

# ADDITIONAL SEEDING NOTES

## HOWARD SOIL CONSERVATION DISTRICT / HCPSS TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE RE-DISTURBED 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 LOOSENEED.

**SOIL AMENDMENTS:** - APPLY 600 LBS/ACRE 10-10-10 FERTILIZER (4 LBS/1000 SQ. FT.).

**SEEDING:** - FOR PERIODS MARCH 1 - APRIL 30 AND FROM AUGUST 15 - OCTOBER 15, TEMPORARY SEED MIXTURE SHALL CONSIST OF ONE OF THE FOLLOWING OPTIONS:  
 OPTION 1 - ITALIAN PERENNIAL RYE GRASS OR MILLET.  
 OPTION 2 - MARYLAND STATE HIGHWAY TEMPORARY MIXTURE 1332 95% BARLEY OR WINTER RYE AND 5% MILLET.  
 OPTION 3 - FOR AREAS THAT MAY SIT IDLE FOR MANY MONTHS: TALL FESCUE AND 50% ANNUAL RYEGRASS.

FOR THE PERIOD NOVEMBER 16 - FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS/ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

**MULCHING:** - APPLY 1-12 TO 2 TONS/ACRE (70 TO 90 LBS/1000 SQ. FT.) OF UNROTTED WEED-FREE, SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL. NO ASPHALT EMULSION SHALL BE USED FOR ANCHORING. ONLY A NON-TOXIC LATEX BACKING MATERIAL IS ALLOWED.

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

## HOWARD SOIL CONSERVATION DISTRICT / HCPSS PERMANANT SEEDING NOTES

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

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

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

**1. PREFERRED** - APPLY 2 TONS/ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 600 LBS/ACRE 10-10-10 FERTILIZER (4 LBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS/ACRE 30-0-0 UREAFORM FERTILIZER (8 LBS/1000 SQ. FT.).

**2. ACCEPTABLE** - APPLY 2 TONS/ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 1000 LBS/ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

**NOTE:** LIME SHALL BE AGRICULTURAL GRADE LIME MATERIAL (GROUND LIMESTONE, HYDRATED OR BURNT LIME) WHICH CONTAINS TOTAL CARBONATES OF 85% WITH A MINIMUM OF 30% MAGNESIUM CARBONATE AND WHICH CONTAINS AT LEAST 50% TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE SHALL BE GROUND SO THAT NO LESS THAN 50% PASSES A 100-MESH SIEVE AND 90-100% PASSES A 20-MESH SIEVE.

FERTILIZER SHALL CONTAIN SOME ELEMENTS DERIVED FROM ORGANIC SOURCES AND PROVIDE NITROGEN IN A FORM THAT WILL BE AVAILABLE TO THE LAWN DURING ITS INITIAL PERIOD OF GROWTH. FERTILIZER SHALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO APPLICABLE STATE FERTILIZER LAWS AND SHALL BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER. FERTILIZER SHALL AT A MINIMUM CONTAIN THE FOLLOWING PERCENTAGES OF AVAILABLE PLANT NUTRIENTS: 18% N, 24% P, 12% K, 50% SCU APPLIED AT A RATE OF 1 LB. PER 1,000 SQUARE FEET LAWN AREA.

**SEEDING** - SEED SHALL BE SOWN FROM AUGUST 15 TO OCTOBER 15 OR MARCH 1 TO APRIL 30TH OR AS SOON AS THE SOIL IS DRY ENOUGH TO ALLOW PROPER PENETRATION OF A SEEDBED. EXTENSIONS BEYOND THESE TIME PERIODS MAY BE GRANTED BY THE CONTRACT MANAGER, DEPENDING UPON WEATHER CONDITIONS FOR THE PERIOD IN QUESTION. ANY PLANTING OUTSIDE THESE SEASONS SHALL BE SOLELY AT THE CONTRACTOR'S RISK AND SHALL NOT BE SUBJECT TO COMPENSATION UNTIL STABILIZATION HAS BEEN ACCOMPLISHED.

DURING THE PERIOD OF OCTOBER 16 - FEBRUARY 28, PROTECT SITE BY:

**OPTION 1** - TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. NO SEEDING SHALL BE DONE ON FROZEN GROUND OR WHEN THE TEMPERATURE IS 32 DEGREES F OR LOWER. NO SEEDING SHALL BE DONE DURING WINDY WEATHER OR WHEN GROUND IS WET OR OTHERWISE UNTILLABLE. SEED WITH 60 LBS /ACRE (1.4 LBS/1000 SQ. FT.) TALL FESCUE SEED MIXTURES; TURF TYPE TALL FESCUE 80-100 98 90, KENTUCKY BLUEGRASS 0-10 98 85, PERENNIAL RYE GRASS 0-10 98 90, IMPROVED VARIETIES OF EACH SPECIES ARE REQUIRED. ACCEPTABLE VARIETIES OF TALL FESCUE MIX IS TO CONTAIN ANY TWO (2) CERTIFIED VARIETIES FROM THE LATEST ISSUE OF THE UNIVERSITY OF MARYLAND MEMO NO. 77.

SEED LOTS MUST BE BLENDED AND CERTIFIED AS PER THE GENERAL CERTIFICATION SPECIFICATIONS OF THE MARYLAND DEPARTMENT OF AGRICULTURE AND SEED FILING. MUST COMPLY WITH THE MARYLAND SEED AND REGULATIONS LAW.

DURING SEEDING, ALL AREAS SHALL BE KEPT NEAT AND CLEAN, AND PRECAUTIONS SHALL BE TAKEN TO AVOID DAMAGE TO EXISTING PLANTS, TURF, AND STRUCTURES. UPON COMPLETION, ALL DEBRIS AND WASTE MATERIAL RESULTING FROM SEEDING OPERATIONS SHALL BE REMOVED FROM THE PROJECT AND THE AREA CLEANED UP. ANY AREAS DAMAGED BY THE SEEDING CONTRACTOR SHALL BE RESTORED TO THE ORIGINAL CONDITION.

**OPTION 2** - USE SOD.

**MULCHING** - MULCH SHALL BE THRASHED BARLEY, WHEAT OR OAT STRAW. IT SHALL BE CLEAN AND FREE OF NOXIOUS WEEDS, WEED SEEDS, AND OTHER FOREIGN MATERIALS. MULCH ALL SEEDED AREAS AS FOLLOWS:  
 1. MULCH SHALL BE APPLIED AT A RATE OF 2,000 POUNDS PER ACRE IN A UNIFORM MANNER. THE MATERIAL SHALL BE ANCHORED IMMEDIATELY AFTER APPLICATION.  
 2. TERRA TACK BINDERS AS MANUFACTURED BY GRASS GROWERS OF PLAINFIELD, NEW JERSEY, OR AN APPROVED EQUAL, SHALL BE ADDED TO MULCH MIXTURE AT THE RATE OF 140 POUNDS PER ACRE. CRIMPING OF MULCH IS NOT ALLOWED.  
 3. IF MULCH IS DISPLACED BEFORE SEED GROWTH OF 1 INCH TO 1.5964 INCHES IS OBTAINED, IT SHALL BE REPLACED BY THE CONTRACTOR AT NO EXPENSE TO THE CONTRACT MANAGER.

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

## 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**

I. 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.

II. 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**

I. 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 EXPERIMENTAL STATION.

II. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:

- APPROVED OFF-SITE IMPORTED TOPSOIL SHALL BE USED FOR ALL FURNISHED TOPSOIL ON THIS PROJECT, AND SHALL CONSIST OF A NATURAL FRIABLE LOAM OF UNIFORM COMPOSITION, OBTAINED FROM AN AREA WHICH HAS NEVER BEEN STRIPPED, POSSESSING CHARACTERISTICS OF THE BEST SOILS OF THE VICINITY WHICH PRODUCE HEAVY GROWTHS OF CROPS, GRASS, AND OTHER VEGETATION. IMPORTED TOPSOIL SHALL NOT ORIGINATE FROM A LANDFILL OR SITE OF KNOWN CONTAMINATION SUCH AS LEAKING UNDERGROUND STORAGE TANKS, IMPROPERLY DISPOSED WASTE, CHEMICAL SPILLS, OR OTHER HAZARDOUS MATERIALS.
- ALL IMPORTED TOPSOIL SHALL BE SCREENED AND OF UNIFORM COMPOSITION WITH NO SUBSOIL CLAY LUMPS, STONES, STUMPS, ROOTS OR SIMILAR OBJECTS LARGER THAN 1/2" IN ANY DIRECTION. TOPSOIL SHALL BE FREE OF GLASS OR METAL FRAGMENTS OR ANY PARTS (SEED, RHIZOMES, ROOTS, ETC.) OF JOHNSON GRASS, CANADA THISTLE, BERMUDA GRASS, POISON IVY OR OTHER NOXIOUS WEEDS, AND LITTER OR ANY OTHER MATERIAL OR SUBSTANCES WHICH MAY BE HARMFUL TO PLANT GROWTH, OR A HINDRANCE TO PLANTING OR MAINTENANCE OPERATIONS.
- IMPORTED TOPSOIL SHALL CONTAIN 50-60% SAND, 15-20% SILT AND 10-15% CLAY; HAVE A PH VALUE NOT LESS THAN 5.8, AND CONTAIN NOT LESS THAN 1.5% ORGANIC MATTER BY WEIGHT, IN ACCORDANCE WITH MSMT 603 SOLUBLE SALTS SHALL NOT EXCEED 500 PPM. IMPORTED TOPSOIL THAT DOES NOT MEET THIS CRITERION WILL NOT BE ACCEPTABLE. CONTRACT MANAGER'S EVALUATION OF SUITABILITY OF IMPORTED TOPSOIL SHALL BE FINAL.

III. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:

- PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 2.0 VEGETATIVE STABILIZATION - SECTION - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

IV. 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 CONTENT 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 AS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC 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 2.0 VEGETATIVE STABILIZATION - SECTION VEGETATIVE STABILIZATION METHODS AND MATERIALS.

V. 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.
- INSTALL STABILIZATION MATTING TO HOLD TOPSOIL IN PLACE ON SLOPES OF 3:1 OR STEEPER UNTIL SEEDING HAS BEEN ESTABLISHED.
- TOPSOIL SHALL BE SPREAD OVER ALL AREAS TO BE PLANTED OR SEEDED SUCH THAT COMPACTION SHALL BRING SETTLED COMPACTED THICKNESS WORK ALL AREAS OF THE COMPACTED TOPSOIL, INCLUDING EXISTING ON-SITE TOPSOIL, UNTIL TOPSOIL IS FREE OF ANY OBJECTS LARGER THAN 1/8" IN ANY DIRECTION AND IS FREE OF ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR FROM OTHER OPERATIONS, TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
- TOPSOIL SHALL NOT BE PLACED WHEN EITHER THE SUB-GRADE OR THE TOPSOIL IS WET OR FROZEN ENOUGH TO CAUSE CLODDING. SCARIFY SUB-GRADE BENEATH AREAS DESIGNATED TO RECEIVE TOPSOIL TO A DEPTH OF TWO (2) INCHES PRIOR TO PLACEMENT OF TOPSOIL. IMPORT TOPSOIL FROM APPROVED OFF-SITE SOURCE IF REQUIRED TO ATTAIN THICKNESS INDICATED DEPTH TO 6-8 9/32 INCHES. MAKE SMALL TEST SECTIONS TO DETERMINE DEPTH OF LOOSE SPREAD TO OBTAIN.

DES: AH	AH		AS-BUILT	DATE
DRN: MR				
CHK: CB				
DATE: 10/22/10	BY	NO.	REVISION	DATE


**HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION  
ATHOLTON PARK SWM RETROFIT PROJECT  
CAPITAL PROJECT D-1160**

**ADDITIONAL SEEDING NOTES**

SCALE
NOT TO SCALE
SHEET
1 OF 1

**McCormick  
Engineers & Planners  
Since 1946 Taylor**

509 South Exeter Street  
4th Floor  
Baltimore, Maryland 21202  
(410) 662-7400



**Storm Water Management Division  
Bureau of Environmental Services  
6751 Columbia Gateway Drive, Suite 514  
Columbia, Maryland 21046-3143  
(410) 313-6444**

