

HOWARD COUNTY

Department of Public Works

6751 Gateway Drive, Suite 514

Columbia, Maryland 21046

NEW CUT LANDFILL IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

1. TITLE SHEET
2. GENERAL NOTES
3. EXISTING SITE CONDITIONS
4. COVER THICKNESS ISOPACH & TEST PIT LOCATIONS *
5. OVERALL SITE PLAN
6. FINAL GRADING PLAN-SW QUADRANT
7. FINAL GRADING PLAN-SE QUADRANT
8. FINAL GRADING PLAN-NW QUADRANT
9. FINAL GRADING PLAN-NE QUADRANT
10. LANDFILL CROSS SECTIONS
11. LANDFILL CROSS SECTIONS
12. LANDFILL CROSS-SECTIONS
13. ACCESS ROAD PROFILES
14. DRAINAGE AREA MAP
15. FINAL COVER DETAILS, ACCESS ROAD DETAILS
16. MISCELLANEOUS DETAILS
17. POND CONSTRUCTION SPECIFICATIONS AND CERTIFICATIONS
18. NORTH BASIN & WEST LOW-RISE STORMWATER MANAGEMENT STRUCTURE PROFILES
19. NORTH BASIN DETAILS
20. WEST BASIN PROFILES
21. WEST BASIN DETAILS
22. CHANNEL PROFILES
23. CHANNEL PROFILES
24. DOWNCHUTE AND SWALE PROFILES
25. STORM DRAIN, CHANNEL AND SWALE PROFILES
26. BIORETENTION/WATER QUALITY MGT. DETAILS & NOTES *
27. LANDSCAPING, VEGETATIVE COVER PLAN & FOREST CONSERVATION PLAN
28. VEGETATIVE COVER DETAILS
29. OVERALL EROSION AND SEDIMENT CONTROL PLAN
30. EROSION AND SEDIMENT CONTROL PLAN-SW QUADRANT
31. EROSION AND SEDIMENT CONTROL PLAN-SE QUADRANT
32. EROSION AND SEDIMENT CONTROL PLAN-NW QUADRANT
33. EROSION AND SEDIMENT CONTROL PLAN-NE QUADRANT
34. EROSION AND SEDIMENT CONTROL NOTES AND CONSTRUCTION SEQUENCE
35. EROSION AND SEDIMENT CONTROL DETAILS
36. EROSION AND SEDIMENT CONTROL DETAILS
37. RISER/STRUCTURE MODIFICATIONS DURING CONSTRUCTION
38. SOIL BORING LOGS
39. SOIL BORING LOGS
- G1. LFG COLLECTION SYSTEM PLAN *
- G2. LFG COLLECTION SYSTEM DETAILS *
- G3. LFG COLLECTION SYSTEM DETAILS *
- G4. BLOWER-FLARE SITE PLAN LAYOUT
- G5. BLOWER-FLARE PLAN AND DETAILS *
- G6. BLOWER-FLARE SHELTER PLAN AND DETAILS *
- G7. BLOWER-FLARE SHELTER FENCE AND MISC. DETAILS *
- G8. LFG COLLECTION SYSTEM DETAILS *
- G9. PROFILES AND TRENCH DETAILS *
- G10. LFG COLLECTION-ELECTRICAL DETAILS *
- G11. LFG COLLECTION-ELECTRICAL DETAILS *
- R1. HILLSBOROUGH ROAD PLAN SHEET *
- R2. HILLSBOROUGH ROAD PLAN SHEET *
- R3. HILLSBOROUGH ROAD TYPICAL SECTIONS *
- R4. HILLSBOROUGH ROAD SIGNING AND PAVEMENT MARKING PLAN *
- R5. HILLSBOROUGH ROAD TRAFFIC CONTROL PLAN *
- R6. HILLSBOROUGH ROAD PROFILES *
- R7. HILLSBOROUGH ROAD CROSS SECTIONS *
- R8. HILLSBOROUGH ROAD CROSS SECTIONS *
- R9. HILLSBOROUGH ROAD CROSS SECTIONS *
- R10. HILLSBOROUGH ROAD CROSS SECTIONS *
- R11. HILLSBOROUGH ROAD CROSS SECTIONS *
- R12. HILLSBOROUGH ROAD DRAINAGE PROFILES *
- V1. UNDERDRAIN AERATION AND SEDIMENTATION SYSTEM SITE PLAN *
- V2. AERATION AND SEDIMENTATION VAULT SCHEMATIC DETAILS *
- V3. AERATION AND SEDIMENTATION VAULT SCHEMATIC GENERAL NOTES & TYPICAL DETAILS *
- V4. AERATION AND SEDIMENTATION VAULT PLANS AND DETAILS *

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

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/WE 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, 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.

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

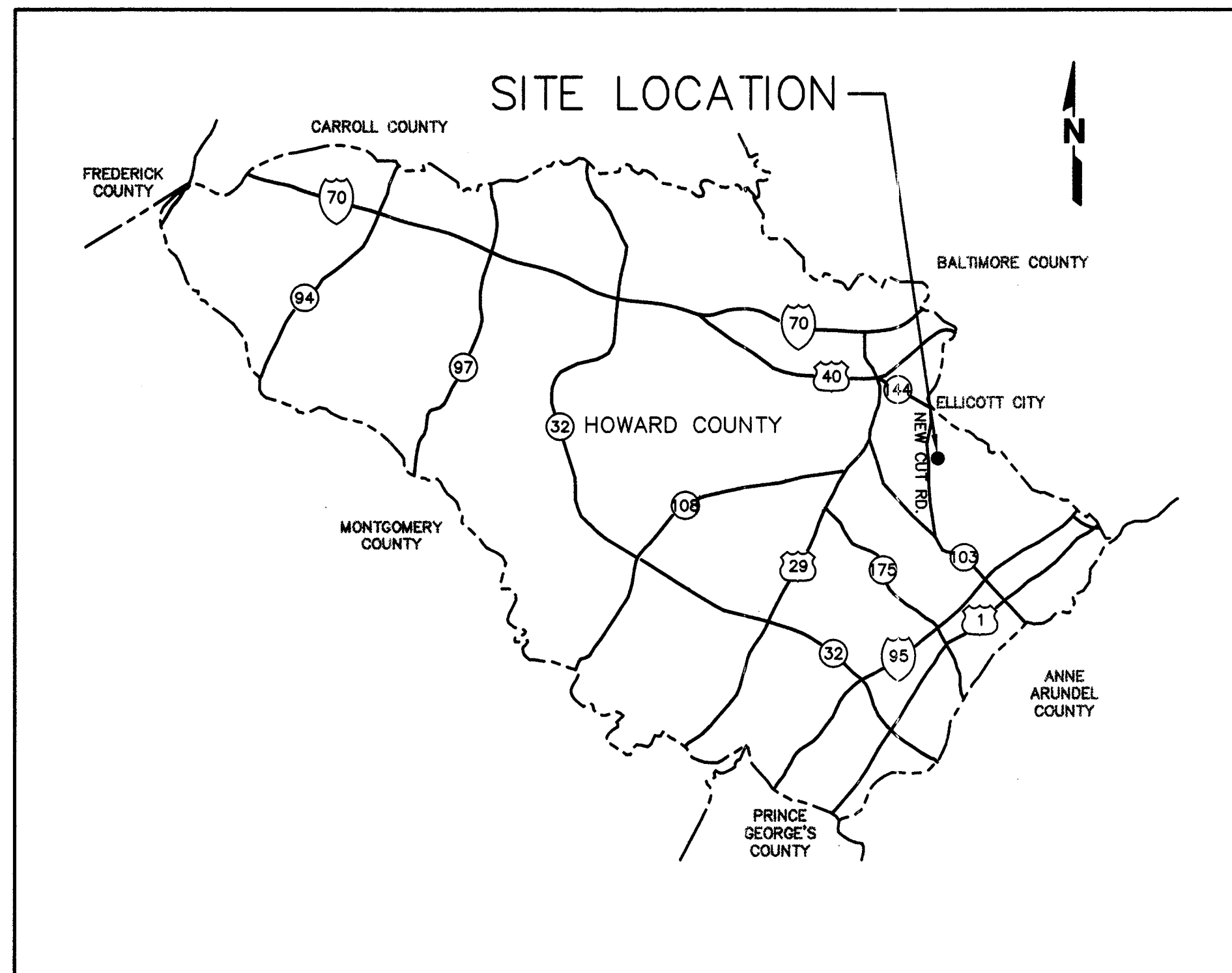
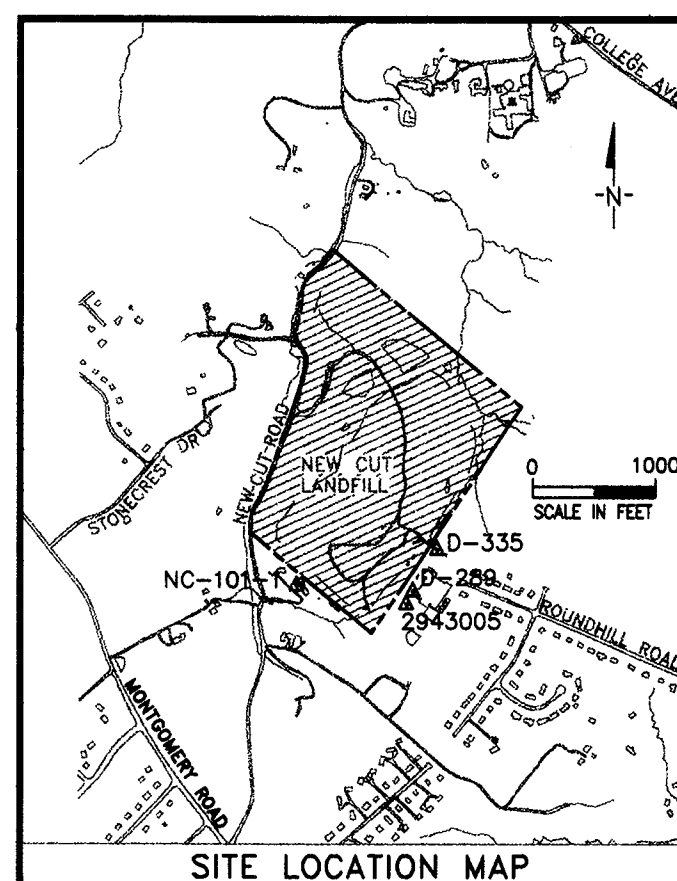
[Signature] 9/8/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 7/13/99
 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



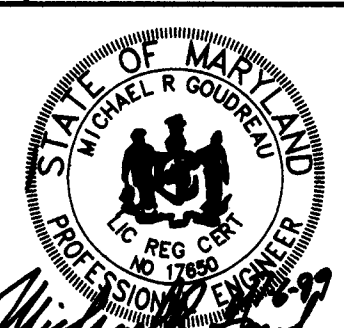
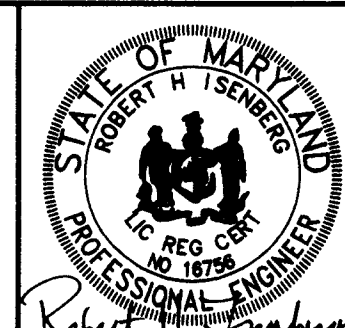
LOCATION MAP

0 2 4 6
 SCALE IN MILES

WETLANDS PERMIT TRACKING NO. : 199963005

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

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	

TITLE SHEET

NEW CUT LANDFILL IMPROVEMENTS		SCALE: AS SHOWN
CAPITAL PROJECT NO. C-0237-H		SHEET 1 OF 39
2nd ELECTION DISTRICT	HOWARD COUNTY, MARYLAND	

**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.

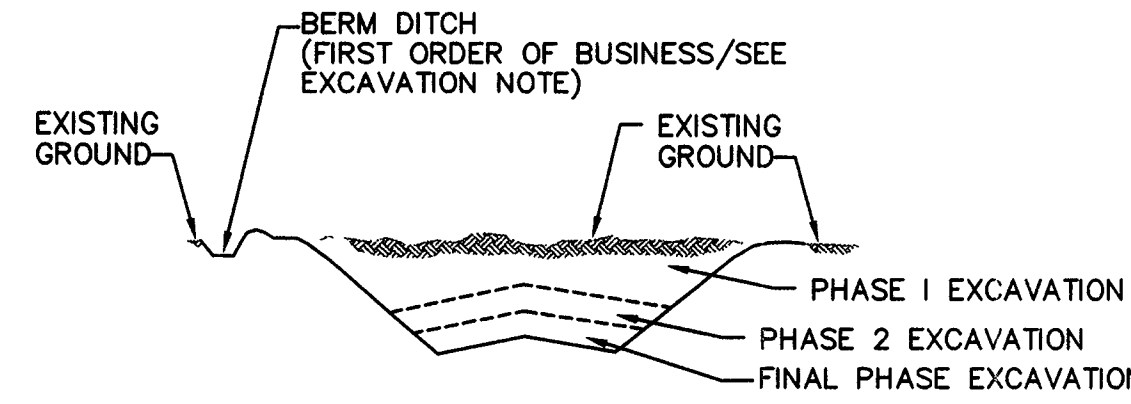


FIGURE 1 - INCREMENTAL STABILIZATION - CUT

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.

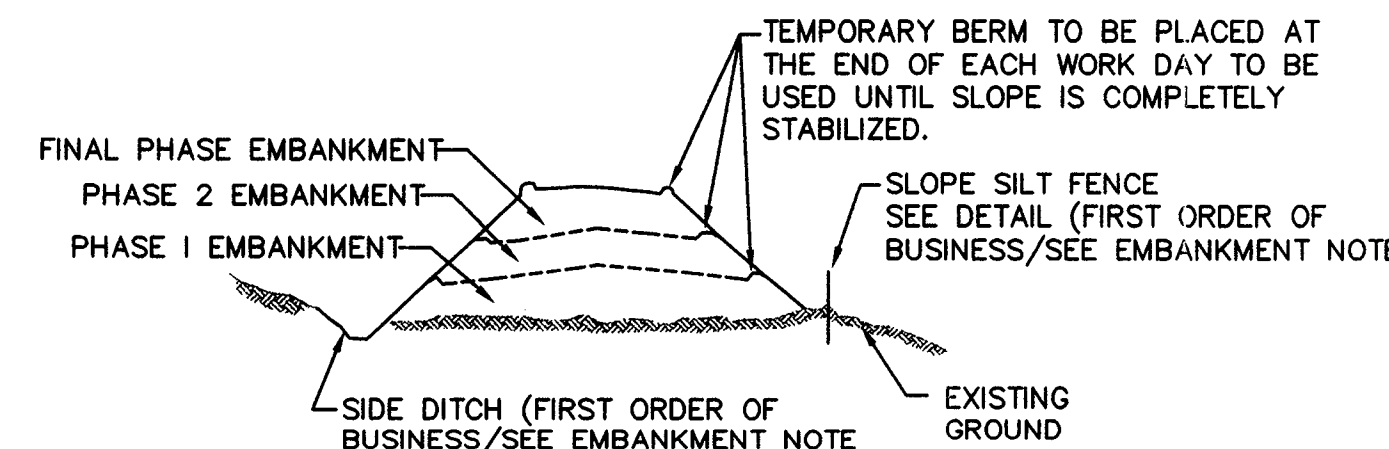


FIGURE 2 - INCREMENTAL STABILIZATION - FILL

**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 MARRIOTTSVILLE ROAD, MARRIOTTSVILLE, 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**

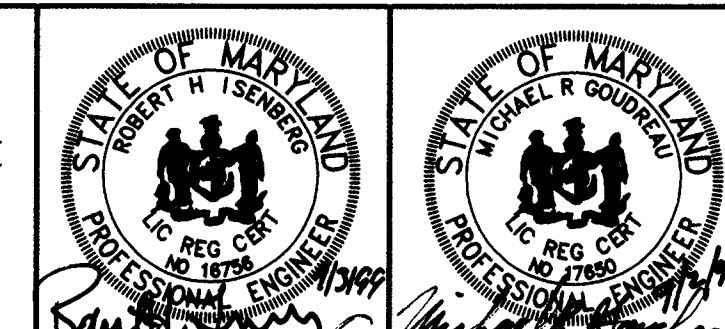
<i>[Signature]</i> DIRECTOR	9/18/99 DATE
<i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	9/14/99 DATE
<i>[Signature]</i> CHIEF, DIVISION OF LAND DEVELOPMENT	9/13/99 DATE

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	9/16/99 DATE	<i>[Signature]</i> CHIEF, BUREAU OF ENVIRONMENTAL SERVICES	9/17/99 DATE
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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	MRG	ADDED BMP NOTES FOR NON-TIDAL WETLANDS, ETC.	9-2-99
BY	NO.	REVISION	DATE

GENERAL NOTES

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

SCALE:
NO SCALE
SHEET
2 OF 39

- 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

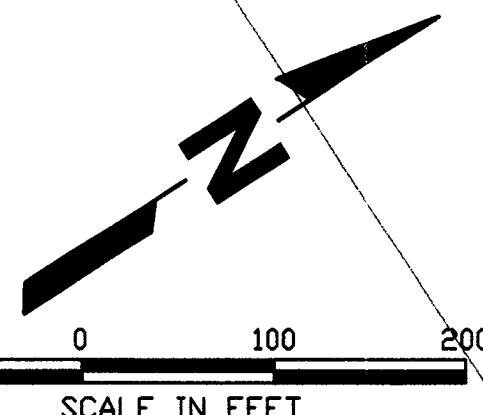
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

[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

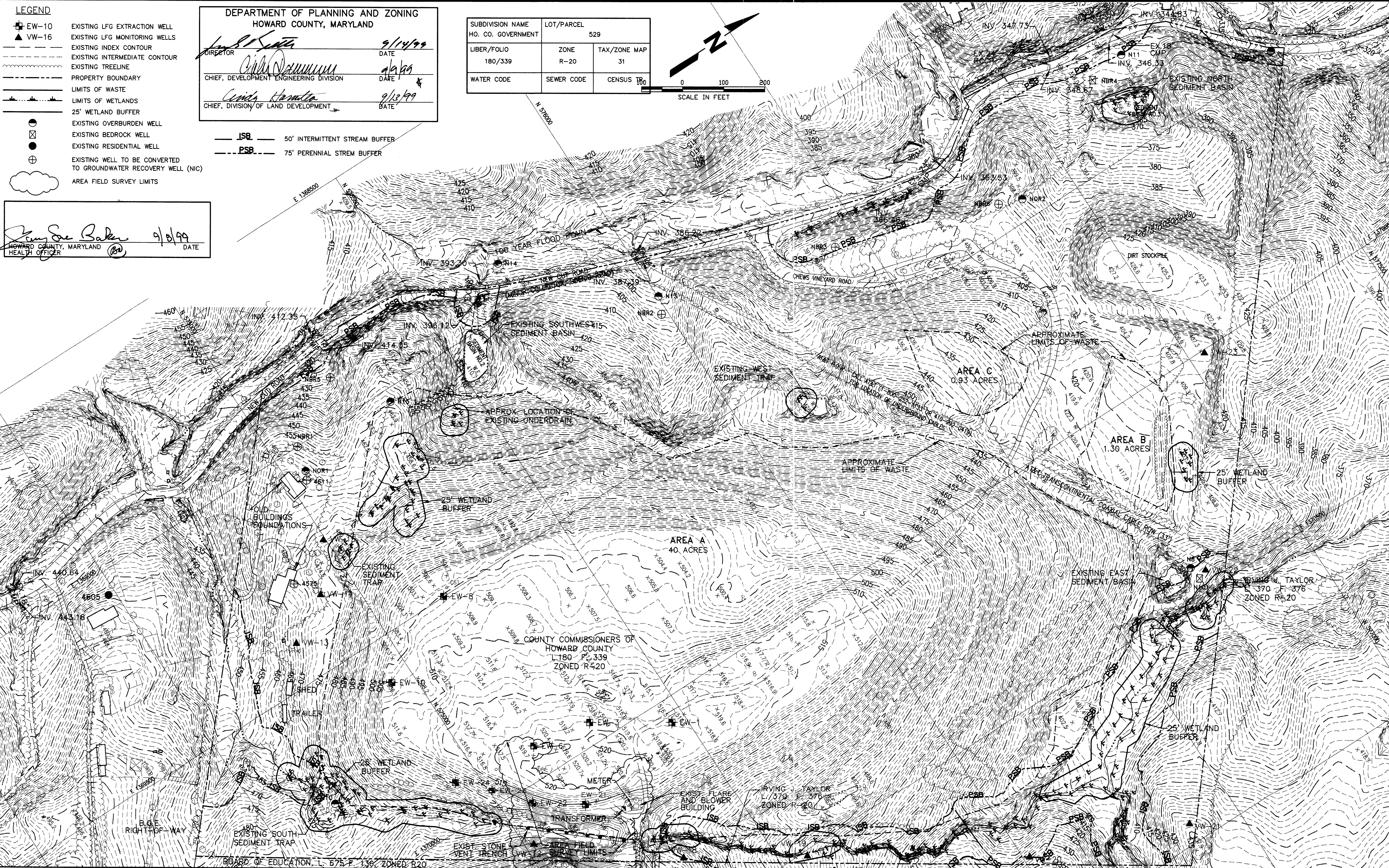
SUBDIVISION NAME	LOT/PARCEL	
HO. CO. GOVERNMENT	529	
LIBER/FOLIO	ZONE	TAX/ZONE MAP
180/339	R-20	31
WATER CODE	SEWER CODE	CENSUS
		180



[Signature] 9/15/99
HOWARD COUNTY, MARYLAND DATE
HEALTH OFFICER

--- ISB --- 50' INTERMITTENT STREAM BUFFER

--- PSB --- 75' PERENNIAL STREAM BUFFER



M: \296024.01\100 PERCENT EXISTE98

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:	07-01-99				
BY	NO.	REVISION	DATE		

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 39

SDP-99-109

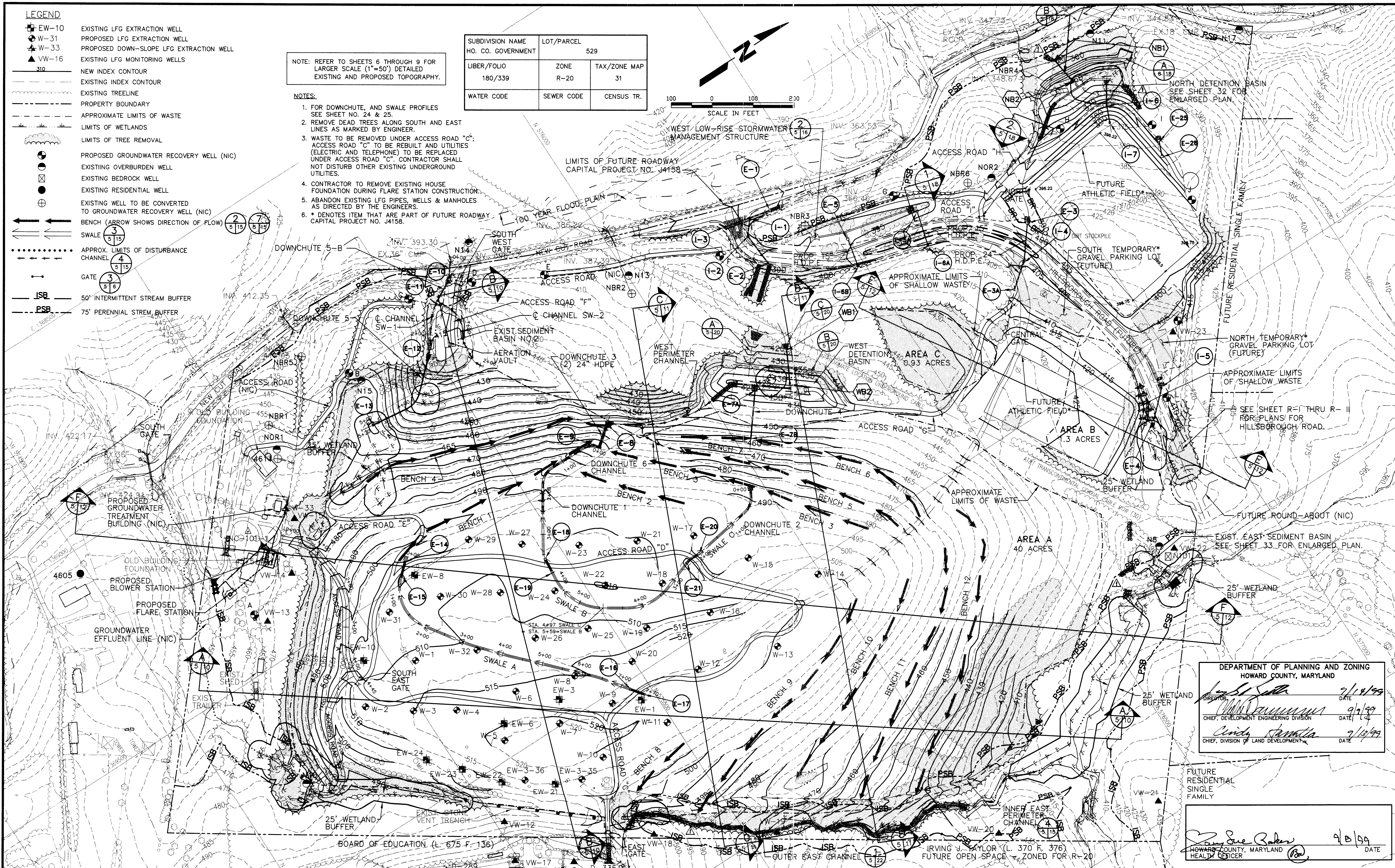
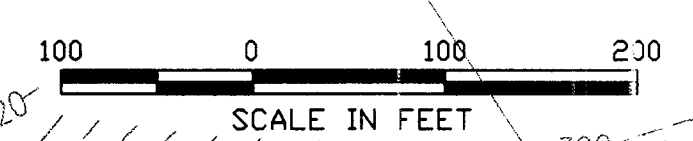
- LEGEND**
- EW-10 EXISTING LFG EXTRACTION WELL
 - W-31 PROPOSED LFG EXTRACTION WELL
 - W-33 PROPOSED DOWN-SLOPE LFG EXTRACTION WELL
 - VW-16 EXISTING LFG MONITORING WELLS
 - 310 NEW INDEX CONTOUR
 - EXISTING INDEX CONTOUR
 - EXISTING TREELINE
 - PROPERTY BOUNDARY
 - APPROXIMATE LIMITS OF WASTE
 - LIMITS 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.

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. 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.
4. CONTRACTOR TO REMOVE EXISTING HOUSE FOUNDATION DURING FLARE STATION CONSTRUCTION.
5. ABANDON EXISTING LFG PIPES, WELLS & MANHOLES AS DIRECTED BY THE ENGINEERS.
6. * DENOTES ITEM THAT ARE PART OF FUTURE ROADWAY CAPITAL PROJECT NO. J4158.

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: 9/18/99

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

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

[Signature] DATE: 9/18/99

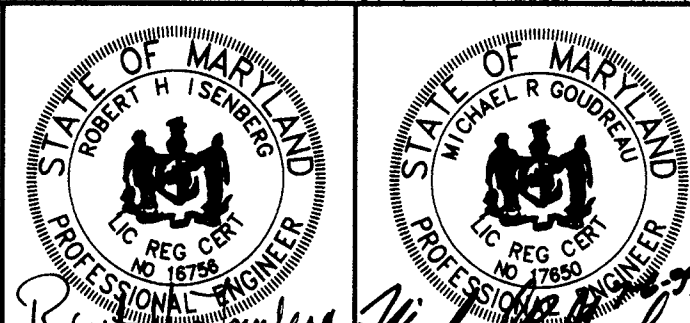
HOWARD COUNTY, MARYLAND
HEALTH OFFICER

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:	MRG	
NO.		
REVISION	N. BASIN OUTFALL; ADDED R1 PRAY SYMBOL; GABIONS.	8/99
DATE		

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 39

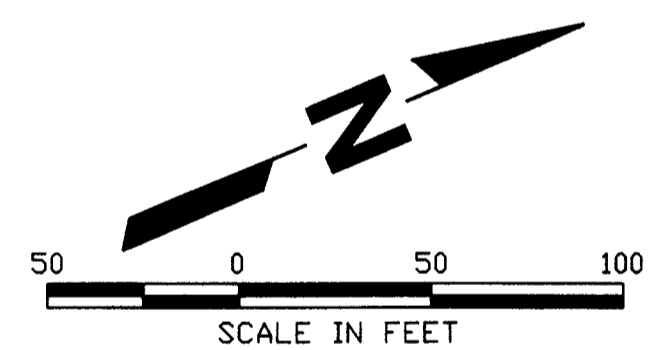
SDP-99-109

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
- 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/DOWNSHUTES/ CONCRETE DRAINAGE PIPE
- EXISTING PIPE
- LIMITS OF FUTURE ROADWAY CAPITAL PROJECT NO. J4158
- ISB 50' INTERMITTENT STREAM BUFFER
- PSB 75' PERENNIAL STREAM BUFFER

NOTES:

1. FOR DOWNSHUTE, 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 DRAINAGE.
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.



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.	

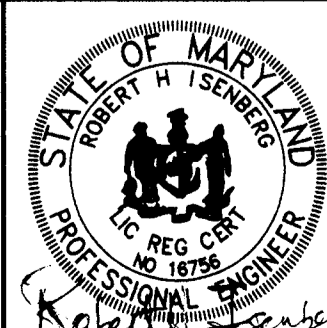
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR: *[Signature]* DATE: 9/14/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 9/9/99
 CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 9/13/99

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS: *[Signature]* DATE: 7/6/99
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES: *[Signature]* DATE: 7/9/99

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



DES.	MRG	6			
DRN.	JCS	5			
CHK.	RHI	4			
DATE:	07-01-99	3			
BY	NO.	2			
		1			
		0			
			REVISION		DATE

FINAL GRADING PLAN
SW-QUADRANT

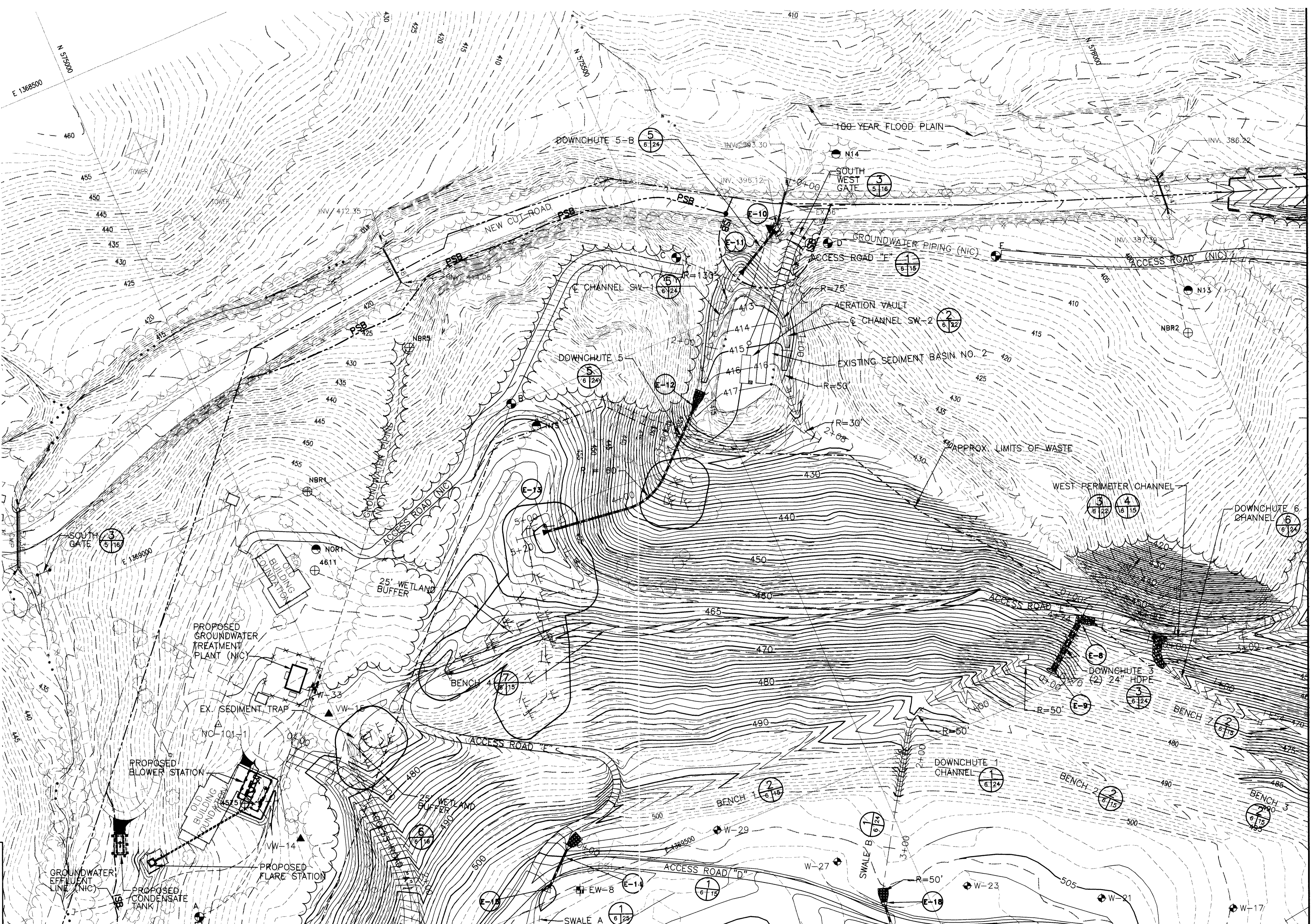
NEW CUT LANDFILL
IMPROVEMENTS

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

SCALE:
 1"=50'
 SHEET
 6 OF 39

MATCHLINE SEE SHEET 8

MATCHLINE SEE SHEET 7



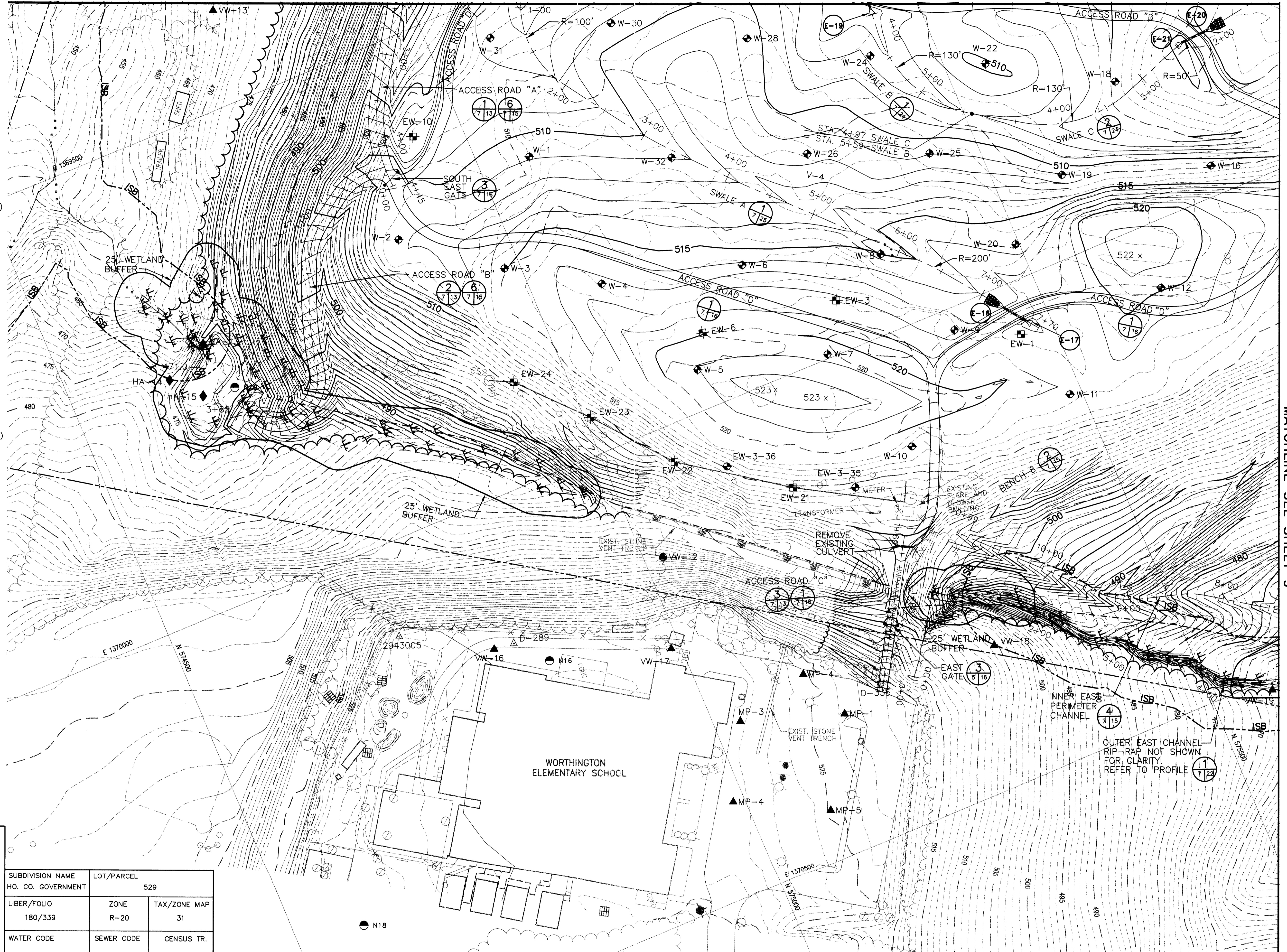
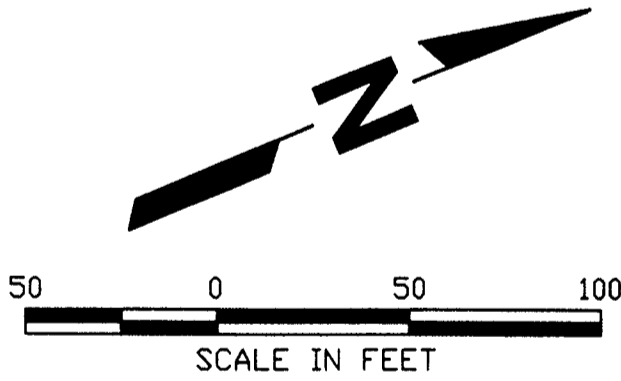
M:\296024\01\100 PERCENT\FG.PLAN1

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/DOWNSHUTES/ CONCRETE DRAINAGE PIPE
- EXISTING PIPE
- ISB 50' INTERMITTENT STREAM BUFFER

NOTES:

1. FOR DOWNSHUTE, 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 BY THE CONTRACTOR. WASTE TO BE REMOVED UNDER ACCESS ROAD "C" PER PER SHEET G1,G8. ACCESS ROAD "C" TO BE REBUILT AND UTILITIES TO BE REPLACED UNDER ACCESS ROAD "C". (SEE SHEETS G1-G11). 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 COMBINATION CURB AND GUTTER (PER HOWARD COUNTY DTL. R-3.01) WHERE ACCESS ROAD "C" MEETS SCHOOL PARKING LOT.



MATCHLINE SEE SHEET 9

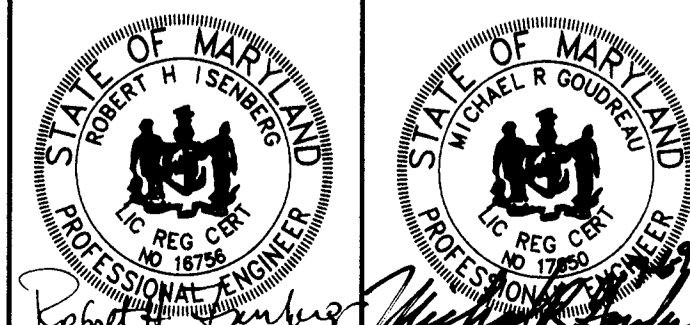
M:\296024.01\100 PERCENT F0PLANT

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	
DIRECTOR	9/14/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION	9/9/99
CHIEF, DIVISION OF LAND DEVELOPMENT	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	7/6/99
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES	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

**FINAL GRADING PLAN
SE-QUADRANT**

**NEW CUT LANDFILL
IMPROVEMENTS**

CAPITAL PROJECT NO. C-0237-H

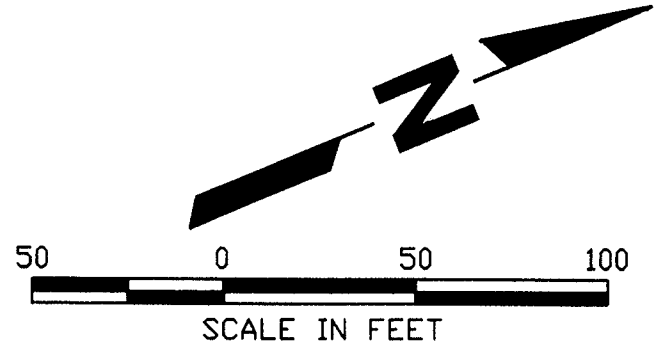
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE:
1" = 50'

SHEET
7 OF 39

- 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 HOPE 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

[Signature] 7/12/99 DATE
DIRECTOR

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

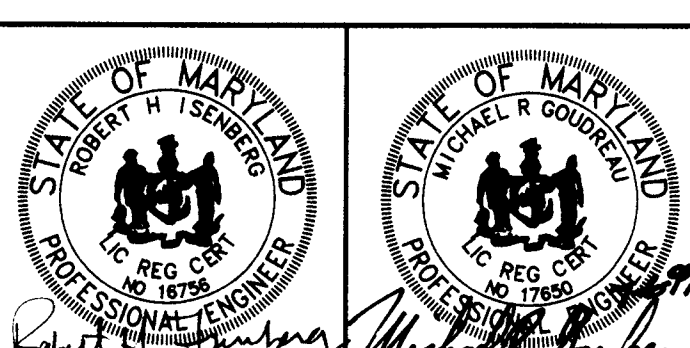
[Signature] 9/3/99 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

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

[Signature] 7/1/99 DATE
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:	07-01-99	BY:	NO.
REVISION: REPAIR ROADS & ADDED WELLS: 8/3/99			

FINAL GRADING PLAN
NW-QUADRANT

NEW CUT LANDFILL
IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

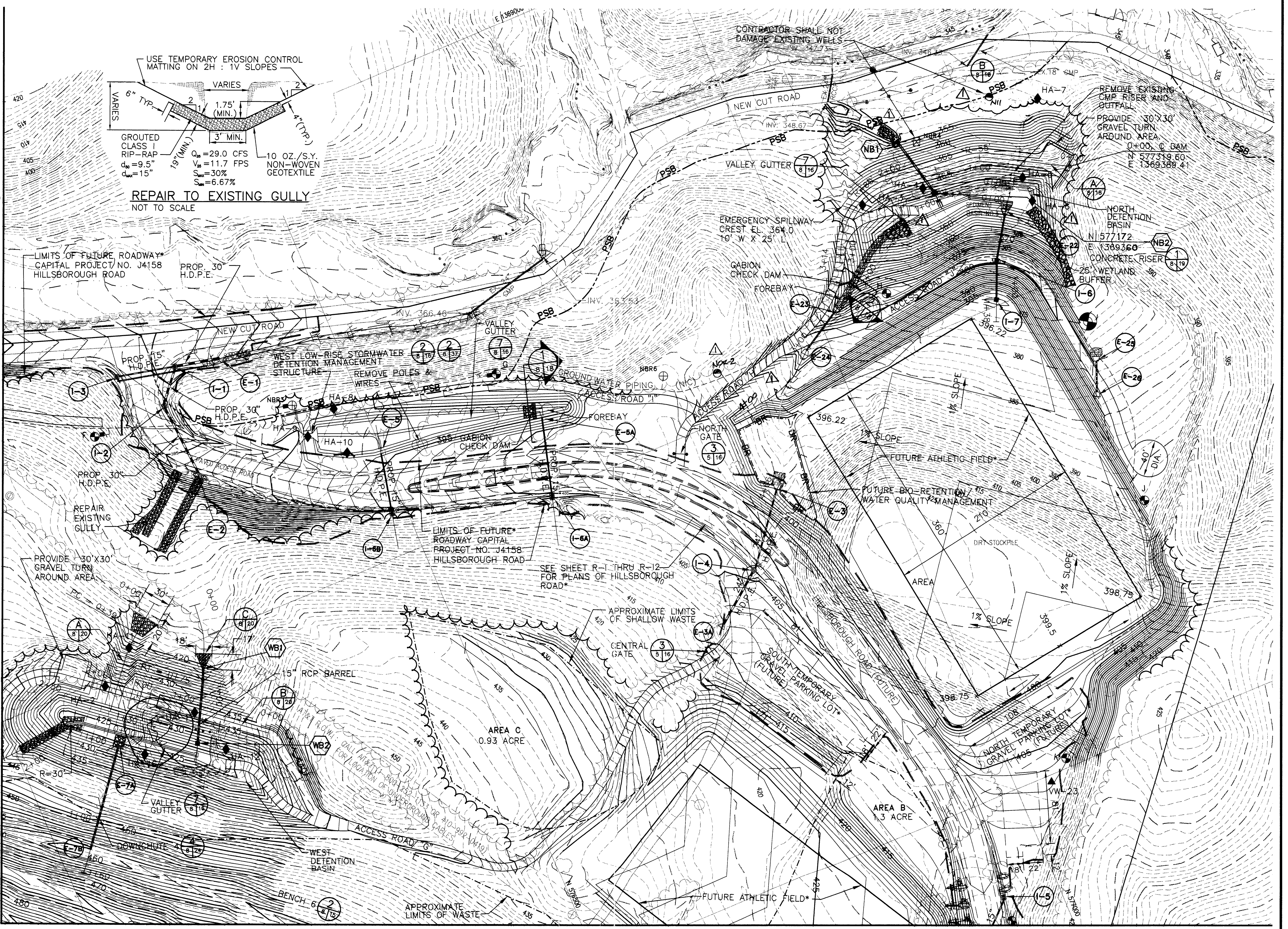
SCALE:
1" = 50'

SHEET
8 OF 39

SDP-99-109

MATCHLINE SEE SHEET 6

MATCHLINE SEE SHEET 9

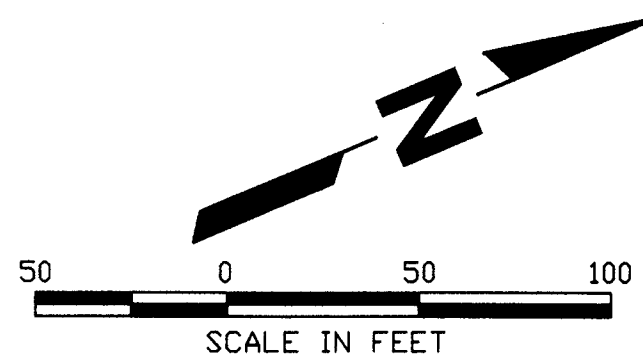


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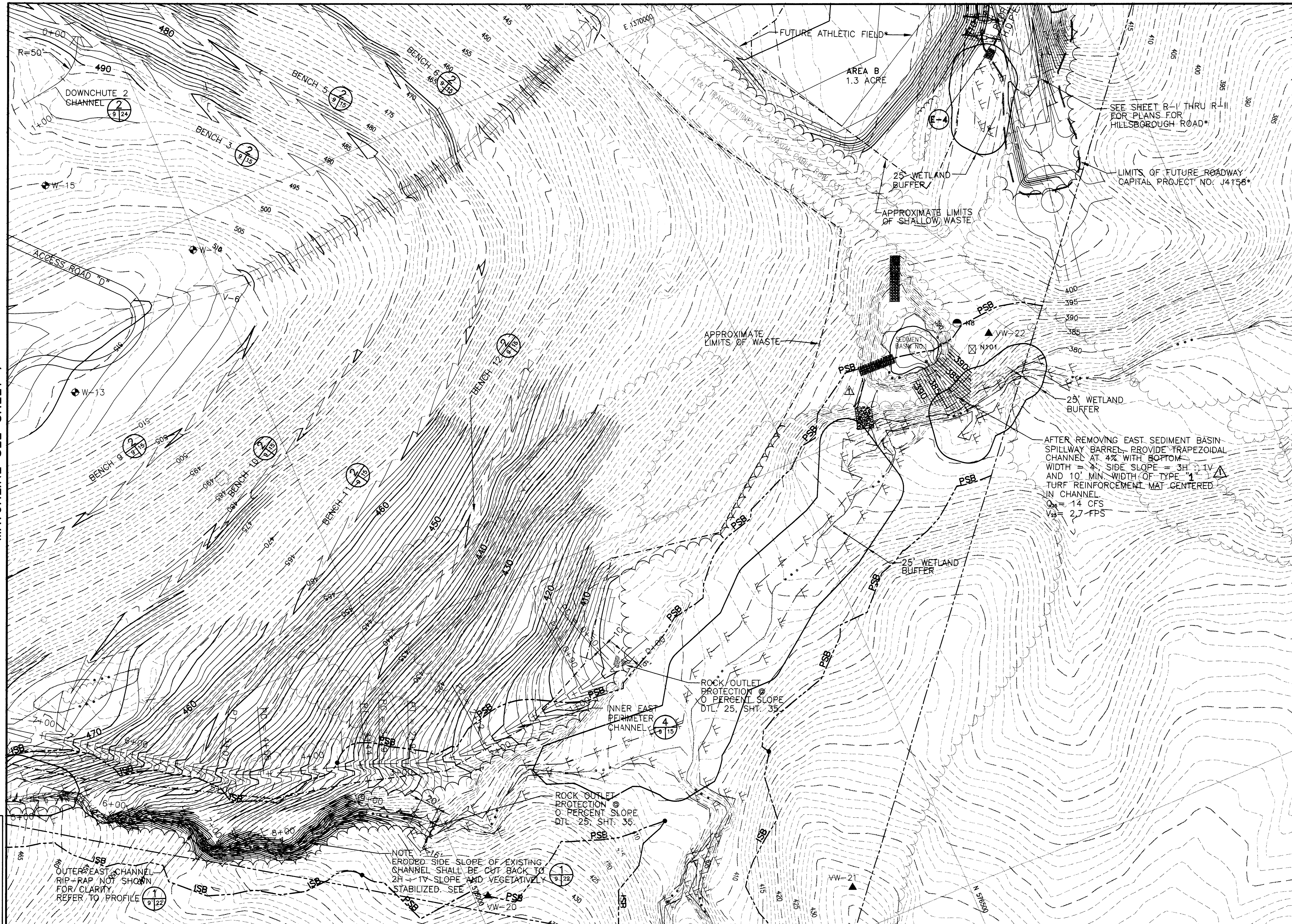
- EW-10 EXISTING LFG EXTRACTION WELL
- W-31 PROPOSED LFG EXTRACTION WELL
- W-33 PROPOSED DOWN-SLOPE LFG EXTRACTION WELL
- VW-16 EXISTING LFG MONITORING WELLS
- 310 NEW INDEX CONTOUR
- NEW INTERMEDIATE CONTOUR
- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- EXISTING TREELINE
- PROPERTY BOUNDARY
- 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

[Signature] 2/17/99 DATE
DIRECTOR

[Signature] 9/1/99 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

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

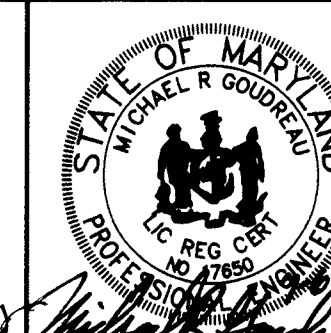
M:\296024\01\90 PERCENT FG.PLAN1

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

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

[Signature] 7/6/99 DATE
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	6	
DRN.	JCS	5	
CHK.	RHI	4	
DATE:	07-01-99	3	
BY	NO.	2	
REVISION	DATE	1	REVISED TYPE "A" TO TYPE 1, 8/5/99

FINAL GRADING PLAN
NE-QUADRANT

NEW CUT LANDFILL
IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

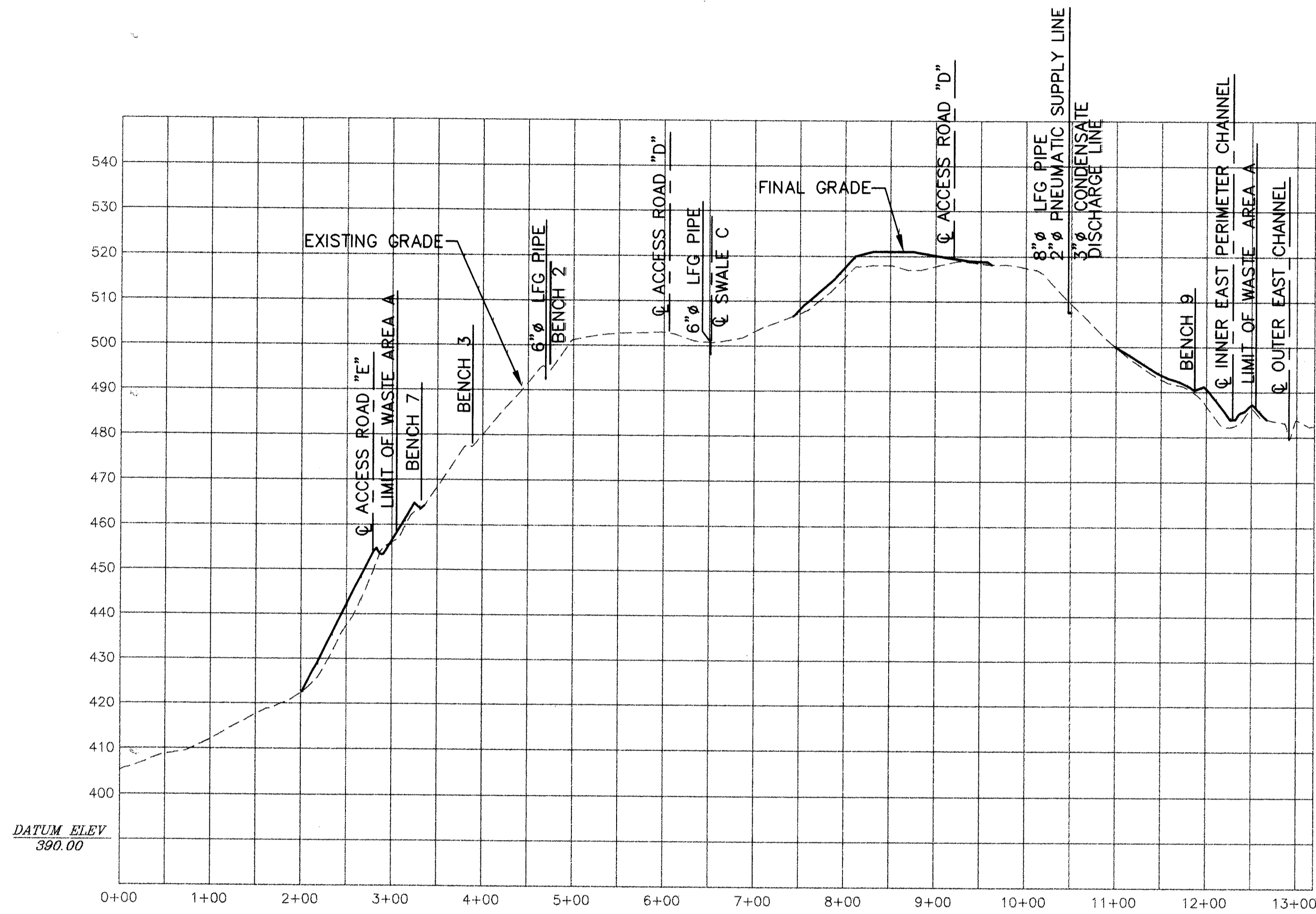
2nd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

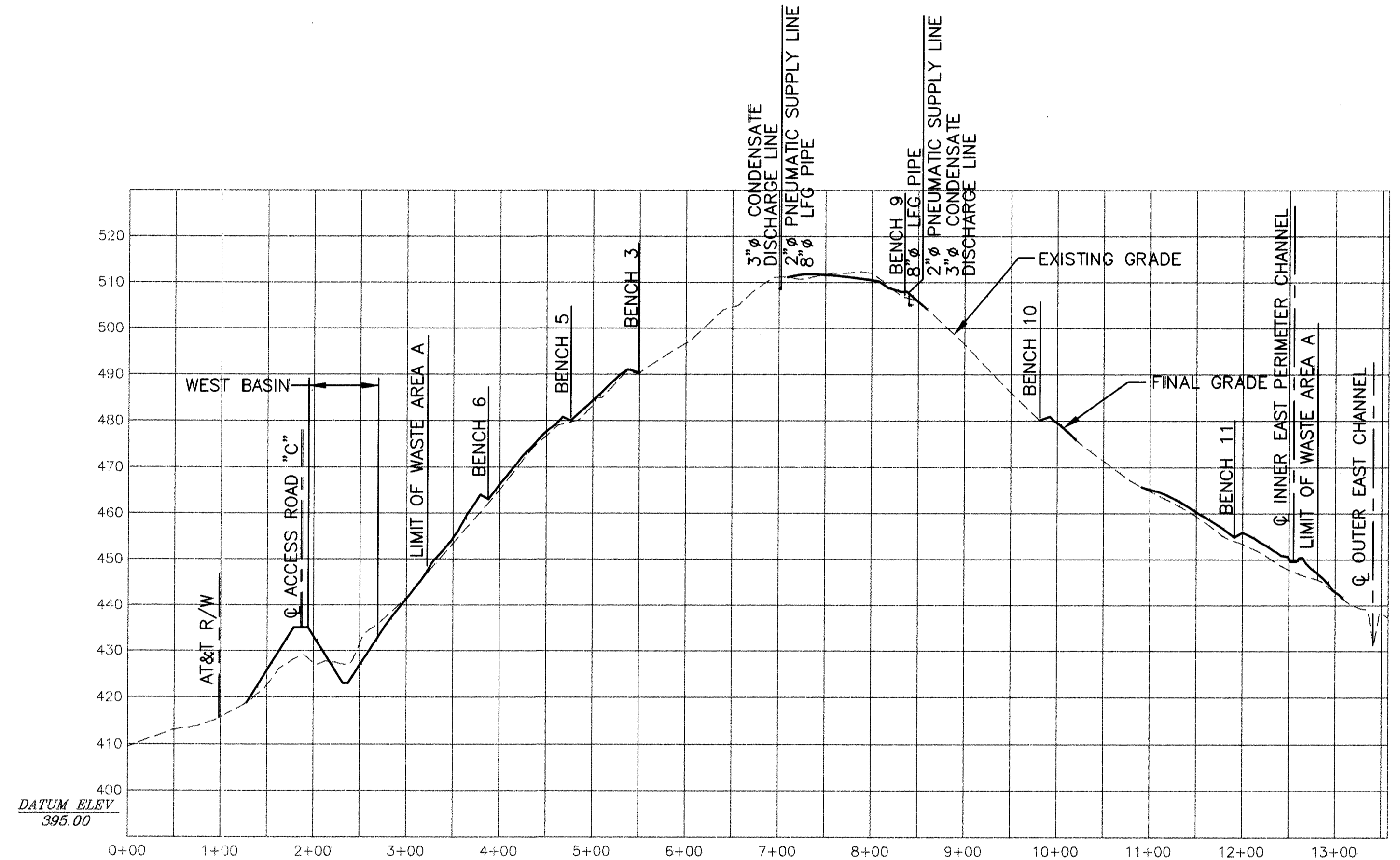
SCALE:
1" = 50'

