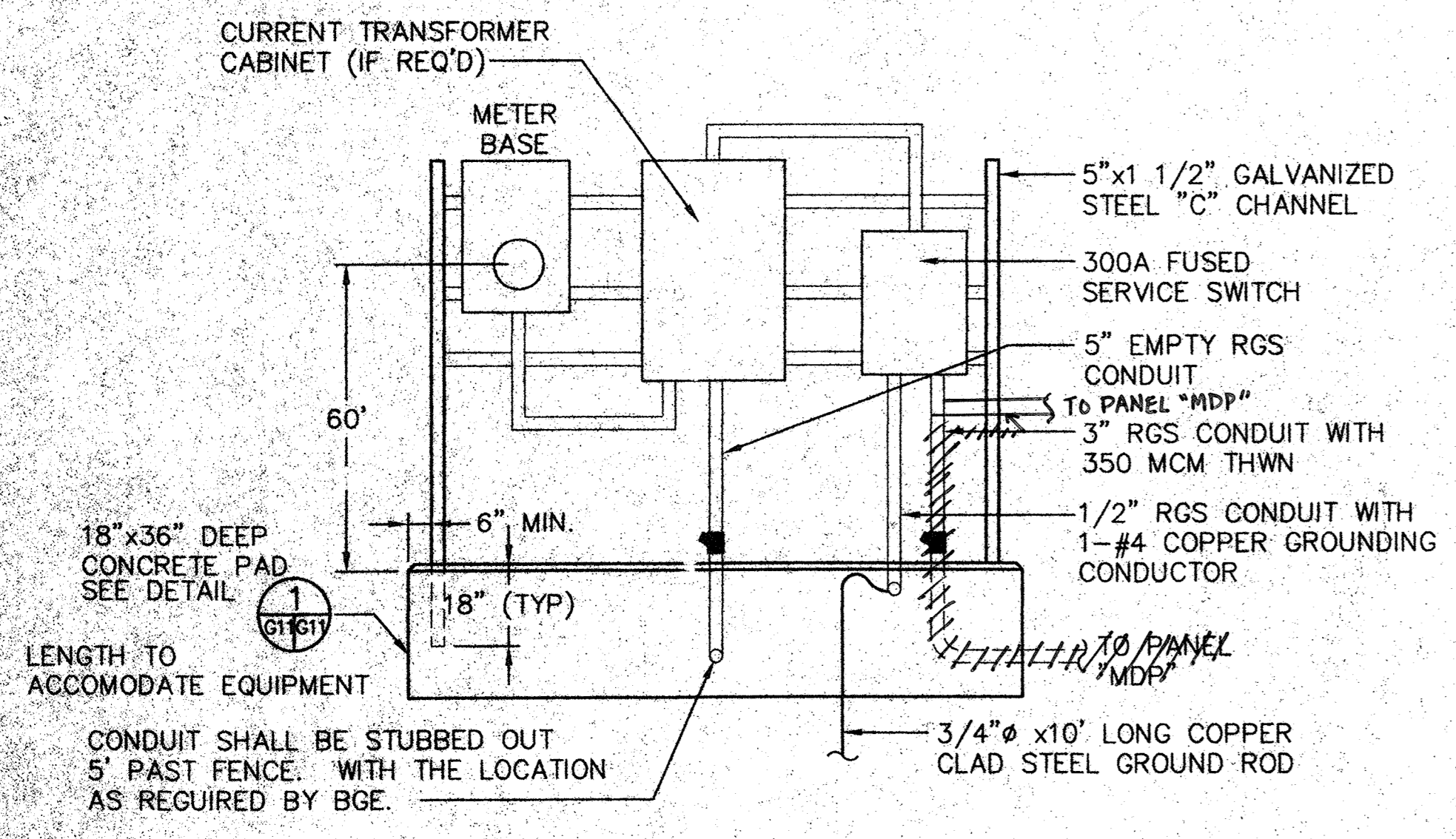
BARRIER B1: SHUNT-DIODE SAFETY BARRIER—MAXIMUM VOLTAGE AND END-TO-END RESISTANCE AS SPECIFIED BY DIALER MANUFACTURER.

BARRIER B2: ONE-CHANNEL SWITCH OPERATED RELAY WITH FULLY FLOATING INPUT CIRCUIT. 120-VOLT AC OPERATING VOLTAGE. CONTACT RATING 250V, 5A, AC RESISTIVE LOAD ISOLATION: 250V AC BETWEEN INPUT, OUTPUT AND POWER SUPPLY TERMINALS. SAFETY DESCRIPTION: 7V, 300 OHM, 22 MA.

\* ELECTRICAL EQUIPMENT FURNISHED PRE-ASSEMBLED BY FLARE MANUFACTURER, INSTALLED BY CONTRACTOR. 15 KVA TRANSFORMER AND PANEL "LP" MAY ALSO BE FURNISHED BY FLARE MANUFACTURER.

NOTES:  
1. REFER TO JOHN ZINK OPERATION AND MAINTENANCE MANUAL FOR DETAILS.  
2. THIS RISER DIAGRAM IS FOR SCHEMATIC PURPOSES AND DOES NOT REFLECT ACTUAL LOCATIONS OF PANELS/EQUIPMENT. (SEE AS-BUILT LAYOUT THIS SHEET FOR LEGEND OF NUMERIC IDENTIFICATION)

NOTES:  
1. BGE WILL INSTALL SERVICE CABLE FROM THEIR POWER SOURCE TO THE CURRENT TRANSFORMER AND METER BASE.  
2. EQUIPMENT SHALL BE ATTACHED TO THE CHANNELING WITH 3/4" GALV. BOLTS, NUTS AND WASHERS.  
3. THE CONTRACTOR SHALL LEAVE A SUFFICIENT AMOUNT OF CONDUCTOR CABLE COILED INSIDE THE CURRENT TRANSFORMER CABINET TO PERMIT BGE TO MAKE THEIR CONNECTION.  
4. CONTRACTOR SHALL OBTAIN METER BASE FROM BG&E AND INSTALL IT.  
5. CONTRACTOR SHALL PROVIDE CURRENT TRANSFORMER CABINET, COORDINATING SIZE, ETC. WITH BGE.



**ELECTRICAL SERVICE EQUIPMENT RISER**  
NO SCALE

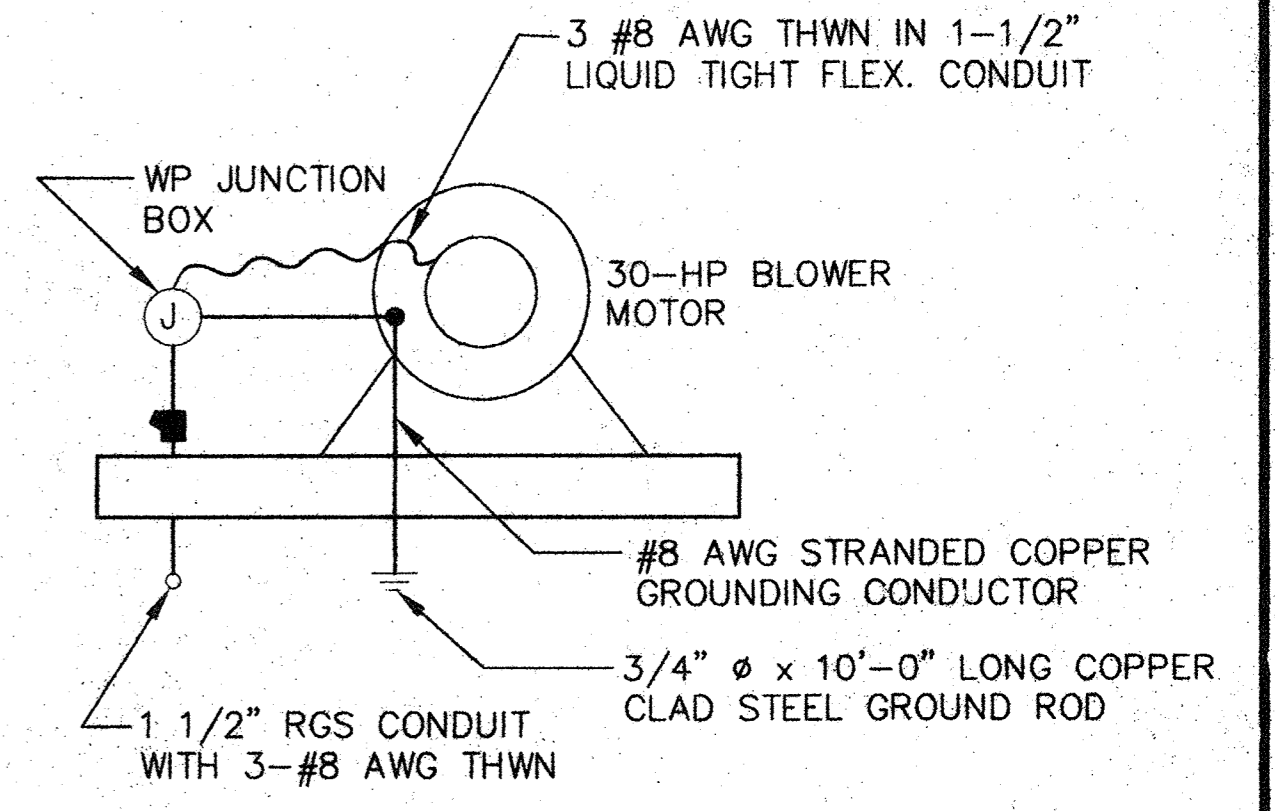
**ELECTRICAL LEGEND**

**ABBREVIATIONS**

AMP	AMPERE
AWG	AMERICAN WIRE GAUGE
CKT. BKR	CIRCUIT BREAKER
CND.	CONDUIT
CU	COPPER
GFI	GROUND FAULT INTERRUPTER
HP	HORSEPOWER
I/AW	IN ACCORDANCE WITH
KW	KILOWATT
MDP	MAIN DISTRIBUTION PANEL
N	NEUTRAL
NEC	NATIONAL ELECTRICAL CODE
OCPD	OVERCURRENT PROTECTIVE DEVICE
PNL, PB	PANEL, PANELBOARD
THWN	MOISTURE AND HEAT RESISTANT THERMOPLASTIC CONDUCTOR INSULATION.
UG	UNDERGROUND
V	VOLT
WP	WEATHER-PROOF
XFMR	TRANSFORMER
RCPT	RECEPTACLE
LP	LIGHTING PANEL

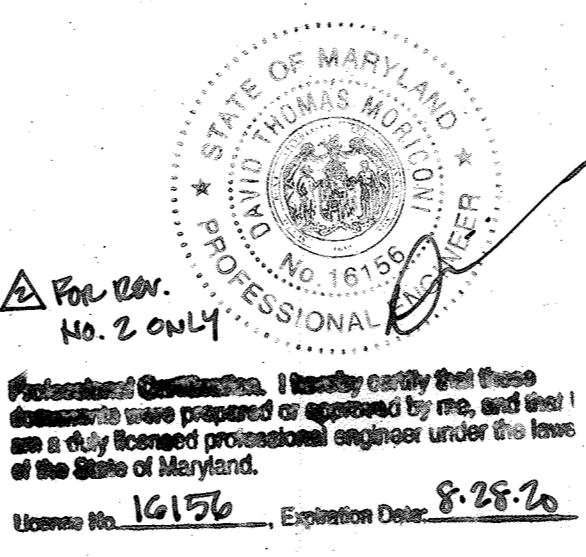
**SYMBOLS**

∅	PHASE
—	CONDUCTORS IN CONDUIT
~	FLEXIBLE, LIQUID-TIGHT METAL CONDUIT
⊙	JUNCTION BOX
⊠	CONDUIT SEAL
⊞	SWITCH
⊞	LIGHTNING ARRESTER



**BLOWER SCHEMATIC**  
NO SCALE

THIS AS-BUILT LAYOUT PROVIDED BY H.E. SARGENT, INC.



DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND			
DIRECTOR	DATE		
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE		
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH	DATE		
SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT/PARCEL 54,253,220,11		
LIBER/FOLIO 10-847/606 16-878/215 10-691/314	ZONE R	TAX/ZONE MAP 10 & 16	
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-30	

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DIRECTOR OF PUBLIC WORKS    DATE    CHIEF, BUREAU OF WASTE MANAGEMENT    DATE	SCS ENGINEERS CONSULTING ENGINEERS 11260 ROGER BACON DRIVE SUITE 300 RESTON, VIRGINIA 22090 PH. (703) 471-6150 FAX. (703) 471-6676	Raymond F. Irby, PE	DES. RFI DRN. BJD/SPC CHK. DTM DATE: 10-30-97 BY NO. REVISION DATE	UPDATED SHEET TOTAL 4-2019 MODIFICATIONS TO EQUIPMENT RISER ELECTRICAL 8-28-98	<b>ELECTRICAL DETAILS</b>	ALPHA RIDGE LANDFILL UNLINED CELL CLOSURE CAPITAL PROJECT NO. C-0190-N 3rd ELECTION DISTRICT    HOWARD COUNTY, MARYLAND	SCALE: AS NOTED SHEET 95 G11 of 140
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INSTALL SOIL STABILIZATION MATTING	
STA. 100+80 TO 101+15, LT. (GRASS CHANNEL NO. 2)	170 S.Y.
STA. 101+11 TO 101+41.5, LT. (GRASS CHANNEL NO. 1)	198 S.Y.
STA. 100+80 TO, RT. TO 104+85, LT. (GRASS CHANNEL NO. 3&5)	1130 S.Y.
STA. 100+54.5, RT. TO 105+26, LT. (GRASS CHANNEL NO. 4)	550 S.Y.
STA. 101+64 TO 102+01, LT.	70 S.Y.
STA. 104+34 TO 104+80, LT.	80 S.Y.

INSTALL CLASS I RIPRAP OUTLET PROTECTION (19" DEPTH) (SEE RIPRAP CONTROL TABLE)	
STA. 100+27 TO 100+76, LT.	85 S.Y.

INSTALL TURFGRASS SOD	
STA. 101+86 TO 104+51, LT. (BIO-SWALE)	380 S.Y.
STA. 100+14 TO 100+55.5, RT.	110 S.Y.

INSTALL TRENCH DRAIN (SEE PLAN AND DETAIL, SHEET CO-3)	
STA. 101+65.9 TO 102+00.9, 58' LT.	35 L.F.
STA. 101+65.9 TO 102+00.9, 87' LT.	35 L.F.

CONSTRUCTION BIO-SWALE SECTION	
STA. 102+07.5 TO 104+44.5, 117.5' LT.	237 L.F.

INSTALL HARDWOOD MULCH (BIO-SWALE) 3" DEPTH	
STA. 104+45 TO 102+08, LT.	18 C.Y.

NOTE: FOR REPAIR OF EQUIPMENT ACCESS ROAD DISTURBANCE-SEE GRAVEL PAVING REPAIR SECTION ON SHEET CO-2

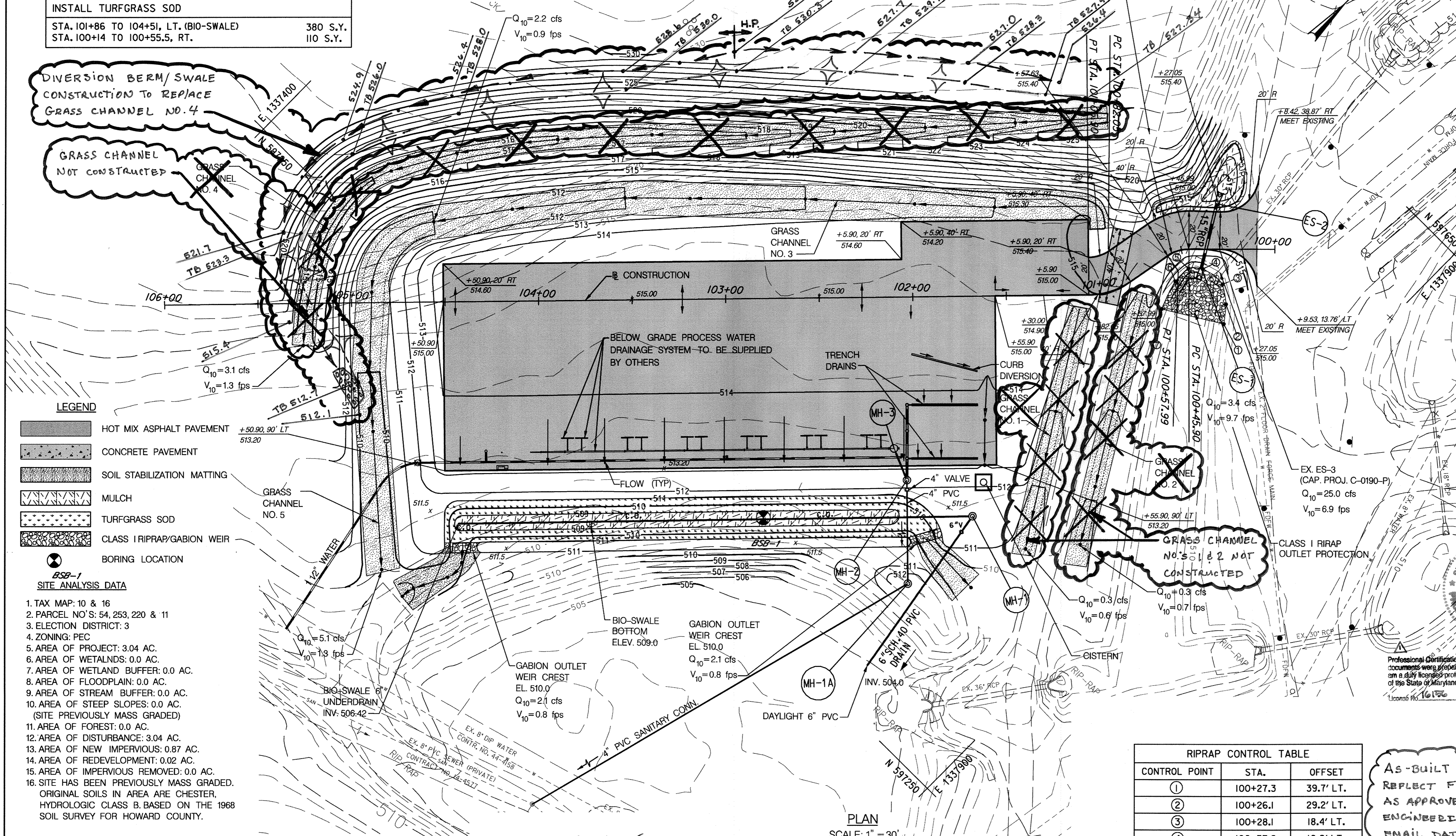
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- IF REQUIRED FOR THIS PROJECT, TRAFFIC DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM AERIAL SURVEY WITH ONE FOOT CONTOUR INTERVALS PREPARED BY HOWARD COUNTY, DATED DECEMBER 2008.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINANCE SYSTEM. CONTROL FOR THIS PROJECT IS PROVIDED BY HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS FIELD MONUMENTATION.
- STORMWATER MANAGEMENT (ESD) MEASURES ARE PROVIDED THROUGH THE USE OF A BIO-SWALE, CISTERNS AND GRASS CHANNELS. MANAGEMENT OF THE 10 YR. 24-HOUR STORM HAS BEEN PROVIDED UNDER SDP-97-128.
- EXISTING UTILITIES ARE BASED ON "AS-BUILT" DRAWINGS.
- THERE IS NO FLOODPLAIN ON THIS SITE.
- THERE IS NO WETLANDS ON THIS SITE.
- NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT.
- THERE ARE NO DESIGN MANUAL WAIVERS PLANNED FOR THIS PROJECT IN REGARDS TO ENVIRONMENTAL DISTURBANCES.
- FOREST CONSERVATION OBLIGATIONS HAVE BEEN PREVIOUSLY ADDRESSED BY SDP-97-128, ALPHA RIDGE LANDFILL.

INSTALL HOT MIX ASPHALT CURB DIVERSION (HO. CO. DETAIL R-3.03)	
STA. 101+65.9 40' LT. TO 102+00, 30' LT.	36 L.F.

INSTALL GABION WEIR (BIO-SWALE) (SEE DETAILS, SHEET CO-4)	
STA. 100+94, 128' LT.	2 C.Y.
STA. 104+41.5, 131.5' LT.	2 C.Y.

CONSTRUCT HOT MIX ASPHALT PAVEMENT SECTION (SEE PAVEMENT SECTION DETAIL, SHEET CO-2)	
	36,293 S.F.

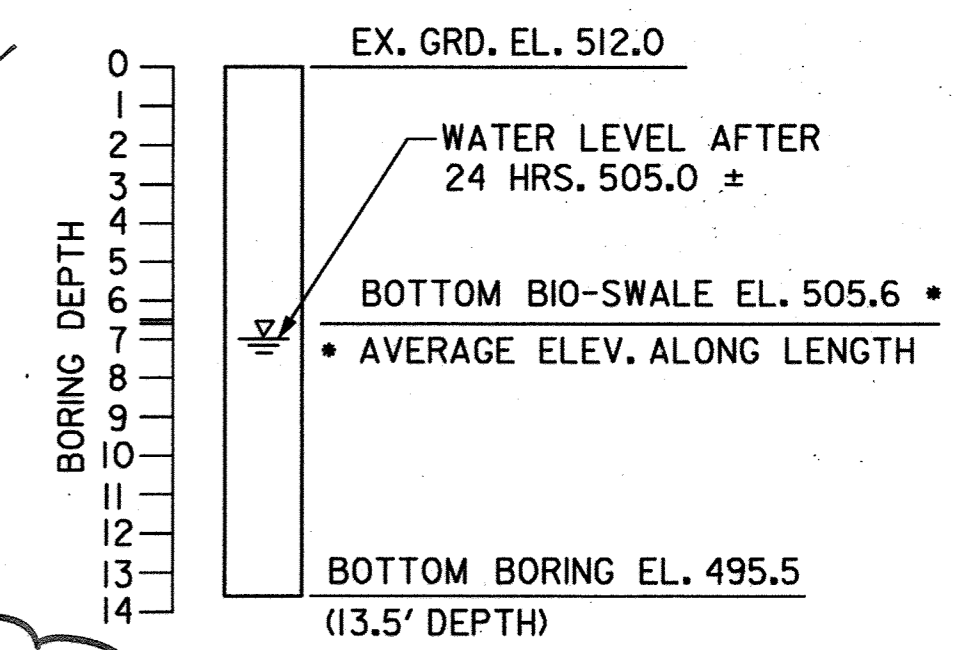
CONSTRUCT CONCRETE PAVEMENT SECTION (SEE PAVEMENT SECTION LOCATION PLAN & DETAIL, SHEET CO-2)	
	420 S.F.



- LEGEND**
- HOT MIX ASPHALT PAVEMENT
  - CONCRETE PAVEMENT
  - SOIL STABILIZATION MATTING
  - MULCH
  - TURFGRASS SOD
  - CLASS I RIPRAP/GABION WEIR
  - BORING LOCATION
- ESP-1 SITE ANALYSIS DATA**
- TAX MAP: 10 & 16
  - PARCEL NO'S: 54, 253, 220 & 11
  - ELECTION DISTRICT: 3
  - ZONING: PEC
  - AREA OF PROJECT: 3.04 AC.
  - AREA OF WETLANDS: 0.0 AC.
  - AREA OF WETLANDS BUFFER: 0.0 AC.
  - AREA OF FLOODPLAIN: 0.0 AC.
  - AREA OF STEEP SLOPES: 0.0 AC. (SITE PREVIOUSLY MASS GRADED)
  - AREA OF FOREST: 0.0 AC.
  - AREA OF DISTURBANCE: 3.04 AC.
  - AREA OF NEW IMPERVIOUS: 0.87 AC.
  - AREA OF REDEVELOPMENT: 0.02 AC.
  - AREA OF IMPERVIOUS REMOVED: 0.0 AC.
  - SITE HAS BEEN PREVIOUSLY MASS GRADED. ORIGINAL SOILS IN AREA ARE CHESTER, HYDROLOGIC CLASS B, BASED ON THE 1968 SOIL SURVEY FOR HOWARD COUNTY.

RIPRAP CONTROL TABLE		
CONTROL POINT	STA.	OFFSET
①	100+27.3	39.7' LT.
②	100+26.1	29.2' LT.
③	100+28.1	18.4' LT.
④	100+37.8	10.9' LT.
⑤	100+46.5	10.2' LT.
⑥	100+62.3	13.5' LT.
⑦	100+76.6	21.3' LT.

AS-BUILT INFORMATION SHOWN REFLECT FIELD CONDITION CHANGES AS APPROVED BY THE DEVELOPMENT ENGINEERING DIVISION (DED) BY EMAIL DATED JULY 18, 2013.



LOCATION: N 597,291.0 E 1,337,736.0  
BORING DUG 11812  
BSB-1 BORING LOG

**PURPOSE STATEMENT**  
THE PURPOSE OF THIS REVISION TO SDP-97-128 IS TO INCORPORATE THE CONSTRUCTION OF THE AERATED STATIC PILE COMPOST FACILITY ON THE GROUNDS OF THE ALPHA RIDGE LANDFILL.

SUBDIVISION NAME	LOT /PARCEL
ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	54, 253, 220, 11
LIBER /FOLIO	ZONE
10-847806	PEC
16-878215	TAX /ZONE MAP
10-691314	10 & 16
WATER CODE	SEWER CODE
PRIVATE, EXISTING	PRIVATE, EXISTING
CENSUS TR.	
60-30	

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Chad Clendon</i>	3-29-12
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Paul S. Dwyer</i>	4-02-12
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>Frank R. Coyle</i>	4/2/12
DIRECTOR	DATE

*Charles S. Nolan* 3/14/12  
CHARLES S. NOLAN, P.E. DATE

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS ARE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 15212, EXPIRATION DATE: 12/24/2012."

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Jay K.* 3/15/12  
DIRECTOR OF PUBLIC WORKS DATE

*Evelyn E. Jond* 3/15/12  
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE

**NOLAN**  
Associates, Inc.  
Engineers - Civil/Structural/Inspections  
4785 Dorsey Hall Drive  
Suite 124  
Ellicott City, Maryland 21042

Phone: (410) 895-3851 Fax: (410) 895-3863

DES: GWF			
DRN: JFW			
CHK:			
DATE: MARCH 2012	BY: NO.	REVISION: UPDATED SHEET TOTAL	DATE: 4/20/12
600' SCALE MAP NO. 16		BLOCK NO. 8	

SCALE: AS SHOWN  
SHEET 96  
CO-1 OF 9  
TOTAL OF 100

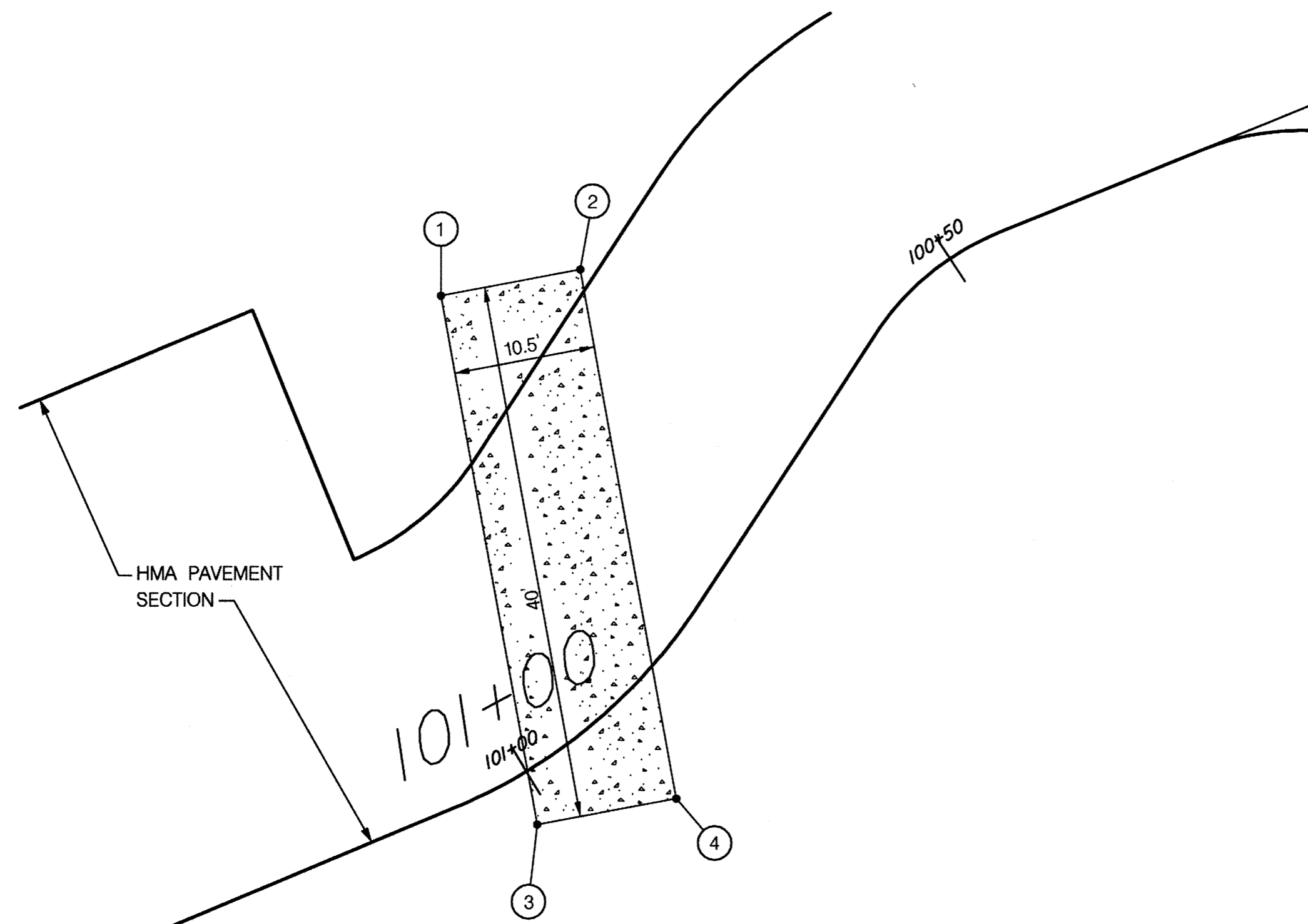
ALPHA RIDGE LANDFILL  
AERATED STATIC PILE COMPOST FACILITY  
CAPITAL PROJECT NO. C-0299  
TAX MAP 10 & 16. PARCEL NUMBERS 54, 253, 220 & 11  
ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

SDP-97-128

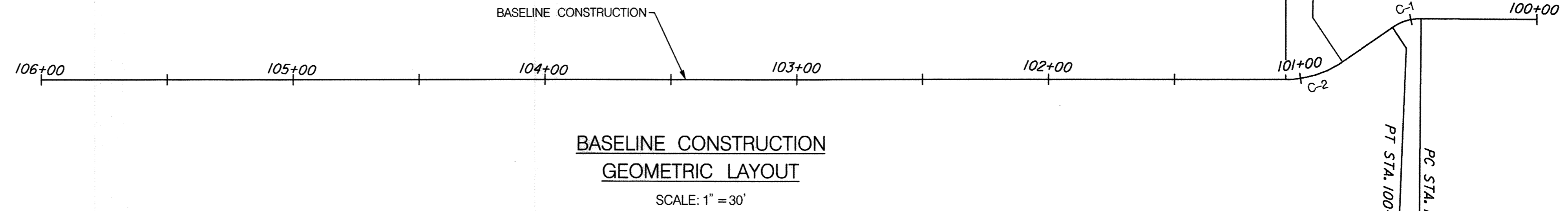
CONCRETE PAVEMENT SECTION DATA			
POINT	STATION	OFFSET	ELEVATION
1	100+73.41	28.77' RT.	515.50
2	100+66.08	21.11' RT.	515.60
3	101+22.00	3.83' LT.	514.72
4	100+92.87	8.29' LT.	514.50

BASELINE CONSTRUCTION CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
C-1	34°37'40.56" LT	286°28'44.03"	20.00'	6.23'	12.09'	0.95'
C-2	34°10'18.37" RT	143°14'22.02"	40.00'	12.29'	23.86'	1.85'

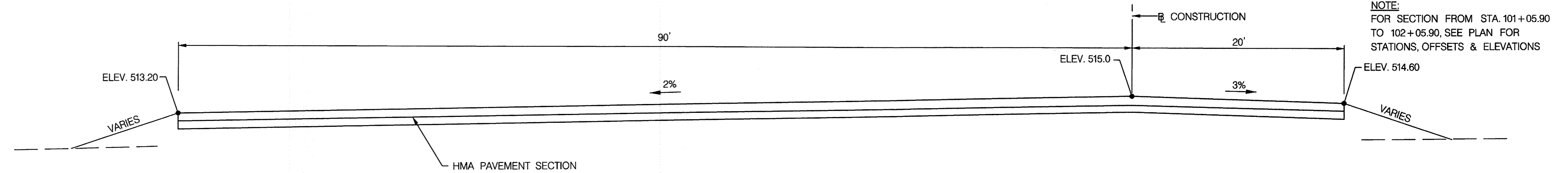
BASELINE CONSTRUCTION CONTROL COORDINATES		
STATION	NORTH	EAST
POB STA. 100+00.00	597,584.6477	1,337,829.7804
PC STA. 100+45.90	597,552.3041	1,337,797.2087
PT STA. 100+57.99	597,541.7822	1,337,791.6406
PC STA. 100+82.05	597,518.1336	1,337,787.2263
PT STA. 101+05.90	597,497.3152	1,337,776.3152
POE STA. 106+00	597,146.3855	1,337,428.4936



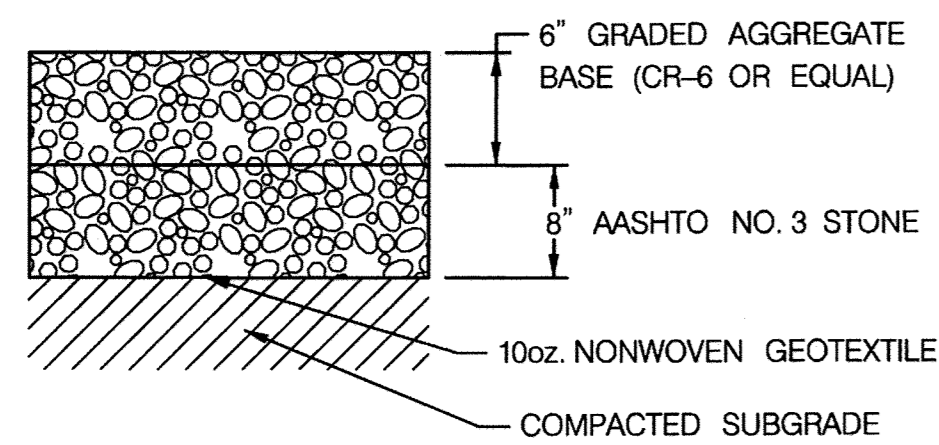
CONCRETE PAVEMENT SECTION LOCATION PLAN  
SCALE: 1" = 10'



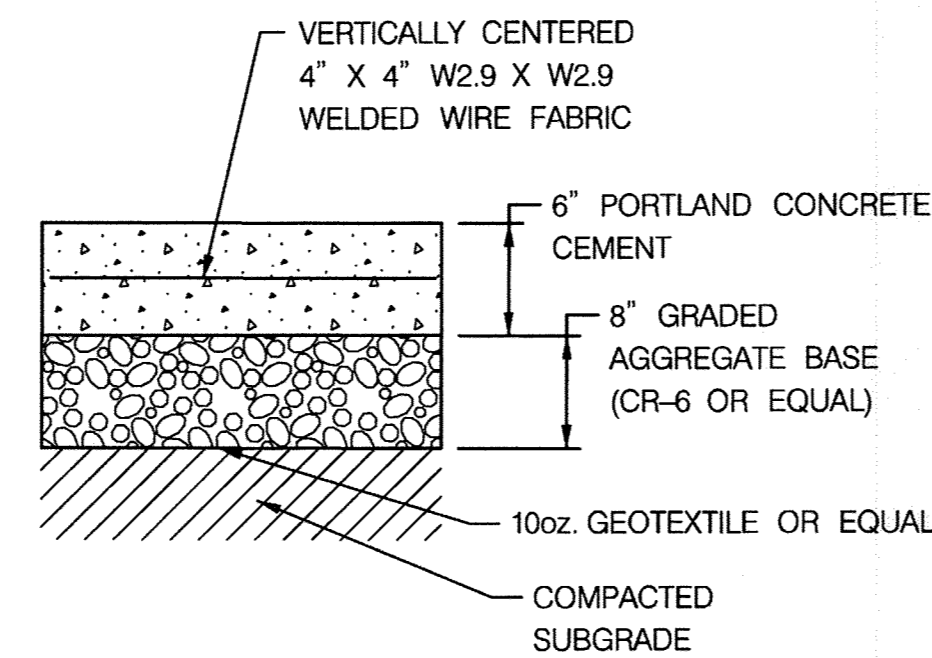
BASELINE CONSTRUCTION GEOMETRIC LAYOUT  
SCALE: 1" = 30'



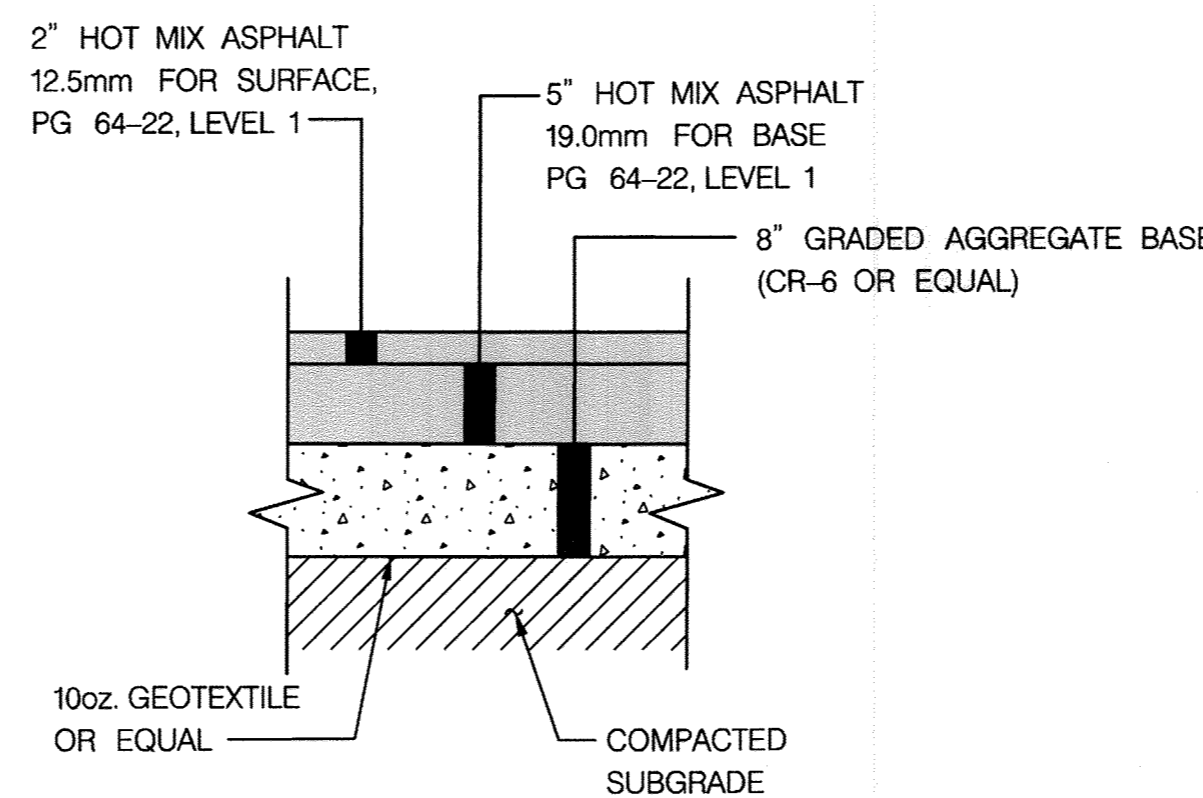
TYPICAL SECTION - FACILITY SLAB  
STA. 102+05.90 TO STA. 104+50.90  
NOT TO SCALE



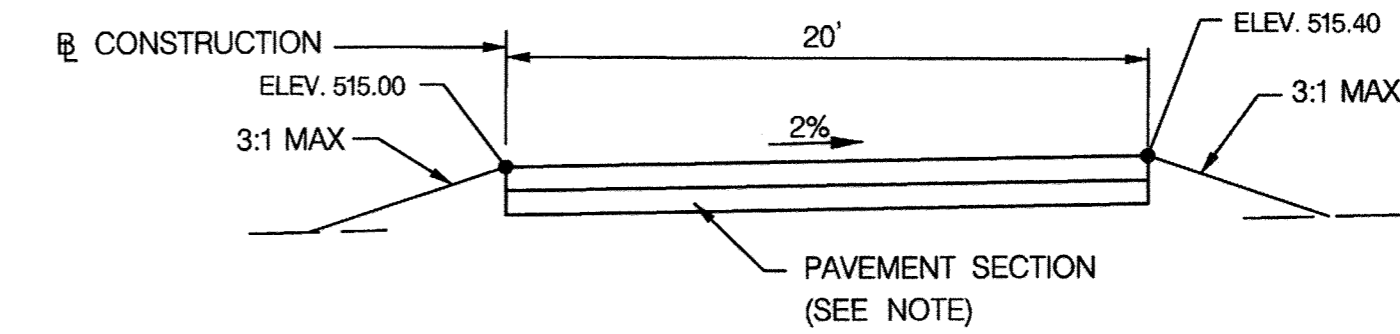
GRAVEL PAVING REPAIR SECTION DETAIL  
NOT TO SCALE



CONCRETE PAVEMENT SECTION DETAIL  
NOT TO SCALE



HOT MIX ASPHALT PAVEMENT SECTION DETAIL  
NOT TO SCALE



TYPICAL SECTION - ACCESS ROAD  
STA. 100+27.05 TO STA. 101+05.90  
NOT TO SCALE

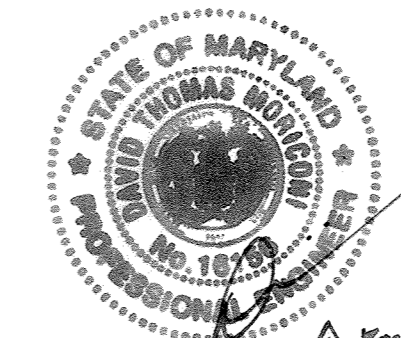
NOTE:  
FOR SECTION FROM STA. 101+05.90 TO 102+05.90, SEE PLAN FOR STATIONS, OFFSETS & ELEVATIONS

NOTE:  
IN AREA WHERE LANDFILL HEAVY EQUIPMENT CROSSES ACCESS ROAD CONCRETE PAVEMENT SECTION WILL BE USED. SEE PLAN FOR LIMITS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 3-29-12  
  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 4-02-12  
  
 DIRECTOR  
 DATE: 4/2/12

(FOR PROFESSIONAL CERTIFICATION SEE SHEET CO-1)



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 16156, Expiration Date: 8-28-10

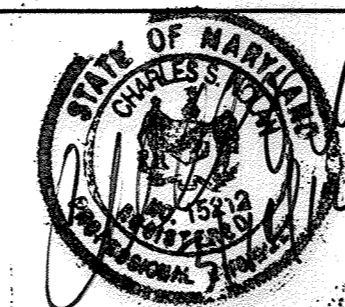
SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT / PARCEL 54, 253, 220, 11	ZONE PEC	TAX / ZONE MAP 10 & 16
LIBER / FOLIO 10-347605 16-578215 10-691314	WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING	CENSUS TR. 60-90

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF ENVIRONMENTAL SERVICES  
 DATE: 3/15/12



Engineers - Civil/Structural/Inspections  
4785 Dorsey Hall Drive  
Suite 124  
Ellicott City, Maryland 21042  
Phone: (410) 995-3551 Fax: (410) 995-1363



DES: GWF	DATE: MARCH 2012
DRN: JRW	BY: NO.
CHK:	REVISION
DATE: MARCH 2012	DATE: 4-20-12

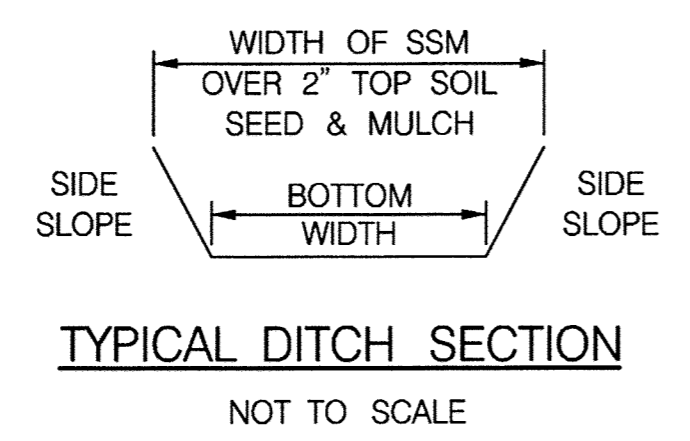
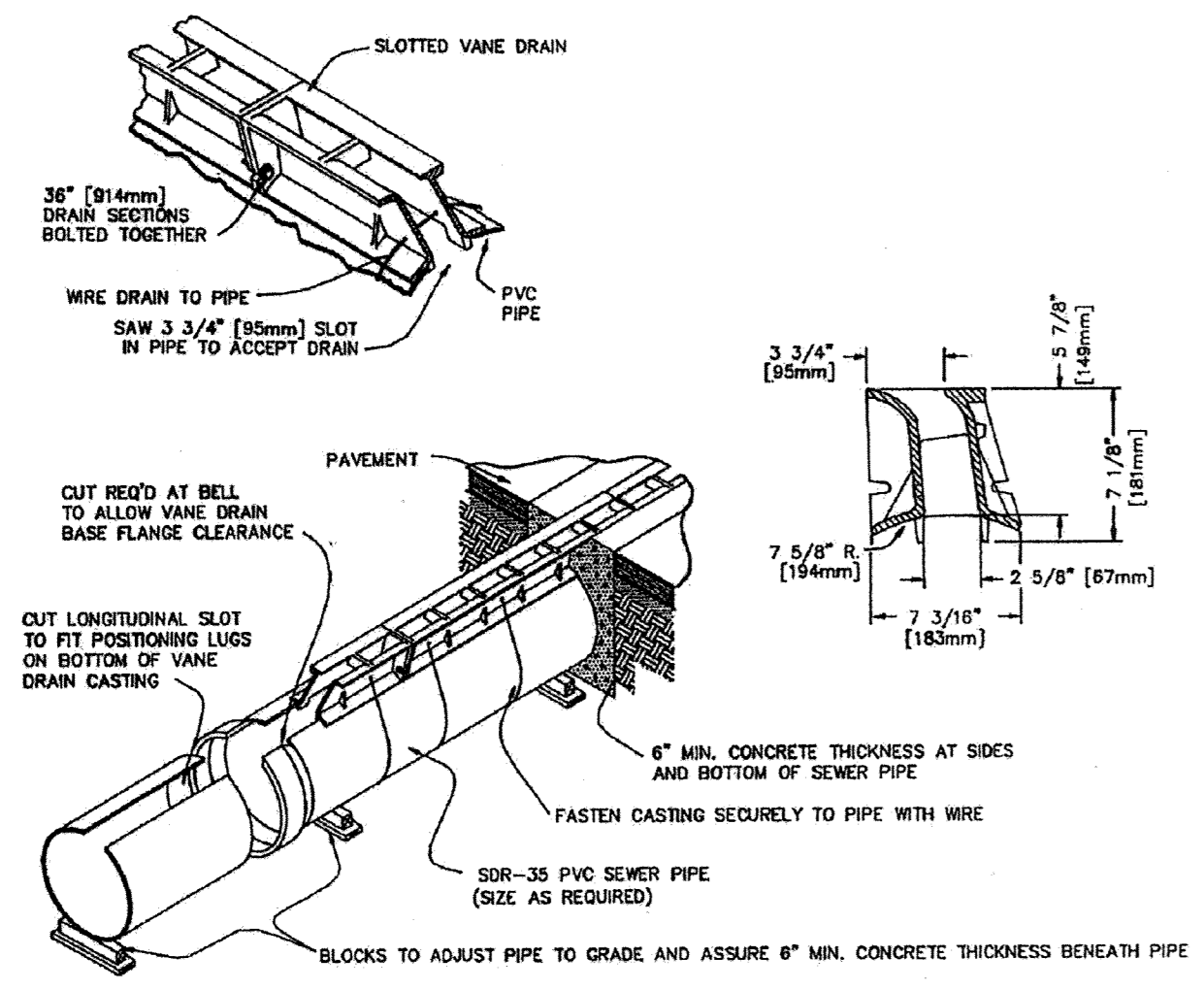
MISCELLANEOUS DETAILS

600' SCALE MAP NO. 46 BLOCK NO. 2

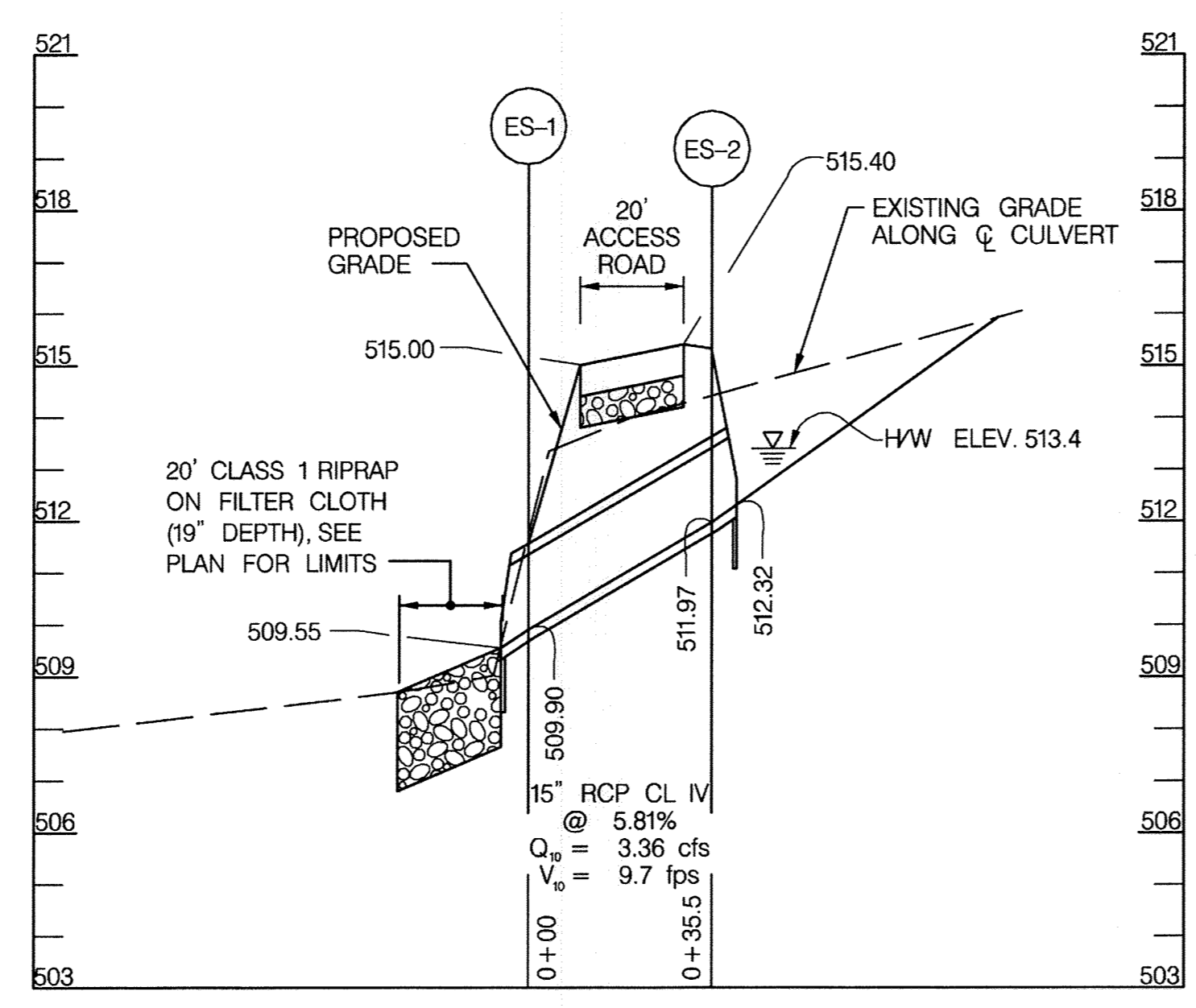
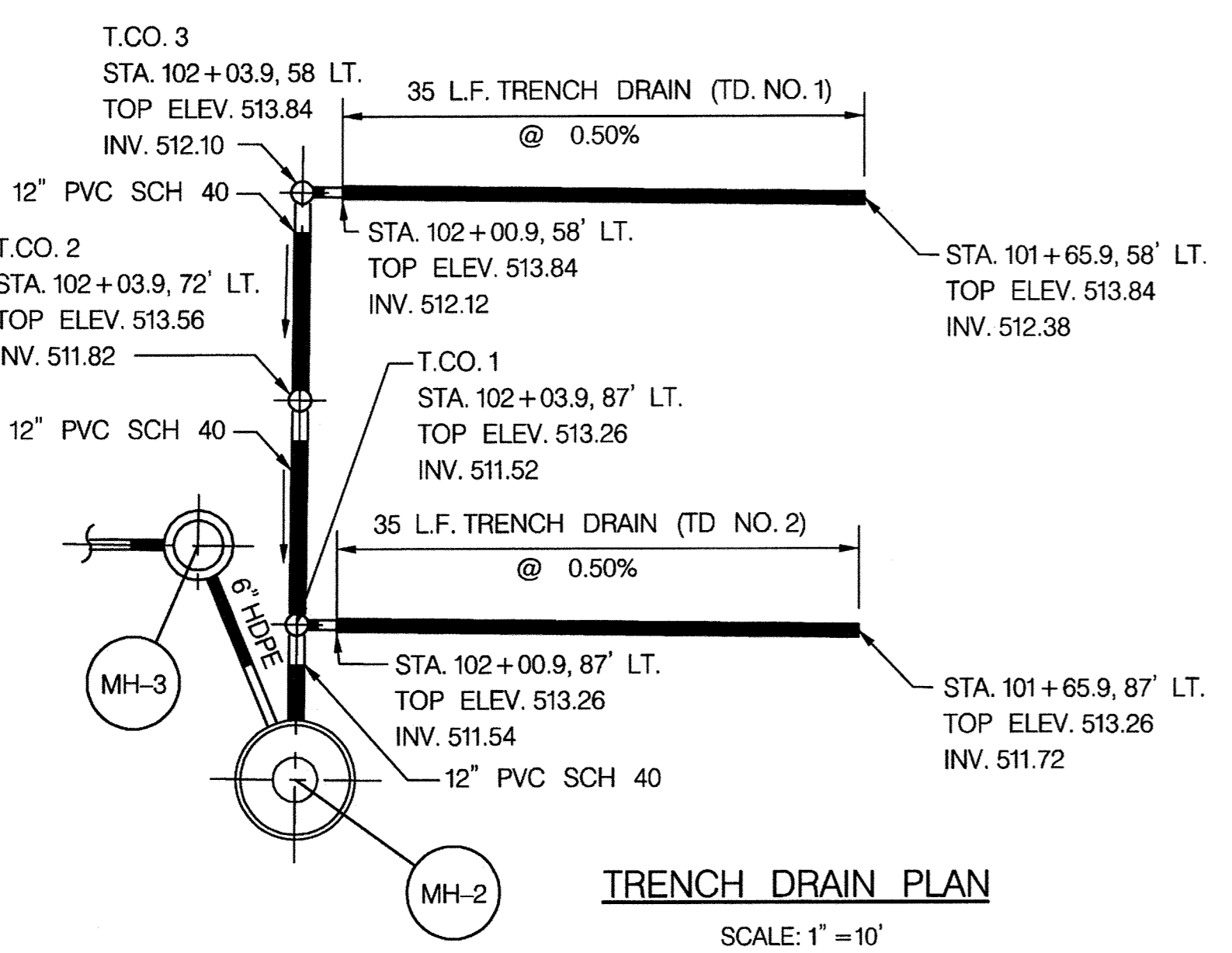
ALPHA RIDGE LANDFILL  
AERATED STATIC PILE COMPOST FACILITY  
CAPITAL PROJECT NO. C-0299  
TAX MAP 10 & 16. PARCEL NUMBERS 54, 253, 220 & 11  
ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

SCALE:  
AS SHOWN  
64 97  
SHEET  
CO-2 OF 9  
TOTAL OF 140

GRASS CHANNEL SCHEDULE						
GRASS CHANNEL	BOTTOM WIDTH	SIDE SLOPES	Q <sub>10</sub> (cfs)	V <sub>10</sub> (cfs)	FLOW DEPTH (ft)	WIDTH OF SSM
NO. 1	7 ft	3:1	0.3	0.6	0.1	13'
NO. 2	4 ft	3:1	0.3	0.7	0.1	10'
NO. 3	12 ft	3:1 (MAX)	2.2	0.9	0.2	18'
NO. 4	4 ft	3:1	3.1	1.3	0.5	10'
NO. 5	12 ft	3:1 (MAX)	5.1	1.3	0.3	18'



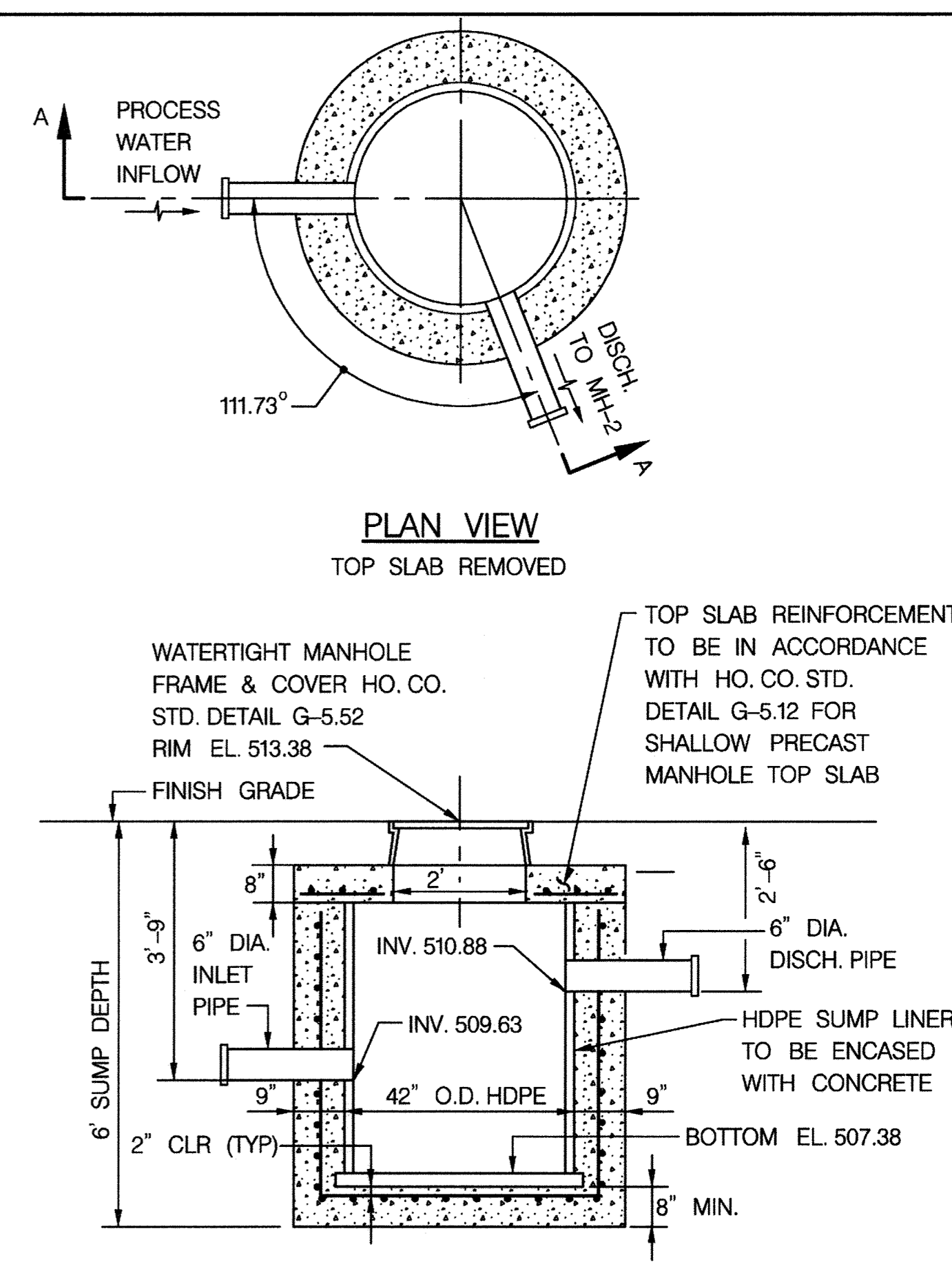
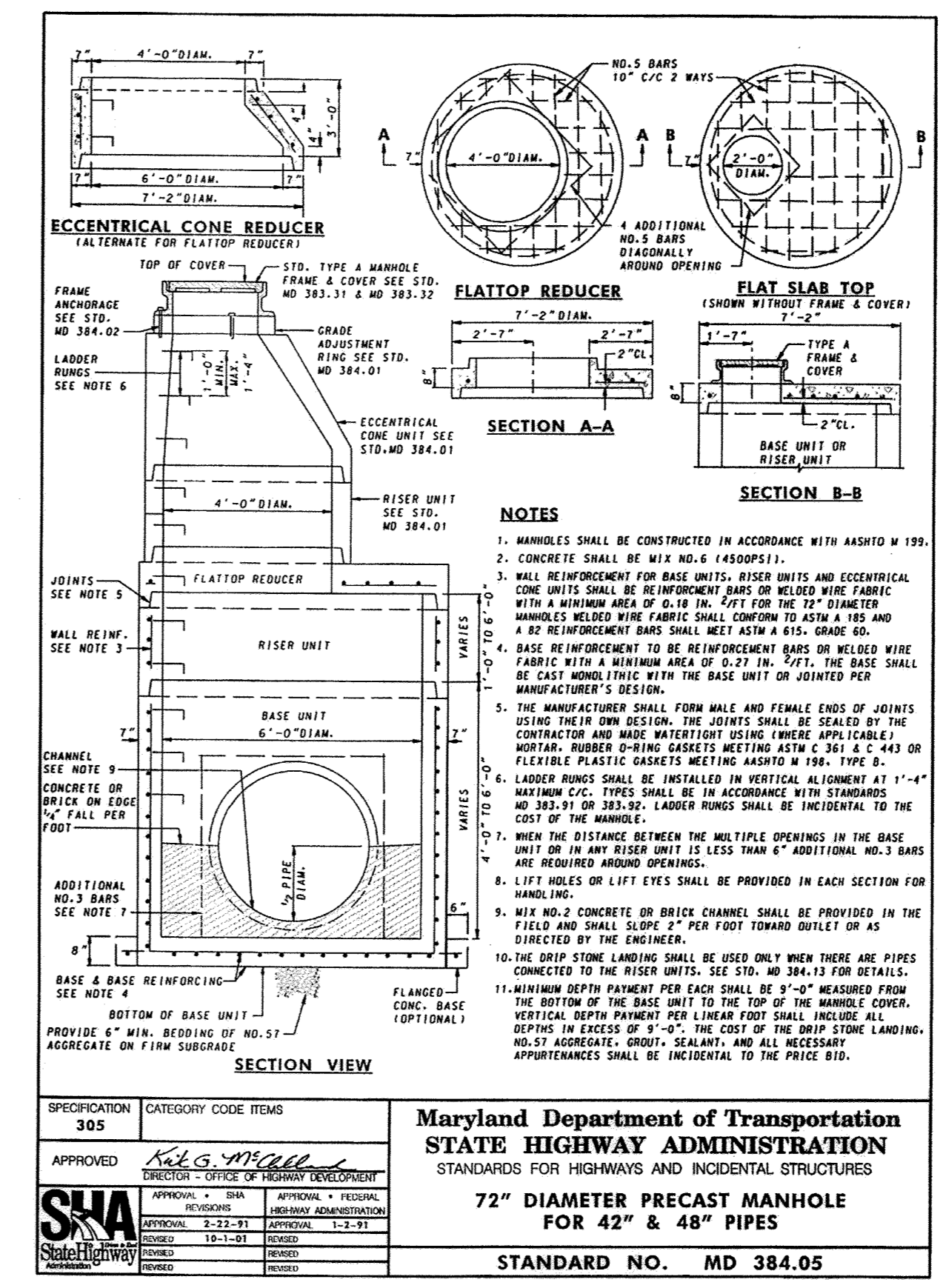
- NOTES:
- TRENCH DRAIN TO BE NEENAH FOUNDRY TYPE R-3599-A OR APPROVED EQUAL.
  - PIPE SIZE TO BE 12-INCH PVC SCH 40.



