

HOWARD COUNTY

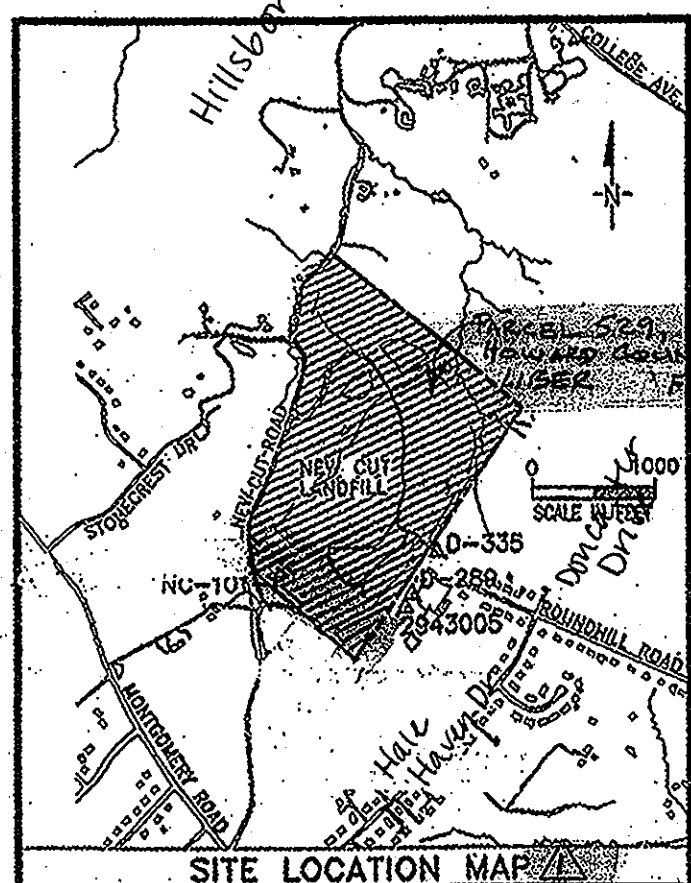
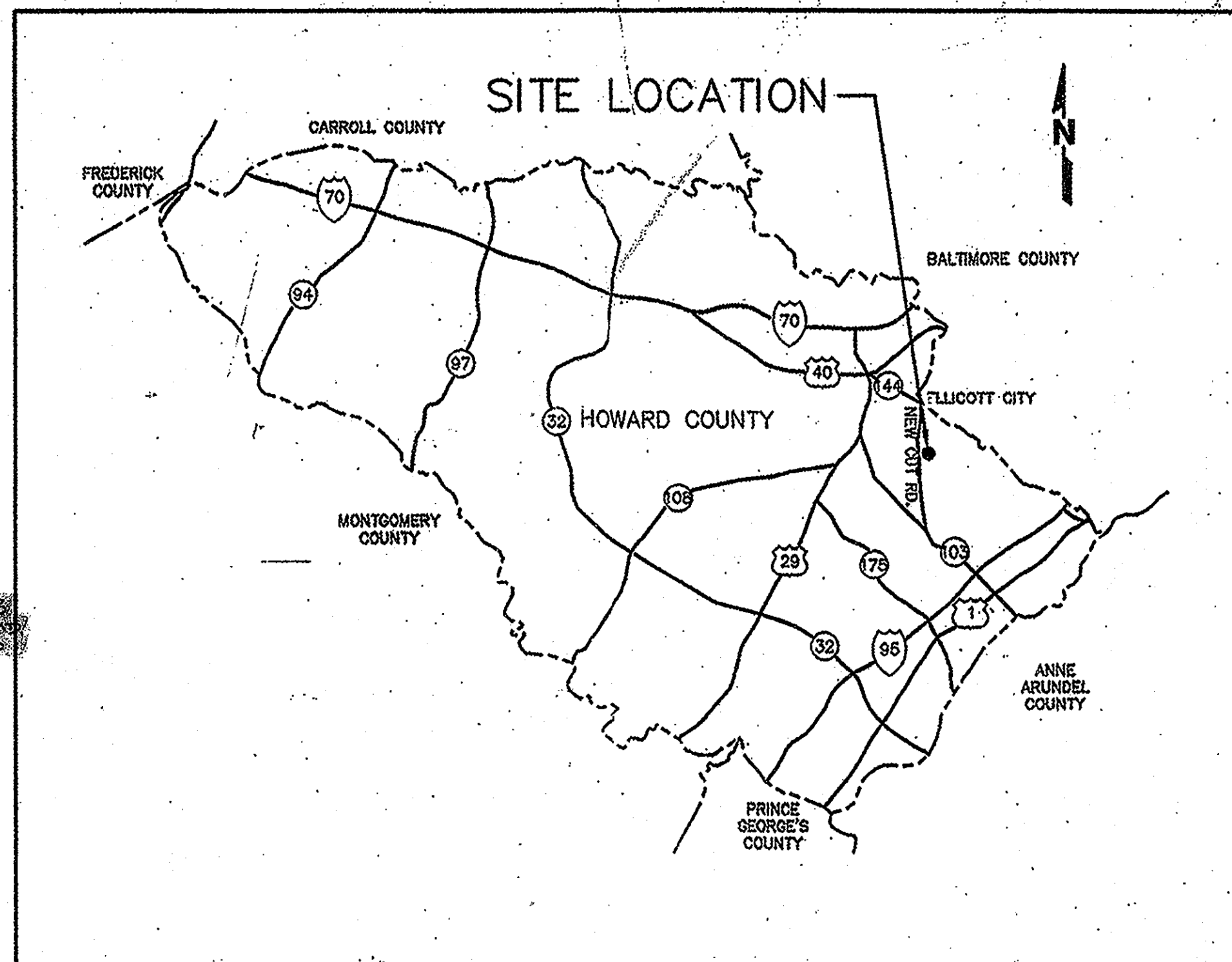
Department of Public Works

6751 Gateway Drive, Suite 514 Columbia, Maryland 21046

NEW CUT LANDFILL IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

Revised Site Development Plan



LOCATION MAP

0 2 4 6
SCALE IN MILES

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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] 7/6/99
SIGNATURE OF DEVELOPER DATE
PRINT NAME BELOW SIGNATURE

() 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] 7-6-99
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.

[Signature] 9/8/99
USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

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

[Signature] 9/8/99
HOWARD SOIL CONSERVATION DISTRICT 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.

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 AND SPECIFICATIONS FOR PONDS (NO-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.

SUBDIVISION NAME	LOT/PARCEL
LIBER/FOLIO	ZONE
10201-14205	R-20
TAX/ZONE MAP	31
WATER CODE	SEWER CODE
	CENSUS TR.

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

[Signature] 9/14/99
DIRECTOR DATE

[Signature] 9/8/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 9/13/99
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

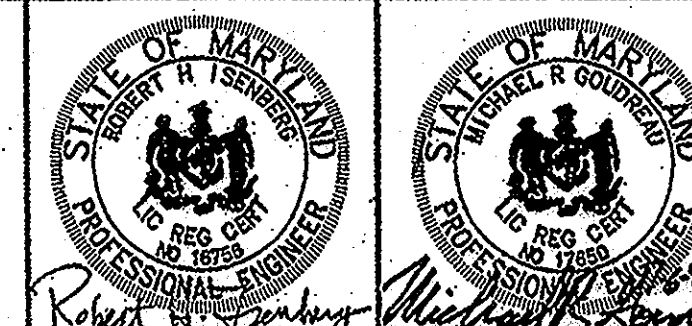
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 9/6/99
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 7/6/99
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE

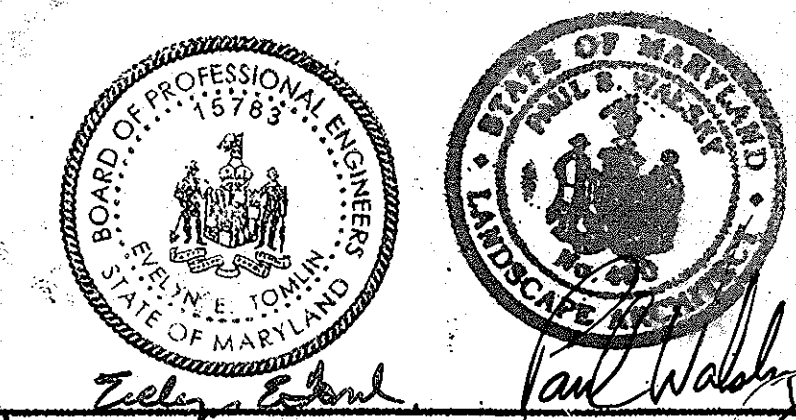
[Signature] 9/8/99
HOWARD COUNTY, MARYLAND HEALTH OFFICER DATE

SOS ENGINEERS
CONSULTING ENGINEERS
11260 ROGER BACON DRIVE
SUITE 300
RESTON, VIRGINIA 20190
PH. (703) 471-8150
FAX. (703) 471-6676



DES. MRG			
DRN. JCS			
CHK. RHI			
DATE: 07-01-99	BY NO.	REVISION	DATE
		ADDED SHEET 40	6-5-13

WETLANDS PERMIT TRACKING NO. : 199963005



10/24/05
FOR REVISIONS ONLY

* (SHEET 4, SHEET 26, SHEETS G1-G3, G5-G11, R1-R12, V1-V4 ARE NOT PART OF SDP SUBMITTAL)

NEW CUT LANDFILL
IMPROVEMENTS
Revised Site Development Plan F-04-041
CAPITAL PROJECT NO. C-0237-H
2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE:
AS SHOWN
SHEET
1 OF 40

**BEST MANAGEMENT PRACTICES FOR WORKING IN
NONTIDAL WETLANDS, WETLAND BUFFERS,
WATERWAYS, AND 100-YEAR FLOODPLAINS**

- 1) NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- 2) PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- 3) DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.
- 4) PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- 5) REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
- 6) RECTIFY ANY NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
- 7) ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (*LOLIUM MULTIFLORUM*), MILLET (*SETARIA ITALICA*), BARLEY (*HORDEUM SP.*), OATS (*UNIOLA SP.*), AND/OR RYE (*SECALE CEREALE*). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
- 8) AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST-CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
- 9) TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM:

USE 1 WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.
- 10) STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
- 11) CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

INCREMENTAL STABILIZATION - CUT SLOPES

- I. ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 15'.
- II. CONSTRUCTION SEQUENCE (REFER TO FIGURE 1 BELOW):
 - A. EXCAVATE AND STABILIZE ALL TEMPORARY SWALES, SIDE DITCHES, OR BERMS THAT WILL BE USED TO CONVEY RUNOFF FROM THE EXCAVATION.
 - B. PERFORM PHASE 1 EXCAVATION, DRESS, AND STABILIZE.
 - C. PERFORM PHASE 2 EXCAVATION, DRESS, AND STABILIZE. OVERSEED PHASE 1 AREAS AS NECESSARY.
 - D. PERFORM FINAL PHASE EXCAVATION, DRESS, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE EXCAVATION HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

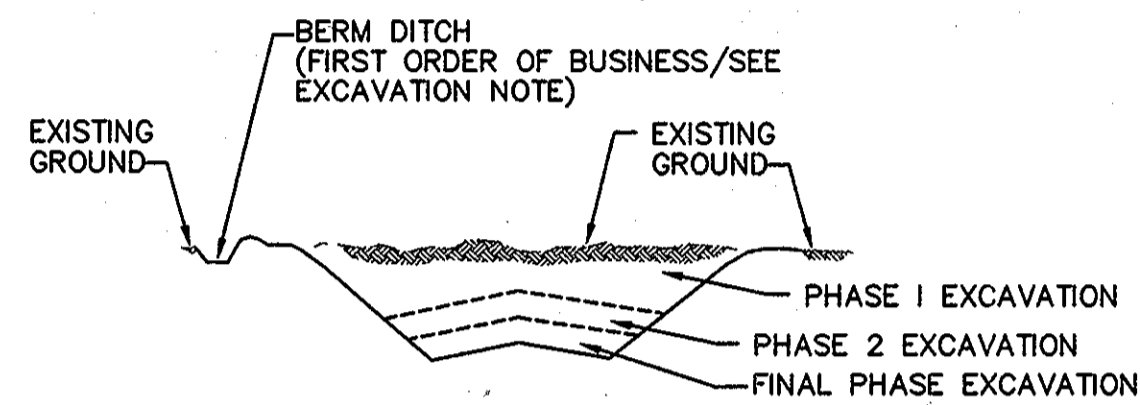


FIGURE 1 - INCREMENTAL STABILIZATION - CUT

INCREMENTAL STABILIZATION OF EMBANKMENTS - FILL SLOPES

- I. EMBANKMENTS SHALL BE CONSTRUCTED IN LIFTS AS PRESCRIBED IN THE PLANS AND SPECIFICATIONS.
- II. SLOPES SHALL BE STABILIZED IMMEDIATELY WHEN THE VERTICAL HEIGHT OF THE MULTIPLE LIFTS REACHES 15', OR WHEN THE GRADING OPERATION CEASES AS PRESCRIBED IN THE PLANS.
- III. AT THE END OF EACH DAY, TEMPORARY BERMS AND PIPE SLOPE DRAINS SHOULD BE CONSTRUCTED ALONG THE TOP EDGE OF THE EMBANKMENT TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER TO A SEDIMENT TRAPPING DEVICE.
- IV. CONSTRUCTION SEQUENCE: REFER TO FIGURE 2 (BELOW).
 - A. EXCAVATE AND STABILIZE ALL TEMPORARY SWALES, SIDE DITCHES, OR BERMS THAT WILL BE USED TO DIVERT RUNOFF AROUND THE FILL. CONSTRUCT SLOPE SILT FENCE ON LOW SIDE OF FILL AS SHOWN IN FIGURE 5, UNLESS OTHER METHODS SHOWN ON THE PLANS ADDRESS THIS AREA
 - B. PLACE PHASE 1 EMBANKMENT. DRESS AND STABILIZE.
 - C. PLACE PHASE 2 EMBANKMENT, DRESS AND STABILIZE.
 - D. PLACE FINAL PHASE EMBANKMENT, DRESS AND STABILIZE. OVERSEE PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE THE PLACEMENT OF FILL HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

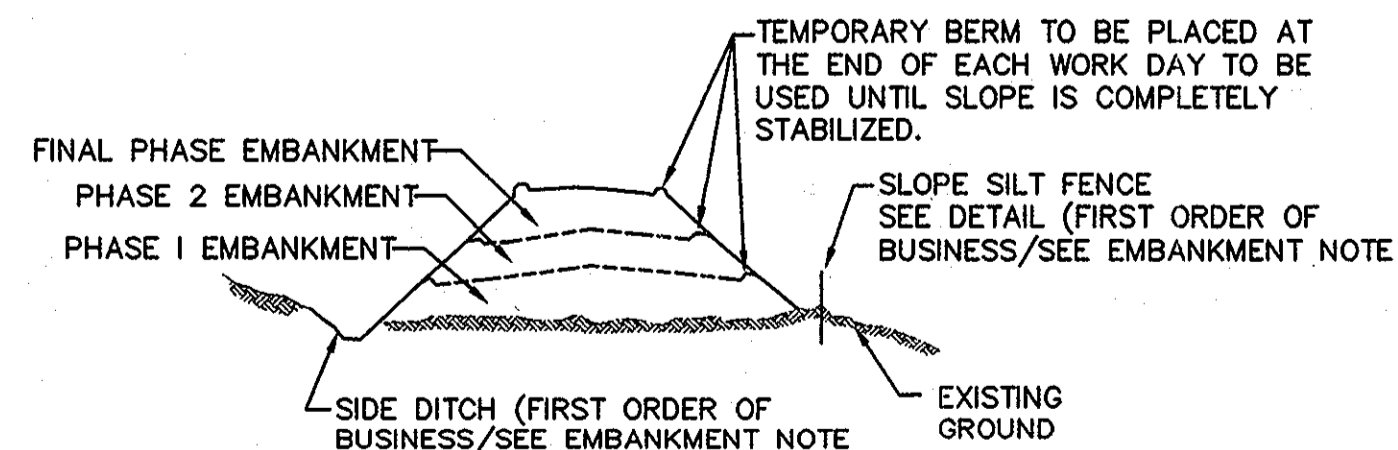


FIGURE 2 - INCREMENTAL STABILIZATION - FILL

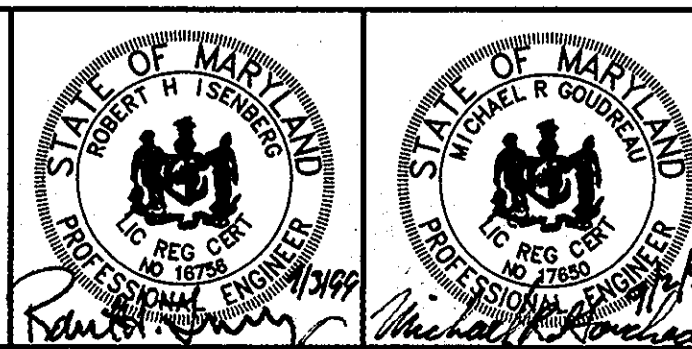
**GENERAL NOTES
NON-RESIDENTIAL
SITE DEVELOPMENT PLAN**

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THESE PLANS, THE TECHNICAL SPECIFICATIONS (DIVISION 1 TO 16) OF THE PROJECT MANUAL, THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY DESIGN MANUAL (VOL. IV), AND THE MARYLAND STATE HIGHWAY ADMINISTRATION IF APPLICABLE.
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENVIRONMENTAL SERVICES 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 PREPARED BY AIR SURVEY CORPORATION, INC. JANUARY, 1998. SUPPLEMENTED WITH FIELD SURVEY (OCTOBER, 1998 BY DANIELS CONSULTANTS, INC.)
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.)
7. STORMWATER MANAGEMENT CONTROL IS PRIVATE AND IS OWNED AND MAINTAINED BY HOWARD COUNTY.
8. EXISTING UTILITIES ARE BASED ON HOWARD COUNTY RECORDS.
9. THE FLOODPLAIN MAPPING SHOWN FOR THIS PROJECT IS FROM HOWARD COUNTY FLOODPLAIN MAPS FP 29-43/87 & FP 30-43/87.
10. THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY J. E. HARMS AND ASSOCIATES, DATED AUGUST, 1996, AND WAS APPROVED IN SPRING, 1998 BY U.S. ARMY CORPS OF ENGINEERS.
11. NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT.
12. SUBDIVISION NAME IS HOWARD COUNTY GOVERNMENT.
13. 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 CONTRACTOR'S EXPENSE.
14. MAGNETIC LOCATION TAPE IS TO BE PLACED ABOVE ALL BURIED PLASTIC PIPELINE UTILITIES DURING CONSTRUCTION.
15. THE CONTRACTOR SHALL COORDINATE ALL WORK WITHIN THE AT&T CABLE RIGHT-OF-WAY WITH AT&T (1-800-252-1133 OR 1-410-992-0419) PRIOR TO ANY WORK IN THE AT&T RIGHT-OF-WAY.
16. NIC MEANS "NOT IN CONTRACT".
17. ALL WASTE EXCAVATED SHALL BE DISPOSED AT ALPHA RIDGE LANDFILL, 2350 MARRIOTTSTVILLE ROAD, MARRIOTTSTVILLE, MD.) OR OTHER FACILITY WITH AN ACTIVE GRADING PERMIT, APPROVED BY ENGINEER. AT ALPHA RIDGE LANDFILL NO TIPPING FEE WILL BE CHARGED FOR WASTE, WITH ENGINEER'S APPROVAL. CONTRACTOR SHALL PROVIDE LOADING AND HAULING.
18. ADD SITE SECURITY AND ROAD CLOSED SIGNS.
19. SCENIC ROAD REQUIREMENTS FOR NEW CUT RD. WERE ADDRESSED UNDER PUBLIC WORKS BOARD MEETING OF MAY 11, 1999 FOR CAPITAL IMPROVEMENT PROJECT C-0237.
20. FOREST CONSERVATION REQUIREMENTS FOR THIS SITE HAVE BEEN MET BY RETENTION OF EXISTING FOREST ON SITE AS SHOWN ON SHEET 27. THE EXISTING FOREST SHOWN TO BE RETAINED IS PROTECTED BY RESTRICTIVE COVENANTS IN A DEED RECORDED AT LIBER _____, FOLIO _____ IN THE LAND RECORDS OF HOWARD COUNTY.

M: 296024.01\100 PERCENT GENNOTES, OUTSLOPE.FILL

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND			
<i>[Signature]</i> DIRECTOR	9/8/99 DATE	SUBDIVISION NAME HO. CO. GOVERNMENT	
<i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	9/9/99 DATE	LOT/PARCEL 529	
<i>[Signature]</i> CHIEF, DIVISION OF LAND DEVELOPMENT	9/13/99 DATE	LIBER/FOLIO 180/339	TAX/ZONE MAP 31
		WATER CODE	SEWER CODE CENSUS TR.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND		SCS ENGINEERS CONSULTING ENGINEERS 11260 ROGER BACON DRIVE SUITE 300 RESTON, VIRGINIA 20190 PH. (703) 471-6150 FAX. (703) 471-6676	
<i>[Signature]</i> DIRECTOR OF PUBLIC WORKS	9/8/99 DATE	<i>[Signature]</i> CHIEF, BUREAU OF ENVIRONMENTAL SERVICES	9/7/99 DATE



DES.	MRG			
DRN.	JCS	PSW	ADDED SHEET 40	6-5-93
CHK.	RHI			
DATE:	07-01-99	MRG	ADDED BMP NOTES FOR NON-TIDAL WETLANDS, ETC.	9-2-99
BY:	NO.		REVISION	DATE

GENERAL NOTES		NEW CUT LANDFILL IMPROVEMENTS		SCALE: NO SCALE
		CAPITAL PROJECT NO. C-0237-H		SHEET 2 OF 40
		2nd ELECTION DISTRICT		HOWARD COUNTY, MARYLAND

SDP-99-109

- LEGEND**
- EW-10 EXISTING LFG EXTRACTION WELL
 - VW-16 EXISTING LFG MONITORING WELLS
 - EXISTING INDEX CONTOUR
 - EXISTING INTERMEDIATE CONTOUR
 - EXISTING TREELINE
 - PROPERTY BOUNDARY
 - LIMITS OF WASTE
 - LIMITS OF WETLANDS
 - 25' WETLAND BUFFER
 - EXISTING OVERBURDEN WELL
 - EXISTING BEDROCK WELL
 - EXISTING RESIDENTIAL WELL
 - EXISTING WELL TO BE CONVERTED TO GROUNDWATER RECOVERY WELL (NIC)
 - AREA FIELD SURVEY LIMITS

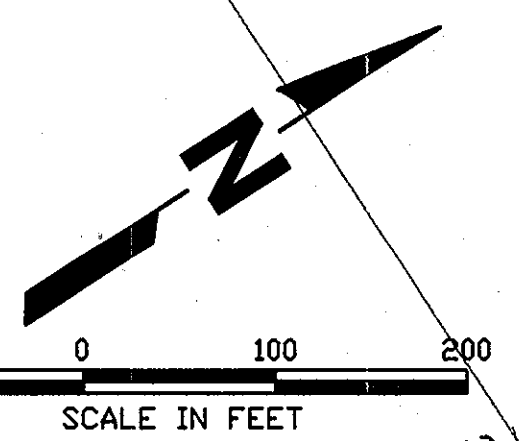
**DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND**

John S. ... 9/14/99
DIRECTOR DATE

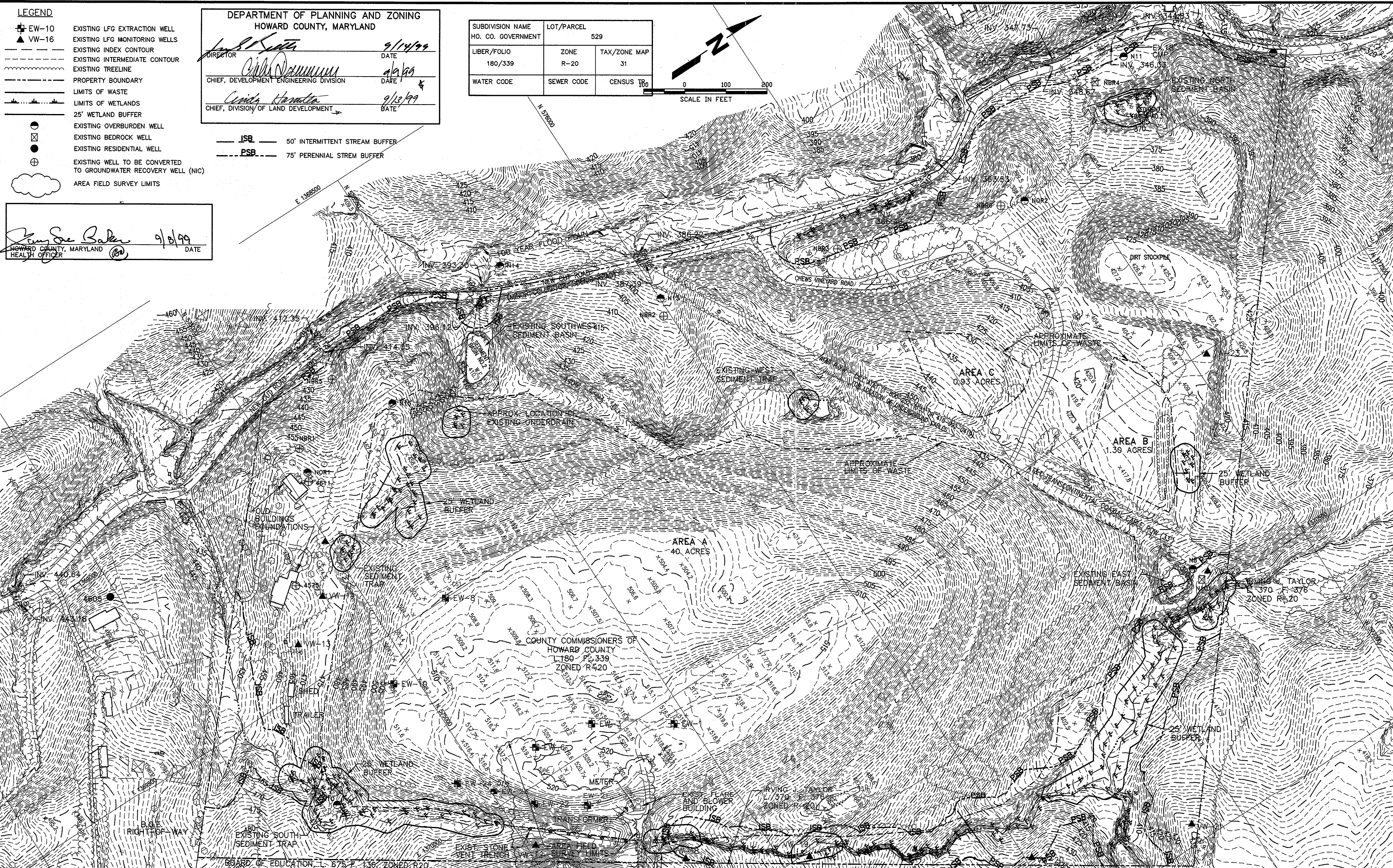
Chris ... 9/14/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cinda Hamstra 9/13/99
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

SUBDIVISION NAME	LOT/PARCEL	
HO. CO. GOVERNMENT	529	
LIBER/FOLIO	ZONE	TAX/ZONE MAP
180/339	R-20	31
WATER CODE	SEWER CODE	CENSUS
		180



Samuel Baker 9/10/99
HOWARD COUNTY, MARYLAND HEALTH OFFICER DATE



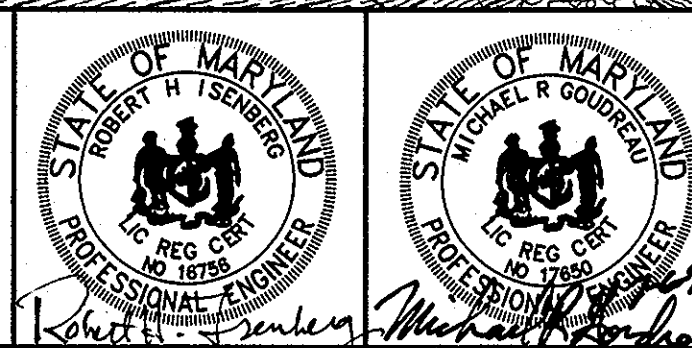
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**DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND**

Samuel Baker 7/6/99
DIRECTOR OF PUBLIC WORKS DATE

John O'Hara 7/6/99
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE

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



DES. MRG			
DRN. JCS			
CHK. RHI			
DATE: 07-01-99			
BY NO.	REVISION	DATE	
	ADDED SHEET 40	6-5-13	

EXISTING SITE CONDITIONS

NEW CUT LANDFILL IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

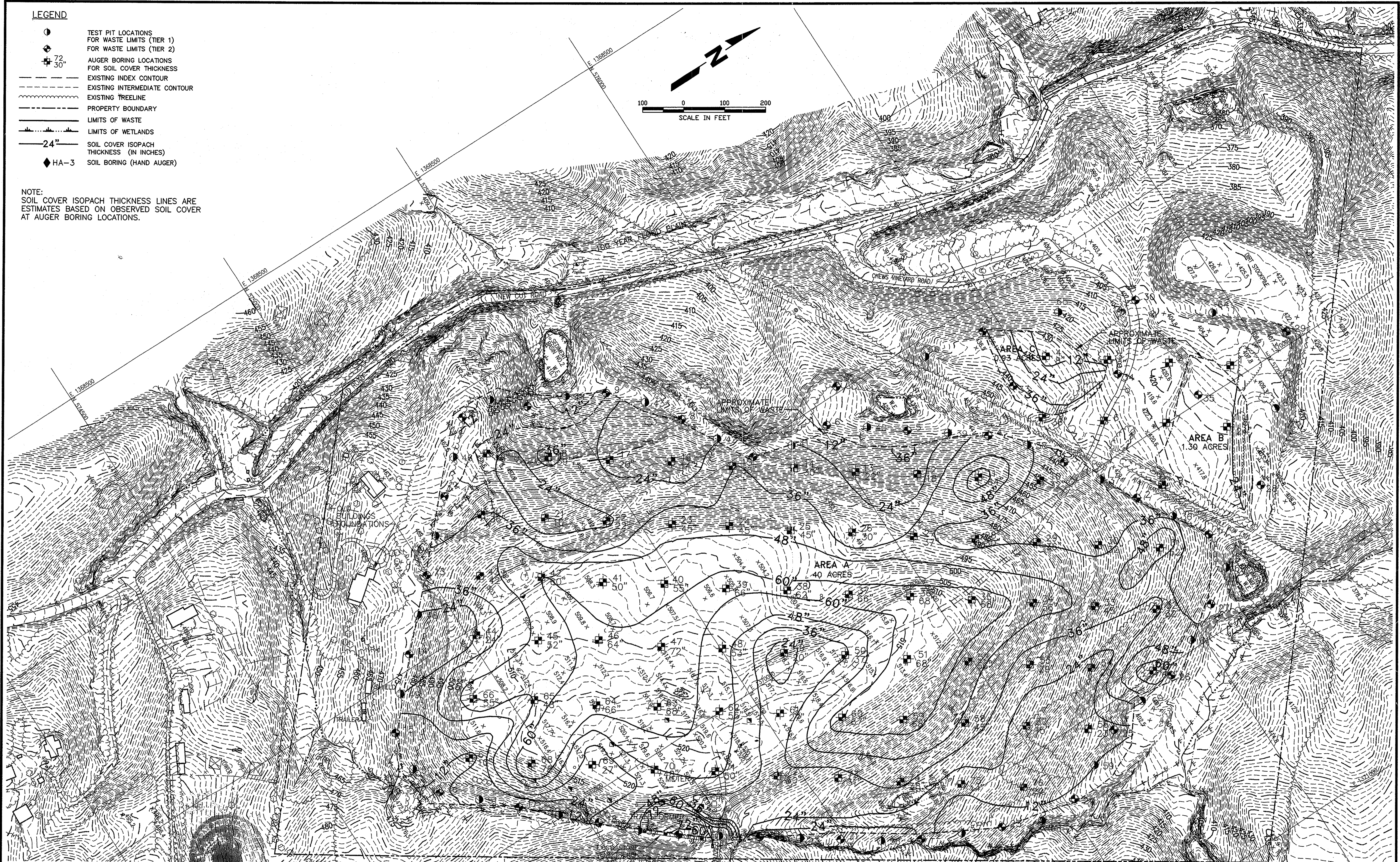
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE:
1"=100'
SHEET
3 OF 40

LEGEND

- TEST PIT LOCATIONS FOR WASTE LIMITS (TIER 1)
- ⊕ TEST PIT LOCATIONS FOR WASTE LIMITS (TIER 2)
- ⊕ 72" 30" AUGER BORING LOCATIONS FOR SOIL COVER THICKNESS
- - - - - EXISTING INDEX CONTOUR
- - - - - EXISTING INTERMEDIATE CONTOUR
- - - - - EXISTING TREELINE
- - - - - PROPERTY BOUNDARY
- - - - - LIMITS OF WASTE
- - - - - LIMITS OF WETLANDS
- - - - - 24" SOIL COVER ISOPACH THICKNESS (IN INCHES)
- ◆ HA-3 SOIL BORING (HAND AUGER)

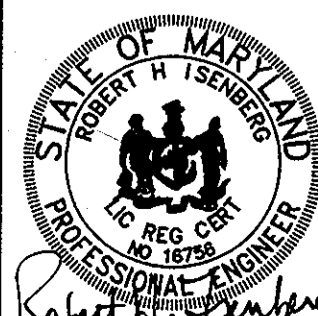
NOTE:
SOIL COVER ISOPACH THICKNESS LINES ARE ESTIMATES BASED ON OBSERVED SOIL COVER AT AUGER BORING LOCATIONS.



M:\296024\01\100 PERCENT\ ISOPACH

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

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



DES.	MRG				
DRN.	JCS				
CHK.	RHI	PSW	ADDED SHEET 40	6-5-13	
DATE:	03-08-99	BY:	NO.	REVISION	DATE

COVER THICKNESS ISOPACH
AND TEST PIT LOCATIONS

NEW CUT LANDFILL
IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE:
1"=100'
SHEET
4 OF 40

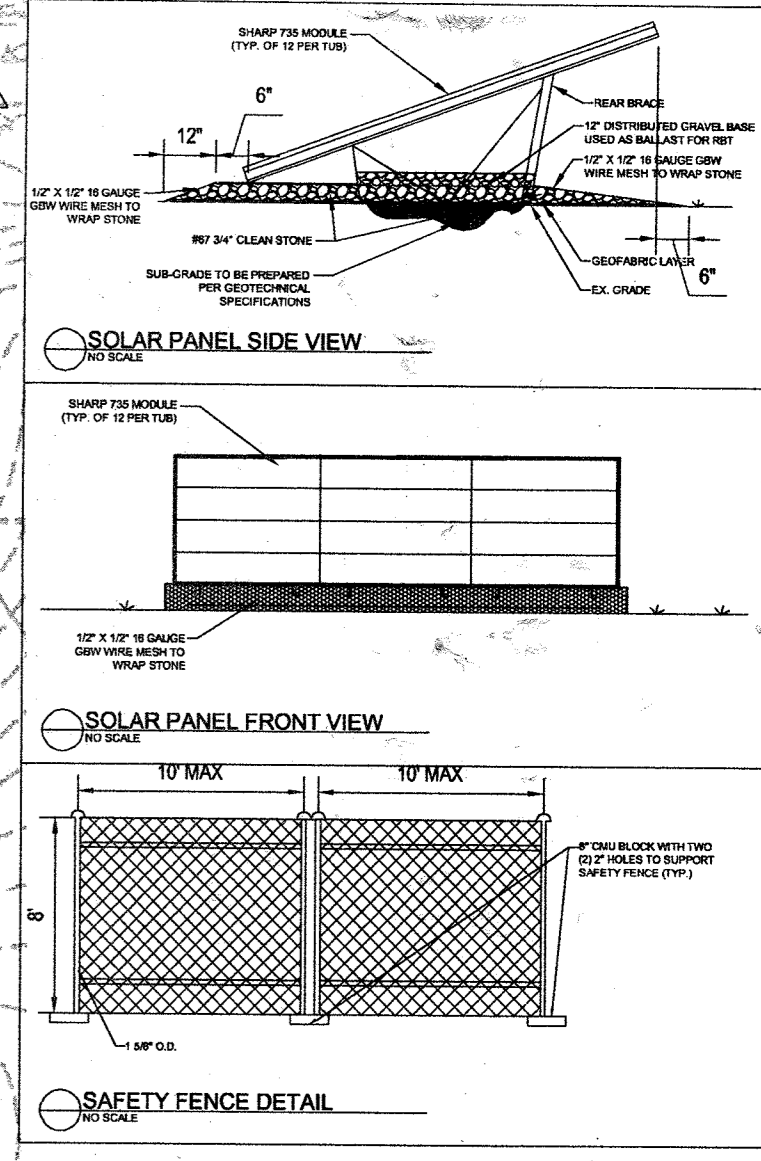
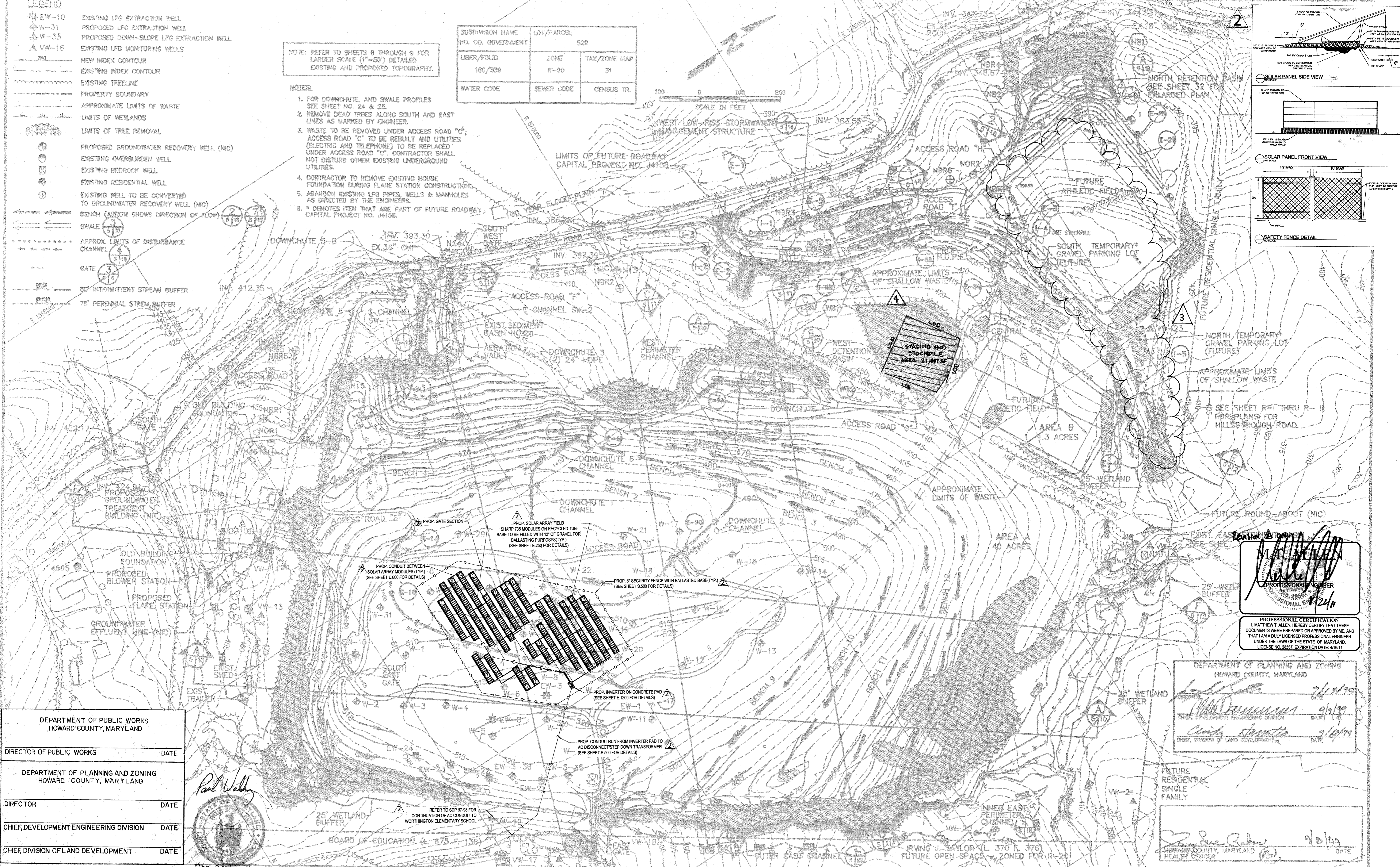
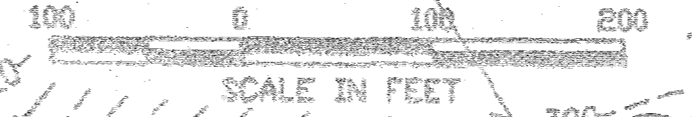
SDP-99-109

- LEGEND**
- EW-10 EXISTING LFG EXTRACTION WELL
 - W-31 PROPOSED LFG EXTRACTION WELL
 - W-33 PROPOSED DOWN-SLOPE LFG EXTRACTION WELL
 - VW-16 EXISTING LFG MONITORING WELLS
 - 312 NEW INDEX CONTOUR
 - EXISTING INDEX CONTOUR
 - EXISTING TREELINE
 - PROPERTY BOUNDARY
 - APPROXIMATE LIMITS OF WASTE
 - LIMITS OF WETLANDS
 - LIMITS OF TREE REMOVAL
 - PROPOSED GROUNDWATER RECOVERY WELL (NIC)
 - EXISTING OVERBURDEN WELL
 - EXISTING BEDROCK WELL
 - EXISTING RESIDENTIAL WELL
 - EXISTING WELL TO BE CONVERTED TO GROUNDWATER RECOVERY WELL (NIC)
 - BENCH (ARROW SHOWS DIRECTION OF FLOW)
 - SWALE
 - APPROX. LIMITS OF DISTURBANCE CHANNEL
 - GATE
 - 50' INTERMITTENT STREAM BUFFER
 - 75' PERENNIAL STREAM BUFFER

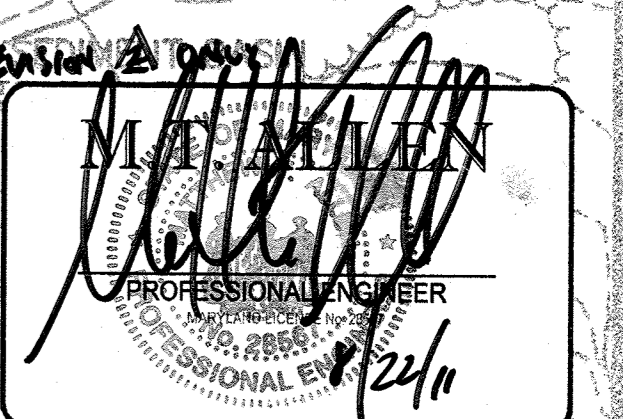
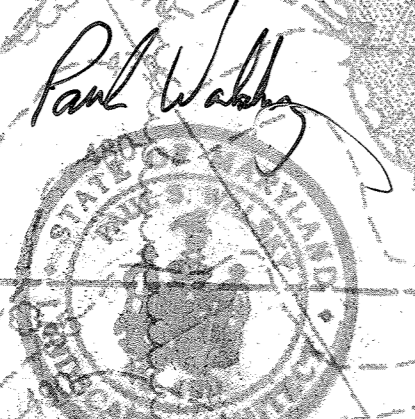
NOTE: REFER TO SHEETS 6 THROUGH 9 FOR LARGER SCALE (1"=50') DETAILED EXISTING AND PROPOSED TOPOGRAPHY.

SUBDIVISION NAME		LOT/PARCEL	
HO. CO. GOVERNMENT		529	
LIBER/FOLIO		ZONE	TAX/ZONE MAP
180/339		R-20	31
WATER CODE		SEWER CODE	CENSUS TR.

- NOTES:**
- FOR DOWNCHUTE, AND SWALE PROFILES SEE SHEET NO. 24 & 25.
 - REMOVE DEAD TREES ALONG SOUTH AND EAST LINES AS MARKED BY ENGINEER.
 - WASTE TO BE REMOVED UNDER ACCESS ROAD "C"; ACCESS ROAD "C" TO BE REBUILT AND UTILITIES (ELECTRIC AND TELEPHONE) TO BE REPLACED UNDER ACCESS ROAD "C". CONTRACTOR SHALL NOT DISTURB OTHER EXISTING UNDERGROUND UTILITIES.
 - CONTRACTOR TO REMOVE EXISTING HOUSE FOUNDATION DURING FLARE STATION CONSTRUCTION AS DIRECTED BY THE ENGINEERS.
 - ABANDON EXISTING LFG PIPES, WELLS & MANHOLES AS DIRECTED BY THE ENGINEERS.
 - * DENOTES ITEM THAT ARE PART OF FUTURE ROADWAY CAPITAL PROJECT NO. J4158.



DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
DIRECTOR OF PUBLIC WORKS	DATE
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	
DIRECTOR	DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE



PROFESSIONAL CERTIFICATION
I, MATTHEW A. ALLEN, 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. 28667 EXPIRATION DATE 4/31/11

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	
	DATE 7/14/99
	DATE 9/1/99
	DATE 7/14/99

	DATE 9/1/99
	DATE

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
	DATE 7/6/99
	DATE 7/6/99

SCS ENGINEERS
CONSULTING ENGINEERS
11280 ROGER BACON DRIVE
SUITE 300
RESTON, VIRGINIA 20190
PH. (703) 471-6150
FAX. (703) 471-6676



DES. MRG			
DRN. JCS			
CHK. RHM			
DATE 07-01-99			

OVERALL SITE PLAN

NEW CUT LANDFILL IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

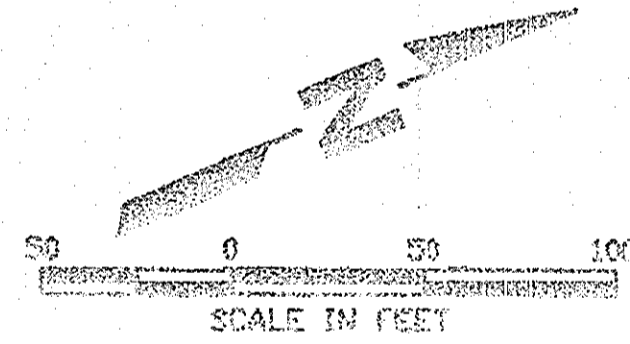
SCALE:
1"=100'

SHEET
5 OF 40

- LEGEND**
- EW-10 EXISTING LFG EXTRACTION WELL
 - W-31 PROPOSED LFG EXTRACTION WELL
 - W-33 PROPOSED DOWN-SLOPE LFG EXTRACTION WELL
 - VW-16 EXISTING LFG MONITORING WELLS
 - 30 NEW INDEX CONTOUR
 - NEW INTERMEDIATE CONTOUR
 - EXISTING INDEX CONTOUR
 - EXISTING INTERMEDIATE CONTOUR
 - EXISTING TREELINE
 - PROPERTY BOUNDARY
 - APPROX. LIMITS OF WASTE
 - LIMITS OF WETLANDS
 - LIMITS OF TREE REMOVAL
 - PROPOSED GROUNDWATER RECOVERY WELL (NIC)
 - EXISTING OVERBURDEN WELL
 - EXISTING BEDROCK WELL
 - EXISTING RESIDENTIAL WELL
 - EXISTING WELL TO BE CONVERTED TO GROUNDWATER RECOVERY WELL (NIC)
 - NEW HDPE PIPE/DOWNSLOPES/ CONCRETE GRAINAGE PIPE
 - EXISTING PIPE
 - LIMITS OF FUTURE ROADWAY CAPITAL PROJECT NO. J4156
 - 50' INTERMITTENT STREAM BUFFER
 - 75' PERENNIAL STREAM BUFFER

NOTES:

1. FOR DOWNCHUTE, AND SWALE PROFILES SEE SHEET NO. 24 & 25.
2. REMOVE DEAD TREES ALONG SOUTH AND EAST LINES AS MARKED BY ENGINEER.
3. REMOVE EXISTING CMP RISER AND OUTFALL AT EXISTING SEDIMENT BASIN NO. 2. EXISTING SEDIMENT BASIN NO. 2 TO BE ABANDONED AND REGRADED FOR POSITIVE DRAINAGE.
4. EXISTING SEDIMENT TRAP NEAR VW-15 TO BE UPGRADED AND USED DURING CONSTRUCTION (SEE SHEET 30), AND THEN REGRADED FOR POSITIVE GRAINAGE.
5. CONTRACTOR TO REMOVE EXISTING HOUSE FOUNDATION DURING BLOWER STATION CONSTRUCTION.
6. ABANDON EXISTING LFG PIPES, WELLS & MANHOLES AS DIRECTED BY THE ENGINEER.
7. FOR DETAILS OF AERATION VAULT, SEE SHEETS V1 THROUGH V4.
8. CONSTRUCT ACCESS ROAD ON BENCH 4 PER DETAIL 7, SHEET 15.



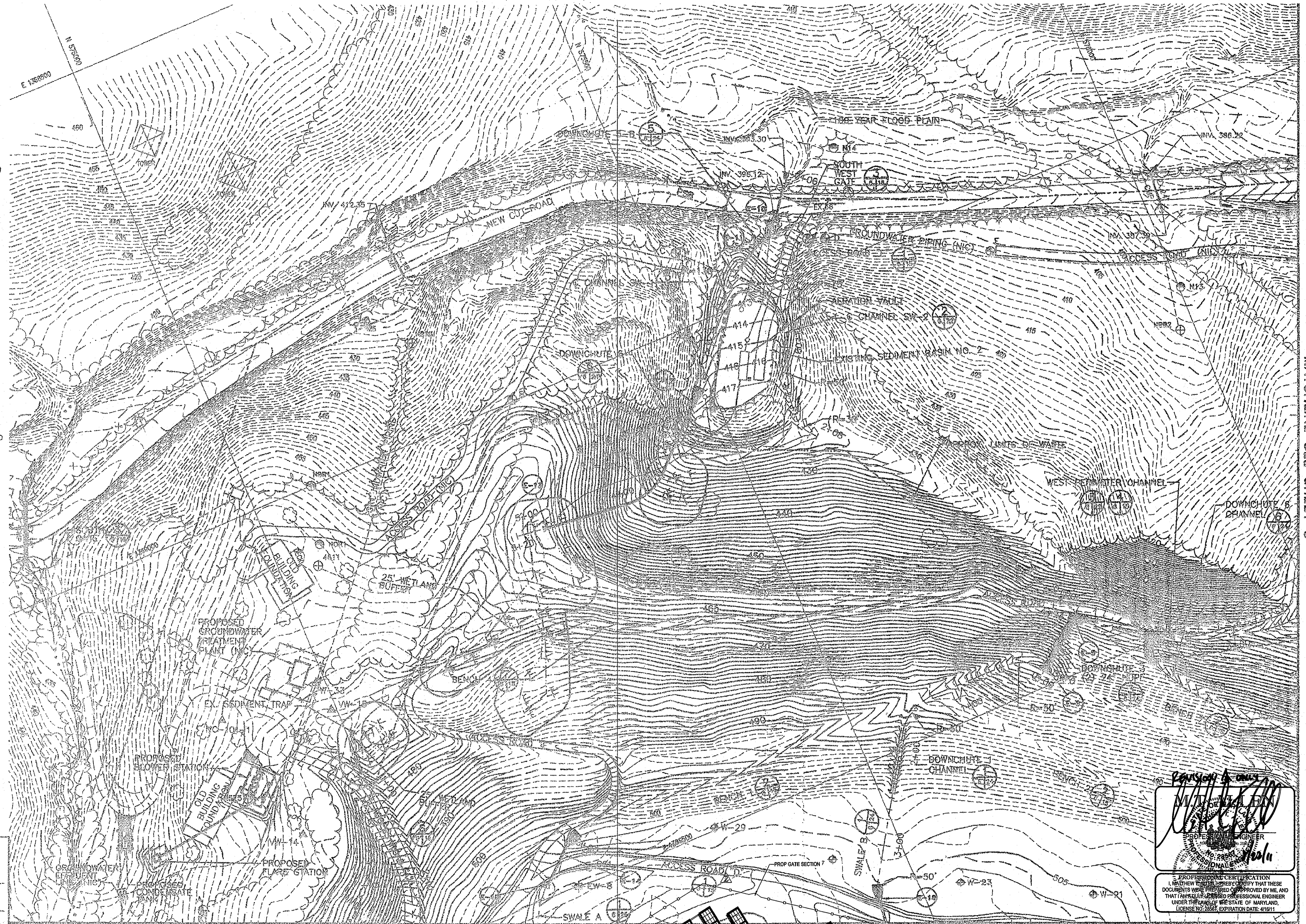
PERMISSION NAME HO. CO. GOVERNMENT	LOT/PARCEL 529
LIBER/FOLIO 180/339	TAX/TZONE MAP 31
WATER CODE	SEWER CODE
	CENSUS TR.

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

[Signature] 7/6/99 DATE

[Signature] 7/6/99 DATE

[Signature] 7/6/99 DATE



MATCHLINE SEE SHEET 8

MATCHLINE SEE SHEET 7

[Signature]
PROFESSIONAL ENGINEER
STATE OF MARYLAND
LICENSE NO. 22851 EXPIRATION DATE 4/16/11

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 7/6/99 DATE

[Signature] 7/6/99 DATE

SCS ENGINEERS
CONSULTING ENGINEERS
11260 ROGER BACON DRIVE
SUITE 300
RESTON, VIRGINIA 20190
PH. (703) 471-8150
FAX. (703) 471-8676

DES	MRG				
PRN	JCS				
CHK	PHI	PSW	ADDED SHEET 40	6-5-13	
		MDD	SOLAR PANEL ARRAY FIELD	4/25/11	
DATE	07-01-99	BY	NO.	REVISION	DATE

FINAL GRADING PLAN
SW-QUADRANT

NEW CUT LANDFILL
IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE:
1"=50'

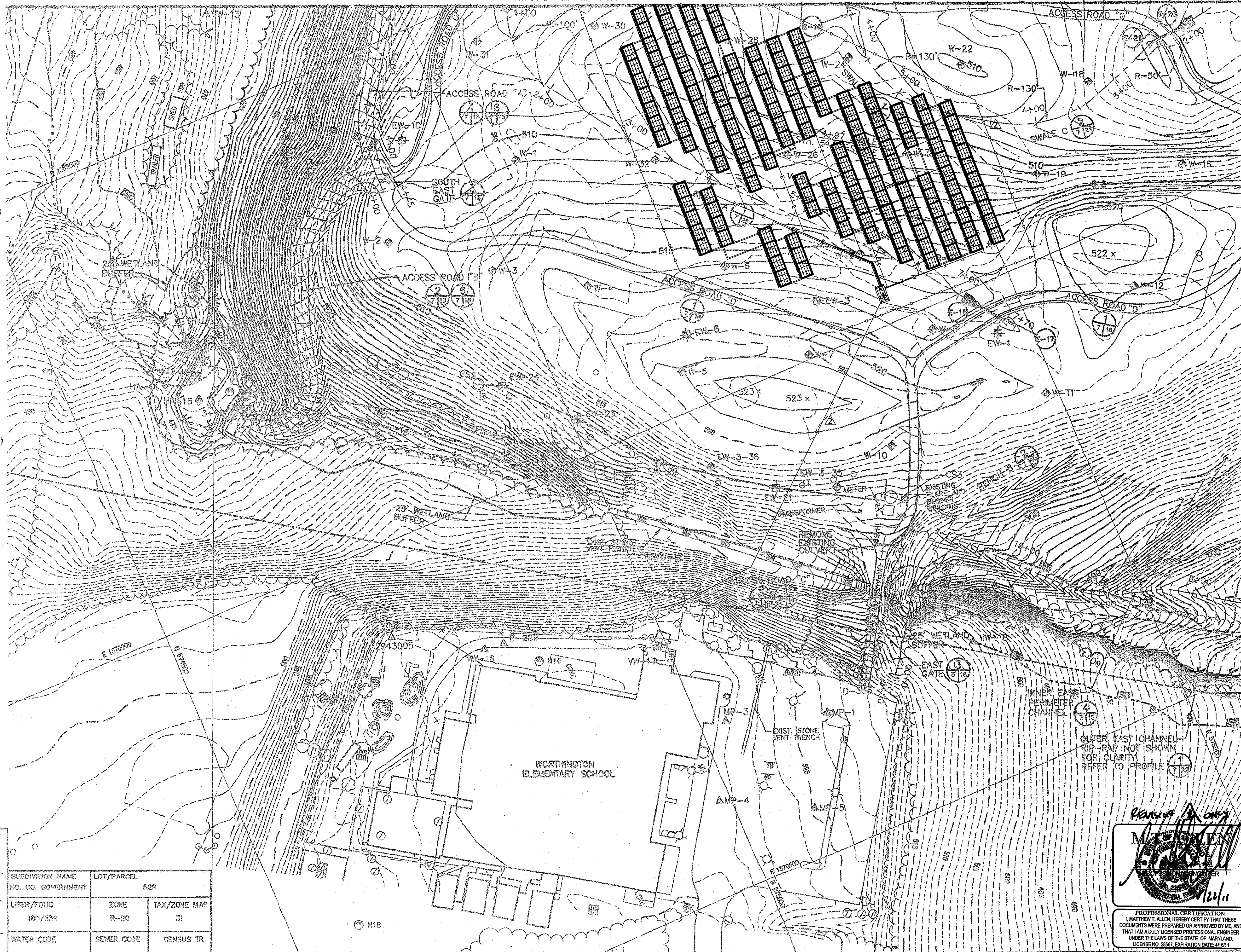
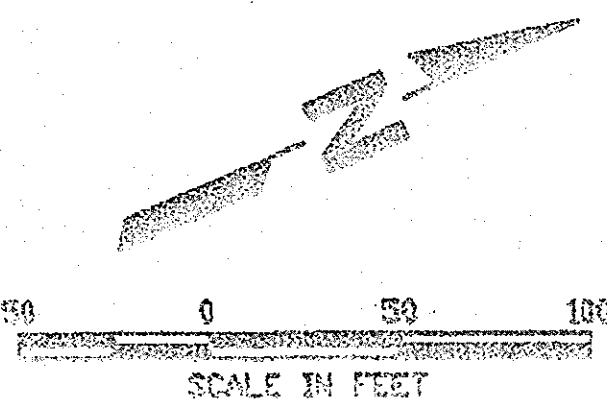
SHEET
6 OF 40

LEGEND

- EW-10 EXISTING LFG EXTRACTION WELL
- W-31 PROPOSED LFG EXTRACTION WELL
- W-33 PROPOSED DOWN-SLOPE LFG EXTRACTION WELL
- VW-16 EXISTING LFG MONITORING WELLS
- 510 NEW INDEX CONTOUR
- NEW INTERMEDIATE CONTOUR
- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- EXISTING TREELINE
- PROPERTY BOUNDARY
- APPROX. LIMITS OF WASTE
- LIMITS OF WETLANDS
- LIMITS OF TREE REMOVAL
- PROPOSED GROUNDWATER RECOVERY WELL (NIC)
- EXISTING OVERBURDEN WELL
- EXISTING REDROCK WELL
- EXISTING RESIDENTIAL WELL
- EXISTING WELL TO BE CONVERTED TO GROUNDWATER RECOVERY WELL (NIC)
- NEW HDPE PIPE/DOWNCHUTES/ CONCRETE DRAINAGE PIPE
- EXISTING PIPE
- 50' INTERMITTENT STREAM BUFFER

NOTES

1. FOR DOWNCHUTE, AND SWALE PROFILES SEE SHEET NO. 24 & 25.
2. REMOVE DEAD TREES ALONG SOUTH AND EAST LINES AS MARKED BY ENGINEER.
3. REMOVE EXISTING CMP OUTFALL IN EXISTING SOUTH SEDIMENT TRAP, PROVIDE TEMPORARY SEDIMENT STORAGE (PER SHEET 31) DURING CONSTRUCTION, THEN CLEAN OUT AND REGRADE FOR POSITIVE DRAINAGE.
4. ELECTRIC AND TELEPHONE LINES ALONG EAST ACCESS ROAD TO BE REMOVED TO BE REMOVED BY THE CONTRACTOR. WASTE TO BE REMOVED UNDER ACCESS ROAD "C" PER PER SHEET 61&8. ACCESS ROAD "C" TO BE REBUILT AND UTILITIES TO BE REPLACED UNDER ACCESS ROAD "C" (SEE SHEETS C1-C11). CONTRACTOR SHALL COMPLETE THE WASTE REMOVAL BETWEEN JUNE AND AUGUST. WASTE IS TO BE REMOVED AS DIRECTED BY THE COUNTY, AND A STONE VENT TRENCH PROVIDED.
5. ABANDON EXISTING LFG PIPES, WELLS & MANHOLES AS DIRECTED BY THE ENGINEERS.
6. REMOVE SURFACE DEBRIS AND LEAVE SITE CLEAR OF DEBRIS.
7. REMOVE EXISTING TEMPORARY ASPHALT BERM, AND PROVIDE MODIFIED CONCRETE CURB AND BUTTER (PER HOWARD COUNTY DTL P-3.01) WHERE ACCESS ROAD "C" MEETS SCHOOL PARKING LOT.



DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

[Signature] DATE 2/15/09
 CHIEF, DEPARTMENT ENGINEERING DIVISION
[Signature] DATE 2/15/09
 CHIEF, DIVISION OF LAND DEVELOPMENT

SUBDIVISION NAME	LOT/PARCEL	
HO. CO. GOVERNMENT	529	
LIBR/FOLIO	ZONE	TAX/ZONE MAP
189/339	R-20	31
WATER CODE	SEWER CODE	CENSUS TR.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] DATE 2/15/09
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

SCS ENGINEERS
CONSULTING ENGINEERS
11260 ROGER BACON DRIVE
SUITE 300
RESTON, VIRGINIA 20190
PH. (703) 471-8150
FAX. (703) 471-6676



DES.	HRG		
DRN.	JCS		
CHK.	RHI		
DATE	07-01-98		
BY	NO.	REVISION	DATE
		ADDED SHEET 40	6-5-13
		SOLAR PANEL ARRAY FIELD	4/25/11

FINAL GRADING PLAN
SE-QUADRANT

NEW CUT LANDFILL
IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

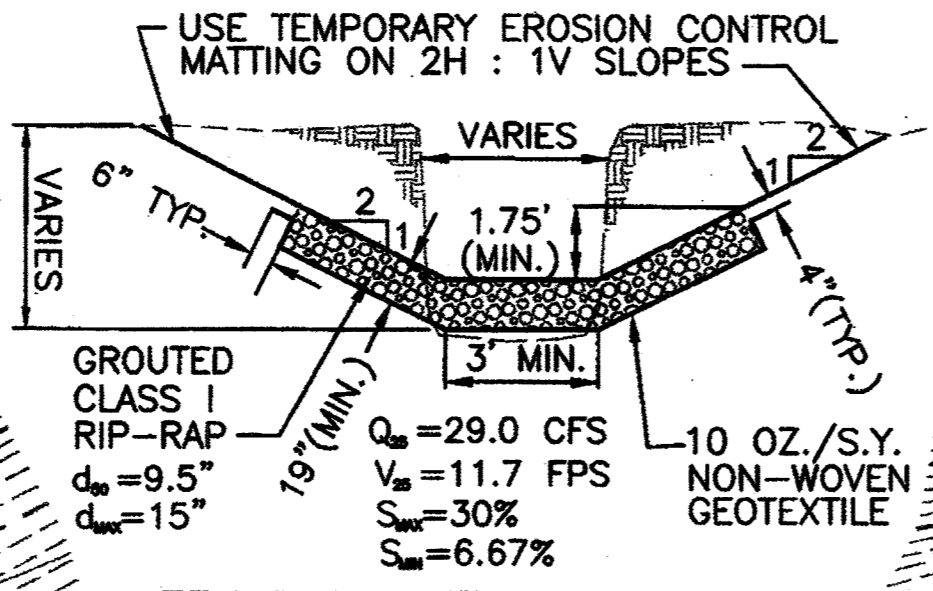
SCALE:
1" = 50'
SHEET
7 OF 40

[Signature]

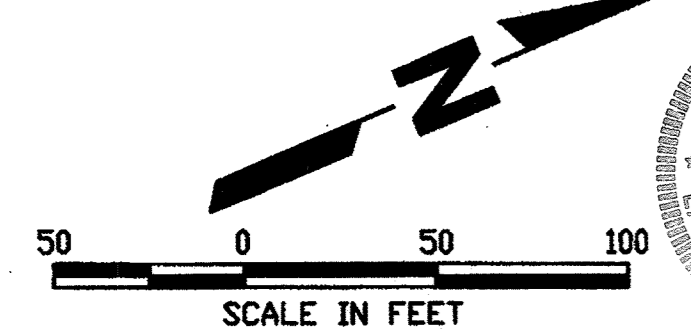
 PROFESSIONAL CERTIFICATION
 I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 2887, EXPIRATION DATE 4/16/11

MATCHLINE SEE SHEET 9

- LEGEND**
- EW-10 EXISTING LFG EXTRACTION WELL
 - W-31 PROPOSED LFG EXTRACTION WELL
 - W-33 PROPOSED DOWN-SLOPE LFG EXTRACTION WELL
 - VW-16 EXISTING LFG MONITORING WELLS
 - HA-7 SOIL BORING (HAND AUGER)
 - 310 NEW INDEX CONTOUR
 - NEW INTERMEDIATE CONTOUR
 - EXISTING INDEX CONTOUR
 - EXISTING INTERMEDIATE CONTOUR
 - EXISTING TREELINE
 - PROPERTY BOUNDARY
 - APPROX. LIMITS OF WASTE
 - LIMITS OF WETLANDS
 - LIMITS OF TREE REMOVAL
 - PROPOSED GROUNDWATER RECOVERY WELL (NIC)
 - EXISTING OVERBURDEN WELL
 - EXISTING BEDROCK WELL
 - EXISTING RESIDENTIAL WELL
 - EXISTING WELL TO BE CONVERTED TO GROUNDWATER RECOVERY WELL (NIC)
 - NEW HDPE PIPE/DOWNCHUTES/ CONCRETE DRAINAGE PIPE
 - EXISTING PIPE
 - LIMITS OF FUTURE ROADWAY CAPITAL PROJECT NO. J4158
 - PSB 75' PERENNIAL STREAM BUFFER



- NOTES:**
1. * DENOTES FUTURE ROADWAY CAPITAL PROJECT ITEMS
 2. CONTRACTOR SHALL NOT DISTURB EXISTING UNDERGROUND UTILITIES IN THE AT&T TRANSCONTINENTAL CABLE R.O.W. SEE GENERAL NOTE 15 ON SHEET 2. SEE PROFILE AND NOTES ON SHEET 20.
 3. ERODED SIDE SLOPES OF EXISTING GULLIES SHALL BE CUT BACK TO 2H : 1V SLOPE AND STABILIZED WITH VEGETATIVE COVER. SEE REPAIR TO EXISTING GULLY DETAIL THIS SHEET.
 4. REMOVE EXISTING CMP CULVERT AND BRICK HEADWALL. NEXT TO SOUTH TEMPORARY GRAVEL PARKING LOT. PROVIDE NEW 24" HDPE AT SAME VERTICAL AND HORIZONTAL ALIGNMENT. USE FLARED HDPE END SECTIONS AT BOTH ENDS OF NEW CULVERT.
 5. USE STANDARD CONCRETE VALLEY GUTTER PER MSHA STD. MD-389.01 WHERE SHOWN.
 6. EXISTING SEDIMENT TRAP TO BE CONVERTED TO WEST BASIN FOR TEMPORARY SEDIMENT STORAGE & PERMANENT STORMWATER MANAGEMENT.
 7. CONTRACTOR SHALL REMOVE EXISTING PIPE AT INTERSECTION OF HILLSBOROUGH & NEWCUT ROADS.
 8. EXISTING NORTH SEDIMENT BASIN TO BE RE-CONSTRUCTED FOR TEMPORARY SEDIMENT STORAGE AND PERMANENT STORMWATER MANAGEMENT.
 9. POST CONSTRUCTION MAINTENANCE FOR THE NORTH DETENTION BASIN, WEST DETENTION BASIN AND WEST-LOW RISE STORMWATER DETENTION MANAGEMENT STRUCTURE IS RESPONSIBILITY OF HOWARD COUNTY DPW.



SUBDIVISION NAME		LOT/PARCEL	
HO. CO. GOVERNMENT		529	
LIBER/FOLIO	ZONE	TAX/ZONE MAP	
180/339	R-20	31	
WATER CODE	SEWER CODE	CENSUS TR.	

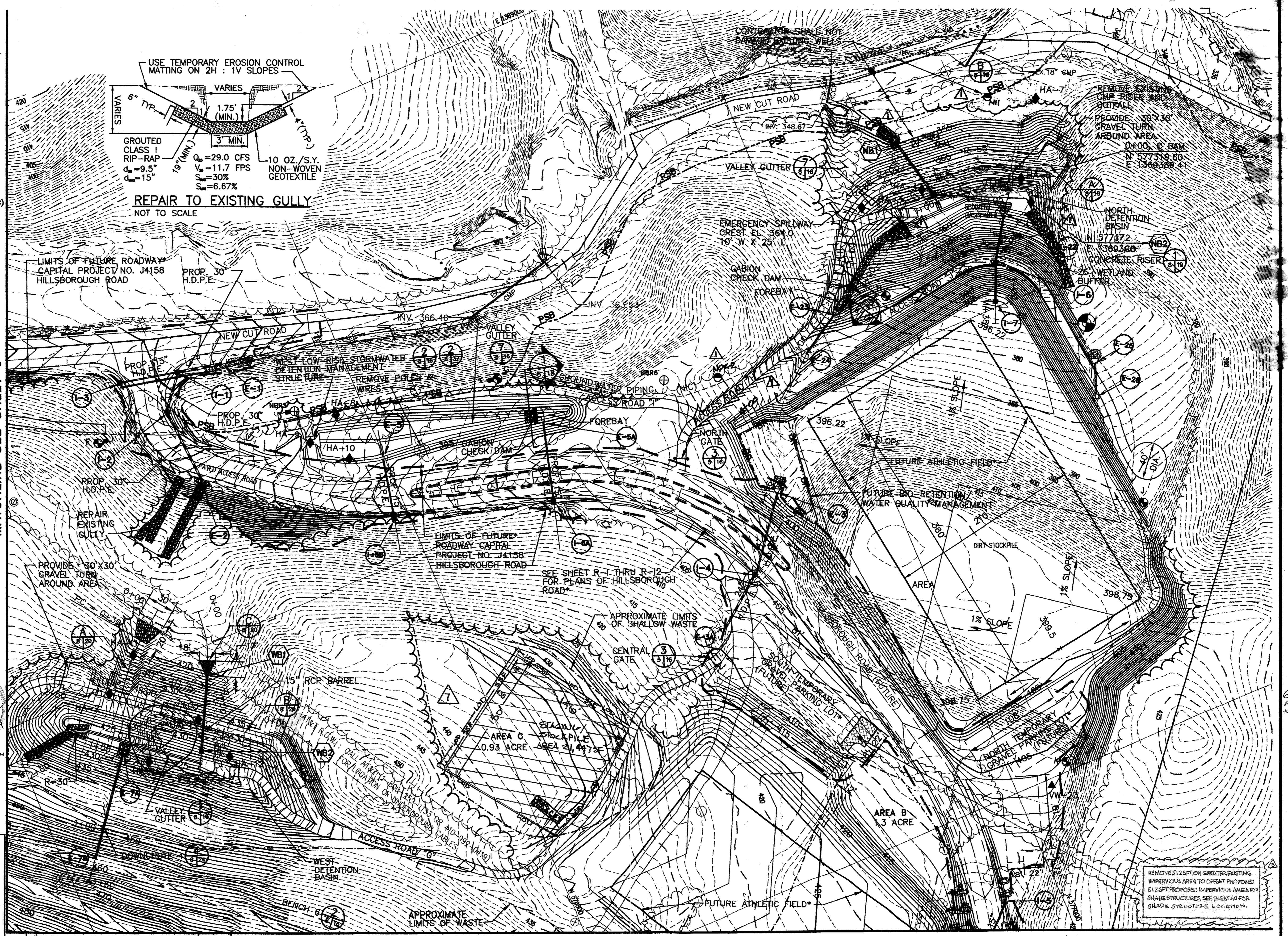
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR: *[Signature]* 9/19/99
DATE: 9/19/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* 9/19/99
DATE: 9/19/99

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* 9/19/99
DATE: 9/19/99

MATCHLINE SEE SHEET 6



ENG #	DESCRIPTION	DATE
SPC 7	REV. TO ADD STAGING AREA	11/28/19

MATCHLINE SEE SHEET 9

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS: *[Signature]* 7/6/99
DATE: 7/6/99

CHIEF, BUREAU OF ENVIRONMENTAL SERVICES: *[Signature]* 7/6/99
DATE: 7/6/99

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



DES.	MRG	JLT	IMPERVIOUS NOTE/REMOVAL ADDED	7/1/19
DRN.	JCS	PSW	ADDED SHEET 40	6-5-13
CHK.	RHI			
DATE: 07-01-99	BY NO.	PSW/MG	REVISED ROP & ADDED WELLS:	3/5/99
			REVISION #1000 N. B. B. 10/19/99	

FINAL GRADING PLAN
NW-QUADRANT

NEW CUT LANDFILL IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SCALE: 1" = 50'

SHEET 8 OF 40

M: 296024.01.90 PERCENTY FOLPLANT

REMOVE 51.25 FT OR GREATER EXISTING IMPERVIOUS AREA TO OFFSET PROPOSED 51.25 FT PROPOSED IMPERVIOUS AREA FOR SHADE STRUCTURES. SEE SHEET 40 FOR SHADE STRUCTURE LOCATION.

50P-44-104

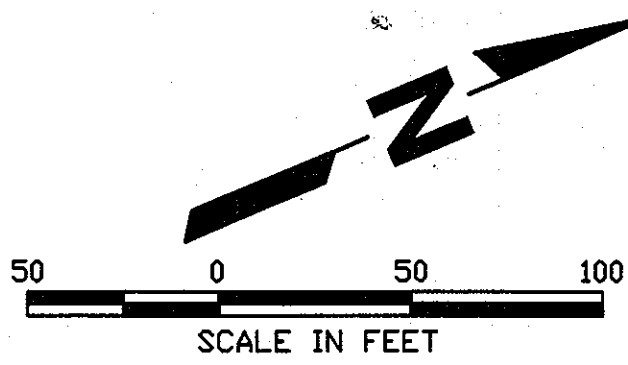
MATCHLINE SEE SHEET 8

LEGEND

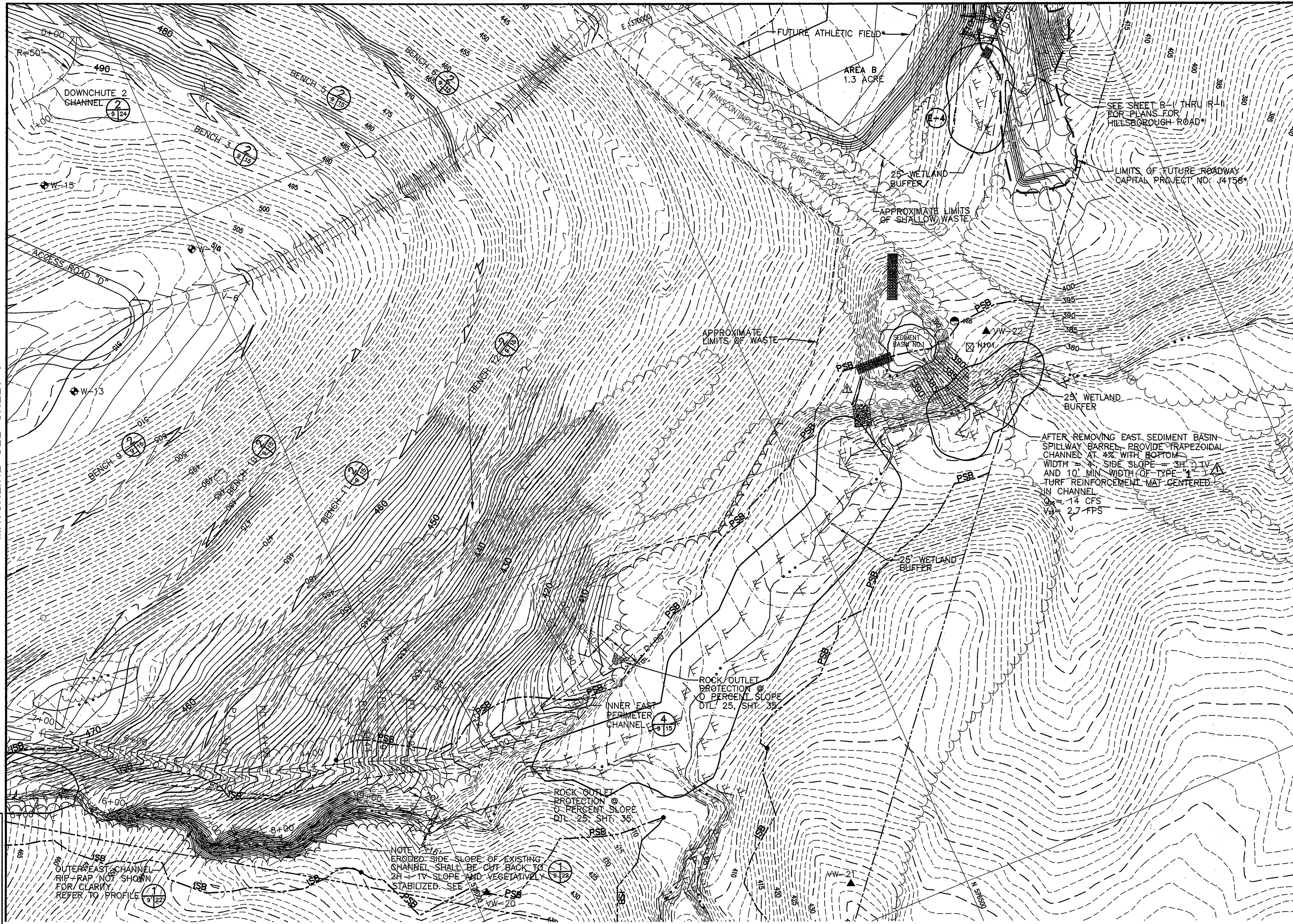
- EW-10 EXISTING LFG EXTRACTION WELL
- W-31 PROPOSED LFG EXTRACTION WELL
- W-33 PROPOSED DOWN-SLOPE LFG EXTRACTION WELL
- VW-16 EXISTING LFG MONITORING WELLS
- 310 NEW INDEX CONTOUR
- NEW INTERMEDIATE CONTOUR
- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- EXISTING TREELINE
- PROPERTY BOUNDARY
- APPROX. LIMITS OF WASTE
- LIMITS OF WETLANDS
- LIMITS OF TREE REMOVAL
- PROPOSED GROUNDWATER RECOVERY WELL (NIC)
- EXISTING OVERBURDEN WELL
- EXISTING BEDROCK WELL
- EXISTING RESIDENTIAL WELL
- EXISTING WELL TO BE CONVERTED TO GROUNDWATER RECOVERY WELL (NIC)
- NEW HDPE PIPE/DOWNCHUTES/ CONCRETE DRAINAGE PIPE
- EXISTING PIPE
- LIMITS OF FUTURE ROADWAY CAPITAL PROJECT NO. J4158

NOTES:

1. FOR DOWNCHUTE, AND SWALE PROFILES SEE SHEET NO. 24 & 25.
2. REMOVE DEAD TREES OUTSIDE EAST LIMITS OF TREE REMOVAL AS MARKED BY ENGINEER.
3. REMOVE EXISTING CMP RISER AND OUTFALL IN EXISTING SEDIMENT BASIN NO. 1. EXISTING SEDIMENT BASIN NO. 1 TO BE RETROFITTED FOR TEMPORARY USE DURING CONSTRUCTION (SEE SHEET 33) THEN ABANDONED BY REGRADING FOR POSITIVE DRAINAGE AS SHOWN ON THIS SHEET.
4. ABANDON EXISTING LFG PIPES, WELLS & MANHOLES AS DIRECTED BY THE ENGINEERS.
5. REMOVE SURFACE DEBRIS AND LEAVE SITE CLEAR OF DEBRIS.
6. * DENOTES FUTURE ROADWAY CAPITAL PROJECT ITEMS.