SHEET
9 OF 39

SDP-99-109



CROSS-SECTION C-C C
5 | 11



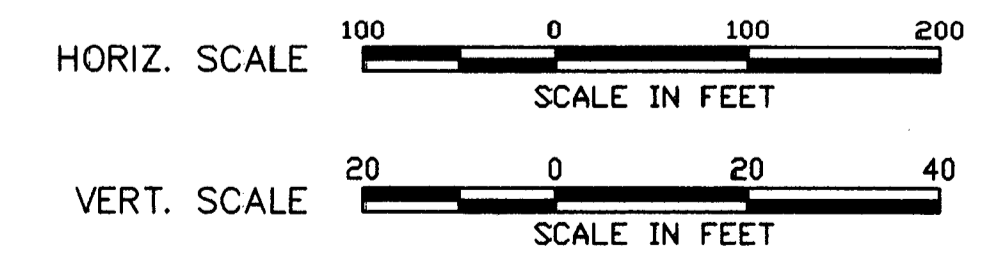
CROSS-SECTION D-D D
5 | 11

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DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

<i>[Signature]</i> DIRECTOR	9/14/99 DATE
<i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	9/14/99 DATE
<i>[Signature]</i> CHIEF, DIVISION OF LAND DEVELOPMENT	9/15/99 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
--	----------------	---	----------------

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

LANDFILL
CROSS SECTIONS

NEW CUT LANDFILL
IMPROVEMENTS

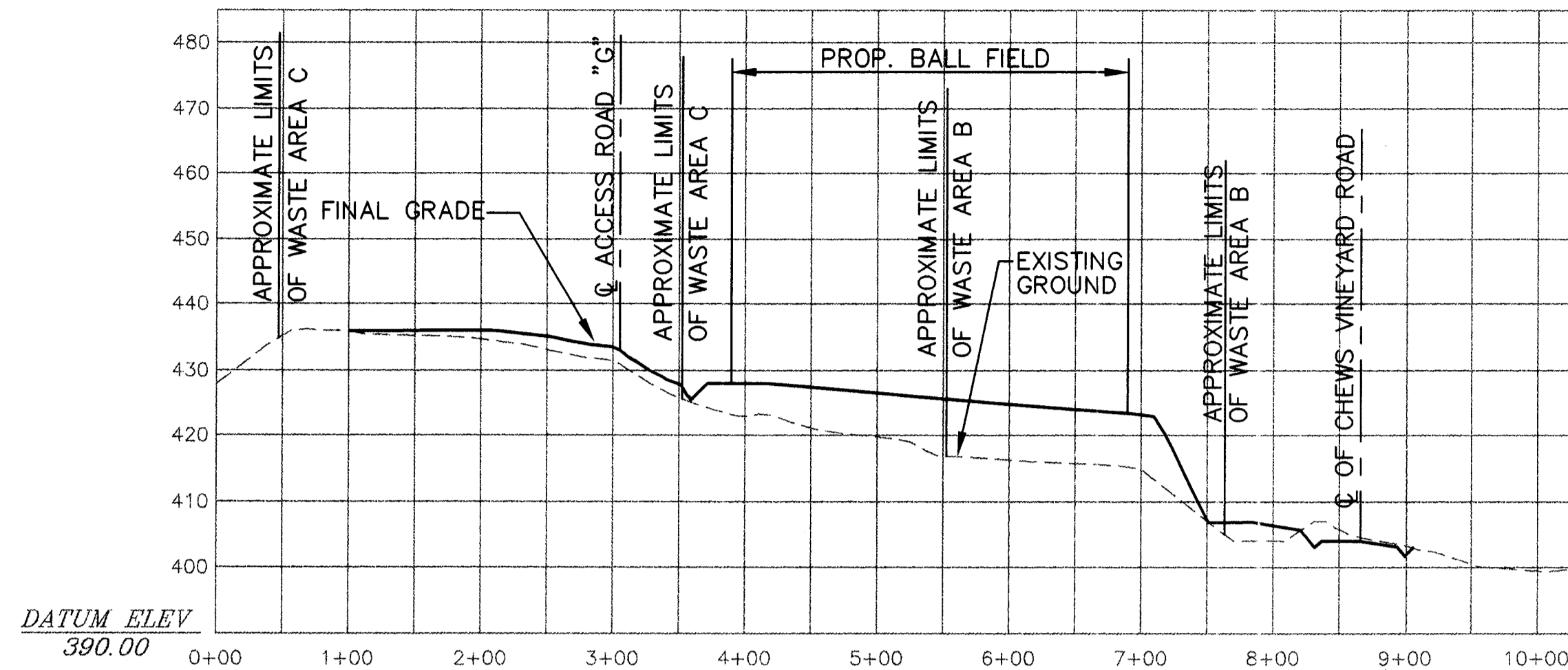
CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

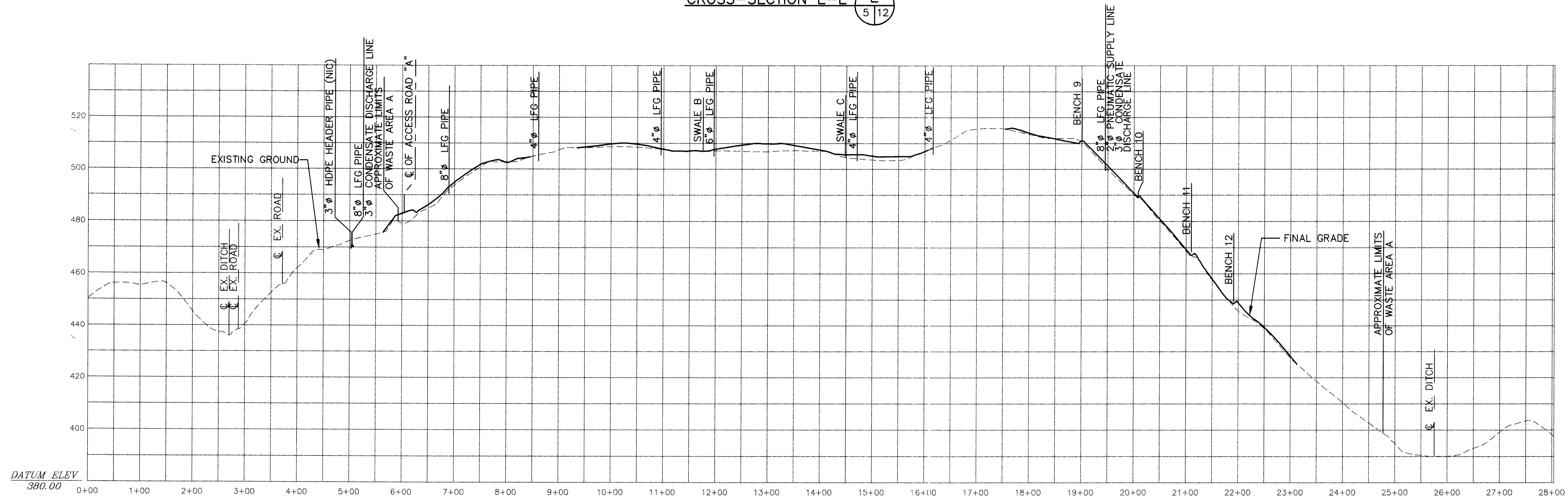
SCALE:
AS SHOWN

SHEET
11 OF 39

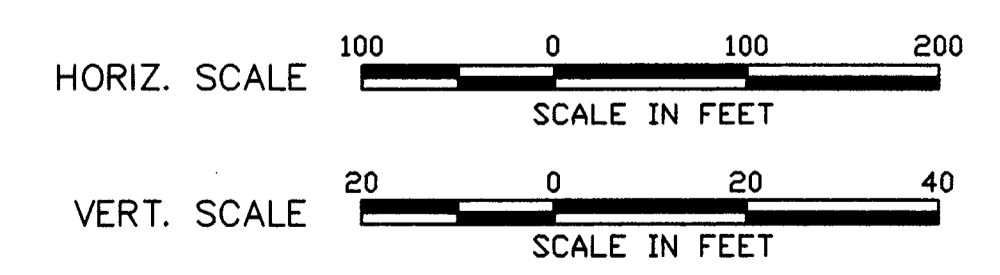
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CROSS-SECTION E-E E
5
12



CROSS-SECTION F-F F
5
12



DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

[Signature] 9/14/99
DIRECTOR DATE

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

[Signature] 7/18/99
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

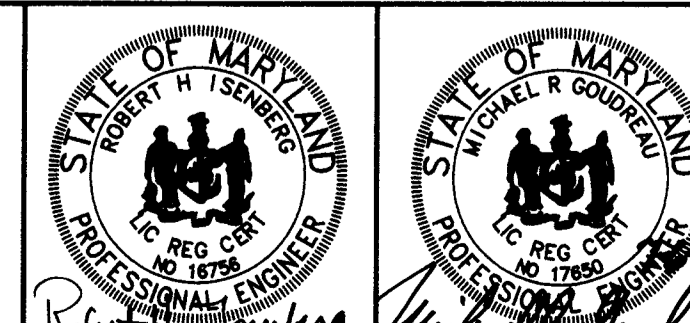
SUBDIVISION NAME	LOT/PARCEL		
HO. CO. GOVERNMENT	529		
LIBER/FOLIO	ZONE	TAX/ZONE MAP	
180/339	R-20	31	
WATER CODE	SEWER CODE	CENSUS TR.	

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[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	

LANDFILL
CROSS SECTIONS

NEW CUT LANDFILL
IMPROVEMENTS

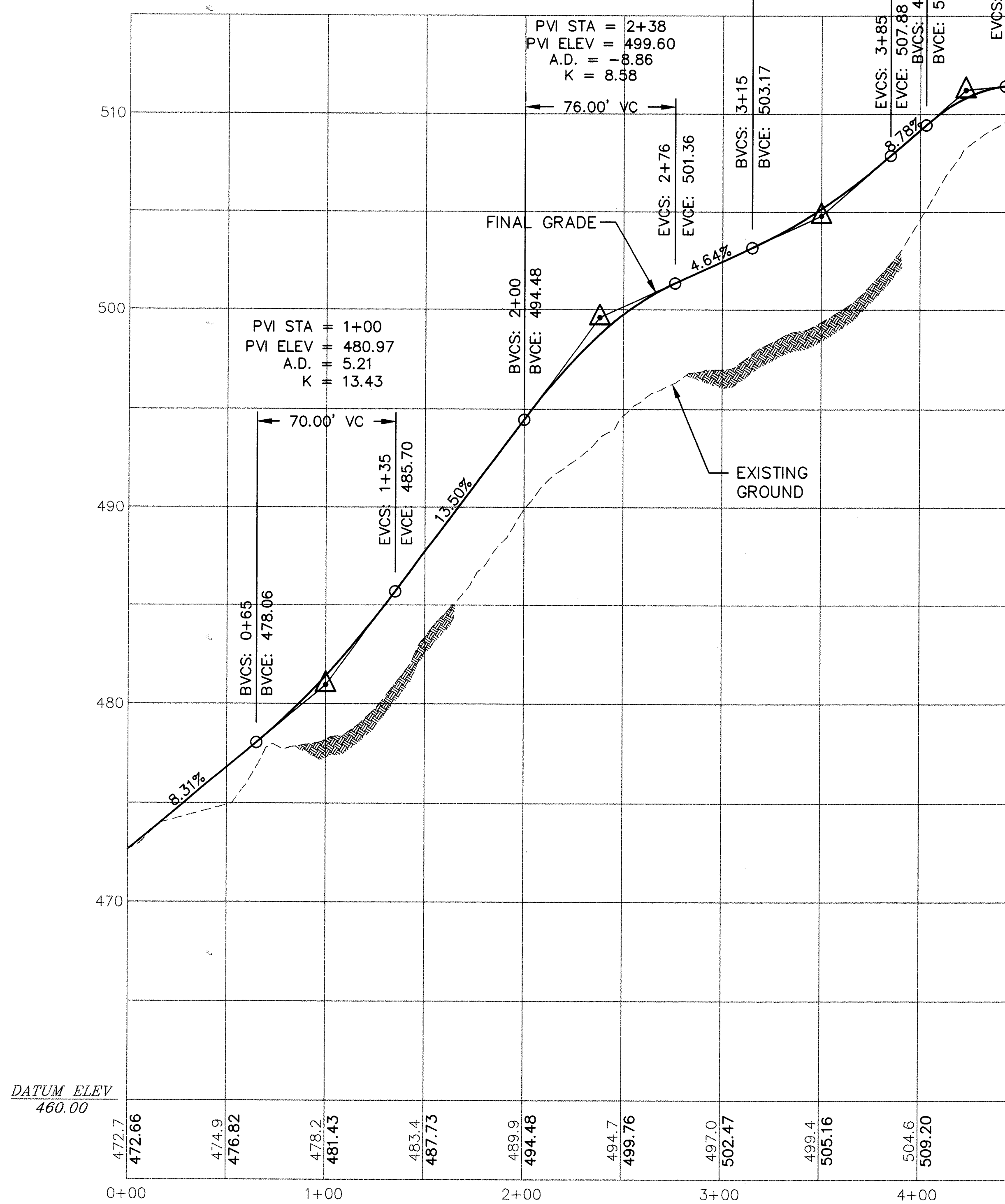
CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

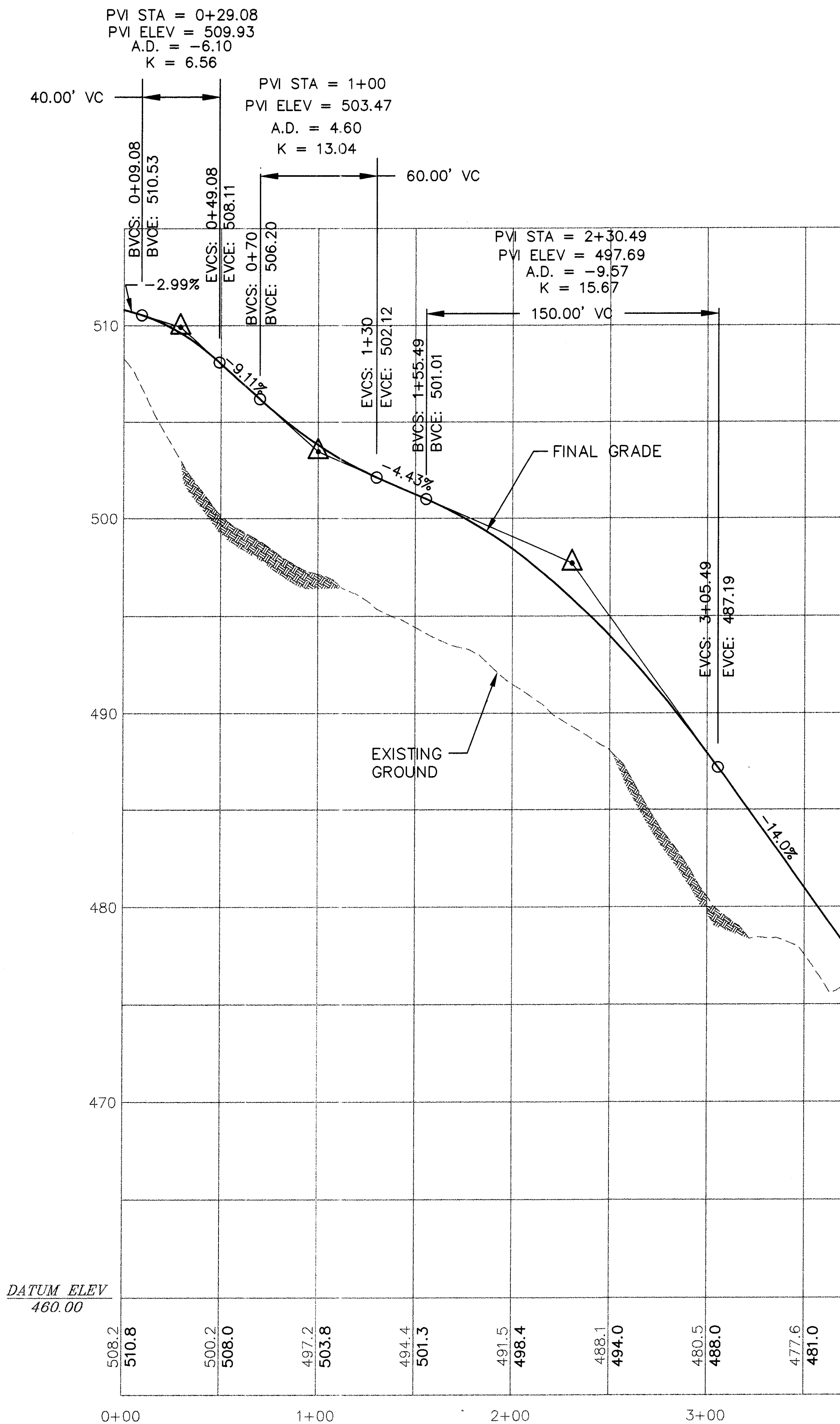
SCALE:
AS SHOWN

SHEET
12 OF 39

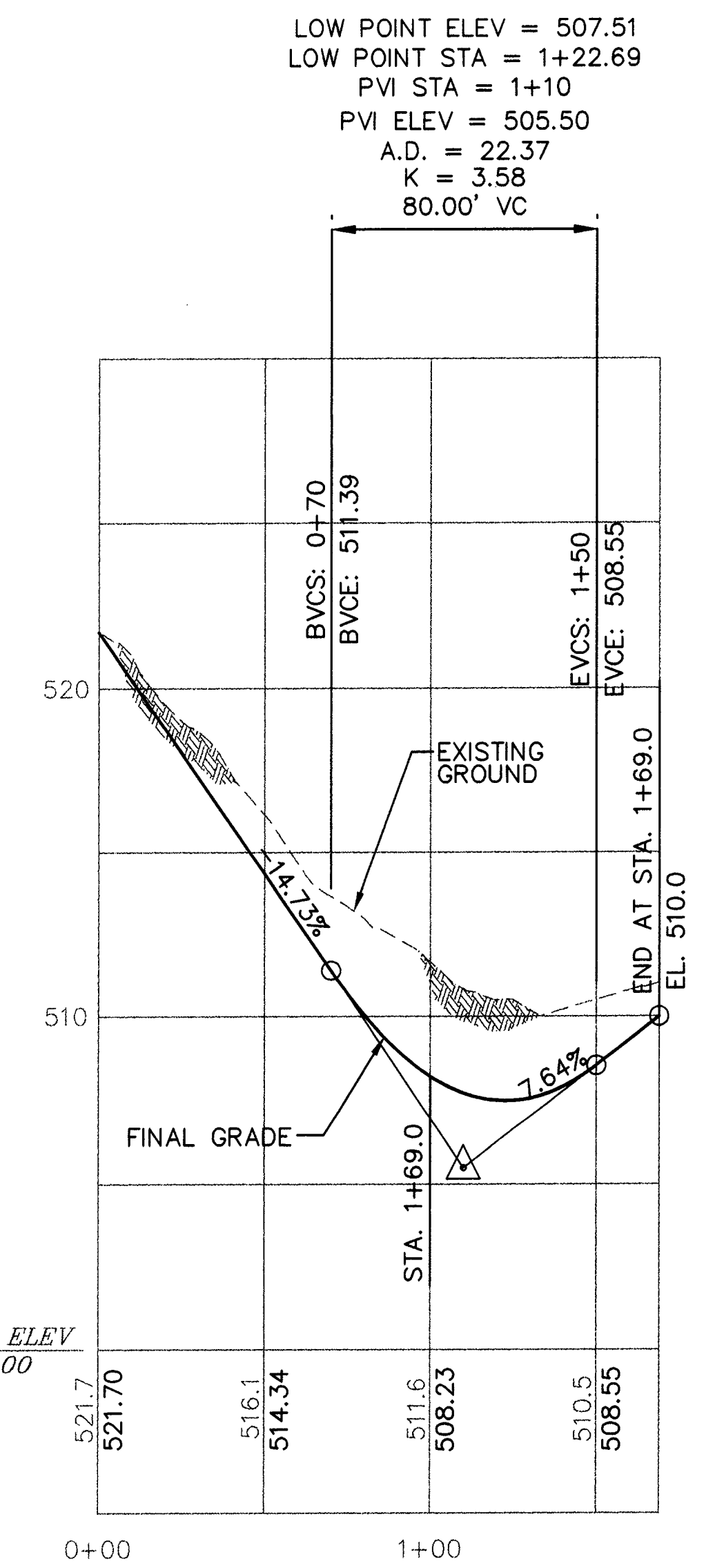
M:\296024\01\90 PERCENT\PROFILES\ XSECTDET,RO-PROF



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.

FOR DETAIL OF ACCESS ROAD C REFER TO (1/7/16)

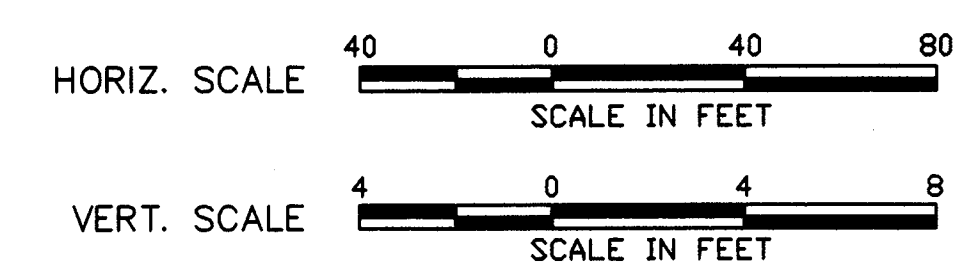
SUBDIVISION NAME		LOT/PARCEL	
HO. CO. GOVERNMENT		529	
LIBER/FOLIO	ZONE	TAX/ZONE MAP	
180/339	R-20	31	
WATER CODE	SEWER CODE	CENSUS TR.	

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR: *[Signature]* 9/14/99 DATE

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

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

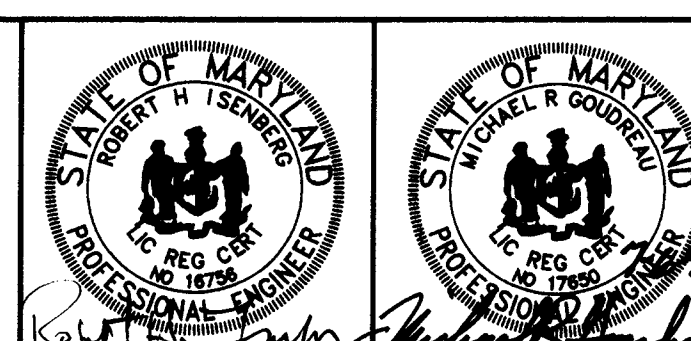


DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

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

CHIEF BUREAU OF ENVIRONMENTAL SERVICES: *[Signature]* 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	
					DATE

ACCESS ROAD PROFILES

NEW CUT LANDFILL IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

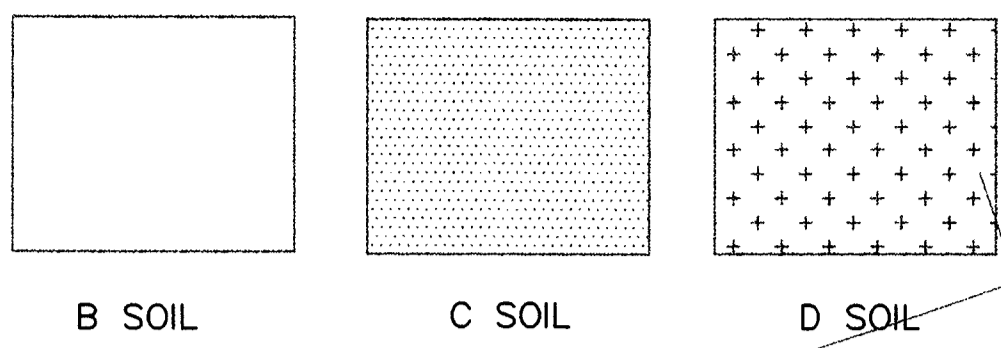
SCALE: AS SHOWN

SHEET 13 OF 39

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
- CS-1 PROPOSED CONDENSATE SUMP
- 310 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



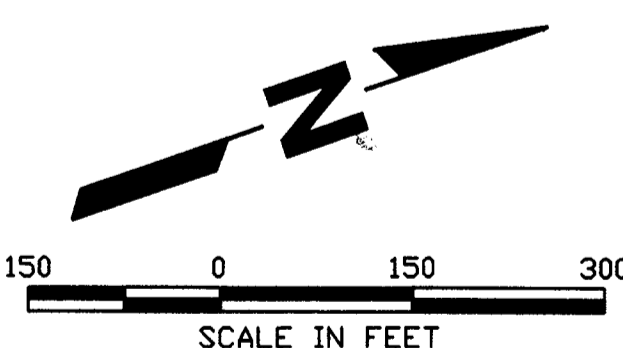
NOTE:
 1. * DENOTES ROADWAY CAPITAL PROJECT ITEMS.
 2. SLOPES SHOWN FOR Tc FLOW PATHS ARE AVERAGES

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	0.38	12.91
E-26	0.51	0.51	0.31	5.9
I-7	1.18	1.18	0.19	0
I-6	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, Q, 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	12.48	75	0.31	3	8	17	40
F	0.7	60	0.13	<1	1	2	3
G	26.9	72	0.33	8	20	29	75
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

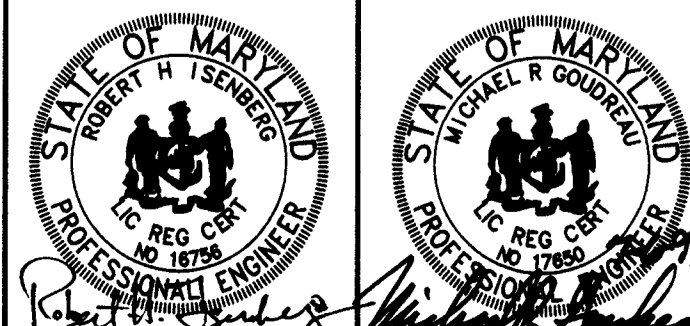
[Signature] 9/11/99
 DIRECTOR DATE
[Signature] 9/19/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
[Signature] 9/13/99
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

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

[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: 07-01-99
 BY NO. BJD/46
 REVISION: Revised Ex. 36" to 24" CMP; TABLE 8/5/99
 DATE

DRAINAGE AREA MAP

NEW CUT LANDFILL
 IMPROVEMENTS

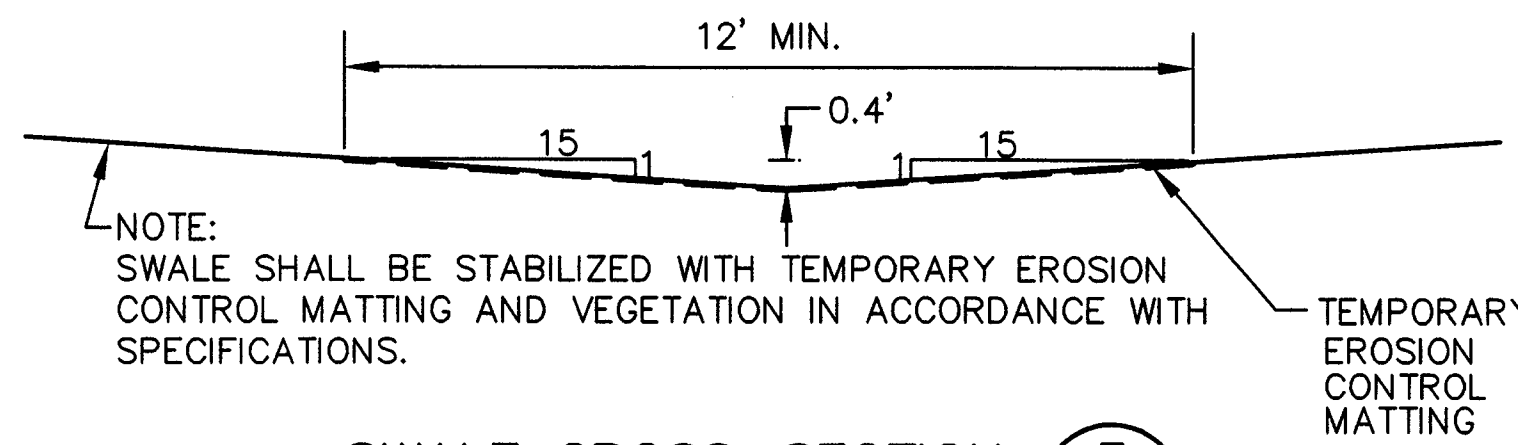
CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

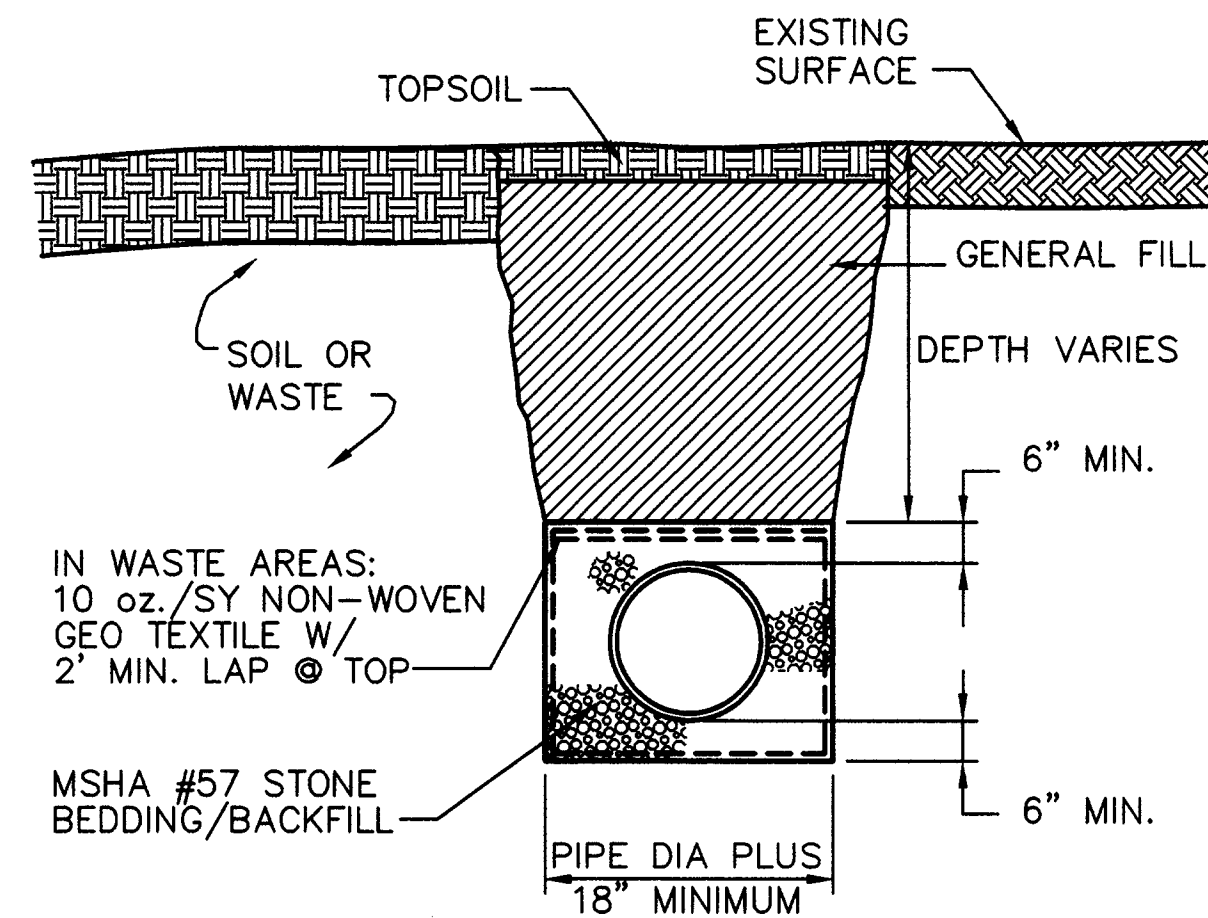
SCALE: 150
 SHEET 14 OF 39

SDP-99-109

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.

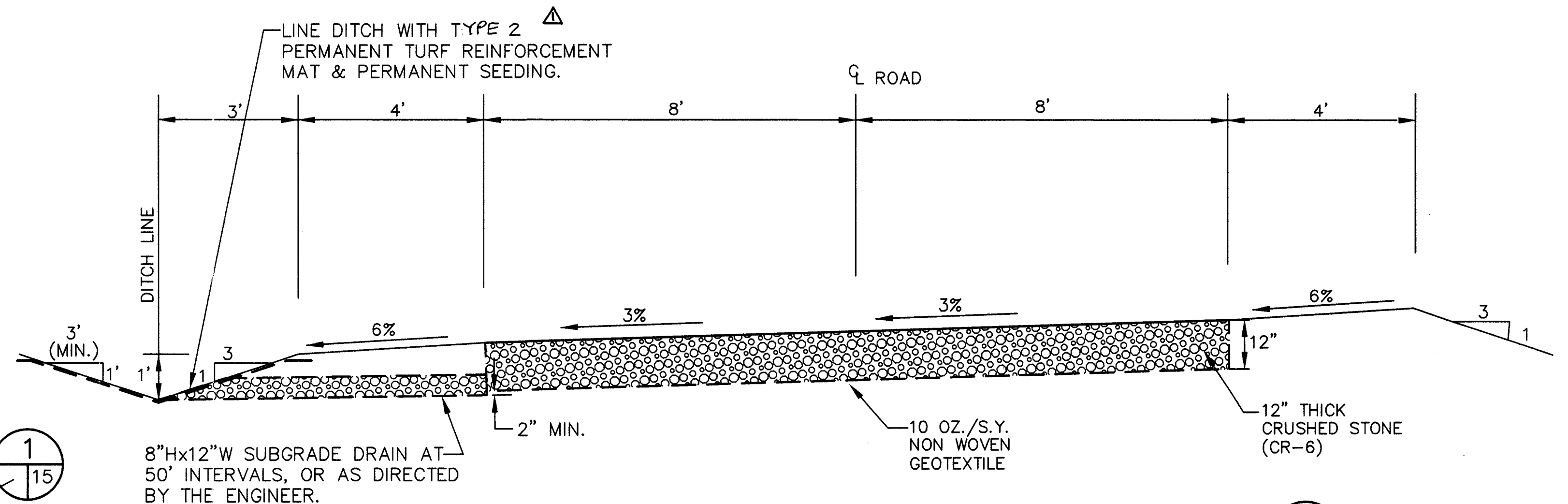


SWALE CROSS-SECTION 3
NO SCALE
5,6,7,8,24,25,29,30,31,32

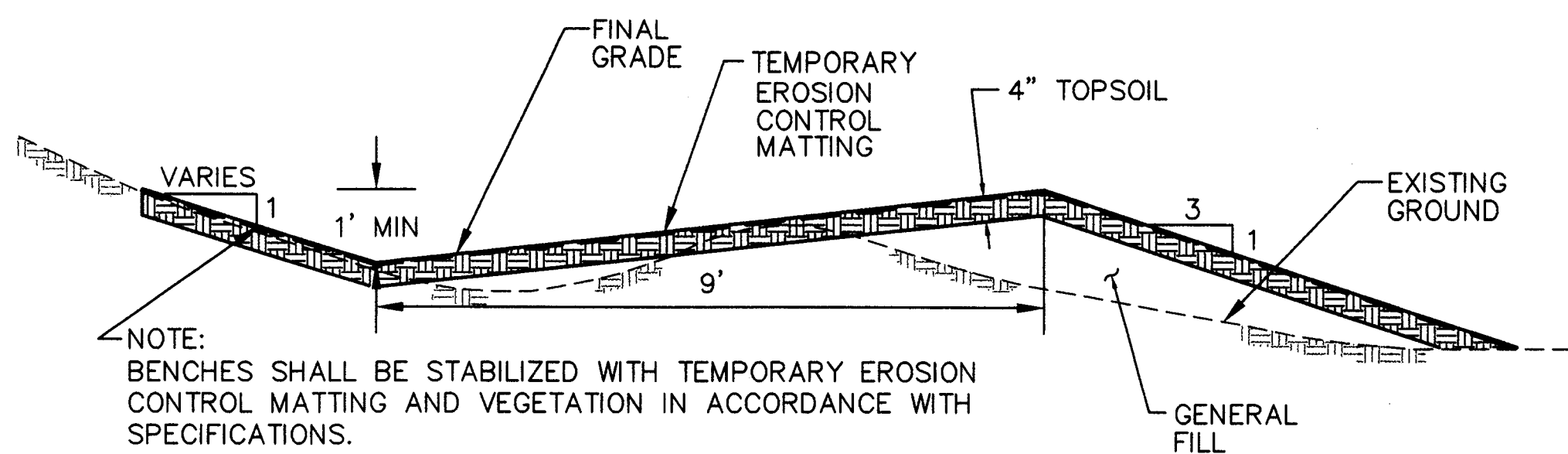


HDPE OUTLET PIPE BEDDING AND TRENCH DETAIL 1
NO SCALE
24,25

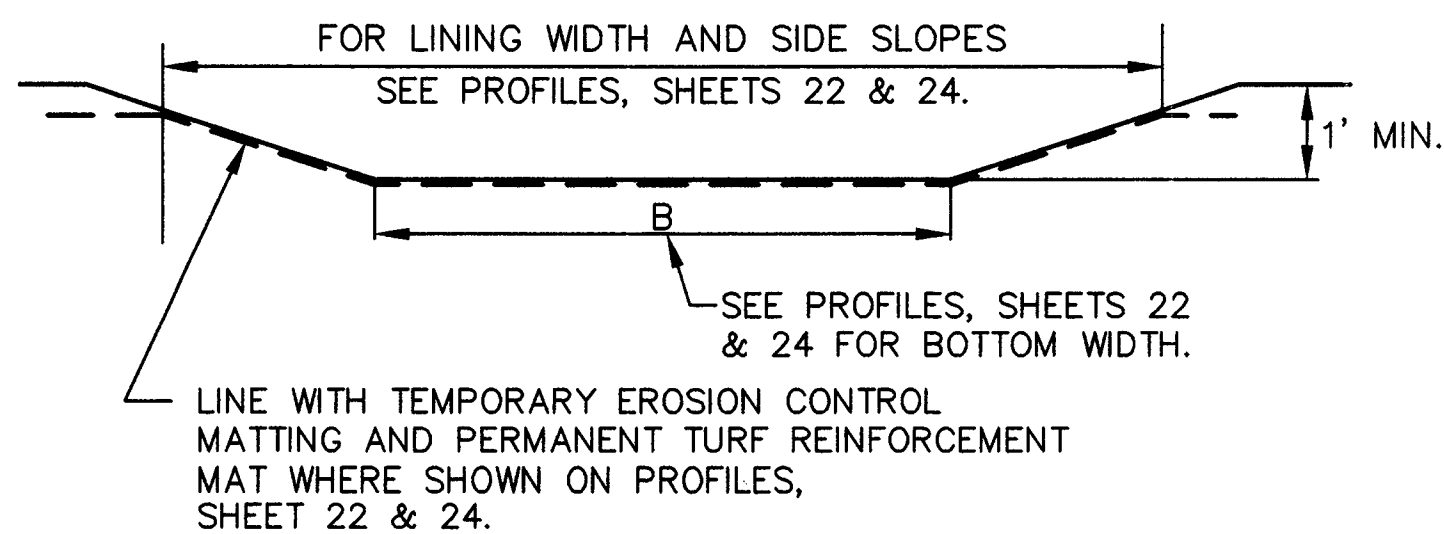
NOTE:
1. REFER TO HDPE PIPE PROFILE FOR PIPE ELEVATIONS.



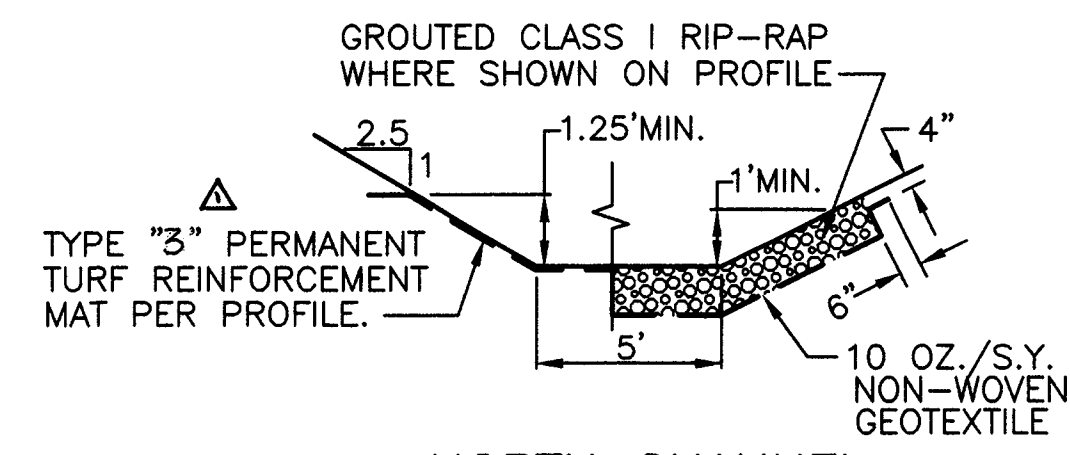
ACCESS ROAD "A" AND "B" CROSS SECTION (TYP.) 6
NO SCALE
5,6,7,29,30,31



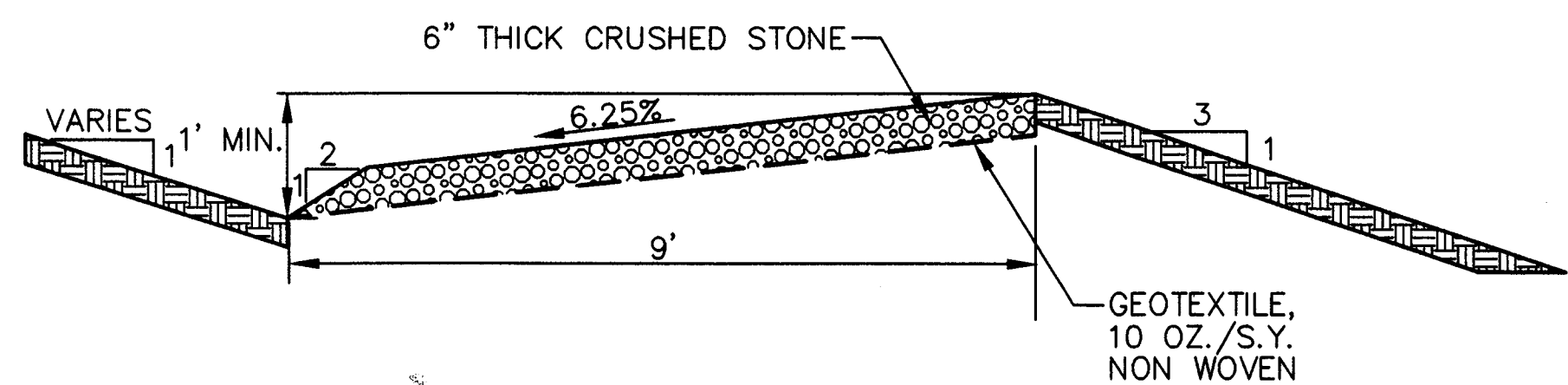
TYPICAL BENCH IMPROVEMENT CROSS-SECTION 2
NO SCALE
5,6,7,8,9,29,30,31,32,33



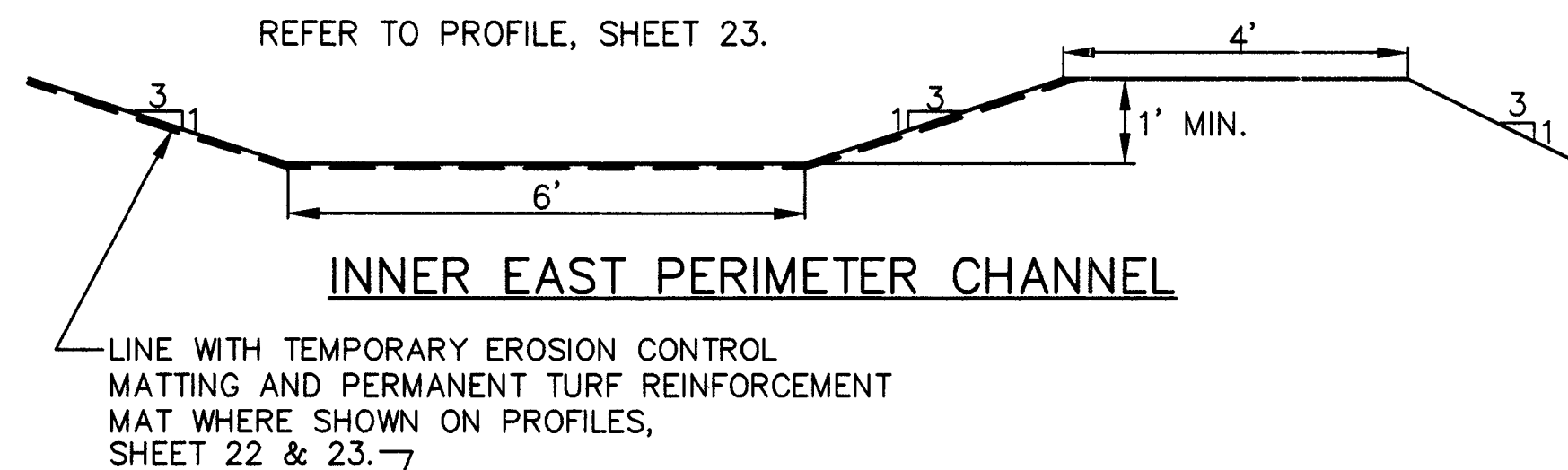
DOWNCHUTE CHANNELS, SW-1, SW-2



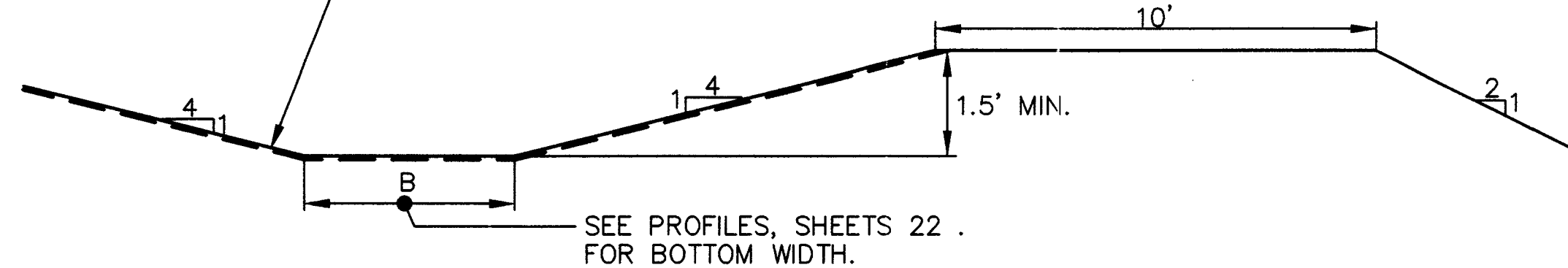
NORTH CHANNEL
NOT TO SCALE



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



INNER EAST PERIMETER CHANNEL

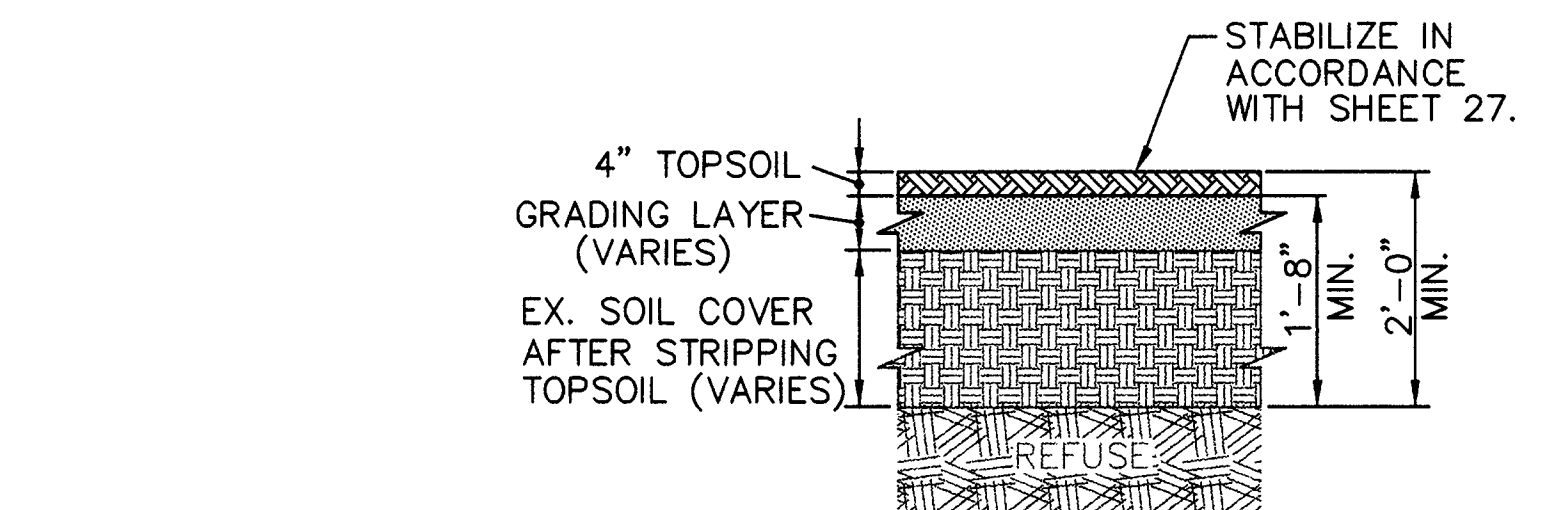


WEST PERIMETER CHANNEL

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.

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



NOTES:
1. EXISTING SOIL COVER THICKNESS VARIES. (SEE SHEET NO. 4).
2. 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.
3. 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.

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

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 TAX/ZONE MAP
<i>[Signature]</i>	9/19/99	180/339	R-20 31
CHIEF, DIVISION/OF LAND DEVELOPMENT	DATE	WATER CODE	SEWER CODE CENSUS TR.
<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

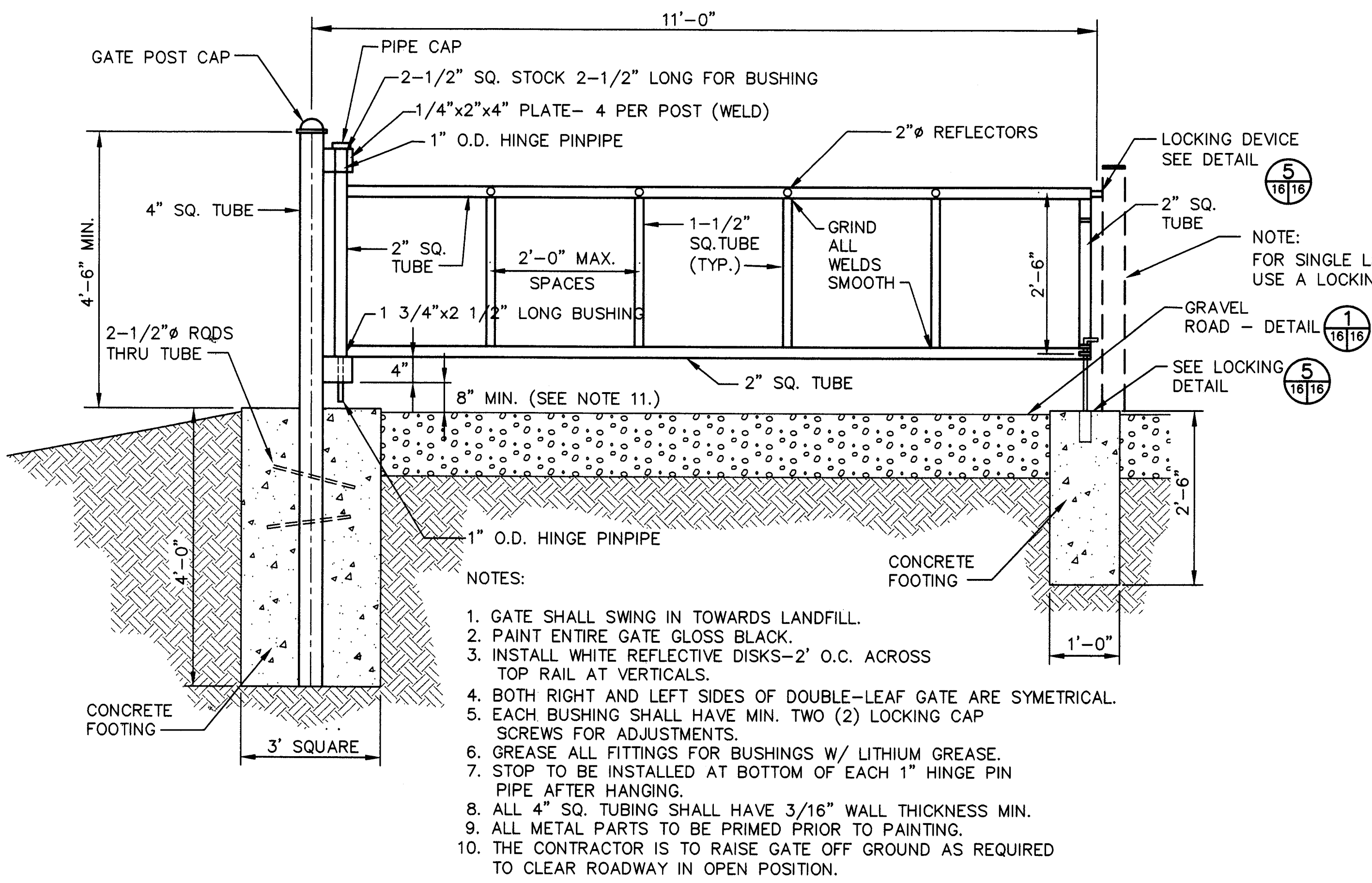
DES.	MRG		
DRN.	JCS		
CHK.	RHI		
DATE:	06-02-99	BY:	NO.
REVISION: Changed Turf B" to TYPE 2" & "C" to 3" 8/5/99			

FINAL COVER DETAILS AND ACCESS ROAD DETAILS

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

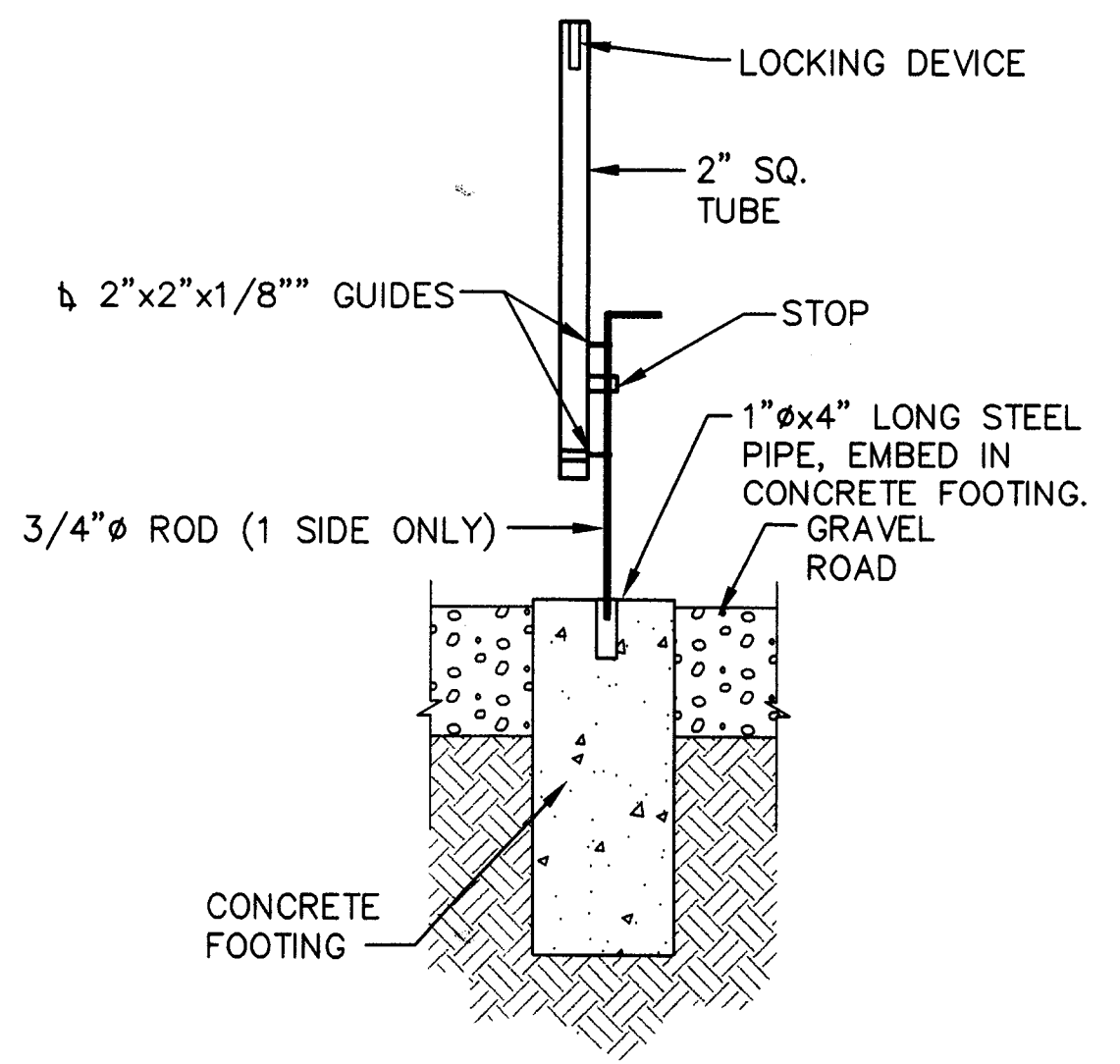
SCALE:
AS SHOWN
SHEET
15 OF 39

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

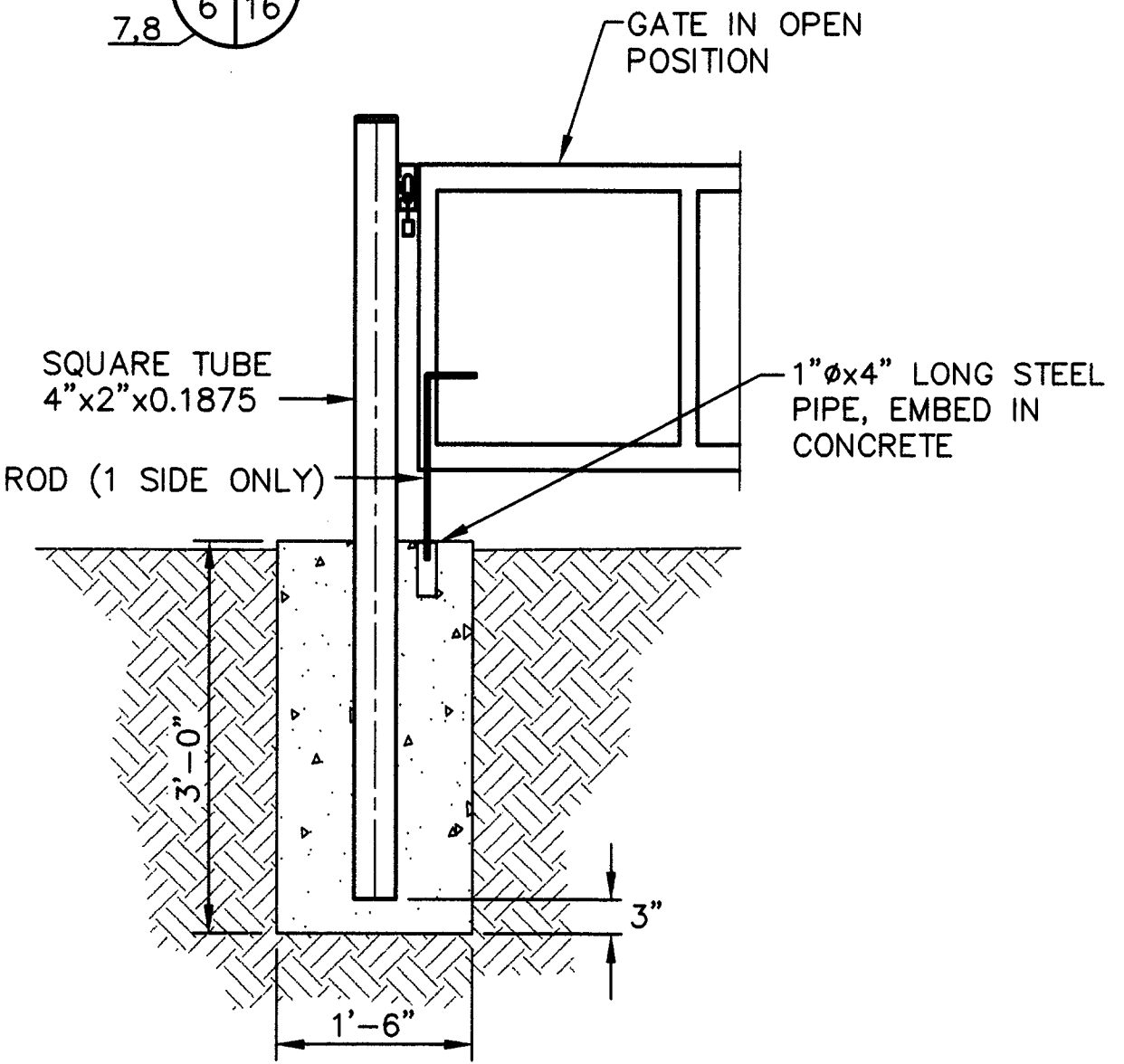


- NOTES:
- GATE SHALL SWING IN TOWARDS LANDFILL.
 - PAINT ENTIRE GATE GLOSS BLACK.
 - INSTALL WHITE REFLECTIVE DISKS-2' O.C. ACROSS TOP RAIL AT VERTICALS.
 - BOTH RIGHT AND LEFT SIDES OF DOUBLE-LEAF GATE ARE SYMMETRICAL.
 - EACH BUSHING SHALL HAVE MIN. TWO (2) LOCKING CAP SCREWS FOR ADJUSTMENTS.
 - GREASE ALL FITTINGS FOR BUSHINGS W/ LITHIUM GREASE.
 - STOP TO BE INSTALLED AT BOTTOM OF EACH 1" HINGE PIN PIPE AFTER HANGING.
 - ALL 4" SQ. TUBING SHALL HAVE 3/16" WALL THICKNESS MIN.
 - ALL METAL PARTS TO BE PRIMED PRIOR TO PAINTING.
 - THE CONTRACTOR IS TO RAISE GATE OFF GROUND AS REQUIRED TO CLEAR ROADWAY IN OPEN POSITION.