# HOWARD COUNTY

## Capital Project #D-1160

# Atholton Park SWM Retrofit Project

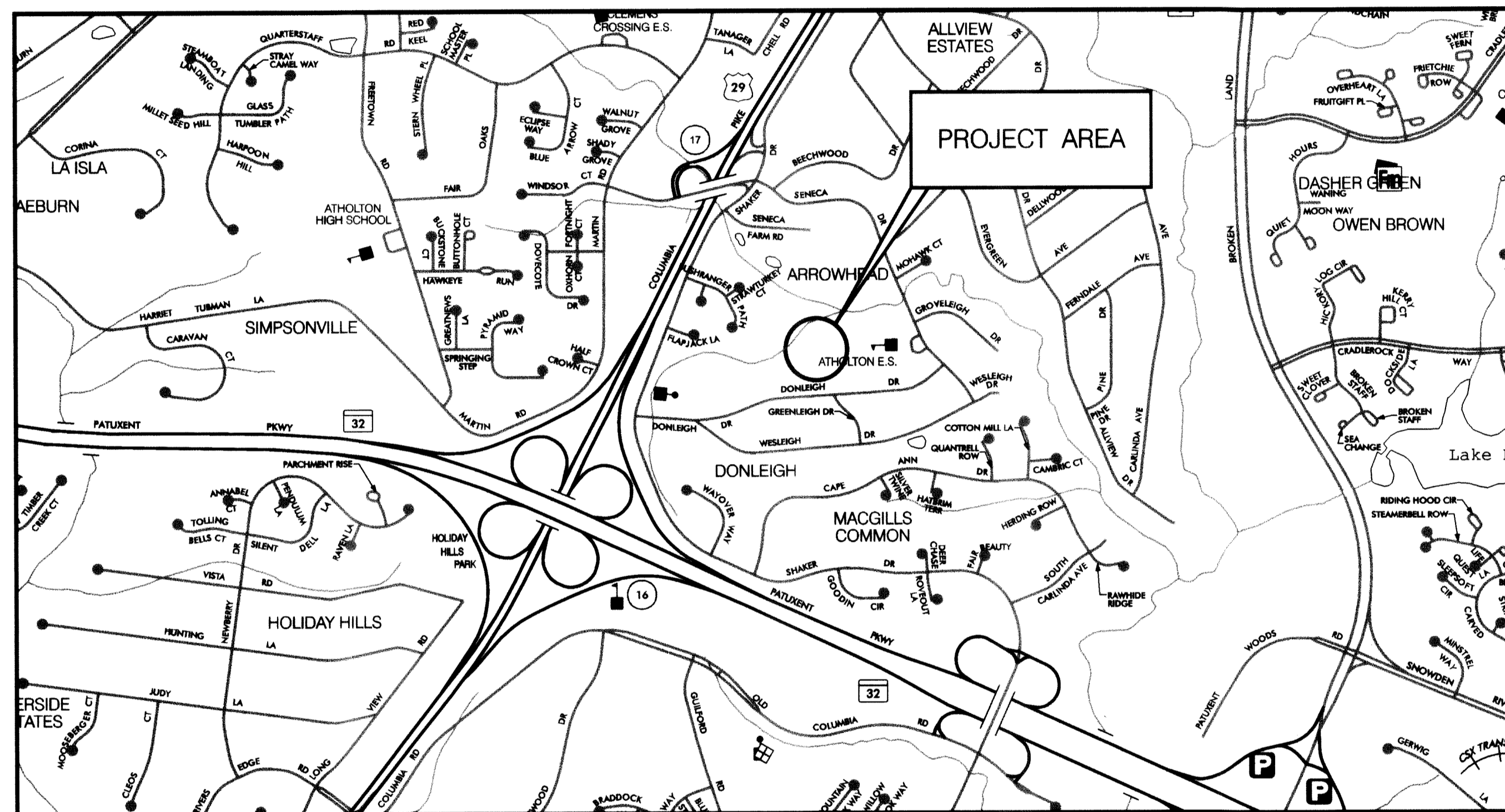
Storm Water Management Division  
Bureau Of Environmental Services

### INDEX OF SHEETS

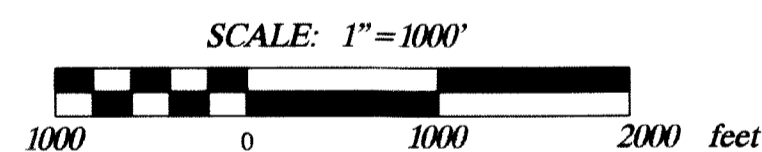
SHEET NO.	TITLE
1	TITLE SHEET
2	SITE PLAN
3	TYPICAL DETAILS
4	PROFILE
5	EROSION AND SEDIMENT CONTROL PLAN
6	EROSION AND SEDIMENT CONTROL NOTES
7	EROSION AND SEDIMENT CONTROL DETAIL SHEET
8	LANDSCAPING PLAN

### LEGEND

PROPOSED MEDIAN BARRIER	
ELECTRICAL HAND BOX - SIGNALS	
FLOW LINE	
STATE, COUNTY OR CITY LINES	
PROPOSED TRAFFIC BARRIER	
EXISTING TRAFFIC BARRIER	
PROPOSED FENCE LINE	
EXISTING FENCE LINE	
RIGHT OF WAY LINE	
EXISTING ROADWAY	
BASE OR SURVEY LINE	
TRAVERSE POINT	
APPROXIMATE LIMITS OF CUT AND/OR FILL	
PROPOSED MAJOR CONTOUR	
PROPOSED MINOR CONTOUR	
LIMIT OF DISTURBANCE	
EXISTING MAJOR CONTOURS	
EXISTING MINOR CONTOURS	
EXISTING PIPE/CULVERT	
EXISTING DROP INLET	
WETLAND	
HEDGE /TREE LINE	
BUSH /TREE	
CONIFEROUS TREE	
LIGHT POLE	



HORIZONTAL DATUM	NAD 83 /91
VERTICAL DATUM	NAVD 88



### GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST FIVE (5) WORKING DAYS PRIOR TO ANY WORK BEING DONE.
- THIS PLAN IS PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS /BUREAU OF ENGINEERING CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- SURVEY OF THIS SITE WAS PERFORMED BY AB CONSULTANTS, INC-DECEMBER 2009.
- THE COORDINATES SHOWN HEREON ARE BASED ON HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. BENCHMARKS SHOWN HEREON WERE PROVIDED BY AB CONSULTANTS INC.
- STORMWATER MANAGEMENT IS NOT REQUIRED FOR THIS PROJECT SINCE THE PROJECT WILL NOT ADD IMPERVIOUS AREA.
- OBSTRUCTIONS SHOWN ON THIS DRAWING ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY AND MCCORMICK TAYLOR DOES NOT WARRANT OR GUARANTEE THE CORRECTNESS OR COMPLETENESS OF THE INFORMATION GIVEN THE CONTRACTOR MUST VERIFY SUCH INFORMATION TO HIS OWN SATISFACTION.
- THE EXISTING INFORMATION SHOWN ON THESE PLANS WAS TAKEN FROM THE BEST AVAILABLE SOURCES AND SHALL BE VERIFIED BEFORE STARTING CONSTRUCTION. THE HOWARD COUNTY DOES NOT GUARANTEE THE COMPLETENESS OR THE CORRECTNESS OF THE SHOWN INFORMATION.
- THE CONTRACTORS SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY. ALL UTILITIES SHALL HAVE A CLEARANCE BY A MINIMUM OF 6 INCHES VERTICALLY AND A MINIMUM OF 5 FEET HORIZONTALLY.
- SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, THE CONTRACTOR SHALL NOTIFY MCCORMICK TAYLOR IMMEDIATELY TO RESOLVE THE SITUATION.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.

### PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE NO. 32013, EXPIRATION DATE: 7/5/2011

### DESIGN 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. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

### OWNER'S/DEVELOPER'S CERTIFICATION

I/AWE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND 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.

### REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

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

*John R. Robertson*  
HOWARD SCD  
8/9/10  
DATE

8-10-2010  
DATE  
*Amy L. Hribar*  
DESIGNER'S SIGNATURE  
8/9/10  
DATE  
MARYLAND REGISTRATION NUMBER 32013  
AMY L. HRIBAR  
PRINTED NAME

8/9/10  
DATE  
*Mark S. Richmond*  
OWNER/DEVELOPER SIGNATURE  
Mark S. Richmond Acting Div. Chief  
PRINTED NAME AND TITLE

### DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

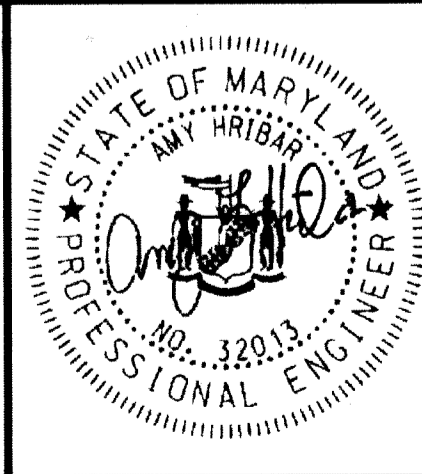
*Jan J. ...* 8/9/10  
DIRECTOR OF PUBLIC WORKS DATE  
*Mark S. Richmond* 8/9/10  
CHIEF, STORMWATER MANAGEMENT DIVISION DATE  
*Evelyn E. ...* 8/11/10  
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE  
*Mark S. Richmond* 8/9/10  
DIRECTOR, RECREATION AND PARKS DATE

**McCormick Taylor**  
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**Howard County**  
MARYLAND

Storm Water Management Division  
Bureau of Environmental Services  
6751 Columbia Gateway Drive, Suite 514  
Columbia, Maryland 21046-3143  
(410) 313-6444



DES: AH	AH	AS-BUILT	1/21/11
DRN: MR			
CHK: CB			
DATE: 8/4/10			
BY	NO.	REVISION	DATE

HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION  
ATHOLTON PARK SWM RETROFIT PROJECT  
CAPITAL PROJECT D-1160

TITLE SHEET

SCALE  
AS SHOWN

SHEET

1 OF 8

7 INCH CURB AND GUTTER*	
QUANTITY (LF)	REMARKS
14	CURB TO TIE INTO CG-1
*CONCRETE AREA 30 SQ. FT. AND 6 IN. THICK.	

WOOD MULCH*	
QUANTITY (CY)	REMARKS
8	2" DEPTH
*FOR FACILITY SURFACE	

SOD	
QUANTITY (SY)	REMARKS
437	SEE SHEET 8 OF 8

SIDEWALK REMOVAL	
QUANTITY (SY)	REMARKS
55	SAWCUT AT TRAIL

CLASS PE TYPE I GEOTEXTILE	
QUANTITY (SY)	REMARKS
83	SIDE STABILIZATION

PERFORATED UNDERDRAIN		
SIZE (IN.)	TYPE	QUANTITY (LF)
6	PVC	126

OBSERVATION WELL		
STATION	OFFSET	QUANTITY (EA)
1+47	42' RT	1

UNDERDRAIN CLEANOUTS			
SIZE (IN.)	TYPE	STATION	OFFSET
6	PVC	1+57	44' RT
6	PVC	1+74	33' RT
6	PVC	1+90	22' RT

CONSTRUCTION BASELINE CONTROL			
POINT	STATION	NORTHING	EASTING
POT	1+00	553363.7968	1350414.0220
POT	2+52	553368.1214	1350264.1732

ORANGE CONSTRUCTION FENCE (OCF)		
FROM	TO	QUANTITY (LF)
1+07	2+38	480

BIORETENTION QUANTITY		
ITEM	QUANTITY (CY)	REMARKS
FILTER MEDIA	110	30" DEPTH
PEA GRAVEL	15	4" DEPTH
NO. 57 STONE	71	19.4" DEPTH

GABION BASKET WEIR*					
ITEM	STATION	LENGTH (FT)	WIDTH (FT)	DEPTH (FT)	QTY (CY)
GW-1	1+52, 20' RT	25	3	1.5 CENTER / 7/3 ENDS	8
*LINE WITH CLASS SE GEOTEXTILE					

PIPE SCHEDULE				
FROM	TO	SIZE (IN.)	TYPE	LENGTH (L.F.)
IN-1	ES-1	15	HDPE	39

CLASS 0 RIPRAP OUTFALL PROTECTION*					
STATION	OFFSET	WIDTH (FT)	LENGTH (FT)	DEPTH (IN)	QUANTITY (SY)
1+55	23' RT	20	6	12	14
*LINE WITH CLASS SE GEOTEXTILE					

CLASS 1 RIPRAP OUTFALL PROTECTION*					
STATION	OFFSET	WIDTH (FT)	LENGTH (FT)	DEPTH (IN)	QUANTITY (SY)
1+21	8' RT	6	18	19	19
1+76	89' RT	8	10	19	9
*LINE WITH CLASS SE GEOTEXTILE					

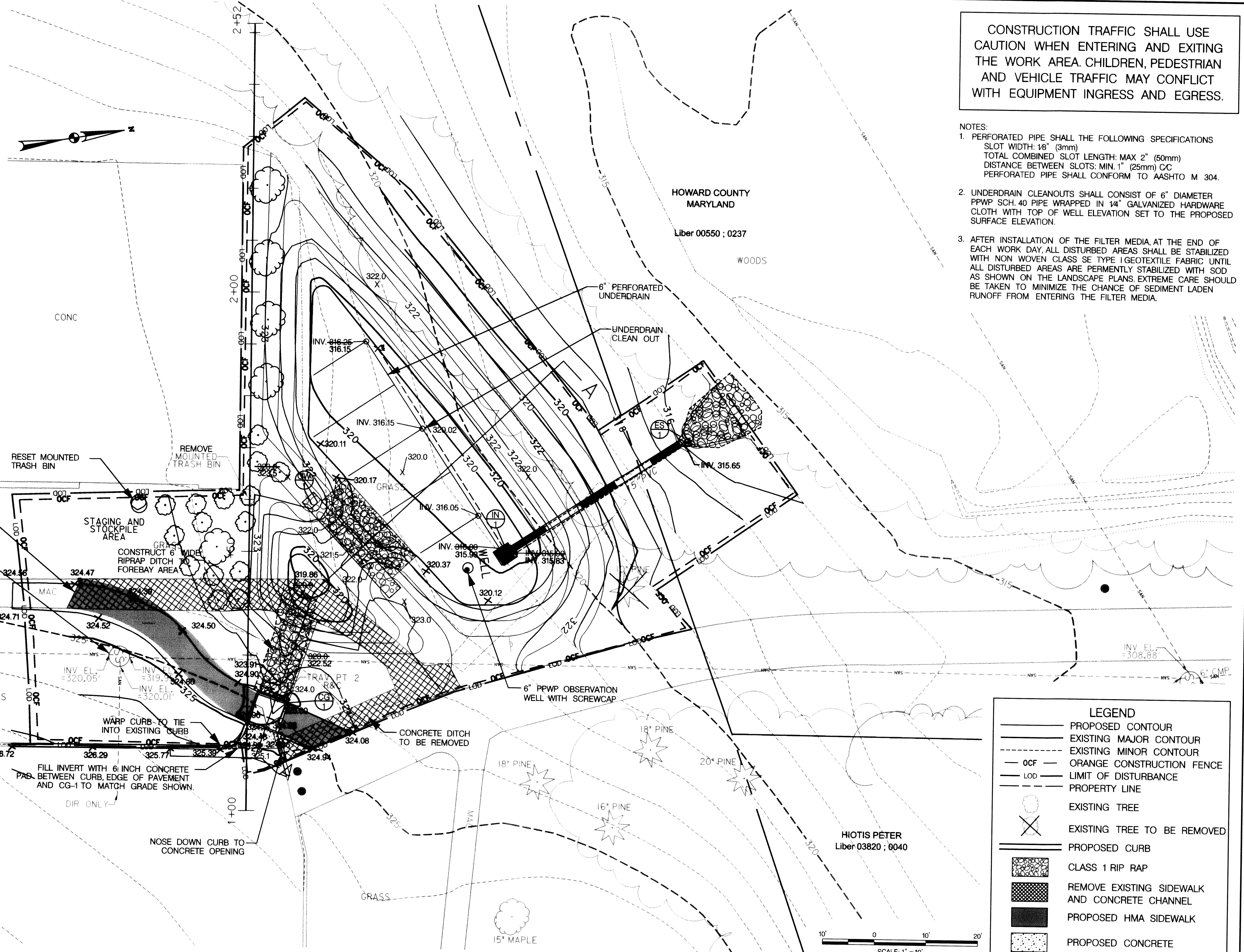
DRAINAGE STRUCTURE SCHEDULE					
NO.	STATION	OFFSET	TC /TG	INV. OUT	REMARKS
IN-1	1+50	50' RT	320.8' 321.0'	315.83'	YARD INLET D-4.14
ES-1	1+72	84' RT	315.86'	315.7'	15" METAL END SECTION SHA-MD 370.01
CG-1	1+19	4' RT	325.0'	324.0'	6" WIDE, COG OPENING SHA-MD 374.68

