

LEGEND

- FOREST CONSERVATION EASEMENT
- STREAM
- SSF SUPER SILT FENCE
- EXISTING CONTOURS
- EXISTING TREES/TREE LINE
- WETLAND/STREAM BUFFER
- WETLAND
- PROPOSED CONTOURS
- FLOODPLAIN
- LIMIT OF DISTURBANCE
- EXISTING 25' WIDE UTILITY EASEMENT
- SF SILT FENCE

PROVIDE 10' OF 8" SEWER @ 0.6% W/8" PLUG INV. ELEV. 363.84

PROVIDE 10' OF 8" SEWER @ 4.37% W/8" PLUG INV. ELEV. 364.22

NOTE: SEDIMENT BASIN SHOWN ON SDF-99-92 WILL BE IN PLACE PRIOR TO SEWER MAIN CONSTRUCTION.

PROP. GRADING SDF-99-92 WILL BE IN PROGRESS DURING SEWER CONSTRUCTION.

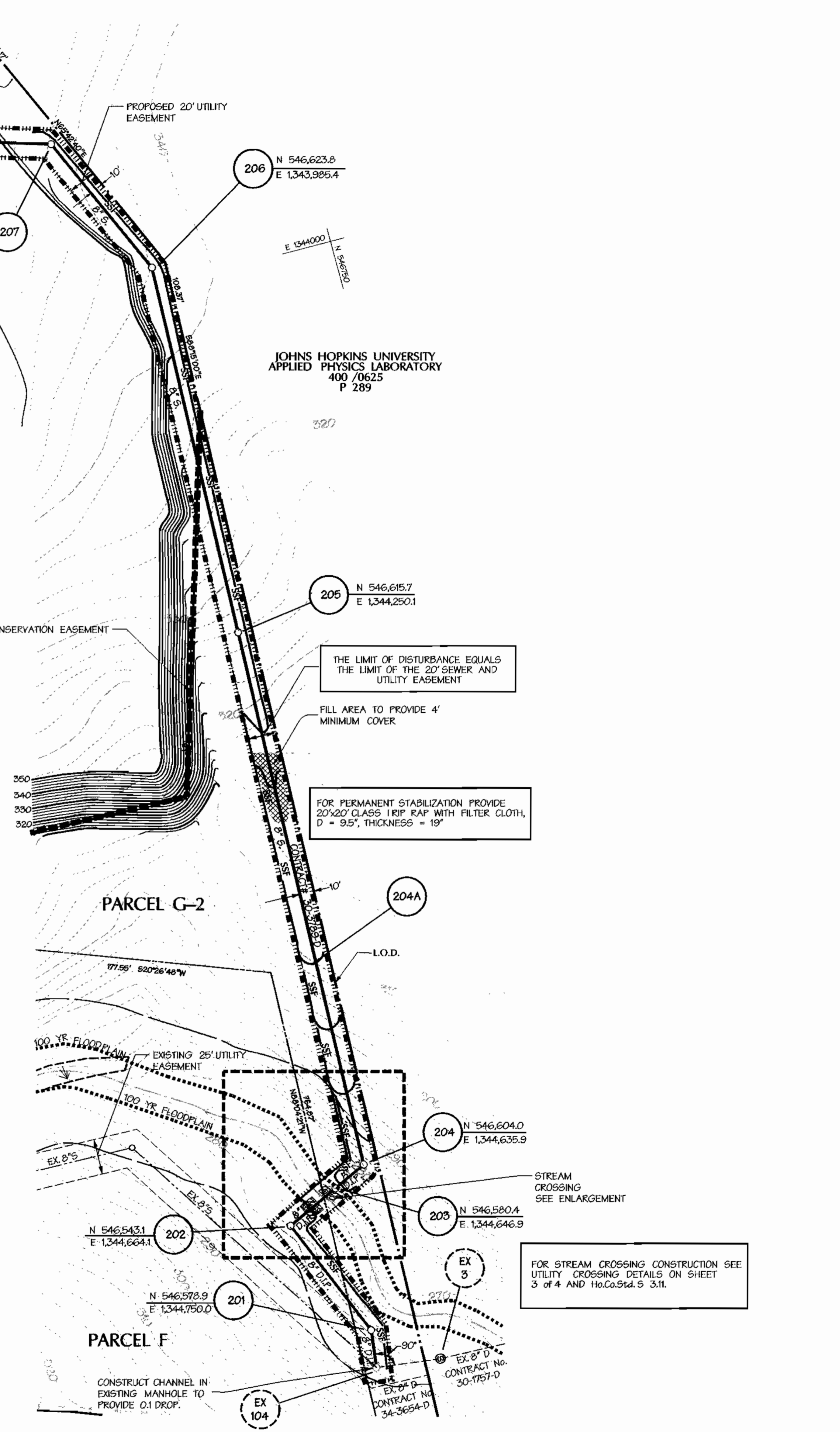
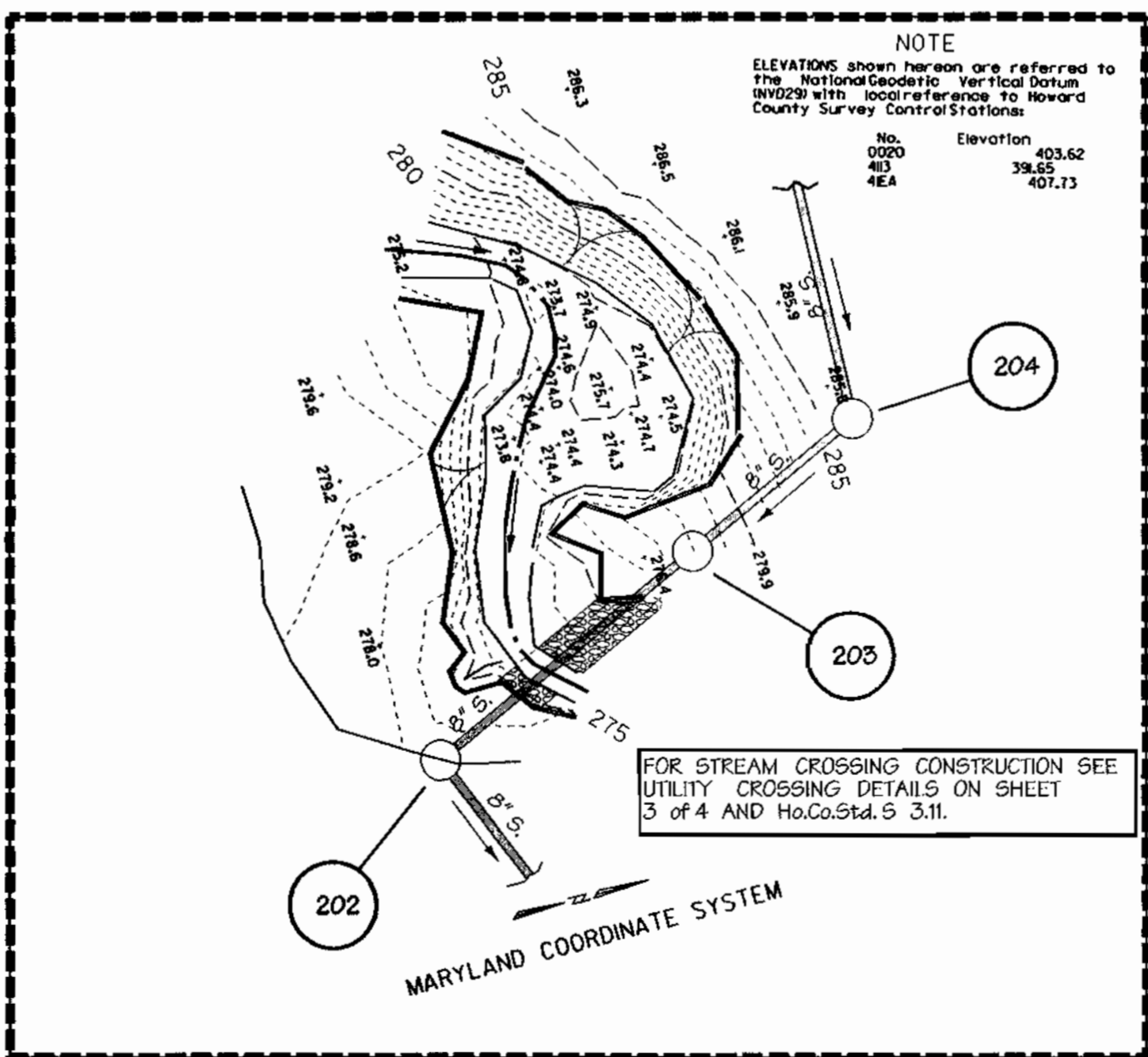
ANY EXCAVATED TRENCH MATERIAL WILL BE PLACED ON THE UPPER SIDE OF SEWER LINE TRENCH DURING CONSTRUCTION.

ANY SUPER SILT FENCE REMOVED DURING SEWER CONSTRUCTION WILL BE REPLACED AT THE END OF EACH DAY.