MATCHLINE SEE SHEET 7



SUBDIVISION NAME	LOT/PARCEL	
HO. CO. GOVERNMENT	529	
LIBER/FOLIO	ZONE	TAX/ZONE MAP
	180/339	R-20 31
WATER CODE	SEWER CODE	CENSUS TR.

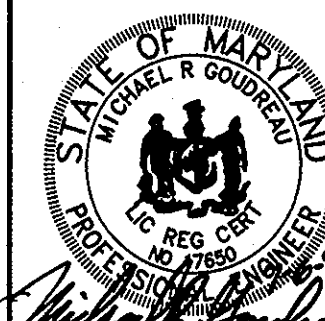
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR	DATE
<i>[Signature]</i>	2/14/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>[Signature]</i>	06/19/99
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>[Signature]</i>	9/13/99

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS	DATE	CHIEF, BUREAU OF ENVIRONMENTAL SERVICES	DATE
<i>[Signature]</i>	7/6/99	<i>[Signature]</i>	7/6/99

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



DES.	MRG		
DRN.	JCS	PSW	ADDED SHEET 40
CHK.	RHI		
DATE:	07-01-99	BY:	NO.
		REVISION	DATE
		REVISED TYPE "A" TO TYPE 1, 2, & 3	8/5/99

FINAL GRADING PLAN
NE-QUADRANT

NEW CUT LANDFILL
IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SCALE:

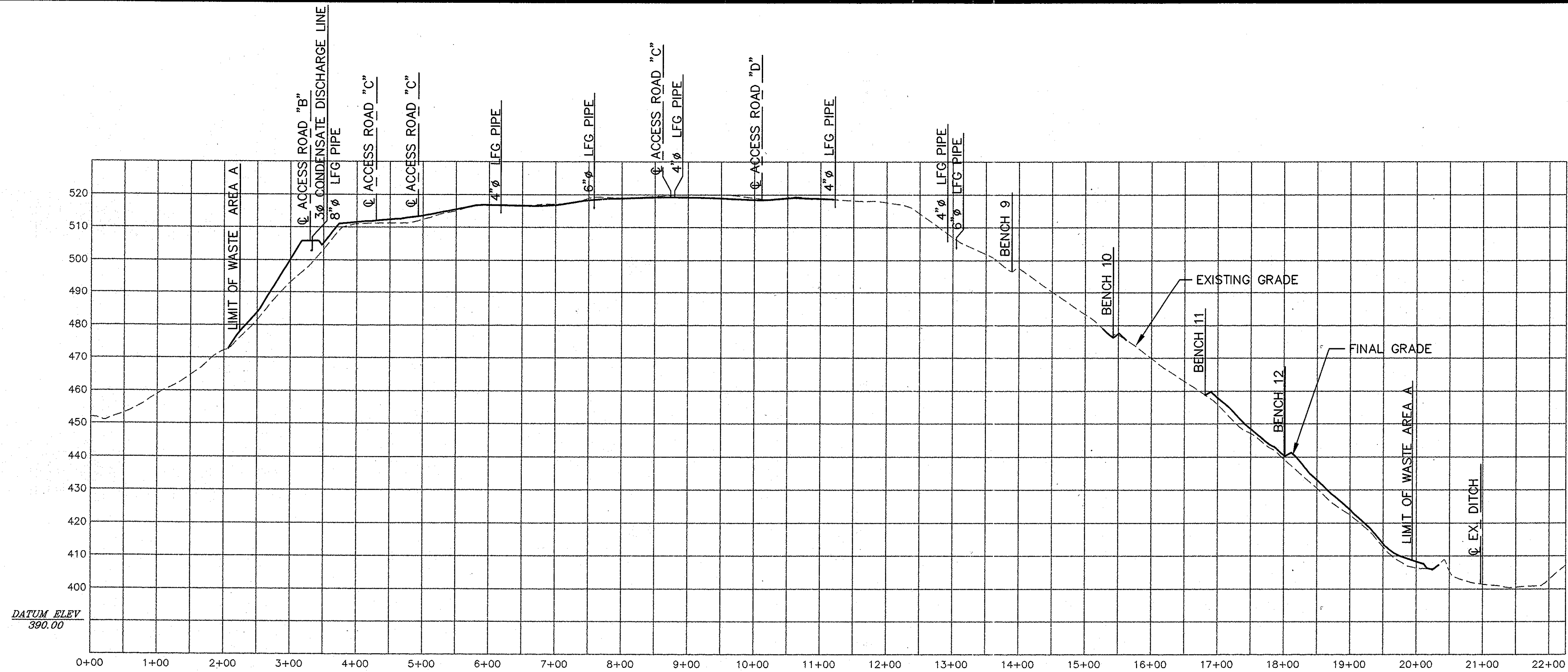
1" = 50'

SHEET

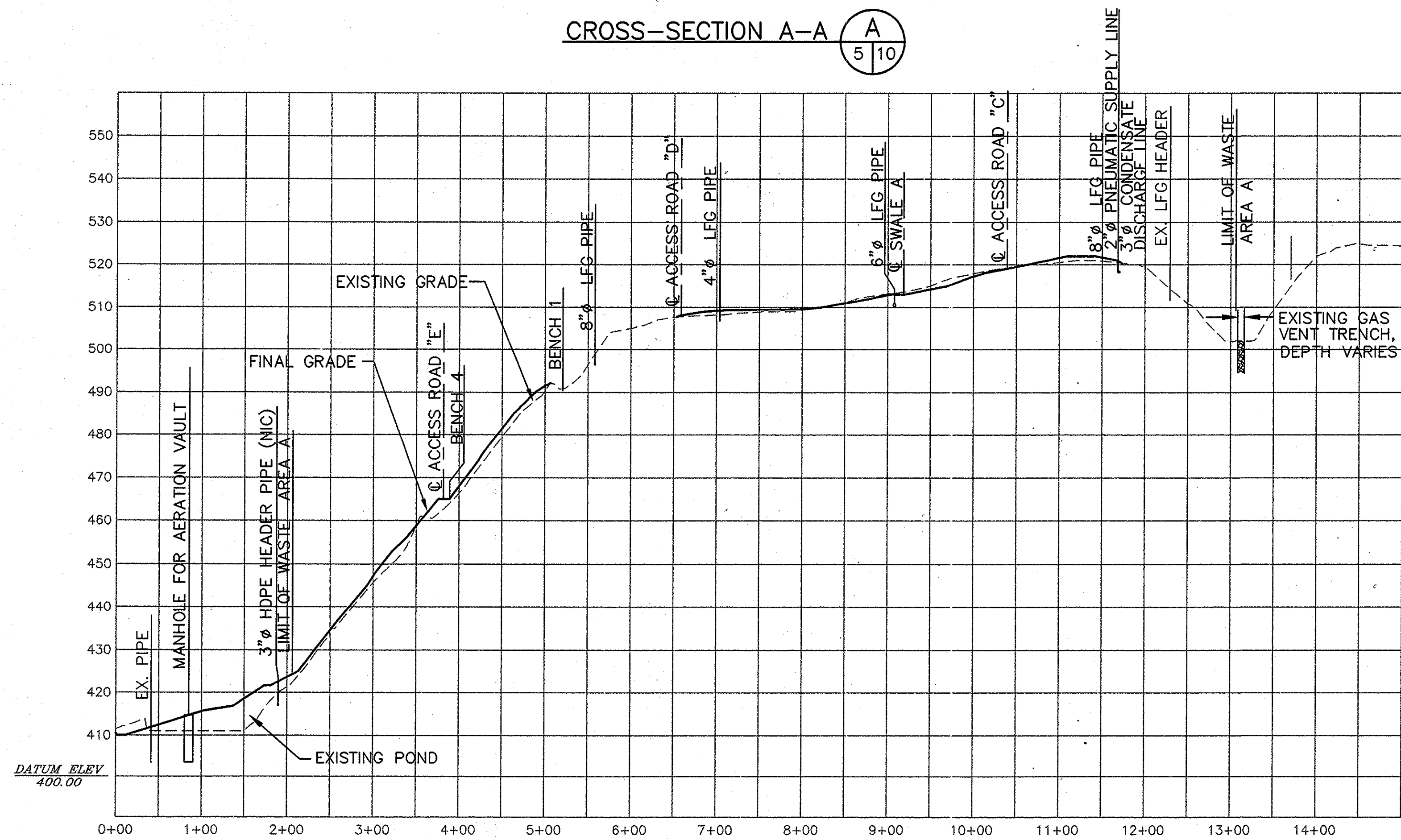
9 OF 40

SDP-99-109

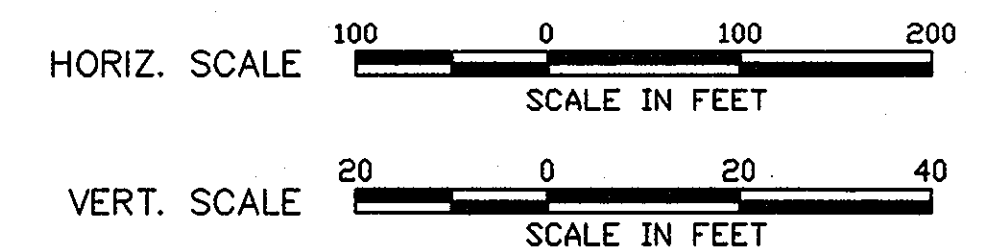
M:\296024.01\90 PERCENT\FG\PLAN1



CROSS-SECTION A-A (A) 5/10



CROSS-SECTION B-B (B) 5/10



M:\296024.01\90 PERCENT\PROFILES\ A1-A1, B1-B1

SUBDIVISION NAME	LOT/PARCEL	
HO. CO. GOVERNMENT	529	
LIBER/FOLIO	ZONE	TAX/ZONE MAP
180/339	R-20	31
WATER CODE	SEWER CODE	CENSUS TR.

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR: *[Signature]* DATE: 7/14/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 9/6/99
 CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 9/12/99

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS: *[Signature]* DATE: 7/6/99
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES: *[Signature]* DATE: 7/6/99

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



DES.	MRG		
DRN.	JCS		
CHK.	RHI		
DATE:	03-12-99		
BY	NO.	REVISION	DATE
		ADDED SHEET 40	6-5-13

LANDFILL
CROSS SECTIONS

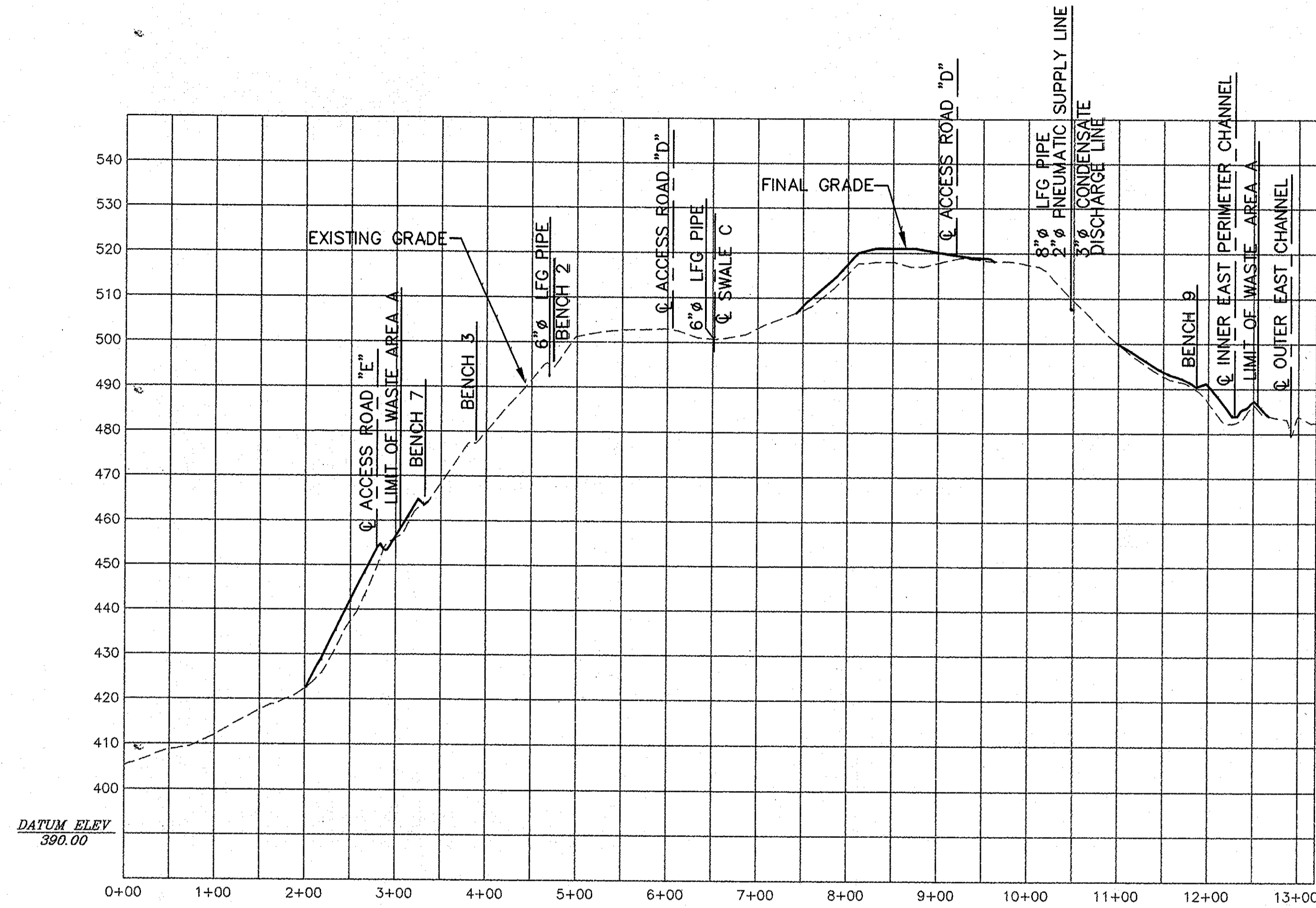
NEW CUT LANDFILL
IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

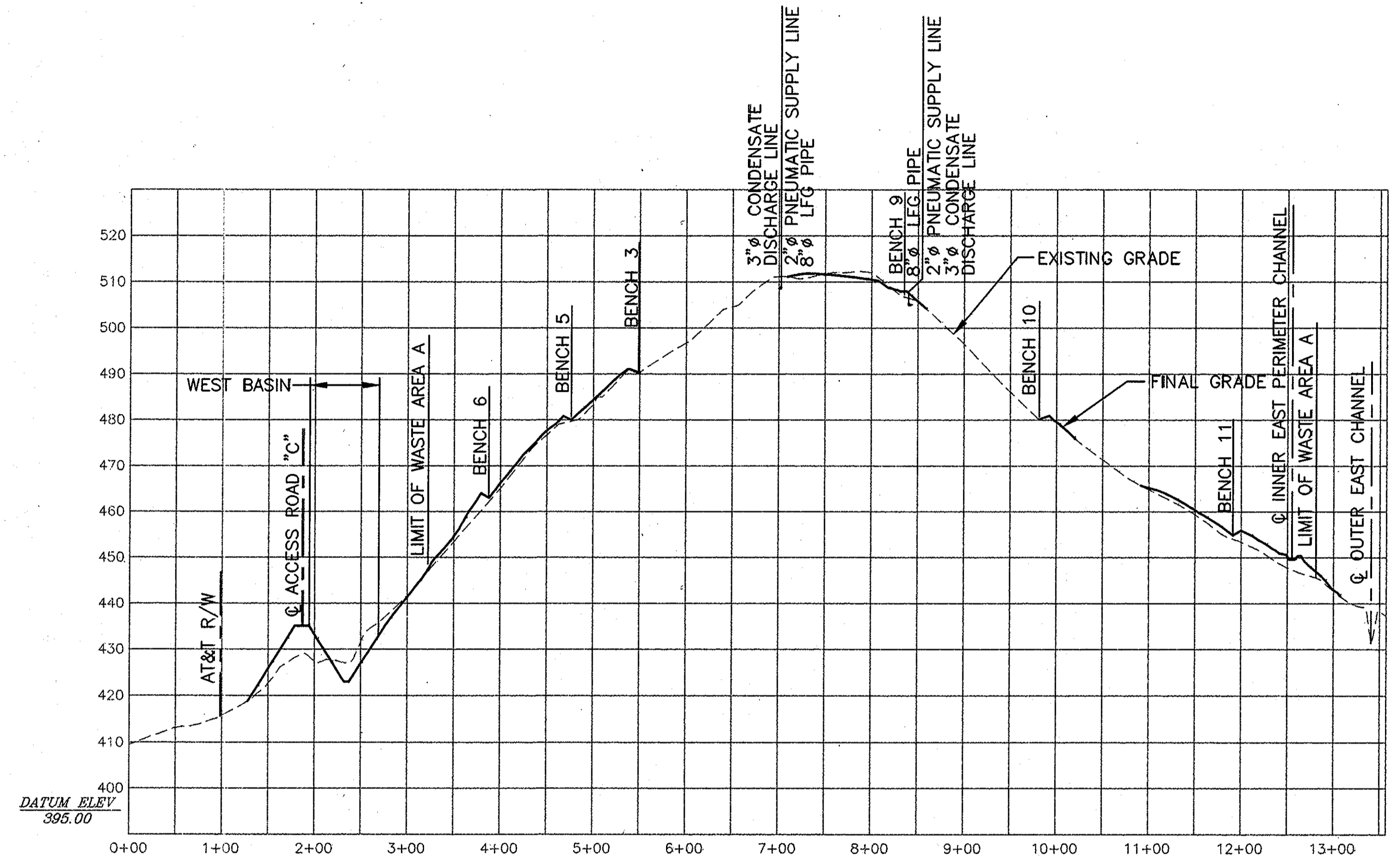
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN
SHEET 10 OF 40

M:\296024.01\90 PERCENT\PROFILES\ C1-C1, D1-D1



CROSS-SECTION C-C C
5 | 11



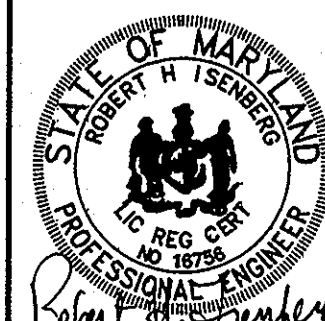
CROSS-SECTION D-D D
5 | 11

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	
<i>[Signature]</i> DIRECTOR	9/14/99 DATE
<i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	9/9/99 DATE
<i>[Signature]</i> CHIEF, DIVISION OF LAND DEVELOPMENT	9/13/99 DATE

SUBDIVISION NAME HO. CO. GOVERNMENT	LOT/PARCEL 529
LIBER/FOLIO 180/339	ZONE R-20
	TAX/ZONE MAP 31
WATER CODE	SEWER CODE
	CENSUS TR.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
<i>[Signature]</i> DIRECTOR OF PUBLIC WORKS	7/6/99 DATE
<i>[Signature]</i> CHIEF, BUREAU OF ENVIRONMENTAL SERVICES	7/6/99 DATE

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CONSULTING ENGINEERS
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RESTON, VIRGINIA 20190
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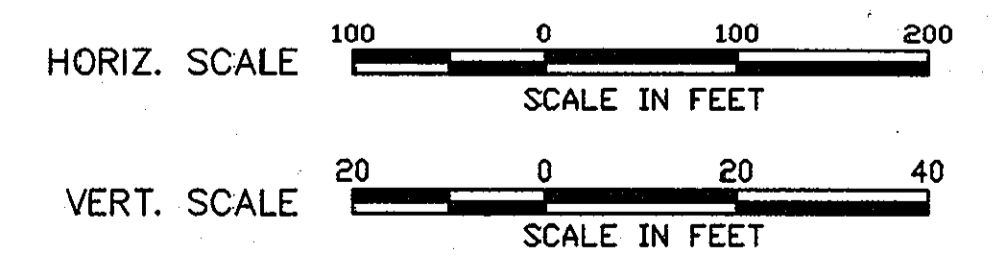


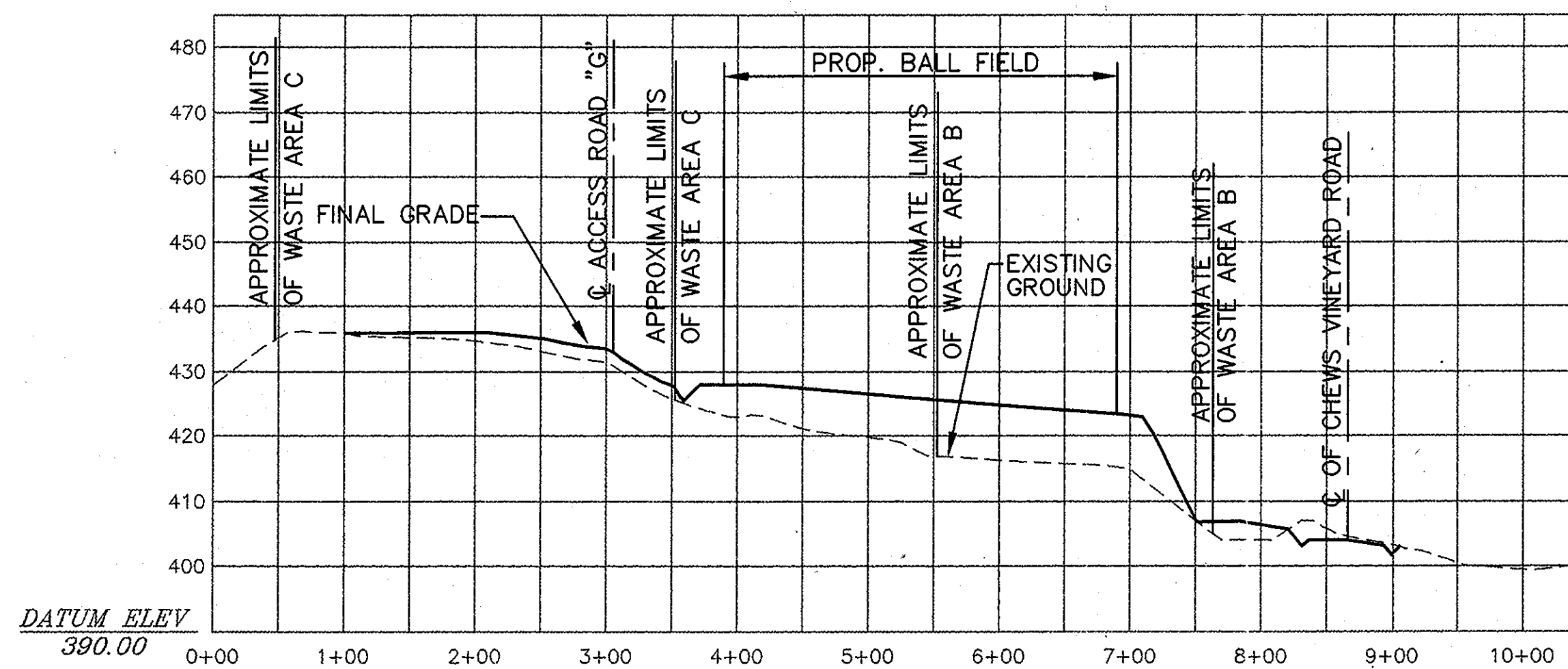
DES.	MRG		
DRN.	JCS		
CHK.	RHI		
DATE:	03-12-99		
BY	NO.	REVISION	DATE
		ADDED SHEET 40	6-5-13

LANDFILL
CROSS SECTIONS

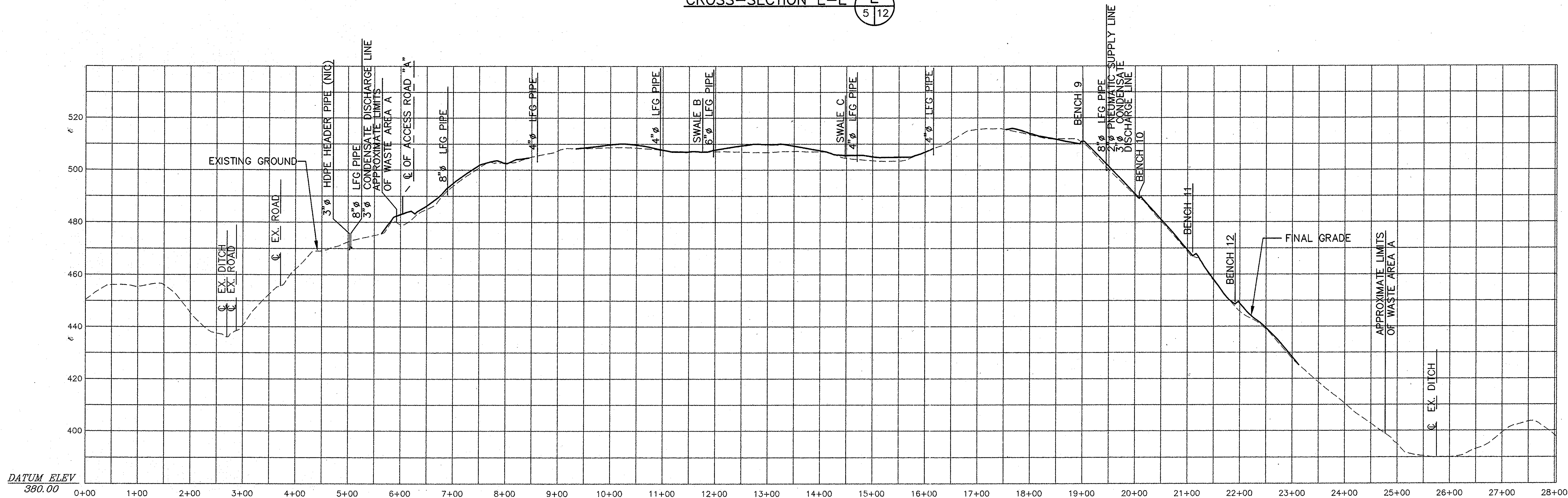
NEW CUT LANDFILL
IMPROVEMENTS
CAPITAL PROJECT NO. C-0237-H
2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE:
AS SHOWN
SHEET
11 OF 40

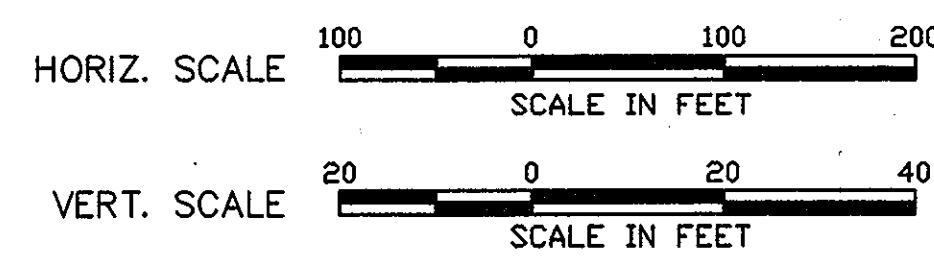




CROSS-SECTION E-E (F 5/12)



CROSS-SECTION F-F (F 5/12)



M:\296024\01\90 PERCENT\PROFILES\ E1-E1, F-1-F-1

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

[Signature] 2/14/99
DIRECTOR DATE

[Signature] 9/9/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 7/15/99
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

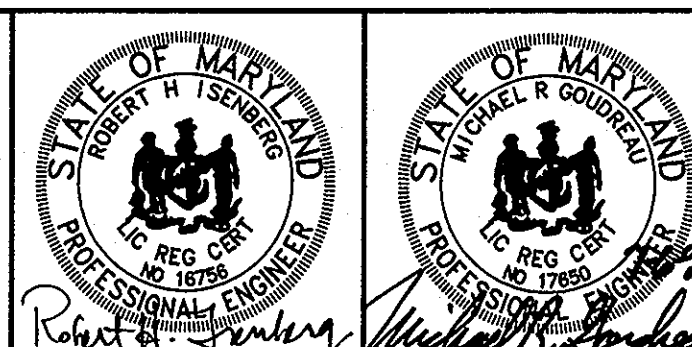
SUBDIVISION NAME	LOT/PARCEL		
HO. CO. GOVERNMENT	259		
LIBER/FOLIO	ZONE	TAX/ZONE MAP	
180/339	R-20	31	
WATER CODE	SEWER CODE	CENSUS TR.	

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 7/6/99
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 7/6/99
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE

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



DES.	MRG		
DRN.	JCS		
CHK.	RHI		
DATE:	03-08-99		
BY	NO.	REVISION	DATE
		ADDED SHEET 40	6-15-B

LANDFILL
CROSS SECTIONS

NEW CUT LANDFILL
IMPROVEMENTS

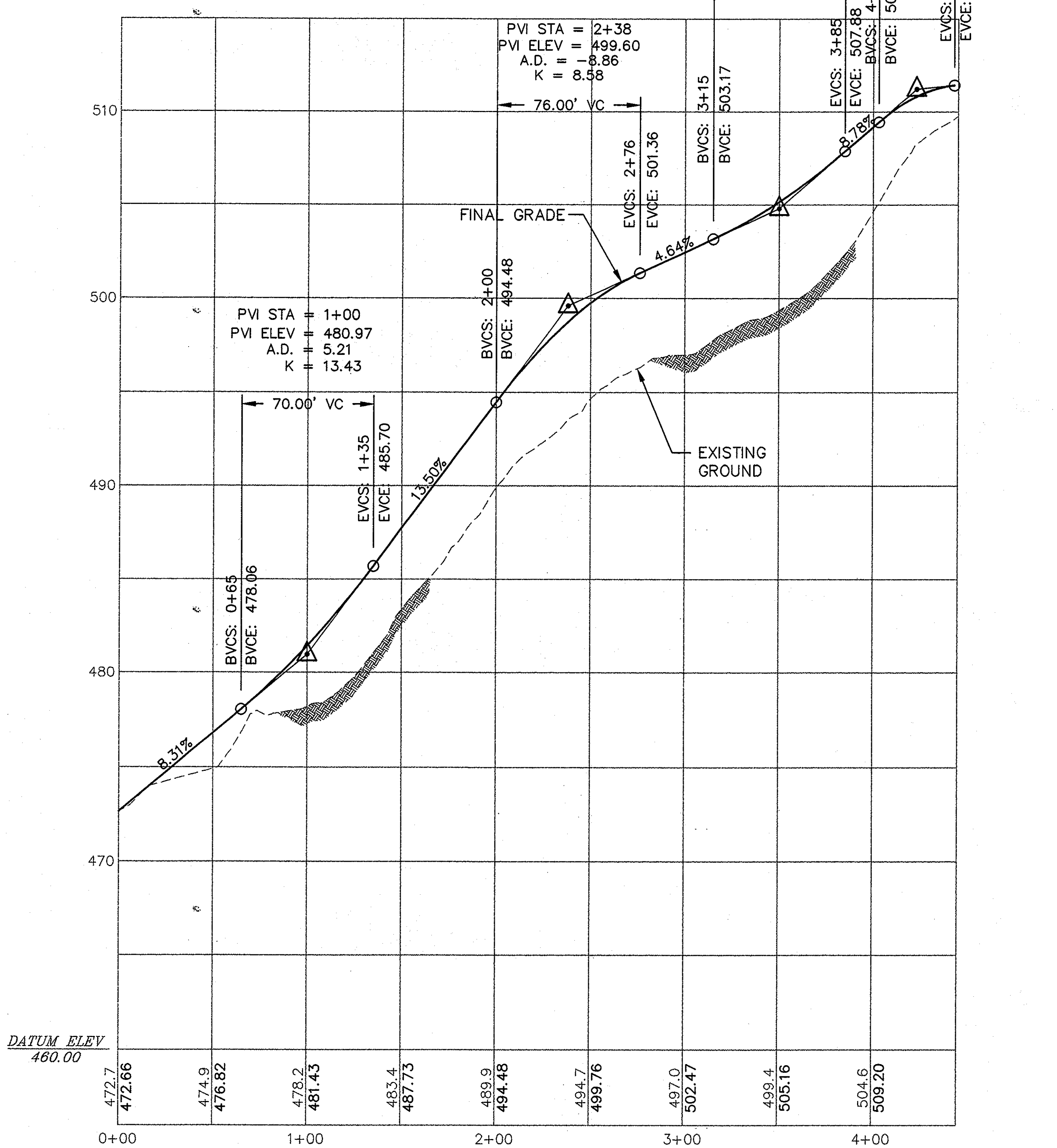
CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

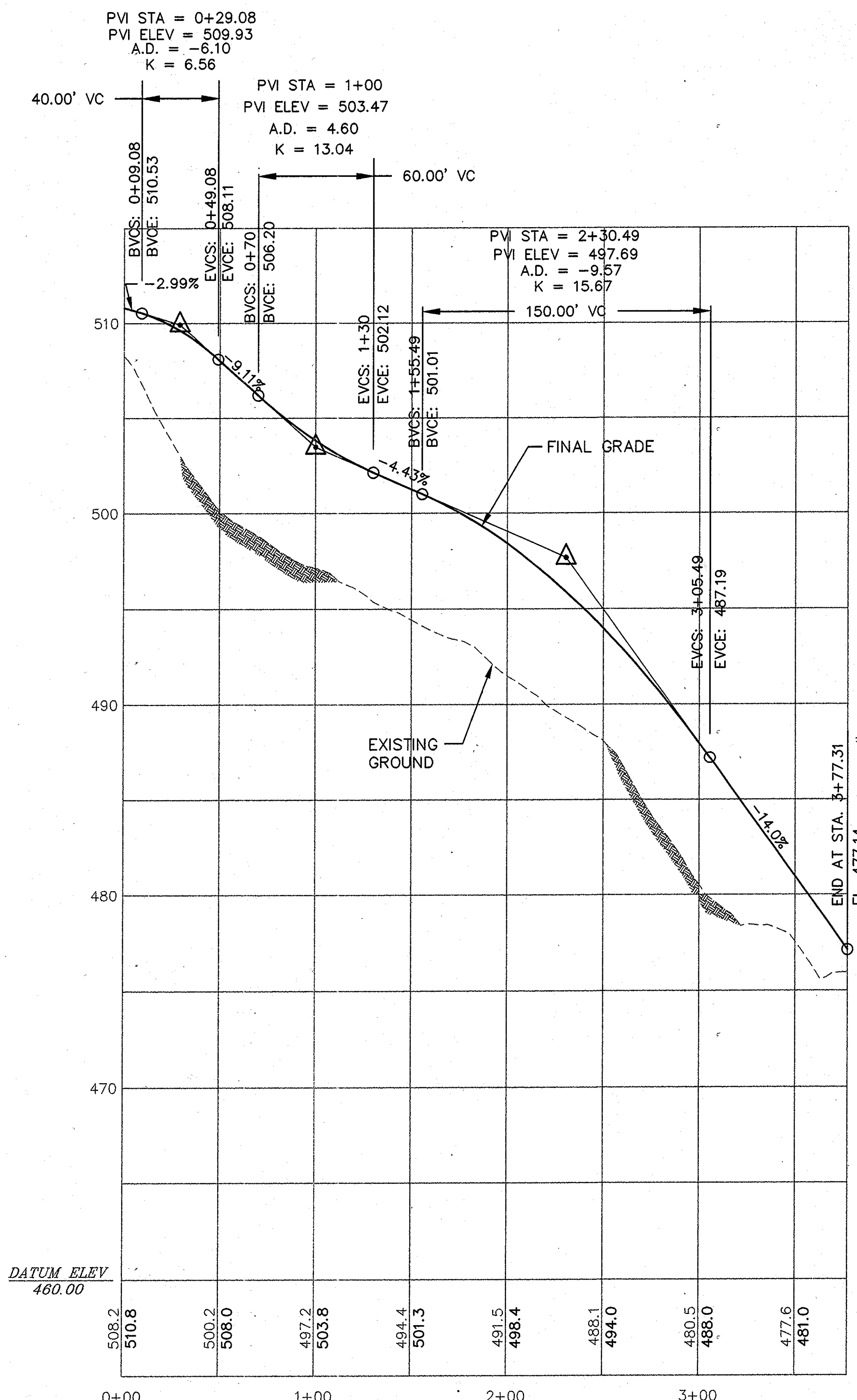
SCALE:
AS SHOWN

SHEET
12 OF 40

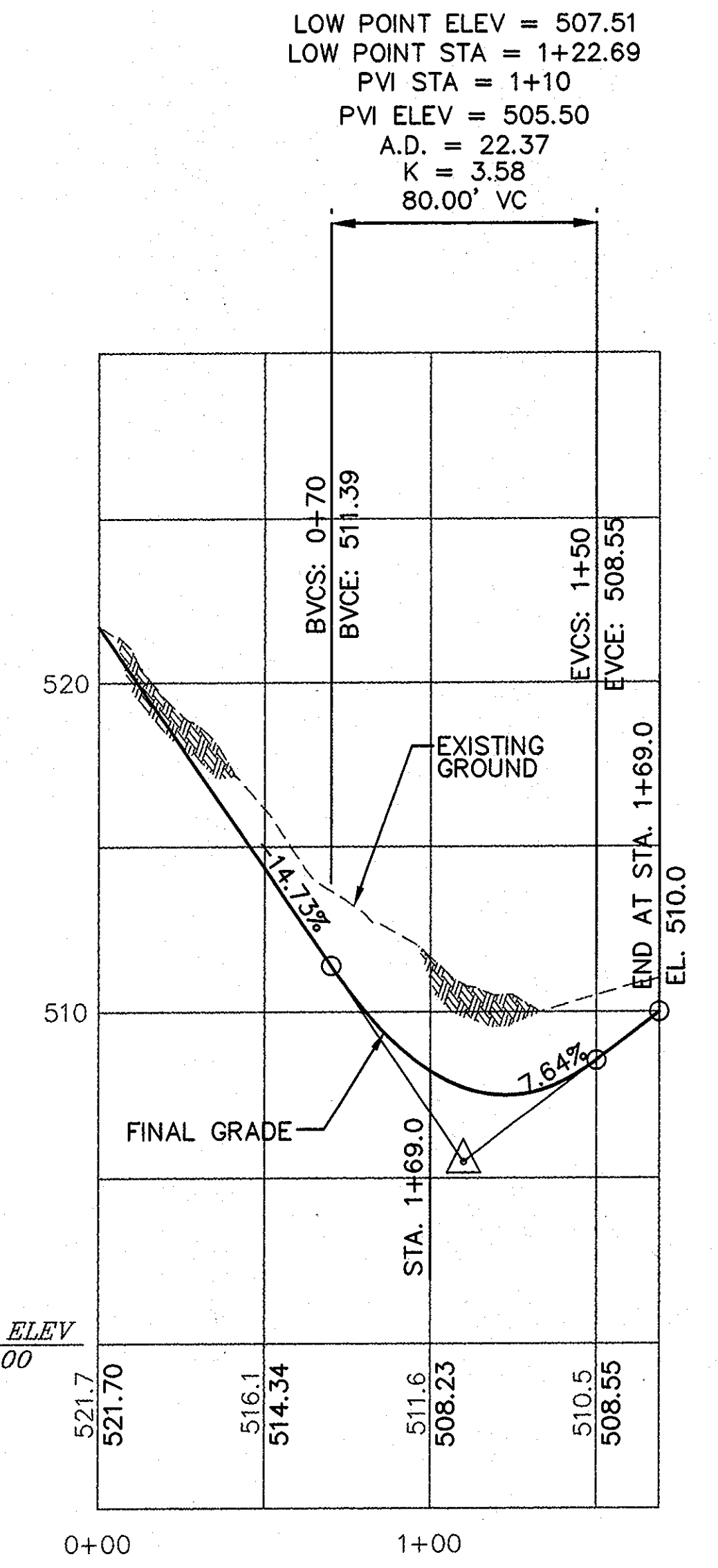
M:\296024.01\90 PERCENT\PROFILES\ XSECTION\RD--PROF



LANDFILL ACCESS ROAD A (1/13)
5,6,7,29,30,31



LANDFILL ACCESS ROAD B (2/13)
5,7,29,31



LANDFILL ACCESS ROAD C (3/13)
5,7,29,31

- NOTES:**
- FOR DETAIL OF ACCESS ROAD A & B REFER TO SHEET 15.
 - FOR GATE LOCATION ALONG LANDFILL ACCESS ROAD "A", "B" & "C" SEE SHEET 7.

LOW POINT ELEV = 507.51
LOW POINT STA = 1+22.69
PVI STA = 1+10
PVI ELEV = 505.50
A.D. = 22.37
K = 3.58
80.00' VC

FOR DETAIL OF ACCESS ROAD C REFER TO (1/718)

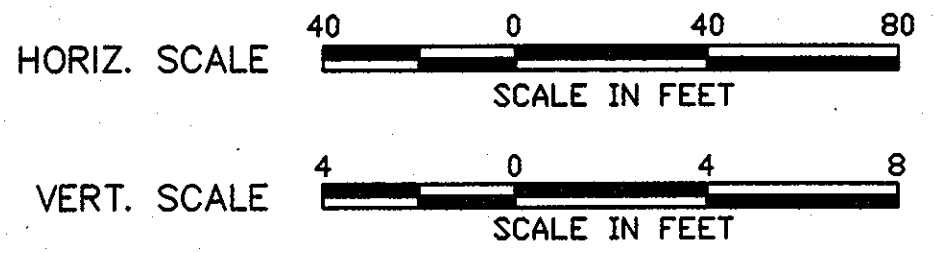
SUBDIVISION NAME	LOT/PARCEL	
HO. CO. GOVERNMENT	529	
LIBER/FOLIO	ZONE	TAX/ZONE MAP
180/339	R-20	31
WATER CODE	SEWER CODE	CENSUS TR.

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

[Signature] 9/14/99
DIRECTOR DATE

[Signature] 9/14/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 9/13/99
CHIEF, DIVISION OF LAND DEVELOPMENT DATE



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 7/6/99
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 7/6/99
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE

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



DES.	MRG	DATE
DRN.	JCS	6-5-13
CHK.	RHI	
DATE:	06-02-99	

ACCESS ROAD PROFILES

NEW CUT LANDFILL IMPROVEMENTS

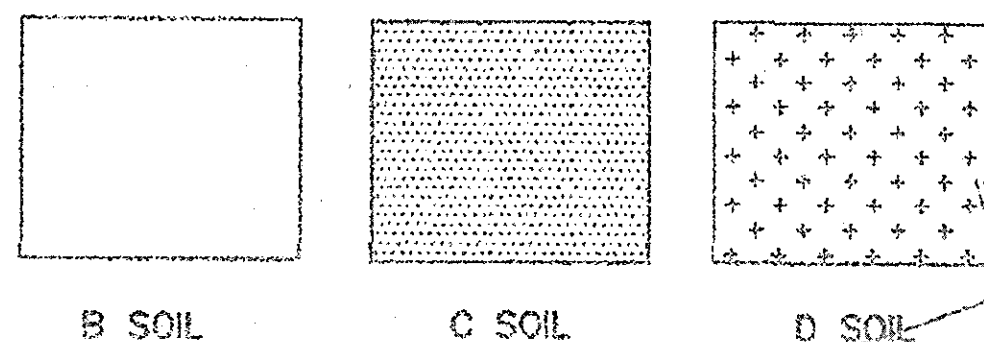
CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN
SHEET 13 OF 40

LEGEND

- EW-10 EXISTING LFG EXTRACTION WELL
- W-31 PROPOSED LFG EXTRACTION WELL
- W-33 PROPOSED DOWN-SLOPE LFG EXTRACTION WELL
- VW-16 EXISTING LFG MONITORING WELLS
- CS-1 PROPOSED CONDENSATE SUMP
- NEW INDEX CONTOUR
- EXISTING INDEX CONTOUR
- EXISTING TREELINE
- PROPERTY BOUNDARY
- LIMITS OF WETLANDS
- PROPOSED GROUNDWATER RECOVERY WELL (BY OTHERS)
- EXISTING OVERBURDEN WELL
- EXISTING BEDROCK WELL
- EXISTING RESIDENTIAL WELL
- EXISTING WELL TO BE CONVERTED TO GROUNDWATER RECOVERY WELL (BY OTHERS)
- DRAINAGE AREA DIVIDE
- DRAINAGE SUB-AREA DIVIDE
- LIMITS OF ROADWAY CAPITAL PROJECT
- CHANNEL
- BENCH (ARROW SHOWS DIRECTION OF FLOW)
- SWALE



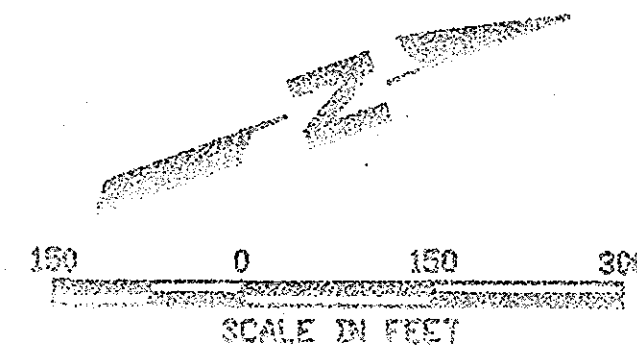
- NOTE:**
1. * DENOTES ROADWAY CAPITAL PROJECT ITEMS.
 2. SLOPES SHOWN FOR Tc FLOW PATHS ARE AVERAGES

AREA AND C FACTOR TABULATION

STRUCTURE NAME	SUB AREA (Ac.)	AREA (Ac.)	C FACTOR	PERCENT IMPERVIOUS
DOWNCHUTE 4	1.0	1.0	0.32	0
DOWNCHUTE 5	2.6	2.6	0.32	0
DOWNCHUTE 5B	3.3	5.9	0.31	0
E-24	7.06	7.06	0.36	12.91
E-26	0.51	0.51	0.31	5.9
I-7	1.18	1.18	0.19	0
I-8	0.37	1.55	0.42	22.3
SWALE A (E-15, E-17)	2.9	2.9	0.25	0
SWALE B (E-19)	1.8	1.8	0.25	0
DOWNCHUTE 3 (E-9)	12.5	12.5	0.28	0
SWALE C (E-21)	2.9	2.9	0.32	0

POST-LANDFILL DEVELOPMENT PEAK FLOW RATES

AREA NAME	AREA (Ac.)	RCN	Tc (hrs)	PEAK FLOW Qc PER STORM EVENT (cfs)			
				Q2	Q10	Q25	Q100
A	60.2	72	0.35	53	140	165	248
B	22.73	74	0.36	23	57	66	98
C	6.87	72	0.10	9	23	27	40
D	3.80	74	0.11	6	14	16	23
E	12.45	74	0.31	3	8	13	40
F	0.77	68	0.55	4	1	2	28
G	26.9	72	0.35	8	20	29	76
H	2.51	73	0.13	3	8	10	15
I	2.80	68	0.19	2	7	9	13



DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

[Signature] 9/16/09
DATE

[Signature] 9/16/09
DATE

[Signature] 9/16/09
DATE

SUBDIVISION NAME
HO. CO. GOVERNMENT

LOT/PARCEL
529

LIBER/FOLIO
180/339

ZONE
R-20

TAX/ZONE MAP
31

WATER CODE

SEWER CODE

CENSUS TR.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 7/16/09
DATE

[Signature] 7/16/09
DATE

SCS ENGINEERS
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11260 ROGER BACON DRIVE
SUITE 300
RESTON, VIRGINIA 20190
PH. (703) 471-8150
FAX. (703) 471-6676

DES.	MRG	DATE
DRAL	JCS	
CHK.	RHI	
DATE	07-01-09	
BY	HC	

ADDED SHEET 40
SOLAR PANEL ARRAY FIELD
6-5-13
4/25/11

NEW CUT LANDFILL IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

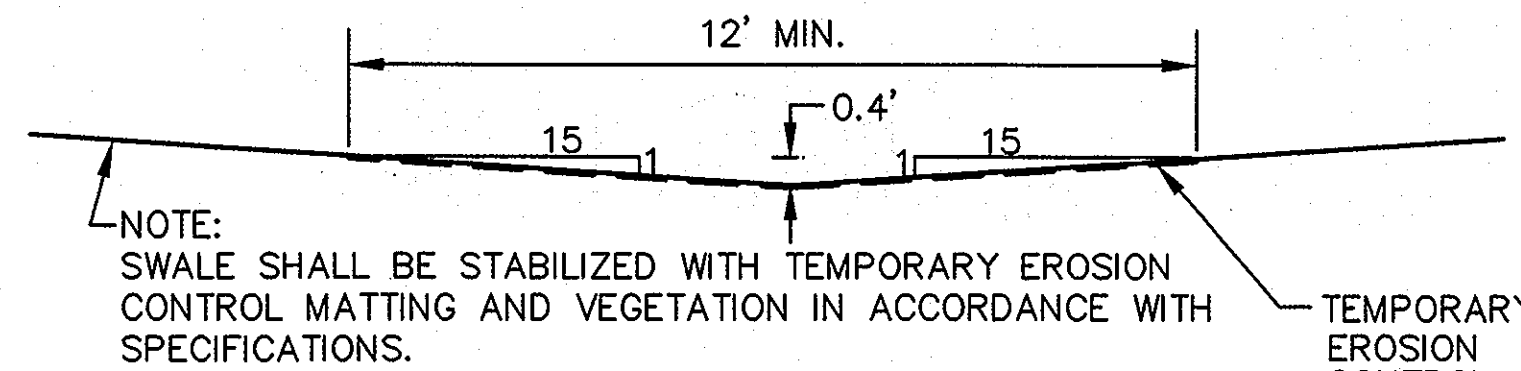
SCALE: 150

SHEET 14 of 40

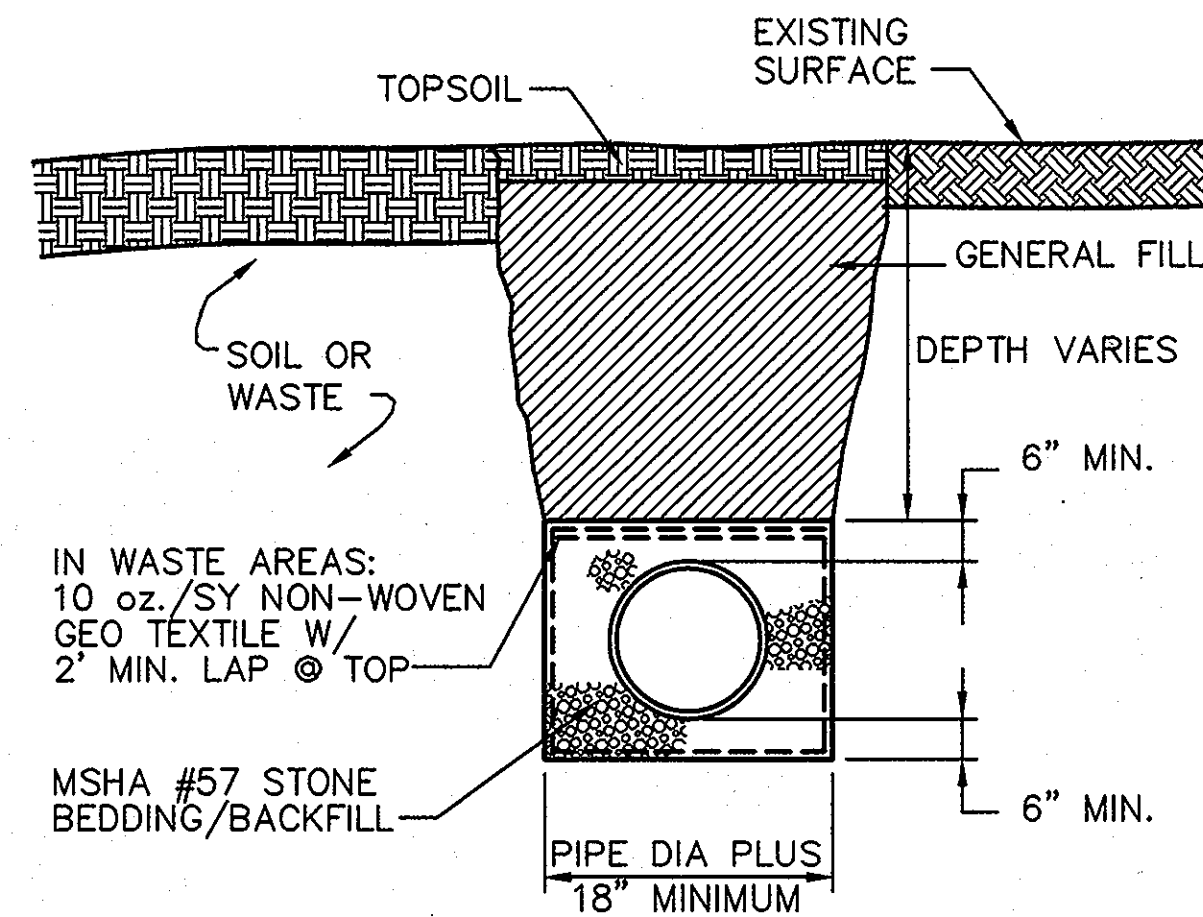
[Signature]
PROFESSIONAL ENGINEER
LICENSE NO. 28567 EXPIRATION DATE 4/16/11

PROFESSIONAL CERTIFICATION
I, MATTHEW T. ALLEN, 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. 28567 EXPIRATION DATE 4/16/11

NOTE: DURING GRADING ACTIVITIES, THE CONTRACTOR SHALL PLACE EROSION CONTROL MAT, TURF REINFORCEMENT MAT, RIP-RAP AS SOON AS DITCH/BENCH/CHANNEL/DOWNCHUTE GRADE IS ESTABLISHED.

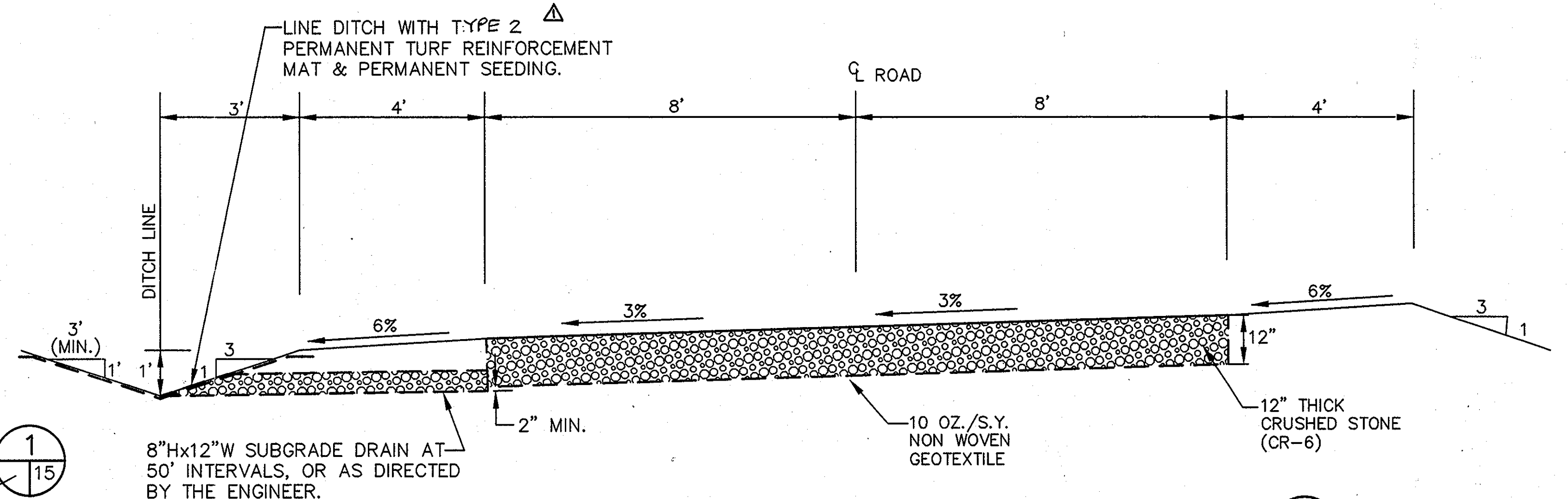


SWALE CROSS-SECTION 3
NO SCALE
5,6,7,8,24,25,29,30,31,32

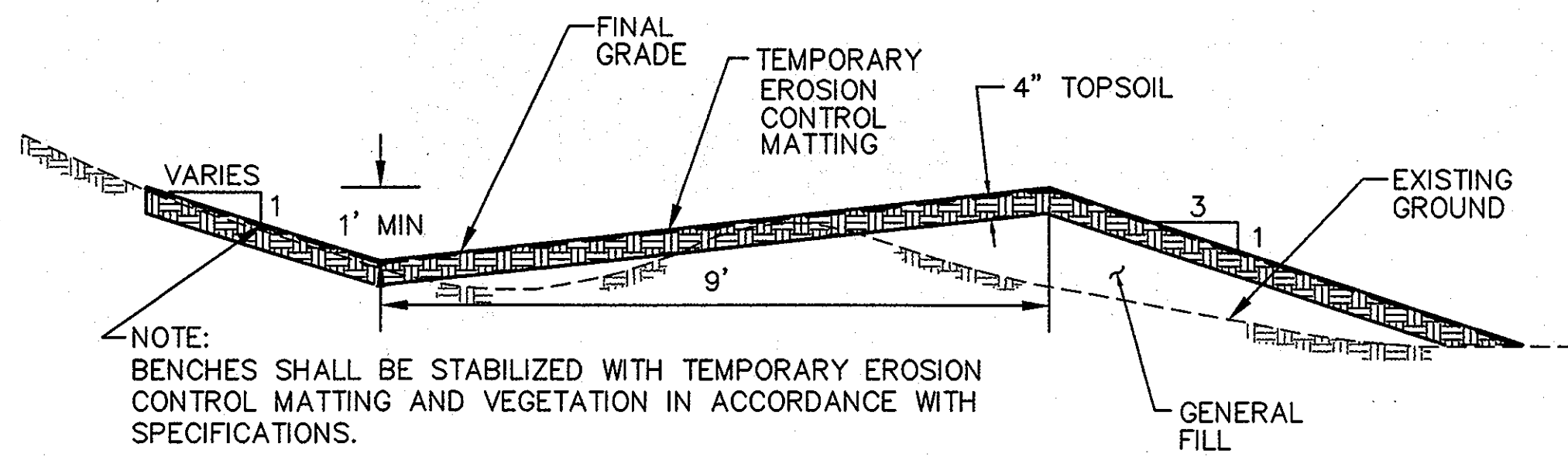


HDPE OUTLET PIPE BEDDING AND TRENCH DETAIL 1
NO SCALE
24,25

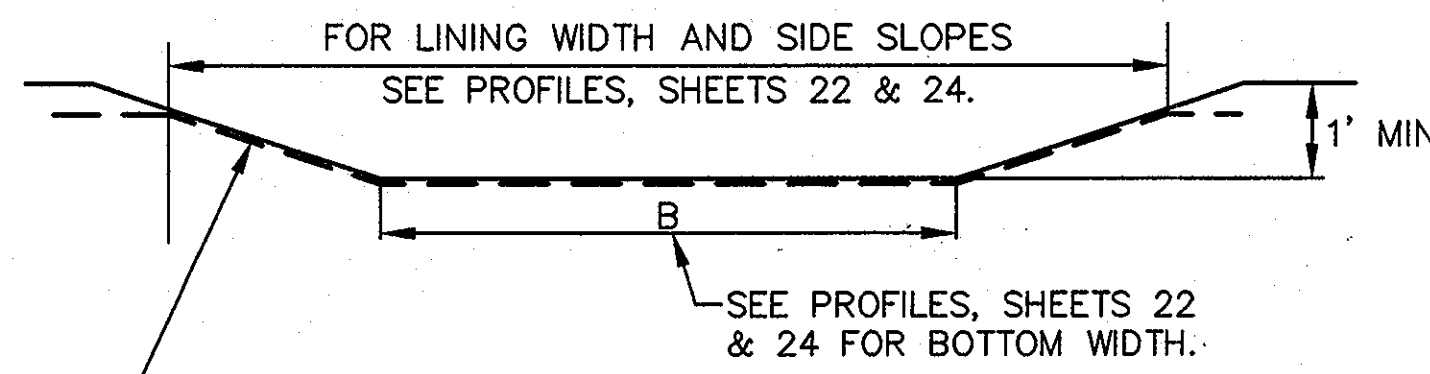
NOTE:
1. REFER TO HDPE PIPE PROFILE FOR PIPE ELEVATIONS.



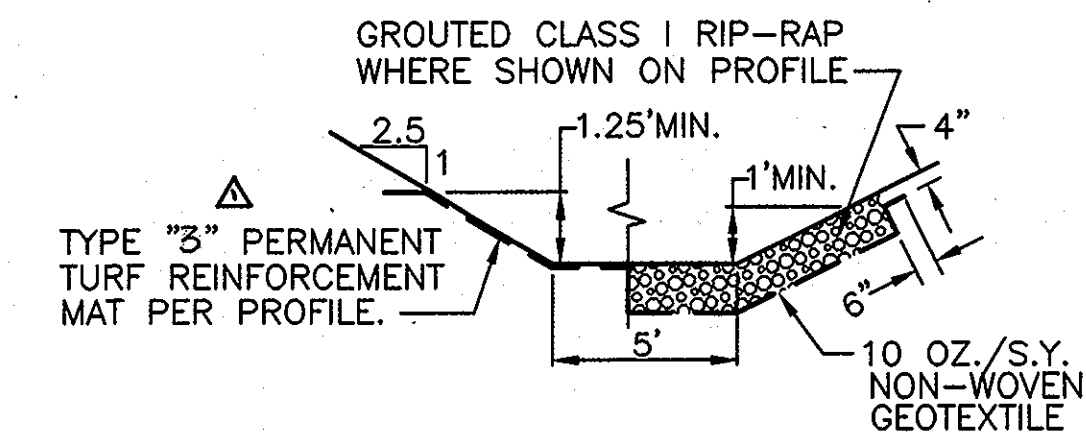
ACCESS ROAD "A" AND "B" CROSS SECTION (TYP.) 6
NO SCALE
5,6,7,29,30,31



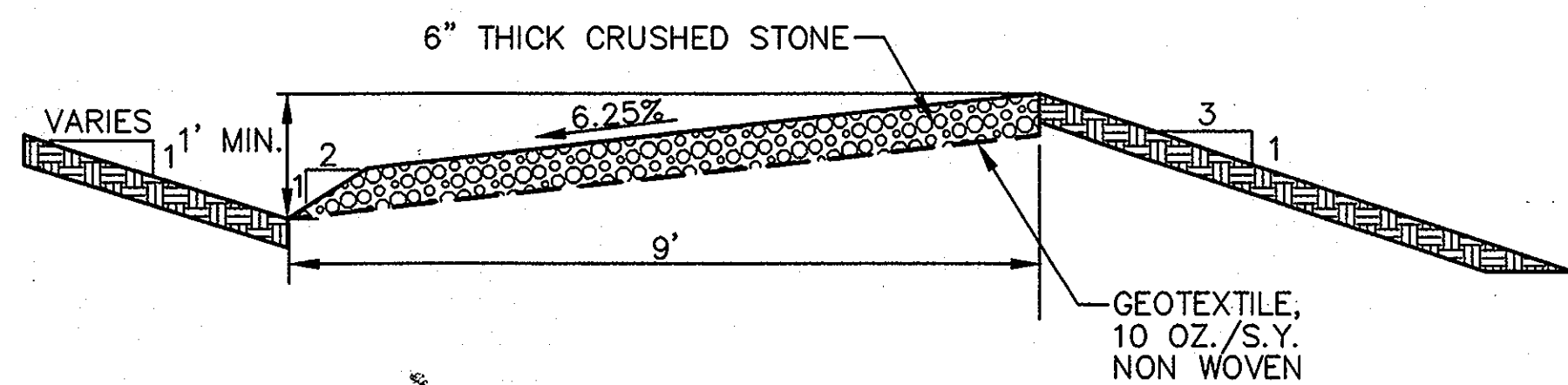
TYPICAL BENCH IMPROVEMENT CROSS-SECTION 2
NO SCALE
5,6,7,8,9,29,30,31,32,33



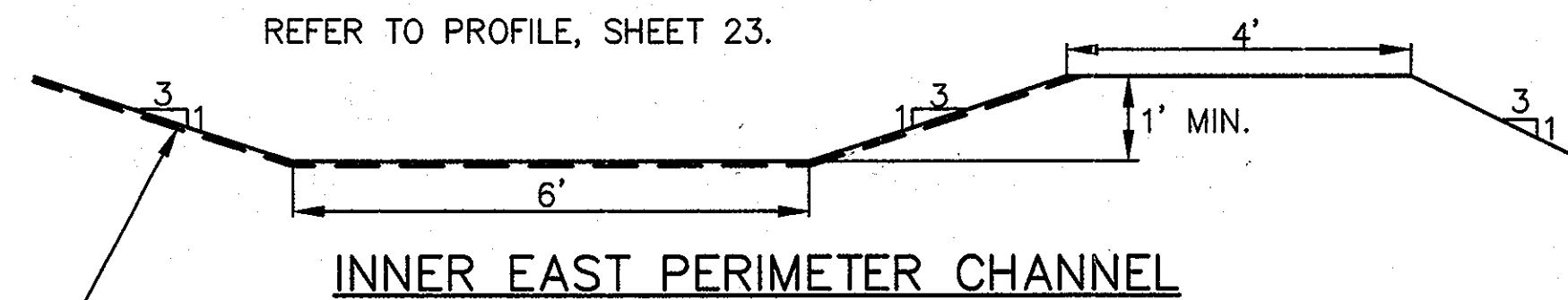
DOWNCHUTE CHANNELS, SW-1, SW-2



NORTH CHANNEL
NOT TO SCALE

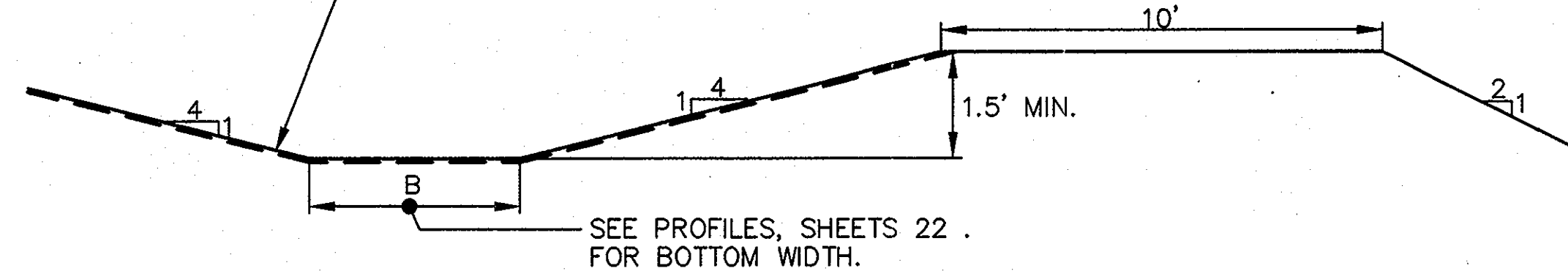


C CROSS-SECTION OF BENCH 4 WITH ACCESS ROAD 7
NO SCALE
5,6,29,30



INNER EAST PERIMETER CHANNEL

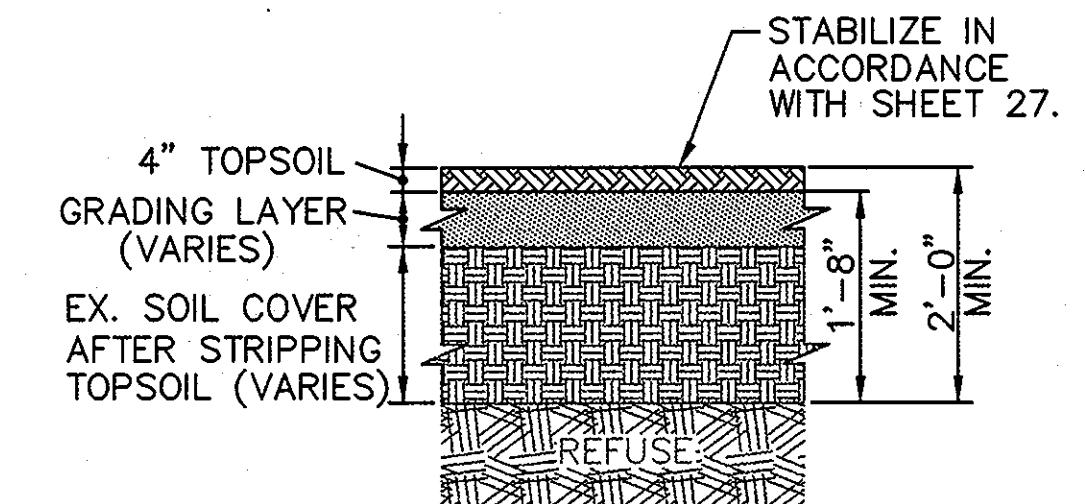
LINE WITH TEMPORARY EROSION CONTROL MATTING AND PERMANENT TURF REINFORCEMENT MAT WHERE SHOWN ON PROFILES, SHEET 22 & 23.



WEST PERIMETER CHANNEL

NOTE:
ANCHORING OF TEMPORARY AND PERMANENT MAT SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATIONS.

NOTE: DURING GRADING ACTIVITIES, THE CONTRACTOR SHALL PLACE EROSION CONTROL MAT, TURF REINFORCEMENT MAT, RIP-RAP AS SOON AS DITCH/BENCH/CHANNEL/DOWNCHUTE GRADE IS ESTABLISHED.



FINAL CAP IMPROVEMENT SECTION 5
NO SCALE
6, 7, 8, 9

- NOTES:
- EXISTING SOIL COVER THICKNESS VARIES. (SEE SHEET NO. 4).
 - WHERE EXISTING SOIL COVER EXCEEDS 2'-0" (BEFORE TOPSOIL STRIPPING), TOPSOIL, GRADE AS SHOWN ON PLANS, TO MEET MINIMUM SLOPE AND THICKNESS REQUIREMENTS, AND STABILIZE WITH TOPSOIL AND VEGETATIVE COVER.
 - WHERE EXISTING SOIL COVER IS LESS THAN 2'-0" (BEFORE TOPSOIL STRIPPING), STRIP AND STOCKPILE EXISTING TOPSOIL, AND PLACE GRADING LAYER SOIL TO MEET MINIMUM SLOPE AND THICKNESS REQUIREMENTS. THE COMBINED MINIMUM THICKNESS OF LOW PERMEABILITY GRADING LAYER SOIL PLUS EXISTING SOIL COVER SHALL BE 20 INCHES IN THESE AREAS.

