

WR&A B.M. 201 Elev. 331.30
R.R. Spike in Root of 18' Pin Oak
SOUTHWEST of Δ 19582

WR&A B.M. 202 Elev. 342.36
R.R. Spike in 10' Cherry Between 19584 &
19585 Approx. 35' Lt. of 19585

THE HOWARD RESEARCH AND
DEVELOPMENT LAND COMPANY
LIBER 185 FOLIO 193
NEWTOWN

GENERAL NOTES

- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
- ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED.
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS USED HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, 1989 ADDENDUM THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATION OF THE TEST PIT. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION. ANY DAMAGE TO EXISTING FACILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
STATE HIGHWAY ADMINISTRATION - 531-5533
BALTIMORE GAS AND ELECTRIC CO. - CONTRACTOR SERVICES - 850-4620
BALTIMORE GAS AND ELECTRIC CO. - UNDERGROUND DAMAGE CONTROL - 859-9004
BALTIMORE GAS AND ELECTRIC CO. - TROUBLE SHOOTING - 298-9001
MISS UTILITY - 1-800-257-7777
COLONIAL PIPELINE CO. - 795-1390/C&P TELEPHONE CO. - 1-800-257-7777
BUREAU OF UTILITIES HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 992-2366.
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO A MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION.
- ALL SEWER MAINS TO BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL PROVIDE JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR MANHOLE TYPICAL.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL 65-52 WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED SET TOP OF FRAME 1.5' ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON DRAWINGS.
- STRAW BALE DIKE AND SILT FENCE ARE INTERCHANGEABLE.
- FOR MANHOLES IN OPEN SPACE OR OUTFALL, SET TOP OF FRAME 1.5' ABOVE FINISHED GRADE UNLESS OTHERWISE SHOWN ON DRAWINGS.

--- QUANTITIES ---

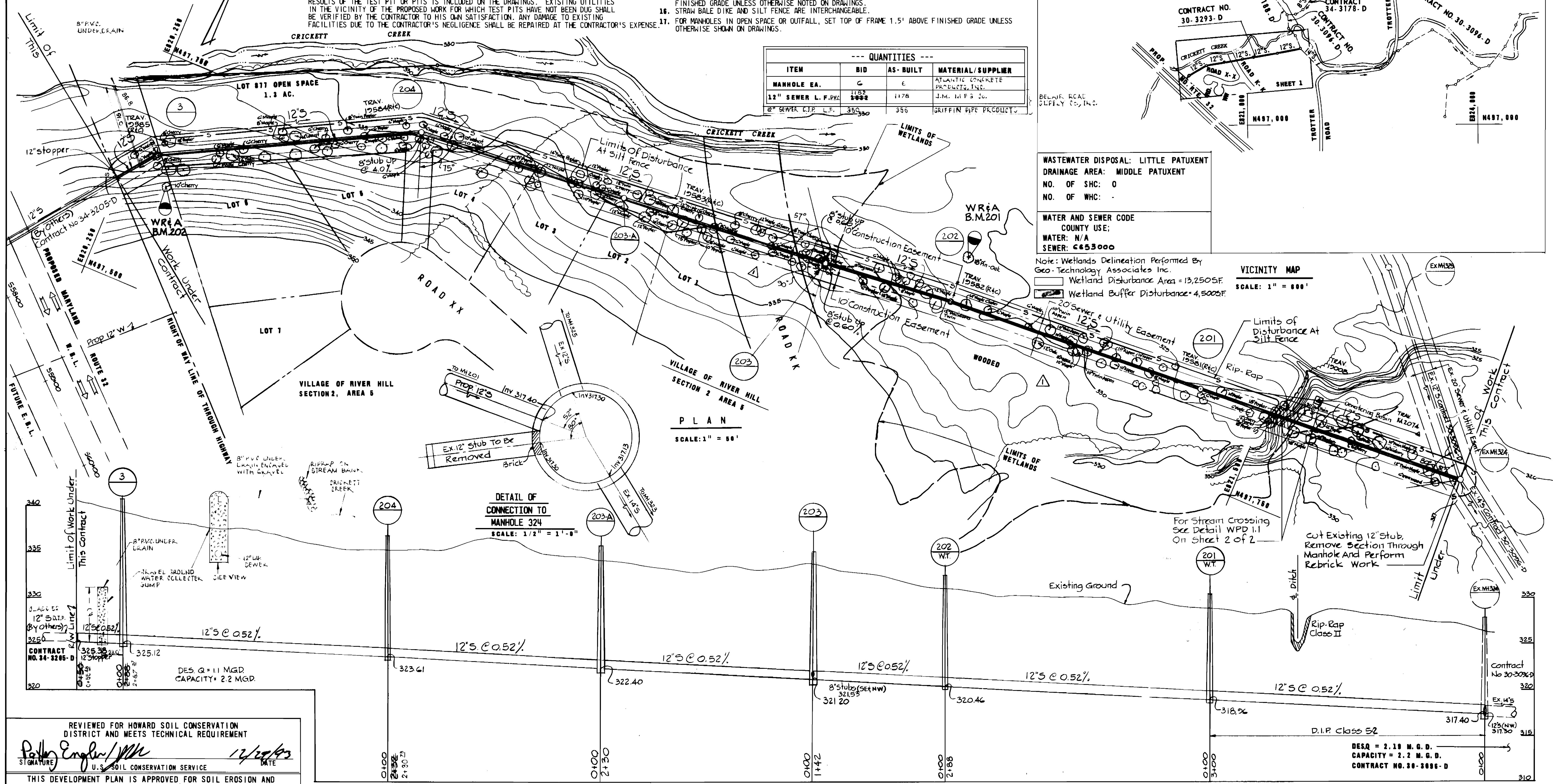
ITEM	BID	AS-BUILT	MATERIAL/SUPPLIER
MANHOLE EA.	6	6	ATLANTIC CONCRETE PRODUCTS, INC.
12" SEWER L.F.P.V.C.	1183	1178	J.M. M.F.S. CO.
8" SEWER C.I.P. L.F.	355	355	GRIFFIN PIPE PRODUCT