MARYLAND DEPARTMENT OF THE ENVIRONMENT U.S. ARMY CORP. OF ENGINEERS PERMIT FOR STREAM CROSSING TRACKING No. 1997 65674

Conditions and Management Practices for Working in Nontidal Wetlands and Buffers

- A. REMOVE EXCAVATED MATERIAL, CONSTRUCTION MATERIAL OR DEBRIS TO AN UPLAND DISPOSAL AREA OUTSIDE OF ANY WATERWAY, FLOODPLAIN, NONTIDAL WETLAND, OR BUFFER.
- B. STORE HEAVY EQUIPMENT IN UPLAND AREAS AND SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO THE REMAINING NONTIDAL WETLANDS.
- C. PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF THE NONTIDAL WETLAND.
- D. MAINTAIN THE HYDROLOGIC REGIME OF NONTIDAL WETLANDS OUTSIDE THE LIMITS OF DISTURBANCE.
- E. RECTIFY ANY NONTIDAL WETLANDS AND BUFFERS TEMPORARILY IMPACTED BY THE PERMITTED ACTIVITY. ALL STABILIZATION IN THE WETLAND AND BUFFER SHALL BE OF THE FOLLOWING RECOMMENDED SPECIES: ANNUAL RYEGRASS (*Lolium multiflorum*), MILLET (*Setaria italica*), OATS (*Avena sp.*) AND JOE PYLE (*Sorghum cerisea*). OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION, KENTUCKY 31 RESCUE. SHALL NOT BE UTILIZED IN THE WETLAND OR BUFFER. ALL TEMPORARY FILLS SHALL BE REMOVED IN THEIR ENTIRETY ON OR BEFORE THE COMPLETION OF CONSTRUCTION.
- F. TO PROTECT IMPORTANT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM AS FOLLOWS:
 - USE 1: WATERS, IN-STREAM WORK MAY NOT BE CONDUCTED DURING THE PERIOD MARCH 1 - JUNE 15 INCLUSIVE, DURING ANY YEAR.
- G. NO REMOVAL OF VEGETATION, GRADING, FILLING, DRAINING, OR OTHER ALTERATION OF THE NONTIDAL WETLANDS OR BUFFER OUTSIDE THE LIMITS OF DISTURBANCE SHALL OCCUR WITHOUT WRITTEN AUTHORIZATION FROM THE WATER MANAGEMENT ADMINISTRATION.
- H. FOR UTILITY LINE INSTALLATION STOCKPILE AND MAINTAIN SEPARATELY THE TOP 6"-12" OF TOPSOIL MATERIAL TO BE REPLACED AS THE TOP LAYER OF THE BACKFILLED MATERIAL, UNLESS IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL OR ANY OTHER DELETERIOUS SUBSTANCE. USE CLEAN BORROW MATERIAL WHEN EXCAVATED MATERIAL IS NOT SUITABLE FOR USE AS BACKFILL.
- I. UPON COMPLETION OF THE SEWERLINE INSTALLATION NONTIDAL WETLANDS AND THE 25-FOOT NONTIDAL WETLAND BUFFER WILL NOT BE MOVED OR OTHERWISE MANAGED TO PREVENT THE RE-ESTABLISHMENT OF THE PRE-EXISTING TYPE OF VEGETATIVE COVER.
- J. AFTER UTILITY LINE INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION GRADES AND ELEVATIONS OF NONTIDAL WETLANDS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS.



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|---|---|--|
| <p>DEVELOPER'S CERTIFICATION:</p> <p>I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF FITNESSEMANSHIP AS A REQUIREMENT 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.</p> <p>SIGNATURE OF DEVELOPER: <i>Robert Berman</i> DATE: 12-3-99</p> | <p>ENGINEER'S CERTIFICATION:</p> <p>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.</p> <p>SIGNATURE OF ENGINEER: <i>Robert Berman</i> DATE: 12-3-99</p> | <p>REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS</p> <p>U.S. NATURAL RESOURCE CONSERVATION SERVICE DATE: _____</p> <p>THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.</p> <p>HOWARD S.C.D. DATE: _____</p> |
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|--|--|---|---|-----------------------------|--|--|----------------------------------|
| <p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>Robert Berman</i> 12-3-99 CHIEF - BUREAU OF UTILITIES - DATE</p> | <p>DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND</p> <p><i>Robert Berman</i> 12-3-99 CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE</p> | <p>DMW Daft · McCune · Walker, Inc.</p> <p>A Team of Land Planners, 200 East Pennsylvania Avenue Landscape Architects, Towson, Maryland 21286 Engineers, Surveyors & Environmental Professionals 410 296 3333 Fax 296 4705</p> | <p>DESIGN BY: BIS</p> <p>DRAWN BY: ADL</p> <p>CHECKED BY:</p> <p>DATE: 11-15-99</p> | <p>BY NO. REVISION DATE</p> | <p>600 SCALE MAP NO. 41 BLOCK NO. 17</p> | <p>Montpelier Research Park HOWARD COUNTY MARYLAND</p> <p>OWNER/DEVELOPER: HOPKINS ROAD LIMITED PARTNERSHIP 9030 RED BRANCH ROAD, SUITE 200 COLUMBIA, MD 21045 CONTRACT NO. 30-3789-D</p> | <p>SCALE</p> <p>SHEET 2 OF 4</p> |
|--|--|---|---|-----------------------------|--|--|----------------------------------|

DEVELOPER'S CERTIFICATION:
 I, THE DEVELOPER, CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

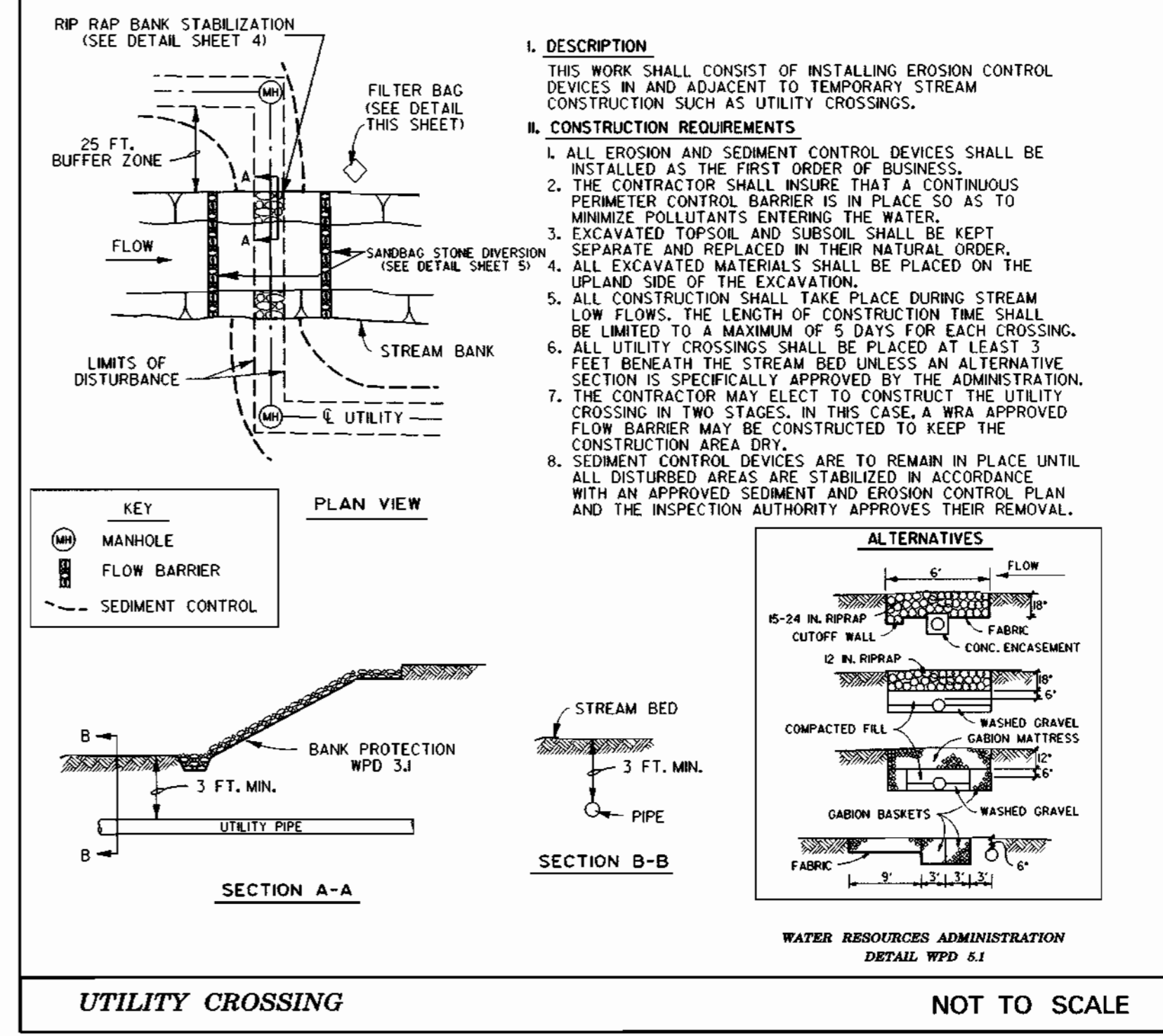
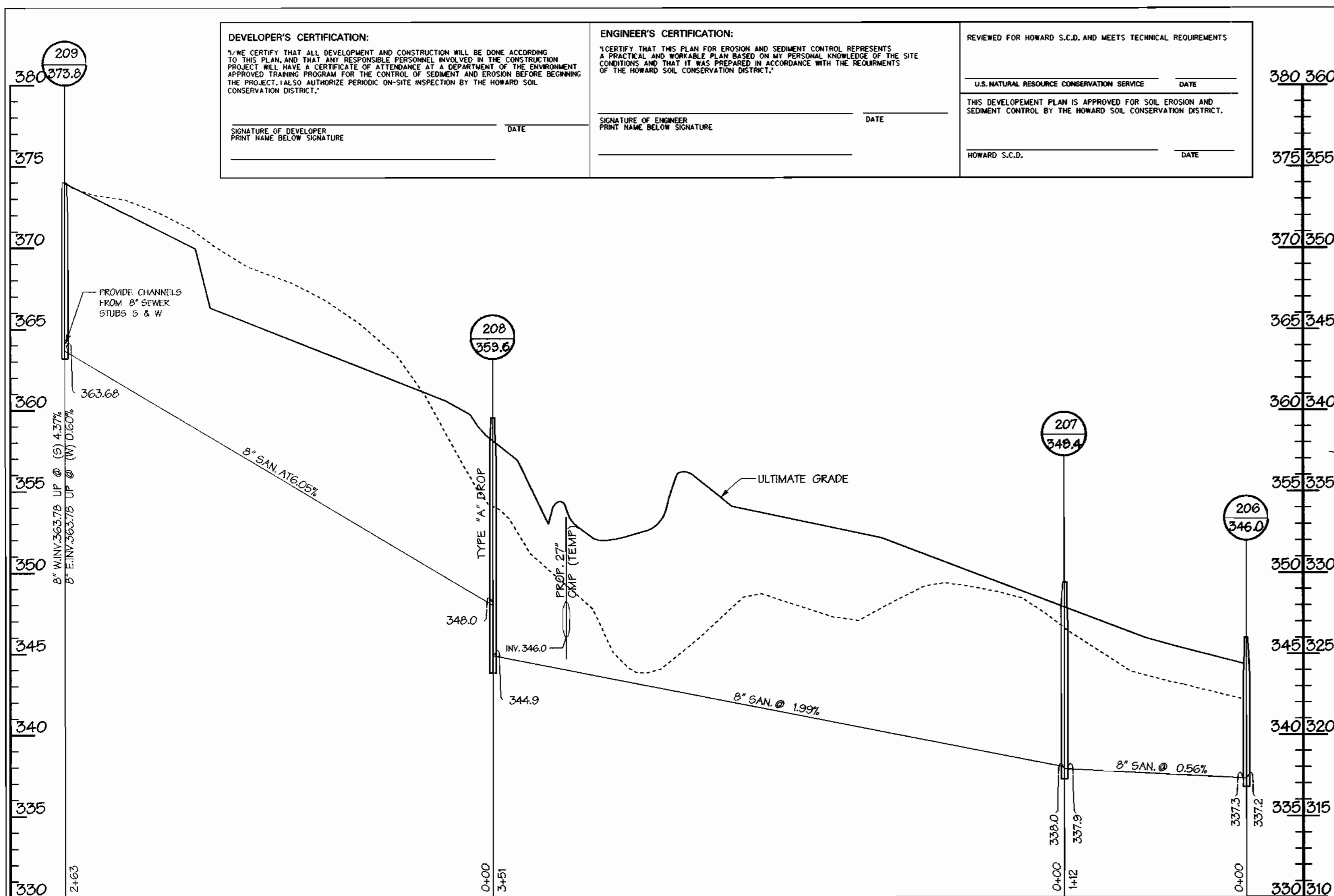
SIGNATURE OF DEVELOPER: _____ DATE: _____
 PRINT NAME BELOW SIGNATURE