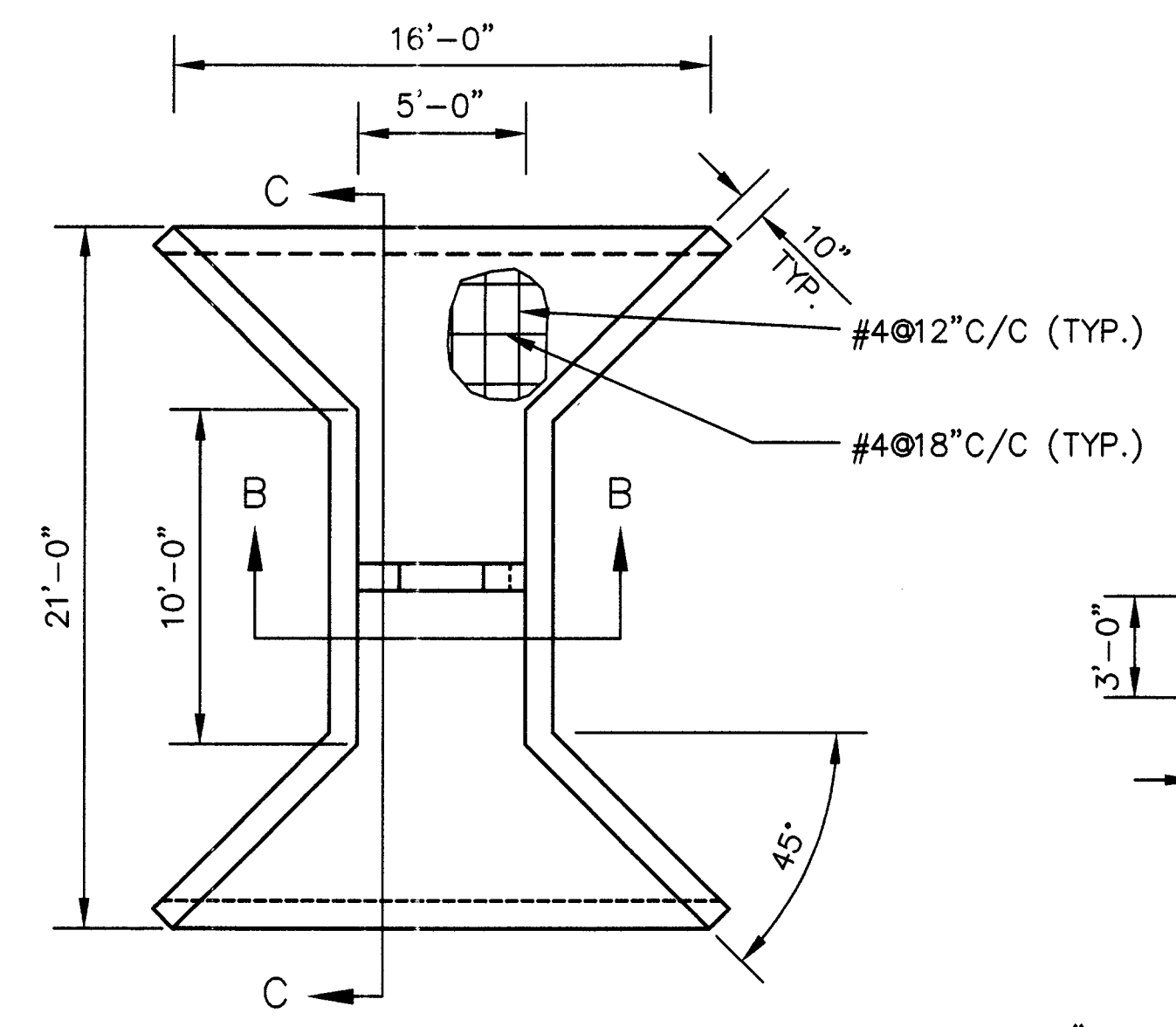
ENTRY GATE DETAIL (3)
SCALE: 3/4"=1'-0"



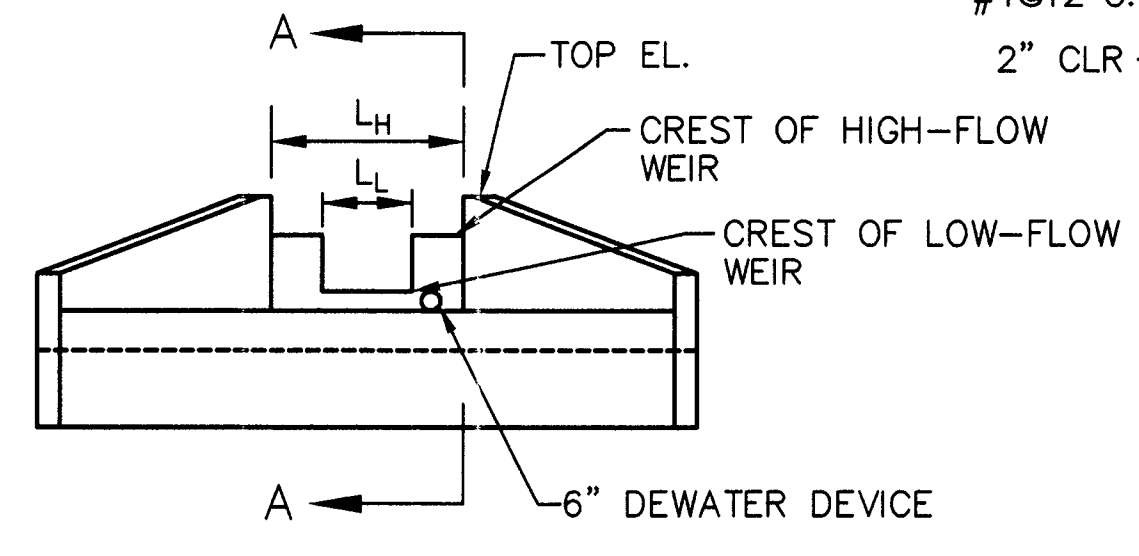
GATE IN CLOSED POSITION DETAIL (6)
SCALE: 3/4"=1'-0"



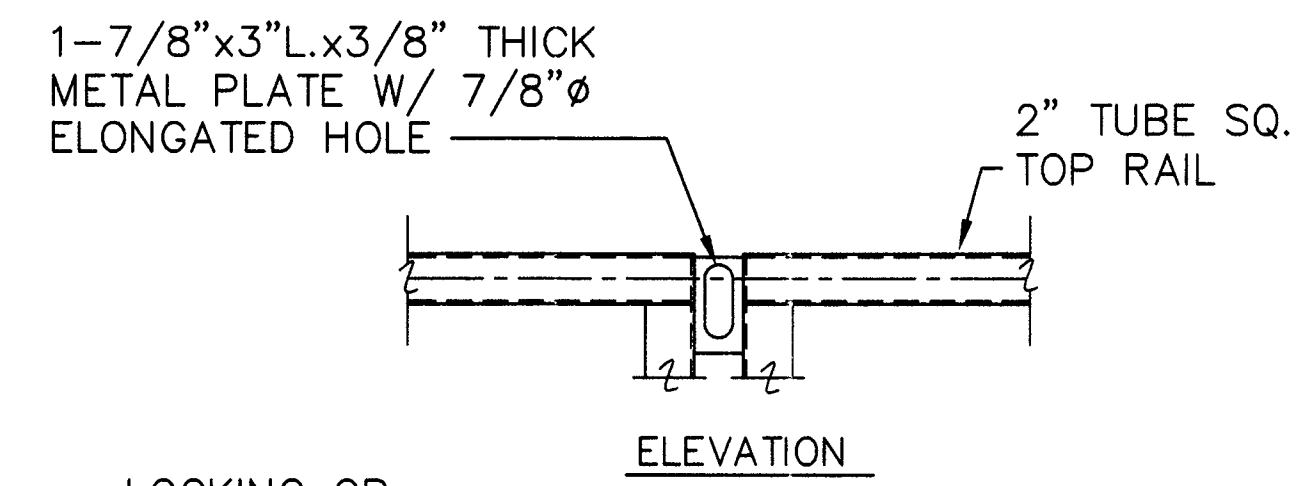
LOCKING OR HOLD-OPEN POST (4)
SCALE: 3/4"=1'-0"



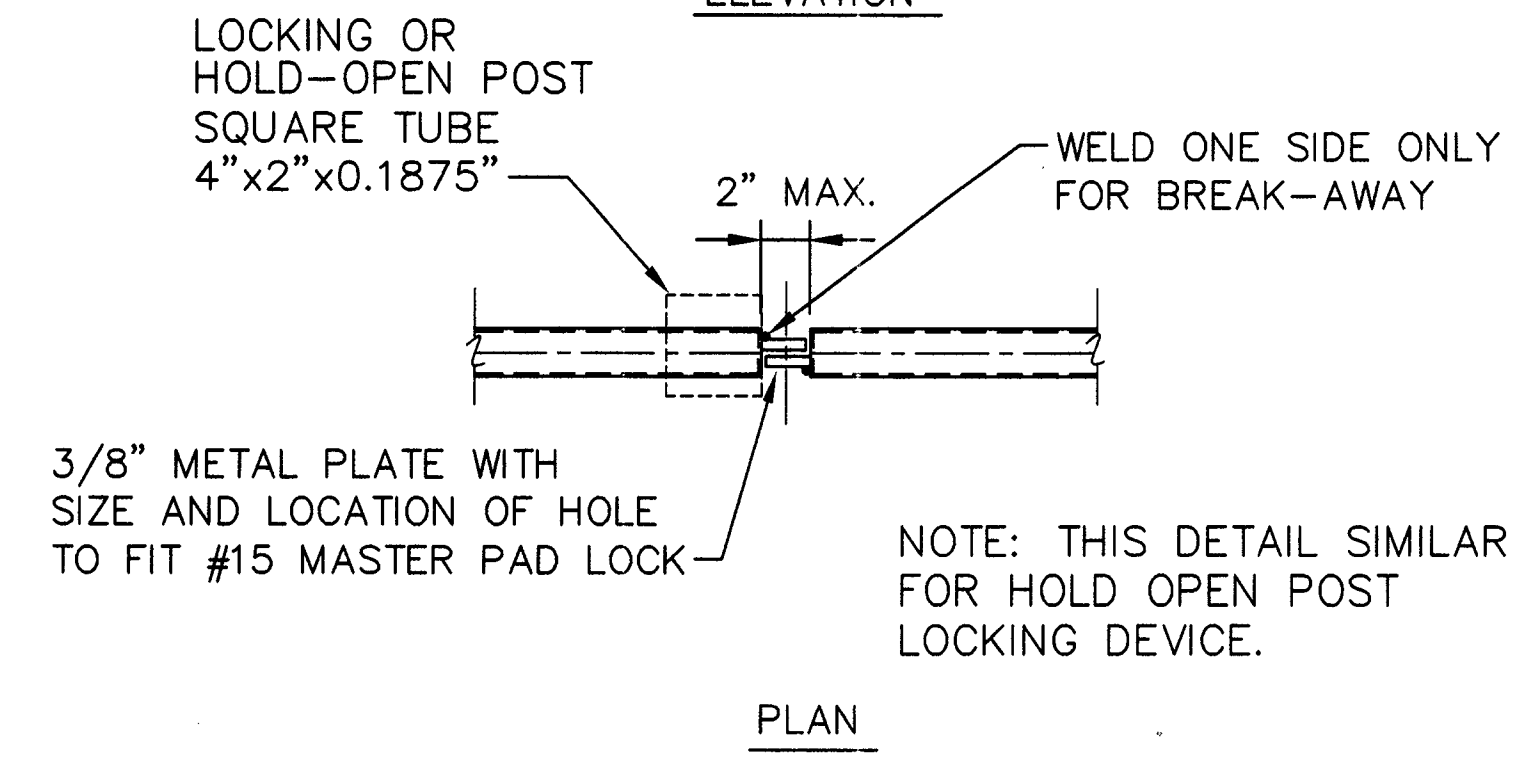
PLAN



FRONT ELEVATION



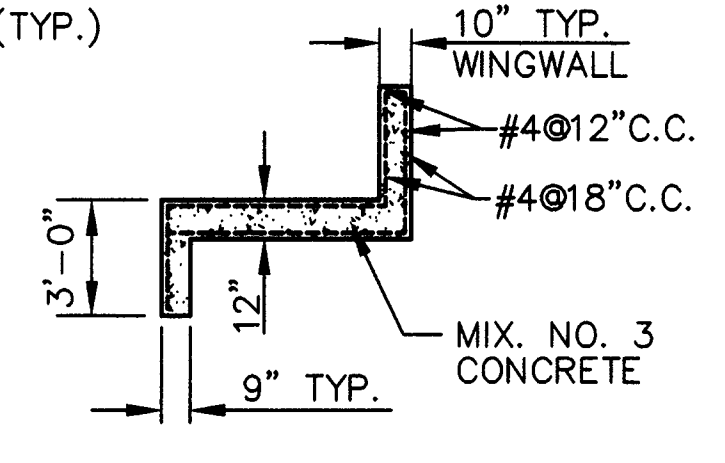
ELEVATION



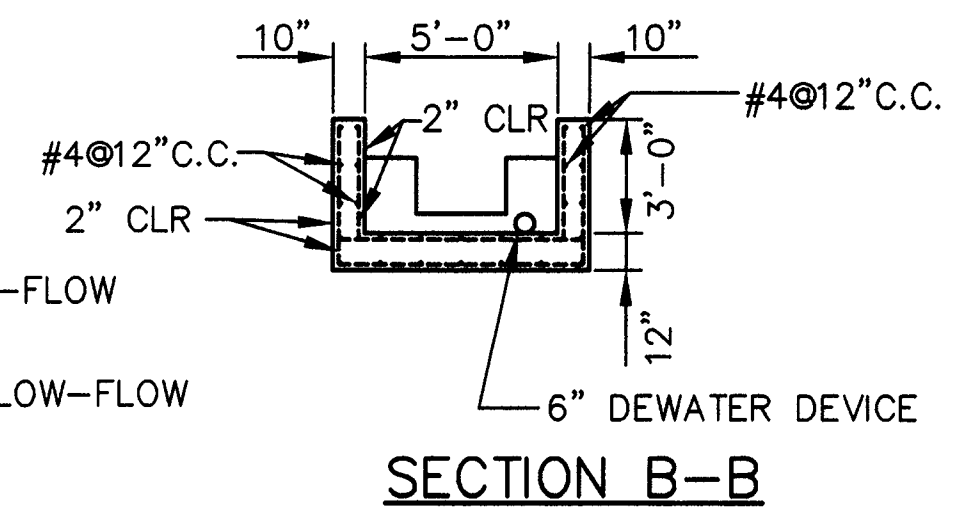
LOCKING DEVICE DETAIL (5)
SCALE: 1 1/2"=1'-0"

NOTES:

- ALL EXPOSED EDGES TO HAVE 3/4" X 3/4" CHAMFER OR AS DIRECTED.
- CONCRETE SHALL BE SHA MIX NO. 3 (fc=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)

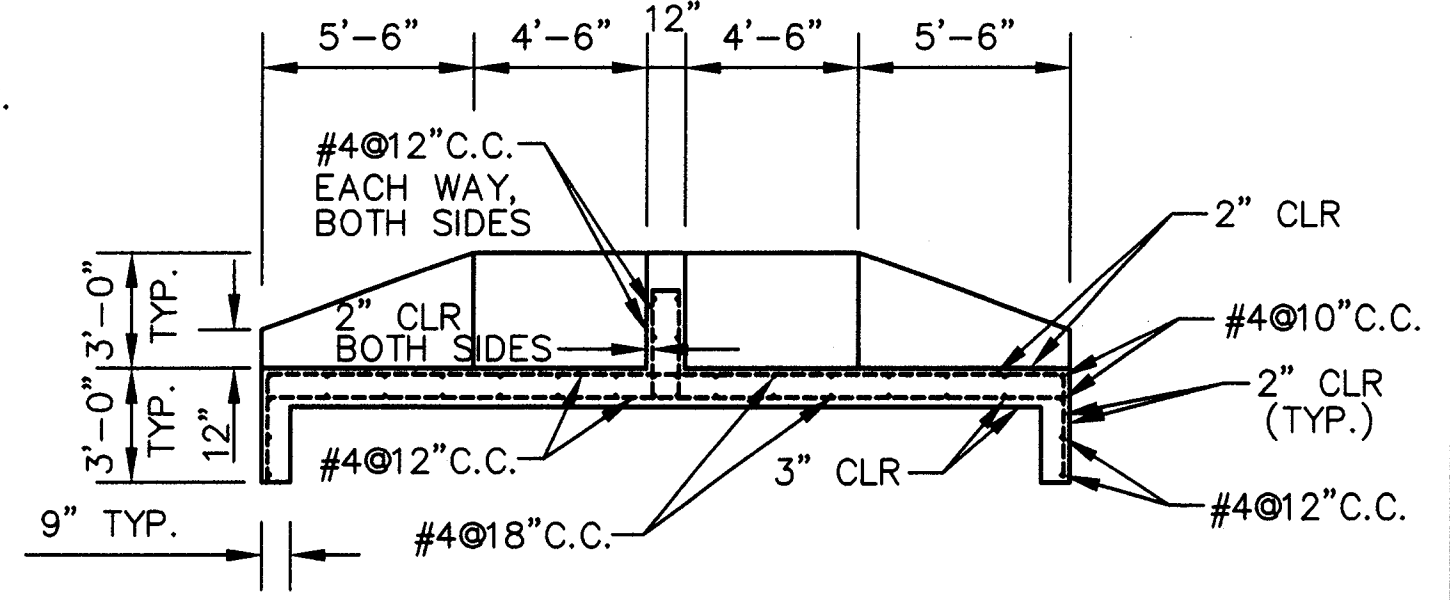


SECTION A-A



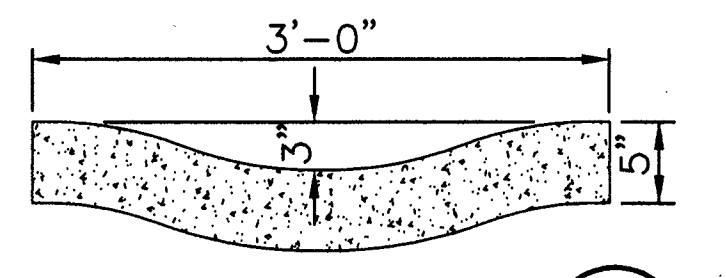
SECTION B-B

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

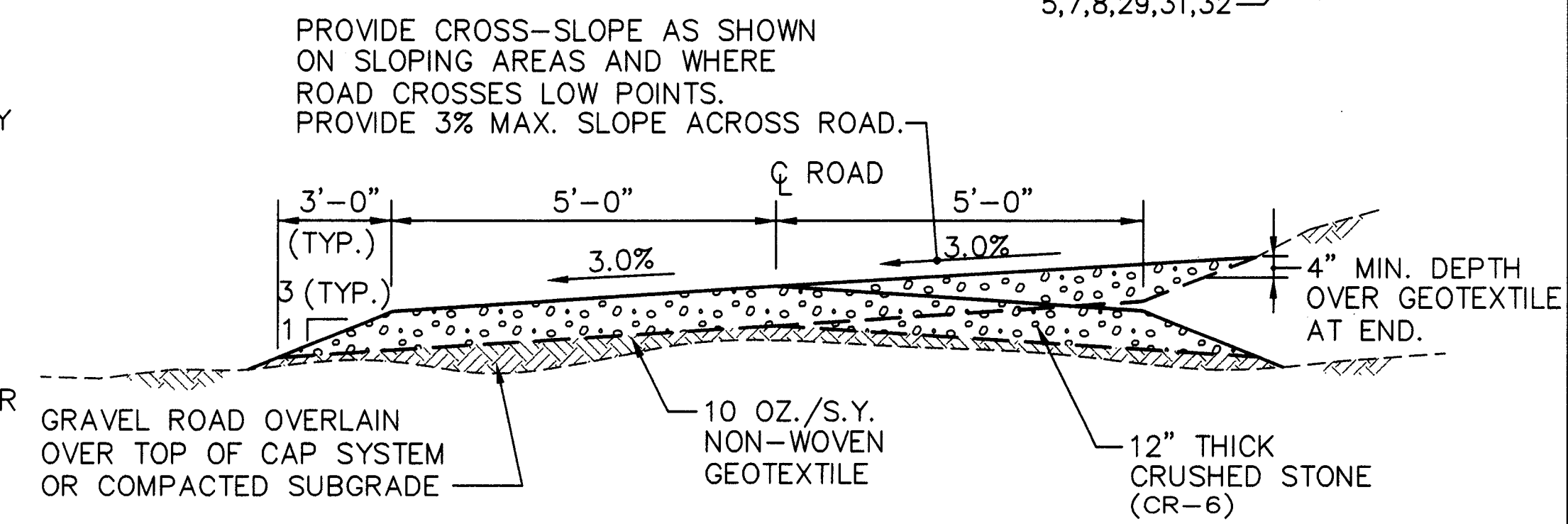


SECTION C-C

LOW RISE STORMWATER MANAGEMENT CONTROL STRUCTURE (2)
NO SCALE



VALLEY GUTTER (7)
NO SCALE:



ACCESS ROAD C, D, E, F, G, H, I & J CROSS-SECTION (1)
NO SCALE

M:\296024\01 90 PERCENT\PROFILES CHAIN,ENTRANCE,GATE,GRAV-RD.LRS\MS.HOLDOPEN

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	
DIRECTOR	DATE 2/14/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 9/9/99
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 7/13/99

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

MISCELLANEOUS DETAILS

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

SCALE: AS SHOWN
SHEET 16 OF 39
SDP-99-104

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.

Signature of Developer: John O'Hara, 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.

Signature of Engineer: Michael R. Goudreau, Date: 7-6-99

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: Cheryl Simmons / GCS, Date: 9/8/99

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

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 and Date fields for AS-Built Certification

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION.

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).

SPECIFICATIONS FOR PERMANENT POND CONSTRUCTION

THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD FOR PRACTICE MD-378.

SITE PREPARATION

AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL.

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.

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.

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.

PLACEMENT- AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL.

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 TREAD OR VIBRATORY ROLLER.

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.

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.

STRUCTURE BACKFILL

BACKFILL ADJACENT TO PIPES OR STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL.

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.

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.

4. BACK FILLING SHALL CONFORM TO "STRUCTURE BACKFILL". 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.

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.

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.

SPECIFICATIONS FOR TEMPORARY POND CONSTRUCTION

(APPLIES EAST SEDIMENT BASIN ONLY)

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.

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.

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.

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.

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.

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.

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.

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.

M:\296024.01\90PERCENT\ASBNOTE.SPECS.PONDNOTE

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

Director: Joseph R. Smith, Date: 9/14/99; Chief, Development Engineering Division: [Signature], Date: 9/9/99; Chief, Division of Land Development: [Signature], Date: 9/13/99

Table with 4 columns: SUBDIVISION NAME, LOT/PARCEL, LIBER/FOLIO, ZONE, TAX/ZONE MAP, WATER CODE, SEWER CODE, CENSUS TR.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

Director of Public Works: [Signature], Date: 9/6/99; 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

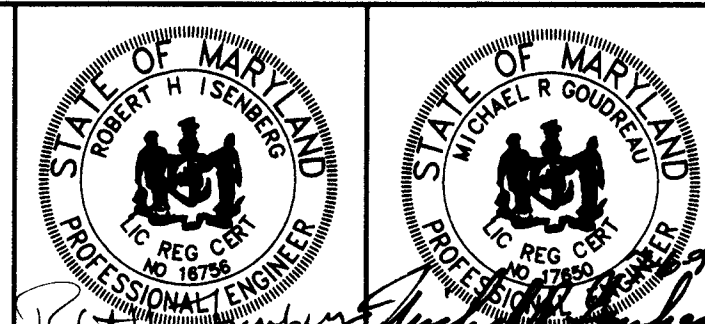


Table with columns: DES. MRG, DRN. JCS, CHK. RHI, DATE: 06-02-99, BY NO., REVISION, DATE

POND CONSTRUCTION SPECIFICATIONS AND CERTIFICATIONS

NEW CUT LANDFILL IMPROVEMENTS SCALE: NO SCALE SHEET 17 OF 39 CAPITAL PROJECT NO. C-0237-H 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.

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.

Carol 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.

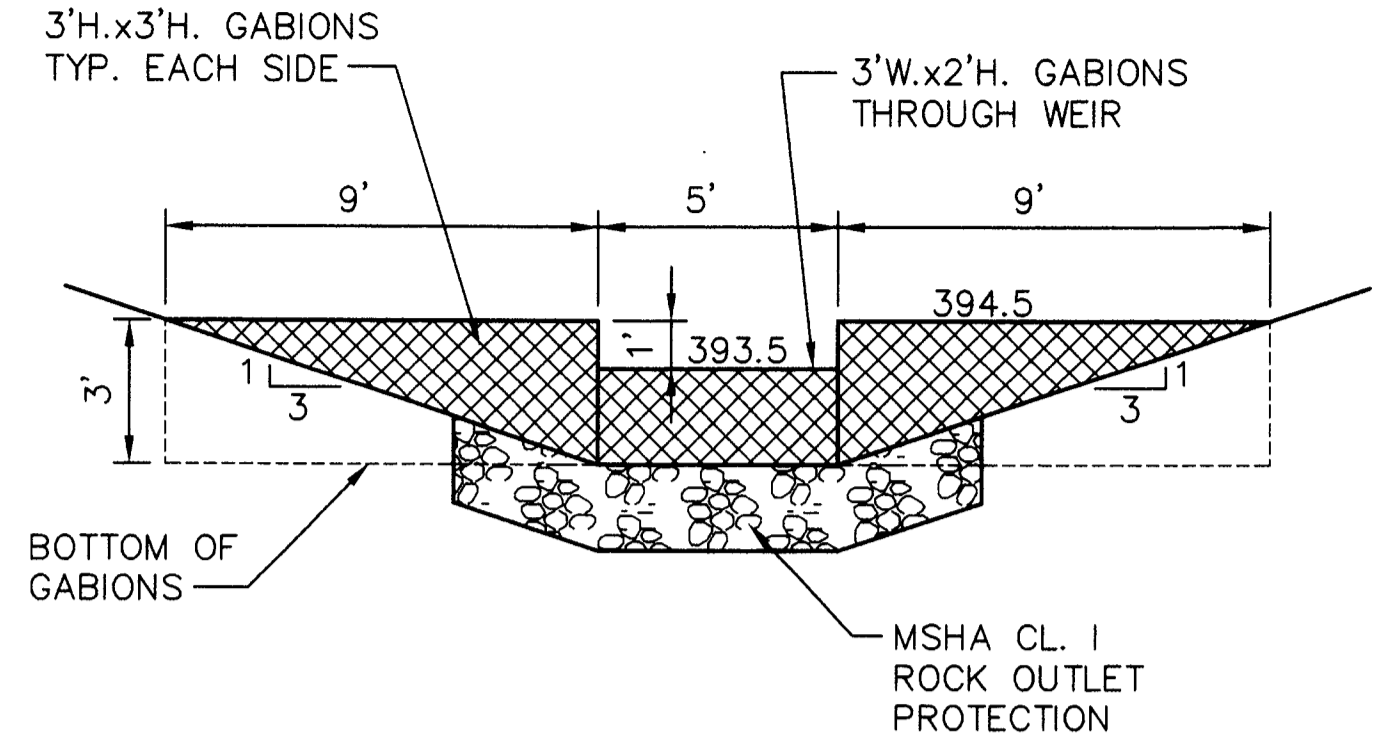
Michael R. Goudreau 7/6/99
 HOWARD SOIL CONSERVATION DISTRICT AS-BUILT CERTIFICATION DATE

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.

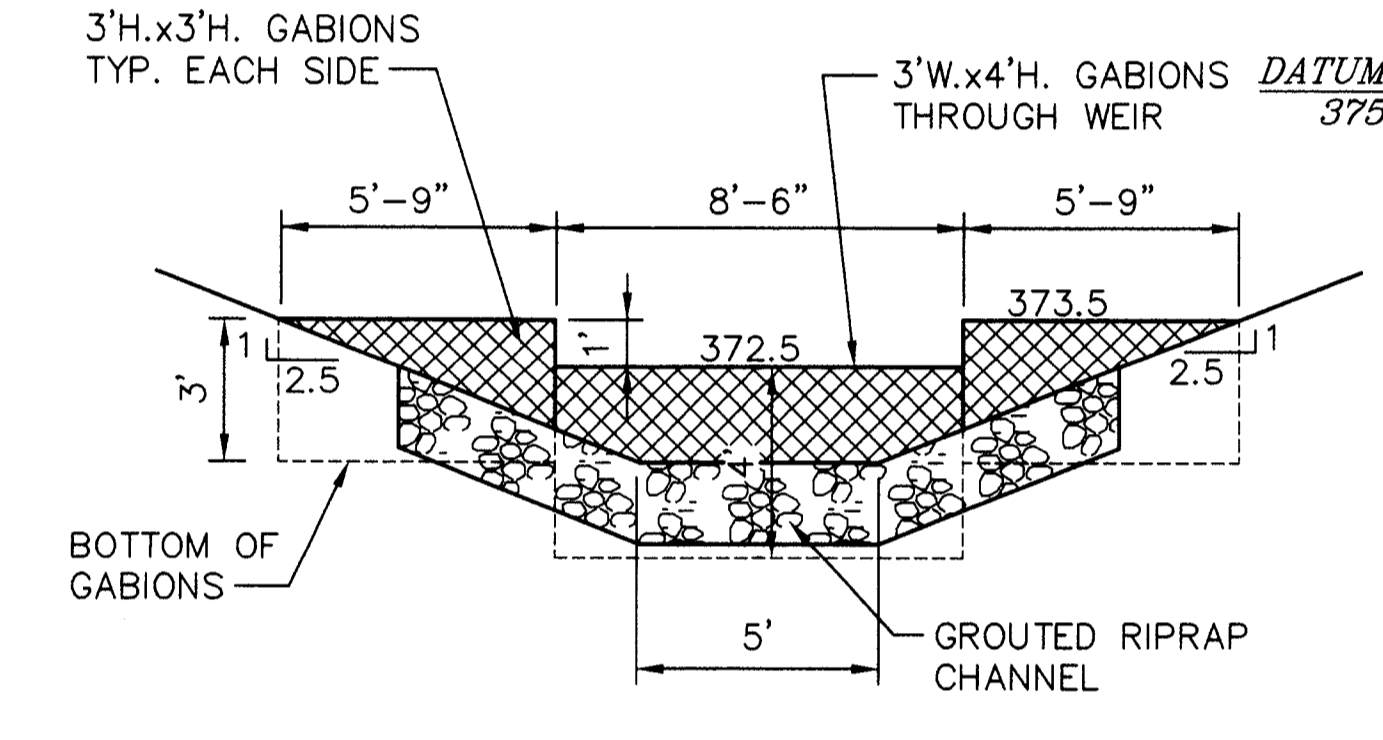
PE NO. _____
 SIGNATURE _____ DATE _____

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.

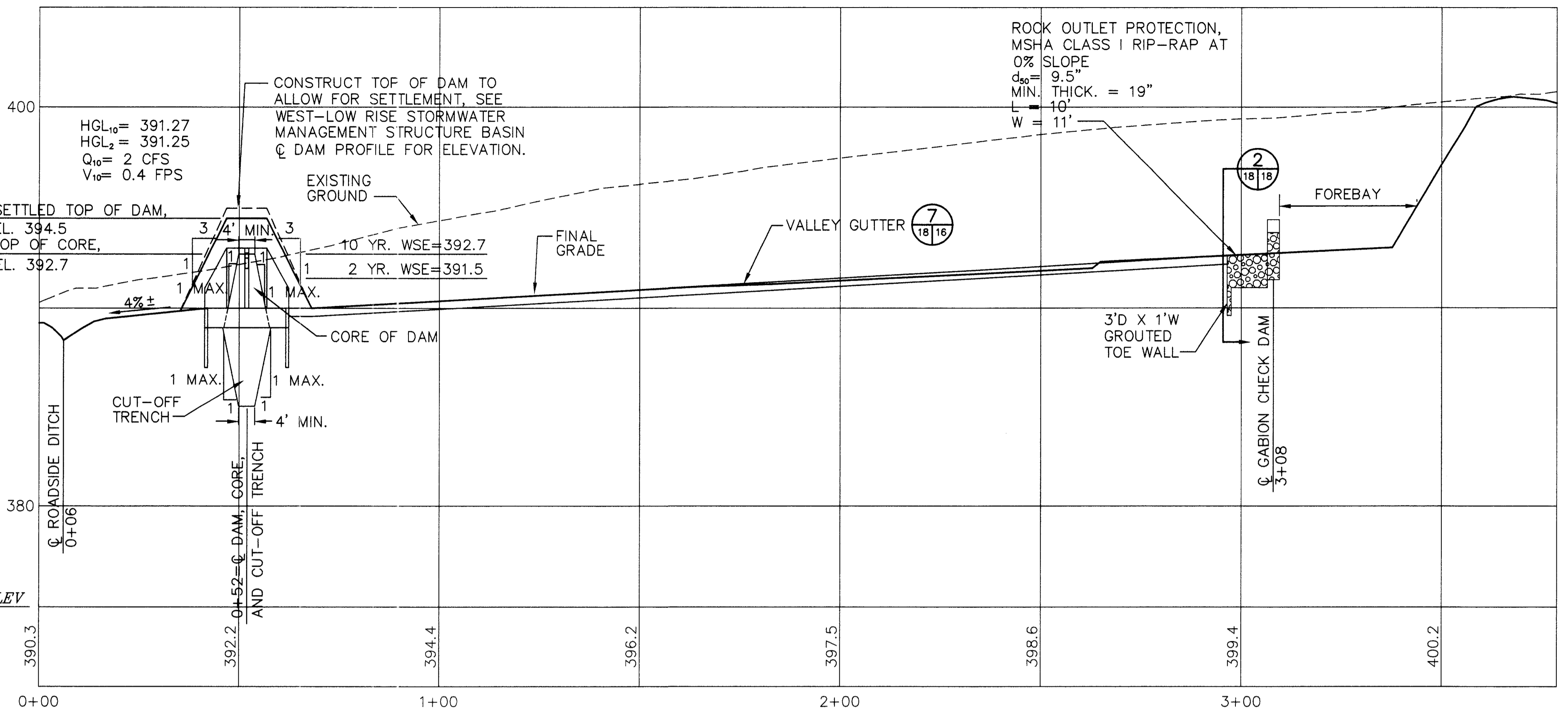
OPERATION, MAINTENANCE AND INSPECTION
 INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS OR ASSIGNS SHALL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



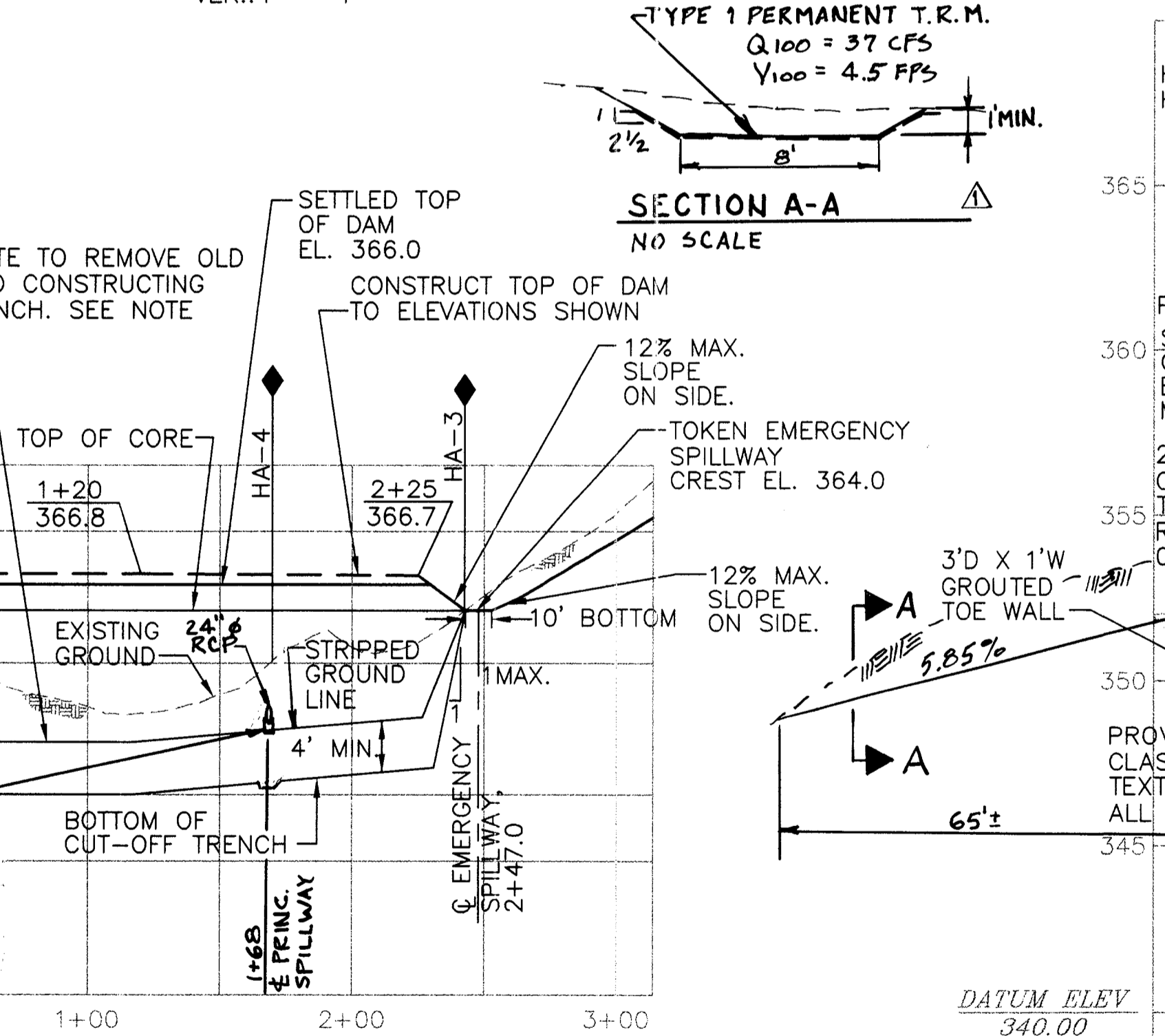
WEIR SECTION 1
 SCALE: 1/4" = 1'-0"
 8,32



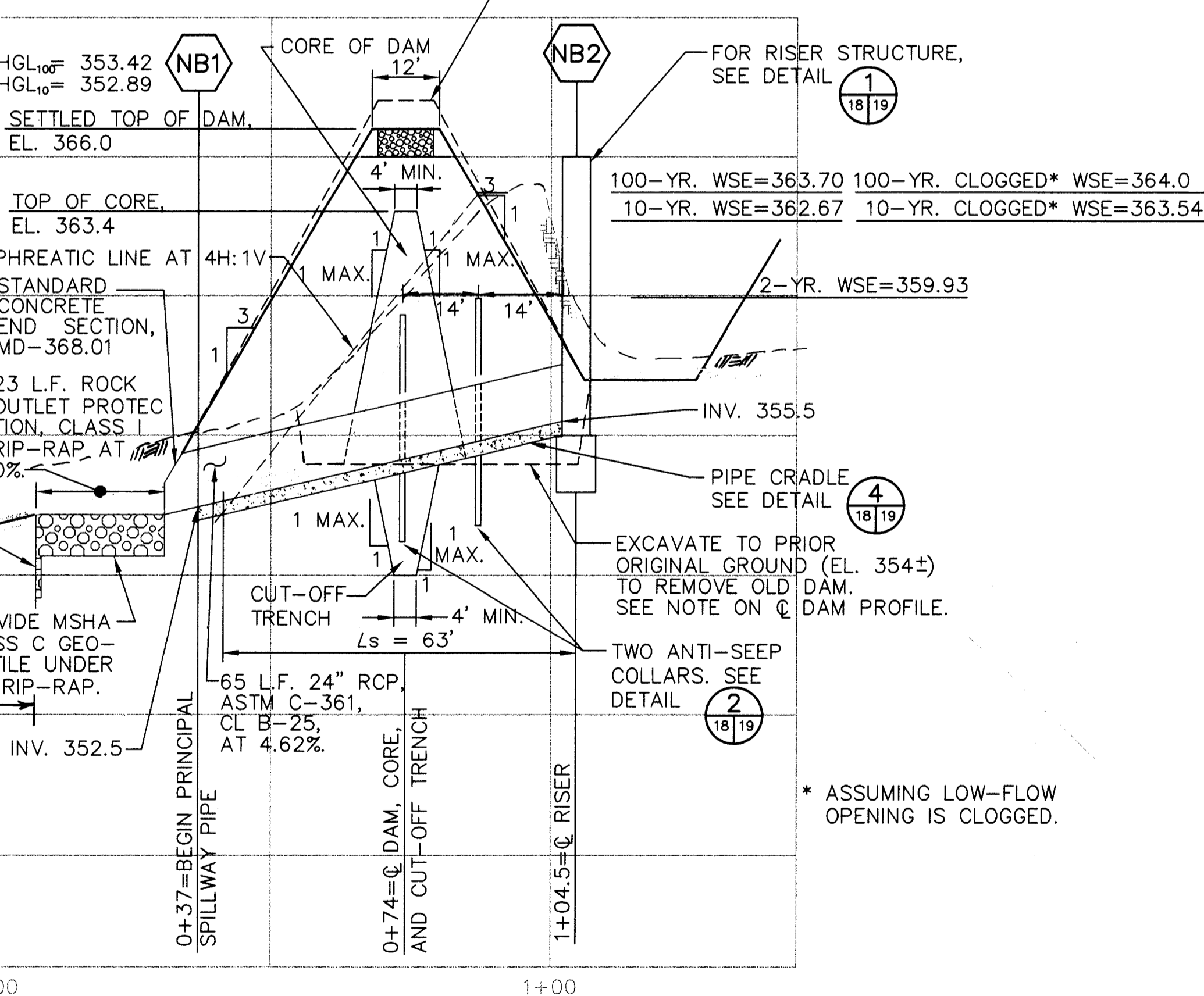
WEIR SECTION 2
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 8,18,32



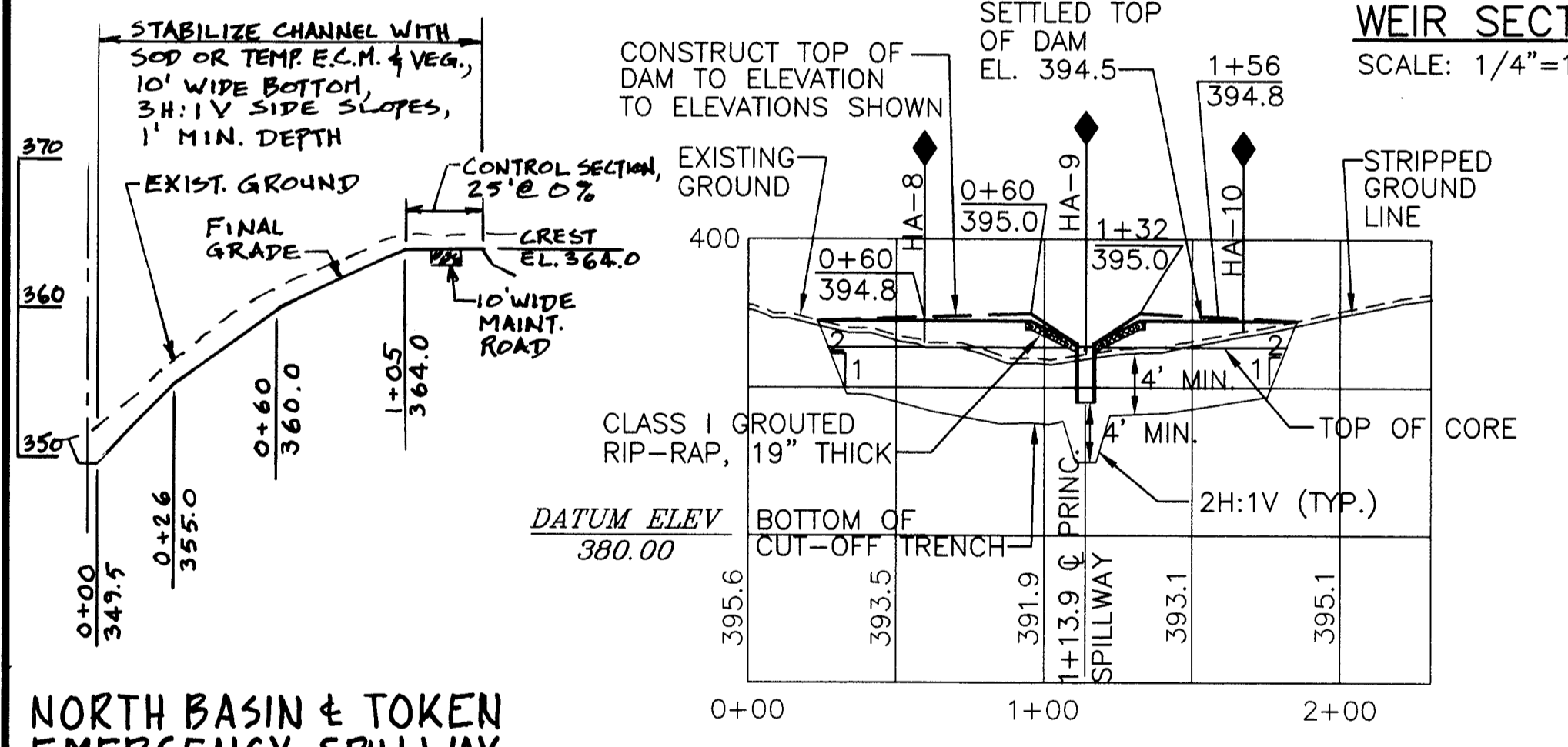
WEST-LOW RISE STORMWATER MANAGEMENT STRUCTURE BASIN & PRINCIPAL SPILLWAY PROFILE C
 SCALE: HORIZ.: 1" = 20' VER.: 1" = 4'



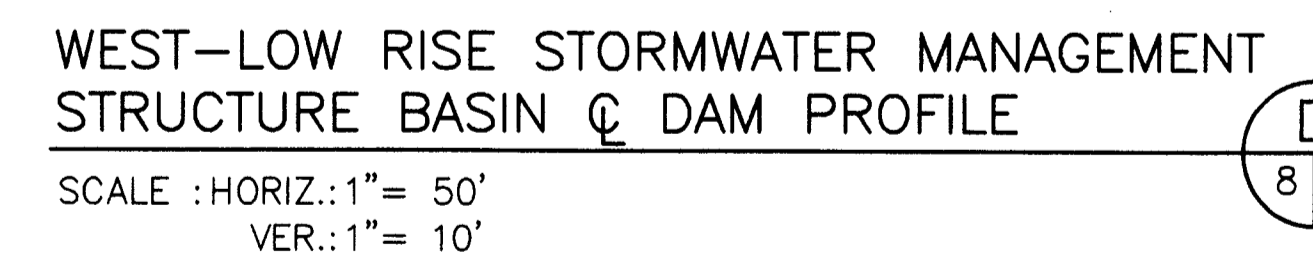
NORTH BASIN & TOKEN EMERGENCY SPILLWAY PROFILE A
 SCALE: HORIZ.: 1" = 50' VER.: 1" = 10'
 5,8,29,32



NORTH BASIN & PRINCIPAL SPILLWAY PROFILE B
 SCALE: HORIZ.: 1" = 20' VER.: 1" = 4'
 5,8,29,32



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



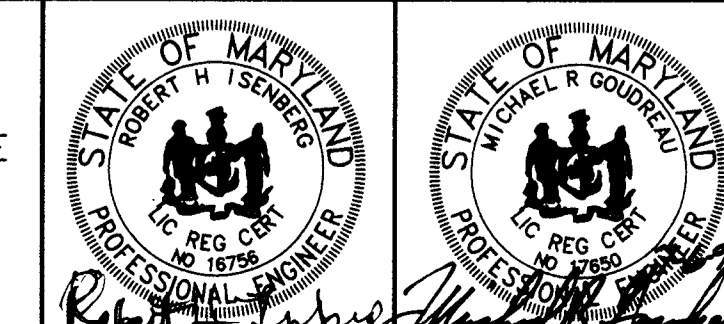
WEST-LOW RISE STORMWATER MANAGEMENT STRUCTURE BASIN & DAM PROFILE D
 SCALE: HORIZ.: 1" = 50' VER.: 1" = 10'

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND		
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	
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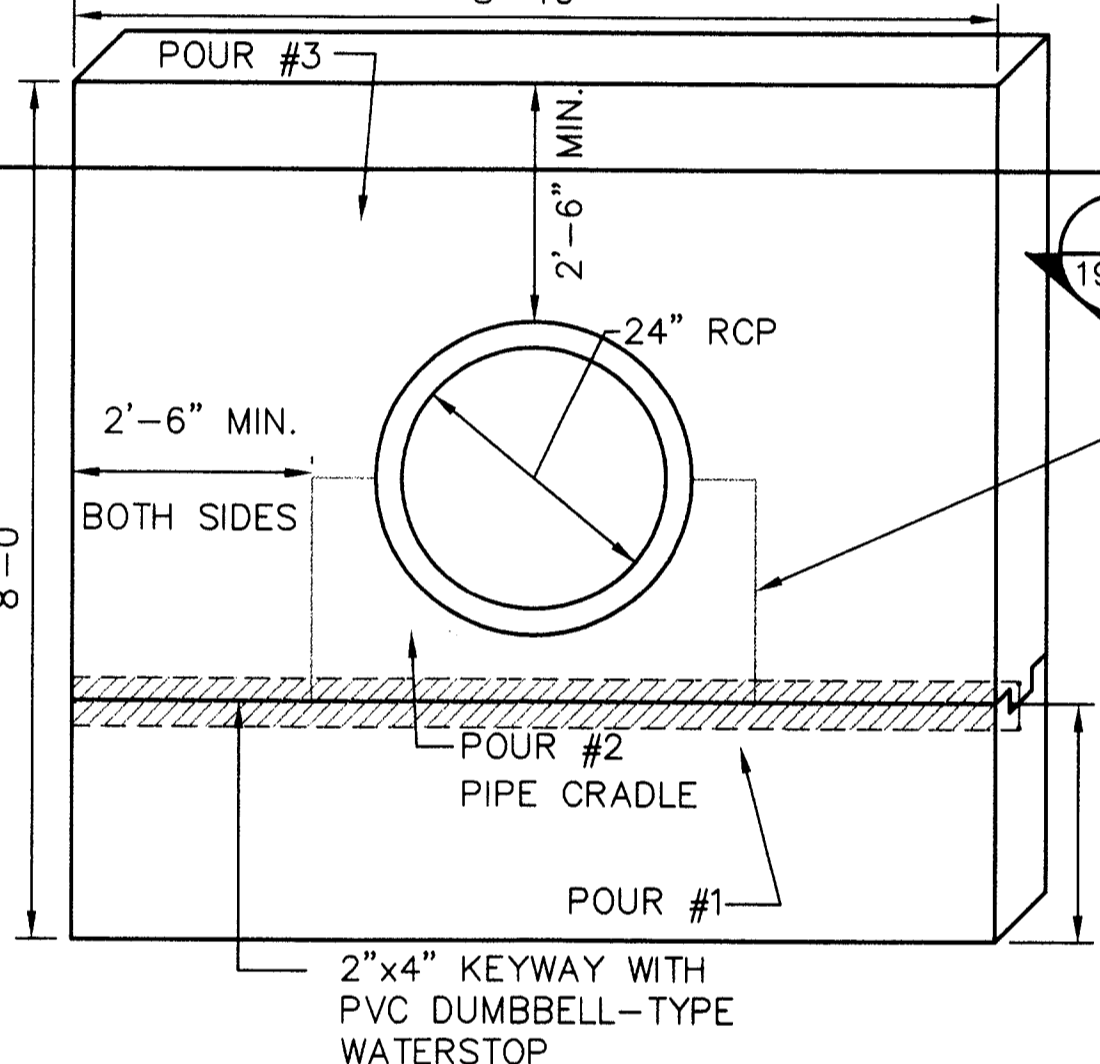
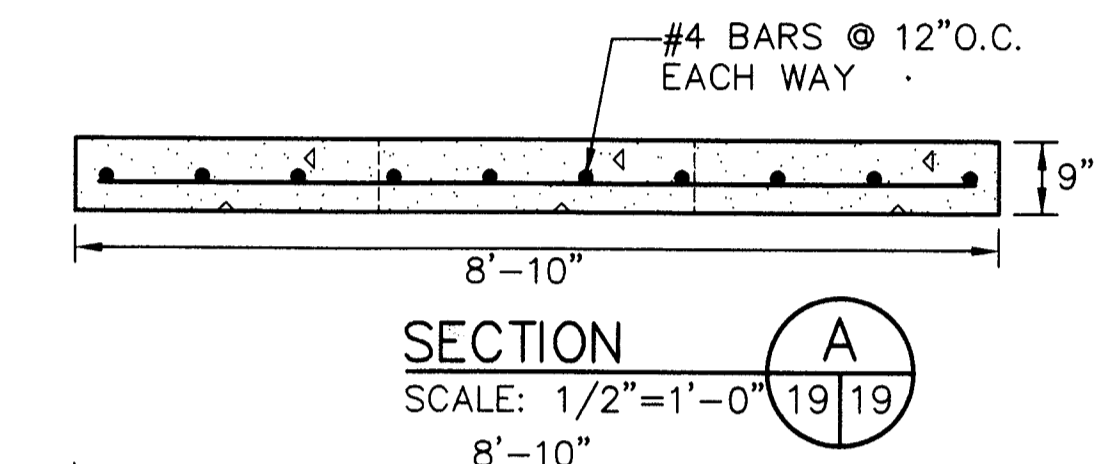
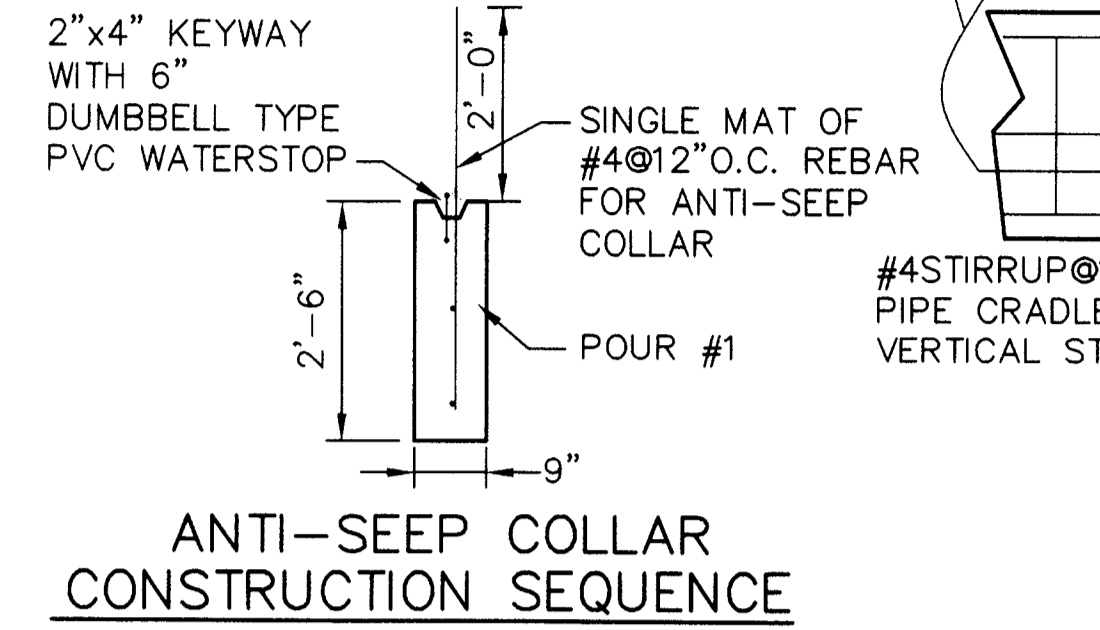