DRAINAGE PIPE SCHEDULE				
FROM STRUCT.	TO STRUCT.	SIZE (IN.)	TYPE	LENGTH (FT.)
MH-1	OUTFALL	6"	PVC SCH 40 *	97'
MH-1	BIO-SWALE	6"	PVC SCH 40 *	40'
BIO-SWALE	CO-1	6"	PERF. PVC SCH 40	35'
CO-1	CO-2	6"	PERF. PVC SCH 40	100'
CO-2	CO-3	6"	PERF. PVC SCH 40	100'
ES-1	ES-2	15"	RCCP CL IV	36'
MH-3	MH-2	6"	HDPE	30'

DRAINAGE STRUCTURE SCHEDULE						
NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP EL.	STD. NO.
MH-1	PRECAST MANHOLE	STA. 101 + 69.01, 117' LT.	505.04	504.94	511.50	G - 5.12
ES-1	15" CONCRETE END SECTION	STA. 100 + 39.3, 10' LT.	509.90	509.55	---	D - 5.1
ES-2	15" CONCRETE END SECTION	STA. 100 + 30.8, 24' LT.	512.32	511.97	---	D - 5.1
CO-1	CLEAN OUT	STA. 102 + 43.3, 117.5' LT.	---	506.42	509.5	SEE DETAIL
CO-2	CLEAN OUT	STA. 103 + 43.3, 117.5' LT.	---	505.92	509.5	SEE DETAIL
CO-3	CLEAN OUT	STA. 104 + 43.3, 117.5' LT.	---	505.42	509.5	SEE DETAIL
CISTERN	SEE DETAIL	STA. 101 + 62.9, 100' LT.	---	---	512.0	SEE DETAIL
MH-2	72" DIA. PRECAST MANHOLE	STA. 102 + 03.9, 97.5' LT.	510.45 (6") 509.95 (12")	504.45 (1)	512.45	MD SHA STD. NO. MD 384.05
MH-3	POURED IN PLACE MANHOLE	STA. 102 + 10.75, 80.75' LT.	509.63	510.88	513.38	SEE DETAIL (2)

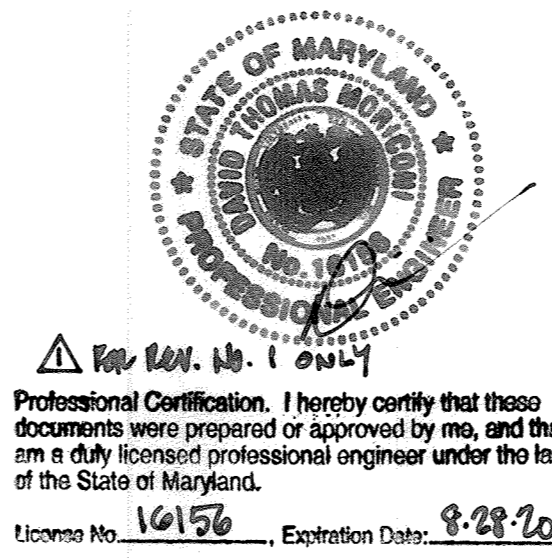
- (1) BOTTOM OF MANHOLE ELEVATION & 4" PVC INV. OUT ELEVATION. MANHOLE MH-2 TO ALSO BE USED AS HOLDING / STORAGE FACILITY FOR TRENCH DRAIN / PROCESS WATER DRAINAGE SYSTEMS.
- (2) INLET TO BE CAST IN PLACE AROUND PROCESS WATER HDPE SUMP LINER (TO BE SUPPLIED BY OTHERS).



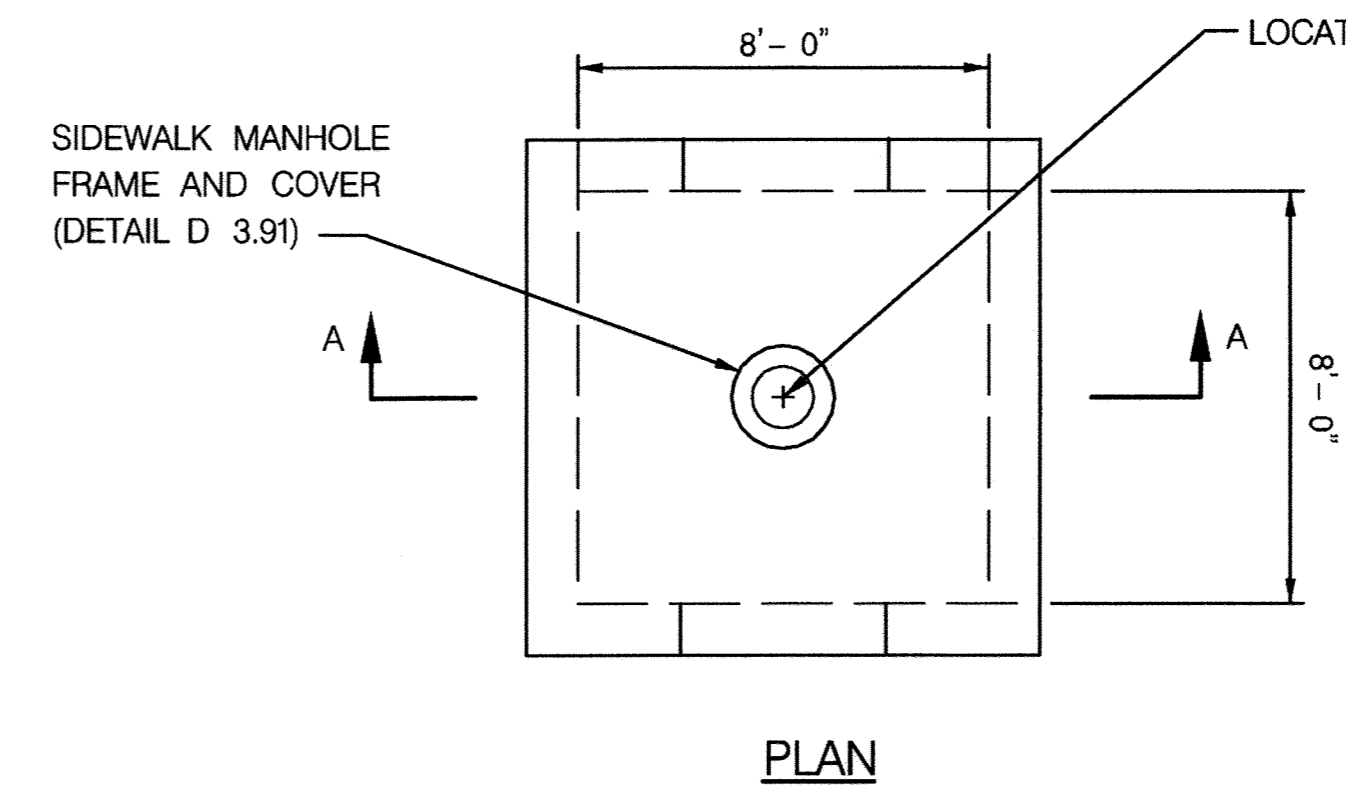
APPROVED: DEPARTMENT OF PLANNING AND ZONING

*Chief, Development Engineering Division* 3-29-12  
*Chief, Division of Land Development* 4-02-12  
*Director* 4/2/12

(FOR PROFESSIONAL CERTIFICATION SEE SHEET CO-1)



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.



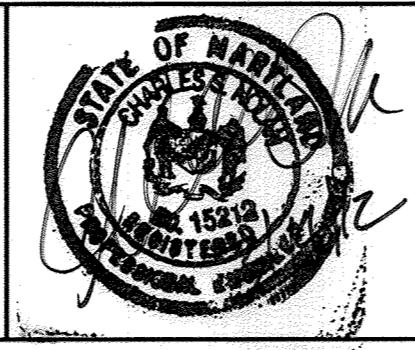
- NOTES:
- CISTERN TO BE USED AS HOLDING TANK FOR STORMWATER RUNOFF TO BE USED FOR COMPOST FACILITY IRRIGATION PURPOSES.
  - WALL THICKNESS SHOWN AS 1'-0" FOR INFORMATIONAL PURPOSES. CISTERN TO BE PRE-CAST WITH THICKNESS AND REINFORCEMENT DETERMINED BY PRE-CAST MANUFACTURER.

SUBDIVISION NAME		LOT / PARCEL	
ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		54, 253, 220, 11	
LIBER / FOLIO	ZONE	TAX / ZONE MAP	
10-847606 16-878215 10-691314	PEC	10 & 16	
WATER CODE	SEWER CODE	CENSUS TR.	
PRIVATE, EXISTING	PRIVATE, EXISTING	60-30	

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Evelyn E. Joubert* 3/15/12  
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

**NOLAN**  
Associates, Inc.  
Engineers - Civil/Structural/Inspections  
4785 Dorsey Hall Drive  
Suite 124  
Ellicott City, Maryland 21042  
Phone: (410) 995-3851 Fax: (410) 995-1383



DES: GWF					
DRN: JRW					
CHK:					
DATE: MARCH 2012	BY: DTM	NO. 1	REVISION: UPDATED SHEET TOTAL	DATE: 4-24-12	

DRAINAGE DETAILS

600' SCALE MAP NO. 16 BLOCK NO. 8

ALPHA RIDGE LANDFILL  
AERATED STATIC PILE COMPOST FACILITY  
CAPITAL PROJECT NO. C-0299  
TAX MAP 10 & 16. PARCEL NUMBERS 54, 253, 220 & 11  
ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

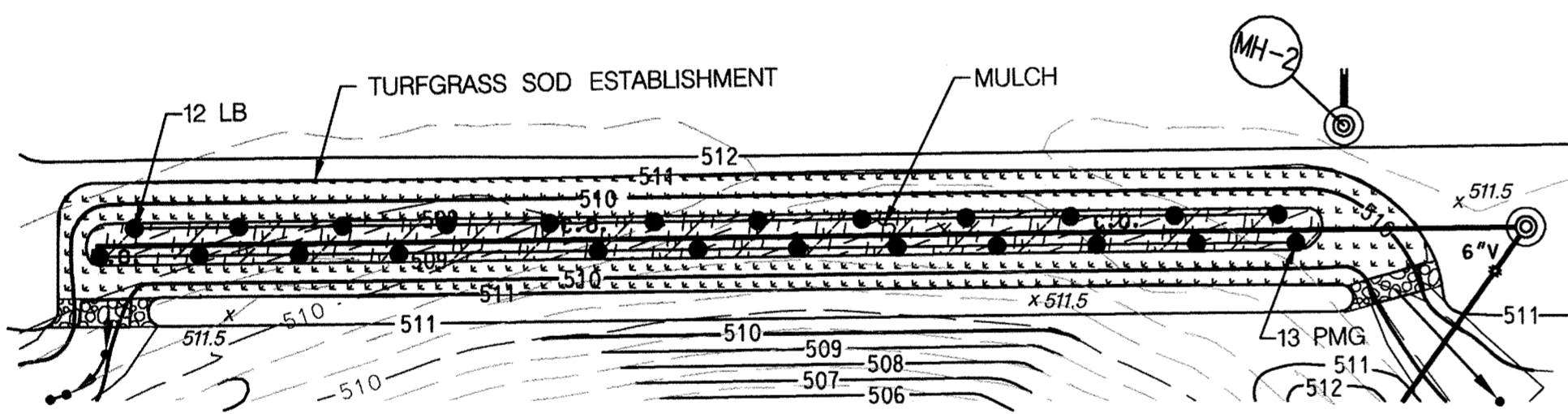
SCALE: AS SHOWN  
SHEET 98  
CO-3 OF 9  
TOTAL OF 148

**BIO-SWALE SPECIFICATIONS**

MATERIAL	SPECIFICATION	SIZE	NOTES
PLANTING SOIL ORGANIC CONTENT	LOAMY SAND (60 - 65%) & COMPOST (35 - 40%) OR SANDY LOAM (30%), COARSE SAND (30%) & COMPOST (40%)  MIN. 10% BY DRY WEIGHT (ASTM D 2974)		USDA SOIL TYPES LOAMY SAND OR SANDY LOAM; CLAY CONTENT < 5%
MULCH	SHREDDED HARDWOOD	3" DEPTH	AGED 6 MONTHS, MINIMUM; NO PINE OR WOOD CHIPS
GEOTEXTILE			PE TYPE 1 NONWOVEN
AGGREGATE	AASHTO M-43	NO. 57 OR NO. 7 AGGREGATE	
PEA GRAVEL	ASTM-D-448	NO. 6 OR 2" TO 5" STONE	
UNDERDRAIN PIPING	F 758, TYPE PS 28 OR AASHTO M-728	6" RIGID SCHEDULE 40 PVC OR SDR35	SLOTTED OR PERFORATED PIPE; 3/8" PERF @ 6" ON CENTER, 4 HOLES PER ROW; MINIMUM OF 4" OF GRAVEL OVER PIPES AND UNDERNEATH PIPE. PERFORATED PIPE SHALL BE WRAPPED WITH 14"-INCH GALVANIZED HARDWARE CLOTH
TURFGRASS SOD ESTABLISHMENT	REFER TO SECTION 708 OF THE SPECIFICATIONS		

**OPERATION AND MAINTENANCE SCHEDULE FOR BIORETENTION SWALE**

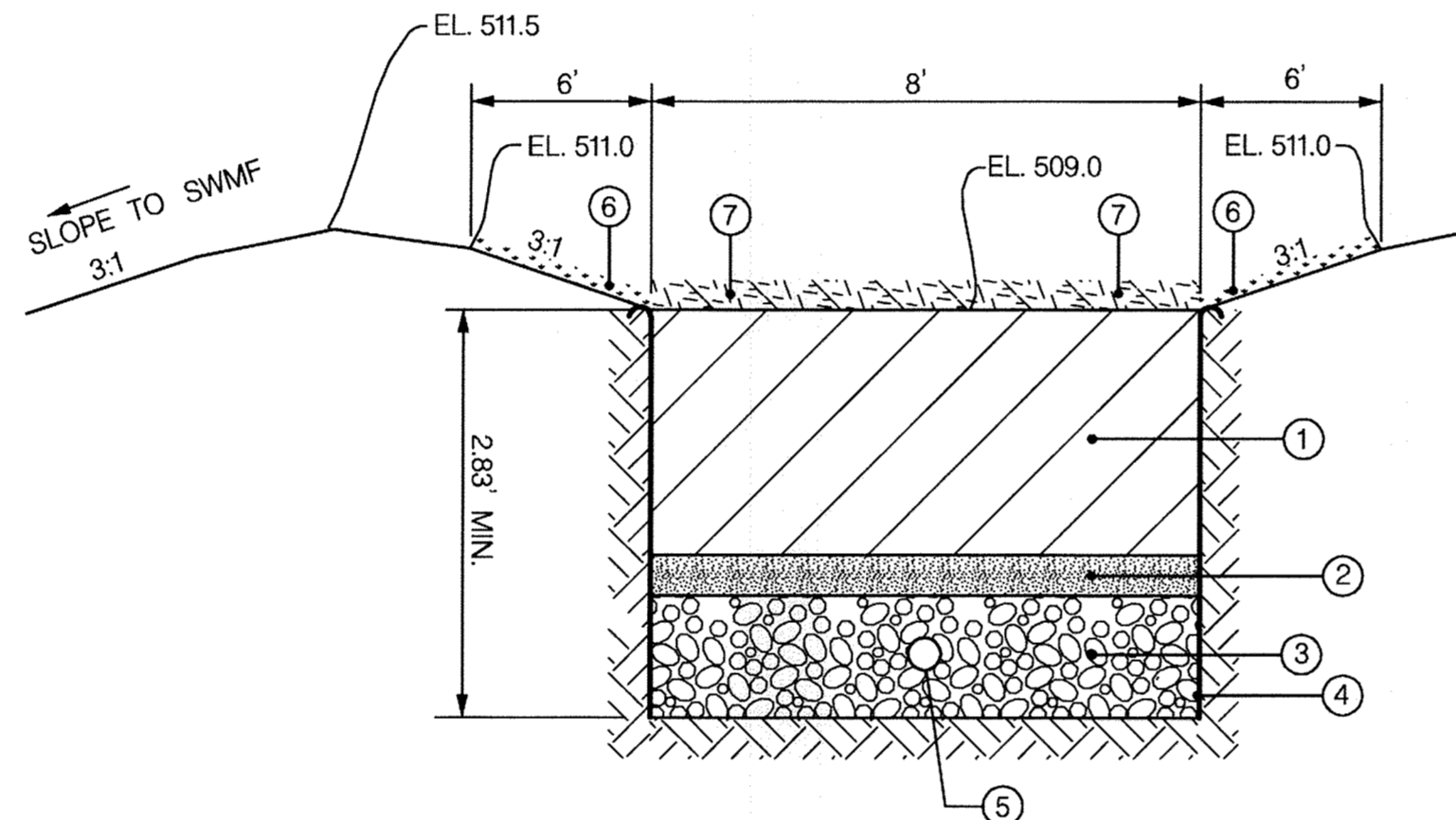
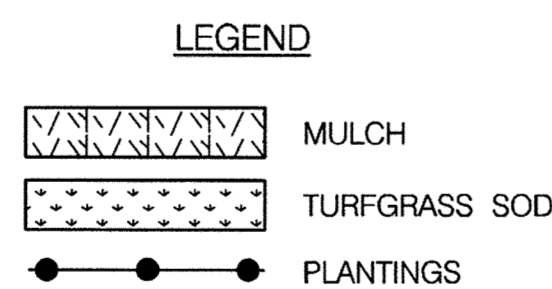
- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTION AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.
- THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.



**BIO-SWALE PLANTING PLAN**  
SCALE: 1" = 30'

**BIO-SWALE PLANTING LIST**

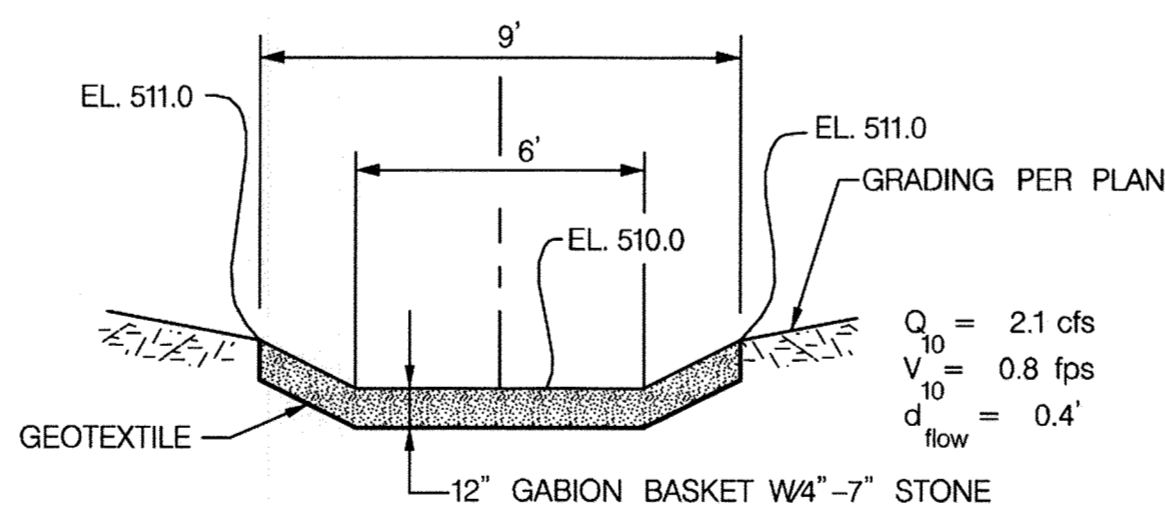
SYMBOL	SCIENTIFIC NAME	COMMON NAME	SIZE	NUMBER
LB	ANDROPOGON GLOMERATUS	LITTLE BLUESTEM	GALLON	12
PMG	MUHLENBERGIA GLOMERATA	PINK MUHLYGRASS	GALLON	13



**BIO-SWALE SECTION**  
NOT TO SCALE

**LEGEND**

- 1'-6" BIORETENTION SOIL MIXTURE
- 4-INCH PEA GRAVEL
- 1-FOOT NO. 57 AGGREGATE (MIN.)
- GEOTEXTILE, PE TYPE 1 NONWOVEN (ON SIDES AND BOTTOM)
- 6" INCH PERF. UNDERDRAIN, WRAP WITH HARDWARE MESH
- TURFGRASS SOD ESTABLISHMENT
- MULCH, 3" DEPTH WITH BIO-SWALE PLANTINGS

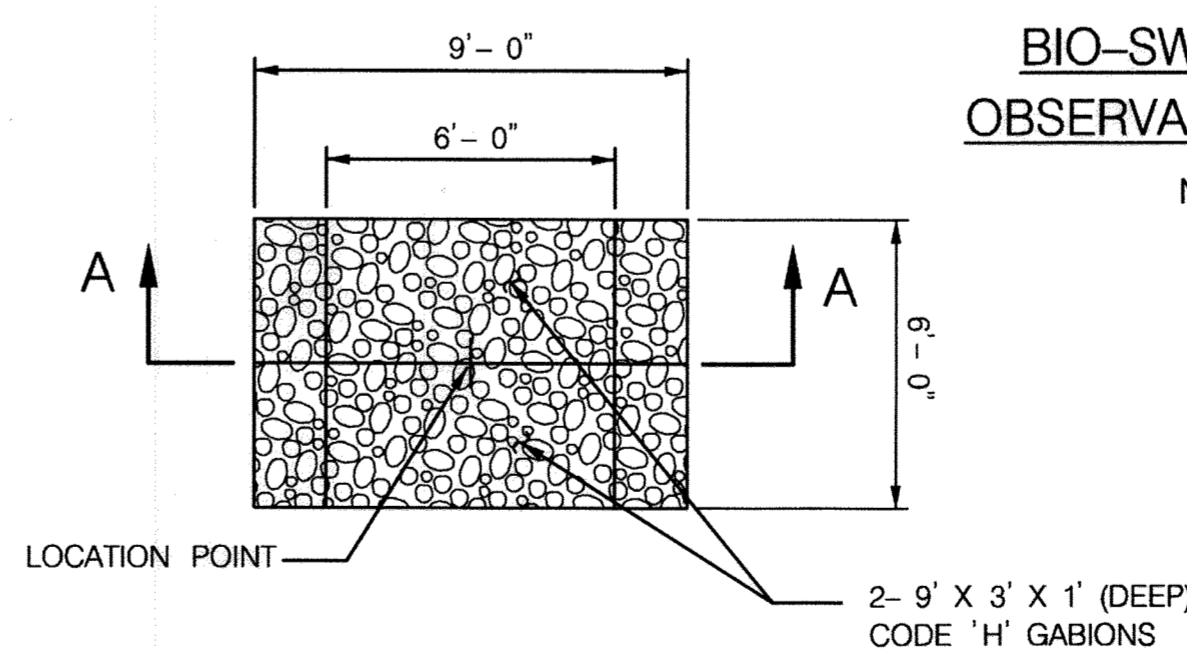


NOTE: SEE SCS DETAIL 6 FOR ADDITIONAL INFORMATION

**SECTION A-A**

**BIO-SWALE FACILITY OUTLET WEIR DETAIL**

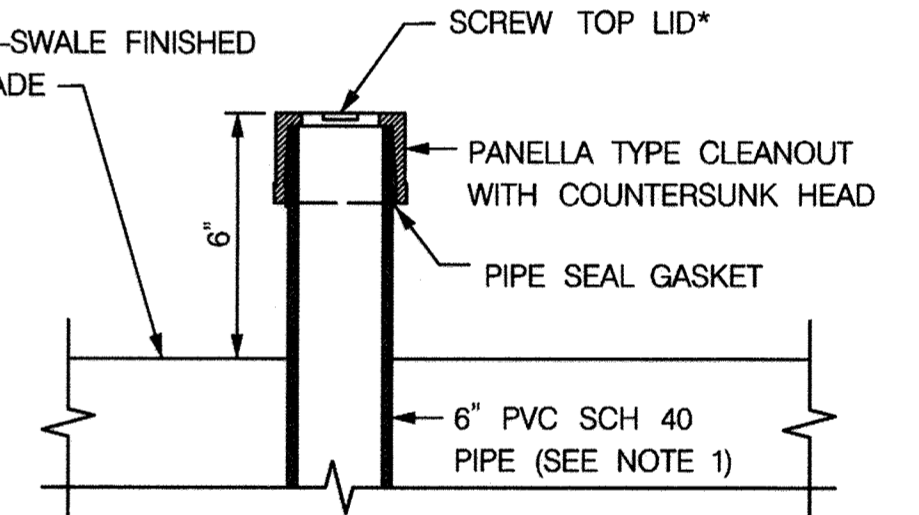
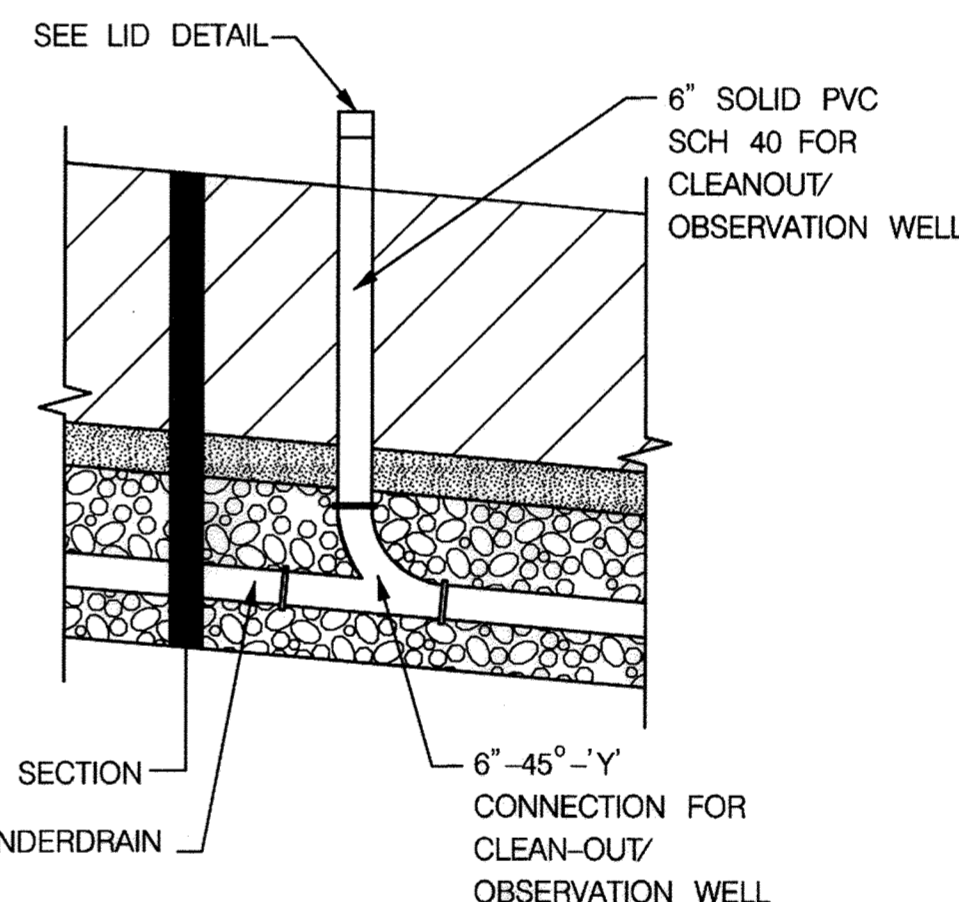
NOT TO SCALE



**BIO-SWALE CLEANOUT/OBSERVATION WELL DETAIL**

NOT TO SCALE

NOTE: BIO-SWALE CLEAN-OUT/OBSERVATION WELL SHALL BE INCIDENTAL TO THE UNIT COST OF BIO-SWALE PAY ITEM.



\*ABOVE DETAIL PROVIDED AS SCHEMATIC. SCREW TOP PVC WELL CAP ONLY. SEE NOTE 2.

**BIO-SWALE CLEANOUT/OBSERVATION WELL LID DETAIL**

NOT TO SCALE

**NOTES:**

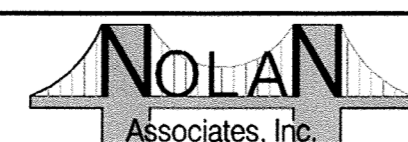
- THE TUBE SHALL HAVE A FACTORY ATTACHED CAST IRON OR HIGH IMPACT PLASTIC COLLAR WITH RIBS TO PREVENT ROTATION WHEN REMOVING SCREW TOP LID. THE SCREW TOP LID SHALL BE CAST IRON OR HIGH IMPACT PLASTIC THAT WILL WITHSTAND ULTRA-VIOLET RAYS.
- FOR LOCATION, SEE DRAINAGE STRUCTURE SCHEDULE.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 3-29-12  
  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 4-02-12  
  
 DIRECTOR  
 DATE: 4/6/12

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

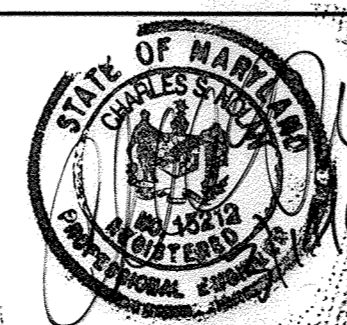
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES  
 DATE: 3/15/12



Engineers - Civil/Structural/Inspections  
 4785 Dorsey Hall Drive  
 Suite 124  
 Ellicott City, Maryland 21042

Phone: (410) 995-3651

Fax: (410) 995-1583



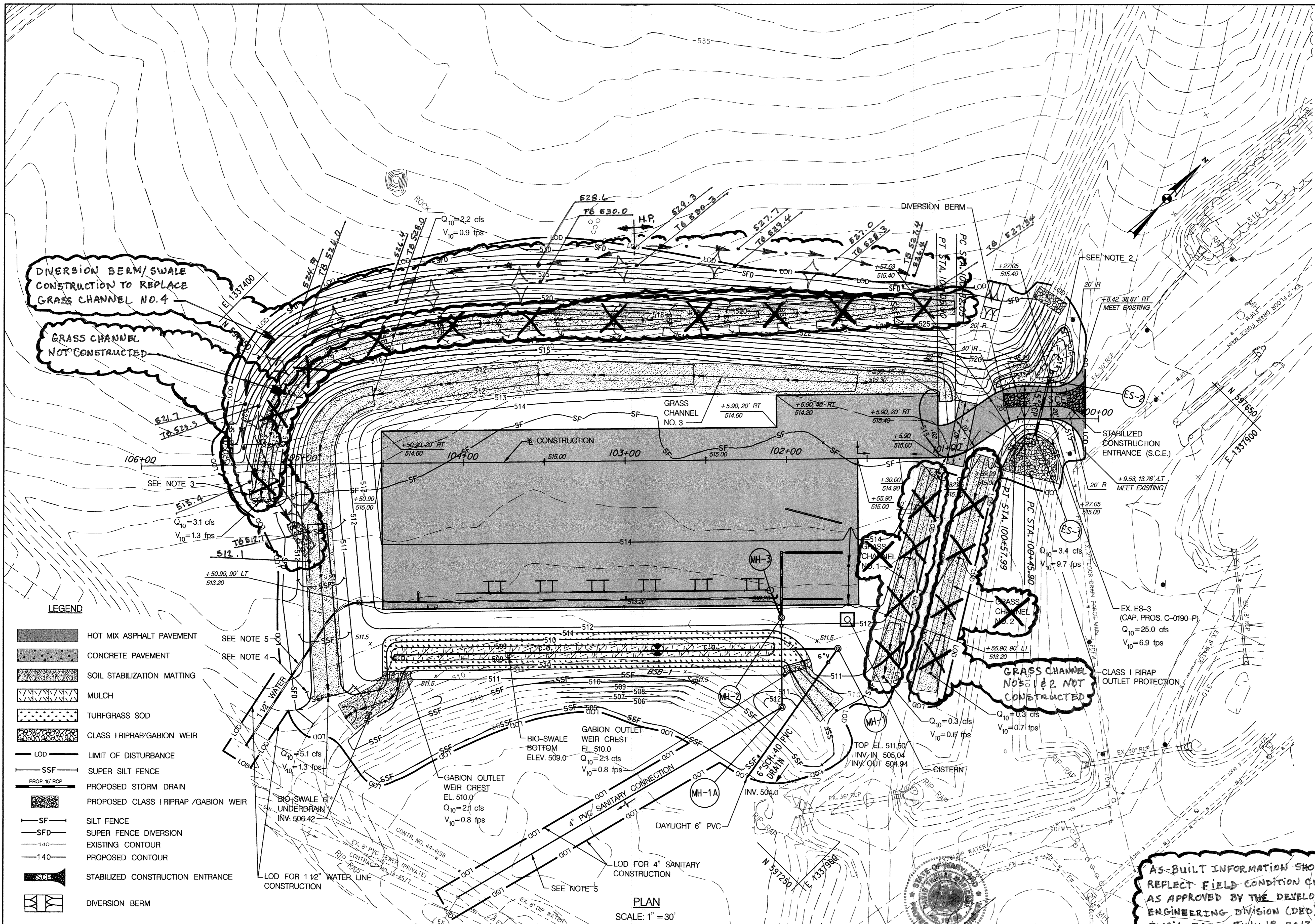
DES:	GWF			
DRN:	JRW			
CHK:				
DATE:	MARCH 2012			
BY:	DTM			
NO.:	UPDATED SHEET TOTAL			
REVISION:				
DATE:	4-24-12			

**BIO-SWALE DETAILS**

600' SCALE MAP NO. 146 BLOCK NO. 8

ALPHA RIDGE LANDFILL  
 AERATED STATIC PILE COMPOST FACILITY  
 CAPITAL PROJECT NO. C-0299  
 TAX MAP 10 & 16, PARCEL NUMBERS 54, 253, 220 & 11  
 ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

SCALE:  
 AS SHOWN  
 SHEET 99  
 CO-4 OF 9  
 TOTAL OF 140



INSTALL SILT FENCE	
STA. 100+15 TO 100+76.5, LT.	75 L.F.
STA. 100+24 TO 100+78, LT.	75 L.F.
STA. 100+80 TO 101+10, LT.	155 L.F.
STA. 101+03 TO 105+22, LT.	460 L.F.

INSTALL SUPER FENCE DIVERSION	
STA. 100+42 TO 100+49, RT.	18 L.F.
STA. 100+51 TO 105+44, RT.	550 L.F.
STA. 104+94 TO 105+18, LT.	140 L.F.

INSTALL SUPER SILT FENCE	
STA. 101+45 TO 104+68, LT.	420 L.F.
STA. 102+27 TO 104+62, LT.	260 L.F.

INSTALL RIPRAP SLOPE (INFLOW) PROTECTION	
STA. 100+27 TO 100+42, RT.	18 S.Y.
STA. 105+44 TO 105+52, RT.	14 S.Y.

INSTALL STABILIZED CONSTRUCTION ENTRANCE	
STA. 100+09 TO 100+54, RT.	40 TON

CONSTRUCT DIVERSION BERM	
STA. 100+49 TO 100+51, RT.	SEE DETAIL, SHEET CO-6

- NOTES:**
- NO STOCKPILING OF MATERIAL WILL BE PERMITTED WITHIN THE LIMITS OF THIS PROJECT.
  - AREA TO BE STABILIZED WITH TURFGRASS SOD. REFER TO SITE DEVELOPMENT PLAN FOR LIMITS AND QUANTITY.
  - INSTALL SSF (25' LONG SECTIONS) AT INTERVALS OF 35' ALONG GRASS CHANNEL AS INDICATED (350 L.F. TOTAL).
  - INSTALL SSF (35' LONG SECTIONS) AT INTERVALS OF 35' ALONG GRASS CHANNEL AS INDICATED (140 L.F. TOTAL).
  - FOR CONSTRUCTION OF WATER LINE AND SANITARY SEWER CONNECTION CONTRACTOR SHALL LIMIT THE AMOUNT OF CONSTRUCTION THAT CAN BE BACKED FILLED AND STABILIZED WITHIN THE SAME WORK DAY. AREA TO BE STABILIZED WITH SEED AND MULCH.

By the Owner/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 project. I also authorize periodic on-site inspections by the Howard Soil Conservation District.  
 Evelyn E. Tomlin 3/14/2012  
 Signature of Owner/Developer Date  
 Print name below signature

By the Engineer  
 I certify that this plan for 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.  
 Charles S. Nolan 3/14/2012  
 Signature of Engineer Date  
 Print name below signature

These plans are approved for soil erosion and sediment control by the Howard Soil Conservation District.  
 John R. Roberts 3/27/12  
 Signature of District Director Date  
 Print name below signature

AS-BUILT INFORMATION SHOWN REFLECT FIELD CONDITION CHANGE AS APPROVED BY THE DEVELOPMENT ENGINEERING DIVISION (DED) BY EMAIL DATED JULY 18, 2013.

**LEGEND**

	HOT MIX ASPHALT PAVEMENT
	CONCRETE PAVEMENT
	SOIL STABILIZATION MATTING
	MULCH
	TURFGRASS SOD
	CLASS I RIPRAP/GABION WEIR
	LIMIT OF DISTURBANCE
	SUPER SILT FENCE
	PROPOSED STORM DRAIN
	PROPOSED CLASS I RIPRAP/GABION WEIR
	SILT FENCE
	SUPER FENCE DIVERSION
	EXISTING CONTOUR
	PROPOSED CONTOUR
	STABILIZED CONSTRUCTION ENTRANCE
	DIVERSION BERM

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chad Chudson 3-29-12  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Kate Decker 4-2-12  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

March 2, 2012  
 DIRECTOR DATE

THIS PLAN IS FOR SEDIMENT AND EROSION CONTROL PURPOSES ONLY

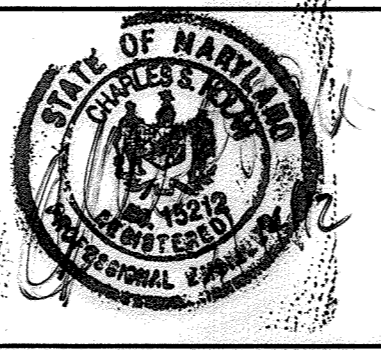
(FOR PROFESSIONAL CERTIFICATION SEE SHEET CO-1)

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 16156 Expiration Date: 5-25-16

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

Evelyn E. Tomlin 3/15/12  
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE

**NOLAN**  
 Associates, Inc.  
 Engineers - Civil/Structural/Inspections  
 4785 Dorsey Hall Drive  
 Suite 124  
 Ellicott City, Maryland 21042  
 Phone: (410) 895-3851 Fax: (410) 895-1363



DES:	GWF				
DRN:	JRW				
CHK:					
DATE:	MARCH 2012				
BY:	NO.	REVISION	DATE		
		UPDATED SHEET TOTAL	4-2-12		

GRADING, EROSION & SEDIMENT CONTROL PLAN

SCALE: 1" = 30'

600' SCALE MAP NO. 16 BLOCK NO. 8

ALPHA RIDGE LANDFILL  
 AERATED STATIC PILE COMPOST FACILITY  
 CAPITAL PROJECT NO. C-0299  
 TAX MAP 10 & 16, PARCEL NUMBERS 54, 253, 220 & 11  
 ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN  
 SHEET (57/100)  
 CO-5 OF 9  
 TOTAL OF 140



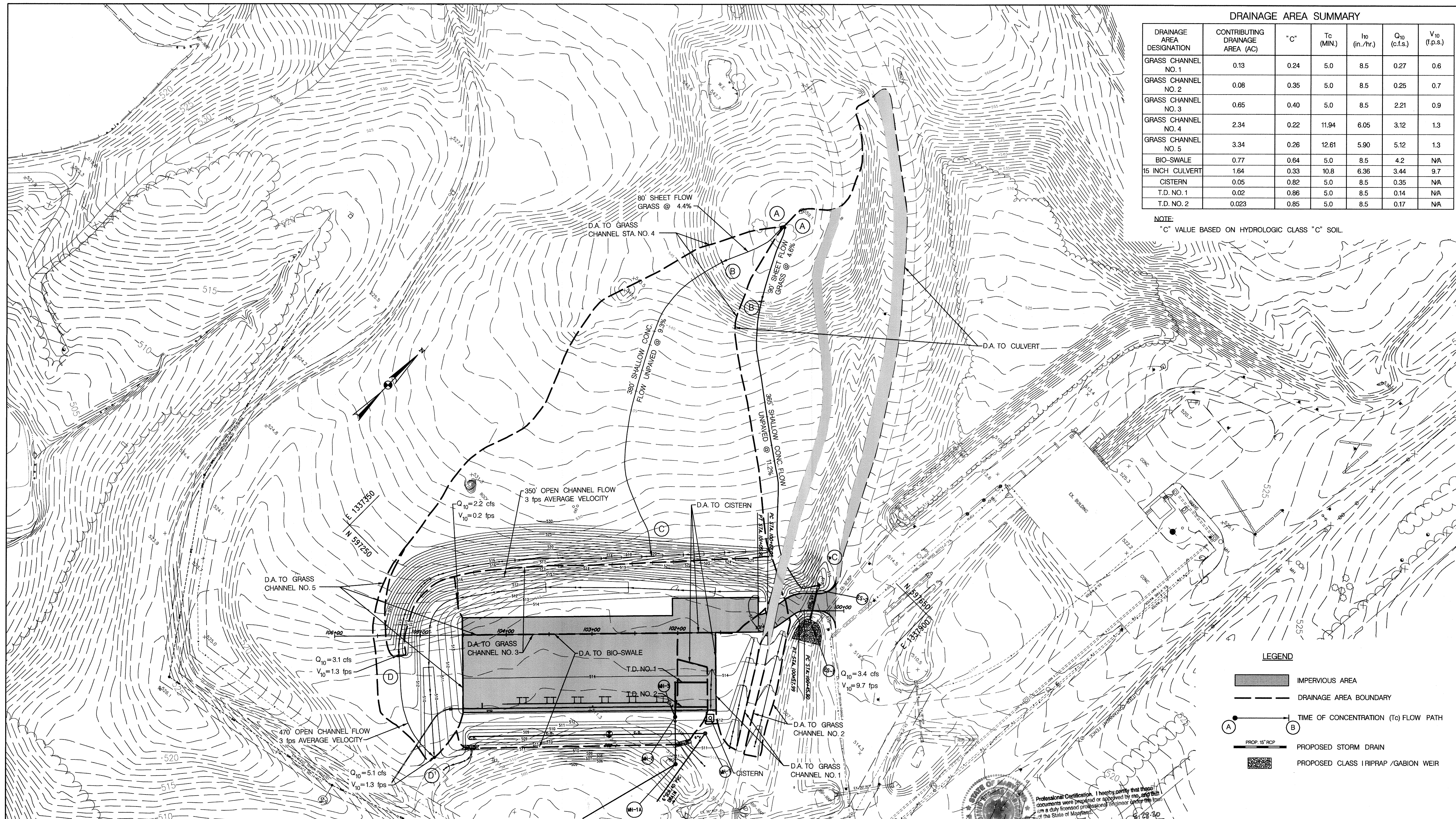




DRAINAGE AREA SUMMARY

DRAINAGE AREA DESIGNATION	CONTRIBUTING DRAINAGE AREA (AC)	"C"	Tc (MIN.)	I <sub>10</sub> (in./hr.)	Q <sub>10</sub> (c.f.s.)	V <sub>10</sub> (f.p.s.)
GRASS CHANNEL NO. 1	0.13	0.24	5.0	8.5	0.27	0.6
GRASS CHANNEL NO. 2	0.08	0.35	5.0	8.5	0.25	0.7
GRASS CHANNEL NO. 3	0.65	0.40	5.0	8.5	2.21	0.9
GRASS CHANNEL NO. 4	2.34	0.22	11.94	6.05	3.12	1.3
GRASS CHANNEL NO. 5	3.34	0.26	12.61	5.90	5.12	1.3
BIO-SWALE	0.77	0.64	5.0	8.5	4.2	N/A
15 INCH CULVERT	1.64	0.33	10.8	6.36	3.44	9.7
CISTERN	0.05	0.82	5.0	8.5	0.35	N/A
T.D. NO. 1	0.02	0.86	5.0	8.5	0.14	N/A
T.D. NO. 2	0.023	0.85	5.0	8.5	0.17	N/A

NOTE:  
"C" VALUE BASED ON HYDROLOGIC CLASS "C" SOIL



**LEGEND**

- IMPERVIOUS AREA
- DRAINAGE AREA BOUNDARY
- TIME OF CONCENTRATION (T<sub>0</sub>) FLOW PATH
- PROPOSED STORM DRAIN
- PROPOSED CLASS I RIPRAP / GABION WEIR

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 16122 Expiration Date 8-28-20  
 A REVISION NO. 1 ONLY

APPROVED: DEPARTMENT OF PLANNING AND ZONING

\_\_\_\_\_ DATE 3-29-12  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 \_\_\_\_\_ DATE 4-02-12  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 \_\_\_\_\_ DATE 4/4/12  
 DIRECTOR

PLAN  
SCALE: 1" = 50'

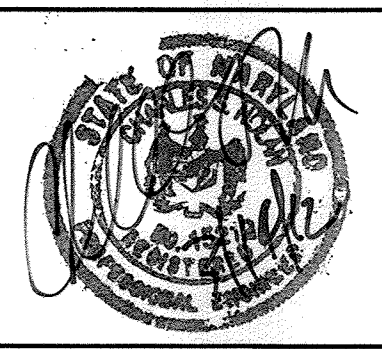
(FOR PROFESSIONAL CERTIFICATION, SEE SHEET CO-1)

SUBDIVISION NAME ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	LOT / PARCEL 54, 253, 220, 11
LIBER / FOLIO 10-847606 16-878215 10-691314	ZONE PEC TAX / ZONE MAP 10 & 16
WATER CODE PRIVATE, EXISTING	SEWER CODE PRIVATE, EXISTING CENSUS TR. 60-30

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

\_\_\_\_\_ DATE 3/15/12  
 Evelyn E. Jone  
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

**NOLAN**  
Associates, Inc.  
Engineers - Civil/Structural/Inspections  
4785 Dorsey Hall Drive  
Suite 124  
Ellicott City, Maryland 21042  
Phone: (410) 895-3651 Fax: (410) 895-1363



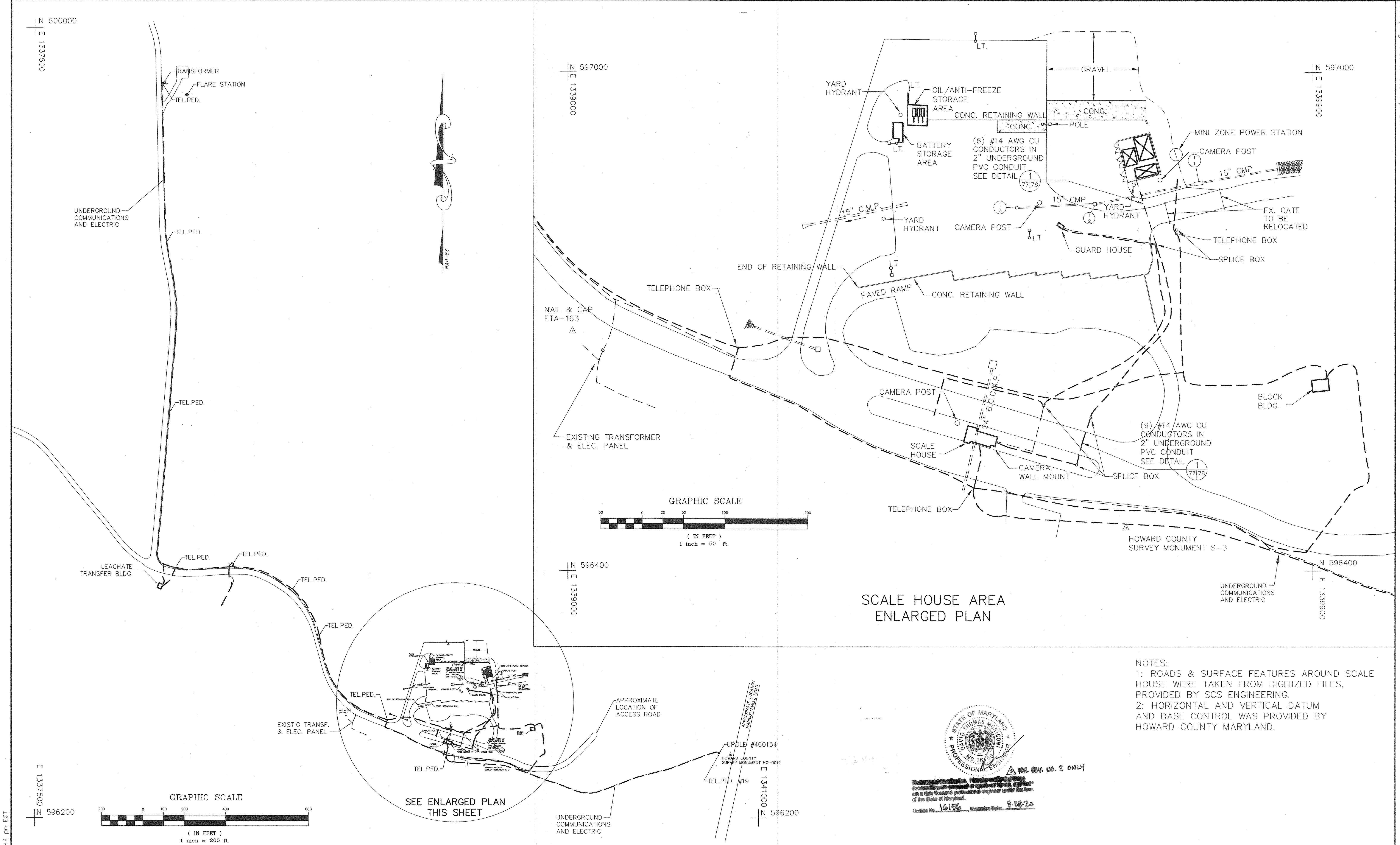
DES: GWF	
DRN: JRW	
CHK:	
DATE: MARCH 2012	
BY NO.	
REVISION	

DRAINAGE AREA MAP

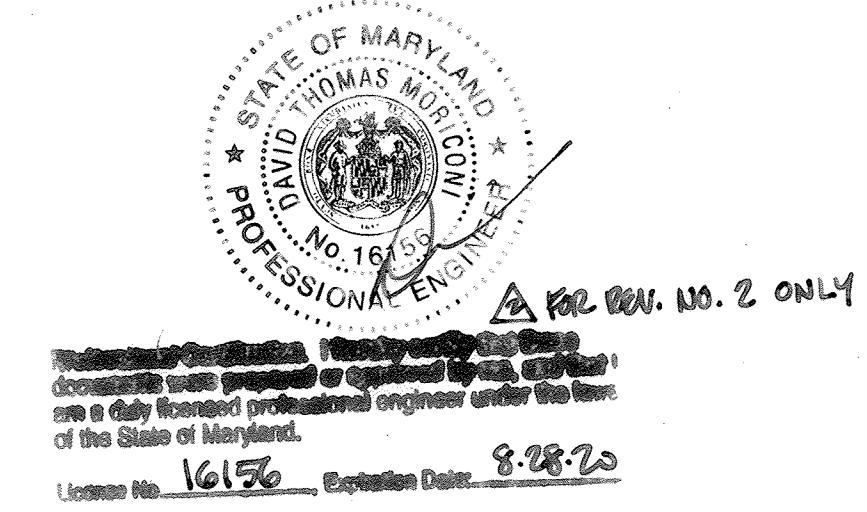
DATE: 600 SCALE MAP NO. 16 BLOCK NO. 9

ALPHA RIDGE LANDFILL  
AERATED STATIC PILE COMPOST FACILITY  
CAPITAL PROJECT NO. C-0299  
TAX MAP 10 & 16. PARCEL NUMBERS 54, 253, 220 & 11  
ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN  
SHEET 103  
CO-8 OF 9  
TOTAL OF 140

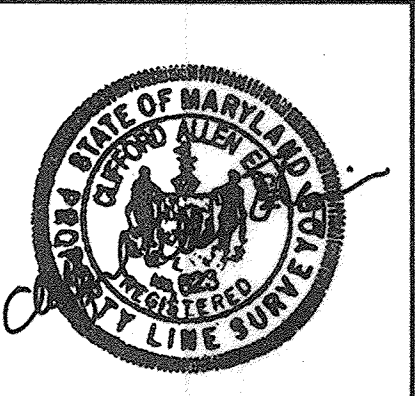


NOTES:  
 1: ROADS & SURFACE FEATURES AROUND SCALE HOUSE WERE TAKEN FROM DIGITIZED FILES, PROVIDED BY SCS ENGINEERING.  
 2: HORIZONTAL AND VERTICAL DATUM AND BASE CONTROL WAS PROVIDED BY HOWARD COUNTY MARYLAND.

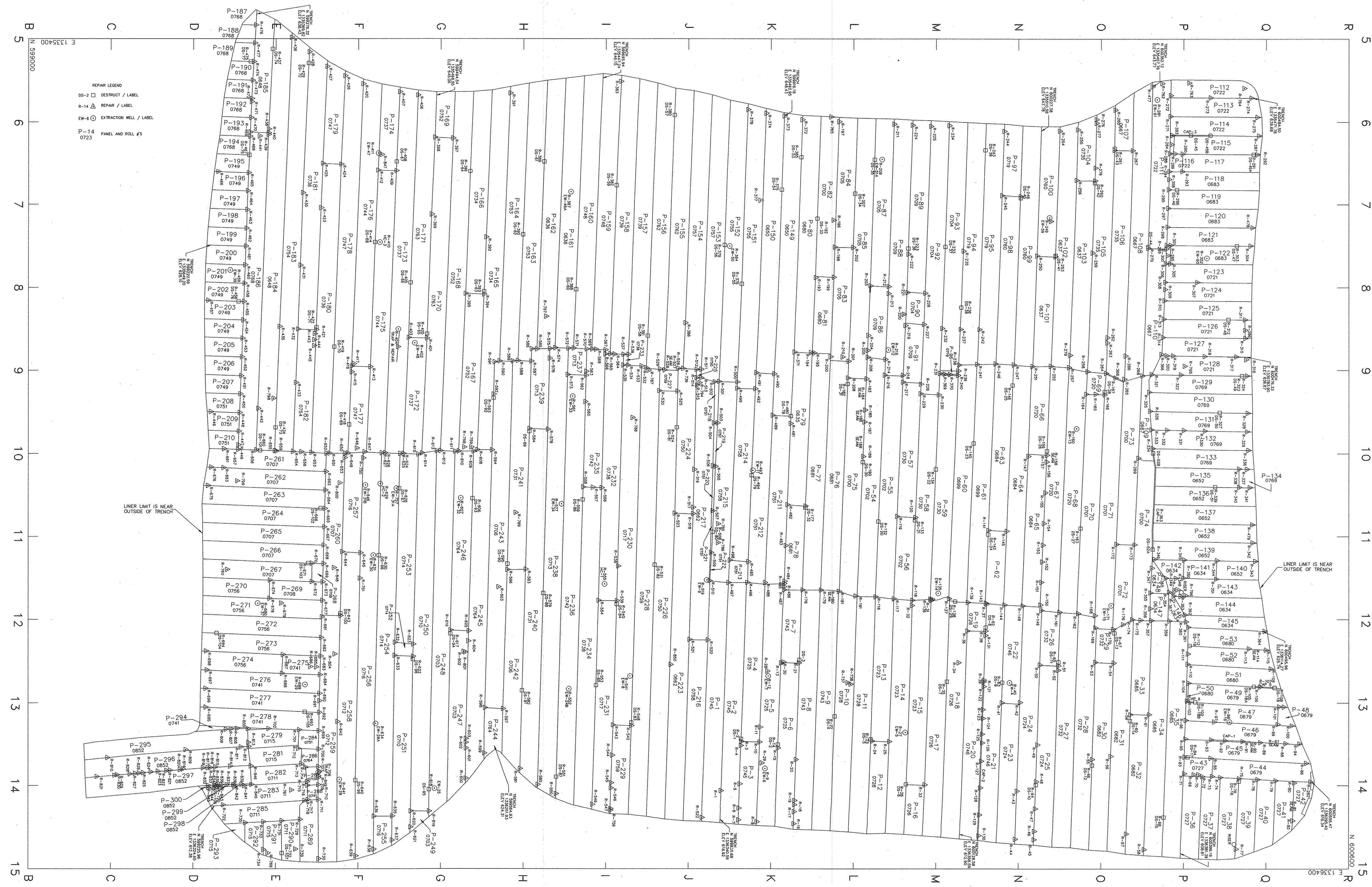


DESIGNED BY:		DATE		REVISIONS	
DATE	BY	DATE	BY	DESCRIPTION	
3-29-2000	TWH	3-29-2000	TWH	ADDED ROADS AND RELATED NOTES	
4-20-00	DTM	4-20-00	DTM	UPDATED SHEET TOTAL	
DATE		DATE			
DATE		DATE			

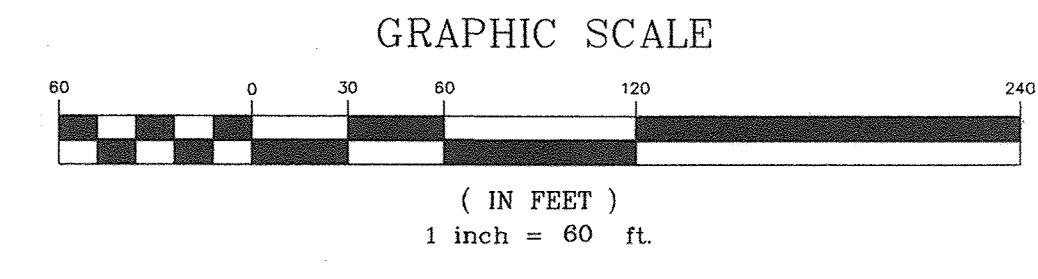
**ENGINEERING TECHNOLOGIES ASSOCIATES, INC.**  
 ENGINEERS \* PLANNERS \* SURVEYORS  
 3458 ELLICOTT CENTER DRIVE SUITE 101  
 ELLICOTT CITY, MARYLAND 21043  
 BALTO. (410)461-9920 FAX (410)750-8565



ALARM SYSTEMS AND UTILITY AS-BUILT  
**ALPHA RIDGE LANDFILL CELL CLOSURE** *Sheet 105 of 140*  
 HOWARD COUNTY MARYLAND  
 SCALE : NOTED CONTRACT NO.: 98301.10 DATE : 1-14-2000 SHEET : U-1



STATE OF MARYLAND  
 BOARD OF PROFESSIONAL ENGINEERS  
 PROFESSIONAL ENGINEER  
 License No. 16152    Expiration Date: 8-28-20

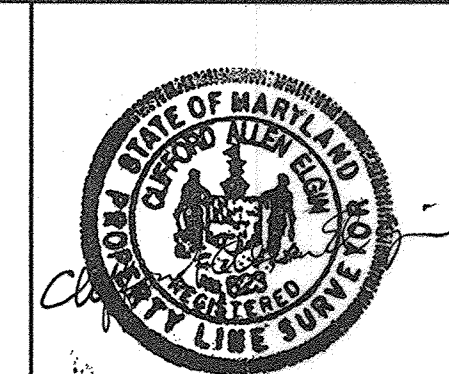


LINER.dwg 10-12-00 3:44:12 pm EST

DESIGNED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 DRAWN BY: TWH 9-20-99 DATE: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

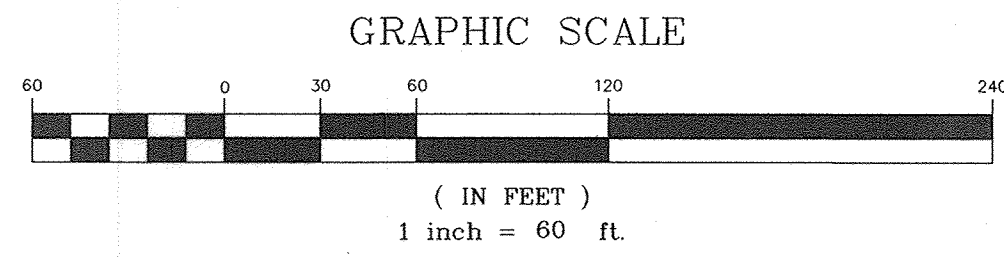
REVISIONS			
DATE	BY	DESCRIPTION	
5-15-00	TWH	MODIFIED REPAIR NUMBERS.	
10-12-2000	TWH	MODIFIED REPAIR NUMBERS.	
4-20-04	DTM	UPDATED SHEET TOTAL.	

**ENGINEERING TECHNOLOGIES ASSOCIATES, INC.**  
 ENGINEERS \* PLANNERS \* SURVEYORS  
 3458 ELLICOTT CENTER DRIVE SUITE 101  
 ELLICOTT CITY, MARYLAND 21043  
 BALTO. (410)461-9920 FAX (410)750-8565

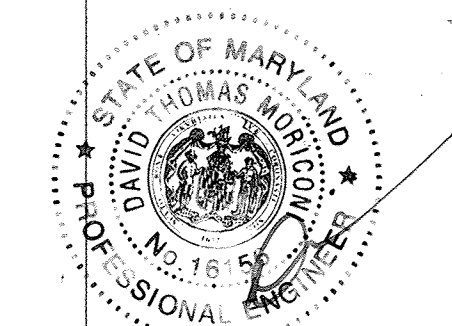
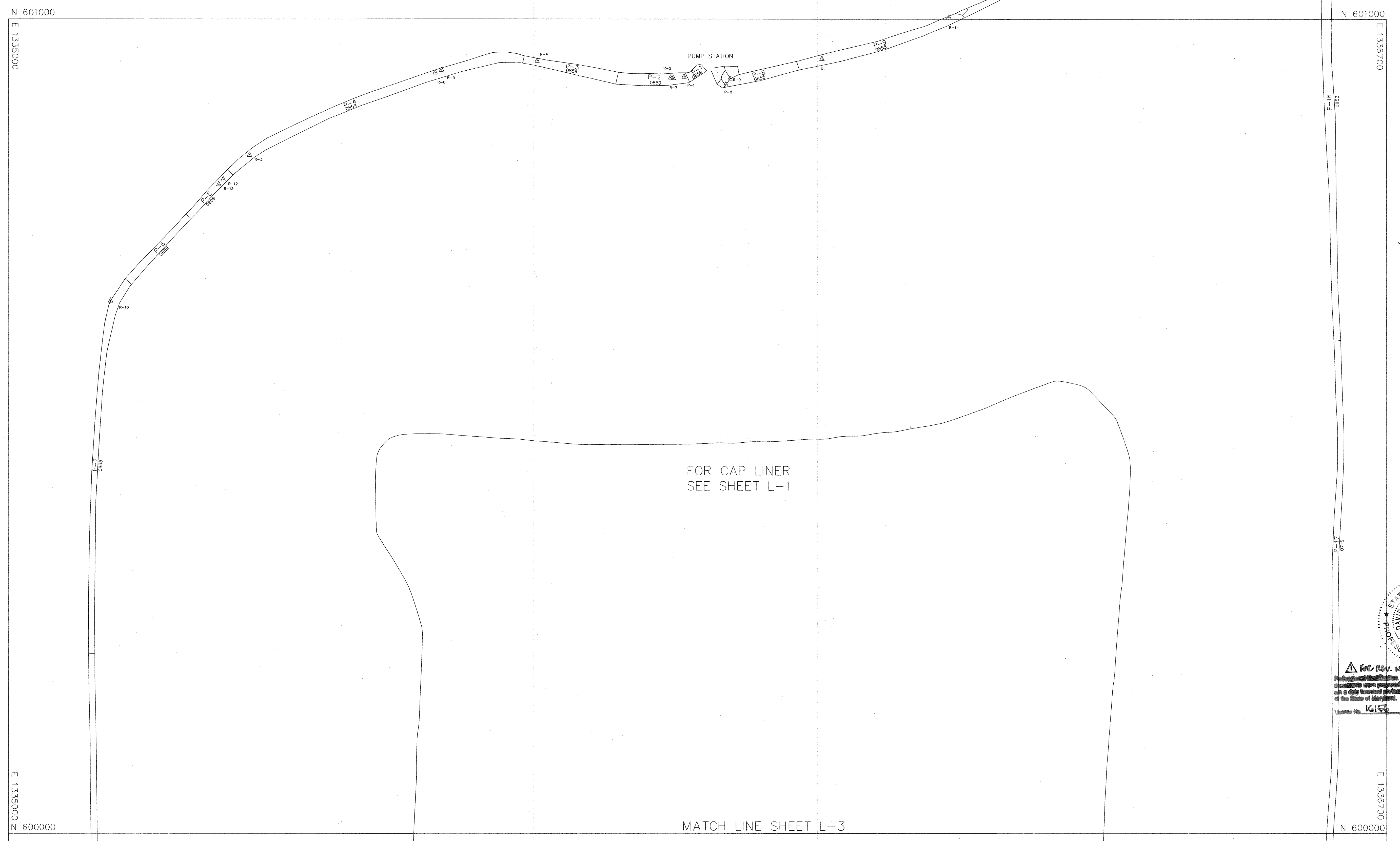


LINER AS-BUILT  
**ALPHA RIDGE LANDFILL**  
**CELL CLOSURE**  
 HOWARD COUNTY MARYLAND  
 SCALE: 1"=80' CONTRACT NO.: 98301.10 DATE: 2-11-2000 SHEET: L-1

LINERTCRHdwg 2-25-00 1112:46 am EST



REPAIR LEGEND  
DS-2 □ DESTRICT / LABEL  
R-14 △ REPAIR / LABEL  
EW-6 ○ EXTRACTION WELL / LABEL  
P-14 PANEL AND ROLL #S  
0723



FOR REV. NO. 1 ONLY  
Professional Engineer. I hereby certify that the drawings were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 16156 Expiration Date 8-31-20

LINERTCRHdwg 2-25-00 1112:46 am EST

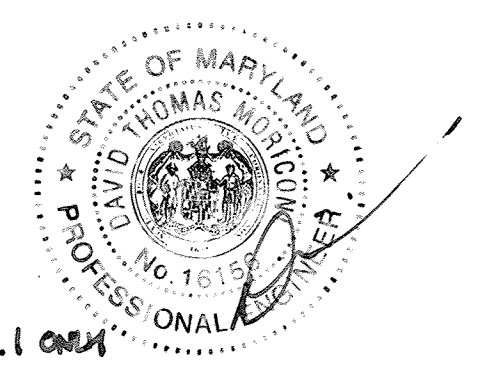
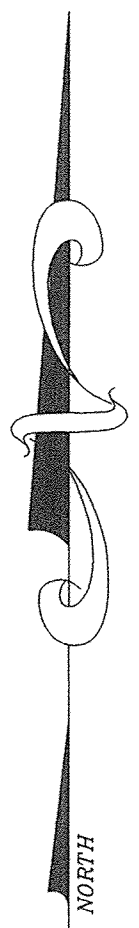
DESIGNED BY:	DATE	DATE	BY	DESCRIPTION
DRAWN BY: TWH	9-15-99	4-2019	DTM	△ UPDATED SHEET TDR
CHECKED BY:	DATE			
APPROVED BY:	DATE			

**ENGINEERING TECHNOLOGIES ASSOCIATES, INC.**  
 ENGINEERS \* PLANNERS \* SURVEYORS  
 3458 ELLICOTT CENTER DRIVE SUITE 101  
 ELLICOTT CITY, MARYLAND 21043  
 BALTO. (410)461-9920 FAX (410)750-8565

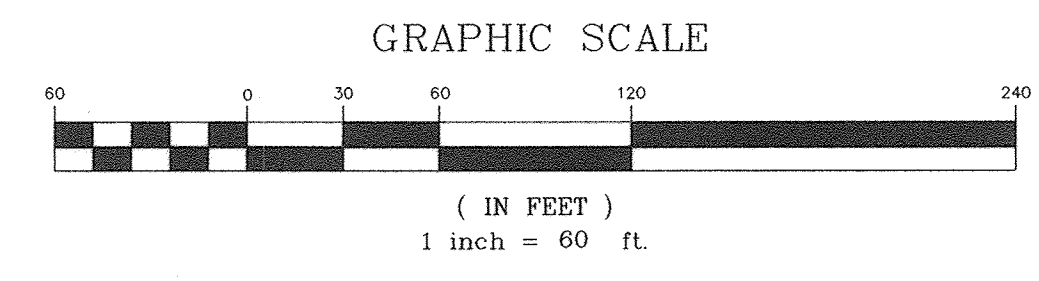


TRENCH LINER AS-BUILT NORTH  
**ALPHA RIDGE LANDFILL CELL CLOSURE** △ SHEET 106 OF 140  
 HOWARD COUNTY MARYLAND  
 SCALE : 1"=60' CONTRACT NO.: 98301.10 DATE : 2-11-2000 SHEET : L-2

- REPAIR LEGEND  
 DS-2 □ DESTRICT / LABEL  
 R-14 △ REPAIR / LABEL  
 EW-6 ○ EXTRACTION WELL / LABEL  
 P-14 ○ PANEL AND ROLL #S

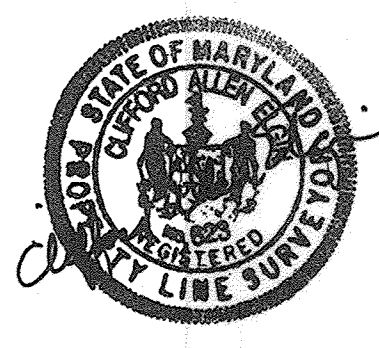


REPAIR NO. 1 ONLY  
 Professional Engineer. I hereby certify that the documents were prepared or approved by me, or by one or more duly licensed professional engineers under my supervision in the State of Maryland.  
 License No. 16156, Expiration Date: 8-28-20



DESIGNED BY:	DATE	DATE	BY	DESCRIPTION
DRAWN BY: TWH	9-15	4-2019	DTM	△ UPDATED SHEET TOTAL
CHECKED BY:	DATE			
APPROVED BY:	DATE			

**ENGINEERING TECHNOLOGIES ASSOCIATES, INC.**  
 ENGINEERS \* PLANNERS \* SURVEYORS  
 3458 ELLICOTT CENTER DRIVE SUITE 101  
 ELLICOTT CITY, MARYLAND 21043  
 BALTO. (410)461-9920 FAX (410)750-8565



TRENCH LINER AS-BUILT SOUTH  
**ALPHA RIDGE LANDFILL CELL CLOSURE** △ SHEET 107 OF 140  
 HOWARD COUNTY MARYLAND  
 SCALE : 1"=60' CONTRACT NO.: 98301.10 DATE : 9-15-1999 SHEET : L-3

**SEQUENCE OF OPERATIONS**

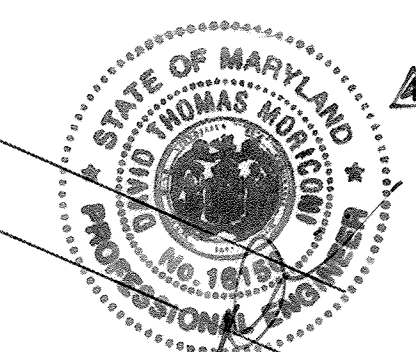
1. INSTALL STABILIZED CONSTRUCTION ENTRANCE AS LOCATED ON DESIGN DRAWING (ES-1)
2. INSTALL SILT FENCE AND SUPER SILT FENCE AS INDICATED ON DESIGN DRAWING (ES-1)
3. BEGIN CONSTRUCTION AS INDICATED ON DESIGN DRAWINGS AND IN ACCORDANCE WITH HOWARD COUNTY PERMIT REQUIREMENTS.
4. REMOVE STABILIZED CONSTRUCTION ENTRANCE AND SILT FENCING AFTER STABILIZATION OF DISTURBED AREAS.