ENGINEER'S CERTIFICATION:
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

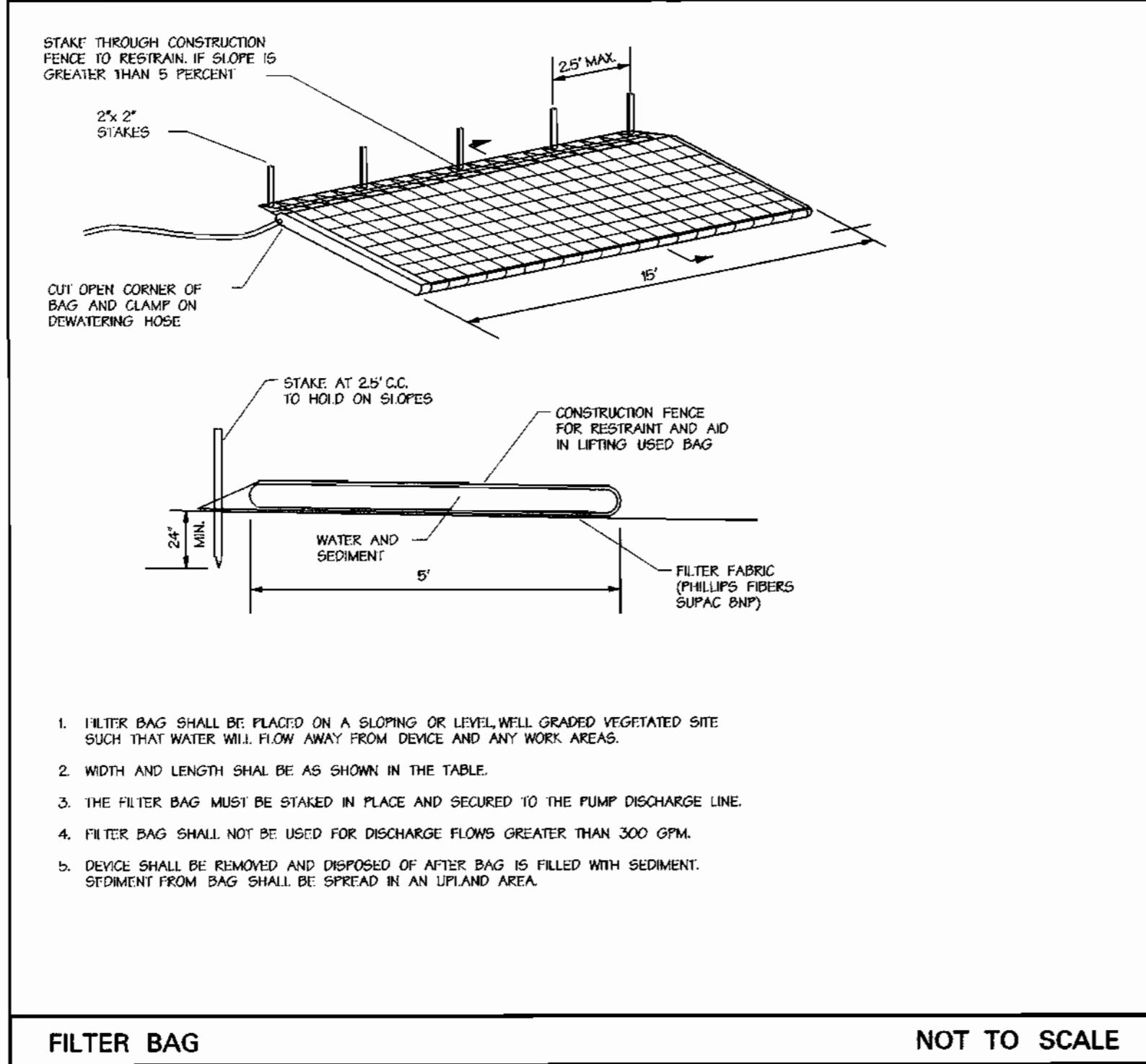
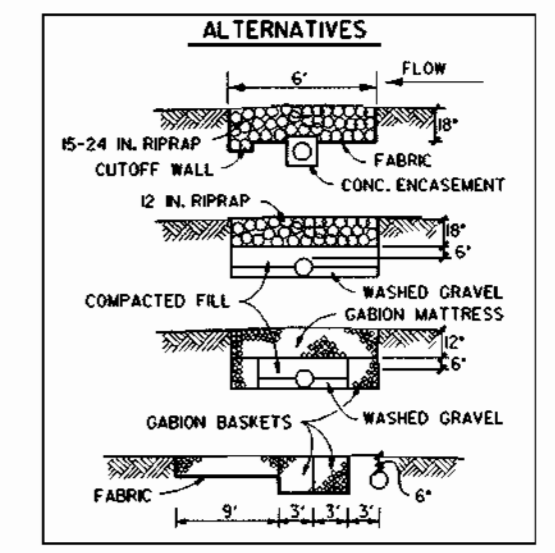
SIGNATURE OF ENGINEER: _____ DATE: _____
 PRINT NAME BELOW SIGNATURE

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS

U.S. NATURAL RESOURCE CONSERVATION SERVICE DATE: _____
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 HOWARD S.C.D. DATE: _____

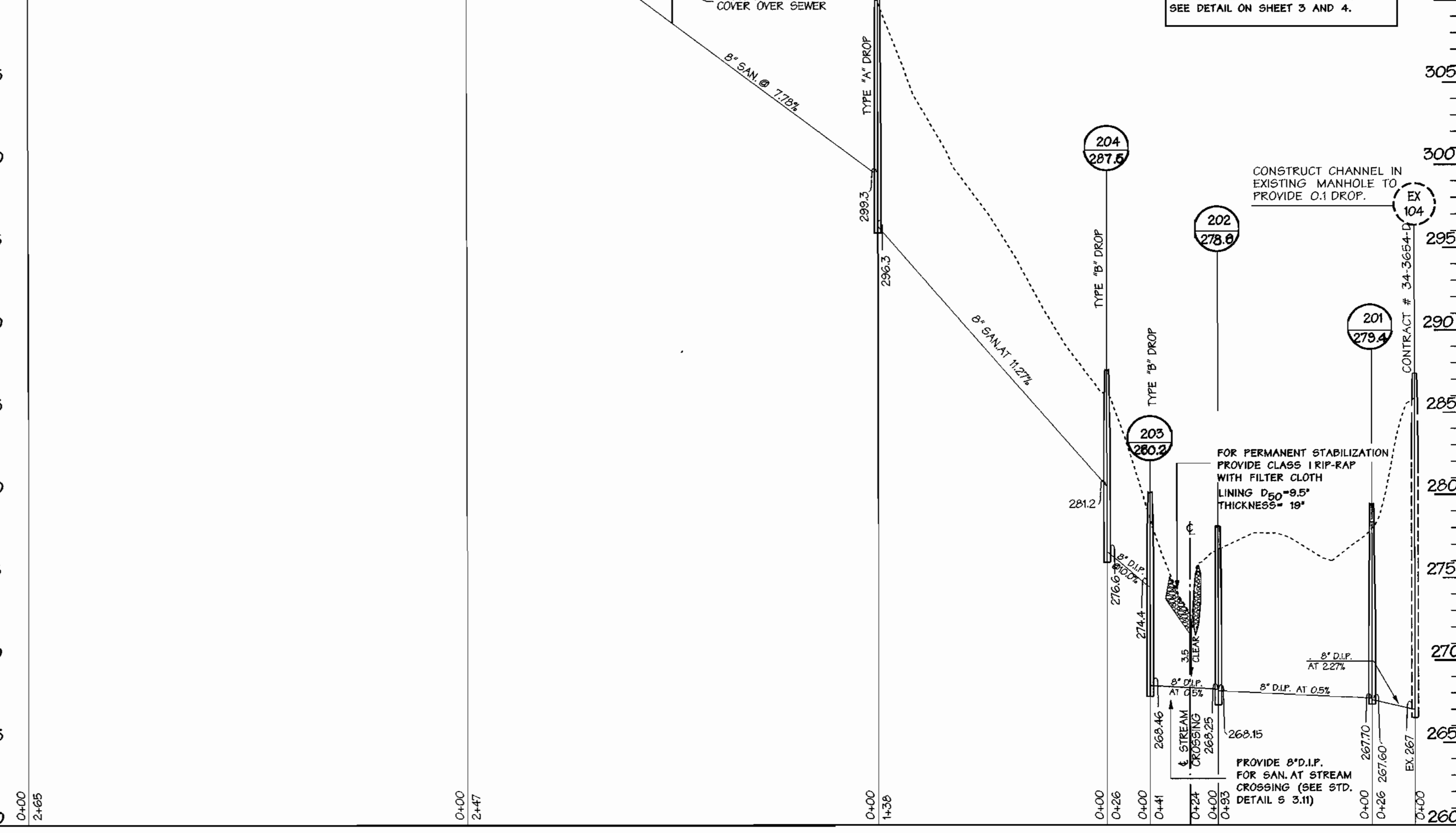


- I. DESCRIPTION**
 THIS WORK SHALL CONSIST OF INSTALLING EROSION CONTROL DEVICES IN AND ADJACENT TO TEMPORARY STREAM CONSTRUCTION SUCH AS UTILITY CROSSINGS.
- II. CONSTRUCTION REQUIREMENTS**
1. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS THE FIRST ORDER OF BUSINESS.
 2. THE CONTRACTOR SHALL INSURE THAT A CONTINUOUS PERIMETER CONTROL BARRIER IS IN PLACE SO AS TO MINIMIZE POLLUTANTS ENTERING THE WATER.
 3. EXCAVATED TOPSOIL AND SUBSOIL SHALL BE KEPT SEPARATE AND REPLACED IN THEIR NATURAL ORDER.
 4. ALL EXCAVATED MATERIALS SHALL BE PLACED ON THE UPLAND SIDE OF THE EXCAVATION.
 5. ALL CONSTRUCTION SHALL TAKE PLACE DURING STREAM LOW FLOWS. THE LENGTH OF CONSTRUCTION TIME SHALL BE LIMITED TO A MAXIMUM OF 5 DAYS FOR EACH CROSSING.
 6. ALL UTILITY CROSSINGS SHALL BE PLACED AT LEAST 3 FEET BENEATH THE STREAM BED UNLESS AN ALTERNATIVE SECTION IS SPECIFICALLY APPROVED BY THE ADMINISTRATION. THE CONTRACTOR MAY ELECT TO CONSTRUCT THE UTILITY CROSSING IN TWO STAGES. IN THIS CASE, A WRA APPROVED FLOW BARRIER MAY BE CONSTRUCTED TO KEEP THE CONSTRUCTION AREA DRY.
 7. SEDIMENT CONTROL DEVICES ARE TO REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED IN ACCORDANCE WITH AN APPROVED SEDIMENT AND EROSION CONTROL PLAN AND THE INSPECTION AUTHORITY APPROVES THEIR REMOVAL.