PAVEMENT QUANTITY FOR SIDEWALK*		
ITEM	QUANTITY	REMARKS
G.A.B.	35 SY	GRADED AGGREGATE BASE: 5.5" DEPTH
SURFACE	6.5 TON	HMA SUPERPAVE 12.5 MM, PG 84-22, LEVEL 1: 3" DEPTH
*BACKFILL SIDES OF TRAIL WITH 4" TOPSOIL, SEED AND MULCH. SEE DETAIL-R 2.02 (P8) ON SHEET 3 OF 8.		

CONCRETE DITCH REMOVAL	
QUANTITY (SY)	REMARKS
11	SAWCUT ALONG TRAIL

EXCAVATION	
QUANTITY (CY)	REMARKS
383	FOR BIORETENTION

REMOVE AND RESET TRASH BIN	
QUANTITY (EA)	REMARKS
1	SOUTH OF LANDSCAPING



CONSTRUCTION TRAFFIC SHALL USE CAUTION WHEN ENTERING AND EXITING THE WORK AREA. CHILDREN, PEDESTRIAN AND VEHICLE TRAFFIC MAY CONFLICT WITH EQUIPMENT INGRESS AND EGRESS.

- NOTES:
- PERFORATED PIPE SHALL THE FOLLOWING SPECIFICATIONS  
SLOT WIDTH: 1/8" (3mm)  
TOTAL COMBINED SLOT LENGTH: MAX 2" (50mm)  
DISTANCE BETWEEN SLOTS: MIN. 1" (25mm) CC  
PERFORATED PIPE SHALL CONFORM TO AASHTO M 304.
  - UNDERDRAIN CLEANOUTS SHALL CONSIST OF 6" DIAMETER PPWP SCH. 40 PIPE WRAPPED IN 1/4" GALVANIZED HARDWARE CLOTH WITH TOP OF WELL ELEVATION SET TO THE PROPOSED SURFACE ELEVATION.
  - AFTER INSTALLATION OF THE FILTER MEDIA, AT THE END OF EACH WORK DAY, ALL DISTURBED AREAS SHALL BE STABILIZED WITH NON-WOVEN CLASS SE TYPE I GEOTEXTILE FABRIC UNTIL ALL DISTURBED AREAS ARE PERMANENTLY STABILIZED. EXTREME CARE SHOULD BE TAKEN TO MINIMIZE THE CHANCE OF SEDIMENT LADEN RUNOFF FROM ENTERING THE FILTER MEDIA.

**LEGEND**

- PROPOSED CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- OCF - ORANGE CONSTRUCTION FENCE
- LOD - LIMIT OF DISTURBANCE
- PROPERTY LINE
- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- PROPOSED CURB
- CLASS 1 RIP RAP
- REMOVE EXISTING SIDEWALK AND CONCRETE CHANNEL
- PROPOSED HMA SIDEWALK
- PROPOSED CONCRETE

SCALE: 1" = 10'

**REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS**

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

*John K. Robertson* / *8/11/10*  
HOWARD SCD / DATE

**McCormick & Taylor**  
Engineers & Planners Since 1946

509 South Exeter Street  
4th Floor  
Baltimore, Maryland 21202  
(410) 662-7400

**Howard County**  
MARYLAND

Storm Water Management Division  
Bureau of Environmental Services  
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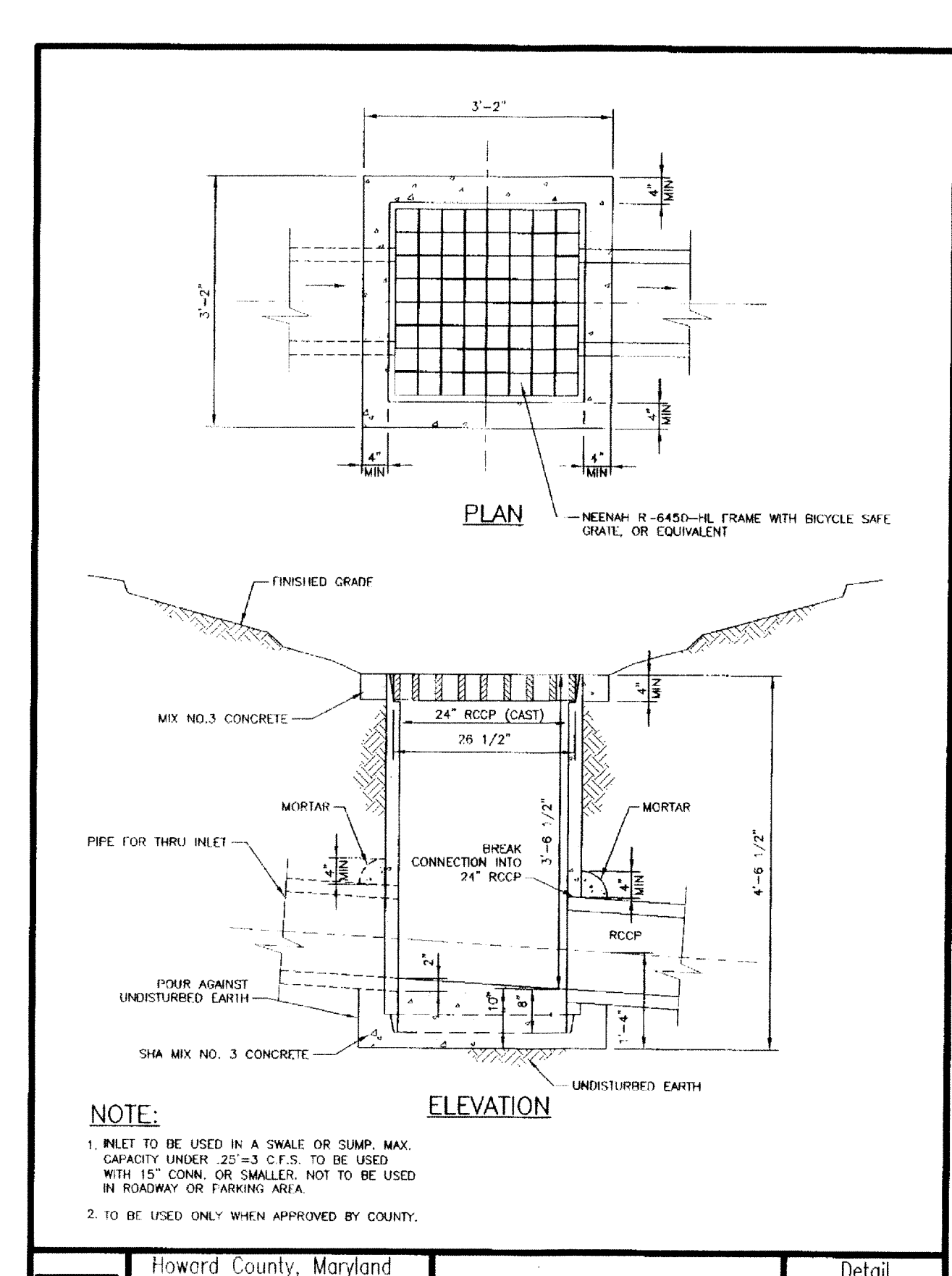
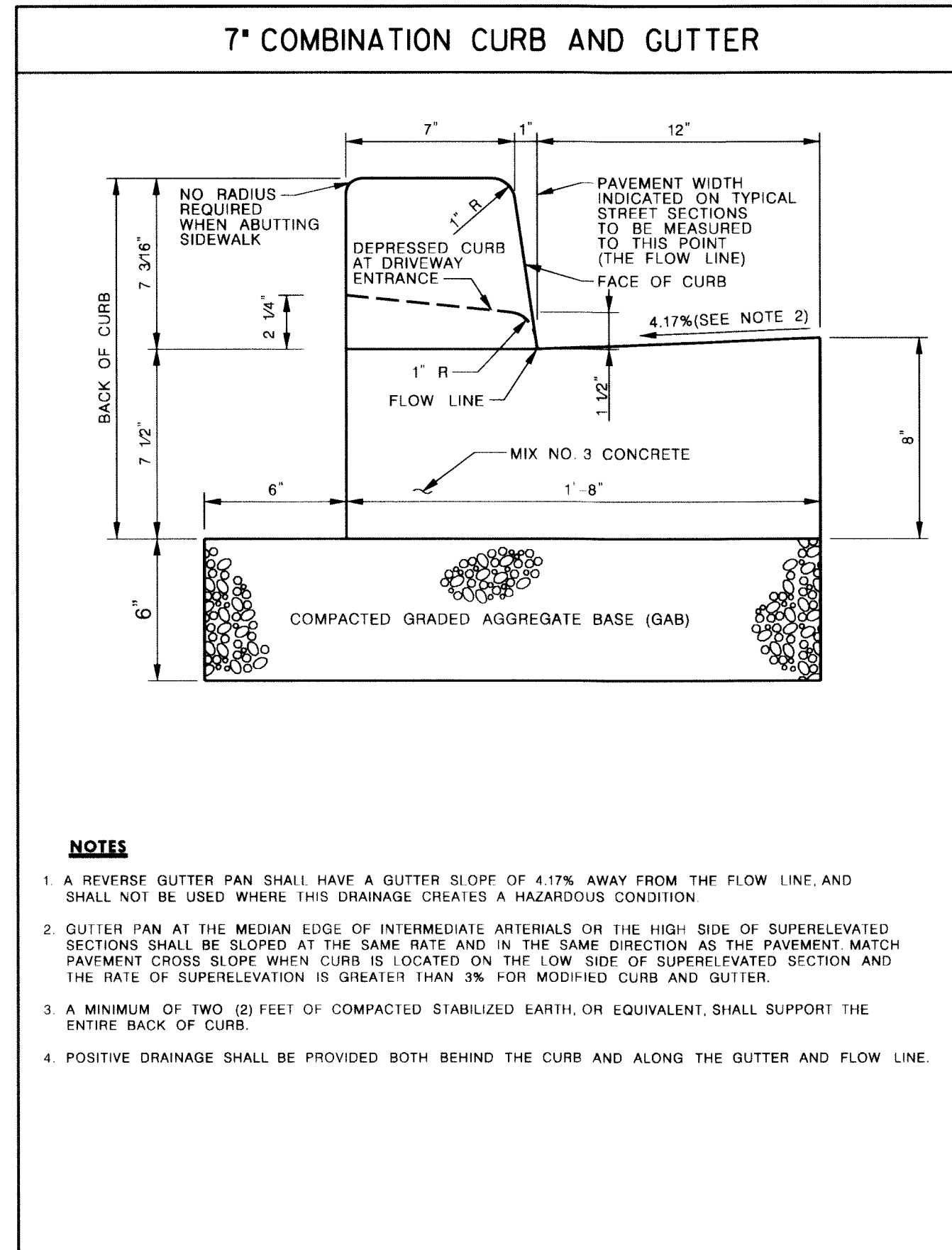
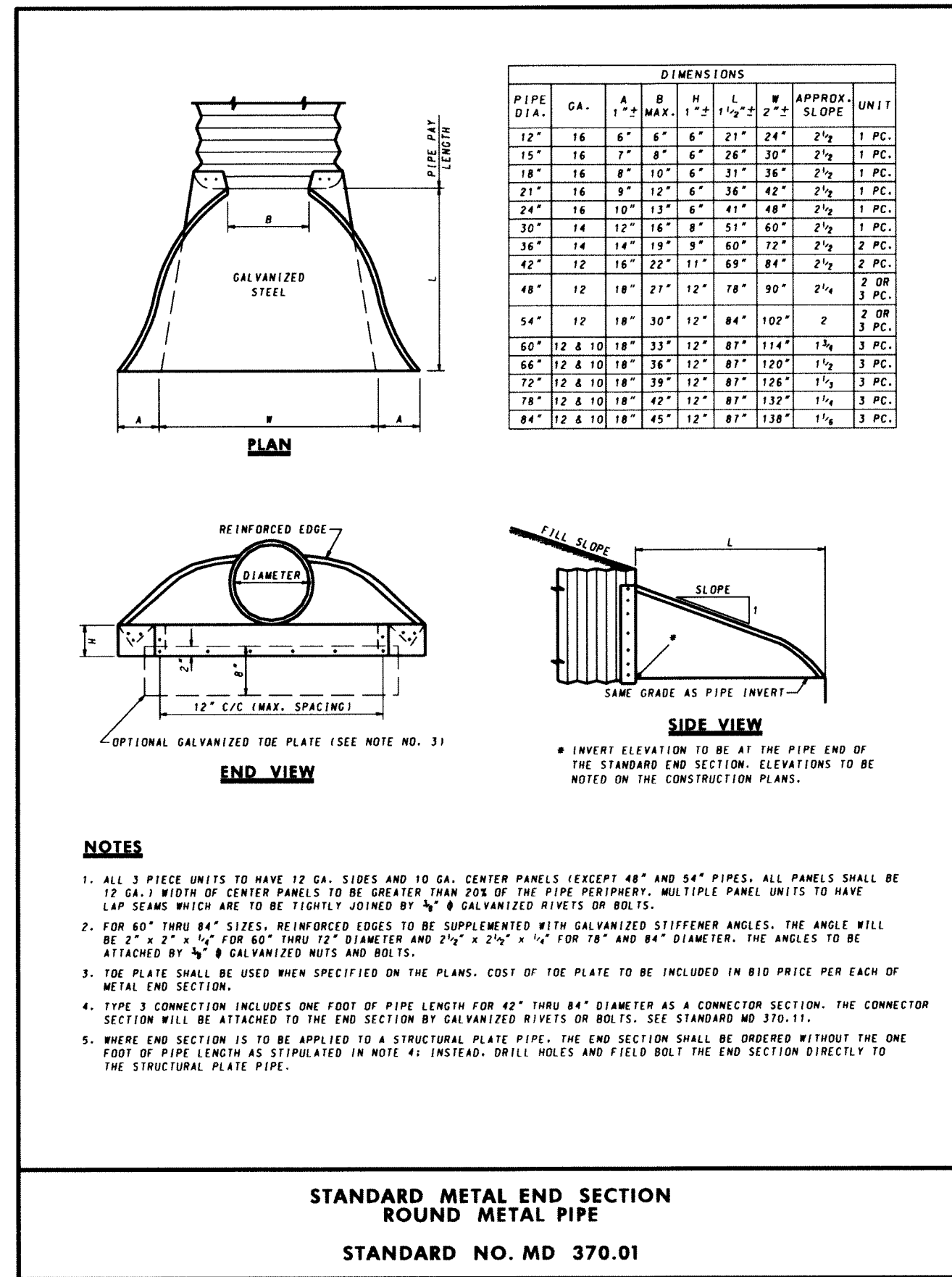
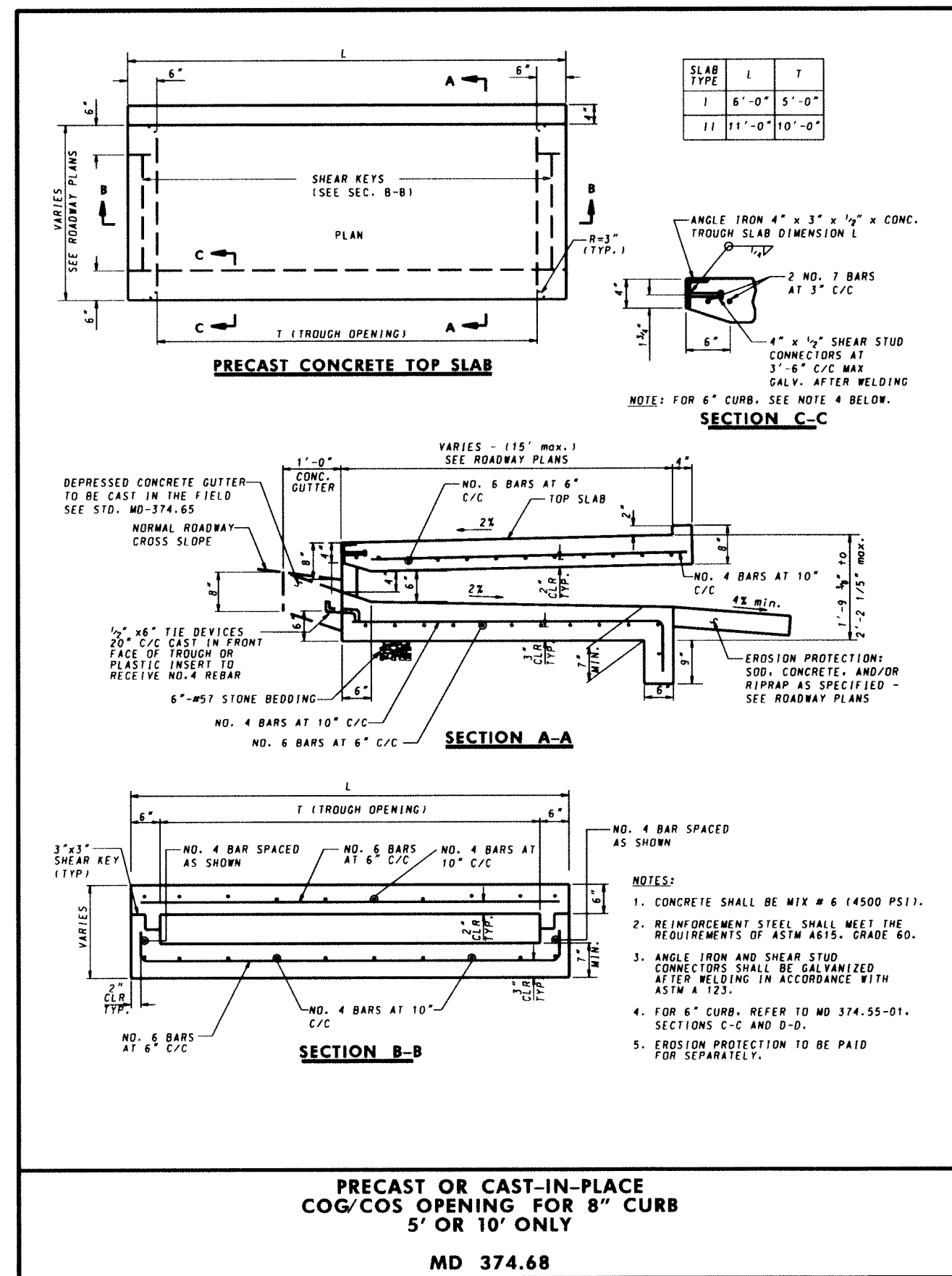
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DRN: MR			
CHK: CB			
DATE: 8/4/10	BY: NO.	REVISION	DATE

**HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION**  
**ATHOLTON PARK SWM RETROFIT PROJECT**  
**CAPITAL PROJECT D-1160**

**SITE PLAN**

SCALE: 1" = 10'

SHEET: 2 OF 8



SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)	3 TO <5			5 TO <7			> 7			
			MIN	HMA WITH GAB	HMA WITH CONSTANT GAB	MIN	HMA WITH GAB	HMA WITH CONSTANT GAB	MIN	HMA WITH GAB	HMA WITH CONSTANT GAB	
P-5	MINOR ARTERIAL	HMA SUPERPAVE FINAL SURFACE 12.5 MM, PG 70-22, LEVEL 3 (HIGH ESAL)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
			2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
			6.0	6.0	6.0	7.0	5.0	4.0				
			11.0	5.0	4.0	8.0	8.0	8.0				
P-6	UNDIVIDED INTERMEDIATE ARTERIAL DIVIDED INTERMEDIATE ARTERIAL	HMA SUPERPAVE FINAL SURFACE 12.5 MM, PG 70-22, LEVEL 3 (HIGH ESAL)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
			2.0	2.0	2.0	2.0	2.0	2.0				
			7.0	7.0	7.0	8.5	6.5	5.0				
			13.0	6.0	4.0	8.0	8.0	8.0				
P-7	STABILIZED SHOULDER: MINOR ARTERIAL	CHP SEAL DOUBLE SURFACE TREATMENT	1.75	1.75	1.75	NA	NA	NA	NA	NA	NA	
			16.5	14.5	13.0	NA	NA	NA				
P-8	PAVED SHOULDER: UNDIVIDED INTERMEDIATE ARTERIAL DIVIDED INTERMEDIATE ARTERIAL SIDEWALK AND PARKING AREAS (PRIVATE) (NOTE: THIS SECTION MAY BE USED IN LIEU OF CONCRETE SIDEWALK IN OFF SITE, PRIVATELY MAINTAINED AREAS ONLY.)	HMA SUPERPAVE FINAL SURFACE 12.5 MM, PG 64-22, LEVEL 1 (LOW ESAL)	3.0	3.0	3.0	4.0	3.5	3.5				
			9.5	8.0	5.5	6.0	6.0	6.0				

Notes:  
1) HEAVY TRUCKS ARE DEFINED AS THOSE WITH SIX (6) WHEELS OR MORE INCLUDING GARBAGE TRUCKS.  
2) HMA SUPERPAVE LAYERS SHALL BE PLACED IN APPROPRIATE COMPACTED LIFT THICKNESS: 19.0 MM BASE (2.0" MIN TO 4.0" MAX), 12.5 MM SURFACE (1.5" MIN TO 3.0" MAX) AND 8.5 MM SURFACE (1.0" MIN TO 2.0" MAX)  
3) GRADED AGGREGATE BASE (GAB) TO BE PLACED AND COMPACTED IN 6" MAX COMPACTED THICKNESS LAYERS.  
4) THE INTERMEDIATE SURFACE COURSE LAYER MUST BE PLACED WITHIN 2 WEEKS OF PLACEMENT OF BASE COURSE, AND IS REQUIRED PRIOR TO SUBSTANTIAL COMPLETION INSPECTION AND BOND REDUCTION.  
5) IN LIEU OF PLACING THE INTERMEDIATE SURFACE COURSE LAYER FOR COMMERCIAL/INDUSTRIAL ENTRANCE APPROX WITHIN THE COUNTY RIGHT-OF-WAY WHERE AUXILIARY LANES ARE NOT REQUIRED, THE THICKNESS OF THE INTERMEDIATE PAVEMENT LAYER CAN BE ADDED TO THE REQUIRED THICKNESS OF THE BASE ASPHALT LAYER.  
6) THE CONSTRUCTION DRAWINGS SHALL SHOW THE PAVING SECTION, ROAD CLASSIFICATION AND CBR VALUE FOR EACH ROADWAY.

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS  
THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT  
John R. Roberts 8/11/10  
HOWARD SCD DATE