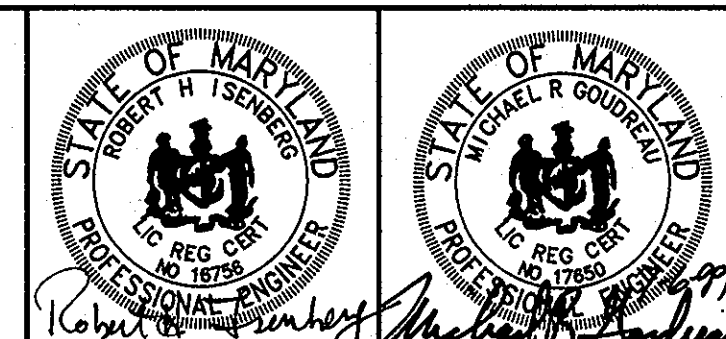
CHANNEL CROSS-SECTIONS 4
NO SCALE
5,6,7,9,22,23,29,30,31,33

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	
<i>[Signature]</i> DIRECTOR	9/12/99 DATE
<i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	9/12/99 DATE
<i>[Signature]</i> CHIEF, DIVISION OF LAND DEVELOPMENT	9/13/99 DATE

SUBDIVISION NAME	LOT/PARCEL	
HO. CO. GOVERNMENT	529	
LIBER/FOLIO	ZONE	TAX/ZONE MAP
180/339	R-20	31
WATER CODE	SEWER CODE	CENSUS TR.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
<i>[Signature]</i> DIRECTOR OF PUBLIC WORKS	7/6/99 DATE
<i>[Signature]</i> CHIEF, BUREAU OF ENVIRONMENTAL SERVICES	7/6/99 DATE

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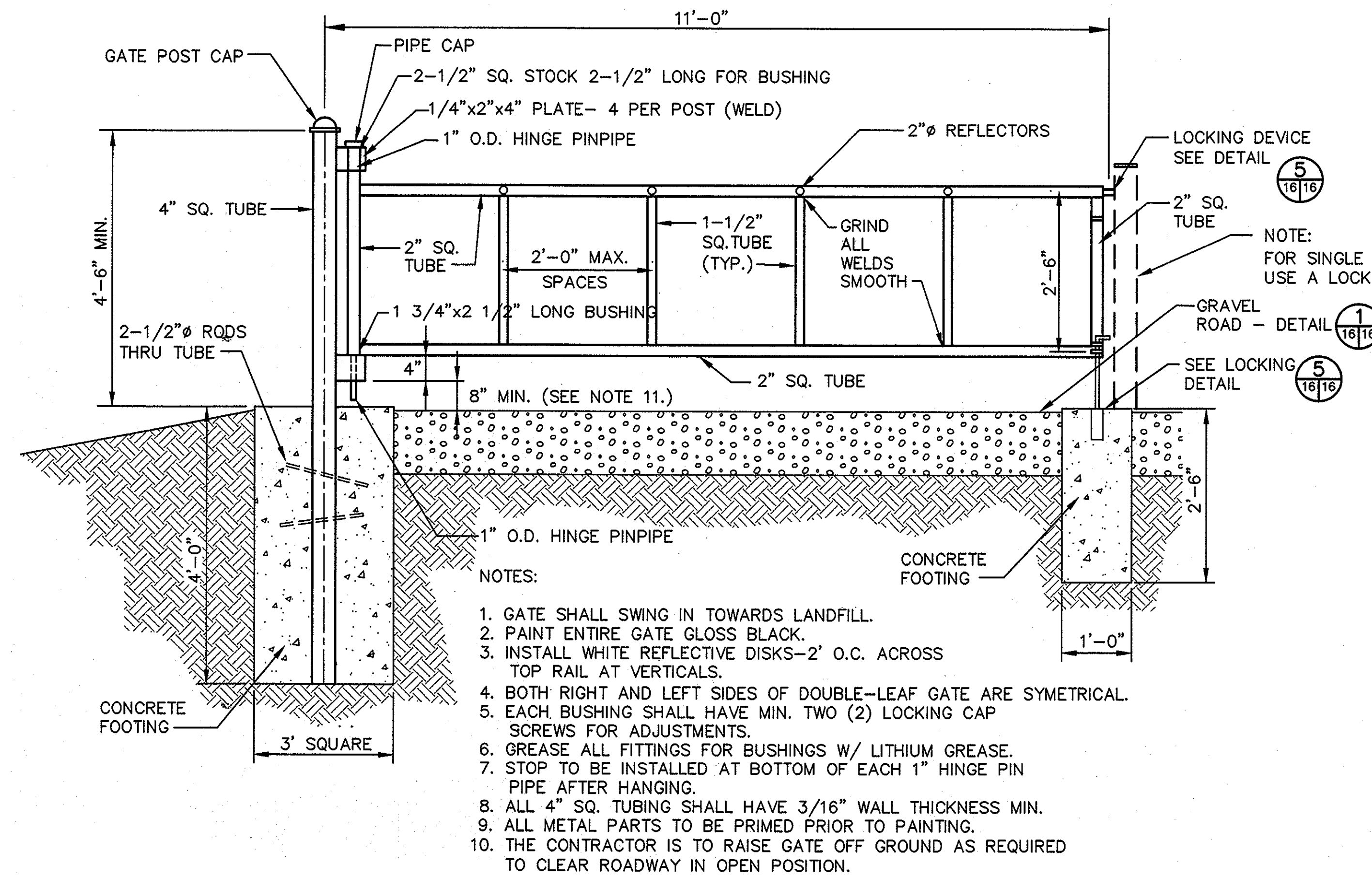
DES.	MRG		
DRN.	JCS		
CHK.	RHI		
DATE:	06-02-99	BY:	NO.
		REVISION	DATE
		Added Sheet 40	6-5-13
		Changed "Type B" to Type 2" & "C" to 18" & 24"	

FINAL COVER DETAILS AND ACCESS ROAD DETAILS

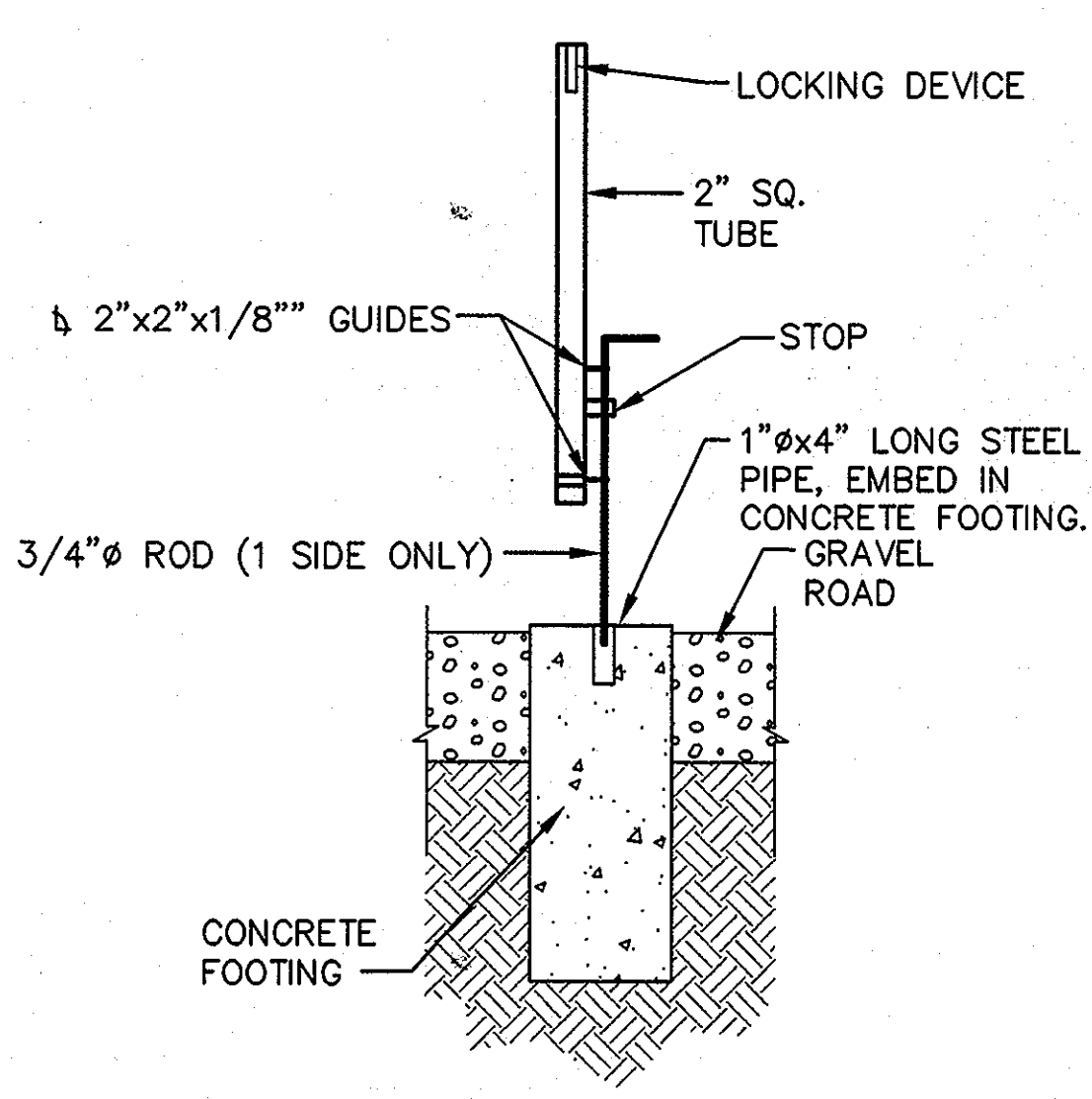
NEW CUT LANDFILL IMPROVEMENTS
CAPITAL PROJECT NO. C-0237-H
2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE:
AS SHOWN
SHEET
15 OF 40

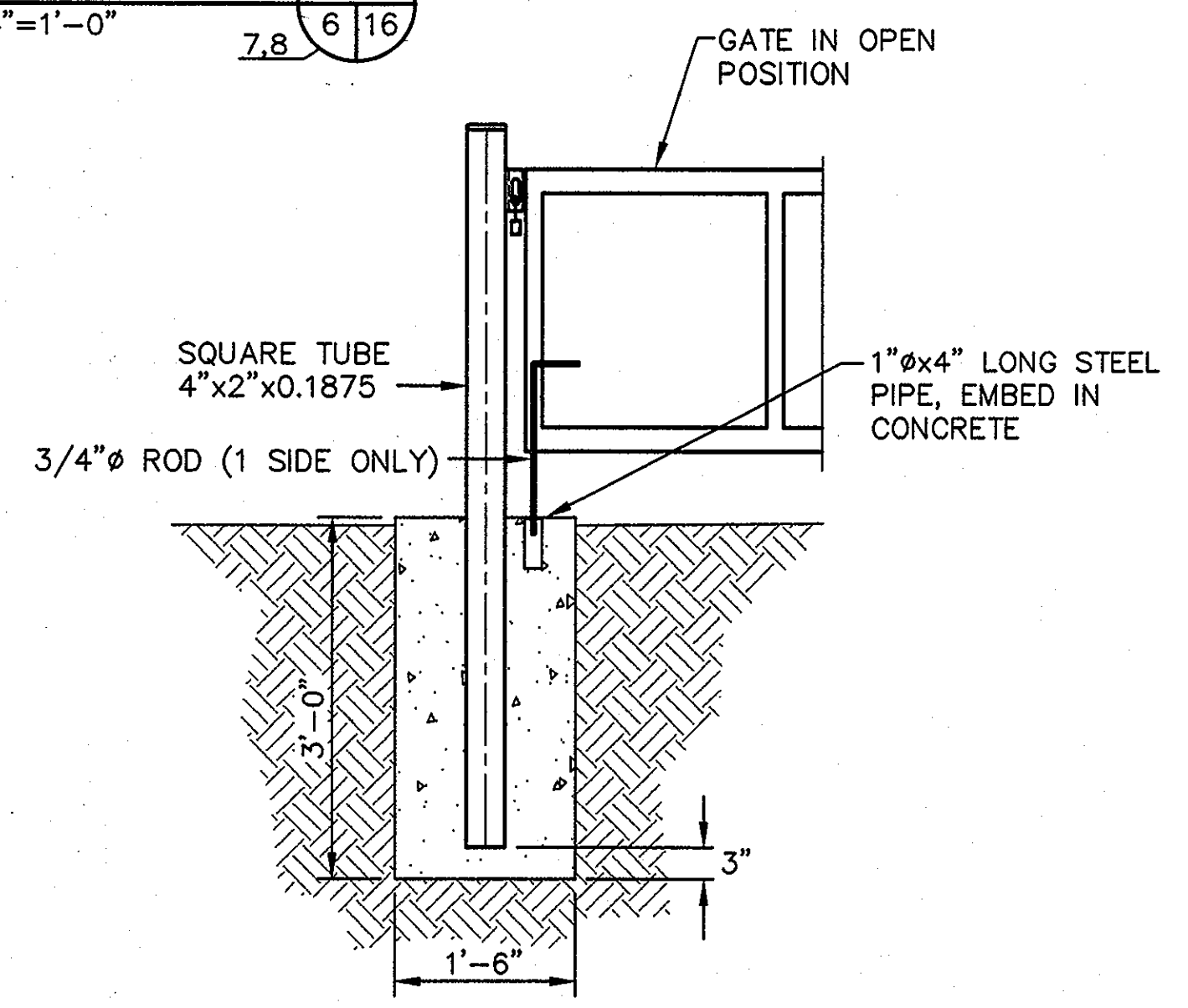
M: 296024.01\90 PERCENT\PROFILES CHAIN, ENTRANCE, GATE, GRAY-RD, LRSWMS, HOLDOPEN



ENTRY GATE DETAIL 3
SCALE: 3/4"=1'-0" 7.8 6/16

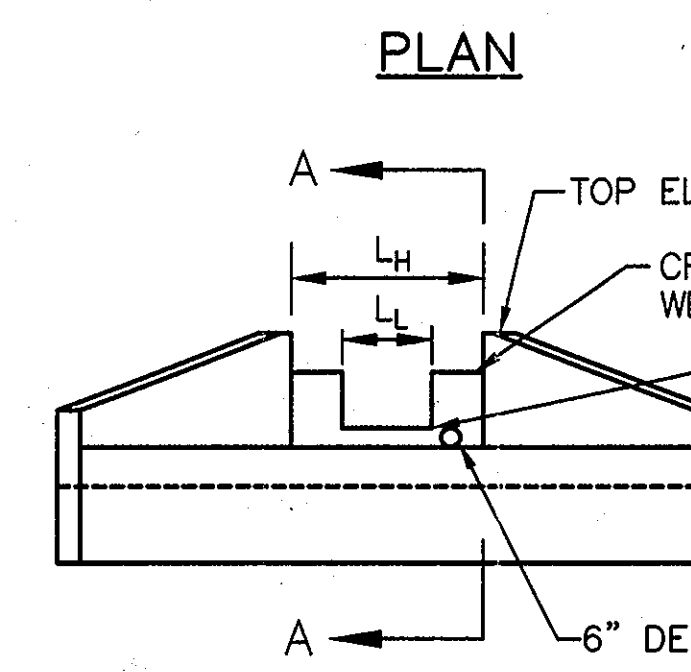
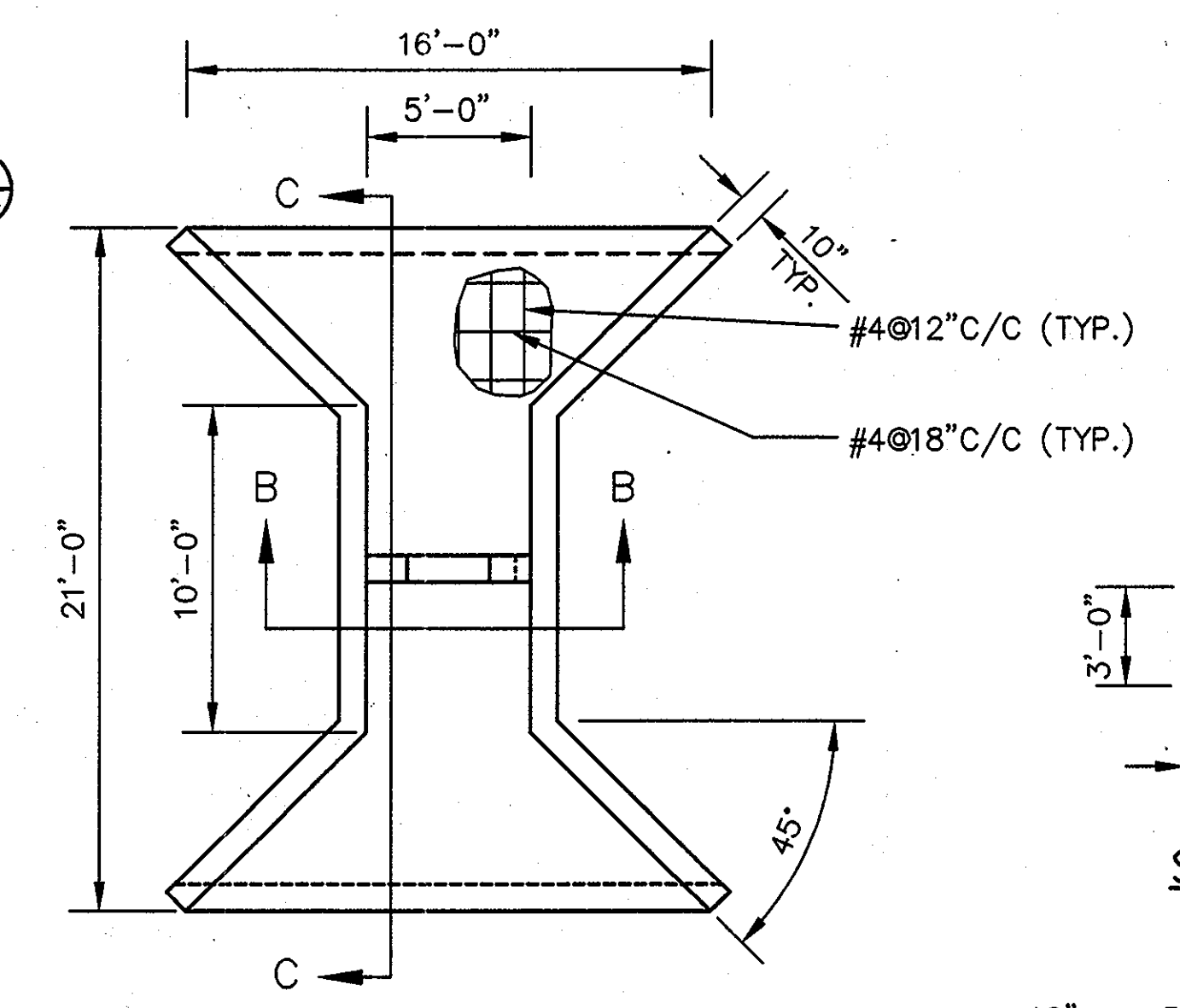


GATE IN CLOSED POSITION DETAIL 6
SCALE: 3/4"=1'-0" 16/16

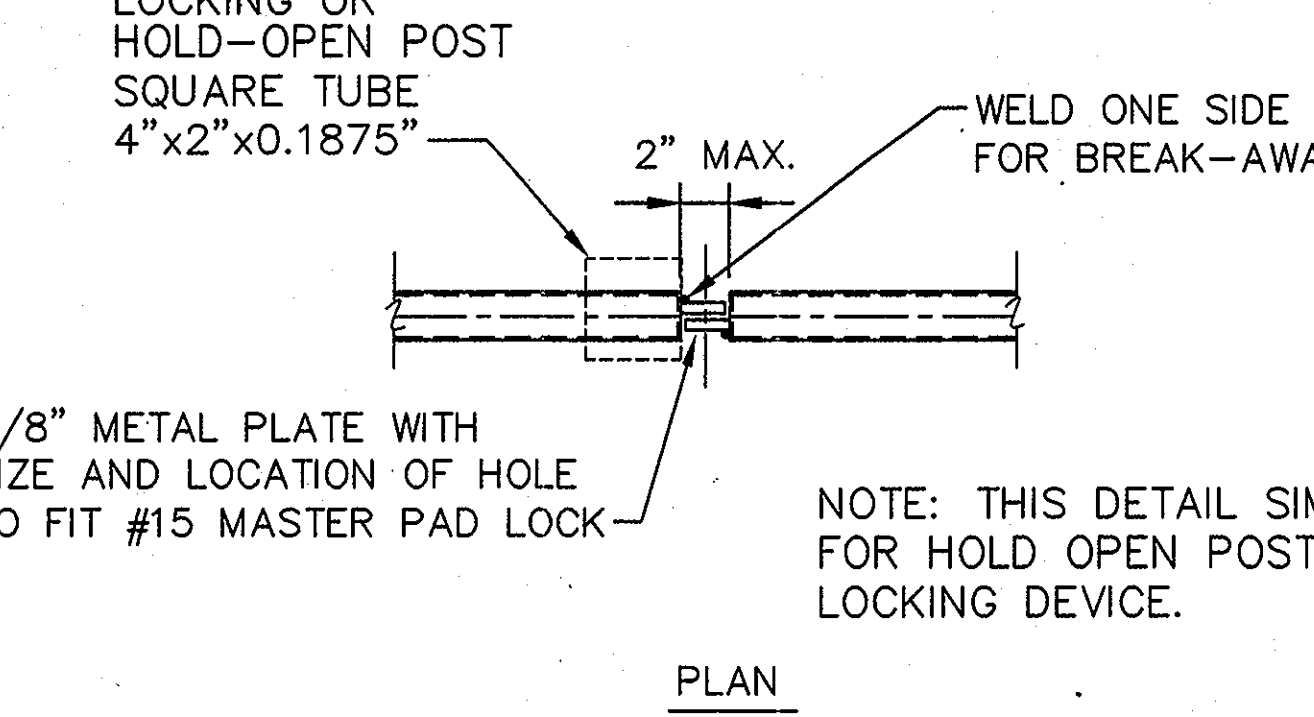
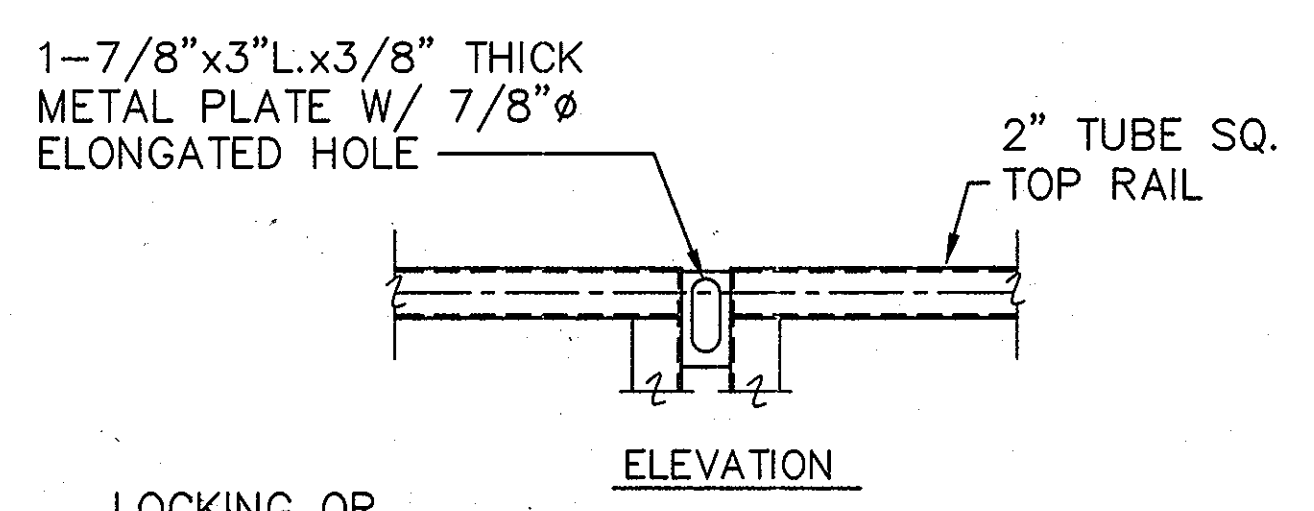


LOCKING OR HOLD-OPEN POST 4
SCALE: 3/4"=1'-0" 16/16

STRUCTURE NO.	L _L	LOW-FLOW WEIR CREST ELEV.	L _H	HIGH-FLOW WEIR CREST ELEV.	TOP ELEV.	DEWATER DEVICE INV. ELEV.	DESIGN PEAK DISCHARGE AND WATER SURFACE ELEVATION (WSE)	
							2-YEAR	10-YEAR
WEST	0'-6"	392.5	5'-0"	392.75	393.0	390.0	1 CFS @ WSE 391.5	2 CFS @ WSE 392.7



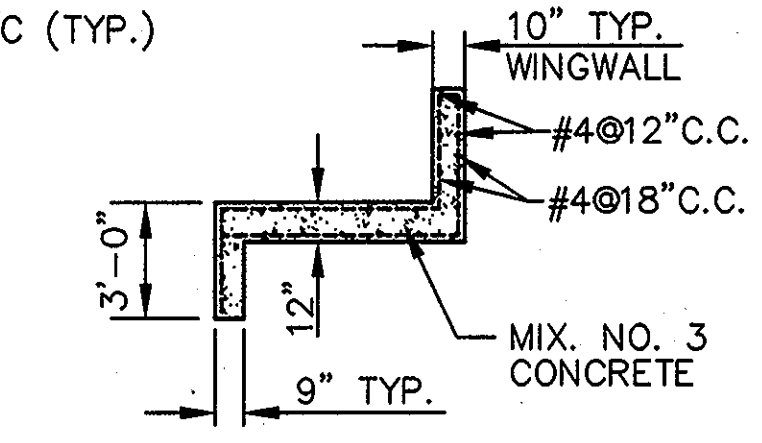
FRONT ELEVATION



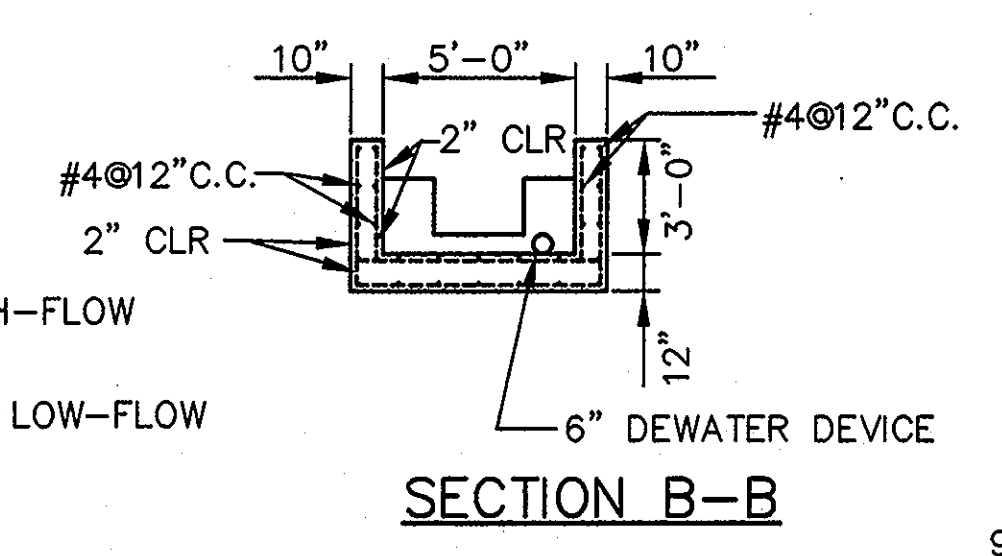
LOCKING DEVICE DETAIL 5
SCALE: 1 1/2"=1'-0" 16/16

- NOTES:
- ALL EXPOSED EDGES TO HAVE 3/4" X 3/4" CHAMFER OR AS DIRECTED.
 - CONCRETE SHALL BE SHA MIX NO. 3 (f_c=3500 PSI @ 28 DAYS)
 - REINFORCING STEEL SHALL BE ASTM A-615 GRADE 60.
 - QUANTITIES IN TABLE FOR ESTIMATING ONLY.
 - WEIR CONTROL SECTION IS SIZED FOR CONTROL OF DISCHARGE RATES AS SHOWN IN TABLE.
 - FOR STRUCTURE MODIFICATIONS DURING CONSTRUCTION ACTIVITIES, SEE DETAIL 2

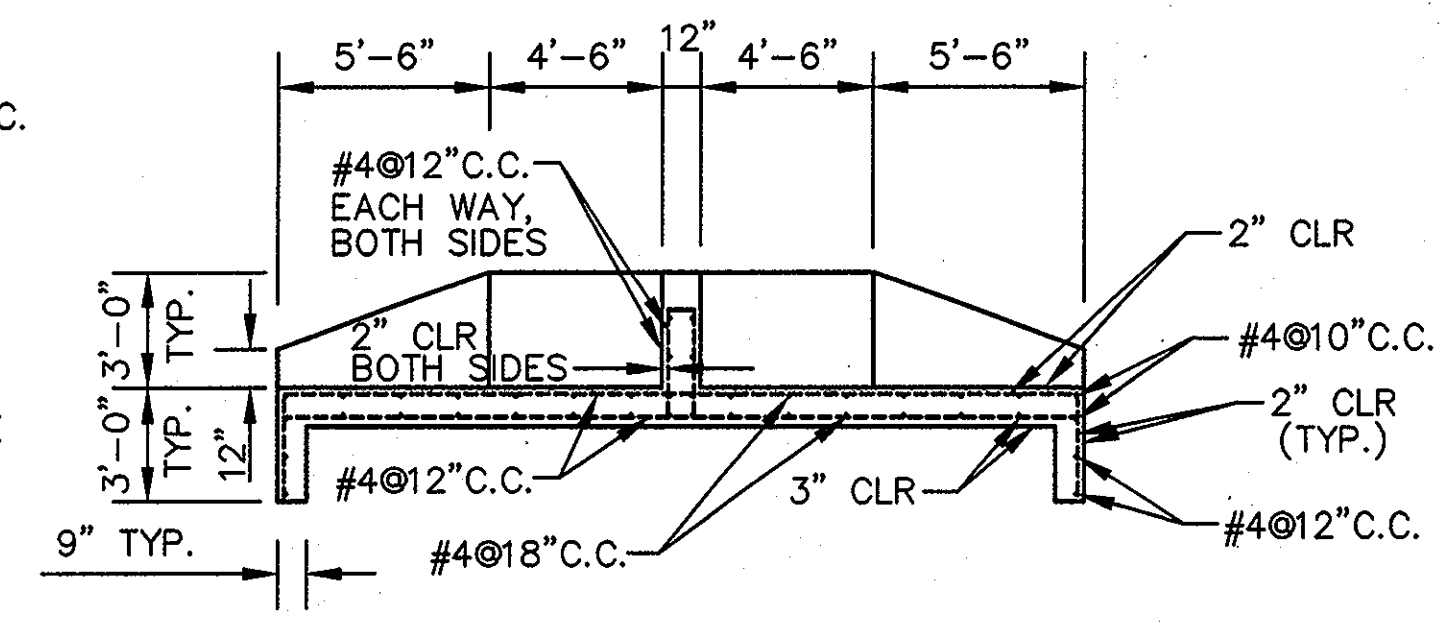
VOL CONC. (cy)	STEEL (lbs)
14.5	1100



SECTION A-A

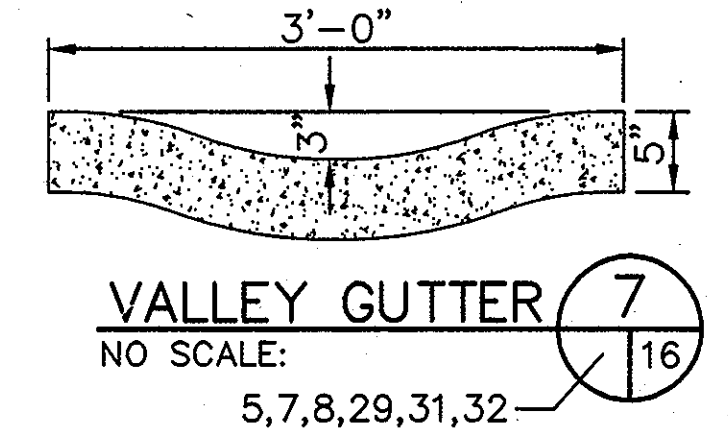


SECTION B-B

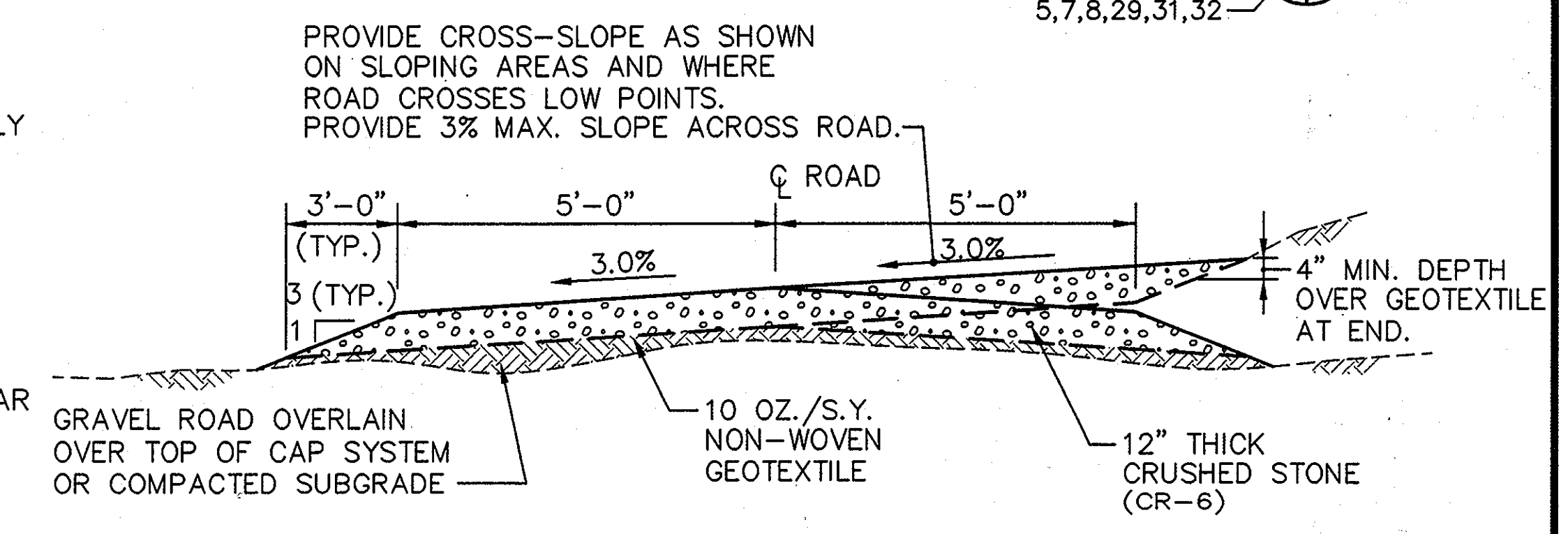


SECTION C-C

LOW RISE STORMWATER CONTROL STRUCTURE
NO SCALE 5,7,8,29,31,32 2/16



VALLEY GUTTER 7
NO SCALE: 5,7,8,29,31,32 7/16



ACCESS ROAD C, D, E, F, G, H, I & J CROSS-SECTION 1
NO SCALE 5,6,7,8,9,29,30,31,32,33 1/16

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

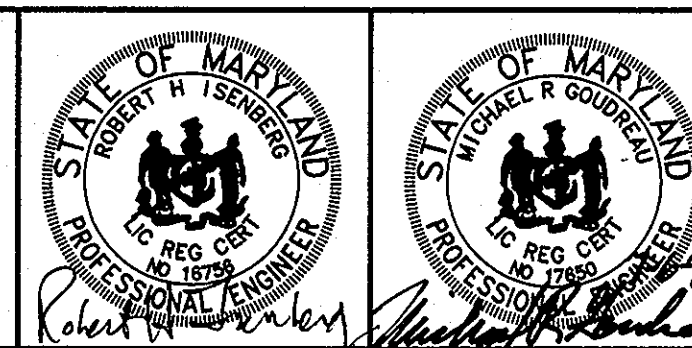
Director: *[Signature]* 9/14/99
 Chief, Development Engineering Division: *[Signature]* 9/19/99
 Chief, Division of Land Development: *[Signature]* 9/13/99

SUBDIVISION NAME	LOT/PARCEL	
HO. CO. GOVERNMENT	529	
LIBER/FOLIO	ZONE	TAX/ZONE MAP
180/339	R-20	31
WATER CODE	SEWER CODE	CENSUS TR.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* 7/6/99
 Chief, Bureau of Environmental Services: *[Signature]* 7/6/99

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



DES.	MRG	DATE	
DRN.	JCS	6-5-13	
CHK.	RHI		
DATE:	07-01-99		
BY	NO.	REVISION	DATE

MISCELLANEOUS DETAILS

NEW CUT LANDFILL IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN
SHEET 16 OF 40

SPECIFICATIONS FOR TEMPORARY POND CONSTRUCTION (APPLIES EAST SEDIMENT BASIN ONLY)

SPECIFICATIONS FOR PERMANENT POND CONSTRUCTION

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 CO. 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] Date: 7/6/99

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 CO. 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 CO. SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

Signature: [Signature] Date: 7-6-99
Signature: Michael R. Goudreau Date: [Blank]
Print Name Below Signature

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

Signature: [Signature] Date: 9/8/99
USDA - NATURAL RESOURCES CONSERVATION SERVICE

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

Signature: [Signature] Date: 9/8/99
HOWARD CO. 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: [Blank] PE NO. [Blank] Date: [Blank]

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.

THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD FOR PRACTICE MD-378. ALL REFERENCES TO ASTM AND AASHTO SPECIFICATIONS APPLY TO THE MOST RECENT VERSION.

SITE PREPARATION

AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL. ALL TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED. CHANNEL BANKS AND SHARP BREAKS SHALL BE SLOPED TO NO STEEPER THAN 1:1.

AREAS TO BE COVERED BY THE RESERVOIR WILL BE CLEARED OF ALL TREES, BRUSH, LOGS, FENCES, RUBBISH AND OTHER OBJECTIONABLE MATERIAL UNLESS OTHERWISE DESIGNATED ON THE PLANS. TREES, BRUSH AND STUMPS SHALL BE CUT APPROXIMATELY LEVEL WITH THE GROUND SURFACE. FOR DRY STORM WATER MANAGEMENT PONDS, A MINIMUM OF A 50 FOOT RADIUS AROUND THE INLET STRUCTURE SHALL BE CLEARED.

ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE AND BELOW THE LIMITS OF THE DAM AND RESERVOIR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE. WHEN SPECIFIED, A SPECIFIC QUANTITY OF TOPSOIL WILL BE STOCKPILED IN A SUITABLE LOCATION FOR USE ON THE EMBANKMENT AND OTHER DESIGNATED AREAS.

EARTH FILL

MATERIAL- THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH, STONES GREATER THAN 6", FROZEN OR OTHER OBJECTIONABLE MATERIALS. FILL MATERIAL FOR THE CENTER OF THE EMBANKMENT AND CUT OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGN AND CONSTRUCTION ARE SUPERVISED BY A GEOTECHNICAL ENGINEER (PROVIDED BY THE CONTRACTOR AT NO COST TO THE COUNTY).

PLACEMENT- AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN MAXIMUM 8 INCH THICK (BEFORE COMPACTION) LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST PERMEABLE BORROW MATERIAL SHALL BE PLACED IN THE DOWNSTREAM PORTIONS OF THE EMBANKMENT. THE PRINCIPAL SPILLWAY MUST BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO THE EMBANKMENT.

COMPACTION- THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OF THE EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER Tired, OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION WILL BE OBTAINED WITH THE EQUIPMENT USED. THE FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IF FORMED INTO A BALL IT WILL NOT CRUMBLE YET NOT BE SO WET THAT WATER CAN BE SQUEEZED OUT.

WHERE A MINIMUM REQUIRED DENSITY IS SPECIFIED, IT SHALL NOT BE LESS THAN 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN +/- 2% OF THE OPTIMUM. EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY, AND IS TO BE CERTIFIED BY THE ENGINEER AT THE TIME OF CONSTRUCTION. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99 (ASTM D698).

CUT OFF TRENCH- THE CUTOFF TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE BOTTOM WIDTH OF THE TRENCH SHALL BE GOVERNED BY THE EQUIPMENT USED FOR EXCAVATION, WITH THE MINIMUM WIDTH BEING FOUR FEET. THE DEPTH SHALL BE AT LEAST FOUR FEET BELOW EXISTING GRADE OR AS SHOWN ON THE PLANS. THE SIDE SLOPES OF THE TRENCH SHALL BE 1 TO 1 OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY.

STRUCTURE BACKFILL

BACKFILL ADJACENT TO PIPES OR STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL. THE FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE MATERIAL NEEDS TO FILL COMPLETELY ALL SPACES UNDER AND ADJACENT TO THE PIPE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF CONCRETE STRUCTURE OR PIPE, UNLESS THERE IS A COMPACTED FILL OF 24" OR GREATER OVER THE STRUCTURE OR PIPE.

PIPE CONDUITS

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.

REINFORCED CONCRETE PIPE- ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR REINFORCED CONCRETE PIPE:

1. MATERIALS- REINFORCED CONCRETE PIPE SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS AND SHALL EQUAL OR EXCEED ASTM DESIGNATION C-361.
2. BEDDING- ALL REINFORCED CONCRETE PIPE CONDUITS SHALL BE LAID IN A CONCRETE BEDDING FOR THEIR ENTIRE LENGTH. THIS BEDDING SHALL CONSIST OF HIGH SLUMP CONCRETE PLACED UNDER THE PIPE AND UP THE SIDES OF THE PIPE AT LEAST 10 % OF ITS OUTSIDE DIAMETER WITH A MINIMUM THICKNESS OF 3 INCHES, OR AS SHOWN ON THE DRAWINGS.
3. LAYING PIPE- BELL AND SPIGOT PIPE SHALL BE PLACED WITH THE BELL END UPSTREAM. JOINTS SHALL BE MADE IN ACCORDANCE WITH RECOMMENDATIONS OF THE MANUFACTURER OF THE MATERIAL. AFTER THE JOINTS ARE SEALED FOR THE ENTIRE LENGTH, THE BEDDING SHALL BE PLACED SO THAT ALL SPACES UNDER THE PIPE ARE FILLED. CARE SHALL BE EXERCISED TO PREVENT ANY DEVIATION FROM THE ORIGINAL LINE AND GRADE OF THE PIPE. THE FIRST JOINT MUST BE LOCATED WITHIN 2 FEET FROM THE RISER.
4. BACK FILLING SHALL CONFORM TO "STRUCTURE BACKFILL".
5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

CONCRETE

CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 608, MIX NO. 3.

ROCK RIPRAP

ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 905.

THE RIPRAP SHALL BE PLACED TO THE REQUIRED THICKNESS IN ONE OPERATION. THE ROCK SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL INSURE THE RIPRAP IN PLACE SHALL BE REASONABLY HOMOGENEOUS WITH THE LARGER ROCKS UNIFORMLY DISTRIBUTED AND FIRMLY IN CONTACT ONE TO ANOTHER WITH THE SMALLER ROCKS FILLING THE VOIDS BETWEEN THE LARGER ROCKS. FILTER CLOTH SHALL BE PLACED UNDER ALL RIPRAP AND SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, CONSTRUCTION AND MATERIALS, SECTION 919.12.

CARE OF WATER DURING CONSTRUCTION

ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DIKES, LEVEES, COFFERDAMS, DRAINAGE CHANNELS, AND STREAM DIVERSIONS NECESSARY TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS. THE CONTRACTOR SHALL ALSO FURNISH, INSTALL, OPERATE, AND MAINTAIN ALL NECESSARY PUMPING AND OTHER EQUIPMENT REQUIRED FOR REMOVAL OF WATER FROM THE VARIOUS PARTS OF THE WORK AND FOR MAINTAINING THE EXCAVATIONS, FOUNDATION, AND OTHER PARTS OF THE WORK FREE FROM WATER AS REQUIRED OR DIRECTED BY THE ENGINEER FOR CONSTRUCTING EACH PART OF THE WORK. AFTER HAVING SERVED THEIR PURPOSE, ALL TEMPORARY PROTECTIVE WORKS SHALL BE REMOVED OR LEVELED AND GRADED TO THE EXTENT REQUIRED TO PREVENT OBSTRUCTION IN ANY DEGREE. WHATSOEVER OF THE FLOW OF WATER TO THE SPILLWAY OR OUTLET WORKS AND SO AS NOT TO INTERFERE IN ANY WAY WITH THE OPERATION OR MAINTENANCE OF THE STRUCTURE. STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PERMANENT WORKS. THE REMOVAL OF WATER FROM THE REQUIRED EXCAVATION AND THE FOUNDATION SHALL BE ACCOMPLISHED IN A MANNER AND TO THE EXTENT THAT WILL MAINTAIN STABILITY OF THE EXCAVATED SLOPES AND BOTTOM OF REQUIRED EXCAVATIONS AND WILL ALLOW SATISFACTORY PERFORMANCE OF ALL CONSTRUCTION OPERATIONS. DURING THE PLACING AND COMPACTING OF MATERIAL IN REQUIRED EXCAVATIONS, THE WATER LEVEL AT THE LOCATIONS BEING REFILLED SHALL BE MAINTAINED BELOW THE BOTTOM OF THE EXCAVATION AT SUCH LOCATIONS WHICH MAY REQUIRE DRAINING THE WATER TO SUMPS FROM WHICH THE WATER SHALL BE PUMPED.

STABILIZATION

ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SLIGHTLY CONDITION. ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPOIL AND BORROW AREAS, AND BERMS SHALL BE STABILIZED BY SEEDING, LIMING, FERTILIZING AND MULCHING IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS AND AS SHOWN ON THE ACCOMPANYING DRAWINGS.

STABILIZATION

ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SLIGHTLY CONDITION. ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPOIL AND BORROW AREAS, AND BERMS SHALL BE STABILIZED BY SEEDING, LIMING, FERTILIZING AND MULCHING IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS AND AS SHOWN ON THE ACCOMPANYING DRAWINGS.

EROSION AND SEDIMENT CONTROL

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

CONSTRUCTION SPECIFICATIONS FOR TEMPORARY SEDIMENT BASINS

1. SITE PREPARATION: PERIMETER SEDIMENT CONTROL DEVICES MUST BE INSTALLED PRIOR TO CLEARING AND GRUBBING. AREAS WHERE THE EMBANKMENT IS TO BE PLACED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIAL. THE POOL AREA SHALL NOT BE CLEARED UNTIL COMPLETION OF THE DAM EMBANKMENT UNLESS THE POOL AREA IS TO BE USED FOR BORROW. IN ORDER TO FACILITATE CLEAN-OUT AND RESTORATION, THE POOL AREA (MEASURED AT THE TOP OF THE PIPE SPILLWAY) SHALL BE CLEARED OF ALL BRUSH, TREES, AND OTHER OBJECTIONABLE MATERIALS.

2. CUT-OFF TRENCH: A CUT-OFF TRENCH SHALL BE EXCAVATED ALONG THE CENTERLINE OF EARTH FILL EMBANKMENTS. THE MINIMUM DEPTH SHALL BE FOUR FEET. THE CUT-OFF TRENCH SHALL EXTEND UP BOTH ABUTMENTS TO THE RISER CREST ELEVATION. THE MINIMUM BOTTOM WIDTH SHALL BE TWO FEET, BUT WIDE ENOUGH TO PERMIT OPERATION OF EXCAVATION AND COMPACTION EQUIPMENT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1:1. COMPACTION REQUIREMENTS SHALL BE THE SAME AS THOSE FOR THE EMBANKMENT. THE TRENCH SHALL BE DEWATERED DURING THE BACKFILLING-COMPACTION OPERATIONS. FOR DEWATERING SEE SECTION D OF THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

3. EMBANKMENT: THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED AREAS SHOWN ON THE PLANS. IT SHALL BE CLEAN MINERAL SOIL FREE OF ROOTS, WOODY VEGETATION, OVERSIZED STONES, ROCKS, OR OTHER OBJECTIONABLE MATERIAL. RELATIVELY PERVIOUS MATERIALS SUCH AS SAND OR GRAVEL (UNIFIED SOIL CLASSES GW, GP, SW & SP) OR ORGANIC MATERIALS (UNIFIED SOIL CLASSES OL AND OH) SHALL NOT BE PLACED IN THE EMBANKMENT. AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. THE FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IT CAN BE FORMED BY HAND INTO A BALL WITHOUT CRUMBLING. IF WATER CAN BE SQUEEZED OUT OF THE BALL, IT IS TOO WET FOR PROPER COMPACTION. FILL MATERIAL SHALL BE PLACED IN SIX-TO EIGHT-INCH THICK CONTINUOUS LIFTS OVER THE ENTIRE LENGTH OF THE FILL. COMPACTION SHALL BE OBTAINED BY ROUTING AND HAULING THE CONSTRUCTION EQUIPMENT OVER THE FILL SO THAT THE ENTIRE SURFACE OF EACH LAYER OF THE FILL IS TRAVERSED BY AT LEAST ONE WHEEL OR TREAD TRACK OF THE EQUIPMENT OR BY THE USE OF A COMPACTOR. THE EMBANKMENT SHALL BE CONSTRUCTED TO AN ELEVATION 10 PERCENT HIGHER THAN THE DESIGN HEIGHT TO ALLOW FOR SETTLEMENT.

4. PRINCIPAL SPILLWAY: STEEL RISERS SHALL BE SECURELY ATTACHED TO THE BARREL OR BARREL STUB BY WELDING THE FULL CIRCUMFERENCE MAKING A WATERTIGHT STRUCTURAL CONNECTION. CONCRETE RISERS SHALL BE POURED WITH THE PRINCIPAL SPILLWAY IN PLACE OR PRECAST WITH VOIDS AROUND THE PRINCIPAL SPILLWAY FILLED WITH CONCRETE OR SHRINK PROOF GROUT FOR WATERTIGHT CONNECTION. THE BARREL STUB MUST BE ATTACHED TO THE RISER AT THE SAME PERCENT (ANGLE) OF GRADE AS THE OUTLET CONDUIT. THE CONNECTION BETWEEN THE RISER AND THE RISER BASE SHALL BE WATERTIGHT. ALL CONNECTIONS BETWEEN BARREL SECTIONS MUST BE ACHIEVED BY APPROVED WATERTIGHT BAND ASSEMBLIES. THE BARREL AND RISER SHALL BE PLACED ON A FIRM, SMOOTH FOUNDATION OF IMPERVIOUS SOIL AS THE EMBANKMENT IS CONSTRUCTED. BREACHING THE EMBANKMENT TO INSTALL THE BARREL IS UNACCEPTABLE. PERVIOUS MATERIALS SUCH AS SAND, GRAVEL OR CRUSHED STONE SHALL NOT BE USED AS BACKFILL AROUND THE PIPE OR ANTI-SEEP COLLARS. THE FILL MATERIAL AROUND THE PIPE SPILLWAY SHALL BE PLACED IN FOUR INCH LIFTS AND HAND COMPACTED UNDER AND AROUND THE PIPE TO AT LEAST THE SAME DENSITY AS THE ADJACENT EMBANKMENT. A DEPTH OF 1.5 TIMES THE PIPE DIAMETER (MIN.) SHALL BE BACKFILLED OVER THE PRINCIPAL SPILLWAY AND HAND COMPACTED BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT.

5. EMERGENCY SPILLWAY: THE EMERGENCY SPILLWAY SHALL BE INSTALLED IN UNDISTURBED GROUND. THE ACHIEVEMENT OF PLANNED ELEVATIONS, GRADES, DESIGN WIDTH, ENTRANCE AND EXIT CHANNEL SLOPES ARE CRITICAL TO THE SUCCESSFUL OPERATION OF THE EMERGENCY SPILLWAY AND MUST BE CONSTRUCTED WITHIN A TOLERANCE OF ± 0.2 FEET.

6. VEGETATIVE TREATMENT: STABILIZE THE EMBANKMENT IN ACCORDANCE WITH THE APPROPRIATE VEGETATIVE STANDARD AND SPECIFICATIONS IMMEDIATELY FOLLOWING CONSTRUCTION. IN NO CASE SHALL THE EMBANKMENT REMAIN UNSTABILIZED FOR MORE THAN SEVEN (7) DAYS. ONCE CONSTRUCTED, THE TOP AND OUTSIDE FACE OF THE EMBANKMENT SHALL BE STABILIZED WITH SEED AND MULCH. THE REMAINDER OF THE INTERIOR SLOPES SHOULD BE STABILIZED (ONE TIME) WITH SEED AND MULCH UPON BASIN COMPLETION AND MONITORED AND MAINTAINED EROSION FREE DURING THE LIFE OF THE BASIN.

7. SAFETY: LOCAL REQUIREMENTS CONCERNING FENCING AND SIGNS SHALL BE MET, WARNING THE PUBLIC OF HAZARDS OF SOFT SEDIMENT AND FLOODWATER.

8. MAINTENANCE: REPAIR ALL DAMAGE CAUSED BY SOIL EROSION AND CONSTRUCTION EQUIPMENT AT OR BEFORE THE END OF EACH WORKING DAY. SEDIMENT SHALL BE REMOVED FROM THE BASIN WHEN IT REACHES THE SPECIFIED DISTANCE BELOW THE TOP OF THE RISER AS SHOWN ON THE RISER. THIS SEDIMENT SHALL BE PLACED IN SUCH A MANNER THAT IT WILL NOT ERODE FROM THE SITE. THE SEDIMENT SHALL NOT BE DEPOSITED DOWNSTREAM FROM THE EMBANKMENT, ADJACENT TO A STREAM OR FLOODPLAIN. DISPOSAL AREAS MUST BE STABILIZED.

9. FINAL DISPOSAL: WHEN TEMPORARY STRUCTURES HAVE SERVED THEIR INTENDED PURPOSE AND THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED, THE EMBANKMENT AND RESULTING SEDIMENT DEPOSITS ARE TO BE LEVELED OR OTHER-WISE DISPOSED OF IN ACCORDANCE WITH THE APPROVED SEDIMENT CONTROL PLAN. THE PROPOSED USE OF A SEDIMENT BASIN SITE WILL OFTEN DICTATE FINAL DISPOSITION OF THE BASIN AND ANY SEDIMENT CONTAINED THEREIN. IF THE SITE IS SCHEDULED FOR FUTURE CONSTRUCTION, THEN THE BASIN MATERIAL AND TRAPPED SEDIMENTS MUST BE REMOVED AND SAFELY DISPOSED OF AND THE BASIN SHALL BE BACKFILLED WITH STRUCTURAL FILL. WHEN THE BASIN AREA IS TO REMAIN OPEN SPACE, THE POND MAY BE PUMPED DRY (USING METHODS IN SECTION D - DEWATERING PRACTICES, 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL), GRADED, AND BACK FILLED.

10. CONVERSION TO STORMWATER MANAGEMENT STRUCTURE: AFTER PERMANENT STABILIZATION OF ALL DISTURBED CONTRIBUTORY DRAINAGE AREAS, TEMPORARY SEDIMENT BASINS, IF INITIALLY BUILT AND CERTIFIED TO MEET PERMANENT STANDARDS, MAY BE CONVERTED TO PERMANENT STORMWATER MANAGEMENT STRUCTURES. TO CONVERT THE BASIN FROM TEMPORARY TO PERMANENT USE, THE OUTLET STRUCTURE MUST BE MODIFIED IN ACCORDANCE WITH APPROVED STORMWATER MANAGEMENT DESIGN PLANS. ADDITIONAL GRADING MAY ALSO BE NECESSARY TO PROVIDE THE REQUIRED STORAGE VOLUME IN THE BASIN. CONVERSION CAN ONLY TAKE PLACE AFTER ALL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED TO THE SATISFACTION OF THE INSPECTION AUTHORITY AND STORM DRAINS HAVE BEEN FLUSHED.

MD-296024-01-90PERCENT\ASBNOTE.SPECS.PONDNOTE

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	
Signature: [Signature] Date: 9/14/99	
Signature: [Signature] Date: 9/9/99	
Signature: [Signature] Date: 9/19/99	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	
CHIEF, DIVISION OF LAND DEVELOPMENT	

SUBDIVISION NAME	LOT/PARCEL
HO. CO. GOVERNMENT	529
LIBER/FOLIO	ZONE TAX/ZONE MAP
180/339	R-20 31
WATER CODE	SEWER CODE CENSUS TR.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
Signature: [Signature] Date: 9/6/99	Signature: [Signature] Date: 7/6/99
Director of Public Works	Chief, Bureau of Environmental Services

SCS ENGINEERS CONSULTING ENGINEERS 11260 ROGER BACON DRIVE SUITE 300 RESTON, VIRGINIA 20190 PH. (703) 471-6150 FAX. (703) 471-6676		
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DES. MRG				
DRN. JCS				
CHK. RHI				
DATE: 06-02-99	BY	NO.	REVISION	DATE

POND CONSTRUCTION SPECIFICATIONS AND CERTIFICATIONS	
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NEW CUT LANDFILL IMPROVEMENTS		SCALE: NO SCALE
CAPITAL PROJECT NO. C-0237-H		SHEET 17 OF 40
2nd ELECTION DISTRICT	HOWARD COUNTY, MARYLAND	

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.

7/1/99
 SIGNATURE OF DEVELOPER
 PRINT NAME BELOW SIGNATURE

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.

7-6-99
 SIGNATURE OF ENGINEER
 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.

9/8/99
 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.

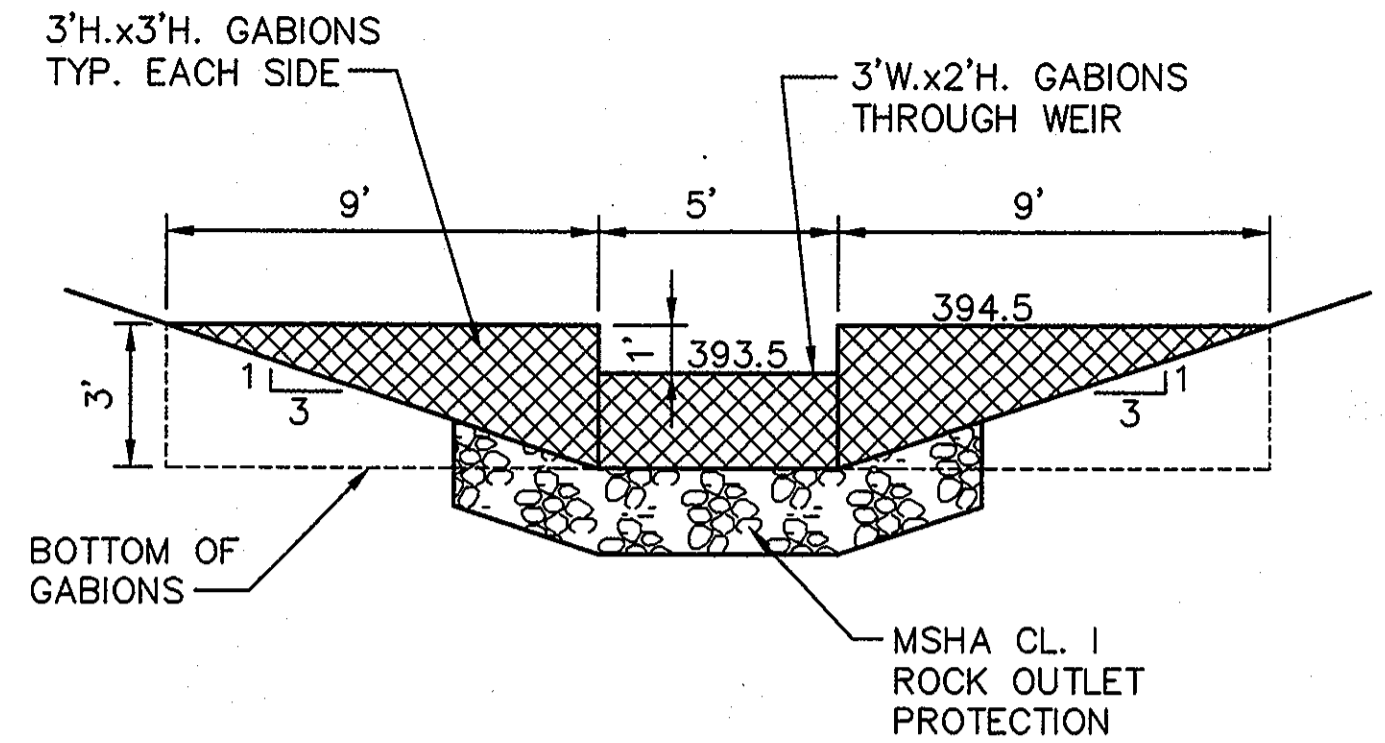
9/8/99
 HOWARD SOIL CONSERVATION DISTRICT
 AS-BUILT CERTIFICATION

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.

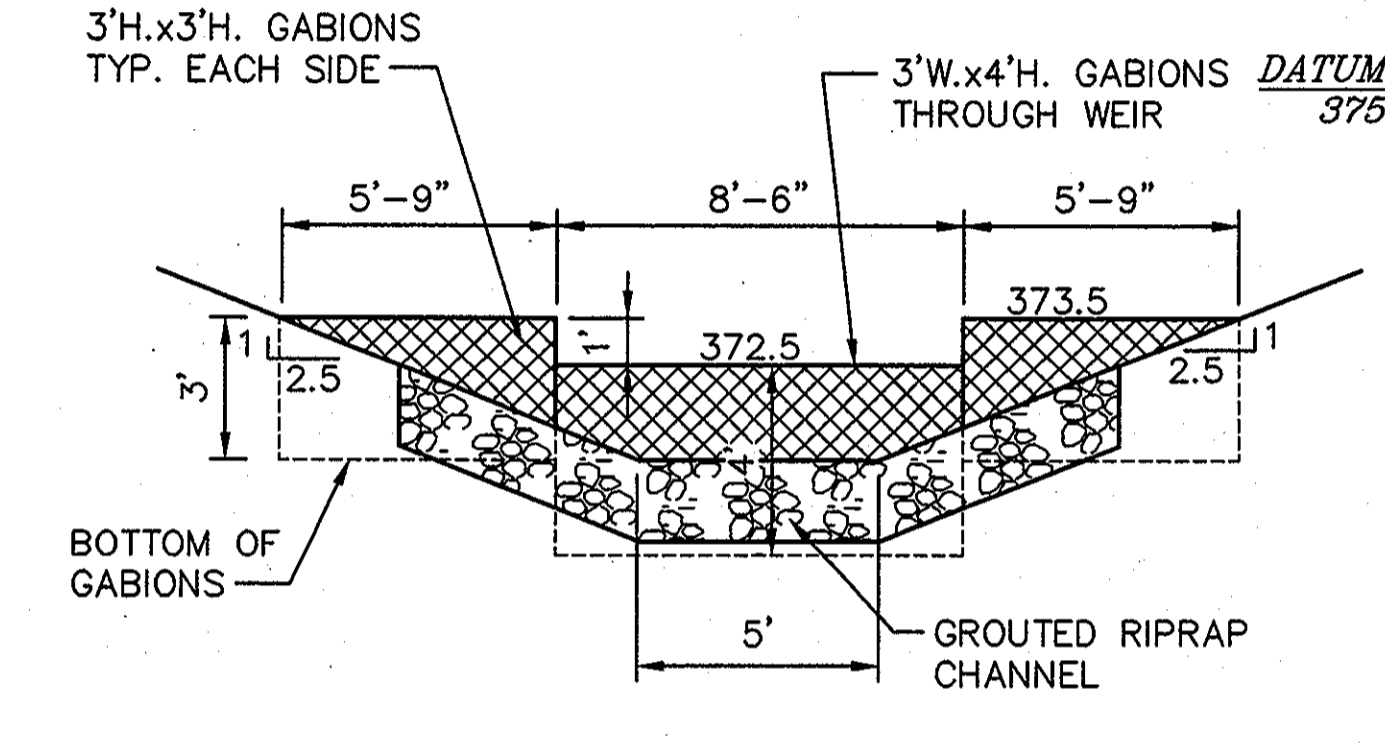
PE NO. _____
 SIGNATURE _____ DATE _____

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. CERTIFICATION 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.

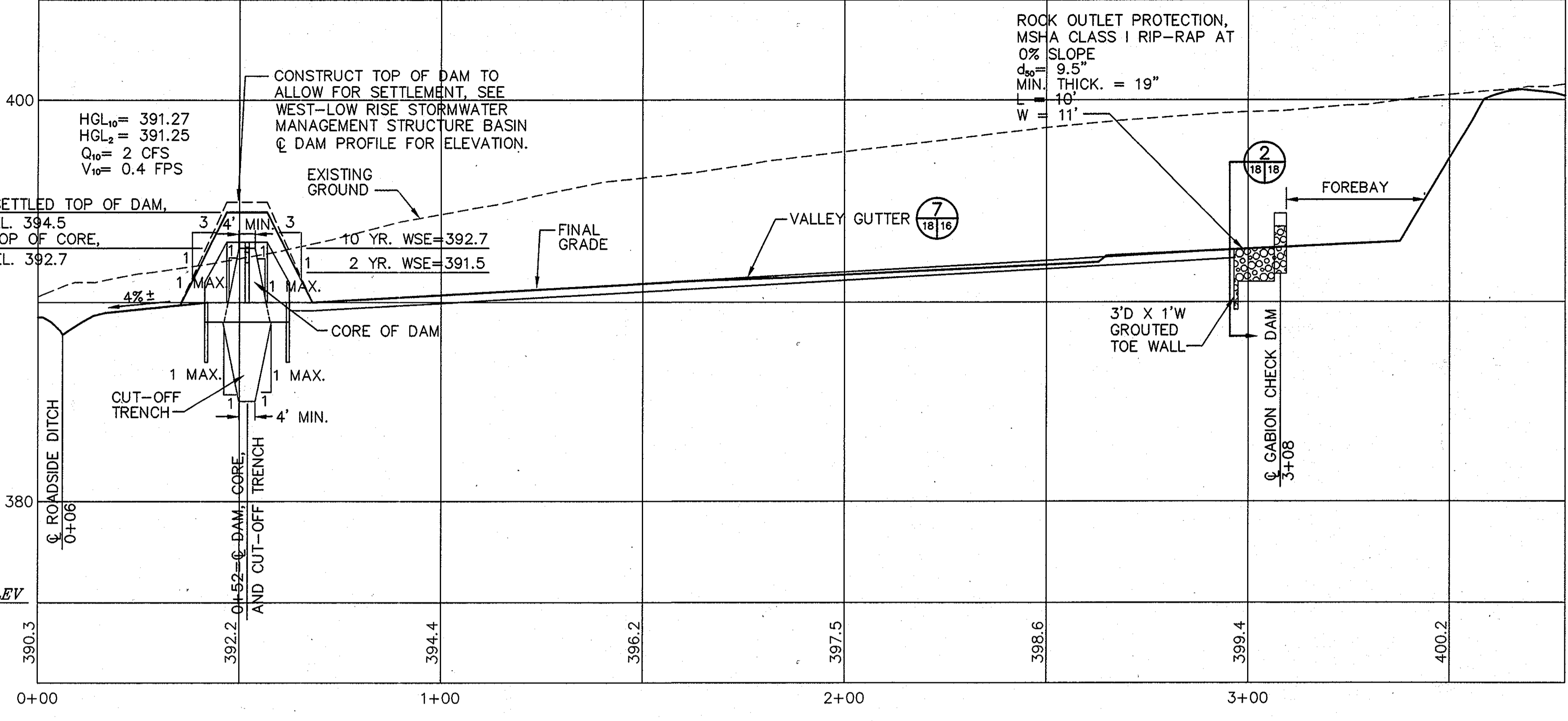
OPERATION, MAINTENANCE AND INSPECTION
 INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS STANDARDS AND SPECIFICATIONS FOR PONDS (MD-378). THE POND OWNERS AND THEIR SUCCESSORS OR ASSIGNEES SHALL BE 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.



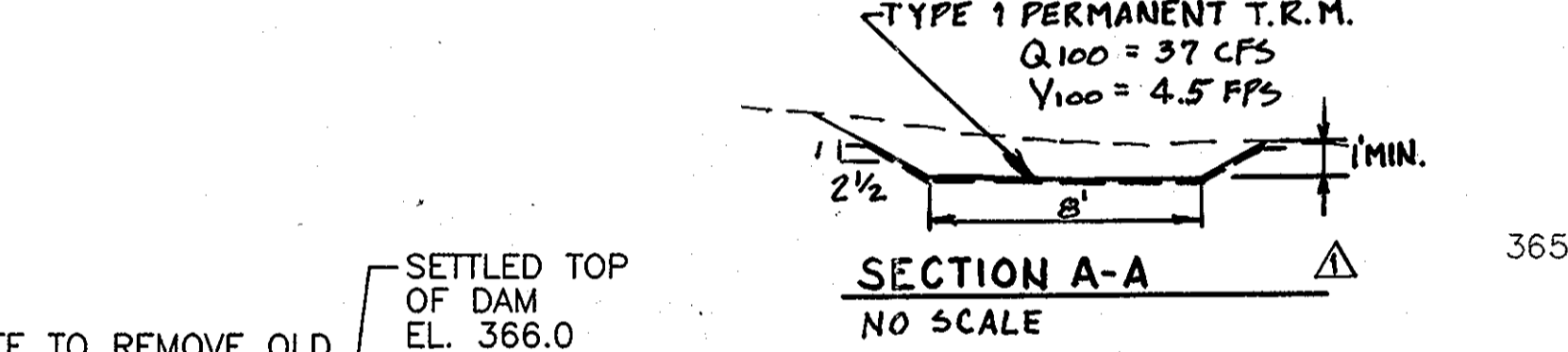
WEIR SECTION 1
 SCALE: 1/4"=1'-0"
 8,32



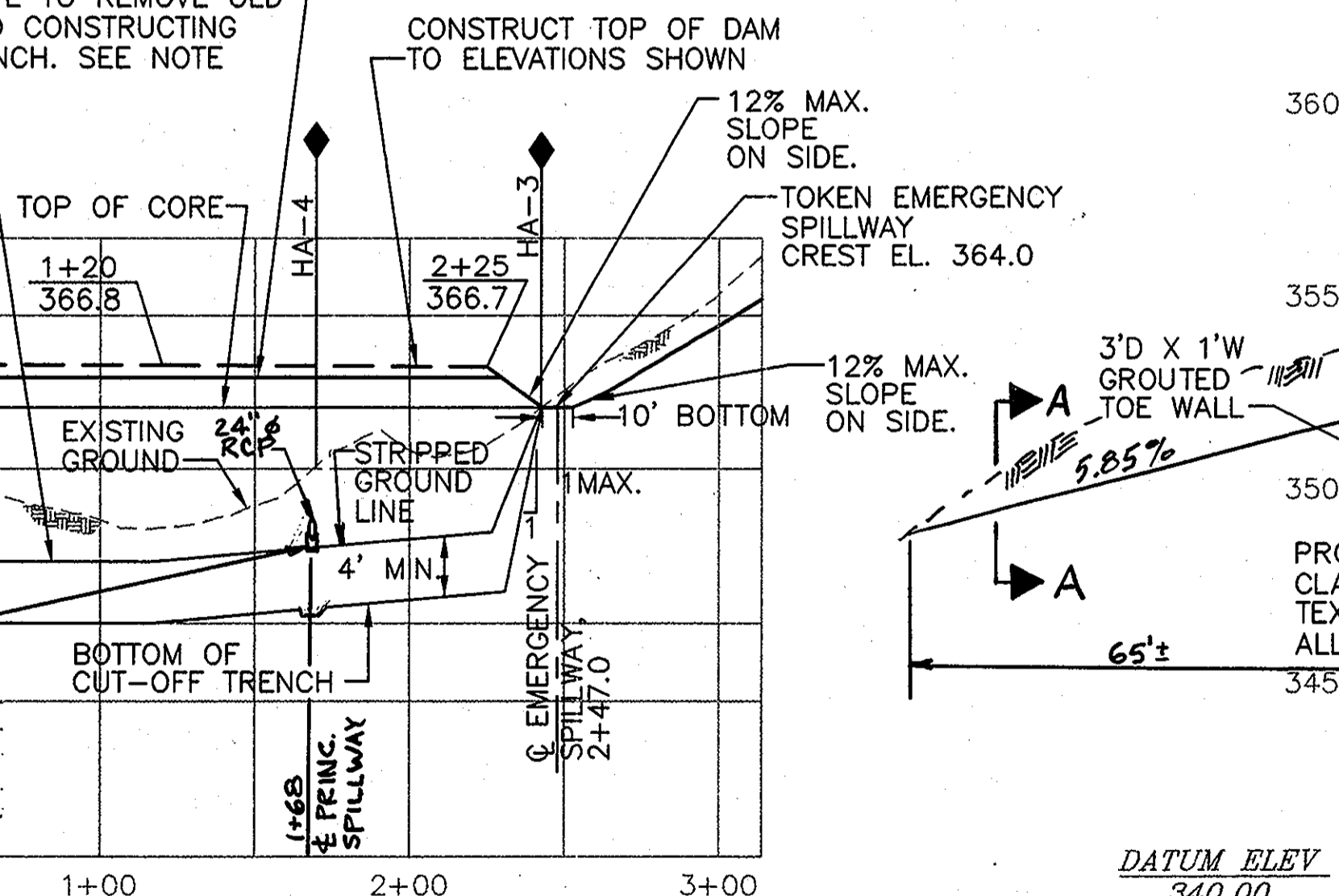
WEIR SECTION 2
 SCALE: 1/4"=1'-0"
 8,18,32



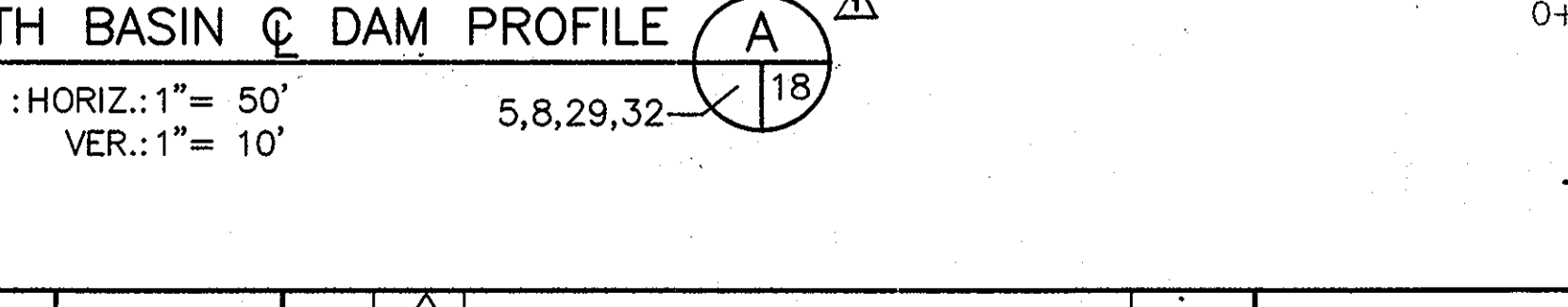
WEST-LOW RISE STORMWATER MANAGEMENT STRUCTURE BASIN & PRINCIPAL SPILLWAY PROFILE C
 SCALE: HORIZ.: 1"= 20'
 VER.: 1"= 4'



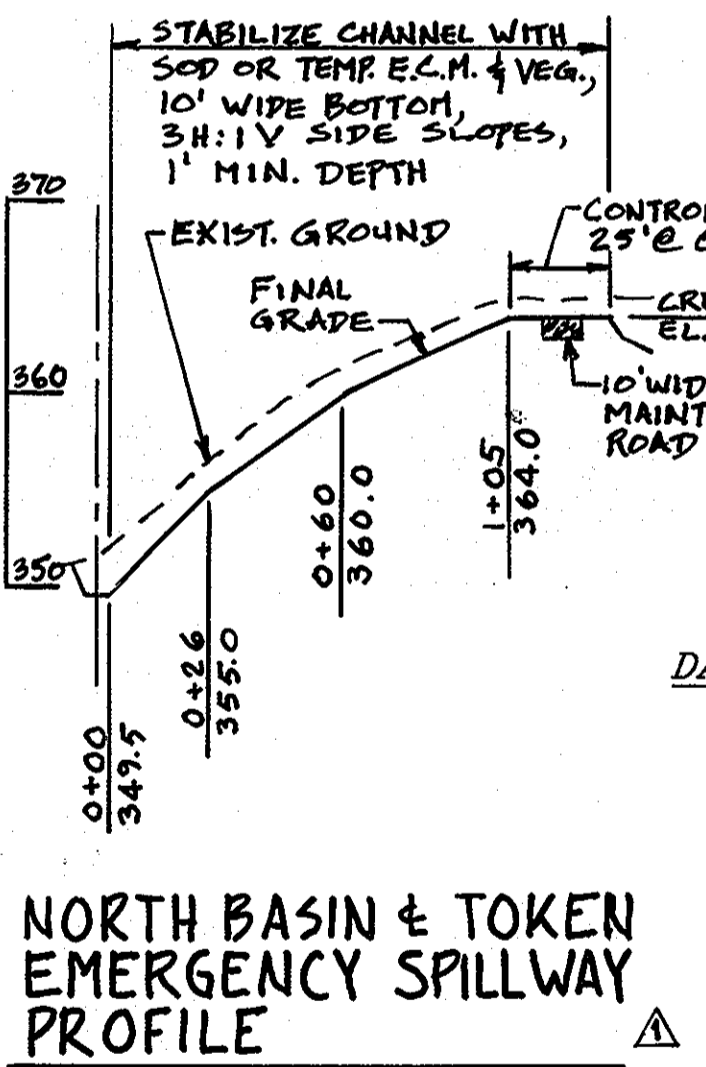
SECTION A-A
 NO SCALE



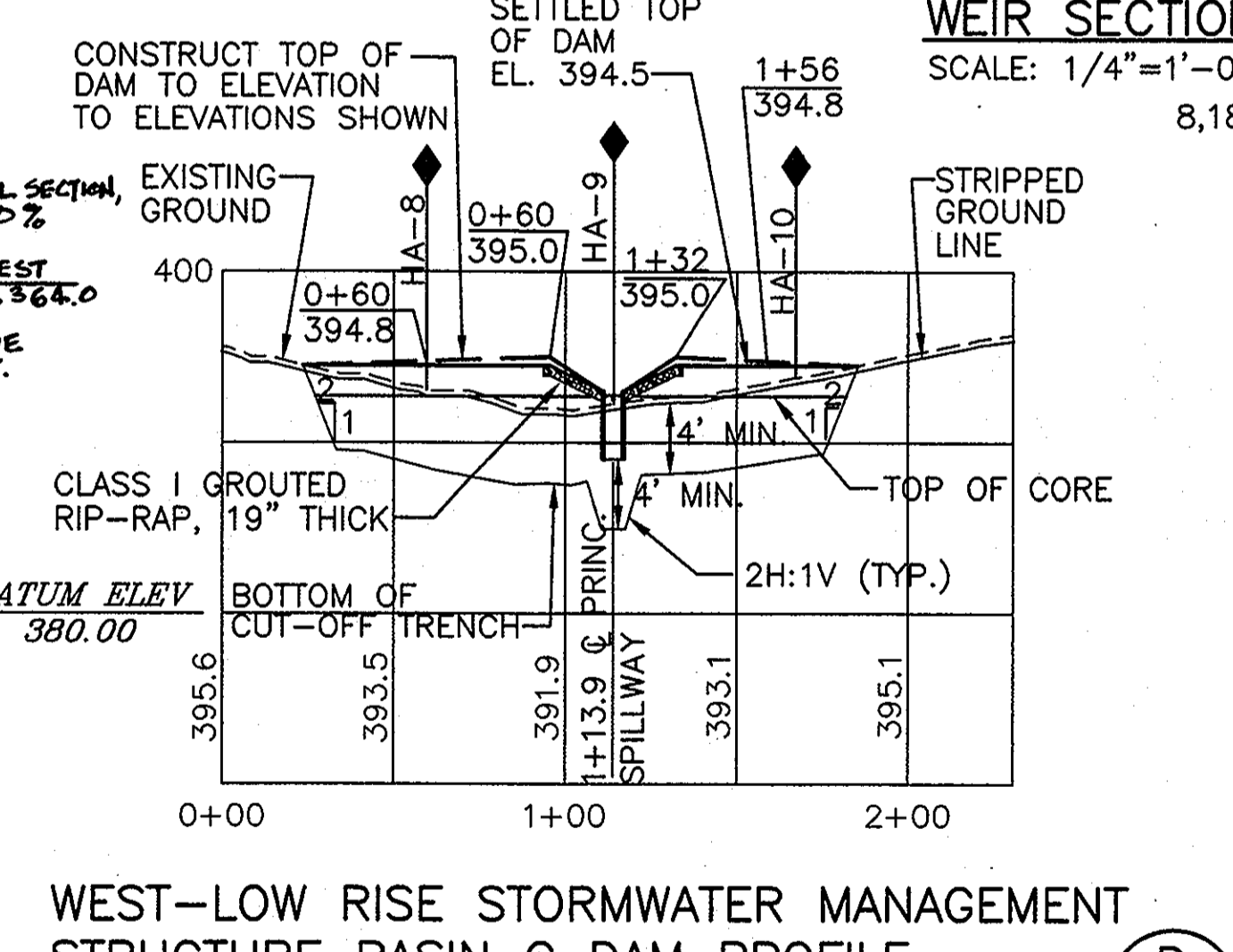
NORTH BASIN & TOKEN EMERGENCY SPILLWAY PROFILE A
 SCALE: HORIZ.: 1"= 50'
 VER.: 1"= 10'



NORTH BASIN & PRINCIPAL SPILLWAY PROFILE B
 SCALE: HORIZ.: 1"= 20'
 VER.: 1"= 4'



NORTH BASIN & TOKEN EMERGENCY SPILLWAY PROFILE
 SCALE: HORIZ.: 1"= 50'
 VERT.: 1"= 10'



WEST-LOW RISE STORMWATER MANAGEMENT STRUCTURE BASIN & DAM PROFILE D
 SCALE: HORIZ.: 1"= 50'
 VER.: 1"= 10'

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	
9/14/99	DATE
9/14/99	DATE
9/14/99	DATE

SUBDIVISION NAME	LOT/PARCEL
HO. CO. GOVERNMENT	529
LIBER/FOLIO	ZONE
180/339	R-20
	TAX/ZONE MAP
	31
WATER CODE	SEWER CODE
	CENSUS TR.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
7/6/99	DATE
7/6/99	DATE