DES.	MRG	
DRN.	JCS	
CHK.	RHI	
DATE	06-02-99	
BY	NO.	
REVISION		
DATE		

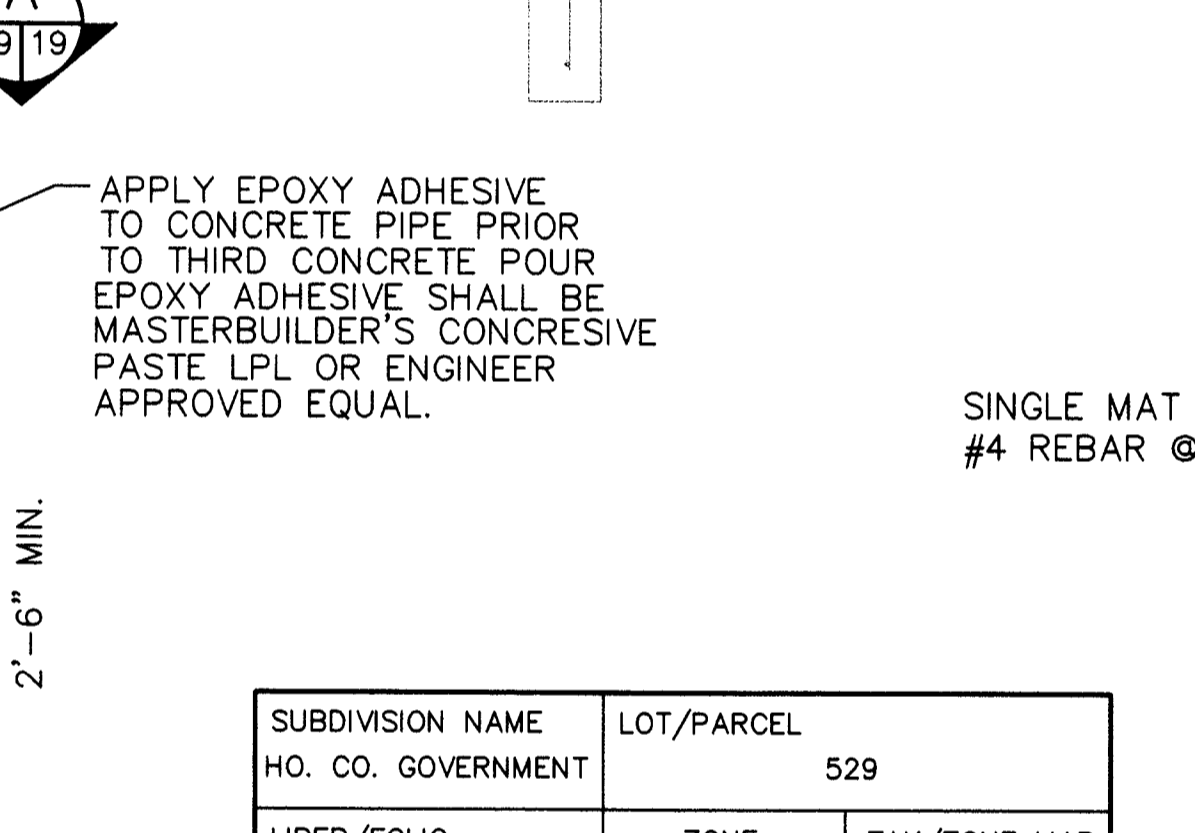
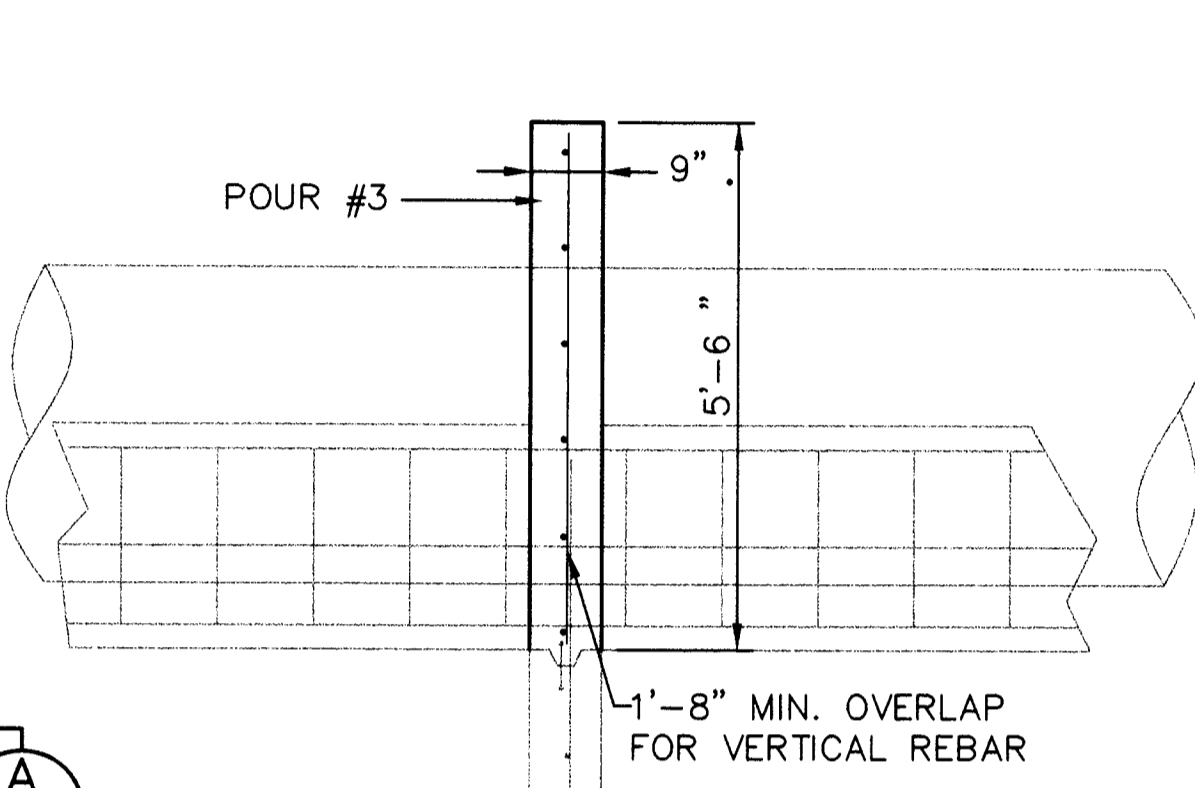
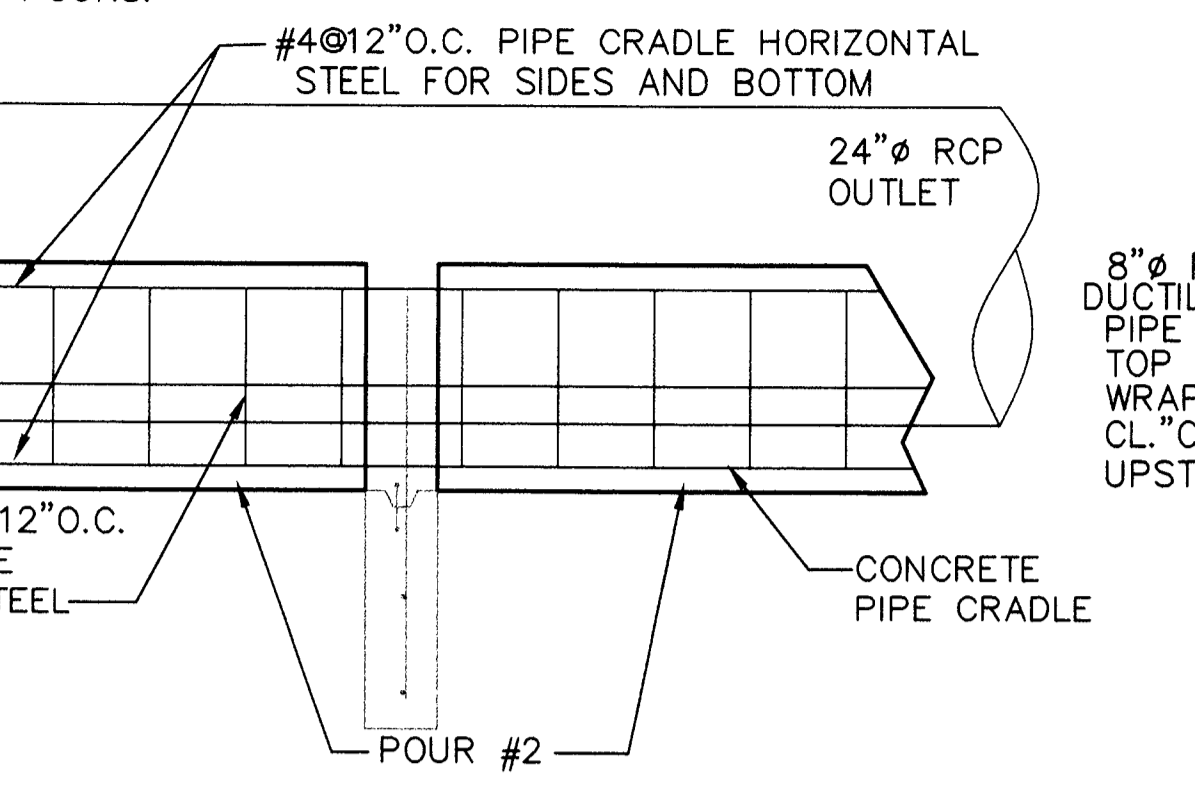
NORTH BASIN AND WEST LOW-RISE STORMWATER MANAGEMENT PROFILES

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

- 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:
 fc = 4,000 psi @ 28 DAYS.

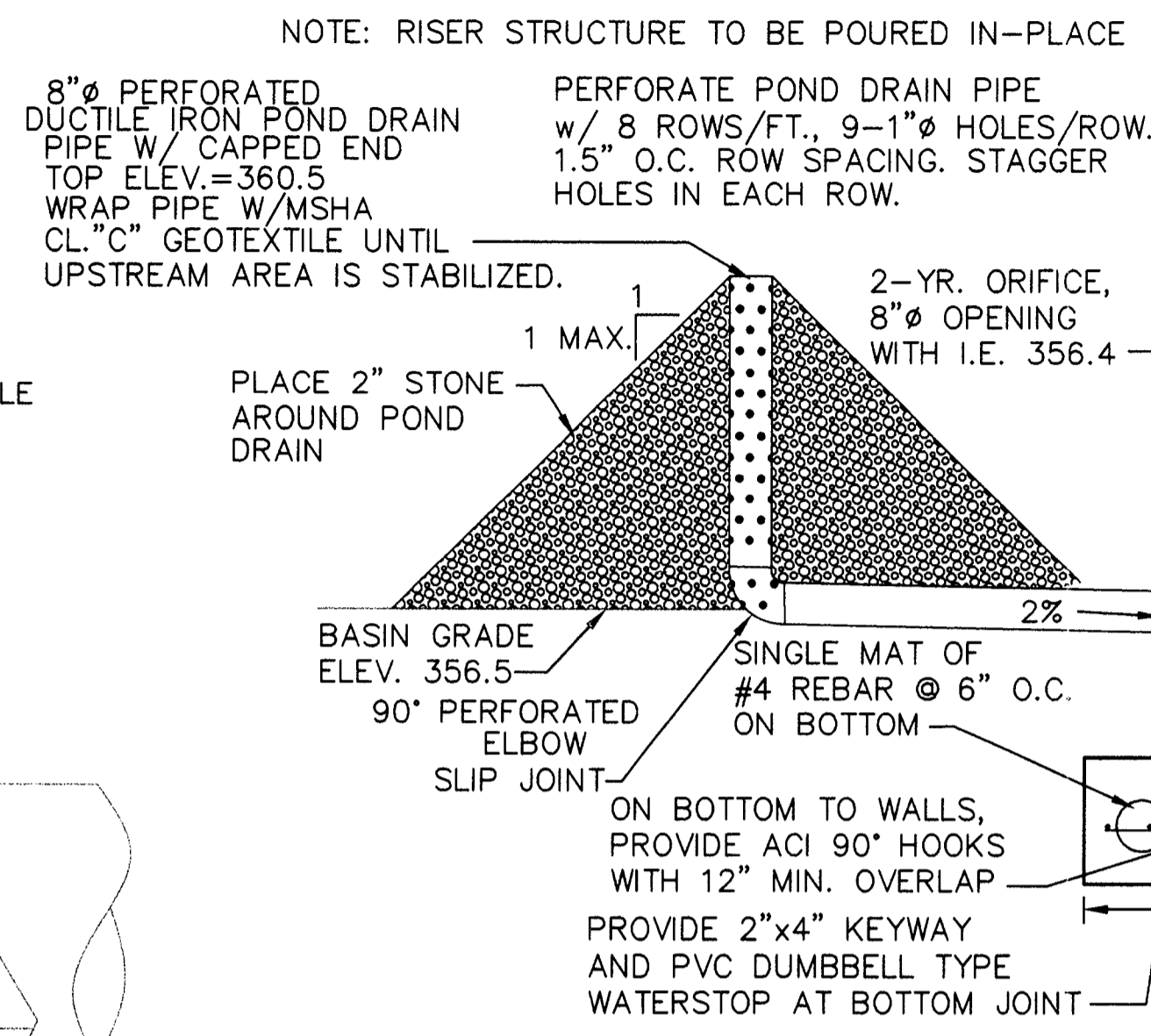


ANTI-SEEP COLLAR DETAIL (TYPICAL OF TWO)
 NOT TO SCALE

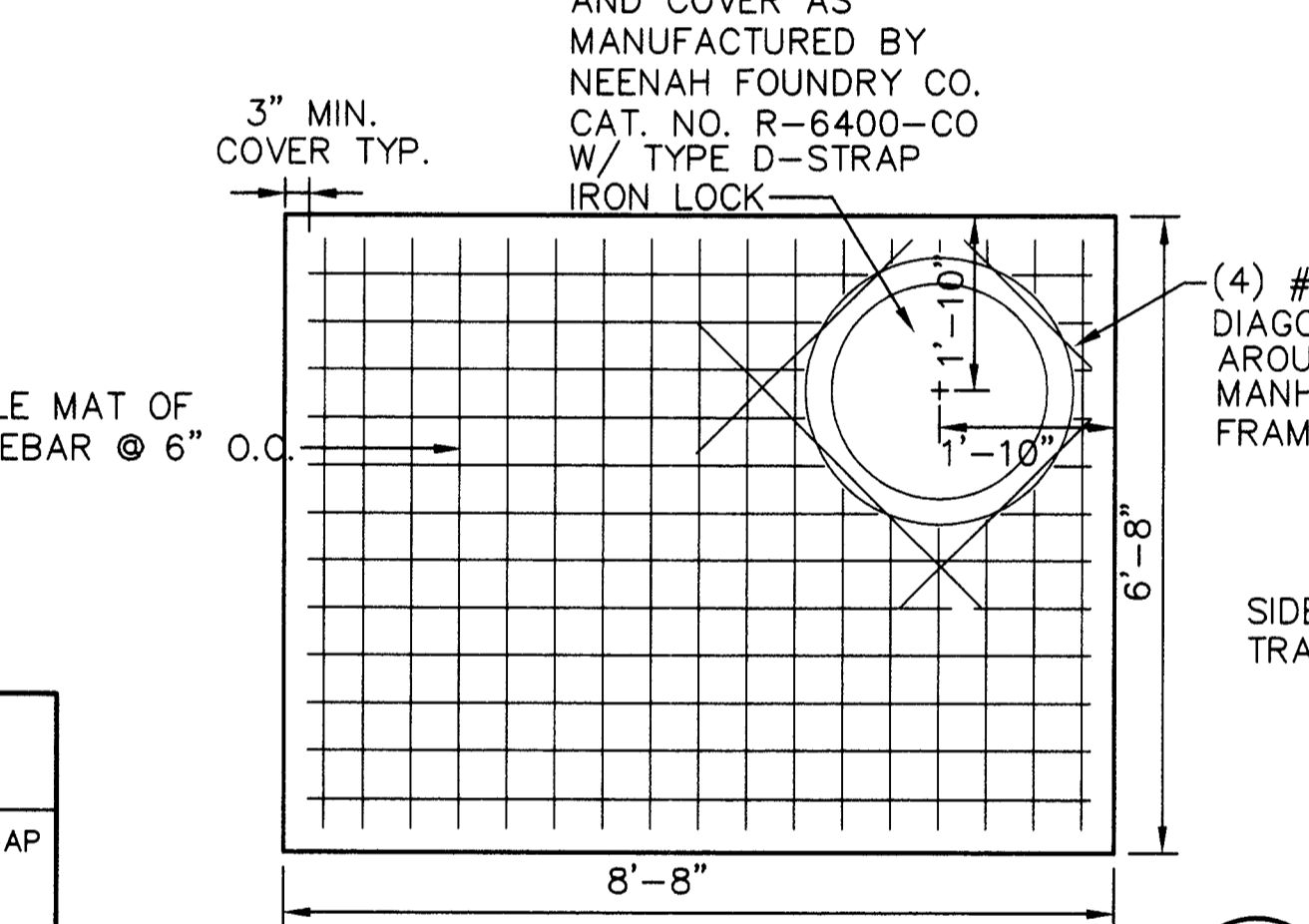


ANTI-SEEP COLLAR DETAIL (TYPICAL OF TWO)
 NOT TO SCALE

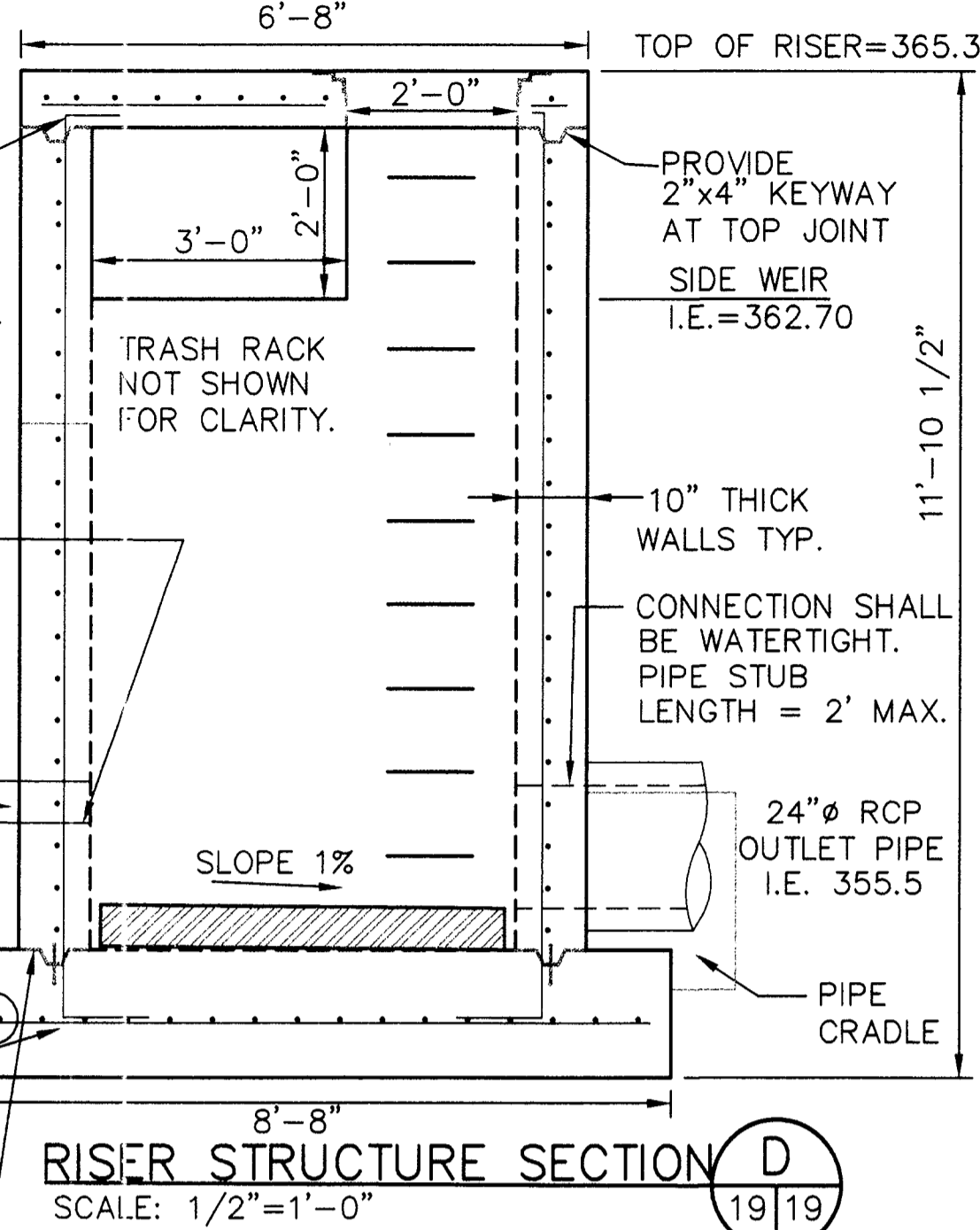
SUBDIVISION NAME	LOT/PARCEL	
HO. CO. GOVERNMENT	529	
LIBER/FOLIO	ZONE	TAX/ZONE MAP
180/339	R-20	31
WATER CODE	SEWER CODE	CENSUS TR.



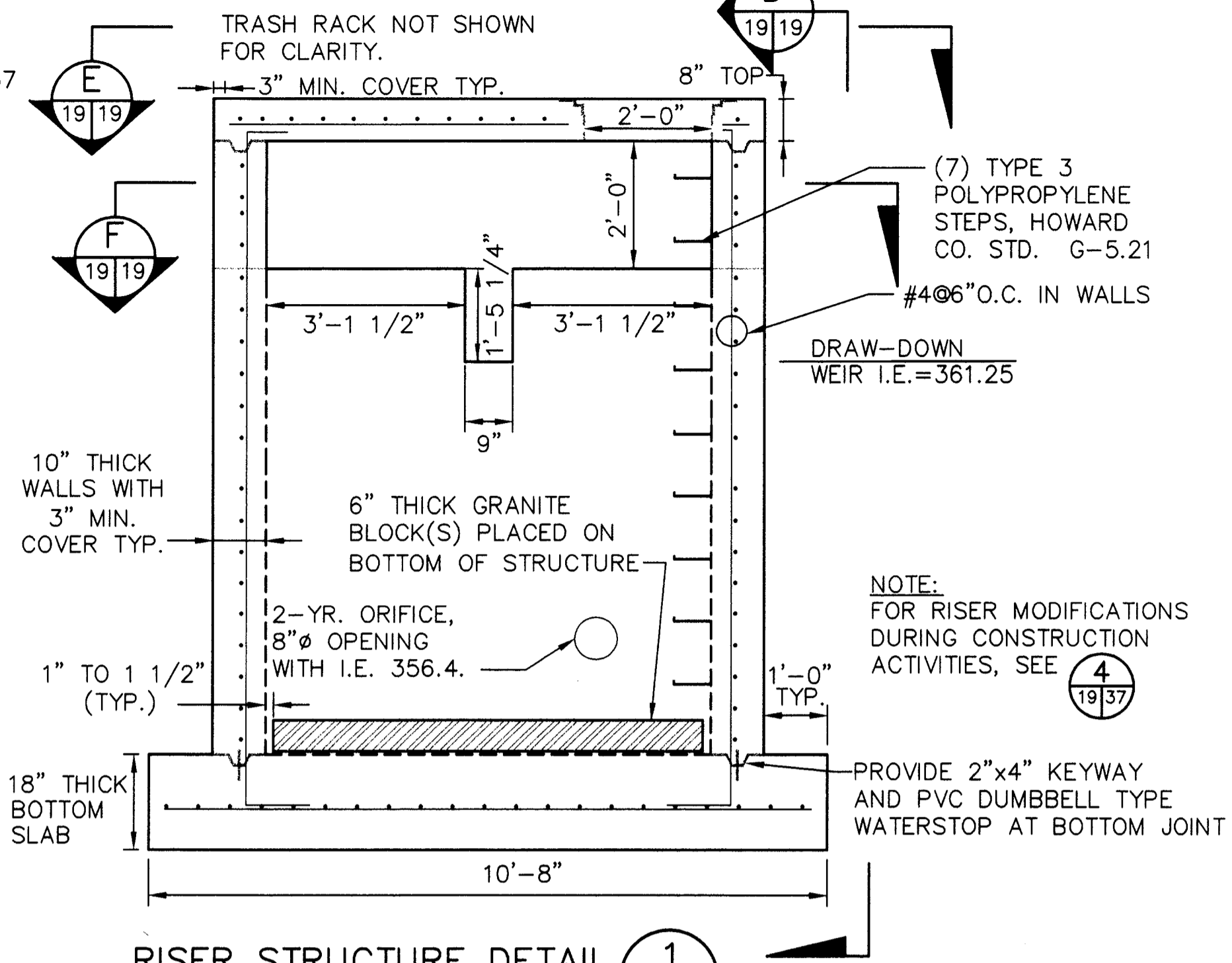
RISER STRUCTURE SECTION D
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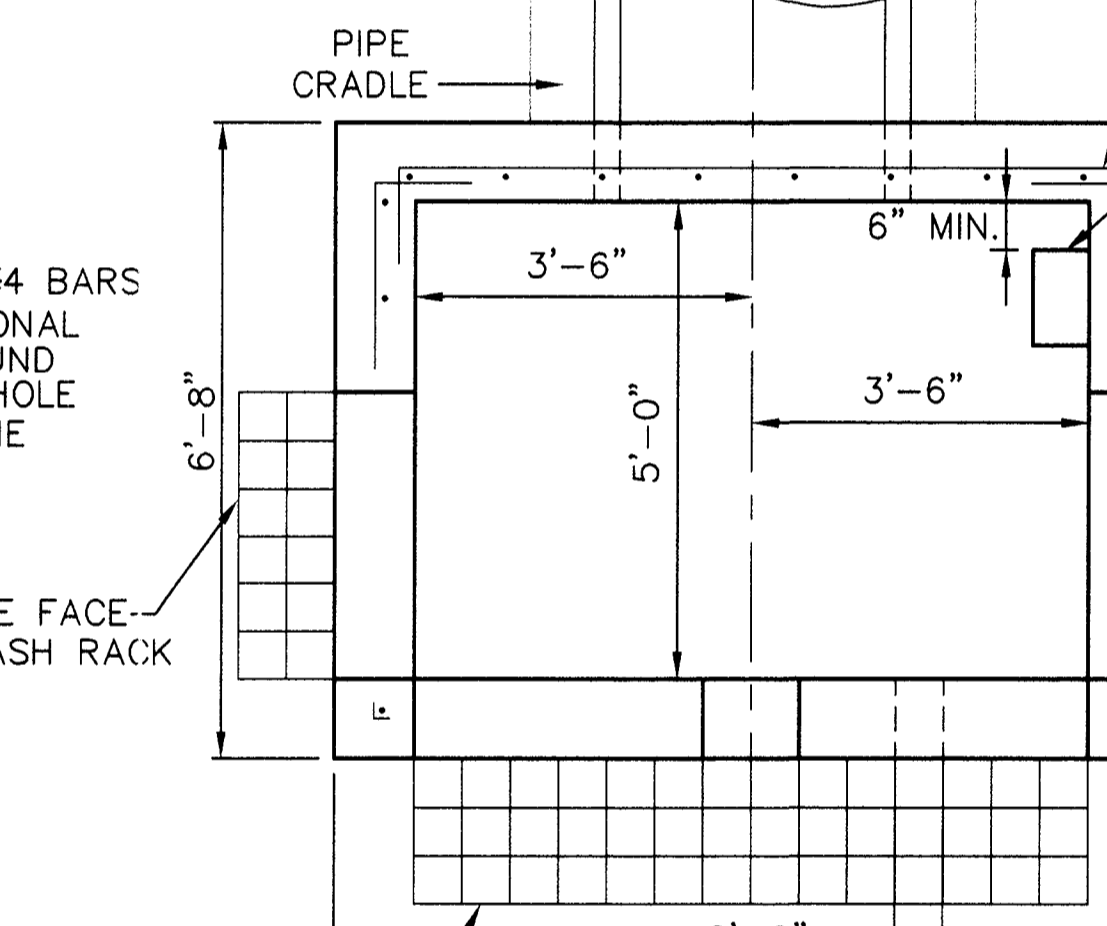
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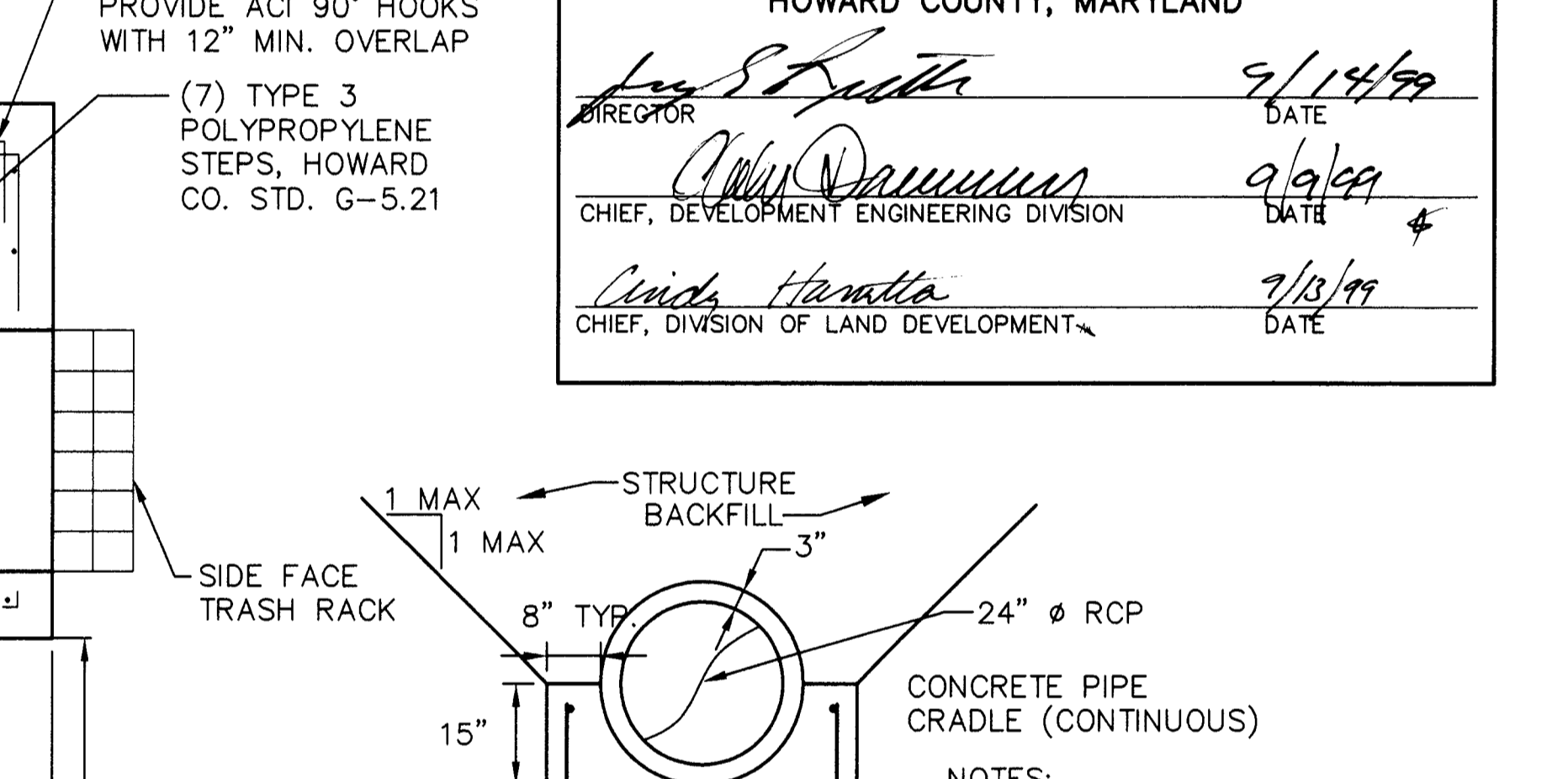
RISER STRUCTURE SECTION F
 SCALE: 1/2"=1'-0"



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



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



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

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

[Signature] 9/14/99
 DIRECTOR DATE

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

[Signature] 7/13/99
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

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] 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] 9/9/99
 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.

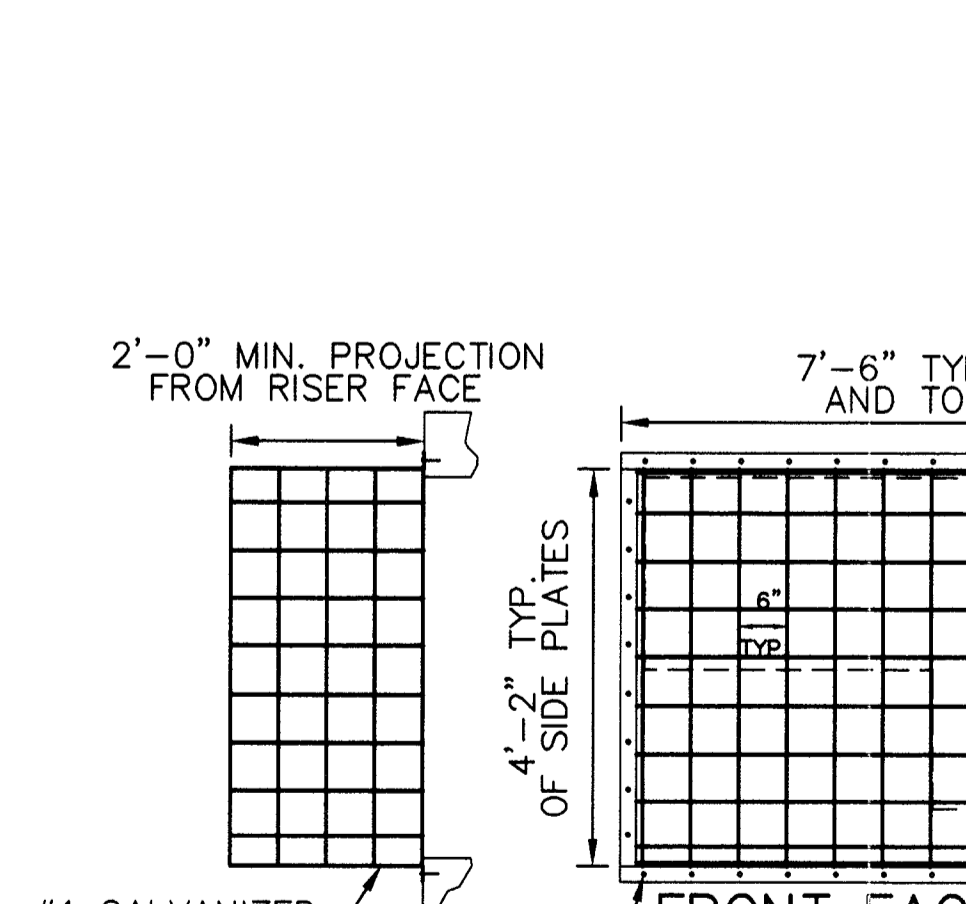
[Signature] 9/9/99
 HOWARD SOIL CONSERVATION DISTRICT AS-BUILT CERTIFICATION DATE

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.

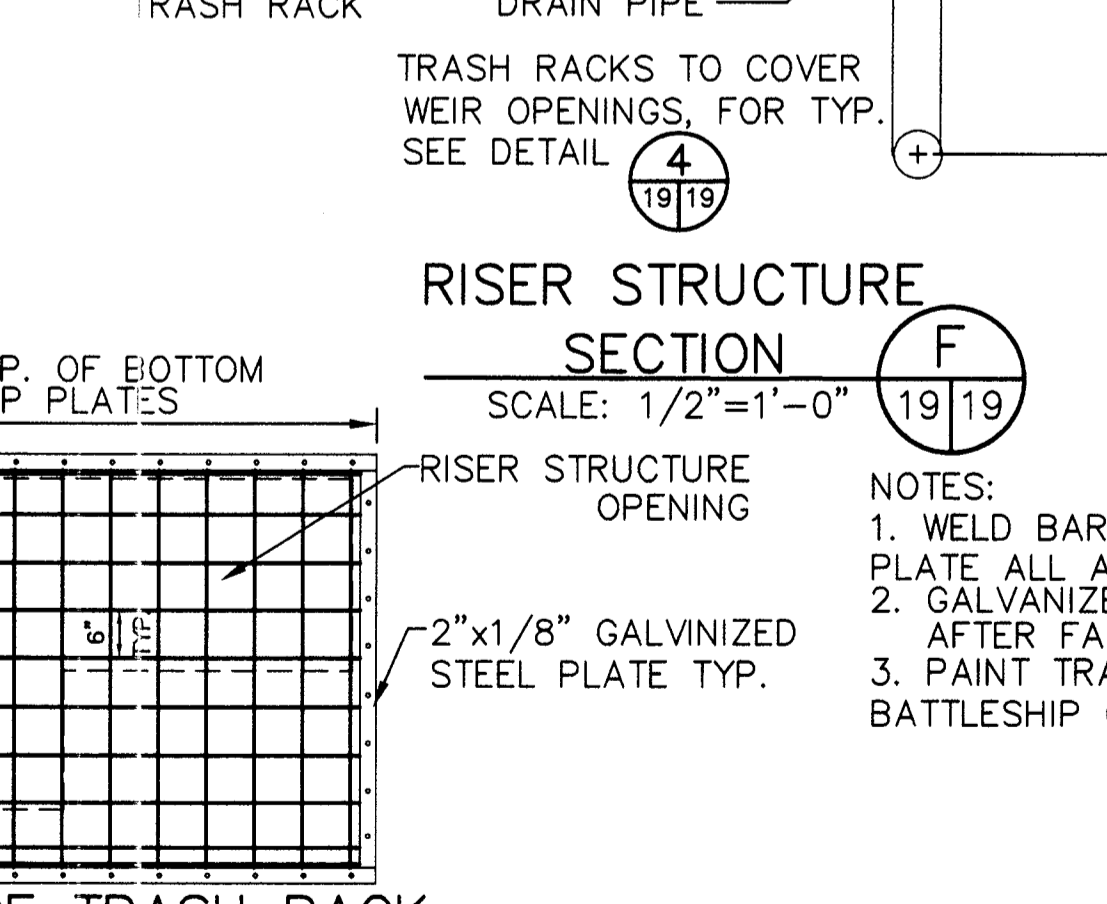
SIGNATURE DATE

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 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.

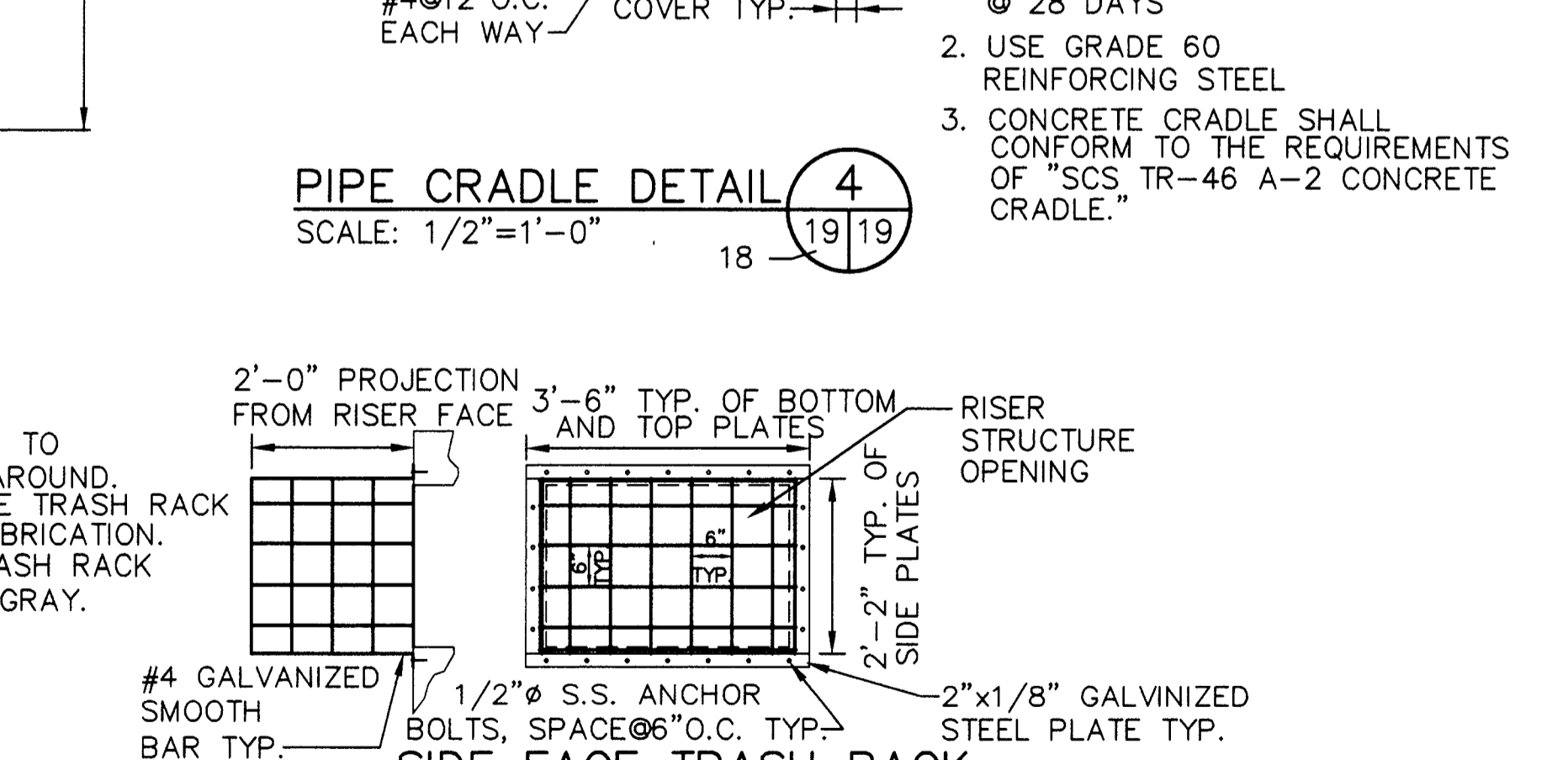
OPERATION, MAINTENANCE AND INSPECTION
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FRONT FACE TRASH RACK
 SCALE: 1/2"=1'-0"



SIDE FACE TRASH RACK (TYP. OF TWO)
 SCALE: 1/2"=1'-0"



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

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

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

[Signature]
 PROFESSIONAL ENGINEER

[Signature]
 PROFESSIONAL ENGINEER

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

NORTH BASIN DETAILS

NEW CUT LANDFILL IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

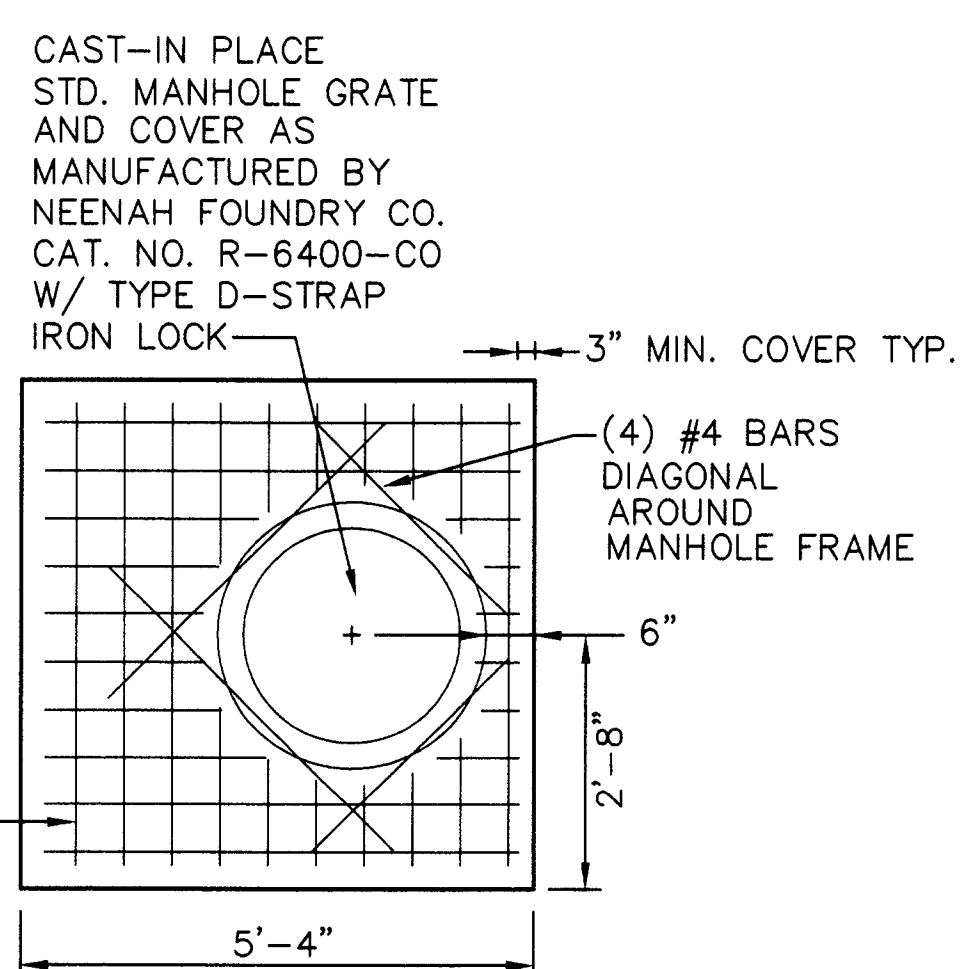
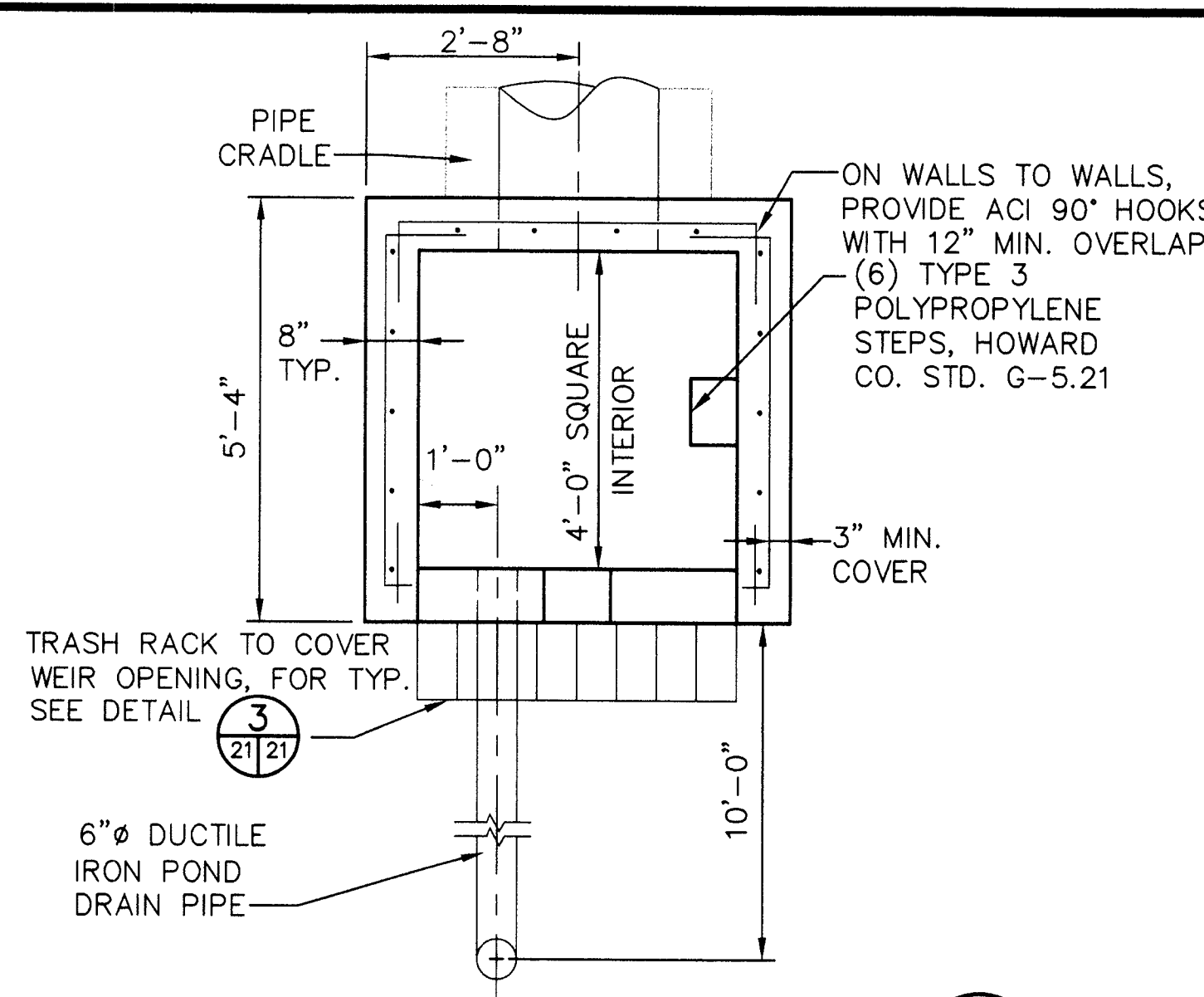
2nd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN

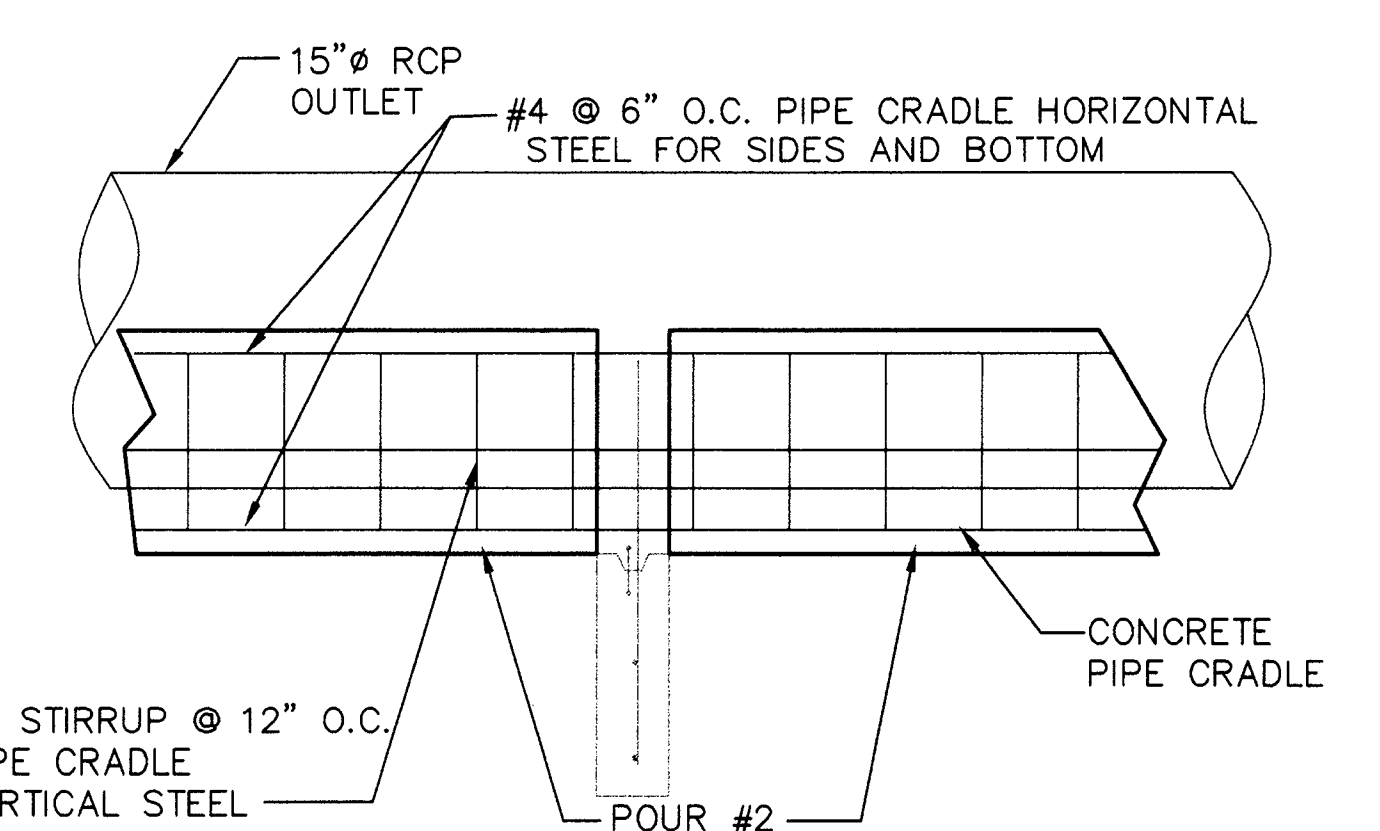
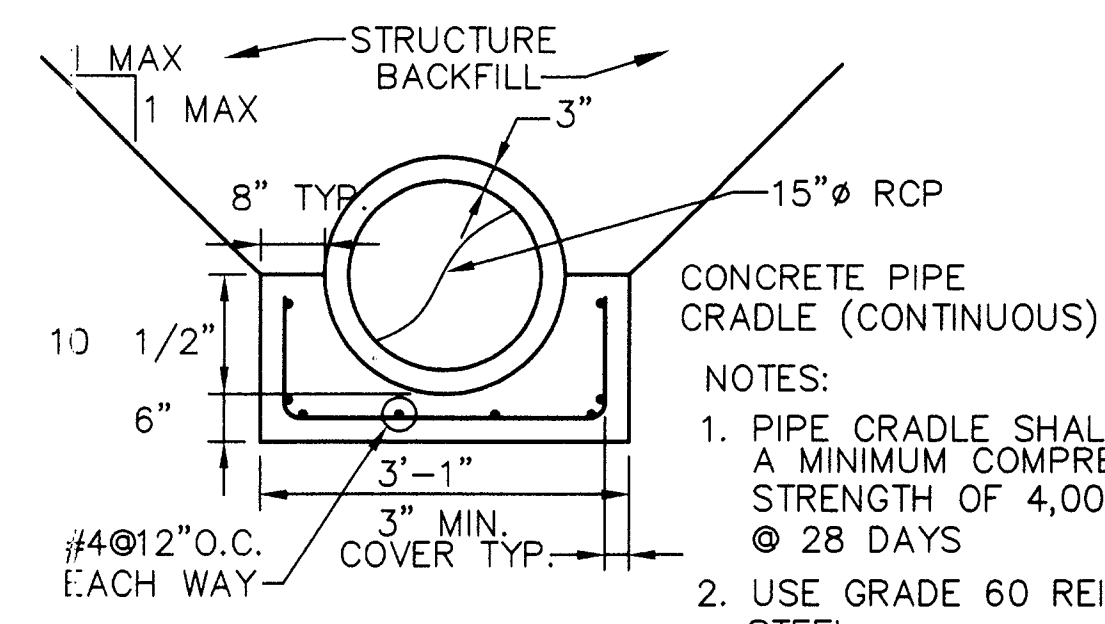
SHEET 19 OF 39