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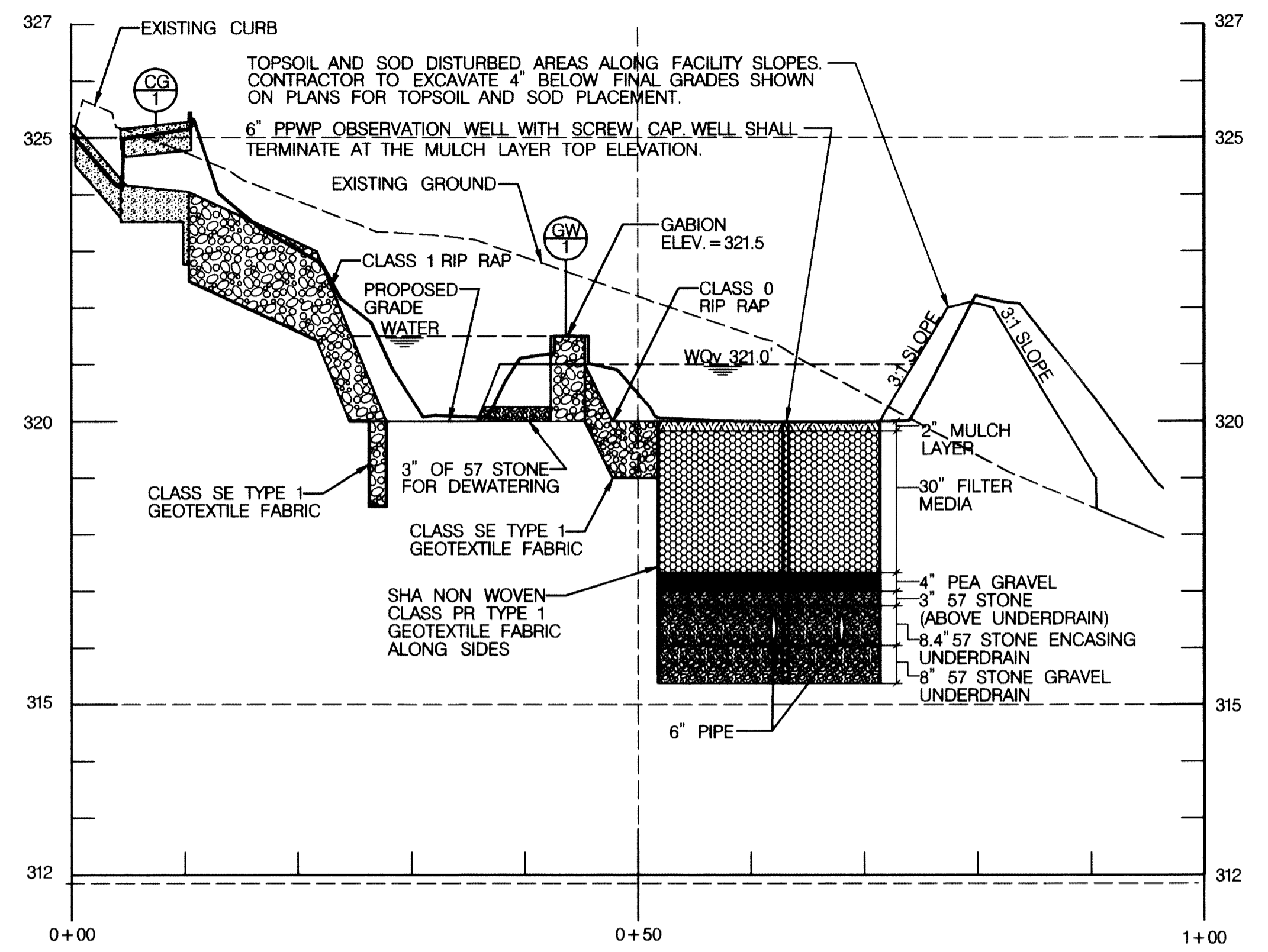
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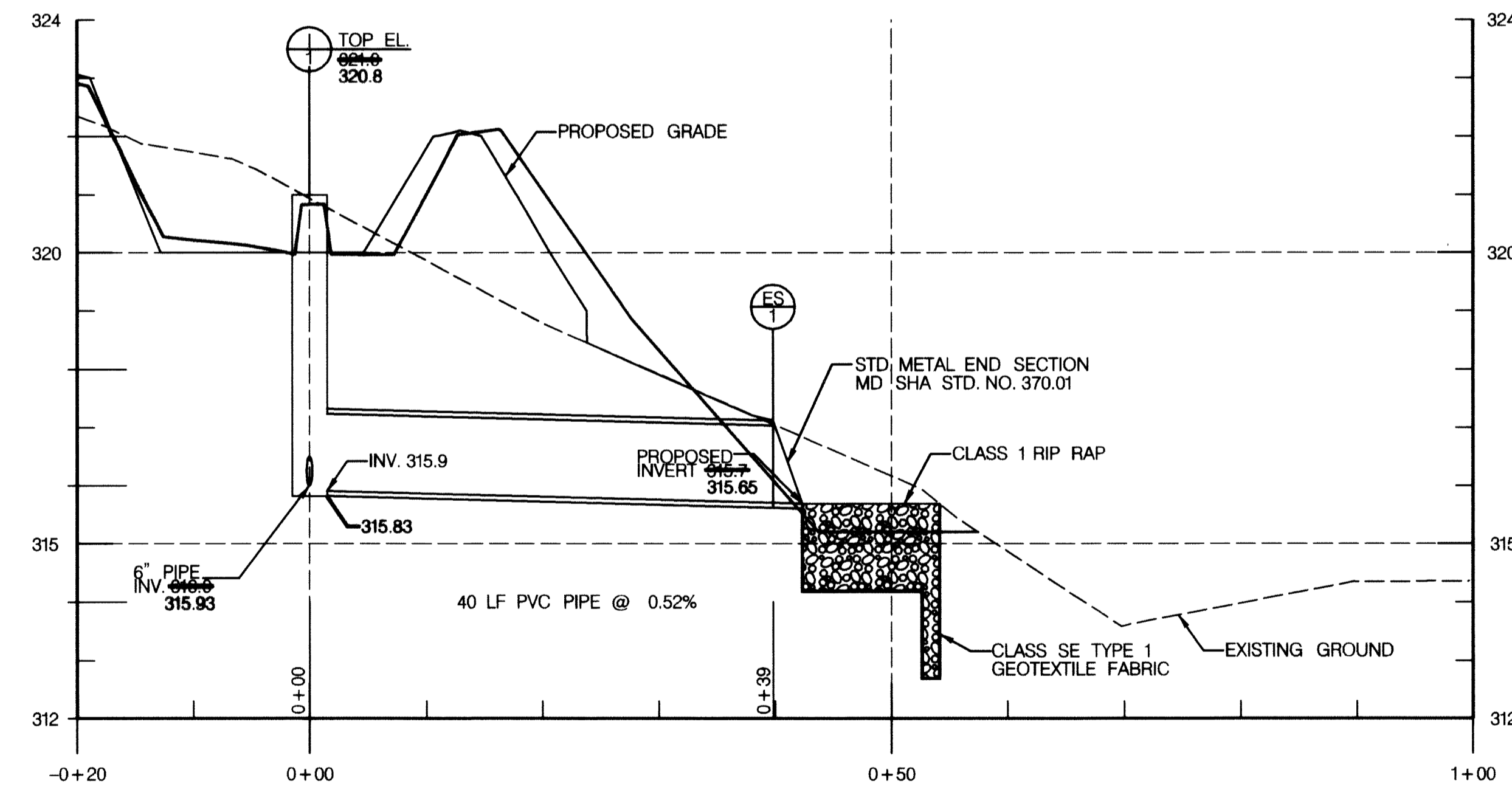
**HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION**  
**ATHOLTON PARK SWM RETROFIT PROJECT**  
**CAPITAL PROJECT D-1160**  
**TYPICAL DETAILS**

SCALE  
NOT TO SCALE  
SHEET  
3 OF 8



-FACILITY SHALL NOT BE PLACED IN SERVICE UNTIL ALL OF THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED. HEAVY EQUIPMENT AND TRAFFIC SHALL BE RESTRICTED FROM THE PROPOSED BIORETENTION LOCATION TO MINIMIZE COMPACTION OF THE SOIL.  
 -FOR ALL DISTURBED AREAS, REGARDLESS OF SLOPE, THREE (3) INCHES OF TOPSOIL SHALL BE INSTALLED BELOW SOD.  
 -OBSERVATION WELL SHALL BE MARKED WITH INDELIBLE INK SPECIFYING THE DEPTH TO THE PIPE INVERT.

**SECTION A-A - BIORETENTION FACILITY 1**  
 SCALE: HORIZ. 1" = 10'  
 VERT. 1" = 2'



**PIPE PROFILE - BIORETENTION FACILITY 1**  
 SCALE: HORIZ. 1" = 10'  
 VERT. 1" = 2'

**STANDARD AND SPECIFICATION FOR BIORETENTION SOIL MIXTURE (BSM)**

BSM SHALL BE A HOMOGENEOUS MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN 2 IN. AND SHALL BE FREE FROM ANY PARTS OF BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, MUGWORT, NUTSEDGE, POISON IVY, CANADIAN THISTLE, TEARTHUMB, PHRAGMITES, OR OTHER NOXIOUS WEEDS AS SPECIFIED IN COMAR 15.08.01.05.

- BSM SHALL BE A BLENDED MIXTURE OF SAND, MULCH, AND PLANTING SOIL AS FOLLOWS:
- (A) SAND: THE SAND SHALL COMPOSE 50 PERCENT BY VOLUME OF THE BSM. THE SAND SHALL BE FINE AGGREGATE, SECTION 901.
  - (B) MULCH: THE MULCH SHALL COMPOSE 20 PERCENT BY VOLUME OF THE BSM. THE MULCH SHALL BE DOUBLE SHREDDED HARDWOOD BARK CONSISTING OF THE BARK FROM HARDWOOD TREES WHICH HAS BEEN MILLED AND SCREENED TO A MAXIMUM 2 IN. PARTICLE SIZE AND PROVIDE A UNIFORM TEXTURE FREE FROM SAWDUST, TOXIC SUBSTANCES, AND FOREIGN MATERIALS AND SHALL BE AGED AT LEAST 6 MONTHS.
  - (C) PLANTING SOIL: THE PLANTING SOIL SHALL COMPOSE 30 PERCENT BY VOLUME OF THE BSM. THE PLANTING SOIL SHALL BE A NATURAL OR FURNISHED, FRIABLE SOIL, UNIFORM IN COLOR AND TEXTURE.

PLANTING SOIL SHALL BE FROM A STOCKPILE THAT HAS BEEN CONSTRUCTED BY THE PRODUCER AND THE STOCKPILE SHALL BE CONSTRUCTED SO THE PILE IS IDENTIFIABLE. SAMPLING AND TESTING WILL BE COMPLETED IN CONFORMANCE WITH MSMT 356.

PLANTING SOIL SHALL HAVE AN ORGANIC CONTENT BETWEEN 1.5 TO 10 PERCENT BY WEIGHT WHEN TESTED AS SPECIFIED IN T 194.

GRADING ANALYSIS SHALL BE AS FOLLOWS:

SEIVE SIZE	MINIMUM PERCENT PASSING BY WEIGHT
2 IN.	100
NO. 4	90
NO. 10	80

PLANTING SOIL SHALL BE ANALYZED FOR SAND, SILT, AND CLAY AS SPECIFIED IN T 88. THE TEXTURAL ANALYSIS SHALL BE AS FOLLOWS:

SOIL PARTICLE SIZES, MM	PERCENT PASSING BY WEIGHT
SAND (2.0-0.050)	50-85
SILT (0.050-0.002)	5-45
CLAY (LESS THAN 0.002)	5-10

PLANTING SOIL THAT FAILS TO MEET THE MINIMUM REQUIREMENTS SHALL BE REPLACED AT NO ADDITIONAL COST TO THE COUNTY. BSM SHALL BE FROM A STOCKPILE THAT HAS BEEN CONSTRUCTED BY THE PRODUCER AND THE STOCKPILE SHALL BE CONSTRUCTED SO THE PILE IS IDENTIFIABLE. SAMPLING AND TESTING WILL BE COMPLETED IN CONFORMANCE WITH MSMT 356. THE BSM SHALL HAVE A PH VALUE NOT LESS THAN 5.5 AND NOT MORE THAN 7.5 AND SHALL MEET THE FOLLOWING NUTRIENT CRITERIA WHEN TESTED AS SPECIFIED BY THE UNIVERSITY OF DELAWARE COLLEGE OF AGRICULTURE AND NATURAL RESOURCES SOIL TESTING PROGRAM:

NUTRIENT	LIMIT, PPM
MAGNESIUM	MIN. 35
PHOSPHOROUS (PHOSPHATE)	MIN. 75
POTASSIUM	MIN. 85
SULUBLE SALTS	NOT TO EXCEED 300

AMENDMENTS: ANY BSM NOT MEETING THE NUTRIENT REQUIREMENTS SHALL BE AMENDED BY THE PRODUCER AT THE DIRECTION OF THE ADMINISTRATION'S LANDSCAPE OPERATIONS DIVISION. ALL AMENDMENTS SHALL BE MIXED UNIFORMLY INTO THE BSM AS FOLLOWS:  
 A) THE PH SHALL BE CORRECTED WITH THE RECOMMENDED AMOUNT OF DOLOMITIC LIMESTONE OR SULFUR (90%).  
 B) MAGNESIUM SHALL BE CORRECTED WITH THE RECOMMENDED AMOUNT OF DOLOMITIC LIMESTONE.  
 C) PHOSPHORUS SHALL BE CORRECTED WITH THE RECOMMENDED AMOUNT OF 5-20-20 FERTILIZER.  
 D) POTASSIUM SHALL BE CORRECTED WITH THE RECOMMENDED AMOUNT OF 0-0-60 FERTILIZER.

THE USE OF ANY OTHER AMENDMENT MATERIALS IS PROHIBITED. THE ADDITION OF MATERIAL TO CORRECT ANY OTHER NUTRIENT DEFICIENCIES IS PROHIBITED.

ADDITIONAL REQUIREMENTS:  
 BSM SHALL HAVE A MINIMUM ORGANIC CONTENT NO LESS THAN 1.5 PERCENT BY WEIGHT WHEN TESTED AS SPECIFIED IN T 194. BSM SHALL BE ANALYZED FOR SAND, SILT, AND CLAY AS SPECIFIED IN T 88. THE TEXTURAL ANALYSIS SHALL BE AS FOLLOWS:

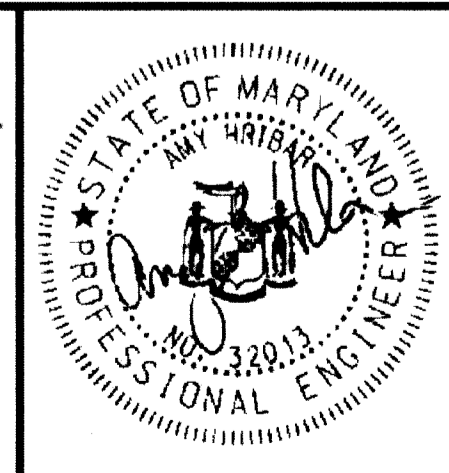
SOIL PARTICLE SIZES, MM	PERCENT PASSING BY WEIGHT
SAND (2.0-0.050)	55-85
SILT (0.050-0.002)	0-20
CLAY (LESS THAN 0.002)	1-5

THE ADDITION OF MATERIALS TO THE BSM STOCKPILE TO CORRECT TEXTURAL ANALYSIS DEFICIENCIES IS PROHIBITED. BSM THAT FAILS TO MEET THE MINIMUM REQUIREMENTS SHALL BE REPLACED AT NO ADDITIONAL COST TO THE COUNTY. THE ADDITION OF BSM OR OTHER MATERIAL TO THE APPROVED STOCKPILE IS PROHIBITED. STOCKPILE PROTECTION: BSM STOCKPILES SHALL BE PROTECTED FROM WEATHER.

**REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS**  
 THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT  
 Howard SCD  
 DATE: 8/11/10

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**HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION  
 ATHOLTON PARK SWM RETROFIT PROJECT  
 CAPITAL PROJECT D-1160**

**PROFILE**

SCALE: 1" = 10'  
 SHEET: 4 OF 8

CONSTRUCTION TRAFFIC SHALL CAUTION WHEN ENTERING AND THE WORK AREA. CHILDREN, PEDE AND VEHICLE TRAFFIC MAY COM WITH EQUIPMENT INGRESS AND E

- TIME RESTRICTION NOTES:
1. PUMPING IS NOT PERMITTED BETWEEN THE HOURS OF 7:00 PM AND 7:00 AM THROUGH FRIDAY.
  2. CONSTRUCTION EQUIPMENT SHALL NOT BE STARTED NOR RUN BETWEEN THE HOURS OF 7:00 PM AND 7:00 AM, MONDAY THROUGH FRIDAY.
  3. FOR SATURDAY WORK, THE ABOVE RESTRICTIONS SHALL BE 5:00 PM AND 9:00 AM, MONDAY THROUGH FRIDAY, RESPECTIVELY.
  4. NO WORK SHALL BE DONE ON SUNDAY.

NOTE:  
CREATE A LEVEL SURFACE FOR PLACEMENT OF DEWATERING FILTER BAG USING SAND BALES IF NECESSARY.

DRAINAGE FILTER BAG	
DESCRIPTION	QTY
RT	1

DEWATERING PUMP	
DESCRIPTION	QTY
RT	1

SILT FENCE		
	FROM	QTY (LF)
LT	1+60, 2' LT	86
RT	2+31, 4' RT	56
RT	2+06, 40' RT	43
RT	1+85, 84' RT	25
RT	1+72, 89' RT	24

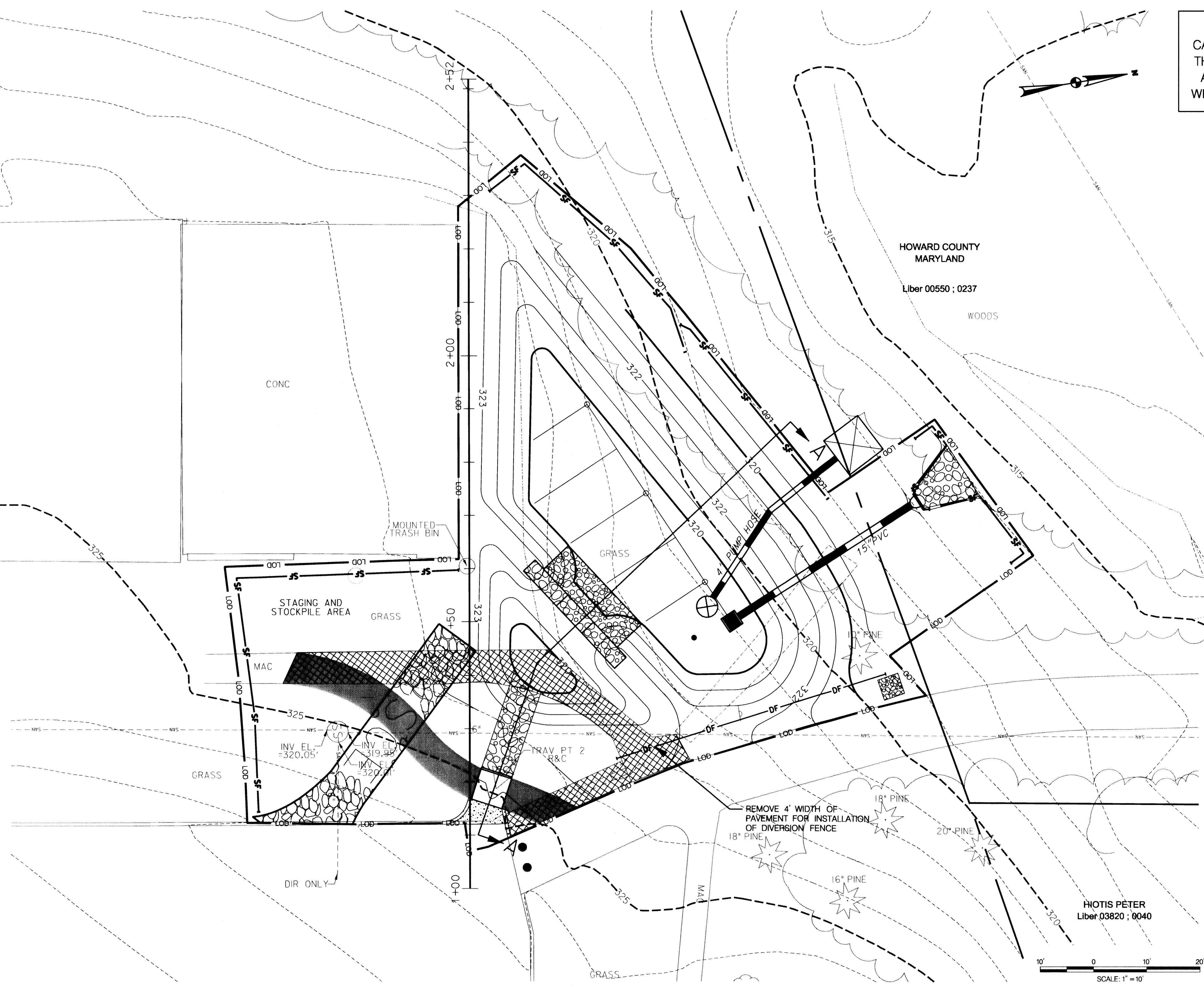
DIVERSION FENCE		
	FROM	QTY (LF)
RT	1+40, 78' RT	53

TEMPORARY CLASS 1 RIP RAP	
STATION	QTY (SY)
8, 80' RT	2

STABILIZED CONSTRUCTION ENTRANCE	
STATION	QTY
5, 15' LT	1



**LEGEND**

- PROPOSED CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- SILT FENCE
- PROPERTY LINE
- LIMIT OF DISTURBANCE
- EXISTING TREE
- PROPOSED CURB
- CLASS 1 RIP RAP
- REMOVE EXISTING SILT AND CONCRETE CHANNEL
- PROPOSED HMA SIDEWALK
- PROPOSED CONCRETE
- DEWATERING FILTER BAG
- DEWATERING PUMP
- STABILIZED CONSTRUCTION ENTRANCE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

PERMIT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL AND SOIL CONSERVATION DISTRICT

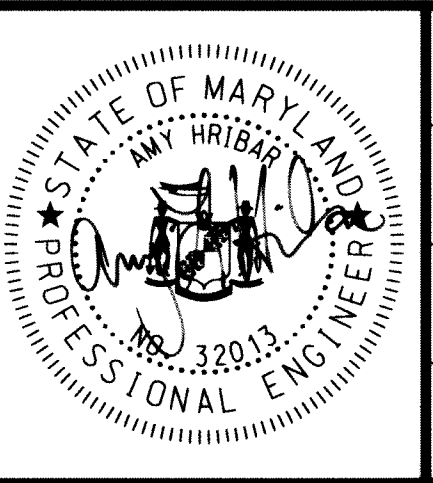
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HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION  
ATHOLTON PARK SWM RETROFIT PROJECT  
CAPITAL PROJECT D-1160

**EROSION AND SEDIMENT CONTROL PLAN**

# EROSION AND SEDIMENT CONTROL – GENERAL NOTES

## HOWARD SOIL CONSERVATION DISTRICT TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE RE-DISTURBED 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/ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ. FT.).

**SEEDING:** – FOR PERIODS MARCH 1 – APRIL 30 AND FROM AUGUST 15 – OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ. FT.), FOR THE PERIOD MAY 1 – AUGUST 14, SEED WITH 3 LBS / ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 FT.). FOR THE PERIOD NOVEMBER 16 – FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS/ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

**MULCHING:** – APPLY 1-1/2 TO 2 TONS/ACRE (70 TO 90 LBS/1000 SQ. FT.) OF UNROTTED WEED-FREE, SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL. NO ASPHALT EMULSION SHALL BE USED FOR ANCHORING. ONLY A NON-TOXIC, LATEX BACKING MATERIAL IS ALLOWED.

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

## SEQUENCE OF CONSTRUCTION

1. OBTAIN A GRADING PERMIT.
2. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST FIVE (5) DAYS PRIOR TO THE START OF WORK. THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION (410) 313-1880 A MINIMUM OF 24 HOURS PRIOR TO THE START OF ANY CONSTRUCTION. THE CONTRACTOR SHALL ALSO NOTIFY THE MARYLAND DEPARTMENT OF ENVIRONMENT/INSPECTOR AT (301) 665-2850, FIVE (5) DAYS BEFORE ANY LAND DISTURBING ACTIVITY. (1 DAY)
3. THE CONTRACTOR SHALL COORDINATE AN ON-SITE PRE-CONSTRUCTION MEETING WHICH SHALL INCLUDE, BUT NOT BE LIMITED TO, THE COUNTY PROJECT MANAGER, A REPRESENTATIVE FROM THE DEPARTMENT OF PARKS AND RECREATION, THE ENGINEER, AND A HOWARD COUNTY INSPECTOR. (1 DAY)
4. ORANGE HIGH VISIBILITY FENCE SHALL BE MANUALLY INSTALLED WHERE INDICATED ON THE PLANS. THIS SHALL BE COMPLETED BY AND INSPECTED FOLLOWING THE PRECONSTRUCTION MEETING. (1 DAY)
5. INSTALL PHASE 1 SEDIMENT CONTROLS INCLUDING DIVERSION FENCE, TEMPORARY RIPRAP, SILT FENCE, DEWATERING PUMP AND DEWATERING FILTER BAG. REMOVE 4' WIDTH OF PAVEMENT FROM EXISTING SIDEWALK TO ALLOW PLACEMENT OF THE DIVERSION FENCE. (1 DAY)
6. EXCAVATE PROPOSED FACILITY AND INSTALL IN-1, 15" PVC PIPE ES-1 AND RIPRAP OUTFALL. STABILIZE AND LINE ALL SIDE SLOPES WITH TOPSOIL AND SOD. INSTALL FILTER MEDIA AND UNDERDRAIN WITH CLEANDUTS MAKING SURE TO MINIMIZE COMPACTION OF THE SUBSURFACE. (5 DAYS)
7. DURING A 5 DAY DRY FORECAST FROM THE NATIONAL WEATHER SERVICE, REMOVE SECTION OF EXISTING CURB AND REMAINING SECTION OF CONCRETE DITCH. INSTALL CG-1 AND RIPRAP DITCH. CONSTRUCT PROPOSED CURB AND PATCH EXISTING CURBCUT ALONG EDGE OF PARKING LOT. REMOVE DIVERSION FENCE AND RIP RAP PAD AND PERFORM MINOR GRADING AND STABILIZATION WITH SOD ALONG EASTERN LOD AS NEEDED. STABILIZE ALL DISTURBED AREAS AT THE END OF EACH WORK DAY. (2 DAYS)
8. CONSTRUCT PROPOSED SIDEWALK AND TIE INTO CG-1. STABILIZE ALL DISTURBED AREAS AT THE END OF EACH WORK DAY. (2 DAYS)
9. INSTALL LANDSCAPING PER PLAN. (2 DAYS)
10. STABILIZE ALL REMAINING AREAS AND GRADE TO FINAL ELEVATIONS REMOVING ALL RUTS. (1 DAY)
11. WHEN ALL AREAS ARE FULLY STABILIZED AND UPON PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE THE REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE ANY DISTURBED AREAS. (1 DAY)

## HOWARD SOIL CONSERVATION DISTRICT PERMANANT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED 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:

1. **PREFERRED** – APPLY 2 TONS/ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 600 LBS/ACRE 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/ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS/1000 SQ. FT.).
2. **ACCEPTABLE** – APPLY 2 TONS/ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 1000 LBS/ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

**SEEDING** – FOR THE PERIODS MARCH 1 – APRIL 30, AND AUGUST 1 – OCTOBER 15, SEED WITH 60 LBS / ACRE (1.4 LBS/1000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 – JULY 31, SEED WITH 60 LBS KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS/ACRE (0.05 LBS/100 SQ. FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 – FEBRUARY 28, PROTECT SITE BY: **OPTION 1** – TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. **OPTION 2** – USE SOD. **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. NO ASPHALT EMULSION SHALL BE USED FOR ANCHORING. ONLY A NON-TOXIC, LATEX TACKING MATERIAL IS ALLOWED.

**MAINTENANCE** – INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

## HOWARD COUNTY 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 (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 MOST CURRENT MARYLAND STANDARDS AND SPECIFICATION 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 GREATER 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 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 SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (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.
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.
7. **SITE ANALYSIS:**

TOTAL AREA OF SITE	0.22 ACRES
AREA DISTURBED	0.22 ACRES
AREA TO BE ROOFED OR PAVED	0.01 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.22 ACRES
TOTAL CUT	383 CY
TOTAL FILL	287 CY
OFF SITE WASTE/BORROW AREA LOCATION	SEE NOTE #12
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. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTH OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORK DAY, WHICHEVER IS SHORTER.
12. OFFSITE WASTE / BORROW SITE SHALL HAVE AN APPROVED SEDIMENT CONTROL PLAN.