**E&S LEGEND**

- LOD LIMIT OF DISTURBANCE
- SF (SILT FENCE)
- SSF SUPER SILT FENCE
- SCE STABILIZED CONSTRUCTION ENTRANCE
- SOIL BOUNDARY
- SOIL STOCKPILE (CLEAN)
- SOIL STOCKPILE (CONTAMINATED)
- CONCRETE DEBRIS
- ROAD MILLINGS STOCKPILE (ROAD MILLINGS TO BE REMOVED AND STOCKPILED PRIOR TO CONTRACTOR BEGINNING WORK)
- PROPOSED CONCRETE PAD
- NEW IMPERVIOUS AREA

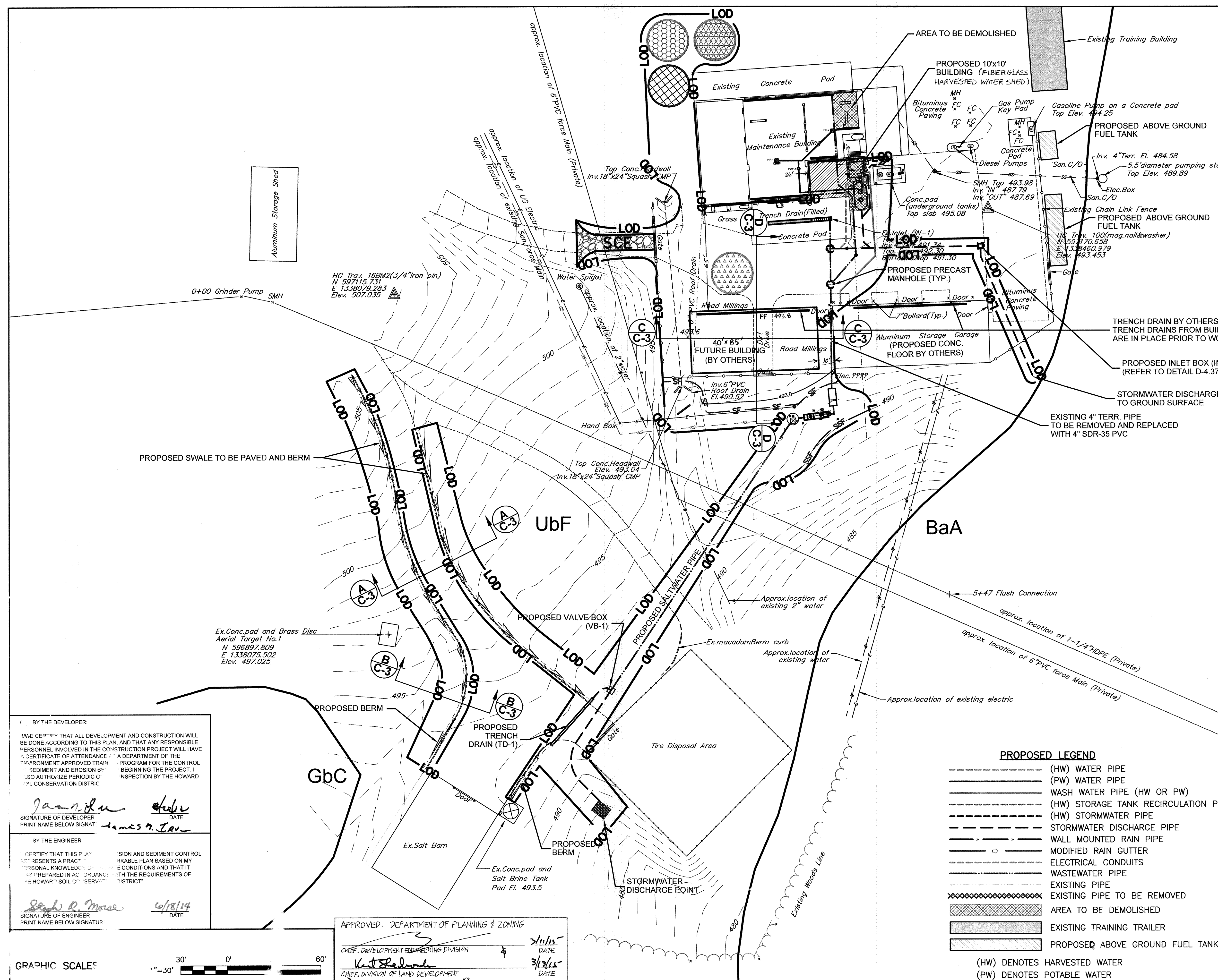
**PROPOSED LEGEND**

- (HW) WATER PIPE
  - (PW) WATER PIPE
  - WASH WATER PIPE (HW OR PW)
  - (HW) STORAGE TANK RECIRCULATION PIPE
  - (HW) STORMWATER PIPE
  - STORMWATER DISCHARGE PIPE
  - WALL MOUNTED RAIN PIPE
  - MODIFIED RAIN GUTTER
  - ELECTRICAL CONDUITS
  - WASTEWATER PIPE
  - EXISTING PIPE
  - EXISTING PIPE TO BE REMOVED
  - AREA TO BE DEMOLISHED
  - EXISTING TRAINING TRAILER
  - PROPOSED ABOVE GROUND FUEL TANK
- (HW) DENOTES HARVESTED WATER  
(PW) DENOTES POTABLE WATER



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 16156, Expiration Date: 6-28-20

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 Approved: *Thomas A. Howard*  
 Howard SCD 2/26/15



BY THE DEVELOPER:  
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE FROM A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SO AUTHORIZE PERIODIC INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

*James M. Tavares*  
 SIGNATURE OF DEVELOPER  
 PRINT NAME BELOW SIGNATURE: James M. Tavares

DATE: 6/18/14

BY THE ENGINEER:  
 I CERTIFY THAT THIS PLAN REPRESENTS A PRACTICABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

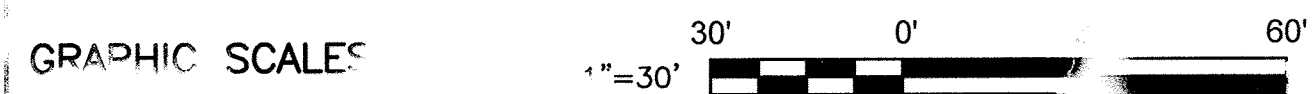
*Mark R. Mose*  
 SIGNATURE OF ENGINEER  
 PRINT NAME BELOW SIGNATURE: Mark R. Mose

DATE: 6/18/14

APPROVED: DEPARTMENT OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*Kurt Selander*  
 DATE: 3/13/15

CHIEF, DIVISION OF LAND DEVELOPMENT  
*Mark M. Leyle*  
 DATE: 2/18/15



DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*Mark R. Mose*  
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES  
 DATE: 5/16/14

449 EISENHOWER BOULEVARD  
 SUITE 300  
 HARRISBURG, PA 17111  
 TEL: (717) 226-0593  
 FAX: (717) 226-1799  
 www.skellyloy.com

PROFESSIONAL CERTIFICATE:  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 15951, EXPIRATION DATE 03/15/2016

*Thomas A. Howard*  
 PROFESSIONAL ENGINEER  
 DATE: 5-1-14

DSN. BY:	SRM	DATE:	4-20/14
DRN. BY:	JUD	DATE:	4/2/14
CHK. BY:	SRM	DATE:	8/23/13
DATE:	OCTOBER 2011	REVISION:	PRE-FINAL DESIGN
BY:	NO.	REVISION:	DATE:

NO.	REVISION	DATE
1	FINAL BACK CHECK REVISIONS	4/2/14
2	BACK CHECK REVISIONS	12/20/13
3	FINAL DESIGN	8/23/13
4	PRE-FINAL DESIGN	3/1/13

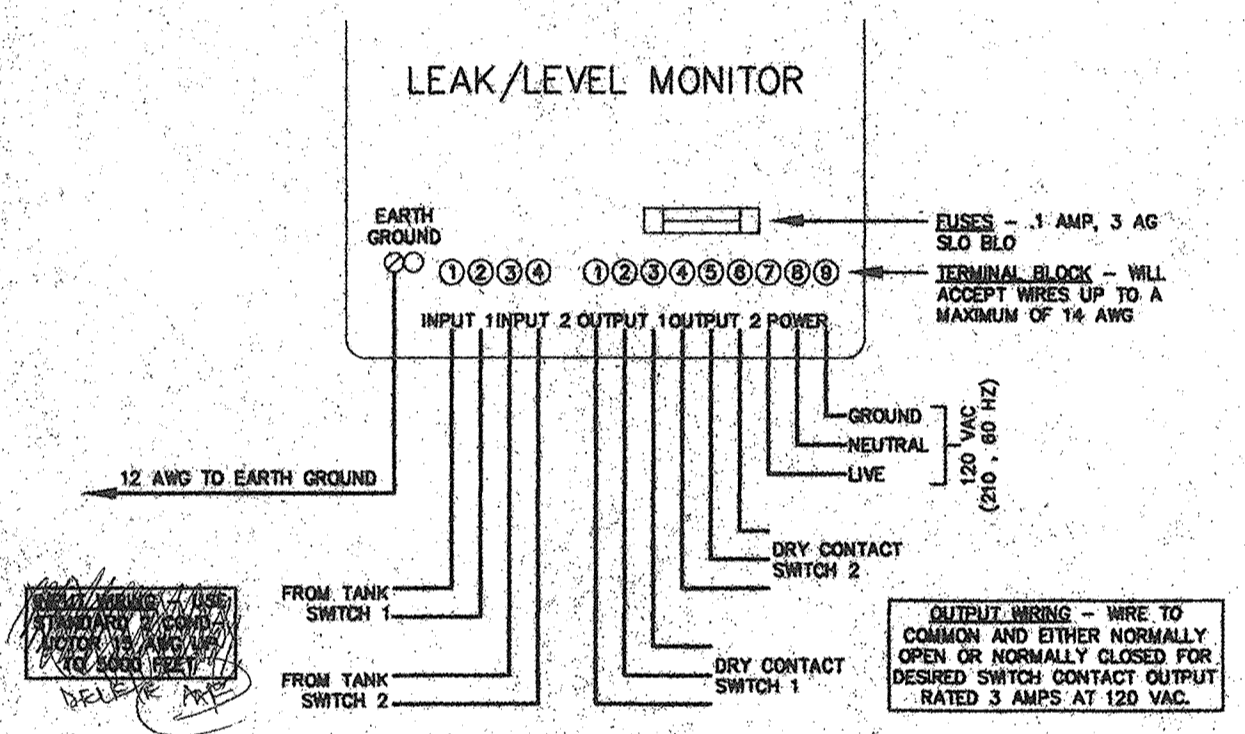
**E&S PLAN**

ALPHA RIDGE LANDFILL MAINTENANCE FACILITY WASHPAD AND OIL/WATER SEPARATOR MODIFICATIONS

CAPITAL PROJECT: C-0213  
 ELECTION DISTRICT NOS:  
 CONGRESSIONAL DISTRICT 7  
 LEGISLATIVE DISTRICT: 9A  
 COUNCIL DISTRICT: 5  
 HOWARD COUNTY, MARYLAND

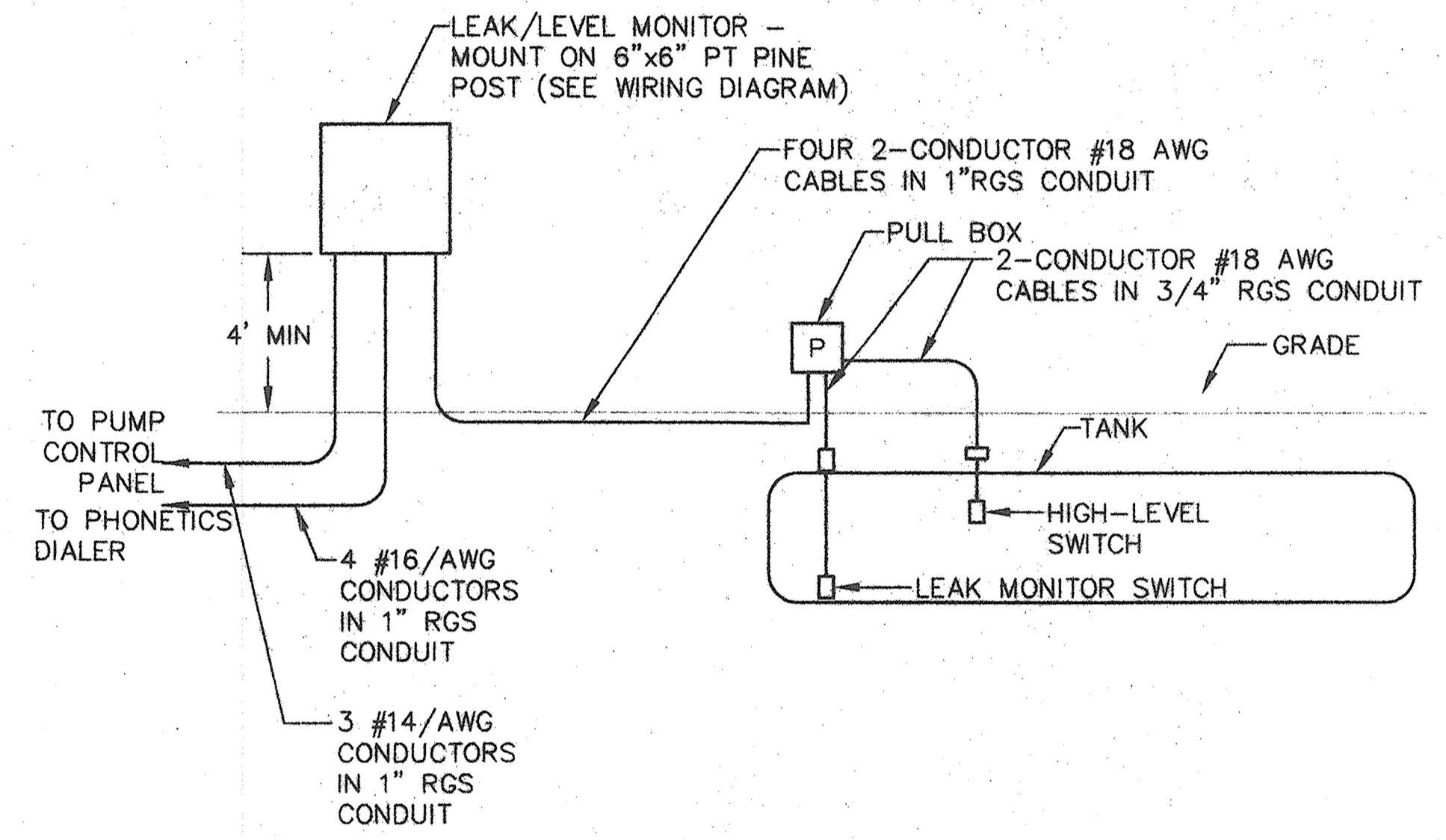
SCALE AS SHOWN  
 SHEET 11 OF 18





CAUTION: RUN INPUT WIRING (LOW VOLTAGE) IN SEPARATE CONDUIT FROM POWER AND RELAY OUTPUT WIRING.

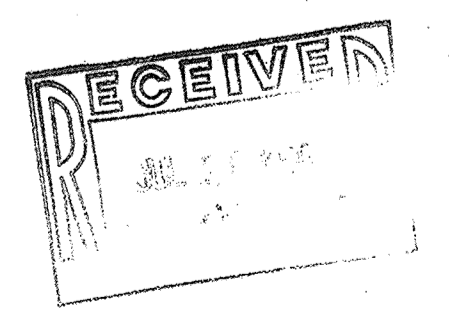
WIRING DIAGRAM FOR LEACHATE STORAGE TANK MONITOR  
NOT TO SCALE



ELECTRICAL RISER - WIRING FOR LEACHATE STORAGE TANK ALARMS  
NOT TO SCALE



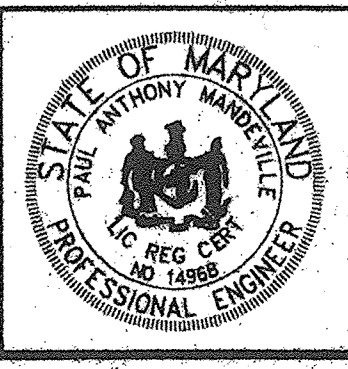
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 16158 Expiration Date: 8-28-20



ELECTRICAL WIRING

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
DIRECTOR OF PUBLIC WORKS	DATE
CHIEF, BUREAU OF WASTE MANAGEMENT	DATE

SCS ENGINEERS  
CONSULTING ENGINEERS  
11260 ROGER BACON DRIVE  
SUITE 300  
RESTON, VIRGINIA 22090  
PH. (703) 471-6150  
FAX. (703) 471-6676



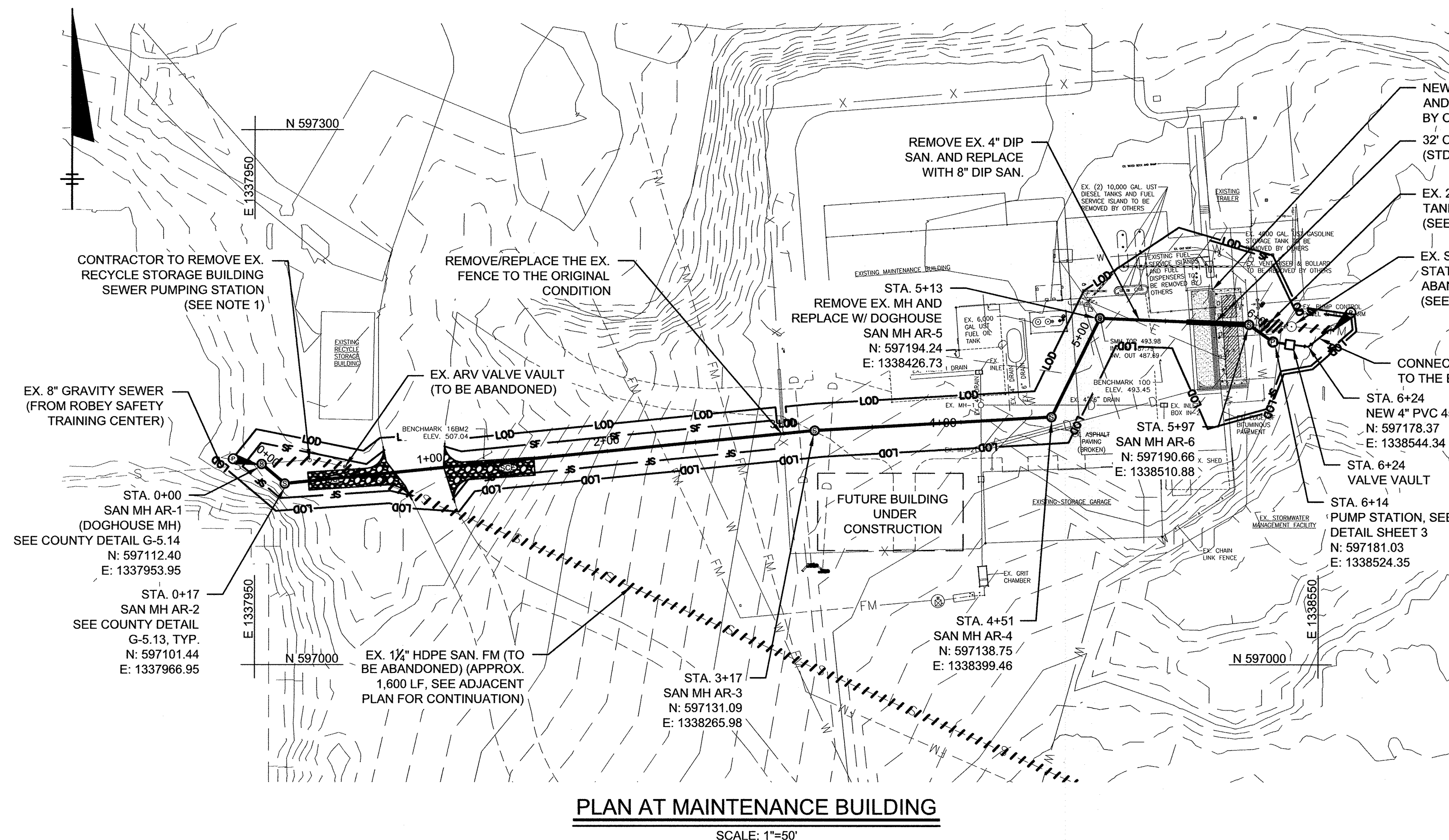
DES.	RTT, BJD				
DRN.	BJD				
CHK.	PAM				
DATE:	7-27-98	BY:	DVA	NO.	UPON SHEET TOTAL
					4-2019
				REVISION	DATE

LEACHATE UST ELECTRICAL

ALPHA RIDGE LANDFILL  
UNLINED CELL CLOSURE  
CAPITAL PROJECT NO. C-0190

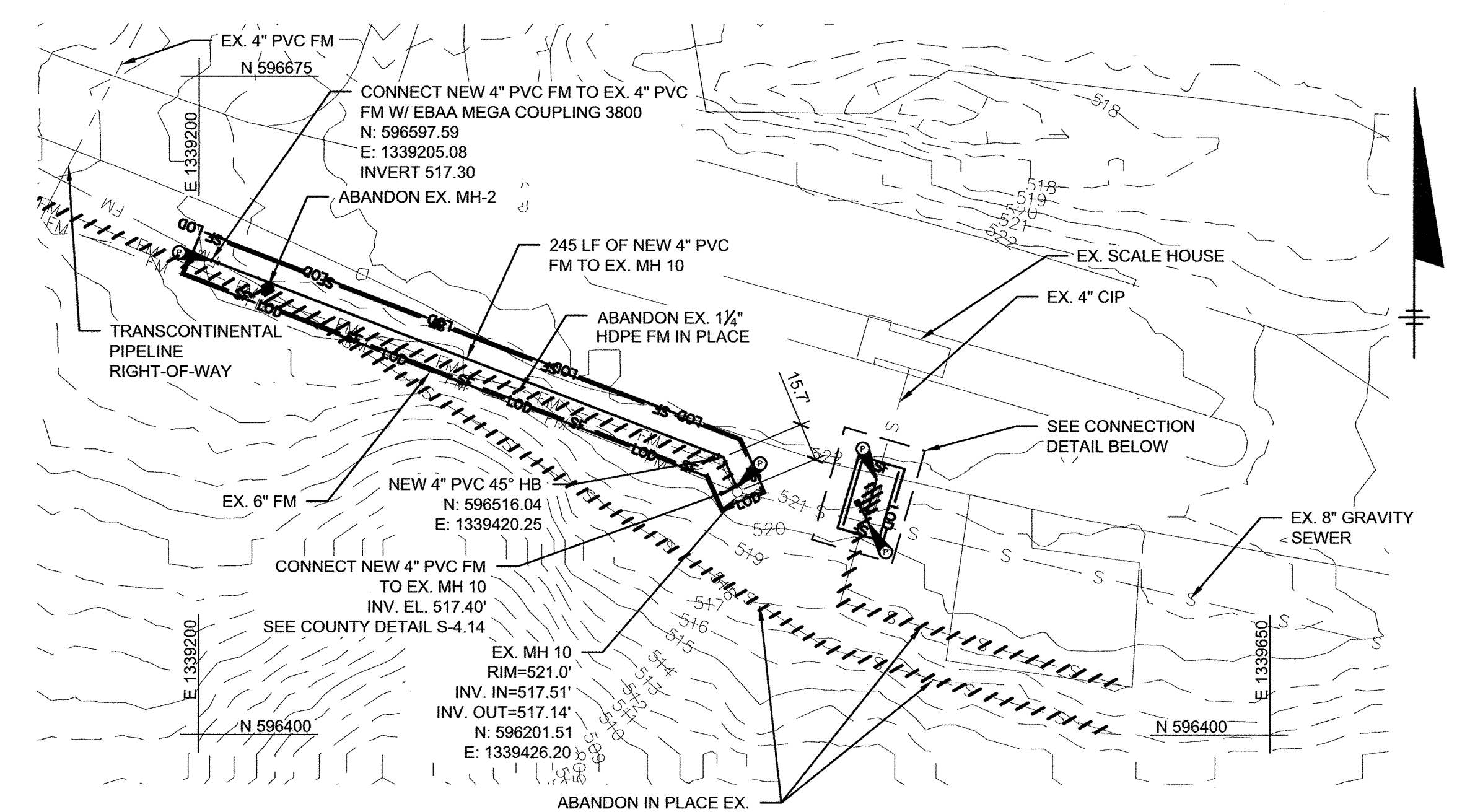
SCALE:  
AS NOTED  
SHEET 109 OF 140  
U OF 2

1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND



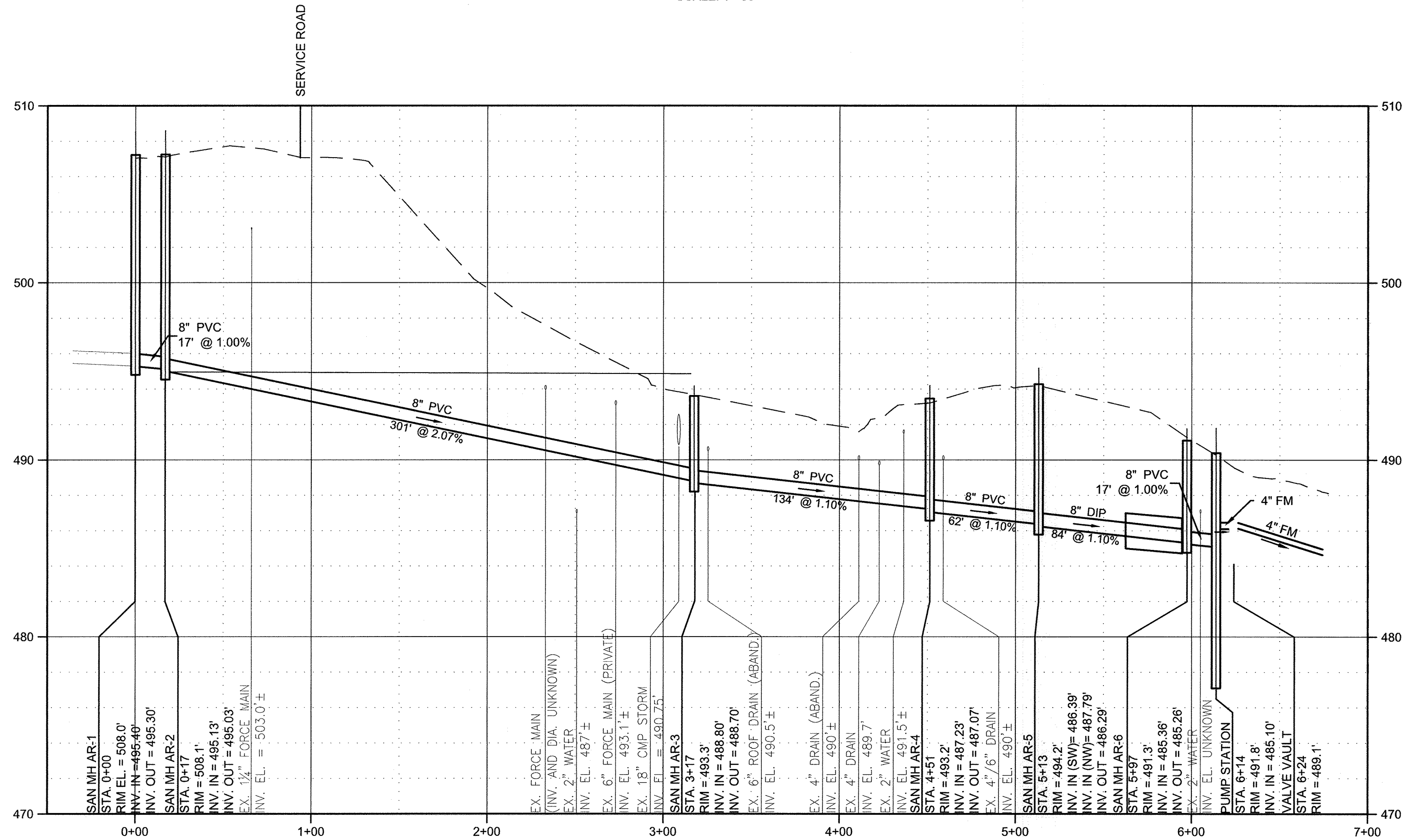
PLAN AT MAINTENANCE BUILDING

SCALE: 1"=50'



PLAN AT SCALE HOUSE

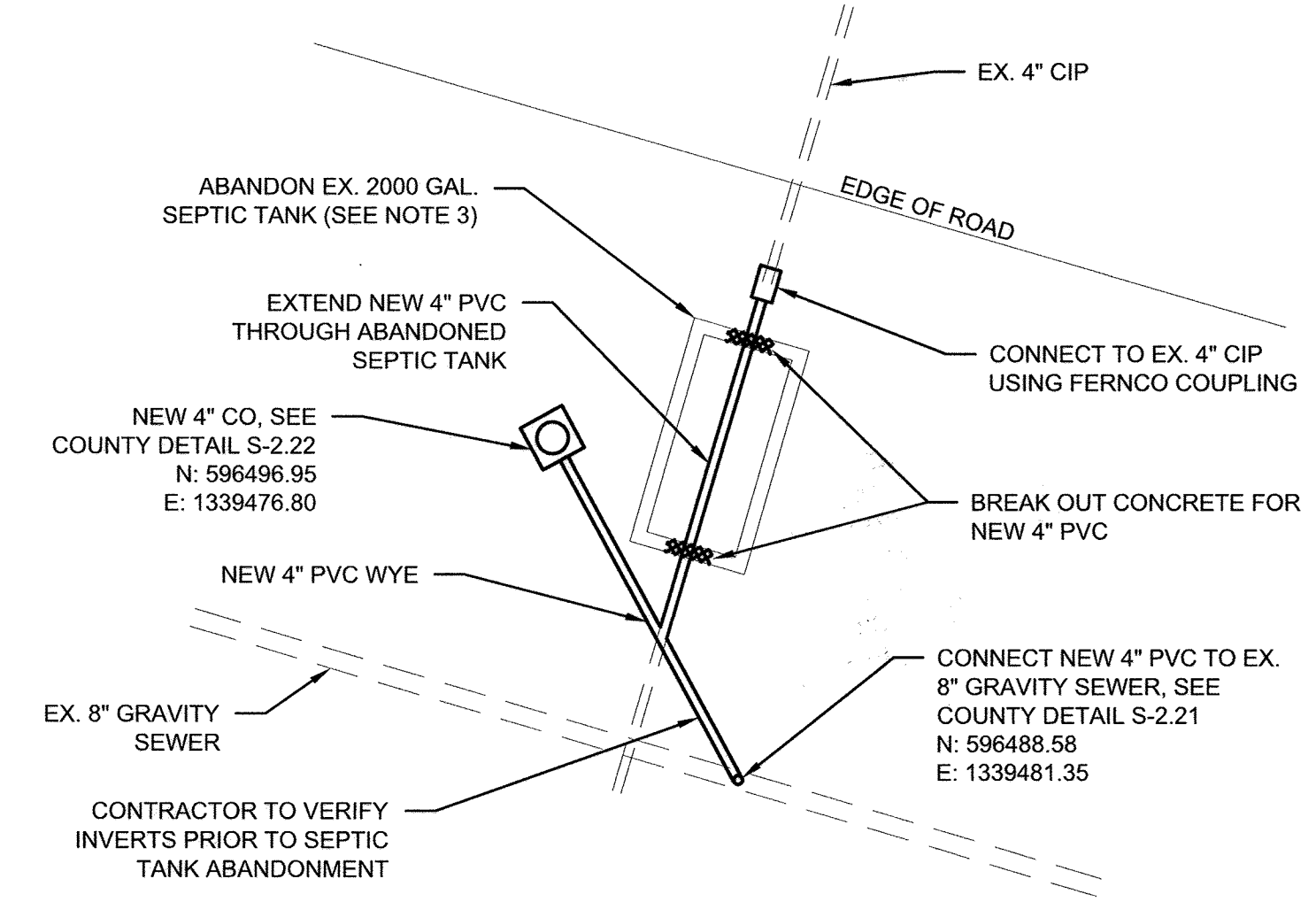
SCALE: 1"=50'



PLAN NOTES:

- EXISTING RECYCLE BUILDING PUMP STATION: REMOVE AND BACKFILL THE EXISTING PUMPING STATION AT THE RECYCLE STORAGE BUILDING AND SALVAGE IT AT THE LOCATION WITHIN 10 MILE RADIUS OF THE SITE SPECIFIED BY THE COUNTY. CONTRACTOR SHALL REMOVE SEWAGE FROM THE WET WELL, REMOVE EXISTING PUMPS, VALVES, CONTROL PANELS, LOCKOUT/TAGOUT EXISTING FEEDER CIRCUIT, DISCONNECT EXISTING CONDUIT AND WIRE.
- EXISTING SEWAGE PUMPING STATION: EXISTING PUMP STATION TO BE ABANDONED IN PLACE. CONTRACTOR SHALL REMOVE EXISTING PUMPS, VALVES, RAILINGS, FLOATS, CONDUITS, PIPING AND APPURTENANCES. DISCONNECT AND REMOVE EX. PUMP STATION CONTROL PANEL. LOCKOUT/TAGOUT EXISTING FEEDER CIRCUIT BREAKER. DISCONNECT AND REMOVE EXISTING WIRES FROM THE EX. PANEL BOARD TO THE EXISTING PUMP CONTROL PANEL. REFER TO NOTE 3 FOR ADDITIONAL DETAILS ON ABANDONMENT.
- EXISTING 2,000 GAL SEPTIC TANK AND SEWAGE PUMPING STATION SHALL BE ABANDONED IN PLACE. SEWAGE SHALL BE REMOVED FROM THE TANK AND PUMPING STATION PRIOR TO ABANDONMENT, AFTER WHICH THE TANK AND PUMPING STATION SHALL BE FILLED COMPLETELY WITH FLOWABLE FILL. (ABANDONMENT WITH ALTERNATE INERT MATERIAL (EG. SAND OR SOILS) SHALL REQUIRE THAT THE BOTTOM OF THE TANK BE RANDOMLY PENETRATED WITH 1" DIAMETER HOLES PRIOR TO FILLING). SURFACE APPURTENANCES (ENTRANCE MANHOLES AND STAND PIPES) SHALL BE REMOVED TO 2' BELOW GRADE AND ANY VOIDS FILLED TO GRADE WITH SELECTED BACKFILL MATERIAL.
- CONTRACTOR SHALL PROVIDE FITTINGS/THRUST BLOCKS/APURTENANCES AS REQUIRED TO CONNECT TO EXISTING SEWER MAINS AS SHOWN. PROVIDE RESTRAINED JOINT AT CONNECTION TO EXISTING FORCE MAIN.
- THE LIMITS OF DISTURBANCE IS 15 FEET FROM THE CENTER OF, AND ON BOTH SIDE OF, THE PROPOSED SEWER.
- SILT FENCE IS SHOWN DIAGMAMMATICALLY. THE CONTRACTOR SHALL PLACE THE SILT FENCE GENERALLY COINCIDENT WITH THE LIMITS OF DISTURBANCE (SEE NOTE 5 ABOVE).
- ALL SEWERS AND FORCE MAINS 15-INCHES AND SMALLER SHALL BE ABANDONED BY INSERTING A MECHANICAL PLUG A MINIMUM OF 12-INCHES INTO THE ABANDONED PIPELINE. ALL SPACE AROUND THE PIPELINE BEHIND THE PLUG SHALL BE FILLED/ SURROUNDED BY NON-SHRINK GROUT OR 2,500 PSI CONCRETE.
- ALL SANITARY SEWER MANHOLES OR PIPELINE VAULTS SHALL BE ABANDONED IN ACCORDANCE WITH THE FOLLOWING:
  - ALL STRUCTURE FRAMES, COVERS AND SECTIONS SHALL BE REMOVED TO A MINIMUM 1-FOOT BELOW FINISHED GRADE. ALL FRAMES AND COVERS SHALL BE SALVAGED AND REUSED WHEN APPROVED BY THE COUNTY. SURPLUS FRAMES AND COVERS SHALL BE SALVAGED AND DELIVERED TO THE COUNTY.
  - FOR SANITARY SEWER MANHOLES, MECHANICAL PLUGS ON ALL INCOMING AND OUTGOING SEWERS AND LATERALS SHALL BE INSTALLED.
  - ALL STRUCTURES SHALL BE COMPLETELY FILLED WITH CONCRETE OR FLOWABLE FILL.
- CONTRACTOR SHALL REPLACE ASPHALT ROAD AS PER DETAIL G-4.01 UTILITY TRENCH ROADWAY REPAIRING.
- BETWEEN NOVEMBER 1 AND MARCH 31, THE CONTRACTOR SHALL PROVIDE PLATES OVER ROADWAY TRENCH LEADING TO SALT BARN FOR IMMEDIATE ACCESS. BETWEEN APRIL 1 AND OCTOBER 31, COORDINATE WITH LANDFILL SUPERINTENDENT FOR ACCESS. ACCESS SHALL NOT BE RESTRICTED FOR MORE THAN 48 HOURS WITHOUT APPROVAL OF THE LANDFILL SUPERINTENDENT.
- PROVIDE 5 DAYS NOTICE TO THE OPERATIONS DIVISION CHIEF (410-313-6419) OF DISRUPTION OF SEWER SERVICE AT THE MAINTENANCE SHOP. PROVIDE BYPASS PUMPING DURING DISRUPTION OF SEWER SERVICE AS BELOW.
 

15 GPM - MAINTENANCE BUILDING PUMP STATION AND 55 GPM - ROBEY CENTER SEWER.



CONNECTION DETAIL

NOT TO SCALE



REVISION No. 1 ONLY  
 Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 16156, Expiration Date: 8-28-20

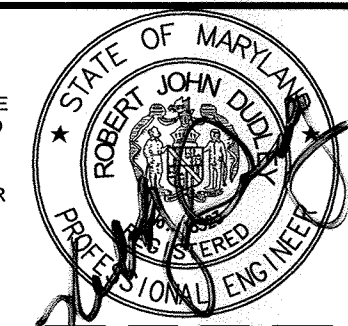
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT  
 Approved: *[Signature]*  
 Howard SCD 2/26/15

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*[Signature]*  
 CHIEF - BUREAU OF FACILITIES DATE

**O BRIEN & GERE**  
 4201 MITCHELLVILLE ROAD  
 SUITE 500  
 BOWIE, MD 20716  
 PHONE: 301-731-5622

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18523, EXPIRATION DATE 12/08/2015



DSN. BY: NV  
 DRN. BY: RPW  
 CHK. BY: RJD  
 DATE: 05/14

BY	NO.	REVISION	DATE
DTM	1	UPDATED SHEET TITLE	4-20-14

SITE PLANS AND PROFILE

600' SCALE MAP NO. X BLOCK NO.

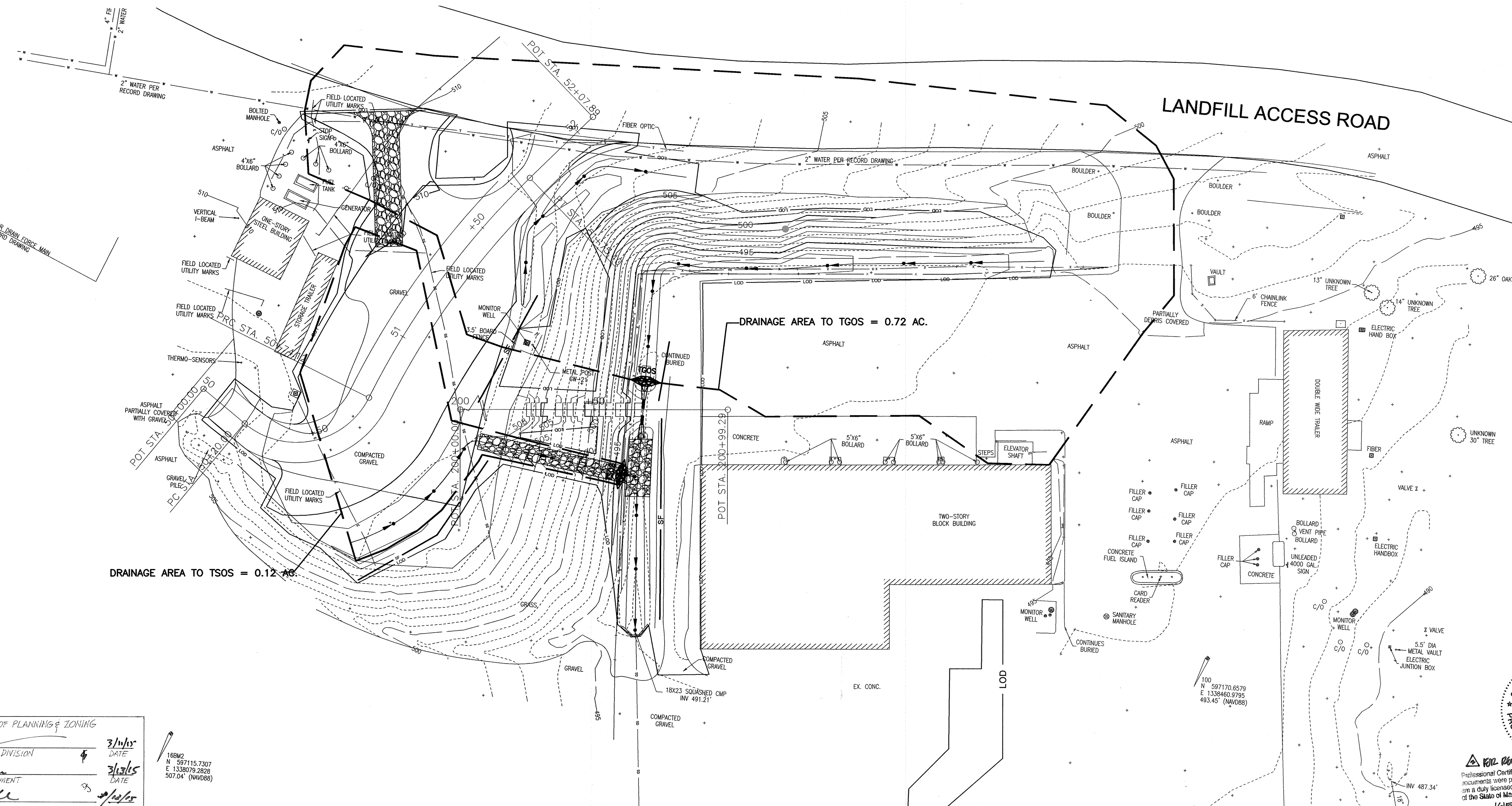
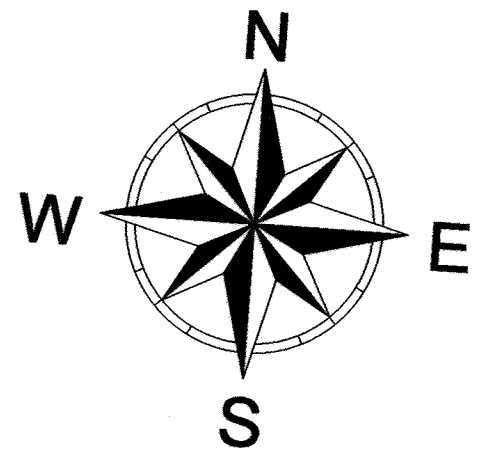
ALPHA RIDGE SEWAGE PUMP STATION

CAPITAL PROJECT: C-0317  
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
 SHEET 2 OF 4 (11 OF 149)  
 FILE NO. 33498-XXXF

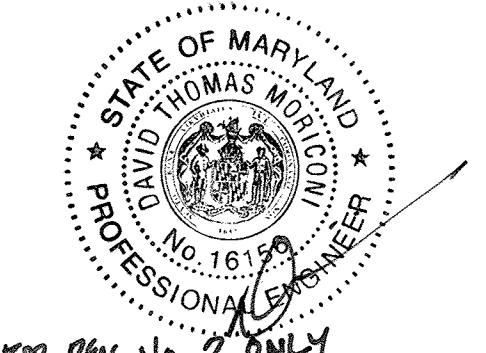






APPROVED BY DEPARTMENT OF PLANNING & ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 3/14/15  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 3/13/15  
 DIRECTOR  
 DATE: 3/13/15

168M2  
 N 597115.7307  
 E 1338079.2828  
 507.04' (NAVD88)



PROFESSIONAL CERTIFICATION  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
 License No. 16156, Expiration Date: 8/28/2014

**DEVELOPER'S CERTIFICATION**  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF DEVELOPER: [Signature]  
 DATE: 8/22/14

**STANDARD STABILIZATION NOTES**  
 FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:  
 A) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND  
 B) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

FUTURE CONCRETE PAD (BY OTHERS)  
 FUTURE BUILDING (BY OTHERS)

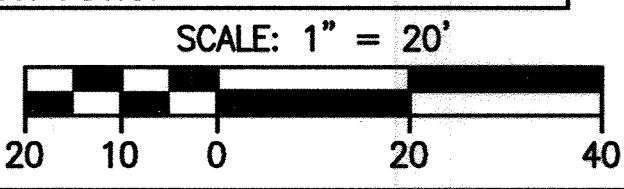
**ENGINEER'S CERTIFICATION**  
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE: [Signature]  
 DATE: 7-31-2014

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE: John P. Robertson  
 DATE: 3/13/15  
 HOWARD SOIL CONSERVATION DISTRICT

**EROSION & SEDIMENT CONTROL PLAN NO. 1**

**PROFESSIONAL CERTIFICATION**  
 I HEREBY CERTIFY THAT DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
 LICENSE NO. 16156  
 EXPIRATION DATE: 8/28/2014

SEE DWG. NO. ES-4 FOR GENERAL EROSION & SEDIMENT CONTROL NOTES AND SEQUENCE OF CONSTRUCTION

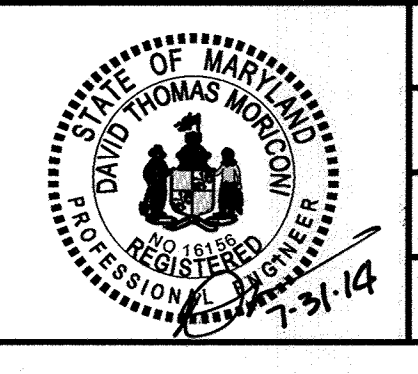


**EROSION & SEDIMENT CONTROL LEGEND**

- E&S DRAINAGE AREA
- TEMP. GABION OUTLET STRUCTURE
- TEMP. STONE OUTLET STRUCTURE
- SILT FENCE
- LIMITS OF CONSTRUCTION
- STABILIZED CONSTRUCTION ENTRANCE
- NEW WATER SERVICE LINE
- NEW WATER VALVE & BOX
- NEW SANITARY SEWER
- NEW DRAIN PIPE
- NEW ELECTRICAL CONDUIT/DUCT
- NEW COMMUNICATIONS CONDUIT/DUCT
- EXISTING WATER SERVICE LINE
- EXISTING WATER VALVE
- EXISTING SANITARY SEWER
- EXISTING DRAIN PIPE
- EXISTING ELECTRICAL CONDUIT/DUCT
- EXISTING FIBER OPTIC CONDUIT/PIPE

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 SIGNATURE: [Signature]  
 DATE: 8/1/14  
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

PREPARED BY  
**URS**  
 6 NORTH PARK DRIVE  
 HUNT VALLEY, MARYLAND  
 TEL: (410) 700-7220

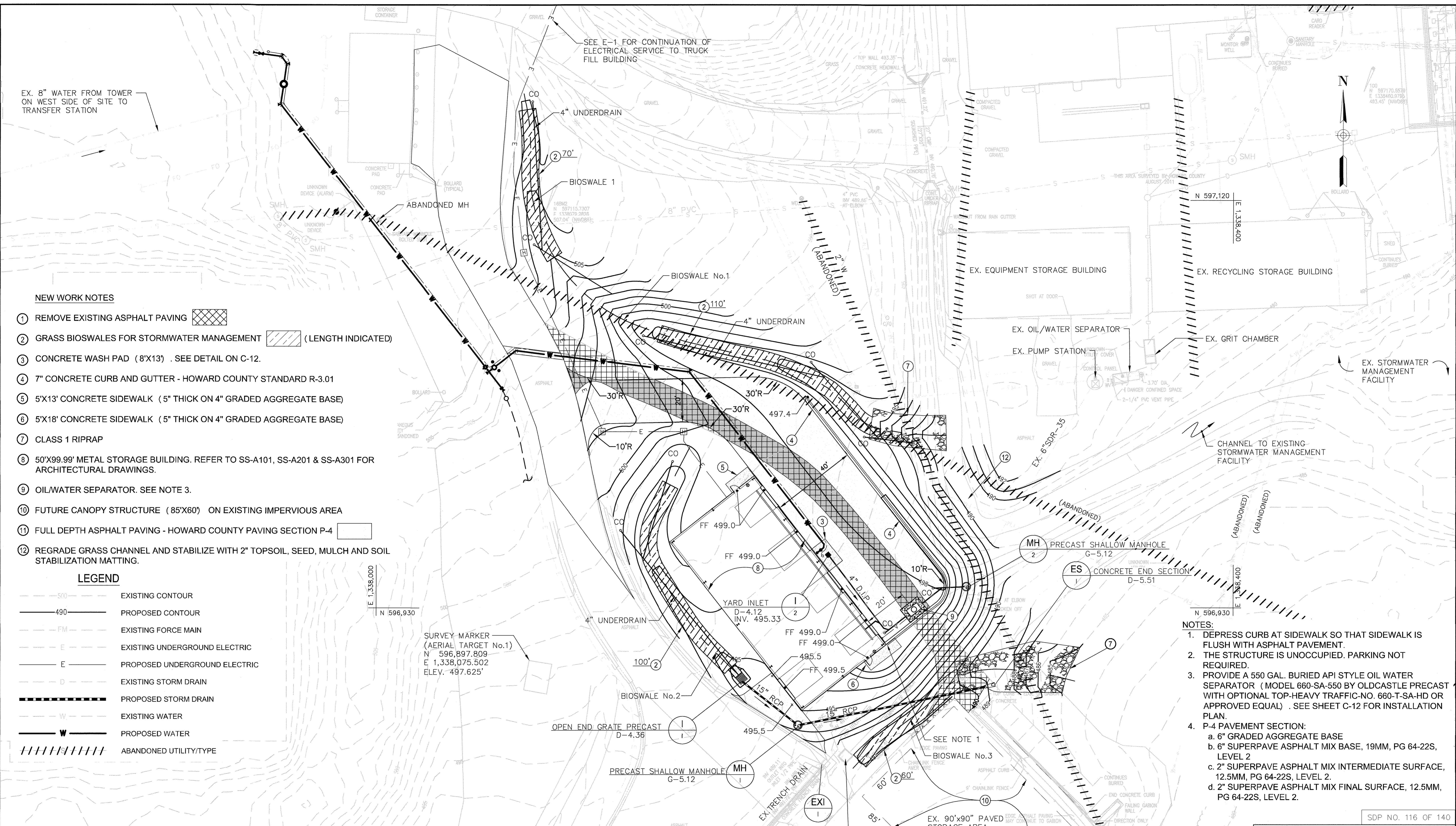


DES:	JHY		
DRN:	CDF		
CHK:	DTM	PTM	4-24/14
DATE:	07/20/14	URS	SDP REDLINE (NEW/INSERT SHEET)
BY:	NO.	NO.	REVISION

**EROSION AND SEDIMENT CONTROL PLAN**  
 SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

**ALPHA RIDGE LANDFILL MAINTENANCE FACILITY**  
**BUILDING SUPPORT PARKING**  
**REVISED SITE DEVELOPMENT PLAN**  
 SCALE: 1" = 20'  
 DWG. NO. ES-1  
 113 OF 140  
 SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_





**NEW WORK NOTES**

- ① REMOVE EXISTING ASPHALT PAVING
- ② GRASS BIOSWALES FOR STORMWATER MANAGEMENT (LENGTH INDICATED)
- ③ CONCRETE WASH PAD (8'X13') . SEE DETAIL ON C-12.
- ④ 7" CONCRETE CURB AND GUTTER - HOWARD COUNTY STANDARD R-3.01
- ⑤ 5'X13' CONCRETE SIDEWALK (5" THICK ON 4" GRADED AGGREGATE BASE)
- ⑥ 5'X18' CONCRETE SIDEWALK (5" THICK ON 4" GRADED AGGREGATE BASE)
- ⑦ CLASS 1 RIPRAP
- ⑧ 50'X99.99' METAL STORAGE BUILDING. REFER TO SS-A101, SS-A201 & SS-A301 FOR ARCHITECTURAL DRAWINGS.
- ⑨ OIL/WATER SEPARATOR. SEE NOTE 3.
- ⑩ FUTURE CANOPY STRUCTURE (85'X60') ON EXISTING IMPERVIOUS AREA
- ⑪ FULL DEPTH ASPHALT PAVING - HOWARD COUNTY PAVING SECTION P-4
- ⑫ REGRADE GRASS CHANNEL AND STABILIZE WITH 2" TOPSOIL, SEED, MULCH AND SOIL STABILIZATION MATTING.

**LEGEND**

- 500--- EXISTING CONTOUR
- 490--- PROPOSED CONTOUR
- FM--- EXISTING FORCE MAIN
- E--- EXISTING UNDERGROUND ELECTRIC
- E--- PROPOSED UNDERGROUND ELECTRIC
- D--- EXISTING STORM DRAIN
- D--- PROPOSED STORM DRAIN
- W--- EXISTING WATER
- W--- PROPOSED WATER
- ////// ABANDONED UTILITY/TYPE

**NOTES:**

1. DEPRESS CURB AT SIDEWALK SO THAT SIDEWALK IS FLUSH WITH ASPHALT PAVEMENT.
2. THE STRUCTURE IS UNOCCUPIED. PARKING NOT REQUIRED.
3. PROVIDE A 550 GAL. BURIED API STYLE OIL WATER SEPARATOR (MODEL 660-SA-550 BY OLDCASTLE PRECAST WITH OPTIONAL TOP-HEAVY TRAFFIC-NO. 660-T-SA-HD OR APPROVED EQUAL) . SEE SHEET C-12 FOR INSTALLATION PLAN.
4. P-4 PAVEMENT SECTION:
  - a. 6" GRADED AGGREGATE BASE
  - b. 6" SUPERPAVE ASPHALT MIX BASE, 19MM, PG 64-22S, LEVEL 2
  - c. 2" SUPERPAVE ASPHALT MIX INTERMEDIATE SURFACE, 12.5MM, PG 64-22S, LEVEL 2.
  - d. 2" SUPERPAVE ASPHALT MIX FINAL SURFACE, 12.5MM, PG 64-22S, LEVEL 2.

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DIRECTOR

PURPOSE NOTE:  
 THE PURPOSE OF THIS REDLINE IS TO ADD A NEW METAL STORAGE SHED, ORGANICS STORAGE STRUCTURE, POWER AND WATER SERVICE AND PAVING.

PROFESSIONAL CERTIFICATION  
 I HEREBY CERTIFY THAT DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18156, EXPIRATION DATE: 8/28/2020

OWNER  
 HOWARD COUNTY MARYLAND  
 DEPARTMENT OF PUBLIC WORKS  
 3430 COURTHOUSE DRIVE  
 ELLICOTT CITY, MD 21043  
 PH: 410 313-6444

WATER CODE: 730  
 SEWER CODE: PRIVATE  
 PROJECT NAME:  
 ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER

ADDRESS CHART	
BUILDING	STREET ADDRESS 2350 MARRIOTTSVILLE ROAD
SECTION/AREA N/A	LOT/PARCEL 54,253,220,11,302
PLAT 15716 L.6689 F.619	FOREST CONS. PLAT 15834
ZONE RC-DEO	TAX MAP BLOCK 2/8
ELEC. DIST. 3RD	CENSUS TRACT 6030.00

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES  
 DATE: 3/2/19

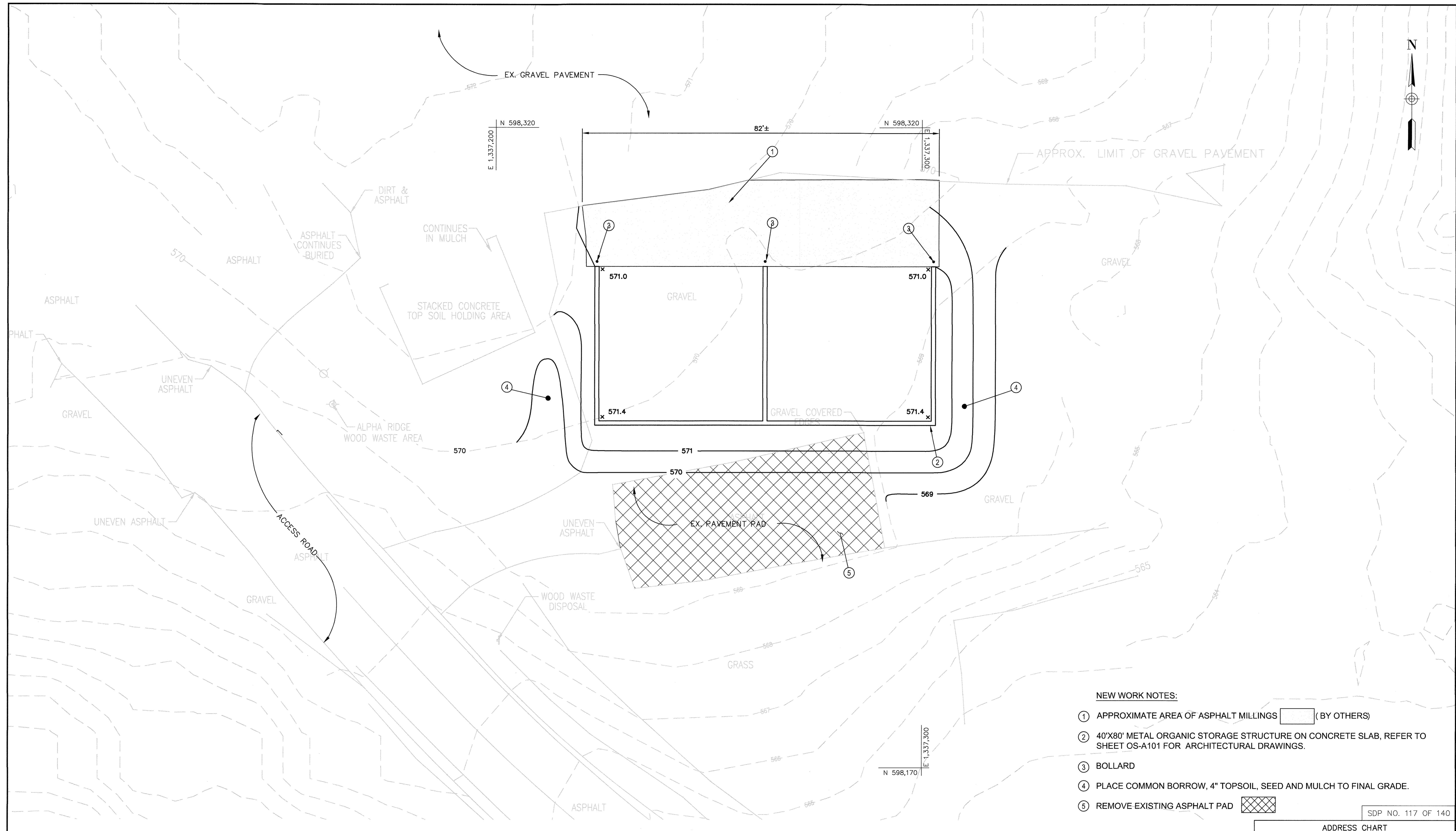


DES: RLL	DRN: CDF	CHK: DTM	DATE: 02/2019	DTM:	INSERT NEW SHEET	DATE: 02/2019
BY: NO.			REVISION	SCALE MAP NO. BLOCK NO.		

**SITE PLAN II-  
 RECYCLING STORAGE  
 SHED**

REVISED SITE DEVELOPMENT PLAN  
**ALPHA RIDGE LANDFILL  
 RECYCLING STORAGE SHED, PAVILION AND  
 ORGANICS STORAGE STRUCTURE**  
 CAPITAL PROJECT NO. C-0299  
 3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE  
 1"=20'  
 DWG NO.  
 C-2



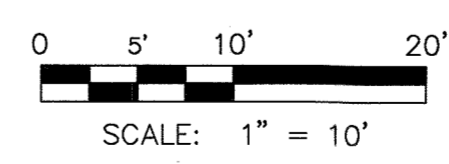
- NEW WORK NOTES:**
- ① APPROXIMATE AREA OF ASPHALT MILLINGS (BY OTHERS)
  - ② 40'X80' METAL ORGANIC STORAGE STRUCTURE ON CONCRETE SLAB, REFER TO SHEET OS-A101 FOR ARCHITECTURAL DRAWINGS.
  - ③ BOLLARD
  - ④ PLACE COMMON BORROW, 4" TOPSOIL, SEED AND MULCH TO FINAL GRADE.
  - ⑤ REMOVE EXISTING ASPHALT PAD

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division  
 Chief, Division of Land Development  
 Director

5-15-19  
 5-21-19  
 5-21-19

**PROFESSIONAL CERTIFICATION**  
 I HEREBY CERTIFY THAT DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16156, EXPIRATION DATE: 8/28/2020

**PURPOSE NOTE:**  
 THE PURPOSE OF THIS REDLINE IS TO ADD A NEW METAL STORAGE SHED, ORGANICS STORAGE STRUCTURE, POWER AND WATER SERVICE AND PAVING.