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

DES.	MRG	
DRN.	JCS	
CHK.	RHI	
DATE:	06-02-99	
BY:	NO.	
REVISION		

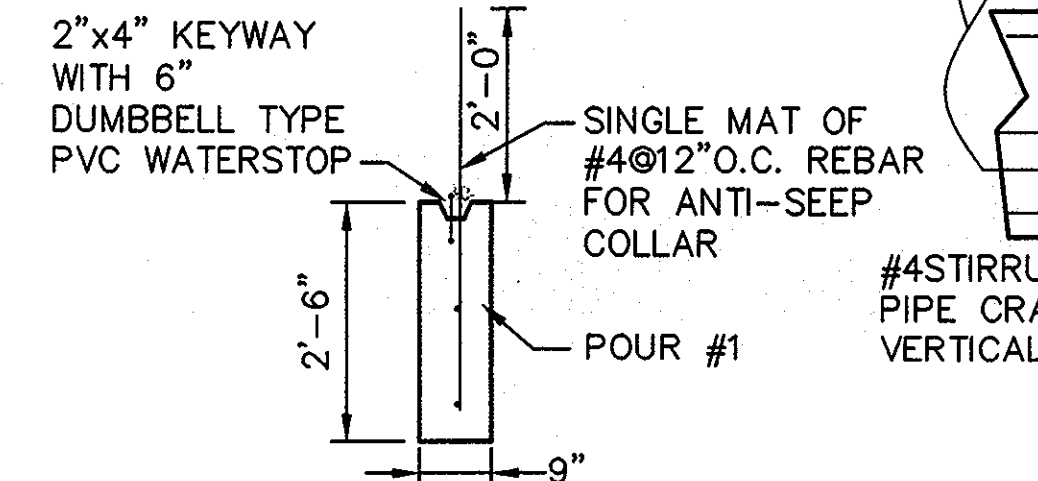
NORTH BASIN AND WEST-LOW-RISE STORMWATER MANAGEMENT STRUCTURE PROFILES

NEW CUT LANDFILL IMPROVEMENTS
 CAPITAL PROJECT NO. C-0237-H
 2nd ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

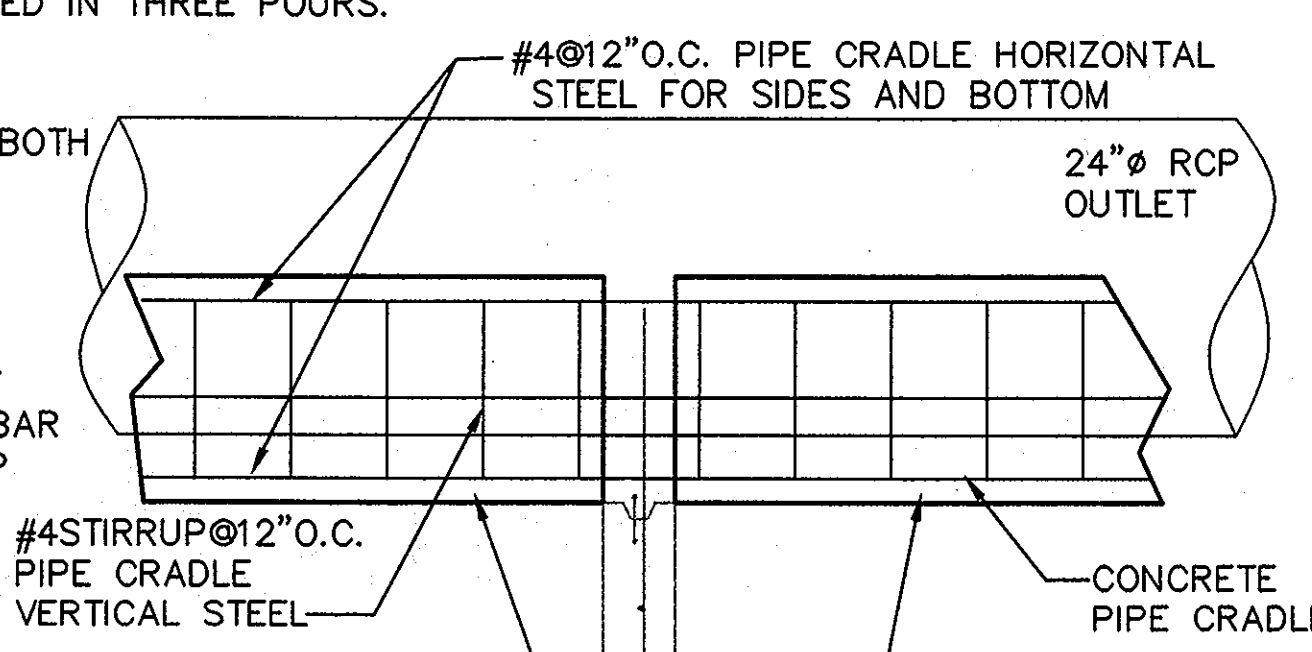
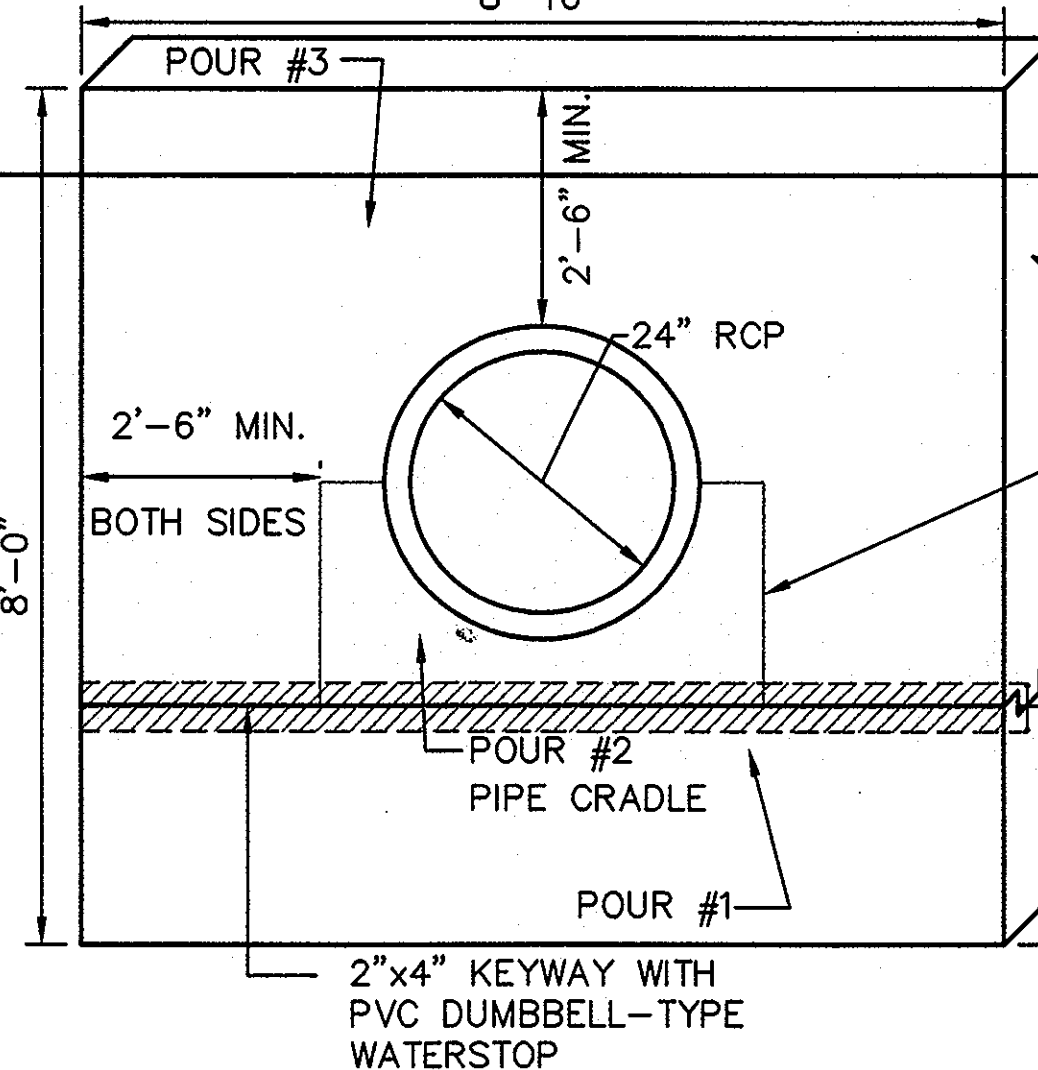
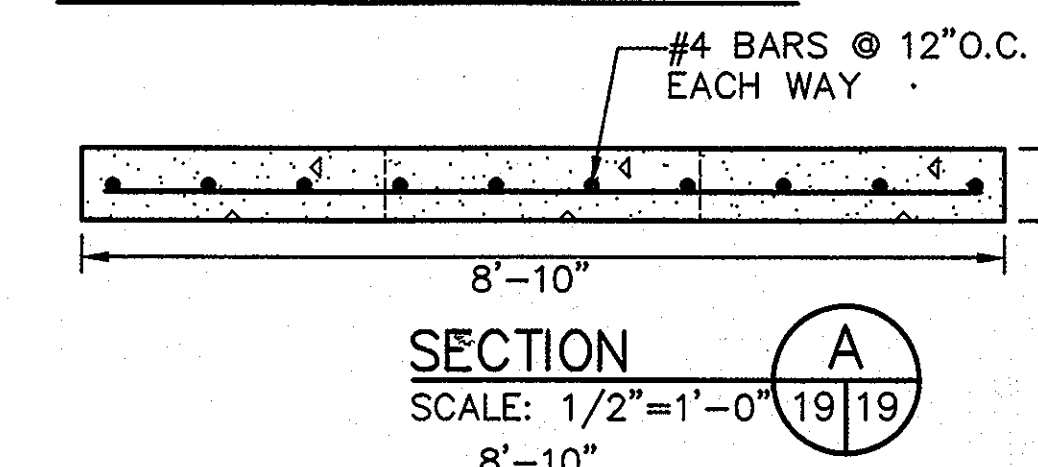
SCALE: AS SHOWN
 SHEET 18 OF 40

M: 296024.01\100 PERCENTY PROFILES\N-DAMPRO, SPILLWAY

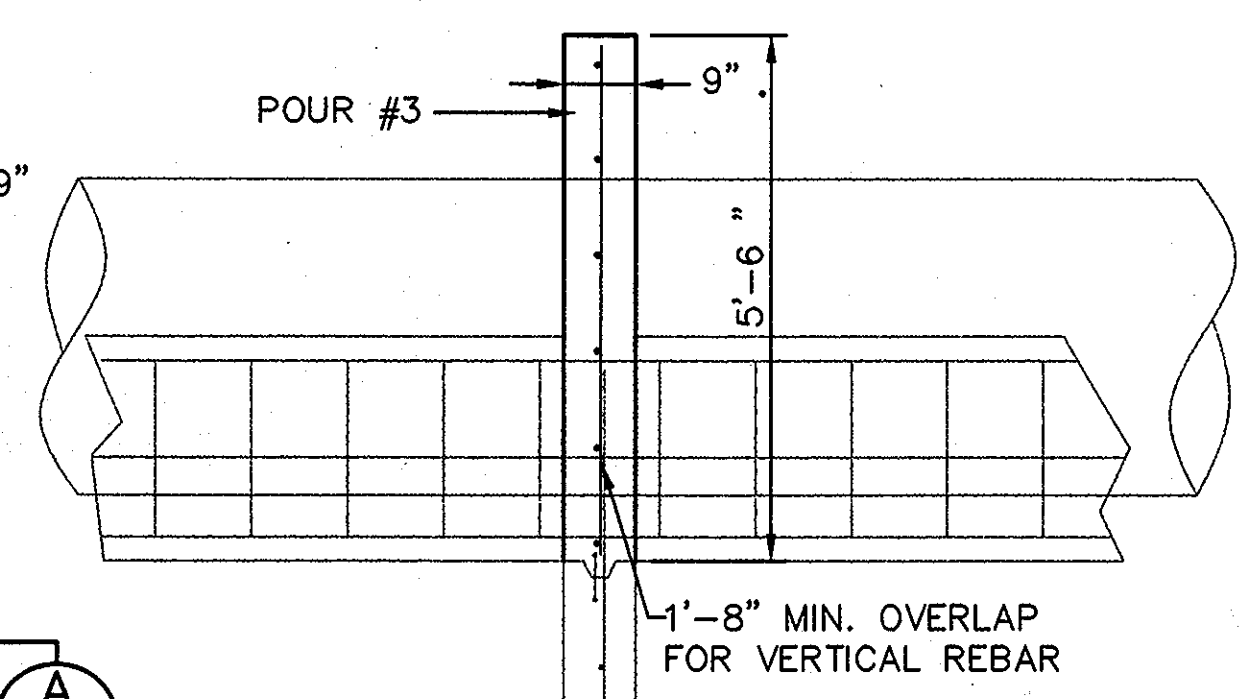
- NOTES:
 1. ANTI-SEEP COLLAR TO BE POURED AT LEAST TWO (2) FEET FROM NEAREST PIPE JOINT.
 2. ANTI-SEEP COLLAR IS TO BE CONSTRUCTED IN THREE POURS.
 3. BOTTOM HALF TO BE POURED FIRST.
 4. PLACE PIPE AND POUR CRADLE SECOND.
 5. TOP PORTION OF COLLAR POURED THIRD.
 6. BACKFILL SHALL BE PLACED EVENLY ON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



ANTI-SEEP COLLAR CONSTRUCTION SEQUENCE



PIPE CRADLE (CONTINUOUS)



SUBDIVISION NAME	LOT/PARCEL	
HO. CO. GOVERNMENT	529	
LIBER/FOLIO	ZONE	TAX/ZONE MAP
180/339	R-20	31
WATER CODE	SEWER CODE	CENSUS TR.

() 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 Simms 9/8/99
 USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

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

Myra L. Kelly 9/8/99
 HOWARD SOIL CONSERVATION DISTRICT AS-BUILT CERTIFICATION DATE

() BY THE ENGINEER:
 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 AN ENGINEER REGISTERED IN THE STATE OF MARYLAND. 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.

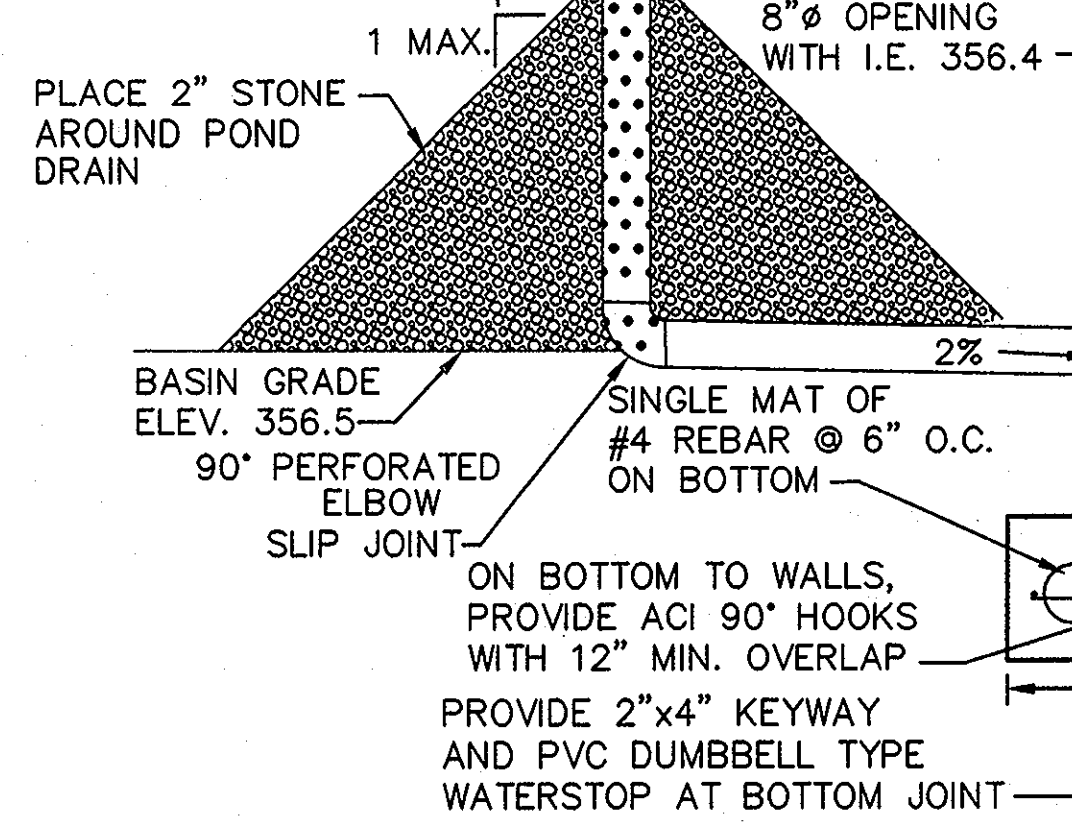
OPERATION, MAINTENANCE AND INSPECTION
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NOTE: RISER STRUCTURE TO BE POURED IN-PLACE

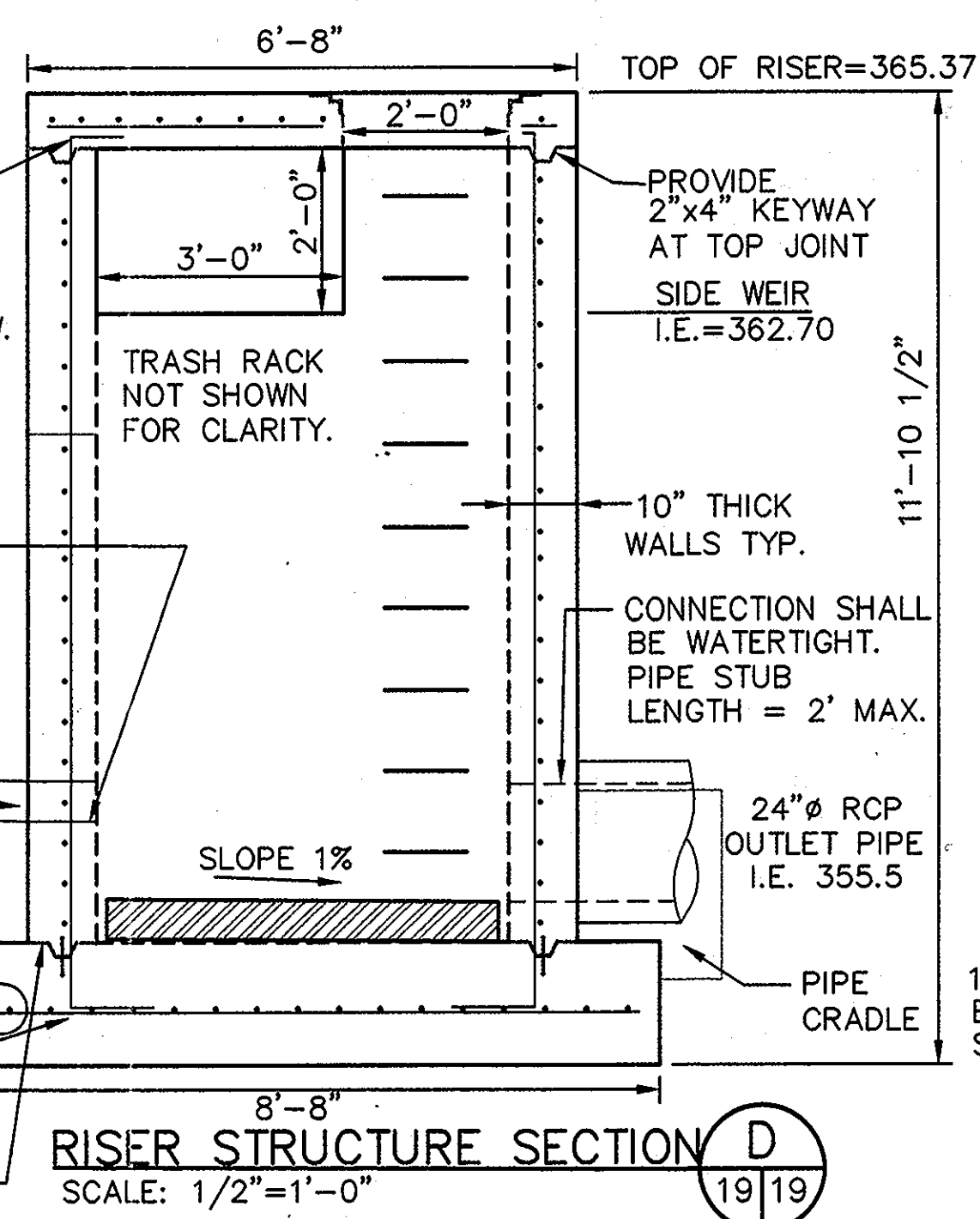
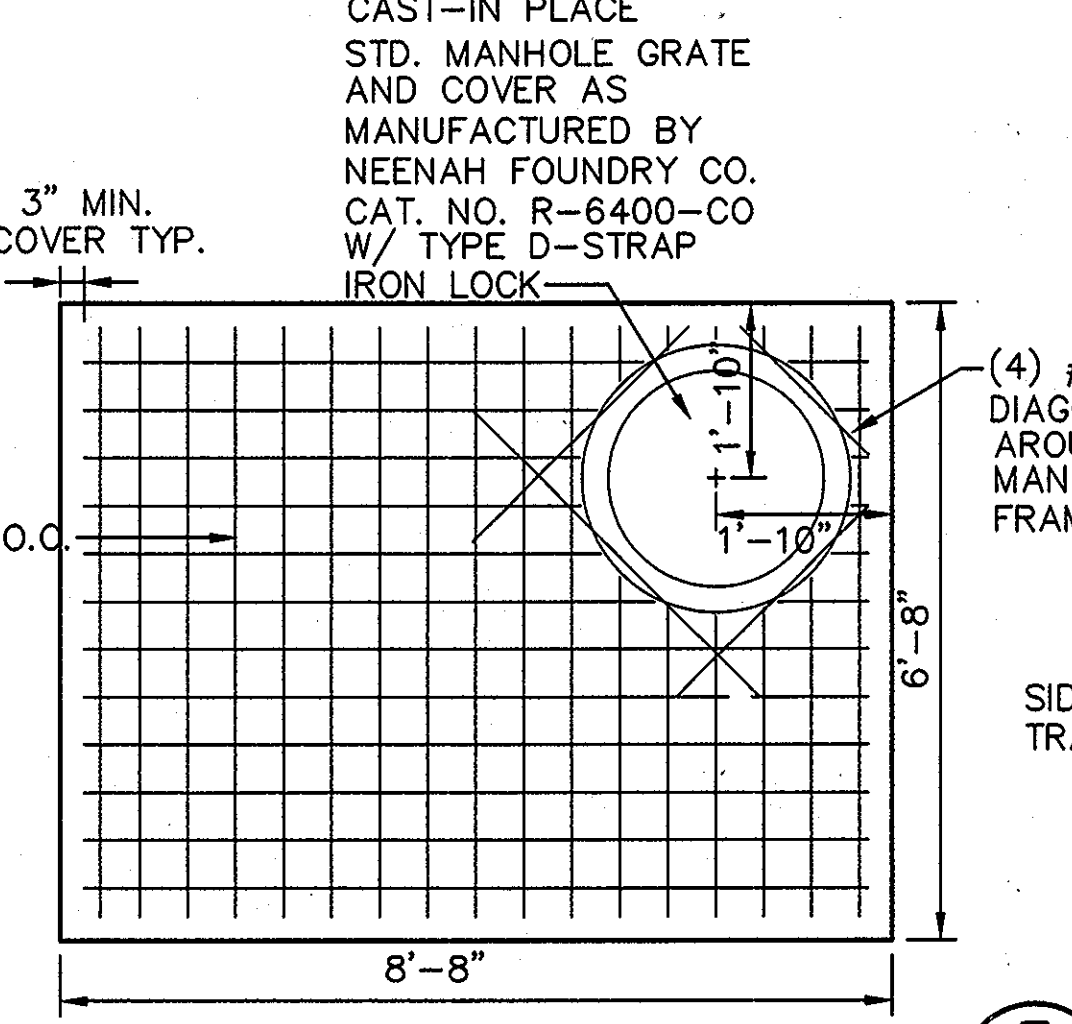
8" Ø PERFORATED DUCTILE IRON POND DRAIN PIPE W/ CAPPED END TOP ELEV.=360.5 WRAP PIPE W/MSHA CL."C" GEOTEXTILE UNTIL UPSTREAM AREA IS STABILIZED.

PERFORATE POND DRAIN PIPE w/ 8 ROWS/FT., 9-1" Ø HOLES/ROW. 1.5" O.C. ROW SPACING. STAGGER HOLES IN EACH ROW.

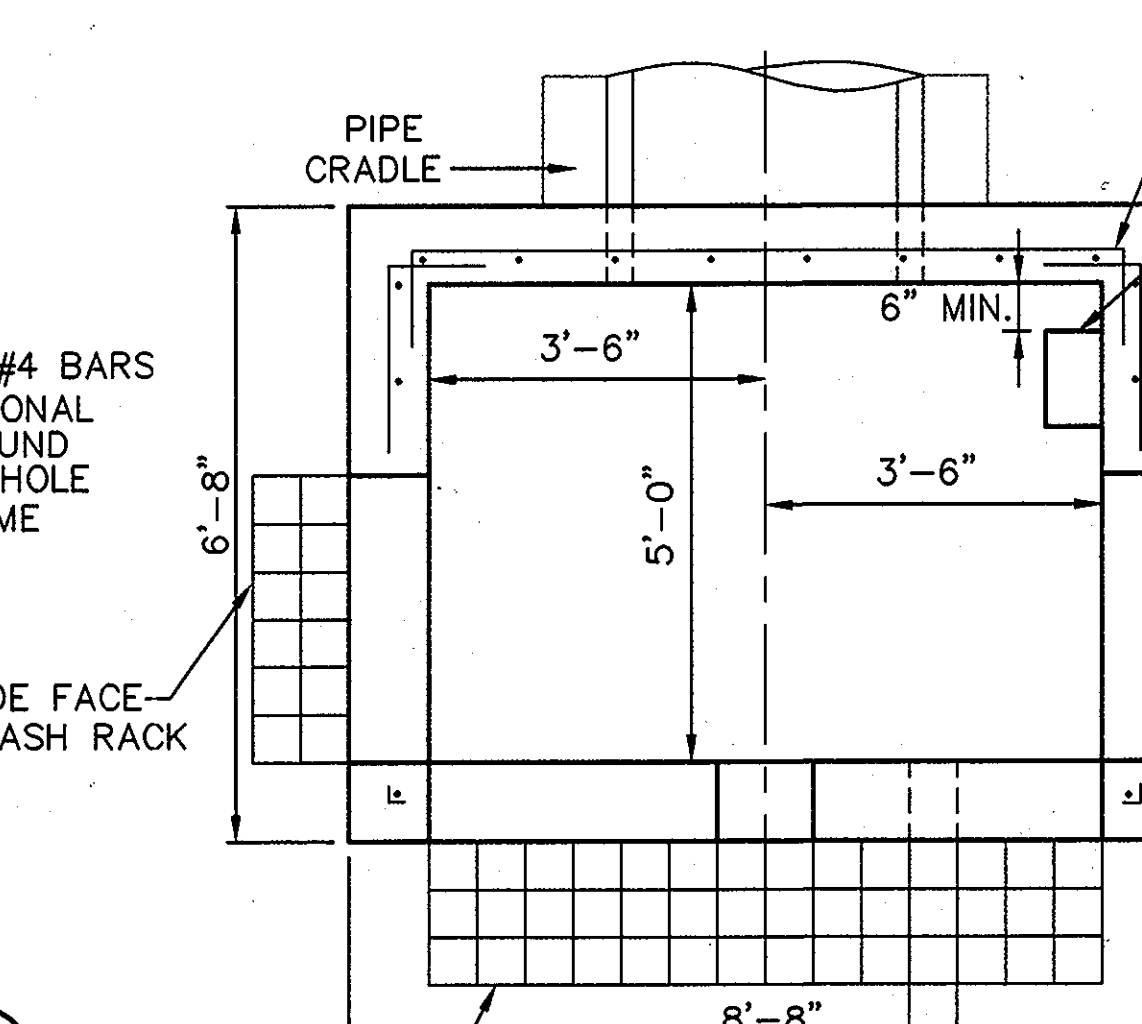
2-YR. ORIFICE, 8" Ø OPENING WITH I.E. 356.4



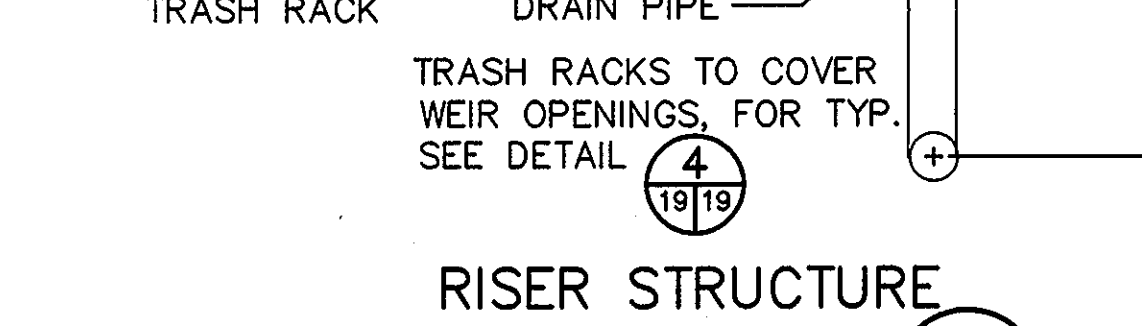
RISER STRUCTURE SECTION D
SCALE: 1/2"=1'-0" 19/19



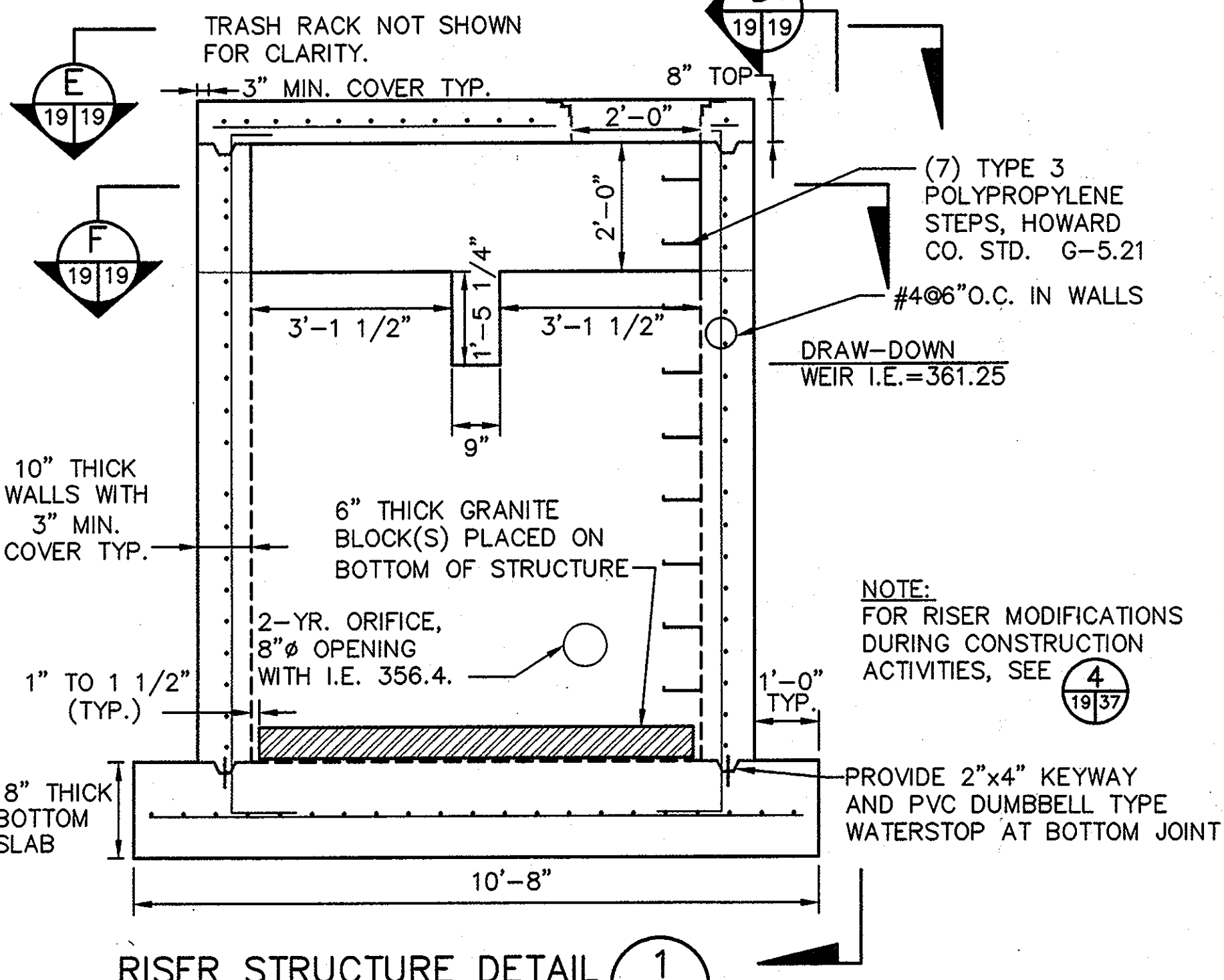
RISER STRUCTURE SECTION D
SCALE: 1/2"=1'-0" 19/19



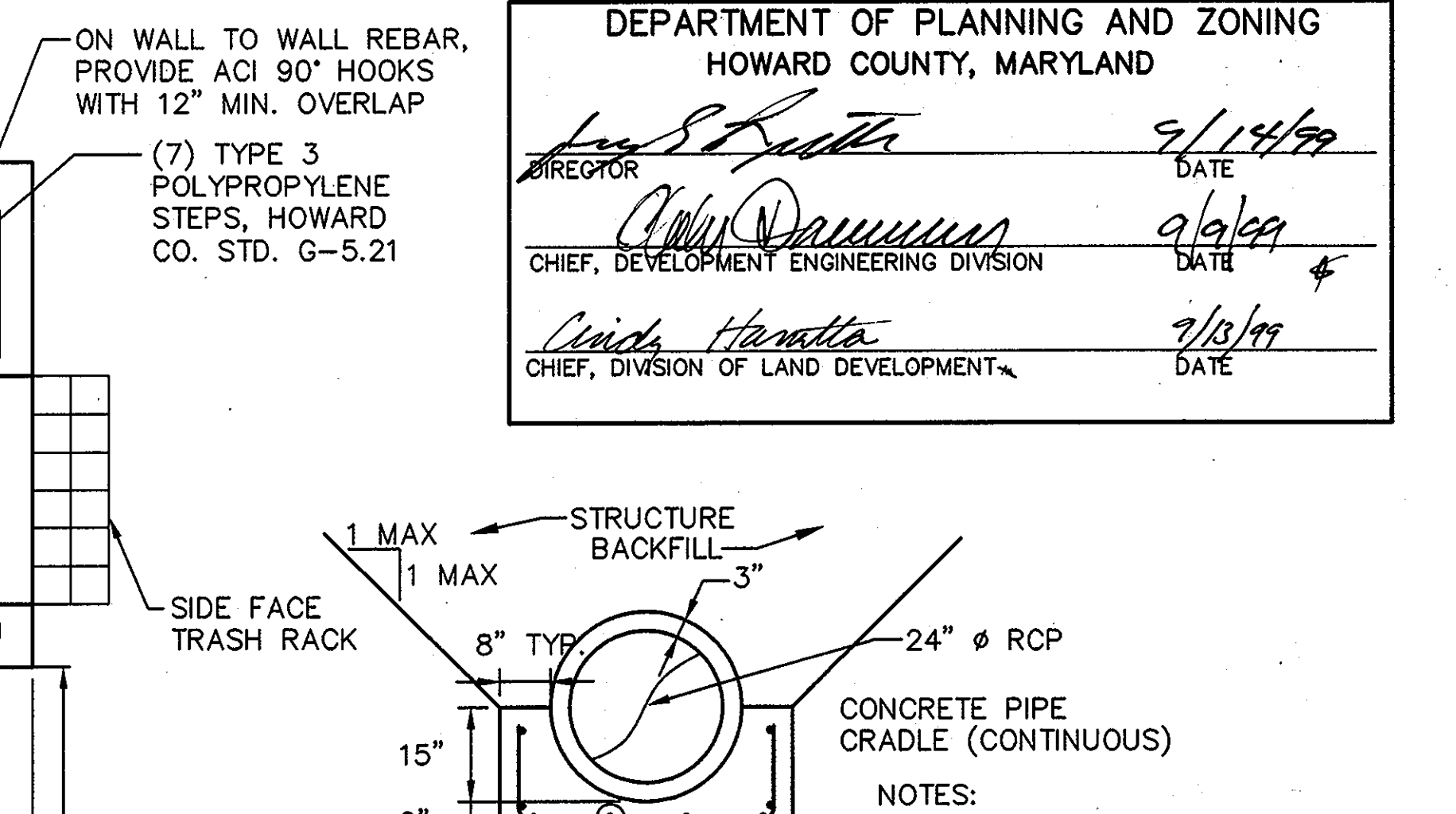
RISER STRUCTURE SECTION E
SCALE: 1/2"=1'-0" 19/19



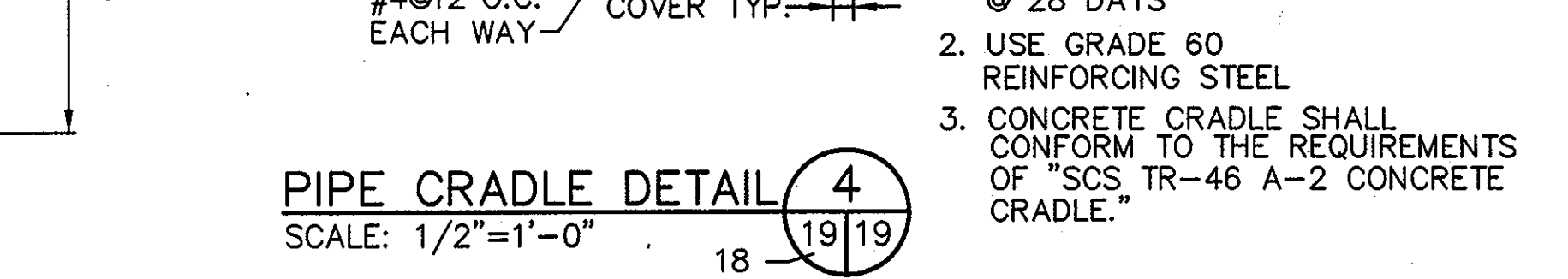
RISER STRUCTURE SECTION F
SCALE: 1/2"=1'-0" 19/19



RISER STRUCTURE DETAIL 1
SCALE: 1/2"=1'-0" 19/19



PIPE CRADLE DETAIL 4
SCALE: 1/2"=1'-0" 19/19



TRASH RACK DETAIL 4
SCALE: 1/2"=1'-0" 19/19

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

John S. Smith 9/14/99
 DIRECTOR DATE

Carol Simms 9/8/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Myra L. Kelly 9/8/99
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

M:\296024.01\90 PERCENT\DETAILS\ RISER-CW2,CRADLE-CW2,ANTSP-CW2,TRK-CW2

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Samuel J. Lewis 9/6/99
 DIRECTOR OF PUBLIC WORKS DATE

John A. O'Hara 7/6/99
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE

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

STATE OF MARYLAND
 ROBERT W. ISENGER
 PROFESSIONAL ENGINEER

STATE OF MARYLAND
 MICHAEL R. GONDREAU
 PROFESSIONAL ENGINEER

DES.	MRG	DATE	
DRN.	JCS	6-5-13	
CHK.	RHI		
DATE:	07-01-99		
BY	NO.	REVISION	DATE
		ADDED SHEET 40	

NORTH BASIN DETAILS

NEW CUT LANDFILL IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN

SHEET 19 OF 39

SDP-99-109

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 7/6/99
 SIGNATURE OF DEVELOPER DATE
 PRINT NAME BELOW SIGNATURE

() 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.

Michael R. Goudreau 7-6-99
 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.

Paul Simon 9/8/99
 USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

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

John A. Kelly 9/8/99
 HOWARD SOIL CONSERVATION DISTRICT AS-BUILT CERTIFICATION DATE

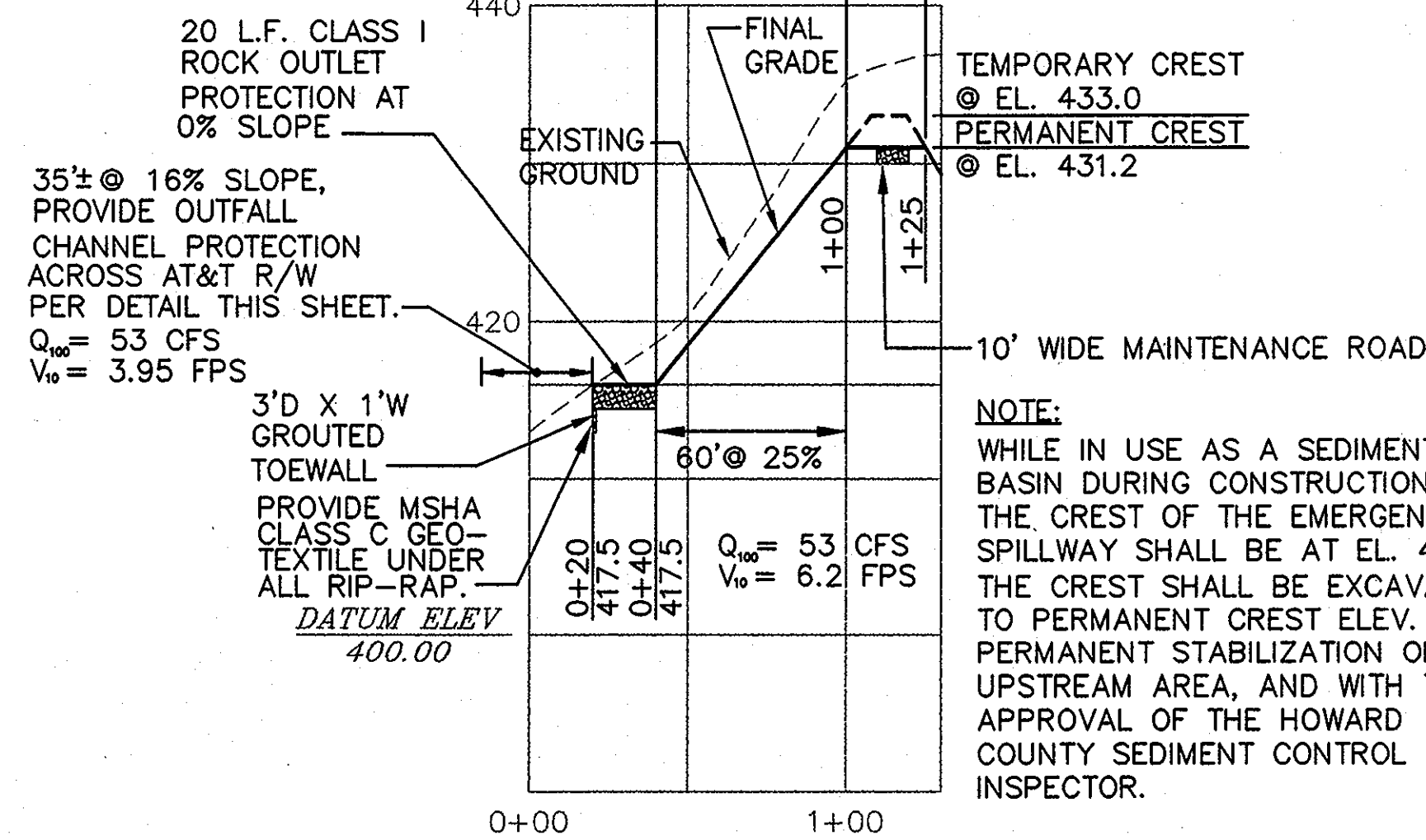
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

PE NO. _____
 SIGNATURE _____ DATE _____

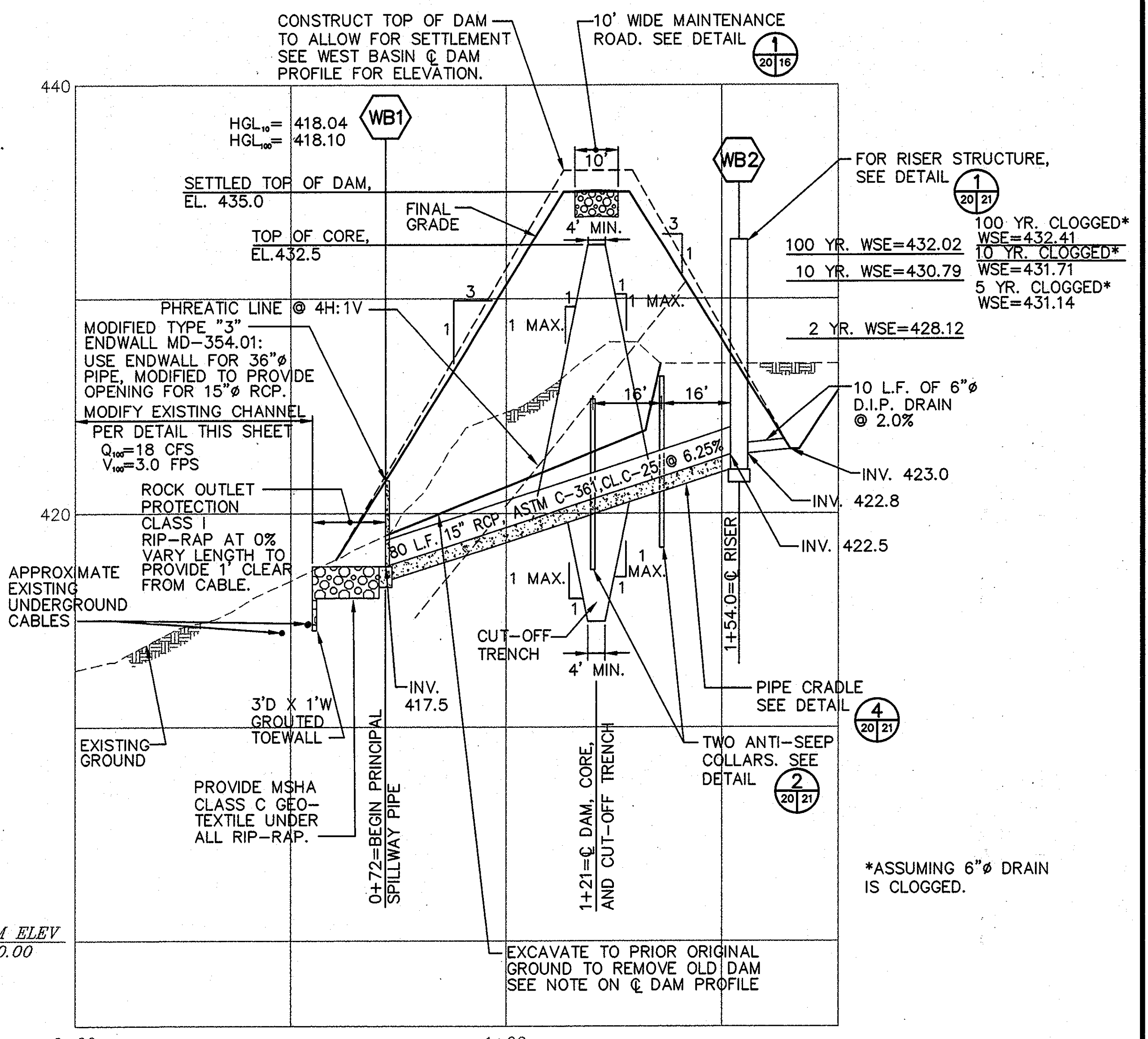
CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. 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.

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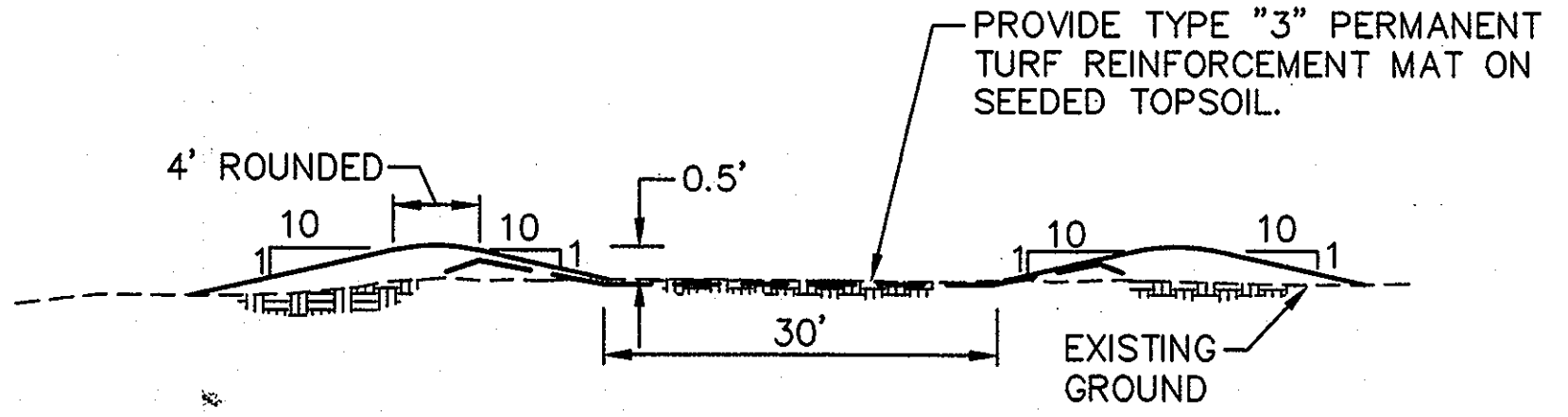
22' MIN. WIDTH OF TYPE "3" PERMANENT TURF REINFORCEMENT MAT IN CHANNEL CONTROL SECTION, 25' @ 0%



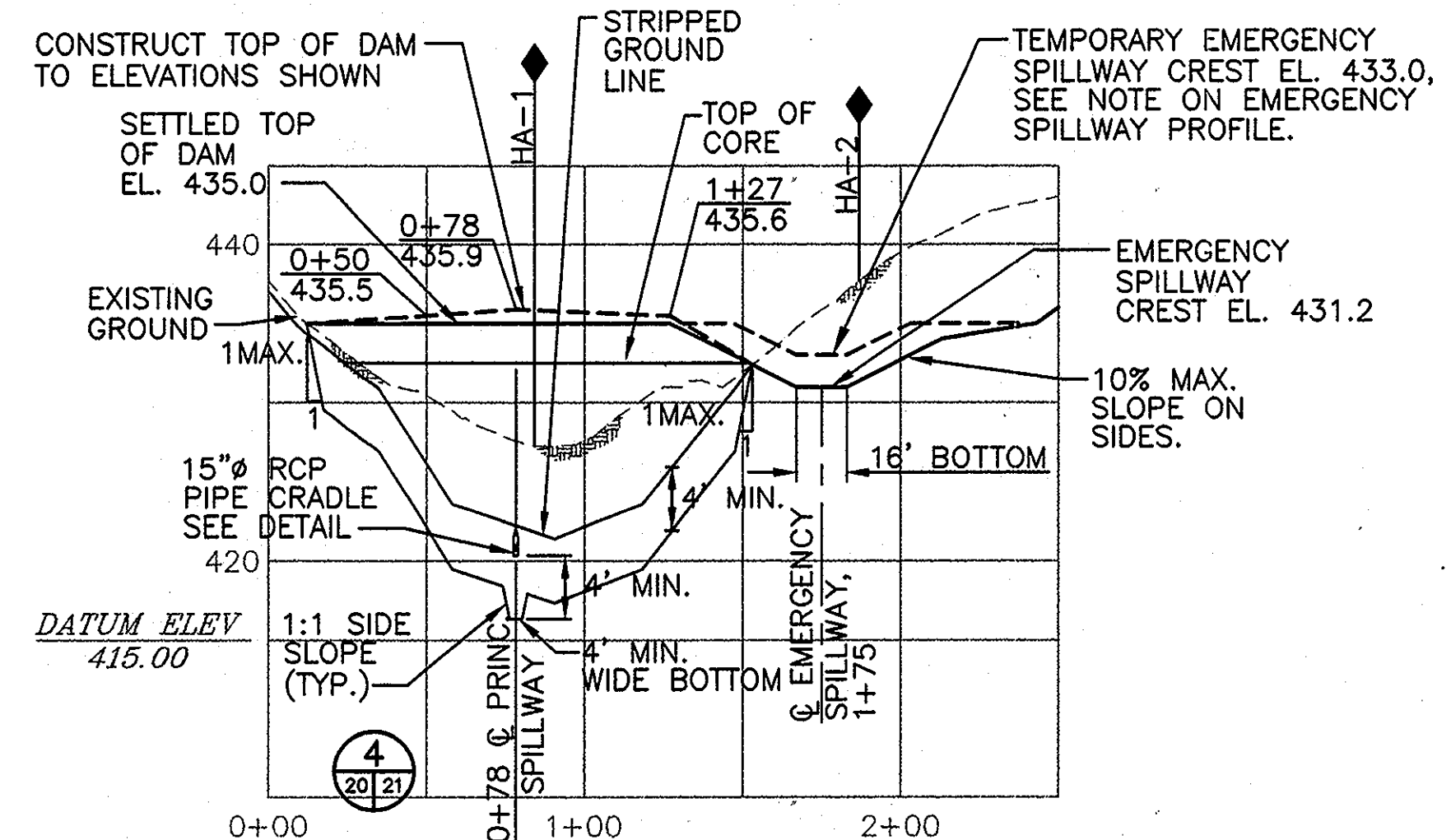
WEST BASIN @ EMERGENCY SPILLWAY PROFILE (A)
 SCALE: HORIZ.: 1" = 50'
 VER.: 1" = 10'



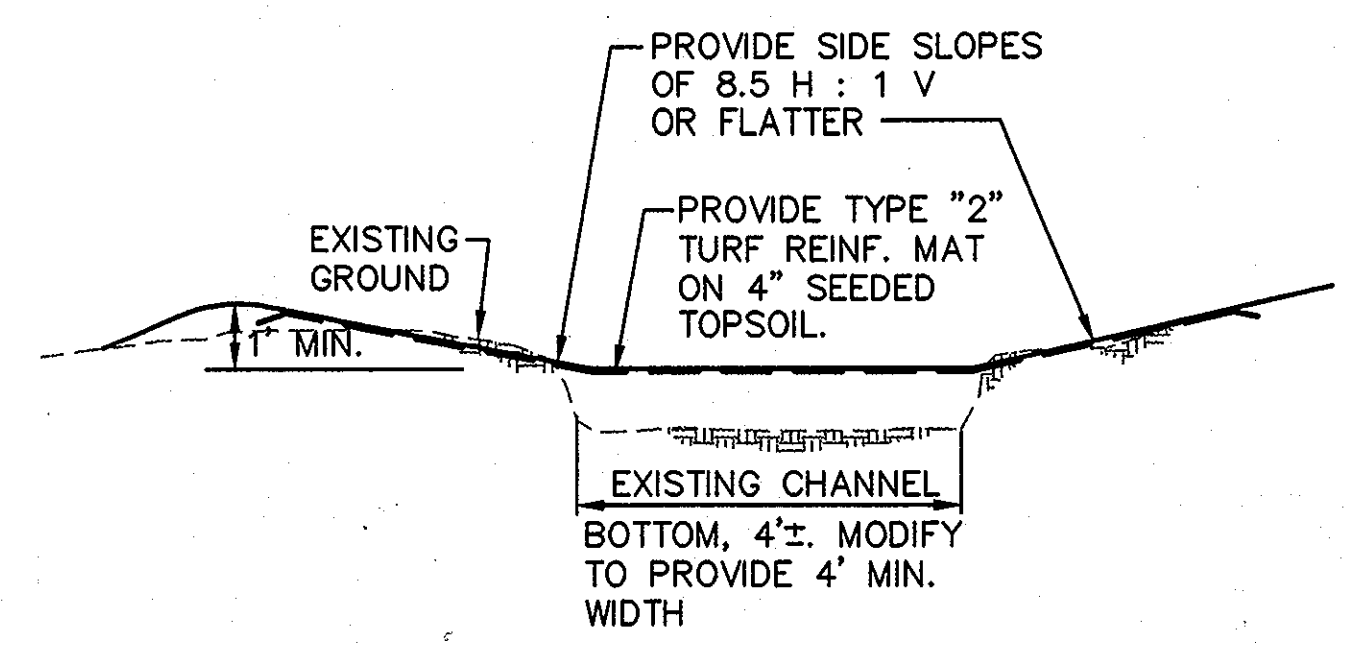
WEST BASIN @ PRINCIPAL PROFILE (C)
 SCALE: HORIZ.: 1" = 20'
 VER.: 1" = 4'



OUTFALL CHANNEL PROTECTION ACROSS AT&T RIGHT OF WAY
 NOT TO SCALE



WEST BASIN @ DAM PROFILE (B)
 SCALE: HORIZ.: 1" = 50'
 VER.: 1" = 10'



EXISTING CHANNEL MODIFICATION
 NOT TO SCALE

M:\296024\01\90 PERCENT\PROFILES\WBASIN.WBASIN1.XWBASIN

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

John O'Hara 9/14/99
 DIRECTOR DATE

Paul Simon 9/9/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

John A. Kelly 9/13/99
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

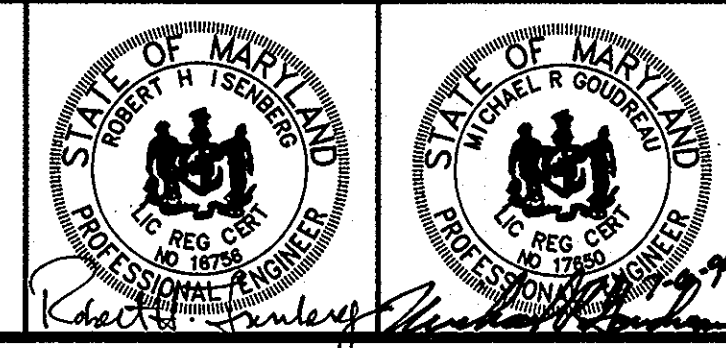
SUBDIVISION NAME	LOT/PARCEL	
HO. CO. GOVERNMENT	529	
LIBER/FOLIO	ZONE	TAX/ZONE MAP
180/339	R-20	31
WATER CODE	SEWER CODE	CENSUS TR.

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

John O'Hara 7/6/99
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE

John A. Kelly 9/8/99
 DIRECTOR OF PUBLIC WORKS DATE

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



DES.	MRG		
DRN.	JCS	PSW	ADDED SHEET 40
CHK.	RHI		
DATE:	06-02-99	BY:	NO.
		REVISION	DATE

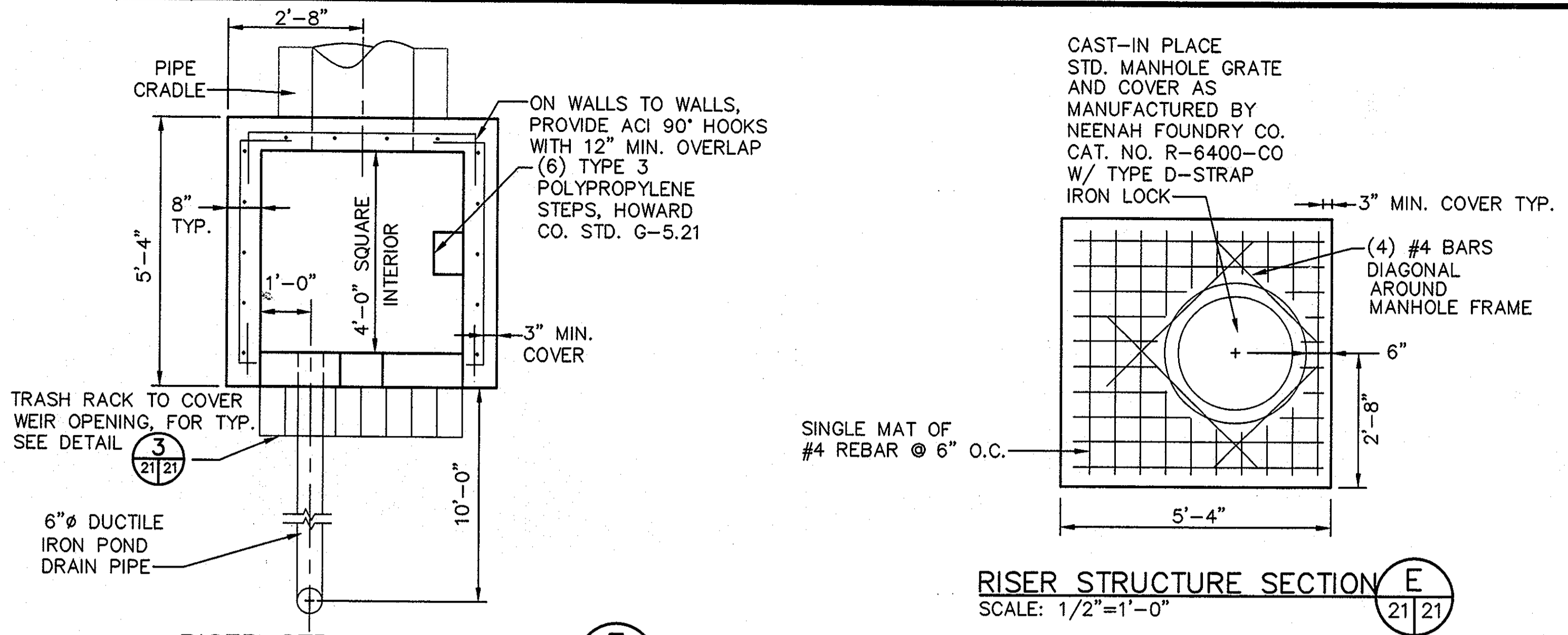
WEST BASIN PROFILES

NEW CUT LANDFILL IMPROVEMENTS
 CAPITAL PROJECT NO. C-0237-H
 2nd ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

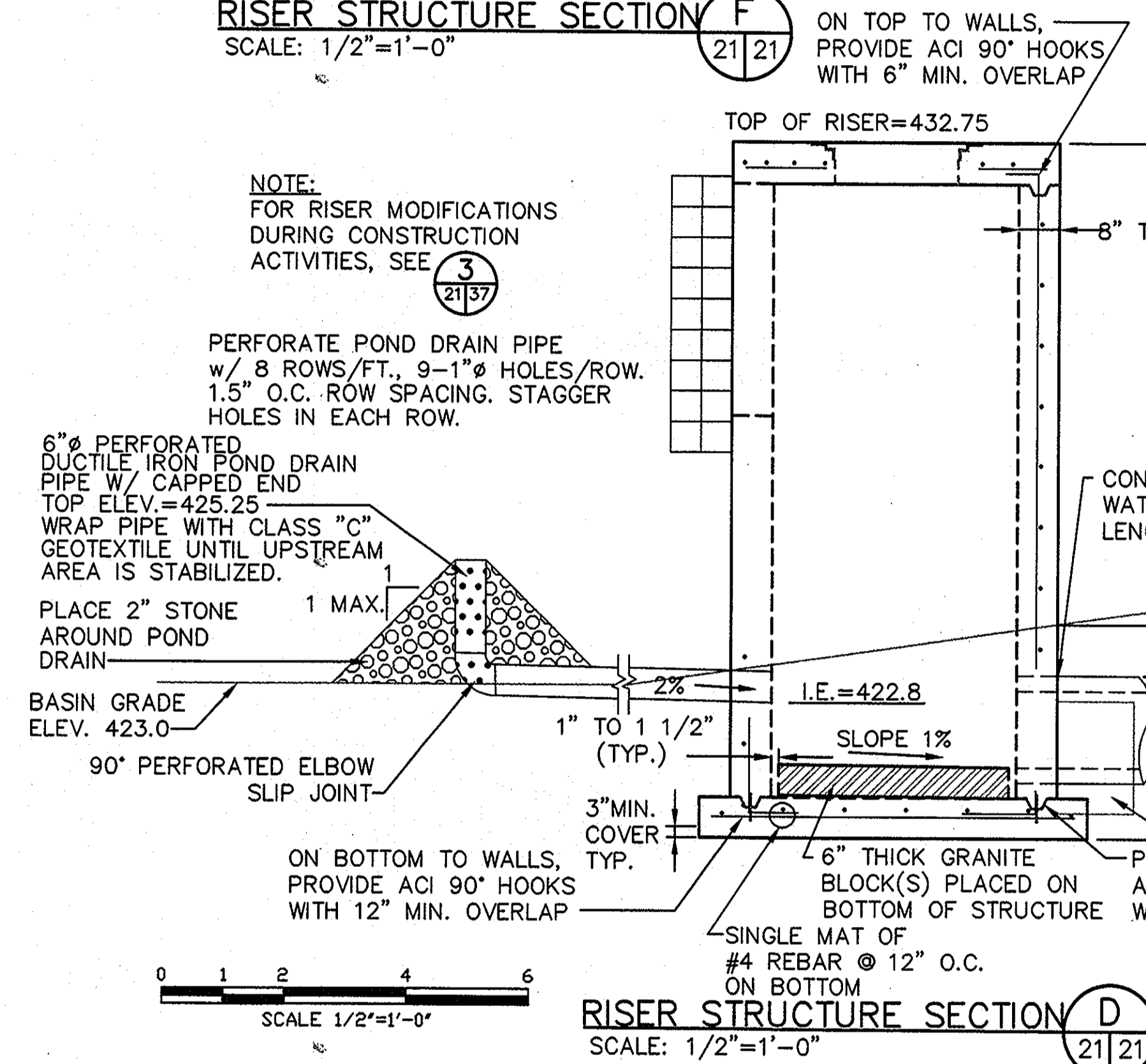
SCALE:
 AS SHOWN
 SHEET
 20 OF 40

POND	RISER		OUTLET PIPE		ANTI-SEEP COLLAR	DAM		EMERG. SPILLWAY	CORE		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.
WEST	3'-10"	0'-10"	430.0	5'-4"	15	80	422.5	417.5	1	8.00 H. 9.08 W.	12'	VARIES	435.0	431.0	16	4'	1:1	4'	1:1	428.12	430.79	432.02

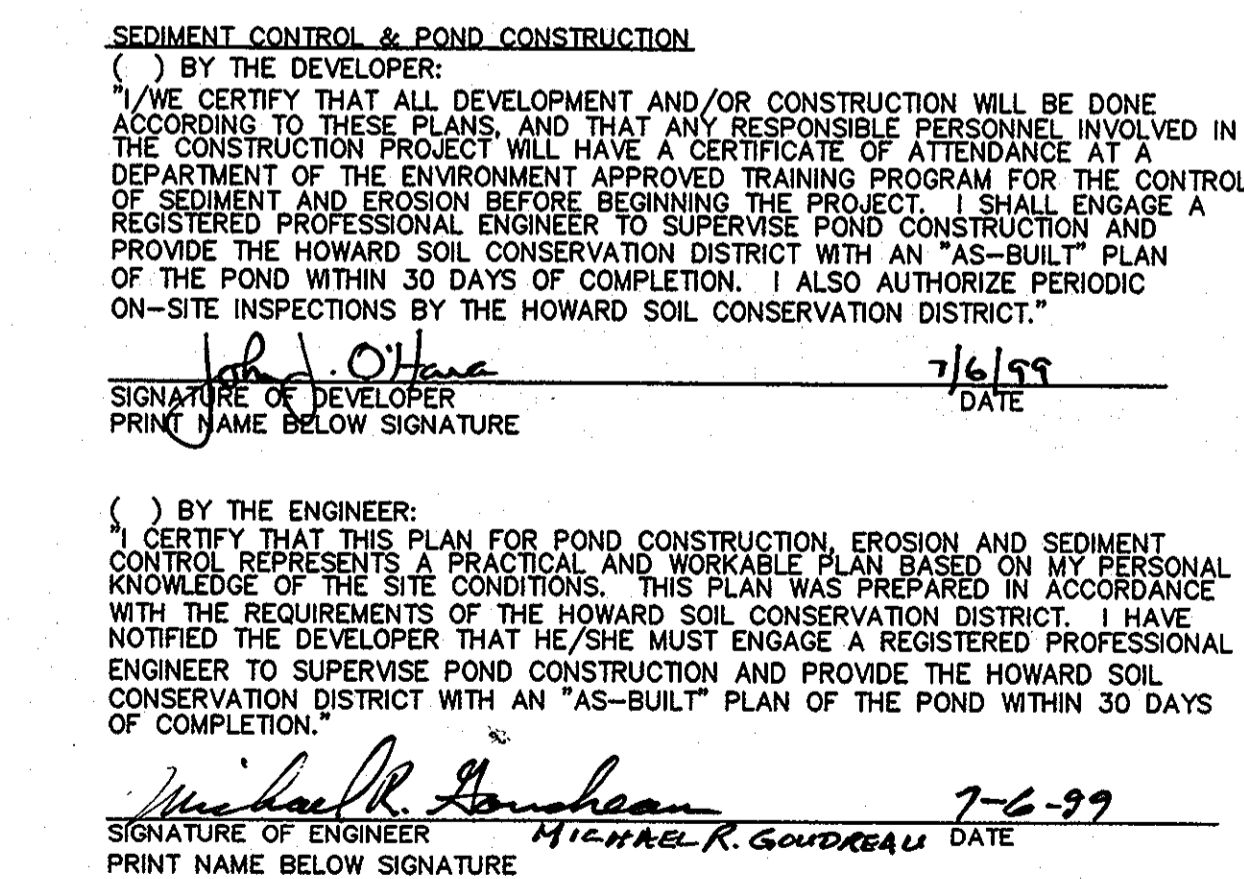
POST CONSTRUCTION WEST BASIN MAINTENANCE IS RESPONSIBILITY OF OWNER, HOWARD COUNTY.



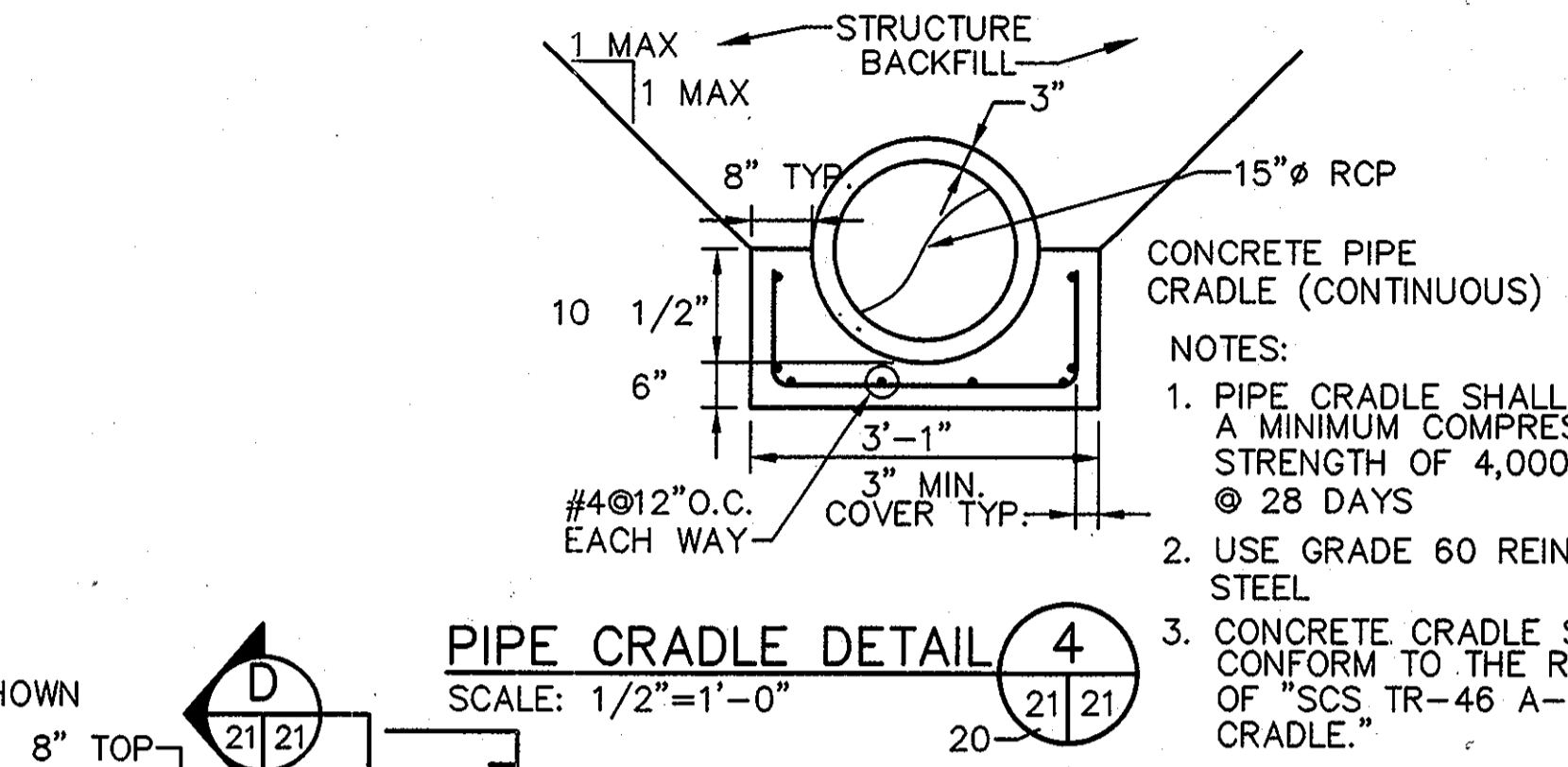
RISER STRUCTURE SECTION E
SCALE: 1/2"=1'-0"



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

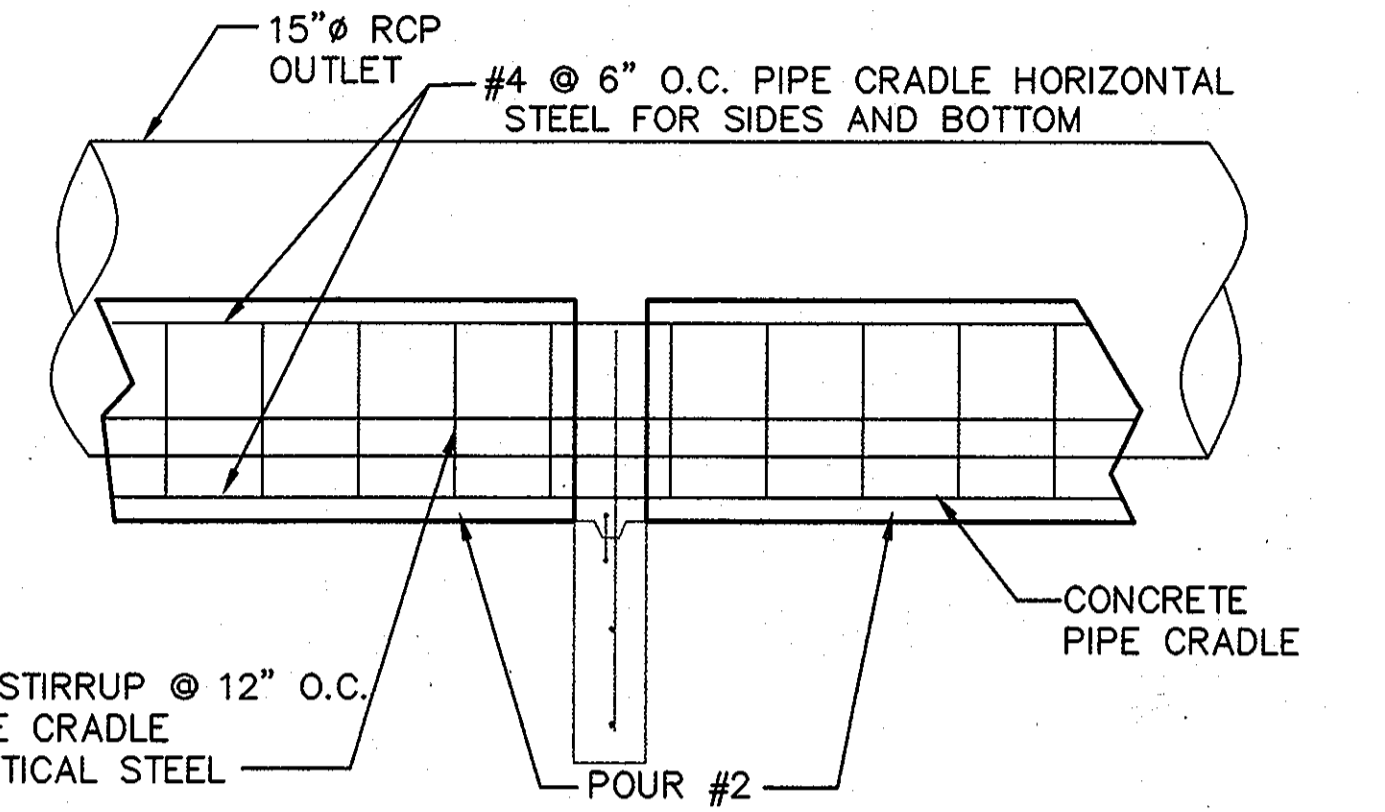


RISER STRUCTURE SECTION D
SCALE: 1/2"=1'-0"



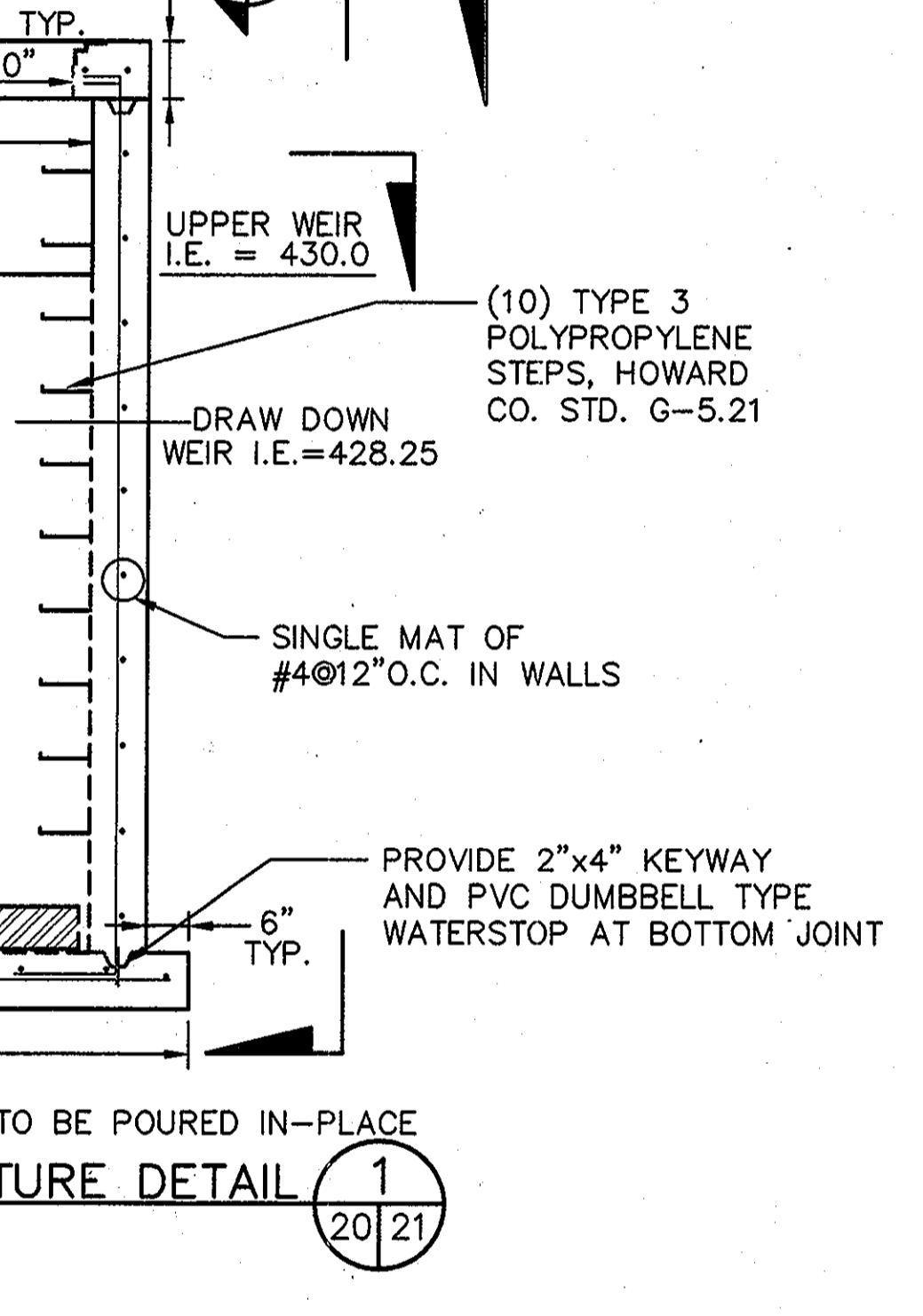
PIPE CRADLE DETAIL 4
SCALE: 1/2"=1'-0"

- NOTES:
- PIPE CRADLE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 psi @ 28 DAYS
 - USE GRADE 60 REINFORCING STEEL
 - CONCRETE CRADLE SHALL CONFORM TO THE REQUIREMENTS OF "SCS TR-46 A-2 CONCRETE CRADLE."