WASTEWATER DISPOSAL: LITTLE PATUXENT
DRAINAGE AREA: MIDDLE PATUXENT
NO. OF SHC: 0
NO. OF WHC: -

WATER AND SEWER CODE
COUNTY USE:
WATER: N/A
SEWER: €53000

Note: Wetlands Delineation Performed By
Geo. Technology Associates Inc.
Wetland Disturbance Area = 13,250 SF
Wetland Buffer Disturbance = 4,500 SF

VICINITY MAP
SCALE: 1" = 800'



REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT
Patricia Engler/JMK 12/20/93
SIGNATURE U.S. SOIL CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY CONSERVATION DISTRICT
APPROVED: *John A. Overton* 12/20/93
HOWARD S.C.D. DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE STANDARD SPECIFICATIONS.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
James J. Schum 12/14/93
DIRECTOR OF PUBLIC WORKS - DATE

John A. Overton 12/14/93
CHIEF - BUREAU OF UTILITIES - DATE

WHITMAN, REQUARDT
AND ASSOCIATES
ENGINEERS
2315 ST. PAUL ST.
BALTIMORE, MARYLAND



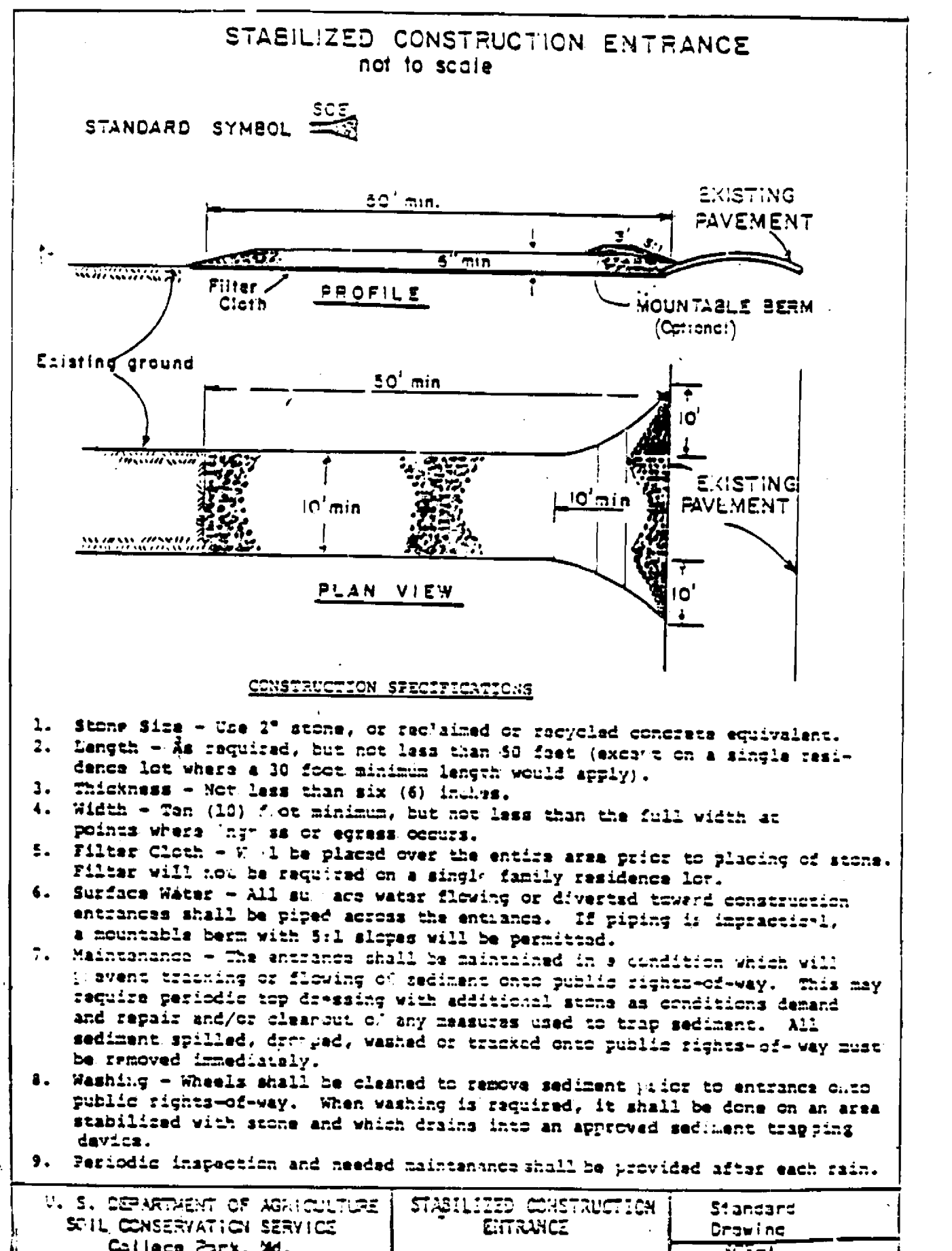
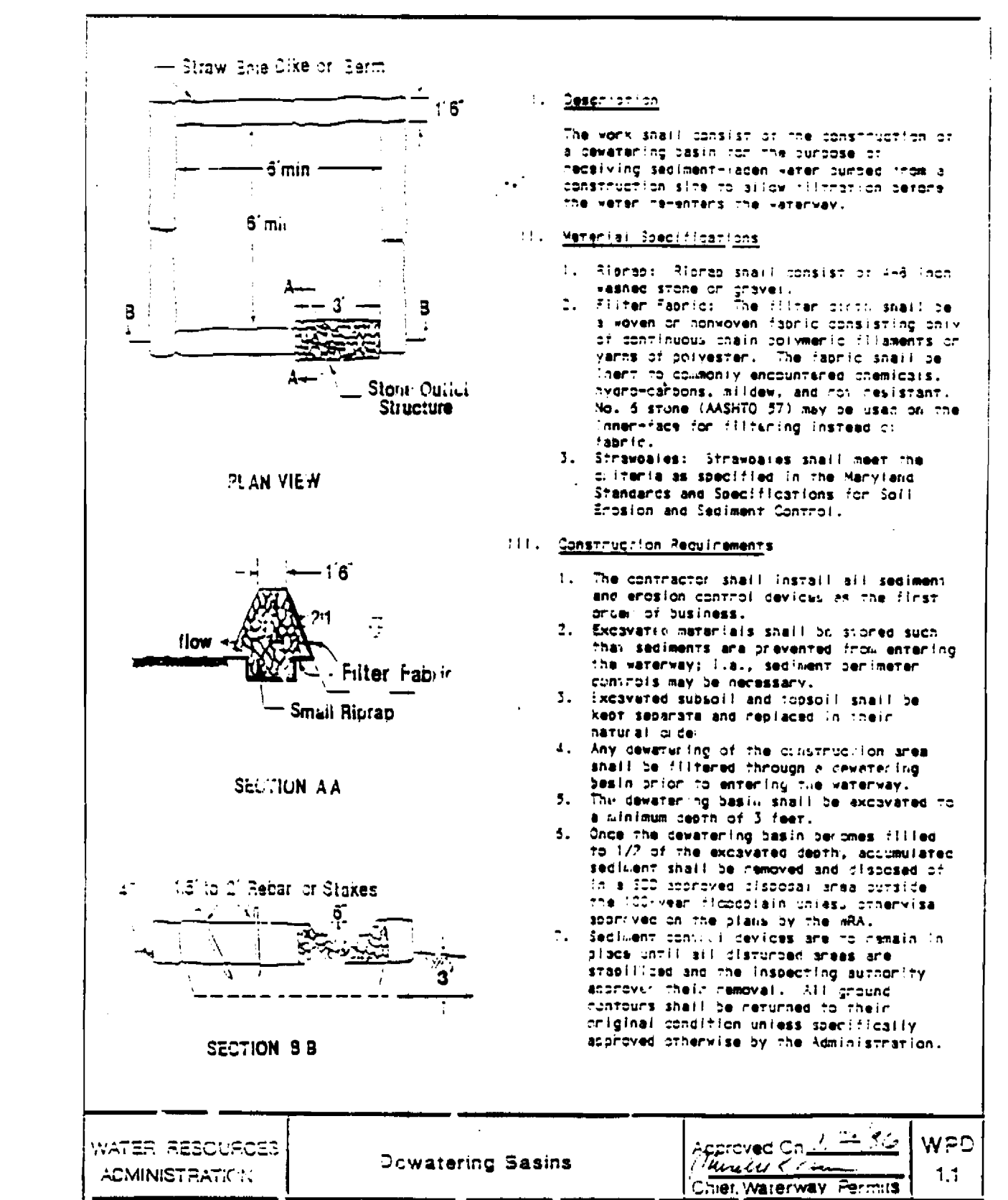
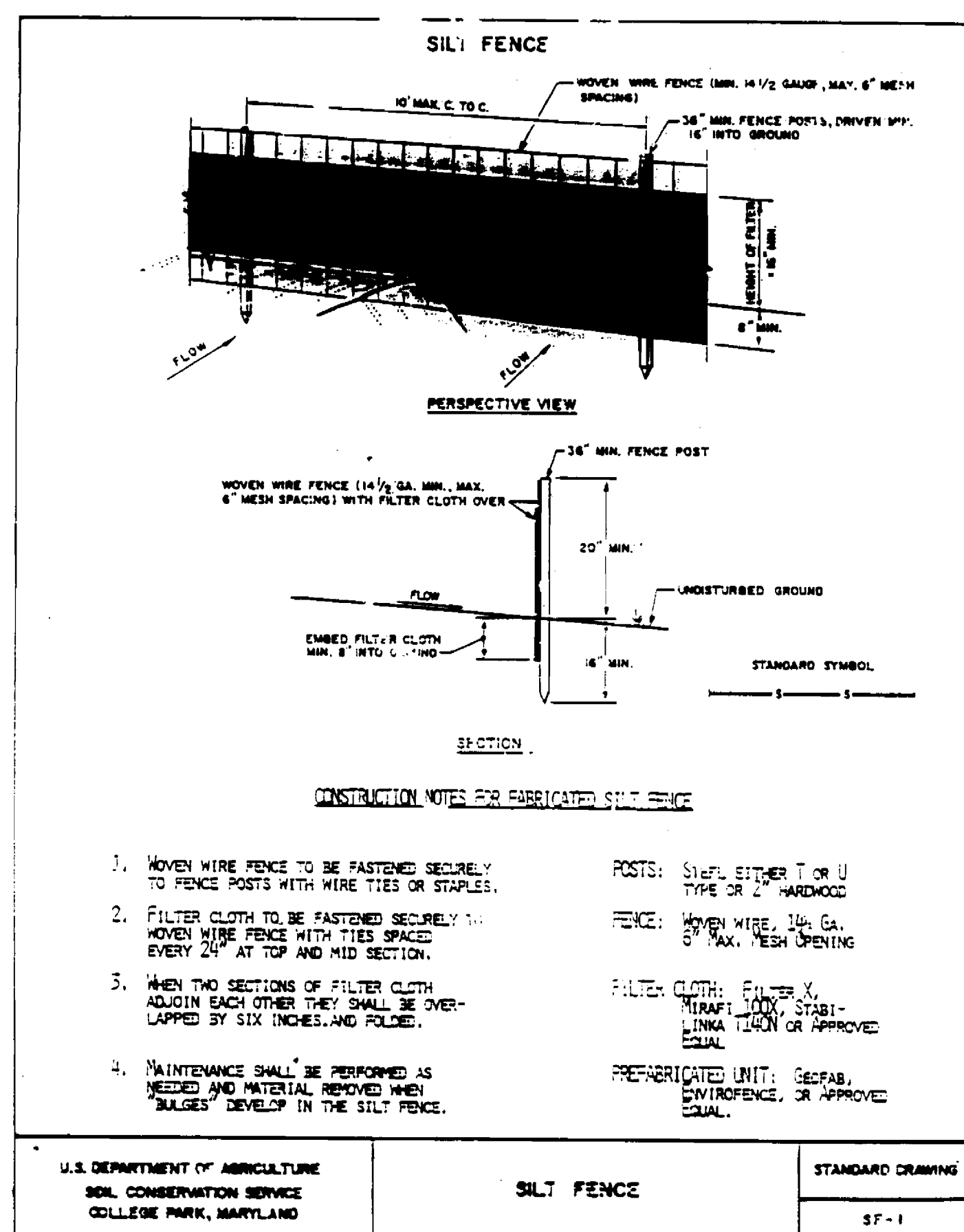
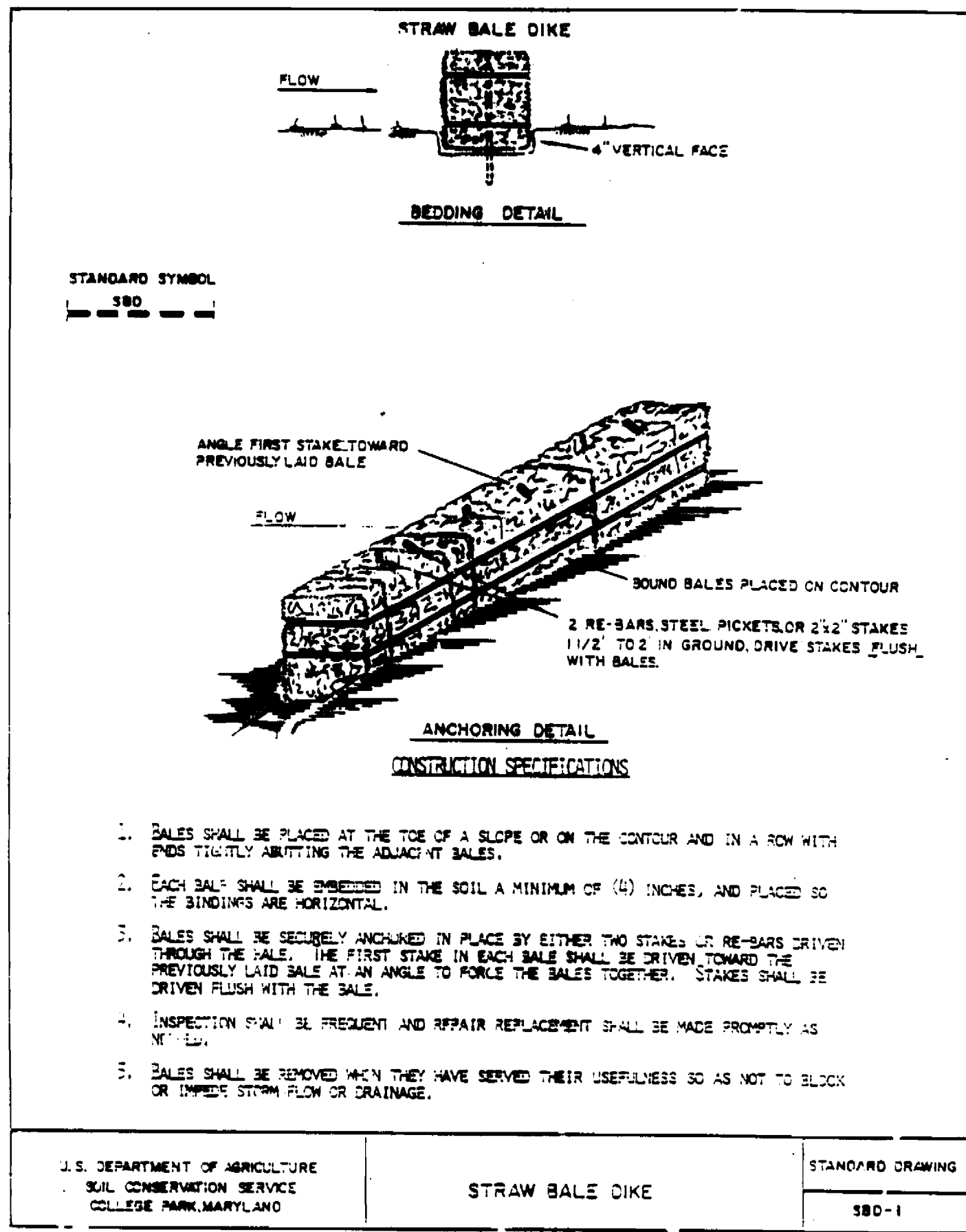
DES	
DRN	
CHK	
DATE	
BY	
NO.	
REVISION	
DATE	