<b>OWNER</b> HOWARD COUNTY MARYLAND DEPARTMENT OF PUBLIC WORKS 3430 COURTHOUSE DRIVE ELLCOTT CITY, MD 21043 PH: 410 313-6444		<b>WATER CODE:</b> 730	<b>SEWER CODE:</b> PRIVATE	<b>BUILDING</b>	<b>STREET ADDRESS</b> 2350 MARIOTTSVILLE ROAD
<b>PROJECT NAME:</b> ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER		<b>SECTION/AREA</b> N/A	<b>LOT/PARCEL</b> 54,253,220,11,302		
<b>PLAT</b> 15716 L.6689 F.619	<b>FOREST CONS. PLAT</b> 15834	<b>ZONE</b> RC-DEO	<b>TAX MAP BLOCK</b> 16 2/8	<b>ELEC. DIST.</b> 3RD	<b>CENSUS TRACT</b> 6030.00

SDP NO. 117 OF 140

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Chief, Bureau of Environmental Services



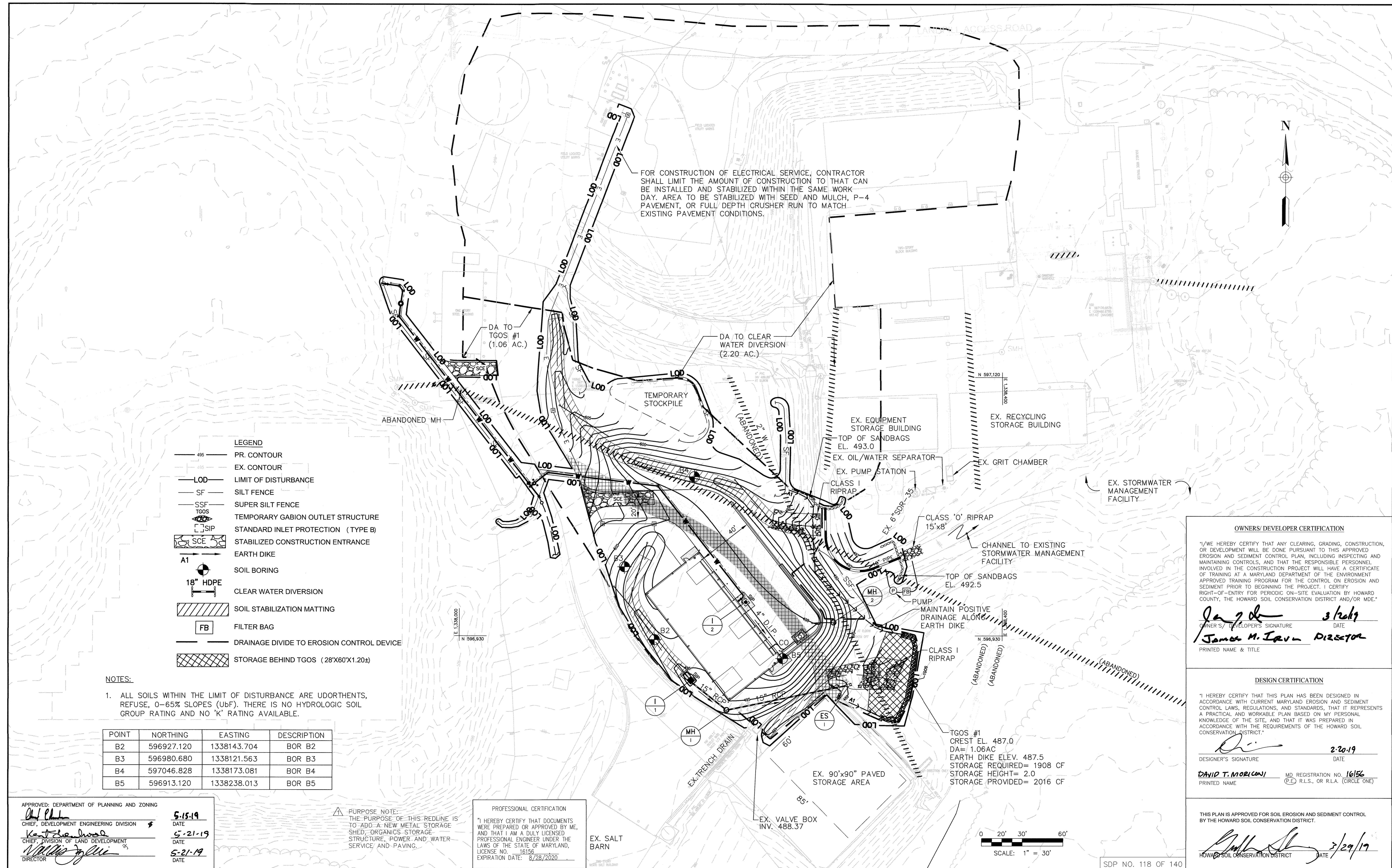
DES: RLL	
DRN: CDF	
CHK: DTM	
DATE: 02/2019	
DTM BY NO.	INSERT NEW SHEET
	REVISION

**SITE PLAN III-  
 ORGANICS STORAGE  
 STRUCTURE**

REVISED SITE DEVELOPMENT PLAN  
**ALPHA RIDGE LANDFILL  
 RECYCLING STORAGE SHED, PAVILION AND  
 ORGANICS STORAGE STRUCTURE**  
 CAPITAL PROJECT NO. C-0299  
 3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE  
 1"=10'  
 DWG NO.  
 C-3





FOR CONSTRUCTION OF ELECTRICAL SERVICE, CONTRACTOR SHALL LIMIT THE AMOUNT OF CONSTRUCTION TO THAT CAN BE INSTALLED AND STABILIZED WITHIN THE SAME WORK DAY. AREA TO BE STABILIZED WITH SEED AND MULCH, P-4 PAVEMENT, OR FULL DEPTH CRUSHER RUN TO MATCH EXISTING PAVEMENT CONDITIONS.

- LEGEND**
- 485 — PR. CONTOUR
  - 485 — EX. CONTOUR
  - LOD — LIMIT OF DISTURBANCE
  - SF — SILT FENCE
  - SSF — SUPER SILT FENCE
  - TGOS — TEMPORARY GABION OUTLET STRUCTURE
  - SIP — STANDARD INLET PROTECTION (TYPE B)
  - SCE — STABILIZED CONSTRUCTION ENTRANCE
  - A1 — EARTH DIKE
  - SOIL BORING
  - 18" HDPE — CLEAR WATER DIVERSION
  - SOIL STABILIZATION MATTING
  - FB — FILTER BAG
  - DRAINAGE DIVIDE TO EROSION CONTROL DEVICE
  - STORAGE BEHIND TGOS (28'X60'X1.20±)

**NOTES:**

- ALL SOILS WITHIN THE LIMIT OF DISTURBANCE ARE UDORTMENTS, REFUSE, 0-65% SLOPES (Ubf). THERE IS NO HYDROLOGIC SOIL GROUP RATING AND NO 'K' RATING AVAILABLE.

POINT	NORTHING	EASTING	DESCRIPTION
B2	596927.120	1338143.704	BOR B2
B3	596980.680	1338121.563	BOR B3
B4	597046.828	1338173.081	BOR B4
B5	596913.120	1338238.013	BOR B5

**PURPOSE NOTE:**  
THE PURPOSE OF THIS REDLINE IS TO ADD A NEW METAL STORAGE SHED, ORGANICS STORAGE STRUCTURE, POWER AND WATER SERVICE AND PAVING.

**PROFESSIONAL CERTIFICATION**  
"I HEREBY CERTIFY THAT DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16156, EXPIRATION DATE: 8/28/2020"

EX. SALT BARN

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division 5-15-19  
 Chief, Division of Land Development 5-21-19  
 Director 5-21-19

**OWNERS/DEVELOPER CERTIFICATION**  
 "I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE."  
 James M. Igan, Director  
 3/29/19

**DESIGN CERTIFICATION**  
 "I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."  
 David T. Moriconi, P.E.  
 2-20-19

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 Howard Soil Conservation District  
 3/29/19

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Chief, Bureau of Environmental Services  
 3/12/19

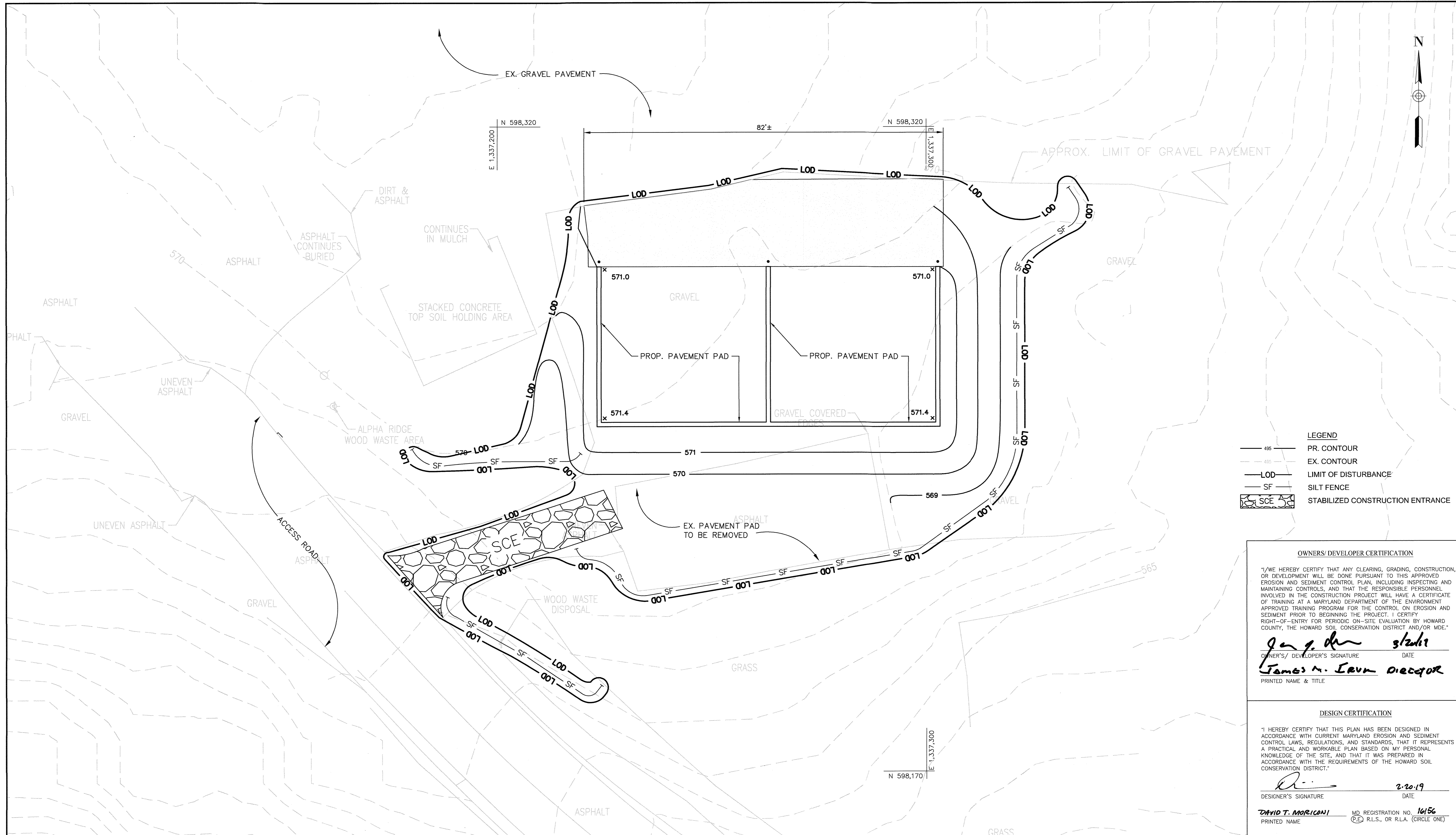
**AECOM**

STATE OF MARYLAND  
 PROFESSIONAL ENGINEER  
 DAVID T. MORICONI  
 LICENSE NO. 16156  
 EXPIRES 8/28/2020

DES: RLL	DATE: 02/2019
DRN: CDF	DTM: INSERT NEW SHEET
CHK: DTM	BY: NO.
DATE: 02/2019	REVISION: 02/2019

REVISED SITE DEVELOPMENT PLAN  
**EROSION & SEDIMENT CONTROL PLAN II - RECYCLING STORAGE SHED**

**ALPHA RIDGE LANDFILL  
 RECYCLING STORAGE SHED, PAVILION AND ORGANICS STORAGE STRUCTURE**  
 CAPITAL PROJECT NO. C-0299  
 3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND  
 SCALE 1"=30'  
 DWG NO. C-5  
 SDP NO. 118 OF 140



**LEGEND**

	PR. CONTOUR
	EX. CONTOUR
	LIMIT OF DISTURBANCE
	SILT FENCE
	STABILIZED CONSTRUCTION ENTRANCE

**OWNERS/ DEVELOPER CERTIFICATION**

"I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE."

*James M. Levan* 2/20/19  
 OWNER'S/ DEVELOPER'S SIGNATURE DATE  
**James M. Levan Director**  
 PRINTED NAME & TITLE

**DESIGN CERTIFICATION**

"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

*David T. Moricani* 2/20/19  
 DESIGNER'S SIGNATURE DATE  
**DAVID T. MORICANI** MD REGISTRATION NO. 16156  
 PRINTED NAME (E.E. R.L.S., OR R.L.A. (CIRCLE ONE))

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Steph Stoj* 3/29/19  
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 5-15-19  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

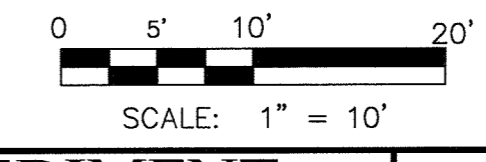
*[Signature]* 5-21-19  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 5-21-19  
 DIRECTOR DATE

**PROFESSIONAL CERTIFICATION**

"I HEREBY CERTIFY THAT DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16156, EXPIRATION DATE: 8/28/2020."

**PURPOSE NOTE:**  
 THE PURPOSE OF THIS REDLINE IS TO ADD A NEW METAL STORAGE SHED, ORGANICS STORAGE STRUCTURE, POWER AND WATER SERVICE AND PAVING.



SDP NO. 119 OF 140

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*[Signature]* 3/2/19  
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE



DES:	RLL			
DRN:	CDF			
CHK:	DTM			
DATE:	02/2019	DTM	▲	INSERT NEW SHEET
BY:	NO.	REVISION		

**EROSION & SEDIMENT CONTROL PLAN III - ORGANICS STORAGE STRUCTURE**

SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

REVISED SITE DEVELOPMENT PLAN  
**ALPHA RIDGE LANDFILL RECYCLING STORAGE SHED, PAVILION AND ORGANICS STORAGE STRUCTURE**

CAPITAL PROJECT NO. C-0299  
 3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE  
 1"=10'  
 DWG NO.  
 C-6





B-4-5 STANDARDS AND SPECIFICATIONS

FOR PERMANENT STABILIZATION

Definition

To stabilize disturbed soils with permanent vegetation.

Purpose

To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

Conditions Where Practice Applies

Exposed soils where ground cover is needed for 6 months or more.

Criteria

A. Seed Mixtures

1. General Use

- Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone... Additional planting specifications for exceptional sites... For sites having disturbed area over 5 acres... For areas receiving low maintenance... Turfgrass Mixtures... Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites... Select one or more of the species or mixtures listed below based on the site conditions or purpose... Kentucky Bluegrass: Full Sun Mixture... Kentucky Bluegrass/Perennial Rye: Full Sun Mixture... Tall Fescue/Kentucky Bluegrass: Full Sun Mixture... Kentucky Bluegrass/Fine Fescue: Shade Mixture...

Notes:

Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"

Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line

c. Ideal Times of Seeding for Turf Grass Mixtures

Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a)
Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b)
Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)

- Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed... If soil moisture is deficient, supply new seedlings with adequate water for plant growth...

Permanent Seeding Summary

Table with columns: No., Species, Application Rate (lb/acre), Seeding Dates, Seeding Depths, N, P2O5, K2O, Lime Rate. Includes rows for TALL FESCUE and SOD.

B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).

1. General Specifications

- Class of turfgrass sod must be Maryland State Certified... Sod must be machine cut at a uniform soil thickness... Standard size sections of sod must be strong enough to support their own weight... Sod must not be harvested or transplanted when moisture content... Sod must be harvested, delivered, and installed within a period of 36 hours...

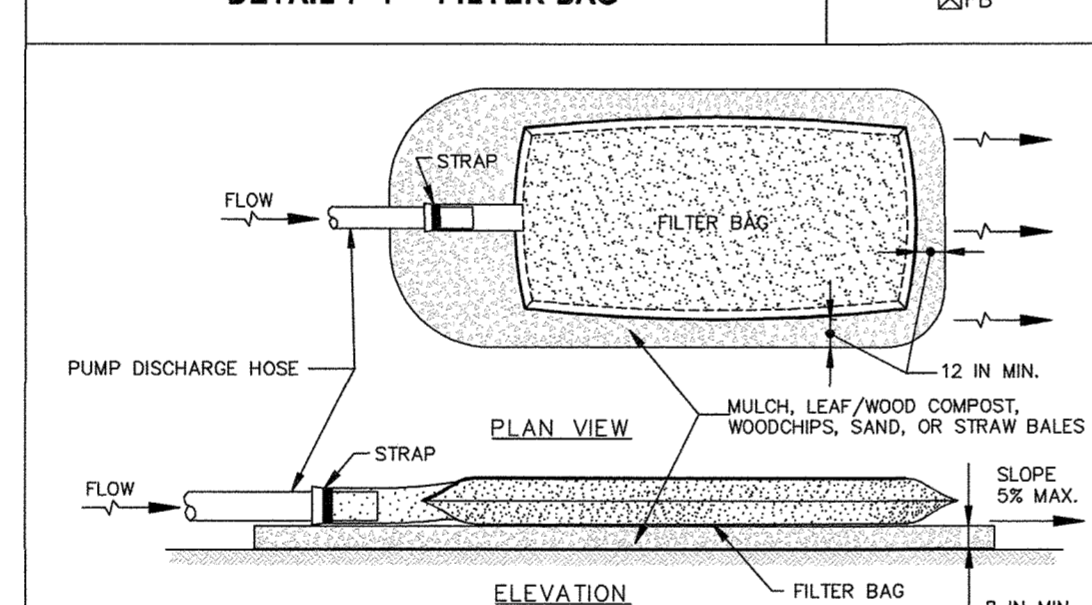
2. Sod Installation

- During periods of excessively high temperature... Lay the first row of sod in a straight line... Water the sod immediately following rolling... Wherever possible, lay sod with the long edges parallel to the contour... Water the sod immediately following rolling and tamping...

3. Sod Maintenance

- In the absence of adequate rainfall, water daily during the first week... After the first week, sod watering is required as necessary to maintain adequate moisture content... Do not mow until the sod is firmly rooted...

DETAIL F-4 FILTER BAG



CONSTRUCTION SPECIFICATIONS

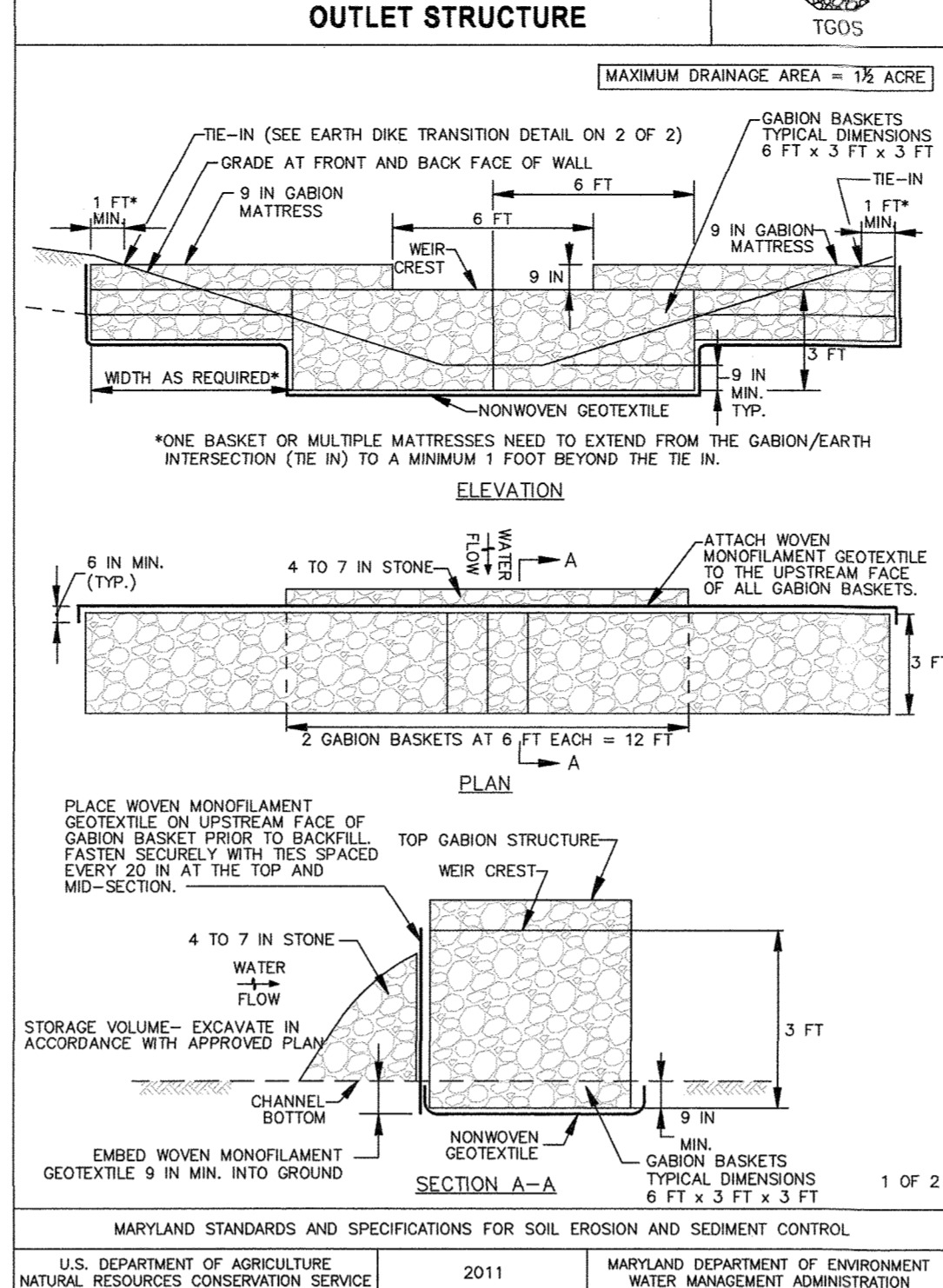
- TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE... PLACE FILTER BAG ON SUITABLE BASE... CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE... REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES...

Table with columns: PROPERTY, VALUE, STANDARD. Lists material properties for the filter bag.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

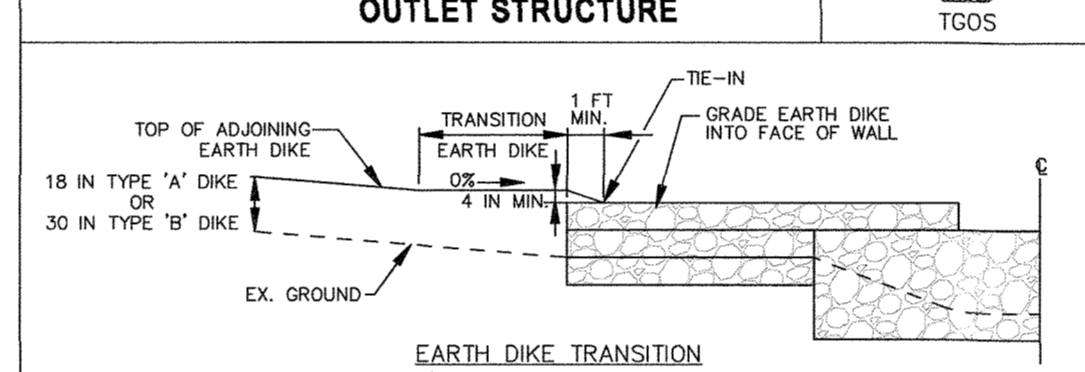
DETAIL E-8 TEMPORARY GABION OUTLET STRUCTURE



MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-8 TEMPORARY GABION OUTLET STRUCTURE



- PROVIDE TRANSITION LENGTH AND HEIGHT AS SPECIFIED ON PLAN... PROVIDE POSITIVE DRAINAGE ALONG EARTH DIKE TO GABION OUTLET STRUCTURE... COMPACT FILL... SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION...

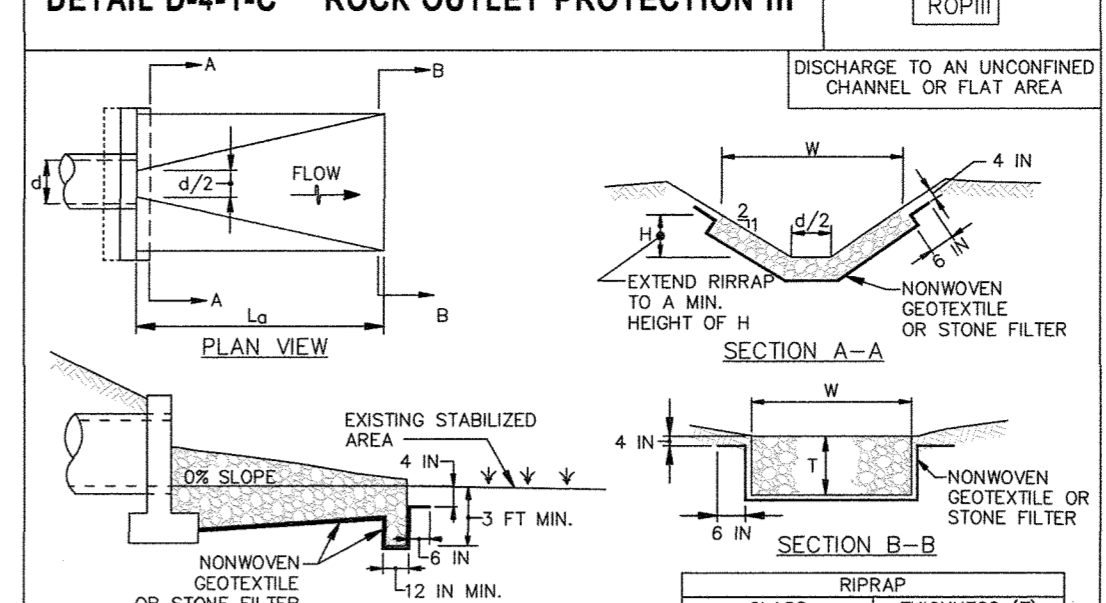
CONSTRUCTION SPECIFICATIONS

- PROVIDE STORAGE VOLUME AS SPECIFIED ON APPROVED PLANS... USE BASKETS MADE OF 11 GAUGE WIRE OR HEAVIER... INSTALL GABIONS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS... REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES...

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL D-4-1-C ROCK OUTLET PROTECTION III



CONSTRUCTION SPECIFICATIONS

- RRIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS... USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS... PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER... EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES... CONSTRUCT RRIPRAP OUTLET TO FULL COURSE THICKNESS... MAINTAIN LINE, GRADE, AND CROSS SECTION...

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

OWNERS/ DEVELOPER CERTIFICATION

I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN...

Signature of James N. Irwin, dated 3/20/19, Director.

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS...

Signature of David T. Moriconi, dated 2-20-19, Designer.

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature of David T. Moriconi, dated 3/29/19, Howard Soil Conservation District.

APPROVED: DEPARTMENT OF PLANNING AND ZONING. Signatures and dates for Chief, Development Engineering Division and Director.

PROFESSIONAL CERTIFICATION. Statement by a professional engineer certifying the documents were prepared or approved by them.

PURPOSE NOTE: THE PURPOSE OF THIS REDLINE IS TO ADD A NEW METAL STORAGE SHED, ORGANICS STORAGE STRUCTURE, POWER AND WATER SERVICE AND PAVING.

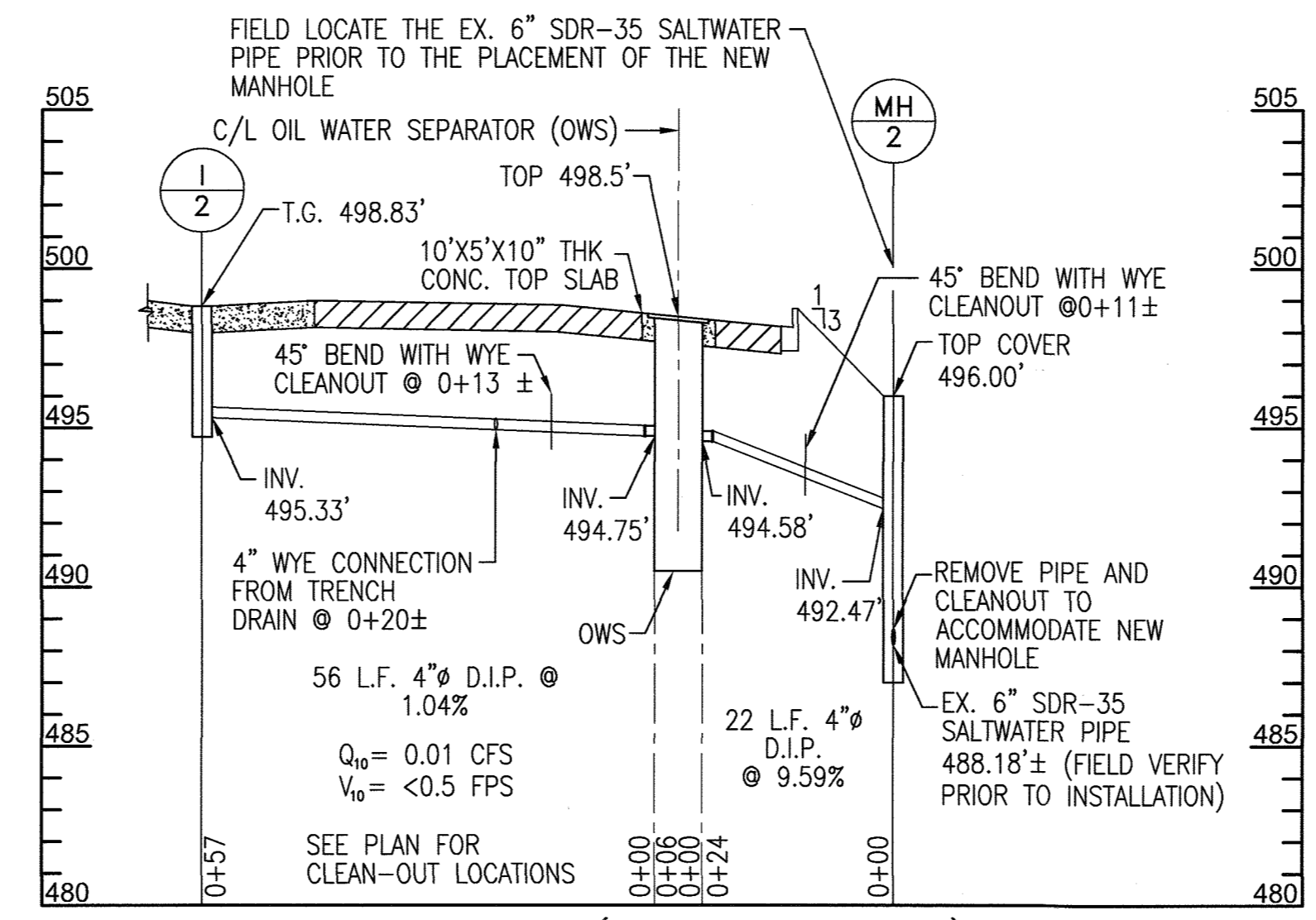
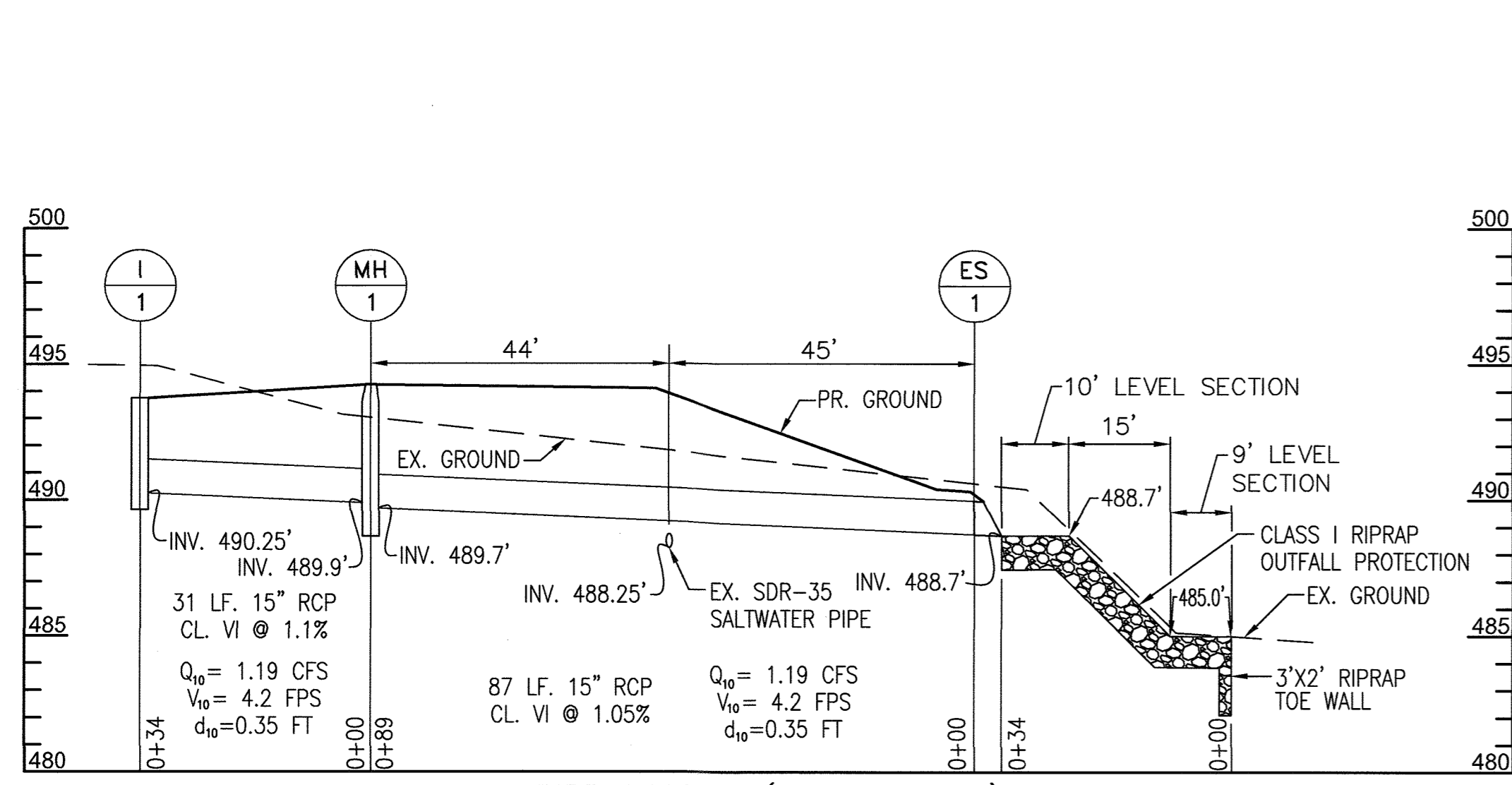
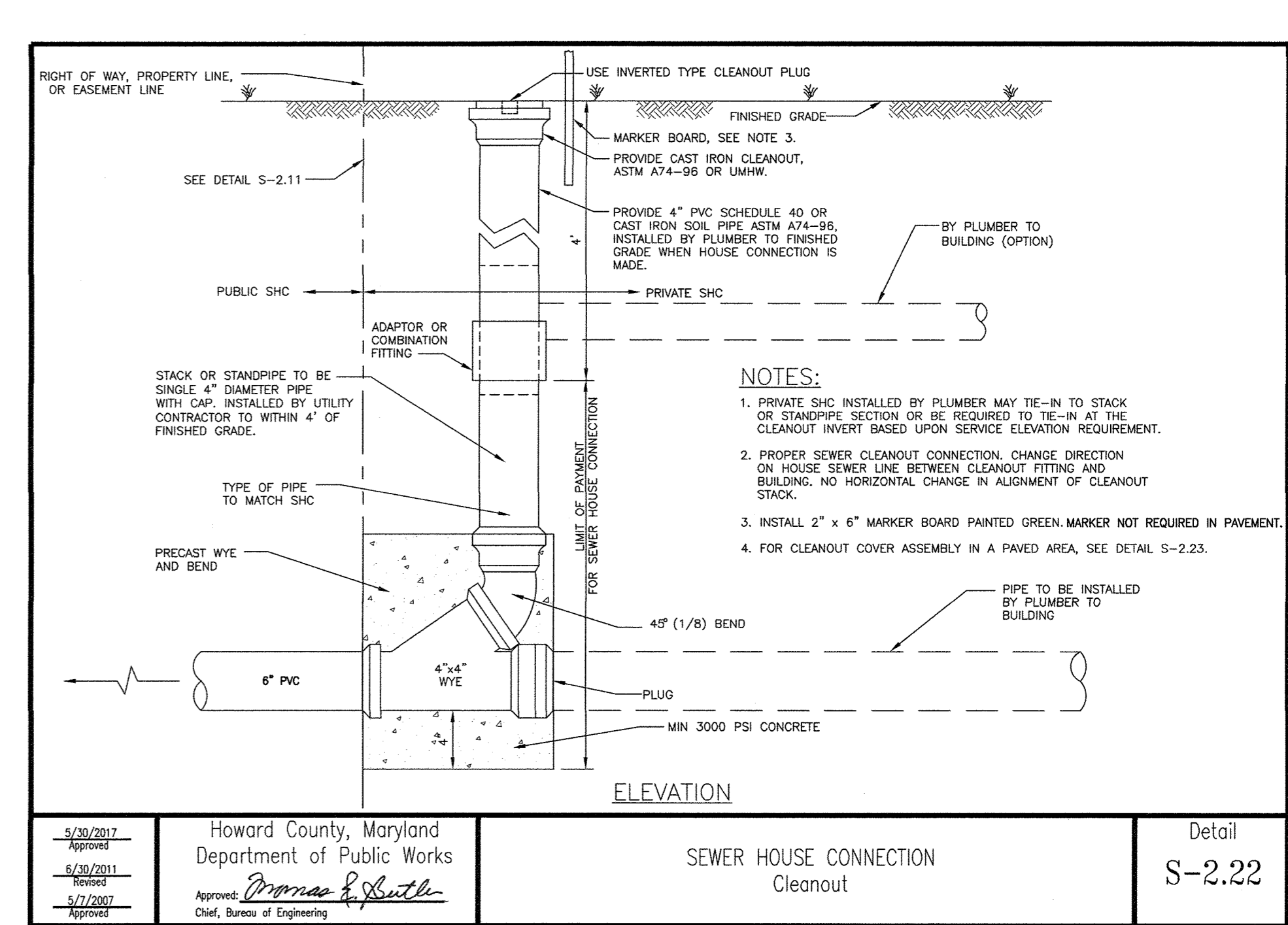
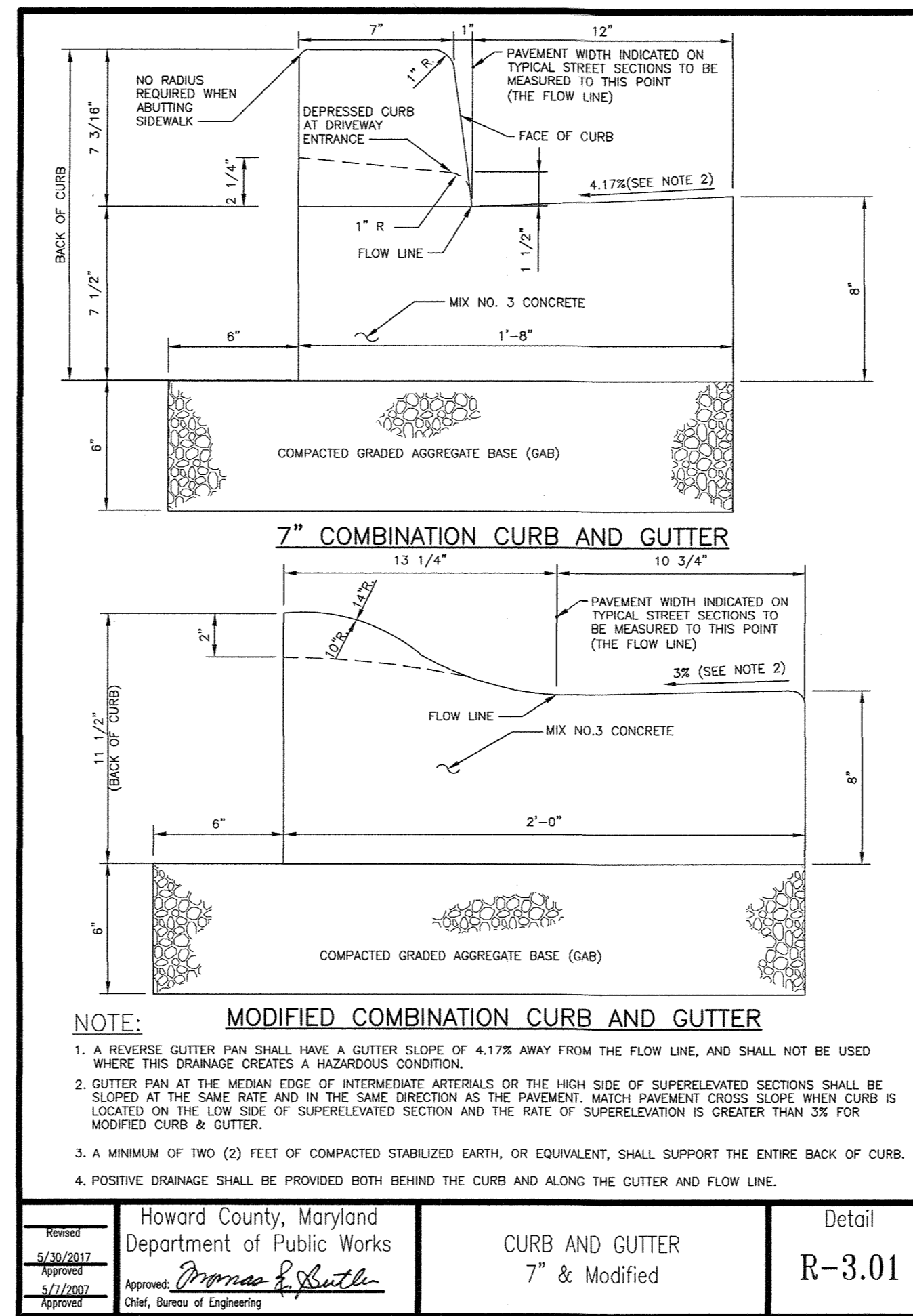
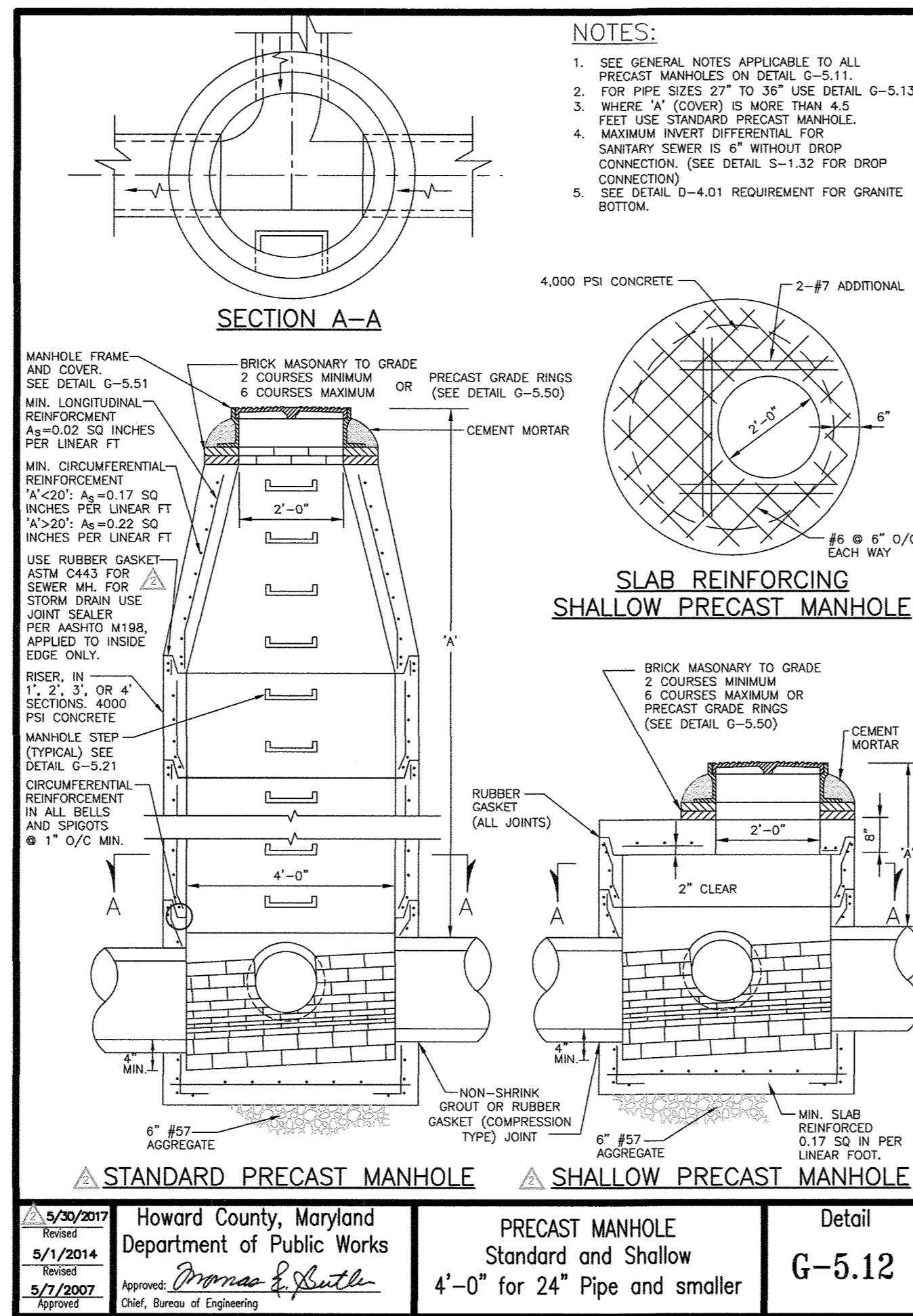
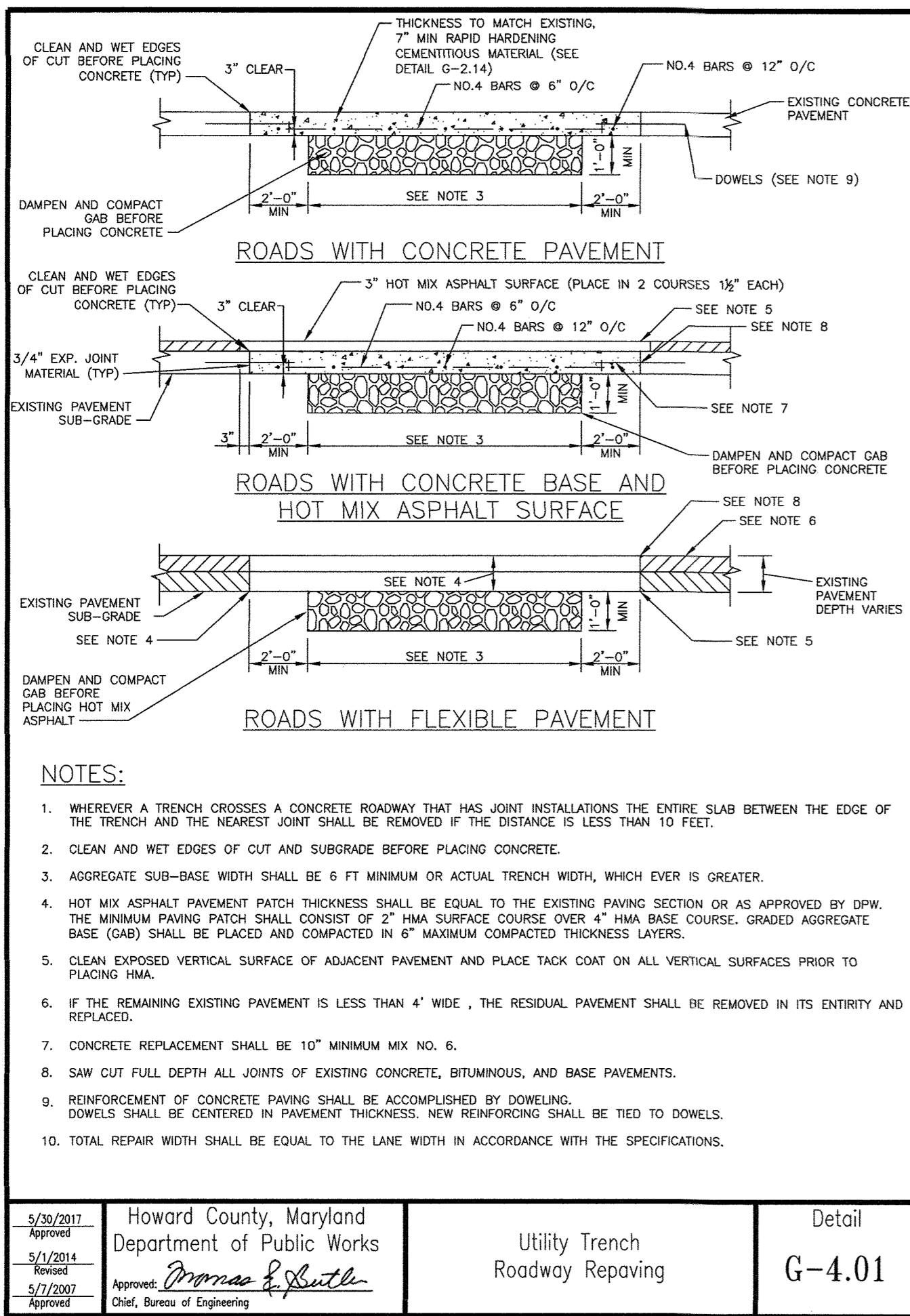
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND. AECOM logo and signature of the project manager.

Professional Engineer Seal for David T. Moriconi, License No. 16186, dated 2-20-19.

Revision table with columns: NO., DATE, REVISION. Shows a revision to 'INSERT NEW SHEET' on 02/2019.

EROSION & SEDIMENT CONTROL DETAILS. SCALE MAP NO. and BLOCK NO.

RECYCLING STORAGE SHED, PAVILION AND ORGANICS STORAGE STRUCTURE. CAPITAL PROJECT NO. C-0299, 3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND. SCALE AS SHOWN, DWG NO. C-9.



APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division  
 Chief, Division of Land Development

5-15-19  
 DATE  
 5-21-19  
 DATE  
 5-21-19  
 DATE

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16156, EXPIRATION DATE: 8/28/2020

PURPOSE NOTE:  
 THE PURPOSE OF THIS REDLINE IS TO ADD A NEW METAL STORAGE SHED, ORGANICS STORAGE STRUCTURE, POWER AND WATER SERVICE AND PAVING.

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 ENVIRONMENTAL SERVICES

3/12/19  
 DATE



DES:	RL				
DRN:	COF				
CHK:	DTM				
DATE:	02/2019				
DTM	NO.	INSERT NEW SHEET		02/2019	
BY	NO.	REVISION		DATE	

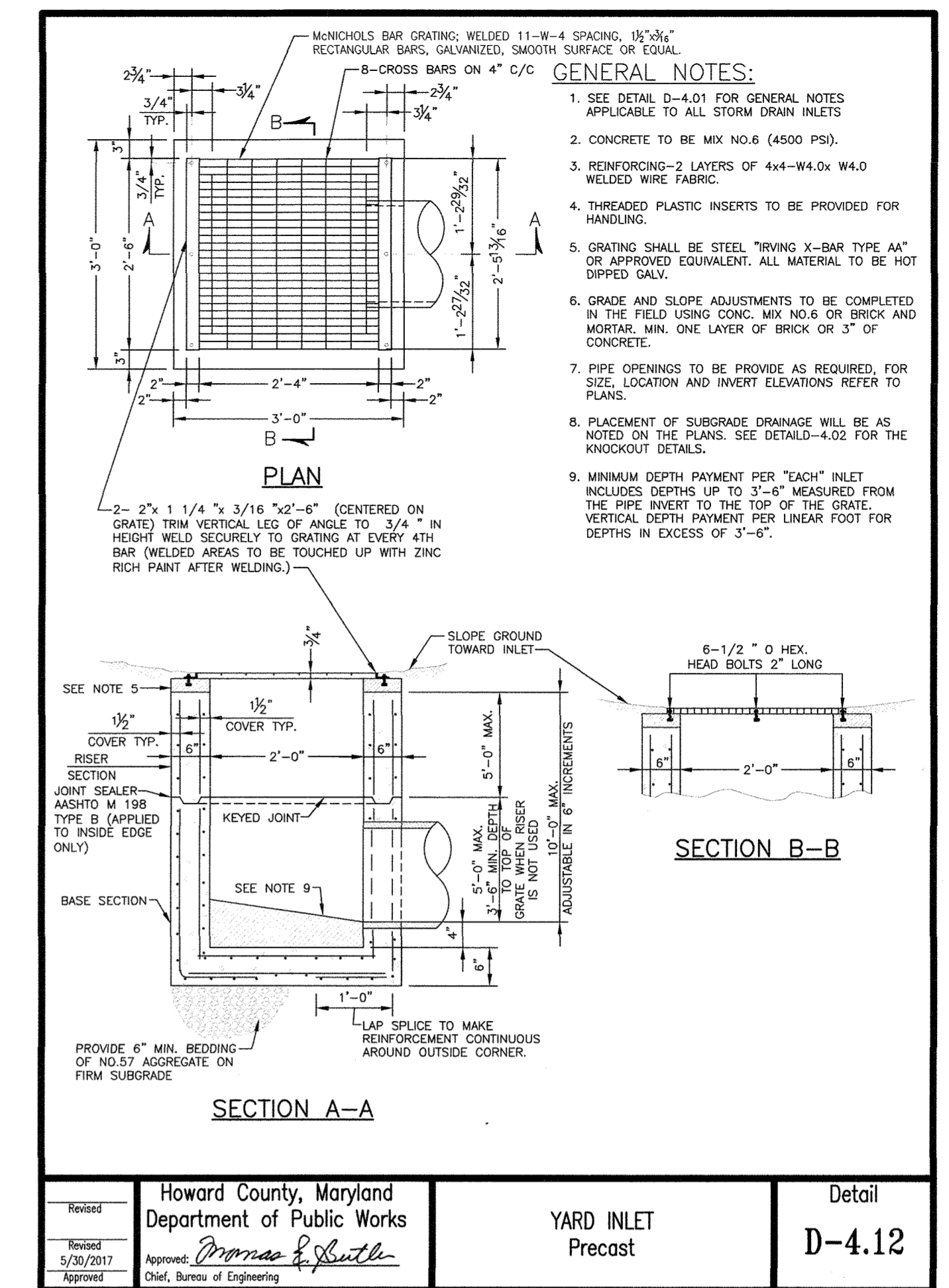
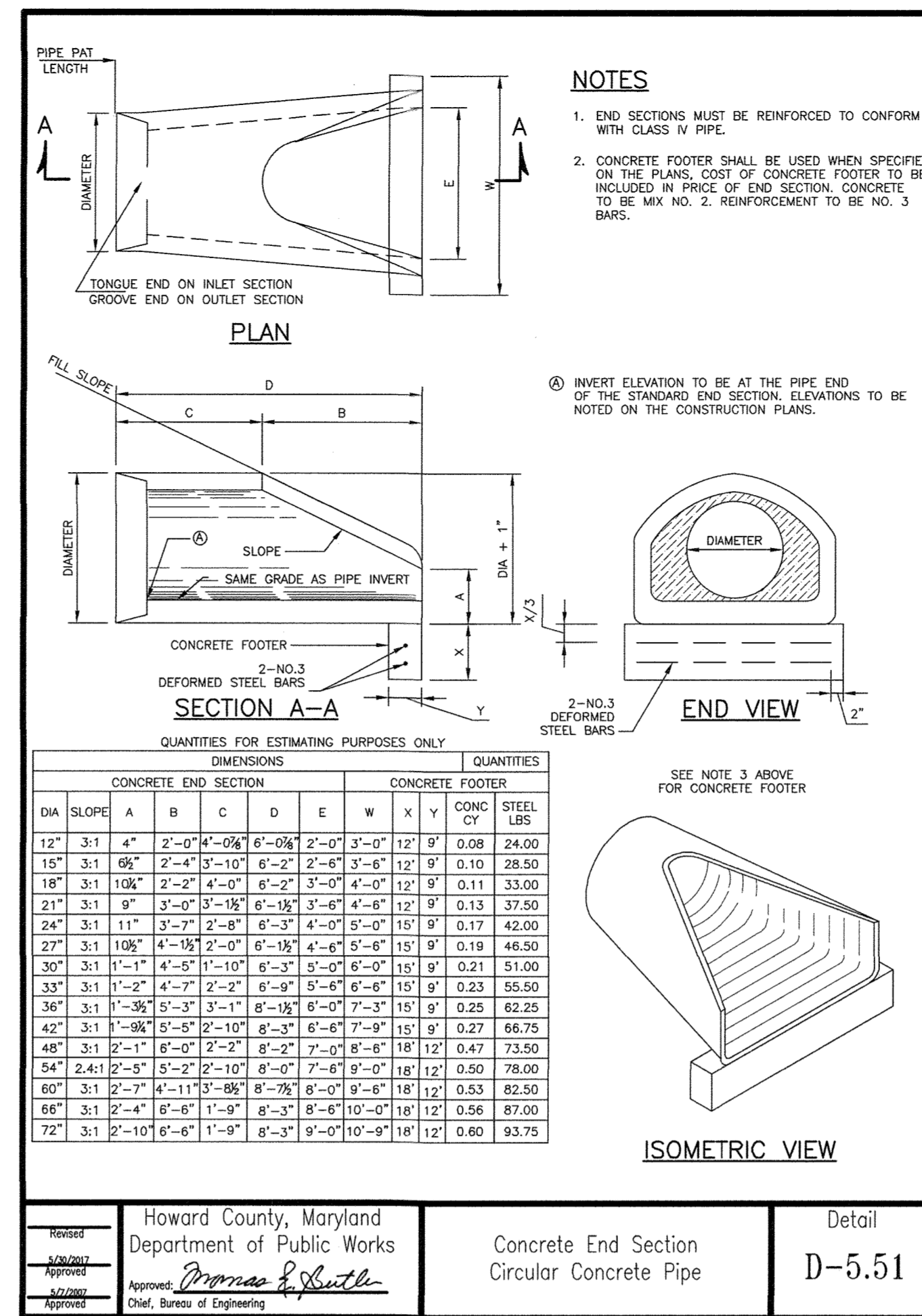
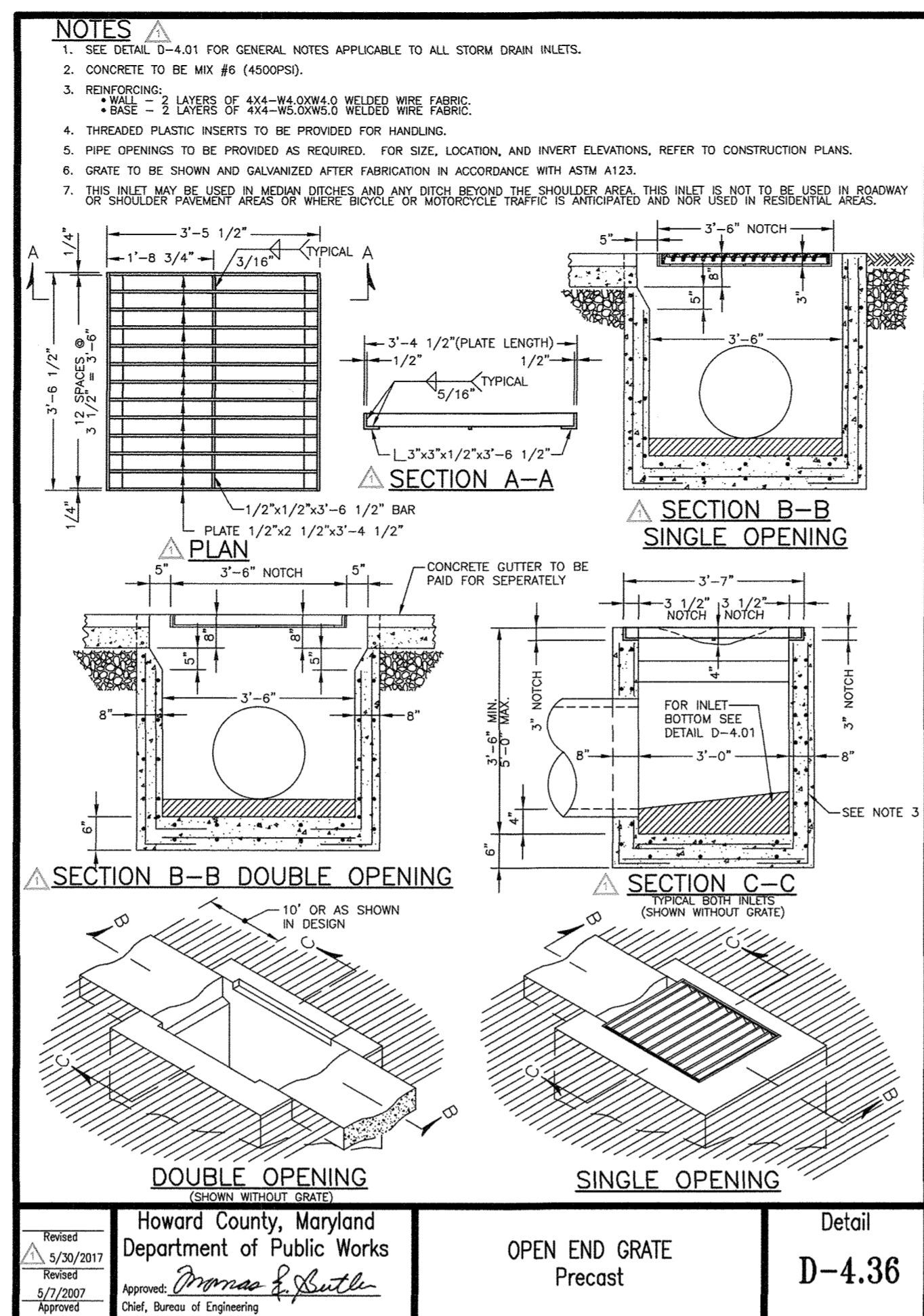
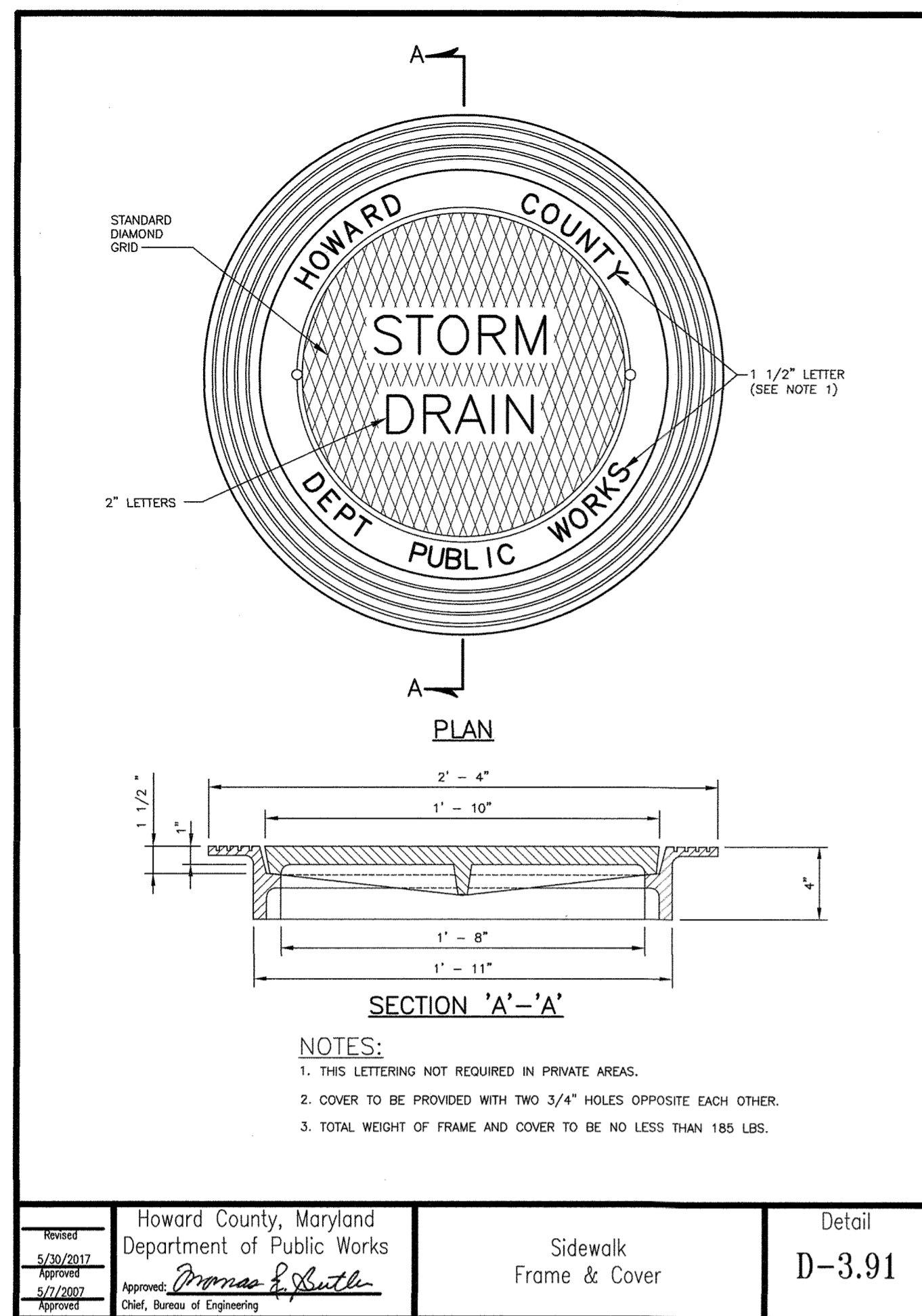
**SITE DETAILS I**

SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

REVISED SITE DEVELOPMENT  
**ALPHA RIDGE LANDFILL  
 RECYCLING STORAGE SHED, PAVILION AND  
 ORGANICS STORAGE STRUCTURE**

CAPITAL PROJECT NO. C-0299  
 3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
 DWG NO. C-10



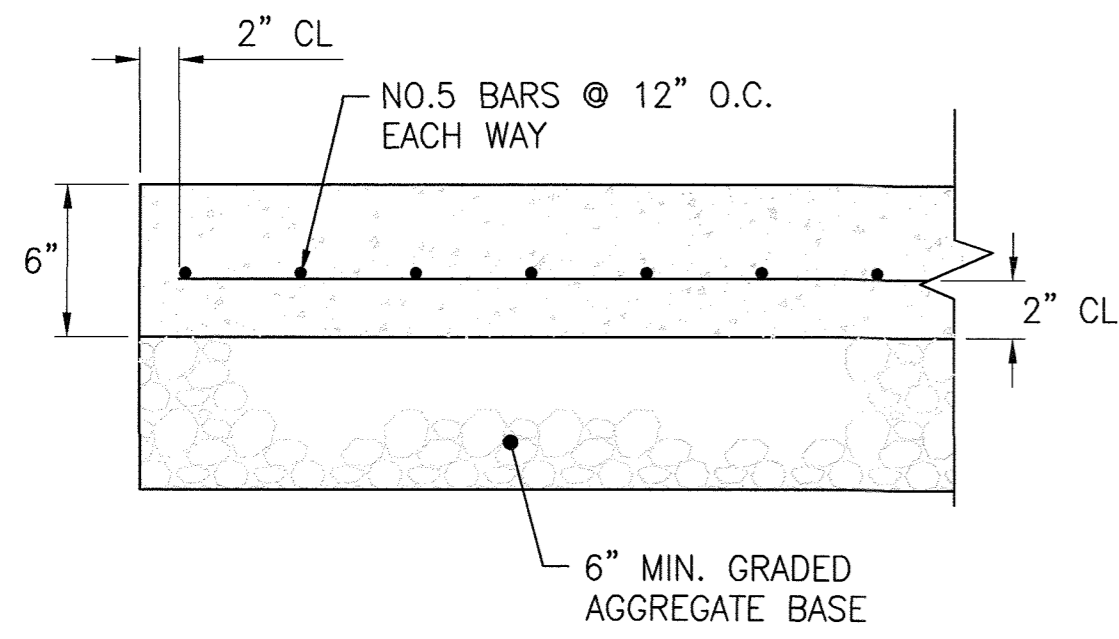
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division  
 Chief, Division of Land Development  
 Director

5-15-19  
 5-21-19  
 5-21-19

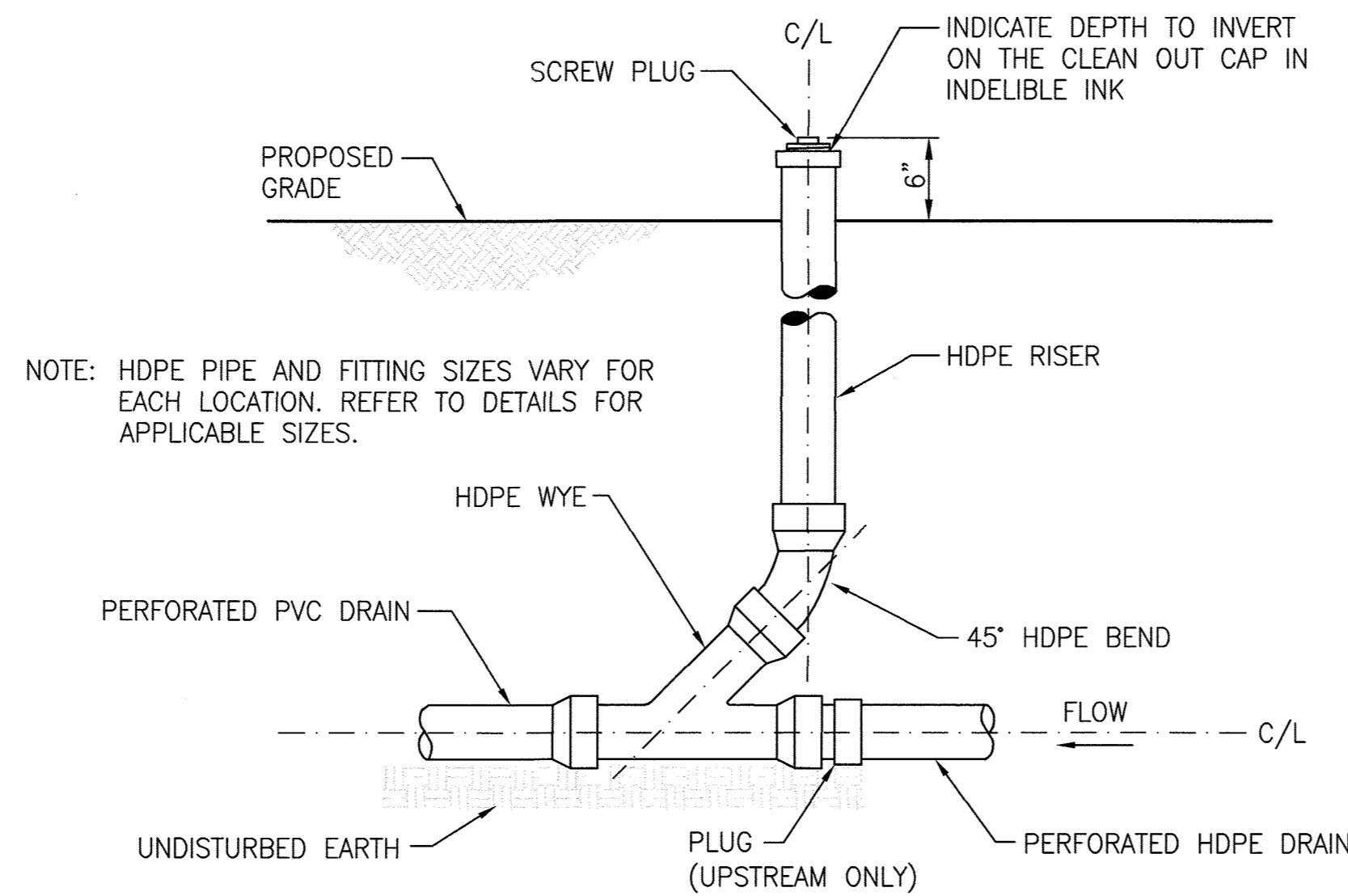
PURPOSE NOTE:  
 THE PURPOSE OF THIS REDLINE IS TO ADD A NEW METAL STORAGE SHED, ORGANICS STORAGE STRUCTURE, POWER AND WATER SERVICE AND PAVING.