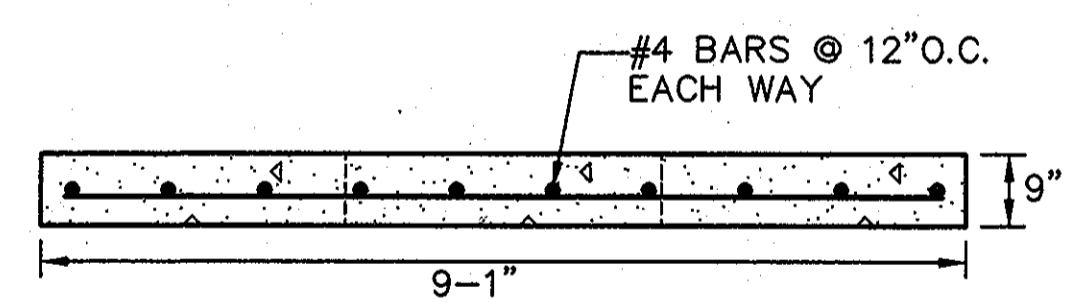


- NOTES:
- ANTI-SEEP COLLAR TO BE POURED AT LEAST TWO (2) FEET FROM NEAREST PIPE JOINT
 - ANTI-SEEP COLLAR IS TO BE CONSTRUCTED IN THREE POURS.
 - BOTTOM HALF TO BE POURED FIRST.
 - PLACE PIPE AND POUR CRADLE SECOND.
 - TOP PORTION OF COLLAR POURED THIRD.
 - BACKFILL SHALL BE PLACED EVENLY ON BOTH SIDES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

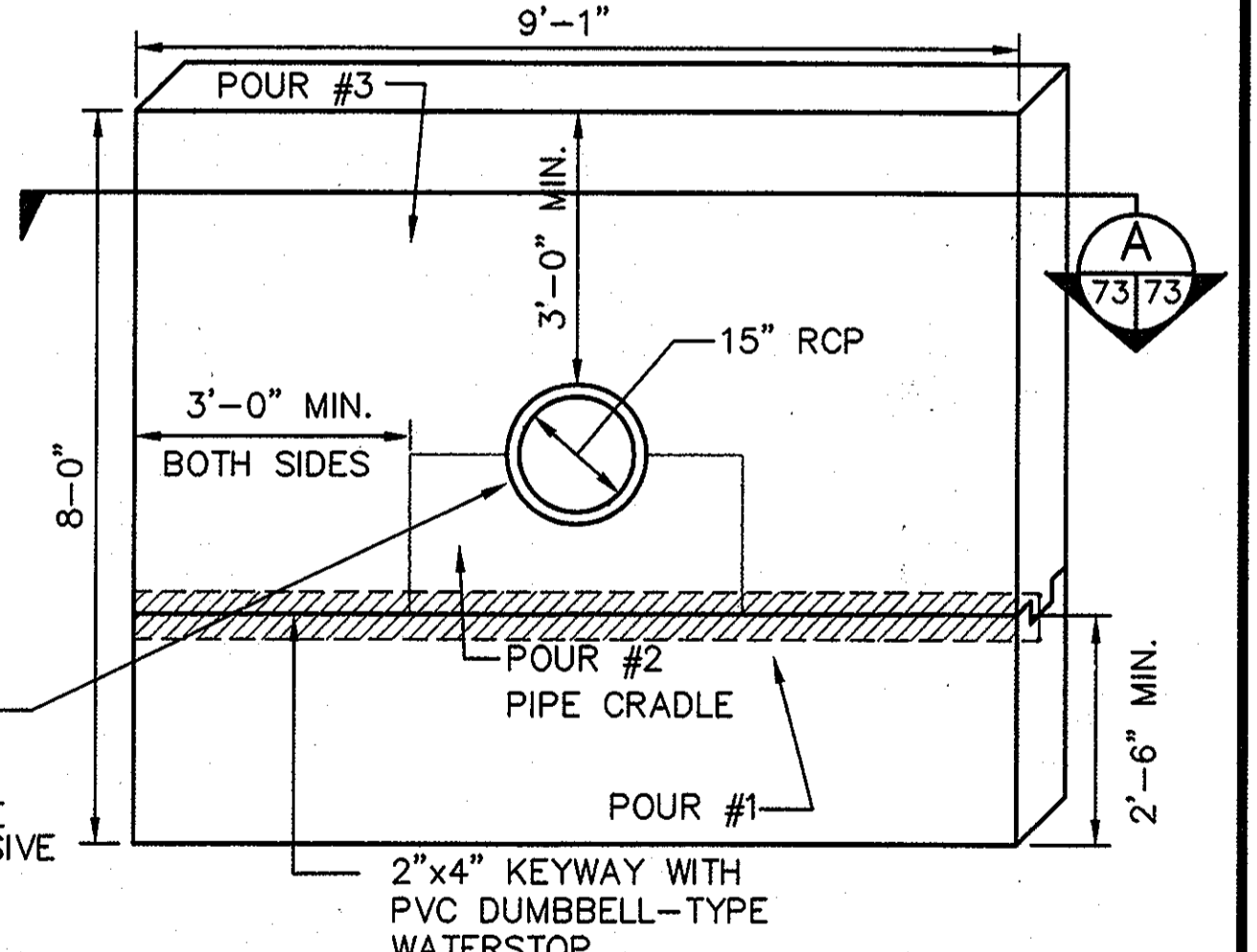
ANTI-SEEP COLLAR CONSTRUCTION SEQUENCE



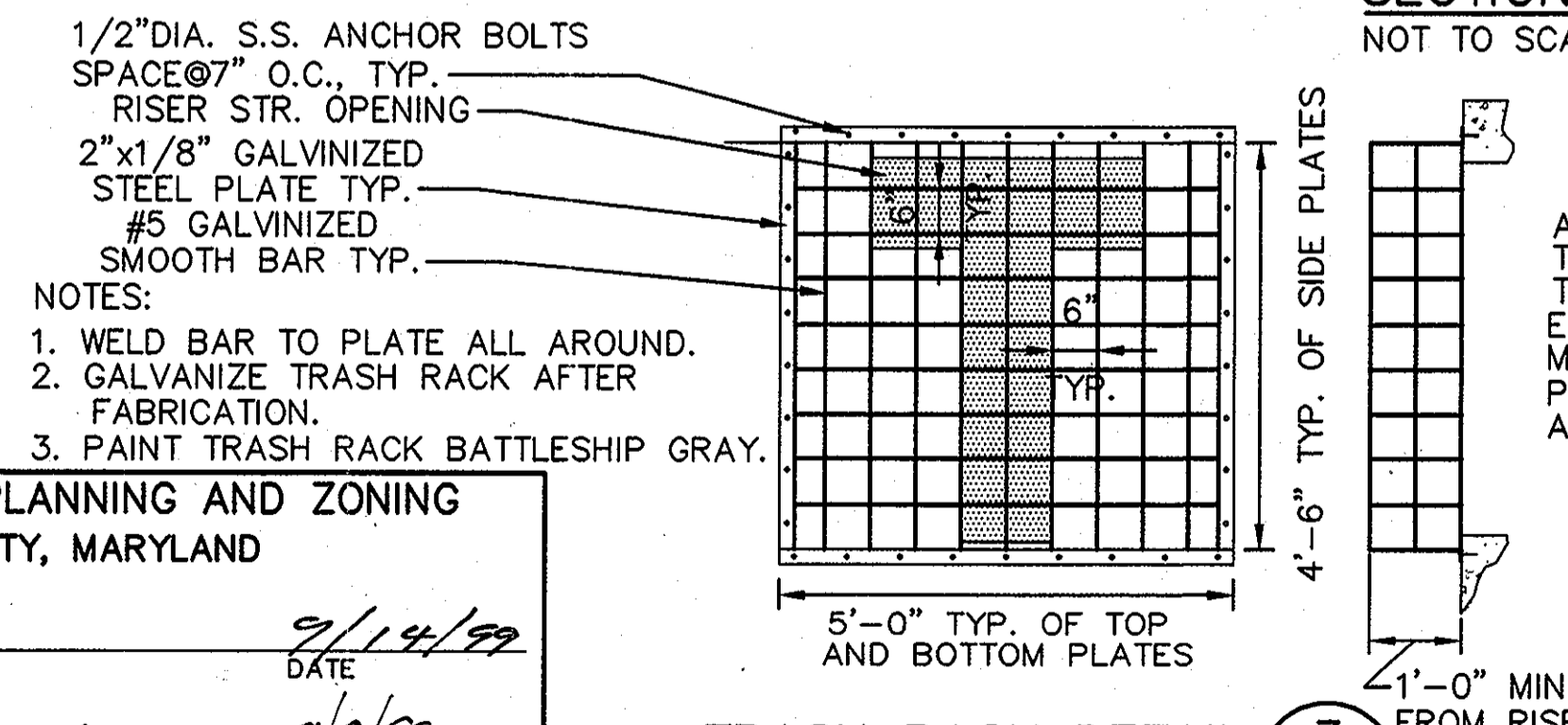
RISER STRUCTURE DETAIL 1
SCALE: 1/2"=1'-0"



SECTION A
NOT TO SCALE



ANTI-SEEP COLLAR DETAIL (TYPICAL OF TWO)
NOT TO SCALE



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

- NOTES:
- WELD BAR TO PLATE ALL AROUND.
 - GALVANIZE TRASH RACK AFTER FABRICATION.
 - PAINT TRASH RACK BATTLESHIP GRAY.

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: *John J. O'Hara* DATE: 7/6/99

() 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: *Clark Summers* DATE: 9/8/99
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.

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. Goudreau* DATE: 9/8/99
HOWARD SOIL CONSERVATION DISTRICT AS-BUILT CERTIFICATION

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Signature: *Robert Kautz* DATE: 9/14/99
DIRECTOR

Signature: *Michael R. Goudreau* DATE: 9/9/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Signature: *Conita Stomata* DATE: 7/14/99
CHIEF, DIVISION OF LAND DEVELOPMENT

SUBDIVISION NAME	LOT/PARCEL
HO. CO. GOVERNMENT	529
LIBER/FOLIO	ZONE TAX/ZONE MAP
180/339	R-20 31
WATER CODE	SEWER CODE CENSUS TR.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Signature: *Samuel R. Chew* DATE: 9/6/99
DIRECTOR OF PUBLIC WORKS

Signature: *John J. O'Hara* DATE: 7/6/99
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

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

DES. MRG	DRN. JCS	CHK. RHI	DATE: 06-02-99
BY NO.	REVISION	DATE	
	ADDED SHEET 40	6-5-93	

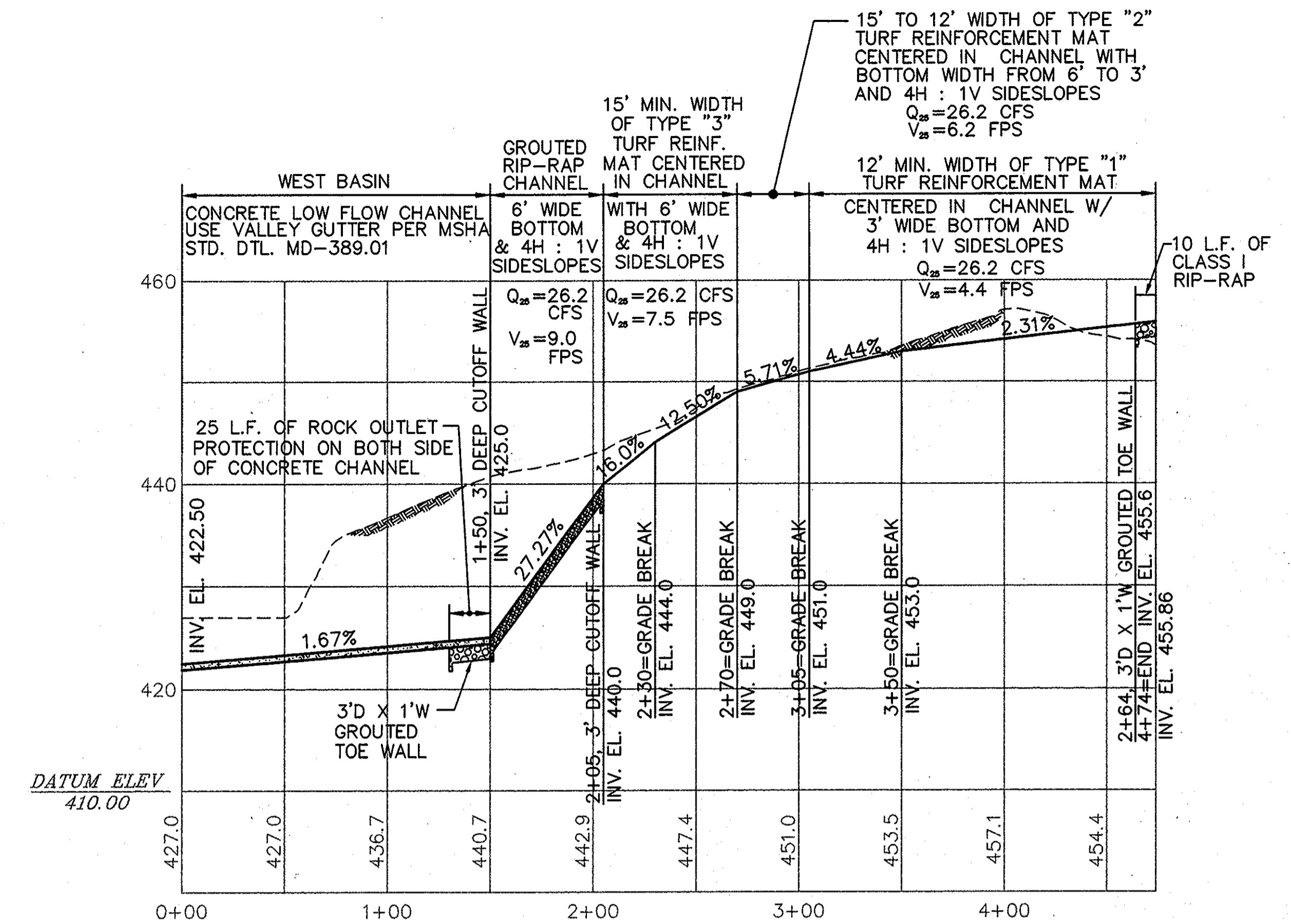
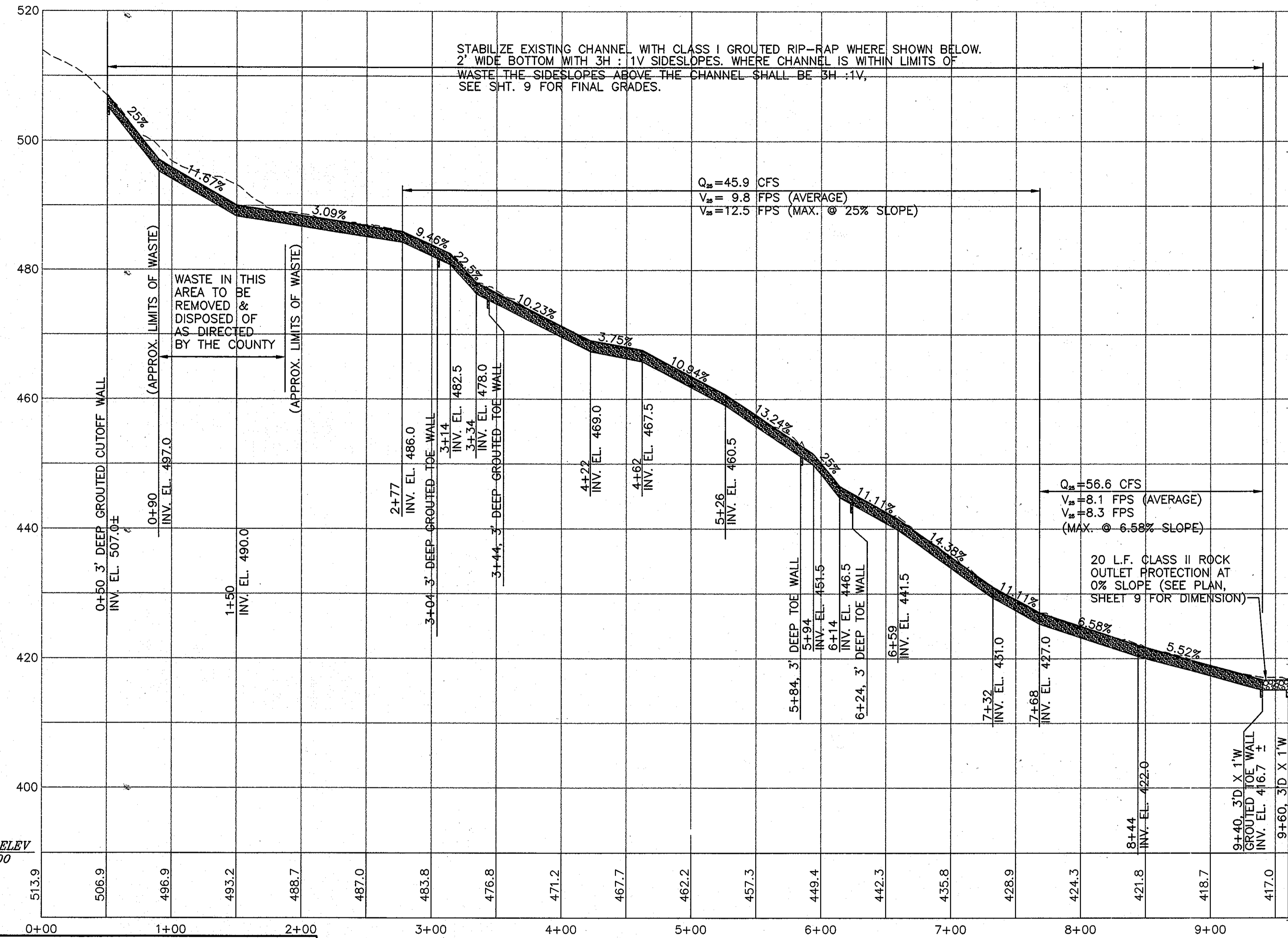
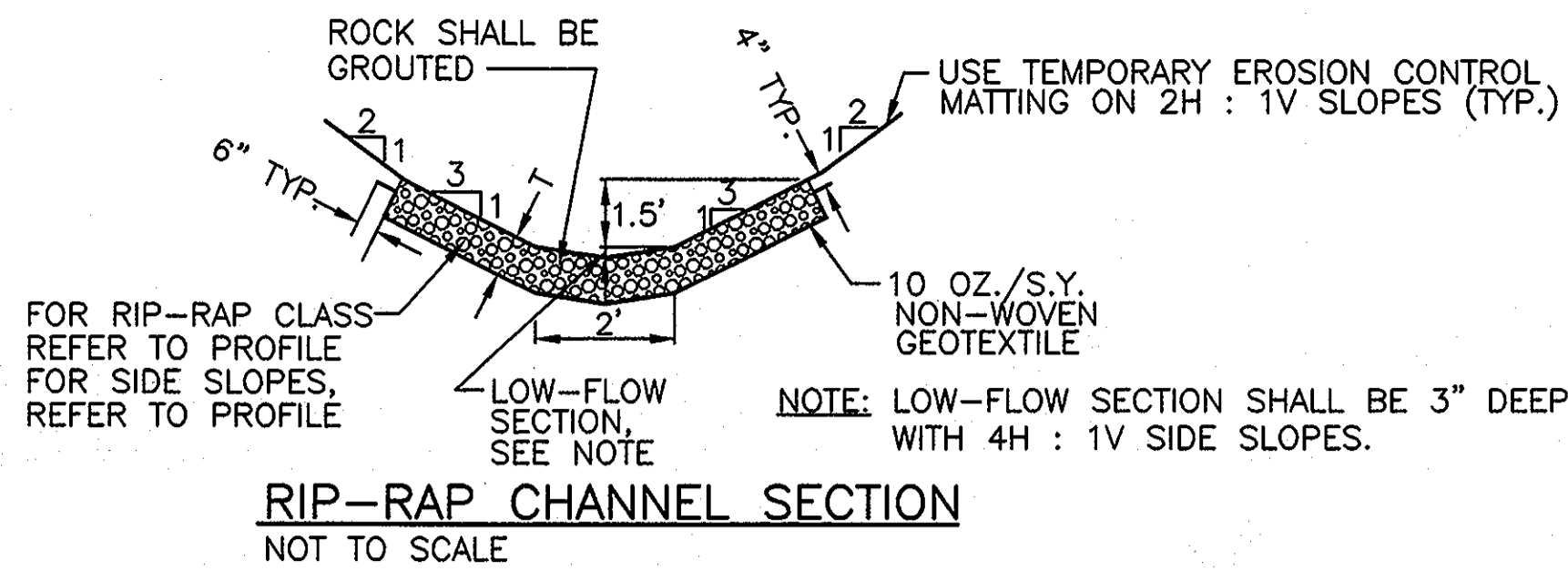
WEST BASIN DETAILS

NEW CUT LANDFILL IMPROVEMENTS

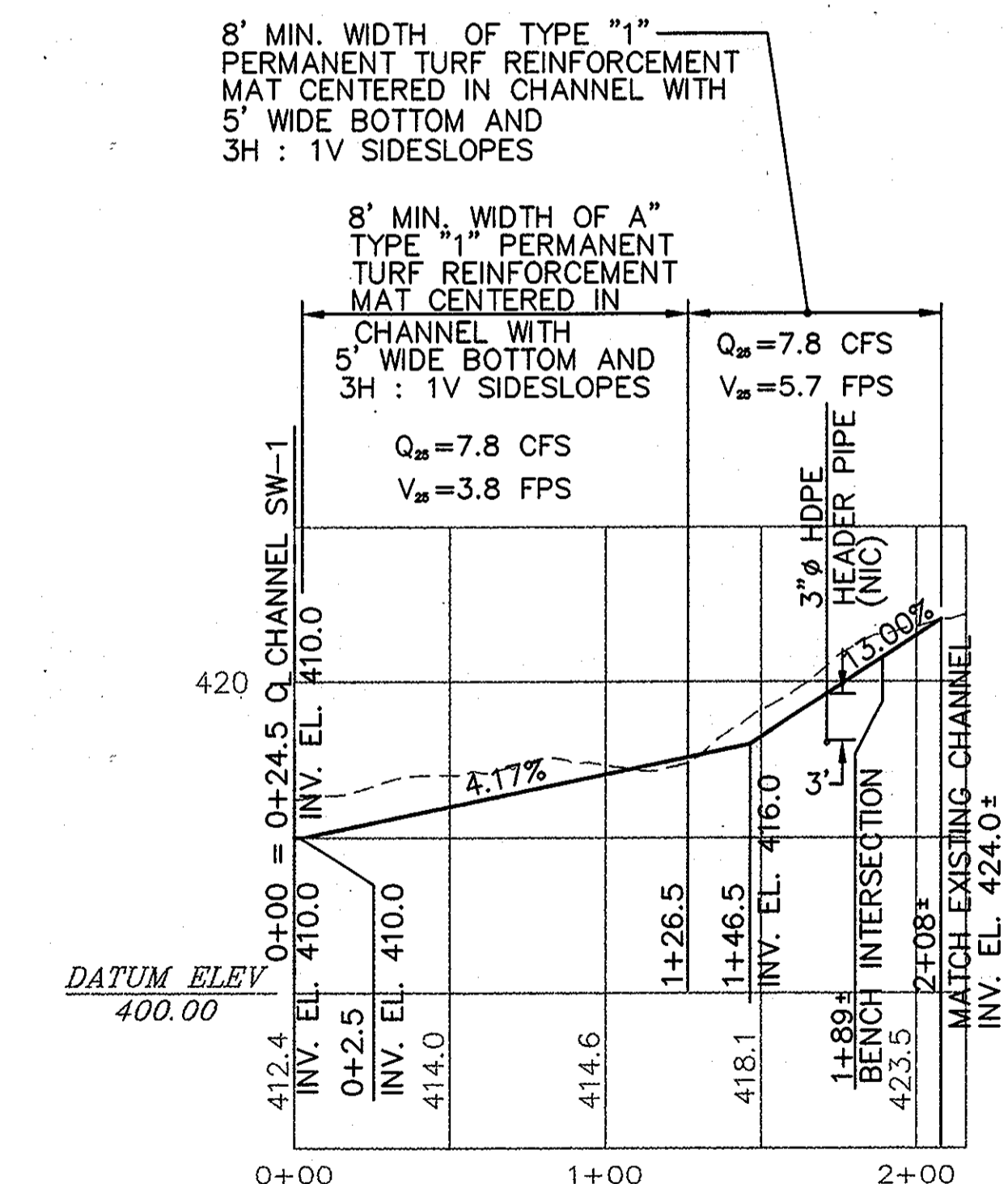
CAPITAL PROJECT NO. C-0237-H
2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN
SHEET 21 OF 40

M:\296024\01\90 PERCENT DETAILS\ RISER-SB, TBL-SB, CRADLE-SB, ANTISP-SB, TRK-SB



WEST PERIMETER CHANNEL 3
5,6,29,30



CHANNEL SW-2 2
5,6,29,30

M: 296024.01\90 PERCENT\PROFILES\ W-CHPRO, EX-CHPRO

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR: [Signature] DATE: 9/14/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION: [Signature] DATE: 9/19/99
CHIEF, DIVISION OF LAND DEVELOPMENT: [Signature] DATE: 9/23/99

EROSION CONTROL IMPROVEMENTS TO OUTER EAST CHANNEL 1

SUBDIVISION NAME	LOT/PARCEL
HO. CO. GOVERNMENT	529
LIBER/FOLIO	ZONE TAX/ZONE MAP
180/339	R-20 31
WATER CODE	SEWER CODE CENSUS TR.

HORIZ. SCALE: 50 0 50 100 SCALE IN FEET
VERT. SCALE: 10 0 10 20 SCALE IN FEET

NOTE: DURING GRADING ACTIVITIES, THE CONTRACTOR SHALL PLACE EROSION CONTROL MAT, TURF REINFORCEMENT MAT, RIP-RAP AS SOON AS DITCH/BENCH/CHANNEL/DOWNCHUTE GRADE IS ESTABLISHED.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS: [Signature] DATE: 7/6/99
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES: [Signature] DATE: 7/6/99

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

DES.	MRG		
DRN.	JCS		
CHK.	RHI		
DATE:	07-01-99		
BY	NO.	REVISION	DATE
		ADDED SHEET 40	6-5-13

CHANNEL PROFILES

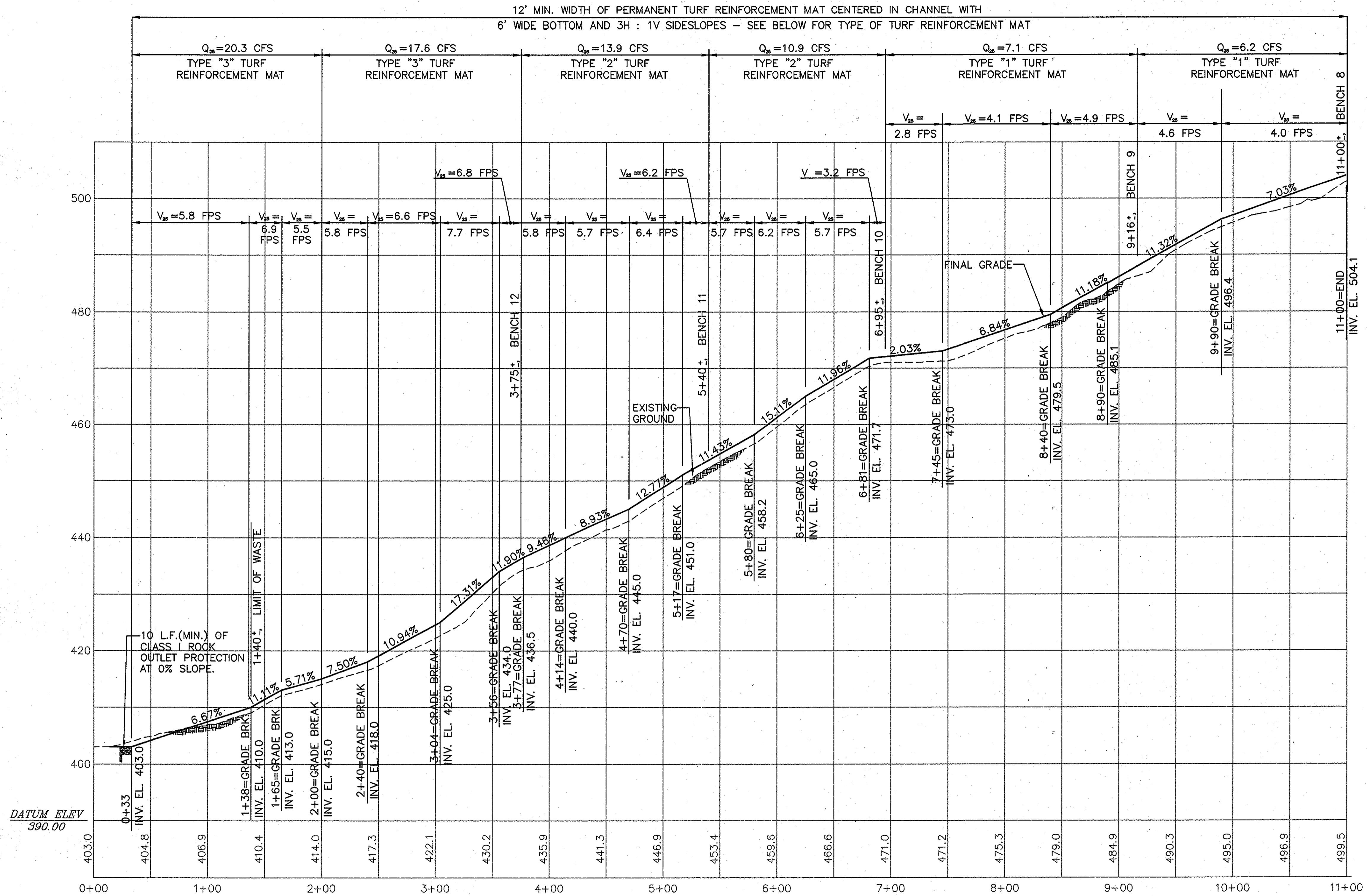
NEW CUT LANDFILL IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

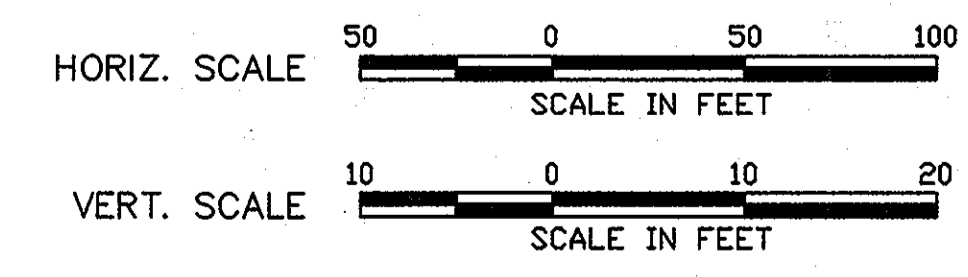
SCALE: AS SHOWN
SHEET 22 OF 40

M:\296024\01\90 PERCENT\PROFILES\ E-CHPRO



INNER EAST PERIMETER CHANNEL
5,7,9,29,31,33

NOTE: DURING GRADING ACTIVITIES, THE CONTRACTOR SHALL PLACE EROSION CONTROL MAT, TURF REINFORCEMENT MAT, RIP-RAP AS SOON AS DITCH/BENCH/CHANNEL/DOWNCHUTE GRADE IS ESTABLISHED.



DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

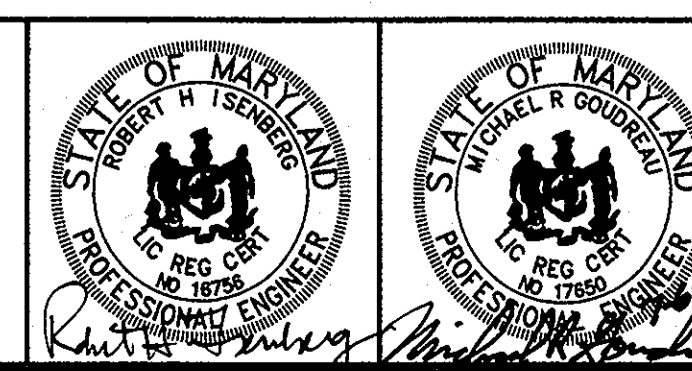
Director: *[Signature]* DATE: 9/14/99
 Chief, Development Engineering Division: *[Signature]* DATE: 9/16/99
 Chief, Division of Land Development: *[Signature]* DATE: 9/13/99

SUBDIVISION NAME	HO. CO. GOVERNMENT		
LOT/PARCEL	529		
LIBER/FOLIO	ZONE	TAX/ZONE MAP	
180/339	R-20	31	
WATER CODE	SEWER CODE	CENSUS TR.	

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* DATE: 7/6/99
 Chief, Bureau of Environmental Services: *[Signature]* DATE: 7/6/99

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



DES.	MRG		
DRN.	JCS	PSW	ADDED SHEET 40
CHK.	RHI		
DATE:	06-02-99	BY:	NO.
		REVISION	DATE

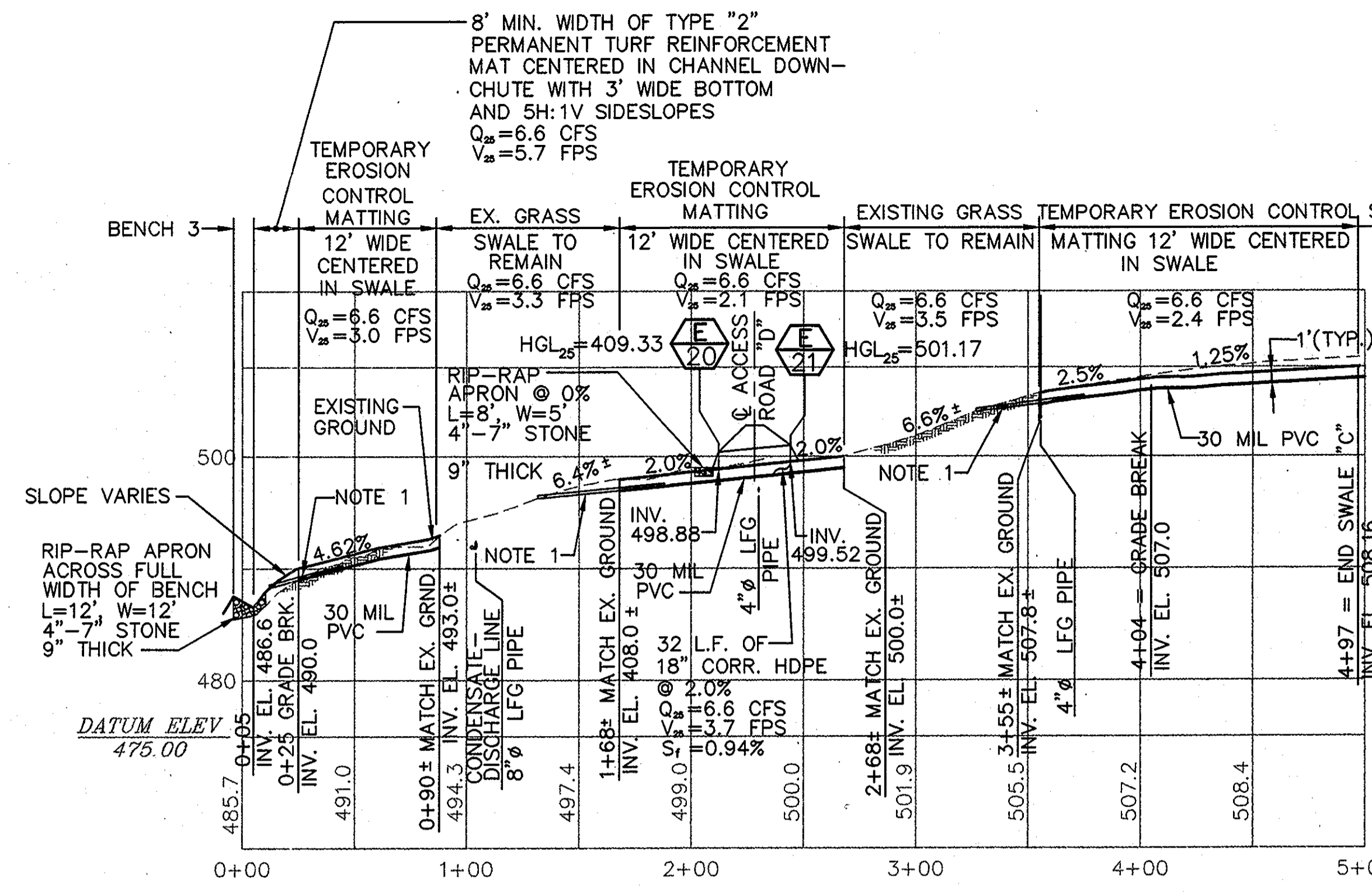
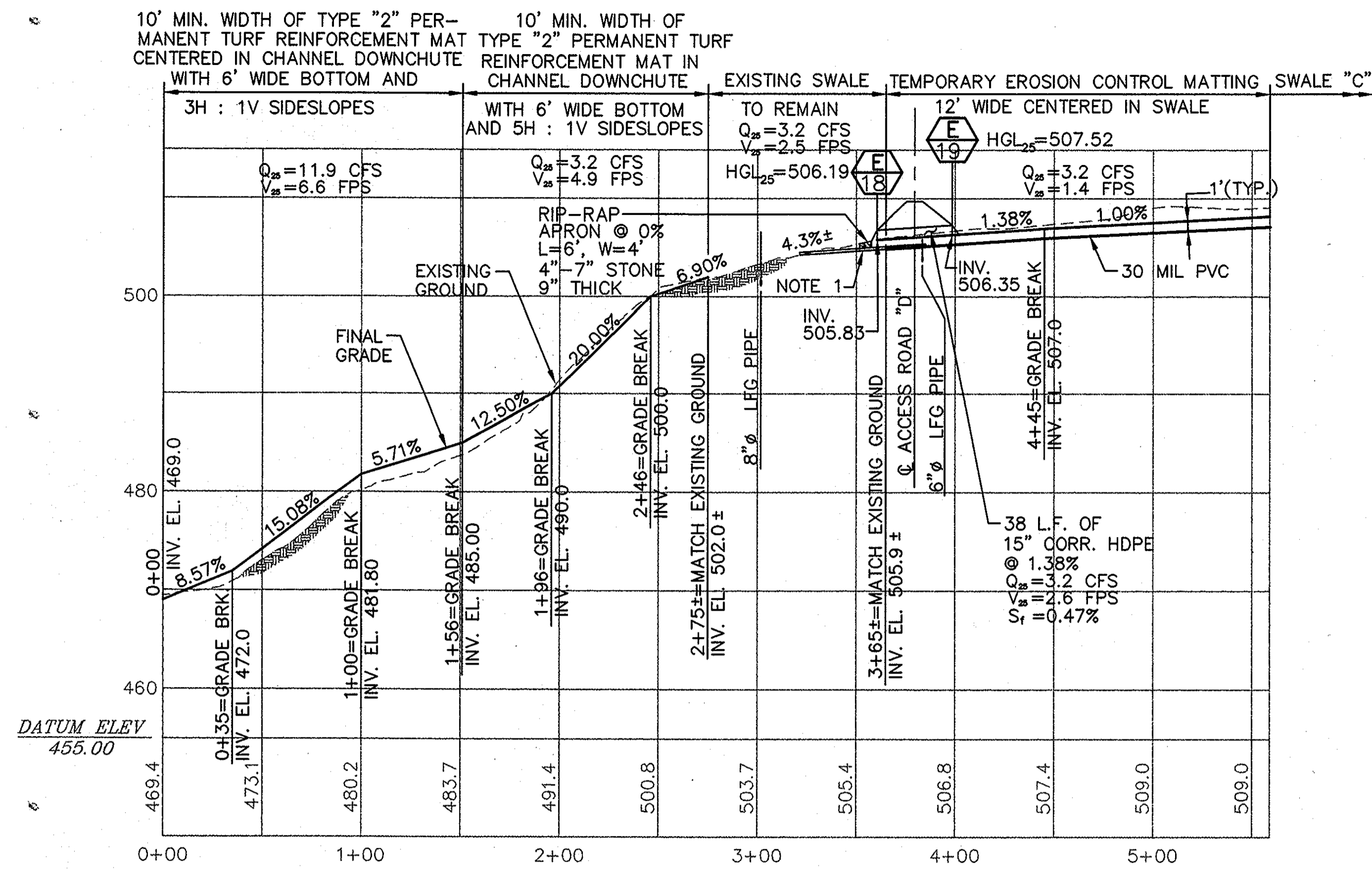
CHANNEL PROFILES

NEW CUT LANDFILL IMPROVEMENTS

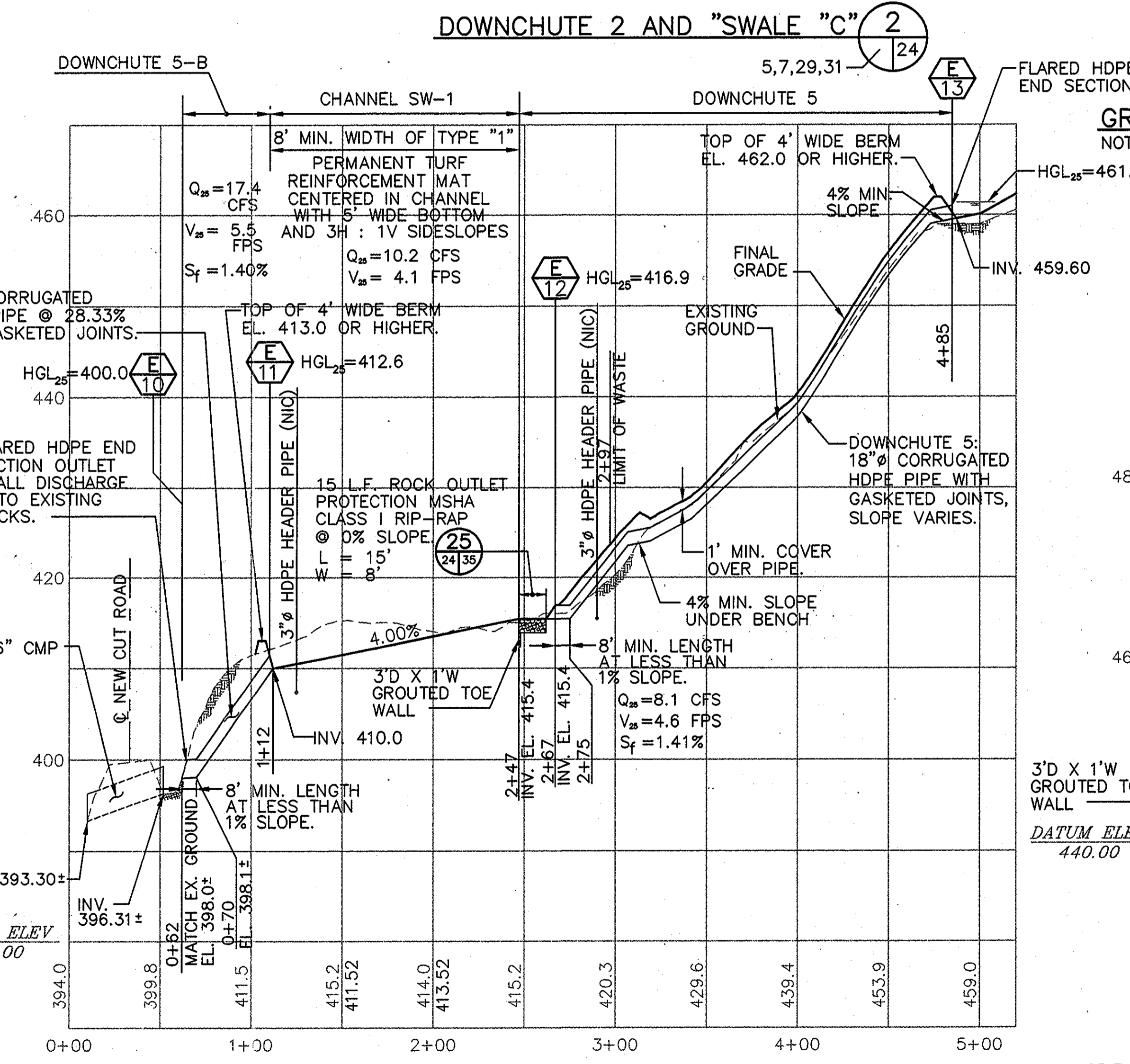
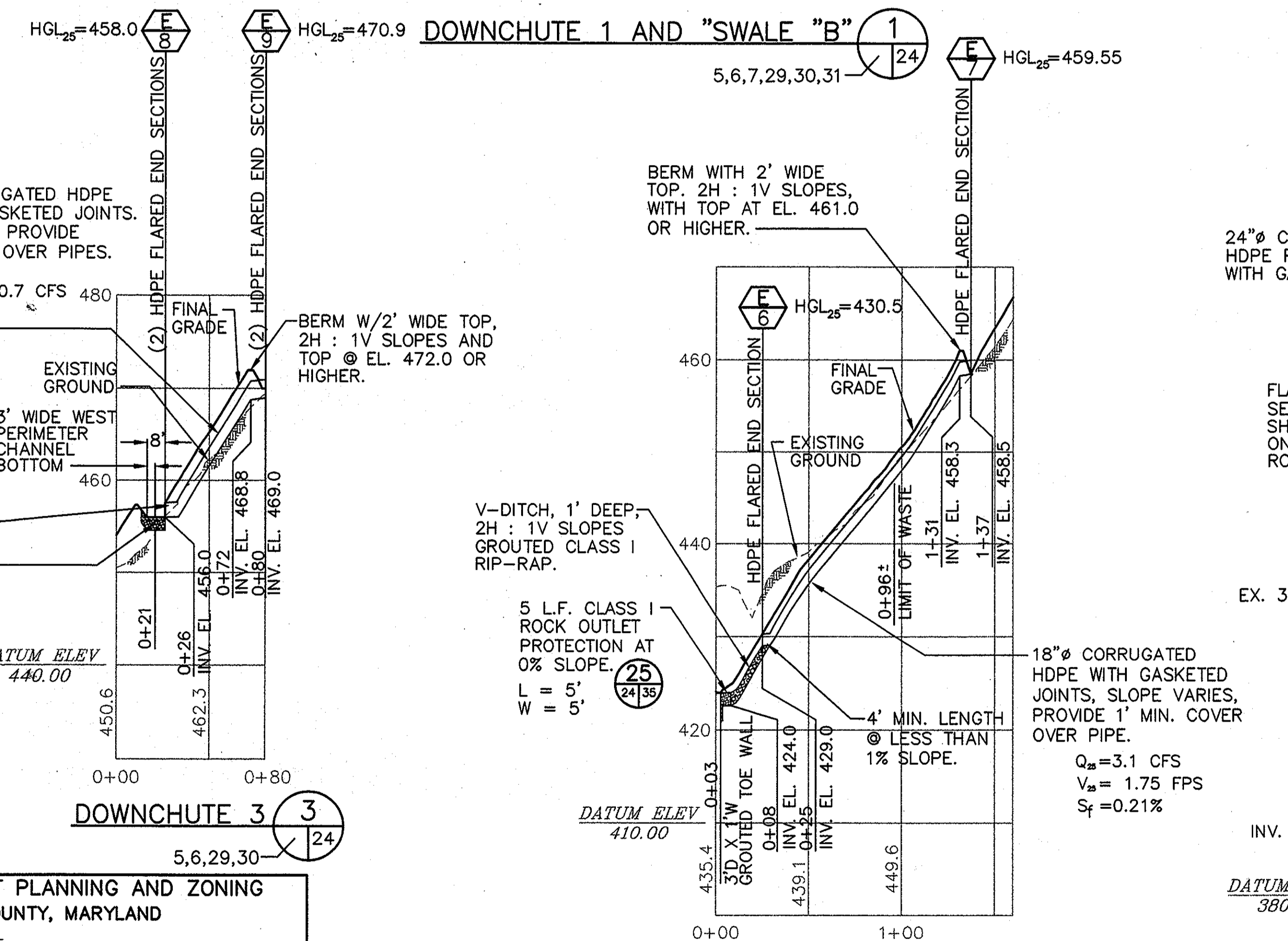
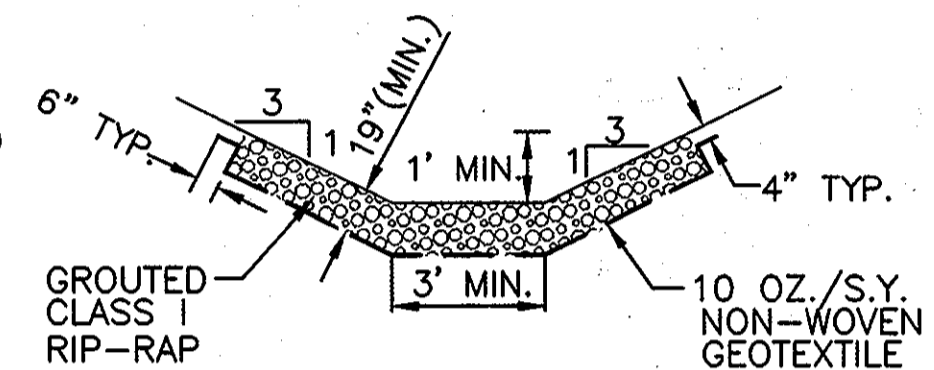
CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN
SHEET 23 OF 40

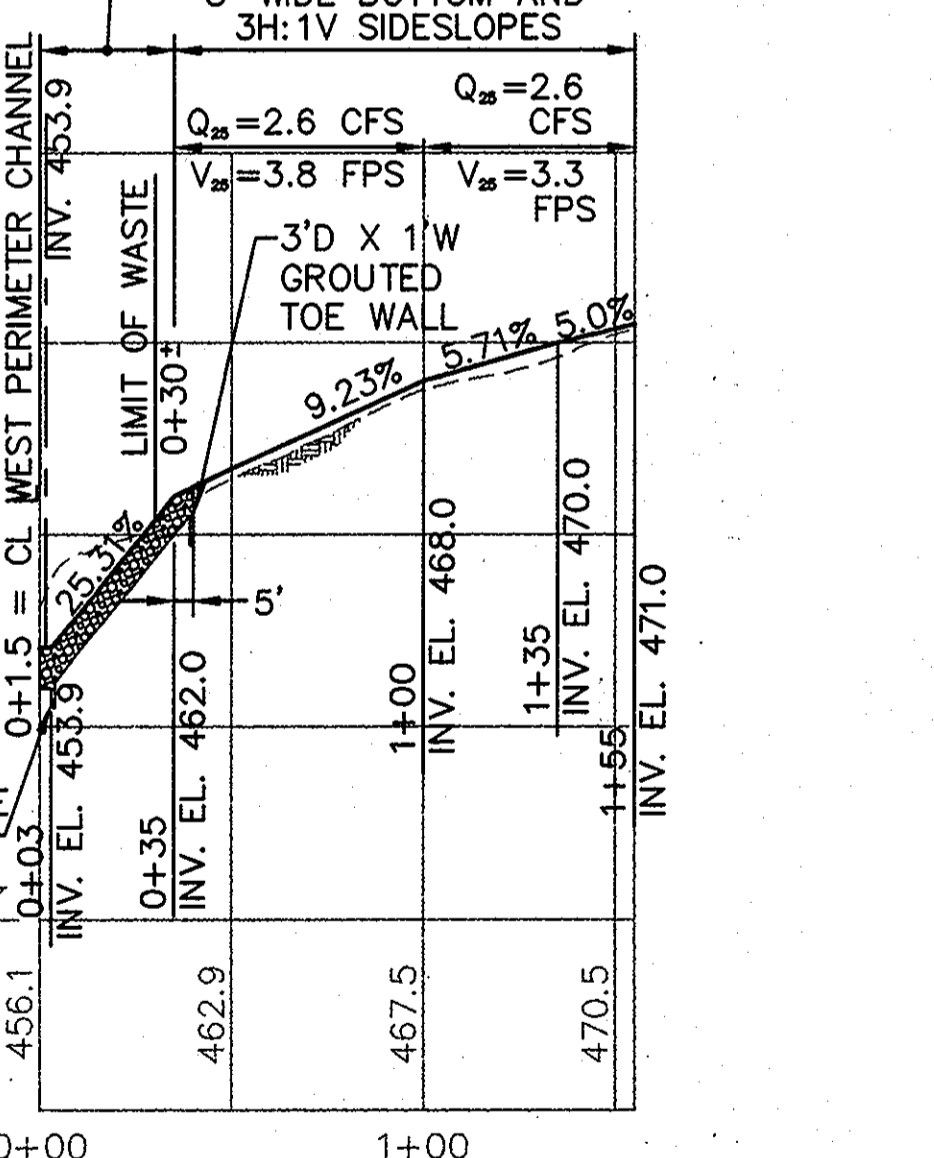


- NOTES:
- NOTE 1. USE 3" CORRUGATED PLASTIC TUBING (CPT) FOR SUBRAINAGE AT LOW END OF 30 MIL PVC. THE PORTION OF CPT OVER PVC SHALL BE 20' MIN. LENGTH AND PERFORATED. THE PORTION OUTSIDE THE PVC SHALL BE SOLID WALL CPT AND SHALL DAYLIGHT @ 2% SLOPE.
 - NOTE 2. FOR SWALE CROSS-SECTION SEE 24/15
 - NOTE 3. ALL CORRUGATED HDPE PIPE SHALL HAVE GASKETED JOINTS. PROVIDE FLARED HDPE END SECTIONS AT INLET AND OUTLET ENDS OF PIPE.
 - NOTE 4. USE MSHA CLASS C GEOTEXTILE UNDER ALL RIP-RAP.

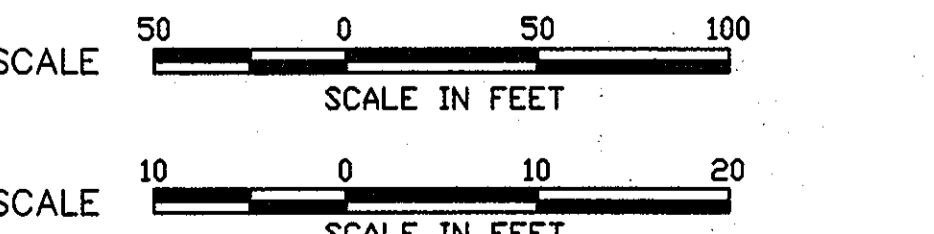


GRouted RIP-RAP CHANNEL SECTION NOT TO SCALE

GRouted RIP-RAP CHANNEL WITH 3' WIDE BOTTOM AND 3H:1V SIDESLOPES
 $Q_s = 2.6$ CFS
 $V_s = 5.3$ FPS
 SEE DETAIL THIS SHEET.



DOWNCHUTE 6



DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

9/14/99
 9/13/99

SUBDIVISION NAME	LOT/PARCEL	
HO. CO. GOVERNMENT	529	
LIBER/FOLIO	ZONE	TAX/ZONE MAP
180/339	R-20	31
WATER CODE	SEWER CODE	CENSUS TR.

DOWNCHUTE 4

NOTE: DURING GRADING ACTIVITIES, THE CONTRACTOR SHALL PLACE EROSION CONTROL MAT, TURF REINFORCEMENT MAT, RIP-RAP AS SOON AS DITCH/BENCH/CHANNEL/DOWNCHUTE GRADE IS ESTABLISHED.

DOWNCHUTE 5/CHANNEL SW-1/DOWNCHUTE 5-B

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

7/6/99

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

DES. MRG	
DRN. JCS	
CHK. RHI	
DATE: 07-01-99	
BY NO.	REVISION
	DATE

DOWNCHUTE AND SWALE PROFILES

NEW CUT LANDFILL IMPROVEMENTS

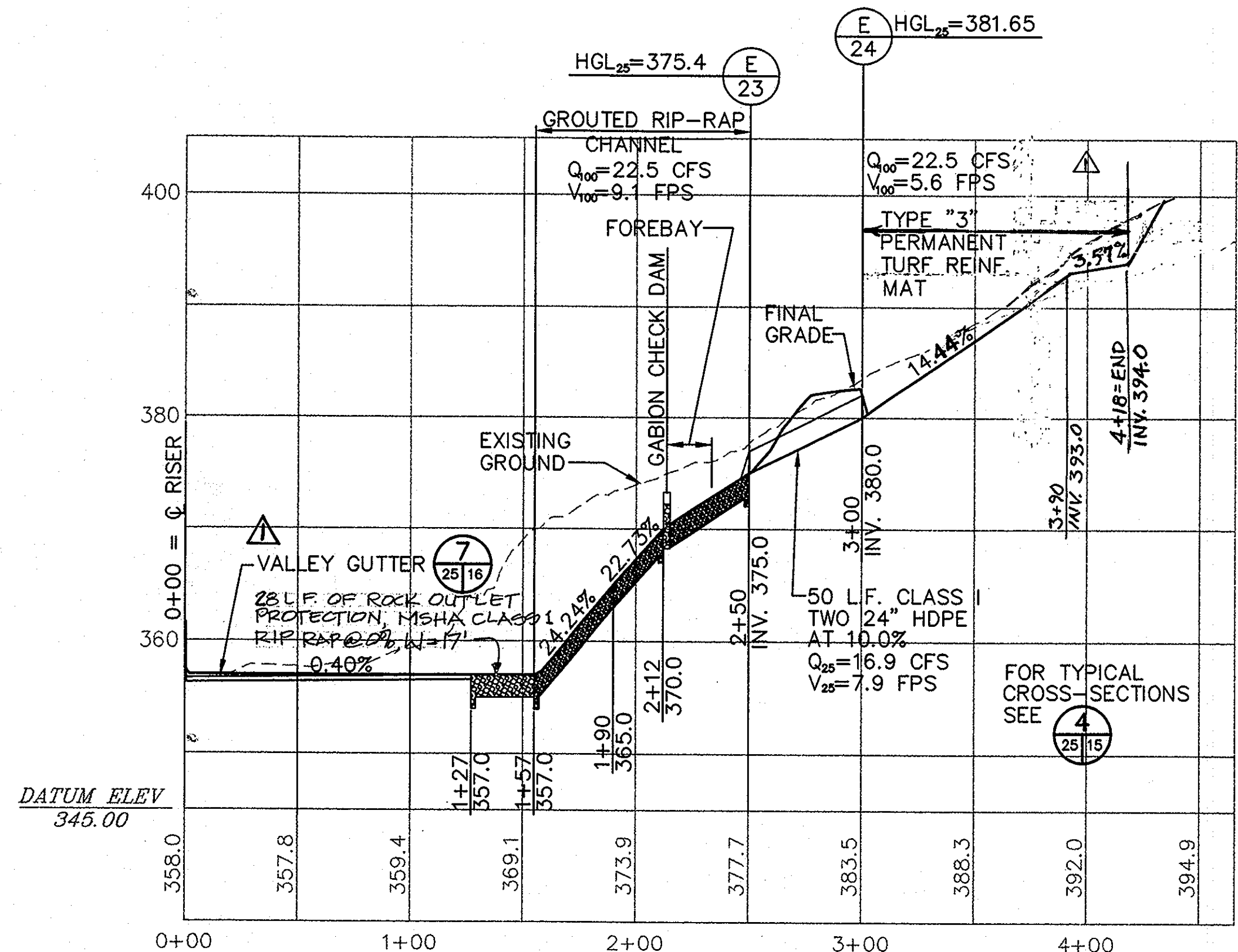
CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN

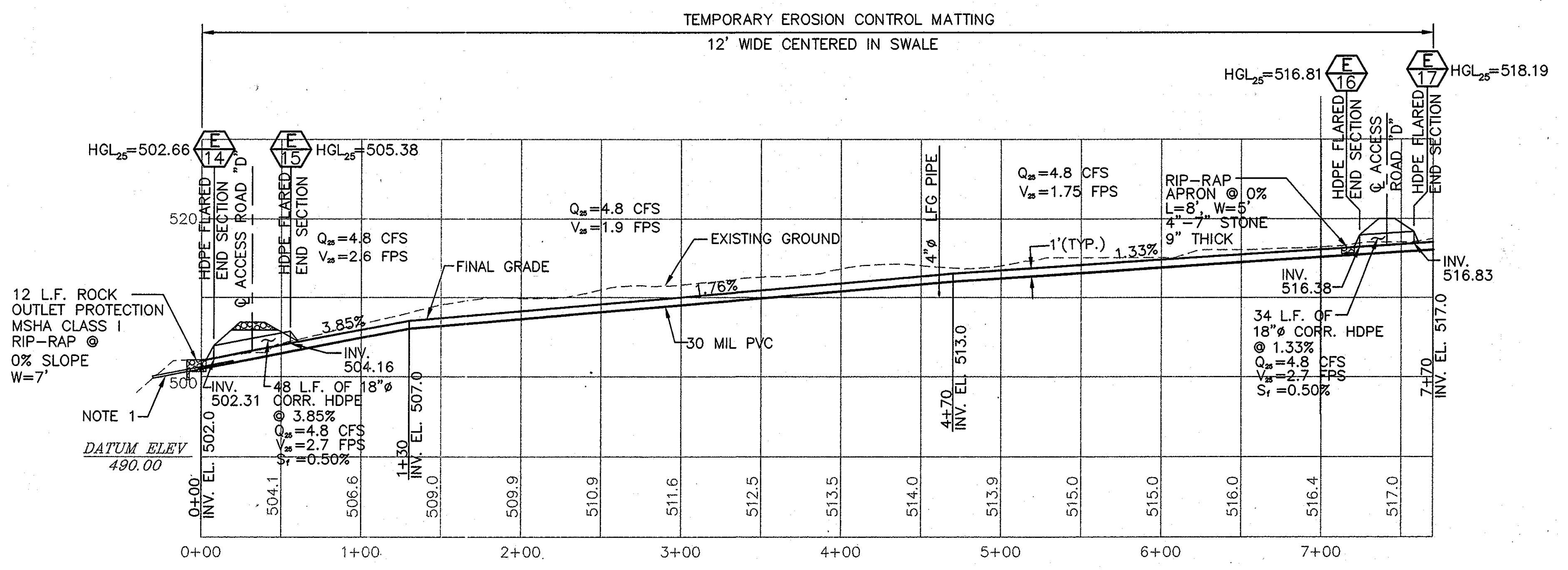
SHEET 24 OF 40

M:\296024.01\90 PERCENT\PROFILES\DCPRO



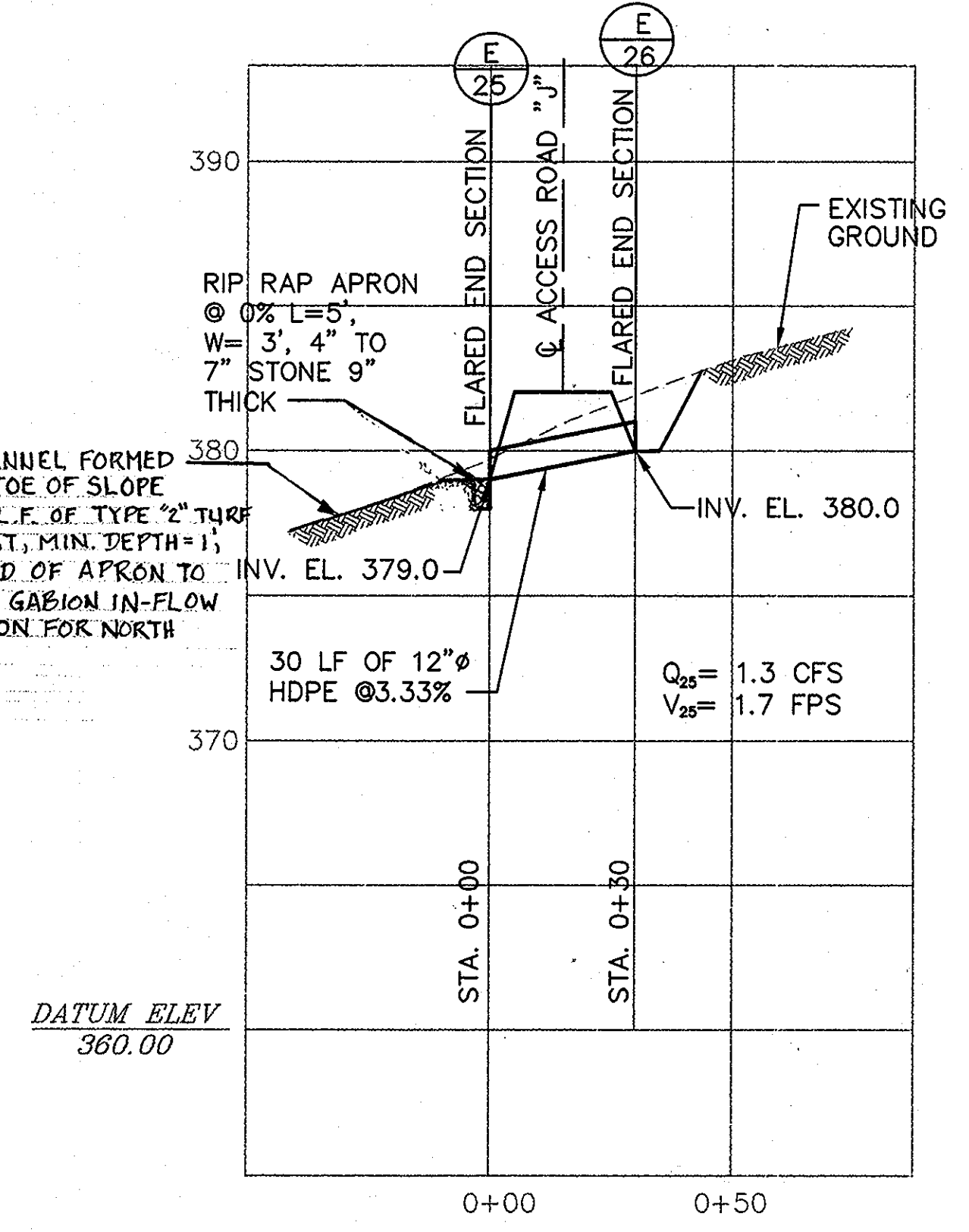
NORTH CHANNEL PROFILE
SCALE: 1"=50' HOR.
1"=10' VER.

NOTE: DURING GRADING ACTIVITIES, THE CONTRACTOR SHALL PLACE EROSION CONTROL MAT, TURF REINFORCEMENT MAT, RIP-RAP AS SOON AS DITCH/BENCH/CHANNEL/DOWNCHUTE GRADE IS ESTABLISHED.

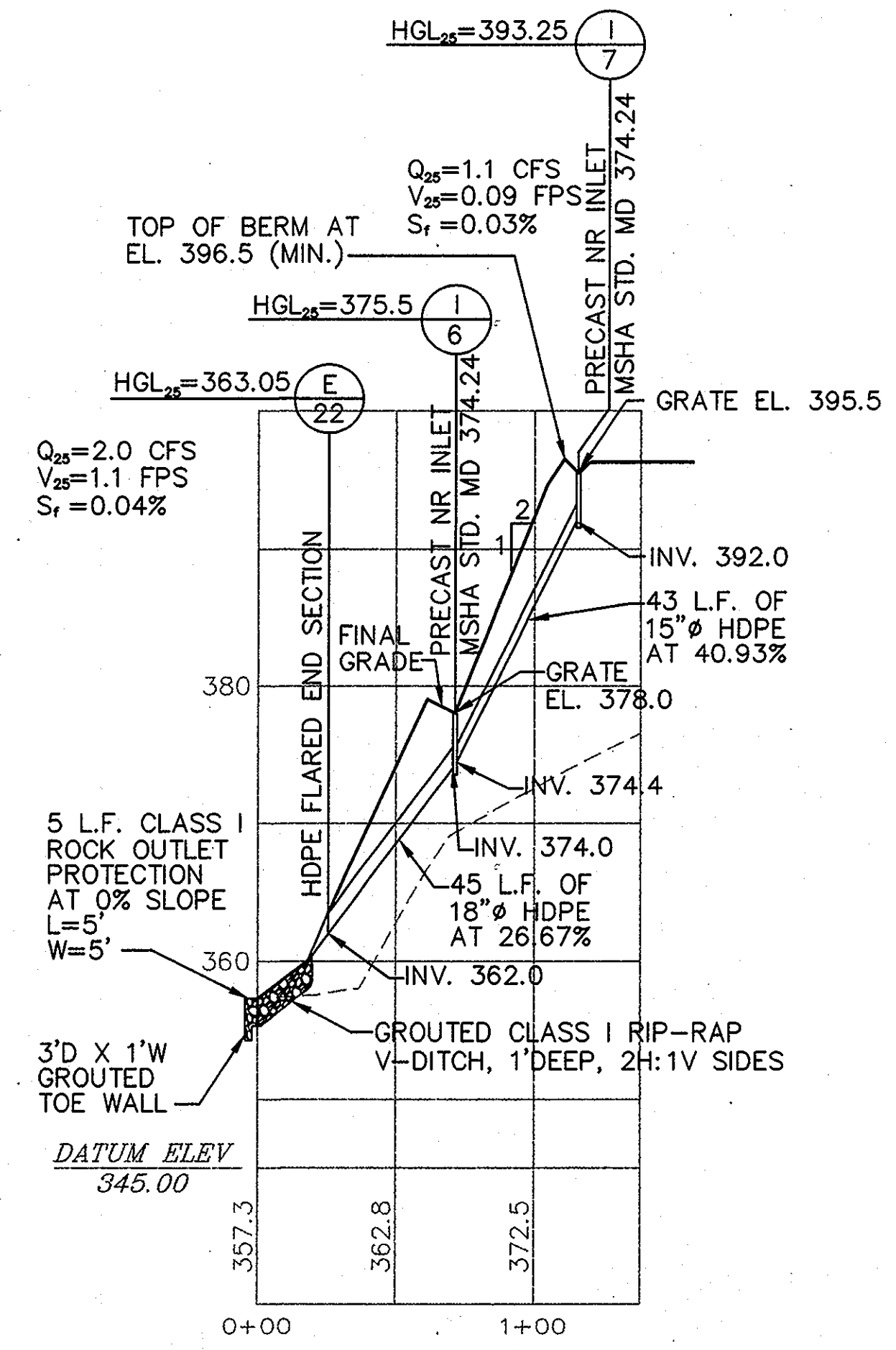


SWALE A
5,6,7,29,30,31

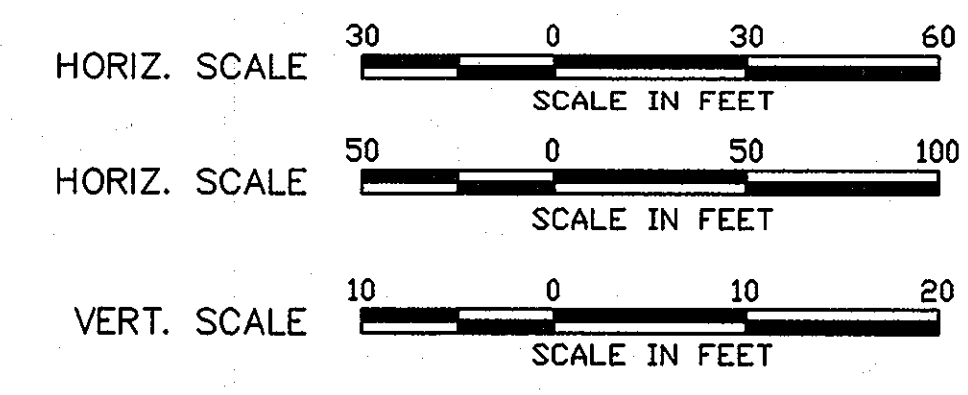
- NOTES:
- NOTE 1. USE 3" CORRUGATED PLASTIC TUBING (CPT) FOR SUBDRAINAGE AT LOW END OF 30 MIL PVC. THE PORTION OF CPT OVER PVC SHALL BE 20' MIN. LENGTH AND PERFORATED. THE PORTION OUTSIDE THE PVC SHALL BE SOLID WALL CPT AND SHALL DAYLIGHT @ 2% SLOPE.
 - NOTE 2. FOR SWALE CROSS-SECTION SEE 3
 - NOTE 3. ALL CORRUGATED HDPE PIPE SHALL HAVE GASKETED JOINTS. PROVIDE FLARED HDPE END SECTIONS AT INLET AND OUTLET ENDS OF PIPE.
 - NOTE 4. USE MSHA CLASS C GEOTEXTILE UNDER ALL RIP-RAP.



CULVERT PROFILE
SCALE: 1"=30' HOR.
1"=5' VER.



STORM DRAIN PROFILE
SCALE: 1"=50' HOR.
1"=10' VER.



DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND			
DIRECTOR	DATE	SUBDIVISION NAME	LOT/PARCEL
<i>[Signature]</i>	9/14/99	HO. CO. GOVERNMENT	529
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE	LIBER/FOLIO	ZONE
<i>[Signature]</i>	9/14/99	180/339	R-20
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE	TAX/ZONE MAP	CENSUS TR.
<i>[Signature]</i>	9/13/99	31	
WATER CODE	SEWER CODE		

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND			
DIRECTOR OF PUBLIC WORKS	DATE	CHIEF, BUREAU OF ENVIRONMENTAL SERVICES	DATE
<i>[Signature]</i>	7/6/99	<i>[Signature]</i>	7/6/99

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

DES.	MRG		
DRN.	JCS	PSW	ADDED SHEET 40
CHK.	RHI		
DATE:	07-01-99		
BY:	NO.		