SDP-99-109

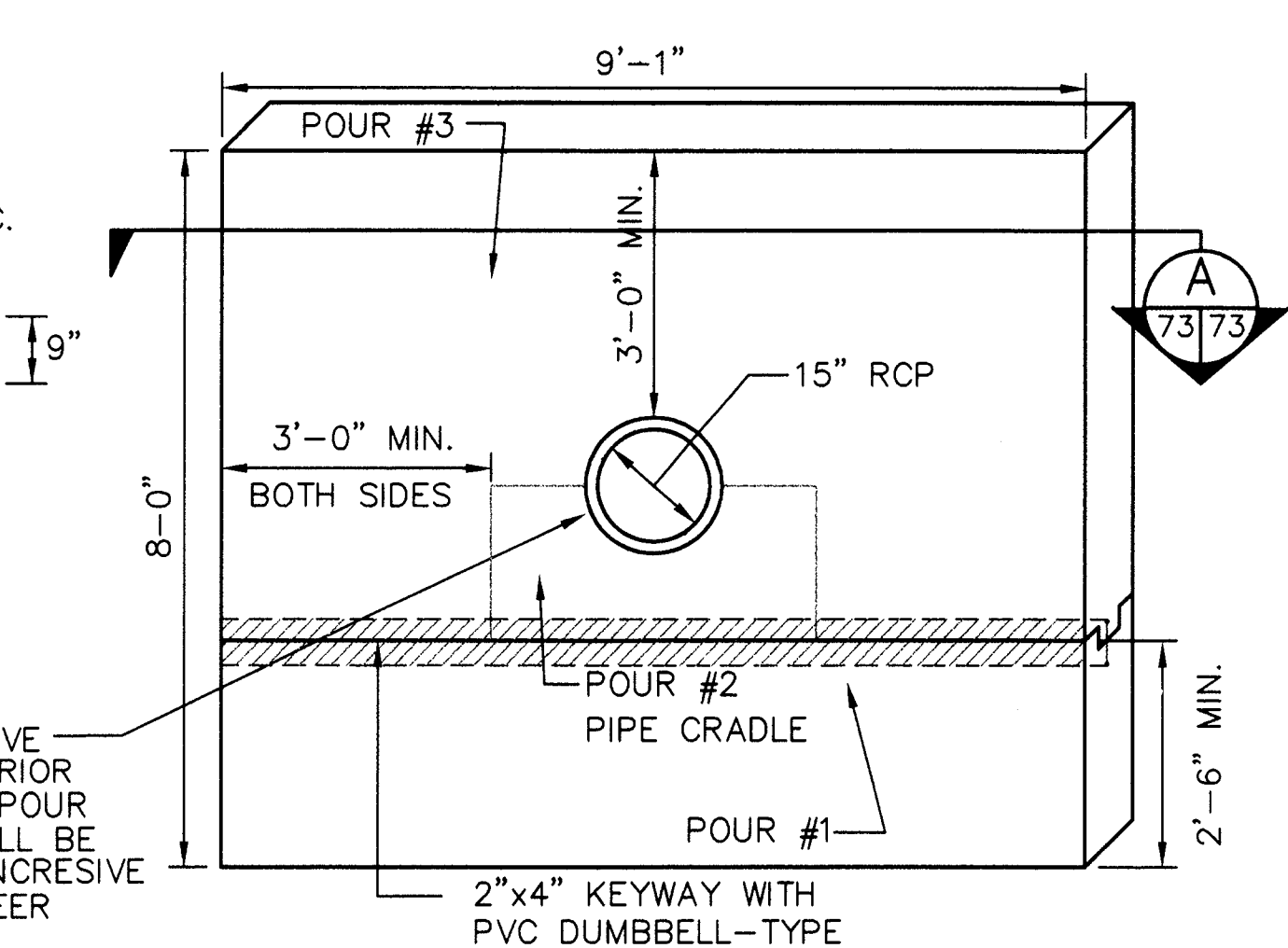
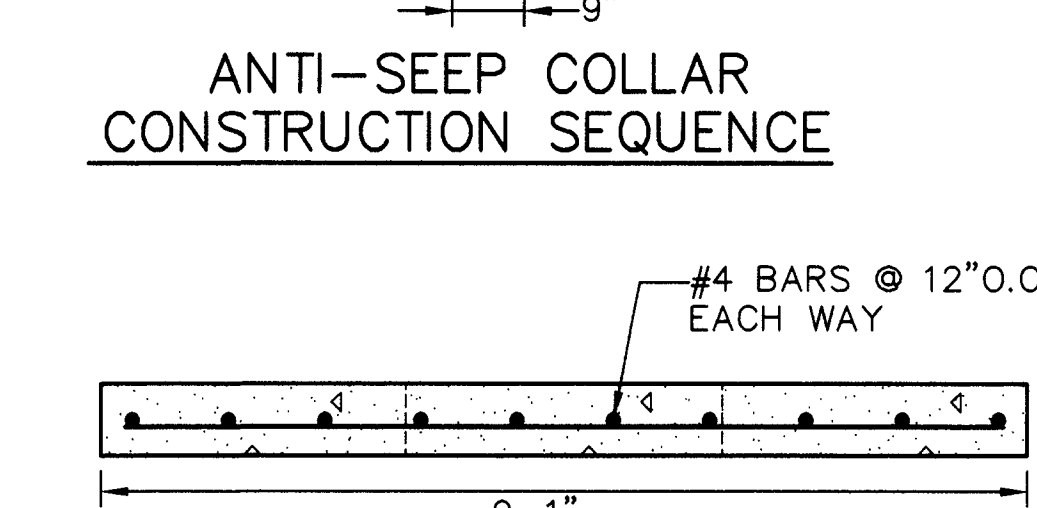
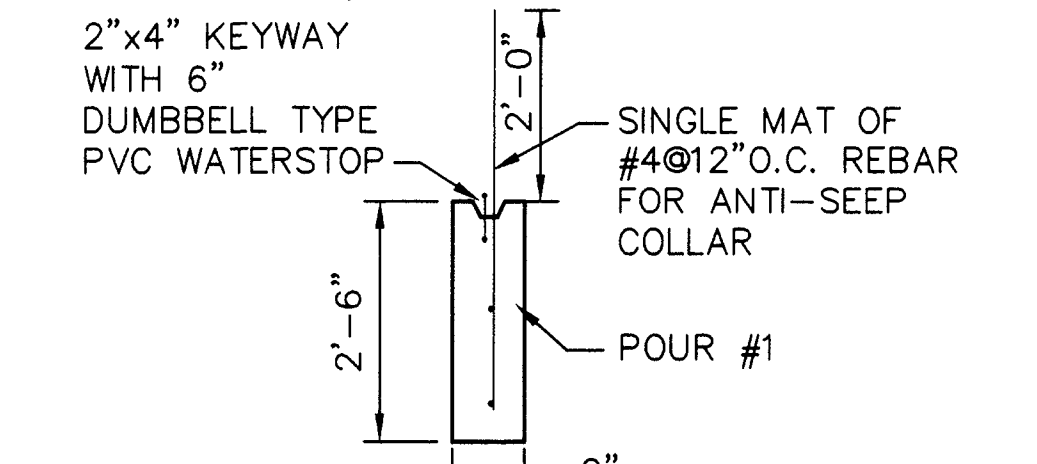
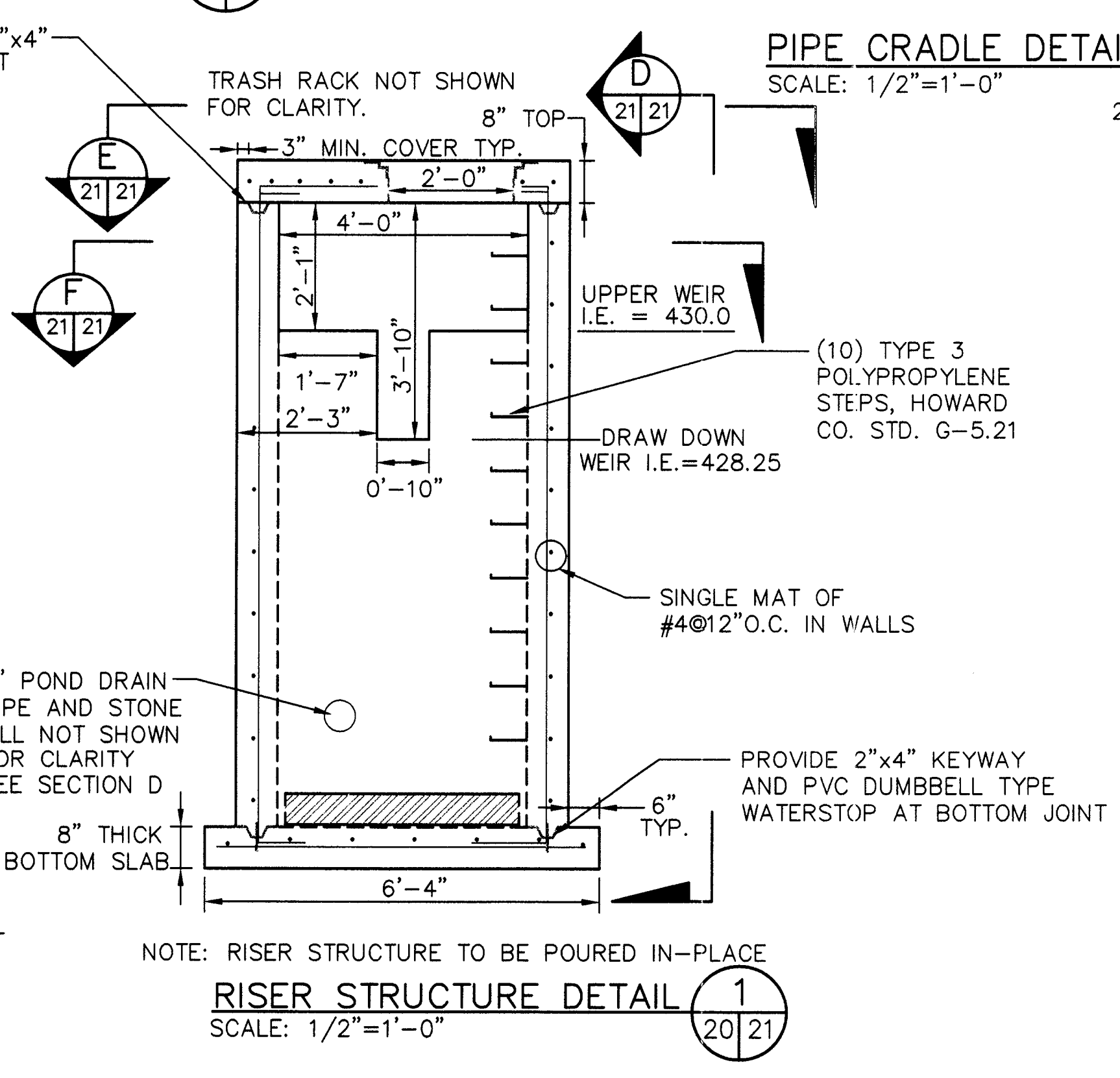
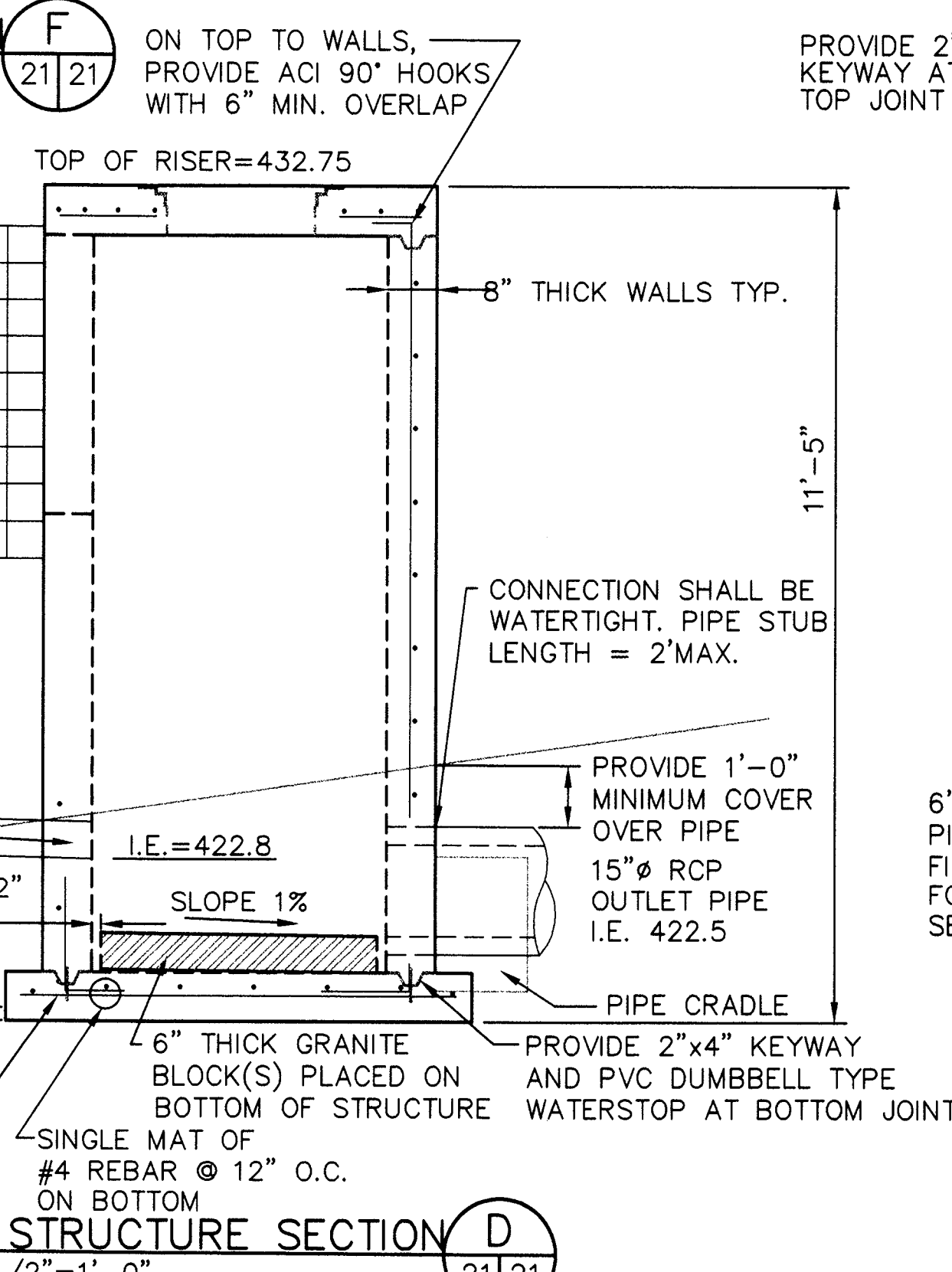
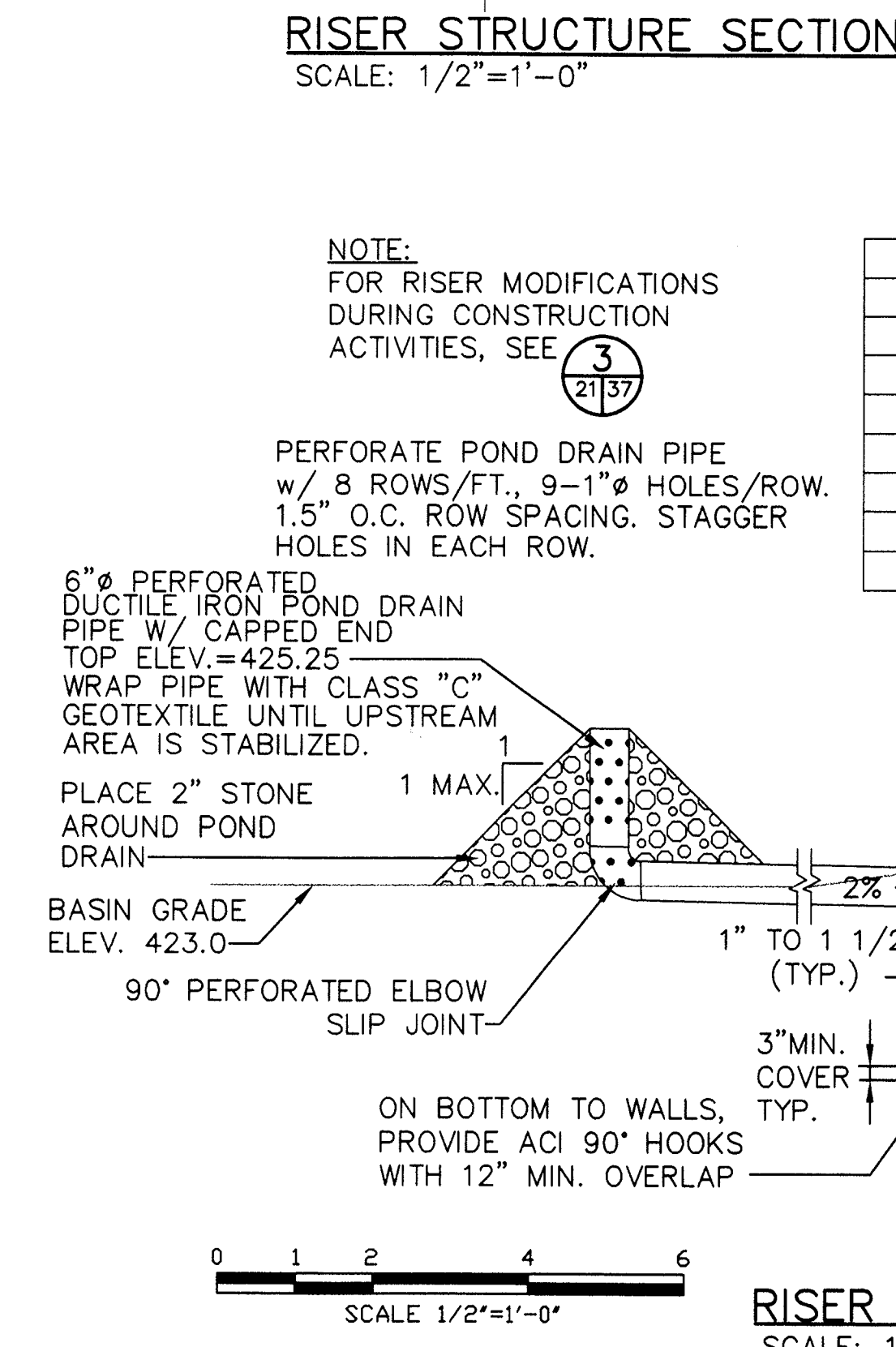


POND	RISER			OUTLET PIPE			ANTI-SEEP COLLAR		DAM		EMERG. SPILLWAY		CORE		CUT-OFF TRENCH		WATER SURFACE ELEV.					
	WEIR HT.	WEIR WIDTH	CREST ELEV.	STR. WIDTH	DIA. IN.	L FT.	U/S INV.	D/S INV.	QTY.	APPROX. SIZE	TOP WIDTH FT.	CONSTR. HEIGHT	SETTLED HEIGHT	ELEV.	BOTTOM WIDTH FT.	TOP WIDTH FT.	SIDE SLOPES	BOT. WIDTH FT.	SIDE SLOPES	2 YR.	10 YR.	100 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.



- 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: $f_c = 4,000 \text{ psi} @ 28 \text{ DAYS}$.



SEDIMENT CONTROL & POND CONSTRUCTION
 I, THE DEVELOPER, CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE 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: *Chris Simons* 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.

Signature: *John W. Shaly* DATE: 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.

Signature: _____ DATE: _____

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

Signature: *David S. Rutter* DATE: 9/14/99
 DIRECTOR

Signature: *Chris Simons* DATE: 9/9/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

Signature: *Chris Simons* DATE: 9/15/99
 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.

Signature: *Michael R. Goudreau* DATE: 7-6-99
 SIGNATURE OF ENGINEER MICHAEL R. GOUDREAU

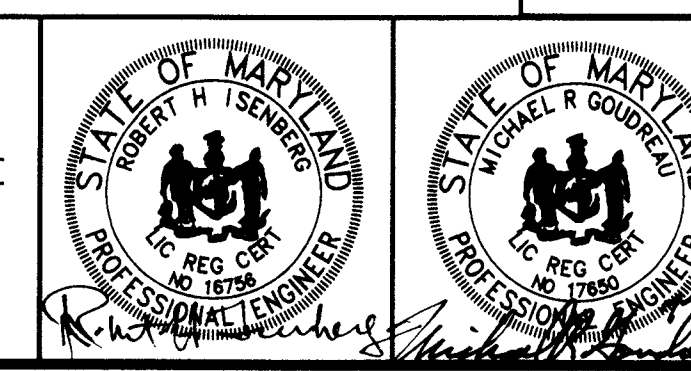
OPERATION, MAINTENANCE AND INSPECTION
 INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS STANDARDS AND SPECIFICATIONS FOR PONDS (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL 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 INDICATORS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Signature: *James P. Liu* DATE: 7/6/99
 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		

WEST BASIN DETAILS

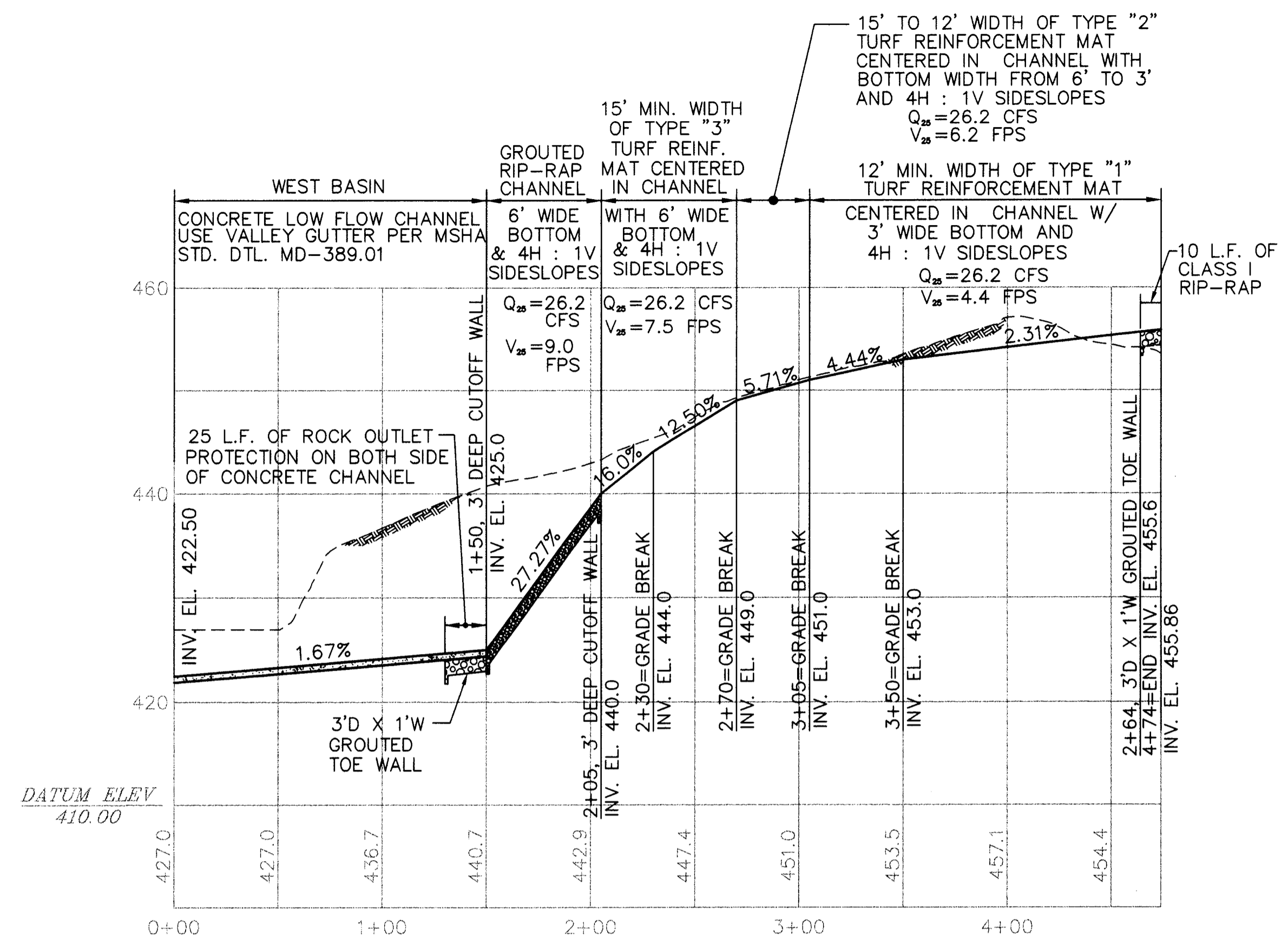
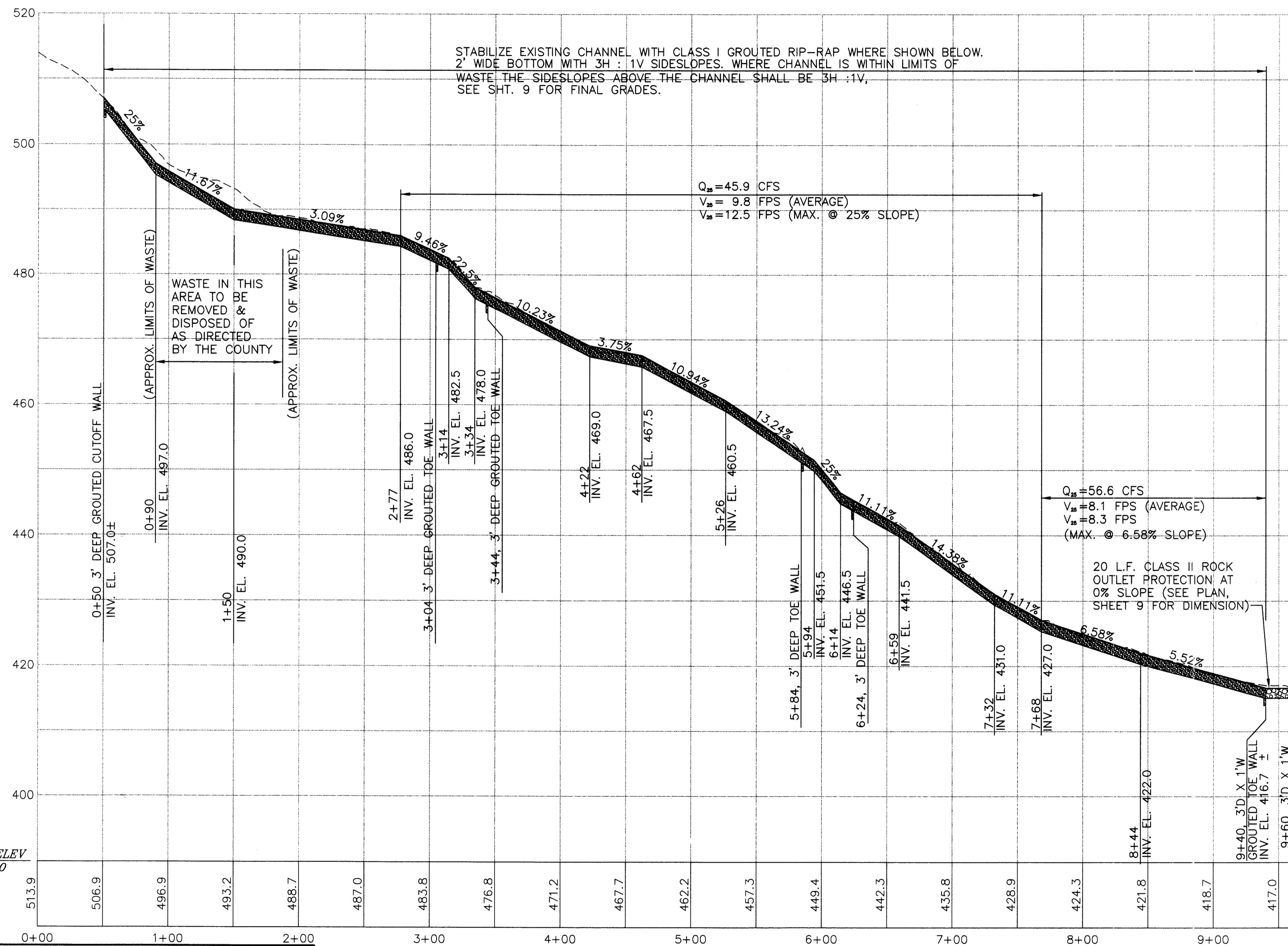
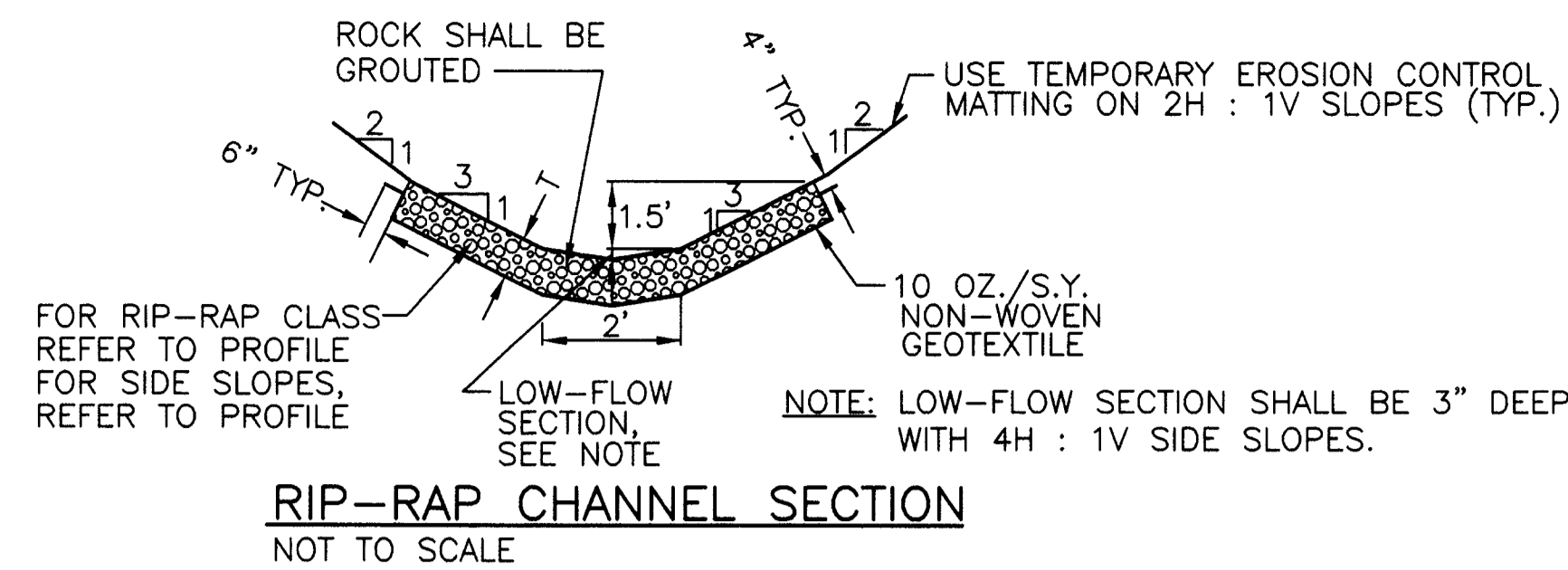
NEW CUT LANDFILL IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

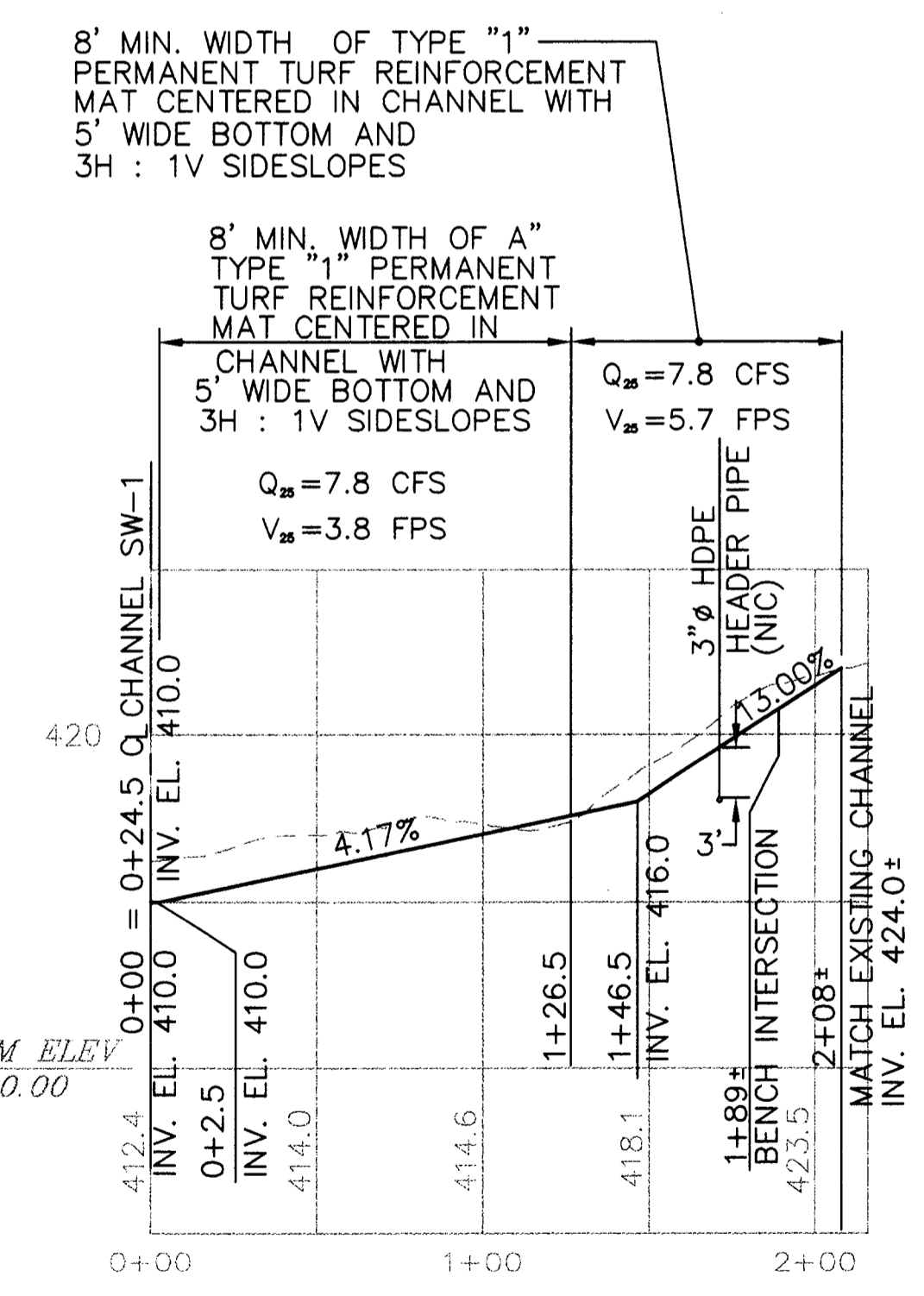
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN
 SHEET 21 OF 39

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: 9/9/99

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 9/15/99

EROSION CONTROL IMPROVEMENTS TO OUTER EAST CHANNEL 1
5,7,9,29,31,33

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

STATE OF MARYLAND
ROBERT R. ISENBARD
REGISTERED PROFESSIONAL ENGINEER

STATE OF MARYLAND
MICHAEL R. GOURDEAU
REGISTERED PROFESSIONAL ENGINEER

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

CHANNEL PROFILES

NEW CUT LANDFILL IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT

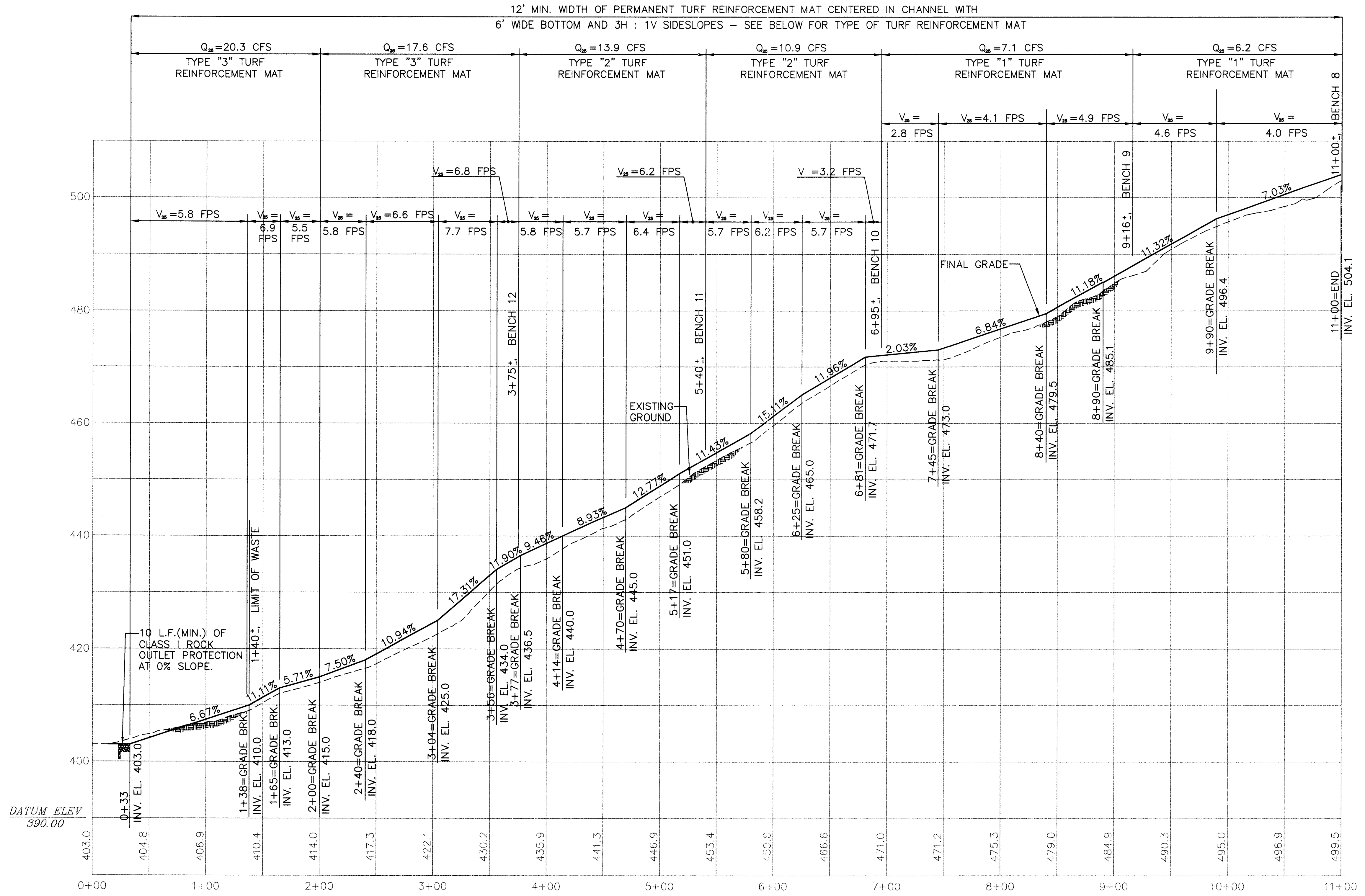
HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN

SHEET 22 OF 39

SDP-99-109

M:\296024.01\90 PERCENT\PROFILES\ E-CHPRO



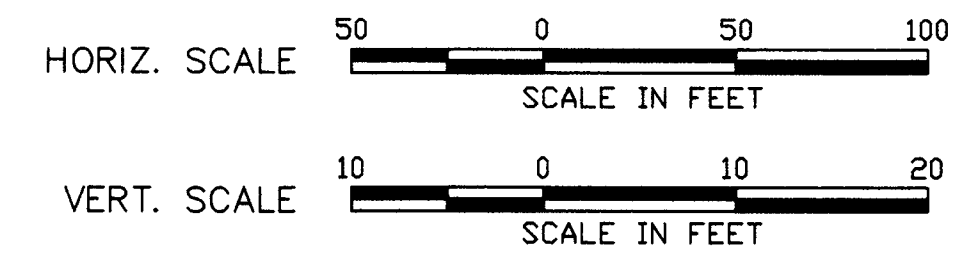
INNER EAST PERIMETER CHANNEL 1/23
5,7,9,29,31,33

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

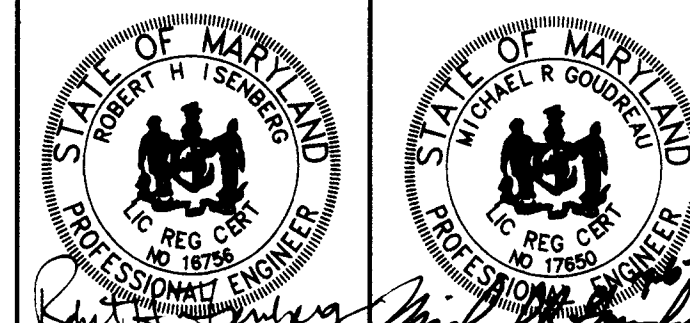
[Signature] 9/11/99
DIRECTOR DATE
[Signature] 9/9/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
[Signature] 9/13/99
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

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

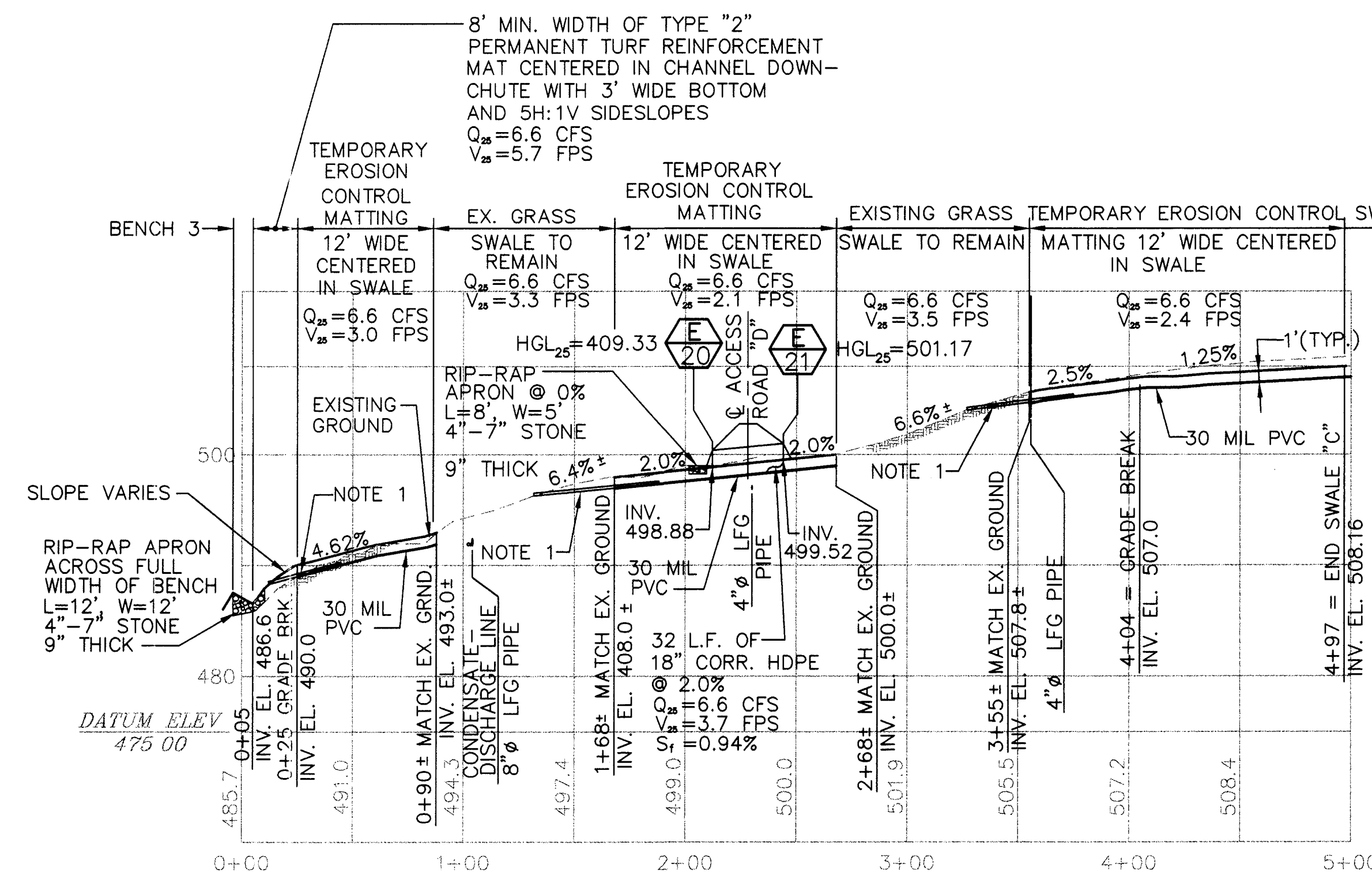
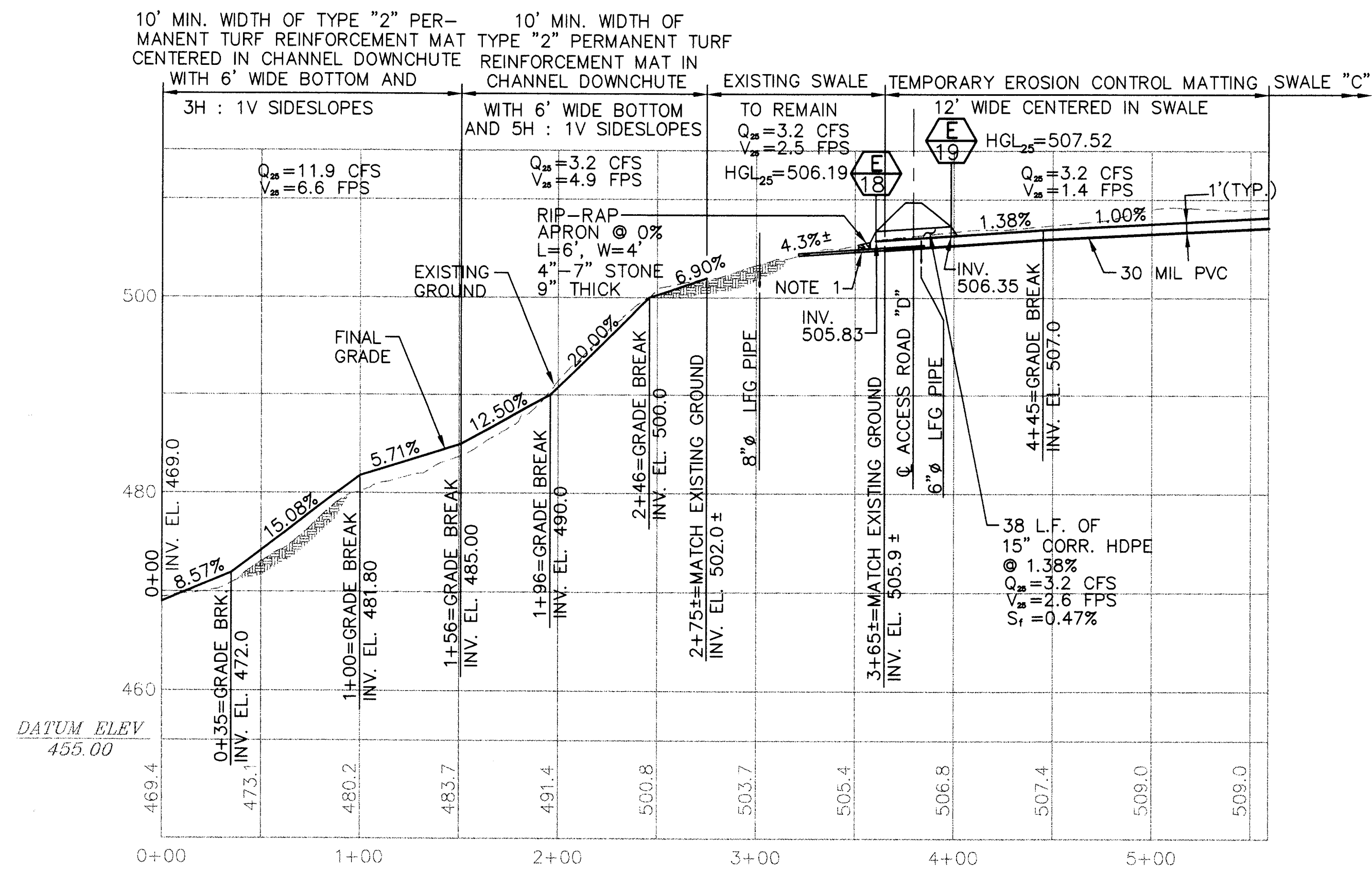
SCS ENGINEERS
CONSULTING ENGINEERS
11260 ROGER BACON DRIVE
SUITE 300
RESTON, VIRGINIA 20190
PH. (703) 471-6150
FAX. (703) 471-6676



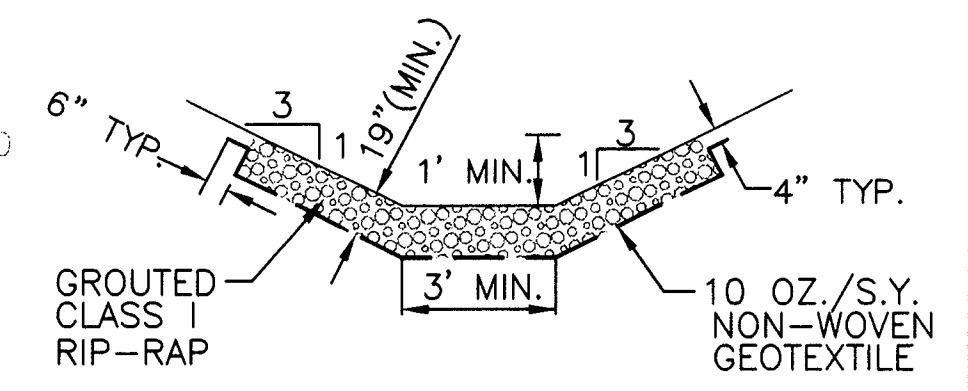
DES.	MRG				
DRN.	JCS				
CHK.	RHI				
DATE:	06-02-99	BY	NO.	REVISION	DATE

CHANNEL PROFILES

NEW CUT LANDFILL IMPROVEMENTS
CAPITAL PROJECT NO. C-0237-H
2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN
SHEET 23 OF 33



NOTES:
 NOTE 1. USE 3"Ø 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 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.



DOWNCHUTE 1 AND "SWALE B" 1/24
 HGL₂₅=458.0, HGL₂₅=470.9, HGL₂₅=459.55
 5,6,7,29,30,31

DOWNCHUTE 2 AND "SWALE C" 2/24
 HGL₂₅=461.50
 5,6,7,29,31

2-24"Ø CORRUGATED HDPE PIPES WITH GASKETED JOINTS. SLOPE VARIES. PROVIDE 1' MIN. COVER OVER PIPES.
 $Q_s=21.4$ CFS
 Q_p PER PIPE= 10.7 CFS
 $V_s=3.4$ FPS
 $S_f=0.53\%$

4' MIN. LENGTH @ LESS THAN 1% SLOPE.

5 L.F. CLASS I ROCK OUTLET PROTECTION AT 0% SLOPE, EXTEND RIP-RAP ACROSS CHANNEL TO TOP OF BERM. SEE PROFILE ON SHEET 22 FOR CONTINUATION.

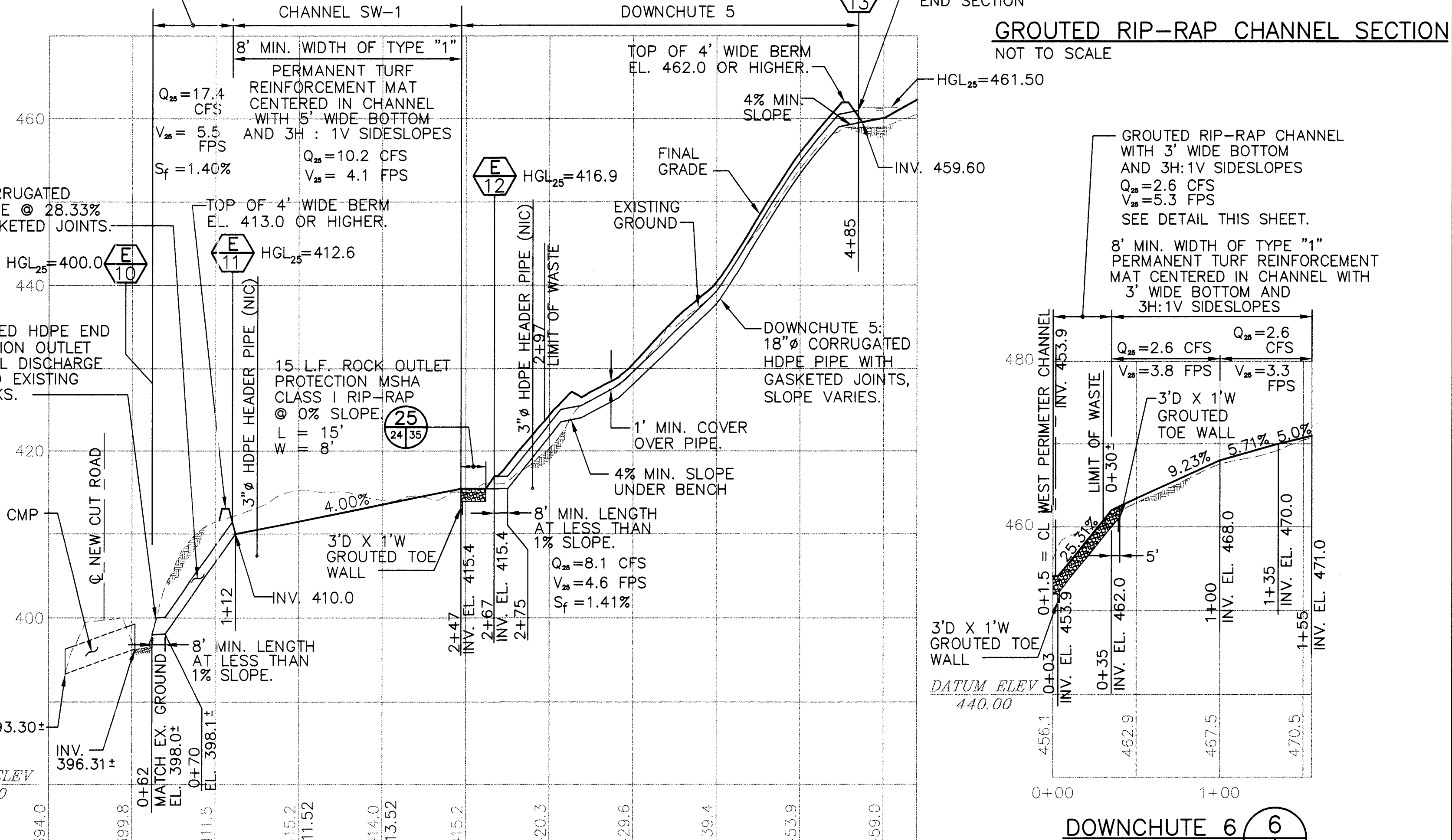
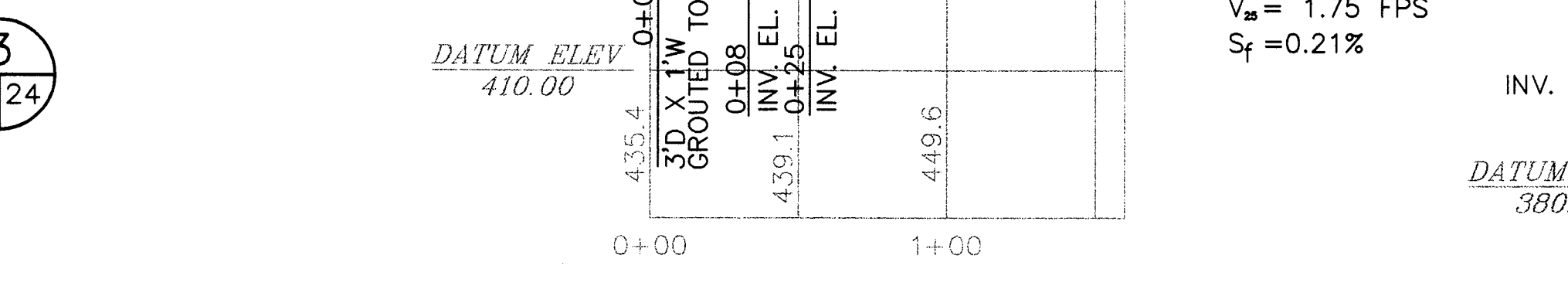
BERM WITH 2' WIDE TOP. 2H : 1V SLOPES, WITH TOP AT EL. 461.0 OR HIGHER.

V-DITCH, 1' DEEP, 2H : 1V SLOPES, GROUTED CLASS I RIP-RAP.

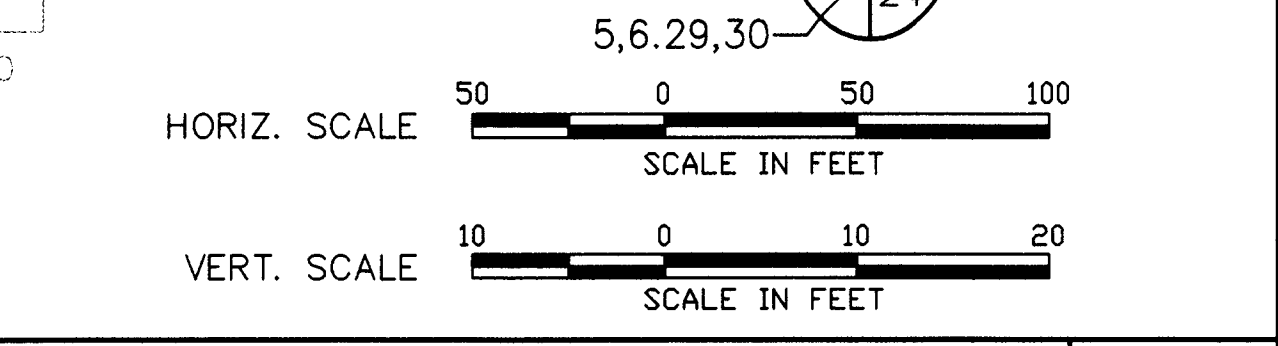
5 L.F. CLASS I ROCK OUTLET PROTECTION AT 0% SLOPE.
 $L=5'$, $W=5'$

18"Ø CORRUGATED HDPE WITH GASKETED JOINTS, PROVIDE 1' MIN. COVER OVER PIPE.
 $Q_s=3.1$ CFS
 $V_s=1.75$ FPS
 $S_f=0.21\%$

DOWNCHUTE 3 3/24
 5,6,29,30



DOWNCHUTE 5/CHANNEL SW-1/DOWNCHUTE 5-B 5/24
 HGL₂₅=416.9, HGL₂₅=412.6, HGL₂₅=461.50
 5,6,29,33



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 4/24
 5,8,29,33

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 PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

9/16/99
 7/6/99

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

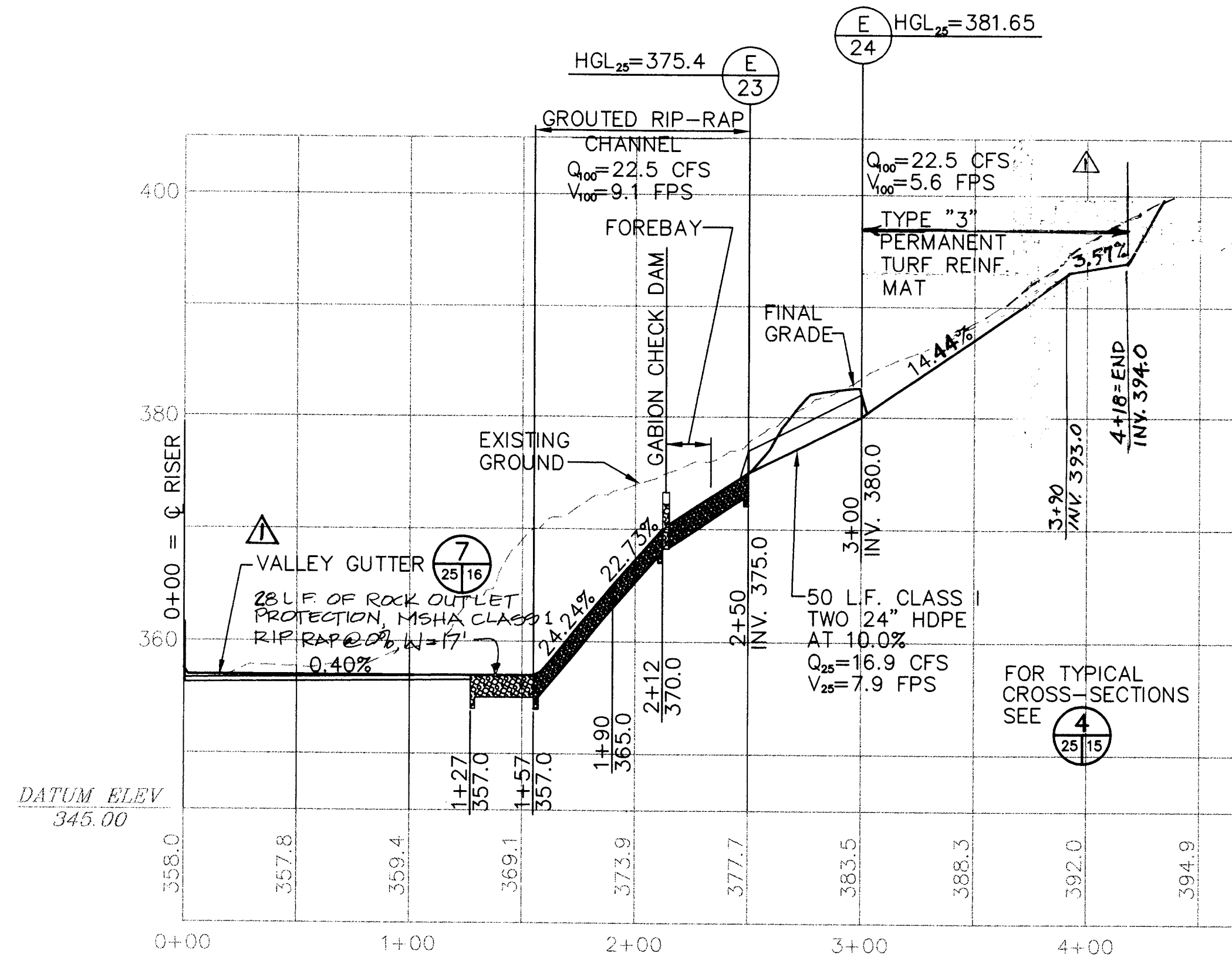
DES.	MRG	
DRN.	JCS	
CHK.	RHI	
DATE:	07-01-99	
BY	NO.	REVISION

DOWNCHUTE AND SWALE PROFILES

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

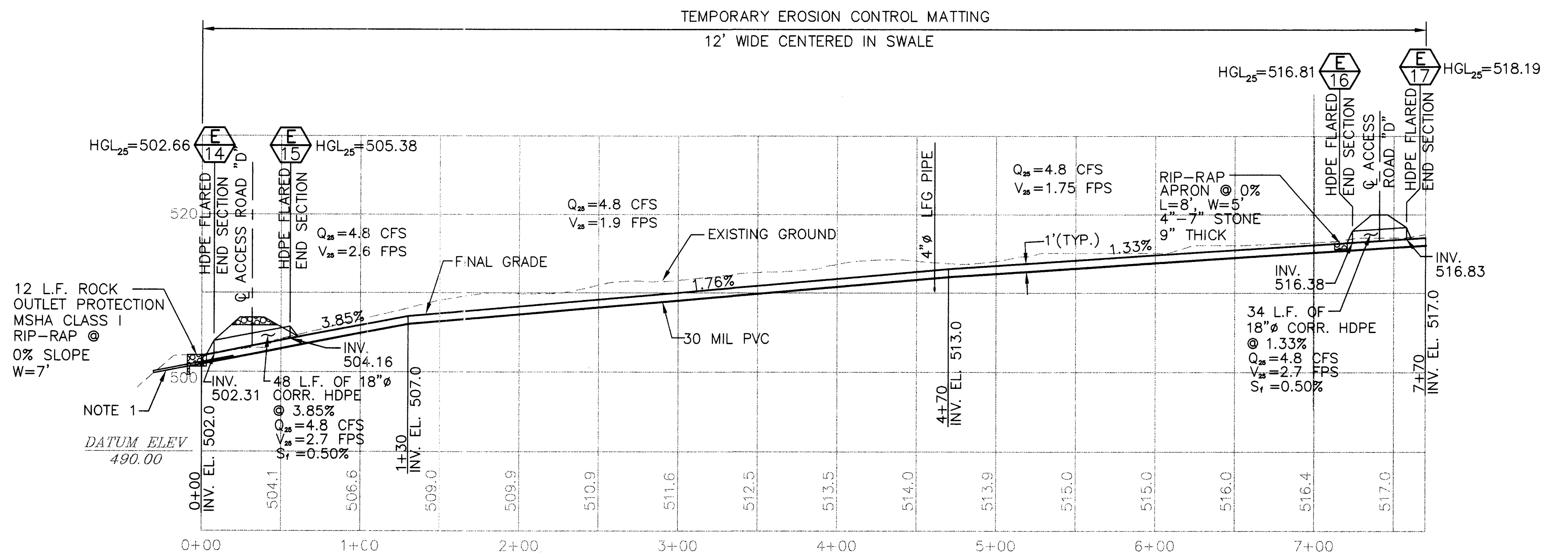
SCALE:
 AS SHOWN
 SHEET
 24 OF 39

SDP-99-109



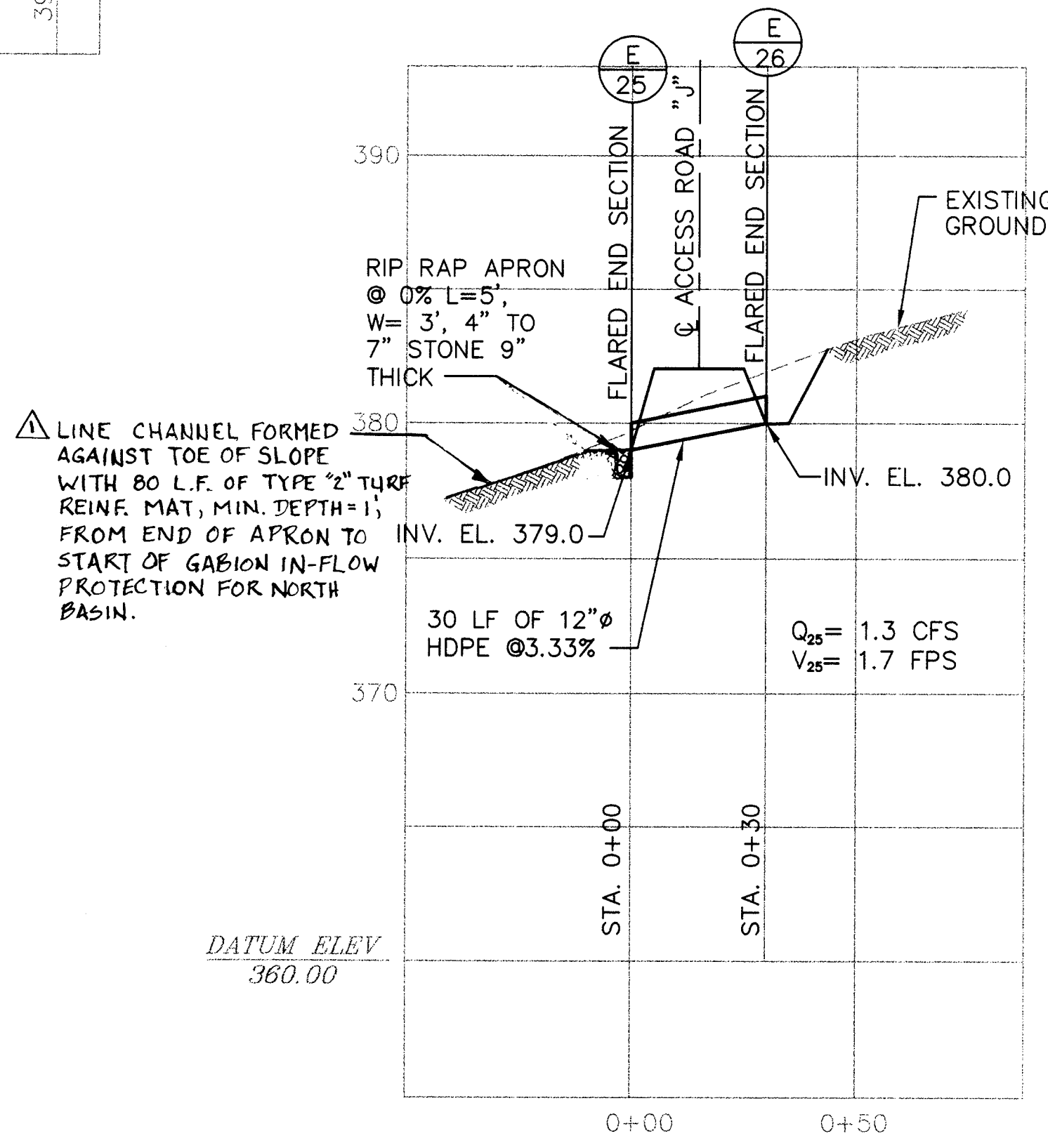
NORTH CHANNEL PROFILE
SCALE: 1"=50' HOR.
1"=10' VER.