PROFESSIONAL CERTIFICATION  
 I HEREBY CERTIFY THAT DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16156, EXPIRATION DATE: 8/28/2020

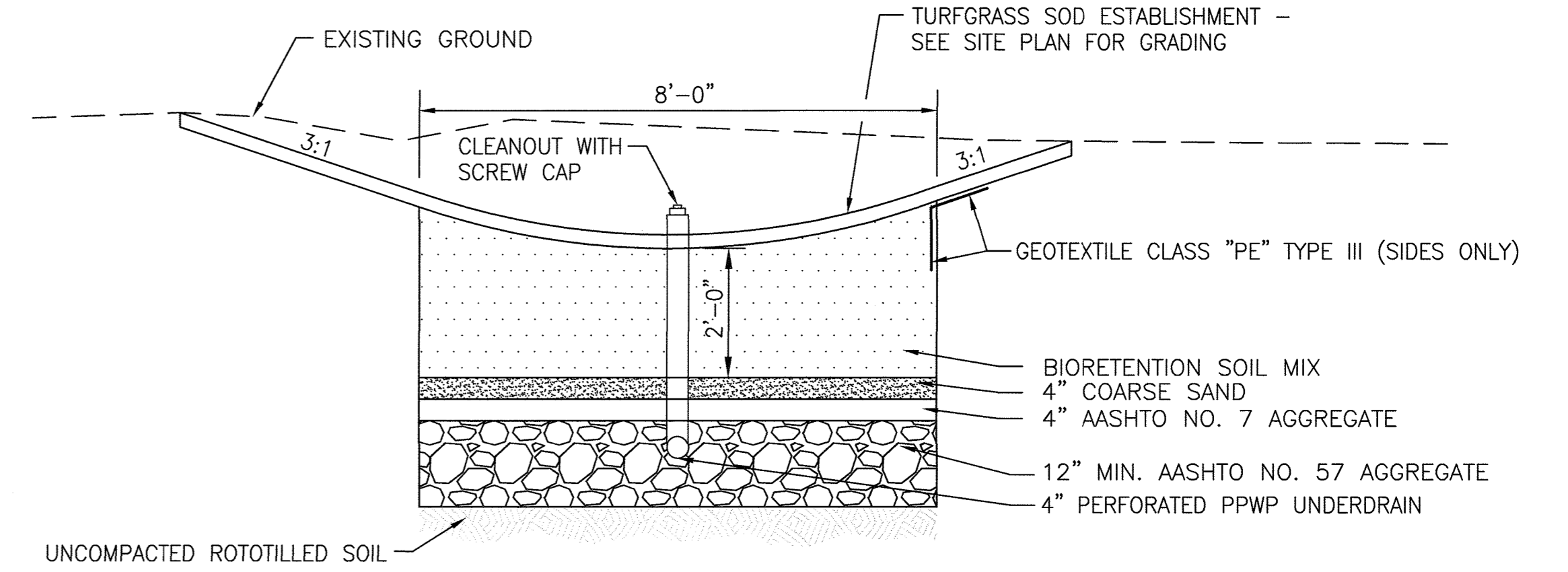
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND ENVIRONMENTAL SERVICES DATE: 3/2/19	<b>AECOM</b>		DES: RLL				SITE DETAILS II	REVISED SITE DEVELOPMENT PLAN <b>ALPHA RIDGE LANDFILL          RECYCLING STORAGE SHED, PAVILION AND          ORGANICS STORAGE STRUCTURE</b> CAPITAL PROJECT NO. C-0299 3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND	SCALE AS SHOWN
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			CHK: DTM						
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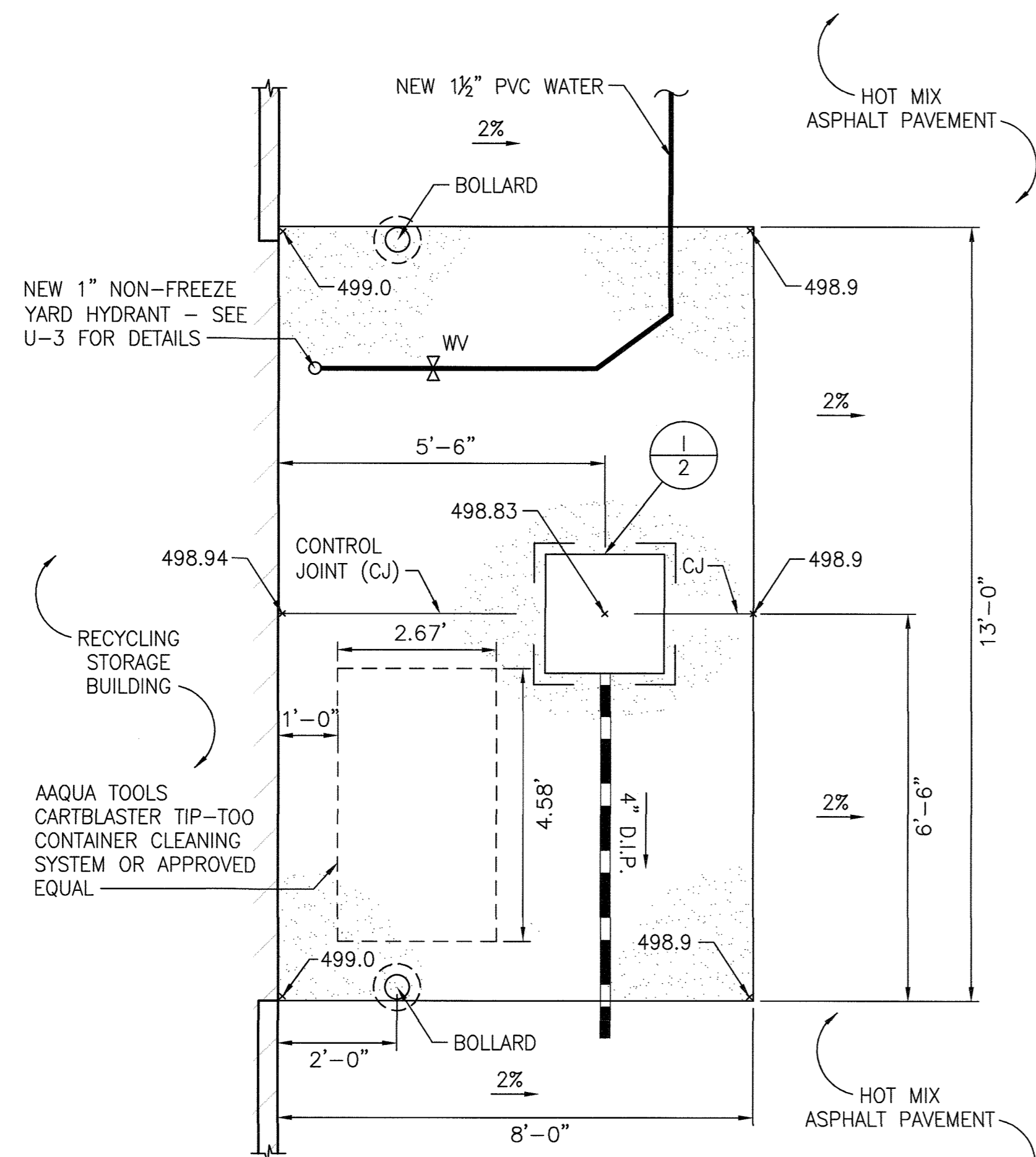
**CONCRETE WASH PAD SLAB**  
NOT TO SCALE



**UNDERDRAIN CLEANOUT DETAIL**  
NOT TO SCALE

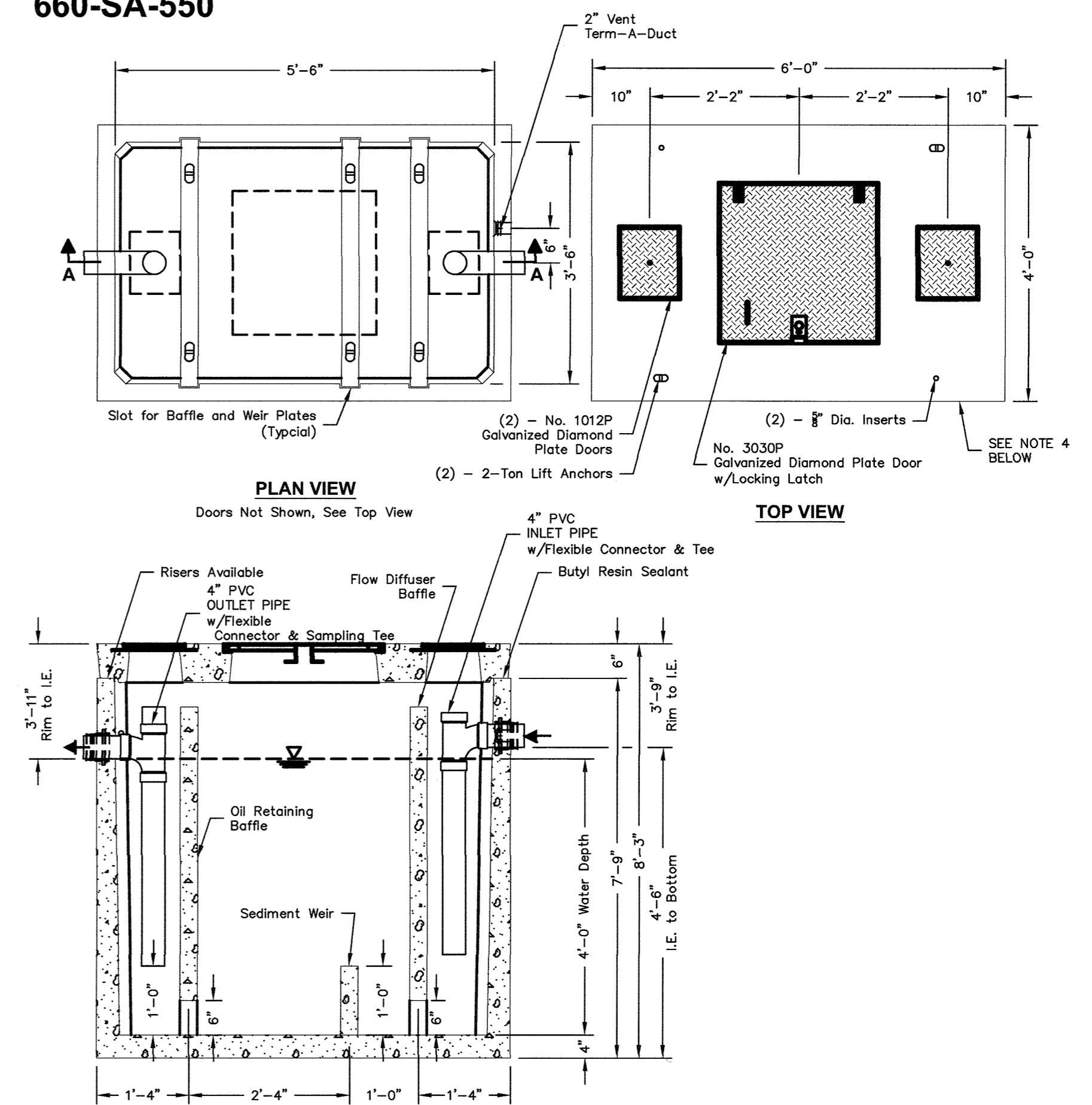


**BIO-SWALE TYPICAL SECTION**  
NOT TO SCALE



**CONCRETE WASH PAD**  
SCALE: 1"=2'

**660-SA-550**



- Notes:
- Designed in accordance with ASTM C 890 for AASHTO HS20-44 vehicle loading
  - Flow Rate 37 GPM based on 15 min. retention time.
  - Manufacturer's recommendations:
    - 1.) Ventilate each end to open atmosphere. Connect Vent to Recycling Storage Shed.
    - 2.) Prior to "Start Up" of System, fill with clean water to bottom of outlet pipe (approx. one foot deep). For best results, fill to flow line.
    - 3.) Follow Regular Inspection, Cleaning, & Maintenance Schedule.
    - 4.) Provide optional Heavy Traffic Top No. 660-T-SA-HD. Frames & covers shall be flush with finished grade. (Not shown)

 PO Box 323, Wilsonville, Oregon 97070-0323 Tel: (503) 682-2844 Fax: (503) 682-2657	<b>660-SA-550</b>	<b>660-SA-550</b>
	File Name: 020-660SA-550	<b>OIL / WATER SEPARATOR</b>
	Issue Date: 2016	<b>550 GALLON - API STYLE</b>
	oldcastleprecast.com/wilsonville	

14.1

**OIL/WATER SEPARATOR**  
NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 5-15-19  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 5-21-19  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 5-21-19  
DIRECTOR DATE

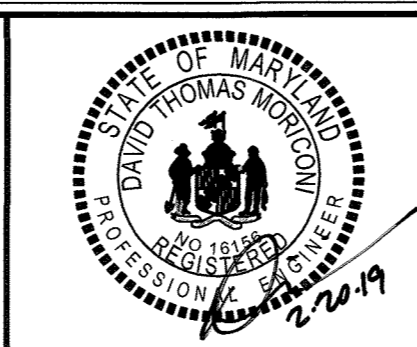
PROFESSIONAL CERTIFICATION

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▲ PURPOSE NOTE: THE PURPOSE OF THIS REDLINE IS TO ADD A NEW METAL STORAGE SHED, ORGANICS STORAGE STRUCTURE, POWER AND WATER SERVICE AND PAVING.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 3/2/19  
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE



DES:	RLL				
DRN:	CDF				
CHK:	DTM				
DATE:	02/2019	DTM	▲	INSERT NEW SHEET	02/2019
BY:	NO.			REVISION	DATE

**SITE DETAILS III**

SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

REVISED SITE DEVELOPMENT PLAN  
**ALPHA RIDGE LANDFILL  
RECYCLING STORAGE SHED, PAVILION AND  
ORGANICS STORAGE STRUCTURE**

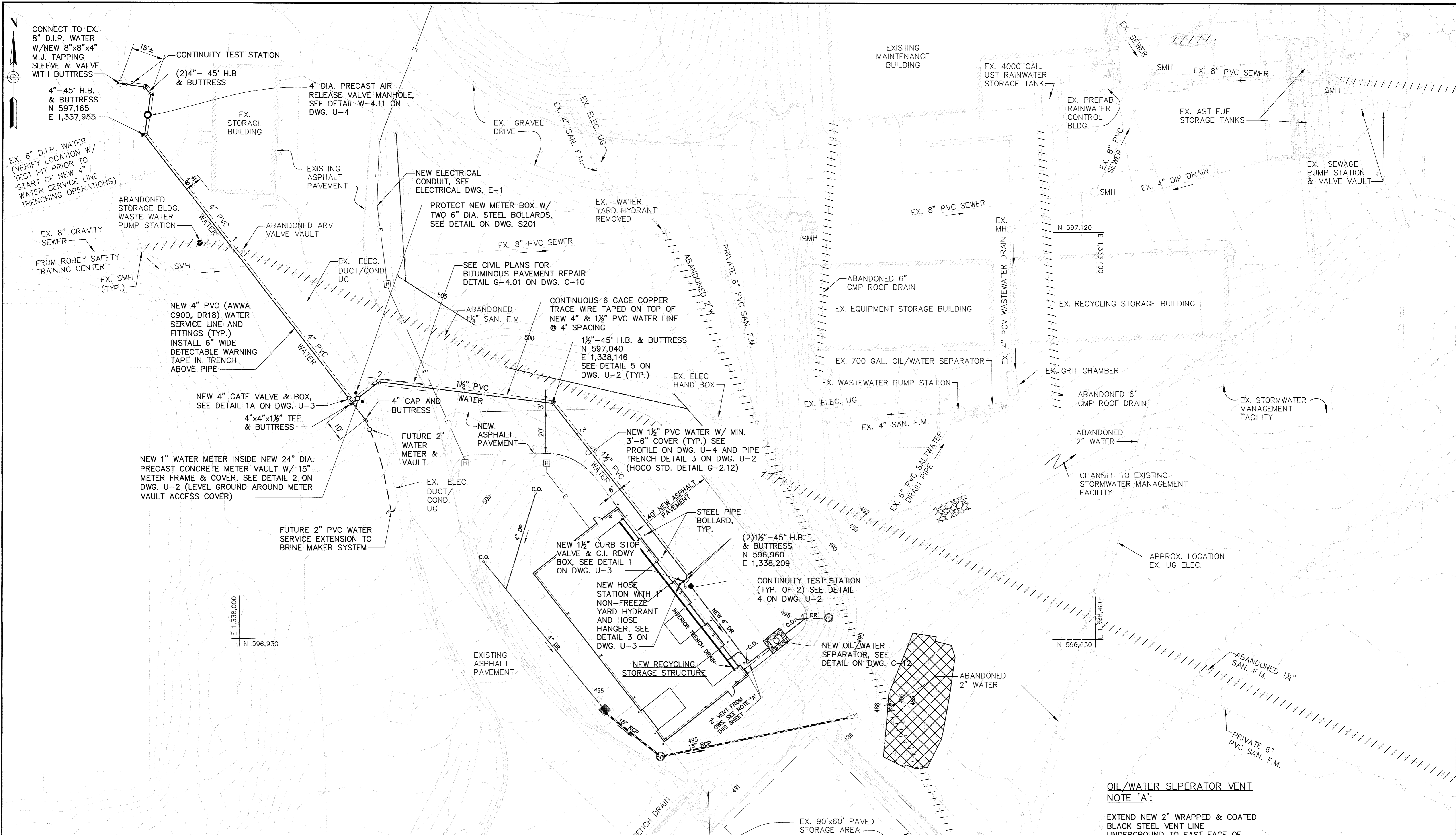
CAPITAL PROJECT NO. C-0299  
3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SDP NO. 125 OF 140

SCALE AS SHOWN

DWG NO. C-12



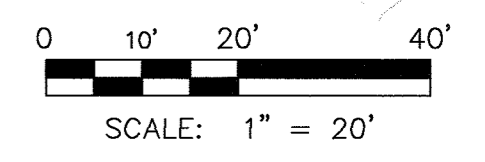


APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 5-16-19 DATE  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 5-21-19 DATE  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 5-21-19 DATE  
 DIRECTOR

PURPOSE NOTE:  
 THE PURPOSE OF THIS REDLINE IS TO ADD A NEW METAL STORAGE SHED, ORGANICS STORAGE STRUCTURE, POWER AND WATER SERVICE AND PAVING.

PROFESSIONAL CERTIFICATION  
 I HEREBY CERTIFY THAT DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16156, EXPIRATION DATE: 8/28/2020

**OIL/WATER SEPERATOR VENT NOTE 'A':**  
 EXTEND NEW 2" WRAPPED & COATED BLACK STEEL VENT LINE UNDERGROUND TO EAST FACE OF BLDG. AND EXTEND UP TO 12' ABOVE F.F. & INSTALL VENT CAP AT TOP. PAINT ABOVE GRADE PIPE TO MATCH BLDG. EXTERIOR WALL. SLOPE UNDERGROUND VENT TO DRAIN TOWARDS OWS.



SDP NO. 126 OF 140

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 3-15-19 DATE  
 CHIEF, BUREAU OF UTILITIES  
 3/12/19 DATE  
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

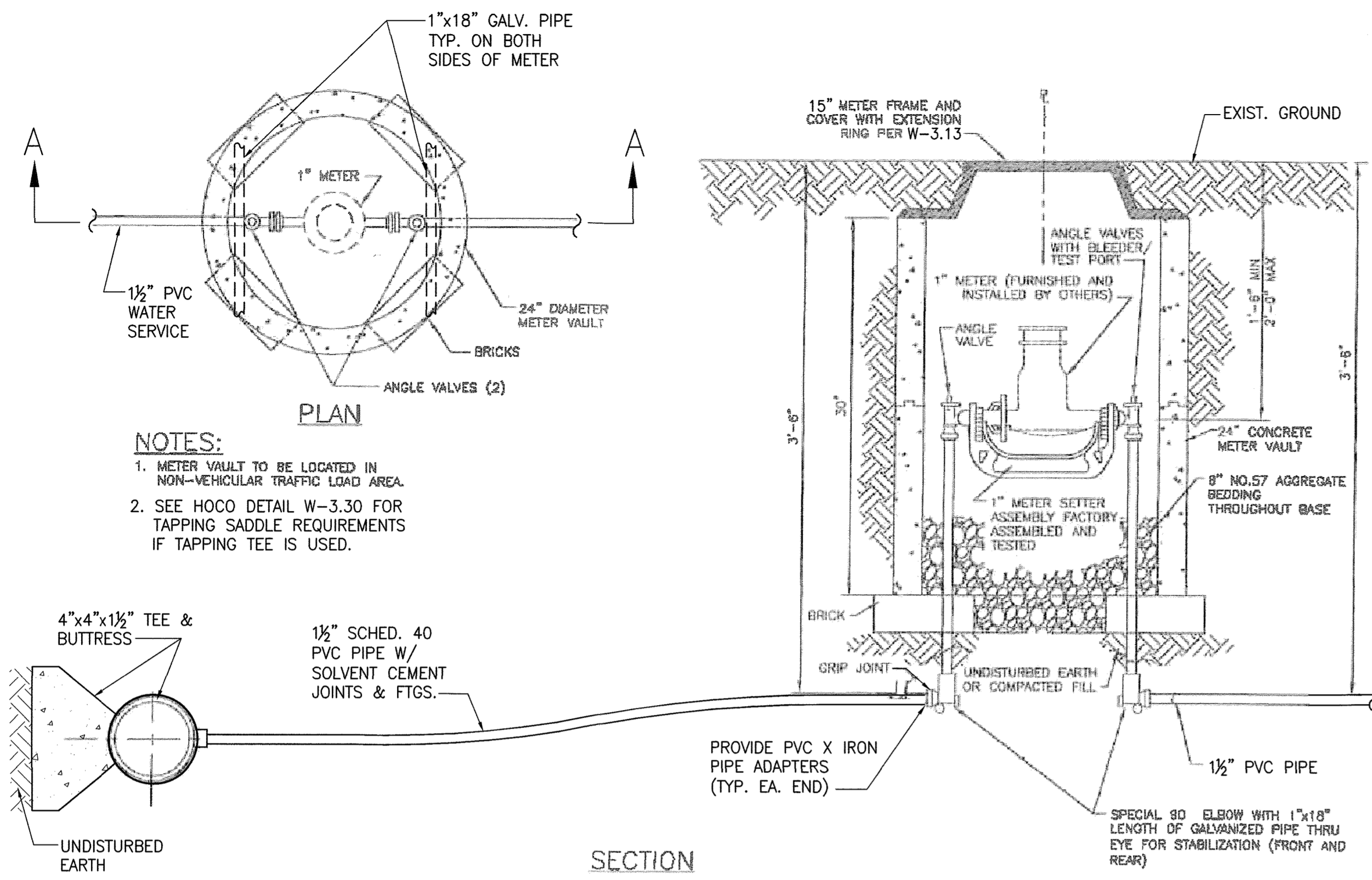


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BY:	NO.	REVISION	DATE
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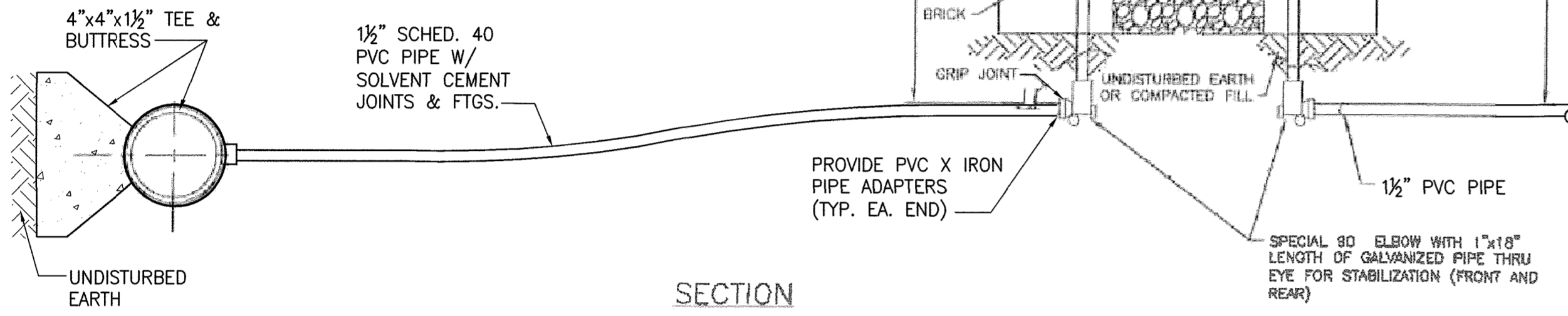
**UTILITY PLAN -  
 RECYCLING STORAGE SHED**  
 SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

REVISED SITE DEVELOPMENT PLAN  
**ALPHA RIDGE LANDFILL  
 RECYCLING STORAGE SHED, PAVILION AND  
 ORGANICS STORAGE STRUCTURE**  
 CAPITAL PROJECT NO. C-0299  
 3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE  
 1"=20'  
 DWG NO.  
 U-1



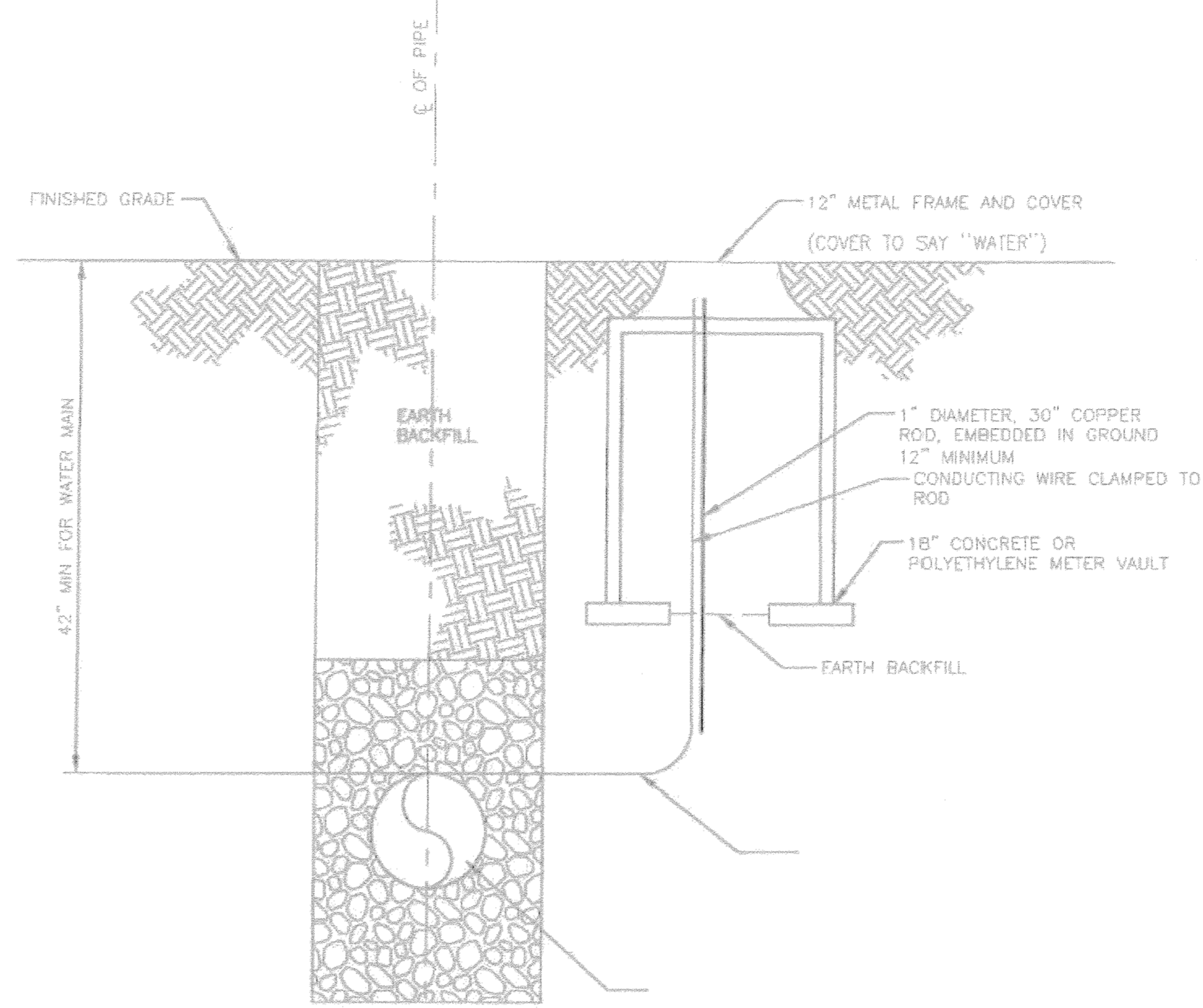
- NOTES:**
- METER VAULT TO BE LOCATED IN NON-VEHICULAR TRAFFIC LOAD AREA.
  - SEE HOCO DETAIL W-3.30 FOR TAPPING SADDLE REQUIREMENTS IF TAPPING TEE IS USED.



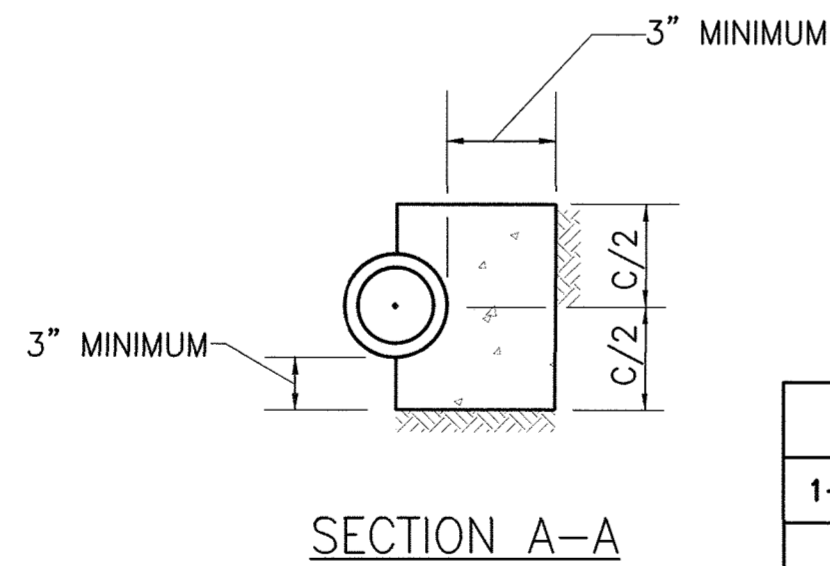
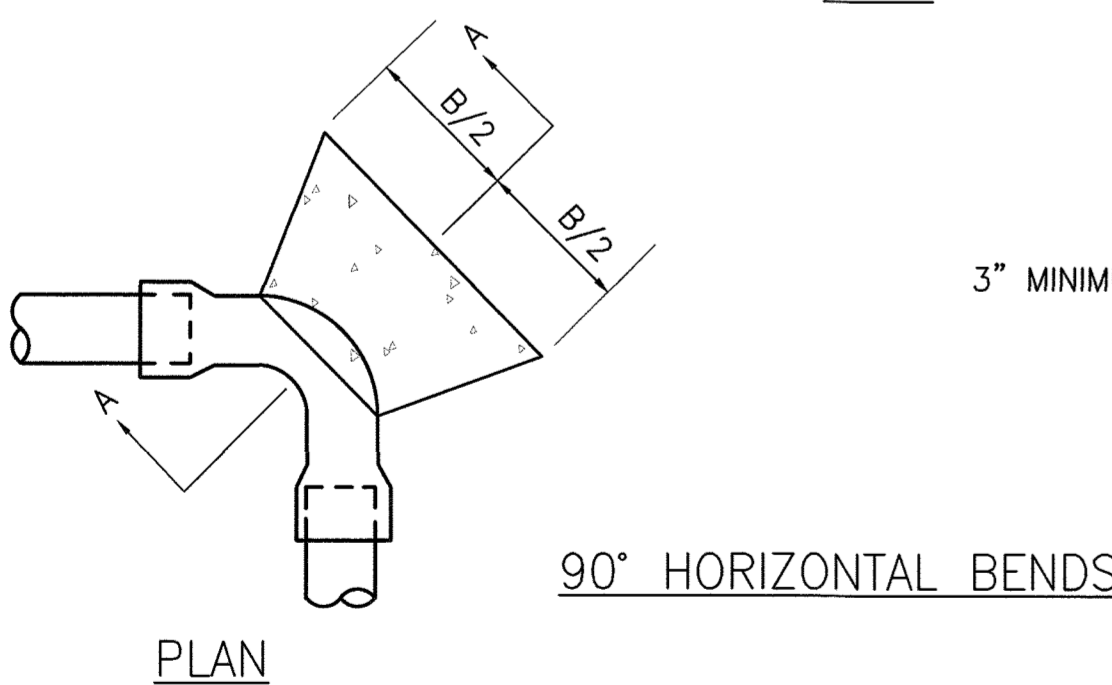
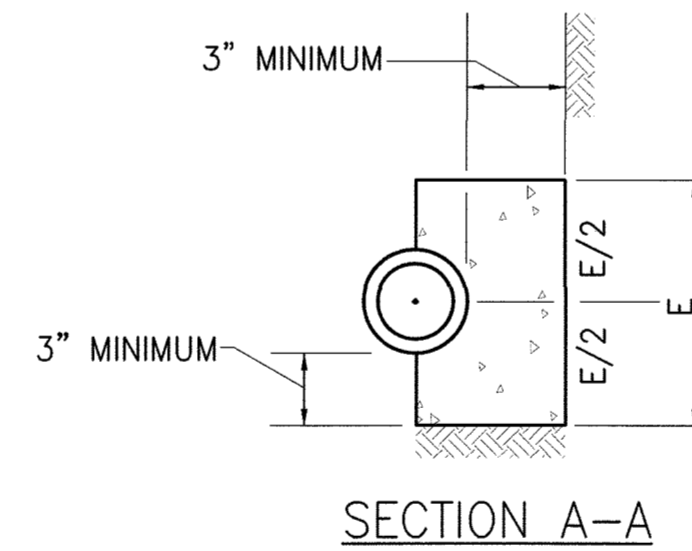
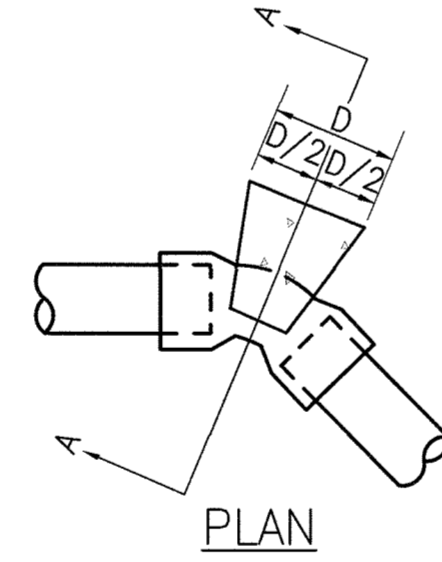
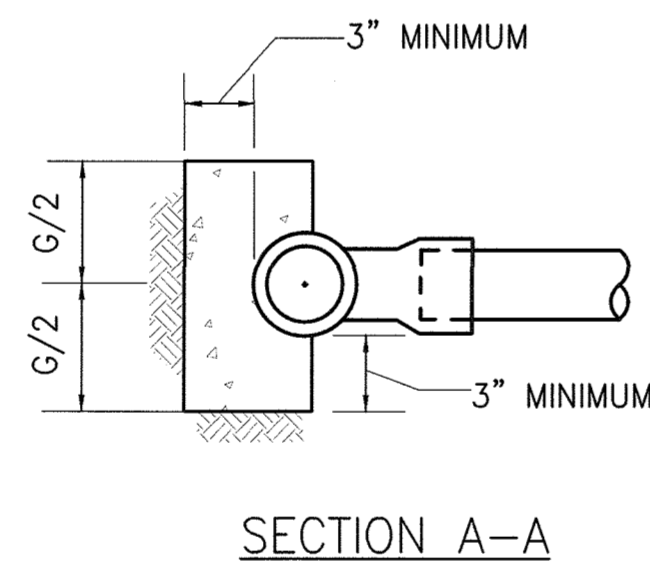
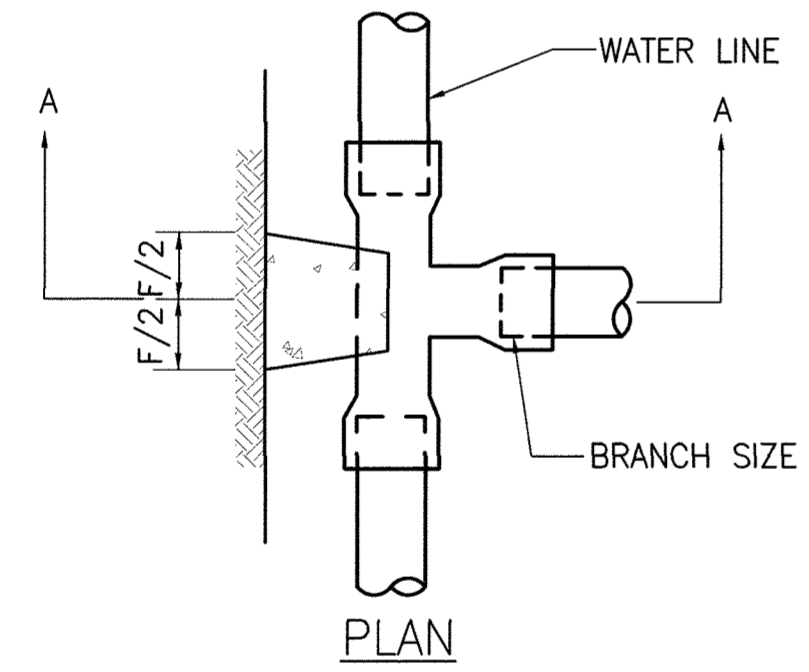
NOT TO SCALE  
(SIMILAR TO HOCO DETAIL W-3.28)

**NOTES:**

- TEST STATIONS SHALL BE USED FOR ALL NON-METALLIC PIPE EXCEPT GRAVITY SEWER MAINS UNLESS REQUIRED BY THE DPW.
- NO SPLICING BETWEEN TEST STATIONS.
- TEST STATION SPACING SHALL BE A MAXIMUM OF 400 FEET, OR IMMEDIATELY ADJACENT TO FIRE HYDRANTS, WHICHEVER IS LESS. FOR RECLAIMED WATER OR PRESSURE SEWER, TEST STATION SPACING SHALL BE A MAXIMUM OF 400 FEET, AND PLACED ADJACENT TO EXISTING AT-GRADE STRUCTURES SUCH AS VALVES OR MANHOLES WHERE POSSIBLE.
- TEST STATION SHALL BE INSTALLED IN NON-TRAFFIC BEARING AREAS. DO NOT INSTALL IN ROADWAY.
- SEE HOCO DETAIL G-2.12 FOR TRENCH BEDDING THIS SHEET.



**4 PVC WATER PIPE TRACE WIRE & CONTINUITY TEST STATION**  
NOT TO SCALE



**11-1/4", 22-1/2", 45° HORIZONTAL AND LOWER VERTICAL BENDS**

PIPE SIZE	B	C	D	E	F	G
1-1/4" AND 1-1/2"	8"	8"	5"	5"	6"	6"
2"	10"	10"	7"	7"	10"	10"
2-1/2"	10"	10"	7"	7"	10"	10"
3"	12"	12"	9"	9"	12"	12"
4"	28"	12"	12"	12"	16"	1'-0"

- NOTES:**
- f'c=3000 psi @ 28 DAYS.
  - CARRY ALL BEARING SURFACES TO UNDISTURBED GROUND OR FIRM SUBGRADE.
  - BUTTRESS SIZED FOR 150 PSI.
  - DO NOT ENCASE JOINTS.

PLASTIC		
PIPE DIA "D"	"W"	TRENCH WIDTH
4	12	28
6	11	28
8	10	28
10	9	28
12	8	28

ALL DIMENSIONS IN INCHES

**NOTES:**

- THE "W" DIMENSION SHALL BE USED TO CALCULATE MAXIMUM TRENCH PAY WIDTH.
- FOR TRENCHES WHERE TRENCH BOX OR TRENCH SHEETING IS NOT REQUIRED, MEASUREMENT FOR CONTINGENT BORROW MATERIALS WILL BE BASED ON THE TRENCH WIDTH SHOWN.
- FOR TRENCHES WHERE TRENCH BOX OR TRENCH SHEETING IS REQUIRED, MEASUREMENT FOR CONTINGENT BORROW MATERIALS WILL BE BASED ON THE TRENCH WIDTH SHOWN PLUS 24 INCHES.
- FOR COPPER, PVC AND HDPE PIPE, 3 INCHES OR SMALLER: PIPE EMBEDMENT ZONE MATERIAL IS FINE AGGREGATE (SAND) "W" DIMENSION IS 6 INCHES MINIMUM AND BEDDING THICKNESS UNDER PIPE IS 4" MINIMUM. FOR TRENCHES IN ROCK, MINIMUM BEDDING THICKNESS IS 6 INCHES.
- SPECIAL DESIGN IS REQUIRED AND SHALL BE SPECIFIED OR DETAILED IN THE CONTRACT DOCUMENTS FOR THE FOLLOWING PIPES:  
PVC AWWA C-905 LARGER THAN 12 INCHES  
PVC GRAVITY SANITARY SEWERS LARGER THAN 12 INCHES  
HDPE CORRUGATED DRAIN PIPE  
STREAM CROSSINGS SEE DETAILS S-3.11 AND S-3.12

Revised 5/30/2017 Approved 5/7/2007 Approved	Howard County, Maryland Department of Public Works Approved: <i>Mona E. Butler</i> Chief, Bureau of Engineering	Pipe Trench Plastic & Copper	Detail G-2.12
--	--	---------------------------------	------------------

**3 PIPE TRENCH DETAIL**  
NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*[Signature]*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*[Signature]*  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
*[Signature]*  
 DIRECTOR

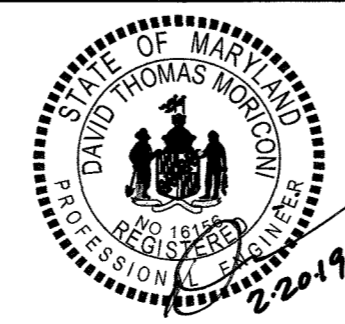
5-15-19  
DATE  
5-21-19  
DATE  
5-21-19  
DATE

**5 WATER SERVICE THRUST BLOCK DETAILS**  
NOT TO SCALE

PROFESSIONAL CERTIFICATION  
 I HEREBY CERTIFY THAT DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
 LICENSE NO. 16156  
 EXPIRATION DATE: 8/28/2020

PURPOSE NOTE:  
 THE PURPOSE OF THIS REDLINE IS TO ADD A NEW METAL STORAGE SHED, ORGANICS STORAGE STRUCTURE, POWER AND WATER SERVICE AND PAVING.

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 CHIEF, BUREAU OF UTILITIES  
 DATE: 3-15-19  
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES  
 DATE: 3/12/19

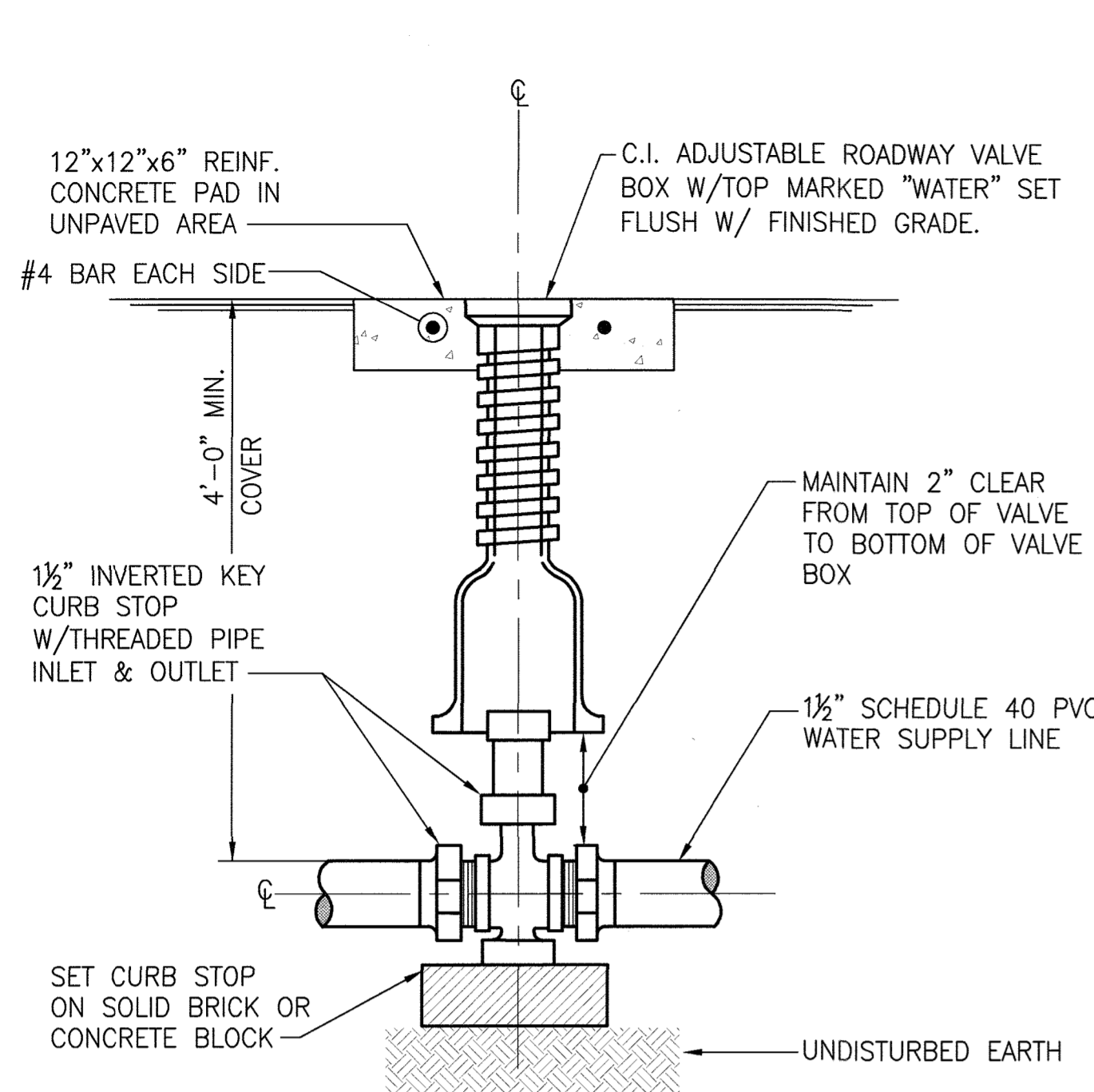


DES:	RER		
DRN:	CLD		
CHK:	DTM		
DATE:	02/2019		
DTM BY:	NO.	REVISION	DATE
		INSERT NEW SHEET	02/2019

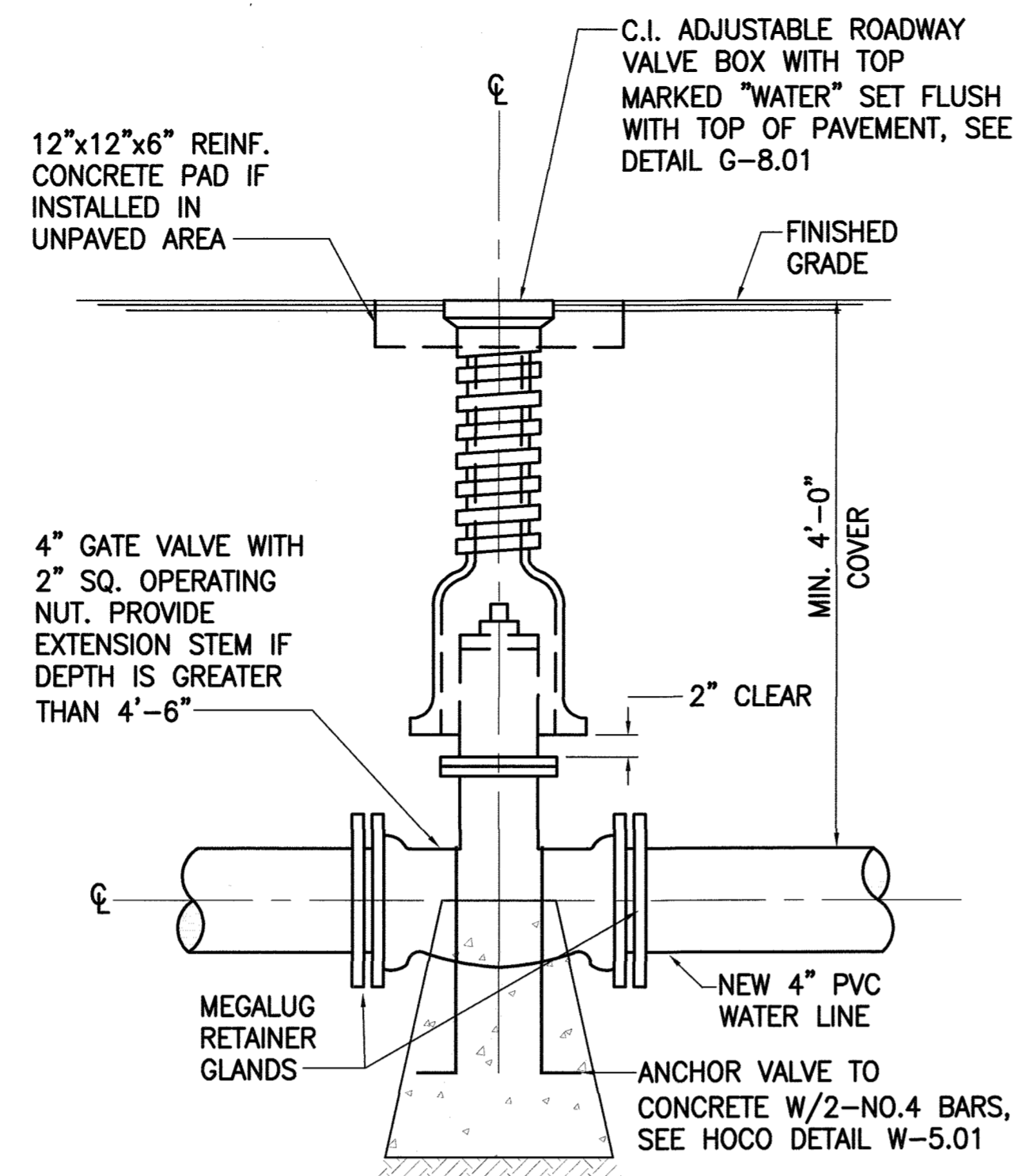
UTILITY DETAILS

REVISED SITE DEVELOPMENT PLAN  
**ALPHA RIDGE LANDFILL  
 RECYCLING STORAGE SHED, PAVILION AND  
 ORGANICS STORAGE STRUCTURE**  
 CAPITAL PROJECT NO. C-0299  
 3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

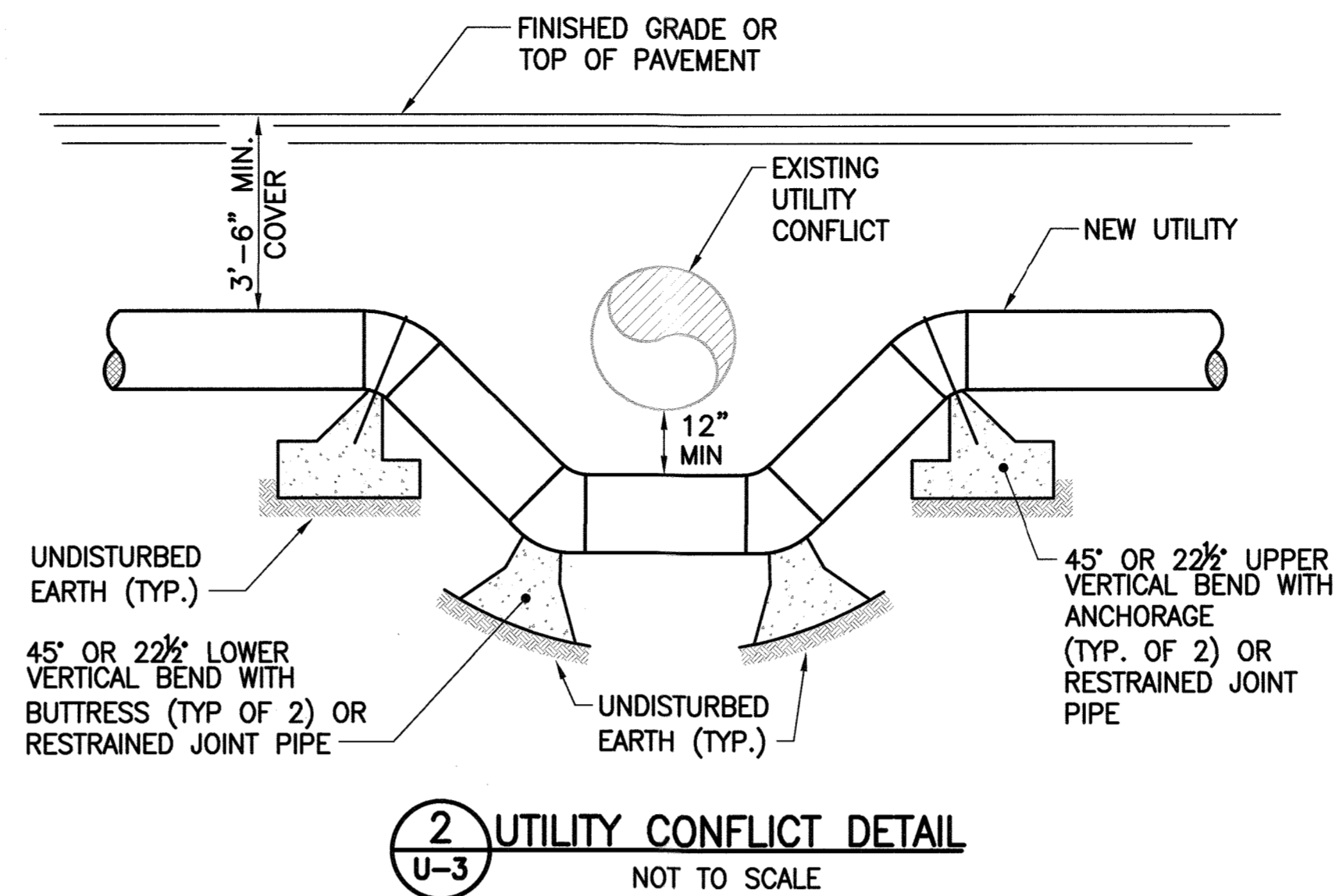
SCALE  
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 DWG NO.  
 U-2



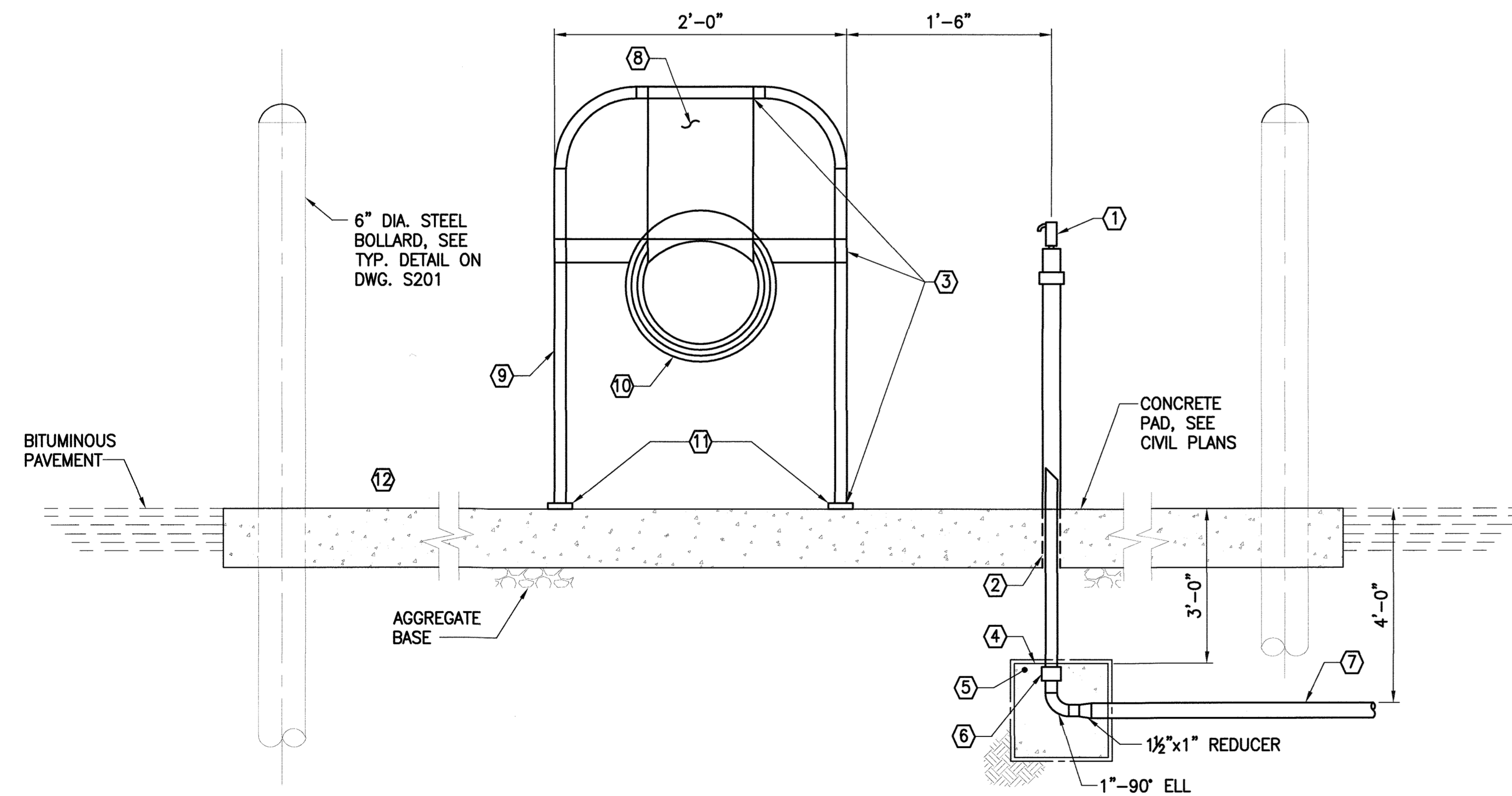
**1 BURIED CURB STOP VALVE & BOX DETAIL**  
U-3 NOT TO SCALE



**1A BURIED WATER GATE VALVE & BOX DETAIL**  
U-3 NOT TO SCALE



**2 UTILITY CONFLICT DETAIL**  
U-3 NOT TO SCALE



**3 YARD HYDRANT & HOSE STATION - SECTION**  
U-3 NOT TO SCALE

**NOTES:**

- 1 1" NON-FREEZE YARD HYDRANT EQUAL TO WOODFORD MODEL Y2 WITH 3/4" HOSE NOZZLE AND ASSE 1052 MODEL 50HF BACKFLOW PREVENTER.
- 2 2" PVC SLEEVE: FILL SPACE BETWEEN PIPE AND SLEEVE W/SILICONE SEALANT
- 3 CONTINUOUS WELDS
- 4 FILTER FABRIC
- 5 6 CU. FT. 3/4" WASHED GRAVEL
- 6 DRAIN VALVE
- 7 1/2" SCHED. 40 PVC WATER SUPPLY PIPE W/ SOLVENT CEMENT JOINTS & FTGS.
- 8 3/8" THICK STEEL HOSE HANGER
- 9 2" SCHEDULE 40 STEEL PIPE FRAME (PAINT FRAME & HANGER WITH ONE COAT RUST INHIBITOR EPOXY PRIMER AND TWO COATS OF GREEN EPOXY ENAMEL)
- 10 3/4" - 50' LONG HOSE
- 11 5"x5"x1/4" STAINLESS STEEL BASE PLATE WITH FOUR 3/8" S.S. EXPANSION BOLTS
- 12 SEE SHEET C-12 FOR LOCATION OF THE AQUA TOOLS CARTBLASTER TIP-TOO CONTAINER CLEANING SYSTEM OR APPROVED EQUAL.