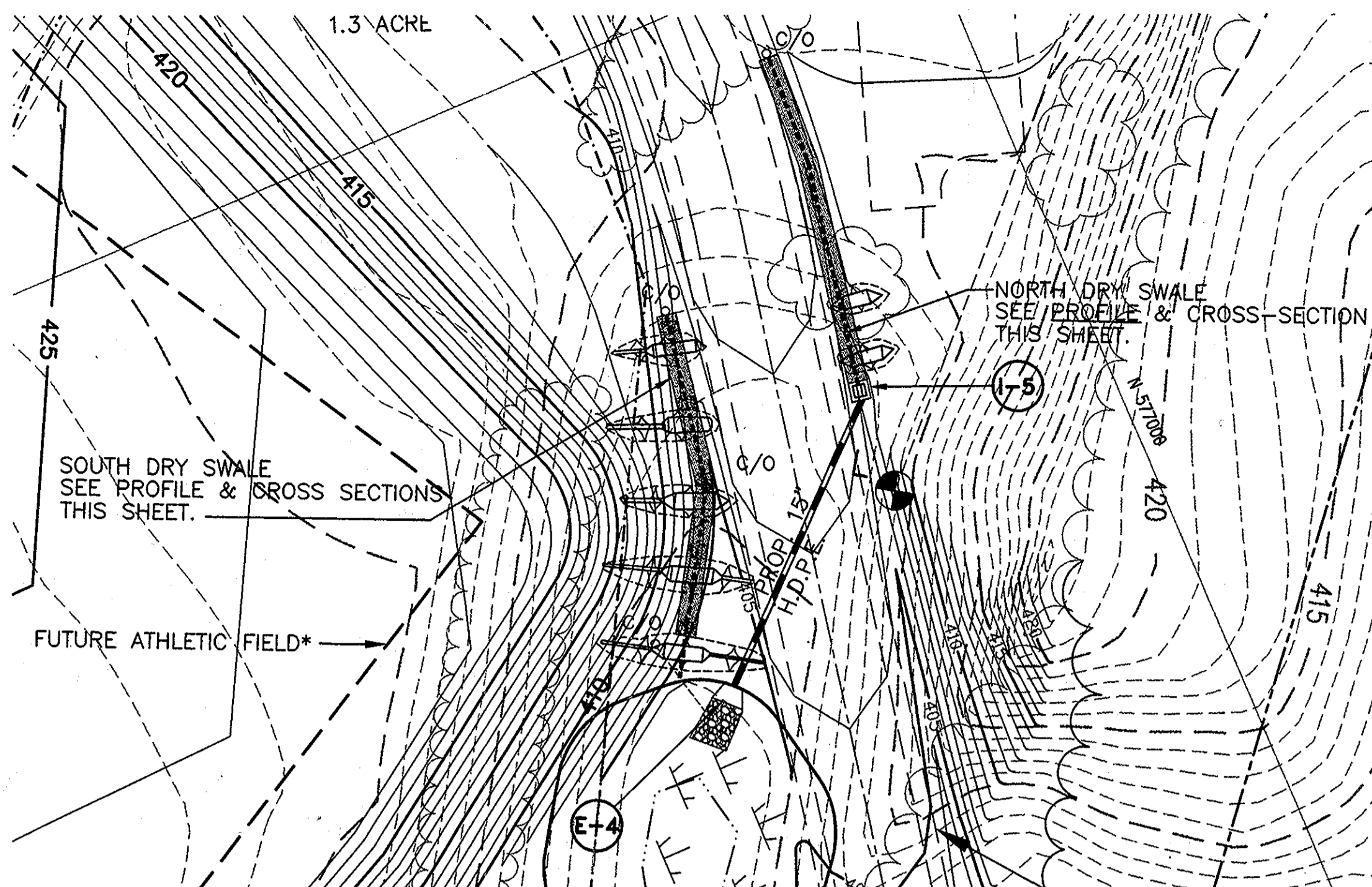
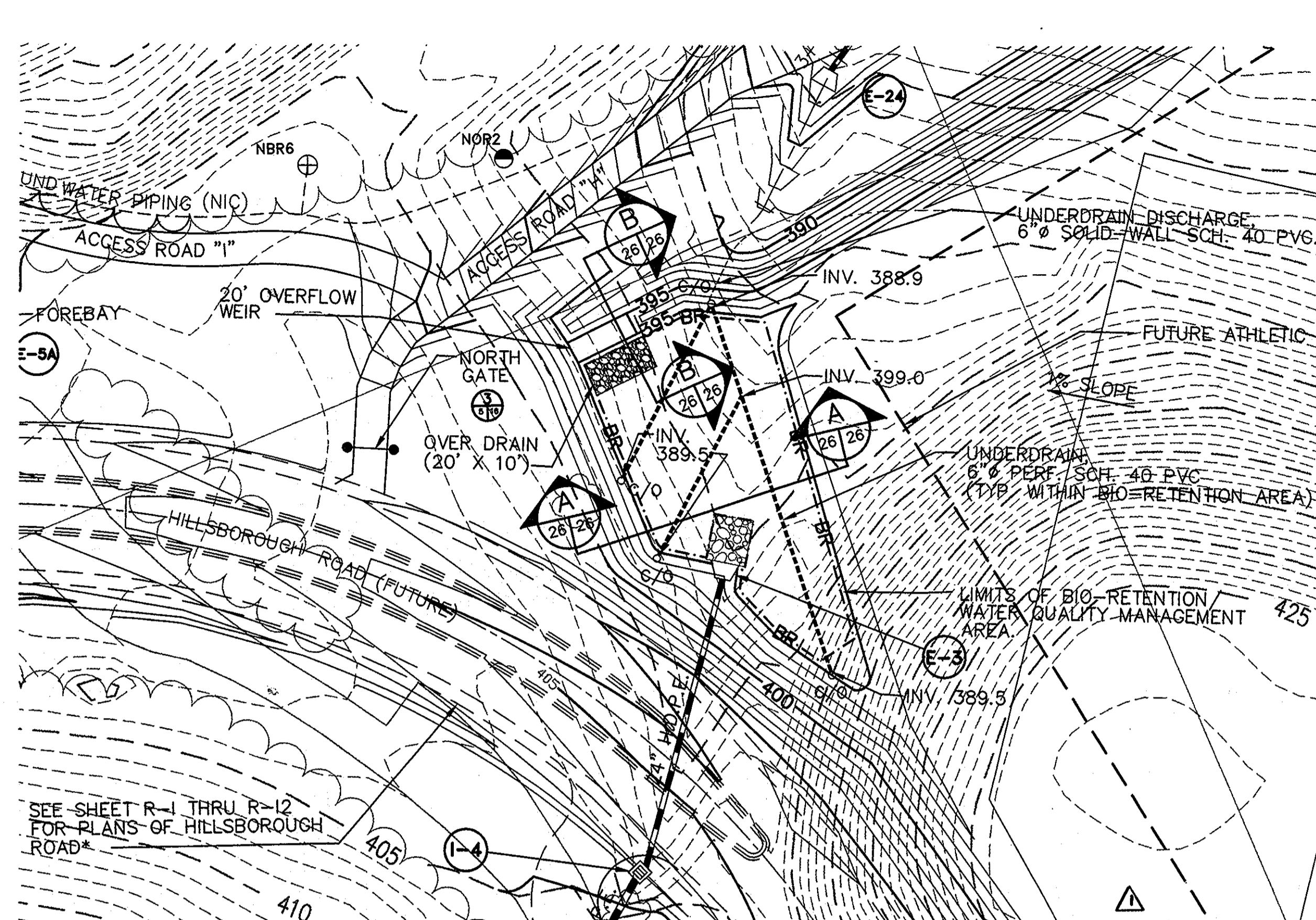
STORM DRAIN, CHANNEL AND SWALE PROFILES

NEW CUT LANDFILL IMPROVEMENTS
CAPITAL PROJECT NO. C-0237-H
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE:
AS SHOWN
SHEET
25 OF 40

M:\296024\01\90 PERCENT\PROFILES\ SW-A\NCPRO.SDPRO

SDP-99-109



BIORETENTION NOTES

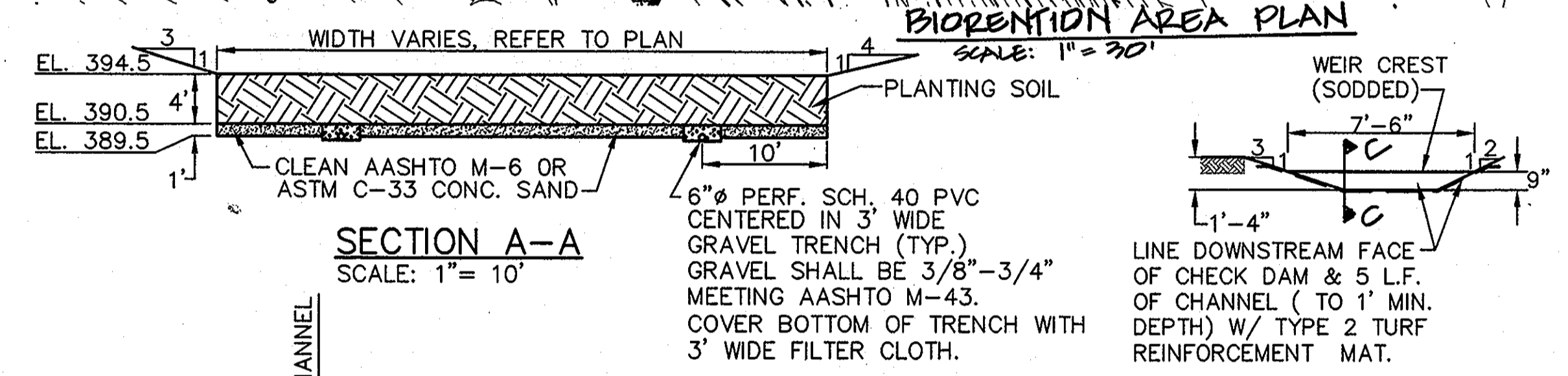
- 1. PLANT MATERIAL**
 - A. REFER TO RECOMMENDED PLANT MATERIAL TABLE, THIS SHEET.
 - B. REFER TO SPEC. SECTION 02900 - LANDSCAPING, FOR PLANTING SOIL AND VEGETATIVE COVER REQUIREMENTS.
- 2. PLANT INSTALLATION**
 - A. REFER TO SPEC. SECTIONS 02900 - LANDSCAPING, AND 02223 - FILLING, BACKFILLING AND COMPACTION, FOR PLANTING REQUIREMENTS.
 - B. MULCH AROUND INDIVIDUAL PLANTS ONLY. SHREDDED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.
 - C. GRASSES AND LEGUME SEED SHALL BE TILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.
 - D. THE PLANTING SOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH IS USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.
- 3. UNDERDRAINS**
 - A. UNDERDRAINS SHALL BE SCHEDULE 40 PVC WITH 3/8-INCH PERFORATIONS AT 6-INCHES O.C., 4 HOLES PER ROW. UNDERDRAINS SHALL BE PLACED ON A 3'-0" WIDE SECTION OF FILTER CLOTH (MDE CLASS D, PER P. H-24-1 OF THE 1994 MARYLAND STANDARDS AND SPECS. FOR SOIL EROSION AND SEDIMENT CONTROL).
 - B. THE MAIN COLLECTOR PIPE FOR THE UNDERDRAIN SYSTEM SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5% CLEAN-OUTS SHALL BE PROVIDED WHERE SHOWN ON THE PLAN.
- 4. MISCELLANEOUS**
 - A. THE BIORETENTION FACILITY MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

BIORETENTION PLANT LIST

	COMMON NAME	SCIENTIFIC NAME	SIZE	QUANTITY	SPACING
TREES:	GOLDEN RAIN TREE	KOELREUTERIA PANICULATA	6' - 8'	3	20'
SHRUBS:	INKBERRY "SHAMROCK"	ILEX GLABRA "SHAMROCK"	15" - 18"	4	4'
	FOTHERGILLA	FOTHERGILLA GARDENII	15" - 18"	3	4'
	BOTTLEBRUSH BUCKEYE	AESULUS PARVIFLORA	12" - 18"	4	6'
	WINTERBERRY "SPARKLEBERRY"	ILEX VERTICILLATA "SPARKLEBERRY"	15" - 18"	3	6'
HERBACEOUS:	DAYLILIES HYPERION	HEMEROCALIS SP.	1 QT.	10	18"
	JAPANESE BEARDED IRIS	IRIS KAEMPFERA	1 QT.	7	18"
	BLAZING STAR	LIATRIS SPICATA	1 QT.	7	18"
	NEW YORK IRONWEED	VERNONIA NOVEBORACENSIS	1 QT.	20	18"
	CARDINAL FLOWER	LOBELIA CARDINALIS	1 QT.	10	18"
	FOUNTAIN GRASS	PENNISETUM ALOPECUROIDES	1 QT.	10	18"

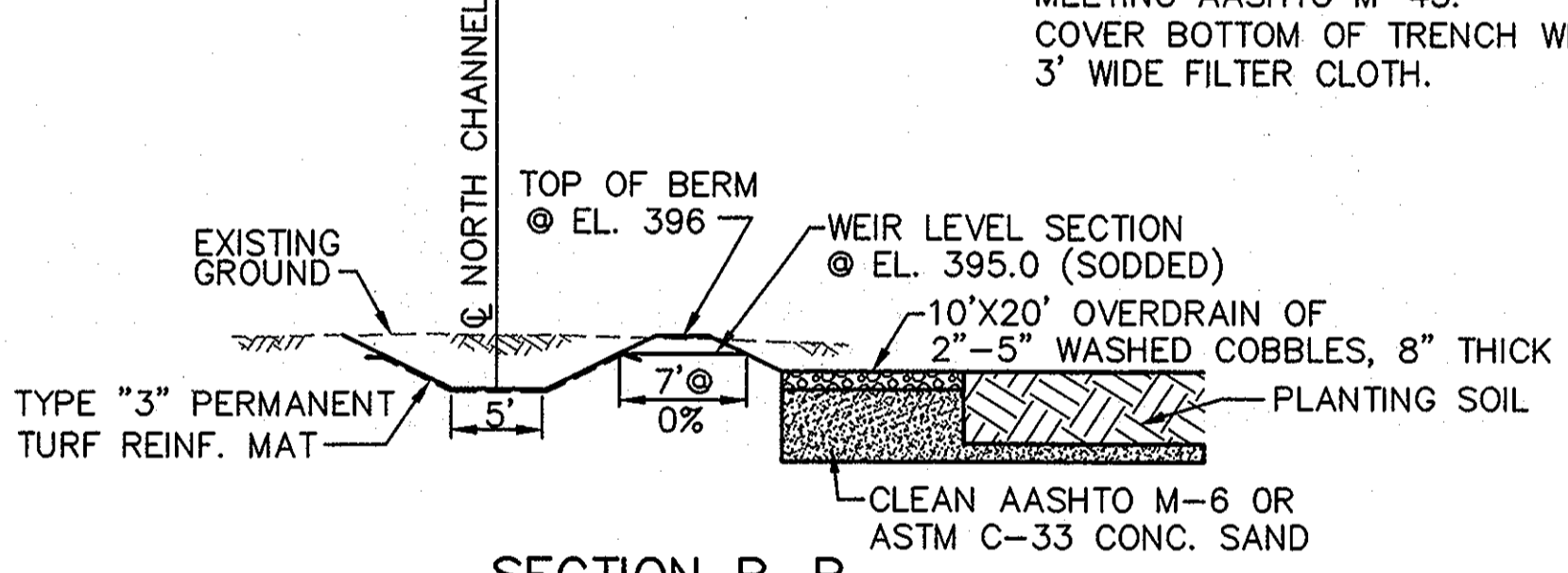
DRY SWALE NOTES

- 1. PLANT MATERIAL**
 - A. USE RECLAIM CONSERVATION DRY MIX FOR GRASS, PER SPEC. SECTION 02900 - LANDSCAPING.
- 2. PLANT INSTALLATION**
 - A. REFER TO SPEC. SECTIONS 02900 - LANDSCAPING, AND 02223 - FILLING, BACKFILLING AND COMPACTION, FOR PLANTING REQUIREMENTS.
 - B. ROTO-TILL SOIL/GRAVEL INTERFACE TO AVOID A SHARP SOIL/GRAVEL INTERFACE.
 - C. GRASSES AND LEGUME SEED SHALL BE TILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. TEMPORARY EROSION CONTROL MATTING SHALL BE PROVIDED IN THE SWALES.
 - D. THE PLANTING SOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH IS USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.
- 3. UNDERDRAINS**
 - A. UNDERDRAINS SHALL BE SCHEDULE 40 PVC WITH 3/8-INCH PERFORATIONS AT 6-INCHES O.C., 4 HOLES PER ROW. UNDERDRAINS SHALL BE PLACED ON A SECTION OF FILTER CLOTH LINING THE BOTTOM OF THE TRENCH (MDE CLASS D, PER P. H-24-1 OF THE 1994 MARYLAND STANDARDS AND SPECS. FOR SOIL EROSION AND SEDIMENT CONTROL).
 - B. THE MAIN COLLECTOR PIPE FOR THE UNDERDRAIN SYSTEM SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5% CLEAN-OUTS SHALL BE PROVIDED WHERE SHOWN ON THE PLAN.
- 4. MISCELLANEOUS**
 - A. THE DRY SWALE MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING AREA HAS BEEN STABILIZED.

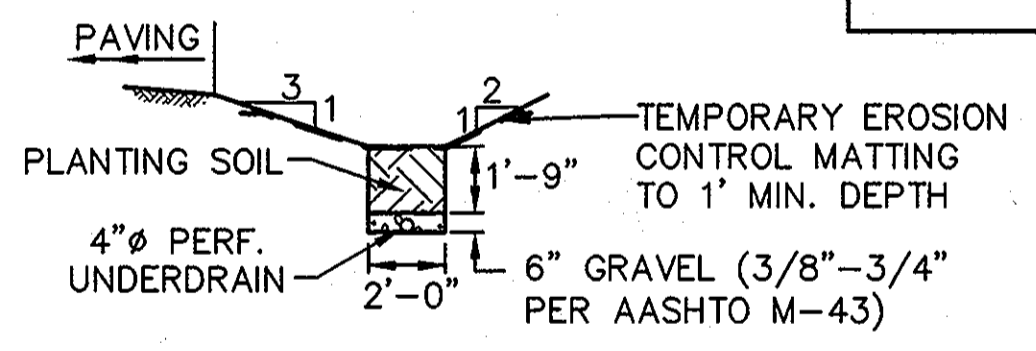


SECTION A-A
SCALE: 1" = 10'

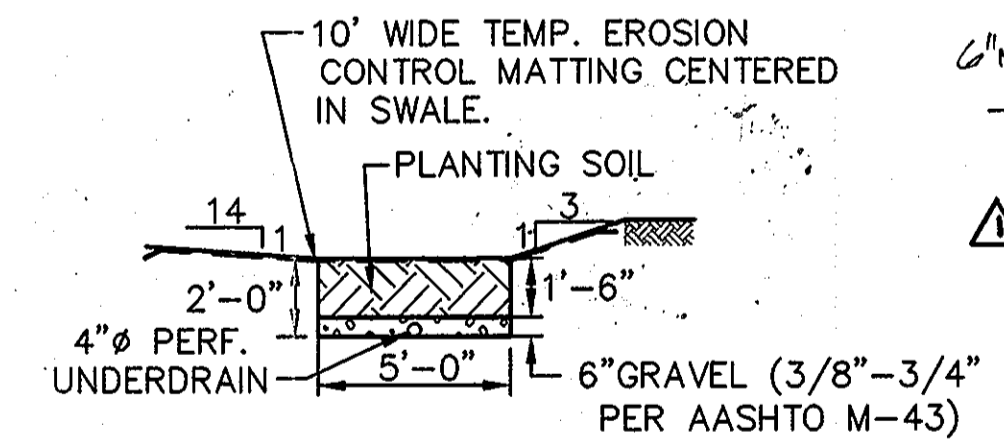
NORTH DRY SWALE CHECK DAM
NOT TO SCALE



SECTION B-B
SCALE: 1" = 10'

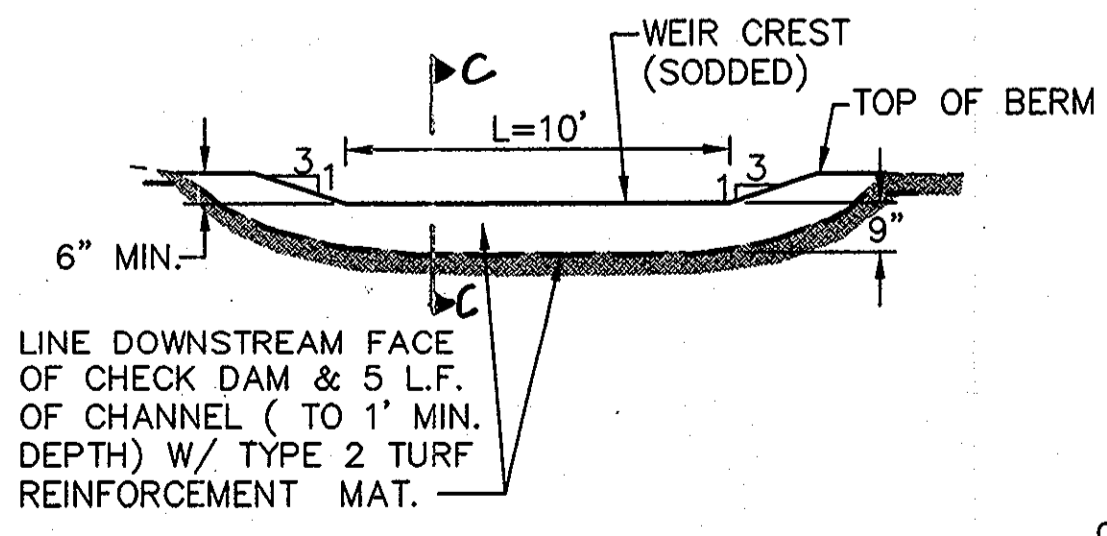


NORTH DRY SWALE SECTION
NOT TO SCALE

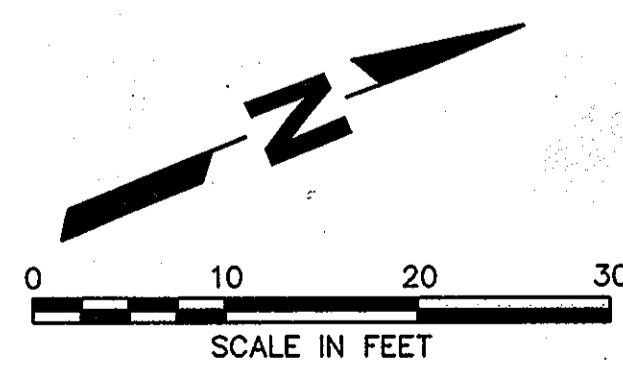


SOUTH DRY SWALE SECTION
NOT TO SCALE

SECTION C-C
NO SCALE



SOUTH DRY SWALE CHECK DAM
NOT TO SCALE



M:\296024\01\90 PERCENT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James M. Lewis 7/6/99
DIRECTOR OF PUBLIC WORKS DATE

John J. O'Hara 7/6/99
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE

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

DES.	MRG				
DRN.	JCS				
CHK.	RHI	PSW	ADDED SHEET 40	6-5-13	
DATE:	07-01-99	BY	NO.	REVISION	DATE
				Rev. Notes, LEADERS, Added Section C-C 3/5/99	

BIORETENTION/
WATER QUALITY MANAGEMENT
DETAILS AND NOTES

NEW CUT LANDFILL
IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE:
AS SHOWN

SHEET
26 OF 40

PLANT LEGEND

QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	REMARKS
21	Acacia saligna	Red Maple	2" - 2-1/2" caliper	B & B	
48	Acacia saligna	Red Maple	3" - 4" Height	B & B	
48	Gracilaria tinctoria	Thornless Honeylocust	2" - 2-1/2" caliper	B & B	"Shaded"
48	Gracilaria tinctoria	Thornless Honeylocust	3" - 4" Height	B & B	
19	Pinus virginiana	Virginia Pine	3" - 4" Height	B & B	
30	Pinus echinata	Shortleaf pine	4" - 5" Height	B & B	
10	Pinus strobus	Eastern White Pine	3" - 4" Height	B & B	
32	Pinus strobus	Eastern White Pine	3" - 4" Height	B & B	
11	Pinus strobus	Eastern White Pine	3" - 4" Height	B & B	
69	Thuja occidentalis	American Holly	2" - 3" Height	7/2 Can	
47	Quercus rubra	Northern Red Oak	2" - 2-1/2" caliper	B & B	49 female, 9 male, planted 4" o.c.
53	Quercus rubra	Northern Red Oak	3" - 4" Height	B & B	
1,777	Myciopsis pennsylvanica	Northern Highberry	12" - 16" Height	Bare Root	Plant 6" o.c.
1,504	Potentilla fruticosa	Bush Cinquefoil	12" - 15" Height	Bare Root	Plant 6" o.c.
3,063	Vaccinium corymbosum	Low Bush Blueberry	18" - 24" Height	Bare Root	Plant 6" o.c.

SEEDING MIXTURES
COVERAGES IN SQ. FT.
242,000 Reclaim Conservation Seed
1,967,000 Triplex General Seed Mix

- LANDSCAPE NOTES:**
- SEEDING OPERATIONS TO OCCUR IN TWO PHASES DURING CONSTRUCTION.
 - PHASE 1 SEEDING SHALL INCLUDE TEMPORARY SEEDING MIX FOR INITIAL IMPROVEMENTS. THE PERIMETER OF LANDFILL SHALL INCLUDE BUT NOT BE LIMITED TO: STORMWATER BASINS, ROADS, ETC., AND SHALL BE FINAL SEEDING WITH RECLAIM CONSERVATION DRY SEED MIX.
 - PHASE 2 OF SEEDING INCLUDES ALL FINAL GRADING FOR CAPPING IMPROVEMENTS AND ROADWAYS WITH SEED MIXTURES AND VEGETATION SPECIFIED IN THIS PLAN.
 - LIMITS OF SEEDING ON THIS PLAN ARE FOR PHASE 2 GRADING AND VEGETATIVE COVER IMPROVEMENTS ONLY.
 - ANY OTHER AREAS NOT SHOWN ON THIS PLAN, BUT ARE DISTURBED DURING CONSTRUCTION OPERATIONS SHALL BE SEEDING WITH RECLAIM CONSERVATION DRY MIX.
 - ALL AREAS DESIGNATED TO RECEIVE PLANT MATERIAL, WHETHER IN SEEDING FORM, SHALL ALSO BE SEEDING AS INDICATED ON THIS PLAN.
 - AREAS DESIGNATED TO RECEIVE SEEDING PLANT MATERIALS SHALL BE PLANTED IN ALTERNATING SPECIES DESIGNATED FOR THAT AREA. TREE PROTECTION SHALL BE USED FOR ALL SEEDINGS, UTILIZING THE "SUPERIUM" FROM TREESSENTIALS CO.
 - LIMITS OF SEEDING ARE APPROXIMATE.
 - NO SEEDING, TREE OR SHRUB PLANTING SHALL OCCUR WITHIN GRAVEL OR PAVED AREAS. DISTURBANCE IMMEDIATELY ADJACENT TO ACCESS ROADS TO BE SEEDING WITH TRIPLEX GENERAL MIX.
 - NO WOODY VEGETATION SHALL BE PLANTED ON POUD TRANSFERENTIAL CORRAL CABLE ROW LINE.
 - THE LOCATION OF WOODY PLANT MATERIAL IS DICTATED BY THE PRESENCE OF UNDERGROUND LANDFILL CAP COVER, WHICH NO WOODY VEGETATION CAN BE PLANTED.
 - THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.04 OF THE HOWARD COUNTY CODES AND THE LANDSCAPE MANUAL.

FOREST CONSERVATION WORKSHEET
VERSION 1.0

NET TRACT AREA:

A. TOTAL TRACT AREA..... 39.99
 B. AREA WITHIN 100 YEAR FLOODPLAIN..... 0.31
 C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION..... 0.00
 D. NET TRACT AREA..... 39.68

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 MOR IDA HDR KPD CIA
 0 0 0 1 0 0

E. AFFORESTATION THRESHOLD..... 15 % X D = 13.45
F. CONSERVATION THRESHOLD..... 20 % X D = 17.94

EXISTING FOREST COVER:

G. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN)..... 27.79
 H. AREA OF FOREST ABOVE AFFORESTATION THRESHOLD..... 14.34
 I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD..... 9.85

BREAK EVEN POINT:

J. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION..... 19.91
 K. CLEARING PERMITTED WITHOUT MITIGATION..... 7.89

PROPOSED FOREST CLEARING:

L. TOTAL AREA OF FOREST TO BE CLEARED..... 5.27
 M. TOTAL AREA OF FOREST TO BE RETAINED..... 22.77

PLANTING REQUIREMENTS:

N. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD..... 1.28
 P. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD..... 0.00
 Q. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD..... 4.83
 R. TOTAL REFORESTATION REQUIRED..... 0.00
 S. TOTAL AFFORESTATION REQUIRED..... 0.00
 T. TOTAL REFORESTATION AND AFFORESTATION REQUIRED..... 0.00

LEGEND

PERMANENT STANDARD SEEDING (SEE THIS SHEET FOR SEED MIX)

PERMANENT SHADE SEED MIX (SEE THIS SHEET FOR SEED MIX)

PERMANENT SEEDING MIX

STANDARD MIX
 80% TURF TYPE TALL FESCUE SEED
 10% KENTUCKY BLUEGRASS SEED
 10% ANNUAL RYE GRASS SEED

SHADE SEED MIX
 30% CHEWINGS FESCUE (FESTUCA RUBRA SSP COMMUTATA)
 30% CREeping RED FESCUE, PENN LAWN (FESTUCA RUBRA, PENN LAWN)
 20% ANNUAL RYE GRASS (LOLIUM MULTIFLORUM (L. PERENNE VAR. ITALICUM))
 10% ROUGH BLUEGRASS (POA TRIVIALIS)
 10% KENTUCKY BLUEGRASS, 'SR2100' POA PRATRENSIS, SR2100)

SCHEDULE A
PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERMETER PROPERTIES
EDGE #/LANDSCAPE TYPE	P-1/B	P2/A P3/C P4/A P5/C P6/A P7/A P8/A
LINEAR FEET OF ROADWAY FRONTAGE/PERMETER	2750'	220' 870' 910' 180' 1300' 1110' 1100'
CREDIT FOR EXISTING VEGETATION	YES 2550'	YES 220' YES 470' YES 190' YES 1300' YES 1100' YES 1000'
CREDIT FOR WALL, FENCE OR BERM	NO	NO NO NO NO NO NO NO
NUMBER OF PLANTS REQUIRED	5	0 5 0 0 0 0 0
SHADE TREES	4	0 10 0 0 0 0 0
EVERGREEN TREES	0	0 0 0 0 0 0 0
SHRUBS	0	0 0 0 0 0 0 0

SCHEDULE D
STORMWATER MANAGEMENT AREA LANDSCAPING

LINEAR FEET OF PERIMETER	2550'
NUMBER OF TREES REQUIRED	51
SHADE TREES	63
EVERGREEN TREES	55%
CREDIT FOR EXISTING VEGETATION	45%
CREDIT FOR OTHER LANDSCAPING	

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Robert J. ...
William ...
Chris ...
Chris ...

0 100 200 300
SCALE IN FEET

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	DATE
DIRECTOR OF PUBLIC WORKS	
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	DATE
DIRECTOR	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE

BOARD OF EDUCATION (L. 675 F. 138)

IRVING J. TAYLOR (L. 370 F. 378)
FUTURE OPEN SPACE - ZONED FOR R-ED

PROFESSIONAL CERTIFICATION
 I, ALLEN HENRY, 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. 28567, EXPIRATION DATE: 4/30/11

PROFESSIONAL ENGINEER
NO. 28567
EXPIRATION DATE: 4/30/11

NEW CUT LANDFILL IMPROVEMENTS

ACRULL, SIMMONS AND ASSOCIATES, LTD.
 ENGINEERING PLANNING SURVEYING LANDSCAPE ARCHITECTURE
 11212 WAPLES MILL DR., DORRPAK, VIRGINIA 22099 (703) 634-1100

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James ...
John ...

DIRECTOR OF PUBLIC WORKS DATE
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE

SCS ENGINEERS
CONSULTING ENGINEERS
11260 ROGER BACON DRIVE
SUITE 300
RESTON, VIRGINIA 20190
PH. (703) 471-8150
FAX. (703) 471-8676

STATE OF MARYLAND
 STATE ENGINEER
 STATE OF MARYLAND
 STATE ENGINEER

DES.	APP.	DATE	REVISION
JCS	ADDED SHEET 40	6-5-13	
RHI	SOLAR PANEL ARRAY FIELD	4/25/11	
NRG	ADDED PIZ SIGN. BLOCK	7-2-97	
BY	NO.	DATE	

LANDSCAPE, VEGETATIVE COVER PLAN & FOREST CONSERVATION PLAN

NEW CUT LANDFILL IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE: 1"=100'
SHEET 27 of 40

GENERAL NOTES:

STAKE ALL DECIDUOUS TREES UNDER 3" CAL.
SET STAKES VERTICAL AND AT SAME HEIGHT.
SEE PLAN VIEW DETAIL FOR TREE STAKING
AND GUYING LOCATION.

PRUNE TREES TO REMOVE DEAD, DAMAGED OR
INTERFERING LIMBS. DO NOT CUT LEADER.

SET STAYS OR GUYS 1/2-2/3 UP TREE OR ABOVE
FIRST BRANCHES. RUBBER HOSE SECURED WITH 12"
GAUGE PLIABLE GALVANIZED WIRE.

TREE WRAP. (SEE NOTE #11)

1/8 OF PLANT BALL SHALL EXTEND
ABOVE FINISHED GRADE.

CUT AND REMOVE ROPE, BURLAP OR
WIRE FROM TOP 1/2 OF BALL.

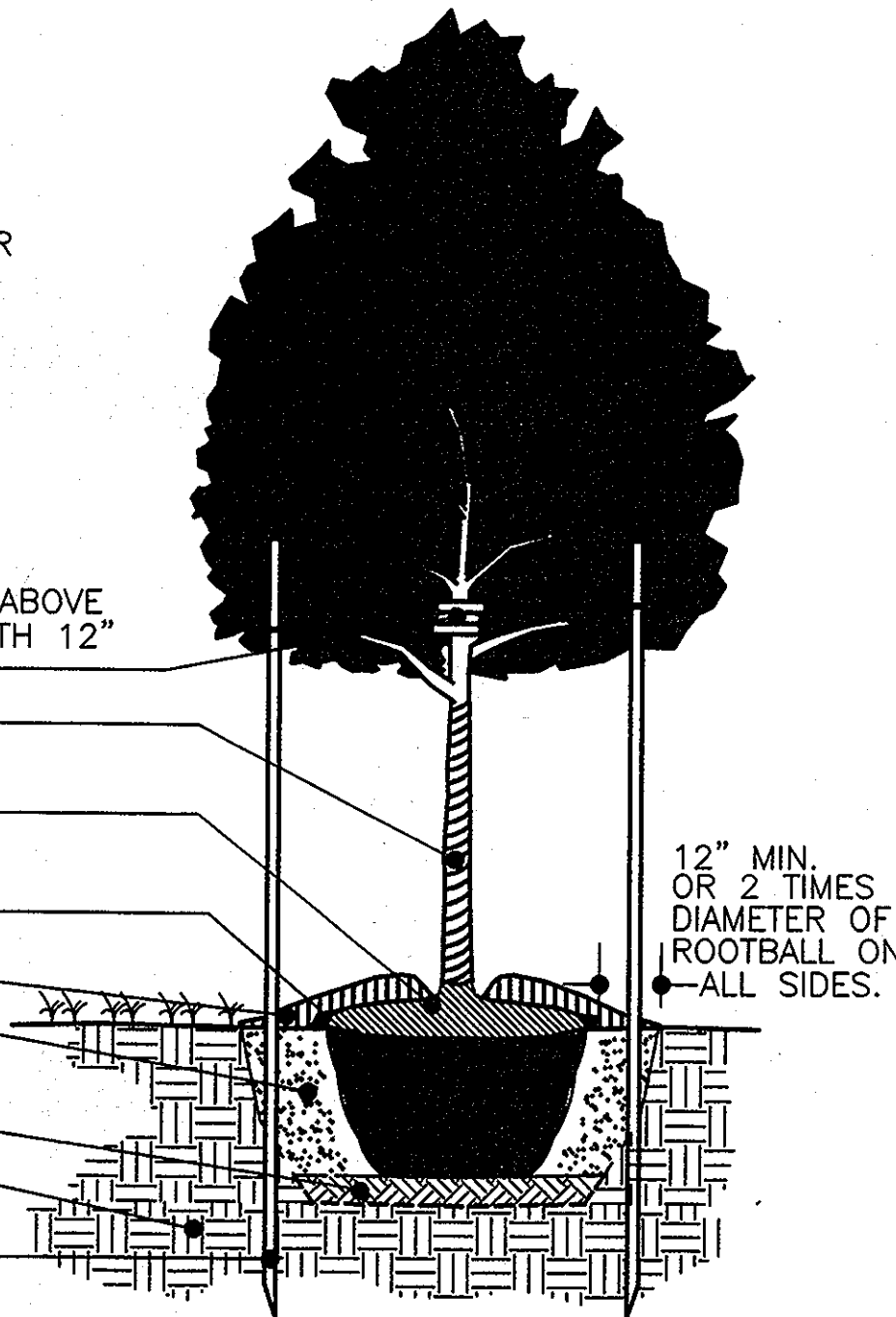
2" MIN. MULCH.

PREPARED PLANTING SOIL BACKFILL.

SCARIFY TO 6" MIN. DEPTH
AND RECOMPACT.

EXISTING SUBGRADE.

STAKES TO EXTEND 18" BELOW TREE
PIT IN UNDISTURBED GROUND.



DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE (UNDER 3" CAL.)

GENERAL NOTES:

STAKE ALL EVERGREEN TREES UNDER 12'.

PRUNE ONLY TO REMOVE DEAD OR DAMAGED BRANCHES.
DO NOT CUT LEADERS.

GUY TREES 12' AND OVER AS SPECIFIED FOR DECIDUOUS TREES.
SET STAYS OR GUYS 1/2-2/3 UP TREE.
SEE TREE STAKING AND GUYING DETAIL BELOW.

1/8 OF PLANT BALL SHALL EXTEND
ABOVE FINISHED GRADE.

CUT AND REMOVE ROPE, BURLAP OR WIRE
FROM TOP 1/2 OF BALL.

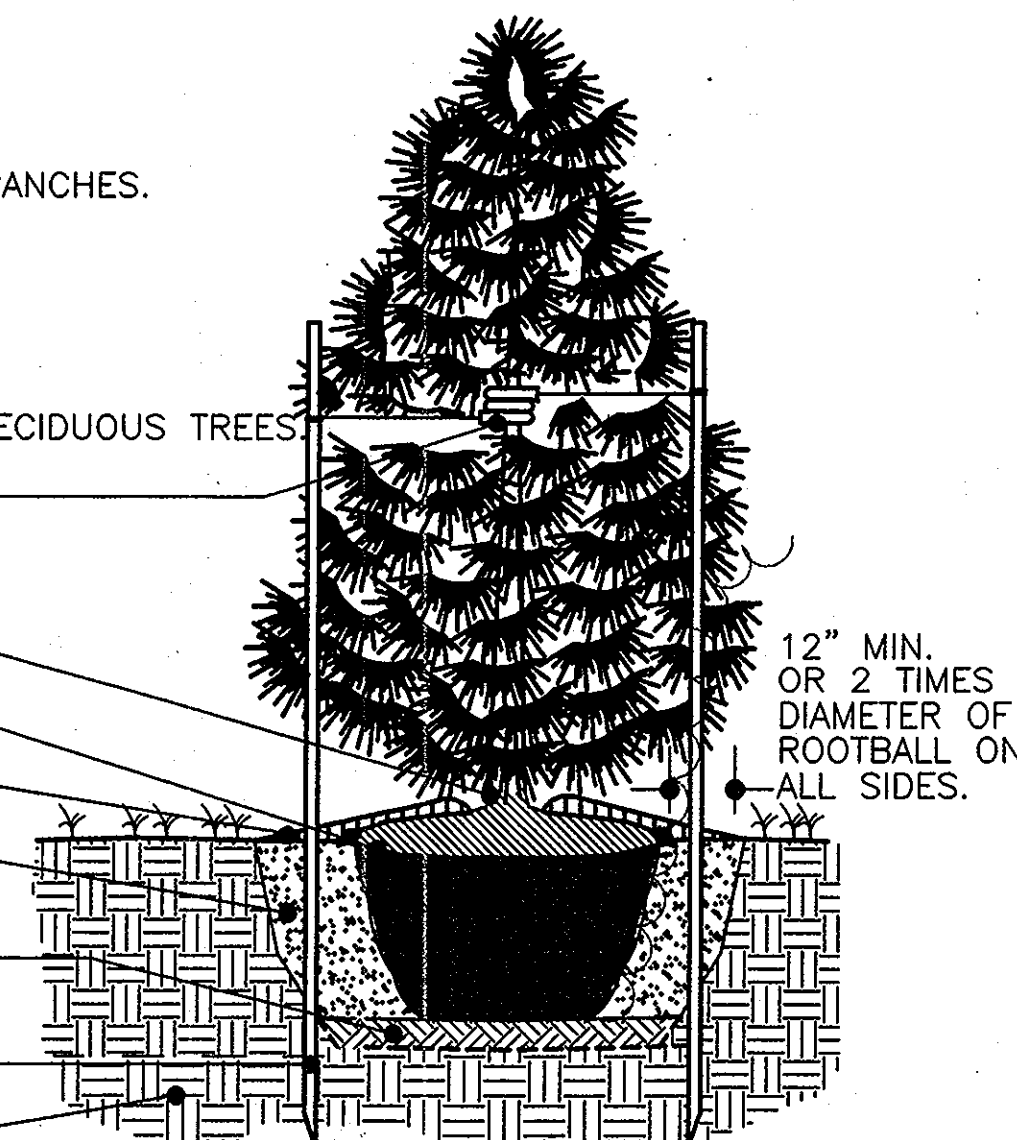
2" MIN. MULCH.

PREPARED TOPSOIL AS SPECIFIED.

SCARIFY TO 4" MIN. DEPTH
AND RECOMPACT.

STAKES TO EXTEND 18" MIN. BELOW TREE
PIT IN UNDISTURBED GROUND.

EXISTING SUBGRADE.

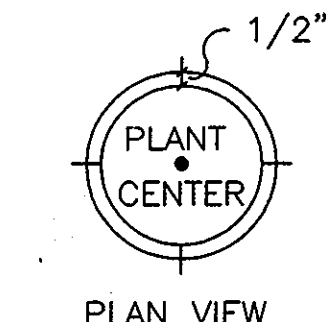


EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE

GENERAL NOTES:

DO NOT PRUNE SHRUBS, EXCEPT TO REMOVE DEAD AND BROKEN BRANCHES.
DO NOT REMOVE ALL BRANCH TIPS.

CUT AND REMOVE ROPE, BURLAP OR WIRE FROM TOP 1/2 OF BALL OR WITH
CONTAINER PLANTS REMOVE POTS AND SPLIT AS SPECIFIED.



1/8 OF ROOTBALL SHALL EXTEND
ABOVE FINISHED GRADE.

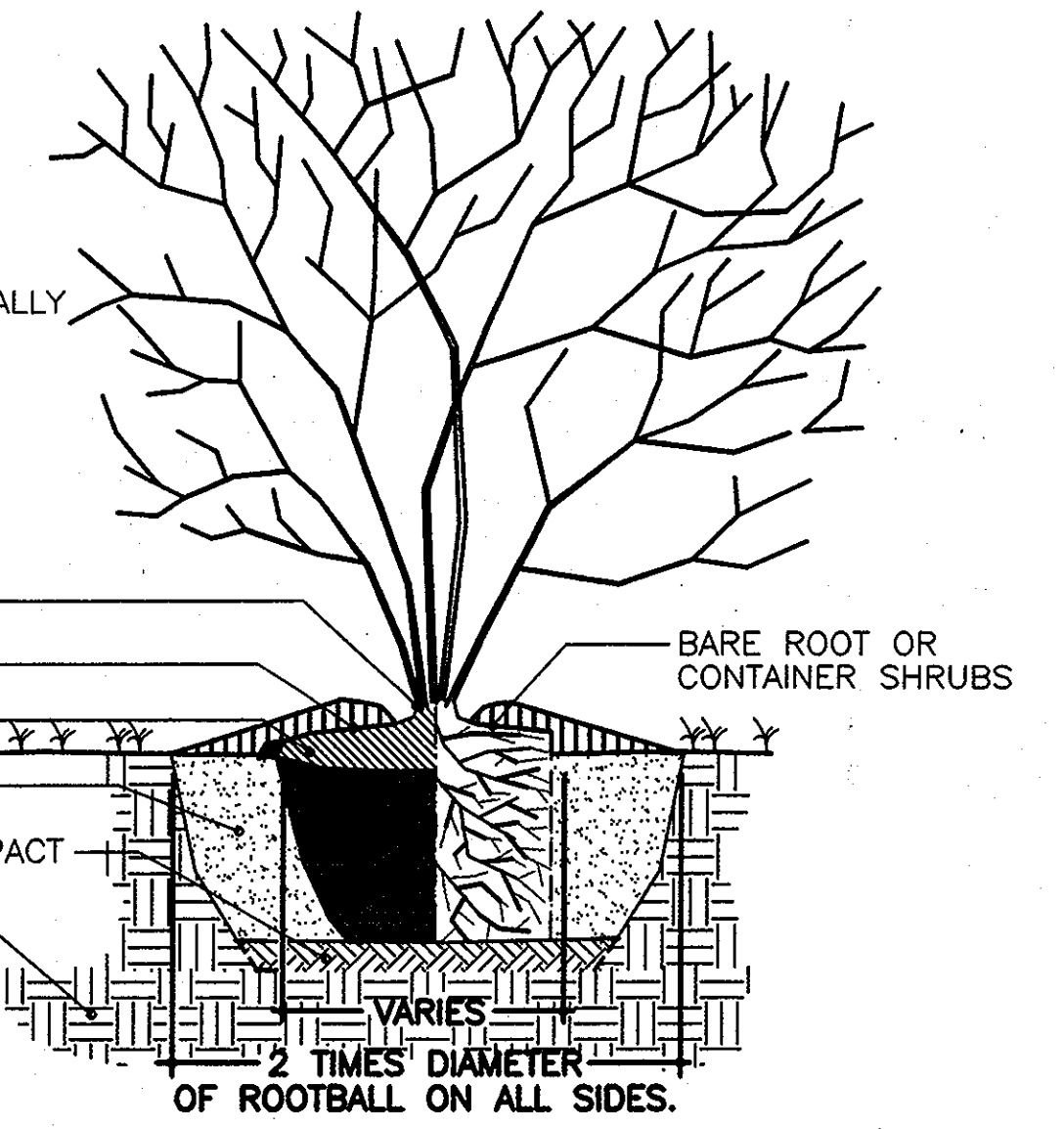
BALLED AND BURLAPPED SHRUBS

2" MIN. MULCH

PREPARED PLANTING SOIL BACKFILL

SCARIFY TO 4" MIN. DEPTH AND RECOMPACT

EXISTING SUBGRADE



SHRUB PLANTING DETAIL
NOT TO SCALE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

[Signature] 9/14/99
DIRECTOR DATE

[Signature] 9/16/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 9/13/99
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

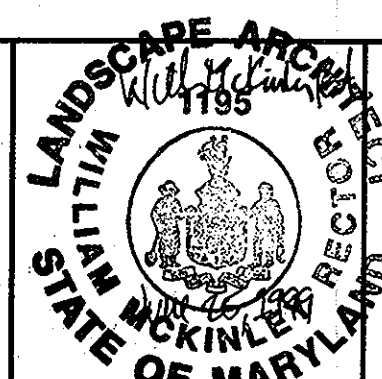
SUBDIVISION NAME HO. CO. GOVERNMENT	LOT/PARCEL 529		
LIBER/FOLIO 180/339	ZONE R-20	TAX/ZONE MAP 31	
WATER CODE	SEWER CODE	CENSUS TR.	

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 7/6/99
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 7/6/99
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE

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



DES.	MRG				
DRN.	JCS				
CHK.	RHI	PSW	ADDED SHEET 4.0		
DATE: 03-08-99	BY	NO.	REVISION	DATE	

VEGETATIVE
COVER DETAILS

NEW CUT LANDFILL
IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SCALE:
AS SHOWN

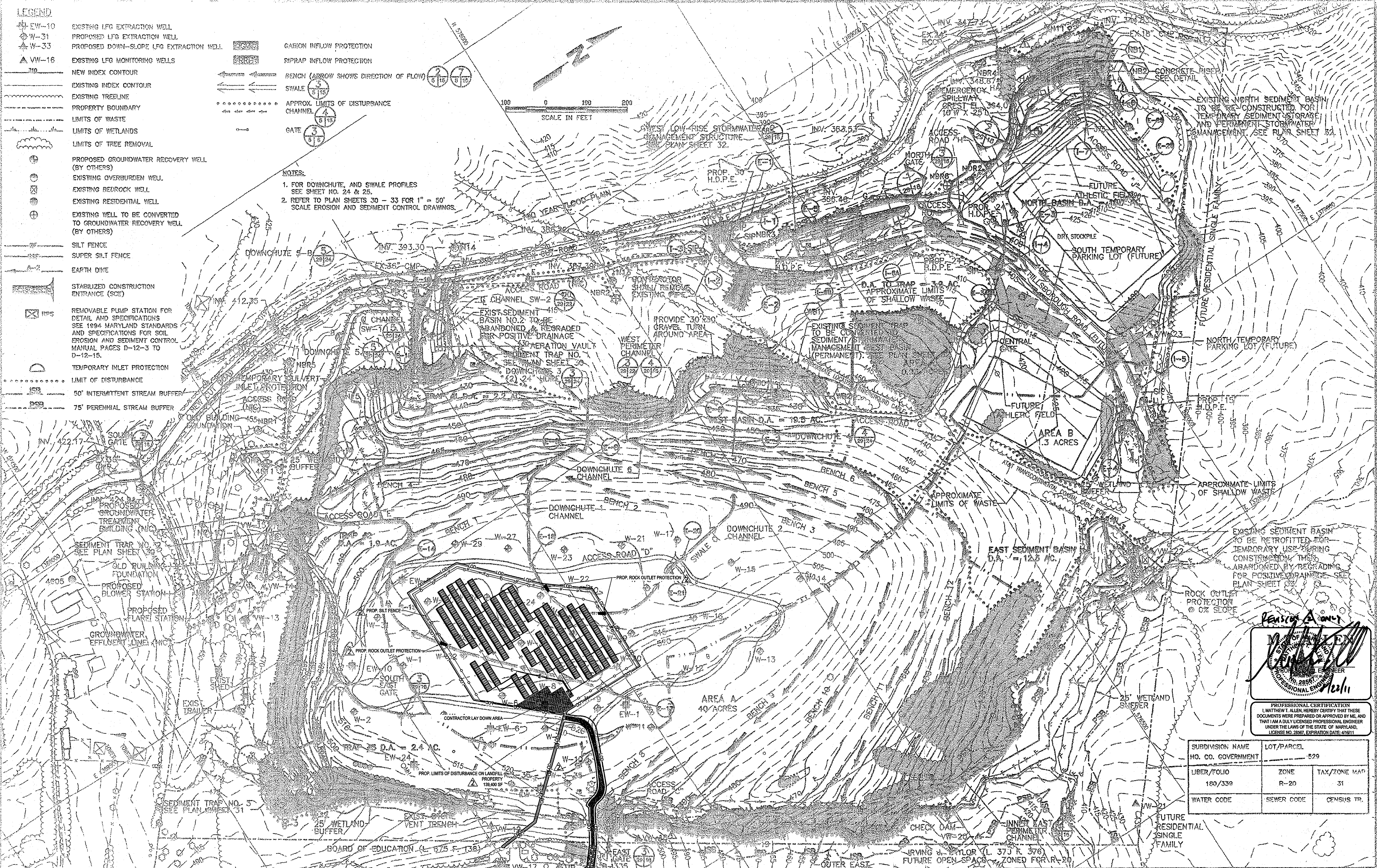
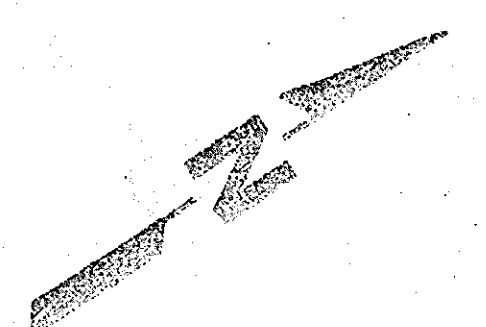
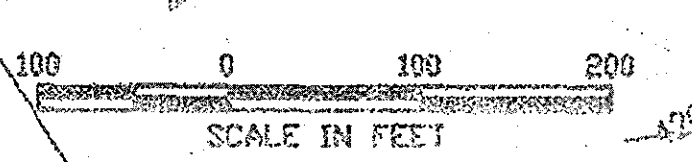
SHEET
28 OF 40

LEGEND

- EW-10 EXISTING LFG EXTRACTION WELL
- W-31 PROPOSED LFG EXTRACTION WELL
- W-33 PROPOSED DOWN-SLOPE LFG EXTRACTION WELL
- VW-16 EXISTING LFG MONITORING WELLS
- NO NEW INDEX CONTOUR
- EXISTING INDEX CONTOUR
- EXISTING TREELINE
- PROPERTY BOUNDARY
- LIMITS OF WASTE
- LIMITS OF WETLANDS
- LIMITS OF TREE REMOVAL
- PROPOSED GROUNDWATER RECOVERY WELL (BY OTHERS)
- EXISTING OVERBURDEN WELL
- EXISTING BEDROCK WELL
- EXISTING RESIDENTIAL WELL
- EXISTING WELL TO BE CONVERTED TO GROUNDWATER RECOVERY WELL (BY OTHERS)
- SILT FENCE
- SUPER SILT FENCE
- EARTH DIKE
- STABILIZED CONSTRUCTION ENTRANCE (SCE)
- RPS REMOVABLE PUMP STATION FOR DETAIL AND SPECIFICATIONS SEE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MANUAL PAGES D-12-3 TO D-12-15.
- TEMPORARY INLET PROTECTION
- LIMIT OF DISTURBANCE
- 50' INTERMITTENT STREAM BUFFER
- 75' PERENNIAL STREAM BUFFER

- GABION INFLOW PROTECTION
- RIPRAP INFLOW PROTECTION
- BENCH (ARROW SHOWS DIRECTION OF FLOW)
- SWALE
- APPROX. LIMITS OF DISTURBANCE CHANNEL
- GATE

NOTES:
 1. FOR DOWNCHUTE, AND SWALE PROFILES SEE SHEET NO. 24 & 25.
 2. REFER TO PLAN SHEETS 30 - 33 FOR 1" = 50' SCALE EROSION AND SEDIMENT CONTROL DRAWINGS.



Matthew T. Allen
 PROFESSIONAL ENGINEER
 LICENSE NO. 28587
 EXPIRATION DATE: 4/18/11

PROFESSIONAL CERTIFICATION
 I, MATTHEW T. ALLEN, 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. 28587, EXPIRATION DATE: 4/18/11

SUBDIVISION NAME		LOT/PARCEL	
HO. CO. GOVERNMENT		529	
LIBER/FOLIO	ZONE	TAX/ZONE MAP	
180/339	R-20	31	
WATER CODE	SEWER CODE	CENSUS TR.	

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

John J. O'Hara
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

SCS ENGINEERS
 CONSULTING ENGINEERS
 11280 ROGER BACON DRIVE
 SUITE 300
 RESTON, VIRGINIA 20190
 PH. (703) 471-8150
 FAX. (703) 471-6576

DRS. MRG			
WFL. JCS			
DRK. RHI			
DATE: 07-01-09	BY: [Signature]	NO. [Signature]	DATE

OVERALL EROSION AND SEDIMENT CONTROL PLAN

NEW CUT LANDFILL IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

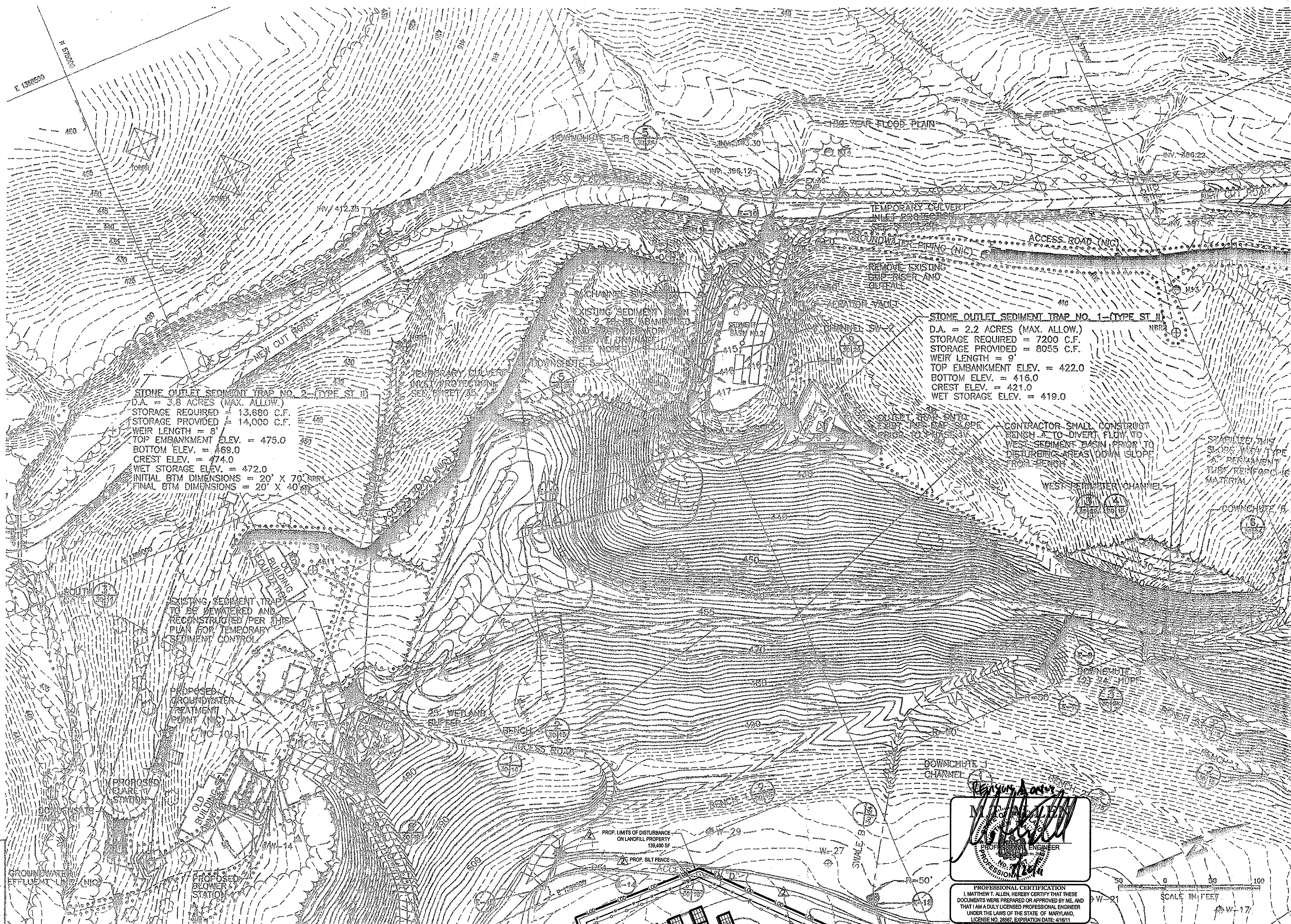
2nd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SCALE: 1"=100'

SHEET 29 OF 40

- LEGEND**
- EW-10 EXISTING LFG EXTRACTION WELL
 - W-31 PROPOSED LFG EXTRACTION WELL
 - W-33 PROPOSED DOWN-SLOPE LFG EXTRACTION WELL
 - VW-16 EXISTING LFG MONITORING WELLS
 - NEW INDEX CONTOUR
 - NEW INTERMEDIATE CONTOUR
 - EXISTING INDEX CONTOUR
 - EXISTING INTERMEDIATE CONTOUR
 - EXISTING TREELINE
 - PROPERTY BOUNDARY
 - LIMITS OF WASTE
 - LIMITS OF WETLANDS
 - LIMITS OF TREE REMOVAL
 - PROPOSED GROUNDWATER RECOVERY WELL (BY OTHERS)
 - EXISTING OVERBURDEN WELL
 - EXISTING BEDROCK WELL
 - EXISTING RESIDENTIAL WELL
 - EXISTING WELL TO BE CONVERTED TO GROUNDWATER RECOVERY WELL (BY OTHERS)
 - GROUNDWATER PIPING (BY OTHERS)
 - SILT FENCE
 - SUPER SILT FENCE
 - EARTH DIKE
 - STABILIZED CONSTRUCTION ENTRANCE (SCE)
 - RPS REMOVABLE PUMP STATION: FOR DETAIL AND SPECIFICATIONS SEE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MANUAL PAGES D-12-3 TO D-12-5.
 - TEMPORARY INLET PROTECTION
 - NEW HDPE PIPE/DOWNSHUTES/ CONCRETE DRAINAGE PIPE
 - EXISTING PIPE
 - LIMIT OF DISTURBANCE
 - PHASE IV LIMIT OF DISTURBANCE
 - GARION INFLOW PROTECTION
 - RIPRAP INFLOW PROTECTION
 - AREAS TO BE STABILIZED WITHIN ONE WORKING DAY (SEE NOTE 1, THIS SHEET)
 - 50' INTERMITTENT STREAM BUFFER
 - 75' PERENNIAL STREAM BUFFER



STONE OUTLET SEDIMENT TRAP NO. 2 (TYPE ST II)
 D.A. = 3.8 ACRES (MAX. ALLOW.)
 STORAGE REQUIRED = 13,680 C.F.
 STORAGE PROVIDED = 14,000 C.F.
 WEIR LENGTH = 8'
 TOP EMBANKMENT ELEV. = 475.0
 BOTTOM ELEV. = 469.0
 CREST ELEV. = 474.0
 WET STORAGE ELEV. = 472.0
 INITIAL BTM DIMENSIONS = 20' X 70'
 FINAL BTM DIMENSIONS = 20' X 40'

STONE OUTLET SEDIMENT TRAP NO. 1 (TYPE ST II)
 D.A. = 2.2 ACRES (MAX. ALLOW.)
 STORAGE REQUIRED = 7200 C.F.
 STORAGE PROVIDED = 8055 C.F.
 WEIR LENGTH = 9'
 TOP EMBANKMENT ELEV. = 422.0
 BOTTOM ELEV. = 416.0
 CREST ELEV. = 421.0
 WET STORAGE ELEV. = 419.0

CONTRACTOR SHALL CONSTRUCT BENCH A TO DIVERT FLOW TO WEST SEDIMENT BASIN PRIOR TO DISTURBING AREAS DOWN SLOPE FROM BENCH A.
 STABILIZE THE SLOPE WITH TYPE A PERMANENT TUBE REINFORCING MATERIAL.

- NOTES:**
1. DISTURBANCE FOR AND CONSTRUCTION OF THESE ACCESS ROADS IS LIMITED TO THAT WHICH SHALL BE STABILIZED WITHIN ONE WORKING DAY, UNLESS OTHERWISE APPROVED BY THE SEDIMENT CONTROL INSPECTOR.
 2. DISTURBANCE IN THE AREA BELOW SEDIMENT TRAPS NO. 1 AND NO. 2 IS LIMITED TO THAT WHICH SHALL BE STABILIZED WITHIN ONE WORKING DAY, UNLESS OTHERWISE APPROVED BY THE SEDIMENT CONTROL INSPECTOR.
 3. FOR SED. TRAP NO. 2, THE INITIAL BOTTOM DIMENSIONS SHALL BE PROVIDED UNTIL SHALE A AND BENCH 1 ARE CONSTRUCTED TO DIVERT FLOW TO WEST DETENTION BASIN. AFTER DIVERTING THIS FLOW, THE BOTTOM DIMENSIONS MAY BE REDUCED TO THE FINAL BOTTOM DIMENSIONS IN ORDER TO CONSTRUCT ACCESS ROAD A.
 4. EXIST. SED. BASIN NO. 2 SHALL REMAIN IN PLACE UNTIL UPSTREAM AREA IS STABILIZED.

SUBDIVISION NAME	LOT/PARCEL		
NO. CO. GOVERNMENT	529		
OWNER/FOLIO	ZONE	TAX/ZONE MAP	
180/339	R-20	31	
WATER CODE	SEWER CODE	CENSUS TR.	

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

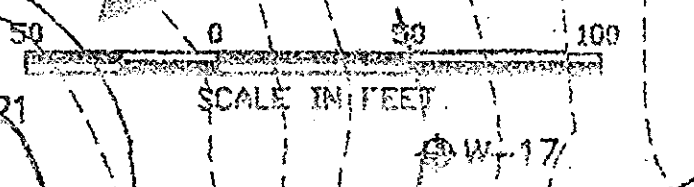
[Signature] 7/16/09 DATE

[Signature] 7/16/09 DATE

[Signature] 7/16/09 DATE

PROFESSIONAL ENGINEER
 MATTHEW T. ALLEN
 LICENSE NO. 28867, EXPIRATION DATE 4/18/11

PROFESSIONAL CERTIFICATION
 I, MATTHEW T. ALLEN, 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. 28867, EXPIRATION DATE 4/18/11



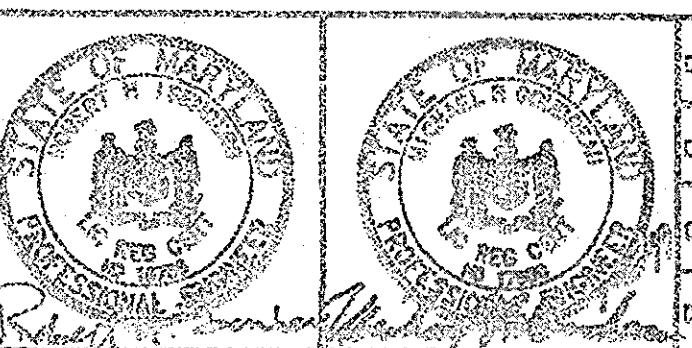
MATCHLINE SEE SHEET 31

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

[Signature] 7/16/09 DATE

[Signature] 7/16/09 DATE

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



DES.	MRG			
CHK.	JCS			
APP.	RMI	PSW	ADDED SHEET 40	6-5-13
DATE:	07-01-09	MDD	SOLAR PANEL ARRAY FIELD	4/25/11
BY:	NO.		REVISION	DATE

EROSION AND SEDIMENT CONTROL PLAN
 SW-QUADRANT

NEW CUT LANDFILL IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT

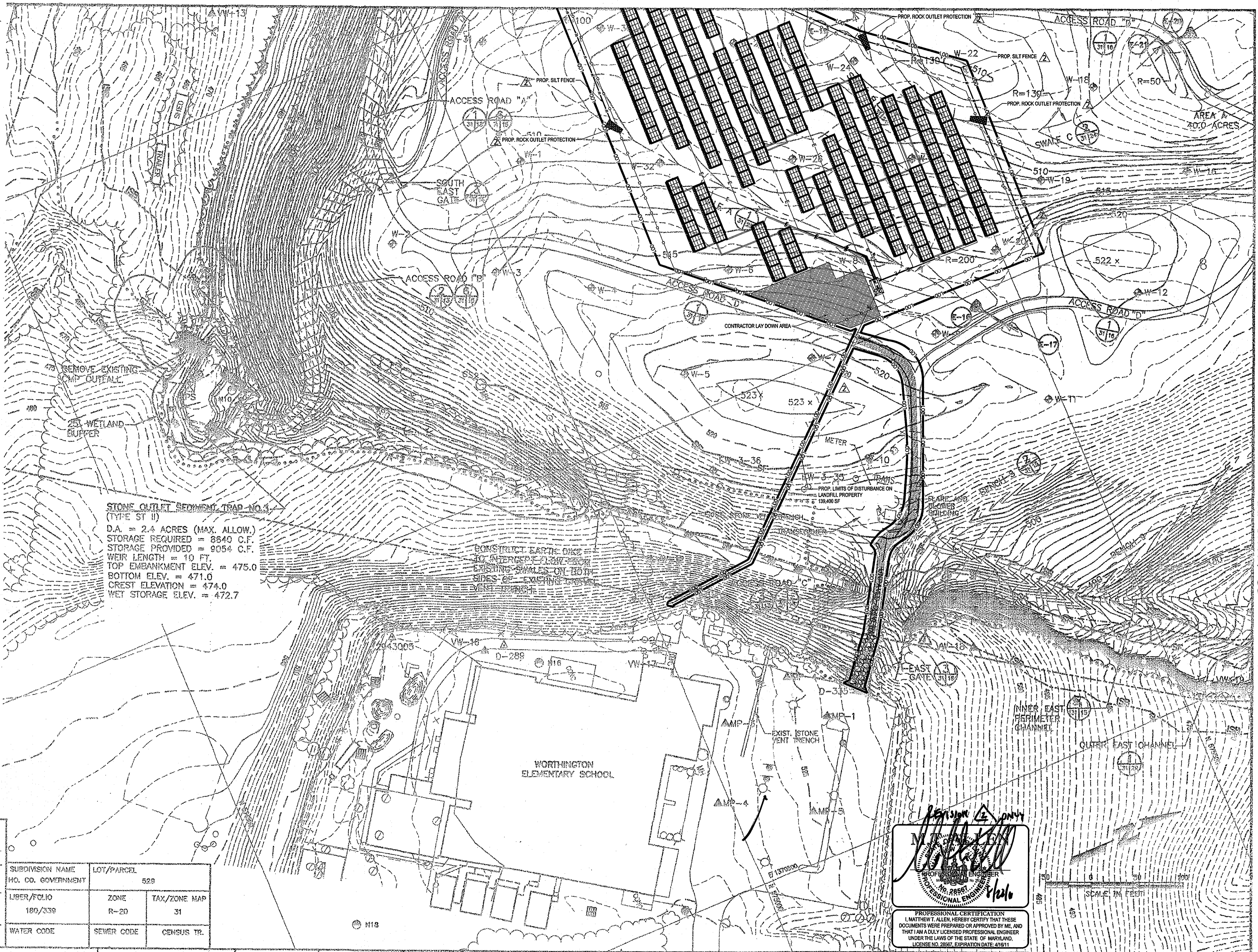
HOWARD COUNTY, MARYLAND

SCALE:
 1"=50'

SHEET
 30 of 40

MATCHLINE SEE SHEET 30

- LEGEND**
- EW-10 EXISTING LFG EXTRACTION WELL
 - W-31 PROPOSED LFG EXTRACTION WELL
 - W-33 PROPOSED DOWN-SLOPE LFG EXTRACTION WELL
 - VW-16 EXISTING LFG MONITORING WELLS
 - MC NEW INDEX CONTOUR
 - NEW INTERMEDIATE CONTOUR
 - EXISTING INDEX CONTOUR
 - EXISTING INTERMEDIATE CONTOUR
 - EXISTING TREELINE
 - PROPERTY BOUNDARY
 - LIMITS OF WASTE
 - LIMITS OF WETLANDS
 - LIMITS OF TREE REMOVAL
 - PROPOSED GROUNDWATER RECOVERY WELL (BY OTHERS)
 - EXISTING OVERBURDEN WELL
 - EXISTING BEDROCK WELL
 - EXISTING RESIDENTIAL WELL
 - EXISTING WELL TO BE CONVERTED TO GROUNDWATER RECOVERY WELL (BY OTHERS)
 - GROUNDWATER PIPING (BY OTHERS)
 - SILT FENCE
 - SUPER SILT FENCE
 - EARTH DIKE
 - STABILIZED CONSTRUCTION ENTRANCE (SCE)
 - REMOVABLE PUMP STATION FOR DETAIL AND SPECIFICATIONS SEE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MANUAL PAGES D-12-3 TO D-12-5.
 - TEMPORARY INLET PROTECTION
 - NEW HDPE PIPE/DOWNSPIUTES/ CONCRETE DRAINAGE PIPE
 - EXISTING PIPE
 - LIMIT OF DISTURBANCE
 - PHASE IV LIMIT OF DISTURBANCE
 - CARBON INFLOW PROTECTION
 - RIPRAP INFLOW PROTECTION
 - AREAS TO BE STABILIZED WITHIN ONE WORKING DAY (SEE NOTE 1, THIS SHEET)
 - 50' INTERMITTENT STREAM BUFFER
 - 75' PERENNIAL STREAM BUFFER



STONE OUTLET SEDIMENT TRAP NO. 1 (TYPE ST II)
 D.A. = 2.4 ACRES (MAX. ALLOW.)
 STORAGE REQUIRED = 8540 C.F.
 STORAGE PROVIDED = 9054 C.F.
 WEIR LENGTH = 10 FT.
 TOP EMBANKMENT ELEV. = 475.0
 BOTTOM ELEV. = 471.0
 CREST ELEVATION = 474.0
 WET STORAGE ELEV. = 472.7

CONSTRUCT EARTH DIKE TO INTERCEPT FLOW FROM EXISTING SWALES ON BOTH SIDES OF EXISTING CHANNEL AND DRAINAGE

NOTE: WORK IN THE OUTER EAST CHANNEL SHALL BE LIMITED TO THAT WHICH SHALL BE STABILIZED WITHIN ONE WORKING DAY, UNLESS OTHERWISE APPROVED BY THE SEDIMENT CONTROL INSPECTOR.

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

<i>[Signature]</i>	DATE 9/1/11
<i>[Signature]</i>	DATE 9/1/11
<i>[Signature]</i>	DATE 9/1/11

SUBDIVISION NAME	LOT/PARCEL	
HO. CO. GOVERNMENT	52B	
LIBER/FOLIO	ZONE	TAX/ZONE MAP
180/339	R-20	31
WATER CODE	SEWER CODE	CENSUS TR.