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.

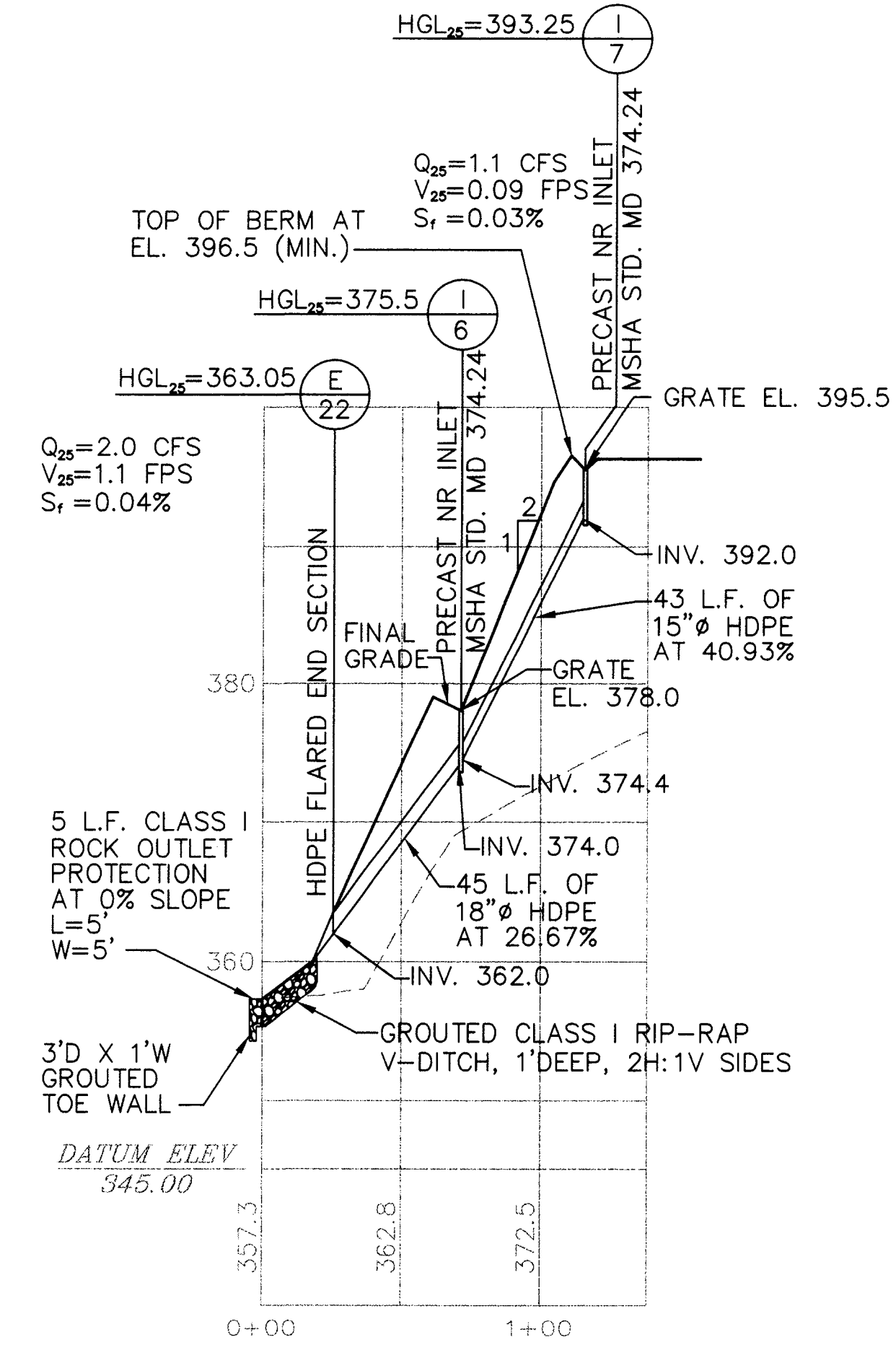


SWALE A 1
5,6,7,29,30,31

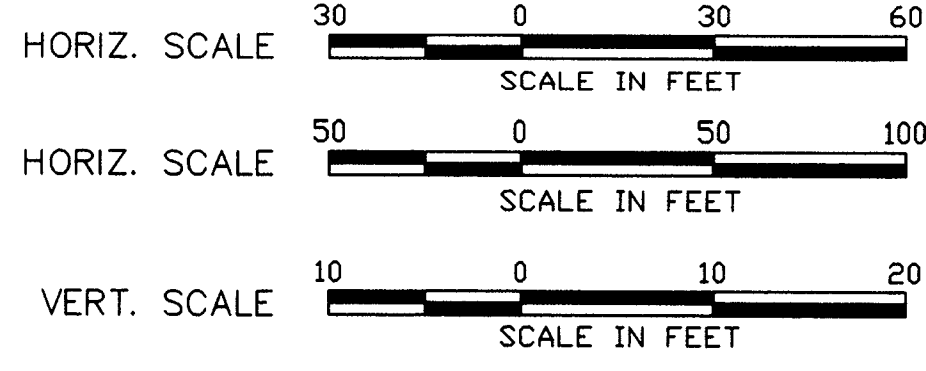
- NOTES:
- NOTE 1. USE 3"Ø CORRUGATED PLASTIC TUBING (CPT) FOR SUBDRAINAGE AT LOW END OF 30 MIL PVC. THE PORTION OF CPT OVER PVC SHALL BE 20' MIN. LENGTH AND PERFORATED. THE PORTION OUTSIDE THE PVC SHALL BE SOLID WALL CPT AND SHALL DAYLIGHT @ 2% SLOPE.
 - NOTE 2. FOR SWALE CROSS-SECTION SEE 3/24/15
 - 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.



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

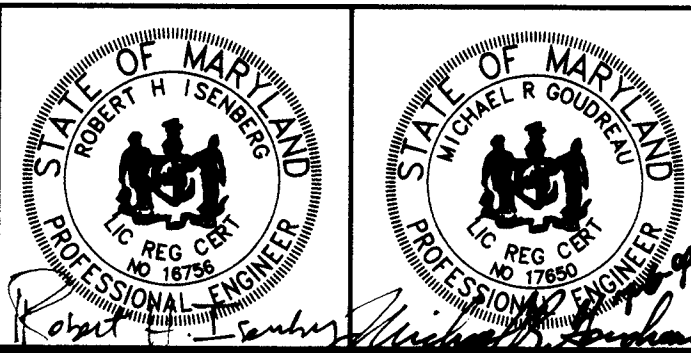
Director: *[Signature]* 9/18/99
 Chief, Development Engineering Division: *[Signature]* 9/9/99
 Chief, Division of Land Development: *[Signature]* 1/13/99

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

STORM DRAIN, CHANNEL AND SWALE PROFILES
8/99

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

SCALE: AS SHOWN
SHEET 25 OF 39

M:\296024\01\90 PERCENT\PROFILES\ SW-A.NCPR.DDPRO

PLANT LEGEND						
QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	REMARKS	
TREES						
21	Acer rubrum	Red Maple	2"-2-1/2" caliper	B & B	"Shademaster" "Shademaster"	
48	Acer rubrum	Red Maple	3"-4" Height	Bare Root		
10	Gleditsia triacanthos inermis	Thornless Honeylocust	2"-2-1/2" caliper	Bare Root		
48	Gleditsia triacanthos inermis	Thornless Honeylocust	3"-4" Height	Bare Root		
39	Pinus virginiana	Virginia Pine	4'-5" Height	B & B		
18	Pinus virginiana	Virginia Pine	3'-4" Height	Bare Root		
30	Pinus echinata	Shortleaf pine	4'-5" Height	B & B		
10	Pinus echinata	Shortleaf pine	3'-4" Height	Bare Root		
32	Pinus strobus	Eastern White Pine	5'-6" Height	Bare Root		
11	Pinus strobus	Eastern White Pine	3'-4" Height	B & B		
49	Ilex opaca	American Holly	2"-3" Height	#2 Can		
47	Quercus rubra	Northern Red Oak	2"-2-1/2" caliper	B & B		40 female, 9 male, planted 4' o.c.
53	Quercus rubra	Northern Red Oak	3"-4" Height	Bare Root		
SHRUBS						
1,777	Myrica pensylvanica	Northern Bayberry	12"-18" Height	Bare Root	Plant 4' o.c. Stagger rows 2'	
1,524	Potentilla fruticosa	Bush Cinquefoil	12"-15" Height	Bare Root	Plant 4' o.c. Stagger rows 2'	
3,063	Vaccinium angustifolium	Low Bush Blueberry	18"-24" Height	Bare Root	Plant 4' o.c. Stagger rows 2'	
SEEDING MIXTURES						
COVERAGE IN SQ. FT.						
742,000 Reclaim Conservation Dry						
1,367,000 Triplex General Seed Mix						

LANDSCAPE NOTES:
 1. SEEDING OPERATIONS TO OCCUR IN TWO PHASES DURING CONSTRUCTION.
 A. 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 SEEDED WITH RECLAIM CONSERVATION DRY SEED MIX.
 B. PHASE 2 OF SEEDING INCLUDES ALL FINAL GRADING FOR CAPPING IMPROVEMENTS AND ROADWAYS WITH SEED MIXTURES AND VEGETATION SPECIFIED IN THIS PLAN.
 2. LIMITS OF SEEDING ON THIS PLAN ARE FOR PHASE 2 GRADING AND VEGETATIVE COVER IMPROVEMENTS ONLY.
 3. ANY OTHER AREAS NOT SHOWN ON THIS PLAN, BUT ARE DISTURBED DURING CONSTRUCTION OPERATIONS SHALL BE SEEDED WITH RECLAIM CONSERVATION DRY MIX.
 4. ALL AREAS DESIGNATED TO RECEIVE PLANT MATERIAL, WHETHER IN SEEDLING FORM, SHALL ALSO BE SEEDED AS INDICATED ON THIS PLAN.
 5. AREAS DESIGNATED TO RECEIVE SEEDLING PLANT MATERIALS SHALL BE PLANTED IN ALTERNATING SPECIES DESIGNATED FOR THAT AREA. TREE PROTECTION SHALL BE USED FOR ALL SEEDLINGS, UTILIZING THE "SUPERTUBE" FROM TREESSENTIALS CO.
 6. LIMITS OF SEEDING ARE APPROXIMATE.
 7. NO SEEDING, TREE OR SHRUB PLANTING SHALL OCCUR WITHIN GRAVEL OR PAVED AREAS. DISTURBANCE IMMEDIATELY ADJACENT TO ACCESS ROAD IS TO BE SEEDED WITH TRIPLEX GENERAL MIX.
 8. NO WOODY VEGETATION SHALL BE PLANTED ON POND EMBANKMENTS OR WITHIN 20 FEET OF TOE OF SLOPE FOR ANY POND EMBANKMENT.
 9. THE LOCATION OF WOODY PLANT MATERIAL IS DICTATED BY THE PRESENCE OF UNDERGROUND LANDFILL CAP (OVER WHICH NO WOODY VEGETATION CAN BE PLANTED).
 10. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.

FOREST CONSERVATION WORKSHEET
VERSION 1.0

NET TRACT AREA:

A. TOTAL TRACT AREA.....	89.99
B. AREA WITHIN 100 YEAR FLOODPLAIN.....	0.31
C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION.....	0.00
D. NET TRACT AREA.....	89.68

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 MDR IDA HDR MPD CIA
0 0 0 1 0 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:

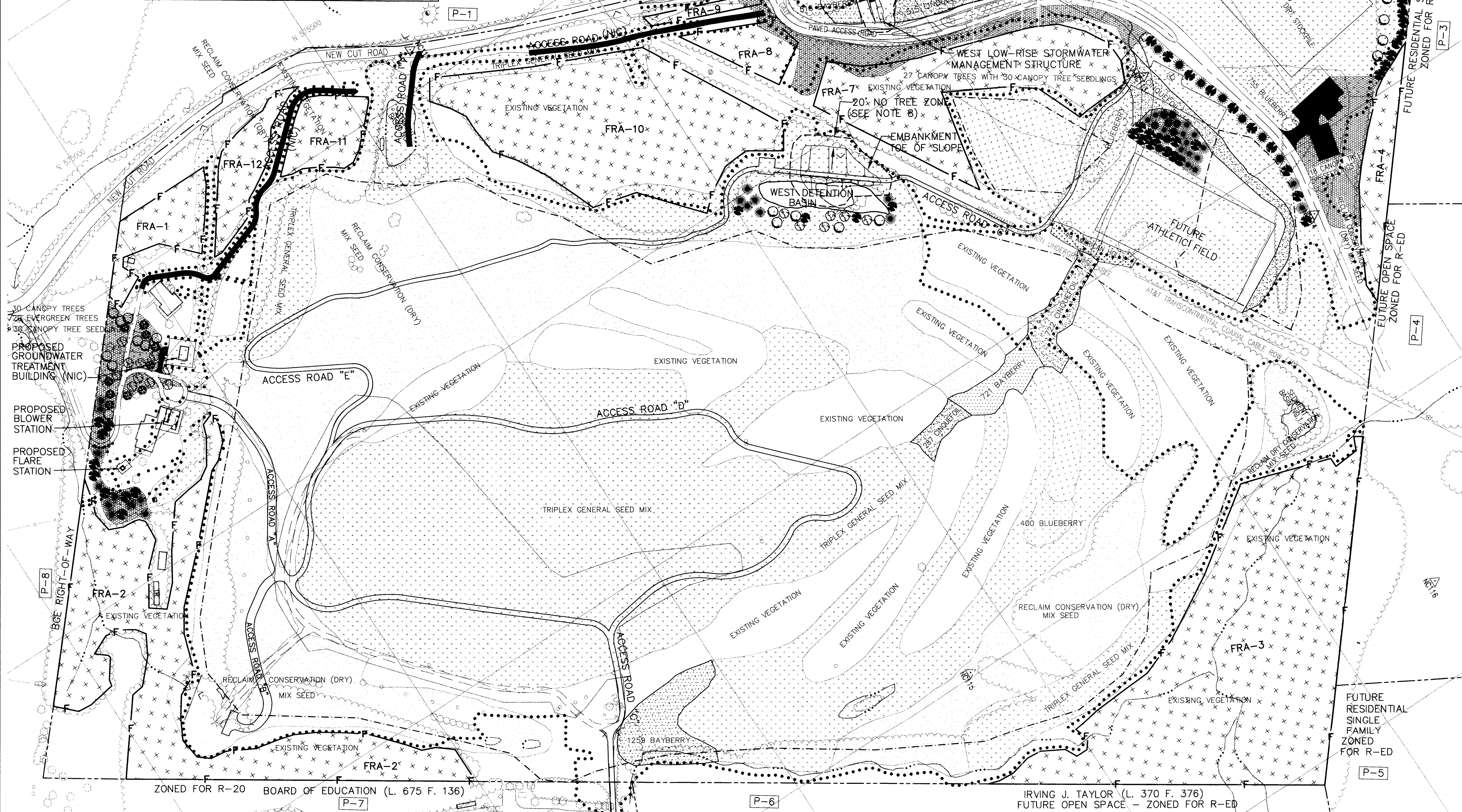
J. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION.....	19.91
K. CLEARING PERMITTED WITHOUT MITIGATION.....	7.88

PROPOSED FOREST CLEARING:

L. TOTAL AREA OF FOREST TO BE CLEARED.....	5.02
M. TOTAL AREA OF FOREST TO BE RETAINED.....	22.77

PLANTING REQUIREMENTS:

N. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD.....	1.26
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



SCHEDULE A
PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER 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/PERIMETER	2750'	220'	670'	910'	190'	1300'	1110'	1100'	
CREDIT FOR EXISTING VEGETATION	YES	YES	YES	YES	YES	YES	YES	YES	
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	1	0	0	0	0	0	0	0	

SCHEDULE D
STORMWATER MANAGEMENT AREA LANDSCAPING

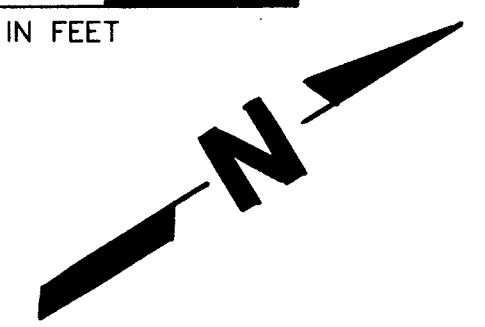
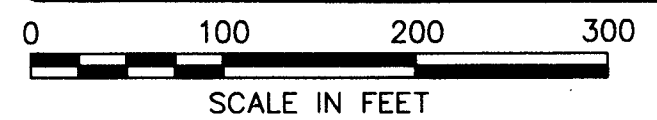
LINEAR FEET OF PERIMETER	2530'
NUMBER OF TREES REQUIRED	51
SHADE TREES	63
EVERGREEN TREES	
CREDIT FOR EXISTING VEGETATION	55%
CREDIT FOR OTHER LANDSCAPING	45%

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

[Signature] 9/1/99
DIRECTOR DATE

[Signature] 9/1/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 9/1/99
CHIEF, DIVISION OF LAND DEVELOPMENT DATE



LEGEND

[Symbol]	EXISTING VEGETATION	[Symbol]	FOREST RETENTION AREAS (FRA-)
[Symbol]	AMERICAN HOLLY	[Symbol]	POND EMBANKMENT
[Symbol]	BAYBERRY	[Symbol]	LANDSCAPE EDGE NUMBER
[Symbol]	BLUEBERRY	[Symbol]	
[Symbol]	CANOPY TREES	[Symbol]	
[Symbol]	CINQUEFOIL	[Symbol]	
[Symbol]	EVERGREEN TREES	[Symbol]	
[Symbol]	RECLAIM CONSERVATION (DRY) MIX SEED	[Symbol]	
[Symbol]	TRIPLEX GENERAL SEED MIX	[Symbol]	APPROX. LIMITS OF DISTURBANCE

NEW CUT LANDFILL

ACIULLI, SIMMONS AND ASSOCIATES, LTD.
ENGINEERING, PLANNING SURVEYING, LANDSCAPE ARCHITECTURE
11212 MAPLES MILL DR., FAIRFAX, VIRGINIA 22030 (703) 934-0900

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 9/1/99
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 9/1/99
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

LANDSCAPE ARCHITECT
STATE OF MARYLAND

DES.	[Symbol]			
DRN.	JCS	[Symbol]		
CHK.	RHI	[Symbol]		
DATE:	6-2-99	[Symbol]	ADDED PIZ SIGN. BLOCK	9-8-99
BY	NO.	[Symbol]	REVISION	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 39

SDP-99-109

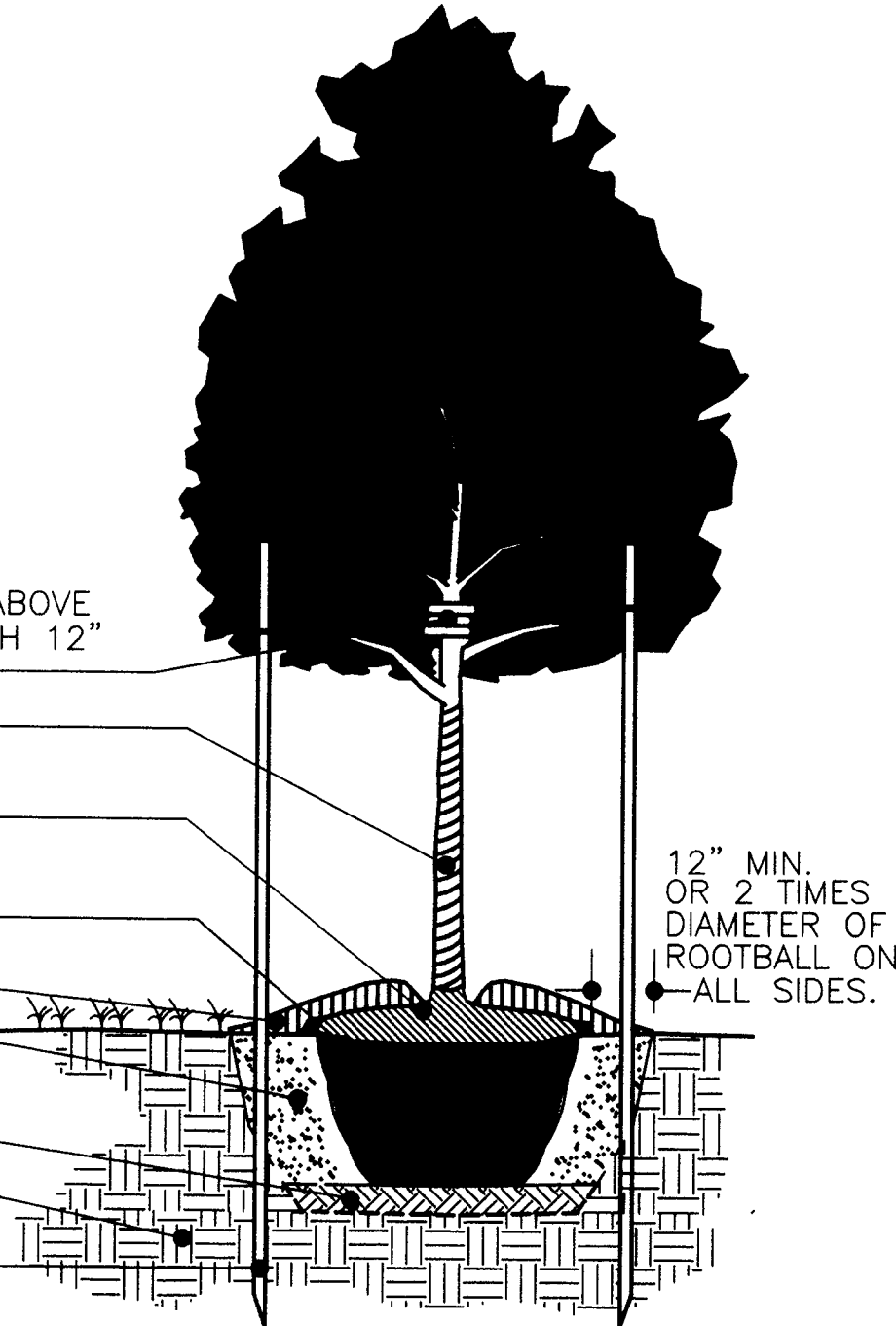
D:\296024.01\100PERCENT\990. LS-LEGEN. LS-NOTES. LS-TABLE

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.



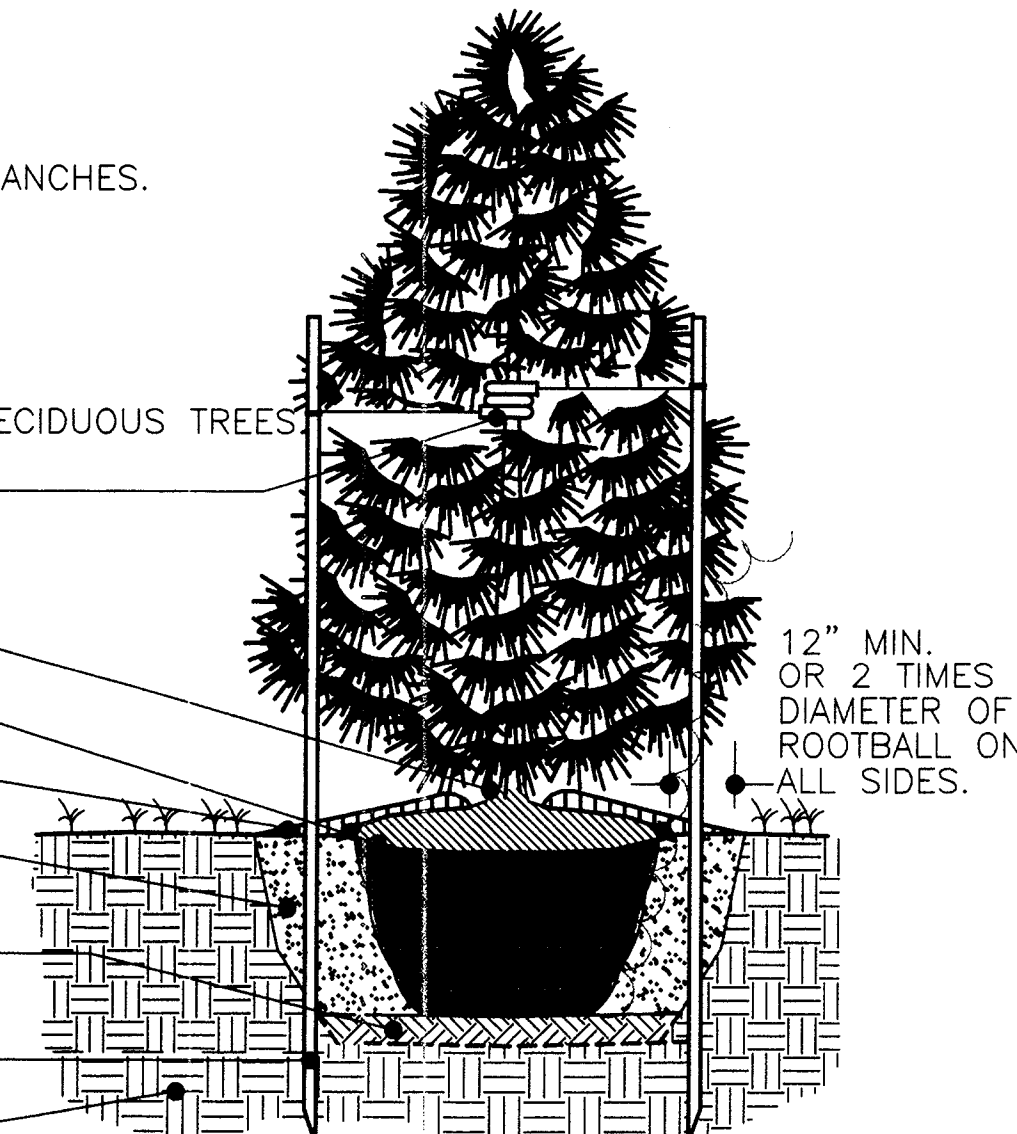
DECIDUOUS TREE PLANTING DETAIL
 NOT TO SCALE (UNDER 3" CAL.)

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.

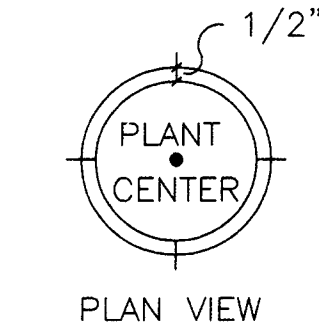


EVERGREEN TREE PLANTING DETAIL
 NOT TO SCALE

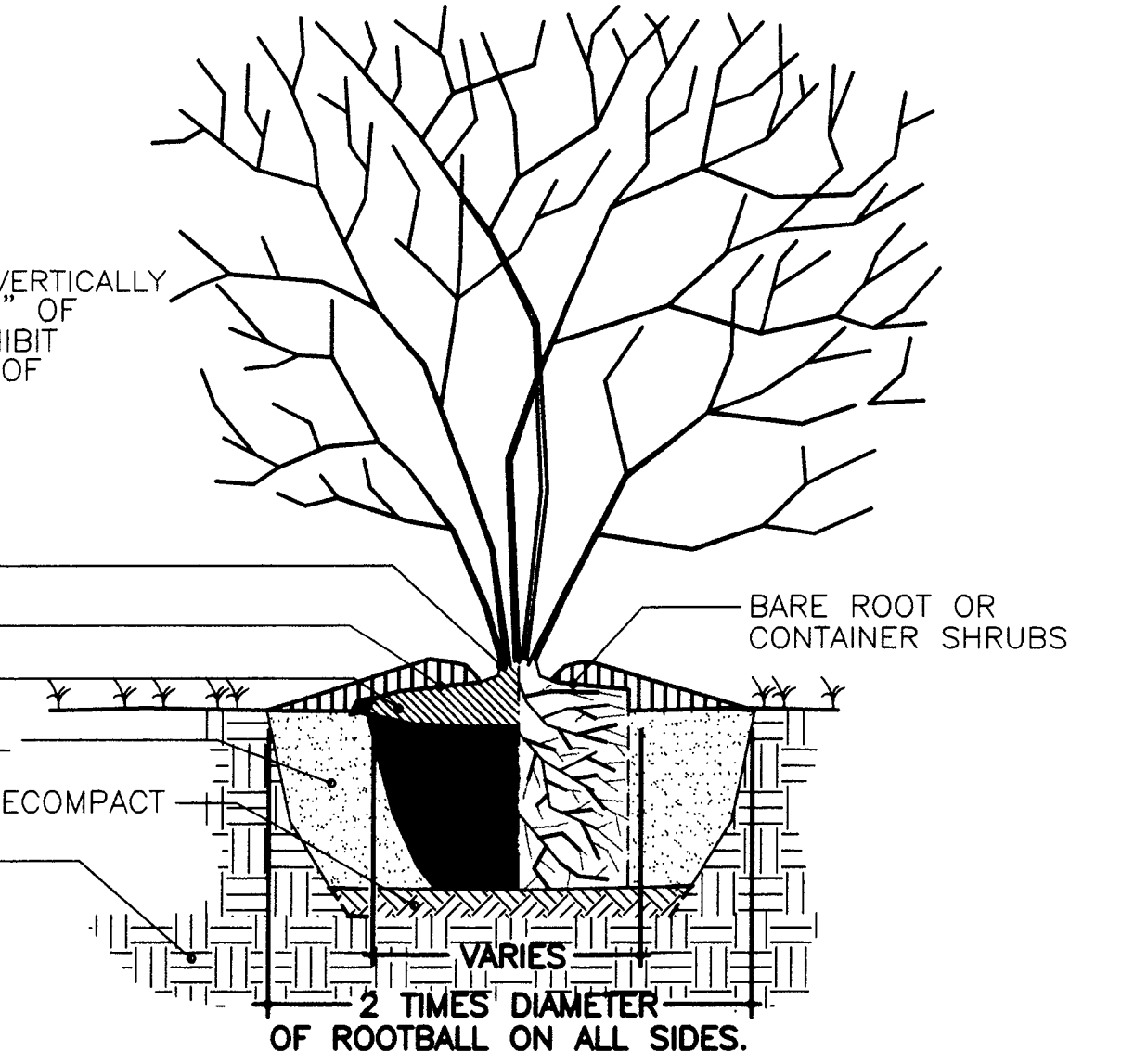
GENERAL NOTES:

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

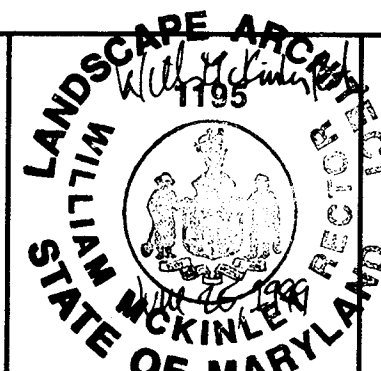
[Signature] 9/14/99
 DIRECTOR DATE
[Signature] 9/16/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
[Signature] 9/13/99
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

SUBDIVISION NAME	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] 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	

VEGETATIVE
 COVER DETAILS

NEW CUT LANDFILL
 IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

2nd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

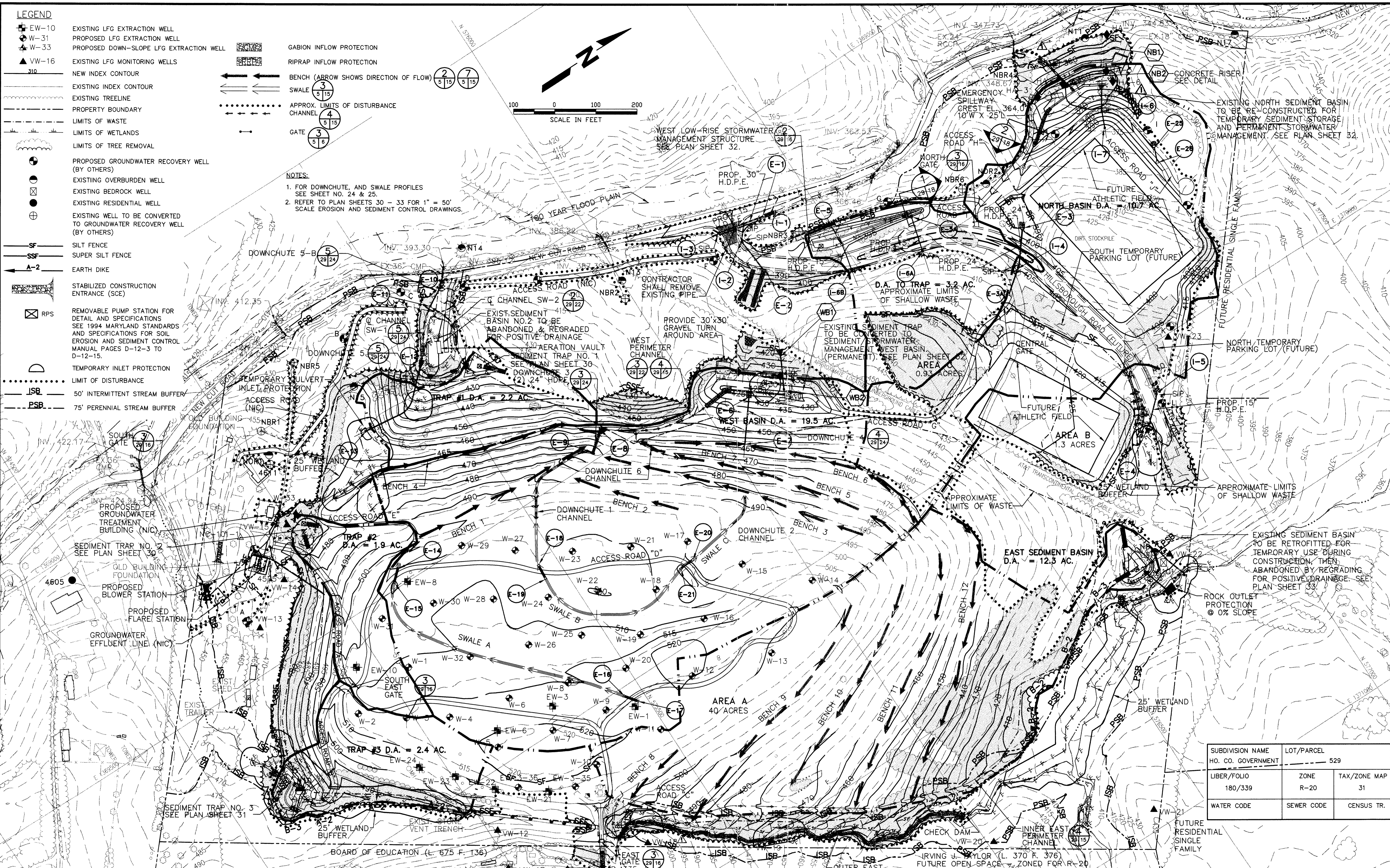
SCALE:
 AS SHOWN

SHEET
 28 OF 39

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
- 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)
- SF SILT FENCE
- SSF 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-12-15.
- TEMPORARY INLET PROTECTION
- JSB 50' INTERMITTENT STREAM BUFFER
- PSB 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.



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 M. Law 7/6/99
 DIRECTOR OF PUBLIC WORKS DATE

John O'Hara 7/6/99
 CHIEF OF 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	6
DRN.	JCS	4
CHK.	RHI	3
DATE:	07-01-99	
BY:	NO.	
REVISION	ADDED GABION MAT, MOVED N.BASIN OUTFALLS	8/9/99
REVISION	RIPRAP SYMBOLS	

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'

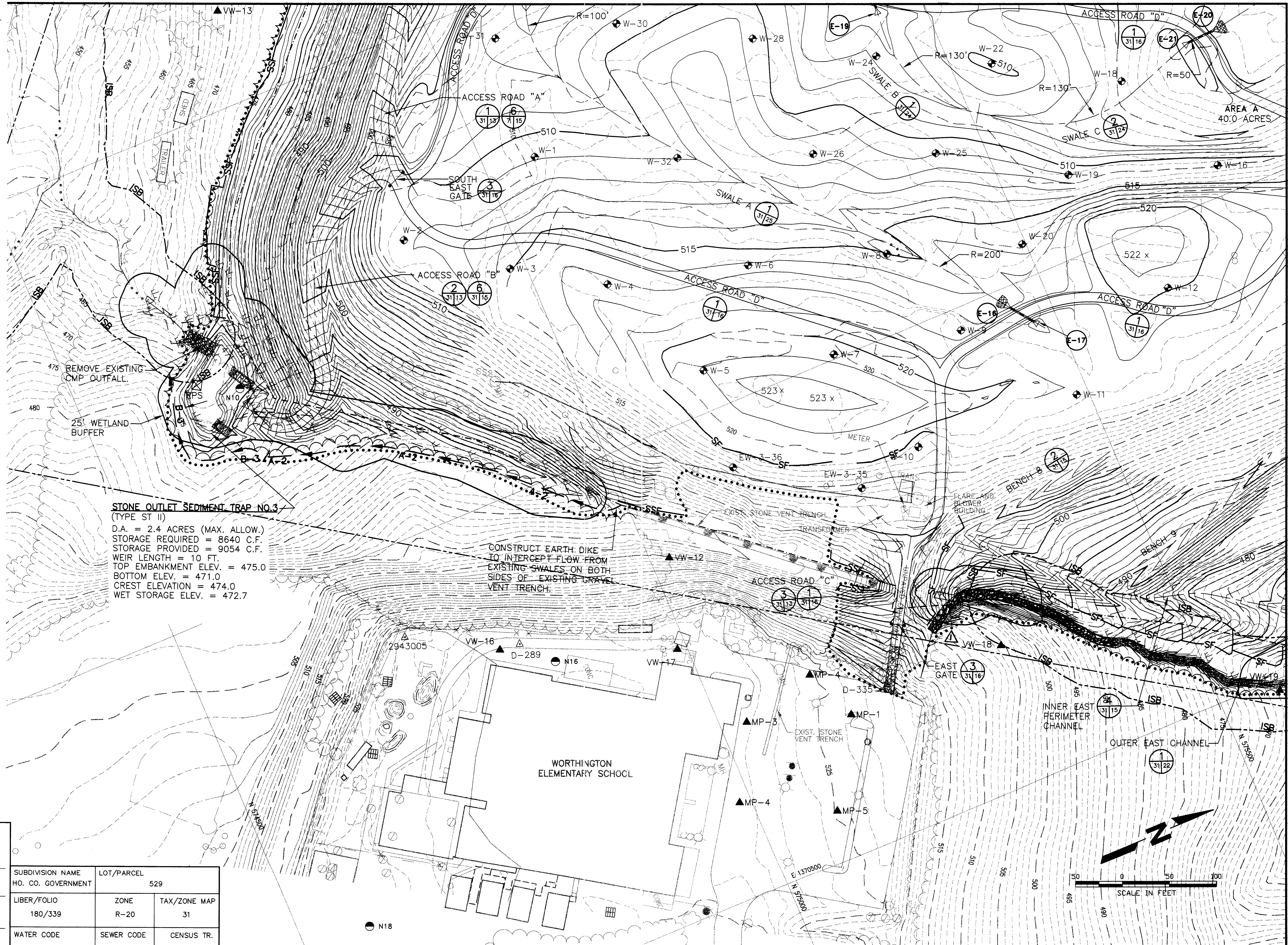
SHEET 29 OF 39

SDP-99-109

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
- 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)
- SF SILT FENCE
- SSF 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/DOWNSHUTES/ 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)
- ISB 50' INTERMITTENT STREAM BUFFER
- PSB 75' PERENNIAL STREAM BUFFER



STONE OUTLET SEDIMENT TRAP NO. 3
(TYPE ST II)
D.A. = 2.4 ACRES (MAX. ALLOW.)
STORAGE REQUIRED = 8640 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 GRAVEL VENT TRENCH.

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

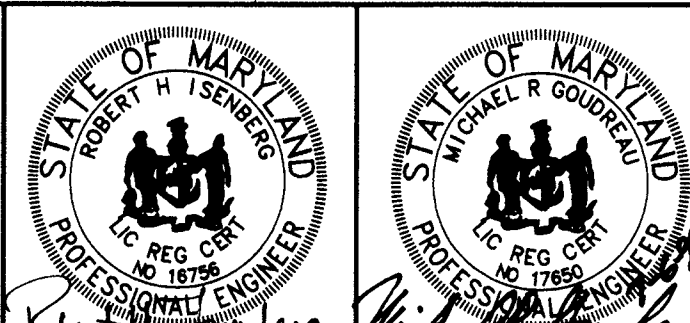
[Signature] 7/14/99
DIRECTOR DATE
[Signature] 7/14/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
[Signature] 7/13/99
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

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

[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:	07-01-99	BY:	NO.	ADDED RIPRAP EXMPL	05/99
				REVISION	DATE

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
31 OF 39

MATCHLINE SEE SHEET 33

M: 296024.01\90 PERCENT E&S1, LEGEND02

- 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)
 - SF SILT FENCE
 - SSF 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
 - 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**
1. DISTURBANCE FOR AND CONSTRUCTION OF THESE ACCESS ROADS IS LIMITED TO THAT WHICH SHALL BE STABILIZED WITHIN ONE WORKING DAY.
 2. 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

DIRECTOR: *[Signature]* DATE: 9/14/99

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

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 7/13/99

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

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

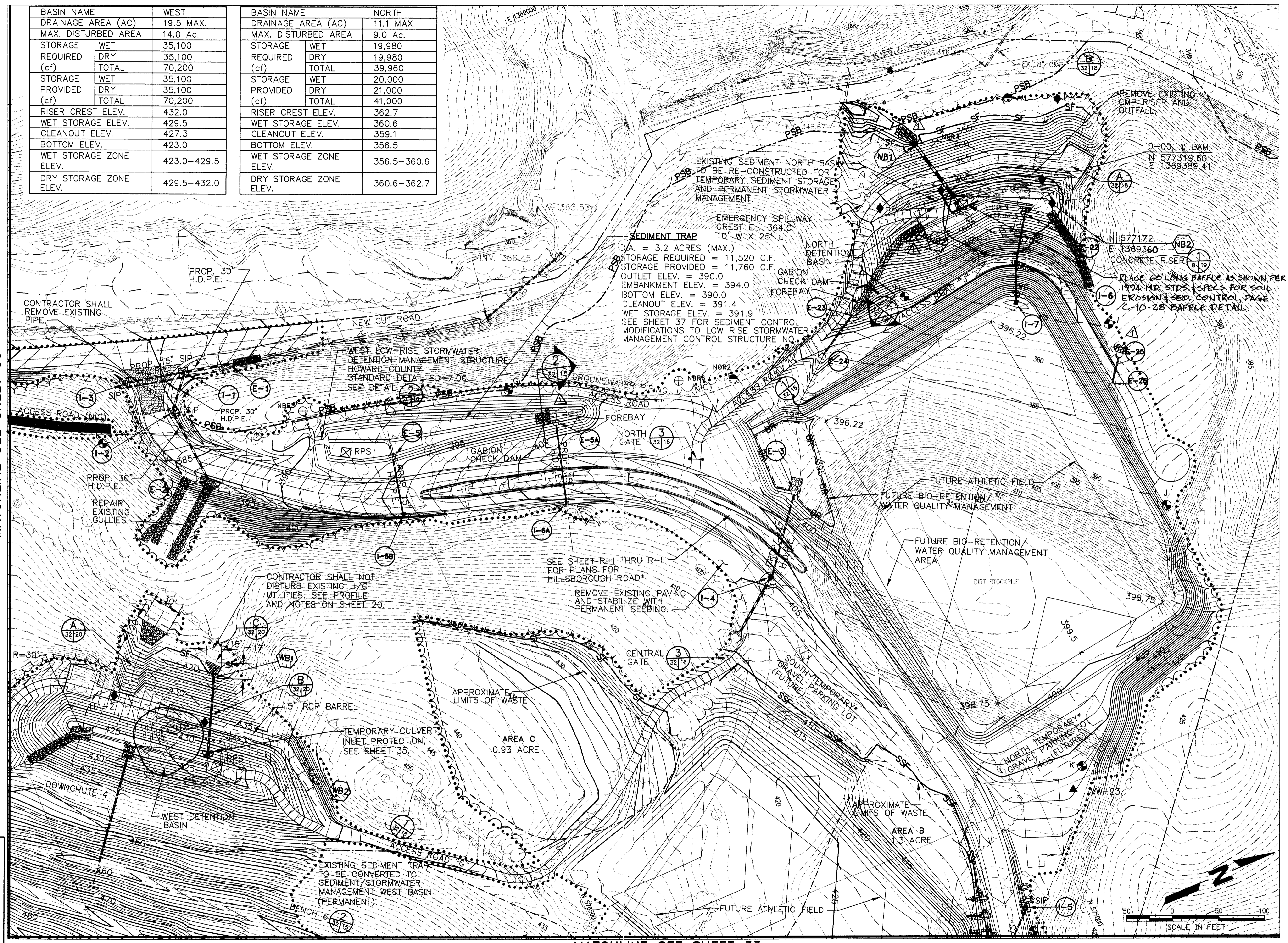
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES: *[Signature]* DATE: 7/6/99

BASIN NAME		WEST	
DRAINAGE AREA (AC)		19.5 MAX.	
MAX. DISTURBED AREA		14.0 Ac.	
STORAGE	WET	35,100	
REQUIRED	DRY	35,100	
(cf)	TOTAL	70,200	
STORAGE	WET	35,100	
PROVIDED	DRY	35,100	
(cf)	TOTAL	70,200	
RISER CREST ELEV.		432.0	
WET STORAGE ELEV.		429.5	
CLEANOUT ELEV.		427.3	
BOTTOM ELEV.		423.0	
WET STORAGE ZONE ELEV.		423.0-429.5	
DRY STORAGE ZONE ELEV.		429.5-432.0	

BASIN NAME		NORTH	
DRAINAGE AREA (AC)		11.1 MAX.	
MAX. DISTURBED AREA		9.0 Ac.	
STORAGE	WET	19,980	
REQUIRED	DRY	19,980	
(cf)	TOTAL	39,960	
STORAGE	WET	20,000	
PROVIDED	DRY	21,000	
(cf)	TOTAL	41,000	
RISER CREST ELEV.		362.7	
WET STORAGE ELEV.		360.6	
CLEANOUT ELEV.		359.1	
BOTTOM ELEV.		356.5	
WET STORAGE ZONE ELEV.		356.5-360.6	
DRY STORAGE ZONE ELEV.		360.6-362.7	

MATCHLINE SEE SHEET 30

MATCHLINE SEE SHEET 33



M: 296024.01 90 PERCENT E&S1, LEGEND 2

DES.	MRG	▲	
DRN.	JCS	▲	
CHK.	RHI	▲	
DATE:	07-01-99		
BY	NO.	REVISION	DATE
		ADD RIPRAP SYMBOL, MOVE N.B. RISE, OUTFALL	8/5/99

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

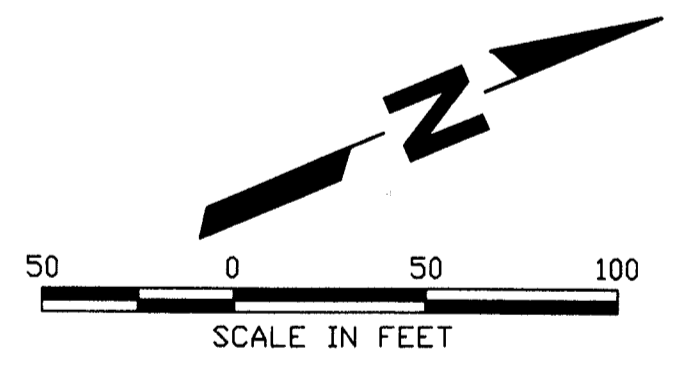
SHEET 32 OF 39

SDP-99-109

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 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)
 - SF SILT FENCE
 - SSF 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
 - LOD-IV PHASE IV 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

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

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

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



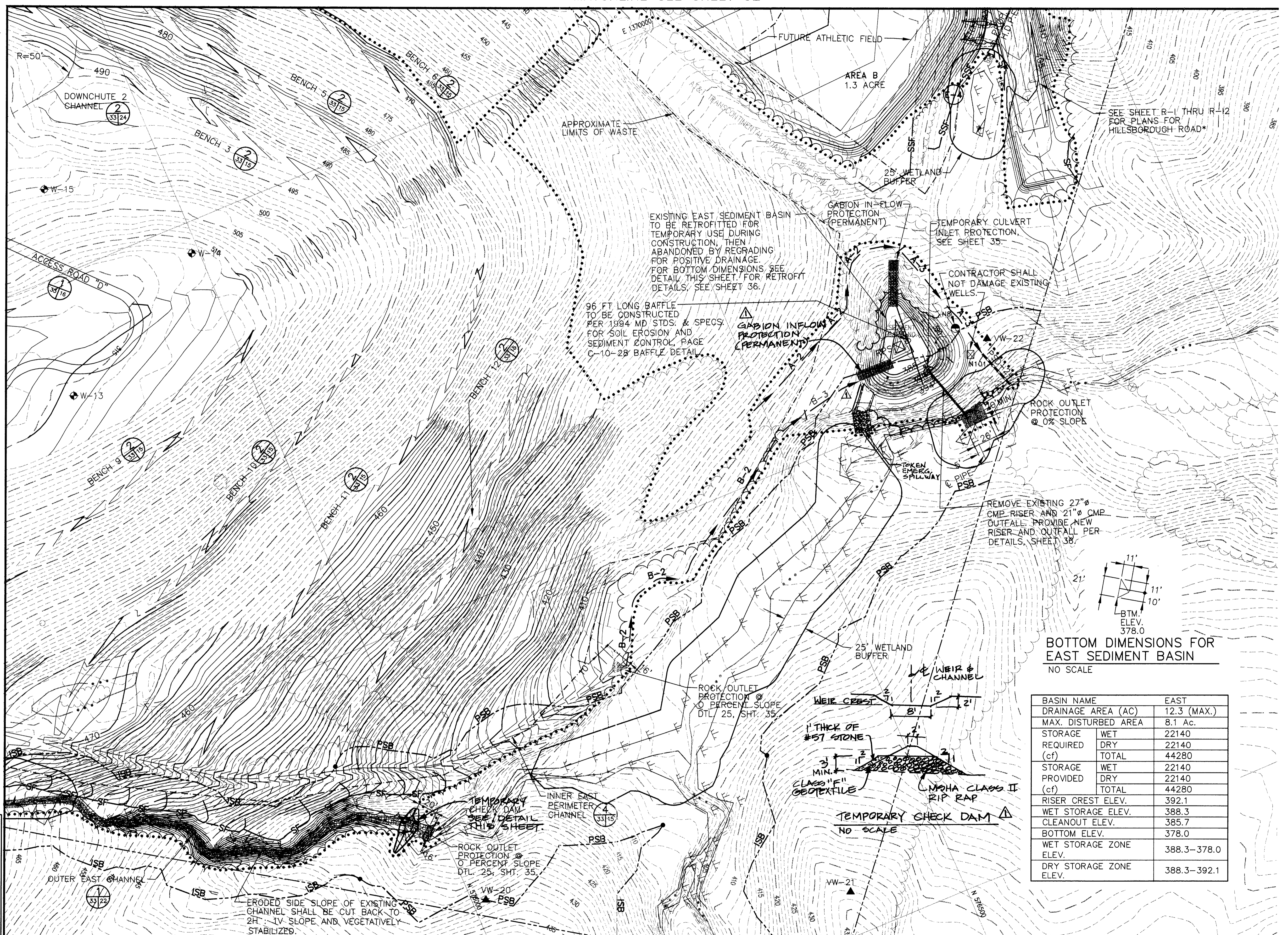
DES.	MRG	
DRN.	JCS	
CHK.	RHI	
DATE:	07-01-99	
BY:	NO.	
REVISION:	TEMP. CHECK DAM, LABEL TAKEN 8/9/99	
	EMERGENCY SPILLWAY	

EROSION AND SEDIMENT CONTROL PLAN—QUADRANT NE—QUADRANT

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

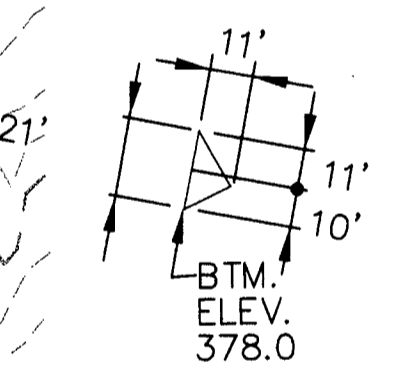
SCALE: AS SHOWN
SHEET 33 OF 39

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

- 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.
- II. **INSTALL TREE PROTECTION DEVICES BETWEEN FOREST 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.
 - 6. RECEIVE PERMISSION FROM SEDIMENT CONTROL INSPECTOR BEFORE PROCEEDING WITH PHASE III.

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 DAM & OUTER EAST CHANNEL 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.**
 - 5. 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.
 - 6. GRADE LANDFILL SIDESLOPES AND REMAINING BENCHES.**
 - 7. STABILIZE ALL DENUDED AREAS BY TEMPORARY OR PERMANENT SEEDING AND MULCHING.
 - 8. 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.

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
 SIGNATURE OF DEVELOPER

7/6/99
 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. Goudreau
 SIGNATURE OF ENGINEER
 PRINT NAME BESIDE SIGNATURE: MICHAEL R. GOUDREAU

7-6-99
 DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

Cheryl Sumner
 USDA - NATURAL RESOURCES
 CONSERVATION SERVICE

9/8/99
 DATE

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

Sherry L. Alley
 HOWARD SCD

9/8/99
 DATE

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.