PLAN AND PROFILE OF
SEWER MAINS

65' SCALE MAP NO. 36 BLOCK NO.

SEWER AS-BUILTS
OUTFALL SEWER ALONG CRICKETT CREEK UP TO ROUTE 32
VILLAGE OF RIVER HILL
SECTION 2 --
ELECTION DISTRICT NO. 5
CONTRACT NO. 30-3293-D

SCALE AS SHOWN
SHEET 1 OF 2



PERMANENT SEEDING

APPLIES TO GRADED OR CLEARED AREA NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT, LONG LIVED VEGETATIVE COVER IS NEEDED.

SEEDING PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING. IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES.

1. PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS/1000 SQ. FT.)
2. ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

SEEDING: - FOR THE PERIODS MARCH 1 THRU APRIL 30 AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS./ACRE (1.4 LBS./1000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (.05 LBS./1000 SQ. FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROJECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE 300. OPTION (3) SEED WITH 60 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING: - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 2 1/2 GALLONS PER ACRE (5 GALLONS/1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 3 1/2 GALLONS PER ACRE (8 GAL./1000 SQ. FT.) FOR ANCHORING.

MAINTENANCE: - INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING

APPLIES TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDING PREPARATION: LOOSEN UPPER THREE (3) INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING. IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ. FT.) AND ONE TON PER ACRE OR 46 LBS/1000 SQ. FT. OF DOLOMITIC LIMESTONE.

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2-1/2 PUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ. FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (1.07 LBS/1000 SQ. FT.) FOR THE PERIOD NOVEMBER 1 THRU FEBRUARY 28, PROJECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USED SO.