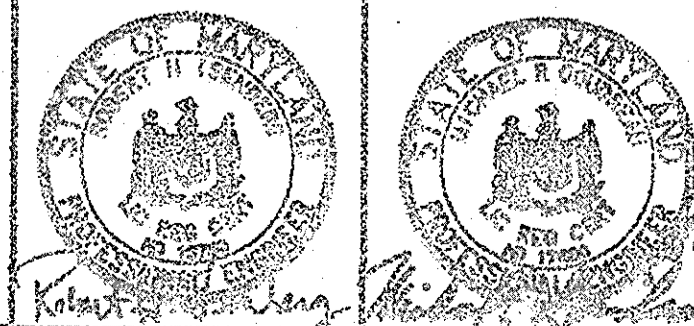
[Signature]
 PROFESSIONAL ENGINEER
 LICENSE NO. 28987
 EXPIRATION DATE: 4/6/11

PROFESSIONAL CERTIFICATION
 I, MATTHEW T. ALLEN, 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. 28987, EXPIRATION DATE: 4/6/11

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

<i>[Signature]</i>	DATE 9/1/11
<i>[Signature]</i>	DATE 9/1/11

SCS ENGINEERS
 CONSULTING ENGINEERS
 11260 ROGER BACON DRIVE
 SUITE 300
 RESTON, VIRGINIA 20190
 PH. (703) 471-6160
 FAX. (703) 471-6676



DES. MRG			
DRN. JCS			
CHK. RPH			
DATE: 07-01-99			
BY: [Signature]	NO.	REVISION	DATE
PSW	1	ADDED SHEET 40	6-5-13
MDD	2	SOLAR PANEL ARRAY FIELD	4/25/11
RJD	3	ADD RIPRAP CHANNEL	9/3/11

EROSION AND SEDIMENT CONTROL PLAN SE-QUADRANT

NEW CUT LANDFILL IMPROVEMENTS
 CAPITAL PROJECT NO. C-0237-H
 2nd ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

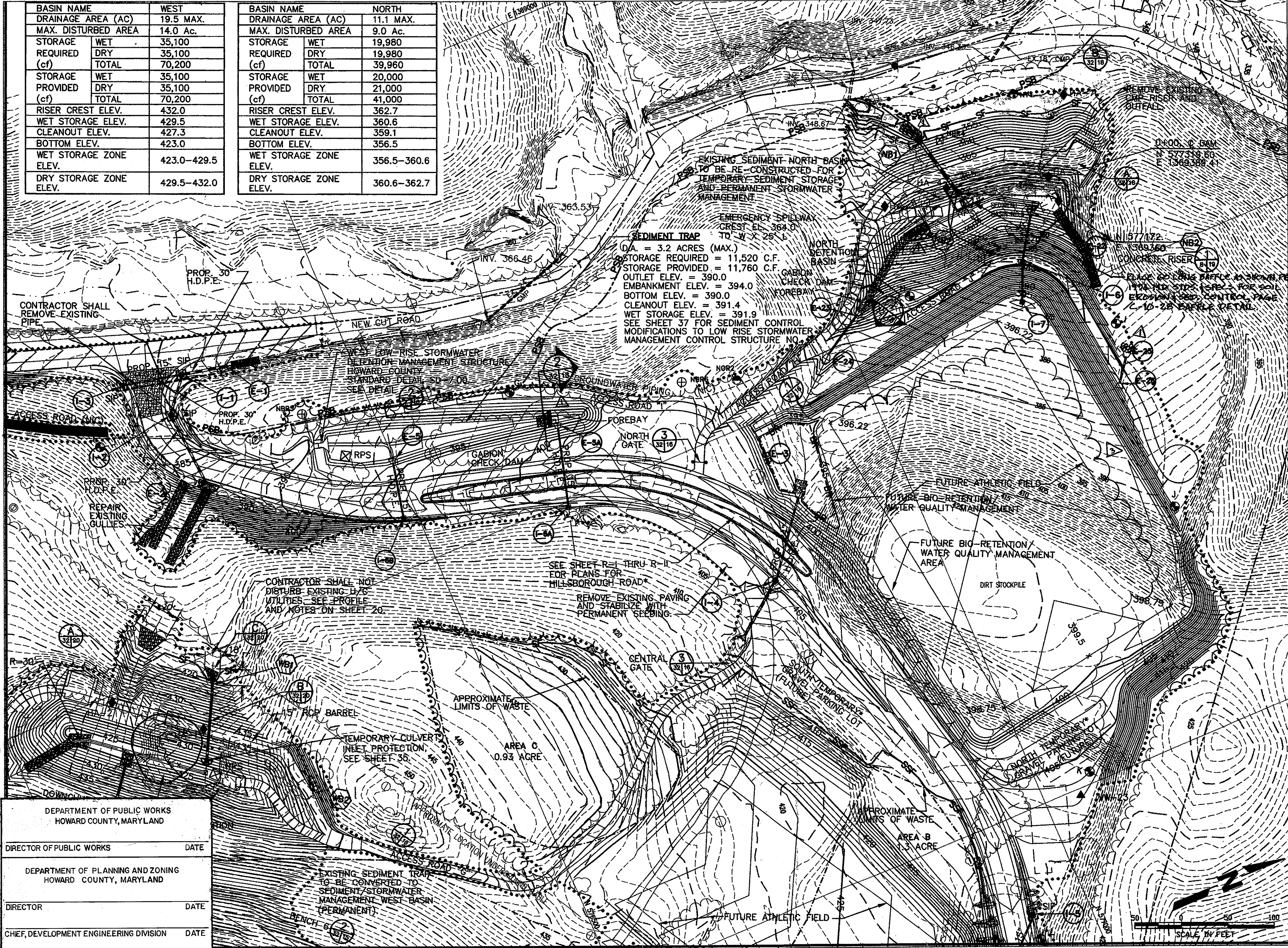
SCALE: 1" = 50'
 SHEET 37 OF 40

MATCHLINE SEE SHEET 33

- LEGEND**
- EW-10 EXISTING LFG EXTRACTION WELL
 - W-31 PROPOSED LFG EXTRACTION WELL
 - W-33 PROPOSED DOWN-SLOPE LFG EXTRACTION WELL
 - VW-16 EXISTING LFG MONITORING WELLS
 - 310 NEW INDEX CONTOUR
 - NEW INTERMEDIATE CONTOUR
 - EXISTING INDEX CONTOUR
 - EXISTING INTERMEDIATE CONTOUR
 - EXISTING TREELINE
 - PROPERTY BOUNDARY
 - LIMITS OF WASTE
 - LIMITS OF WETLANDS
 - LIMITS OF TREE REMOVAL
 - PROPOSED GROUNDWATER RECOVERY WELL (BY OTHERS)
 - EXISTING OVERBURDEN WELL
 - EXISTING BEDROCK WELL
 - EXISTING RESIDENTIAL WELL
 - EXISTING WELL TO BE CONVERTED TO GROUNDWATER RECOVERY WELL (BY OTHERS)
 - GROUNDWATER PIPING (BY OTHERS)
 - SILT FENCE
 - SUPER SILT FENCE
 - EARTH DIKE
 - STABILIZED CONSTRUCTION ENTRANCE (SCE)
 - RPS REMOVABLE PUMP STATION: FOR DETAIL AND SPECIFICATIONS SEE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MANUAL PAGES D-12-3 TO D-12-5.
 - TEMPORARY INLET PROTECTION
 - NEW HDPE PIPE/DOWNGUTES/ CONCRETE DRAINAGE PIPE
 - EXISTING PIPE
 - LIMIT OF DISTURBANCE
 - GABION INFLOW PROTECTION
 - RIPRAP INFLOW PROTECTION
 - AREAS TO BE STABILIZED WITHIN ONE WORKING DAY (SEE NOTE 1, THIS SHEET)
 - ISB 50' INTERMITTENT STREAM BUFFER
 - PSB 75' PERENNIAL STREAM BUFFER

BASIN NAME		WEST	BASIN NAME		NORTH
DRAINAGE AREA (AC)		19.5 MAX.	DRAINAGE AREA (AC)		11.1 MAX.
MAX. DISTURBED AREA		14.0 Ac.	MAX. DISTURBED AREA		9.0 Ac.
STORAGE WET	35,100	STORAGE WET	19,980		
REQUIRED DRY	35,100	REQUIRED DRY	19,980		
(cf) TOTAL	70,200	(cf) TOTAL	39,960		
STORAGE WET	35,100	STORAGE WET	20,000		
PROVIDED DRY	35,100	PROVIDED DRY	21,000		
(cf) TOTAL	70,200	(cf) TOTAL	41,000		
RISER CREST ELEV.	432.0	RISER CREST ELEV.	362.7		
WET STORAGE ELEV.	429.5	WET STORAGE ELEV.	360.6		
CLEANOUT ELEV.	427.3	CLEANOUT ELEV.	359.1		
BOTTOM ELEV.	423.0	BOTTOM ELEV.	356.5		
WET STORAGE ZONE ELEV.	423.0-429.5	WET STORAGE ZONE ELEV.	356.5-360.6		
DRY STORAGE ZONE ELEV.	429.5-432.0	DRY STORAGE ZONE ELEV.	360.6-362.7		

MATCHLINE SEE SHEET 30



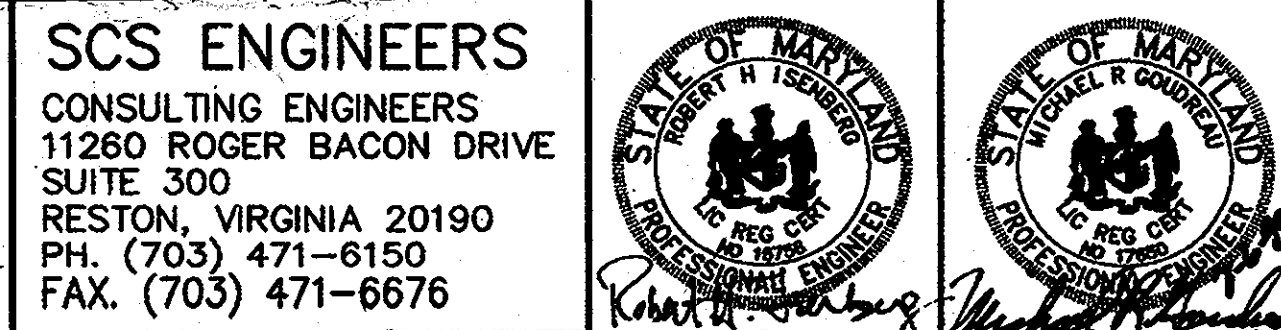
MATCHLINE SEE SHEET 33

- NOTE**
- DISTURBANCE FOR AND CONSTRUCTION OF THESE ACCESS ROADS IS LIMITED TO THAT WHICH SHALL BE STABILIZED WITHIN ONE WORKING DAY.
 - WORK IN THE AREA BELOW THE WEST DETENTION BASIN, WEST LOW-RISE STORMWATER MGT. STRUCTURE, AND NORTH DETENTION BASIN SHALL BE LIMITED TO THAT WHICH SHALL BE STABILIZED WITHIN ONE WORKING DAY, UNLESS OTHERWISE APPROVED BY SEDIMENT CONTROL INSPECTOR.

SUBDIVISION NAME		LOT/PARCEL	
HO. CO. GOVERNMENT		529	
LIBER/FOLIO	ZONE	TAX/ZONE MAP	
180/339	R-20	31	
WATER CODE	SEWER CODE	CENSUS TR.	

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND		DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
DIRECTOR	DATE	DIRECTOR OF PUBLIC WORKS	DATE
<i>[Signature]</i>	3/14/99		
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE	DIRECTOR	DATE
<i>[Signature]</i>	9/9/99		
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE	CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>[Signature]</i>	7/13/99		
		CHIEF, DIVISION OF LAND DEVELOPMENT	DATE

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND		SCS ENGINEERS CONSULTING ENGINEERS 1260 ROGER BACON DRIVE SUITE 300 RESTON, VIRGINIA 20190 PH. (703) 471-6150 FAX. (703) 471-6676	
DIRECTOR OF PUBLIC WORKS	DATE	CHIEF, BUREAU OF ENVIRONMENTAL SERVICES	DATE
<i>[Signature]</i>	7/6/99	<i>[Signature]</i>	7/6/99



DES. MRG			
DRN. JCS	PSW	ADDED SHEET 40	6-5-93
CHK. RHI			
DATE: 07-01-99	BY NO.	ADDED RIPRAP SYMBOL; MADE REVISIONS TO OUTFALL	DATE

EROSION AND SEDIMENT CONTROL PLAN-QUADRANT NW-QUADRANT

NEW CUT LANDFILL CELL CLOSURE IMPROVEMENTS
CAPITAL PROJECT NO. C-0237
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN
SHEET 32 OF 40

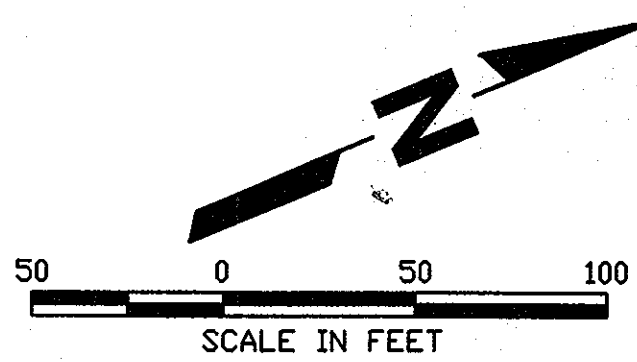
M: 298024-01 90 PERCENT E&S1, LEGEND 2

MATCHLINE SEE SHEET 32

LEGEND

- EW-10 EXISTING LFG EXTRACTION WELL
- W-31 PROPOSED LFG EXTRACTION WELL
- W-33 PROPOSED DOWN-SLOPE LFG EXTRACTION WELL
- VW-16 EXISTING LFG MONITORING WELLS
- 310 NEW INDEX CONTOUR
- NEW INTERMEDIATE CONTOUR
- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- EXISTING TREELINE
- PROPERTY BOUNDARY
- LIMITS OR WASTE
- LIMITS OF WETLANDS
- LIMITS OF TREE REMOVAL
- PROPOSED GROUNDWATER RECOVERY WELL (BY OTHERS)
- EXISTING OVERBURDEN WELL
- EXISTING BEDROCK WELL
- EXISTING RESIDENTIAL WELL
- EXISTING WELL TO BE CONVERTED TO GROUNDWATER RECOVERY WELL (BY OTHERS)
- GROUNDWATER PIPING (BY OTHERS)
- SILT FENCE
- SUPER SILT FENCE
- A-2 EARTH DIKE
- STABILIZED CONSTRUCTION ENTRANCE (SCE)
- RPS REMOVABLE PUMP STATION: FOR DETAIL AND SPECIFICATIONS SEE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MANUAL PAGES D-12-3 TO D-12-5.
- TEMPORARY INLET PROTECTION
- NEW HDPE PIPE/DOWNCHUTES/ CONCRETE DRAINAGE PIPE
- EXISTING PIPE
- LIMIT OF DISTURBANCE
- PHASE IV LIMIT OF DISTURBANCE
- GABION INFLOW PROTECTION
- RIPRAP INFLOW PROTECTION
- AREAS TO BE STABILIZED WITHIN ONE WORKING DAY (SEE NOTE 1, THIS SHEET)
- 50' INTERMITTENT STREAM BUFFER
- 75' PERENNIAL STREAM BUFFER

NOTE: WORK IN THE OUTER EAST CHANNEL SHALL BE LIMITED TO THAT WHICH SHALL BE STABILIZED WITHIN ONE WORKING DAY, UNLESS OTHERWISE APPROVED BY THE SEDIMENT CONTROL INSPECTOR.



SUBDIVISION NAME		LOT/PARCEL	
HO. CO. GOVERNMENT		529	
LIBER/FOLIO	ZONE	TAX/ZONE MAP	
180/339	R-20	31	
WATER CODE	SEWER CODE	CENSUS TR.	

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

John A. ... 9/14/99
DIRECTOR DATE

John ... 9/14/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

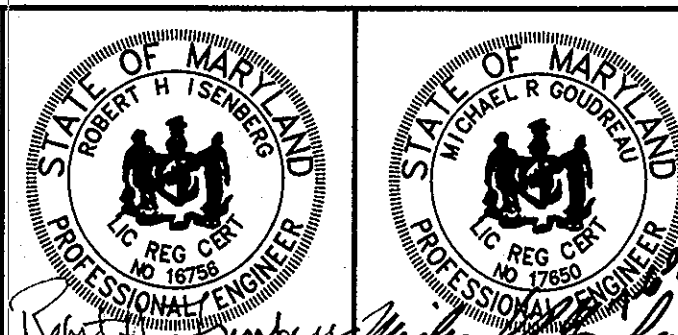
Cinda ... 9/13/99
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James ... 7/6/99
DIRECTOR OF PUBLIC WORKS DATE

John ... 7/6/99
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE

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



DES.	MRG			
DRN.	JCS			
CHK.	RHI	PSW	ADDED SHEET 40	6-5-13
DATE:	07-01-99	BY:	NO.	
			TEMP. CHECK DAM; LABEL TAKEN 8/5/99	
			REVISION	DATE

EROSION AND SEDIMENT CONTROL PLAN—QUADRANT NE—QUADRANT

NEW CUT LANDFILL IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

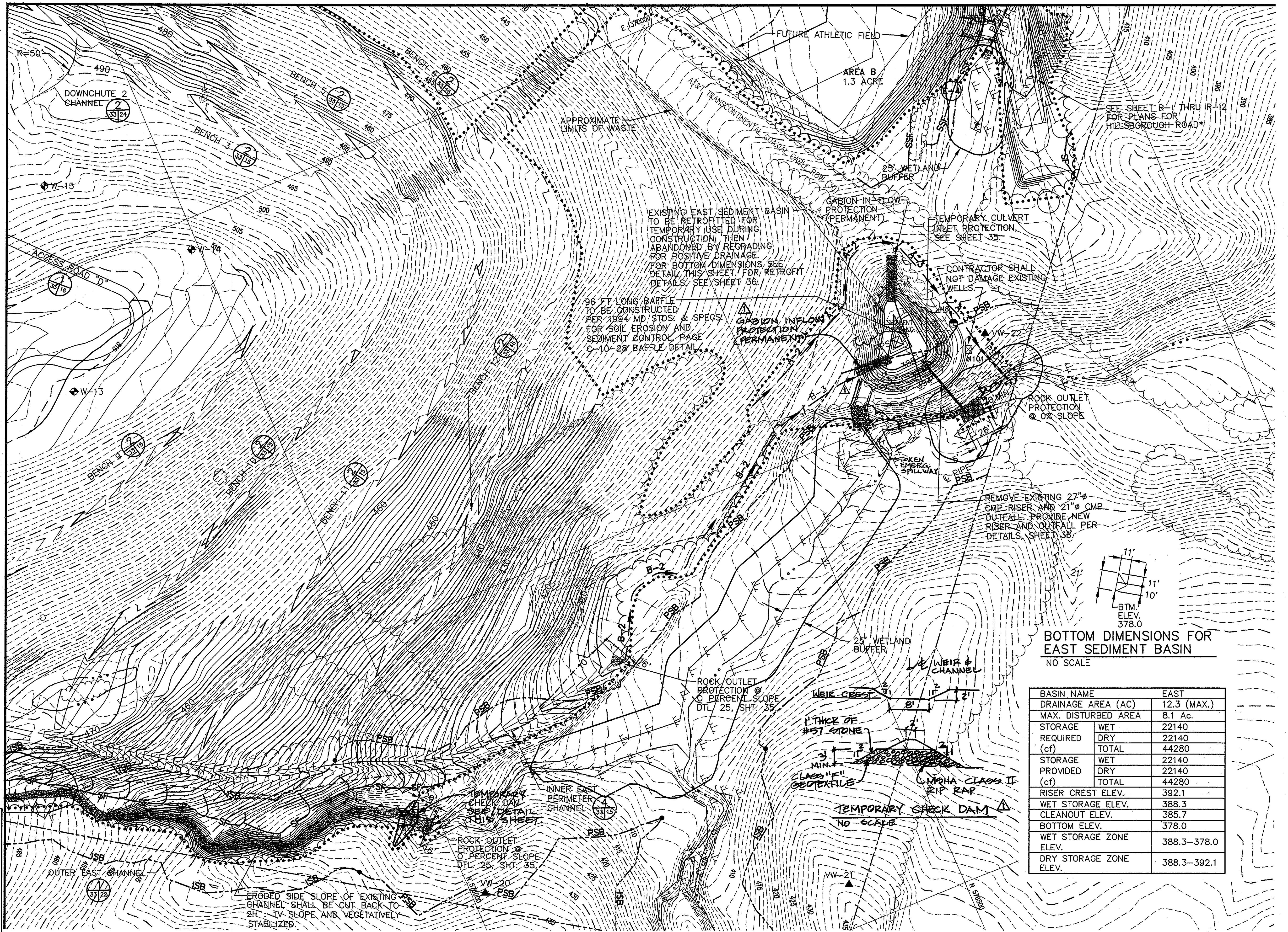
SCALE:

AS SHOWN

SHEET

33 OF 40

SDP-99-109



MATCHLINE SEE SHEET 31

BOTTOM DIMENSIONS FOR EAST SEDIMENT BASIN
NO SCALE

BASIN NAME		EAST
DRAINAGE AREA (AC)		12.3 (MAX.)
MAX. DISTURBED AREA		8.1 Ac.
STORAGE REQUIRED (cf)	WET	22140
	DRY	22140
		TOTAL 44280
STORAGE PROVIDED (cf)	WET	22140
	DRY	22140
		TOTAL 44280
RISER CREST ELEV.		392.1
WET STORAGE ELEV.		388.3
CLEANOUT ELEV.		385.7
BOTTOM ELEV.		378.0
WET STORAGE ZONE ELEV.		388.3-378.0
DRY STORAGE ZONE ELEV.		388.3-392.1

SEQUENCE OF CONSTRUCTION FOR REVISION 2

1. CONTRACTOR TO NOTIFY THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION A MINIMUM OF (48) HOURS PRIOR TO THE START OF CONSTRUCTION AT (410) 313-1855.
2. CONTRACTOR TO INSTALL PERIMETER EROSION AND SEDIMENT CONTROLS, INCLUDING SILT FENCE, AS IDENTIFIED ON THE EROSION AND SEDIMENT CONTROL PLAN.
3. CONTRACTOR TO INSTALL GEOTEXTILE FABRIC AND #67 3/4" CLEAN STONE WRAPPED IN 1/2" X 1/2" 16 GAUGE GBW WIRE MESH AS SHOWN ON THE STANDARD SOLAR PANEL MODULE SECTION. THE CONTRACTOR SHALL USE RUBBER WHEELS ON ANY EXCAVATING EQUIPMENT SO AS TO REDUCE THE DISTURBANCE CAUSED BY EXCAVATION ACTIVITIES.
4. CONTRACTOR TO INSTALL INVERTER PAD. CONTRACTOR TO TRENCH FOR THE CONDUIT THAT CONNECTS THE PANEL ROWS AND THE PANEL ROWS TO THE INVERTER PAD. DEPTH OF TRENCHING AT ANYTIME IS NOT TO EXCEED 24". CONTRACTOR TO INSTALL CONDUIT RUNS AND BACKFILL TRENCHES.
5. CONTRACTOR TO TRENCH AND INSTALL CONDUIT RUN FROM INVERTER PAD TO THE ELEMENTARY SCHOOL. CONTRACTOR TO INSTALL BENTONITE AND BACKFILL WITH STONE AT LOCATIONS SHOWN ON THE PLAN. AT ALL OTHER LOCATIONS, CONTRACTOR TO BACKFILL WITH COMPACTED SOIL. CONTRACTOR TO MAKE SURE THAT ANY EXCAVATED SOILS ARE PLACED ON THE UPHILL SIDE OF THE TRENCH AND THAT ALL TRENCHES ARE BACKFILLED AND TEMPORARILY STABILIZED AT THE END OF EACH WORK DAY.
6. CONTRACTOR TO PLACE SOLAR ARRAY MODULES INTO POSITION.
7. CONTRACTOR TO INSTALL SECURITY FENCE AROUND PERIMETER OF SITE AND PERMANENTLY STABILIZE ALL DISTURBED LAND.

SEQUENCE OF CONSTRUCTION

- A. THE GRADING PERMIT FOR THE PROJECT WILL BE OBTAINED BY HOWARD COUNTY. REFER TO SPEC. SECTIONS 02250 - EROSION AND SEDIMENT CONTROL, AND 02275 - ENVIRONMENTAL PROTECTION AND RESTORATION FOR REQUIREMENTS.
- B. I. ACCESS THE LANDFILL BY THE EXISTING ENTRANCE ON THE WEST SIDE OF THE LANDFILL ALONG NEW CUT ROAD. ACCESS THE PROPOSED FLARE STATION AREA BY THE EXISTING ENTRANCE AT THE SOUTHWEST CORNER OF THE SITE, AT NEW CUT ROAD.
2. **INSTALL TREE PROTECTION DEVICES BETWEEN ROBERT RETENTION AREAS & LIMITS OF DISTURBANCES.**
- C. PHASE I - (ESTIMATED CONSTRUCTION DURATION - 1 WEEK - PERIMETER CONTROLS.
 1. INSTALL CONSTRUCTION ENTRANCES WHERE INDICATED.
 2. INSTALL SILT FENCE ALONG THE PERIMETER OF THE WORK WHERE INDICATED. RECEIVE PERMISSION FROM SEDIMENT CONTROL INSPECTOR BEFORE PROCEEDING WITH PHASE II.
- D. PHASE II (ESTIMATED CONSTRUCTION DURATION - 2 MONTHS) - CONSTRUCT NORTH AND WEST SEDIMENT BASINS. CONSTRUCT SEDIMENT TRAPS 1, 2 & 3, AND EAST SEDIMENT BASIN. BEGIN LANDFILL GAS SYSTEM.
 1. NORTH SEDIMENT BASIN
 - A) INSTALL SILT FENCE AND REMOVE EXISTING CMP OUTFALL AND DAM. CONSTRUCT OUTLET CONTROL STRUCTURE, OUTLET PIPE, RIP RAP OUTLET PROTECTION. EXCAVATE BASIN AND CONSTRUCT BASIN EMBANKMENT.
 - B) PERMANENTLY STABILIZE ALL DENUDED AREAS BY SEEDING AND MULCHING.
 - C) REMOVE TEMPORARY SEDIMENT CONTROLS FOR NORTH SEDIMENT BASIN UPON RECEIVING PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
 2. WEST SEDIMENT BASIN
 - A) INSTALL SILT FENCE AND REMOVE EXISTING DAM. CONSTRUCT OUTLET CONTROL STRUCTURE, OUTLET PIPE, RIP RAP OUTLET PROTECTION. EXCAVATE BASIN AND CONSTRUCT BASIN EMBANKMENT.
 - B) PERMANENTLY STABILIZE ALL DENUDED AREAS BY SEEDING AND MULCHING.
 - C) REMOVE TEMPORARY SEDIMENT CONTROLS FOR WEST SEDIMENT BASIN UPON RECEIVING PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
3. CONSTRUCT SEDIMENT TRAPS
 - A) INSTALL SILT FENCE AND CULVERT INLET PROTECTION, AND REMOVE EXISTING OUTLET PIPE WHERE INDICATED. CONSTRUCT THE WEST LOW-RISE STORMWATER MANAGEMENT STRUCTURES, RIP-RAP OUTLET PROTECTION, AND STRUCTURE MODIFICATIONS. EXCAVATE AS INDICATED. CONSTRUCT BENCH #4 AND WEST PERIMETER CHANNEL PRIOR TO SEDIMENT TRAP #1**. CONSTRUCT SEDIMENT TRAPS #1 & #2. INSTALL TEMPORARY EARTH DIKE TO DIVERT OFF-SITE FLOW FROM SITE OF SED. TRAP #3. CONSTRUCT SED. TRAP #3.
 - B) PERMANENTLY STABILIZE ALL DENUDED AREAS BY SEEDING AND MULCHING.
 - C) REMOVE TEMPORARY SEDIMENT CONTROLS FOR THE WEST LOW-RISE STORMWATER MANAGEMENT STRUCTURE UPON RECEIVING PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
4. RETROFIT EAST SEDIMENT BASIN.
 - A) DE-WATER EXISTING BASIN. INSTALL CULVERT INLET PROTECTION AROUND THE EXISTING CMP OUTLET CONTROL STRUCTURE AS INDICATED. REMOVE EXISTING EMBANKMENT, CMP OUTLET CONTROL STRUCTURE, AND OUTFALL PIPE. CONSTRUCT NEW OUTLET CONTROL STRUCTURE, OUTFALL PIPE, AND RIP RAP OUTLET PROTECTION. RECONSTRUCT BASIN EMBANKMENT THROUGH BREACH.
 - B) PERMANENTLY STABILIZE ALL DENUDED AREAS BY SEEDING AND MULCHING.
 - C) REMOVE TEMPORARY SEDIMENT CONTROLS FOR EAST SEDIMENT BASIN UPON RECEIVING PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
5. LANDFILL GAS (LFG) SYSTEM.
 - A) CONSTRUCT ACCESS CONTROL GATE TO TREATMENT AREA.
 - B) BEGIN BLOWER/FLARE STATION, AND CONDENSATE TANK.

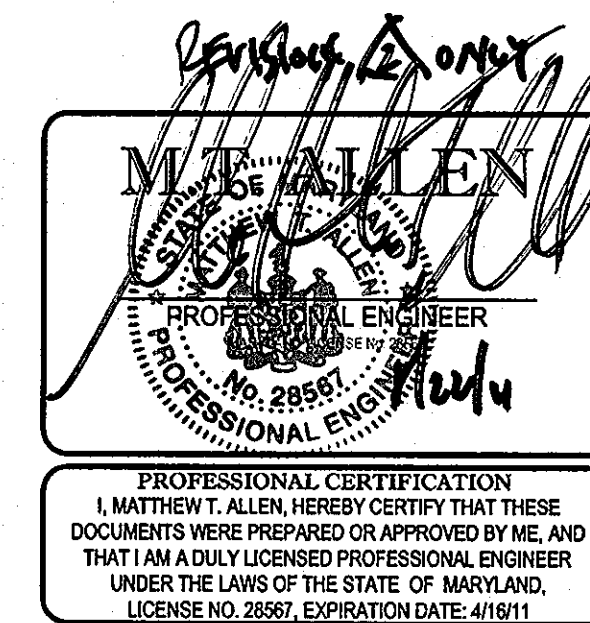
SEQUENCE OF CONSTRUCTION (cont.)

- E. PHASE III - (ESTIMATED CONSTRUCTION DURATION- 10 MONTHS). CONSTRUCT STORM DRAINS, BENCHES, CHANNELS AND FINAL GRADING FOR LANDFILL, ROADWAY, AND BALLFIELD IMPROVEMENTS.
 1. REMOVE WASTE NEAR SCHOOL BETWEEN JUNE AND AUGUST AND CONSTRUCT STONE VENT TRENCH EXTENSION.
 2. THE CONTRACTOR SHALL NOT HAVE MORE THAN 20 ACRES* OF SURFACE AREA DISTURBED AND UNSTABILIZED AT ANY ONE TIME DURING CONSTRUCTION OF THE FINAL GRADING.
 3. **CONSTRUCT TEMP. CHECK DAMS & OUTER BENT CHANNELS REFER TO ONE DAY STABILIZATION NOTES, SEE SHTS. 31 & 33.****
 4. CONSTRUCT STORM DRAINS AND ROUGH GRADING FOR ROADS. CONSTRUCT SWALE A, BENCH 1, AND DOWNCHUTES 1 & 3 PRIOR TO ACCESS ROAD A.** CONSTRUCT ACCESS ROADS A AND B. CONSTRUCT OTHER PERIMETER CHANNELS AND DOWNCHUTES**. CONSTRUCT TEMPORARY SEDIMENT CONTROLS SUCH AS CHECK DAMS AND CULVERT INLET PROTECTION AS INDICATED.
 5. GRADE LANDFILL SIDESLOPES AND REMAINING BENCHES.**
 6. STABILIZE ALL DENUDED AREAS BY TEMPORARY OR PERMANENT SEEDING AND MULCHING.
 7. RECEIVE PERMISSION FROM SEDIMENT CONTROL INSPECTOR BEFORE PROCEEDING WITH PHASE IV.
- F. PHASE IV (ESTIMATED CONSTRUCTION DURATION - 2 MONTHS). LFG WELL AND SYSTEM CONSTRUCTION AND ROAD PAVING.
 1. INSTALL LFG WELLS WHERE INDICATED. CONSTRUCT LFG COLLECTION SYSTEM INCLUDING HEADERS AND LATERALS BETWEEN THE WELLFIELD AND THE FLARE STATION. CONNECT EXIST. LFG WELLS AS INDICATED.
 2. STABILIZE FINAL SURFACES IMMEDIATELY WITH PERMANENT SEEDING AND MULCHING.
 3. REMOVE SED. BASIN #2 AND CONSTRUCT IMPROVEMENTS PERMANENT AND STABILIZED AS INDICATED WITHIN "LOD-IV" ON SHEET 30 (BELOW TRAP #1) WITHIN A 5 DAY CLEAR WEATHER FORECAST ISSUED BY NATIONAL WEATHER SERVICE. LINE CHANNELS AS INDICATED**.
 4. REMOVE TEMPORARY SEDIMENT CONTROLS UPON RECEIVING PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
 5. CONSTRUCT HILLSBOROUGH ROAD PAVING.
 6. RECEIVE PERMISSION FROM SEDIMENT CONTROL INSPECTOR BEFORE PROCEEDING WITH PHASE V.
- G. PHASE V (ESTIMATED CONSTRUCTION DURATION - 1 MONTH). WITH PERMISSION FROM SEDIMENT CONTROL INSPECTOR, REMOVE TEMPORARY SEDIMENT CONTROL MEASURES AND TEMPORARY FENCING.
 1. DEWATER EAST SED. BASIN. GRADE AS SHOWN ON FINAL GRADING PLANS.**
 2. DEWATER SED. TRAPS #1, #2 & #3 AND TRAP AT WEST LOW-RISE STORMWATER MGT. STRUCTURE. REMOVE TEMPORARY DEWATERING PIPES AND SEALING MATERIALS. GRADE BOTTOM AS SHOWN ON FINAL GRADING PLANS.
 3. DEWATER NORTH AND WEST BASINS, REMOVE TEMPORARY RISER MODIFICATIONS AND GRADE BOTTOM AS SHOWN ON FINAL GRADING PLANS.

HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (410-313-1855).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL 1, CHAPTER 7 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING, AND MULCHING (SEC.G). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

* NOTE: MAXIMUM UNSTABILIZED AREA TO NORTH BASIN = 9 ACRES
MAXIMUM UNSTABILIZED AREA TO WEST BASIN = 14 ACRES



** NOTE: DURING GRADING ACTIVITIES, THE CONTRACTOR SHALL PLACE EROSION CONTROL MAT, TURF REINFORCEMENT MAT, RIP-RAP AS SOON AS DITCH/BENCH/CHANNEL/DOWNCHUTE GRADE IS ESTABLISHED.

SITE ANALYSIS:

7. TOTAL AREA OF SITE = 90 ACRES
AREA DISTURBED = 53 ACRES
AREA TO BE ROOFED OR PAVED = 2 ACRES
AREA TO BE VEGETATIVELY STABILIZED = 51 ACRES
TOTAL CUT = 86,000 CY
TOTAL FILL = 128,000 CY
OFFSITE WASTE/BORROW AREA LOCATION: TO BE DETERMINED, AND SHALL HAVE AN APPROVED AND ACTIVE GRADING PERMIT.
8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHING FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY.

SEDIMENT CONTROL CERTIFICATION BLOCKS

BY THE DEVELOPER:

"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."

John J. O'Hara 7/6/99
SIGNATURE OF DEVELOPER DATE

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 AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

Michael R. Goodreau 7-6-99
SIGNATURE OF ENGINEER DATE
PRINT NAME BESIDE SIGNATURE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

Cheryl Samms 9/8/99
USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John J. O'Hara 9/8/99
HOWARD SCD DATE

M: 296024-01 90 PERCENT SEENOTES

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

John J. O'Hara 9/14/99
DIRECTOR DATE

Michael R. Goodreau 9/14/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Carla Hamilton 9/13/99
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

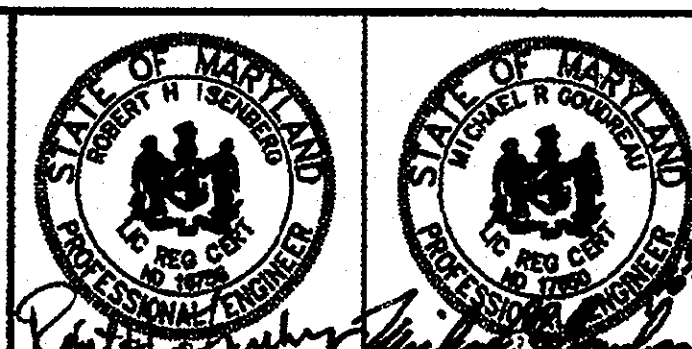
SUBDIVISION NAME	LOT/PARCEL	
HO. CO. GOVERNMENT	529	
LIBER/FOLIO	ZONE	TAX/ZONE MAP
180/339	R-20	31
WATER CODE	SEWER CODE	CENSUS TR.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John J. O'Hara 7/6/99
DIRECTOR OF PUBLIC WORKS DATE

John J. O'Hara 7/6/99
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE

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



DES. MRG			
DRN. B.D	PSW	ADDED SHEET 40	6-5-13
CHK. RH	MDD	SOLAR PANEL ARRAY FIELD	4/25/11
DATE: 07-01-99	BY NO.	REVISION	DATE

EROSION AND SEDIMENT CONTROL NOTES AND CONSTRUCTION SEQUENCE

NEW CUT LANDFILL IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

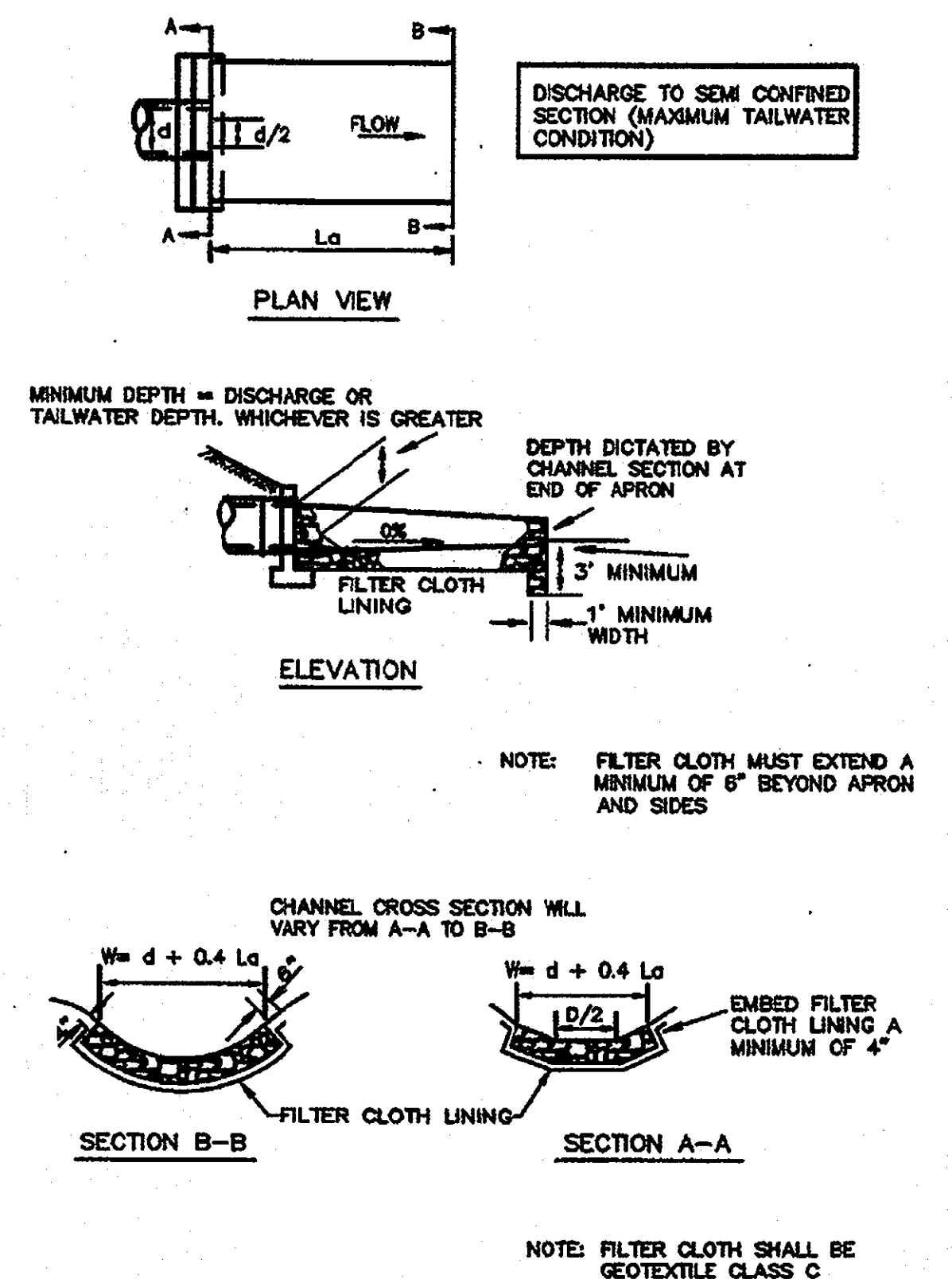
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN

SHEET 34 OF 40

SDP-99-109

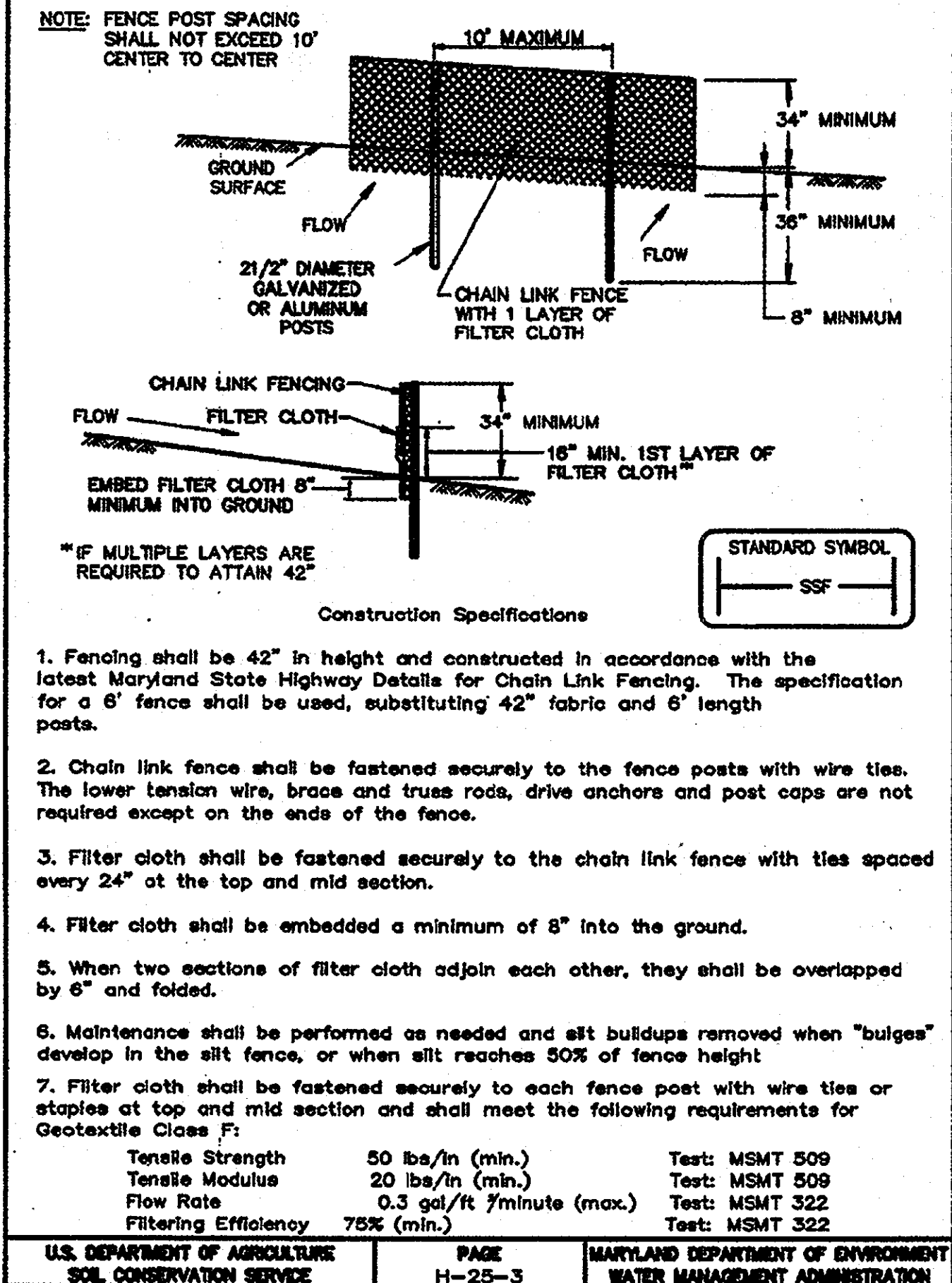
DETAIL 25 - ROCK OUTLET PROTECTION I



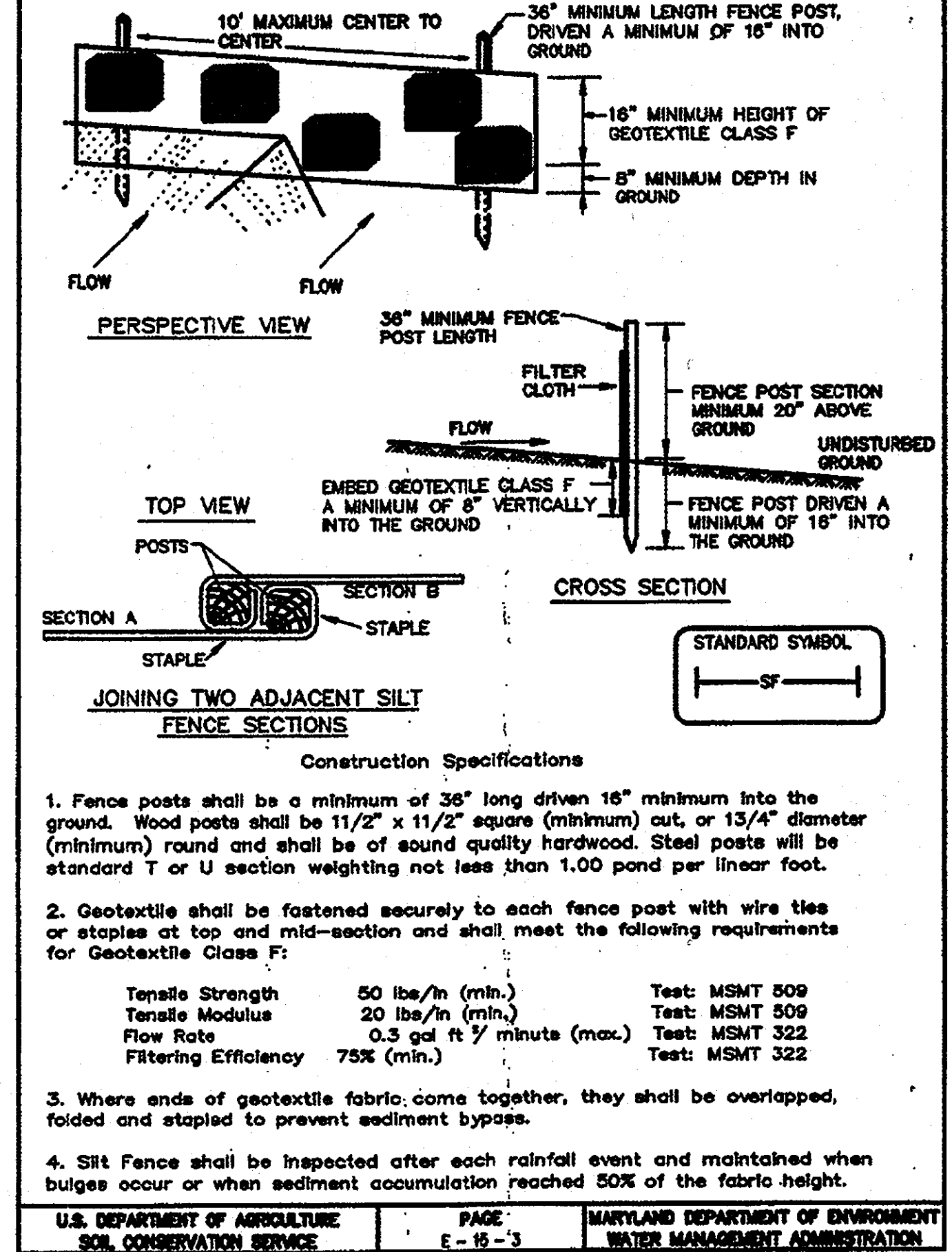
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE F-18-8 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

- NOTES:**
1. FILTER CLOTH LINING SHALL BE 10 OZ./S.Y. NON-WOVEN GEOTEXTILE.
 2. DETAIL USED FOR REVISION 2

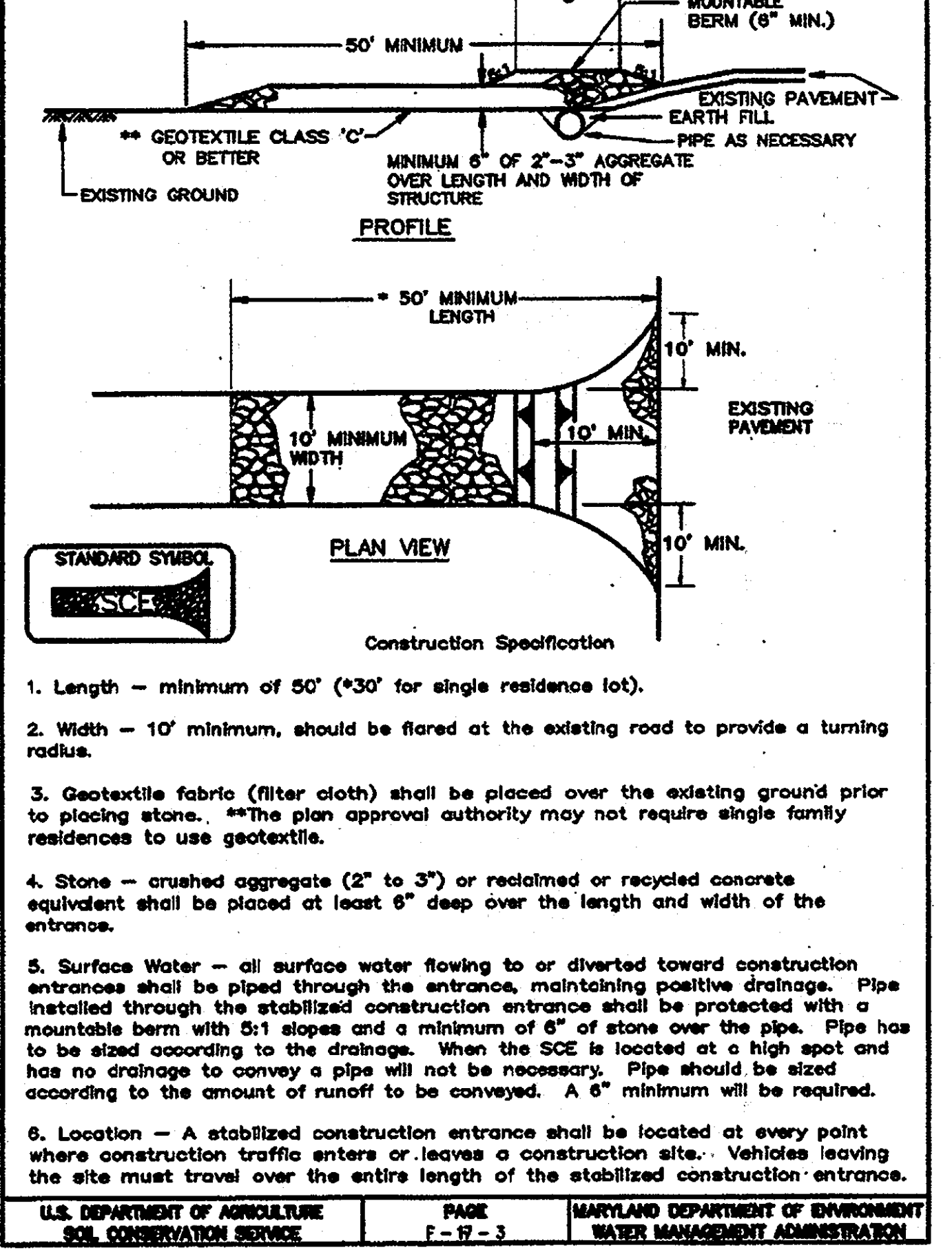
DETAIL 33 - SUPER SILT FENCE



DETAIL 22 - SILT FENCE



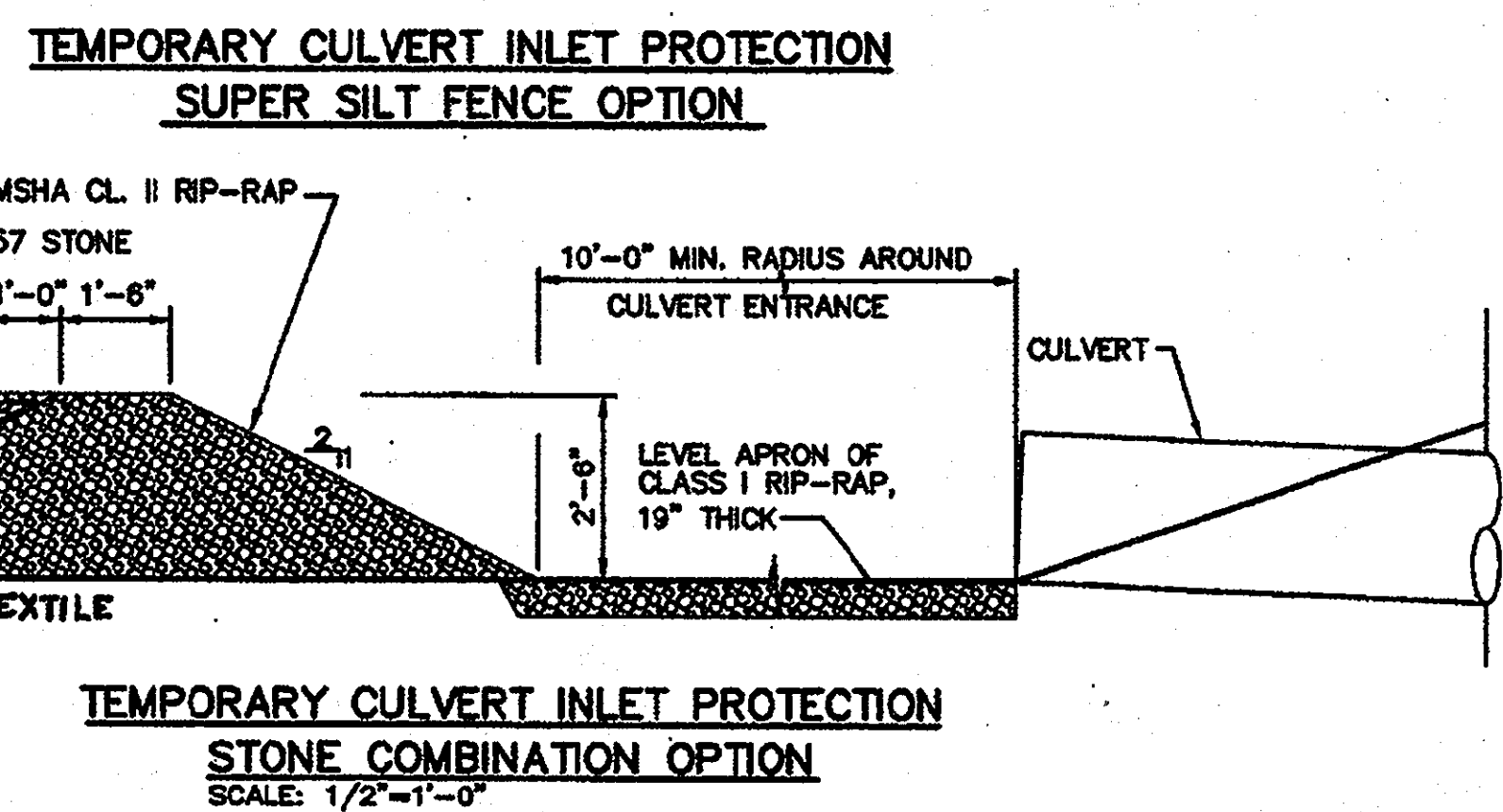
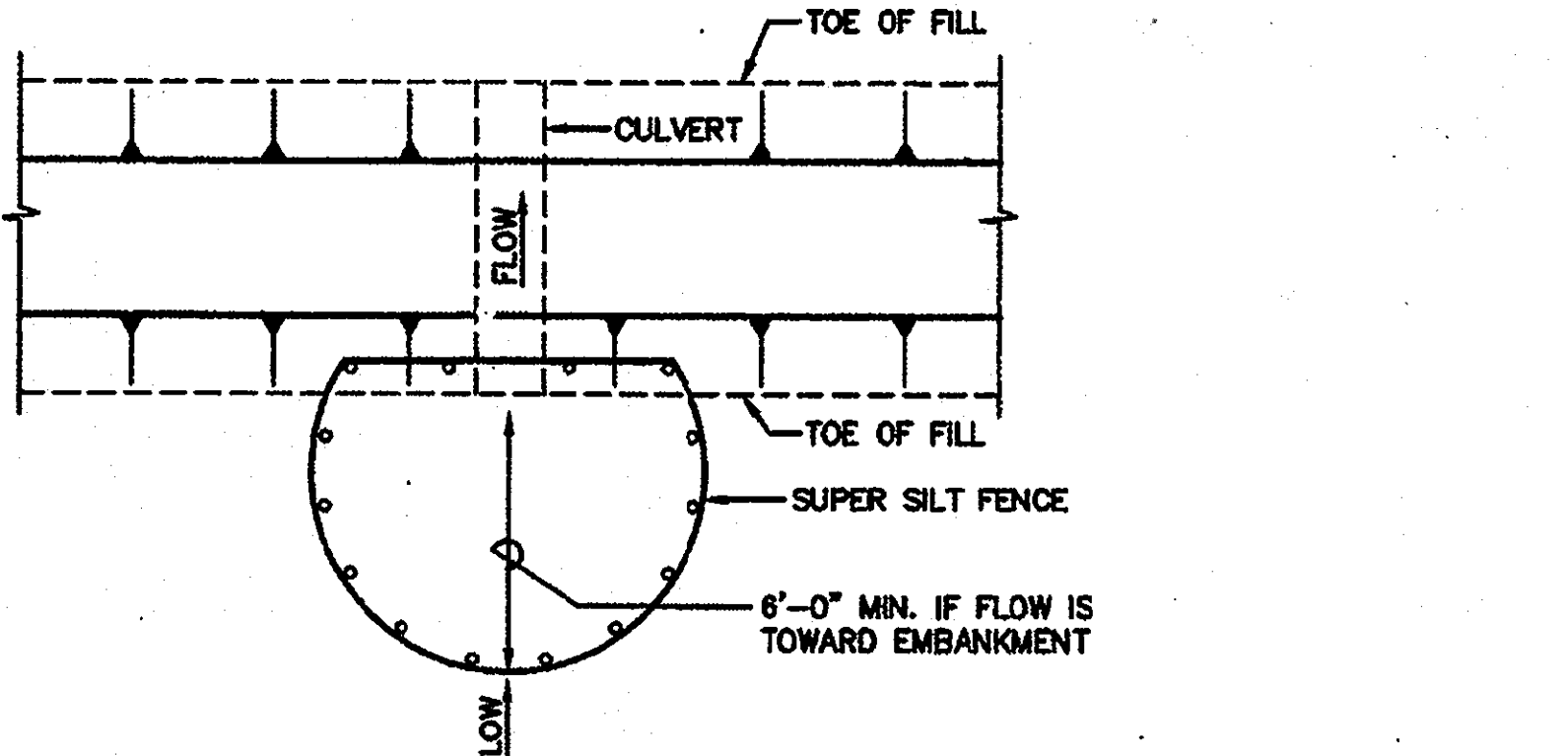
DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



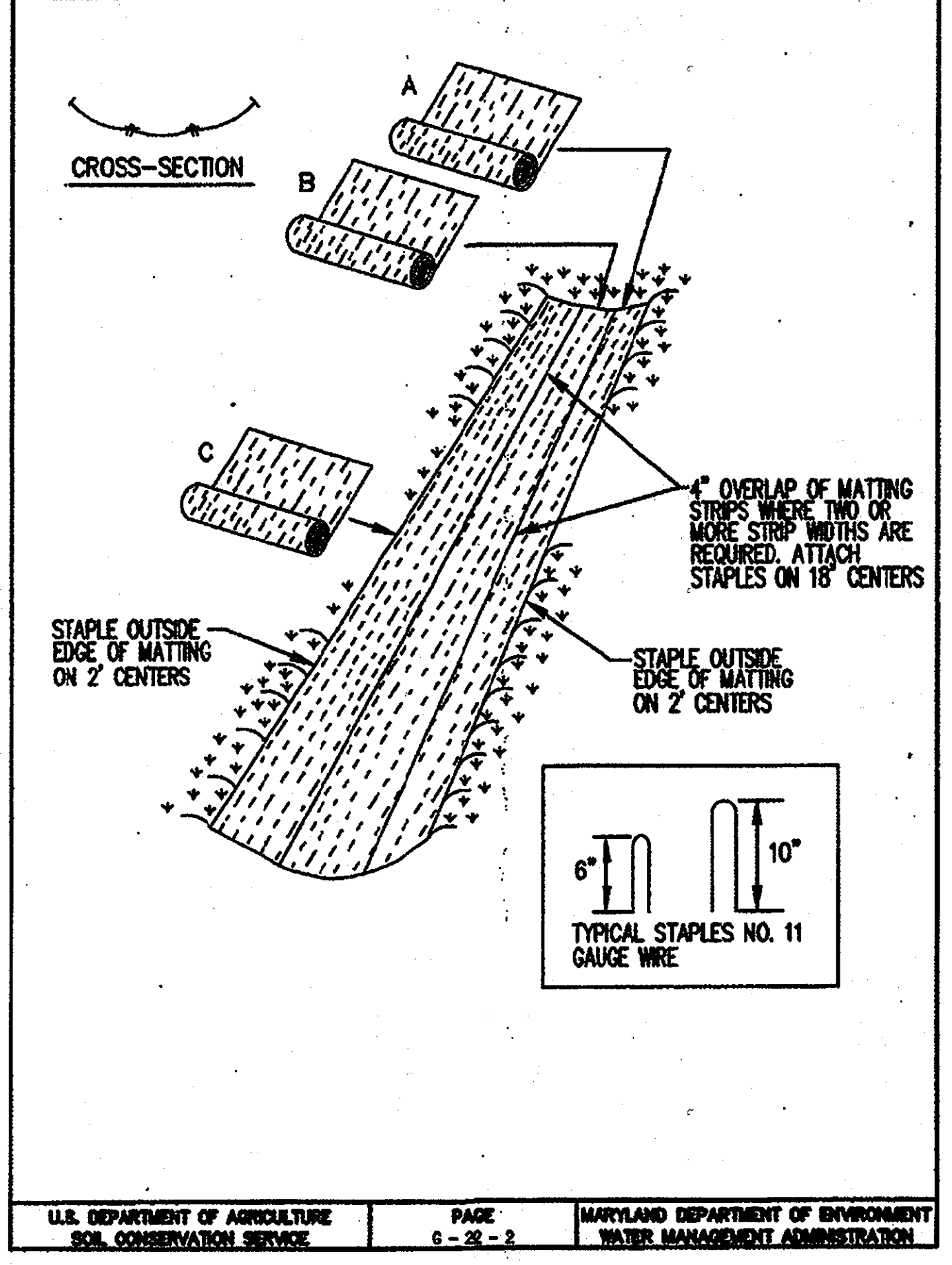
PROFESSIONAL CERTIFICATION
 I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 28587, EXPIRATION DATE: 4/18/11

ROCK OUTLET PROTECTION

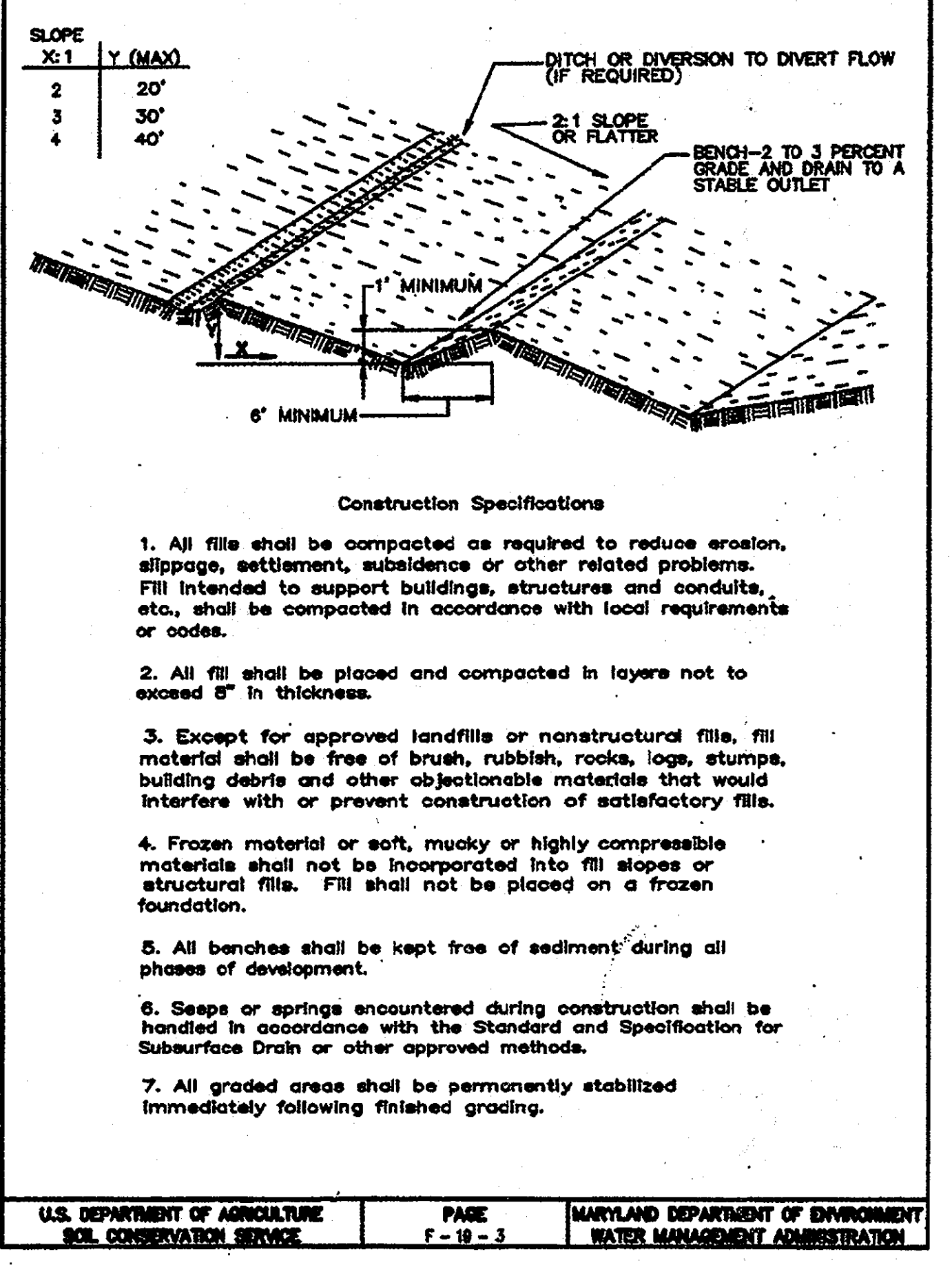
- Construction Specifications**
1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
 2. The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.
 3. 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.
 4. 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.
 5. 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.
- U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE F-18-8 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



DETAIL 30 - EROSION CONTROL MATTING



DETAIL 28 - BENCHED SLOPES



M:\286024.01\90 PERCENT\DETAILS\ CHKDAM, SCE, ROCKOUT, SFENCE, E153, GRAY-RD, INLETPRO

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

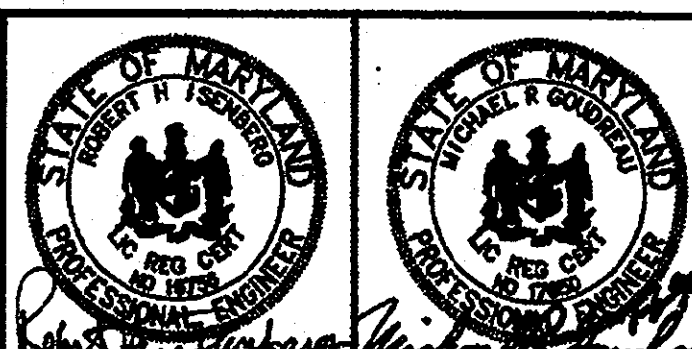
DIRECTOR: *[Signature]* DATE: 2/14/09
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 2/14/09
 CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 2/13/09

SUBDIVISION NAME	LOT/PARCEL
HO. CO. GOVERNMENT	529
LIBER/FOLIO	ZONE TAX/ZONE MAP
180/339	R-20 31
WATER CODE	SEWER CODE CENSUS TR.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS: *[Signature]* DATE: 2/16/09
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES: *[Signature]* DATE: 2/16/09

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



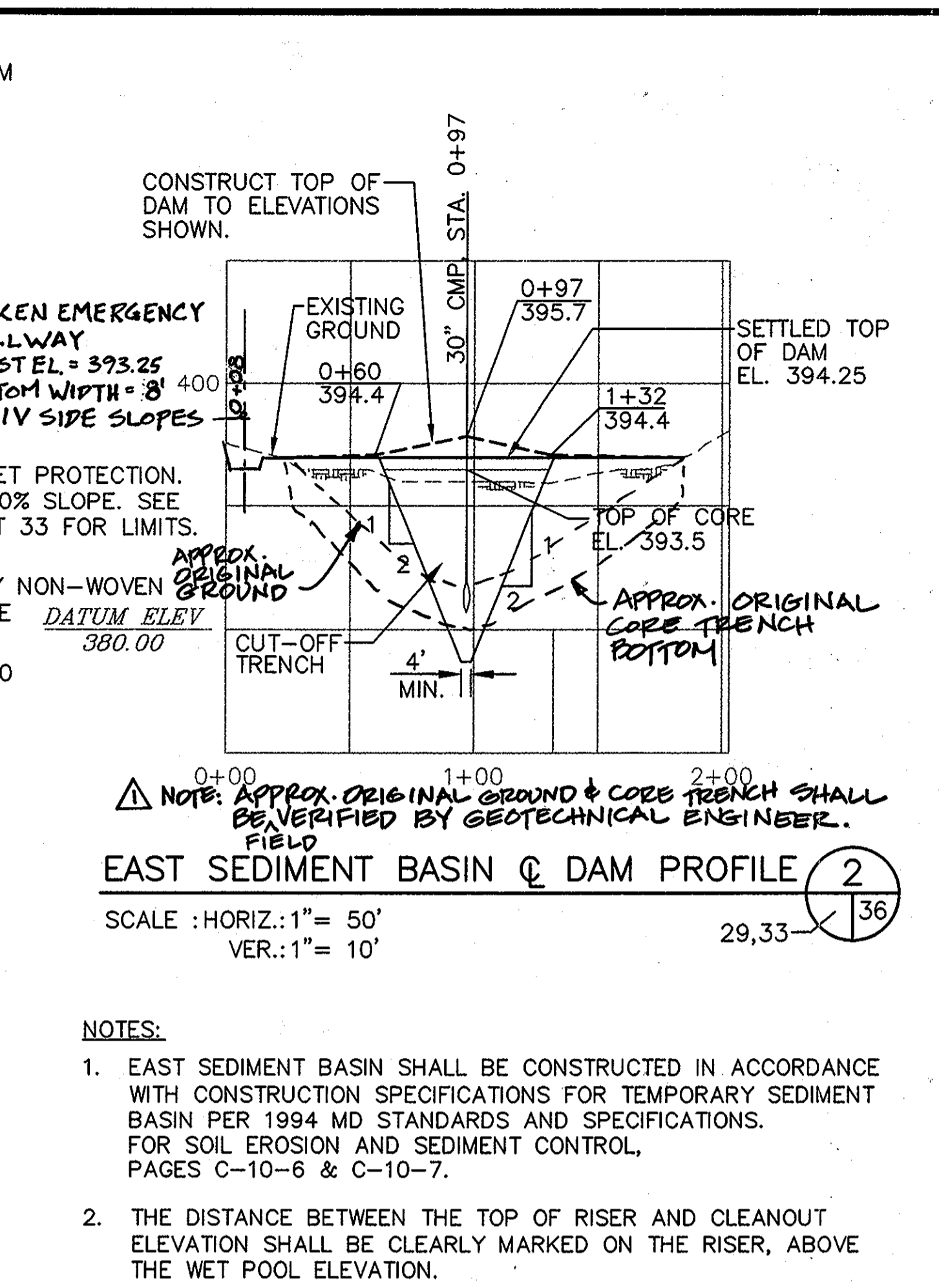
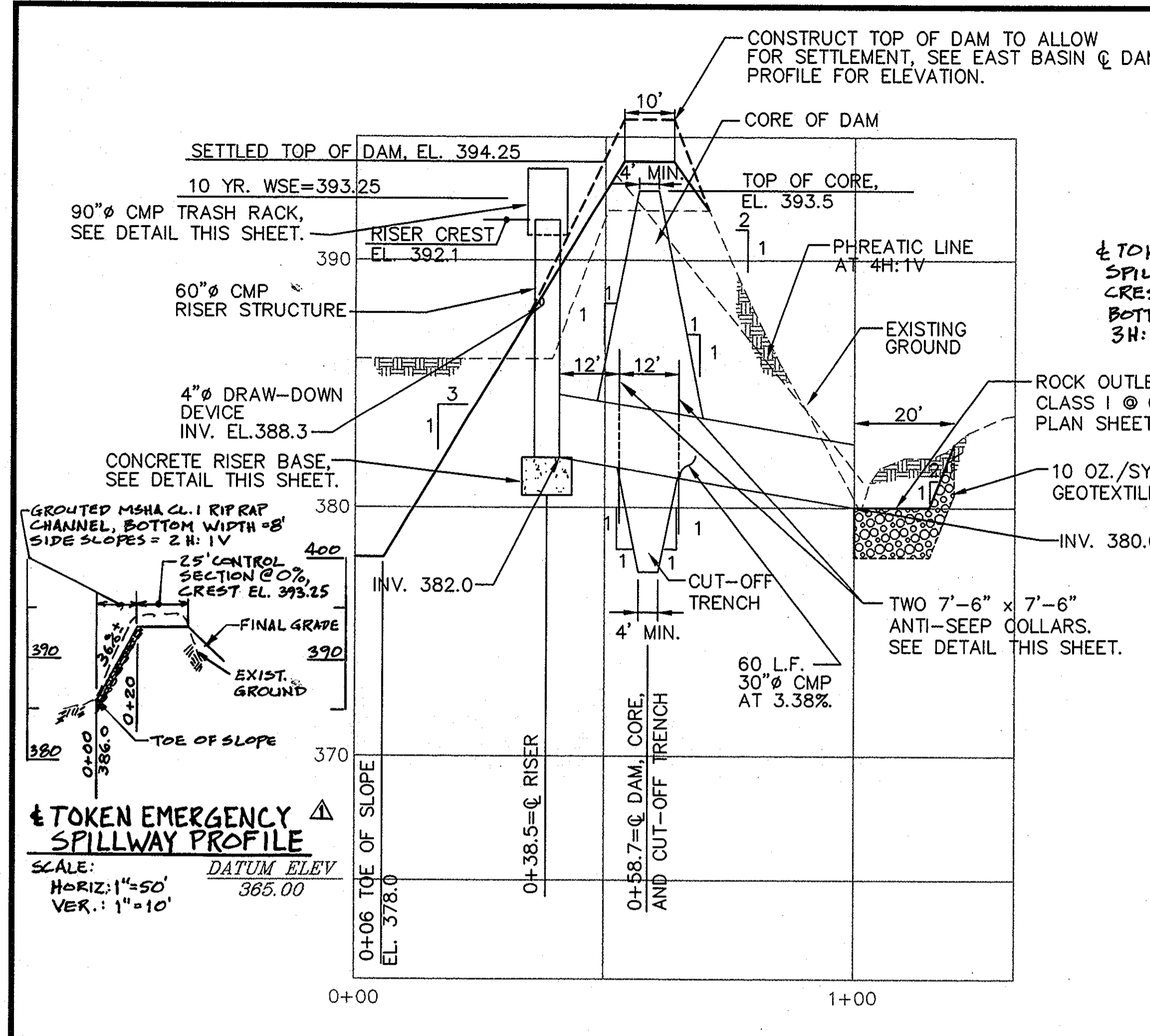
DES.	MRG		
DRN.	JCS		
CHK.	RHI	PSJV	ADDED SHEET 40 6-5-13
		MDD	SOLAR PANEL ARRAY FIELD 4/25/11
DATE	6-2-99	BY	NO. REVISION

EROSION AND SEDIMENT CONTROL DETAILS

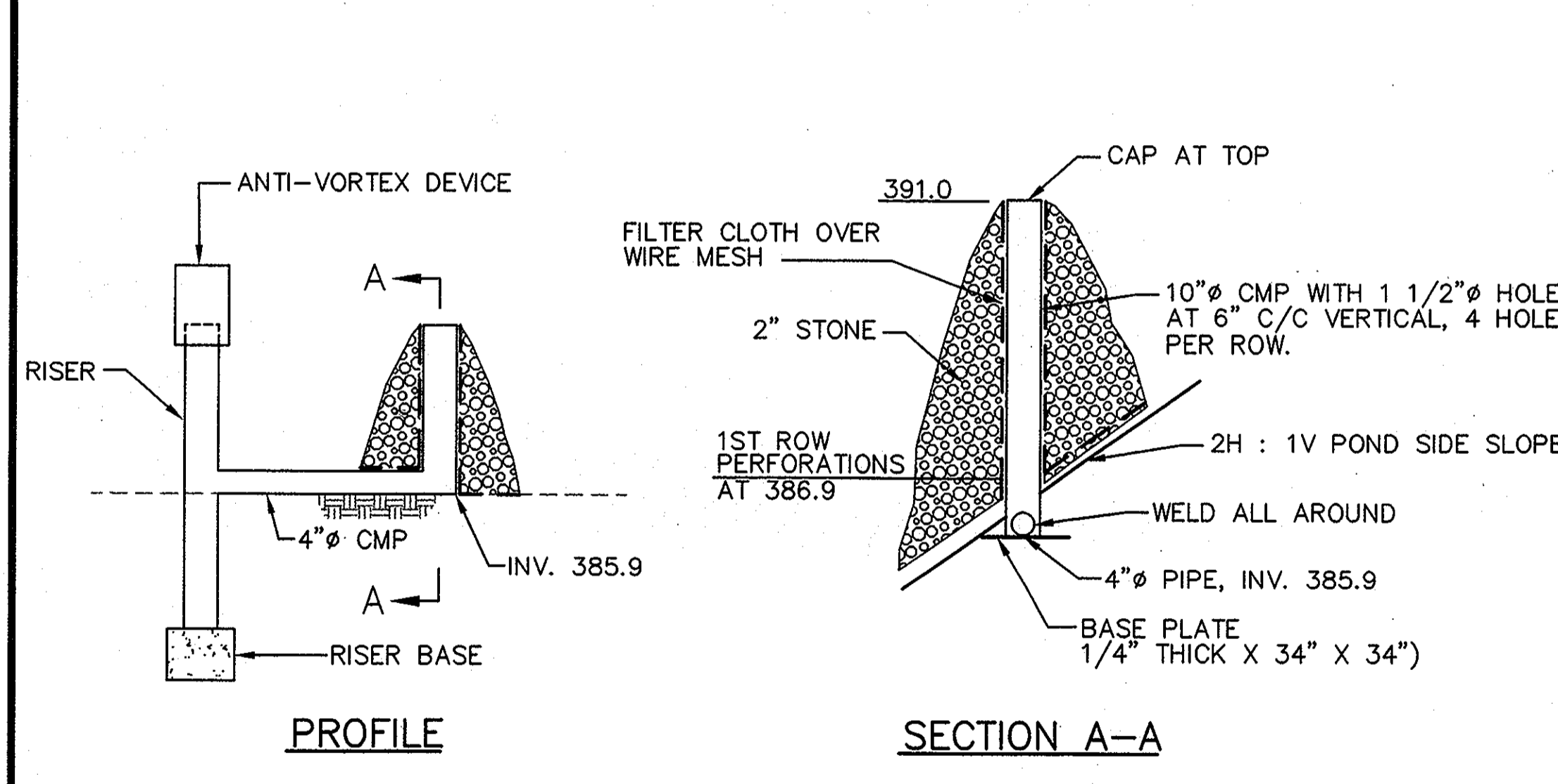
NEW CUT LANDFILL IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H
 2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN
 SHEET 35 OF 40