**GENERAL UTILITY NOTES:**

1. PORTIONS OF THE SITE WILL REMAIN OCCUPIED DURING CONSTRUCTION. THE CONTRACTOR SHALL SCHEDULE AND EXECUTE WORK TO AVOID INTERRUPTIONS TO HOWARD COUNTY MAINTENANCE FACILITY OPERATIONS AND ENSURE SAFE EGRESS FOR OCCUPANTS AT ALL TIMES.
2. EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE BASED ON THE BEST AVAILABLE INFORMATION AND ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF DEPTH, SIZE AND MATERIAL, AND LOCATION OF ALL UNDERGROUND UTILITIES TO HIS OWN SATISFACTION BEFORE BEGINNING ANY EXCAVATION OR UTILITY INSTALLATION. THE GIVING OF INFORMATION ON THE PLANS WILL NOT RELIEVE THE CONTRACTOR OF HIS OBLIGATION TO SUPPORT AND PROTECT ALL SHOWN OR NOT SHOWN EXISTING UTILITIES AND APPURTENANCES. SHOULD ANY EXISTING UTILITY BE DAMAGED BY THE CONTRACTOR, THE CONTRACTOR SHALL REPAIR THE DAMAGE CAUSED TO THE UTILITY OWNER'S SATISFACTION, AT THE CONTRACTOR'S EXPENSE.
3. FOR DETAILS NOT SHOWN ON THE DRAWING, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
4. TWO WEEKS PRIOR TO THE INTENDED START OF CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENVIRONMENTAL SERVICES MAINTENANCE FACILITY SUPERVISOR AND THE ENGINEER TO SCHEDULE A PRE-CONSTRUCTION MEETING.
5. COORDINATE ALL WORK AND PROJECT SCHEDULES WITH THE LANDFILL SUPERINTENDENT AND OBTAIN APPROVAL PRIOR TO MAKING CONNECTIONS TO EXISTING WATER PIPING. CONTRACTOR SHALL MAINTAIN UNINTERRUPTED WATER AND SEWER SERVICE TO THE FACILITY EXCEPT WHERE SPECIFICALLY AUTHORIZED BY THE LANDFILL SUPERINTENDENT.
6. THOROUGHLY INSPECT THE SITE PRIOR TO CONSTRUCTION TO VERIFY EXISTING CONDITIONS AND PROVIDE NECESSARY STAKE OUT OF LINE AND GRADE FOR PIPE AND VALVE INSTALLATIONS.
7. THE LOCATION AND ELEVATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION AND ELEVATION IN THE FIELD BY HAND DIGGING TEST PITS AT ALL PROPOSED CROSSINGS AND/OR CONNECTIONS BEFORE OPEN TRENCH EXCAVATION OPERATIONS BEGIN. INSPECTOR IS REQUIRED TO BE PRESENT DURING DIGGING.
8. SHOULD THE CONTRACTOR ENCOUNTER OBSTRUCTIONS AND/OR UTILITIES NOT SHOWN ON THE PLANS, NOTIFY THE ENGINEER FOR DISPOSITION PRIOR TO PROCEEDING WITH THE WORK.
9. INSTALL ALL EXCAVATION, TRENCHING, SHEETING, SHORING, AND BRACING AS REQUIRED IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS, INCLUDING STATE AND FEDERAL OSHA REGULATIONS.
10. WHEN CROSSING AND/OR WORKING IN THE VICINITY OF EXISTING UTILITIES, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROPERLY SUPPORT AND MAINTAIN THE OPERATION OF THE UTILITIES. EXTREME CARE MUST BE EXERCISED IN EXCAVATION AND REFILL OPERATION.
11. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM HOWARD COUNTY DEPT. OF PUBLIC WORKS AND THE ENGINEER PRIOR TO MAKING ANY CONNECTIONS TO EXISTING DRAINAGE MANHOLES OR WATER MAINS. TIE-IN WORK SHALL BE SCHEDULED WITH EACH MAINTENANCE FACILITY IN ORDER TO LESSEN THE INCONVENIENCE TO EXISTING USERS.
12. CONSTRUCT SUMPS AND PROVIDE PUMPS AS NECESSARY TO KEEP TRENCH AND HOLE EXCAVATIONS DRY DURING CONSTRUCTION OPERATIONS IN ACCORDANCE WITH STANDARD SPECIFICATIONS.
13. PROVIDE ADEQUATE BARRICADES AROUND TRENCH AND HOLE EXCAVATIONS AS SPECIFIED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL. MAINTAIN BARRICADES UNTIL BACKFILL HAS BEEN PLACED TO APPROXIMATE FINISHED GRADE.
14. CONSTRUCTION OF UTILITIES SHALL NOT TAKE PLACE UNTIL ALL APPROVED EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE. SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE APPROVED SEDIMENT CONTROL PLANS FOR THIS PROJECT.
15. DETECTABLE WARNING TAPE AND TRACE WIRE SHALL BE INSTALLED AT ALL NEW PVC WATER SERVICES IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL.
16. MAINTAIN A MINIMUM OF 10 FOOT HORIZONTAL CLEARANCE BETWEEN ALL WATER AND SEWER MAINS EXCEPT AT CROSSINGS AND WHERE DIMENSIONED OTHERWISE ON THE DRAWINGS. MAINTAIN A MINIMUM OF 12" VERTICAL CLEARANCE.
17. SHEETING AND SHORING IS REQUIRED FOR ALL PIPE TRENCH EXCAVATIONS IF DEPTH IS GREATER THAN 4'-6".

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 5-15-19  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 [Signature] 5-21-19  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 [Signature] 5-21-19  
 DIRECTOR

PROFESSIONAL CERTIFICATION  
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PURPOSE NOTE:  
 THE PURPOSE OF THIS REDLINE IS TO ADD A NEW METAL STORAGE SHED, ORGANICS STORAGE STRUCTURE, POWER AND WATER SERVICE AND PAVING.

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 [Signature] 3-15-19  
 CHIEF, BUREAU OF UTILITIES  
 [Signature] 3/12/19  
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

**AECOM**



DES:	RER			
DRN:	CLD			
CHK:	DTM			
DATE:	02/2019	DTM	02/2019	
BY:	NO.	REVISION	DATE	
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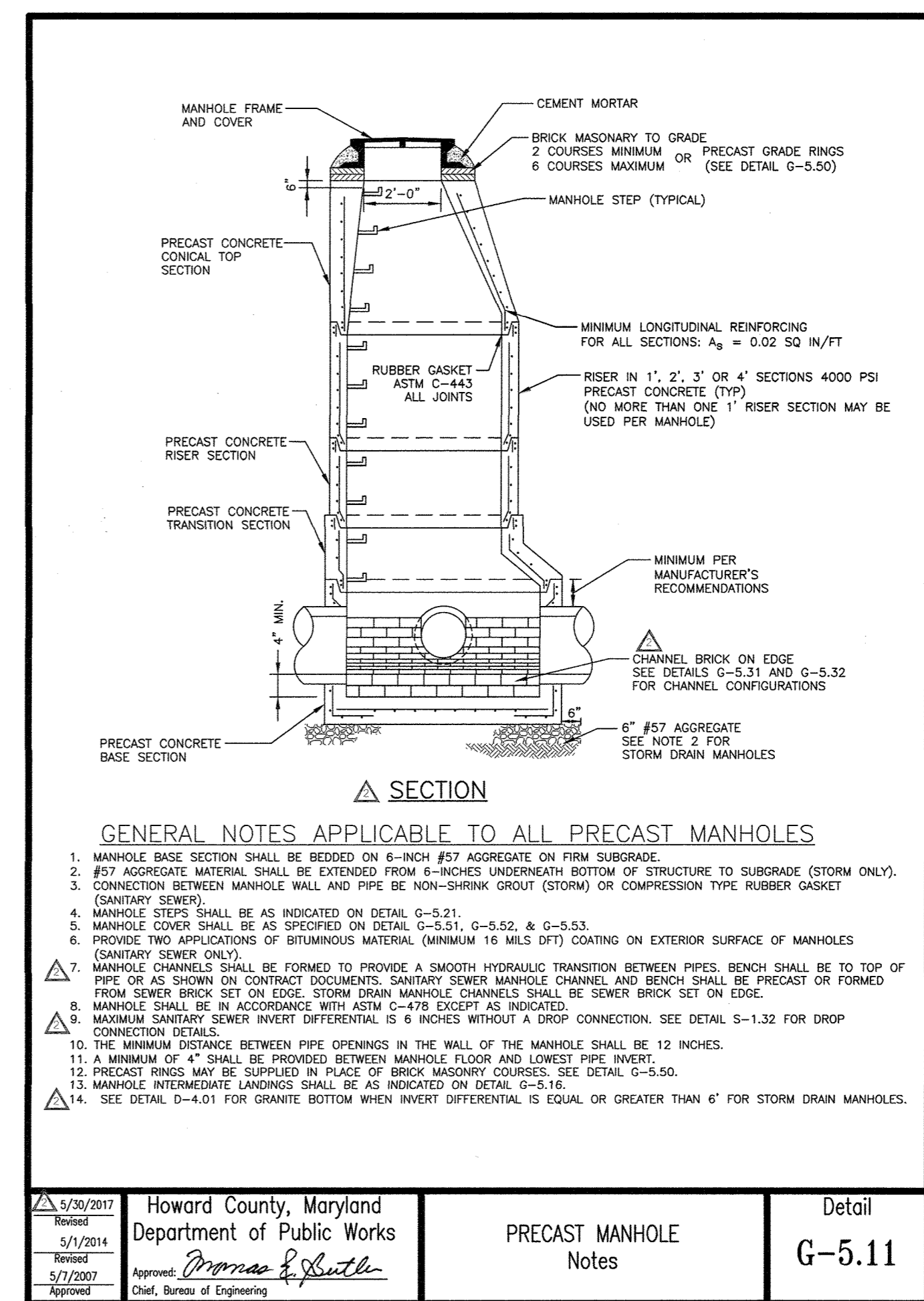
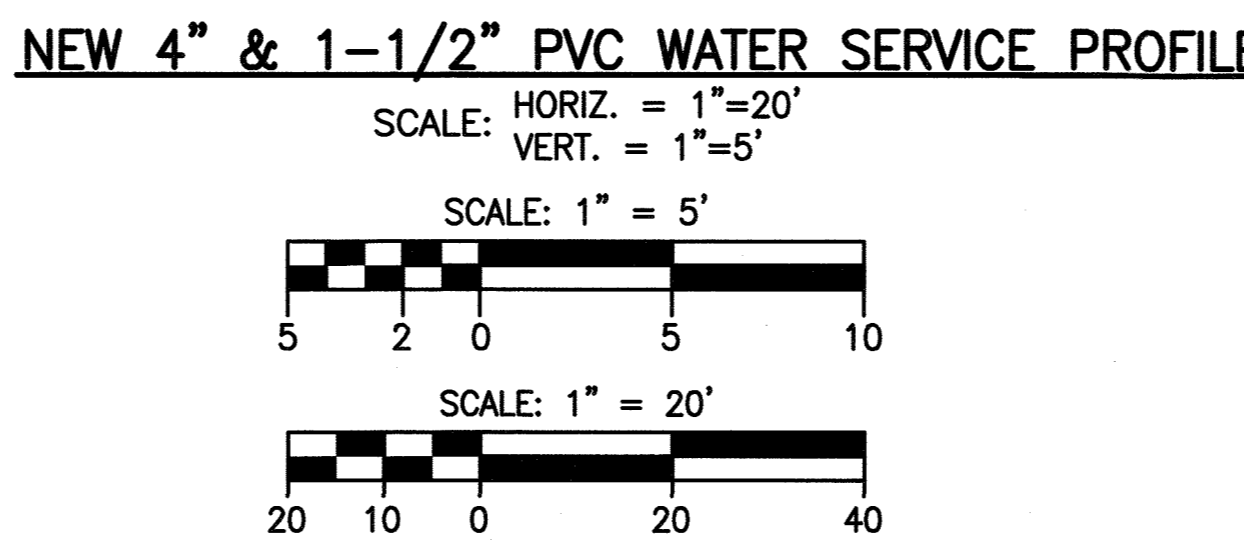
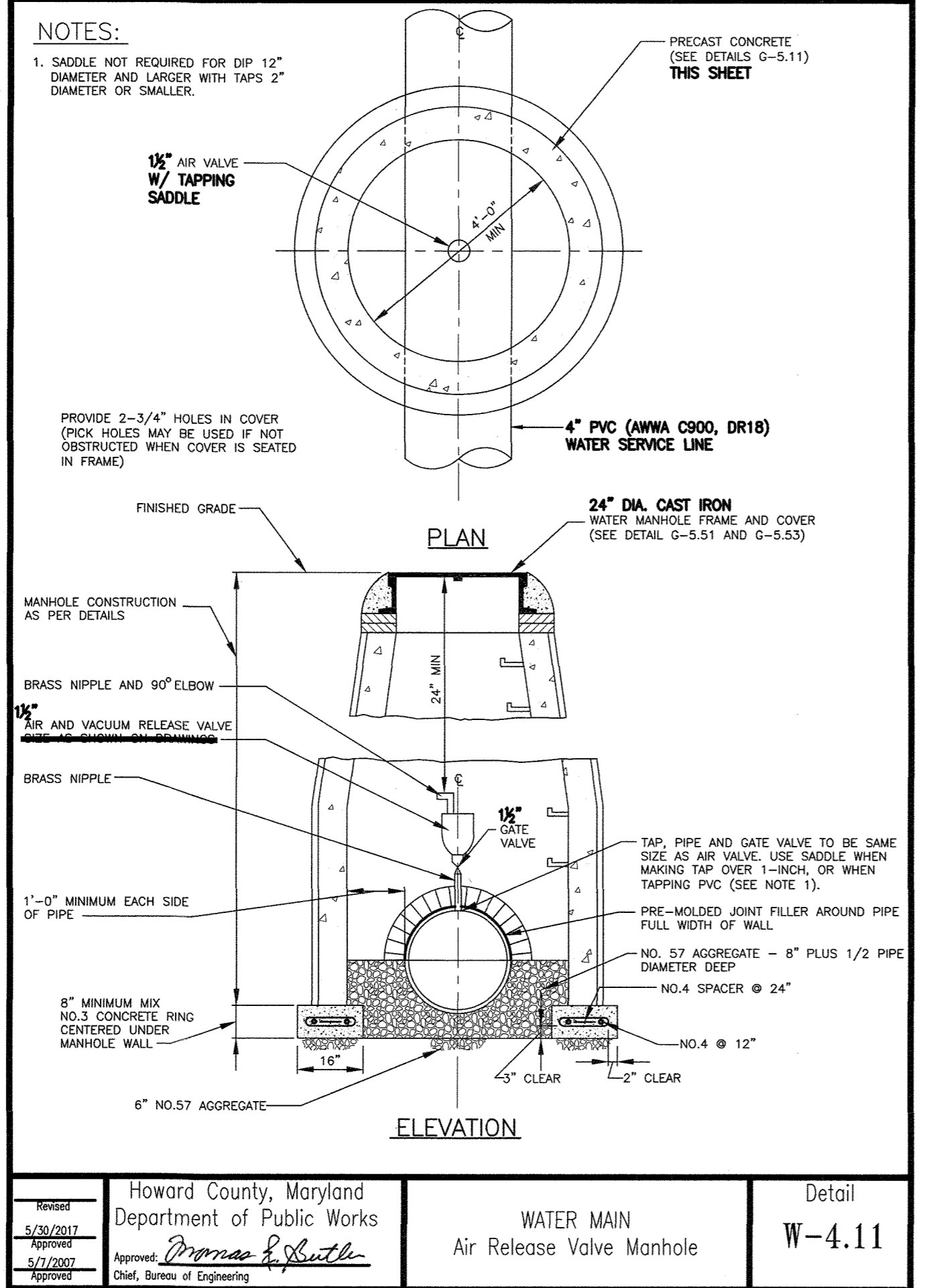
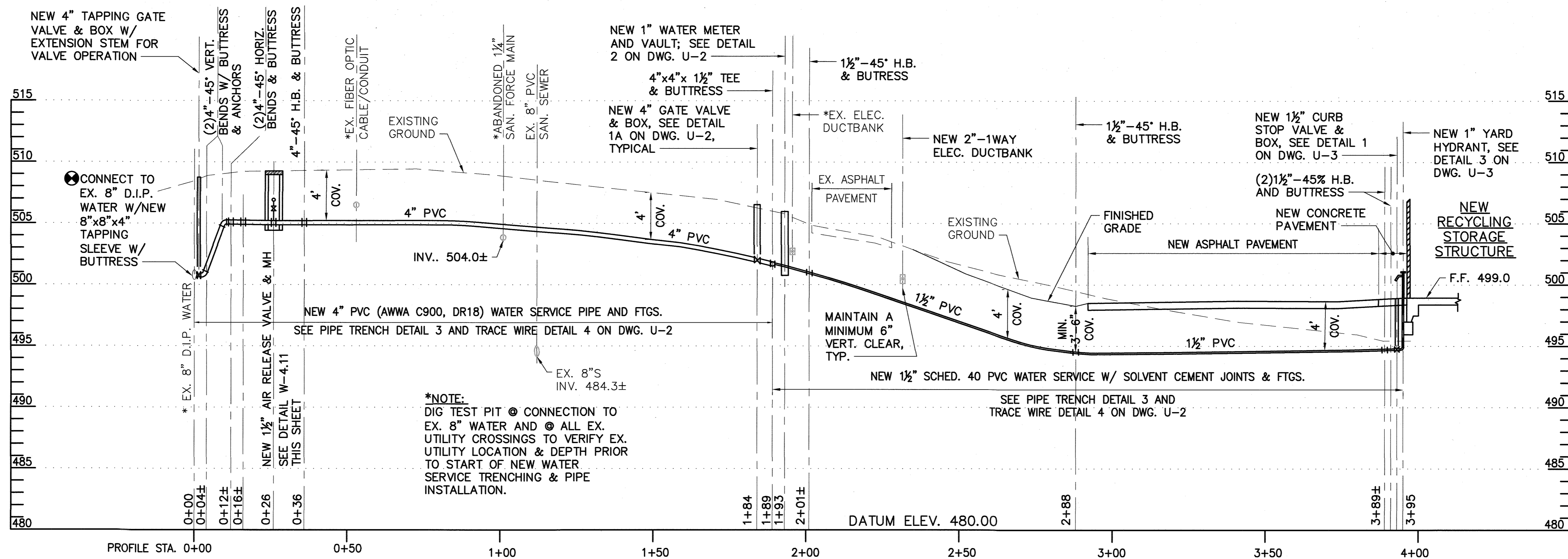
**UTILITY DETAILS AND NOTES**

REVISED SITE DEVELOPMENT PLAN  
**ALPHA RIDGE LANDFILL  
 RECYCLING STORAGE SHED, PAVILION AND  
 ORGANICS STORAGE STRUCTURE**

CAPITAL PROJECT NO. C-0299  
 3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SDP NO. 128 OF 140

SCALE  
 AS NOTED  
 DWG NO.  
 U-3



APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DIRECTOR

5-15-19  
 5-21-19  
 5-21-19

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 EXPIRATION DATE: 8/28/2020

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES  
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

3/15/19  
 3/15/19

**AECOM**

DES: RER  
 DRN: CLD  
 CHK: DTM  
 DATE: 02/2019

UTILITY PROFILE AND DETAILS

REVISION

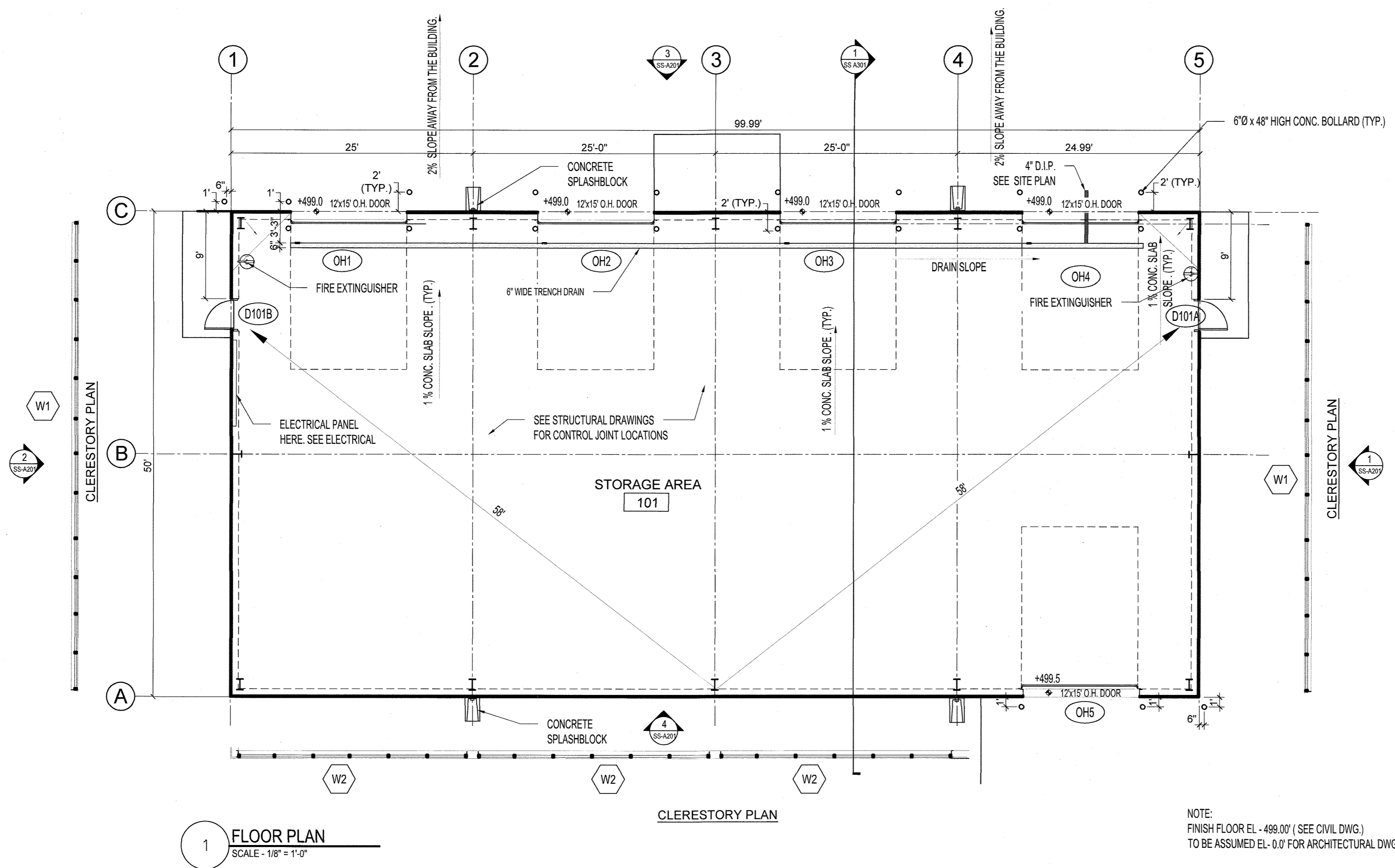
DATE: 02/2019

SCALE MAP NO. BLOCK NO.

REVISED SITE DEVELOPMENT PLAN  
 ALPHA RIDGE LANDFILL  
 RECYCLING STORAGE SHED, PAVILION AND  
 ORGANICS STORAGE STRUCTURE

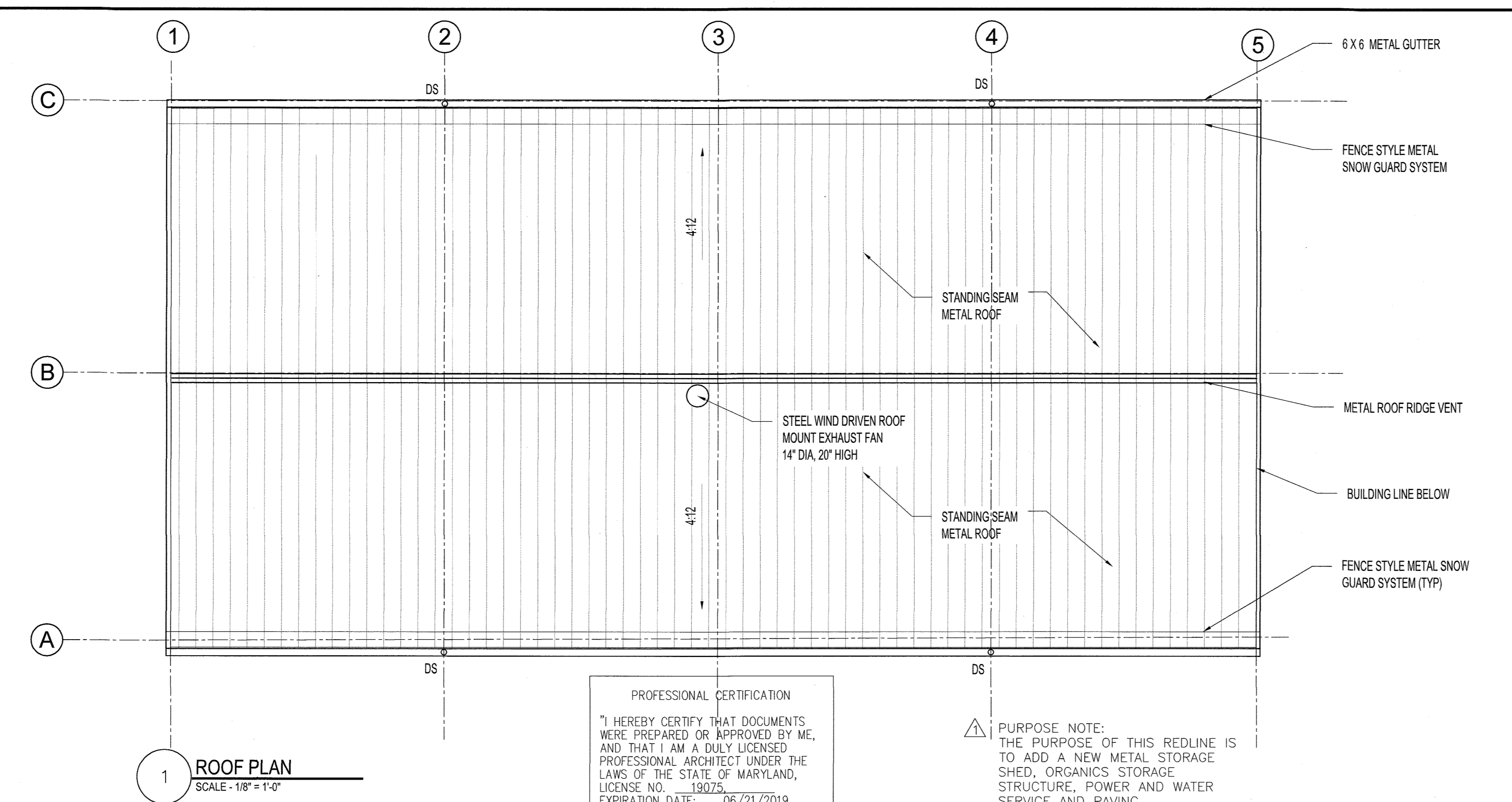
CAPITAL PROJECT NO. C-0299  
 3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE AS NOTED  
 DWG NO. U-4



1 FLOOR PLAN  
SCALE - 1/8" = 1'-0"

- BUILDING CODE ANALYSIS**
- THE BUILDING IS UNOCCUPIED AND UN-CONDITIONED.
- BUILDING OCCUPANCY:**  
IBC - 311.2 USE GROUP S1- STORAGE
  - CONSTRUCTION TYPE:**  
PROPOSED NEW STORAGE STRUCTURE  
IBC - 601 - TYPE 1B  
FIRE RESISTANCE RATING BY BUILDING ELEMENTS:  
0 HOUR FOR ALL ELEMENTS.  
  
MAX. ALLOWABLE HEIGHT:  
IBC - TABLE 504.3 - 40 FT.  
PROPOSED = 28'-0"
  - MAX. ALLOWABLE SQUARE FOOTAGE**  
IBC - TABLE 506.2 - 9,000 SQ FT  
PROPOSED AREA = 99.99 X 50 = 4999.55 SF
  - OCCUPANT FLOOR AREA PER PERSON**  
  
OCCUPANT LOAD:  
S1 STORAGE OCCUPANCY  
GROSS SQ. FEET/100 (FLOOR AREA PER PERSON)  
5000/500 = 10 PERSONS
  - FIRE RESISTANCE RATING REQUIREMENTS:**  
  
IBC - TABLE 601  
ALL CONSTRUCTION : 0 HOURS  
EXTERIOR BEARING WALLS: TABLE 602  
FIRE SEPARATION DISTANCE > 10 FEET 0 HOURS (GROUP S1)  
  
PROPOSED BUILDING RATED CONSTRUCTION AS ABOVE  
PROPOSED BUILDING IS NOT SPRINKLERED
  - MEANS OF EGRESS:**  
  
MINIMUM NUMBER OF EXITS REQUIRED - IBC 1005.1 : 1 MIN  
MINIMUM DOOR WIDTH REQUIRED: 0.2/PERSON  
13 x 0.2' = 2.6' MIN  
  
NUMBER OF EXITS PROPOSED: 2  
MINIMUM EXIT DOOR CLEAR WIDTH PROPOSED: 36" MIN
  - EXIT ACCESS TRAVEL DISTANCE**  
WITHOUT SPRINKLER SYSTEM (OCCUPANCY S1) 200' MAX  
PROPOSED: 58' MAX  
COMMON PATH OF TRAVEL WITHOUT SPRINKLERS 75' MAX  
NO COMMON PATH OF TRAVEL- NO INTERIOR WALLS  
(1019.3) IF OCCUPANT LOAD IS <30 THEN MAX IS 100'



1 ROOF PLAN  
SCALE - 1/8" = 1'-0"

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I HEREBY CERTIFY THAT DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19075, EXPIRATION DATE: 06/21/2019.

PURPOSE NOTE:  
THE PURPOSE OF THIS REDLINE IS TO ADD A NEW METAL STORAGE SHED, ORGANICS STORAGE STRUCTURE, POWER AND WATER SERVICE AND PAVING.

- GENERAL NOTES**
- THE CONTRACTOR SHALL PROTECT ALL FINISH WORK AND SURFACES FROM DAMAGE DURING THE COURSE OF CONSTRUCTION AND SHALL REPLACE AND/OR REPAIR ALL DAMAGED SURFACES CAUSED BY CONTRACTOR OR SUBCONTRACTOR PERSONNEL TO THE SATISFACTION OF THE ENGINEER.
  - THE CONTRACTOR WILL BE RESPONSIBLE FOR VERIFYING FLOOR ELEVATIONS WITH RESPECT TO CIVIL ELEVATIONS.
  - DO NOT SCALE THE DRAWINGS.
  - CONTRACTOR TO REPAIR ALL EXISTING TO REMAIN ELEMENTS THAT ARE DAMAGED DURING CONSTRUCTION. REPAIR WORK SHOULD BE CARRIED OUT PER APPLICABLE CODES.
  - REFER TO STRUCTURE DRAWINGS FOR FOUNDATION DETAILS.
  - SEE LANDFILL SUPERINTENDENT FOR DISPOSAL OF CONSTRUCTION DEBRIS.
  - THERE IS NO INSULATION OR HEAT IN THE BUILDING
  - LENGTH OF TRENCH DRAIN MAY SLIGHTLY VARY. OVERALL MINIMUM LENGTH SHALL BE 86'.

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DIRECTOR

5/15/19  
DATE  
5-21-19  
DATE  
5-21-19  
DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
BUREAU OF ENVIRONMENTAL SERVICES  
DATE: 3/21/19



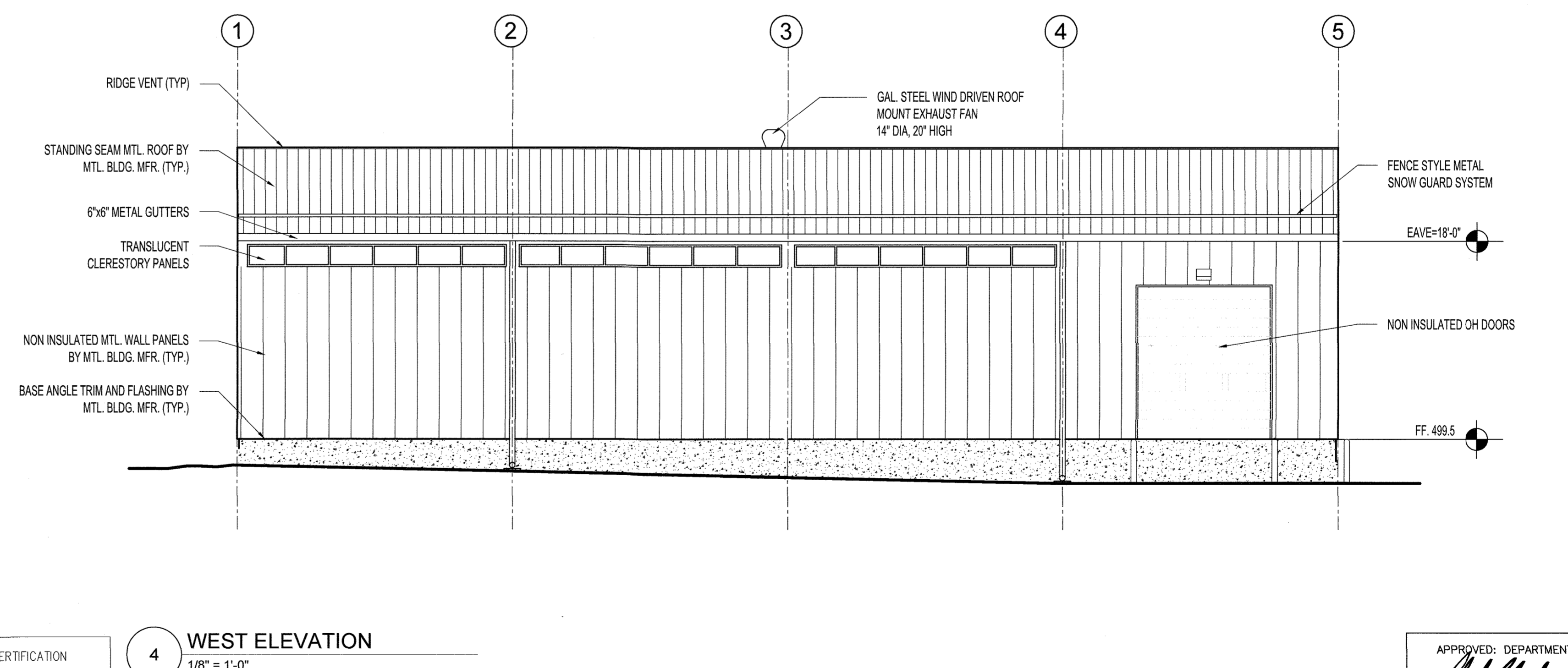
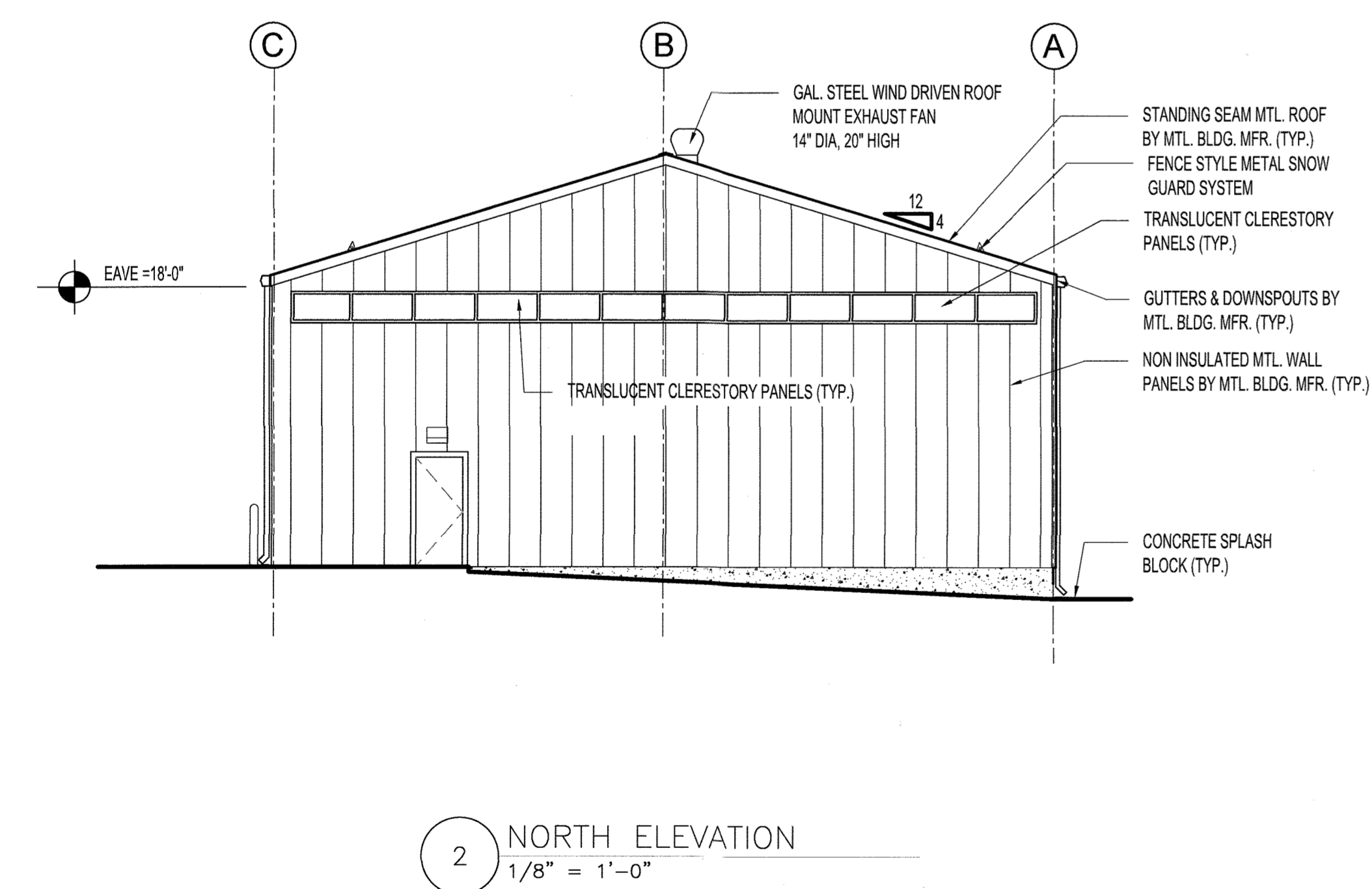
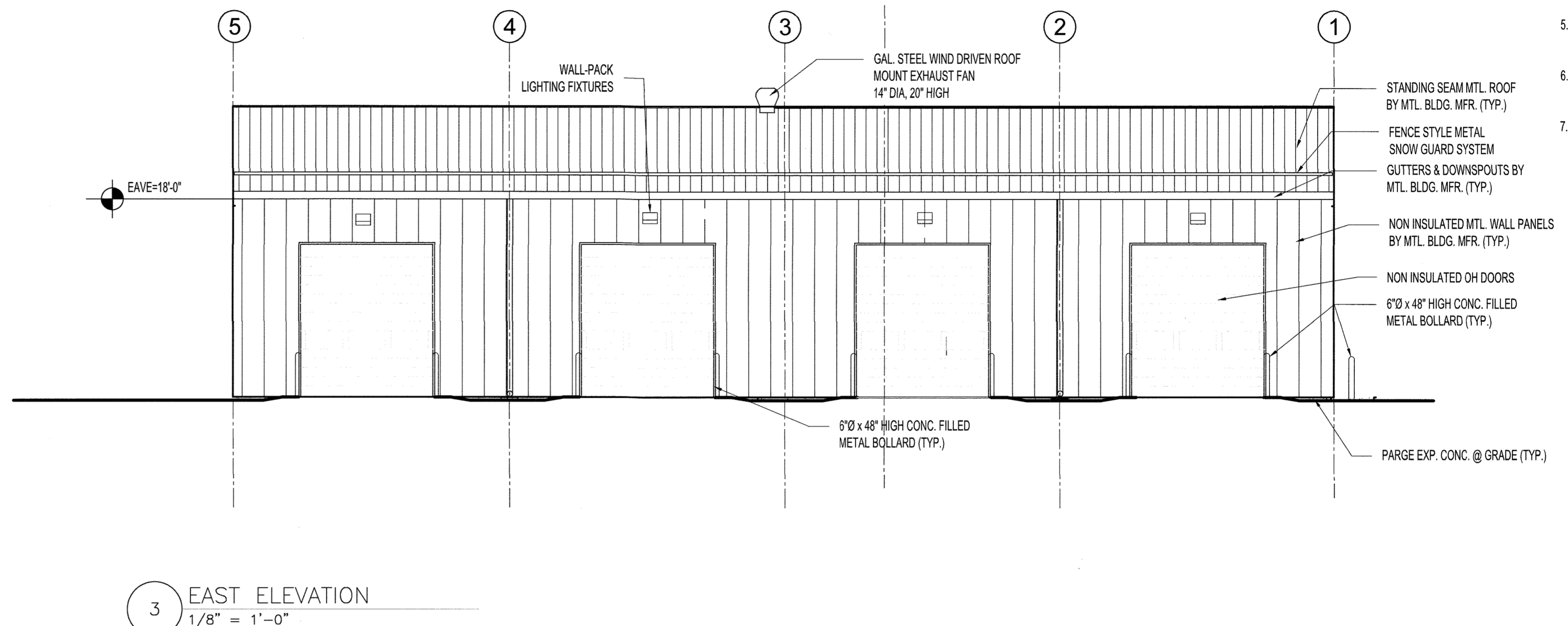
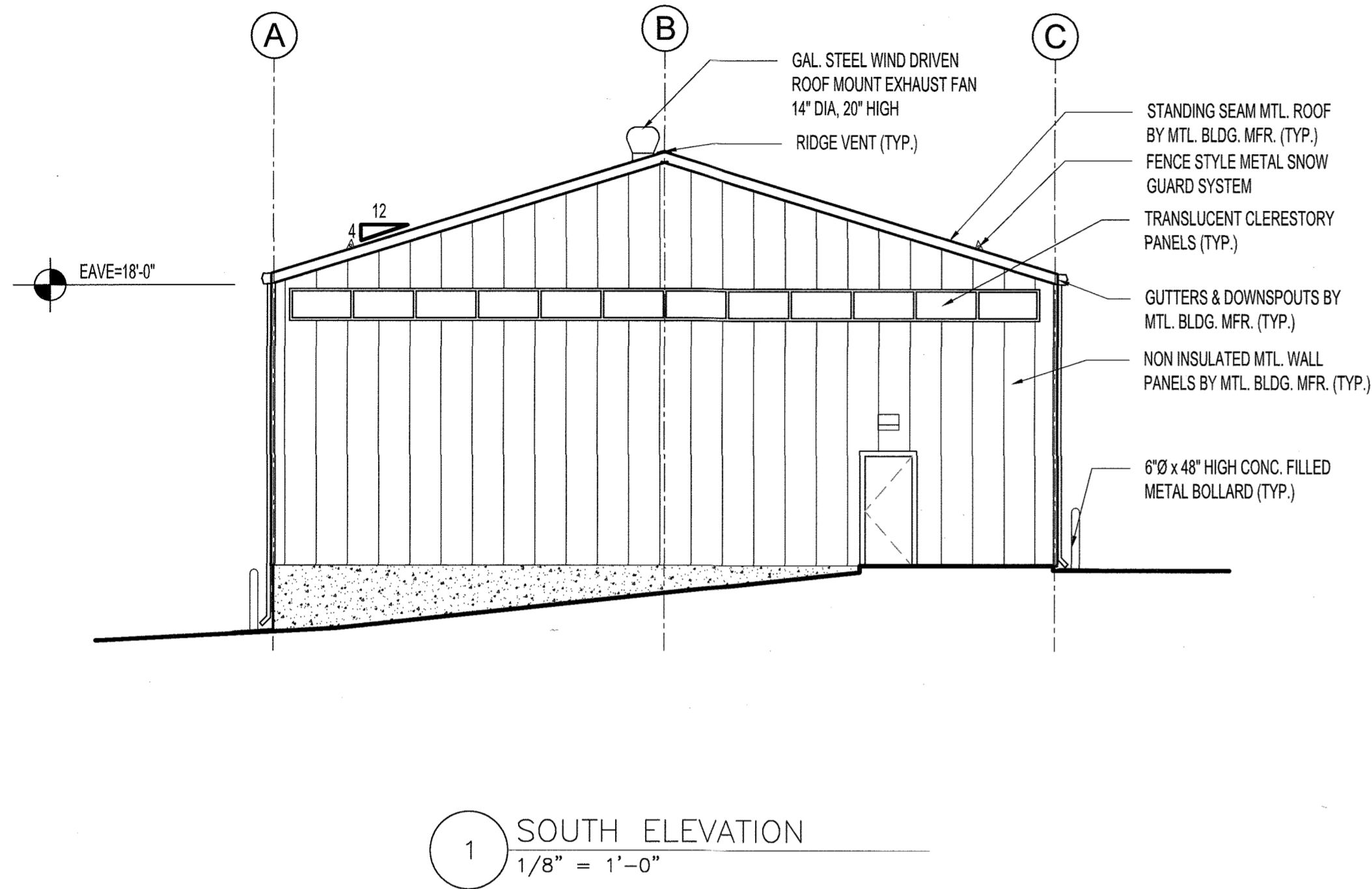
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RECYCLING STORAGE SHED - PLAN VIEWS

REVISED SITE DEVELOPMENT PLAN  
**ALPHA RIDGE LANDFILL  
RECYCLING STORAGE SHED, PAVILION AND  
ORGANICS STORAGE STRUCTURE**  
CAPITAL PROJECT NO. C-0299  
3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
DWG NO.  
SS-A101

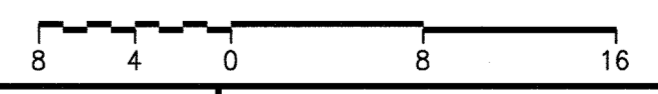
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  3. DO NOT SCALE THE DRAWINGS.
  4. CONTRACTOR TO REPAIR ALL EXISTING TO REMAIN ELEMENTS THAT ARE DAMAGED DURING CONSTRUCTION. REPAIR WORK SHOULD BE CARRIED OUT PER APPLICABLE CODES.
  5. REFER TO STRUCTURE DRAWINGS FOR FOUNDATION DETAILS.
  6. SEE LANDFILL SUPERINTENDENT FOR DISPOSAL OF CONSTRUCTION DEBRIS.
  7. THERE IS NO INSULATION OR HEAT IN THE BUILDING.



PROFESSIONAL CERTIFICATION  
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▲ PURPOSE NOTE:  
 THE PURPOSE OF THIS REDLINE IS TO ADD A NEW METAL STORAGE SHED, ORGANICS STORAGE STRUCTURE, POWER AND WATER SERVICE AND PAVING.

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division: 5-15-19  
 Chief, Division of Land Development: 5-21-19  
 Director: 5-21-19



SDP SHT. 131 OF 140

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Chief, Bureau of Environmental Services  
 3/12/19

**AECOM**

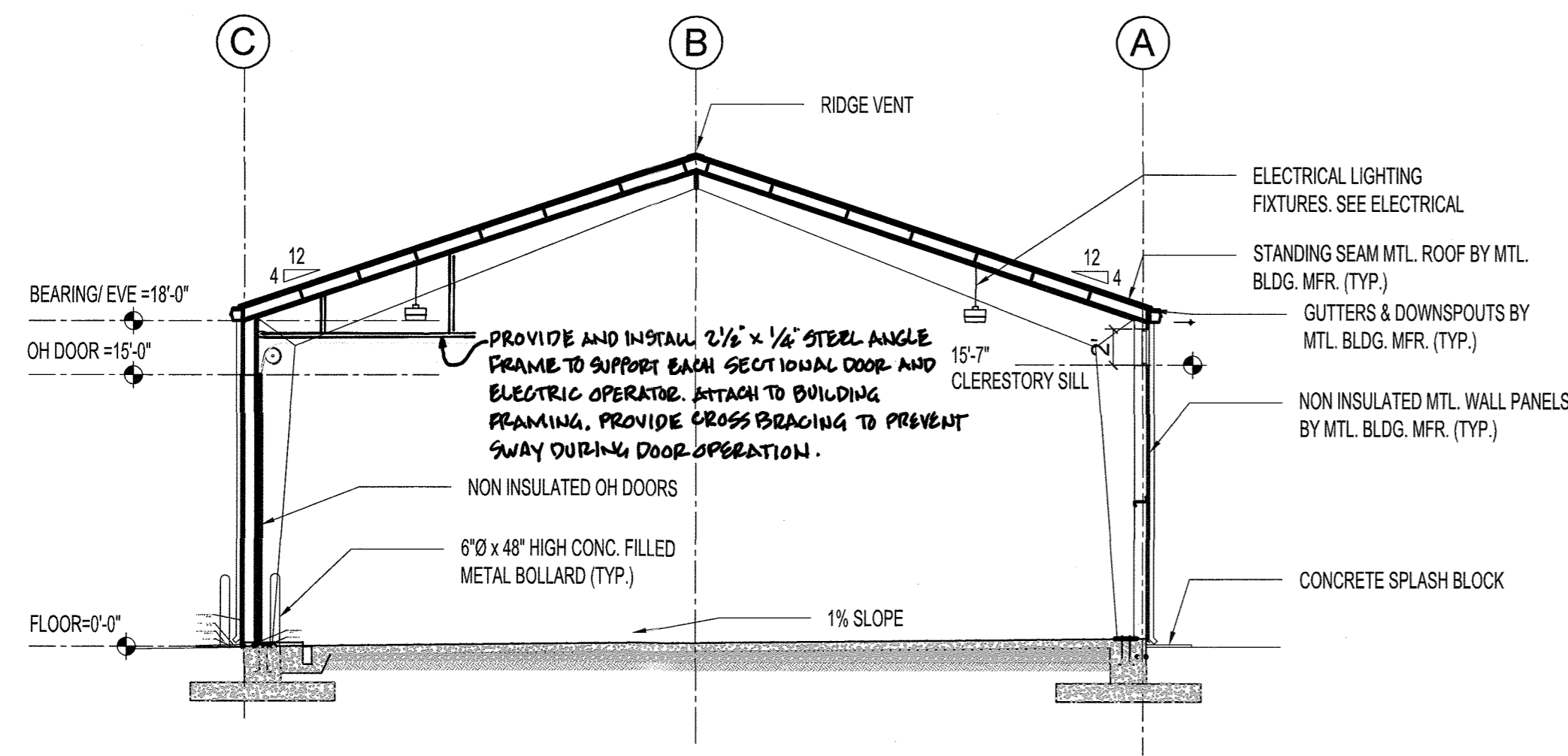


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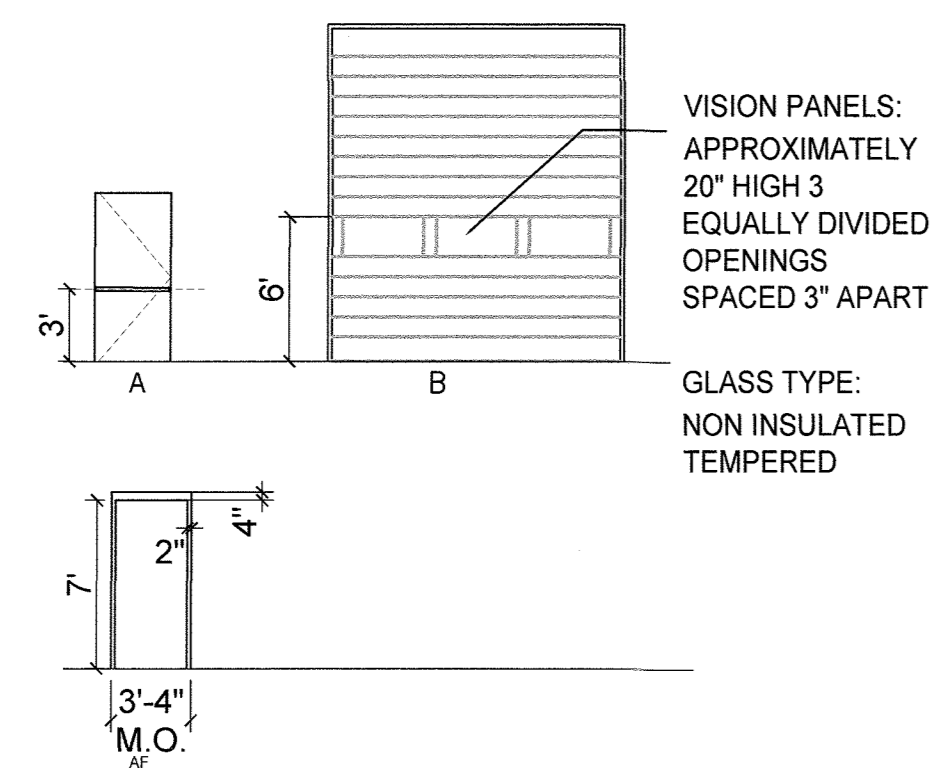
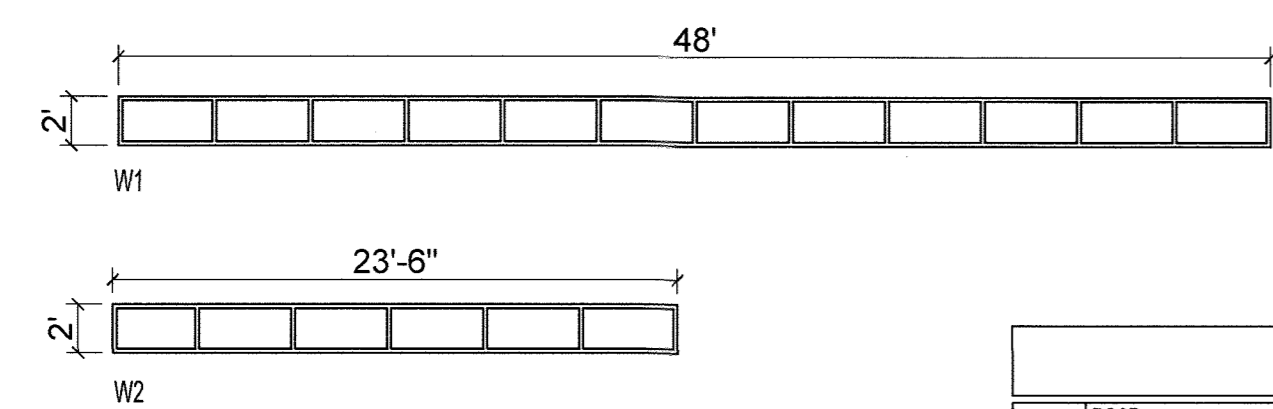
RECYCLING STORAGE SHED - ELEVATIONS

REVISED SITE DEVELOPMENT PLAN  
**ALPHA RIDGE LANDFILL**  
 RECYCLING STORAGE SHED, PAVILION AND ORGANICS STORAGE STRUCTURE  
 CAPITAL PROJECT NO. C-0299  
 3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
 DWG NO.  
 SS-A201



1 SECTION 1  
1/8" = 1'-0"



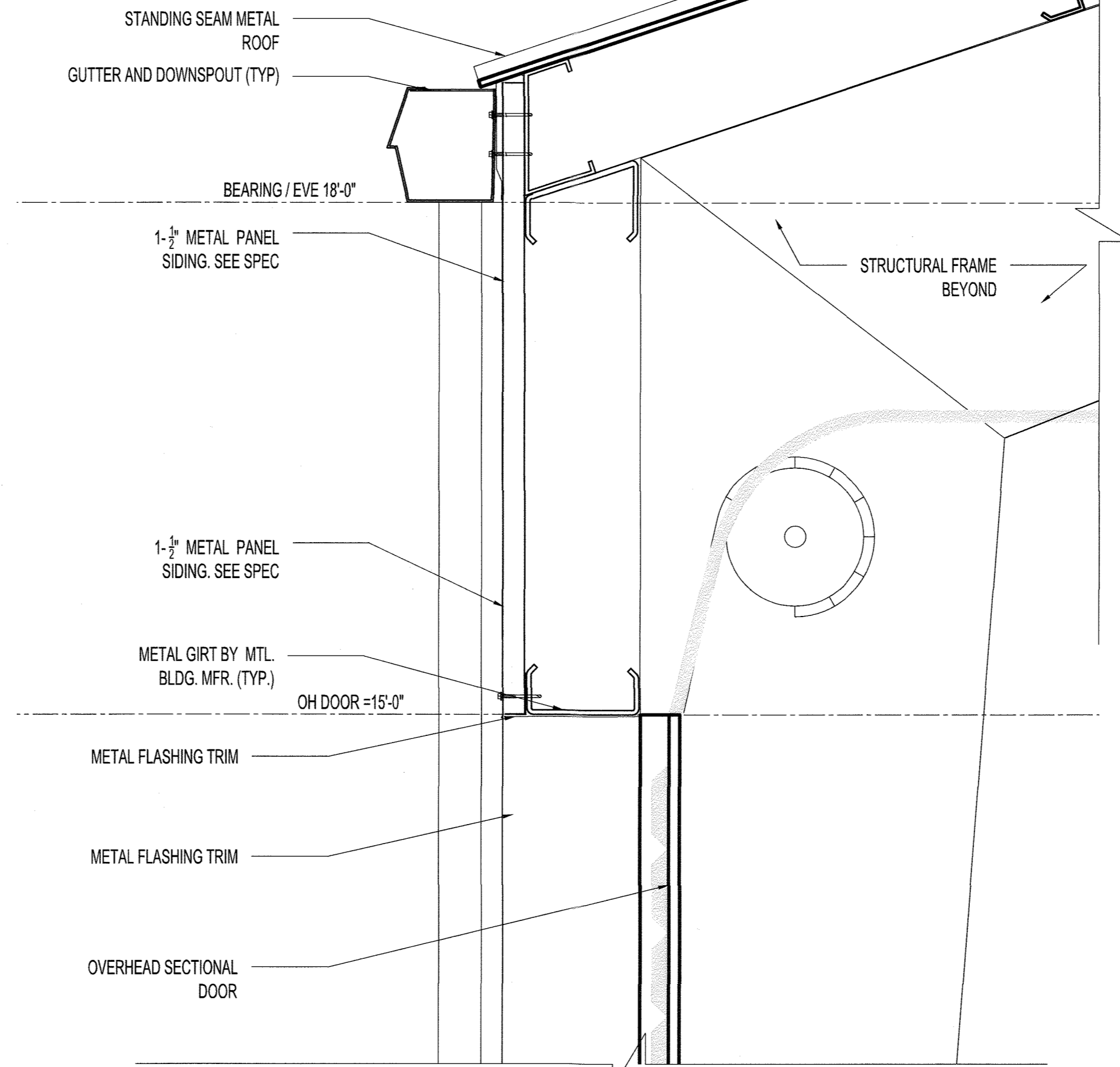
2 DOOR AND WINDOW SCHEDULE  
1/8" = 1'-0"

DOOR SCHEDULE										
NO.	DOOR	SIZE	TYPE	MTL.	FIN.	FRAME	TYPE	MTL.	FIN.	REMARKS
D101A		3'-0" x 7'-0" x 1 3/4"	A	H.M.	PT	-	H.M.	PT		CLOSER AND EGRESS HARDWARE
D101B		3'-0" x 7'-0" x 1 3/4"	A	H.M.	PT	-	H.M.	PT		CLOSER AND EGRESS HARDWARE
OH1		12'-0" x 15'-0"	B	ALUMN.	PT					OVERHEAD DOOR
OH2		12'-0" x 15'-0"	B	ALUMN.	PT					OVERHEAD DOOR
OH3		12'-0" x 15'-0"	B	ALUMN.	PT					OVERHEAD DOOR
OH4		12'-0" x 15'-0"	B	ALUMN.	PT					OVERHEAD DOOR
OH5		12'-0" x 15'-0"	B	ALUMN.	PT					OVERHEAD DOOR

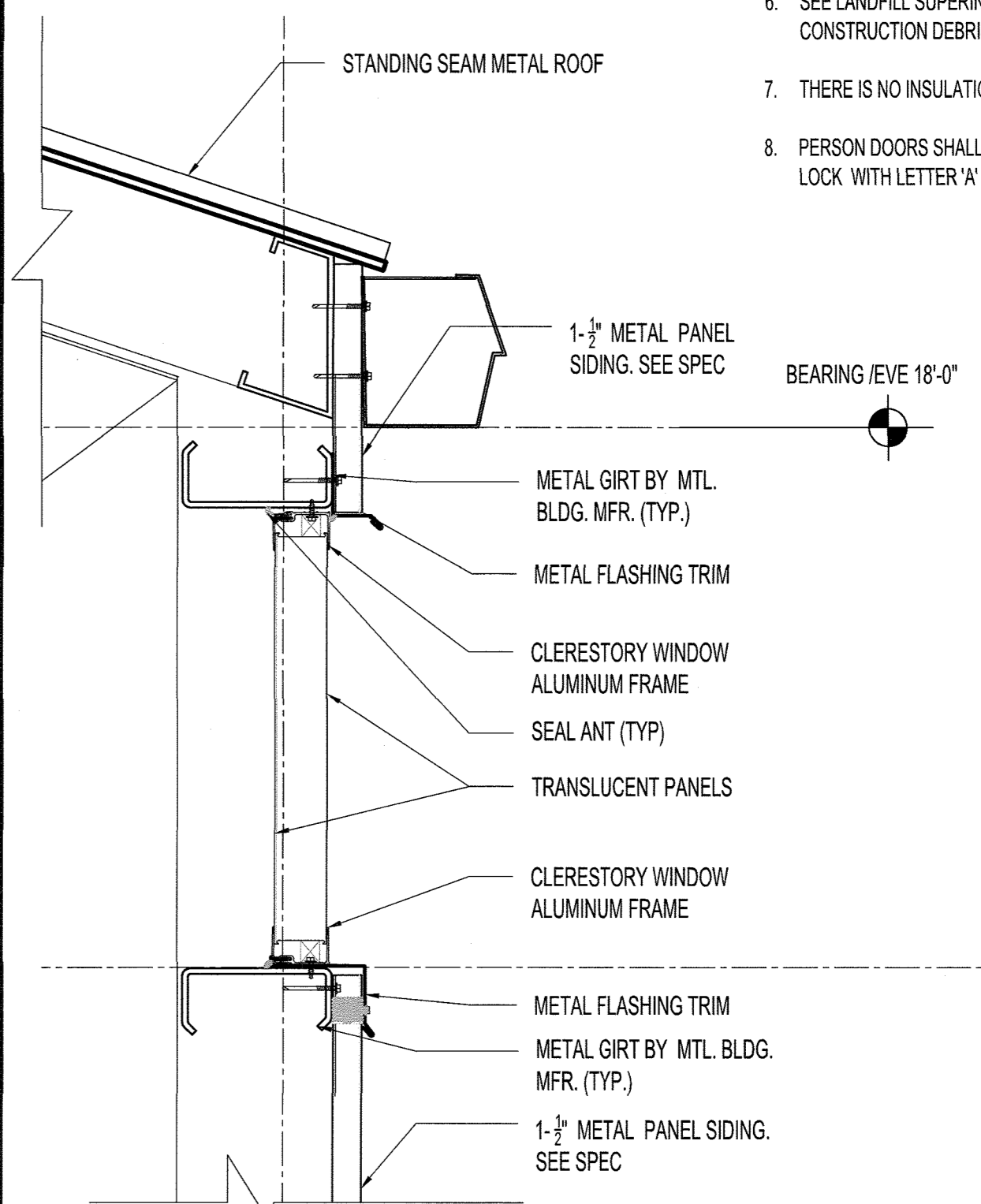
WINDOW SCHEDULE											
R/W #	QUANTITY	WINDOW	SIZE	TYPE	MTL.	FIN.	FRAME	TYPE	MTL.	FIN.	REMARKS
101	2		48'-0" X 2'-0"	W1	ALUMN.	-					NON INSULATED
101	3		23'-6" X 2'-0"	W2	ALUMN.	-					NON INSULATED

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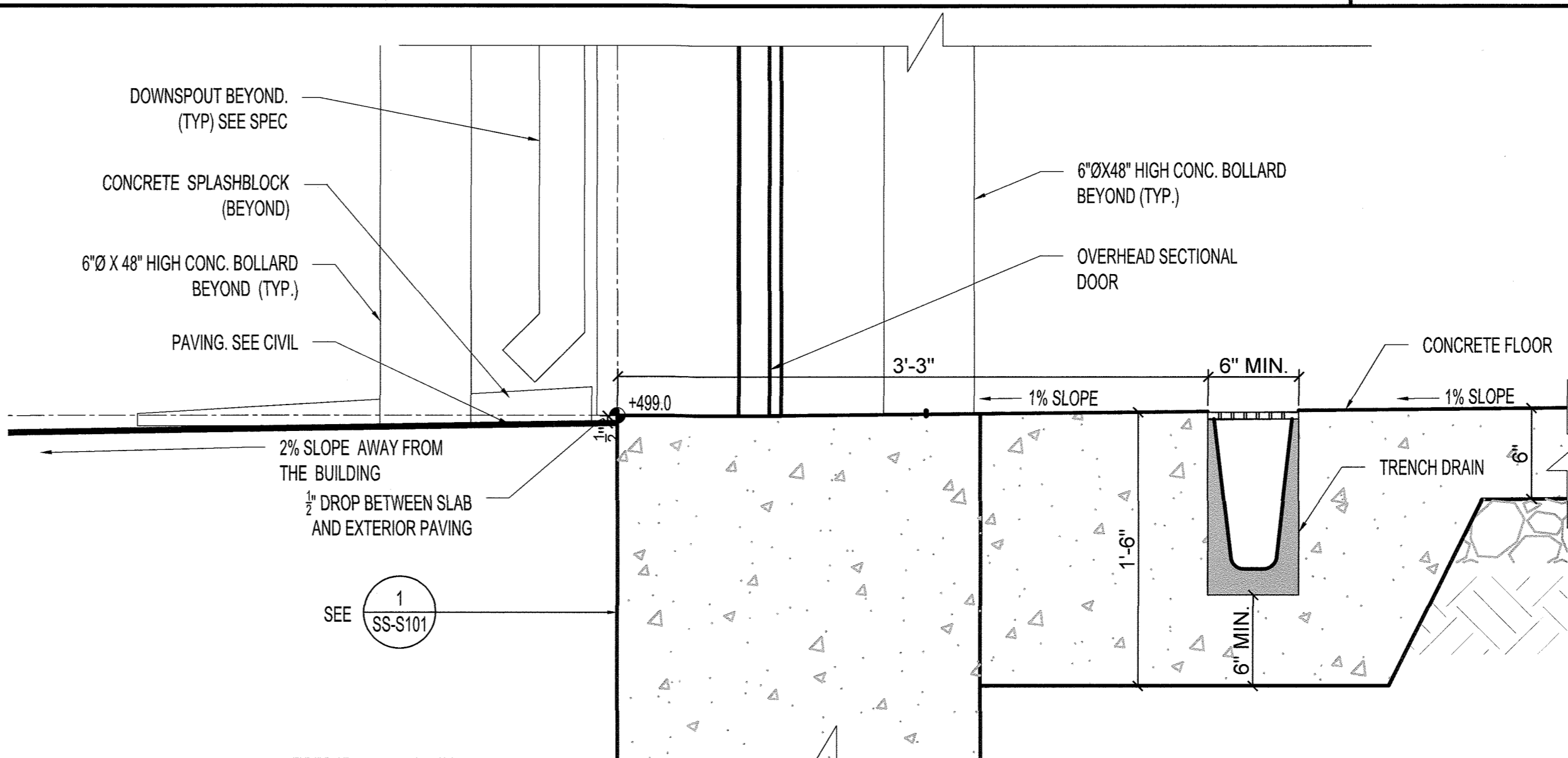
PURPOSE NOTE:  
THE PURPOSE OF THIS REDLINE IS TO ADD A NEW METAL STORAGE SHED, ORGANICS STORAGE STRUCTURE, POWER AND WATER SERVICE AND PAVING.