1. FILTER BAG SHALL BE PLACED ON A SLOPING OR LEVEL, WELL GRADED VEGETATED SITE SUCH THAT WATER WILL FLOW AWAY FROM DEVICE AND ANY WORK AREAS.
2. WIDTH AND LENGTH SHALL BE AS SHOWN IN THE TABLE.
3. THE FILTER BAG MUST BE STAKED IN PLACE AND SECURED TO THE PUMP DISCHARGE LINE.
4. FILTER BAG SHALL NOT BE USED FOR DISCHARGE FLOWS GREATER THAN 300 GPM.
5. DEVICE SHALL BE REMOVED AND DISPOSED OF AFTER BAG IS FILLED WITH SEDIMENT. SEDIMENT FROM BAG SHALL BE SPREAD IN AN UPLAND AREA.

NOTE: MANHOLES 201 THRU 208 TO BE SET AND BACKFILL PER STD. DETAIL @ 5-41



Mon Nov 15 18:00:37 1999 #19477724M77717-3

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

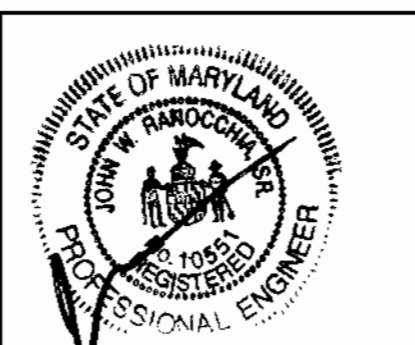
Robert J. Bennett 12-2-99
 CHIEF - BUREAU OF UTILITIES - DATE

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND

John J. Bennett 12/2/99
 CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE

DMW
 Daft · McCune · Walker, Inc.

A Team of Land Planners, 200 East Pennsylvania Avenue
 Landscape Architects, Towson, Maryland 21286
 Engineers, Surveyors & Environmental Professionals 410 296 3333
 Fax 296 4705



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|-------------|----------|----|-----|----------|
| DESIGN BY: | BIS | | | |
| DRAWN BY: | ADL | | | |
| CHECKED BY: | | | | |
| DATE: | 11-15-99 | BY | NO. | REVISION |

SEWER PROFILE AND DETAILS

600 SCALE MAP NO. 41 BLOCK NO. 17

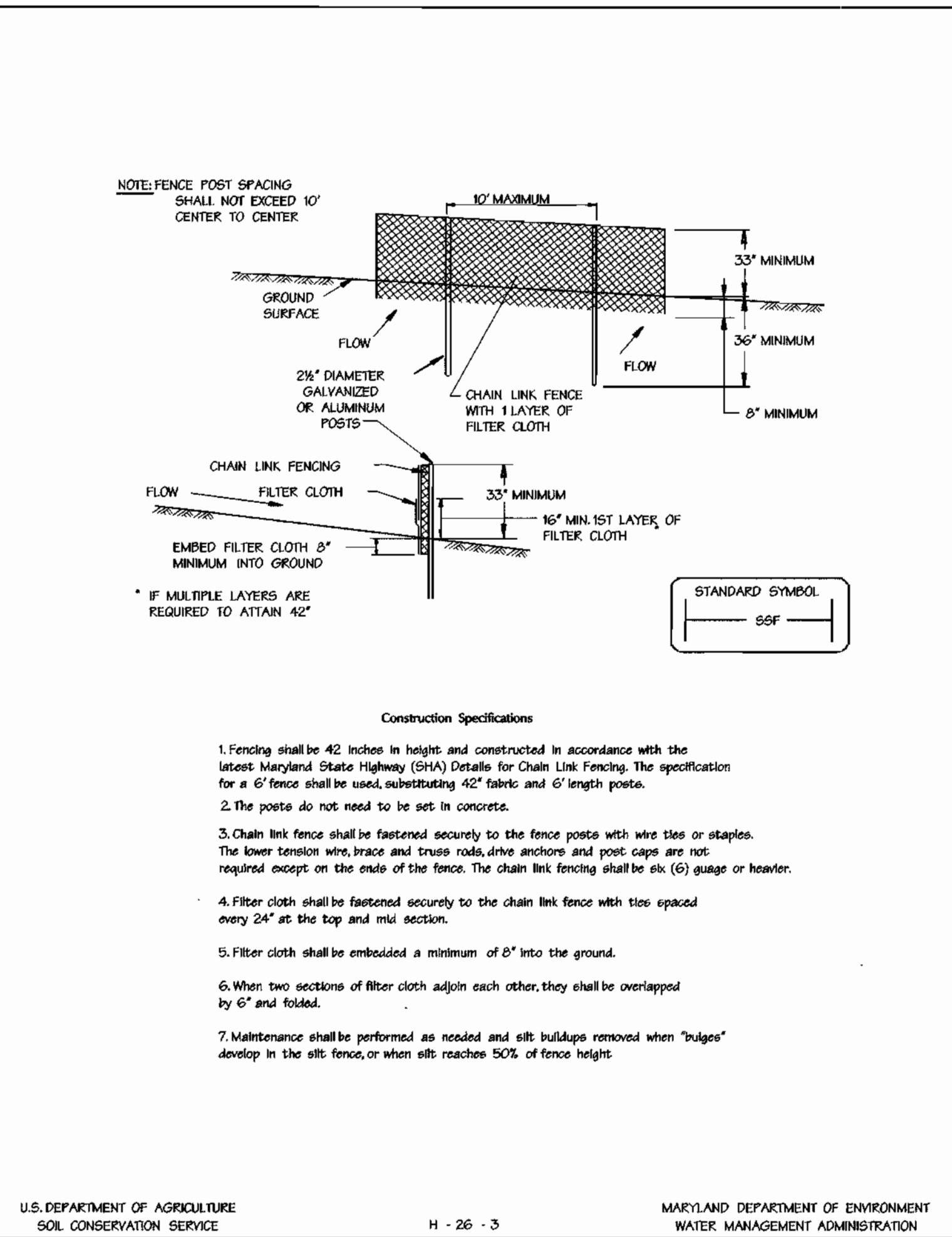
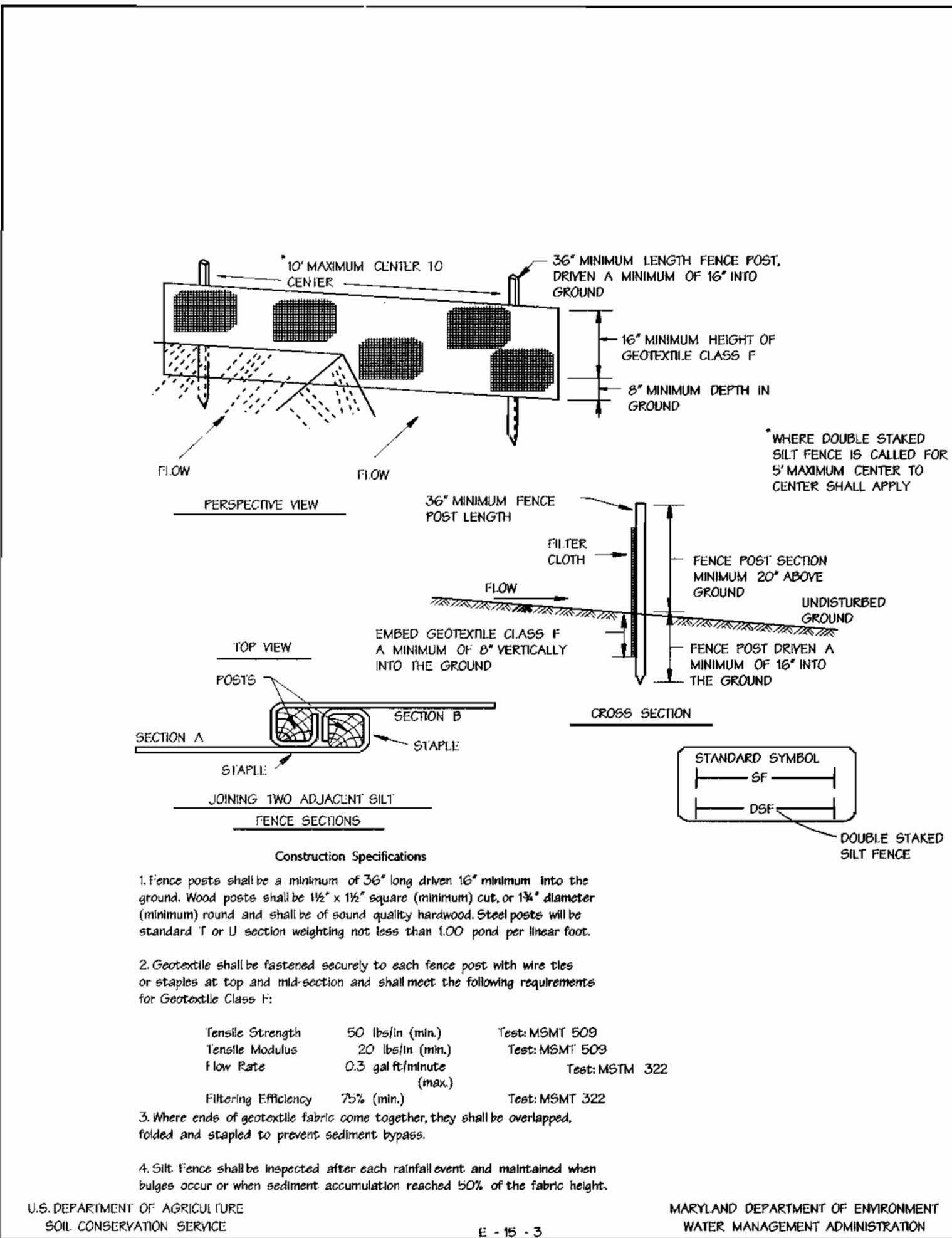
Montpelier
 Research Park
 HOWARD COUNTY, MARYLAND

OWNER/DEVELOPER: HOPKINS ROAD LIMITED PARTNERSHIP
 930 RED BRANCH ROAD, SUITE 200 COLUMBIA, MD 21045
 CONTRACT NO. 30-3789-D

SCALE
 HORIZ. T. = 50'
 VERT. T. = 5'

SHEET
 3 OF 4

Mon Nov 15 18:00:37 1999 #19477724M77717-3



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 (015-1095).