## STANDARD AND SPECIFICATIONS FOR TOPSOIL

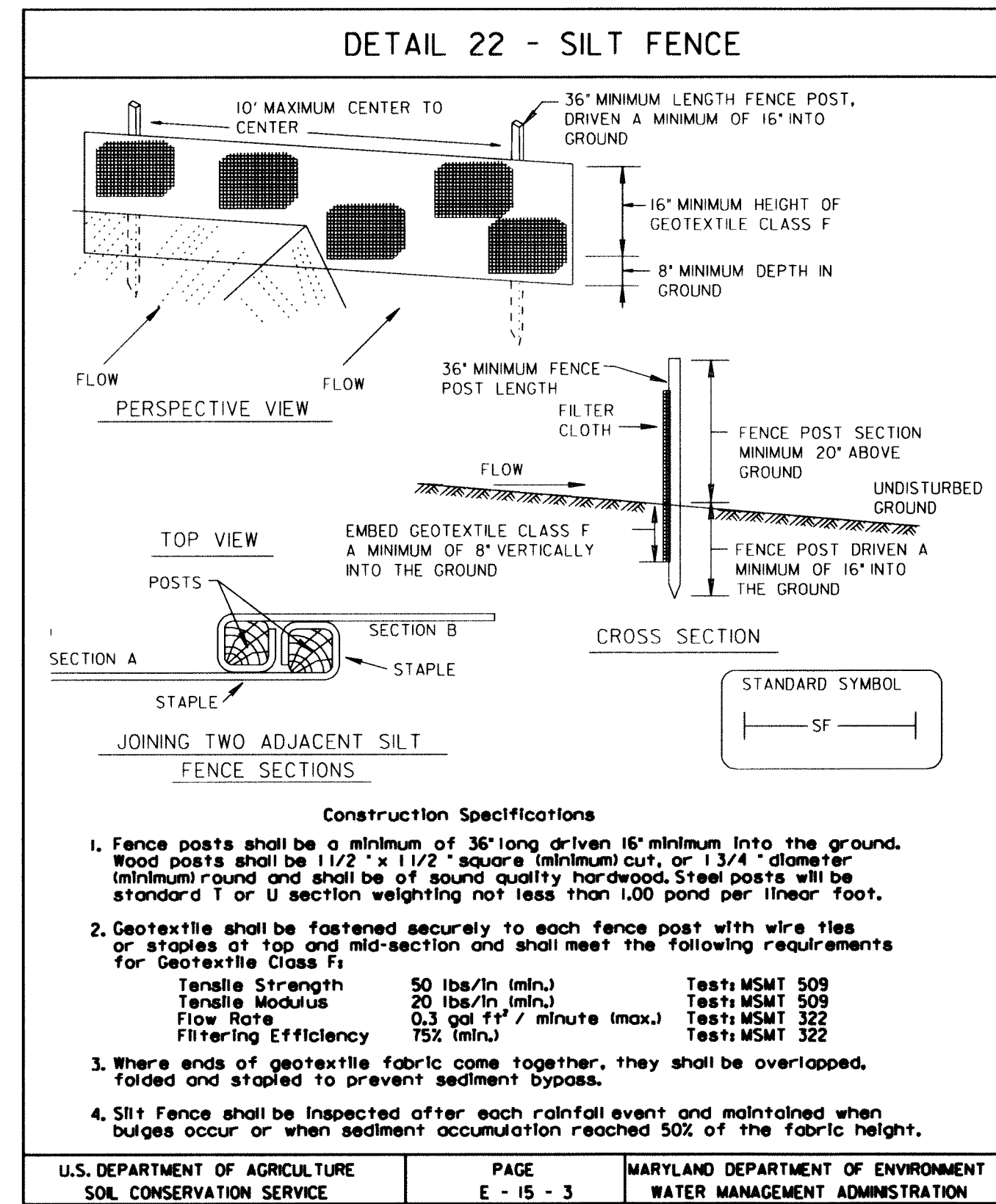
**DEFINITION**  
PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

**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**

- I. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
  - A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
  - B. 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.
  - C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
  - D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
- II. 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
  - I. 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 EXPERIMENTAL STATION.
  - II. TOPSOIL SPECIFICATIONS – SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:
    - A. 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 A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1-1/2" IN DIAMETER.
    - B. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
    - C. 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 DISTURBED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.
  - III. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:
    - A. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION – SECTION\* – VEGETATIVE STABILIZATION METHODS AND MATERIALS.
  - IV. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
    - A. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
      1. 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.
      2. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
      3. TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
      4. 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 AS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC 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.
    - B. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION – SECTION\* VEGETATIVE STABILIZATION METHODS AND MATERIALS.
  - V. TOPSOIL APPLICATION
    - A. 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.
    - B. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4" – 8" HIGHER IN ELEVATION.
    - C. 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 POKETS.
    - D. 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 MY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

<p><b>REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS</b></p> <p>THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT</p> <p><i>John K. Roberts</i> HOWARD SCD</p>	<p><b>McCormick Engineers &amp; Planners Since 1946 Taylor</b></p> <p>509 South Exeter Street 4th Floor Baltimore, Maryland 21202 (410) 662-7400</p>	<p><b>Howard County MARYLAND</b></p> <p>Storm Water Management Division Bureau of Environmental Services 6751 Columbia Gateway Drive, Suite 514 Columbia, Maryland 21046-3143 (410) 313-6444</p>		<p>DES: AH</p> <p>DRN: MR</p> <p>CHK: CB</p> <p>DATE: 8/4/10</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>BY</td><td>NO.</td><td>REVISION</td><td>DATE</td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table>	BY	NO.	REVISION	DATE					<p><b>HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION ATHOLTON PARK SWM RETROFIT PROJECT CAPITAL PROJECT D-1160</b></p> <p><b>EROSION AND SEDIMENT CONTROL NOTES</b></p>	<p>SCALE</p> <p>NOT TO SCALE</p> <p>SHEET</p> <p>6 OF 8</p>
BY	NO.	REVISION	DATE												



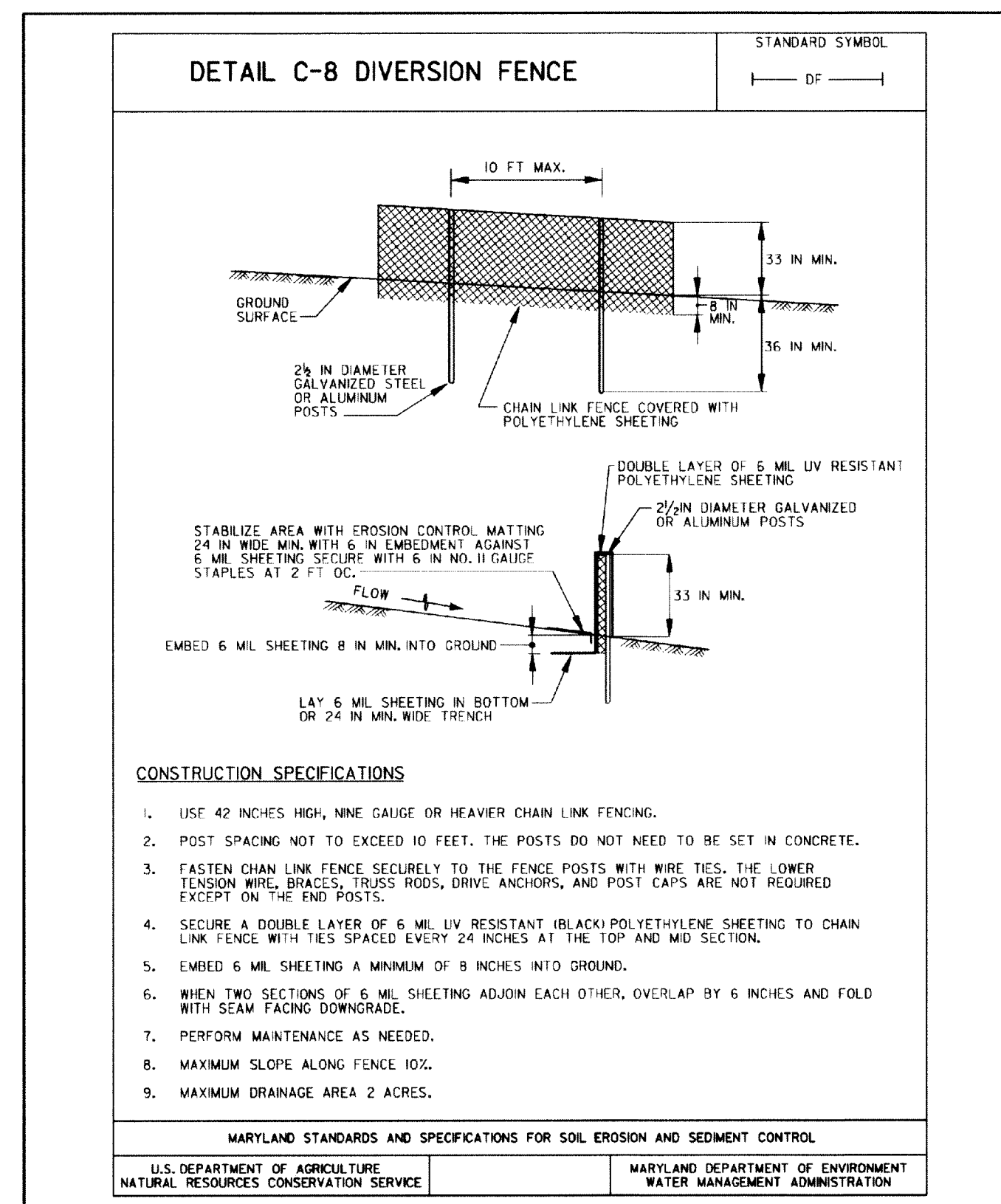
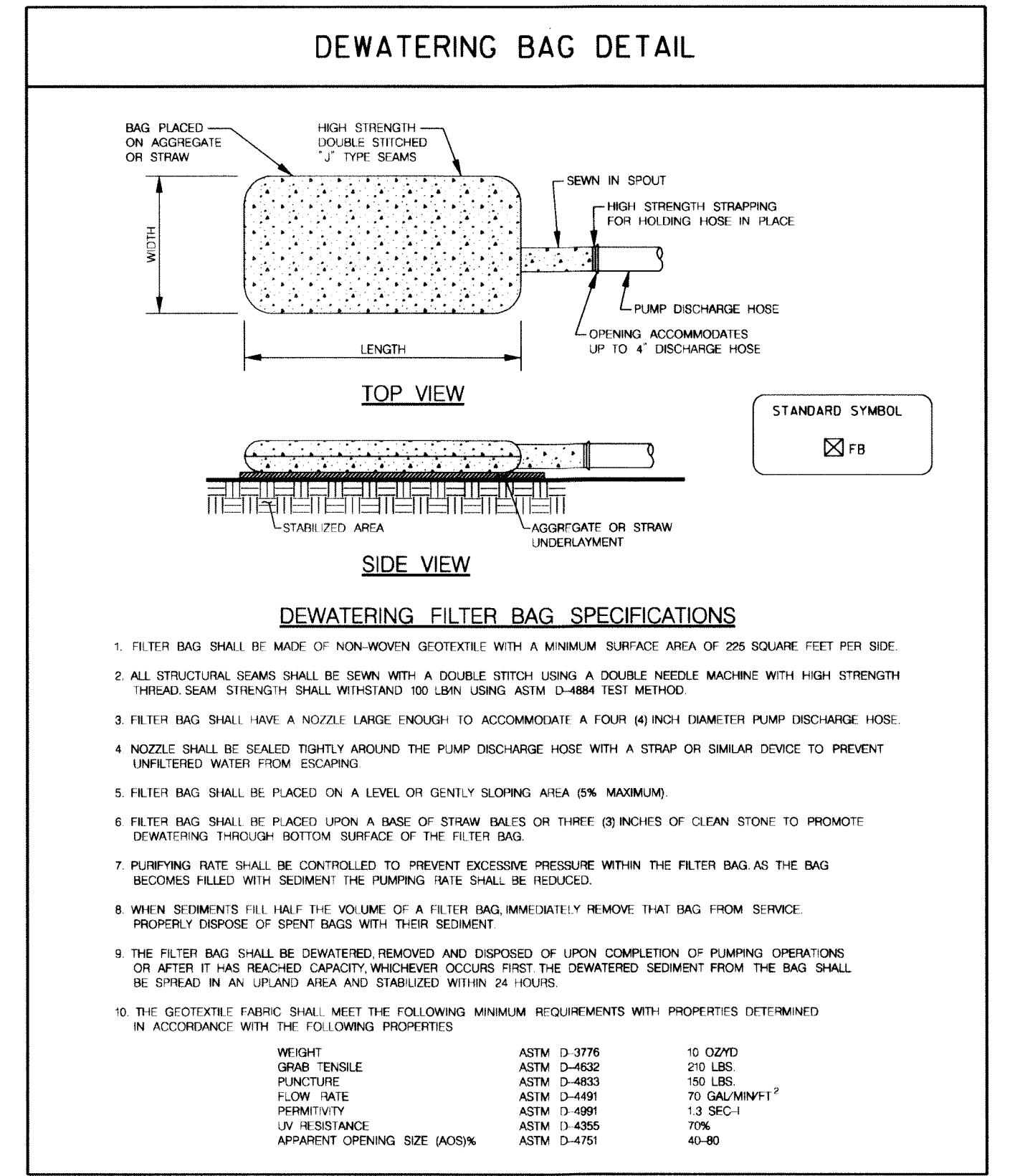
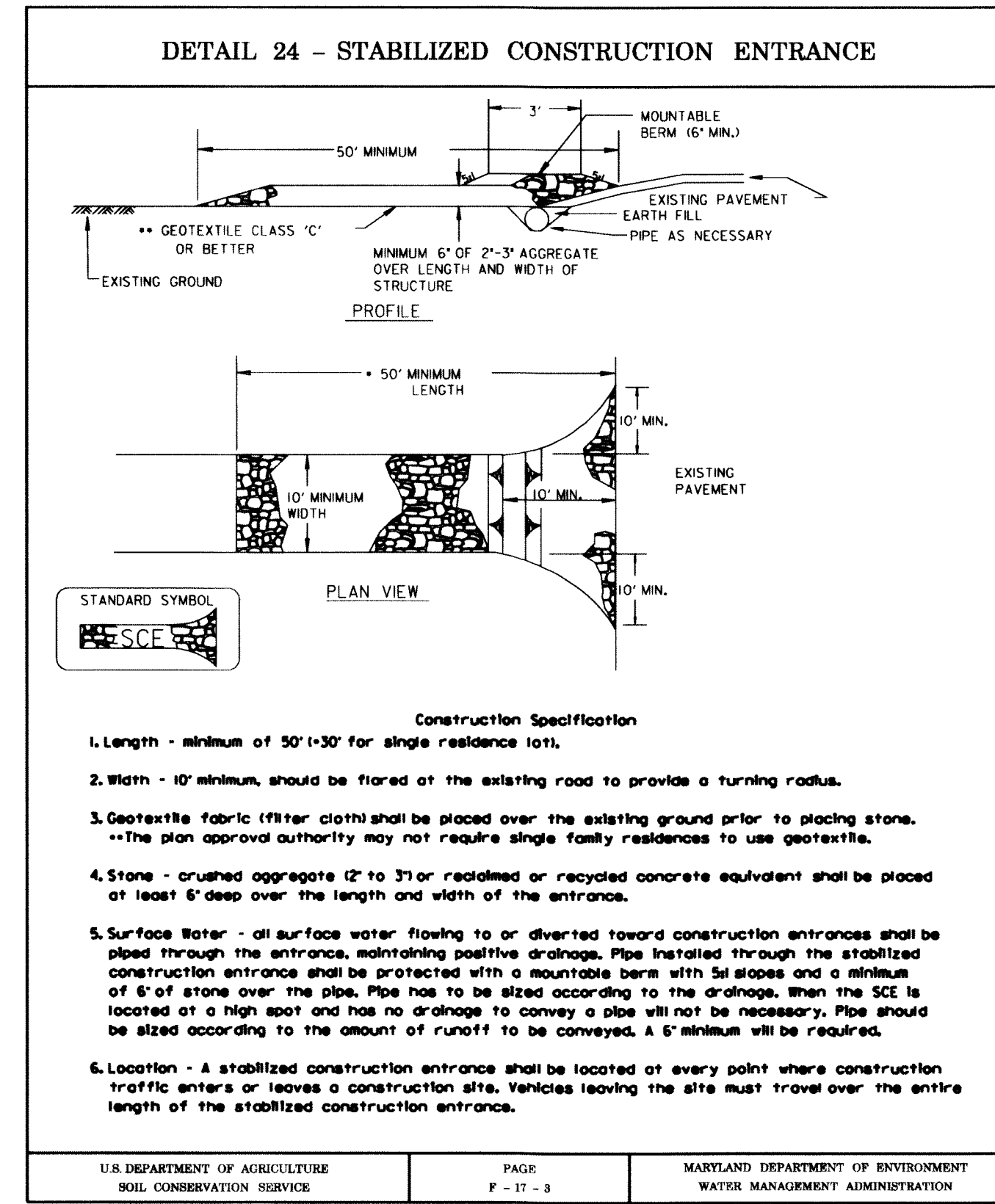
### SILT FENCE