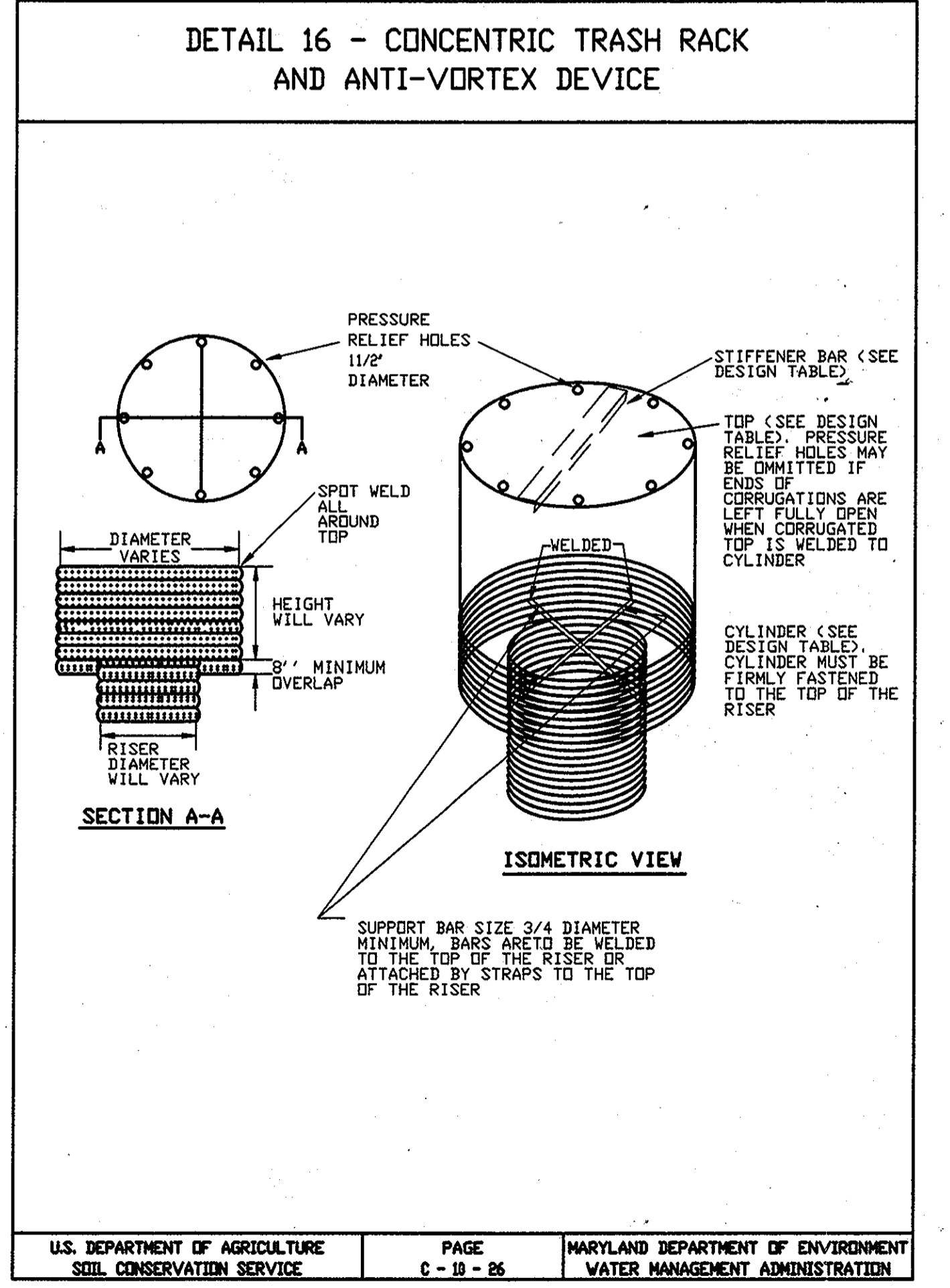
EAST SEDIMENT BASIN @ PRINCIPAL SPILLWAY PROFILE 1
 SCALE: HORIZ.: 1" = 20'
 VER.: 1" = 4'



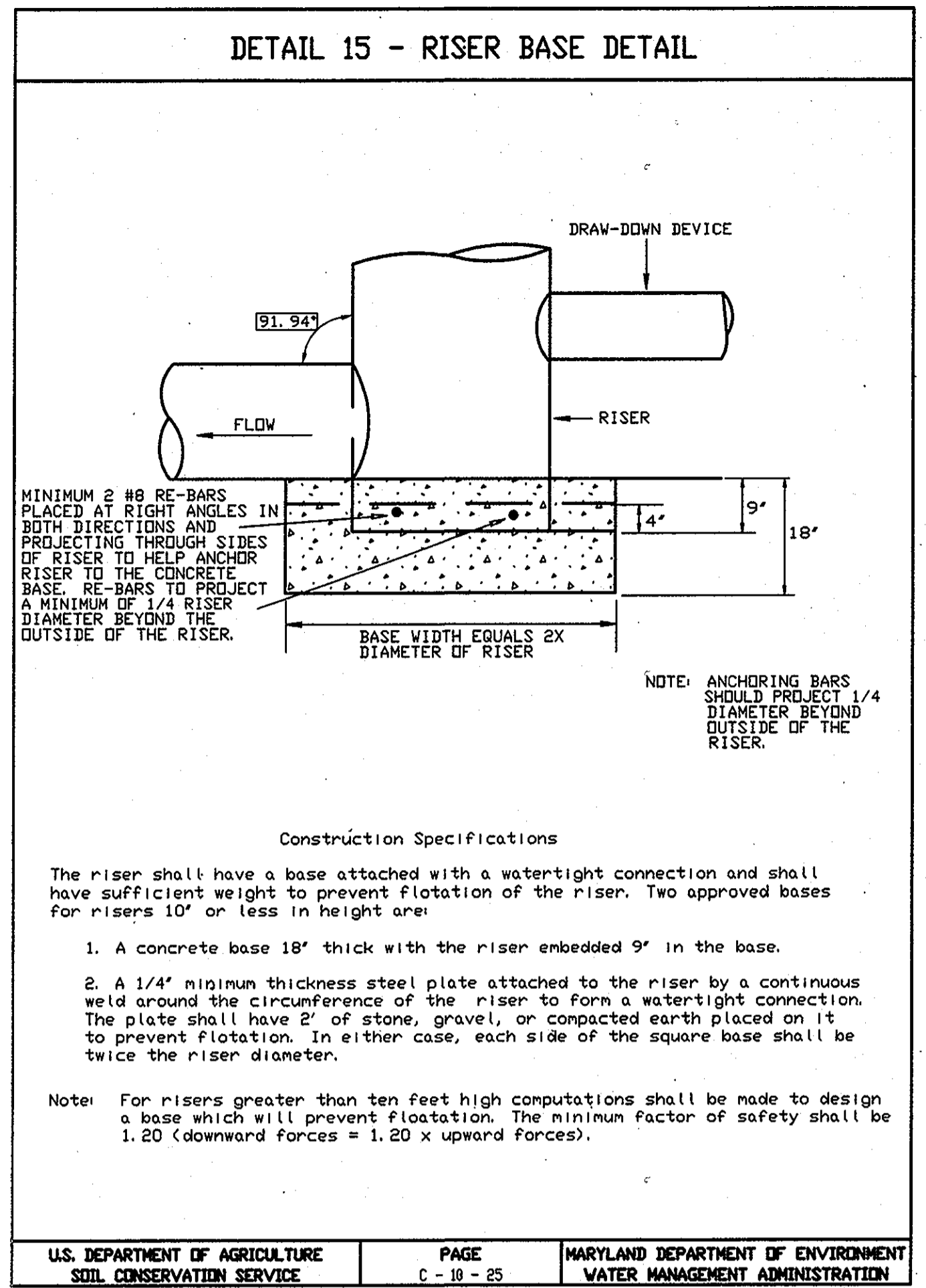
DRAW-DOWN DEVICE DETAIL 3
 NOT TO SCALE

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND DIRECTOR: <i>[Signature]</i> DATE: 9/14/99 CHIEF, DEVELOPMENT ENGINEERING DIVISION: <i>[Signature]</i> DATE: 9/14/99 CHIEF, DIVISION OF LAND DEVELOPMENT: <i>[Signature]</i> DATE: 9/13/99				SUBDIVISION NAME: _____ LOT/PARCEL: 529 HO. CO. GOVERNMENT: _____ LIBER/FOLIO: 180/339 ZONE: R-20 TAX/ZONE MAP: 31 WATER CODE: _____ SEWER CODE: _____ CENSUS TR.: _____			
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DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DIRECTOR OF PUBLIC WORKS: <i>[Signature]</i> DATE: 7/6/99 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES: <i>[Signature]</i> DATE: 7/6/99		SCS ENGINEERS CONSULTING ENGINEERS 11260 ROGER BACON DRIVE SUITE 300 RESTON, VIRGINIA 20190 PH. (703) 471-6150 FAX. (703) 471-6676		DES. MRG DRN. JCS CHK. RHI DATE: 06-02-99 BY NO. _____		STATE OF MARYLAND ROBERT H. TSEBREG PROFESSIONAL ENGINEER STATE OF MARYLAND MICHAEL R. GORDON PROFESSIONAL ENGINEER		DES. MRG DRN. JCS CHK. RHI DATE: 06-02-99 BY NO. _____		DES. MRG DRN. JCS CHK. RHI DATE: 06-02-99 BY NO. _____		DES. MRG DRN. JCS CHK. RHI DATE: 06-02-99 BY NO. _____	
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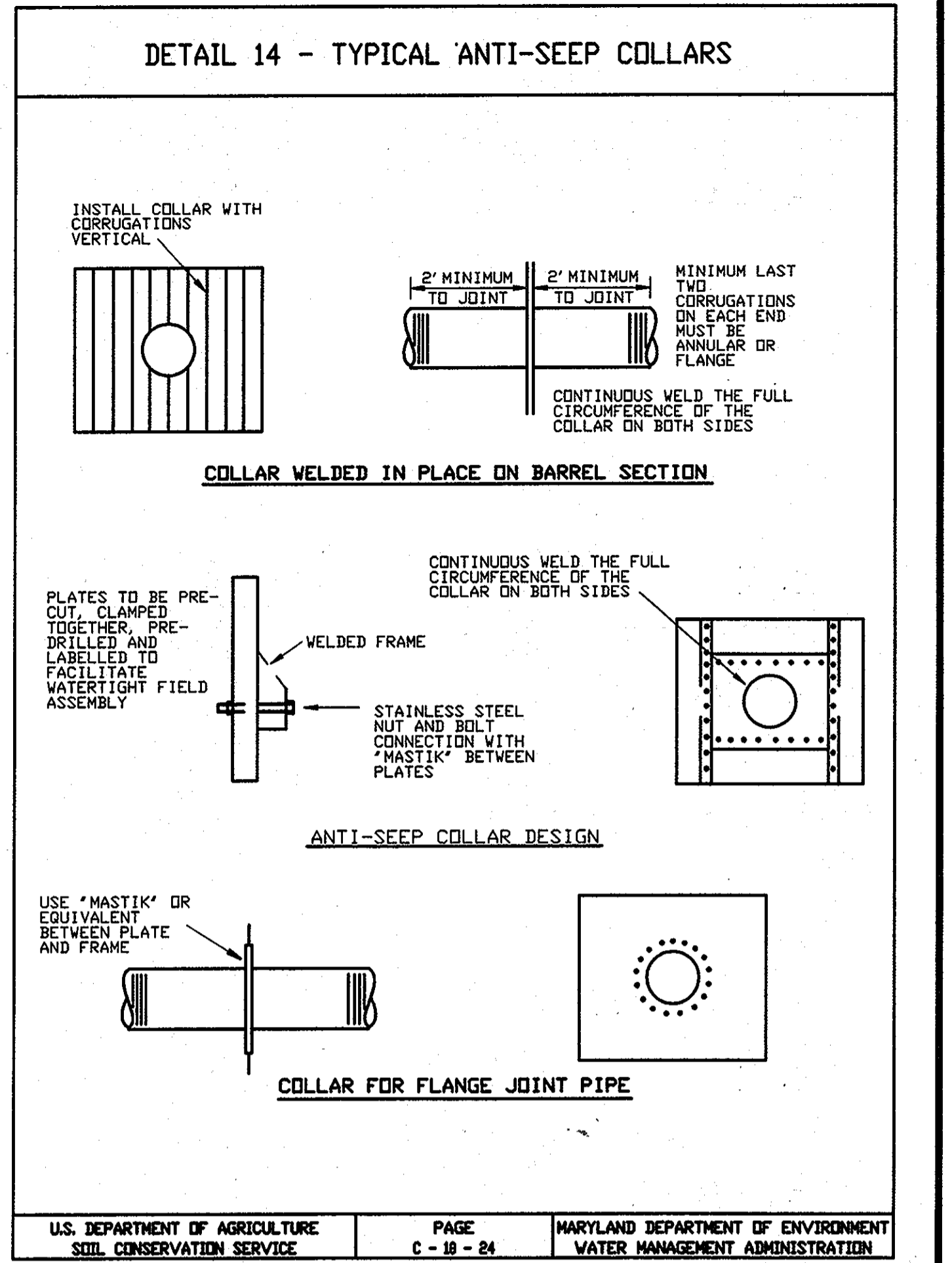
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE		PAGE C-10-26		MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	
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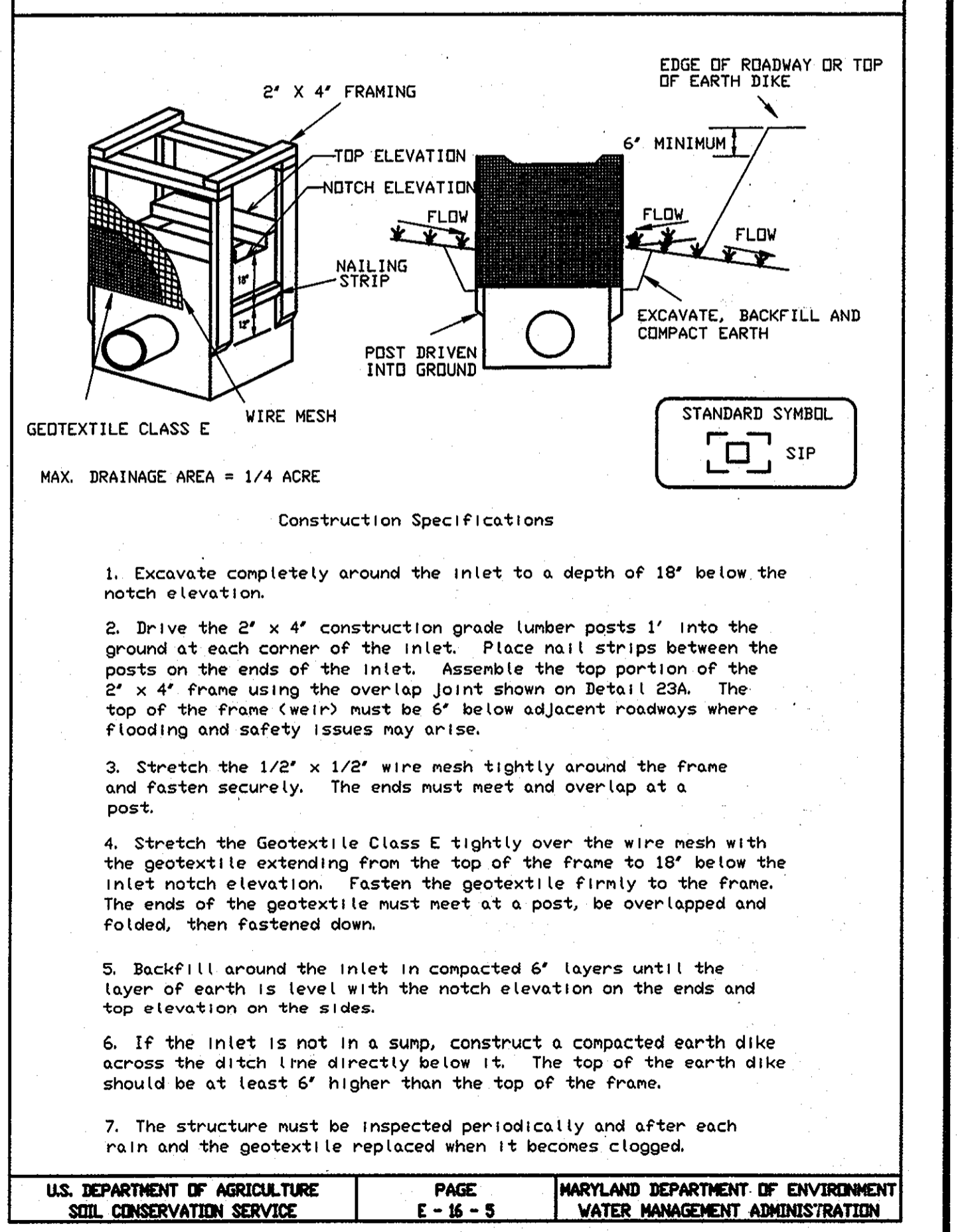
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE		PAGE C-10-25		MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	
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Riser Diam., in.	Trash Rack Cylinder Diam. Thick., in. gage	H. in.	Minimum Size Support Bar	Minimum Top Thickness Stiffener
12	18	16	#6 Rebar	16 ga.
15	21	16	"	"
18	27	16	"	"
21	30	16	"	"
24	36	16	"	"
27	42	16	"	"
36	54	14	#8 Rebar	12 ga.
42	60	14	"	"
48	72	12	1-1/4" pipe or 1-1/4 x 1-1/4 x 1/4 angle	10 ga.
54	78	12	"	"
60	90	12	1-1/2" pipe or 1-1/2 x 1-1/2 x 1/4 angle	8 ga.
66	96	10	2" pipe or 2x2x3/16 angle	8 ga. 2x2x1/4 w/stiffener angle
72	102	10	"	2-1/2x2- 1/2x1/4 angle
78	114	10	2-1/2" pipe or 2x2x1/4 angle	"
84	120	10	2-1/2" pipe or 2-1/2x2-1/2x1/4 angle	2-1/2 x2-1/2x 5/16 angle

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE		PAGE C-10-26A		MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	
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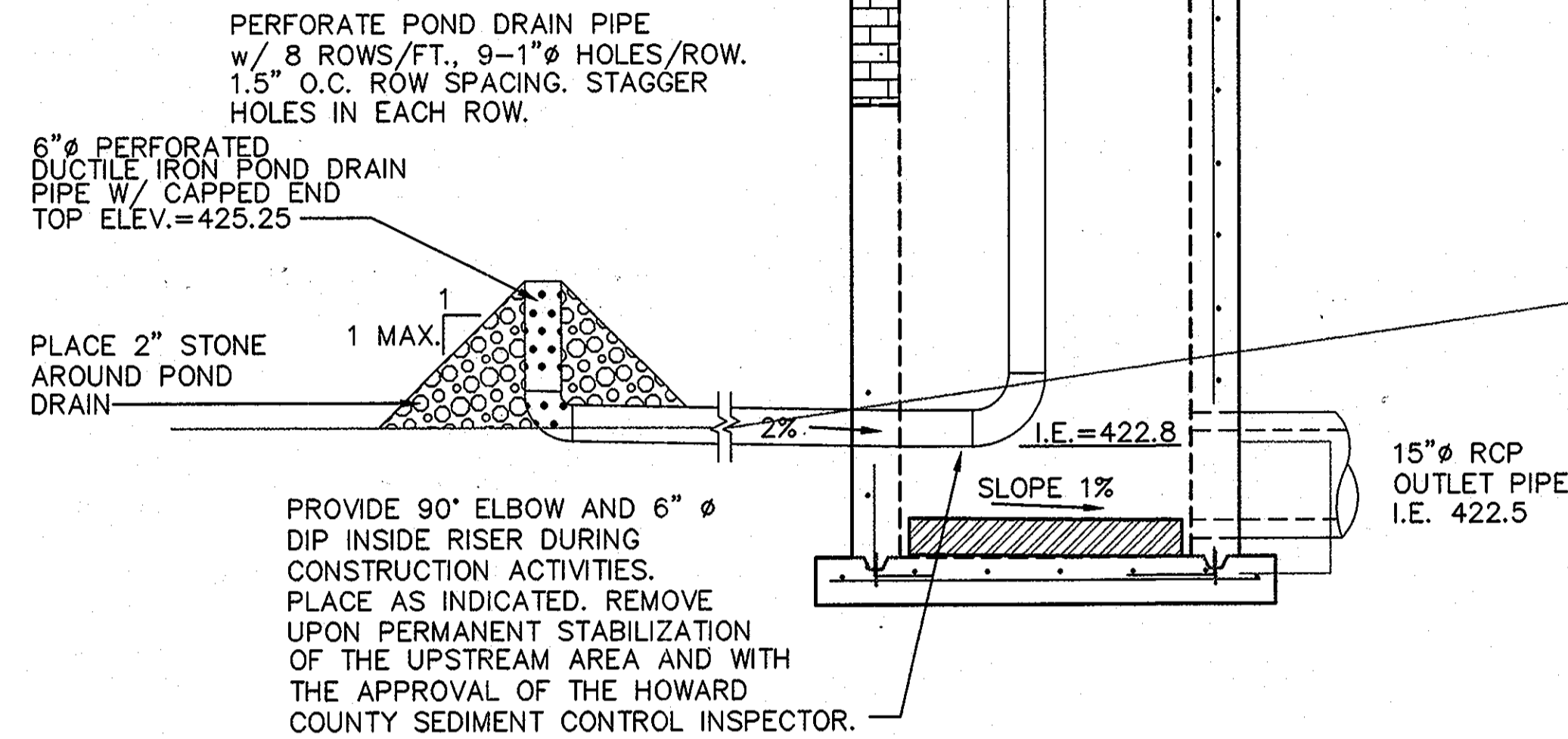
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE		PAGE C-10-24		MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	
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U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE		PAGE E-16-5		MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	
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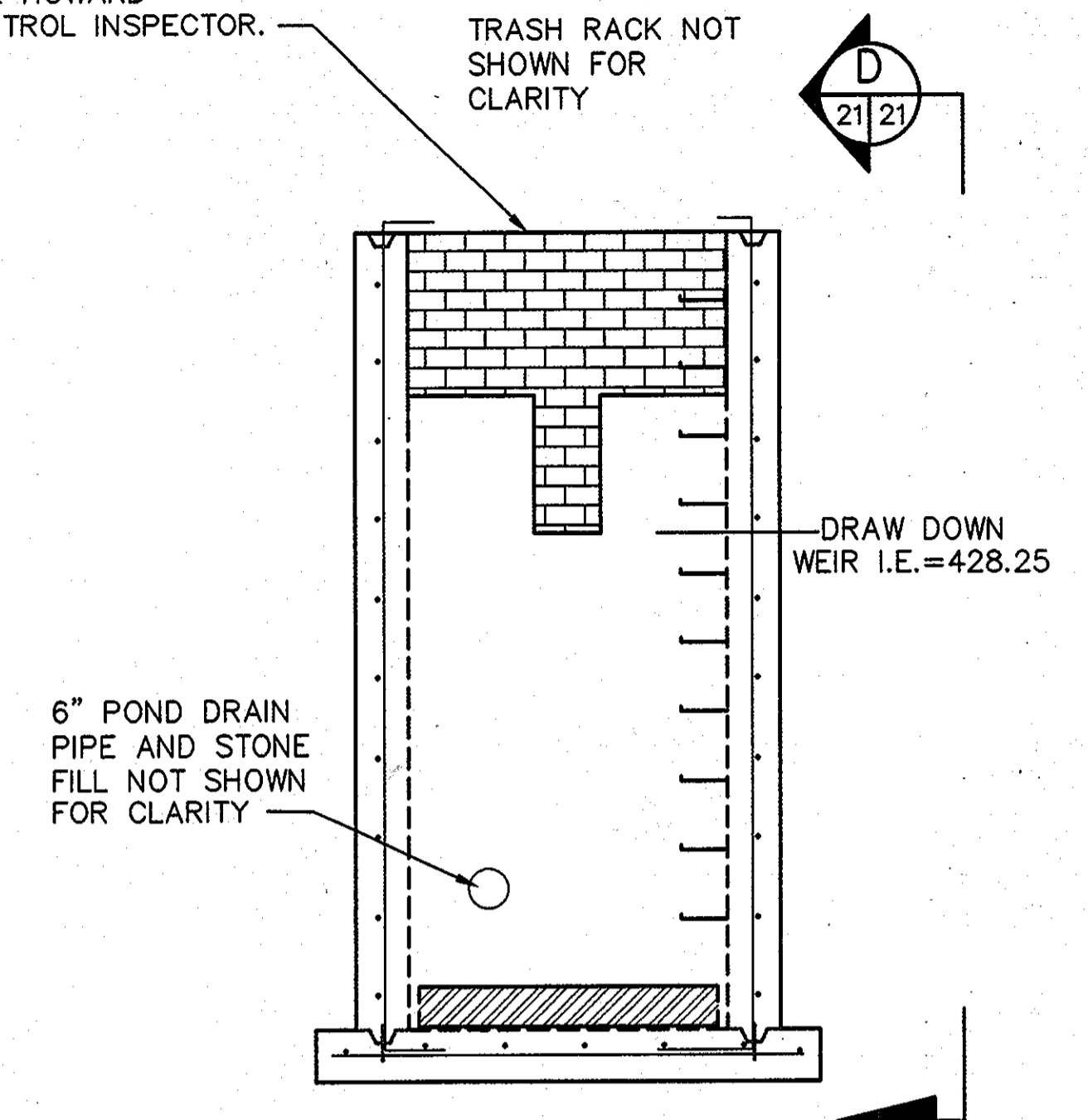
PROVIDE 8'-0" CMP TRASH RACK DURING CONSTRUCTION ACTIVITIES. TRASH RACK SHALL BE SECURELY ATTACHED TO RISER. REFER TO TRASH RACK DETAIL ON SHEET 36. REMOVE UPON PERMANENT STABILIZATION OF THE UPSTREAM AREA, AND WITH THE APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

SEAL WEIR UP TO ELEVATION 432.0 DURING CONSTRUCTION ACTIVITIES. REMOVE ALL SEALING MATERIALS AFTER PERMANENT STABILIZATION OF THE UPSTREAM AREA AND WITH THE APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

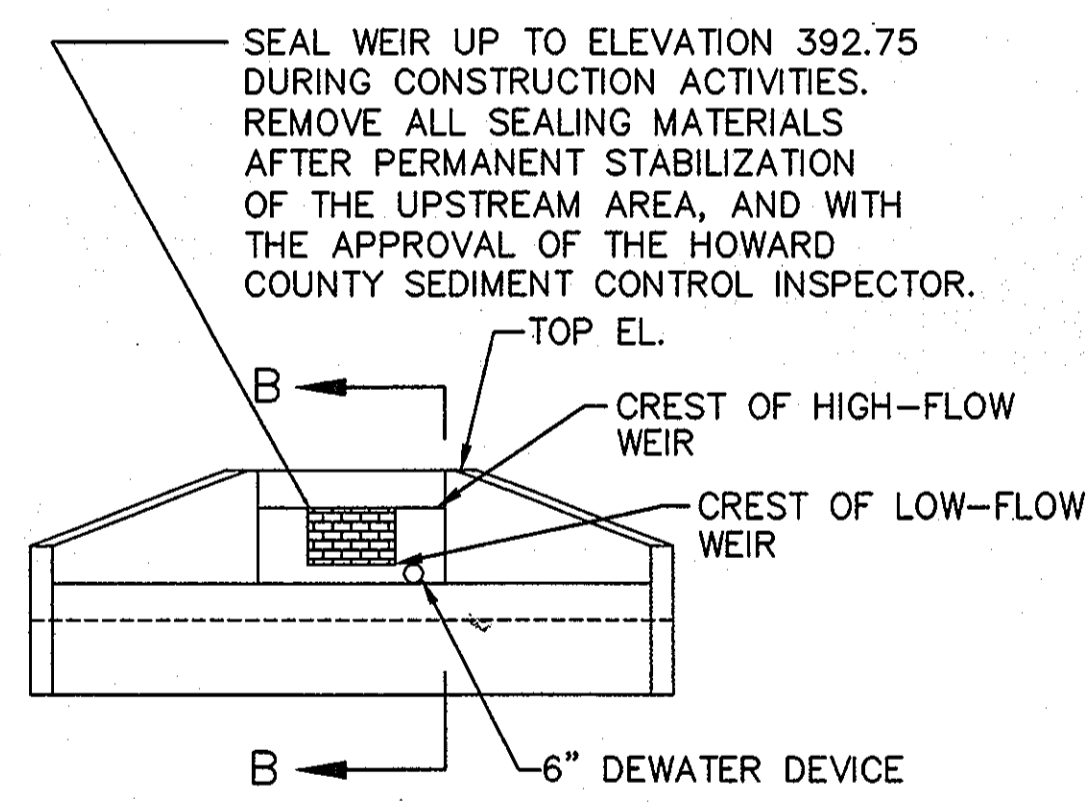


SCALE 1/2"=1'-0"

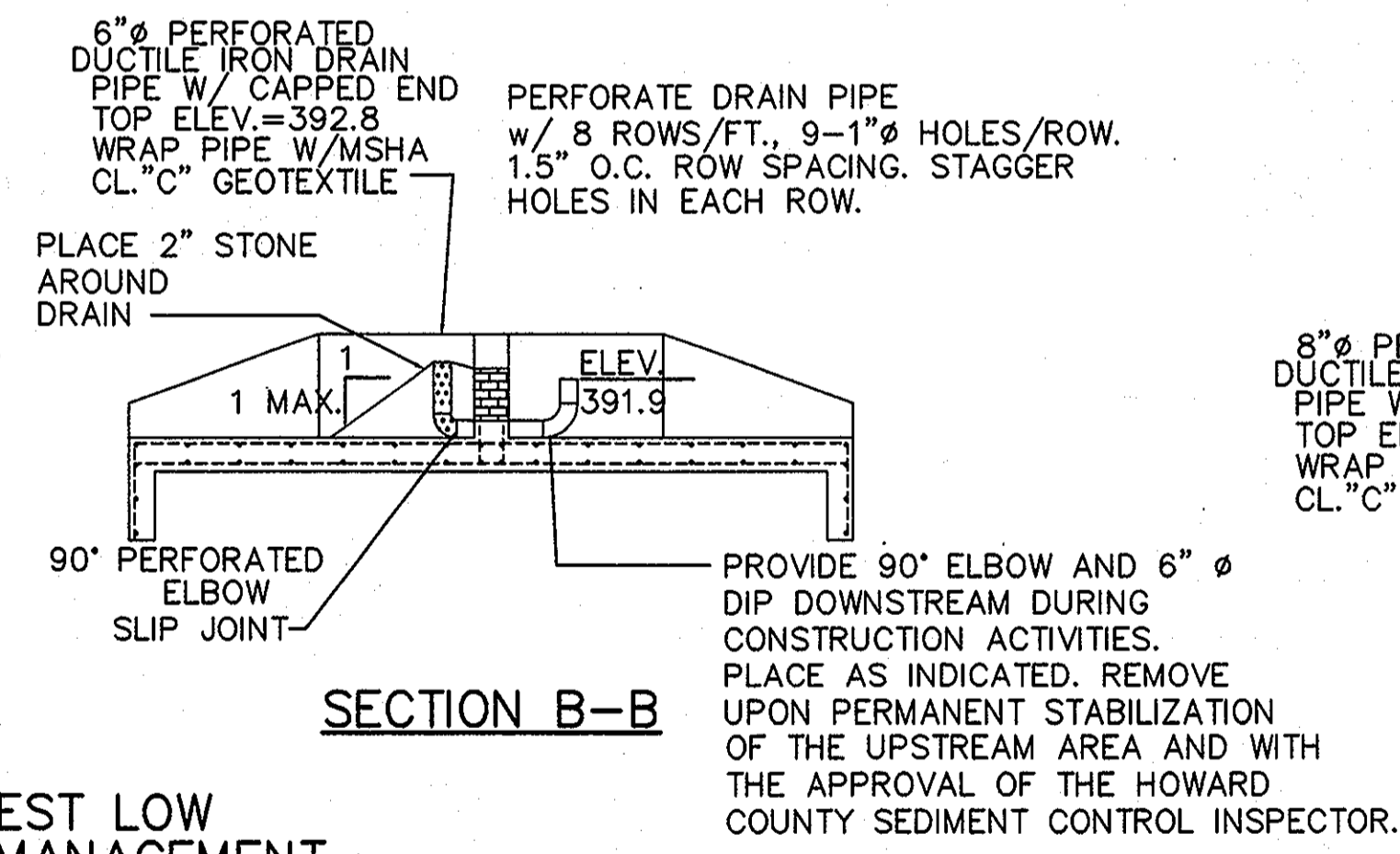
WEST DETENTION BASIN RISER STRUCTURE SECTION D
SCALE: 1/2"=1'-0"



WEST DETENTION BASIN RISER STRUCTURE DETAIL 3
SCALE: 1/2"=1'-0"



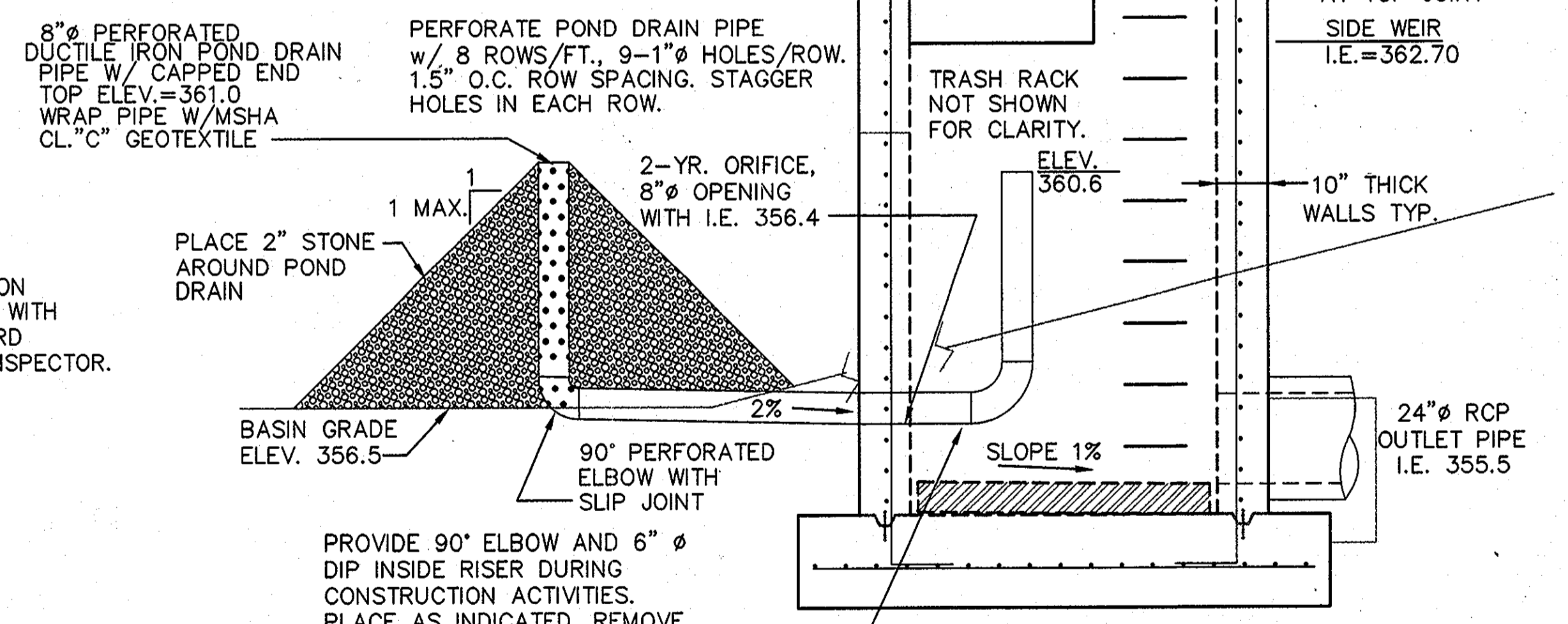
FRONT ELEVATION



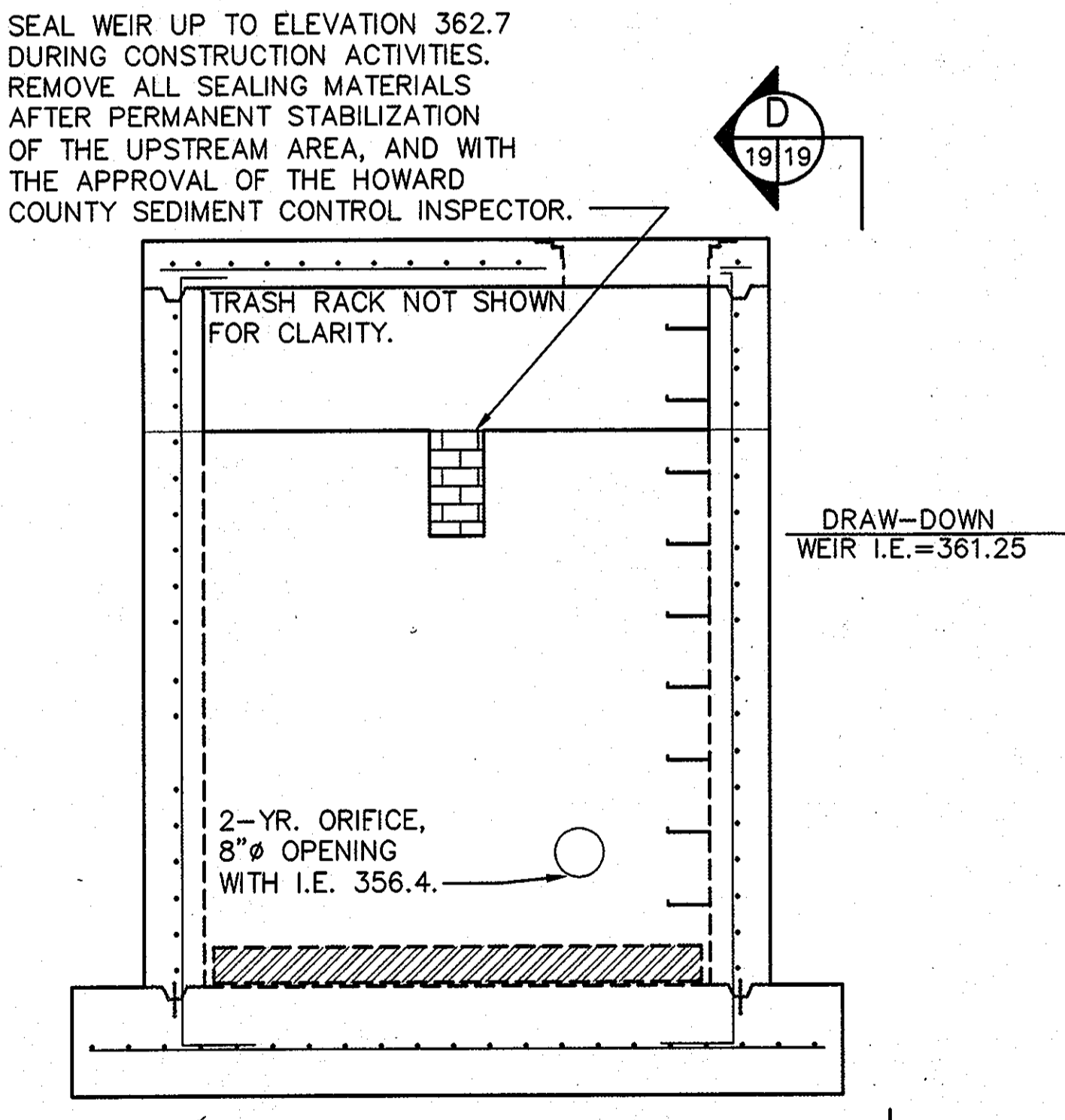
SECTION B-B

MODIFICATION TO WEST LOW RISE STORMWATER MANAGEMENT CONTROL STRUCTURE

NO SCALE



NORTH DETENTION BASIN RISER STRUCTURE SECTION D
SCALE: 1/2"=1'-0"



NORTH DETENTION BASIN RISER STRUCTURE DETAIL 4
SCALE: 1/2"=1'-0"

M: \296024.01\100 PERCENT DETAILS\LRMOD, NRISERMOD, WRISERMOD

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	
DIRECTOR	DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE

SUBDIVISION NAME	LOT/PARCEL	
HO. CO. GOVERNMENT	529	
LIBER/FOLIO	ZONE	TAX/ZONE MAP
180/339	R-20	31
WATER CODE	SEWER CODE	CENSUS TR.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
DIRECTOR OF PUBLIC WORKS	DATE
CHIEF BUREAU OF ENVIRONMENTAL SERVICES	DATE

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

DES.	MRG		
DRN.	MRG		
CHK.	RHI		
DATE:	06-02-99	BY:	NO.
		REVISION	DATE

RISER/STRUCTURE MODIFICATIONS DURING CONSTRUCTION	
ADDED SHEET 40	6-5-13

NEW CUT LANDFILL IMPROVEMENTS	
CAPITAL PROJECT NO. C-0237-H	
2nd ELECTION DISTRICT	HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN
SHEET 37 OF 40

SCS ENGINEERS		WELL NO. VW-16	
BORING LOG			
PROJECT NAME: NEW CUT LANDFILL			
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: 529.18			
SCS JOB NO.: 296024.02 TASK 6 COORDINATES: 574815.25			
DATE STARTED: 8-20-98 1370148.53			
DRILLING CONTR.: GILES ENGINEERING ASSOC.			
DRILLING METHOD: HOLLOW STEM CORE WELL DIAMETER: 8 INCH			
INSPECTOR: J. STOFFEL TOTAL DEPTH: 60 FEET			
DEPTH (FT.)	SYMBOL LOG	DESCRIPTION	
1		4" TOPSOIL	
1		LIGHT SILT, SOME SMALL TO MEDIUM GRAVEL TRACE CLAY, DRY	
5		ORANGE BROWN CLAY, SOME SMALL GRAVEL, SLIGHTLY MOIST, NO LFG ODOR	
13		ORANGE BROWN CLAY, SLIGHTLY MOIST TO MOIST, NO LFG ODOR	
18		ORANGE BROWN CLAY, SLIGHTLY MOIST, NO LFG ODOR	
30		LIGHT BROWN CLAY, SOME SILT, SOME FINE GRAVEL, DRY TO SLIGHTLY MOIST, NO LFG ODOR	
37		RED BROWN SILT, TRACE CLAY, MICASIOUS, DRY NO LFG ODOR	
41		RED BROWN SILT, SOME CLAY, MICASIOUS, DRY NO LFG ODOR	
50		RED BROWN SILT, CLAY, TRACE SILT, MICASIOUS, SLIGHTLY MOIST TO MOIST, NO LFG ODOR	
60		END OF BORING	

SCS ENGINEERS		WELL NO. VW-17	
BORING LOG			
PROJECT NAME: NEW CUT LANDFILL			
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: 528.95			
SCS JOB NO.: 296024.02 TASK 6 COORDINATES: 574990.02			
DATE STARTED: 8-21-98 1370221.42			
DRILLING CONTR.: GILES ENGINEERING ASSOC.			
DRILLING METHOD: HOLLOW STEM CORE WELL DIAMETER: 8 INCH			
INSPECTOR: J. STOFFEL TOTAL DEPTH: 58 FEET			
DEPTH (FT.)	SYMBOL LOG	DESCRIPTION	
1		LIGHT BROWN SILT, SOME SMALL TO MEDIUM GRAVEL TRACE CLAY, DRY, NO LFG ODOR	
2		ORANGE BROWN CLAY, SOME FINE TO MEDIUM GRAVEL, TRACE SILT, NO LFG ODOR	
4		ORANGE BROWN SILT, SOME FINE TO COARSE SAND, DRY, NO LFG ODOR	
7		BROWN CLAY, TRACE FINE TO MEDIUM GRAVEL, SLIGHTLY MOIST, NO LFG ODOR	
10		LIGHT BROWN SILT, TRACE FINE TO COARSE SAND, DRY, NO LFG ODOR	
13		DARK BROWN CLAY, TRACE FINE TO COARSE SAND, SLIGHTLY MOIST, NO LFG ODOR	
15		GRAVEL LAYER (1/4" TO 1")	
20		LIGHT BROWN CLAY & SILT TRACE FINE TO COARSE SAND, SLIGHTLY MOIST, NO LFG ODOR	
27		RED-SLIGHTLY BROWN CLAY, SOME SILT, SLIGHTLY MOIST, NO LFG ODOR	
32		DARKER BROWN SILT, MICASIOUS TRACE FINE TO MEDIUM SAND, TRACE CLAY, DRY, NO LFG ODOR	
36		RED BROWN SILT & CLAY MICASIOUS, SLIGHTLY MOIST NO LFG ODOR	
40		RED BROWN SILT & CLAY MICASIOUS, SLIGHTLY MOIST TRACE FINE TO MEDIUM GRAVEL, NO LFG ODOR	
50		BROWN CLAY, TRACE SILT, TRACE FINE TO MEDIUM GRAVEL, NO LFG ODOR	
55		SOME HARD MATERIAL AT 55-58' POSSIBLE STONE	
58		END OF BORING	

SCS ENGINEERS		WELL NO. VW-18	
BORING LOG			
PROJECT NAME: NEW CUT LANDFILL			
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: 508.19			
SCS JOB NO.: 296024.02 TASK 6 COORDINATES: 575308.90			
DATE STARTED: 9-3-98 137.352.05			
DRILLING CONTR.: GILES ENGINEERING ASSOC.			
DRILLING METHOD: HOLLOW STEM CORE WELL DIAMETER: 8 INCH			
INSPECTOR: J. STOFFEL TOTAL DEPTH: 50 FEET			
DEPTH (FT.)	SYMBOL LOG	DESCRIPTION	
1		3" TOPSOIL	
4		ORANGE BROWN SILT, SOME FINE TO COARSE SAND, DRY, NO LFG ODOR	
10		LIGHT BROWN SILT, TRACE FINE TO COARSE SAND, DRY, NO LFG ODOR	
15		LIGHT BROWN/BROWN SILT, TRACE FINE TO MEDIUM SAND, NO LFG ODOR	
21		BROWN SILT, TRACE FINE TO MEDIUM SAND DRY, NO LFG ODOR	
32		DARKER BROWN SILT, MICASIOUS TRACE FINE TO MEDIUM SAND, TRACE CLAY, DRY, NO LFG ODOR	
40		FINE TO MEDIUM GRAVEL LAYER, NO LFG ODOR	
47		BROWN SILT, TRACE FINE SAND TRACE CLAY, NO LFG ODOR	
50		END OF BORING	

SCS ENGINEERS		WELL NO. VW-19	
BORING LOG			
PROJECT NAME: NEW CUT LANDFILL			
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: 470.85			
SCS JOB NO.: 296024.02 TASK 6 COORDINATES: 575563.91			
DATE STARTED: 9-2-98 1370511.78			
DRILLING CONTR.: GILES ENGINEERING ASSOC.			
DRILLING METHOD: HOLLOW STEM CORE WELL DIAMETER: 8 INCH			
INSPECTOR: J. STOFFEL TOTAL DEPTH: 20 FEET			
DEPTH (FT.)	SYMBOL LOG	DESCRIPTION	
1		4" LIGHT BROWN SILT, TRACE CLAY, SOME FINE GRAVEL, DRY, NO LFG ODOR	
5		LIGHT BROWN ORANGE SILT, TRACE CLAY, SOME FINE GRAVEL, DRY, NO LFG ODOR	
10		GREEN CLAY & SILT SLIGHTLY MOIST, NO LFG ODOR	
13		LIGHT BROWN SAND & SILT TRACE FINE GRAVEL SLIGHTLY MOIST, NO LFG ODOR	
15		LIGHT GREEN SILTY CLAY VERY MOIST CLAY/SILT CUTTINGS NO LFG ODOR	
18-19'		ESTIMATED WATER TABLE	
20		END OF BORING	

SCS ENGINEERS		WELL NO. VW-21	
BORING LOG			
PROJECT NAME: NEW CUT LANDFILL			
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: 435.59			
SCS JOB NO.: 296024.02 TASK 6 COORDINATES: 576382.99			
DATE STARTED: 9-2-98 1370953.05			
DRILLING CONTR.: GILES ENGINEERING ASSOC.			
DRILLING METHOD: HOLLOW STEM CORE WELL DIAMETER: 8 INCH			
INSPECTOR: J. STOFFEL TOTAL DEPTH: 20 FEET			
DEPTH (FT.)	SYMBOL LOG	DESCRIPTION	
1		3" TOPSOIL	
5		LIGHT BROWN GREEN SILT, SOME FINE TO COARSE SAND, DRY, NO LFG ODOR	
10		YELLOW BROWN SILT, TRACE CLAY, MICASIOUS, DRY NO LFG ODOR	
15		BROWN GREEN SILT & CLAY, DRY NO LFG ODOR	
19		BROWN CLAY, SILT, DRY, NO LFG ODOR	
20		END OF BORING	

SCS ENGINEERS		WELL NO. VW-23	
BORING LOG			
PROJECT NAME: NEW CUT LANDFILL			
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: 410.90			
SCS JOB NO.: 296024.02 TASK 6 COORDINATES: 577038.45			
DATE STARTED: 9-2-98 1370007.34			
DRILLING CONTR.: GILES ENGINEERING ASSOC.			
DRILLING METHOD: HOLLOW STEM CORE WELL DIAMETER: 8 INCH			
INSPECTOR: J. STOFFEL TOTAL DEPTH: 20 FEET			
DEPTH (FT.)	SYMBOL LOG	DESCRIPTION	
1		BROWN SILT, TRACE CLAY & FINE SAND, SOME FINE GRAVEL, DRY, NO LFG ODOR	
5		LIGHT GREEN CLAY & SILT, SLIGHTLY MOIST NO LFG ODOR	
14		BROWN SILT & SAND, SOME GRAVEL/CEMENTED SAND DRY, NO LFG ODOR	
18		LIGHT BROWN SILT & SAND, DRY NO LFG ODOR	
20		END OF BORING	

SCS ENGINEERS		WELL NO. VW-20	
BORING LOG			
PROJECT NAME: NEW CUT LANDFILL			
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: 437.38			
SCS JOB NO.: 296024.02 TASK 6 COORDINATES: 576014.54			
DATE STARTED: 9-2-98 1370807.69			
DRILLING CONTR.: GILES ENGINEERING ASSOC.			
DRILLING METHOD: HOLLOW STEM CORE WELL DIAMETER: 8 INCH			
INSPECTOR: J. STOFFEL TOTAL DEPTH: 25.5 FEET			
DEPTH (FT.)	SYMBOL LOG	DESCRIPTION	
1		4" TOPSOIL	
5		LIGHT BROWN GREEN SILT, SOME FINE TO COARSE SAND, DRY, NO LFG ODOR	
14		LIGHT BROWN SILT, SOME FINE TO COARSE SAND, DRY, NO LFG ODOR	
21		LIGHT BROWN GREEN SILT & CLAY TRACE FINE SAND NO LFG ODOR	
25		END OF BORING	

SCS ENGINEERS		WELL NO. VW-22	
BORING LOG			
PROJECT NAME: NEW CUT LANDFILL			
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: 393.62			
SCS JOB NO.: 296024.02 TASK 6 COORDINATES: 576753.19			
DATE STARTED: 9-2-98 1370453.02			
DRILLING CONTR.: GILES ENGINEERING ASSOC.			
DRILLING METHOD: HOLLOW STEM CORE WELL DIAMETER: 8 INCH			
INSPECTOR: J. STOFFEL TOTAL DEPTH: 10 FEET			
DEPTH (FT.)	SYMBOL LOG	DESCRIPTION	
1		3" BROWN SILT, TRACE SAND, TRACE CLAY, DRY, NO LFG ODOR	
3		DARK GREEN CLAY & SILT, SLIGHTLY MOIST NO LFG ODOR	
8		LIGHT BROWN CLAY, SOME SILT, SLIGHTLY MOIST NO LFG ODOR	
10		END OF BORING	

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

[Signature] 9/14/99
DIRECTOR DATE

[Signature] 9/16/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 9/16/99
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

M:\296024.01\90PERCENT\BORING\6,17,18,19,20,21,22,23

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 9/16/99
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 7/6/99
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE

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



DES.	BJD		
DRN.	BJD		
CHK.	PSW	ADDED SHEET 40	6-15-13
DATE: 06-02-99	BY	NO.	REVISION

SOIL BORING LOGS

NEW CUT LANDFILL IMPROVEMENTS

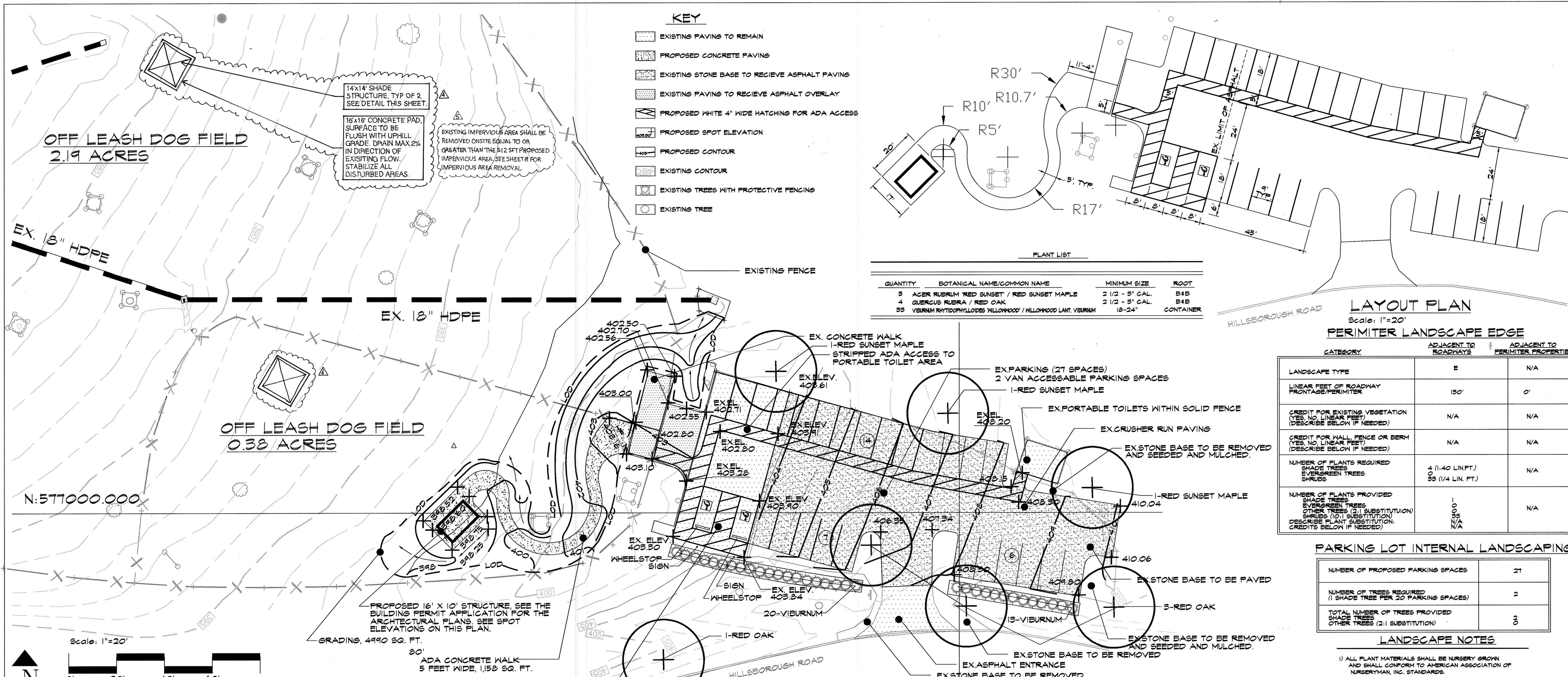
CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: NONE

SHEET 39 OF 40

SDP-99-109



Scale: 1"=20'

For REVISION ONLY

STATE OF MARYLAND
PAUL S. WALSH
5/20/13

THE LIMIT OF DISTURBANCE OF 392 SFT IS EXEMPT FROM PROVIDING STORMWATER MANAGEMENT. ANY FUTURE DISTURBANCE THAT EXCEEDS 5,000 SFT SHALL MEET CURRENT STORMWATER MANAGEMENT REQUIREMENTS FOR THE CUMULATIVE DISTURBANCE OVER 5,000 SFT.

SHADE STRUCTURE ELEVATION
NOT TO SCALE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

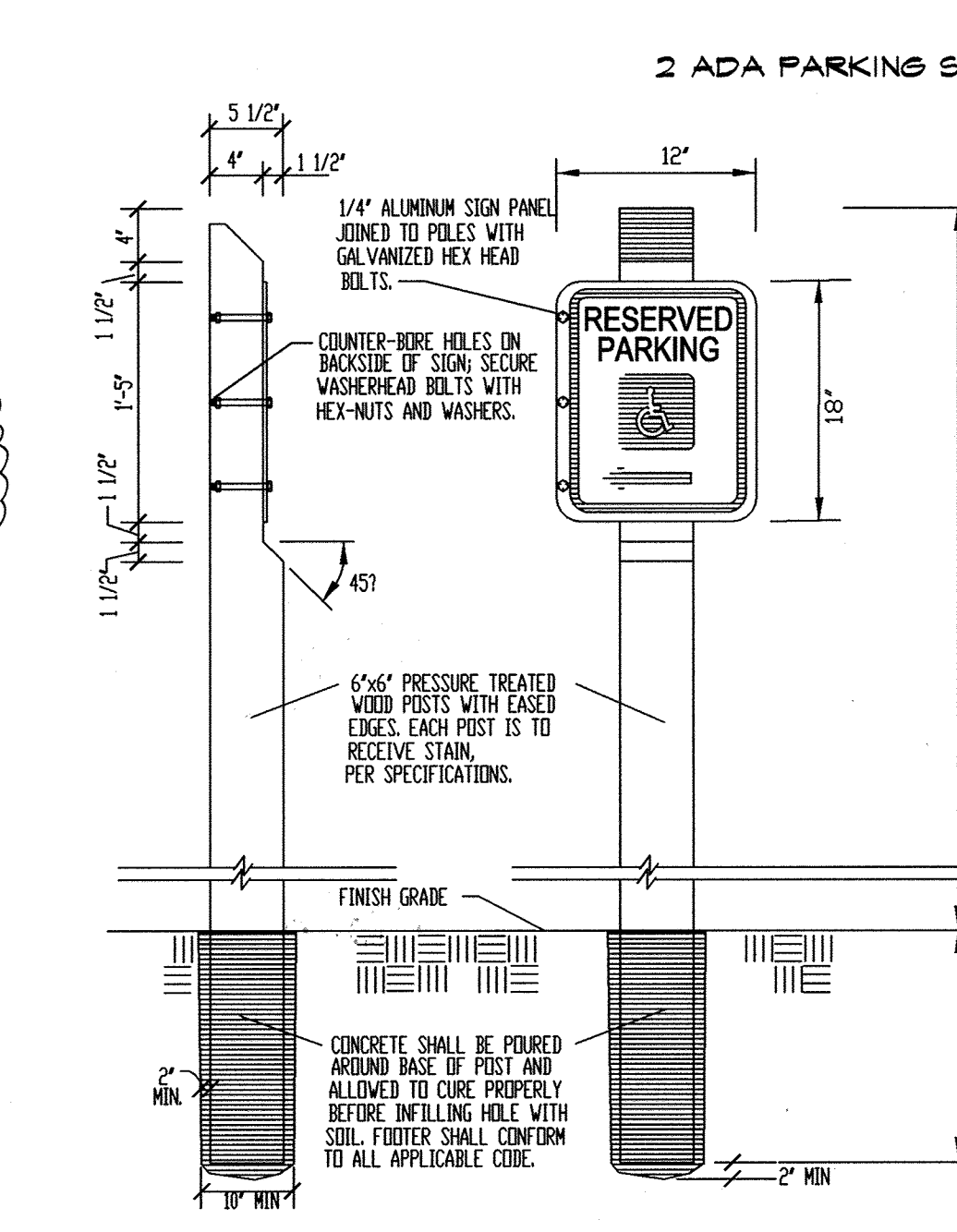
DIRECTOR OF PUBLIC WORKS DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Frank J. C. [Signature] 8/27/12 DATE
DIRECTOR

[Signature] 8/2/13 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 8/27/13 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT



SITE PLAN
Scale: 1"=20'
EX. PARKING (27 SPACES)
2 VAN ACCESSIBLE PARKING SPACES

CONTRACTOR SHALL SUPPLY 1 VAN ACCESSIBLE SIGNS

SIGN SIZE	DIMENSIONS (INCHES)							
	A	B	C	D	E	F	G	H
STD	12	18	1/2	1-1/2	3	2	1	6

SIGN SIZE	DIMENSIONS (INCHES)							
	L	M	N	P	Q	R	S	
STD	5	4-1/4	3	1/2	4	3/4	3-7/8	

FOR REVISION 3 ONLY

STATE OF MARYLAND
PAUL S. WALSH
7/23/13

Scale: 1"=20'

CONCRETE WALK
NOT TO SCALE

ASPHALT PAVEMENT
NOT TO SCALE

CONCRETE SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STANDARDS BUT JOINED AND FINISHED IN ACCORDANCE WITH THIS DETAIL.

4" CONCRETE EXPANSION JOINTS 20' O.C. SCORE JOINTS 3' O.C.

8" GRADED AGGREGATE BASE

APPROVED COMPACTED SUBGRADE

2" - 2" COURSES

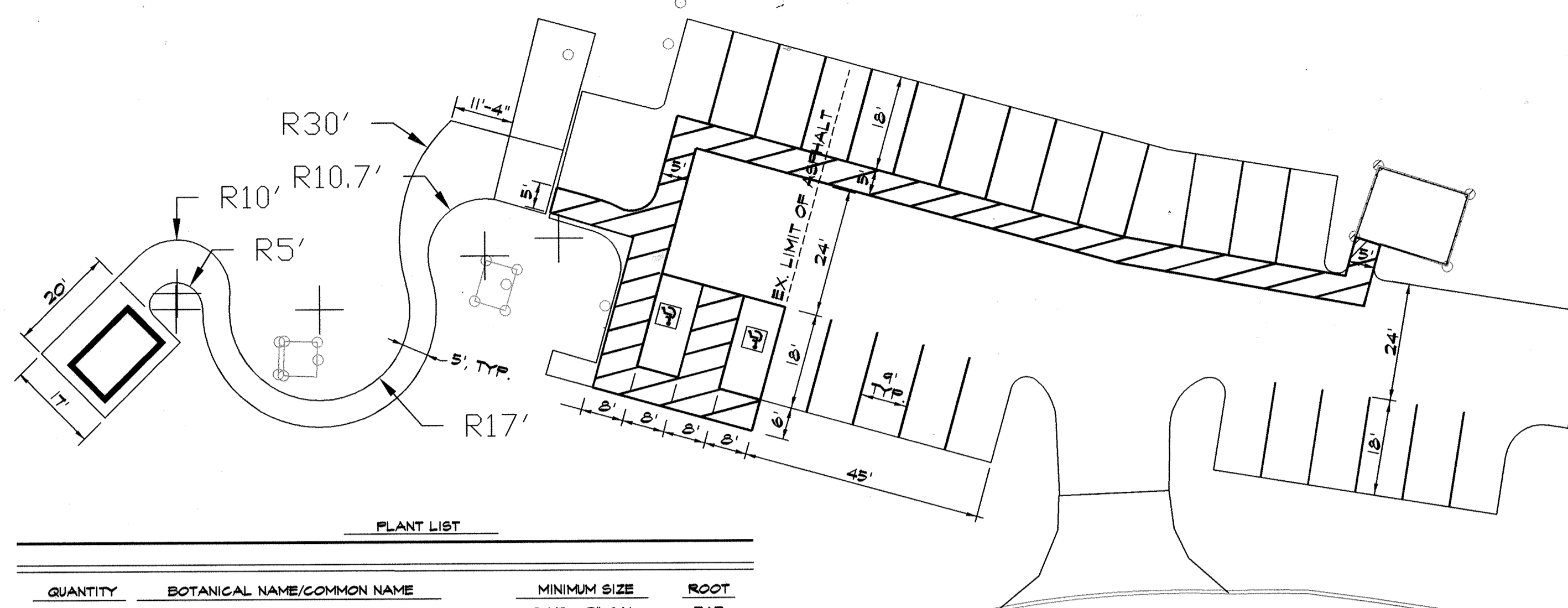
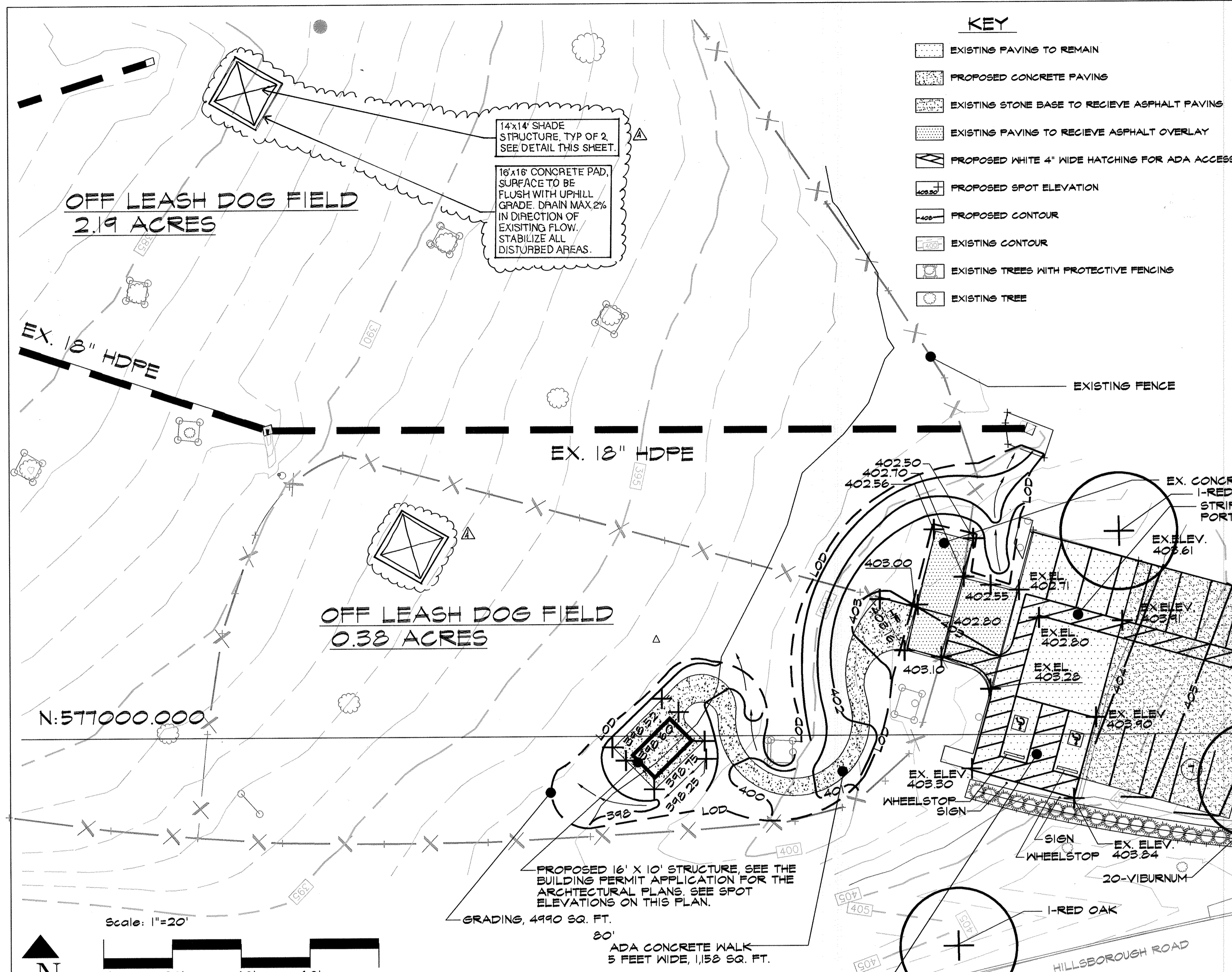
6" GRADED AGGREGATE BASE

APPROVED COMPACTED SUBGRADE

SDP-99-109
ADDITIONAL SHEET - REDLINE #2
SITE PLAN & DETAILS
WORTHINGTON PARK - DOG PARK
8170 HILLSBOROUGH ROAD
ELLCOTT CITY, MD. 21043
MAP GRID PARCEL
JUNE 3, 2013 SHEET 40 OF 40

Howards County
Department of Recreation & Parks

SDP-99-109



QUANTITY	BOTANICAL NAME/Common Name	MINIMUM SIZE	ROOT
3	ACER RUBRUM / RED SUNSET / RED SUNSET MAPLE	2 1/2" - 3" CAL.	B4B
4	QUERCUS RUBRA / RED OAK	2 1/2" - 3" CAL.	B4B
33	VIBURNUM RHICHTYPHILLOIDES YELLOWWOOD / HILLOWOOD LANT. VIBURNUM	18-24"	CONTAINER

LAYOUT PLAN Scale: 1"=20'

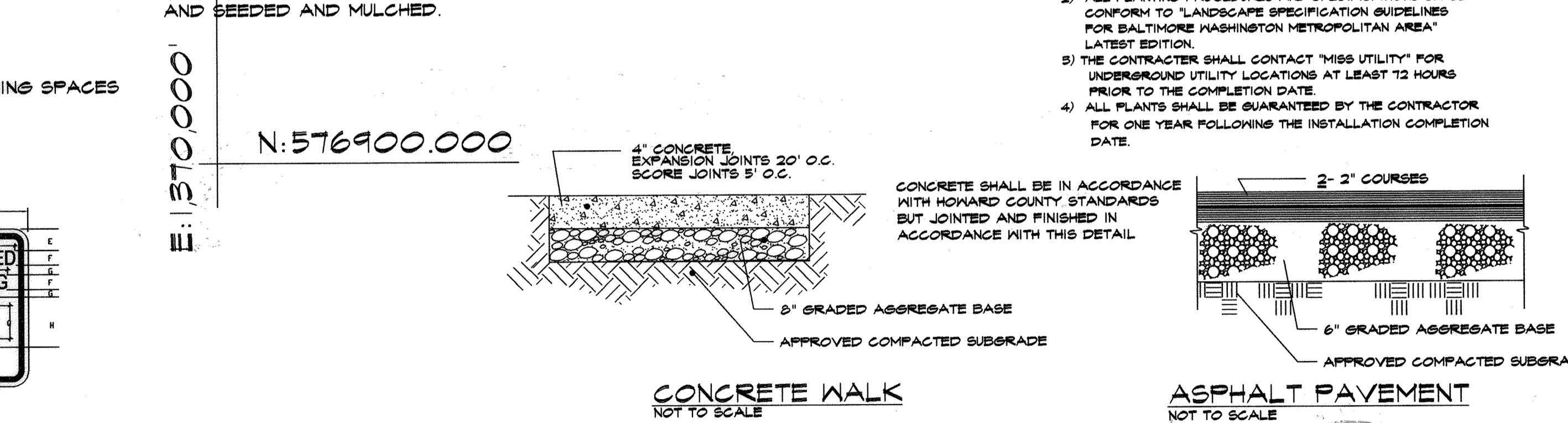
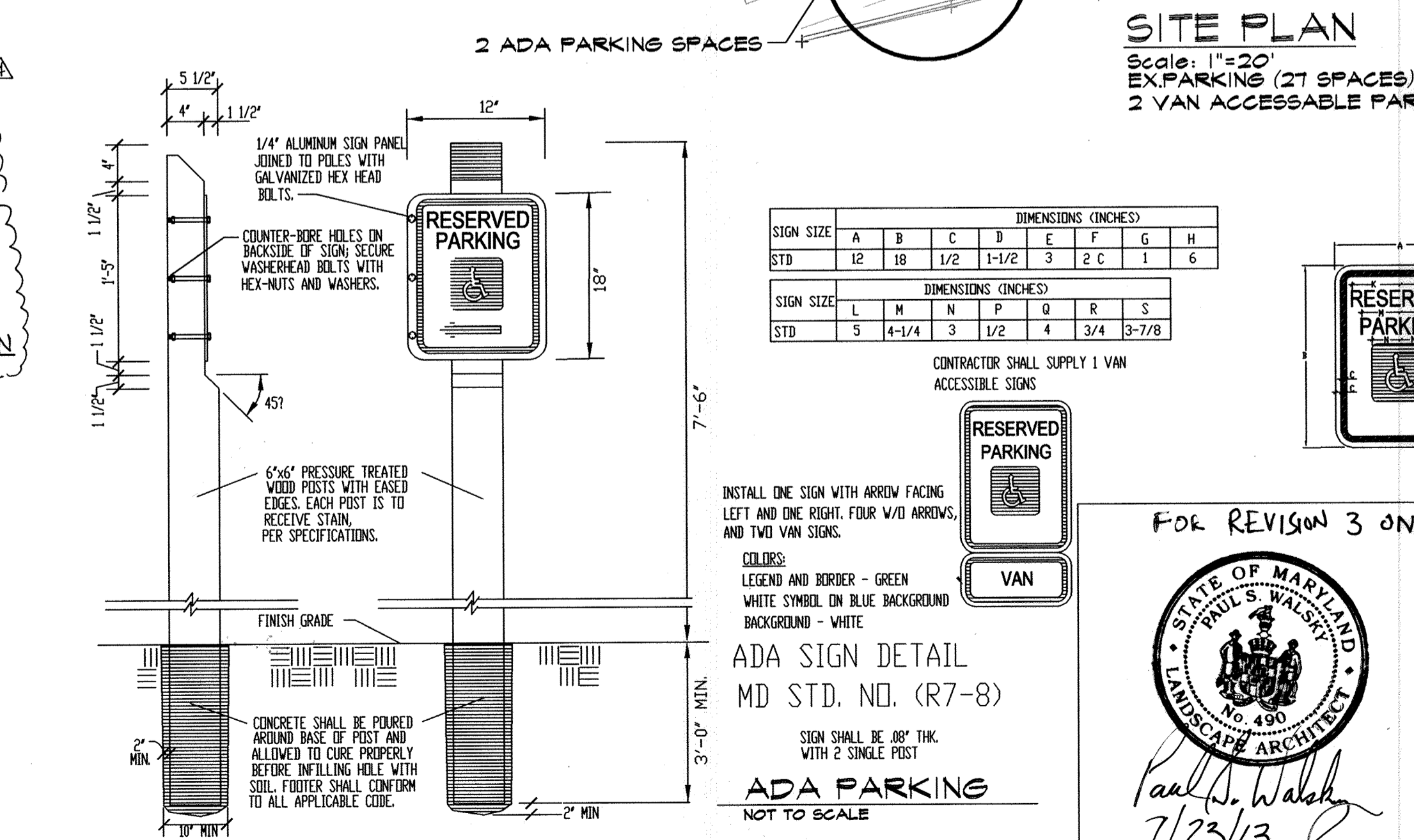
PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE	E	N/A
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	150'	0'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	N/A	N/A
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	N/A	N/A
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	4 (1/40 LIN. FT.) 0 33 (1/4 LIN. FT.)	N/A
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION) SHRUBS (10:1 SUBSTITUTION) DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED	1 0 33 N/A	N/A

PARKING LOT INTERNAL LANDSCAPING

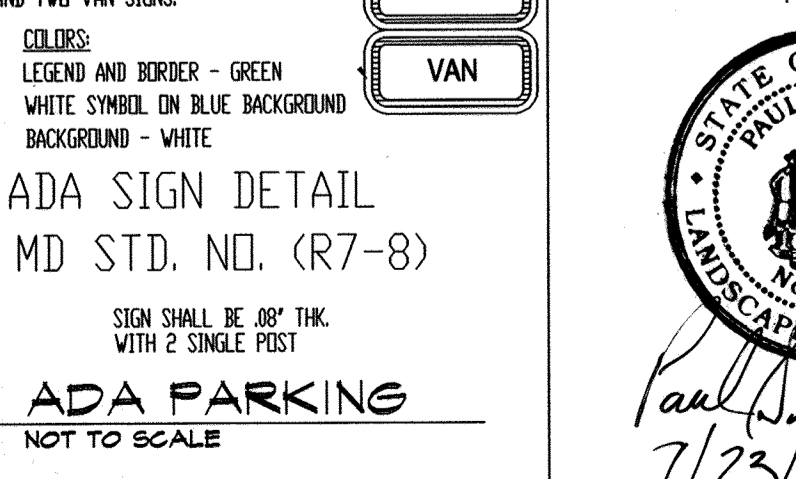
NUMBER OF PROPOSED PARKING SPACES	27
NUMBER OF TREES REQUIRED (1 SHADE TREE PER 20 PARKING SPACES)	2
TOTAL NUMBER OF TREES PROVIDED SHADE TREES OTHER TREES (2:1 SUBSTITUTION)	3

- #### LANDSCAPE NOTES
- 1) ALL PLANT MATERIALS SHALL BE NURSERY GROWN AND SHALL CONFORM TO AMERICAN ASSOCIATION OF NURSERYMEN, INC. STANDARDS.
 - 2) ALL PLANTING PROCEDURES AND SPECIFICATIONS SHALL CONFORM TO "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE WASHINGTON METROPOLITAN AREA" LATEST EDITION.
 - 3) THE CONTRACTOR SHALL CONTACT "MISS UTILITY" FOR UNDERGROUND UTILITY LOCATIONS AT LEAST 12 HOURS PRIOR TO THE COMPLETION DATE.
 - 4) ALL PLANTS SHALL BE GUARANTEED BY THE CONTRACTOR FOR ONE YEAR FOLLOWING THE INSTALLATION COMPLETION DATE.



SIGN SIZE	DIMENSIONS (INCHES)								
	A	B	C	D	E	F	G	H	
STD	12	18	1/2	1-1/2	3	2	C	1	6

SIGN SIZE	DIMENSIONS (INCHES)							
	L	M	N	P	Q	R	S	
STD	5	4-1/4	3	1/2	4	3/4	3-7/8	



Scale: 1"=20'

FOR REVISION 3 ONLY

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Frank J. Long 8/27/13 DATE
DIRECTOR

Paul S. Walsh 8/27/13 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Ked Sheelwood 8/27/13 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT

SHADE STRUCTURE ELEVATION
NOT TO SCALE

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CONCRETE SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STANDARDS BUT JOINTED AND FINISHED IN ACCORDANCE WITH THIS DETAIL.

ASPHALT PAVEMENT
NOT TO SCALE

FOR REVISION 3 ONLY

STATE OF MARYLAND
PAUL S. WALSH
LANDSCAPE ARCHITECT
7/23/13

BY	NO.	REVISION	DATE
JLT	Δ	2 SHADE STRUCTURES ADDED	3/19/19
PSW	Δ	SHADE STRUCTURE ADDED	6/3/13

Howard County
MARYLAND
Department of Recreation & Parks

SDP-99-109
ADDITIONAL SHEET - REDLINE #2
SITE PLAN & DETAILS
WORTHINGTON PARK - DOG PARK

8170 HILLSBOROUGH ROAD
ELLICOTT CITY, MD. 21043
PARCEL

JUNE 3, 2013 SHEET 40 OF 40

SDP-99-109