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 THEREOF.

3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:

- A. SEVEN CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1.
- B. FOURTEEN DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

4. ALL SEDIMENT TRANSFERING SHOWS MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12 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 SEEDINGS, SOGS, TEMPORARY SEEDING AND MULCHING (SECTION 03). TEMPORARY STABILIZATION WITH MULCH ALONE CAN 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 THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

7. SITE ANALYSIS:

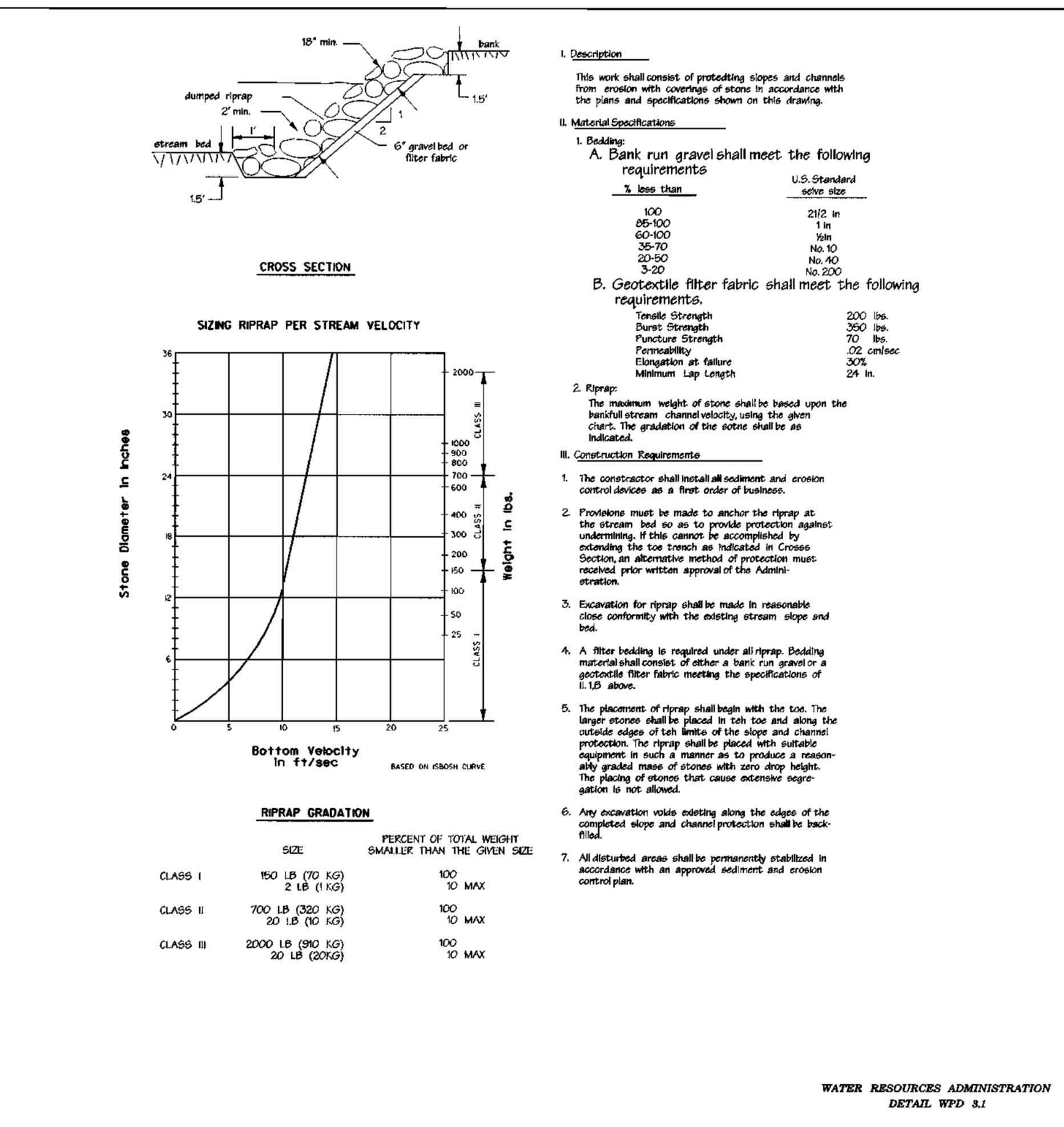
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|---|---------------|
| TOTAL AREA OF SITE | 104 ACRES |
| AREA DISTURBED | 0.72 ACRES |
| AREA TO BE ROOFED OR PAVED | 0.0 ACRES |
| AREA TO BE VEGETATIVELY STABILIZED | 0.72 ACRES |
| TOTAL CUT | 0 CUBIC YARDS |
| OFF-SITE WASTE/BORROW AREA LOCATION WASTE | - |

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 CONTROLS 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. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.



SILT FENCE NOT TO SCALE

SUPER SILT FENCE NOT TO SCALE

SEDIMENT CONTROL GENERAL NOTES NOT TO SCALE

RIP-RAP BANK STABILIZATION NOT TO SCALE

TEMPORARY AND PERMANENT SEEDING NOTES

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-HEIVED VEGETATIVE COVER IS NEEDED.

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

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

- PREFERRED - APPLY 2 TONS PER ACRE (20,000 LBS) OF 0-10-10 FERTILIZER (14 LBS/1000 SQ.FT.) AND 1000 LBS PER ACRE (10,000 LBS) OF 10-10-10 FERTILIZER (14 LBS/1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL AT TIME OF SEEDING. APPLY 400 LBS PER ACRE 30-0-0 UREA FORM FERTILIZER (9 LBS/1000 SQ.FT.)
- ACCEPTABLE - APPLY 2 TONS PER ACRE (20,000 LBS) OF 0-10-10 FERTILIZER (14 LBS/1000 SQ.FT.) AND 1000 LBS PER ACRE (10,000 LBS) OF 10-10-10 FERTILIZER (14 LBS/1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

BUILDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 50 LBS PER ACRE (5,000 LBS) OF KENTUCKY 31 TALL FESCUE FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS PER ACRE (6,000 LBS) OF KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (20 LBS) OF WHEEPLING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROJECT SITE DIVISION (1) - 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING OPTION (2) - USE 500 OPTION (3) - SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING - APPLY 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 200 GALLONS PER ACRE (5 GALLONS SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 8 FEET OR HIGHER, USE 340 GALLONS PER ACRE (9 GALLONS SQ.FT.) FOR ANCHORING.

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

TEMPORARY SEEDING NOTES

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

SEEDBED PREPARATION - LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING 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.)

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 2 1/2 BUSHEL 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 WHEEPLING LOVEGRASS (3.7 LBS/1000 SQ.FT.) FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROJECT SITE DIVISION (1) - APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOG.

MULCHING - APPLY 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ.FT.) OF UNROTTED WOOD FREE SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 200 GALLONS PER ACRE (5 GALLONS SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 8 FT. OR HIGHER, USE 340 GAL PER ACRE (9 GALLONS SQ.FT.) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL RATES AND METHODS NOT COVERED.

Topsoil Specifications
FOR SEDIMENT CONTROL /STABILIZATION PURPOSES

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

Definition

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose

To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

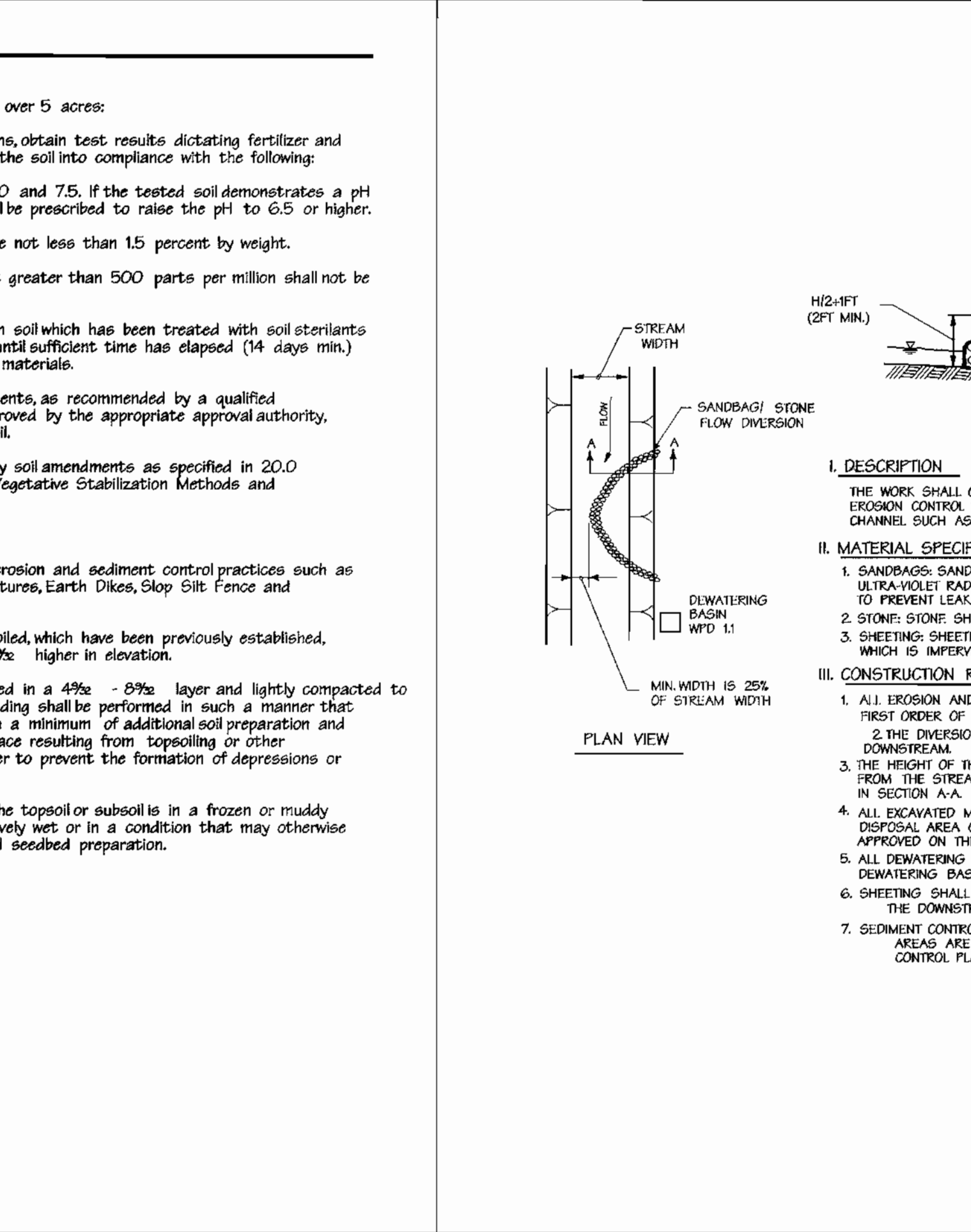
- This practice is limited to areas having 2:1 or flatter slopes where:
 - The texture of the exposed subsoil parent material is not adequate to produce vegetative growth.
 - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
 - The original soil to be vegetated contains material toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.
- For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

- Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experiment Station.
- Topsoil Specifications - Soil to be used as topsoil must meet the following:
 - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slugs, coarse fragments, gravel sticks, roots, trash, and other materials larger 1 1/2 inch in diameter.
 - Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutcrack, poison ivy, thistle, or others as specified.
 - Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
- For sites having disturbed areas under 5 acres:
 - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

III. For sites having disturbed areas over 5 acres:

- On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
 - Organic contents of topsoil shall be not less than 1.5 percent by weight.
 - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
- Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
- Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
- Topsoil Application
 - When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
 - Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4% - 8% higher in elevation.
 - Topsoil shall be uniformly distributed in a 4% - 8% layer and lightly compacted to a minimum thickness of 4%. Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
 - Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.



Sequence of Construction

| SEQUENCE | NUMBER OF DAYS |
|--|----------------|
| 1. OBTAIN A GRADING AND WETLAND PERMIT. | 7 |
| 2. INSTALL EROSION AND SEDIMENT CONTROL MEASURES AND STABILIZE. | 14 |
| 3. WHILE CONSTRUCTING UTILITIES THE LIMIT OF DISTURBANCE SHALL INCLUDE ONLY THREE (3) PIPE LENGTHS OR THAT WHICH WILL BE BACK-FILLED AND STABILIZED IN ONE WORK DAY. | 21 |
| 4. STABILIZE ALL AREAS IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS. | 7 |
| 5. UPON APPROVAL OF THE EROSION AND SEDIMENT CONTROL INSPECTOR, REMOVE ALL EROSION AND SEDIMENT CONTROL MEASURES AND STABILIZE. | 7 |

DEVELOPER'S CERTIFICATION:

I, THE DEVELOPER, CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION SHALL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF DEVELOPER _____ DATE _____

ENGINEER'S CERTIFICATION:

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF ENGINEER _____ DATE _____

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS

U.S. NATURAL RESOURCE CONSERVATION SERVICE DATE _____

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

HOWARD S.C.D. DATE _____

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND

Robert Deiner 12-3-99
CHIEF - BUREAU OF UTILITIES - DATE

Howard County
CHIEF - DEVELOPMENT ENGINEERING DIVISION 4 DATE

DMW
Daft · McCune · Walker, Inc.

A Team of Land Planners, 200 East Pennsylvania Avenue, Towson, Maryland 21286
Engineers, Surveyors & Environmental Professionals 410 296 3333 Fax 296 4705

DESIGN BY: BIS
DRAWN BY: ADL
CHECKED BY:
DATE: 10-20-99

BY NO. REVISION DATE

SANDBAG / STONE DIVERSION NOT TO SCALE

EROSION AND SEDIMENT CONTROL DETAILS

600 SCALE MAP NO. 41 BLOCK NO. 17

Montpelier
Research Park
HOWARD COUNTY MARYLAND

OWNER/DEVELOPER: HOPKINS ROAD LIMITED PARTNERSHIP
9030 RED BRANCH ROAD, SUITE 200 COLUMBIA, MD 21045
CONTRACT NO. 30-3789-D

SCALE AS SHOWN

SHEET 4 OF 4

Wed Oct 20 15:22:11 1999

LEGEND

- FOREST CONSERVATION EASEMENT
- STREAM
- SSF --- SUPER SILT FENCE
- EXISTING CONTOURS
- EXISTING TREES/TREE LINE
- WETLAND/STREAM BUFFER
- WETLAND
- 400 --- PROPOSED CONTOURS
- FLOODPLAIN
- LIMIT OF DISTURBANCE
- 25' --- EXISTING 25' WIDE UTILITY EASEMENT
- SF --- SF SILT FENCE

PROVIDE 10' OF 8" SEWER @ 0.6% WB% PLUG INV. ELEV. 363.84

PROVIDE 10' OF 8" SEWER @ 4.37% WB% PLUG INV. ELEV. 364.22

NOTE: SEDIMENT BASIN SHOWN ON SDF-99-92 WILL BE IN PLACE PRIOR TO SEWER MAIN CONSTRUCTION.

PROP. GRADING SDF-99-92 WILL BE IN PROGRESS DURING SEWER CONSTRUCTION.

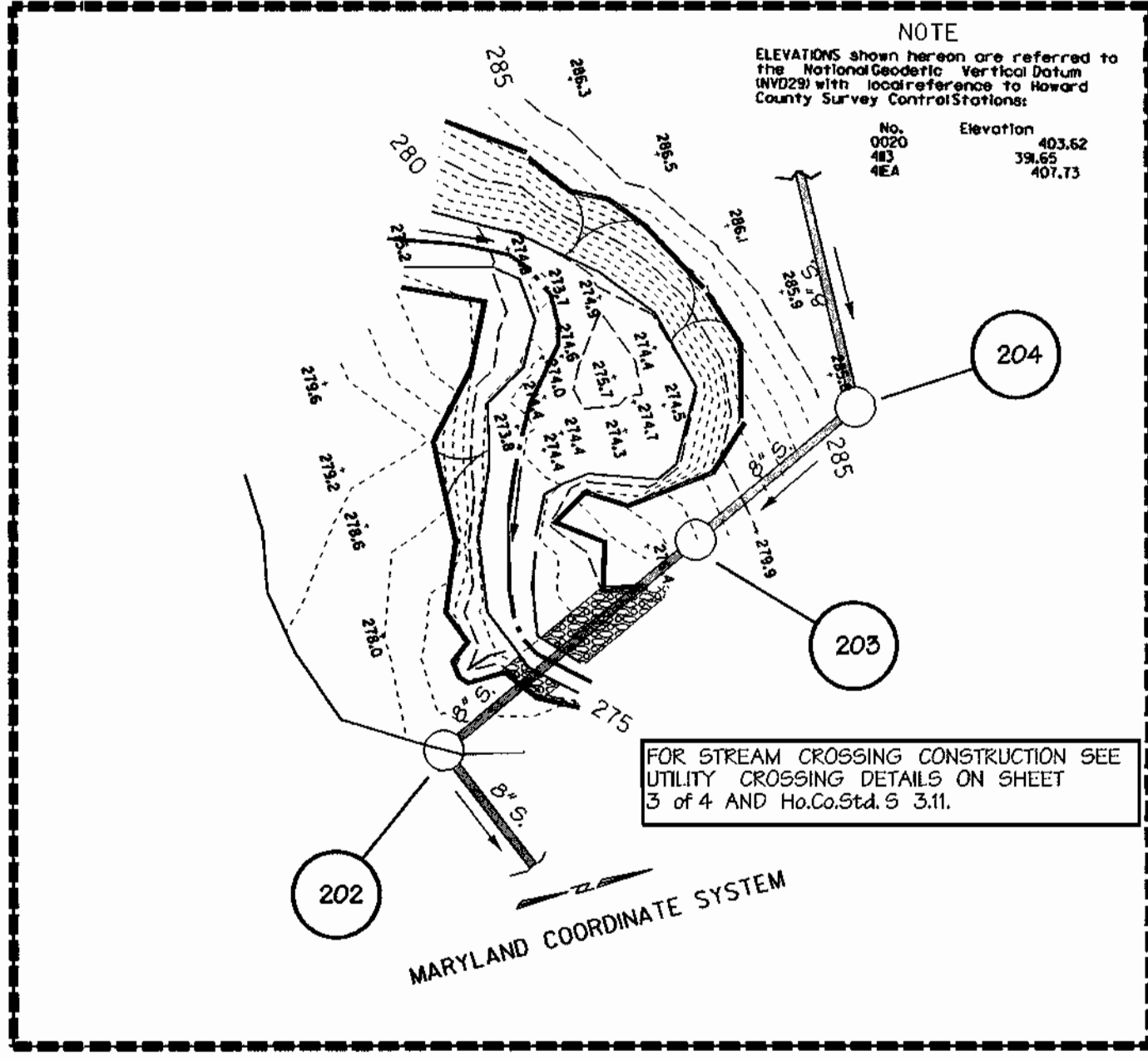
ANY EXCAVATED TRENCH MATERIAL WILL BE PLACED ON THE UPPER SIDE OF SEWER LINE TRENCH DURING CONSTRUCTION.

ANY SUPER SILT FENCE REMOVED DURING SEWER CONSTRUCTION WILL BE REPLACED AT THE END OF EACH DAY.