**Silt Fence Design Criteria**

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

**Note:** In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited, in these areas a silt fence may be the only perimeter control required.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE E - 15 - 3A | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



### C-8 STANDARDS AND SPECIFICATIONS FOR DIVERSION FENCE

**Definition**  
A temporary barrier of polyethylene sheeting located in such a manner as to direct water to a desired location.

**Purpose**  
The purpose of diversion fence is to direct sediment laden runoff to a sediment trapping device or to intercept and divert clean water away from disturbed areas. Both usages reduce erosion and sedimentation.

**Conditions Where Practice Applies**  
Diversion fence is constructed along the limit of disturbance (LOD) or across disturbed areas. Diversion fence shall be used only when there is insufficient space to construct an earth dike, temporary swale, or perimeter dike swale.

**Appropriate uses of diversion fences include the following:**

- To divert sediment laden runoff from a disturbed area to sediment trapping practice.
- To segment drainage areas for reducing acreage to sediment control devices.
- To divert clean water from an undisturbed area to a stable outlet at non erosive velocities.
- When other water conveyance practices cannot be used due to space limitations. The designer must demonstrate that there is insufficient space to construct an earth dike, temporary swale, or perimeter dike swale.

**Construction Specifications**

- Use 42 inch high, nine gauge or heavier chain link fencing.
- Post spacing not to exceed 10 feet. The posts do not need to be set in concrete.
- Fasten chain link fence securely to the fence posts with wire ties. The lower tension wire, braces, truss rods, drive anchors, and post caps are not required except on the end posts.
- Secure a double layer of 6 MIL UV resistant (black) polyethylene sheeting to chain link fence with ties spaced every 24 inches at top and mid section.
- Embed 6 MIL sheeting a minimum of 8 inches into ground.

C-25 | DRAFT October 15, 2009

- When two sections of 6 MIL sheeting adjoin each other, overlap by 6 inches and fold with seam facing downgrade.
  - Perform maintenance as needed.
  - Maximum slope along fence 10%.
  - Maximum drainage area 2 acres.
- C-26 | DRAFT October 15, 2009

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

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

*John R. Rhoton*  
HOWARD SCD

*11/10*  
DATE

**McCormick Taylor**  
Engineers & Planners Since 1946

509 South Exeter Street  
4th Floor  
Baltimore, Maryland 21202  
(410) 662-7400

**Howard County**  
MARYLAND

Storm Water Management Division  
Bureau of Environmental Services  
6751 Columbia Gateway Drive, Suite 514  
Columbia, Maryland 21046-3143  
(410) 313-6444



DES: AH					
DRN: MR					
CHK: CB					
DATE: 8/4/10	BY	NO.	REVISION	DATE	

HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION  
ATHOLTON PARK SWM RETROFIT PROJECT  
CAPITAL PROJECT D-1160

**EROSION AND SEDIMENT CONTROL DETAIL SHEET**

SCALE: NOT TO SCALE

SHEET: 7 OF 8



# PLANTING SCHEDULE

SYMBOL	QUANTITY	ITEM
MV	4	Magnolia virginiana /Sweetbay Magnolia, 5' H, B&B
ANA	300	Aster Novae-Anglae /New England Aster, 1 Qt, 12" O.C.
ED	307	Eupatorium dubium 'Little Joe' /Dwarf Joe-Pye Weed, 1 Qt, 12" O.C.
IG	16	Ilex glabra 'Compacta' /Dwarf Inkberry, 24" H, Cont.
LS	1	Liquidambar styraciflua 'Rotundiloba' /Sweet Gum, 5' H, B&B
MD	395	Monarda didyma /Bee Balm, 1 Qt, 12" O.C.
RF	176	Rudbeckia fulgida /Black-Eyed Susan, 1 Qt, 12" O.C.
GM	117	Geranium maculatum /Spotted Geranium, 1 Qt, 12" O.C.
PV	233	Panicum virgatum 'Heavy Metal' /Switchgrass, 1 Gal, 15" O.C.
PD	106	Phlox divaricata /Woodland Phlox, 1 Qt, 12" O.C.
SOD	459	Sod for Turf Establishment, Per SY
MULCH	254	Shredded Hardwood Bark Mulch, 3" Depth per SY
WSM	275	Wildflower Seed Mix, per SY

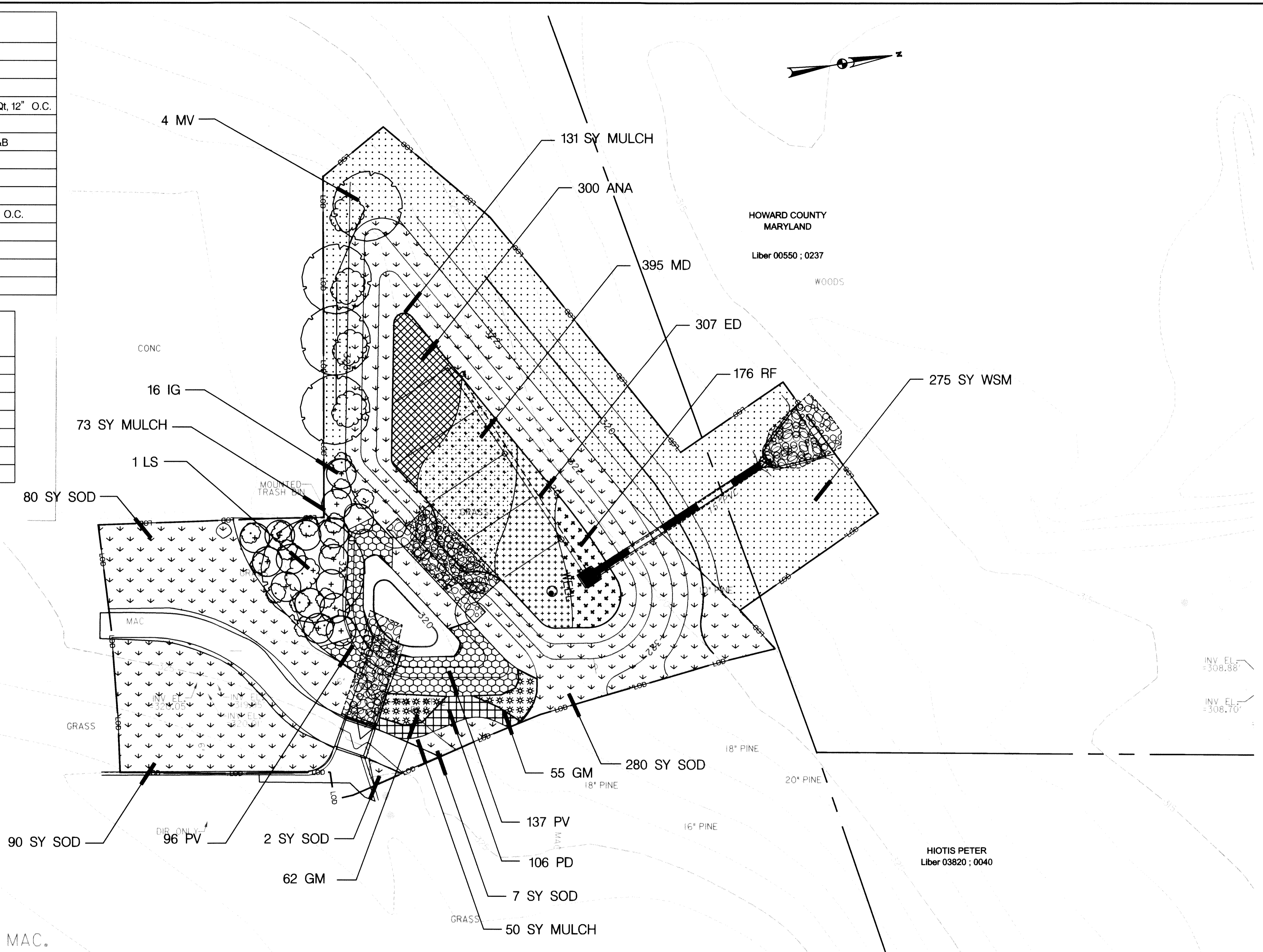
# WILDFLOWER SEEDING

APPLY AT 50 LBS. PER ACRE (275 SY = 0.006 AC)

% FREQUENCY	TOTAL LBS	SPECIES
50%	0.15	Lolium multiflorum /Annual Rye
20%	0.06	Panicum virgatum /Switchgrass
10%	0.03	Aeslepias tuberosa /Butterfly Milkweed
10%	0.03	Echinacea purpurea /Purple Coneflower
10%	0.03	Vernonia noveboracensis /New York Ironweed
100%	0.3	TOTAL

**NOTES:**  
 This plan is for landscape purposes only  
 Contractor to verify utility locations with Miss Utility prior to any earth disturbance  
 Contractor shall only use Wildflower Seeding Mix in designated, approved areas  
 Contractor shall use straw mulch in seeded areas incidental to seed application  
 Contractor shall spot mulch woody plants outside of designated mulch beds  
 Contractor shall water landscape material immediately upon installation  
 Contractor shall not leave any open planting pits unattended or abandoned

LEGEND	
	PROPOSED CONTOUR
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	LIMIT OF DISTURBANCE
	PROPERTY LINE
	EXISTING TREE
	PROPOSED CURB
	SOD
	WILDFLOWER SEEDING



**REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS**  
 THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT  
  
 HOWARD SCD  
 DATE: 8/11/10

**McCormick Taylor**  
 Engineers & Planners Since 1946  
 509 South Exeter Street  
 4th Floor  
 Baltimore, Maryland 21202  
 (410) 662-7400

**Howard County**  
 MARYLAND  
 Storm Water Management Division  
 Bureau of Environmental Services  
 6751 Columbia Gateway Drive, Suite 514  
 Columbia, Maryland 21046-3143  
 (410) 313-6444



DES:	AH	AS-BUILT	1/21/11
DRN:	MR		
CHK:	CB		
DATE:	8/4/10		
BY	NO.	REVISION	DATE

**HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION  
 ATHOLTON PARK SWM RETROFIT PROJECT  
 CAPITAL PROJECT D-1160**  
**LANDSCAPING PLAN**

SCALE: 1" = 10'  
 SHEET: 8 OF 8