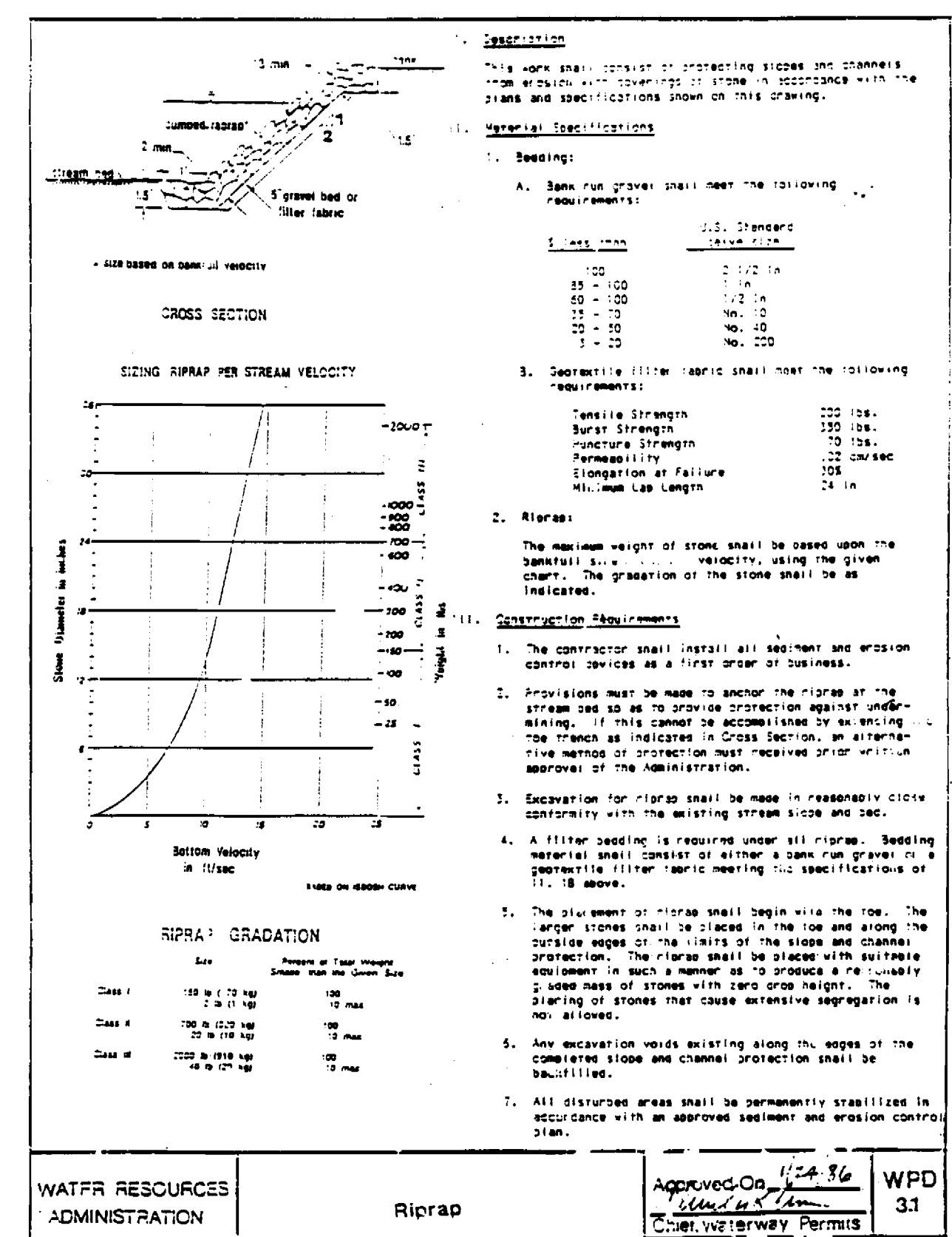
MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 2 1/2 GALLONS PER ACRE (5 GAL./1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FT. OR HIGHER, USE 3 1/2 GALLON PER ACRE (8 GAL./1000 SQ. FT.) FOR ANCHORING.

REFER TO THE 1985 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TEMPORARY SEEDING SPECIFICATIONS NOT COVERED.

NOTES:

1. PROVIDE STABILIZED CONSTRUCTION ENTRANCE AT ALL ACCESS POINTS TO PAVED ROADS.
2. SEE PERMITS BOUND IN SPECIFICATIONS AS FOLLOWS:

WRA	N/A
CDE	N/A



SEDIMENT CONTROL NOTES

A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION. (202-2677)

ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE REQUIREMENTS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1985 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: (1) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES (2) PERIMETER SLOPES GREATER THAN 2:1 (3) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE. ACCORDING TO THE 1985 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52) TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.

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.

SITE ANALYSIS:

TOTAL AREA OF SITE	1.8 ACRES ±
AREA DISTURBED	1.4 ACRES ±
AREA TO BE ROOFED OR PAVED	NONE
AREA TO BE VEGETATIVELY STABILIZED	0.7 ACRES ±
TOTAL CUT	NONE CU. YDS.
TOTAL FILL	NONE CU. YDS.

ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY HOWARD COUNTY DPW SEDIMENT CONTROL INSPECTOR.

ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTOR 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.

NOTE:

* SITE ANALYSIS IS FOR DISTURBED AREAS BEYOND THOSE PROTECTED BY THE ROAD CONSTRUCTION.

PERMANENT SEED MIXTURE FOR WETLANDS ONLY

ANNUAL RYE	2-1/2 LBS./1000 SF.
RIGID BENTGRASS	2 OZ./1000 SF.
DEERTONGUE	2 OZ./1000 SF.
GALEX	2 OZ./1000 SF.
SMARTWEED	4 OZ./1000 SF.