MARYLAND DEPARTMENT OF THE ENVIRONMENT
U.S. ARMY CORP. OF ENGINEERS
PERMIT FOR STREAM CROSSING
TRACKING No. 1997 65674

Conditions and Management Practices for Working in Nontidal Wetlands and Buffers

- A. REMOVE EXCAVATED MATERIAL, CONSTRUCTION MATERIAL OR DEBRIS TO AN UPLAND DISPOSAL AREA OUTSIDE OF ANY WATERWAY, FLOODPLAIN, NONTIDAL WETLAND, OR BUFFER.
- B. STORE HEAVY EQUIPMENT IN UPLAND AREAS AND SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO THE REMAINING NONTIDAL WETLANDS.
- C. PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF THE NONTIDAL WETLAND.
- D. MAINTAIN THE HYDROLOGIC REGIME OF NONTIDAL WETLANDS OUTSIDE THE LIMITS OF DISTURBANCE.
- E. RECTIFY ANY NONTIDAL WETLANDS AND BUFFERS TEMPORARILY IMPACTED BY THE PERMITTED ACTIVITY. ALL STABILIZATION IN THE WETLAND AND BUFFER SHALL BE OF THE FOLLOWING RECOMMENDED SPECIES: ANNUAL RYEGRASS (*Lolium multiflorum*), MILLET (*Setaria fabiana*), OATS (*Avena sp.*) AND/OR RYE (*Secale cereale*). 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 THE WETLAND OR BUFFER. ALL TEMPORARY FILLS SHALL BE REMOVED IN THEIR ENTIRETY ON OR BEFORE THE COMPLETION OF CONSTRUCTION.
- F. TO PROTECT IMPORTANT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM AS FOLLOWS:
USE 1. WATERS. IN-STREAM WORK MAY NOT BE CONDUCTED DURING THE PERIOD MARCH 1 - JUNE 15 INCLUSIVE, DURING ANY YEAR.
- G. NO REMOVAL OF VEGETATION, GRADING, FILLING, DRAINING, OR OTHER ALTERATION OF THE NONTIDAL WETLANDS OR BUFFER OUTSIDE THE LIMITS OF DISTURBANCE SHALL OCCUR WITHOUT WRITTEN AUTHORIZATION FROM THE WATER MANAGEMENT ADMINISTRATION.
- H. FOR UTILITY LINE INSTALLATION STOCKPILE AND MAINTAIN SEPARATELY THE TOP 6"-12" OF TOPSOIL MATERIAL TO BE REPLACED AS THE TOP LAYER OF THE BACKFILLED MATERIAL, UNLESS IT CONTAINS WASTE, METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL OR ANY OTHER DELETERIOUS SUBSTANCE. USE CLEAN BORROW MATERIAL WHEN EXCAVATED MATERIAL IS NOT SUITABLE FOR USE AS BACKFILL.
- I. UPON COMPLETION OF THE SEWERLINE INSTALLATION NONTIDAL WETLANDS AND THE 25-FOOT NONTIDAL WETLAND BUFFER WILL NOT BE MOWED OR OTHERWISE MANAGED TO PREVENT THE RE-ESTABLISHMENT OF THE PRE-EXISTING TYPE OF VEGETATIVE COVER.
- J. AFTER UTILITY LINE INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION GRADES AND ELEVATIONS OF NONTIDAL WETLANDS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS.



ENLARGEMENT AREA
SCALE: 1" = 20'

DEVELOPER'S CERTIFICATION:
I, THE DEVELOPER, 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, ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF DEVELOPER: _____ DATE: _____
PRINT NAME BELOW SIGNATURE

ENGINEER'S CERTIFICATION:
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF ENGINEER: _____ DATE: _____
PRINT NAME BELOW SIGNATURE

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS

U.S. NATURAL RESOURCE CONSERVATION SERVICE DATE: _____

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

HOWARD S.C.D. DATE: _____

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert Berman 12-3-99
CHIEF - BUREAU OF UTILITIES - DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

Robert Berman 12/8/99
CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE

DMW
Daft · McCune · Walker, Inc.

A Team of Land Planners, 200 East Pennsylvania Avenue
Landscape Architects, Towson, Maryland 21286
Engineers, Surveyors & Environmental Professionals 410 296 3333
Fax 296 4705



| | | | | | |
|-------------|----------|----|-----|----------|------|
| DESIGN BY: | BIS | | | | |
| DRAWN BY: | ADL | | | | |
| CHECKED BY: | | | | | |
| DATE: | 11-15-99 | BY | NO. | REVISION | DATE |

8" SANITARY SEWER EXTENSION

600 SCALE MAP NO. 41 BLOCK NO. 17

Montpelier
Research Park
HOWARD COUNTY, MARYLAND

OWNER/DEVELOPER: HOPKINS ROAD LIMITED PARTNERSHIP
9030 RED BRANCH ROAD, SUITE 200 COLUMBIA, MD 21045
CONTRACT NO. 30-3789-D

SCALE: _____
SHEET: 2 OF 4

Mon Nov 15 18:01:31 1999 6194777c94777c22

DEVELOPER'S CERTIFICATION:
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/WE ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