M:\296024\01\90 PERCENT\ SECONOTES

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

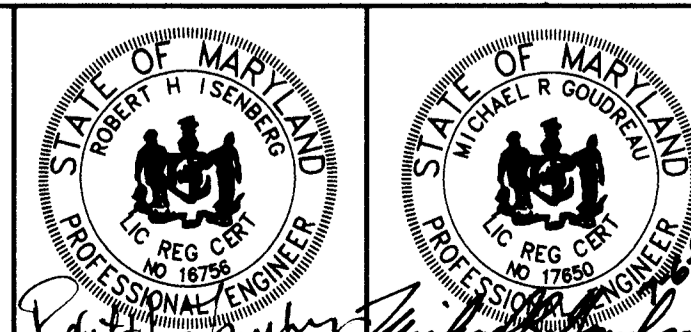
Joseph S. Butler 7/14/99
 DIRECTOR DATE
Michael J. Dammann 9/13/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
Cinda Hamada 9/13/99
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

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

James M. Chew 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

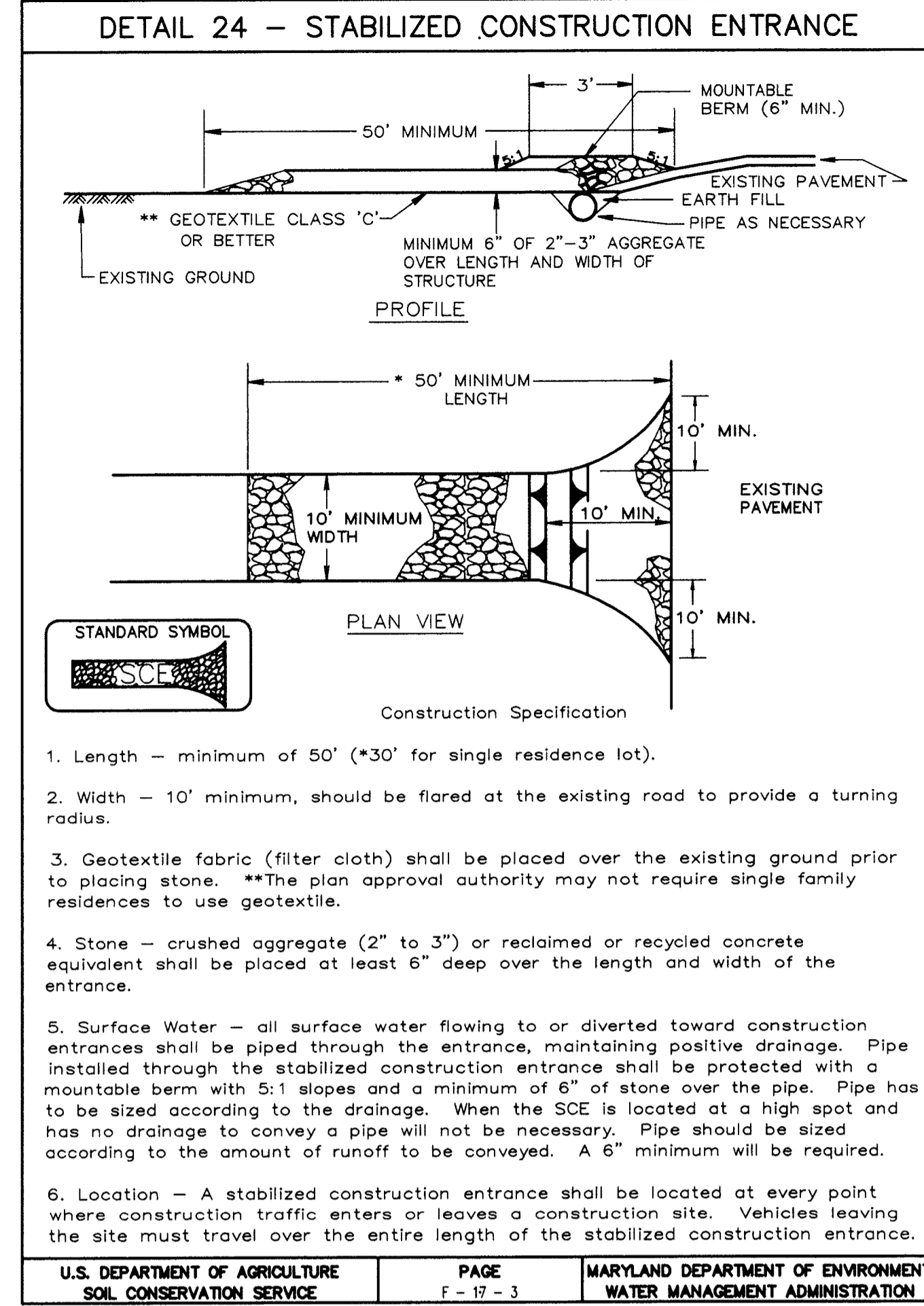
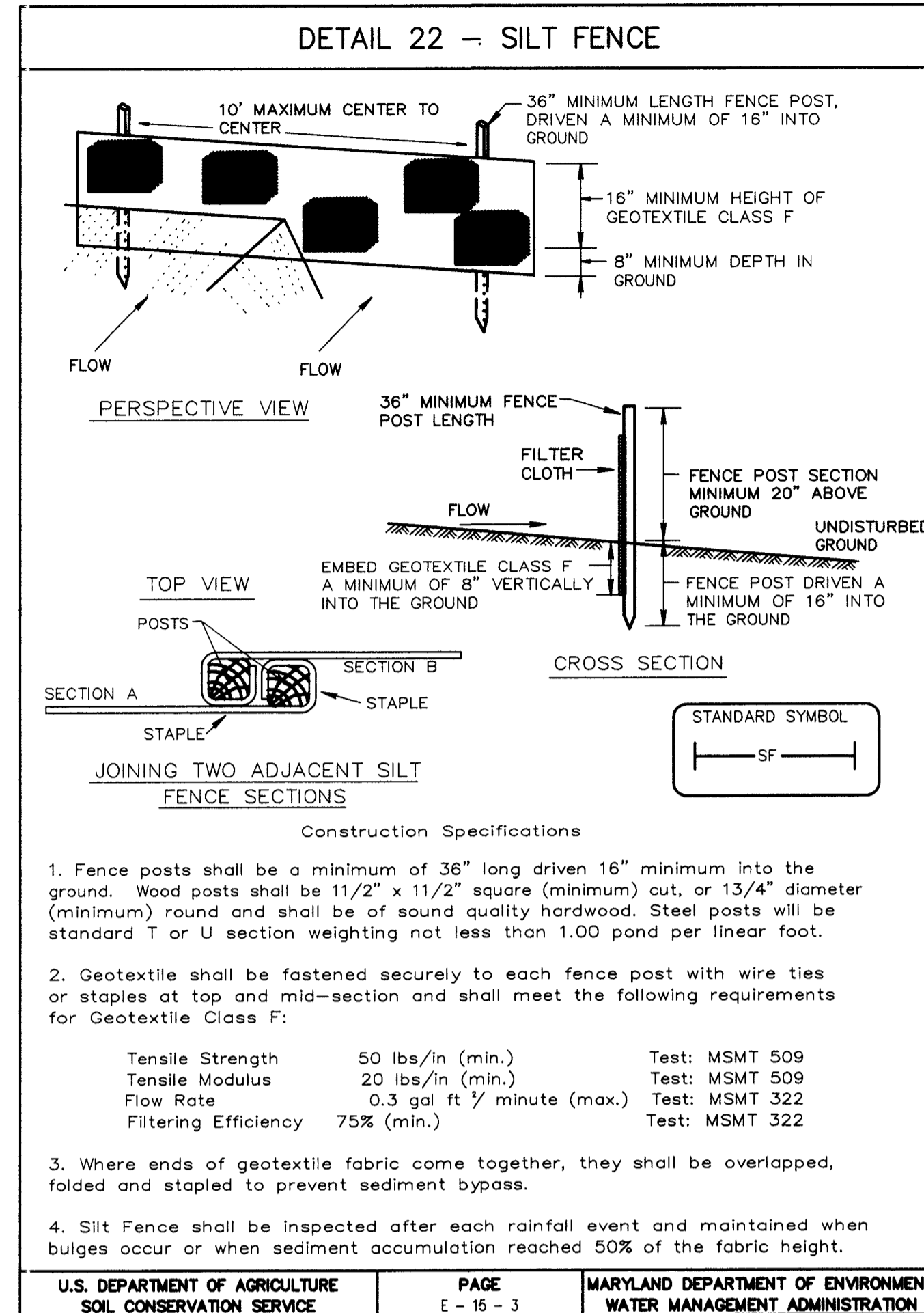
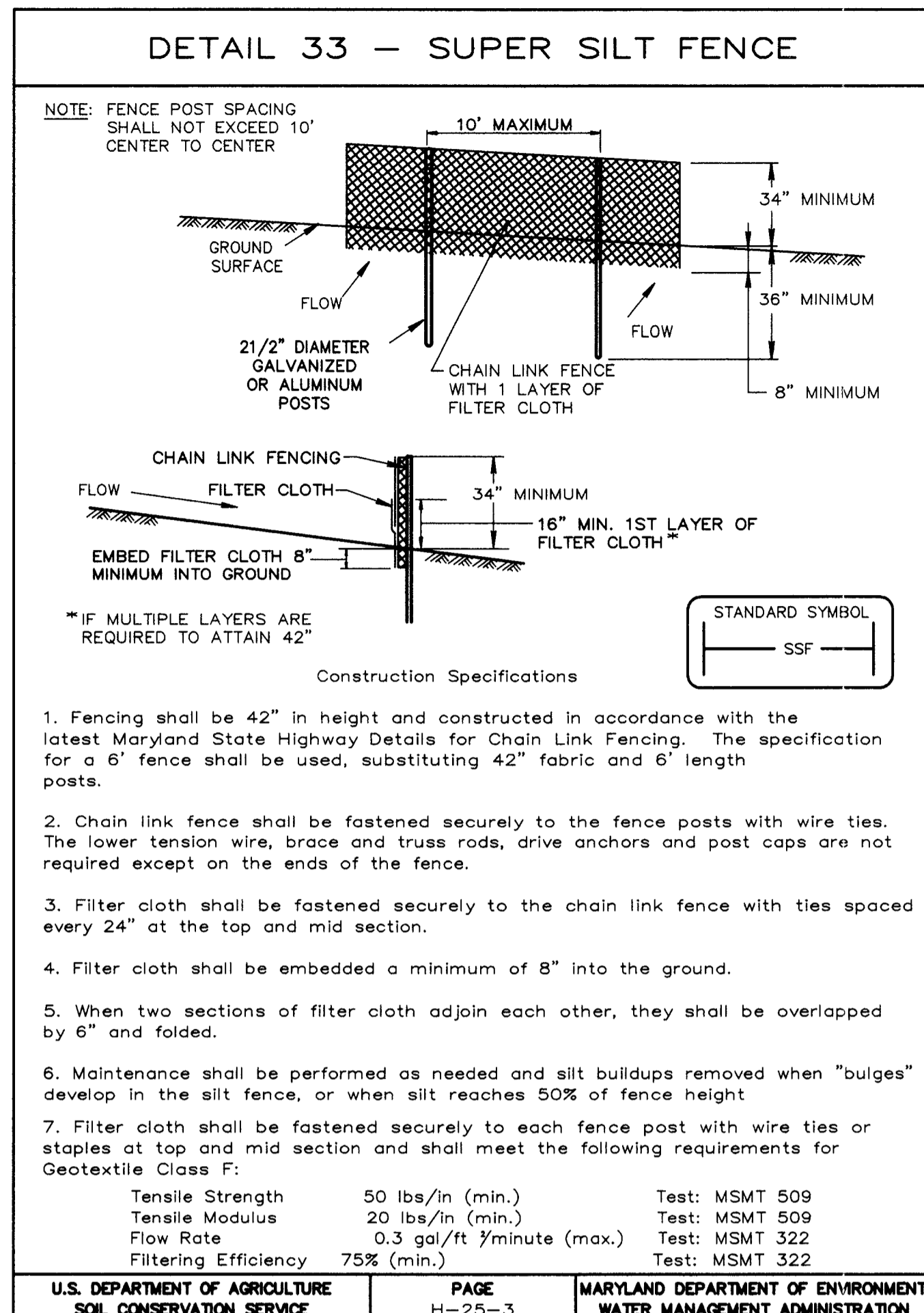
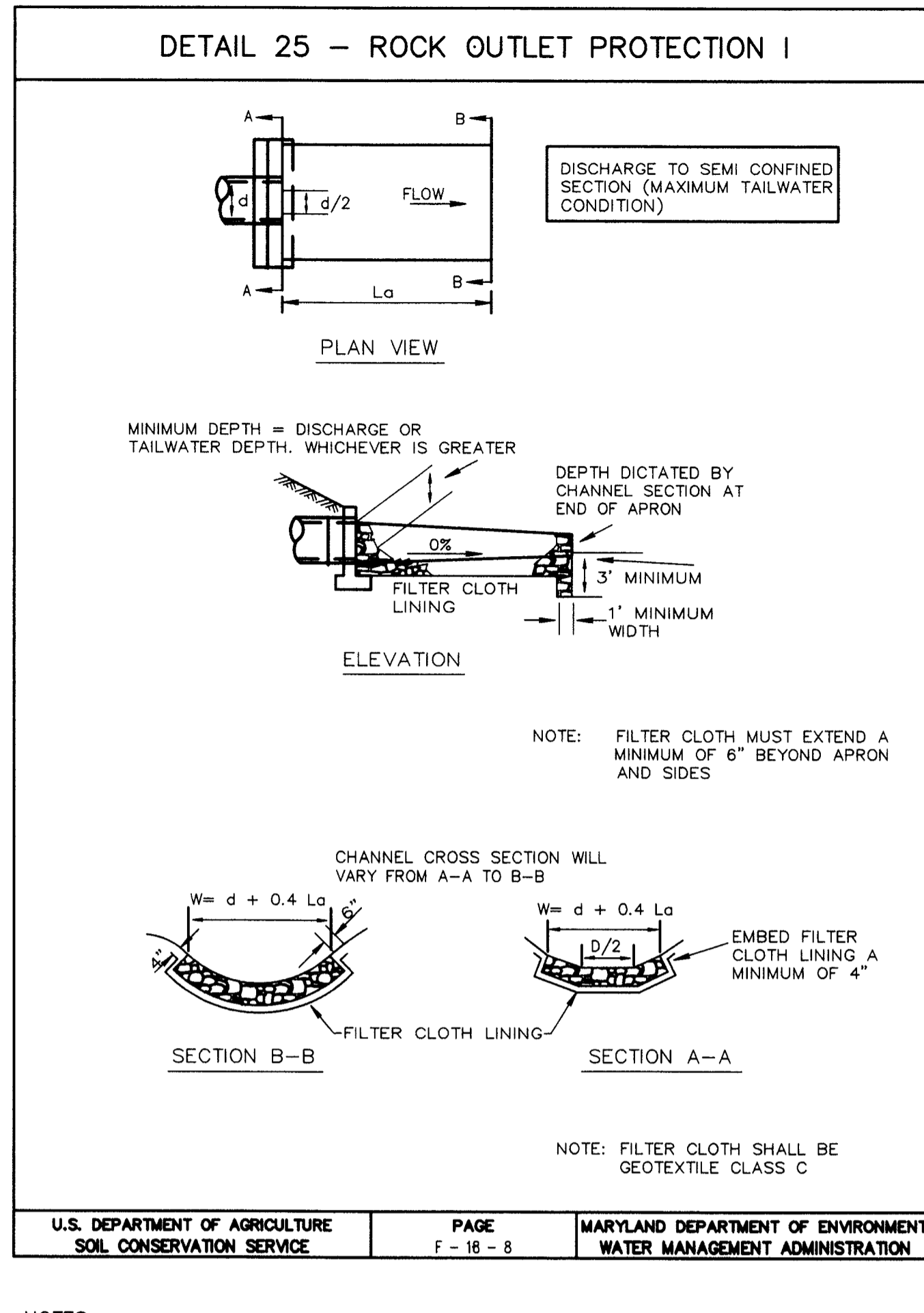


DES.	MRG		
DRN.	BJD		
CHK.	RHI		
DATE	07-01-99		
BY	NO.		

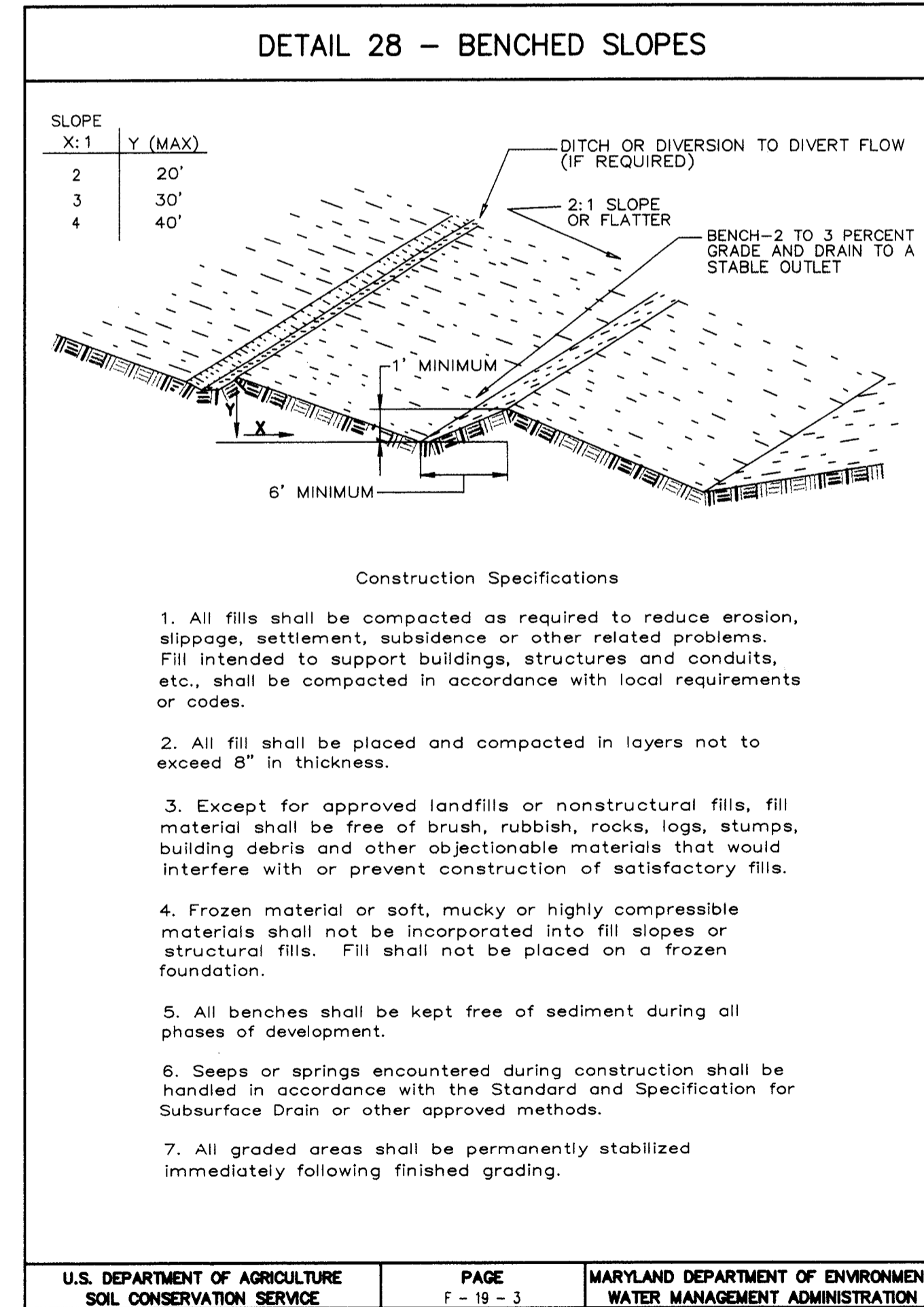
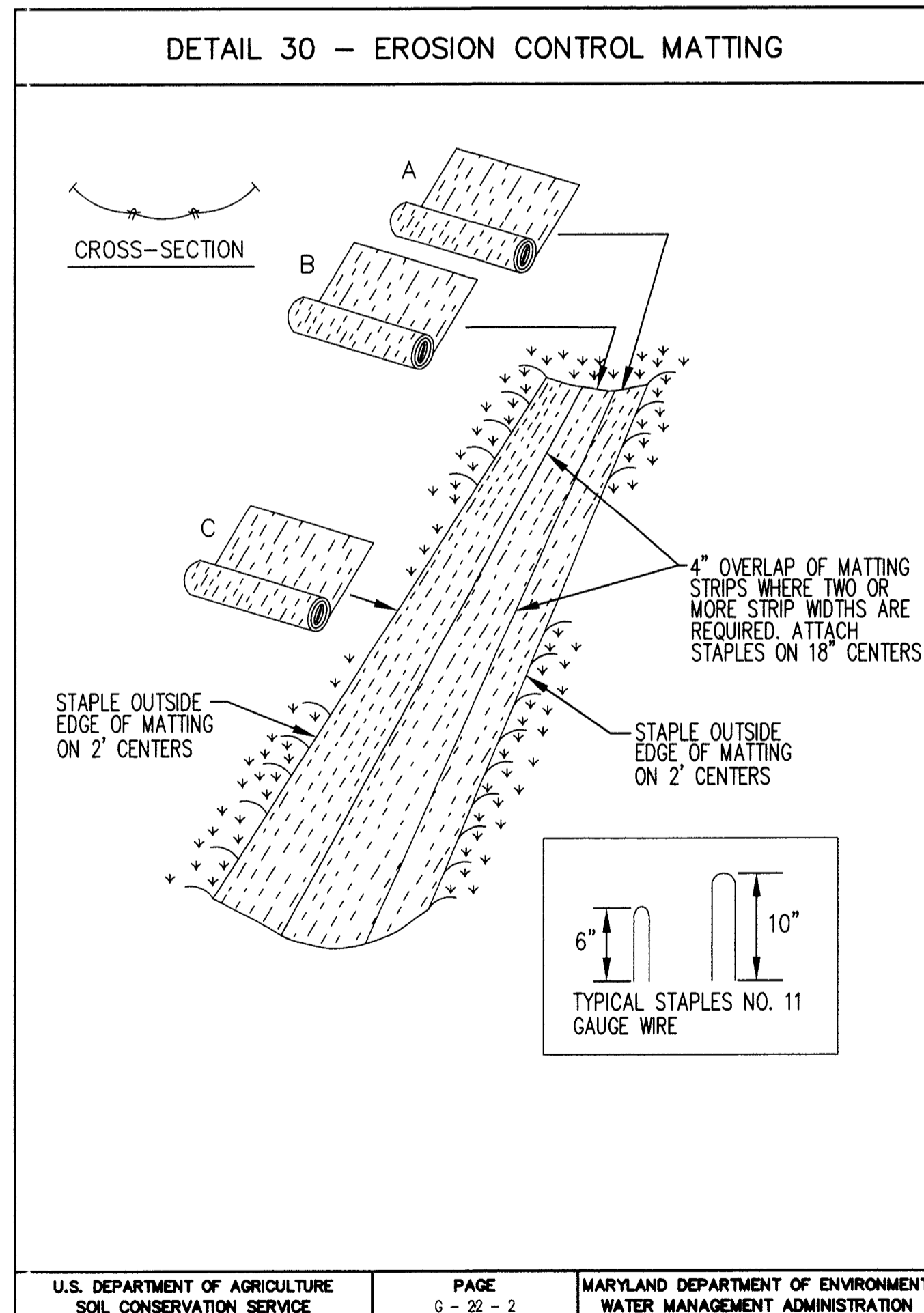
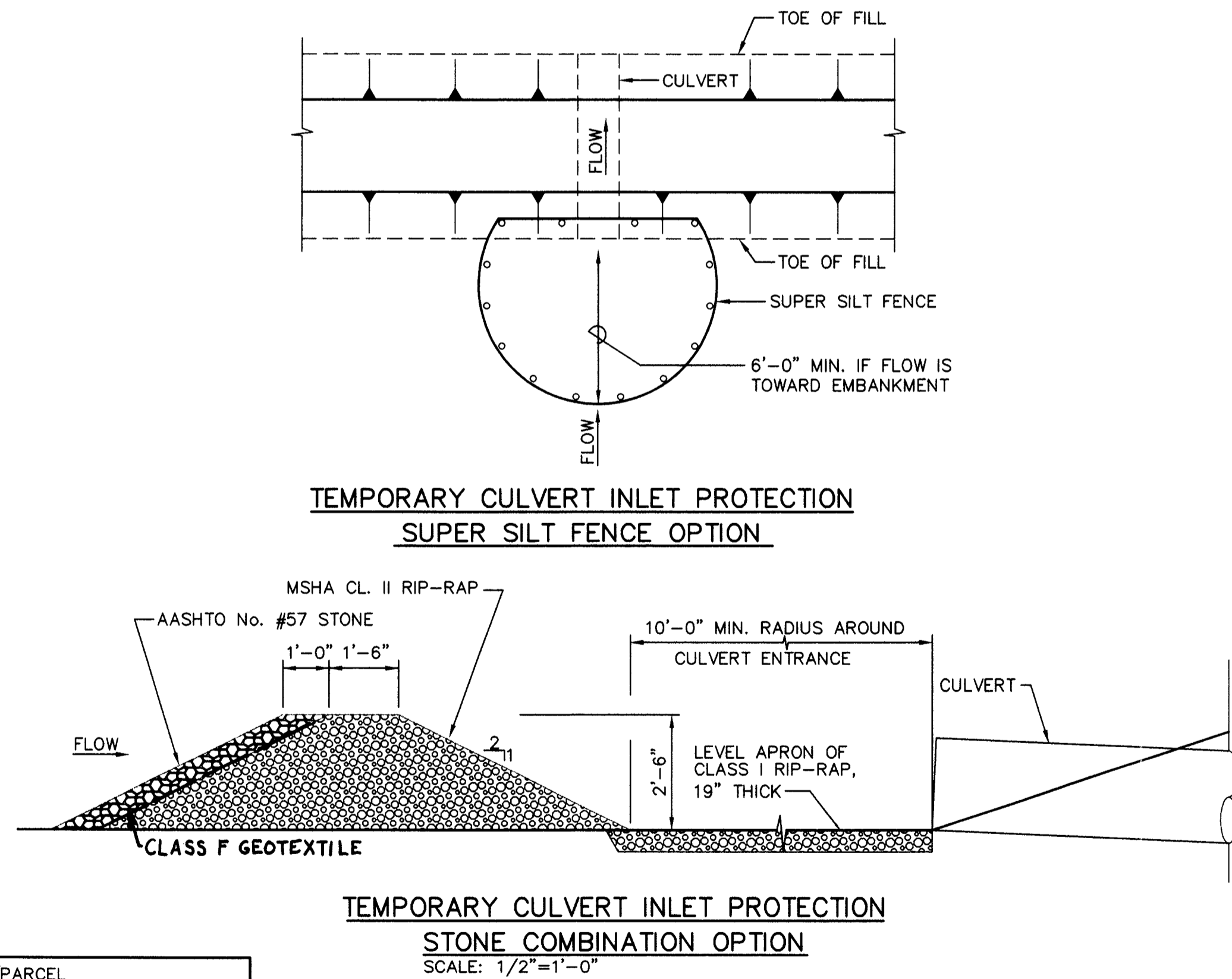
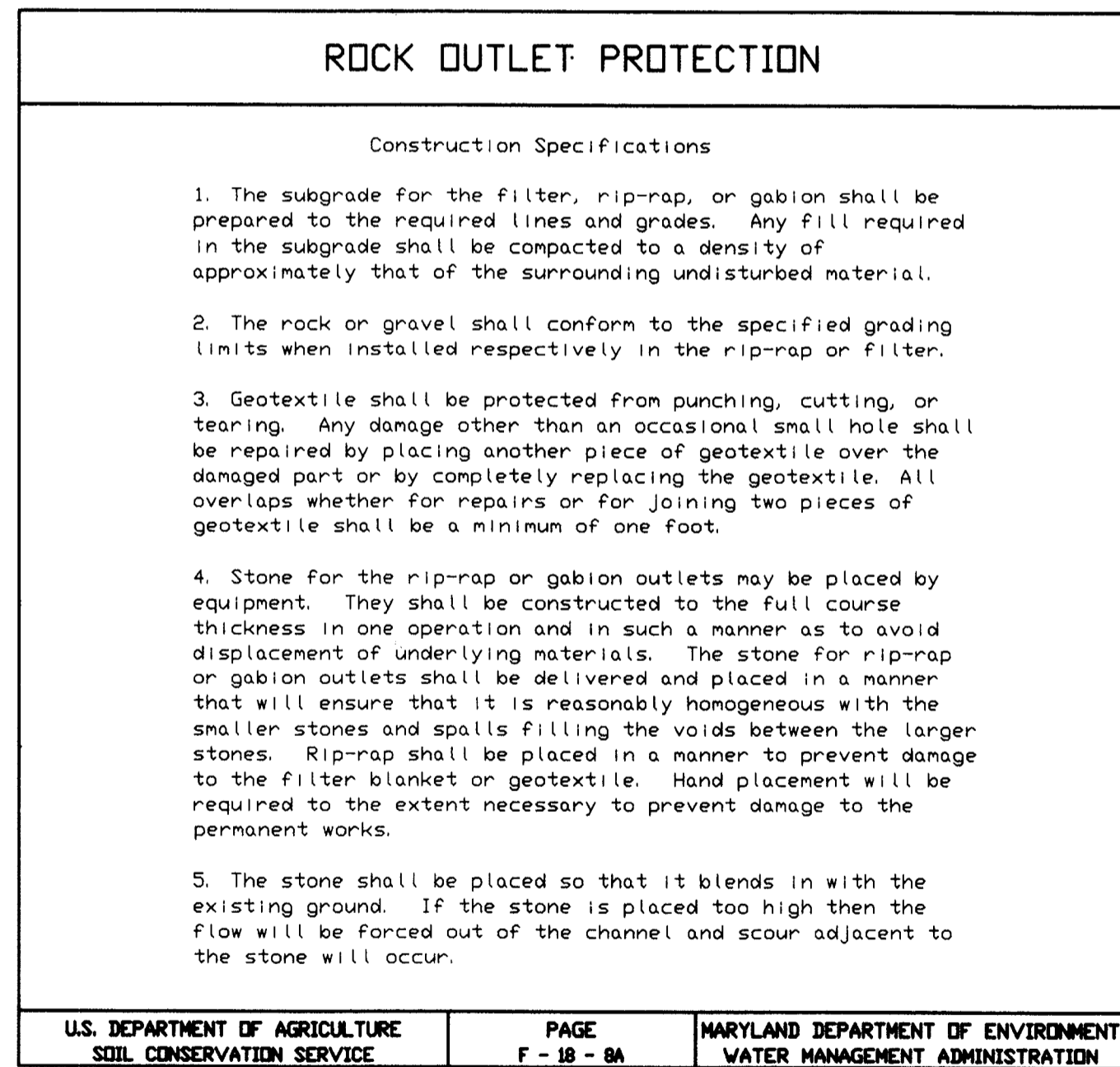
EROSION AND SEDIMENT
 CONTROL NOTES AND
 CONSTRUCTION SEQUENCE

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

SCALE:
 AS SHOWN
 SHEET
 34 OF 39



NOTES:
 1. FILTER CLOTH LINING SHALL BE 10 OZ./S.Y. NON-WOVEN GEOTEXTILE.



M:\298624\01\90 PERCENT\DETAILS\CHKDAM, SCE, ROCKOUT, SFENCE, E153, GRAY-RD, INLETPRO

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

[Signature] 7/14/99
 DIRECTOR DATE

[Signature] 7/14/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 7/18/99
 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

[Signature] 7/16/99
 DIRECTOR OF PUBLIC WORKS DATE

[Signature] 7/16/99
 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. TSENG
 PROFESSIONAL ENGINEER

STATE OF MARYLAND
 MICHAEL R. GOLDREY
 PROFESSIONAL ENGINEER

DES.	MGR		
DRN.	JCS		
CHK.	RHI		
DATE:	6-2-99	BY	NO.
REVISION		DATE	

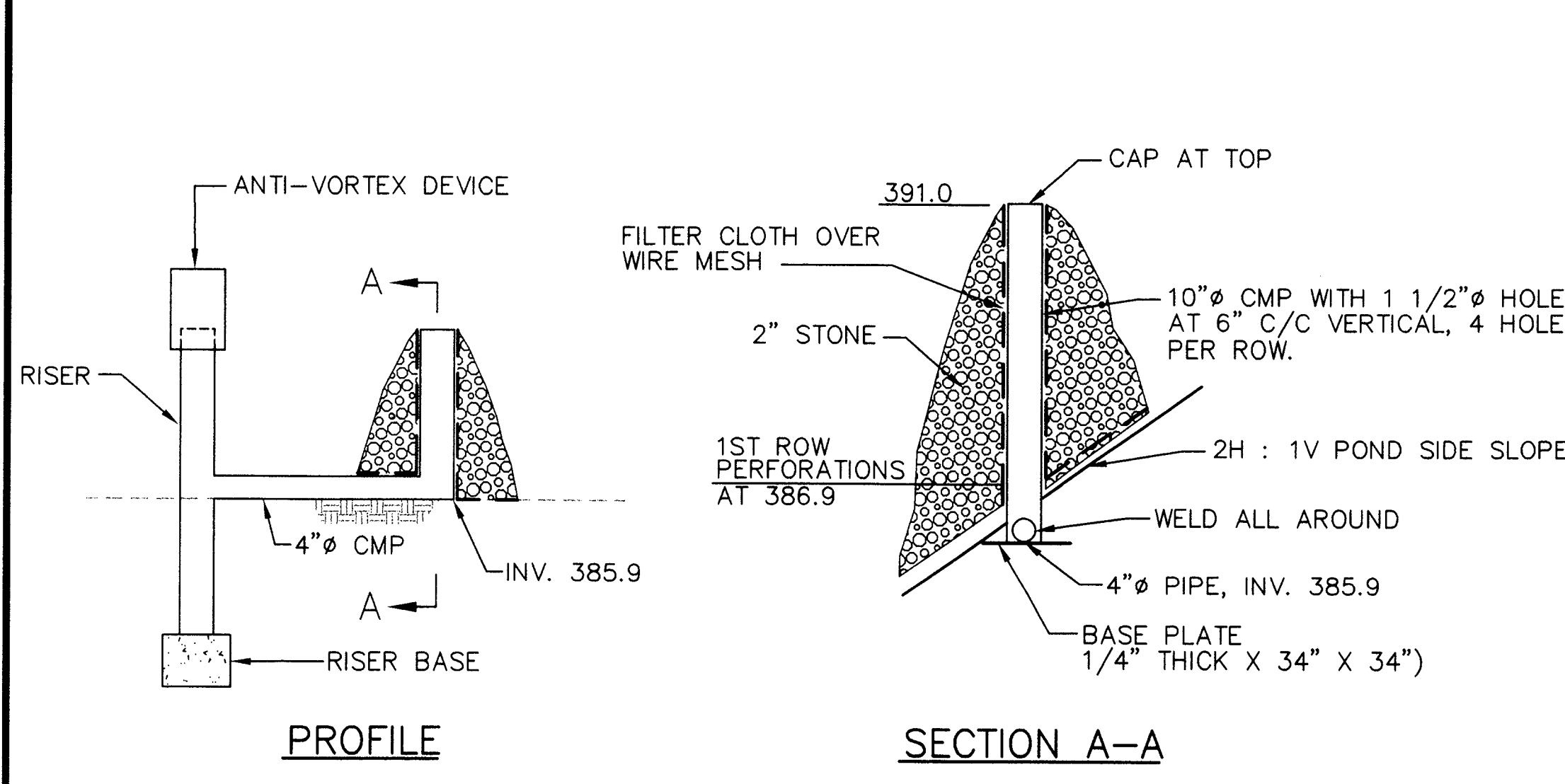
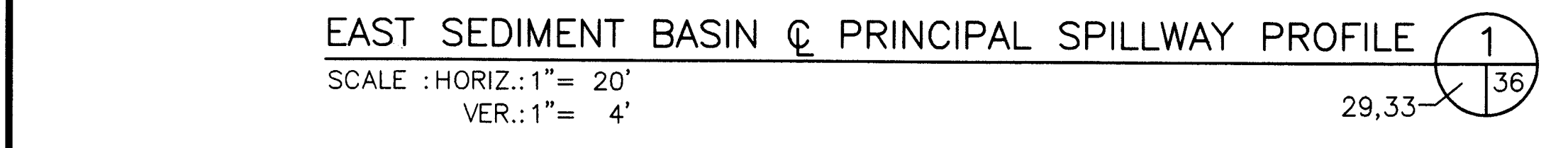
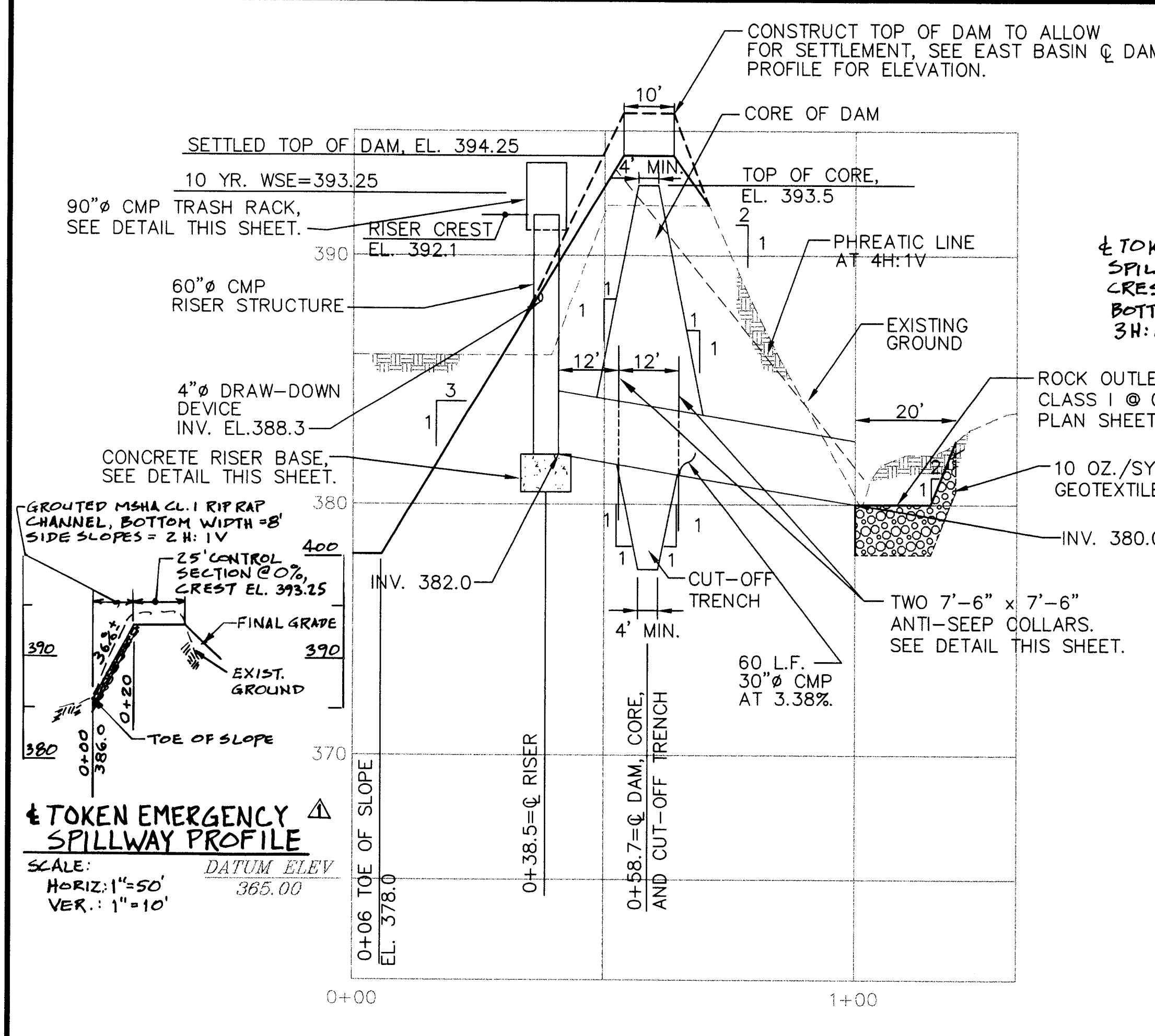
EROSION AND SEDIMENT CONTROL DETAILS

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

SCALE:
 AS SHOWN

SHEET
 35 OF 39

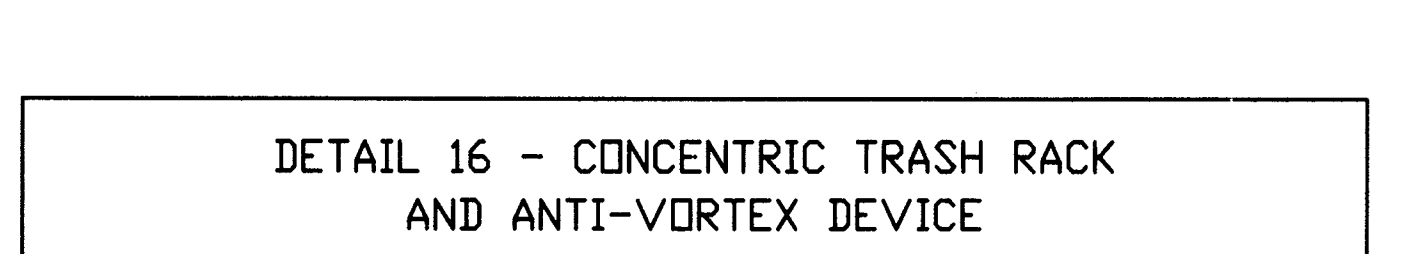
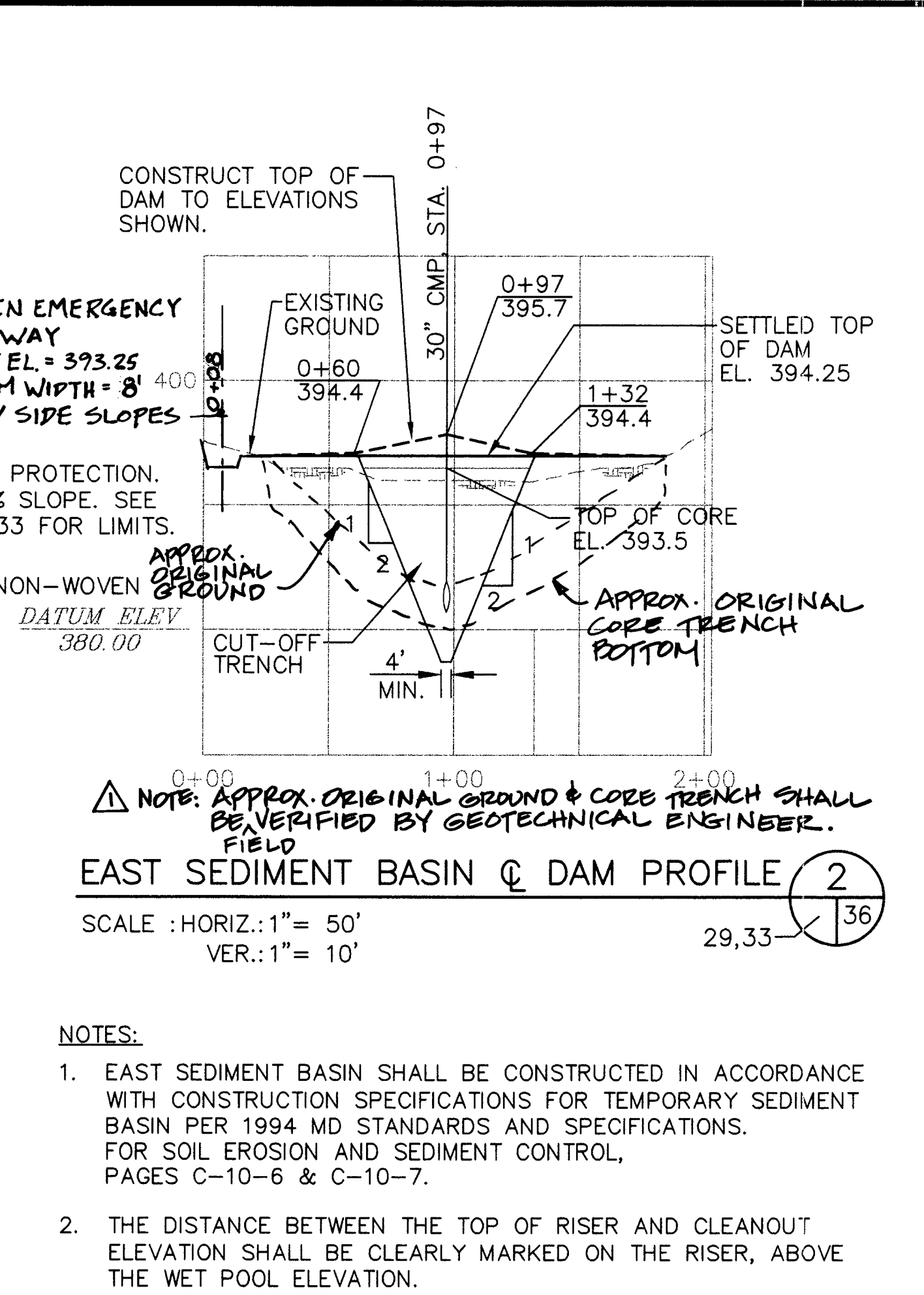
SDP-99-109



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: 9/15/99

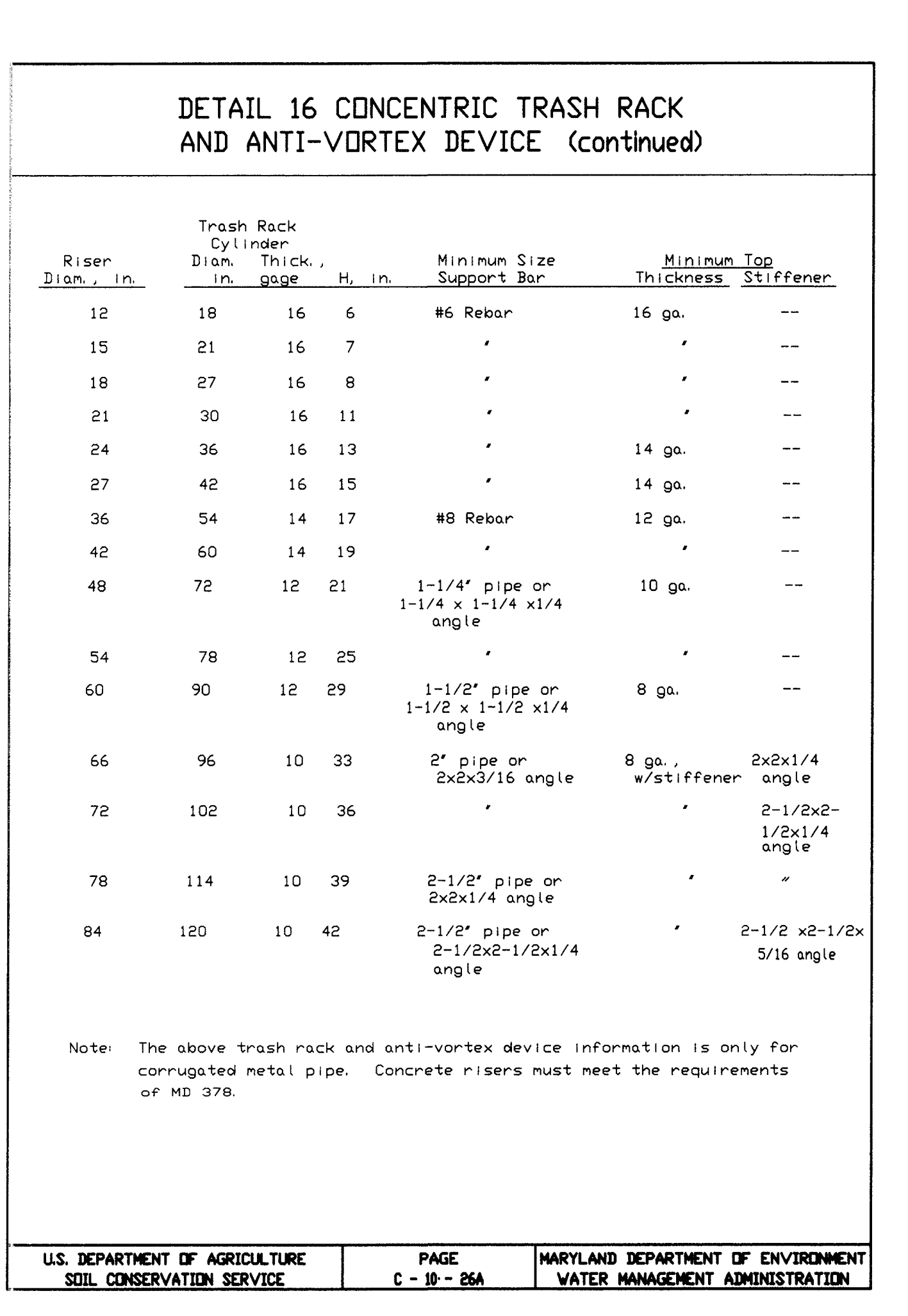
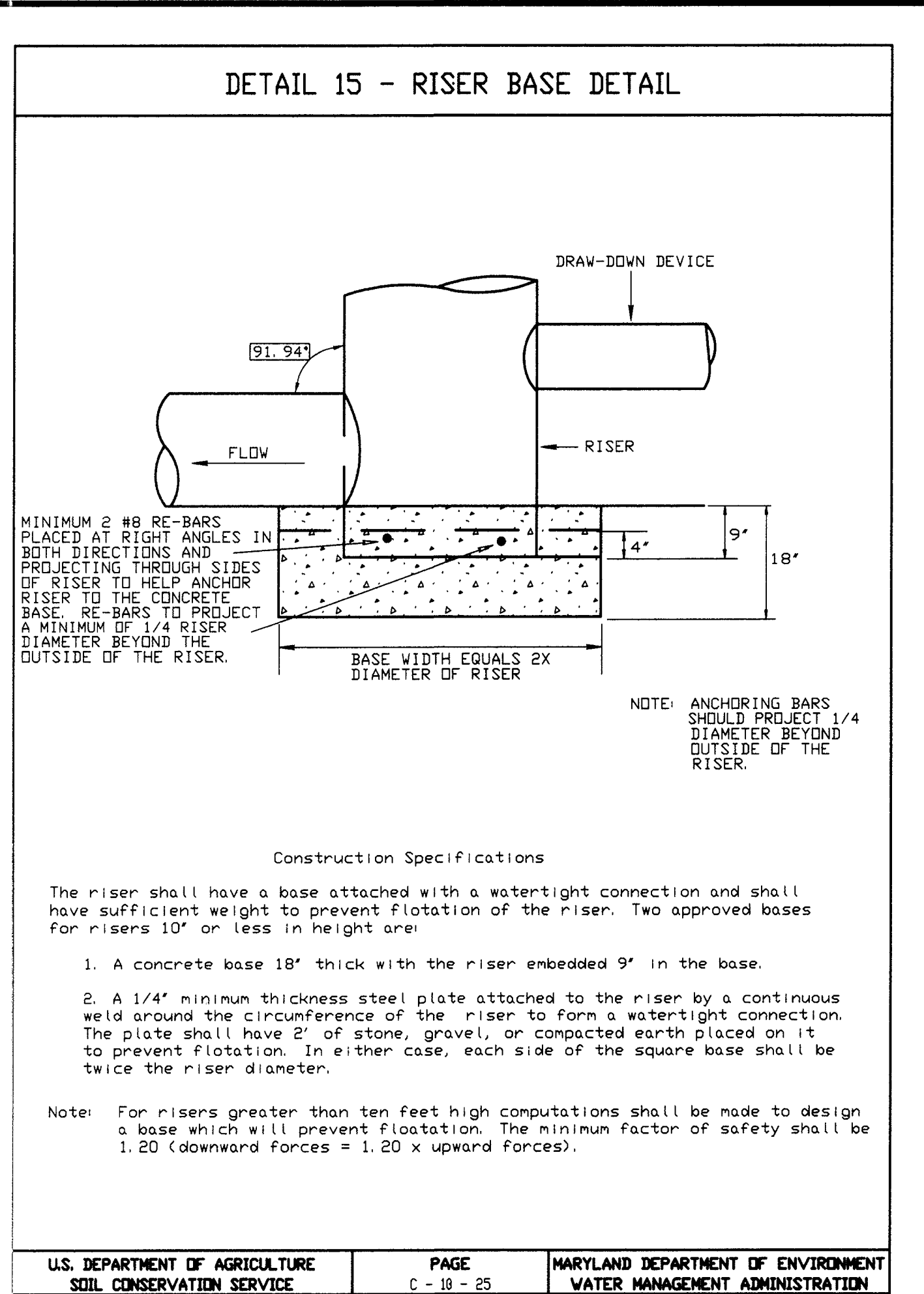
SUBDIVISION NAME	LOT/PARCEL	
HO. CO. GOVERNMENT	529	
LIBER/FOLIO	ZONE	TAX/ZONE MAP
180/339	R-20	31
WATER CODE	SEWER CODE	CENSUS TR.



DETAIL 16 CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE (continued)

Riser Diam., in.	Trash Rack Diam., in.	Trash Rack Thick., in.	H., in.	Minimum Size Support Bar	Minimum Top Thickness	Stiffener
12	18	16	6	#6 Rebar	16 ga.	--
15	21	16	7	"	"	--
18	27	16	8	"	"	--
21	30	16	11	"	"	--
24	36	16	13	"	14 ga.	--
27	42	16	15	"	14 ga.	--
36	54	14	17	#8 Rebar	12 ga.	--
42	60	14	19	"	"	--
48	72	12	21	1-1/4" pipe or 1-1/4 x 1-1/4 x 1/4 angle	10 ga.	--
54	78	12	25	"	"	--
60	90	12	29	1-1/2" pipe or 1-1/2 x 1-1/2 x 1/4 angle	8 ga.	--
66	96	10	33	2" pipe or 2x2x3/16 angle	8 ga.	2x2x1/4 w/stiffener
72	102	10	36	"	"	2-1/2x2-1/2x1/4 angle
78	114	10	39	2-1/2" pipe or 2x2x1/4 angle	"	"
84	120	10	42	2-1/2" pipe or 2-1/2x2-1/2x1/4 angle	"	2-1/2 x2-1/2x 5/16 angle

Notes:
 1. The above trash rack and anti-vortex device information is only for corrugated metal pipe. Concrete risers must meet the requirements of MD 378.



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Director: *[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
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 FAX. (703) 471-6676

U.S. DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE

MARYLAND DEPARTMENT OF ENVIRONMENT
 WATER MANAGEMENT ADMINISTRATION

DES. MRG
 DRN. JCS
 CHK. RHI
 DATE: 06-02-99
 BY NO.
 APPROX. ORIG. GROUND & CORE TRENCH 8/5/99
 REVISION & TPKEN E.S.

U.S. DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE

MARYLAND DEPARTMENT OF ENVIRONMENT
 WATER MANAGEMENT ADMINISTRATION

DES. MRG
 DRN. JCS
 CHK. RHI
 DATE: 06-02-99
 BY NO.
 APPROX. ORIG. GROUND & CORE TRENCH 8/5/99
 REVISION & TPKEN E.S.

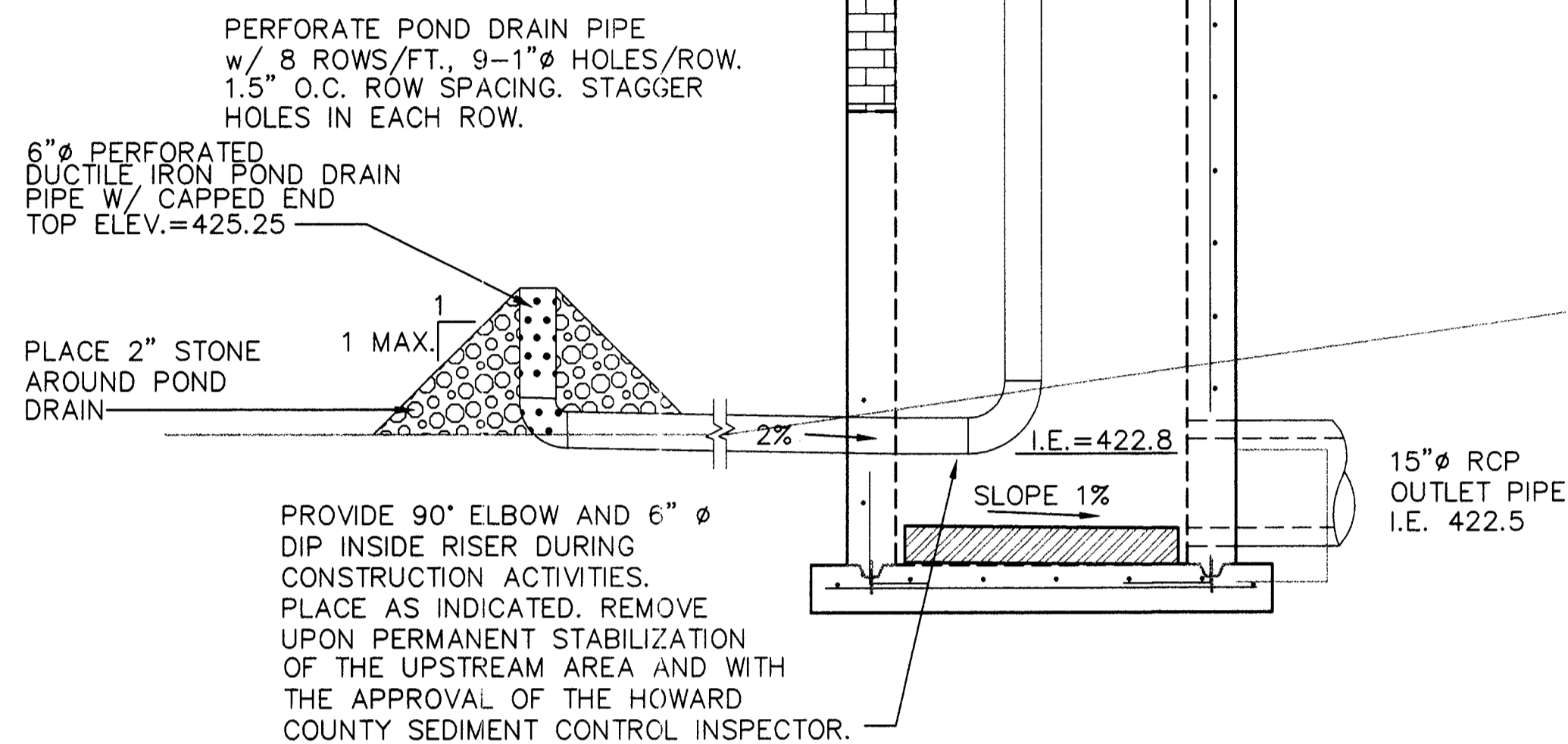
NEW CUT LANDFILL IMPROVEMENTS

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

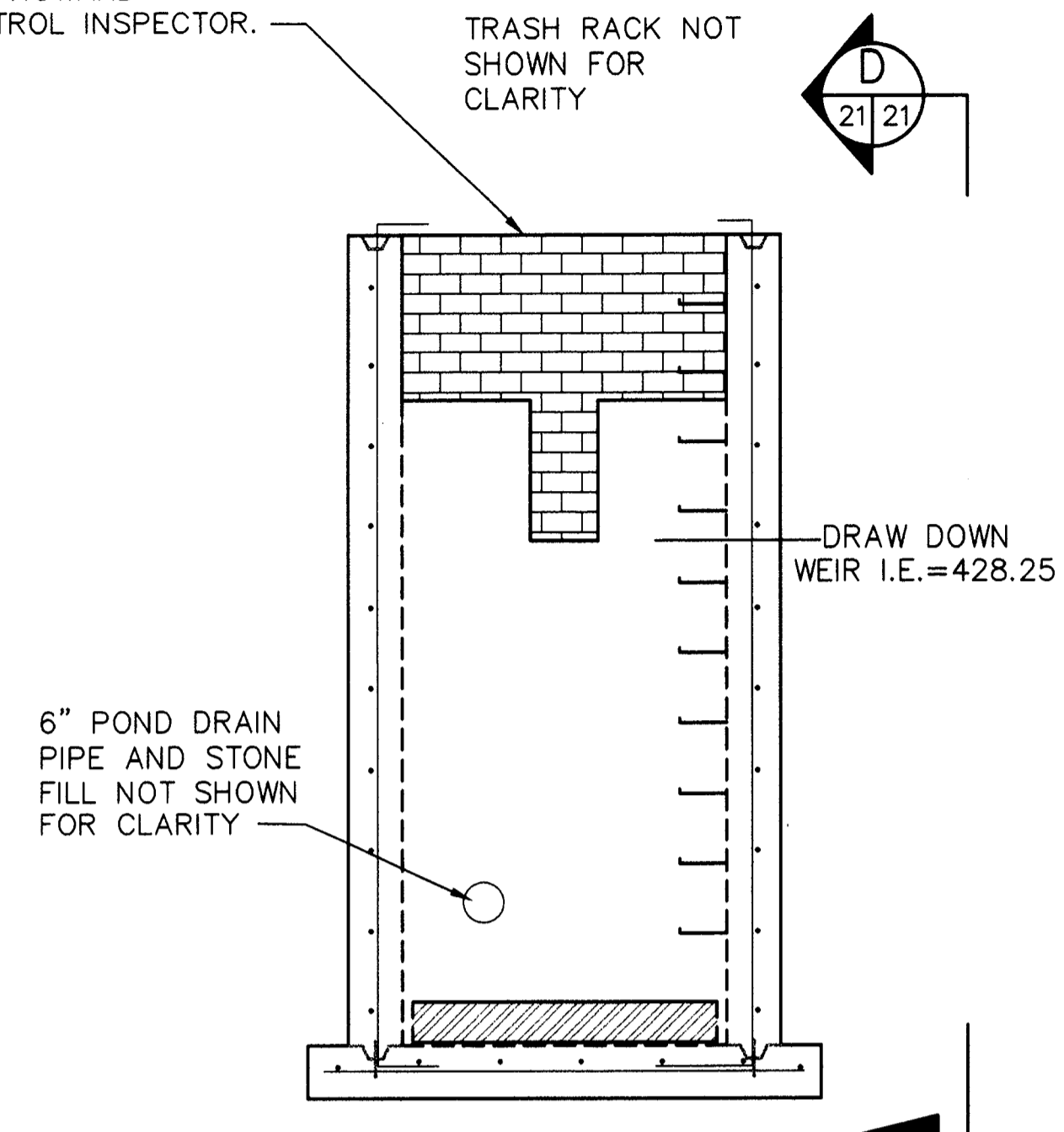
SCALE: AS SHOWN
 SHEET 36 OF 39
 SDP-99-109

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.