3 SECTIONAL DOOR HEAD DETAILS  
1 1/2" = 1'-0"

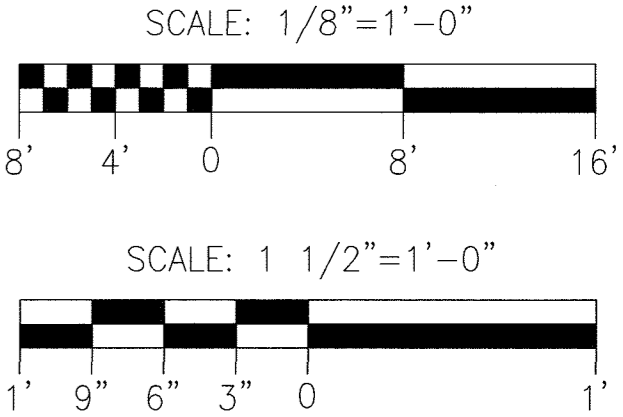


4 CLERESTORY WINDOW DETAILS  
1 1/2" = 1'-0"



5 SECTIONAL DOOR BOTTOM DETAILS  
1 1/2" = 1'-0"

TRENCH DRAIN  
1. ACO S100K POWERDRAIN-LOAD CLASS D OR APPROVED EQUAL.  
2. ACO S100K 4-BOLT DUCTILE IRON GRATE OR APPROVED EQUAL.



APPROVED: DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DIRECTOR  
DATE: 5-15-19  
DATE: 5-21-19  
DATE: 5-21-19

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
ENVIRONMENTAL SERVICES  
DATE: 3/2/19



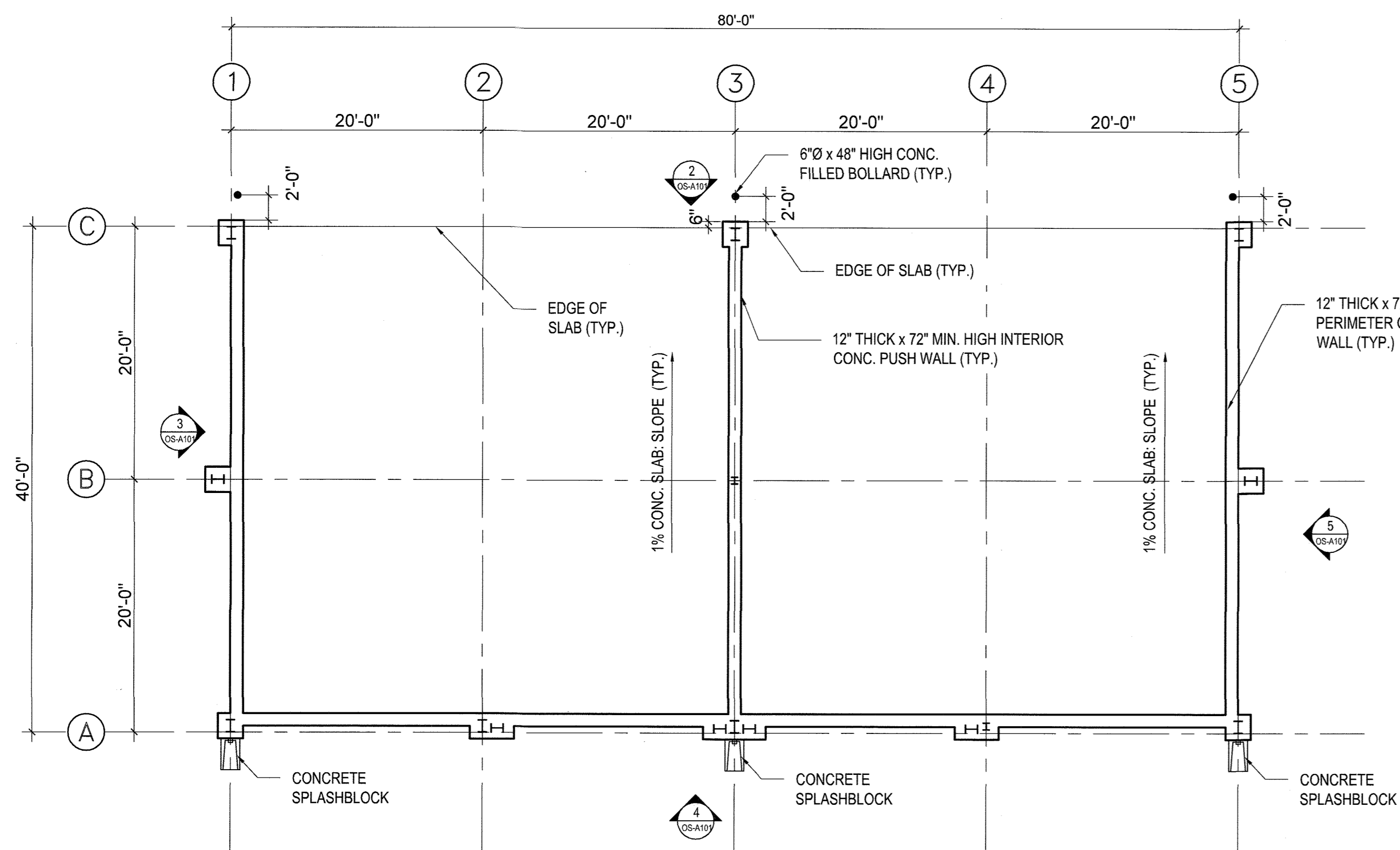
DES:	SJ				
DRN:	SJ				
CHK:	DM				
DATE:	02/2019	DTM	▲	INSERT NEW SHEET	02/2019
		BY	NO.	REVISION	DATE

RECYCLING STORAGE SHED - SECTIONS AND DETAILS

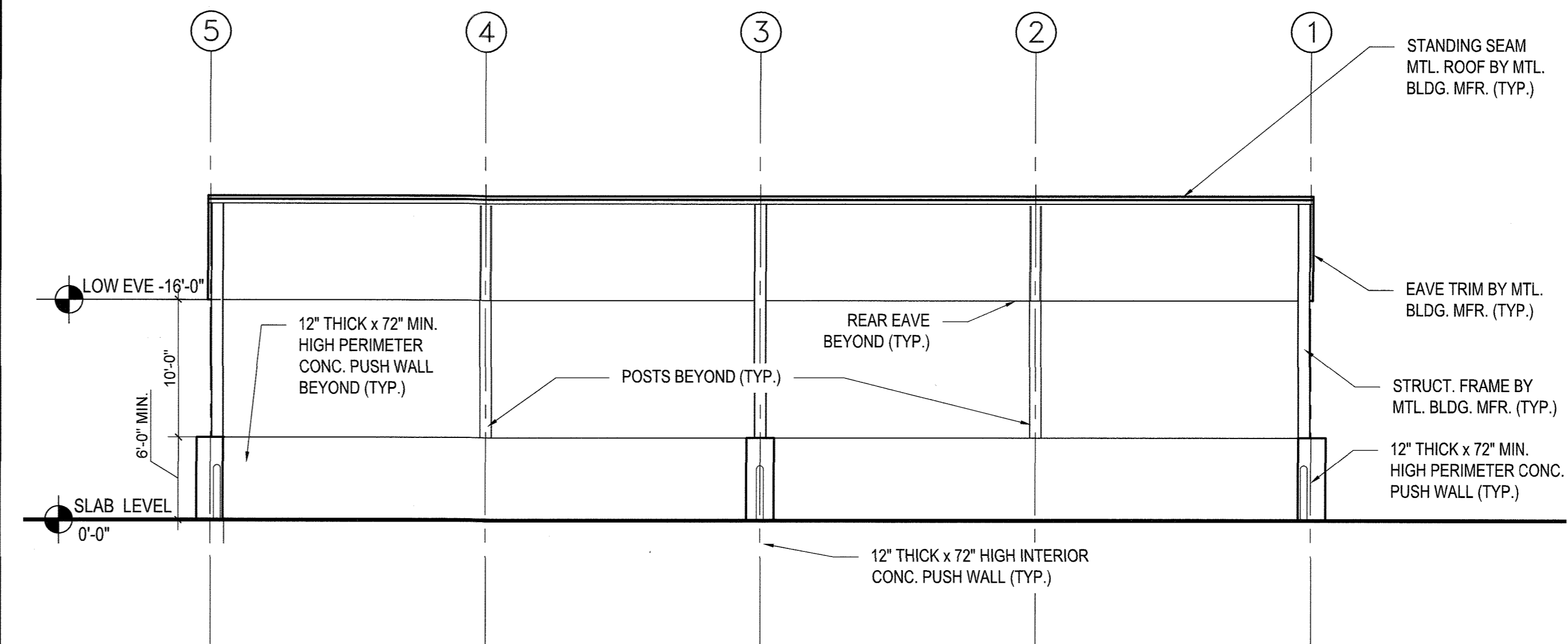
REVISED SITE DEVELOPMENT PLAN  
ALPHA RIDGE LANDFILL  
RECYCLING STORAGE SHED, PAVILION AND ORGANICS STORAGE STRUCTURE

CAPITAL PROJECT NO. C-0299  
3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
DWG NO. SS-A301

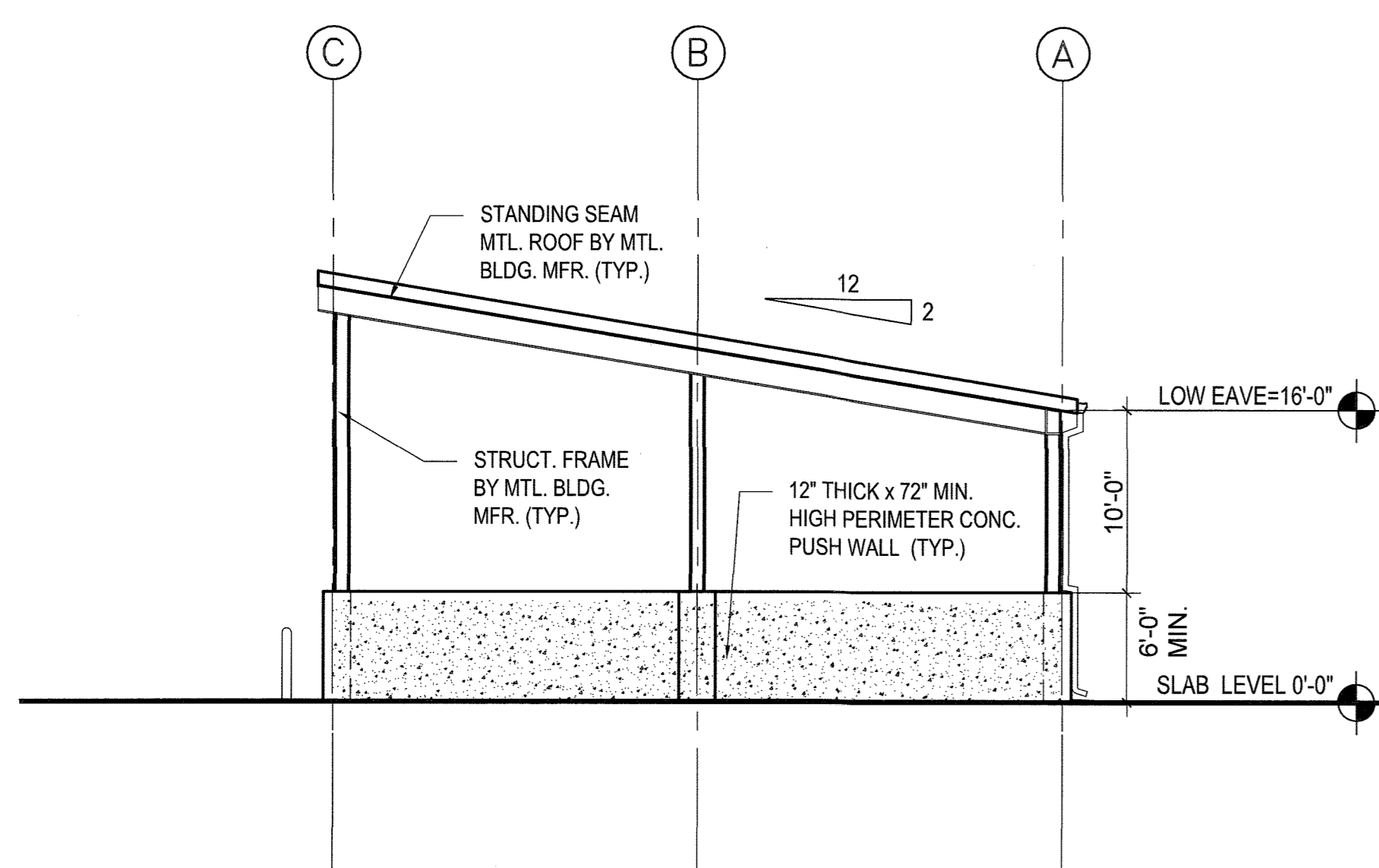


1 FLOOR PLAN  
1/8" = 1'-0"

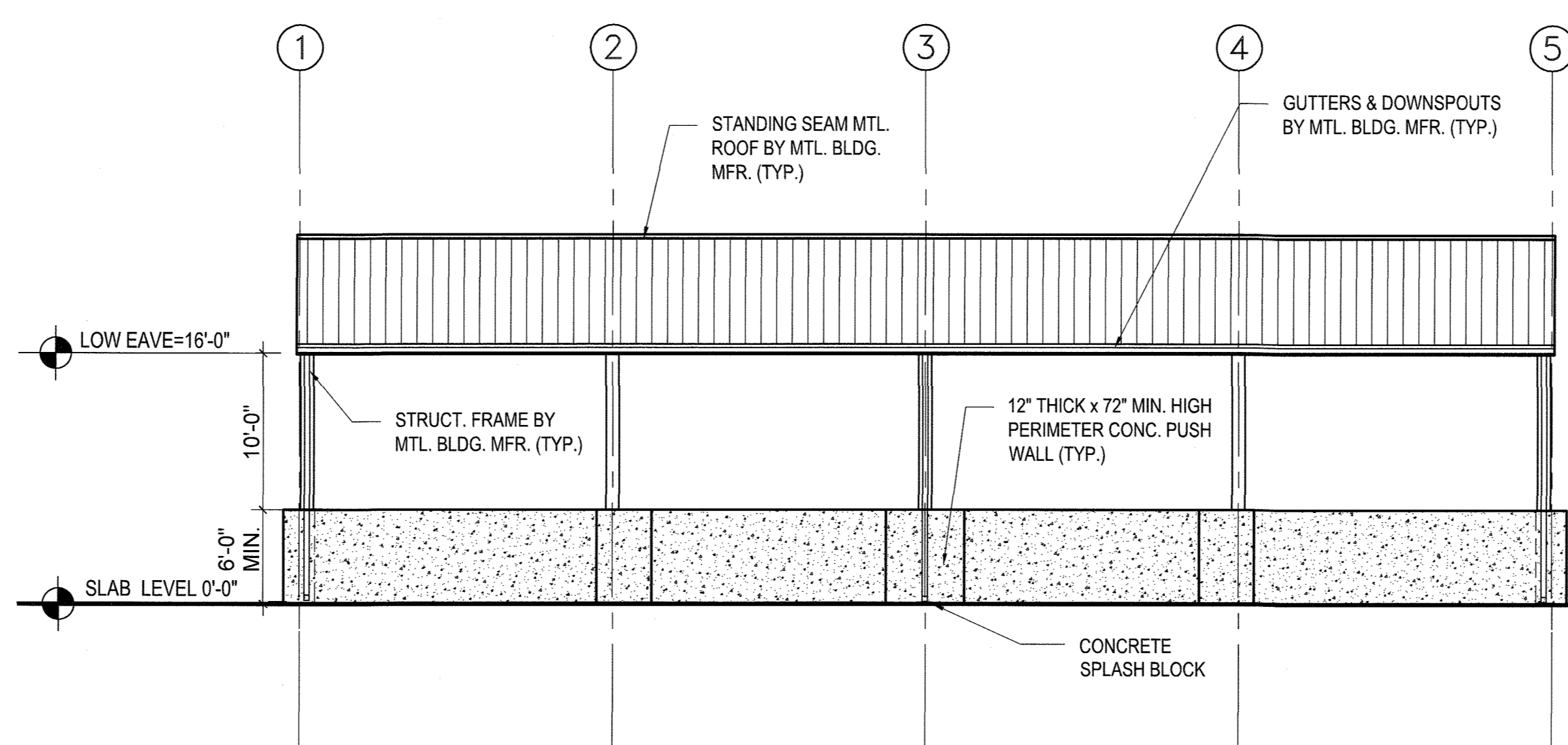


2 NORTH ELEVATION  
1/8" = 1'-0"

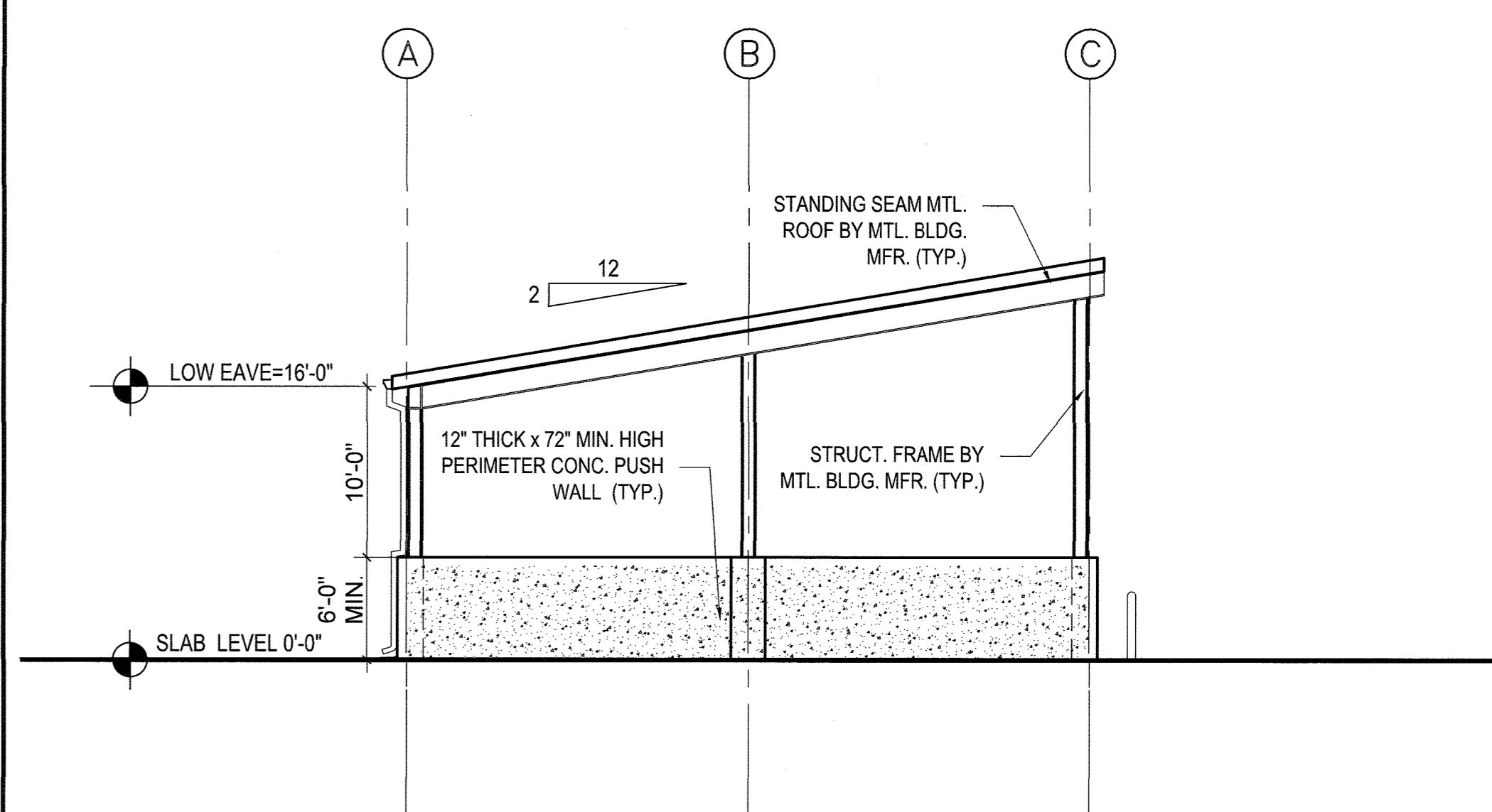
- GENERAL NOTES**
1. THE CONTRACTOR SHALL PROTECT ALL FINISH WORK AND SURFACES FROM DAMAGE DURING THE COURSE OF CONSTRUCTION AND SHALL REPLACE AND/OR REPAIR ALL DAMAGED SURFACES CAUSED BY CONTRACTOR OR SUBCONTRACTOR PERSONNEL TO THE SATISFACTION OF THE ENGINEER.
  2. THE CONTRACTOR WILL BE RESPONSIBLE FOR VERIFYING FLOOR ELEVATIONS WITH RESPECT TO CIVIL ELEVATIONS.
  3. DO NOT SCALE THE DRAWINGS.
  4. CONTRACTOR TO REPAIR ALL EXISTING TO REMAIN ELEMENTS THAT ARE DAMAGED DURING CONSTRUCTION. REPAIR WORK SHOULD BE CARRIED OUT PER APPLICABLE CODES.
  5. REFER TO STRUCTURE DRAWINGS FOR FOUNDATION DETAILS.
  6. SEE LANDFILL SUPERINTENDENT FOR DISPOSAL OF CONSTRUCTION DEBRIS.
  7. THERE IS NO INSULATION OR HEAT IN THE BUILDING.



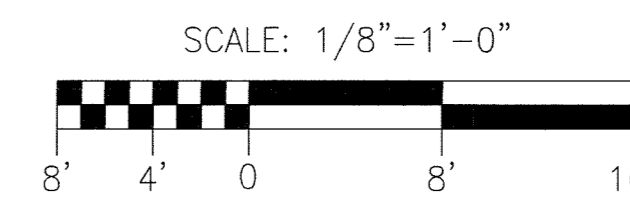
3 WEST ELEVATION  
1/8" = 1'-0"



4 SOUTH ELEVATION  
1/8" = 1'-0"



5 EAST ELEVATION  
1/8" = 1'-0"



PROFESSIONAL CERTIFICATION  
I HEREBY CERTIFY THAT DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19075, EXPIRATION DATE: 06/21/2019.

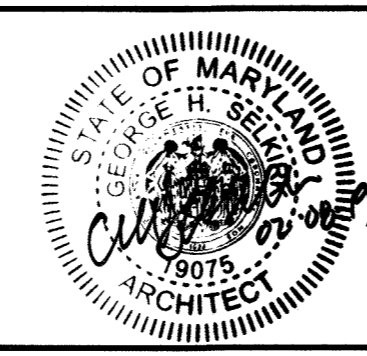
PURPOSE NOTE:  
THE PURPOSE OF THIS REDLINE IS TO ADD A NEW METAL STORAGE SHED, ORGANICS STORAGE STRUCTURE, POWER AND WATER SERVICE AND PAVING.

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DIRECTOR  
5-15-19  
DATE  
5-21-19  
DATE  
5-21-19  
DATE

SDP SHT. 133 OF 140

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
ENVIRONMENTAL SERVICES  
DATE: 3/21/19

**AECOM**



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DRN:	SJ	BY	NO.	REVISION	DATE
CHK:	DM				
DATE:	02/2019				

ORGANICS STORAGE- PLAN AND ELEVATIONS

REVISED SITE DEVELOPMENT PLAN  
**ALPHA RIDGE LANDFILL  
RECYCLING STORAGE SHED, PAVILION AND  
ORGANICS STORAGE STRUCTURE**

CAPITAL PROJECT NO. C-0299  
3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE  
AS SHOWN  
DWG NO.  
OS-A101



STRUCTURAL GENERAL NOTES

A. CODES

- 1. INTERNATIONAL BUILDING CODE (IBC), 2015 EDITION
2. ASCE 7-10 MINIMUM

B. DESIGN LOADS (IBC 2015 AND AS FOLLOWS)

- 1. LIVE LOAD: a. FLOOR LIVE LOAD: 250 PSF, b. ROOF LIVE LOAD: 30 PSF
2. DEAD LOAD: a. STRUCTURAL FRAMING SELF WEIGHT
3. RISK CATEGORY: II
4. SNOW LOADING: a. GROUND SNOW LOAD (PG): 25 PSF (48"-52"), b. IMPORTANCE FACTOR (I): 1.0, c. SNOW DRIFT LOADS AS APPLICABLE: -
5. WIND LOADING: a. BASIC WIND SPEED (V): 115 MPH, b. EXPOSURE CATEGORY: C, c. SURFACE ROUGHNESS: C
6. SEISMIC LOADING: a. 0.2 SEC SPECTRAL RESPONSE ACCELERATION (SS): 0.126G, b. 1.0 SEC SPECTRAL RESPONSE ACCELERATION (S1): 0.052G, c. IMPORTANCE FACTOR (I): 1.0, d. SITE CLASS: D, e. SEISMIC DESIGN CATEGORY: B

C. FOUNDATIONS

- 1. ALL EXISTING FILL MATERIALS, CONSISTING OF GRAVEL, BRICK FRAGMENTS, CONCRETE CHIPS, WOOD CHIPS, AND DEMOLITION DEBRIS SHALL BE REMOVED IN THE REGIONS OF ALL FOUNDATIONS AND UNDER AREAS OF SLAB-ON-GRADE.
2. THE SLAB-ON-GRADE SHALL REST ON A MINIMUM OF 6 INCHES OF COMPACTED GRANULAR FILL.
3. PROOF ROLL SLAB SUBGRADE UNDER THE DIRECTION OF THE INSPECTION AGENCY. REMOVE ALL UNSUITABLE AREAS AND REPLACE WITH COMPACTED STRUCTURAL FILL MATERIALS. COMPACT FILL PER SPECIFICATIONS.
4. SHALLOW FOUNDATIONS SHALL BE FOOTINGS TO BEAR ON UNDISTURBED SOIL OR CONTROLLED STRUCTURAL FILL HAVING A MINIMUM SAFE BEARING CAPACITY OF 2.0 KSF WITH VAPOR BARRIER. THE TESTING AND INSPECTION AGENCY SHALL VERIFY SOIL BEARING CAPACITY AT EACH FOOTING PRIOR TO INSTALLATION OF FOOTING. NOTIFY ENGINEER OF ANY VARIATION FROM ANTICIPATED BEARING CAPACITY FOR APPROPRIATE REDESIGN OR LOWERING OF FOOTING.
5. THE BOTTOMS OF ALL EXTERIOR FOOTINGS SHALL BE 2'-6" MINIMUM BELOW FINISHED GRADE.
6. EDGES OF FOOTINGS SHALL NOT BE PLACED AT A GREATER THAN 1 (VERTICAL) TO 2 (HORIZONTAL) SLOPE WITH RESPECT TO ANY ADJACENT FOOTING OR EXCAVATION.
7. BACKFILLING AGAINST WALLS SHALL NOT BE DONE UNTIL CONCRETE AND/OR MASONRY HAS BEEN CURED TO ATTAIN SUFFICIENT STRENGTH AND WALLS ARE PROPERLY SHORED AND/OR BRACED. BACKFILL FOUNDATION WALLS WITH EARTH ON BOTH SIDES OF THE WALL BY ALTERNATELY PLACING BACKFILL ON EACH SIDE SO THAT HEIGHT OF BACKFILL DOES NOT DIFFER BY MORE THAN 1'-6" FROM OTHER SIDE.
8. THE CONTRACTOR SHALL SAFEGUARD AND PROTECT ALL EXCAVATIONS AND ALL EXCAVATIONS SHALL BE KEPT FREE OF WATER.
9. MAXIMUM LENGTH OF FOUNDATION WALL PLACED IN ONE OPERATION SHALL NOT EXCEED 60 FEET.
10. NO HORIZONTAL JOINTS SHALL BE PLACED IN WALLS EXCEPT AS SHOWN ON THE DRAWINGS WITHOUT APPROVAL OF THE ENGINEER.
11. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL, PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS FOR ALL LOCATIONS OF TRENCHES, PITS, CONDUITS, ETC. NOT SHOWN ON THE STRUCTURAL DRAWINGS.

D. FOUNDATION CONCRETE

- 1. ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE HAVING A DESIGN COMPRESSIVE STRENGTH AT 28 DAYS AS FOLLOWS: a. FOOTINGS 4,000 PSI, b. WALLS AND PIERS 4,000 PSI, c. SLAB-ON-GRADE 4,000 PSI
2. NO CONCRETE SHALL BE PLACED UNTIL CONCRETE DESIGN MIXES HAVE BEEN SUBMITTED FOR EACH CLASS OF CONCRETE NOTED ABOVE AND HAVE BEEN APPROVED BY THE ENGINEER.
3. REINFORCING STEEL SHALL BE DEFORMED BARS OF INTERMEDIATE GRADE NEW BILLET STEEL CONFORMING TO CURRENT REQUIREMENTS OF ASTM A 615, GRADE. LAP BARS 40 DIAMETER UNLESS OTHERWISE SHOWN. ALL HOOKS SHALL BE STANDARD HOOKS, UNLESS OTHERWISE NOTED.
4. WIELDED WIRE FABRIC SHALL CONFORM TO ASTM A 1064.
5. ALL MESH SHALL BE SPICED SO THAT THE OVERLAP OF THE OUTERMOST CROSS WIRES OF EACH ADJOINING SHEET IS NOT LESS THAN THE SPACING OF THE CROSS WIRES PLUS 2 INCHES, UNLESS NOTED OTHERWISE.
6. FOR ALL SLABS ON GRADE WHERE NOT OTHERWISE SPECIFIED, USE 6 X 6 - WX2.9 X W2.9 W.W.F.
7. MINIMUM STEEL PROTECTION, UNLESS OTHERWISE SHOWN, SHALL BE 1-INCH FOR INTERIOR FACE OF WALLS, 2 INCHES FOR EXTERIOR FACE OF WALLS, 3 INCHES FOR FOOTINGS AND OTHER STRUCTURAL CONCRETE DEPOSITED AGAINST GROUND, 2 INCHES FOR CONCRETE PERMANENTLY EXPOSED TO EARTH OF WEATHER.
8. ALL STRUCTURAL MEMBERS SHALL BE POURED FOR THEIR FULL DEPTHS IN ONE OPERATION. CONSTRUCTION JOINTS, SUCH AS DAY'S POUR JOINTS, SHALL BE LOCATED IN THE MIDDLE THIRD OF THE SPAN; MAIN REINFORCING TO RUN THROUGH THE JOINT, KEY AND ROUGH JOINTS TO EXPOSE AGGREGATE. CONTRACTOR SHALL SUBMIT DRAWING INDICATING CONSTRUCTION JOINT LOCATIONS FOR APPROVAL.
9. ALL SLABS-ON-GRADE SHALL HAVE THICKENINGS, DEPRESSIONS, OPENINGS, ETC. AS SHOWN OR AS REQUIRED BY VARIOUS TRADES.
10. REFER TO ARCHITECTURAL DRAWINGS AND/OR SPECIFICATIONS FOR CONCRETE FINISHES.
11. FOR ADDITIONAL CONCRETE WORK NOT SHOWN ON STRUCTURAL DRAWINGS, SEE ARCHITECTURAL DRAWINGS.

E. PRE-ENGINEERED METAL BUILDING SYSTEM

- 1. STRUCTURAL STEEL FRAMING SHALL BE PART OF A PRE-ENGINEERED METAL BUILDING SYSTEM, COMPLETE WITH STRUCTURAL FRAMING, ROOFING, PURLINS, GIRTS, AND ACCESSORY ELEMENTS NORMALLY INCLUDED AS PART OF THE BUILDING ENVELOPE.
2. STRUCTURAL PERFORMANCE: THE METAL BUILDING SYSTEMS SHALL WITHSTAND THE EFFECTS OF LOADS INDICATED ON THESE CONTRACT DRAWINGS AND ALL OTHER APPLICABLE LOADS AND LOAD COMBINATIONS WITHIN LIMITS AND UNDER CONDITIONS INDICATED ACCORDING TO PROCEDURES IN MBMA'S "METAL BUILDING SYSTEMS MANUAL".
3. PROVIDE SECONDARY AND SUPPLEMENTAL FRAMING AS REQUIRED TO SUPPORT SUSPENDED EQUIPMENT. COORDINATE LOCATIONS, WEIGHTS AND SUPPORT REQUIREMENTS WITH MECHANICAL, ELECTRICAL AND ARCHITECTURAL DRAWINGS AND EQUIPMENT MANUFACTURERS.

LEGEND: STEEL, BRICK, CMU, EARTH, TOP OF SLAB ELEVATION, CHANGE IN ELEVATION, GRID LINES, NORTH ARROW, SECTION NUMBER, DETAIL NUMBER, EXISTING BEAM, NEW BEAM

STRUCTURAL ABBREVIATIONS

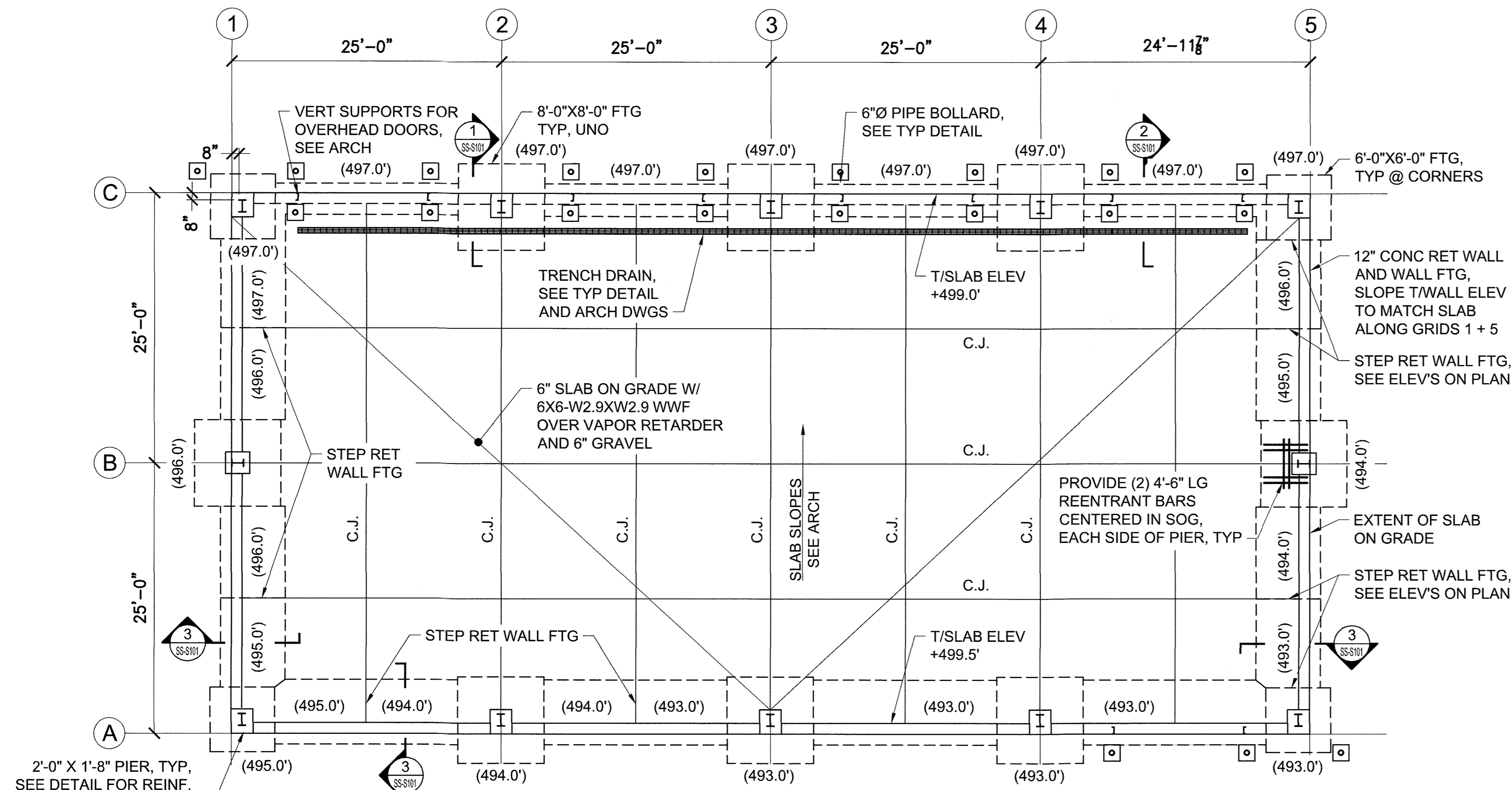
Table listing structural abbreviations such as ABV (ANCHOR BOLT ABOVE), ADDN (ADDITION (AL)), AISI (AMERICAN INSTITUTE OF STEEL CONSTRUCTION), etc.

APPROVED: DEPARTMENT OF PUBLIC WORKS, CHIEF, DEVELOPMENT ENGINEERING DIVISION, DATE: 5-15-19

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 118996, EXPIRATION DATE: 4/14/2020

PURPOSE NOTE: THE PURPOSE OF THIS REDLINE IS TO ADD A NEW METAL STORAGE SHED, ORGANICS STORAGE STRUCTURE, POWER AND WATER SERVICE AND PAVING.

Project information block including logos for DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MARYLAND, AECOM, and project title: ALPHA RIDGE LANDFILL RECYCLING STORAGE SHED, PAVILION AND ORGANICS STORAGE STRUCTURE.

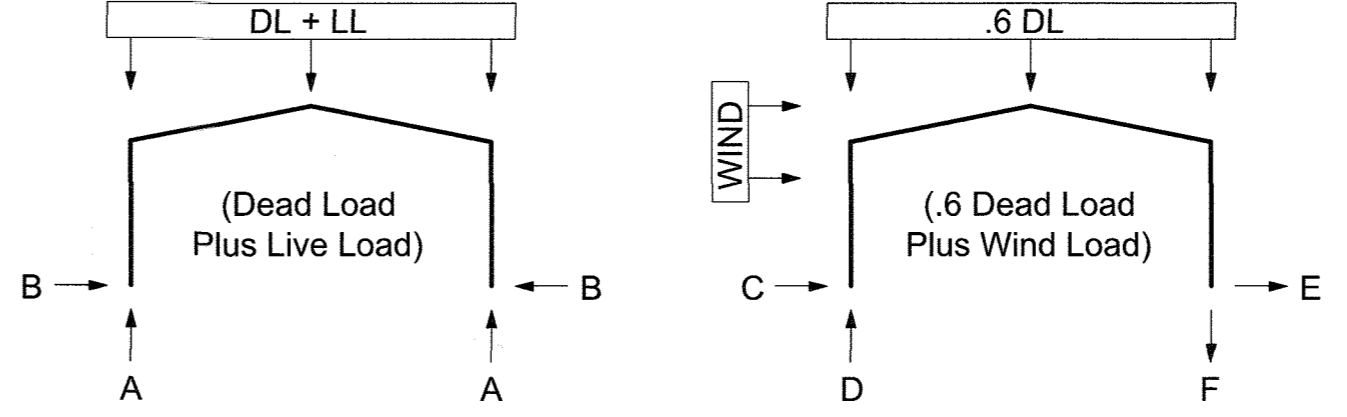


FOUNDATION PLAN - RECYCLING STORAGE STRUCTURE

SCALE: 1/8"=1'-0"

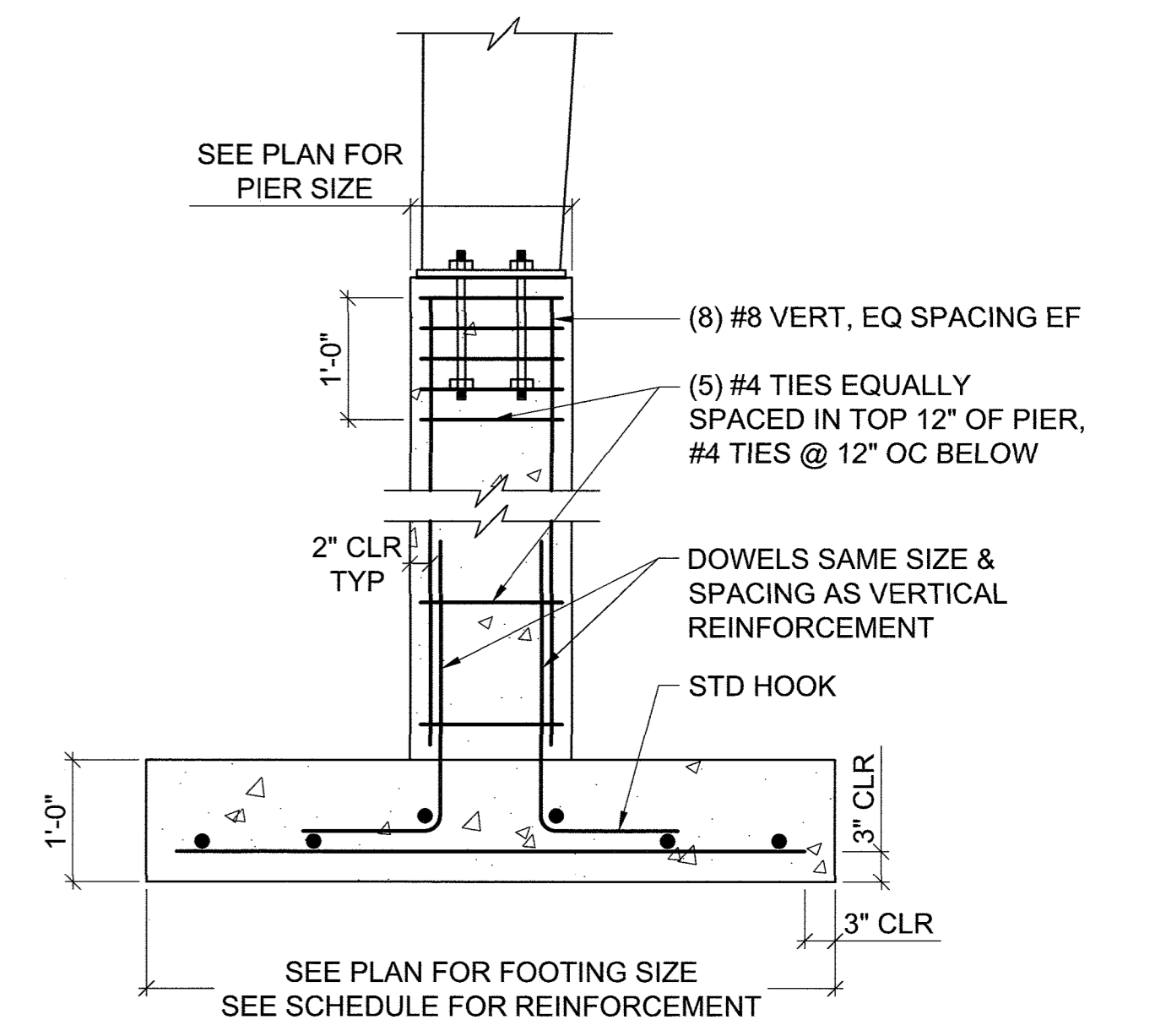
NOTES: CABLE BRACING CANNOT BE PLACED BETWEEN COLUMNS ALONG GRID C, OR BETWEEN GRIDS 4 AND 5 ALONG GRID A DUE TO OVERHEAD DOORS, SEE ARCH.

PRE-ENGINEERED METAL BUILDING FOUNDATION REACTIONS



BLD SIZE		25' BAY REACTIONS IN KIPS					
WIDTH	LENGTH	A	B	C	D	E	F
50'	100'	75	15	10	5	10	55

1. THE ABOVE REACTIONS ARE USED IN THE DESIGN OF THE FOUNDATIONS FOR RIGID FRAME COLUMN FOUNDATIONS.
2. THESE REACTIONS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE CONSTRUCTION OF PROPOSED FOUNDATIONS WITH THE PRE-ENGINEERED BUILDING MANUFACTURER.
3. ANY REACTION SHOWN AS NEGATIVE QUANTITY ACTS IN OPPOSITE DIRECTION FROM THAT SHOWN IN DIAGRAM.



TYPICAL COLUMN FOOTING & PIER

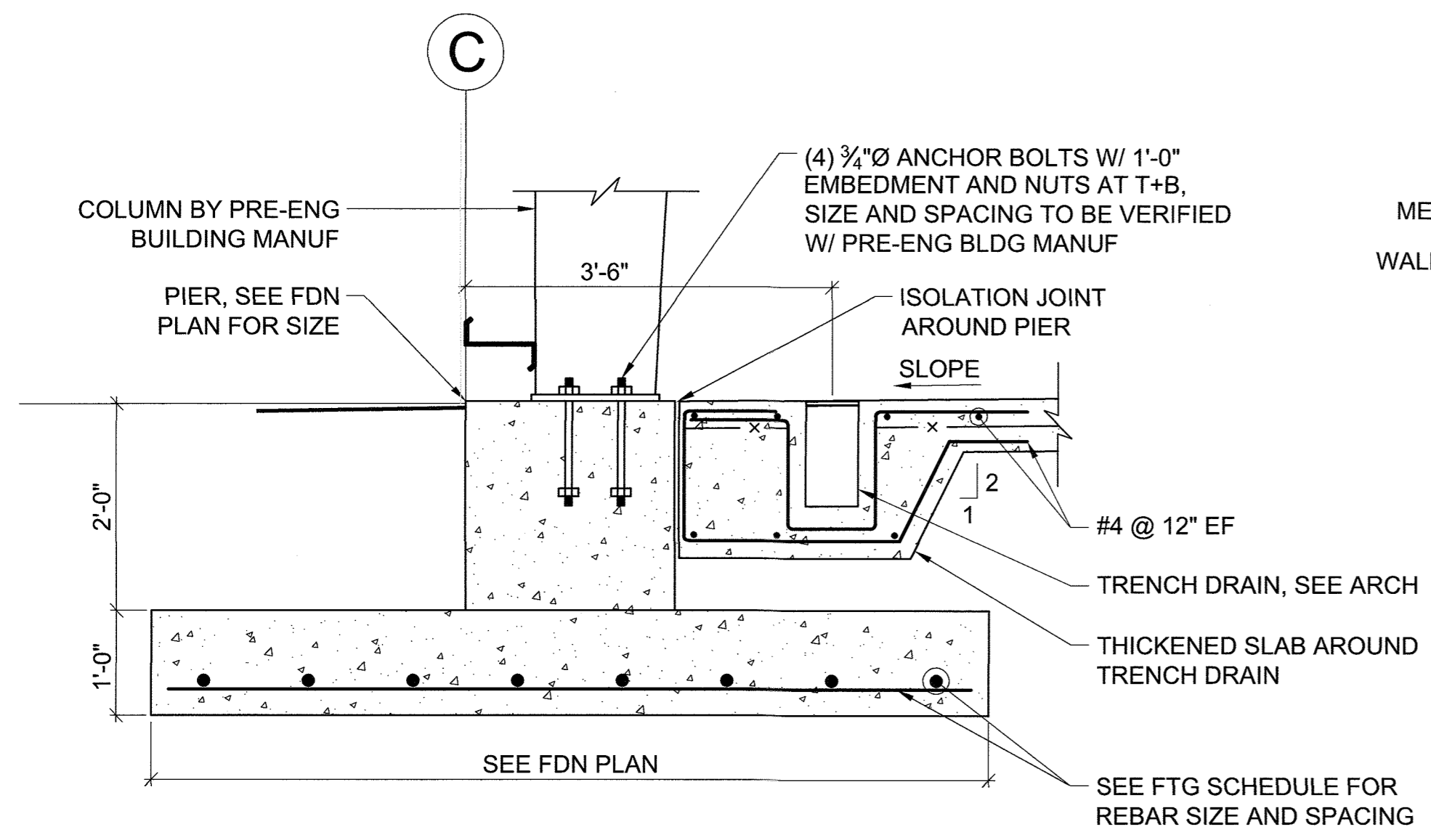
SCALE: 3/4"=1'-0"

FOOTING SCHEDULE

FTG DIM	LONG REINF	TRANS REINF
6'-0" X 6'-0"	(7) #5 BOT	(7) #5 BOT
8'-0" X 8'-0"	(9) #5 BOT	(9) #5 BOT

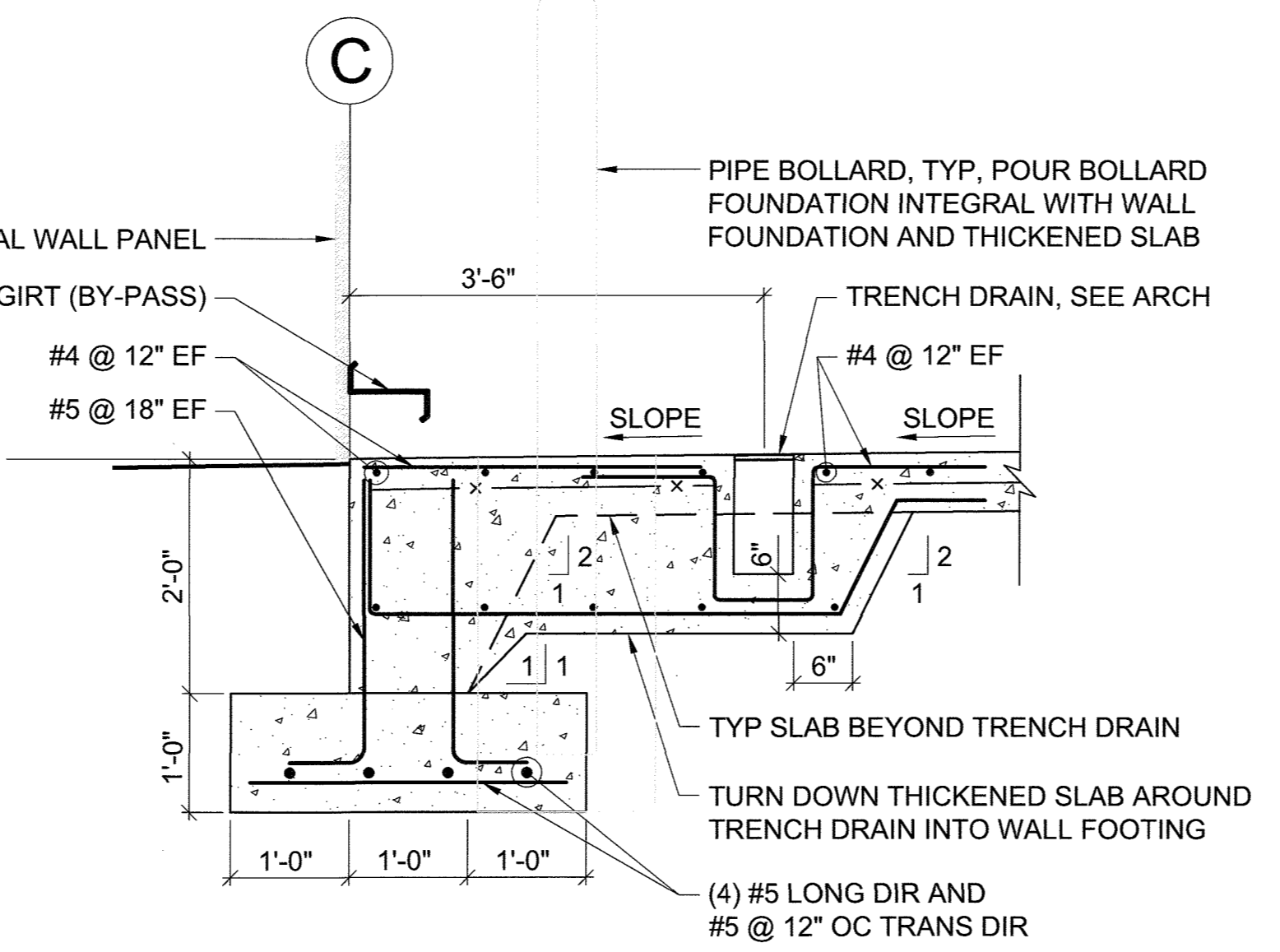
PIER ELEVATION SCHEDULE

GRID LINE	ELEVATION
A	+499.5'
B	+499.25'
C	+499.0'



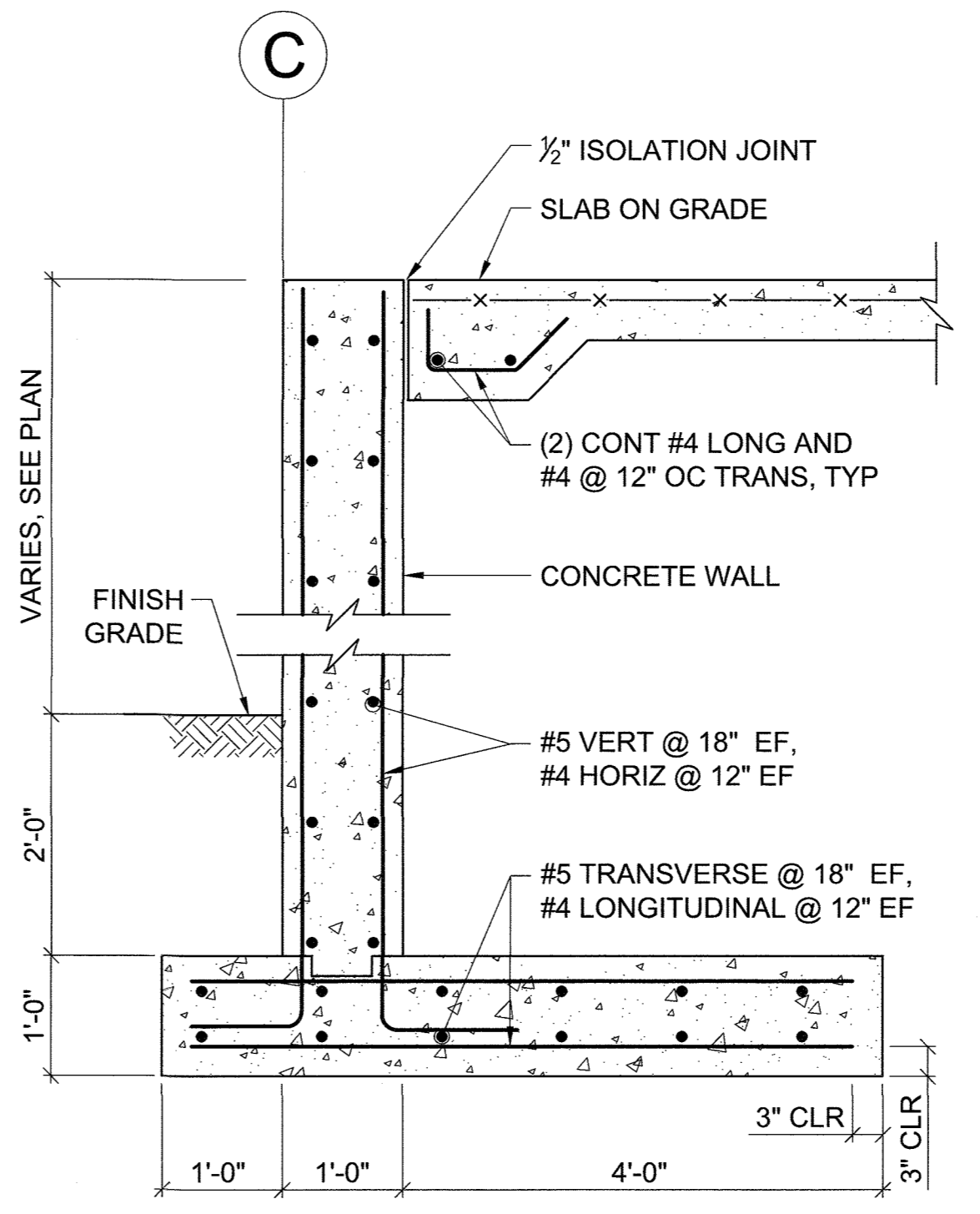
SECTION 1

SCALE: 3/4"=1'-0"



SECTION 2

SCALE: 3/4"=1'-0"



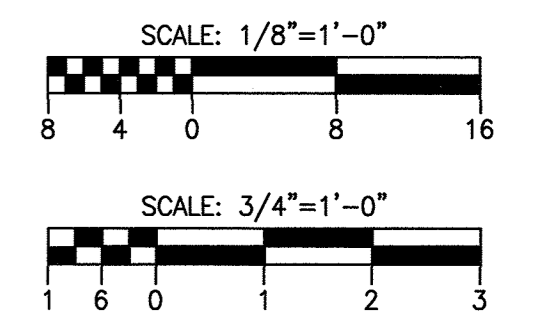
SECTION 3

SCALE: 3/4"=1'-0"

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 5-13-19  
 DATE: 5-21-19  
 DATE: 5-21-19

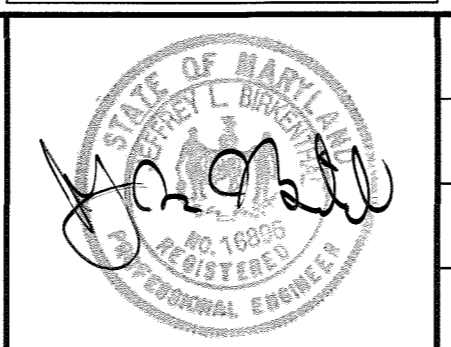
PROFESSIONAL CERTIFICATION  
 I HEREBY CERTIFY THAT DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
 LICENSE NO. 18886  
 EXPIRATION DATE: 4/14/2020

PURPOSE NOTE:  
 THE PURPOSE OF THIS REDLINE IS TO ADD A NEW METAL STORAGE SHED, ORGANICS STORAGE STRUCTURE, POWER AND WATER SERVICE AND PAVING.



SDP NO. 135 OF 140

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 ENVIRONMENTAL SERVICES  
 DATE: 3/2/19

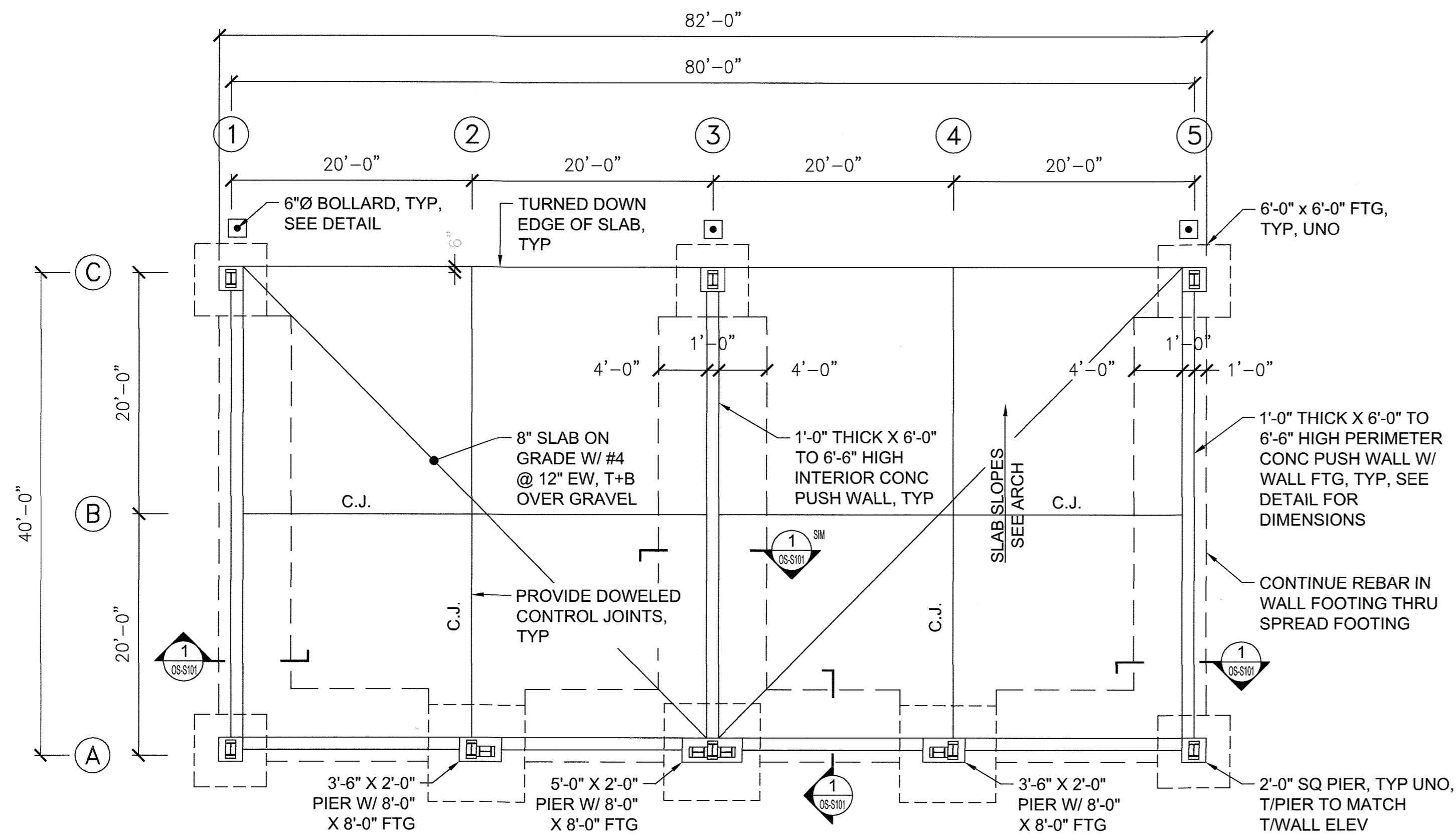


DES: JAG			
DRN: JAG			
CHK: JLB			
DATE: 02/2019	DTM	INSERT NEW SHEET	02/2019
	BY	NO.	REVISION

RECYCLING STORAGE SHED -  
 PLAN, DETAILS AND SECTIONS

REVISED SITE DEVELOPMENT PLAN  
 ALPHA RIDGE LANDFILL  
 RECYCLING STORAGE SHED, PAVILION AND  
 ORGANICS STORAGE STRUCTURE  
 CAPITAL PROJECT NO. C-0299  
 3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

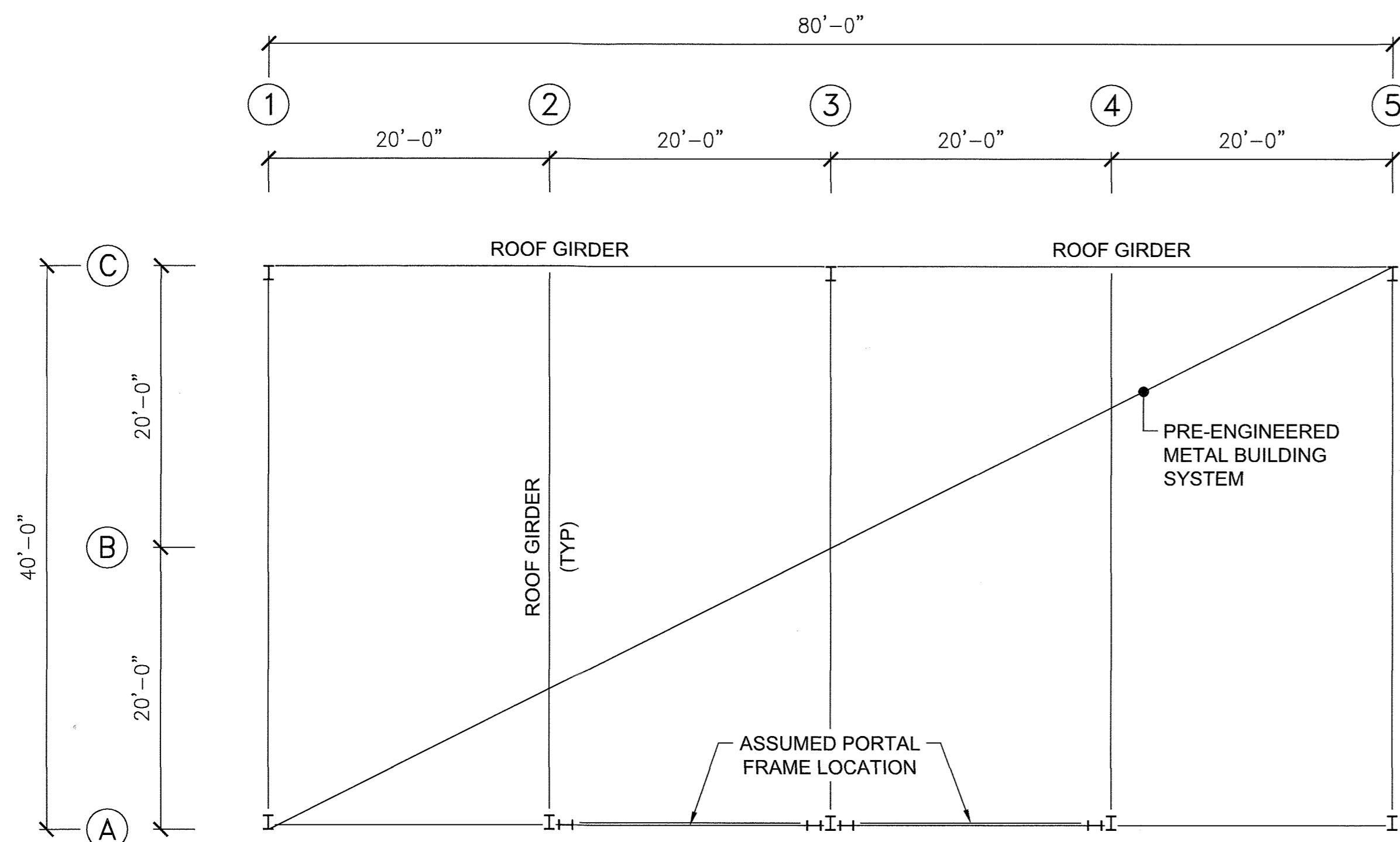
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 DWG NO.  
 SS-  
 S101



**FOUNDATION PLAN - ORGANIC STORAGE**

SCALE: 1/8"=1'-0"

NOTE: LOCATIONS OF LATERAL LOAD PORTAL FRAMES ARE ASSUMED. FOUNDATIONS SUBJECT TO CHANGE AFTER REVIEW OF METAL BUILDING MANUFACTURER'S FINAL DESIGN.