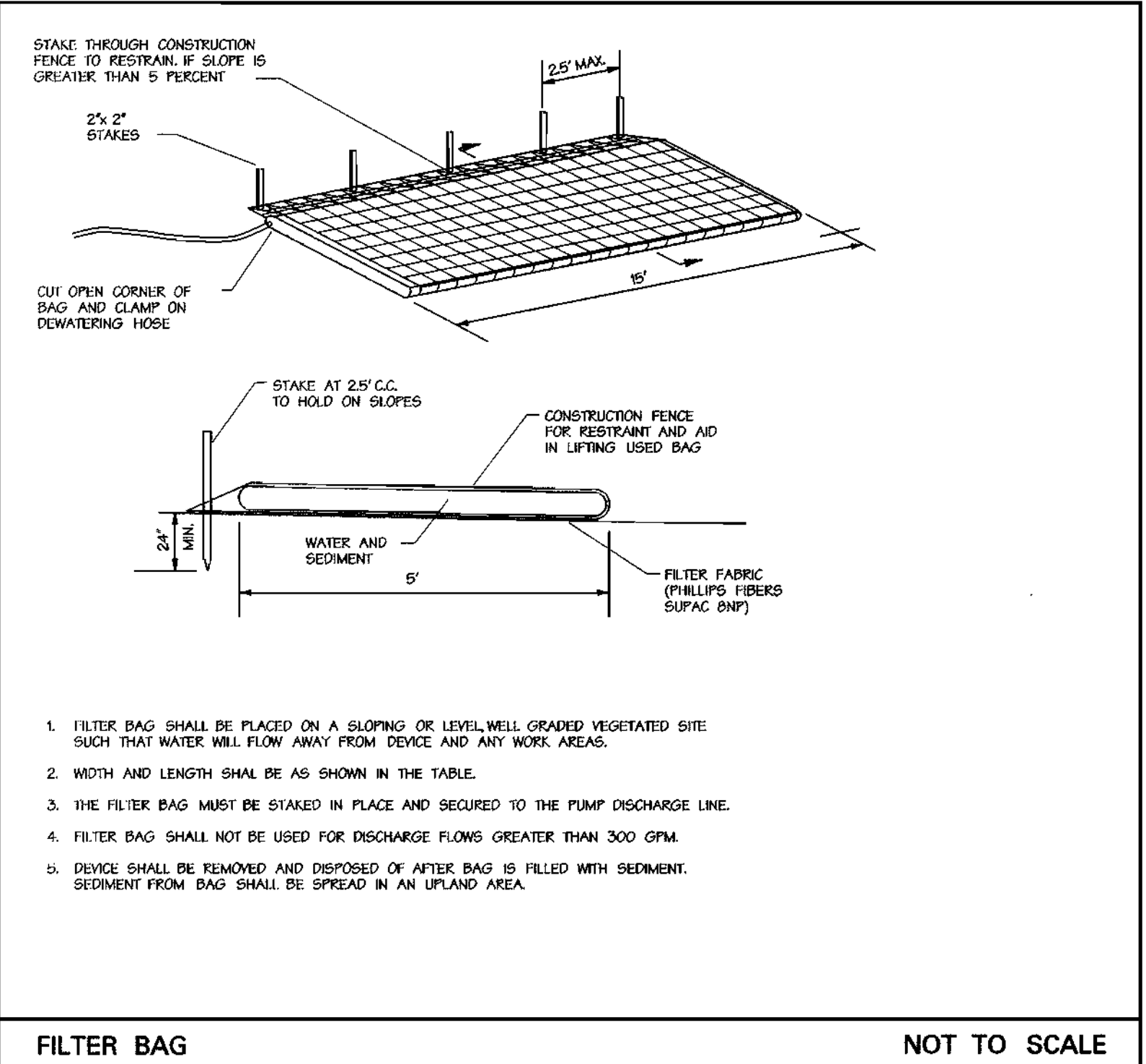
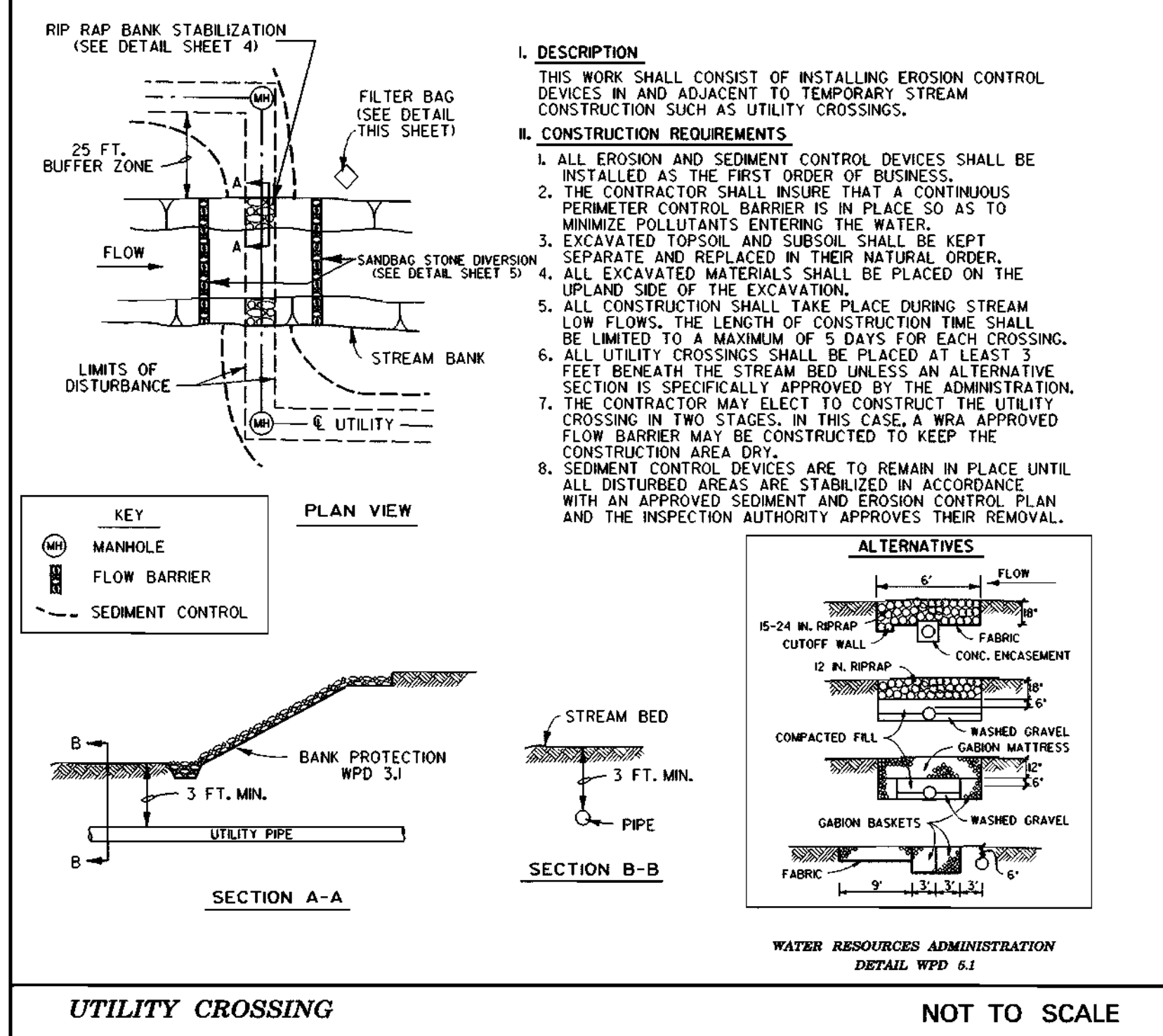
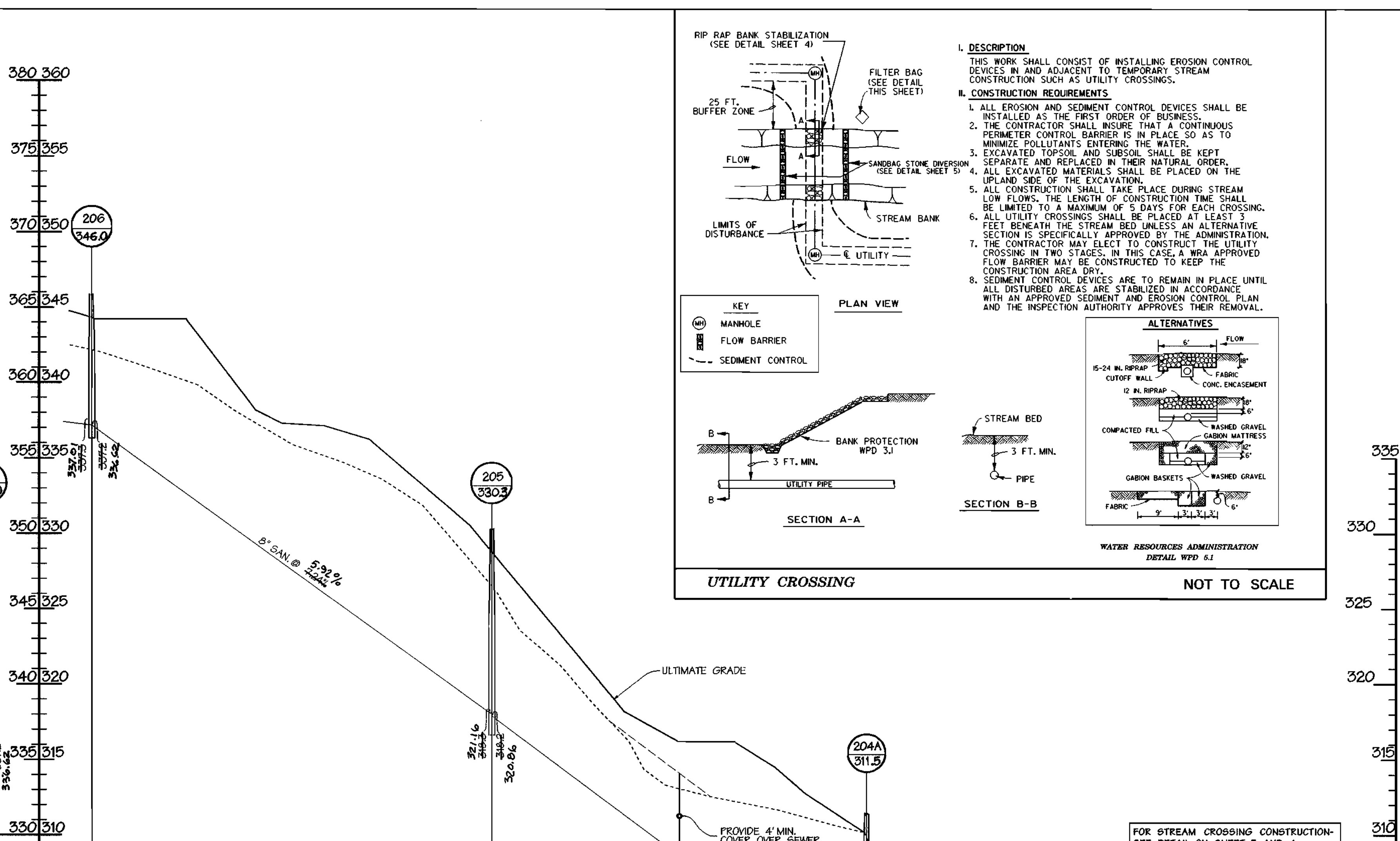
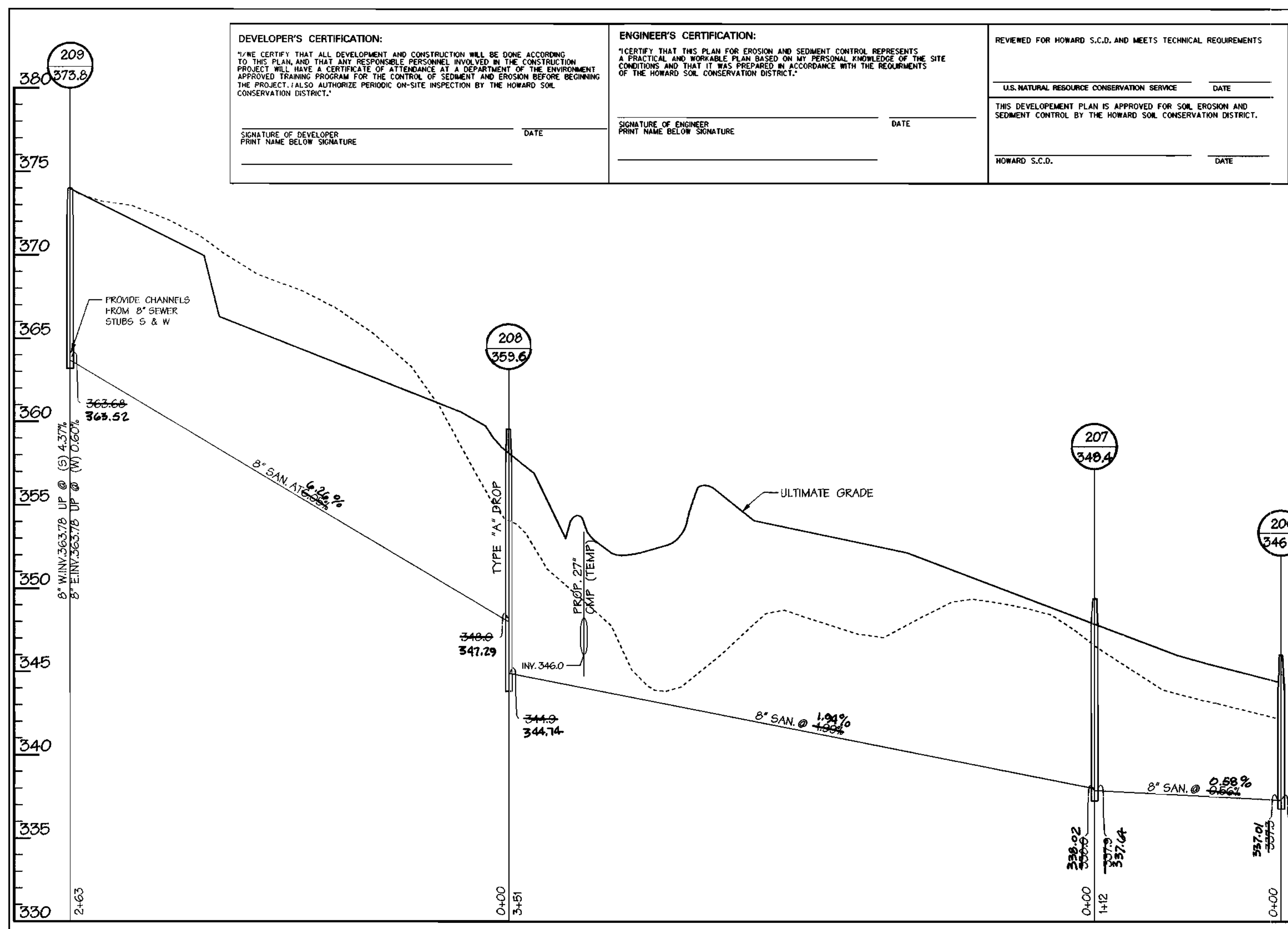
SIGNATURE OF DEVELOPER: _____ DATE: _____
 PRINT NAME BELOW SIGNATURE

ENGINEER'S CERTIFICATION:
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF ENGINEER: _____ DATE: _____
 PRINT NAME BELOW SIGNATURE

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS

U.S. NATURAL RESOURCE CONSERVATION SERVICE DATE: _____
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 HOWARD S.C.D. DATE: _____



NOTE: MANHOLES 201 THRU 208 TO BE SET AND BACKFILL PER STD. DETAIL 5.41

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Ruth Benion 12-3-99
 CHIEF - BUREAU OF UTILITIES - DATE

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND

John P. ... 12/10/99
 CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE

DMW
 Daft - McCune - Walker, Inc.

A Team of Land Planners, 200 East Pennsylvania Avenue, Towson, Maryland, 21286
 Landscape Architects, 410 296 3333
 Engineers, Surveyors & Environmental Professionals Fax 296 4705

STATE OF MARYLAND
 PROFESSIONAL ENGINEER

| | |
|-------------|----------|
| DESIGN BY: | BIS |
| DRAWN BY: | ADL |
| CHECKED BY: | |
| DATE: | 11-16-99 |
| BY NO. | |
| REVISION | |
| DATE | |

SEWER PROFILE AND DETAILS

600 SCALE MAP NO. 41 BLOCK NO. 17

Montpelier
 Research Park
 HOWARD COUNTY MARYLAND

OWNER/DEVELOPER: HOPKINS ROAD LIMITED PARTNERSHIP
 9030 RED BRANCH ROAD, SUITE 200 COLUMBIA, MD 21045
 CONTRACT NO. 30-3789-D

SCALE
 HORZ. 1" = 50'
 VERT. 1" = 5'

SHEET
 3 OF 4