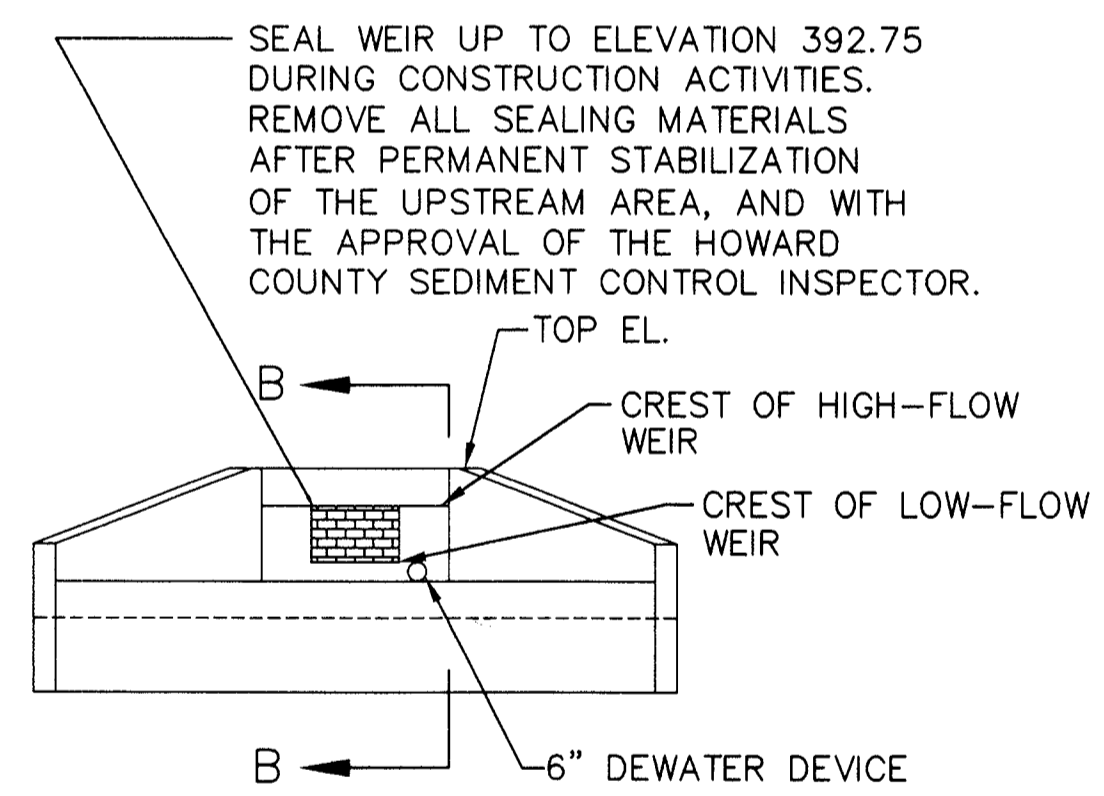
SEAL WEIR UP TO ELEVATION 432.0 DURING CONSTRUCTION ACTIVITIES. REMOVE ALL SEALING MATERIALS AFTER PERMANENT STABILIZATION OF THE UPSTREAM AREA AND WITH THE APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.



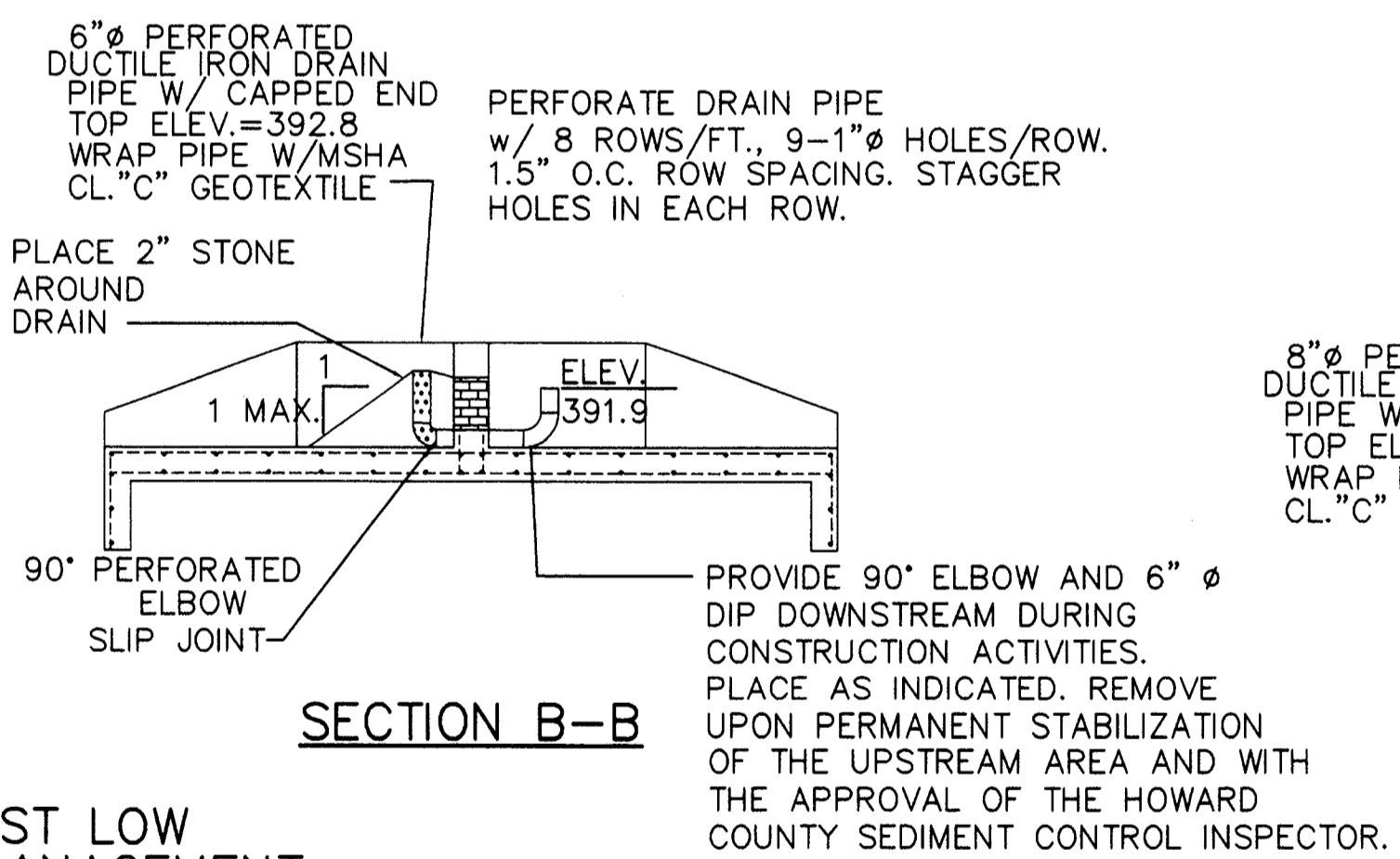
WEST DETENTION BASIN
RISER STRUCTURE SECTION D
SCALE: 1/2"=1'-0" 37/37



WEST DETENTION BASIN
RISER STRUCTURE DETAIL 3
SCALE: 1/2"=1'-0" 21/37

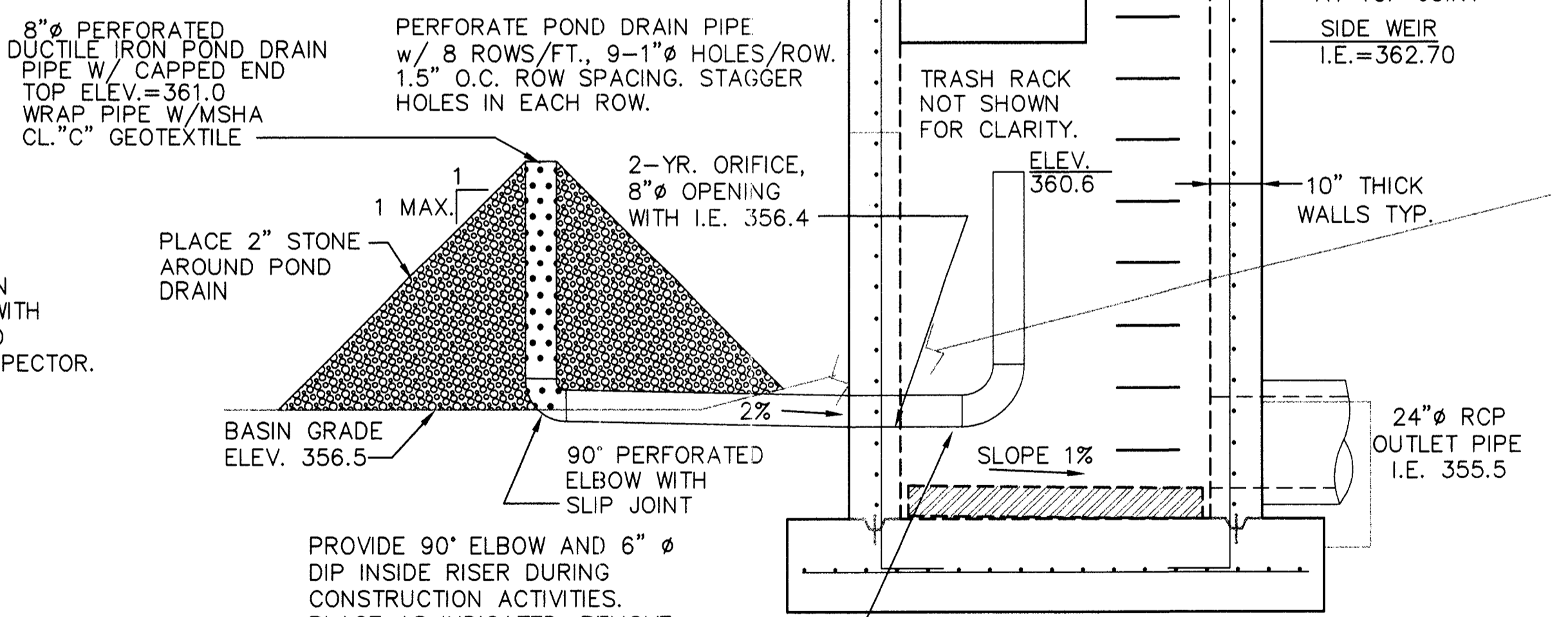


FRONT ELEVATION

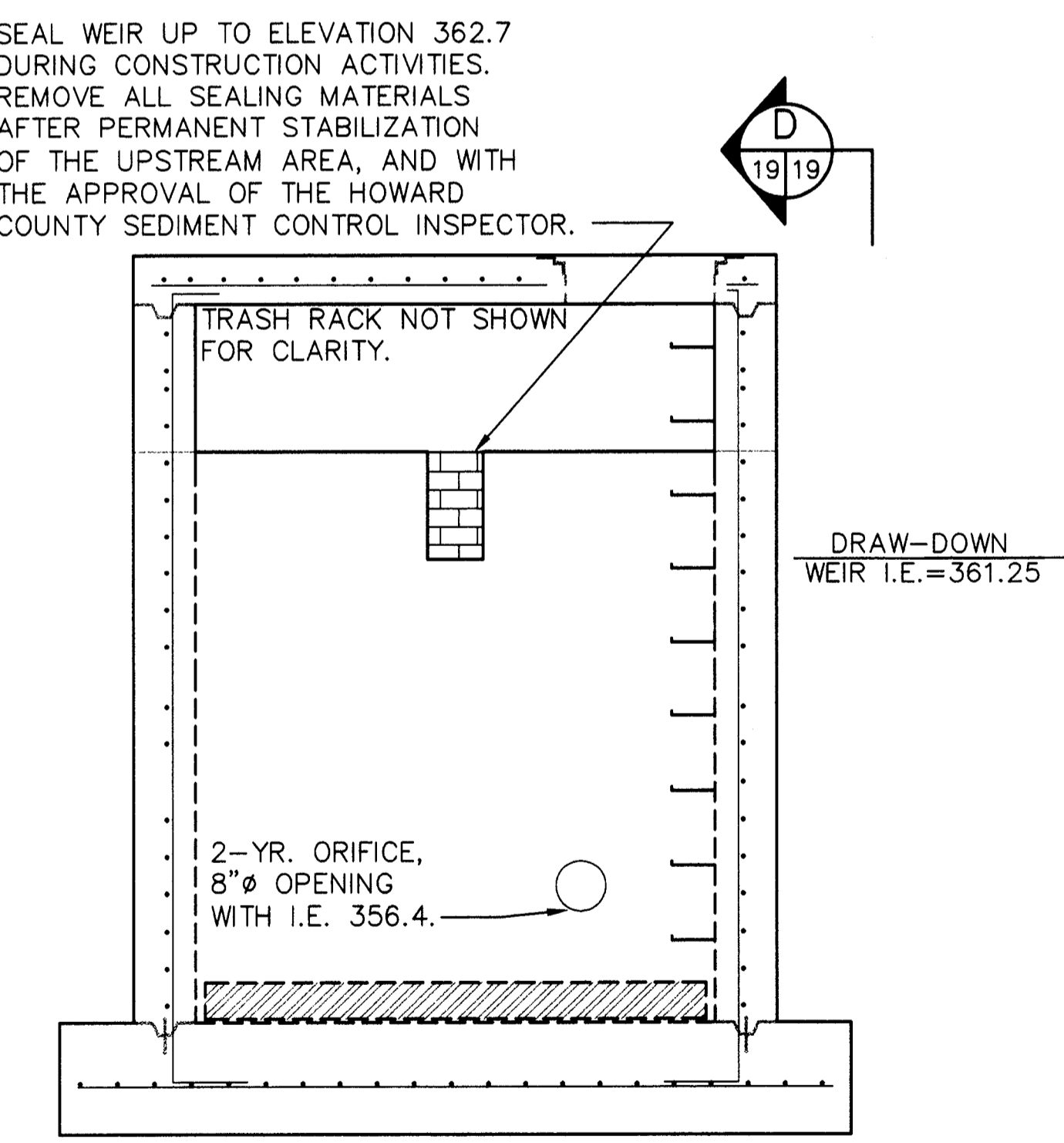


SECTION B-B

MODIFICATION TO WEST LOW RISE STORMWATER MANAGEMENT CONTROL STRUCTURE
NO SCALE 2 8,16 37



NORTH DETENTION BASIN
RISER STRUCTURE SECTION D
SCALE: 1/2"=1'-0" 37/37



NORTH DETENTION BASIN
RISER STRUCTURE DETAIL 4
SCALE: 1/2"=1'-0" 19/37

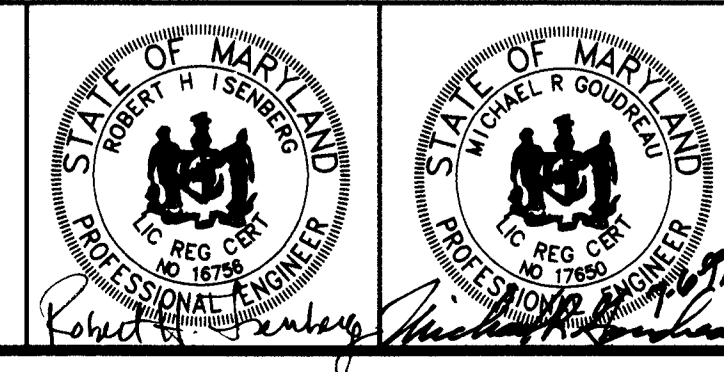
M: 298024.01 \100 PERCENT\DETAILS\LRMOD, NRISERMOD, WRISERMOD

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	
<i>David R. Smith</i> DIRECTOR	9/14/99
<i>John J. Williams</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	9/14/99
<i>Jinda Hamble</i> CHIEF, DIVISION OF LAND DEVELOPMENT	7/14/99

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	
<i>Ronnie J. Chou</i> DIRECTOR OF PUBLIC WORKS	7/6/99
<i>John J. O'Hara</i> CHIEF, BUREAU OF ENVIRONMENTAL SERVICES	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.	MRG		
CHK.	RHI		
DATE:	06-02-99	BY:	NO.
		REVISION	DATE

RISER/STRUCTURE
MODIFICATIONS DURING
CONSTRUCTION

NEW CUT LANDFILL
IMPROVEMENTS
CAPITAL PROJECT NO. C-0237-H
2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE:
AS SHOWN
SHEET
37 OF 39
SDP-99-109

SCS ENGINEERS BORING LOG		WELL NO. HA-1
PROJECT NAME: NEW CUT LANDFILL		
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: _____		
SCS JOB NO.: 296024.01 COORDINATES: _____		
DATE STARTED: 12-2-98		
DRILLING CONTR.: _____		
DRILLING METHOD: HAND AUGER WELL DIAMETER: N/A		
INSPECTOR: J. STOFFEL TOTAL DEPTH: 10 FEET		
DEPTH (FT.)	SYMBOL LOG	DESCRIPTION
1		3" TOPSOIL/ORGANIC MATERIAL
2		BROWN SILT, SOME CLAY, TRACE OF ORGANIC MATTER (ML)
3		LIGHT BROWN & GRAY SILT, SOME CLAY, TRACES OF FINE TO COARSE SAND & SOME FINE GRAVEL (ML)
4		LIGHT BROWN SILT, SOME CLAY TRACE OF FINE TO MEDIUM SAND, DRY (ML)
5		LIGHT ORANGE CLAYEY SILT, MOTTLED, SLIGHTLY MOIST, TRACE OF FINE GRAVEL (ML)
6		DARK GREEN CLAYEY SILT, SLIGHTLY MOIST, TRACE OF VERY FINE GRAVEL TO COARSE GRAVEL (ML)
7		LIGHT BROWN GREEN SILT, TRACE OF CLAY, MICACEOUS, SLIGHTLY MOIST (ML)
8		LIGHT BROWN FINE TO MEDIUM SAND, TRACES OF SILT & CLAY, SLIGHTLY MOIST (SM)
9		END OF BORING
10		END OF BORING

SCS ENGINEERS BORING LOG		WELL NO. HA-4
PROJECT NAME: NEW CUT LANDFILL		
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: _____		
SCS JOB NO.: 296024.01 COORDINATES: _____		
DATE STARTED: 12-2-98		
DRILLING CONTR.: _____		
DRILLING METHOD: HAND AUGER WELL DIAMETER: N/A		
INSPECTOR: J. STOFFEL TOTAL DEPTH: 10 FEET		
DEPTH (FT.)	SYMBOL LOG	DESCRIPTION
1		2" TOPSOIL/ORGANIC MATERIAL
2		DARK GREEN SILT, SOME SAND AND CLAY, TRACE OF FINE GRAVEL, SLIGHTLY MOIST (ML)
3		LT. BROWN GRAY SILT, TRACE OF ORGANICS, SLIGHTLY MOIST (CL)
4		ORANGE BROWN FINE TO COARSE SAND, SOME SILT & CLAY, TRACE OF FINE GRAVEL (SM)
5		BROWN GREEN FINE TO MEDIUM SAND, SOME SILT & CLAY, TRACE OF FINE GRAVEL (ML/SM)
6		DARK GREEN VERY FINE TO MEDIUM SAND, SOME SILT & TRACE OF CLAY, HARD, WEATHERED ROCK (SM)
7		DARK GREEN VERY FINE TO COARSE SAND, TRACE OF SILT, MICACEOUS, HARD, WEATHERED ROCK (SM)
8		LIGHT BROWN GREEN VERY FINE TO COARSE SAND, TRACE OF SILT, HARD, WEATHERED ROCK (SP)
9		END OF BORING
10		END OF BORING

SCS ENGINEERS BORING LOG		WELL NO. HA-7
PROJECT NAME: NEW CUT LANDFILL		
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: _____		
SCS JOB NO.: 296024.01 COORDINATES: _____		
DATE STARTED: 12-3-98		
DRILLING CONTR.: _____		
DRILLING METHOD: HAND AUGER WELL DIAMETER: N/A		
INSPECTOR: J. STOFFEL TOTAL DEPTH: 6.6 FEET		
DEPTH (FT.)	SYMBOL LOG	DESCRIPTION
1		3" TOPSOIL/ORGANIC MATERIAL
2		LIGHT BROWN ORANGE SILT, SOME CLAY, TRACE OF VERY FINE TO COARSE SAND, MICACEOUS, DRY (ML)
3		LIGHT BROWN GRAY SILT & CLAY, TRACE OF VERY FINE TO MEDIUM SAND, MICACEOUS, DRY (ML)
4		LIGHT GRAY CLAYEY SILT, TRACE OF VERY FINE SAND, DRY (MH)
5		GRAY CLAY, MOTTLED, TRACE OF SILT & VERY FINE SAND, SLIGHTLY MOIST (CH)
6		ORANGE GRAY BLACK MOTTLED VERY FINE TO COARSE SAND, TRACE OF SILT & CLAY, MICACEOUS, SLIGHTLY MOIST, WEATHERED ROCK (SM)
7		END OF BORING REFUSAL ON ROCK
8		END OF BORING REFUSAL ON ROCK
9		END OF BORING REFUSAL ON ROCK
10		END OF BORING REFUSAL ON ROCK

SCS ENGINEERS BORING LOG		WELL NO. HA-10
PROJECT NAME: NEW CUT LANDFILL		
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: _____		
SCS JOB NO.: 296024.01 COORDINATES: _____		
DATE STARTED: 04-13-99		
DRILLING CONTR.: _____		
DRILLING METHOD: HAND AUGER WELL DIAMETER: N/A		
INSPECTOR: J. STOFFEL TOTAL DEPTH: 2 FEET		
DEPTH (FT.)	SYMBOL LOG	DESCRIPTION
1		3" TOPSOIL/ORGANIC MATERIAL
2		BROWN FINE SANDY SILT (ML), TRACES OF CLAY AND FINE GRAVEL, MICACEOUS, SLIGHTLY MOIST (F)
3		FINE TO COARSE SAND AND GRAVEL, TRACES OF SILT, MICACEOUS, DRY (HARD WEATHERED ROCK)
4		END OF BORING (HAND AUGER REFUSAL ON HARD WEATHERED ROCK, VERY SLOW AUGERING.)
5		END OF BORING (HAND AUGER REFUSAL ON HARD WEATHERED ROCK, VERY SLOW AUGERING.)
6		END OF BORING (HAND AUGER REFUSAL ON HARD WEATHERED ROCK, VERY SLOW AUGERING.)
7		END OF BORING (HAND AUGER REFUSAL ON HARD WEATHERED ROCK, VERY SLOW AUGERING.)
8		END OF BORING (HAND AUGER REFUSAL ON HARD WEATHERED ROCK, VERY SLOW AUGERING.)
9		END OF BORING (HAND AUGER REFUSAL ON HARD WEATHERED ROCK, VERY SLOW AUGERING.)
10		END OF BORING (HAND AUGER REFUSAL ON HARD WEATHERED ROCK, VERY SLOW AUGERING.)

SCS ENGINEERS BORING LOG		WELL NO. HA-13
PROJECT NAME: NEW CUT LANDFILL		
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: _____		
SCS JOB NO.: 296024.01 COORDINATES: _____		
DATE STARTED: 04-14-99		
DRILLING CONTR.: _____		
DRILLING METHOD: HAND AUGER WELL DIAMETER: N/A		
INSPECTOR: J. STOFFEL TOTAL DEPTH: 8.5 FEET		
DEPTH (FT.)	SYMBOL LOG	DESCRIPTION
1		DARK BROWN CLAY (CL), SOME SILT, TRACES OF SMALL TO MEDIUM GRAVEL AND ORGANIC MATERIALS, MICACEOUS, MOIST (F)
2		DARK BROWN CLAY & SILT (CL) TRACES OF VERY FINE SAND AND ORGANIC MATERIALS, MICACEOUS, SLIGHTLY MOIST (F)
3		RED DARK GREEN CLAY & SILT (CL), SOME SMALL GRAVEL, TRACES OF VERY FINE SAND AND ORGANIC MATERIALS, MICACEOUS, SLIGHTLY MOIST (F)
4		RED BROWN SILT & CLAY (CL), TRACES OF VERY FINE SAND AND ORGANIC MATERIALS (F)
5		DARK GREEN SILT (ML), SOME CLAY TRACES OF VERY FINE SAND AND ORGANIC MATERIALS, MICACEOUS, SLIGHTLY MOIST (F)
6		DARK GREEN SILT (ML), SOME CLAY TRACES OF VERY FINE SAND AND ORGANIC MATERIALS, MICACEOUS, SLIGHTLY MOIST (F)
7		DARK GREEN SILT (ML), SOME CLAY TRACES OF VERY FINE SAND AND ORGANIC MATERIALS, MICACEOUS, SLIGHTLY MOIST (F)
8		DARK BROWN CLAY (CL), SOME SILT, TRACES OF VERY FINE SAND AND SMALL TO MEDIUM GRAVEL, MICACEOUS, MOIST (F)
9		END OF BORING (REFUSAL ON OBSTRUCTION AT 8.5')
10		(F): FILL MATERIAL

SCS ENGINEERS BORING LOG		WELL NO. HA-16
PROJECT NAME: NEW CUT LANDFILL		
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: _____		
SCS JOB NO.: 296024.01 COORDINATES: _____		
DATE STARTED: 04-14-99		
DRILLING CONTR.: _____		
DRILLING METHOD: HAND AUGER WELL DIAMETER: N/A		
INSPECTOR: J. STOFFEL TOTAL DEPTH: 7 FEET		
DEPTH (FT.)	SYMBOL LOG	DESCRIPTION
1		TOPSOIL/ORGANIC MATERIAL
2		BROWN SILT (ML), TRACES OF VERY FINE TO COARSE SAND, MICACEOUS, VERY MOIST
3		LIGHT BROWN RED & BLACK SILT (ML), SOME VERY FINE TO COARSE SAND, TRACES OF CLAY AND ORGANIC MATERIALS, MICACEOUS, VERY WET
4		BROWN RED MOTTLED BLACK SILT, TRACES OF VERY FINE TO COARSE SAND, MICACEOUS, SLIGHTLY MOIST.
5		END OF BORING (WET MATERIAL SLUMPING BACK IN THE HOLE, SLOW AUGERING.)
6		END OF BORING (WET MATERIAL SLUMPING BACK IN THE HOLE, SLOW AUGERING.)
7		END OF BORING (WET MATERIAL SLUMPING BACK IN THE HOLE, SLOW AUGERING.)
8		END OF BORING (WET MATERIAL SLUMPING BACK IN THE HOLE, SLOW AUGERING.)
9		END OF BORING (WET MATERIAL SLUMPING BACK IN THE HOLE, SLOW AUGERING.)
10		END OF BORING (WET MATERIAL SLUMPING BACK IN THE HOLE, SLOW AUGERING.)

SCS ENGINEERS BORING LOG		WELL NO. HA-2
PROJECT NAME: NEW CUT LANDFILL		
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: _____		
SCS JOB NO.: 296024.01 COORDINATES: _____		
DATE STARTED: 12-2-98		
DRILLING CONTR.: _____		
DRILLING METHOD: HAND AUGER WELL DIAMETER: N/A		
INSPECTOR: J. STOFFEL TOTAL DEPTH: 10 FEET		
DEPTH (FT.)	SYMBOL LOG	DESCRIPTION
1		2" TOPSOIL/ORGANIC MATERIAL
2		BROWN ORANGE FINE TO COARSE SAND, SOME SILT & CLAY, MICACEOUS, SLIGHTLY MOIST (SM)
3		DARK GREEN CLAY, TRACE OF SILT & SAND, SLIGHTLY MOIST (CL)
4		DARK GREEN CLAY, TRACE OF SILT & SAND, SLIGHTLY MOIST (CL)
5		DARK GREEN CLAY, TRACE OF SILT & SAND, SLIGHTLY MOIST (CL)
6		DARK GREEN CLAY, TRACE OF SILT & SAND, SLIGHTLY MOIST (CL)
7		DARK GREEN CLAY, TRACE OF SILT & SAND, SLIGHTLY MOIST (CL)
8		DARK GREEN CLAY, TRACE OF SILT & SAND, SLIGHTLY MOIST (CL)
9		DARK GREEN CLAY, TRACE OF SILT & SAND, SLIGHTLY MOIST (CL)
10		END OF BORING

SCS ENGINEERS BORING LOG		WELL NO. HA-5
PROJECT NAME: NEW CUT LANDFILL		
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: _____		
SCS JOB NO.: 296024.01 COORDINATES: _____		
DATE STARTED: 12-3-98		
DRILLING CONTR.: _____		
DRILLING METHOD: HAND AUGER WELL DIAMETER: N/A		
INSPECTOR: J. STOFFEL TOTAL DEPTH: 10 FEET		
DEPTH (FT.)	SYMBOL LOG	DESCRIPTION
1		TOPSOIL/ORGANIC MATERIAL, SLIGHTLY MOIST
2		LIGHT BROWN ORANGE SILT AND VERY FINE SAND, SOME CLAY, TRACE OF FINE TO MEDIUM GRAVEL, MICACEOUS, TRACE OF LARGE GRAVEL, DRY (SM)
3		LIGHT BROWN GRAY GREEN SILT, SOME VERY FINE TO MEDIUM SAND, TRACE OF CLAY, TRACE OF FINE TO LARGE GRAVEL, SLIGHTLY MOIST (ML)
4		LIGHT BROWN GRAY GREEN SILT, SOME VERY FINE TO MEDIUM SAND, TRACE OF CLAY, TRACE OF FINE TO LARGE GRAVEL, SLIGHTLY MOIST (ML)
5		LIGHT BROWN GRAY GREEN SILT, SOME VERY FINE TO MEDIUM SAND, TRACE OF CLAY, TRACE OF FINE TO LARGE GRAVEL, SLIGHTLY MOIST (ML)
6		LIGHT BROWN GRAY GREEN SILT, SOME VERY FINE TO MEDIUM SAND, TRACE OF CLAY, TRACE OF FINE TO LARGE GRAVEL, SLIGHTLY MOIST (ML)
7		BROWN ORANGE SILT, SOME CLAY, TRACE OF FINE TO MEDIUM SAND, TRACE LARGE GRAVEL, MICACEOUS (ML)
8		BROWN ORANGE SILT, SOME CLAY, TRACE OF FINE TO MEDIUM SAND, TRACE LARGE GRAVEL, MICACEOUS (ML)
9		DARK GREEN CLAY SOME SILT, TRACE OF FINE GRAVEL, MICACEOUS, SLIGHTLY MOIST (CL)
10		END OF BORING

SCS ENGINEERS BORING LOG		WELL NO. HA-8
PROJECT NAME: NEW CUT LANDFILL		
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: _____		
SCS JOB NO.: 296024.01 COORDINATES: _____		
DATE STARTED: 04-13-99		
DRILLING CONTR.: _____		
DRILLING METHOD: HAND AUGER WELL DIAMETER: N/A		
INSPECTOR: J. STOFFEL TOTAL DEPTH: 8 FEET		
DEPTH (FT.)	SYMBOL LOG	DESCRIPTION
1		2" TOPSOIL/ORGANIC MATERIAL
2		RED BROWN CLAY (CL), SOME SAND & SILT, TRACES OF SMALL GRAVELS AND ORGANIC MATERIALS, MICACEOUS, MOIST
3		BROWN SILT (ML), SOME FINE SAND, TRACES OF CLAY, AND FINE GRAVEL, MICACEOUS, SLIGHTLY MOIST
4		LIGHT BROWN TO FINE COARSE SAND (SM), SOME FINE TO COARSE GRAVEL, TRACE OF CLAY, MICACEOUS, SLIGHTLY MOIST
5		LIGHT BROWN TO FINE COARSE SAND (SM), SOME FINE TO COARSE GRAVEL, TRACE OF CLAY, MICACEOUS, SLIGHTLY MOIST
6		LIGHT BROWN TO FINE COARSE SAND (SM), SOME FINE TO COARSE GRAVEL, TRACE OF CLAY, MICACEOUS, SLIGHTLY MOIST
7		LIGHT BROWN TO FINE COARSE SAND (SM), SOME FINE TO COARSE GRAVEL, TRACE OF CLAY, MICACEOUS, SLIGHTLY MOIST
8		END OF BORING
9		* 2' OFF BURIED PAVEMENT (ROAD SIDE)
10		END OF BORING

SCS ENGINEERS BORING LOG		WELL NO. HA-11
PROJECT NAME: NEW CUT LANDFILL		
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: _____		
SCS JOB NO.: 296024.01 COORDINATES: _____		
DATE STARTED: 04-13-99		
DRILLING CONTR.: _____		
DRILLING METHOD: HAND AUGER WELL DIAMETER: N/A		
INSPECTOR: J. STOFFEL TOTAL DEPTH: 4.0 FEET		
DEPTH (FT.)	SYMBOL LOG	DESCRIPTION
1		2" TOPSOIL/ORGANIC MATERIAL
2		RED BROWN CLAY & SILT (CL), MICACEOUS, TRACES OF ORGANIC MATERIALS, SLIGHTLY MOIST
3		GREEN BROWN RED SILT (ML), TRACES OF CLAY & ORGANIC MATERIALS, MICACEOUS, SLIGHTLY MOIST
4		DARK GREEN SILT (ML), TRACES OF VERY FINE SAND AND ORGANIC MATERIALS, MICACEOUS, SLIGHTLY MOIST
5		BROWN ORANGE FINE TO COARSE SILTY SAND (SM), TRACE OF FINE TO MEDIUM GRAVEL, MICACEOUS, SLIGHTLY MOIST (WEATHERED ROCK WITH QUARTZ)
6		END OF BORING
7		END OF BORING
8		END OF BORING
9		END OF BORING
10		END OF BORING

SCS ENGINEERS BORING LOG		WELL NO. HA-14
PROJECT NAME: NEW CUT LANDFILL		
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: _____		
SCS JOB NO.: 296024.01 COORDINATES: _____		
DATE STARTED: 04-14-99		
DRILLING CONTR.: _____		
DRILLING METHOD: HAND AUGER WELL DIAMETER: N/A		
INSPECTOR: J. STOFFEL TOTAL DEPTH: 9.0 FEET		
DEPTH (FT.)	SYMBOL LOG	DESCRIPTION
1		TOPSOIL/ORGANIC MATERIAL
2		RED CLAY (CL), SOME SILT, TRACE OF ORGANIC MATERIALS, SLIGHTLY MOIST
3		RED BROWN GREEN CLAY & SILT (CL), TRACES OF VERY FINE SAND AND ORGANIC MATERIALS, MICACEOUS, SLIGHTLY MOIST
4		RED BROWN GREEN CLAY & SILT (CL), TRACES OF VERY FINE SAND AND ORGANIC MATERIALS, MICACEOUS, SLIGHTLY MOIST
5		RED BROWN GREEN CLAY & SILT (CL), TRACES OF VERY FINE SAND AND ORGANIC MATERIALS, MICACEOUS, SLIGHTLY MOIST
6		RED BROWN GREEN CLAY & SILT (CL), TRACES OF VERY FINE SAND AND ORGANIC MATERIALS, MICACEOUS, SLIGHTLY MOIST
7		DARK GREEN SILT (ML), SOME CLAY, TRACE OF VERY FINE SAND, MICACEOUS, SLIGHTLY MOIST
8		DARK GREEN SILT (ML), SOME CLAY, TRACE OF VERY FINE SAND, MICACEOUS, SLIGHTLY MOIST
9		DARK GREEN SILT (ML), SOME CLAY, TRACE OF VERY FINE SAND, MICACEOUS, SLIGHTLY MOIST
10		END OF BORING

SCS ENGINEERS BORING LOG		WELL NO. HA-3
PROJECT NAME: NEW CUT LANDFILL		
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: _____		
SCS JOB NO.: 296024.01 COORDINATES: _____		
DATE STARTED: 12-2-98		
DRILLING CONTR.: _____		
DRILLING METHOD: HAND AUGER WELL DIAMETER: N/A		
INSPECTOR: J. STOFFEL TOTAL DEPTH: 10 FEET		
DEPTH (FT.)	SYMBOL LOG	DESCRIPTION
1		2" TOPSOIL/ORGANIC MATERIAL
2		FILL MATERIAL: DARK BROWN CLAY, SOME SILT & FINE TO COARSE SAND, TRACES OF FINE TO COARSE GRAVEL & SMALL COBBLES, SLIGHTLY MOIST (CL)
3		ORANGE BROWN SILT TRACE OF VERY FINE SAND & CLAY, MICACEOUS, SLIGHTLY MOIST (ML)
4		ORANGE BROWN SILT TRACE OF VERY FINE SAND & CLAY, MICACEOUS, SLIGHTLY MOIST (ML)
5		BROWN GREEN VERY FINE TO MEDIUM SAND, SOME SILT, TRACE OF CLAY & FINE GRAVEL, MICACEOUS, SLIGHTLY MOIST, HARD, WEATHERED ROCK (SM)
6		BROWN GREEN VERY FINE TO MEDIUM SAND, SOME SILT, TRACE OF CLAY & FINE GRAVEL, MICACEOUS, SLIGHTLY MOIST, HARD, WEATHERED ROCK (SM)
7		BROWN GREEN VERY FINE TO MEDIUM SAND, SOME SILT, TRACE OF CLAY & FINE GRAVEL, MICACEOUS, SLIGHTLY MOIST, HARD, WEATHERED ROCK (SM)
8		BROWN GREEN VERY FINE TO MEDIUM SAND, SOME SILT, TRACE OF CLAY & FINE GRAVEL, MICACEOUS, SLIGHTLY MOIST, HARD, WEATHERED ROCK (SM)
9		BROWN GREEN VERY FINE TO MEDIUM SAND, SOME SILT, TRACE OF CLAY & FINE GRAVEL, MICACEOUS, SLIGHTLY MOIST, HARD, WEATHERED ROCK (SM)
10		END OF BORING

SCS ENGINEERS BORING LOG		WELL NO. HA-6
PROJECT NAME: NEW CUT LANDFILL		
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: _____		
SCS JOB NO.: 296024.01 COORDINATES: _____		
DATE STARTED: 12-3-98		
DRILLING CONTR.: _____		
DRILLING METHOD: HAND AUGER WELL DIAMETER: N/A		
INSPECTOR: J. STOFFEL TOTAL DEPTH: 6.7 FEET		
DEPTH (FT.)	SYMBOL LOG	DESCRIPTION
1		LIGHT GREEN BROWN ORGANIC SILT, SLIGHTLY MOIST, MICACEOUS (ML)
2		LIGHT GREEN BROWN SILTY, VERY FINE TO FINE SAND, MICACEOUS, TRACE OF SMALL GRAVEL, SLIGHTLY MOIST (SM)
3		BROWN SILT, SOME SAND & CLAY, TRACE OF SMALL GRAVEL, MICACEOUS, SLIGHTLY MOIST (ML)
4		BROWN ORANGE CLAY SOME SILT MICACEOUS SLIGHTLY MOIST (CL)
5		BROWN GRAY CLAY SOME SILT, TRACE OF VERY FINE SAND, MICACEOUS, SLIGHTLY MOIST (CL)
6		BROWN MOTTLED VERY FINE TO MEDIUM SAND SOME SILT & CLAY, MICACEOUS, SLIGHTLY MOIST, HARD, WEATHERED ROCK (SM)
7		BROWN MOTTLED VERY FINE TO MEDIUM SAND SOME SILT & CLAY, MICACEOUS, SLIGHTLY MOIST, HARD, WEATHERED ROCK (SM)
8		END OF BORING REFUSAL ON ROCK
9		END OF BORING REFUSAL ON ROCK
10		END OF BORING REFUSAL ON ROCK

SCS ENGINEERS BORING LOG		WELL NO. HA-9
PROJECT NAME: NEW CUT LANDFILL		
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: _____		
SCS JOB NO.: 296024.01 COORDINATES: _____		
DATE STARTED: 04-13-99		
DRILLING CONTR.: _____		
DRILLING METHOD: HAND AUGER WELL DIAMETER: N/A		
INSPECTOR: J. STOFFEL TOTAL DEPTH: 4.0 FEET		
DEPTH (FT.)	SYMBOL LOG	DESCRIPTION
1		2" TOPSOIL/ORGANIC MATERIAL
2		BROWN SILT (ML), SOME FINE SAND, TRACES OF CLAY AND FINE GRAVEL, MICACEOUS, SLIGHTLY MOIST
3		GREEN BROWN FINE TO COARSE SILTY SAND (SM), TRACES OF FINE GRAVEL, MICACEOUS, SLIGHTLY MOIST
4		LIGHT BROWN PINK, FINE TO COARSE SAND AND GRAVEL, TRACE OF SILT, MICACEOUS, SLIGHTLY MOIST (HARD WEATHERED ROCK)
5		END OF BORING
6		AUGER REFUSAL ON WEATHERED ROCK, VERY SLOW HAND AUGERING
7		END OF BORING
8		END OF BORING
9		END OF BORING
10		END OF BORING

SCS ENGINEERS BORING LOG		WELL NO. HA-12
PROJECT NAME: NEW CUT LANDFILL		
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: _____		
SCS JOB NO.: 296024.01 COORDINATES: _____		
DATE STARTED: 04-14-99		
DRILLING CONTR.: _____		
DRILLING METHOD: HAND AUGER WELL DIAMETER: N/A		
INSPECTOR: J. STOFFEL TOTAL DEPTH: 6.0 FEET		
DEPTH (FT.)	SYMBOL LOG	DESCRIPTION
1		1" TOPSOIL/ORGANIC MATERIAL
2		ORANGE BROWN SILTY CLAY (CL), TRACES VERY OF FINE SAND AND ORGANIC MATERIALS, MICACEOUS, SLIGHTLY MOIST
3		DARK BROWN CLAY (CL), TRACES OF FINE TO COARSE SAND AND FINE GRAVEL, MICACEOUS, MOIST, AT 3' WET
4		LIGHT BROWN SILTY CLAY (CL), TRACES OF COARSE SAND, MICACEOUS, DRY TO SLIGHTLY MOIST
5		END OF BORING
6		END OF BORING (REFUSAL ON OBSTRUCTION AT 6.0)
7		END OF BORING
8		END OF BORING
9		END OF BORING
10		END OF BORING

SCS ENGINEERS BORING LOG		WELL NO. HA-15
PROJECT NAME: NEW CUT LANDFILL		
CLIENT: HOWARD COUNTY, MD. SURFACE ELEV.: _____		
SCS JOB NO.: 296024.01 COORDINATES: _____		
DATE STARTED: 04-14-99		
DRILLING CONTR.: _____		
DRILLING METHOD: HAND AUGER WELL DIAMETER: N/A		

SCS ENGINEERS
BORING LOG

WELL NO. VW-16

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
2		
3		
4		ORANGE BROWN CLAY, SOME SMALL GRAVEL, SLIGHTLY MOIST, NO LFG ODOR
5		
6		
7		
8		
9		
10		
11		
12		ORANGE BROWN CLAY, SLIGHTLY MOIST TO MOIST, NO LFG ODOR
13		
14		
15		
16		
17		
18		ORANGE BROWN CLAY, SLIGHTLY MOIST, NO LFG ODOR
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		LIGHT BROWN CLAY, SOME SILT, SOME FINE GRAVEL, DRY TO SLIGHTLY MOIST, NO LFG ODOR
29		
30		
31		
32		
33		
34		
35		
36		
37		RED BROWN SILT, TRACE CLAY, MICASIOUS, DRY NO LFG ODOR
38		
39		
40		RED BROWN SILT, SOME CLAY, MICASIOUS, DRY NO LFG ODOR
41		
42		RED BROWN SILT & CLAY MICASIOUS, SLIGHTLY MOIST TRACE FINE TO MEDIUM GRAVEL, NO LFG ODOR
43		
44		
45		
46		
47		
48		
49		
50		RED BROWN SILT, CLAY, TRACE SILT, MICASIOUS, SLIGHTLY MOIST TO MOIST, NO LFG ODOR
51		
52		
53		
54		
55		
56		
57		
58		
59		
60		END OF BORING

SCS ENGINEERS
BORING LOG

WELL NO. VW-17

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		
3		ORANGE BROWN CLAY, SOME FINE TO MEDIUM GRAVEL, TRACE SILT, NO LFG ODOR
4		
5		
6		
7		BROWN CLAY, TRACE FINE TO MEDIUM GRAVEL, SLIGHTLY MOIST, NO LFG ODOR
8		
9		
10		
11		
12		
13		DARK BROWN CLAY, TRACE FINE TO COARSE SAND, SLIGHTLY MOIST, NO LFG ODOR
14		
15		
16		GRAVEL LAYER (1/4" TO 1")
17		
18		
19		
20		LIGHT BROWN CLAY & SILT TRACE FINE TO COARSE SAND, SLIGHTLY MOIST, NO LFG ODOR
21		
22		
23		
24		
25		
26		
27		RED-SLIGHTLY BROWN CLAY, SOME SILT, SLIGHTLY MOIST, NO LFG ODOR
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		RED BROWN SILT & CLAY MICASIOUS, SLIGHTLY MOIST NO LFG ODOR
38		
39		
40		
41		
42		RED BROWN SILT & CLAY MICASIOUS, SLIGHTLY MOIST TRACE FINE TO MEDIUM GRAVEL, NO LFG ODOR
43		
44		
45		
46		
47		
48		
49		
50		BROWN CLAY, TRACE SILT, TRACE FINE TO MEDIUM GRAVEL, NO LFG ODOR
51		
52		
53		
54		
55		
56		
57		
58		SOME HARD MATERIAL AT 55-58' POSSIBLE STONE
59		
60		END OF BORING

SCS ENGINEERS
BORING LOG

WELL NO. VW-18

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 137352.05
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
2		
3		
4		ORANGE BROWN SILT, SOME FINE TO COARSE SAND, DRY, NO LFG ODOR
5		
6		
7		
8		
9		
10		LIGHT BROWN SILT, TRACE FINE TO COARSE SAND, DRY, NO LFG ODOR
11		
12		
13		
14		
15		LIGHT BROWN/BROWN SILT, TRACE FINE TO MEDIUM SAND, NO LFG ODOR
16		
17		
18		
19		
20		
21		
22		BROWN SILT, TRACE FINE TO MEDIUM SAND DRY, NO LFG ODOR
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		DARKER BROWN SILT, MICASIOUS TRACE FINE TO MEDIUM SAND, TRACE CLAY, DRY, NO LFG ODOR
34		
35		
36		
37		
38		
39		
40		FINE TO MEDIUM GRAVEL LAYER, NO LFG ODOR
41		
42		
43		
44		
45		
46		
47		BROWN SILT, TRACE FINE SAND TRACE CLAY, NO LFG ODOR
48		
49		
50		END OF BORING

SCS ENGINEERS
BORING LOG

WELL NO. VW-19

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
2		
3		
4		LIGHT BROWN ORANGE SILT, TRACE CLAY, SOME FINE GRAVEL, DRY, NO LFG ODOR
5		
6		
7		
8		
9		
10		GREEN CLAY & SILT SLIGHTLY MOIST, NO LFG ODOR
11		
12		
13		LIGHT BROWN SAND & SILT TRACE FINE GRAVEL SLIGHTLY MOIST, NO LFG ODOR
14		
15		
16		
17		LIGHT GREEN SILTY CLAY VERY MOIST CLAY/SILT CUTTINGS NO LFG ODOR
18		
19		18-19' ESTIMATED WATER TABLE
20		END OF BORING

SCS ENGINEERS
BORING LOG

WELL NO. VW-20

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
2		
3		
4		
5		LIGHT BROWN GREEN SILT, SOME FINE TO COARSE SAND, DRY, NO LFG ODOR
6		
7		
8		
9		
10		
11		
12		
13		
14		LIGHT BROWN SILT, SOME FINE TO COARSE SAND, DRY, NO LFG ODOR
15		
16		
17		
18		
19		
20		
21		LIGHT BROWN GREEN SILT & CLAY TRACE FINE SAND NO LFG ODOR
22		
23		
24		
25		END OF BORING

SCS ENGINEERS
BORING LOG

WELL NO. VW-21

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: 9-3-98 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
2		
3		
4		
5		LIGHT BROWN GREEN SILT, SOME FINE TO COARSE SAND, DRY, NO LFG ODOR
6		
7		
8		
9		
10		YELLOW BROWN SILT, TRACE CLAY, MICACEOUS, DRY NO LFG ODOR
11		
12		
13		
14		
15		BROWN GREEN SILT & CLAY, DRY NO LFG ODOR
16		
17		
18		
19		BROWN CLAY, SILT, DRY, NO LFG ODOR
20		END OF BORING

SCS ENGINEERS
BORING LOG

WELL NO. VW-22

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		1/2" BROWN SILT, TRACE SAND, TRACE CLAY, DRY, NO LFG ODOR
2		
3		DARK GREEN CLAY & SILT, SLIGHTLY MOIST NO LFG ODOR
4		
5		
6		
7		
8		LIGHT BROWN CLAY, SOME SILT, SLIGHTLY MOIST NO LFG ODOR
9		
10		END OF BORING

SCS ENGINEERS
BORING LOG

WELL NO. VW-23

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		
2		
3		BROWN SILT, TRACE CLAY & FINE SAND, SOME FINE GRAVEL, DRY, NO LFG ODOR
4		
5		
6		
7		
8		
9		LIGHT GREEN CLAY & SILT, SLIGHTLY MOIST NO LFG ODOR
10		
11		
12		
13		
14		BROWN SILT & SAND, SOME GRAVEL/CEMENTED SAND DRY, NO LFG ODOR
15		
16		
17		
18		LIGHT BROWN SILT & SAND, DRY NO LFG ODOR
19		
20		END OF BORING

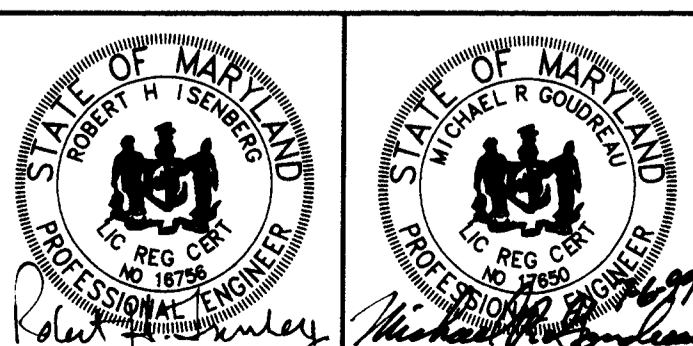
M: \296024.01\90PERCENT\BORING\16,17,18,19,20,21,22,23

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James P. New 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.	BJD	6	
DRN.	BJD	4	
CHK.		3	
DATE: 06-02-99	BY	NO.	REVISION

SOIL BORING LOGS

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

John S. Smith 9/14/99
DIRECTOR DATE

William J. ... 9/9/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy ... 9/2/99
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

NEW CUT LANDFILL
IMPROVEMENTS

CAPITAL PROJECT NO. C-0237-H

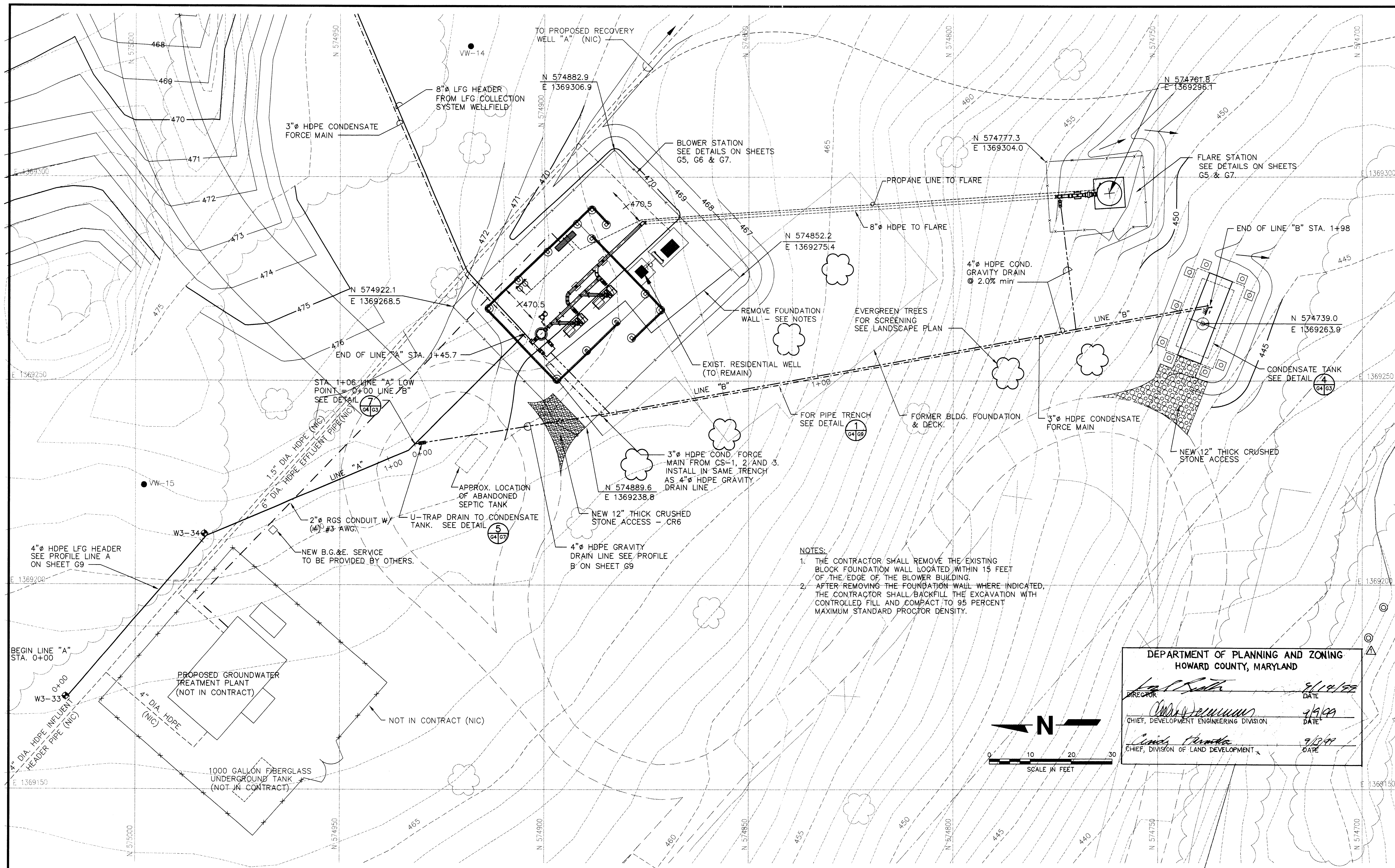
2nd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SCALE: NONE

SHEET 39 OF 39

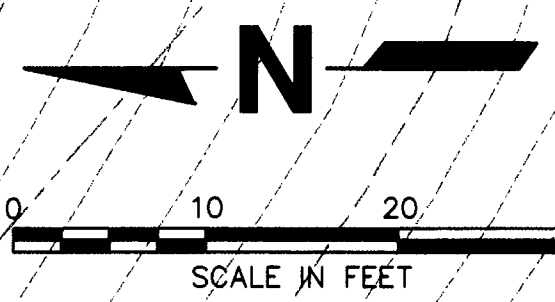
SDP-99-109



- NOTES:**
1. THE CONTRACTOR SHALL REMOVE THE EXISTING BLOCK FOUNDATION WALL LOCATED WITHIN 15 FEET OF THE EDGE OF THE BLOWER BUILDING.
 2. AFTER REMOVING THE FOUNDATION WALL WHERE INDICATED, THE CONTRACTOR SHALL BACKFILL THE EXCAVATION WITH CONTROLLED FILL AND COMPACT TO 95 PERCENT MAXIMUM STANDARD PROCTOR DENSITY.

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

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



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

<i>[Signature]</i>	7/6/99	<i>[Signature]</i>	7/6/99
DIRECTOR OF PUBLIC WORKS	DATE	CHIEF BUREAU OF WASTE MANAGEMENT	DATE

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

Eric Randall Peterson, PE 7.1.99

DES. BJD/ERP			
DRN. BJD			
CHK. ERP			
DATE: 6-2-99	MRG	ADDED P&Z SIGN. BLOCK	9-8-99
BY NO.		REVISION	DATE

BLOWER FLARE
SITE PLAN LAYOUT

NEW CUT LANDFILL
IMPROVEMENTS
CAPITAL PROJECT NO. C-0237-H
3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE:
1"=10'
SHEET
G4 OF 11

(40) SDP-99-109