1" MIN. OF NATURAL TOPSOIL FROM THE WETLANDS SHALL BE STOCKPILED ON SITE AND SPREAD OVER DISTURBED AREA. NO IMPORTED TOPSOIL WILL BE ALLOWED.

SEQUENCE OF CONSTRUCTION: UTILITY CROSSING

1. OBTAIN ALL REQUIRED PERMITS, APPROVALS, LICENSES FROM THE APPROPRIATE AGENCIES.
2. NOTIFY THE ENFORCEMENT DIVISION AT LEAST FIVE DAYS PRIOR TO INITIATION OF CONSTRUCTION AND FIVE DAYS AFTER WORK ENDS. NOTIFY HOWARD COUNTY S.C.S. CONTROL INSPECTORS (301) 465-3180.
3. INSTALL PERIMETER CONTROLS CONSISTING OF STRAW BALE DIKES AND/OR SILT FENCING.
4. Dewater CONSTRUCTION AREA. ALL DEWATERING SHALL BE DIVERTED TO A DEWATERING BASIN AS PER WPD.1 BEFORE RE-ENTERING THE STREAM.
5. STABILIZE THE DISTURBED BANKS USING FILTER FABRIC OR RIPRAP. RIPRAP MUST BE SIZED AND INSTALLED AS PER WPD 3.1.
6. CONSTRUCT SANITARY SEWER SYSTEM.
7. STABILIZE ALL DISTURBED AREAS.
8. NOTIFY S.C.S. INSPECTOR.
9. REMOVE PERIMETER CONTROLS.

CONDITIONS AND MANAGEMENT PRACTICES FOR WORK IN MONTIAD WETLANDS

- A. STOCKPILE AND MAINTAIN SEPARATELY THE TOP 6"-12" OF TOPSOIL MATERIAL, TO BE REPLACED AS THE TOP LAYER OF THE BACKFILLED MATERIAL.
- B. REMOVE EXCESS FILL OR CONSTRUCTION MATERIAL ON DOWN TO AN UPLAND DISPOSAL AREA.
- C. PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF THE MONTIAD WETLAND.
- D. MAINTAIN THE HYDROLOGIC REGIME OF THE MONTIAD WETLANDS UPSTREAM, DOWNSTREAM, OR ADJACENT TO THE SEWERLINE.
- E. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY DESIGN THE EQUIPMENT TO PREVENT DAMAGE TO THE MONTIAD WETLAND.
- F. USE PREVIOUSLY EXCAVATED MATERIAL AS BACKFILL, UNLESS IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL OR ANY OTHER DELETERIOUS SUBSTANCE. USE CLEAN WOODING MATERIAL WHEN EXCAVATED MATERIAL IS NOT SUITABLE FOR USE AS BACKFILL.
- G. SEE "PERMANENT SEED MIXTURE FOR WETLANDS ONLY" NOTE, ABOVE.
- H. UPON COMPLETION OF THE PROJECT MONTIAD WETLANDS AND THE 25-FOOT MONTIAD WETLAND BUFFER WILL NOT BE MOWED OR OTHERWISE MANAGED TO PREVENT THE RE-ESTABLISHMENT OF FLOWING CHANNELS.
- I. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION GRADES AND ELEVATIONS OF MONTIAD WETLANDS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS.
- J. TO PROTECT IMPORTANT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM AS FOLLOWS:
 - i. USE I WATERS. IN-STREAM WORK MAY NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT
 SIGNATURE: *Thomas Egan* DATE: 12/28/92
 U.S. SOIL CONSERVATION SERVICE
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY CONSERVATION DISTRICT APPROVED:

3293 SH-2 V.R.H. SFC CRICKET CREEK

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works - DATE: 1/3/94
 Chief - Bureau of Utilities - DATE: 12-15-93

WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS
 2315 ST. PAUL ST. BALTIMORE, MARYLAND

SEDIMENT CONTROL DETAILS
 600' SCALE MAP NO. 35 BLOCK NO. _____

OUTFALL SEWER ALONG CRICKET CREEK UP TO ROUTE 32 VILLAGE OF RIVER HILL -- SECTION 2 --
 ELECTION DISTRICT NO. 5
 CONTRACT NO. 30-3293-D

SCALE AS SHOWN
 SHEET 2 OF 2
 SEPTEMBER 28, 1993 3-9-93