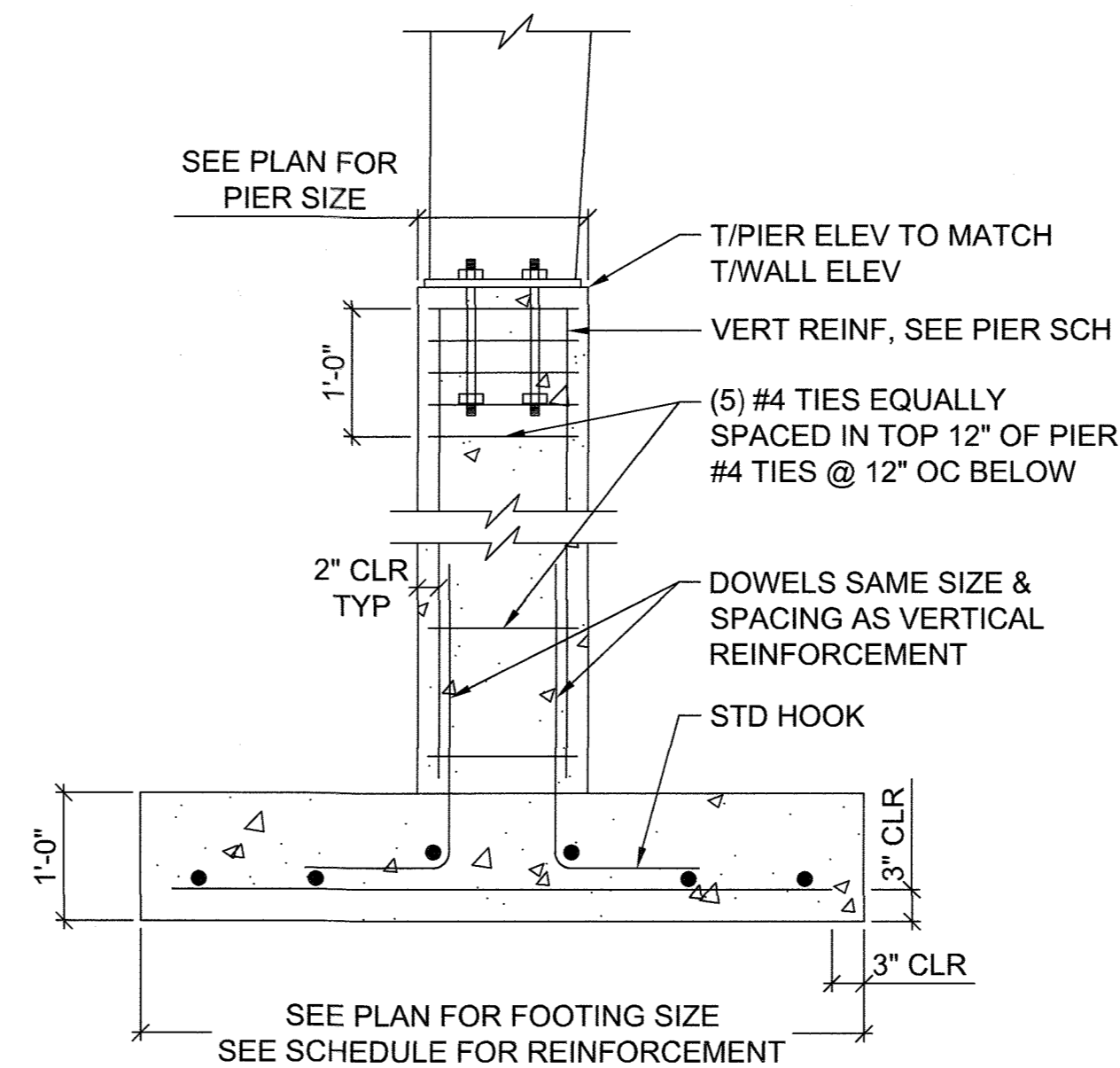
**ROOF PLAN - ORGANIC STORAGE**

SCALE: 1/8"=1'-0"

NOTE: PLAN PROVIDED TO SHOW ANTICIPATED FRAMING CONFIGURATION. ALL FRAMING BY PRE-ENGINEERED METAL BUILDING SYSTEM PROVIDER.

PROFESSIONAL CERTIFICATION  
 I HEREBY CERTIFY THAT DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 10888, EXPIRATION DATE: 4/14/2020.

PURPOSE NOTE:  
 THE PURPOSE OF THIS REDLINE IS TO ADD A NEW METAL STORAGE SHED, ORGANICS STORAGE STRUCTURE, POWER AND WATER SERVICE AND PAVING.

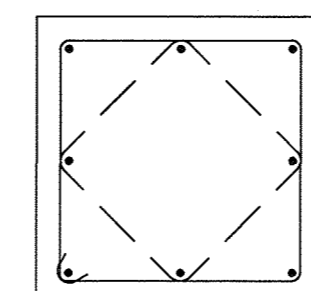


**TYPICAL COLUMN FOOTING & PIER**

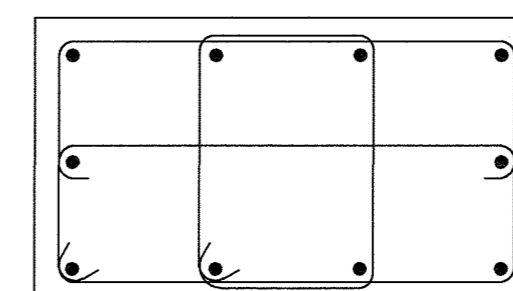
SCALE: 3/4"=1'-0"

FOOTING SCHEDULE		
FTG DIM	LONG REINF	TRANS REINF
6'-0" X 6'-0"	(7) #5 BOT	(7) #5 BOT
8'-0" X 8'-0"	(9) #5 BOT	(9) #5 BOT

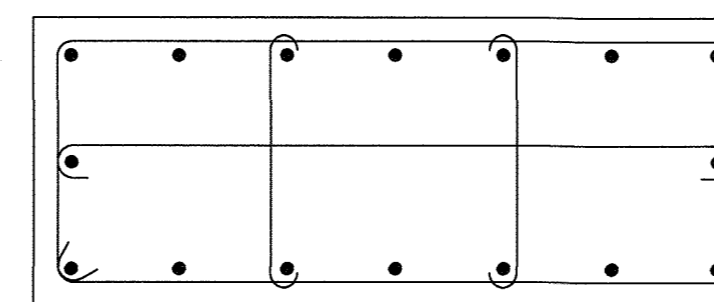
PIER SCHEDULE		
PIER DIM	VERT REINF	TIES
2'-0" X 2'-0"	(8) #8	SEE DETAIL
2'-0" X 3'-6"	(10) #8	SEE DETAIL
2'-0" X 5'-0"	(16) #8	SEE DETAIL



**8 BAR COLUMN  
2 TIES PER SET**



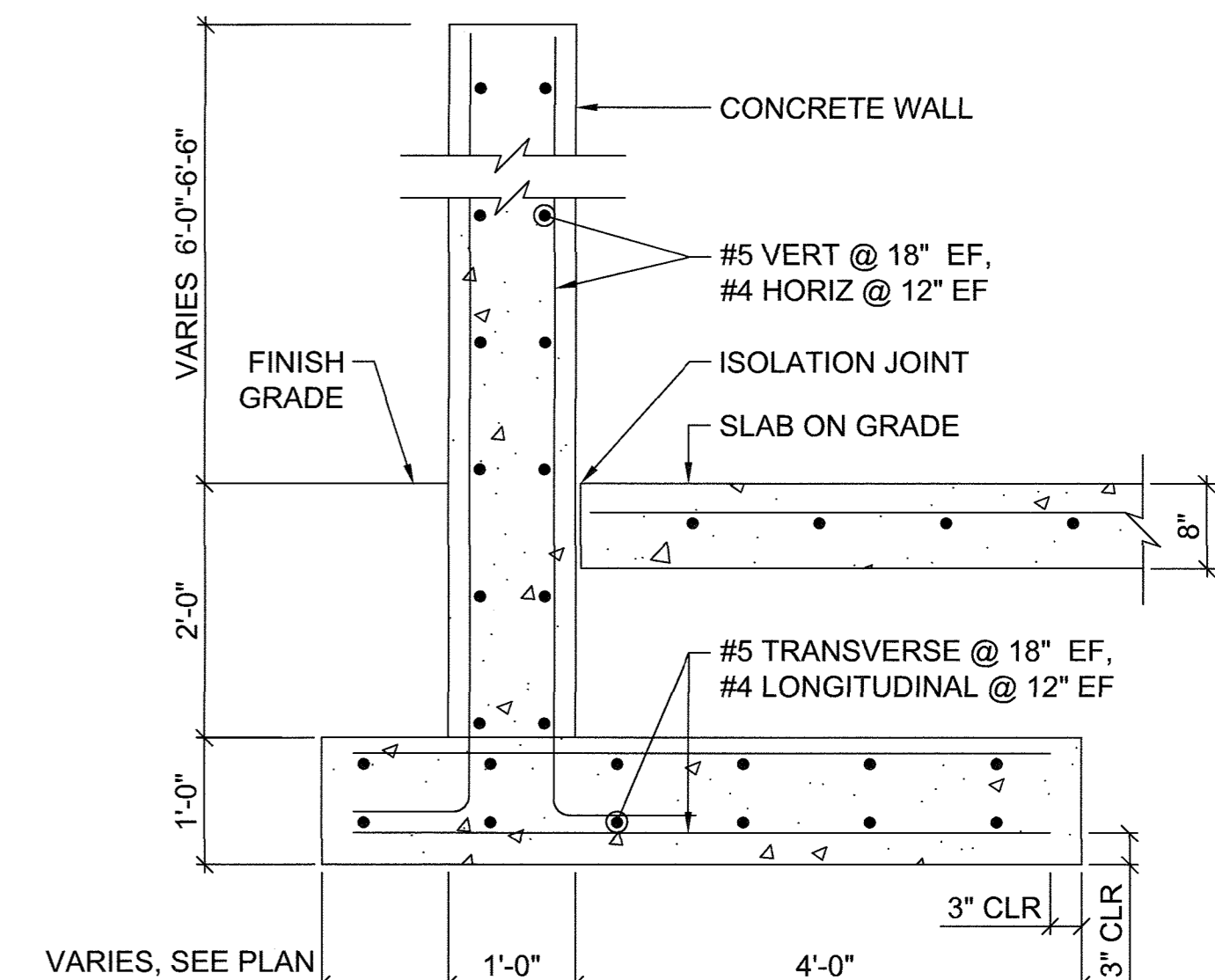
**10 BAR COLUMN  
3 TIES PER SET**



**16 BAR COLUMN  
4 TIES PER SET**

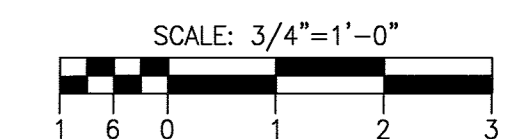
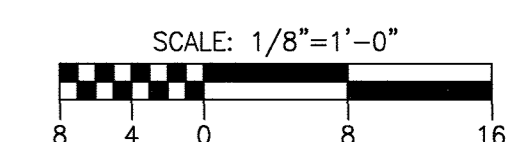
NOTES:

- 1/2" MIN COVER TO TIES, TYP
- FOR SIZE OF VERT BARS SEE PIER SCHEDULE
- FOR SIZE AND SPACING OF TIES, SEE DETAIL



**TYPICAL RETAINING WALL AND FOOTING**

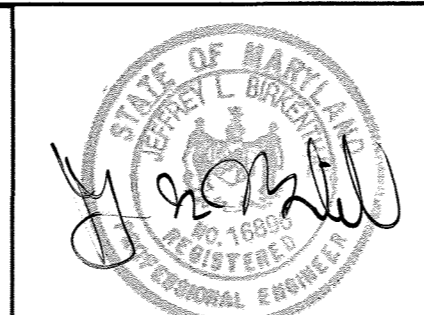
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SDP NO. 136 OF 140

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

**AECOM**



DES: JAG				
DRN: JAG				
CHK: JLB				
DATE: 02/2019	DTM	▲	INSERT NEW SHEET	02/2019
	BY	NO.	REVISION	DATE

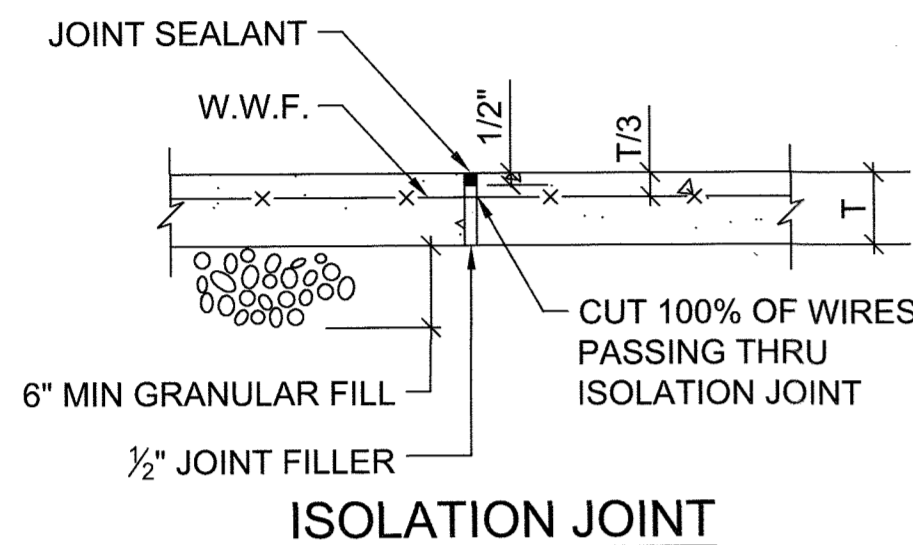
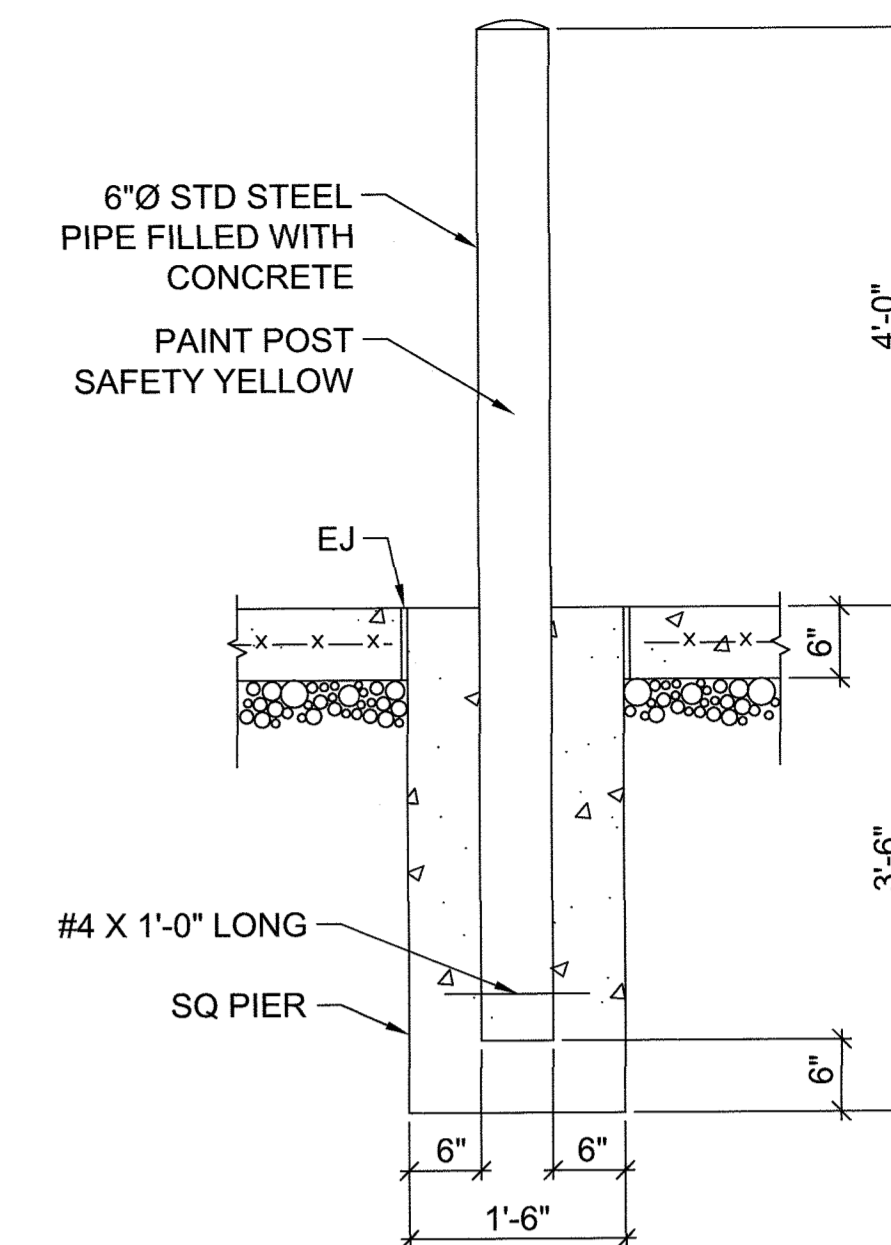
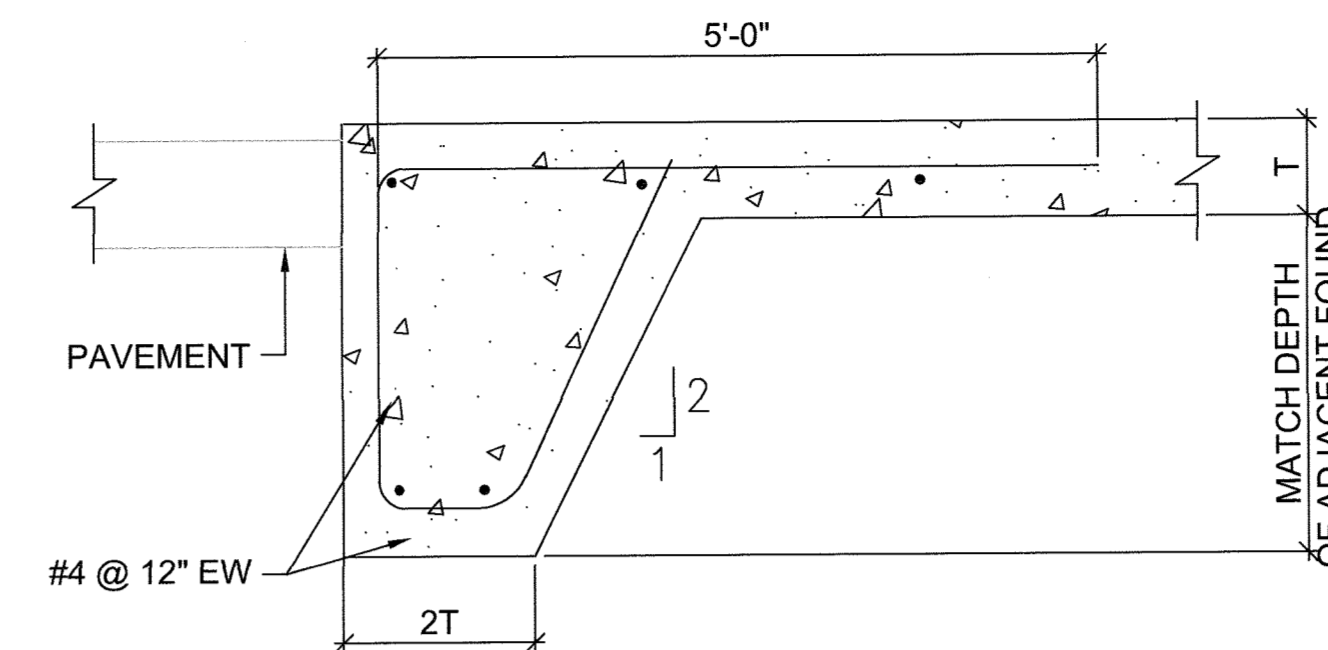
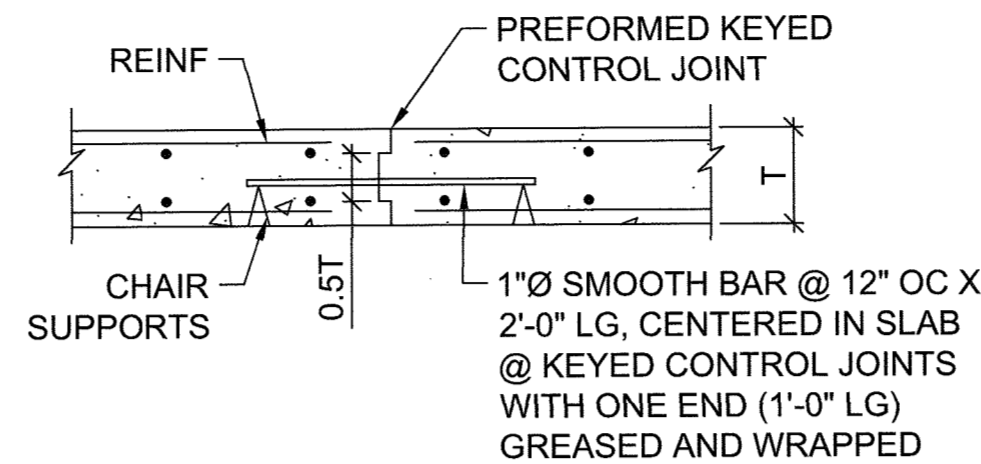
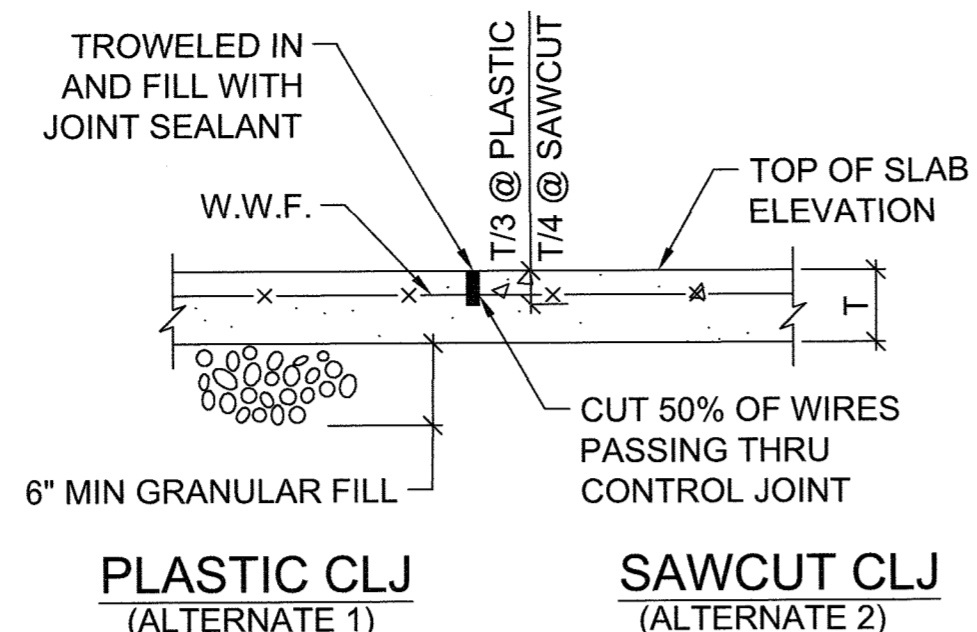
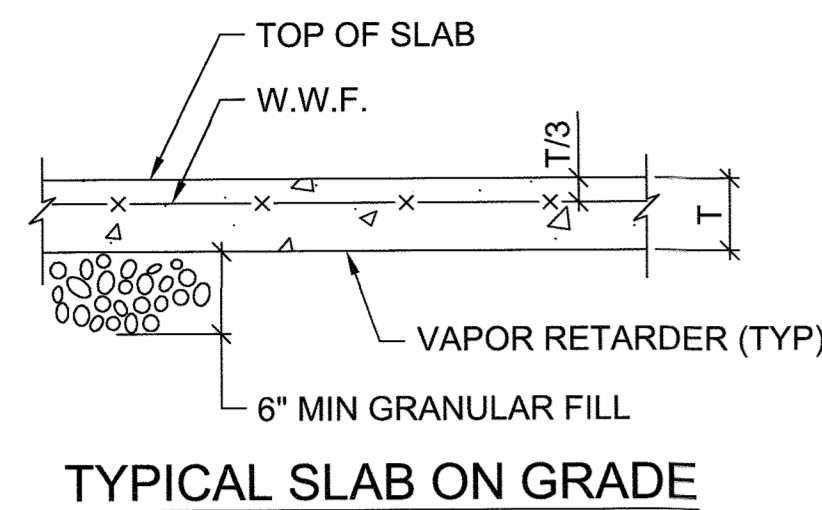
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 5-15-19  
 DATE: 5-21-19  
 DATE: 5-21-19

**ORGANIC STORAGE -  
 PLANS, DETAILS AND SECTIONS**

REVISED SITE DEVELOPMENT PLAN  
**ALPHA RIDGE LANDFILL  
 RECYCLING STORAGE SHED, PAVILION AND  
 ORGANICS STORAGE STRUCTURE**

CAPITAL PROJECT NO. C-0299  
 3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE  
 N/A  
 DWG NO.  
 OS-  
 S-101

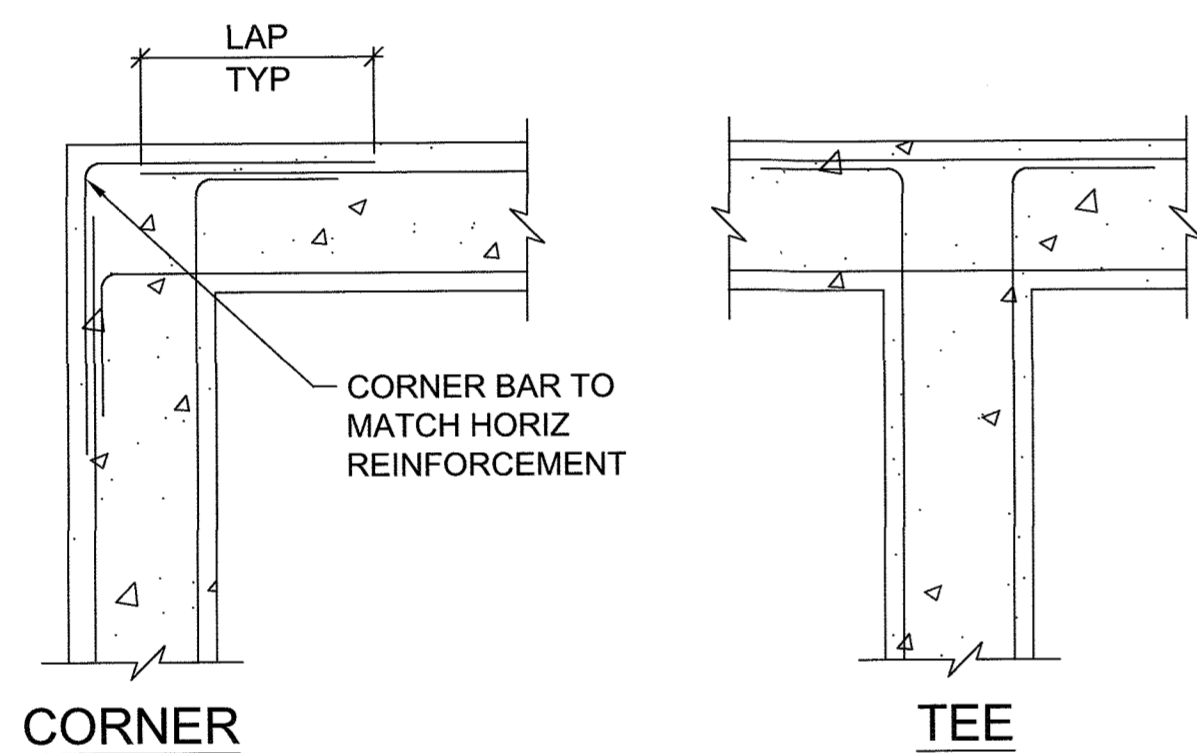


**CONTROL JOINT**

PLASTIC CONTROL JOINT FORMER INSTALLED PER MANUFACTURER RECOMMENDATIONS

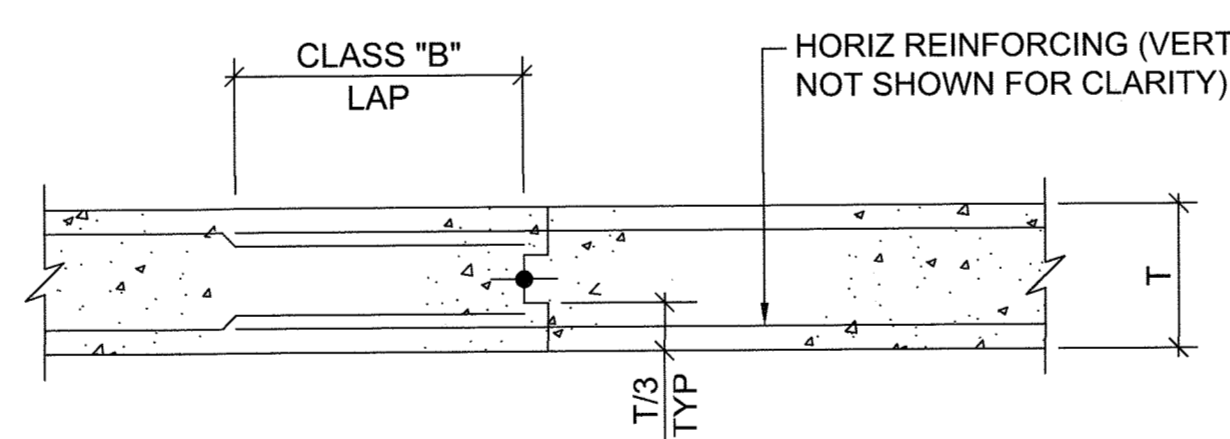
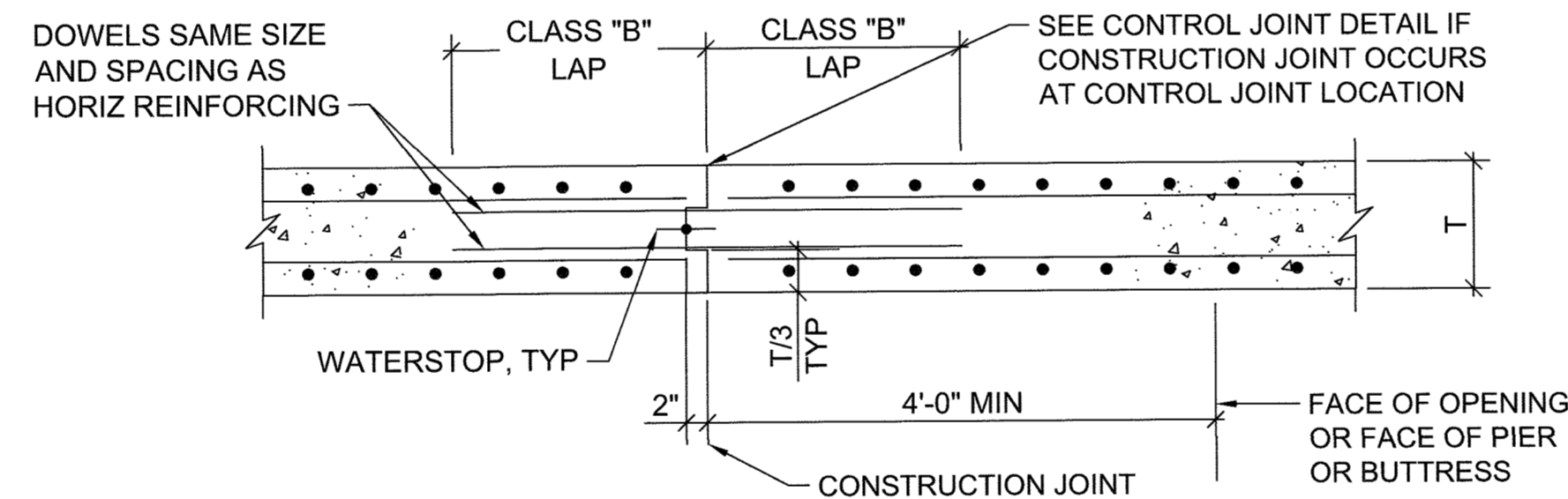
SAWCUT CONTROL JOINT AS SOON AS SURFACE IS FIRM ENOUGH SO THAT IT WILL NOT BE TORN OR DAMAGED BY BLADE

- NOTES:**
- CONTROL JOINT (C.J.) ON PLAN.

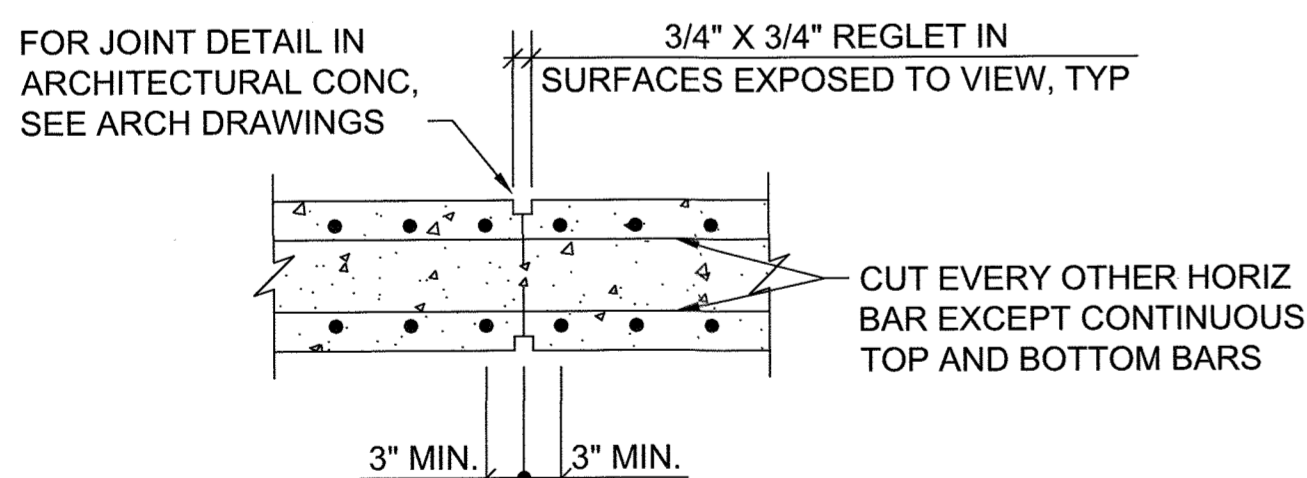


**TYPICAL WALL INTERSECTION DETAIL (UNLESS OTHERWISE SHOWN)**

NOT TO SCALE



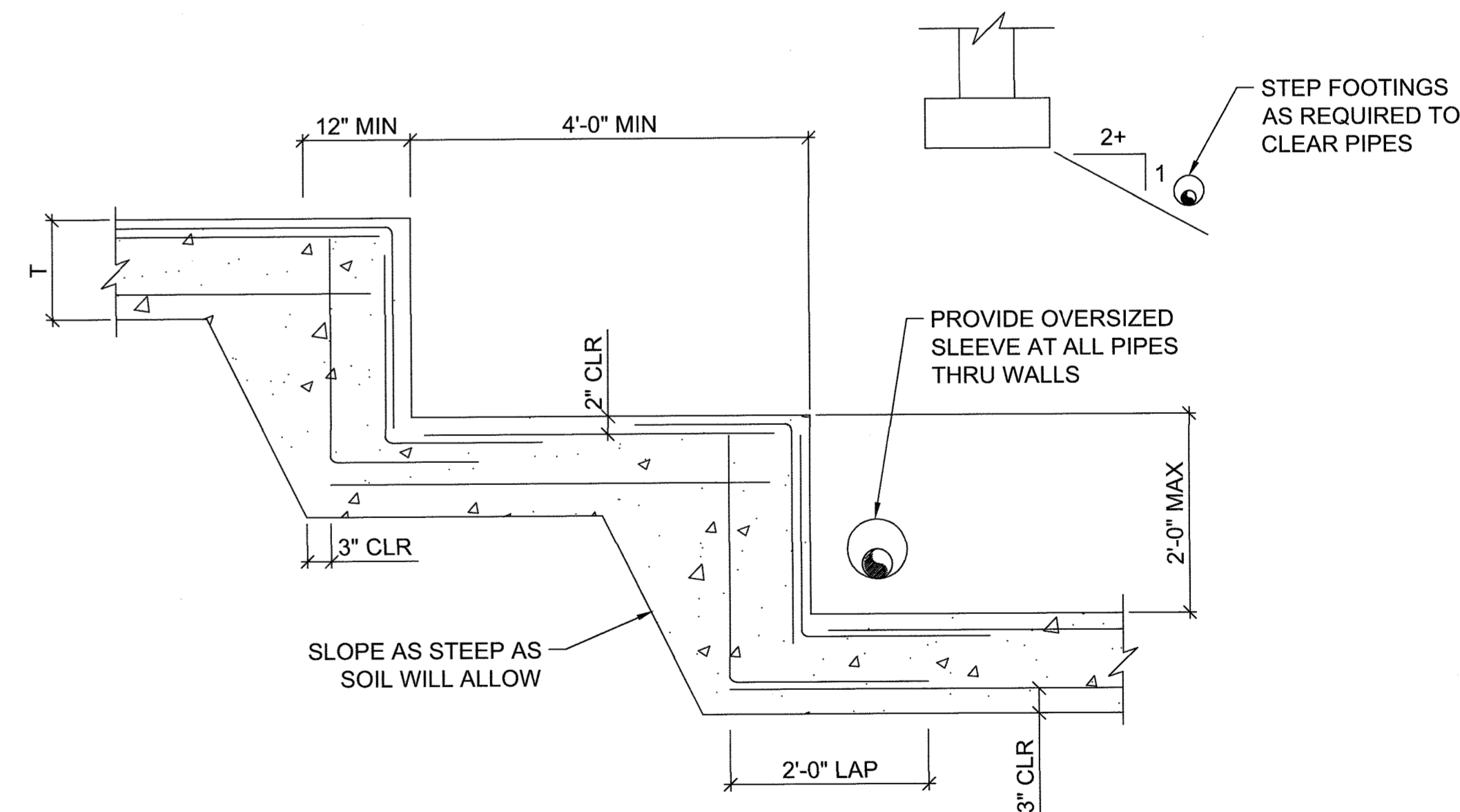
**TYPICAL VERTICAL CONSTRUCTION JOINT IN CONCRETE WALL**



**NOTE:** PROVIDE CONTROL JOINTS @ LOCATIONS INDICATED ON PLAN OR ARCHITECTURAL DRAWINGS. PROVIDE @ 30'-0" O/C MAX WHERE NOT SHOWN.

**TYPICAL VERTICAL CONTROL JOINT IN CONCRETE WALL**

SCALE: NTS



**TYPICAL STEPPED FOOTING**

SCALE: NTS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 5-15-19 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION

*[Signature]* 5-21-19 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT

*[Signature]* 5-21-19 DATE

DIRECTOR

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16886 EXPIRATION DATE: 4/14/2020

**PURPOSE NOTE:** THE PURPOSE OF THIS REDLINE IS TO ADD A NEW METAL STORAGE SHED, ORGANICS STORAGE STRUCTURE, POWER AND WATER SERVICE AND PAVING.

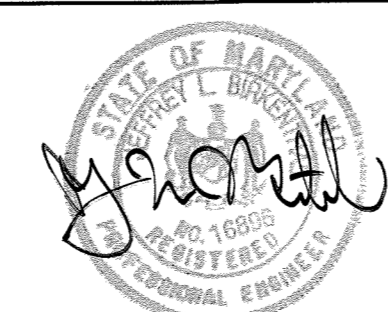
SDP NO. 137 OF 140

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 3/12/19 DATE

CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

**AECOM**



DES: JAG				
DRN: JAG				
CHK: JLB				
DATE: 02/2019	DTM	▲	INSERT NEW SHEET	02/2019
	BY	NO.	REVISION	DATE

TYPICAL DETAILS

REVISED SITE DEVELOPMENT PLAN  
**ALPHA RIDGE LANDFILL  
RECYCLING STORAGE SHED, PAVILION AND  
ORGANICS STORAGE STRUCTURE**

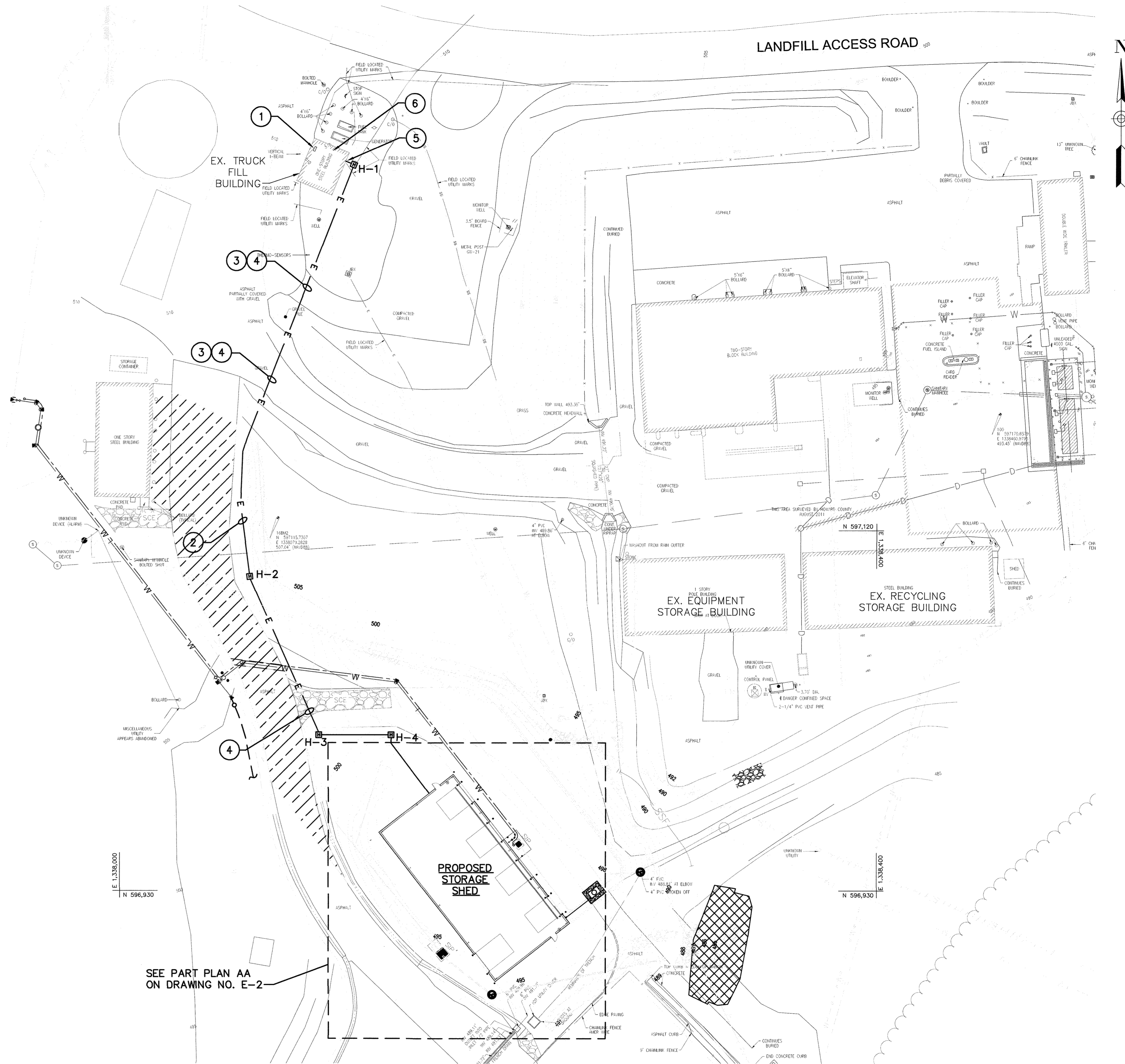
SCALE  
N/A

DWG NO.  
S201

CAPITAL PROJECT NO. C-0299  
3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

**DRAWING NOTES:**

- 1 EXISTING 480V, 3 PH, 3W PANEL PP, REMOVE EXISTING 3 POLE SPARE 60A BREAKER AND INSTALL NEW 3-POLE, 70 AMP BREAKER, MATCH WITH EXISTING.
- 2 2" PVC SCH. 40 CONDUIT WITH 3 #2 AWG WIRE AND #8 GND.
- 3 REPAIR EXISTING PAVEMENT, SEE DETAIL ON DRAWING C-10, DETAIL G-4.01.
- 4 PROVIDE CONCRETE ENCASED CONDUIT AND EXTEND 5' FROM EDGE OF PAVEMENT.
- 5 CORE DRILL EXISTING WALL TO RUN 2" CONDUIT. SEAL AND WATER TIGHT AROUND CONDUIT.
- 6 RUN CONDUIT INSIDE OF BUILDING AND CONNECT TO PANEL PP.



APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature]  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 5-15-19

[Signature]  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 5-21-19

[Signature]  
 DIRECTOR  
 DATE: 5-21-19

PROFESSIONAL CERTIFICATION  
 I HEREBY CERTIFY THAT DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
 LICENSE NO. 21631  
 EXPIRATION DATE: 06/22/2019

▲ PURPOSE NOTE:  
 THE PURPOSE OF THIS REDLINE IS TO ADD A NEW METAL STORAGE SHED, ORGANICS STORAGE STRUCTURE, POWER AND WATER SERVICE AND PAVING.

1 ELECTRICAL SITE PLAN - NEW WORK  
 E-1 SCALE: 1"=30'

0 10' 30' 60'  
 SCALE: 1" = 30'

SDP NO. 138 OF 140

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 [Signature]  
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES  
 DATE: 3/2/19

**AECOM**



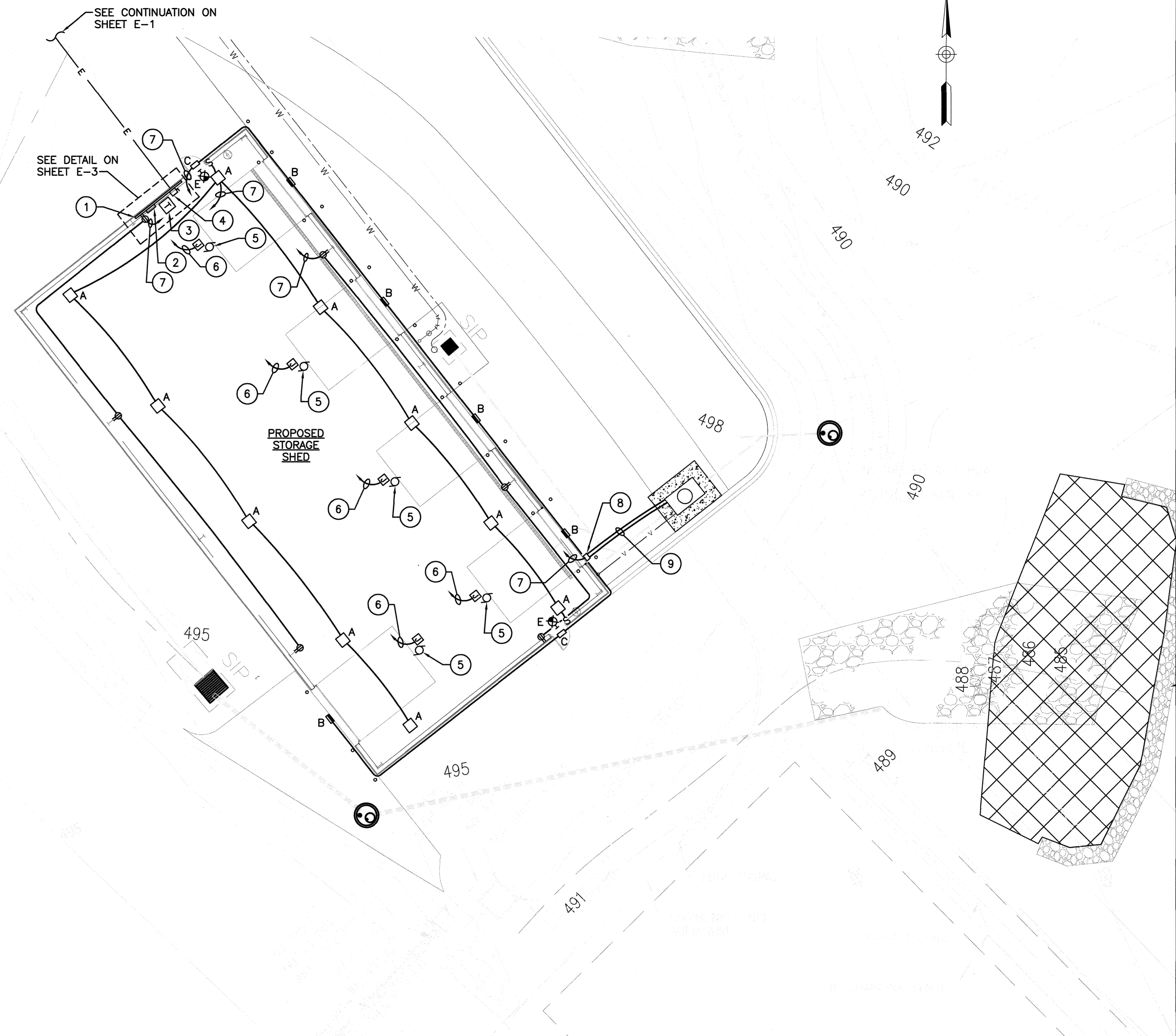
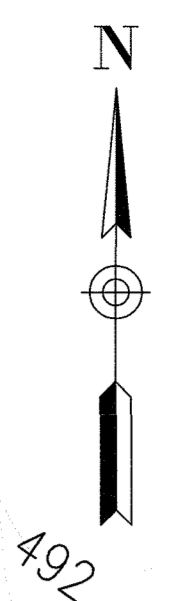
DES:	EN		
DRN:	LEF		
CHK:	KK		
DATE:	02/2019		
DTM:	▲	INSERT NEW SHEET	02/2019
BY:	NO.	REVISION	DATE

**ELECTRICAL SITE PLAN - NEW WORK**

REVISED SITE DEVELOPMENT PLAN  
**ALPHA RIDGE LANDFILL  
 RECYCLING STORAGE SHED, PAVILION AND  
 ORGANICS STORAGE STRUCTURE**

SCALE AS SHOWN  
 DWG NO. E-1

CAPITAL PROJECT NO. C-0299  
 3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND



**DRAWING NOTES:**

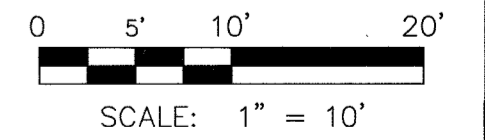
- ① PROVIDE 3/4" DEPTH BY 10'x8' PLYWOOD AND SECURE TO INTERIOR WALL.
- ② PROVIDE 208/120 VOLTS, 4 W PANELBOARD (F) WITH 100 AMP MAIN BREAKER.
- ③ PROVIDE THREE PHASE 480/208Y-120 VOLTS, 45 KVA TRANSFORMER.
- ④ PROVIDE 600V, 3 POLE, 100A DISCONNECT SWITCH.
- ⑤ 1/2 HP, 208V, 1 PH, ROLLING DOOR MOTOR.
- ⑥ 2#10 AWG & #10 GND, 3/4" C, TO PANEL (F).
- ⑦ 2#12 AWG & #12 GND, 3/4" C, TO PANEL (F).
- ⑧ OIL WATER SEPARATOR CONTROL PANEL IF NECESSARY.
- ⑨ 2-2" EMPTY CONDUIT TO OIL WATER SEPARATOR FOR CONTROL WIRING IF NECESSARY.

1 ELECTRICAL PART SITE PLAN - NEW WORK  
E-2 SCALE: 1"=10'

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*[Signature]*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION 5-15-19  
 DATE  
*[Signature]*  
 CHIEF, DIVISION OF LAND DEVELOPMENT 5-21-19  
 DATE  
*[Signature]*  
 DIRECTOR 5-21-19  
 DATE

PROFESSIONAL CERTIFICATION  
 I HEREBY CERTIFY THAT DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
 LICENSE NO. 21631  
 EXPIRATION DATE: 06/22/2019

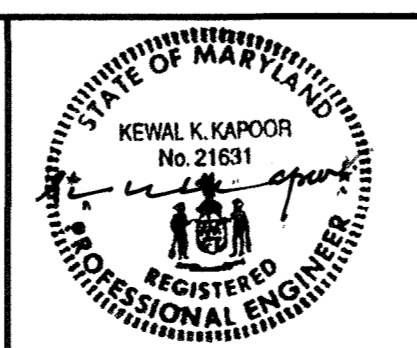
PURPOSE NOTE:  
 THE PURPOSE OF THIS REDLINE IS TO ADD A NEW METAL STORAGE SHED, ORGANICS STORAGE STRUCTURE, POWER AND WATER SERVICE AND PAVING.



SCALE: 1" = 10'

SDP NO. 139 OF 140

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
*[Signature]*  
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES 3/6/19  
 DATE



DES:	EN				
DRN:	LEF				
CHK:	KK				
DATE:	02/2019	DTM	▲	INSERT NEW SHEET	02/2019
		BY	NO.	REVISION	DATE

ELECTRICAL PART SITE PLAN - NEW WORK  
 SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

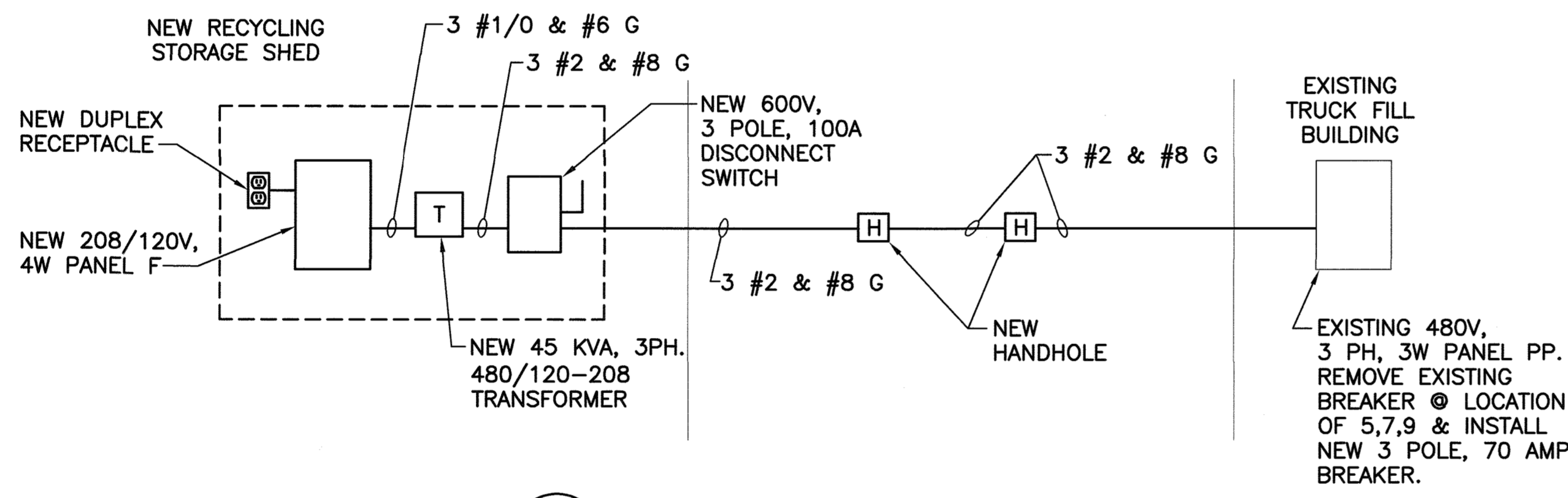
REVISED SITE DEVELOPMENT PLAN  
 ALPHA RIDGE LANDFILL  
 RECYCLING STORAGE SHED, PAVILION AND ORGANICS STORAGE STRUCTURE  
 CAPITAL PROJECT NO. C-0299  
 3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
 DWG NO. E-2

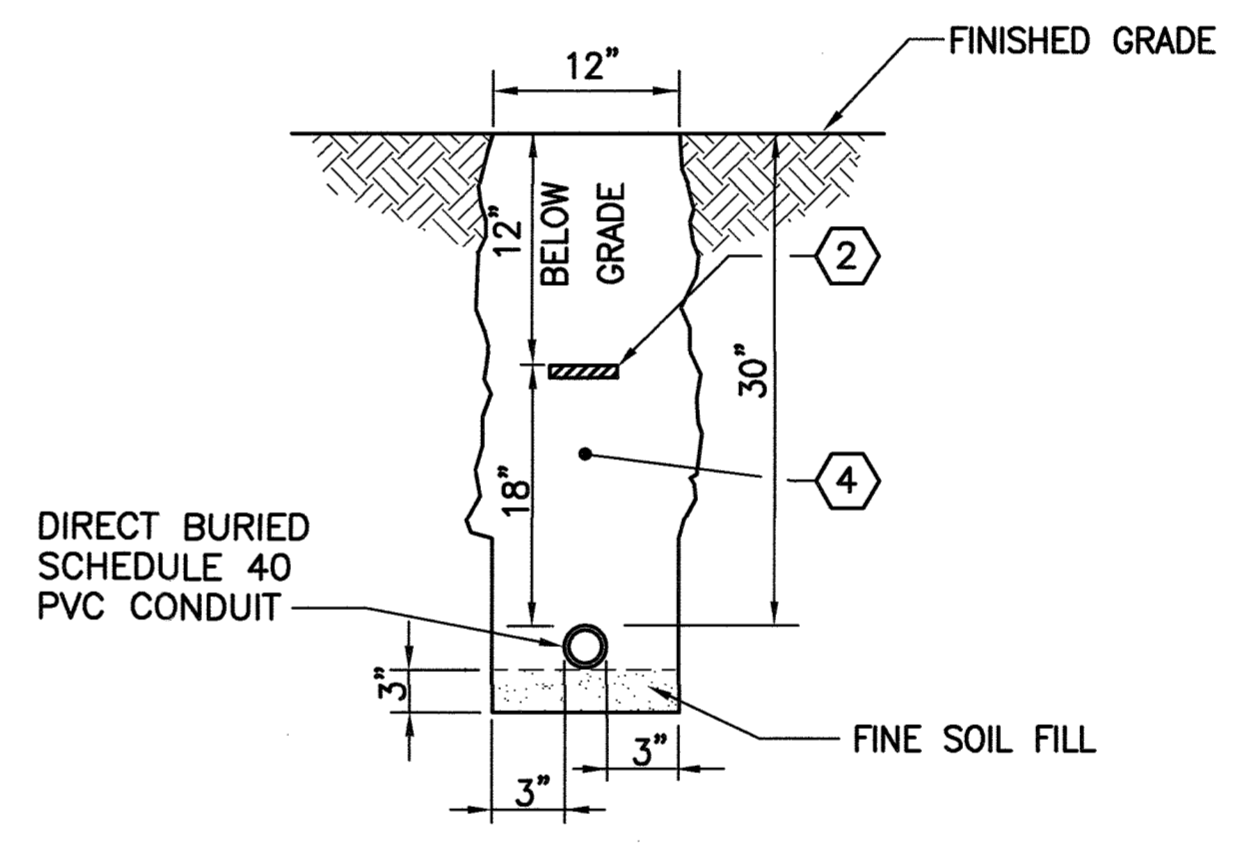
PANEL F																			
POLES 24			VOLTAGE 208 /120 VOLTS			MOUNTING LOCATION SURFACE			RECYCLING STORAGE SHED										
SECTION 1 OF 1			BUS XXX			LOCATION PHASE			3										
AIC 10K			MAIN 100 AMP MAIN CIRCUIT BREAKER			FED FROM			PANEL PP, TRUCK FILL BLDG.										
CKT #	BREAKER	DESCRIPTION	WIRE 4 WIRE (A, B, C, N, G)			PHASE KVA			WIRE			CON							
			NO.	SIZE	CON. SIZE	A	B	C	NO.	SIZE	CON. SIZE								
1	2	20	2	10	1	10	1				2	10	1	10	1	DOOR No.2	2	20	2
3																			
5	2	20	2	10	1	10	1				2	10	1	10	1	DOOR No.4	2	20	6
7																			
9	2	20	2	10	1	10	1				2	12	1	12	1	EXTERIOR LIGHTING	1	20	10
11																INTERIOR LIGHTING	1	20	12
13	1	20	2	12	1	12	1				2	12	1	12	1	RECEPTACLE	1	20	14
15	1	20	2	12	1	12	1									SPACE			16
17																SPACE			18
19																SPACE			20
21																SPACE			22
23																SPACE			24
			TOTAL CONNECTED KVA			9.6			TOTAL AMPS:			31.6							

IF NECESSARY

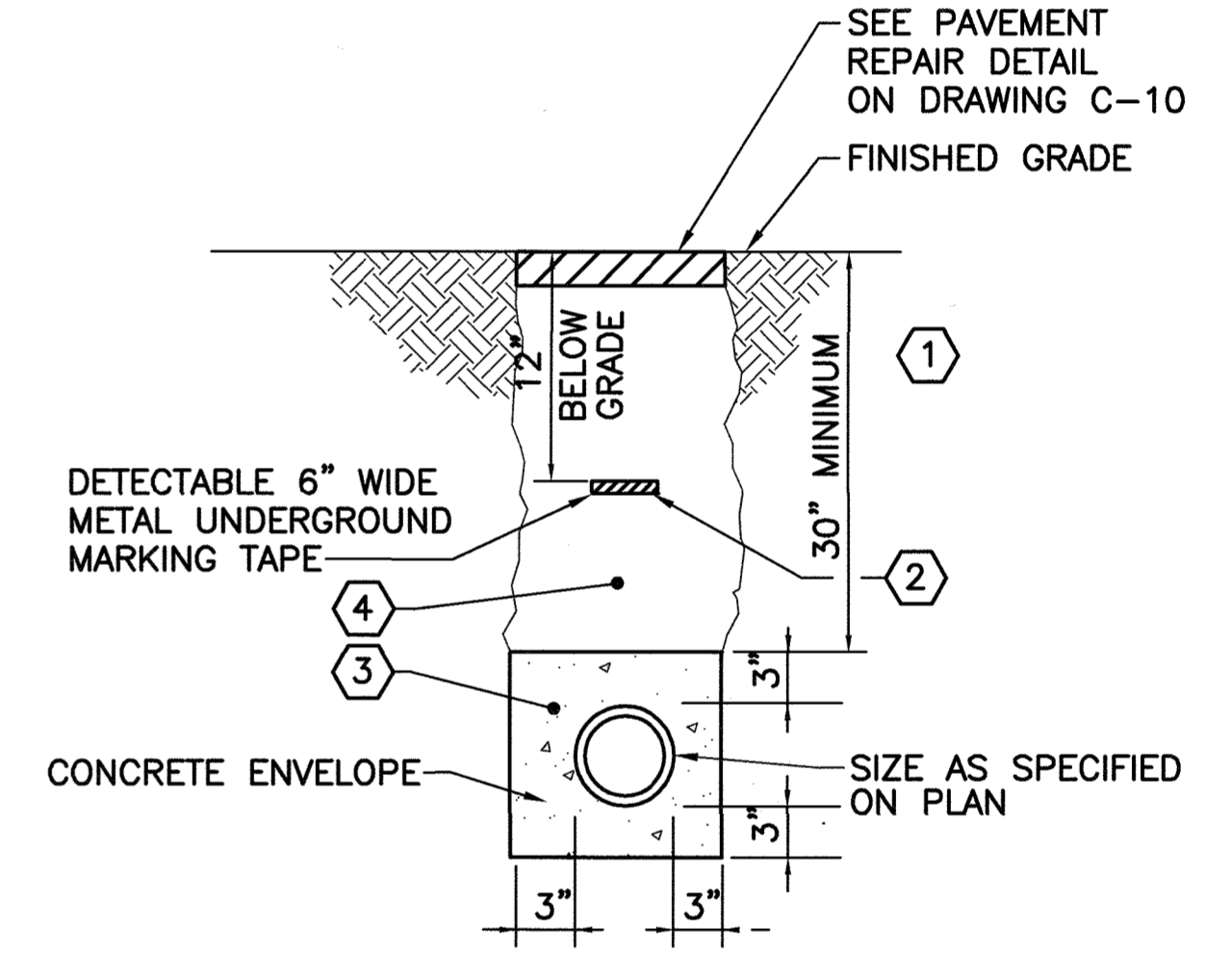
LIGHT FIXTURE SCHEDULE						
TYPE	SYMBOL	DESCRIPTION	MOUNTING	LAMP	VOLTAGE	MANUFACTURER
A	□	CEILING MOUNTED LUMINAIRE WITH LED LAMP, ONE PIECE, INJECTION MOLDED, CLEAR PRISMATIC ACRYLIC REFRACTOR. HIGH TEMPERATURE ACRYLIC FOR REDUCED YELLOWING.	CEILING MOUNTED	LED	120	HUBBELL #NRG-4-30L-U-CCT-BLANK-BL OR APPROVED EQUAL
B	▬	DIE-CAST ALUMINUM PROTECTS COMPONENTS. CASTING THERMALLY CONDUCTS LED HEAT. FOUR 1/2" CONDUIT ENTERIES TOP, BOTTOM AND SIDES PROVIDES FOR SURFACE CONDUIT	WALL MOUNTED, 16' A.F.G.	LED	120	HUBBELL #LNC3-24-4K-4-UBL-PCU
C	□	DECORATIVE DIE-CAST ALUMINUM HOUSING. CASTING THERMALLY CONDUCTS LED HEAT TO OPTIMIZE PERFORMANCE.	WALL MOUNTED, 10' A.F.G.	LED	120	HUBBELL #LNC2-18L-U-4K-4-BL-PCU
E	⊗	DUAL HEAD FULLY ADJUSTABLE, 3W LED LAMP	WALL MOUNTED, 10' A.F.G.	LED	120	MCX-U-G-B



3 ELECTRICAL RISER DIAGRAM  
E-3 SCALE: N.T.S.



1 DIRECT BURIED CONDUIT DETAIL  
E-3 SCALE: N.T.S.



2 1-WAY, DUCTBANK DETAIL  
E-3 SCALE: N.T.S.

CONDUIT DETAIL NOTES:

- ① USE SPACERS TO ANCHOR DUCTS AND PREVENT FLOATATION, (TYPICAL).
- ② 6" WIDE PLASTIC YELLOW MARKING TAPE WITH 'CAUTION ELECTRIC' PRINTED THROUGHOUT.
- ③ CONCRETE MDSA MIX NO. 1, (WHERE NOTED).
- ④ SELECT BACKFILL MATERIAL OR APPROVED MATERIAL EXCAVATED FROM TRENCH.

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division  
 Chief, Division of Land Development  
 Director  
 5-15-19  
 5-21-19  
 5-21-19

PROFESSIONAL CERTIFICATION  
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 EXPIRATION DATE: 06/22/2019

PURPOSE NOTE:  
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DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 ENVIRONMENTAL SERVICES  
 3/2/19

AECOM

DES:	EN	
DRN:	LEF	
CHK:	AA	
DATE:	02/2019	
DTM BY:	NO.	REVISION
		02/2019

ELECTRICAL DETAILS  
 SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

REVISED SITE DEVELOPMENT PLAN  
 ALPHA RIDGE LANDFILL  
 RECYCLING STORAGE SHED, PAVILION AND ORGANICS STORAGE STRUCTURE  
 CAPITAL PROJECT NO. C-0299  
 3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND