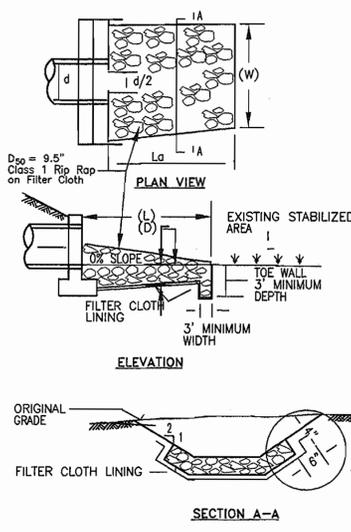




**CONSTRUCTION SPECIFICATIONS**

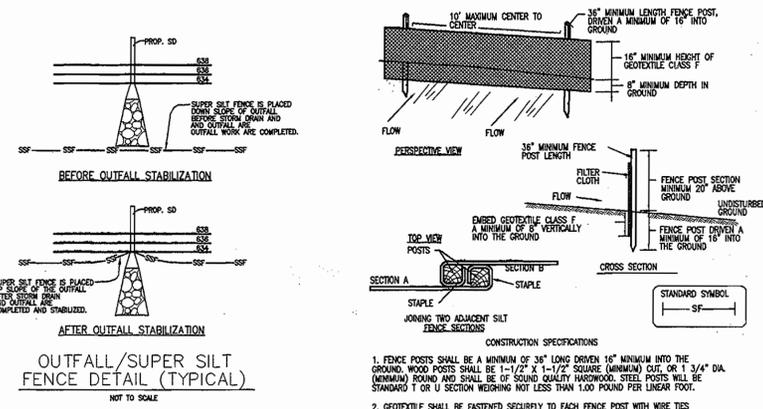
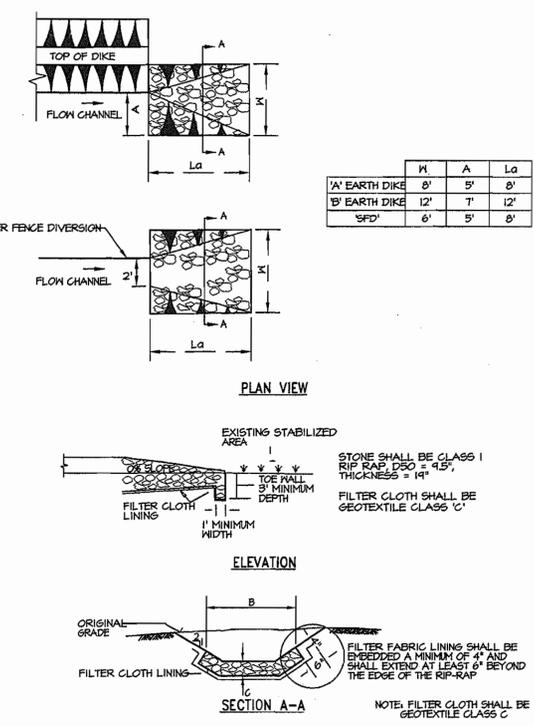
1. THE SUBGRADE FOR THE FILTER, RIP-RAP, OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
2. THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.
3. GEOTEXTILE SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. ALL OVERLAPS WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE SHALL BE A MINIMUM OF ONE FOOT.
4. STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPOILS FILLING THE VOIDS BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
5. THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.



STRUCTURE	MEDIAN STONE DIA. (L)	LENGTH (W)	WIDTH (D)	THICKNESS (D)
S-1	9 1/2"	10'	14'	19"
S-2	9 1/2"	10'	14'	19"

**ROCK OUTLET PROTECTION III**

NOT TO SCALE

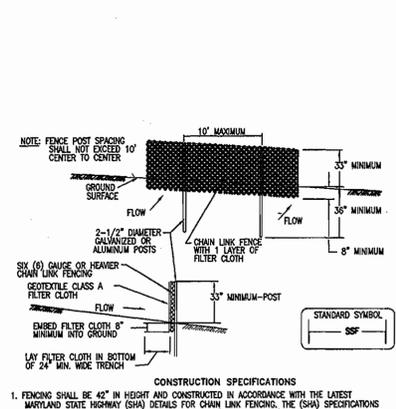


- CONSTRUCTION SPECIFICATIONS**
1. FENCE POSTS SHALL BE A MINIMUM OF 3/4" LONG DRIVEN 16" MINIMUM INTO THE GROUND. WOOD POSTS SHALL BE 1-1/2" X 1-1/2" SQUARE (MINIMUM) OR 1 3/4" DIA. (MINIMUM) ROUND AND SHALL BE OF SOUND QUALITY HARDWOOD. STEEL POSTS WILL BE STANDARD 1" OR 1 1/2" SECTION WEIGHING NOT LESS THAN 1.00 POUND PER LINEAR FOOT.
  2. GEOTEXTILE SHALL BE FASTENED SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION AND SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F:  
 TENSILE STRENGTH 50 LBS/IN (MIN.) TEST: MSMT 509  
 TENSILE MODULUS 20 LBS/IN (MIN.) TEST: MSMT 509  
 FLOW RATE 0.3 GAL FT<sup>2</sup> A MINUTE (MAX.) TEST: MSMT 322  
 FILTERING EFFICIENCY 75% (MIN.) TEST: MSMT 322
  3. WHERE ENDS OF GEOTEXTILE FABRIC COME TOGETHER, THEY SHALL BE OVERLAPPED, FOLDED AND STAPLED TO PREVENT SEDIMENT BYPASS.
  4. SILT FENCE SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND MAINTAINED WHEN BULGES OCCUR OR WHEN SEDIMENT ACCUMULATION REACHES SOX OF THE FABRIC HEIGHT.

CLASS	APPROXIMATE OPENING SIZE (IN)	GRAVITY TENSILE (LBS. MIN.)	BURST STRENGTH (PSI. MIN.)
F (FIBER FENCE)	0.40 - 0.60	50	180
F (US STD. SILT OR OZZIES)			

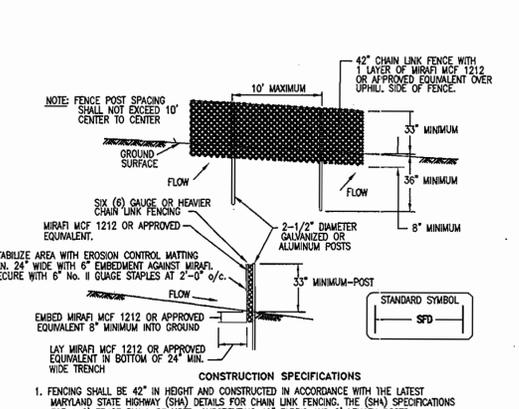
**SILT FENCE**

NOT TO SCALE



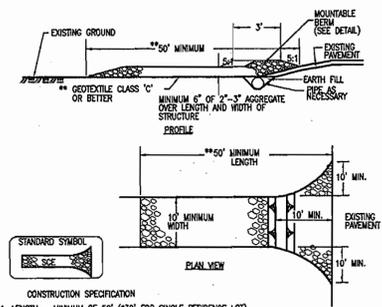
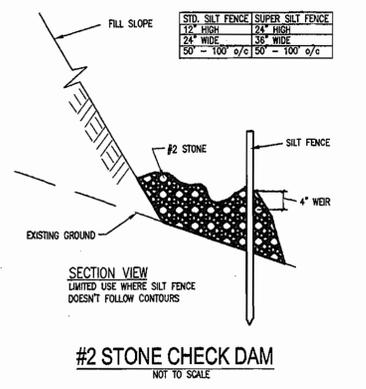
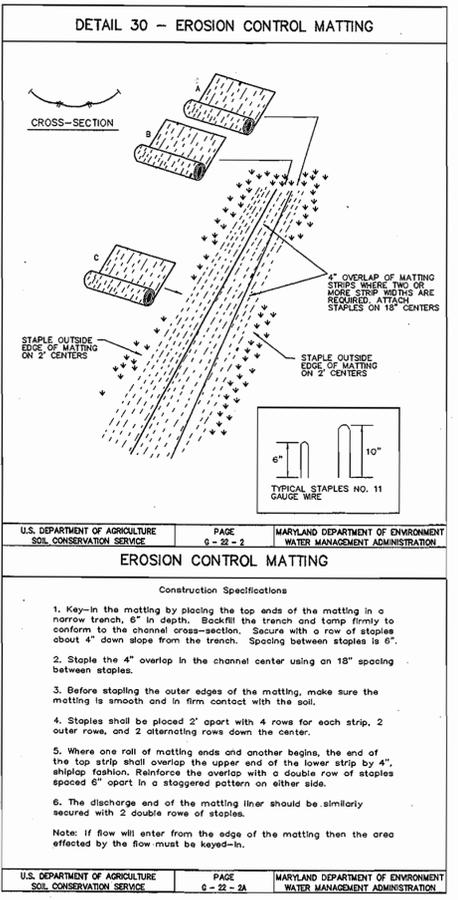
**SUPER SILT FENCE (MODIFIED)**

NOT TO SCALE



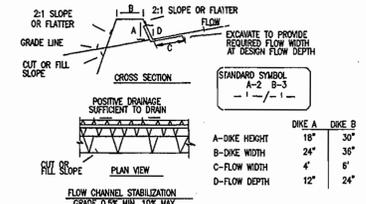
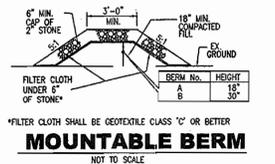
**SUPER FENCE DIVERSION**

NOT TO SCALE



**STABILIZED CONSTRUCTION ENTRANCE**

NOT TO SCALE



**EROSION AND SEDIMENT CONTROL DETAILS**

**RRIG CORPORATION PROPERTY LOT 2**

DEED REF: 6555/133  
 IMPROVEMENTS: NEW SINGLE FAMILY HOUSE  
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 TAX MAP: 24, GRID: 18  
 PARCEL: 836

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 3-17  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 3/6/09  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 3/6/09  
 DIRECTOR

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS  
 2/26/09  
 U.S.A. NATURAL RESOURCES CONSERVATION SERVICE  
 THIS DEVELOPMENT PLAN IS PROVIDED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 2/26/09  
 HOWARD SCD

**DEVELOPER'S CERTIFICATE**

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL 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.

3/12/2006  
 ISAAC GHEILER  
 DATE

**ENGINEER'S CERTIFICATE**

I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION 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 COUNTY SOIL CONSERVATION DISTRICT.

1-11-06  
 MICHAEL J. ETEL  
 DATE

BY	NO.	REVISION	DATE

**MJ CONSULTING, INC.**  
 208 Washington Ave., 2nd Floor  
 Towson, Maryland 21204  
 410-296-5288 fax 410-296-5289  
 email  
 mjconsultinginc@comcast.net

SCALE	DATE
AS SHOWN	12/1/05
DRAWN BY: TAM	DESIGNED BY: MJE
CHECKED BY: MJE	JOB NO: 02-016

**C2**



SDP 04-19

1994 MDE STANDARD SEDIMENT & EROSION CONTROL STABILIZATION NOTES

20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION SECTION 1: VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. SITE PREPARATION

- INSTALL EROSION AND SEDIMENT CONTROL STRUCTURES (GRADE STABILIZATION OR PERMANENT) SUCH AS DIVERSIONS, TRAPEZOIDAL STRUCTURES, BERMS, WATERWAYS, OR SEDIMENT CONTROL BASINS.
- PERFORM ALL GRADING OPERATIONS AT RIGHT ANGLES TO THE SLOPE. FINAL GRADING AND SHAPING IS NOT USUALLY NECESSARY FOR TEMPORARY SEEDING.
- SCHEDULE REQUIRED SOIL TESTS TO DETERMINE SOIL AMENDMENT COMPOSITION AND APPLICATION RATES FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES.

B. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

- SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OVER 5 ACRES. SOIL ANALYSIS MAY BE PERFORMED BY THE UNIVERSITY OF MARYLAND OR A RECOGNIZED COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.
- FERTILIZERS SHALL BE UNIFORM IN COMPOSITION FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROVED EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS SHALL ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE STATE FERTILIZER LAWS AND SHALL BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.
- LIME MATERIALS SHALL BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED) WHICH CONTAINS AT LEAST 50% TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIME SHALL BE GROUND TO SUCH FINENESS THAT AT LEAST 50% WILL PASS THROUGH A #100 MESH SIEVE AND 98-100% WILL PASS THROUGH A #20 MESH SIEVE.
- INCORPORATE LIME AND FERTILIZER INTO THE TOP 3"-5" OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

C. SEEDBED PREPARATION

1. TEMPORARY SEEDING

- SEEDBED PREPARATION SHALL CONSIST OF LOOSENING SOIL TO A DEPTH OF 3" TO 5" BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT. EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT, AFTER THE SOIL IS LOOSENED IT SHOULD NOT BE ROLLED OR DRAGGED OVER THE SOIL IN THE ROUGHENED CONDITION. SLOPED AREAS (GREATER THAN 3:1) SHOULD BE TRACKED LEAVING THE SURFACE IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
- APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
- INCORPORATE LIME AND FERTILIZER INTO THE TOP 3"-5" OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

2. PERMANENT SEEDING

A. MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT.

- SOIL PH SHALL BE BETWEEN 6.0 AND 7.0
- SOLUBLE SALTS SHALL BE LESS THAN 500 PARTS PER MILLION (PPM)
- THE SOIL SHALL CONTAIN LESS THAN 40% CLAY BUT ENOUGH FINE GRAINED MATERIAL (> 30% SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION IS IF LOVEGRASS OR SEROTIA LESPEDEZA IS TO BE PLANTED, THEN A SANDY SOIL (< 30% SILT PLUS CLAY) WOULD BE ACCEPTABLE.
- SOIL SHALL CONTAIN 1.5% MINIMUM ORGANIC MATTER BY WEIGHT
- SOIL MUST CONTAIN SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
- IF THESE CONDITIONS CANNOT BE MET BY SOILS ON SITE, ADDING TOPSOIL IS REQUIRED IN ACCORDANCE WITH SECTION 21: STANDARD AND SPECIFICATION FOR TOPSOIL.

B. AREAS PREVIOUSLY GRADED IN CONFORMANCE WITH THE DRAWINGS SHALL BE MAINTAINED IN A TRUE AND EVEN GRADE, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3"-5" TO PERMIT BONDING OF THE TOPSOIL TO THE SURFACE AREA AND TO CREATE HORIZONTAL EROSION CHECK SLOTS TO PREVENT TOPSOIL FROM SLIDING DOWN A SLOPE.

C. APPLY SOIL AMENDMENTS AS PER SOIL TEST OR AS INCLUDED ON THE PLANS.

D. MIX SOIL AMENDMENTS INTO THE TOP 3"-5" OF TOPSOIL BY DISKING OR OTHER SUITABLE MEANS. LAWN AREAS SHOULD BE RAKED TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION, WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION, LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE STEEP SLOPES (STEEPER THAN 3:1) SHOULD BE TRACKED BY A DOZER LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE, THE TOP 1"-3" OF SOIL SHOULD BE LOOSE AND FRABLE. SEEDBED LOOSENING MAY NOT BE NECESSARY ON NEWLY DISTURBED AREAS.

D. SEED SPECIFICATIONS

- ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED SHALL BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED SHALL HAVE BEEN TESTED WITHIN 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON THIS JOB.

NOTE: SEED TAGS SHALL BE MADE AVAILABLE TO THE INSPECTOR TO VERIFY TYPE AND RATE OF SEED USED.

2. INOCULANT - THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES SHALL BE A PURE CULTURE OF NITROGEN-FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS SHALL NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANT AS DIRECTED ON PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDRO SEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75-80°F. CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.

E. METHODS OF SEEDING

1. HYDRO SEEDING: APPLY SEED UNIFORMLY WITH HYDRO SEEDER (SLURRY INCLUDES SEED AND FERTILIZER). BROADCAST OR DROP SEEDER OR MULTIPACKER SEEDER.

- IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATE AMOUNTS WILL NOT EXCEED THE FOLLOWING: NITROGEN: MAXIMUM OF 100 LBS. PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS): 200 LBS./AC; K2O (POTASSIUM): 200 LBS./AC.

- LIME - USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDRO SEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDRO SEEDING.
- SEED AND FERTILIZER SHALL BE MIXED ON SITE AND SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.
- DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.

- SEED SPREAD DRY SHALL BE INCORPORATED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON THE TEMPORARY OR PERMANENT SEEDING SUMMARIES OR TABLES 25 OR 26. THE SEEDED AREA SHALL THEN BE ROLLED WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.

- WHERE PRACTICAL SEED SHOULD BE APPLIED IN TWO DIRECTIONS PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.

- MULCH SPECIFICATIONS (IN ORDER OF PREFERENCE):
  - STRAW SHALL CONSIST OF THOROUGHLY THRESHED WHEAT OR OAT STRAW, REASONABLY FREE IN COLOR AND SHALL NOT BE MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY AND SHALL BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE SEED LAW.
  - WOOD CELLULOSE FIBER MULCH (WCFM)

- WCFM SHALL CONSIST OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.

- WCFM SHALL BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.

- WCFM INCLUDING DYE, SHALL CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.

- WCFM MATERIALS SHALL BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL SHALL FORM A BLOTTER-LIKE GROUND COVER ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND SHALL COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.

- WCFM MATERIAL SHALL CONTAIN NO ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.

- WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH TO APPROXIMATELY 1 MM, DIAMETER APPROXIMATELY 1 MM, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.5% MAXIMUM AND WATER HOLDING CAPACITY OF 90% MINIMUM.

- ONLY STERILE STRAW MULCH SHALL BE USED IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.

- MULCHING SEEDED AREAS - MULCH SHALL BE APPLIED TO ALL SEED AREA IMMEDIATELY AFTER SEEDING.
  - IF GRADING IS COMPLETED OUTSIDE OF THE SEEDING SEASON, MULCH ALONE SHALL BE APPLIED AS PRESCRIBED IN THIS SECTION AND MAINTAINED UNTIL THE SEEDING SEASON RETURNS AND SEEDING CAN BE PERFORMED IN ACCORDANCE WITH THESE SPECIFICATIONS.
  - WHEN STRAW MULCH IS USED, IT SHALL BE SPREAD OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS/ACRE. MULCH SHALL BE APPLIED TO A UNIFORM LOOSE DEPTH OF BETWEEN 1" AND 2". MULCH APPLIED SHALL ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. IF A MULCH ANCHORING TOOL IS TO BE USED, THE RATE SHOULD BE INCREASED TO 2.5 TONS/ACRE.
  - WOOD CELLULOSE FIBER USED AS A MULCH SHALL BE APPLIED AT A NET DRY WEIGHT OF 1,500 LBS. PER ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER, AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LBS. OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

- SECURING STRAW MULCH (MULCH ANCHORING), MULCH ANCHORING SHALL BE PERFORMED IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON SIZE OR AREA AND EROSION HAZARD:
  - A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF TWO (2) INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD BE USED ON THE CONTOUR IF POSSIBLE.
  - WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. THE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 POUNDS/ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
  - APPLICATION OF LIQUID BINDERS SHOULD BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. THE REMAINDER OF AREA SHOULD BE APPLIED UNIFORM AFTER FIBER APPLICATION. SYNTHETIC BINDERS - SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH.
  - LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER'S RECOMMENDATION. NETTING IS USUALLY AVAILABLE IN ROLLS 4' TO 15' FEET WIDE AND 300 TO 3,000 FEET LONG.

- SEED MIXTURES - PERMANENT SEEDING
  - CLASS OF TURFGRASS SOD SHALL BE MARYLAND OR VIRGINIA STATE CERTIFIED OR APPROVED. SOD LABELS SHALL BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
  - SOD SHALL BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4" PLUS OR MINUS 1/4" AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS SHALL EXCLUDE TOP GROWTH AND THATCH. INDIVIDUAL PIECES OF SOD SHALL BE CUT TO THE SUPPLIERS WIDTH AND LENGTH. MAXIMUM ALLOWABLE DEVIATION FROM STANDARD WIDTHS AND LENGTHS SHALL BE 5 PERCENT. BROKEN PADS AND TORN OR UNWEIGH ENDS WILL NOT BE ACCEPTABLE. STANDARD SIZE SECTIONS OF SOD SHALL BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.
  - SOD SHALL NOT BE HARVESTED OR TRANSPORTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
  - SOD SHALL BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 96 HOURS. SOD NOT TRANSPORTED WITHIN THIS PERIOD SHALL BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

- SOD INSTALLATION
  - DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, THE SUBSOIL SHALL BE LIGHTLY IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD.
  - THE FIRST ROW OF SOD SHALL BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND TIGHTLY WEDGED AGAINST EACH OTHER. LATERAL JOINTS SHALL BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
  - WHEREVER POSSIBLE, SOD SHALL BE LAID WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERED JOINTS. SOD SHALL BE ROLLED AND TAMPED, PEGGED OR OTHERWISE SECURED TO PREVENT SLIPPAGE ON SLOPES AND TO ENSURE SOLID CONTACT BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
  - SOD SHALL BE WATERED IMMEDIATELY FOLLOWING ROLLING OR TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD SHALL BE COMPLETED WITHIN EIGHT HOURS.

- SOD MAINTENANCE
  - IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHALL BE PERFORMED DAILY OR AS OFTEN AS NECESSARY DURING THE FIRST WEEK AND IN SUFFICIENT QUANTITIES TO MAINTAIN MOIST SOIL TO A DEPTH OF 4". WATERING SHOULD BE DONE DURING THE HEAT OF THE DAY TO PREVENT WILTING.
  - AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
  - THE FIRST MOWING OF SOD SHOULD NOT BE ATTEMPTED UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF SHALL BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2" AND 3" UNLESS OTHERWISE SPECIFIED.

- SEED MIXTURES - TEMPORARY SEEDING
  - SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 26 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 5) AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW, ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLANS AND COMPLETED, THEN TABLE 26 MUST BE PUT ON THE PLANS.
  - FOR SITES HAVING SOIL TESTS PERFORMED, THE RATES SHOWN ON THIS TABLE SHALL BE DELETED AND THE RATES RECOMMENDED BY THE TESTING AGENCY SHALL BE WRITTEN IN. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.

TEMPORARY SEEDING SUMMARY

SEED MIXTURE (HARDINESS ZONE 6B) (FROM TABLE 26)				FERTILIZER RATE (10-10-10)	LIME RATE
SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATE	SEEDING DEPTHS		
BARLEY	122 LBS./AC.	3/1-4/30 8/15-10/15	1" - 2"	600 LBS./AC. (15 LB/1000 SF)	2 TONS/AC. (100 LB/1000 SF)
RYE	140 LBS./AC.	3/1-4/30 8/15-11/15	1" - 2"		
ANNUAL RYEGRASS	50 LBS./AC.	3/1-4/30 8/15-11/15	1/4" - 1/2"		

\*FOR 5/1 TO 8/14: USE BARLEY OR RYE PLUS FOXTAIL MILLET (150lbs/ac.), PLANTING DEPTH: 1"

PERMANENT SEEDING  
SEEDING GRASS AND LEGUMES TO ESTABLISH GROUND COVER FOR A MINIMUM PERIOD YEAR ON DISTURBED AREAS GENERALLY RECEIVING LOW MAINTENANCE.

A. SEED MIXTURES - PERMANENT SEEDING

- SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 25 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 5) AND ENTER THEM IN THE PERMANENT SEEDING SUMMARY BELOW, ALONG WITH APPLICATION RATES AND SEEDING DATES. SEEDING DEPTHS CAN BE ESTIMATED USING TABLE 26. IF THIS SUMMARY IS NOT PUT ON THE CONSTRUCTION PLANS AND COMPLETED, THEN TABLE 25 MUST BE PUT ON THE PLANS. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAMBANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-SCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING, FOR SPECIAL LAWN MAINTENANCE AREAS, SEE SECTIONS IV SOD AND V TURFGRASS.

- FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, THE RATES SHOWN ON THIS TABLE SHALL BE DELETED AND THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY SHALL BE WRITTEN IN.

- FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA/FORM FERTILIZER (46-0-0) AT 3 L/2 LBS/1000 SQ.FT. (150 LBS/AC), IN ADDITION TO THE ABOVE SOIL AMENDMENTS SHOWN IN THE TABLE BELOW, TO BE PERFORMED AT THE TIME OF SEEDING.

PERMANENT SEEDING SUMMARY

SEED MIXTURE (HARDINESS ZONE 6B) (FROM TABLE 25)				FERTILIZER RATE (10-20-20)			LIME RATE	
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATE*	SEEDING DEPTHS	N	P205		K20
1	TALL FESCUE (75%) CANADA BLUEGRASS (10%) KENTUCKY BLUEGRASS (10%) REDFOXTAIL (5%)	150 lbs./ac. TOTAL COMBINED	3/1 - 5/15 8/15 - 10/15	1/4" - 1/2"	80 LBS./AC. (2.0 LB/1000 S.F.)	175 LBS./AC. (4 LB/1000 S.F.)	175 LBS./AC. (4 LB/1000 S.F.)	2 TONS/AC. (100 LB/1000 S.F.)
3	TALL FESCUE (85%) PERENNIAL RYEGRASS (10%) KENTUCKY BLUEGRASS (5%)	125 lbs./ac. 15 lbs/ac 10 lbs/ac	3/1 - 5/15 8/15 - 10/15	1/4" - 1/2"	80 LBS./AC. (2.0 LB/1000 S.F.)	175 LBS./AC. (4 LB/1000 S.F.)	175 LBS./AC. (4 LB/1000 S.F.)	2 TONS/AC. (100 LB/1000 S.F.)

NOTE: FOR STANDARD AND SPECIFICATION FOR VEGETATIVE STABILIZATION, SEE SECTION G - "VEGETATIVE PRACTICES IN THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL". \*FOR 5/16 TO 8/14 ADD 10 LBS. OF MILLET PER ACRE IN EACH SEED MIXTURE.

SECTION II - TEMPORARY SEEDING

VEGETATION - ANNUAL GRASS OR GRAIN USED TO PROVIDE COVER ON DISTURBED AREAS FOR UP TO 12 MONTHS. FOR LONGER DURATION OF VEGETATIVE COVER, PERMANENT SEEDING IS REQUIRED.

A. SEED MIXTURES - TEMPORARY SEEDING

- SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 26 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 5) AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW, ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLANS AND COMPLETED, THEN TABLE 26 MUST BE PUT ON THE PLANS.

- FOR SITES HAVING SOIL TESTS PERFORMED, THE RATES SHOWN ON THIS TABLE SHALL BE DELETED AND THE RATES RECOMMENDED BY THE TESTING AGENCY SHALL BE WRITTEN IN. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.

GEOTEXTILE FABRIC MATERIAL SPECIFICATIONS

Table 27 Geotextile Fabrics

CLASS	APPARENT OPENING SIZE MM. MAX.	GRAB TENSILE STRENGTH LB. MIN.	BURST STRENGTH PSI. MIN.
A	0.30 **	250	500
B	0.60	200	320
C	0.30	200	320
D	0.60	90	145
E	0.30	90	145
F (SLT FENCE)	0.40-0.80*	90	190

\* US Std Sieve CW-02215 \*\* .50 mm. max. for Super Silt Fence

THE PROPERTIES SHALL BE DETERMINED IN ACCORDANCE WITH THE FOLLOWING PROCEDURES:

-APPARENT OPENING SIZE MSMT 323

-GRAB TENSILE STRENGTH ASTM D 1682: 4X8" SPECIMEN, 1X2" CLAMPS, 12"/MIN. STRAIN RATE IN BOTH PRINCIPAL DIRECTIONS OF GEOTEXTILE FABRIC.

-BURST STRENGTH ASTM D 3786

THE FABRIC SHALL BE INERT TO COMMONLY ENCOUNTERED CHEMICALS AND HYDROCARBONS, AND WILL BE ROT AND MILDOW RESISTANT. IT SHALL BE MANUFACTURED FROM FIBERS CONSISTING OF LONG CHAIN SYNTHETIC POLYMERS, AND COMPOSED OF A MINIMUM OF 85% BY WEIGHT OF POLYOLEFINS, POLYESTERS, OR POLYAMIDES. THE GEOTEXTILE FABRIC SHALL RESIST DEGRADATION FROM ULTRAVIOLET EXPOSURE.

IN ADDITION, CLASSES A THROUGH E SHALL HAVE A 0.01 CM/SEC. MINIMUM PERMEABILITY WHEN TESTED IN ACCORDANCE WITH MSMT 507, AND AN APPARENT MINIMUM ELONGATION OF 20 PERCENT (20%) WHEN TESTED IN ACCORDANCE WITH THE GRAB TENSILE STRENGTH REQUIREMENTS LISTED ABOVE.

SLT FENCE CLASS F GEOTEXTILE FABRICS FOR SLT FENCE SHALL HAVE A 50 LB./IN. MINIMUM TENSILE STRENGTH AND A 20 LB./IN. MINIMUM TENSILE MODULES WHEN TESTED IN ACCORDANCE WITH MSMT 509. THE MATERIAL SHALL ALSO HAVE A 0.3 GAL./FT.2/MIN. FLOW RATE AND SEVENTY-FIVE PERCENT (75%) MINIMUM FILTERING EFFICIENCY WHEN TESTED IN ACCORDANCE WITH MSMT 322.

GEOTEXTILE FABRICS USED IN THE CONSTRUCTION OF SLT FENCE SHALL RESIST DEGRADATION FROM ULTRAVIOLET EXPOSURE. THE FABRIC SHALL CONTAIN SUFFICIENT AMOUNTS OF ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 12 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 TO 120 DEGREES F.

STONE SIZE AND MATERIAL SPECIFICATIONS

1994 MDE Table 28

	SIZE RANGE	D 50	D 100	AASHTO	WEIGHT
NUMBER 57 *	3/8"-1 1/2"	1/2"	1 1/2"	M-43	N/A
NUMBER 1	2"-3"	2 1/2"	3"	M-43	N/A
RIP-RAP **	4"-7"	5 1/2"	7"	N/A	N/A
CLASS I	N/A	9.5"	15"	N/A	150 LB MAX.
CLASS II	N/A	16"	24"	N/A	700 LB MAX.
CLASS III	N/A	23"	34"	N/A	200 LB MAX.

\* This classification is to be used on the inside face of stone outlets and check dams.

\*\* This classification is to be used when ever small rip-rap is required. The State Highway Administration designation for this stone is Stone For Gabions (90S.01.04).

Stone For Gabion Baskets

BASKET THICKNESS	SIZE OF INDIVIDUAL STONES	
	INCHES	MM
6	150	3-5
9	225	4-7
12	300	4-7
18	460	4-7
36	910	4-12

NOTE: Recycled concrete equivalent may be substituted for all stone classifications. Recycled concrete equivalent shall be concrete broken into the sizes meeting the appropriate classification, shall contain no steel reinforcement, and shall have a density of 150 pounds per cubic foot.

EROSION AND SEDIMENT CONTROL SPECIFICATIONS AND NOTES

RRIG CORPORATION PROPERTY LOT 2

DEED REF: 6555/133  
IMPROVEMENTS: NEW SINGLE FAMILY HOUSE  
2ND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
TAX MAP: 24, GRID: 18  
PARCEL: 836

MJ CONSULTING, INC.  
208 Washington Ave., 2nd Floor  
Towson, Maryland 21204  
410-296-5288 fax 410-296-5289  
email  
mjconsultinginc@comcast.net

SCALE AS SHOWN  
DATE: 12/1/05  
DRAWN BY: BEI  
DESIGNED BY: MJE  
CHECKED BY: MJE  
JOB NO: 02-016

C3

SDP 04-19

APPROVED: DEPARTMENT OF PLANNING AND ZONING

3-1-2  
DATE  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
3/6/07  
DATE  
CHIEF, DIVISION OF LAND DEVELOPMENT  
3/6/07  
DATE  
DIRECTOR

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS  
3/2/07  
DATE  
Jesse Meyer  
3/2/07  
DATE  
THIS DEVELOPMENT PLAN IS REVIEWED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
3/2/07  
DATE  
HOWARD SCD

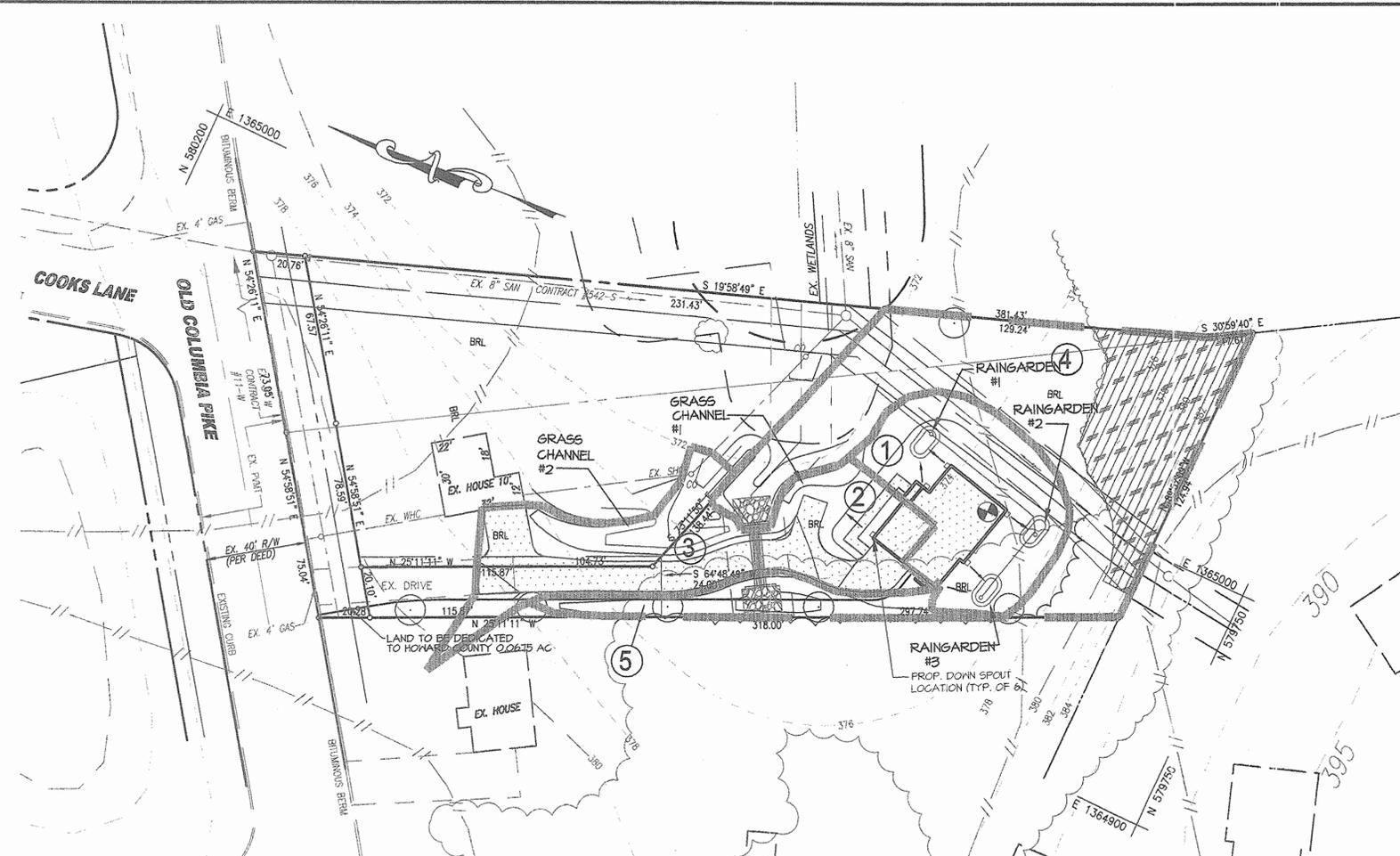
DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL 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."  
3/2/07  
DATE  
ISAAC GHEILER

ENGINEER'S CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION 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 COUNTY SOIL CONSERVATION DISTRICT."  
1-11-06  
DATE  
MICHAEL J. ERTLE

BY NO. REVISION DATE



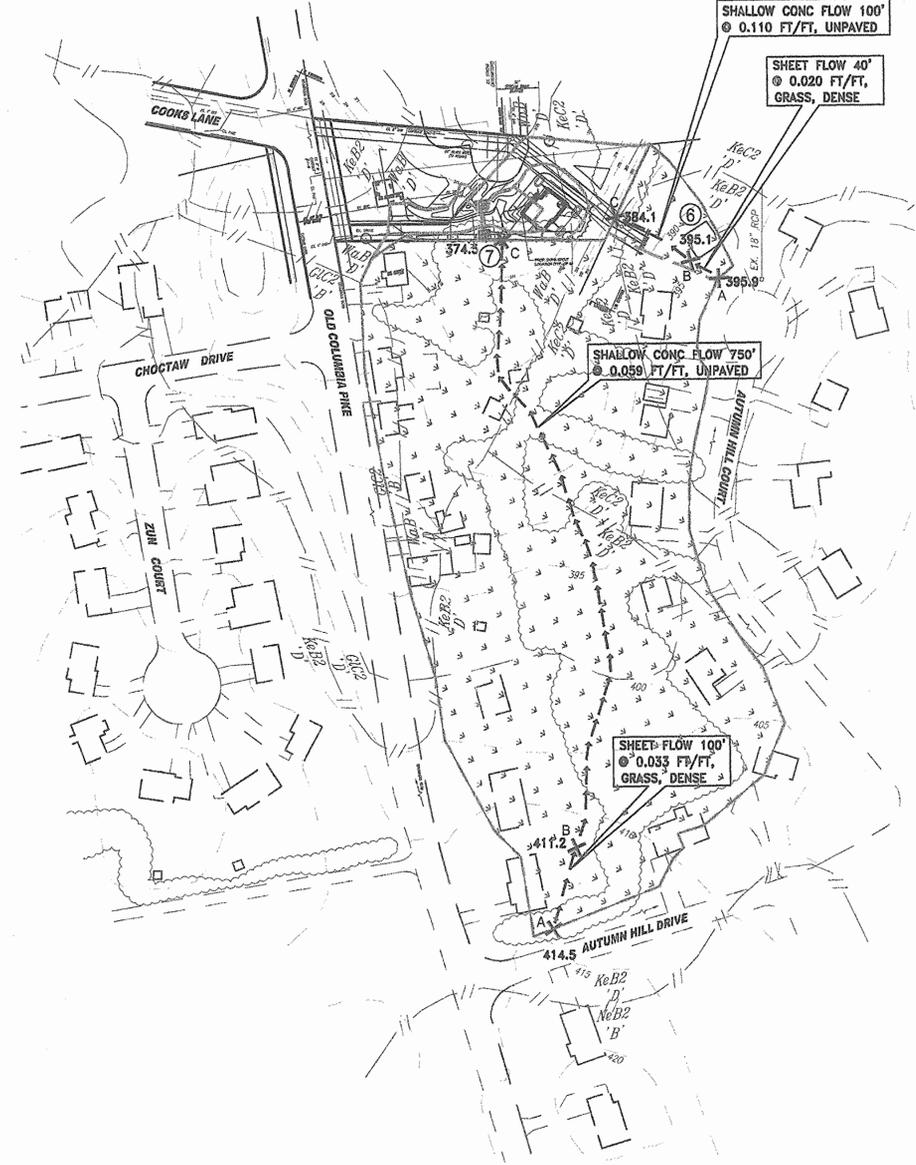
ONSITE DRAINAGE AREA MAP  
SCALE: 1" = 30'

LAND USE LEGEND

- 1/2 ACRE LOTS
- OPEN SPACE
- IMPERVIOUS
- WOODS

LEGEND

- EX. PROPERTY LINE
- EX. R/W
- EX. 2' CONTOUR
- EX. 10' CONTOUR
- EX. STORM DRAIN
- EX. WATER
- EX. SANITARY
- EX. WOODS LINE / VEGETATION
- SUPER SILT FENCE
- EASEMENT
- WETLAND BUFFER
- STREAM BUFFER
- SOILS LINE
- WETLAND



OFFSITE DRAINAGE AREA MAP  
SCALE: 1" = 100'

DRAINAGE AREA MAP  
RRIG CORPORATION PROPERTY  
LOT 2



DEED REF: 6555/133      2ND ELECTION DISTRICT      TAX MAP: 24, GRID: 18  
IMPROVEMENTS: NEW SINGLE FAMILY HOUSE      HOWARD COUNTY, MARYLAND      PARCEL: 836

MJ CONSULTING, INC.  
208 Washington Ave., 2nd Floor  
Towson, Maryland 21204  
410-296-5288 fax 410-296-5289  
email  
mjconsultinginc@comcast.net

SCALE 1" = 30'	DATE: 12/1/05
DRAWN BY: BEI	DESIGNED BY: MJE
CHECKED BY: MJE	JOB NO: 02-016

C4

APPROVED: DEPARTMENT OF PLANNING AND ZONING

	3-17
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
	3/6/07
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
	3/6/07
DIRECTOR	DATE

BY	NO.	REVISION	DATE

SDP 04-19

TABLE 4B - MATERIALS SPECIFICATIONS FOR RAINGARDENS

Material	Specification	Size	Notes
Plantings	See Table R.5	N/A	Plantings are Site Specific
Plantings Soil (2 1/2' to 4' deep)	Send: 30% to 60% Silt; 30% to 35% Clay; 0% to 25%	N/A	USDA soil types loamy sand, sandy loam or loam
Mulch	Shredded Hardwood	N/A	Aged six months minimum
Geotextile	Class "C" - apparent opening size (ASTM-D-4751), grab tensile strength (ASTM-D-4632), puncture resistance (ASTM-D-4833)	N/A	Use as necessary beneath underdrains only
Underdrain	ASHTO M-43 #67 or # 67	3/8" to 3/4"	
Piping	F 750, Type PS-2B or ASHTO M-27B	4" to 6" rigid schedule 40 PVC, SDR35, or HDPE	3/8" perforations @ 6" on center, 4 holes per row; minimum of 3" gravel over pipes; gravel not necessary beneath pipes

D. PLANTING INSTALLATION

Mulch should be placed uniform thickness of 2 to 3 inches. Root stock of the plant material shall be kept moist during transportation and on site storage. The plant root ball should be planted so that 1/2" of the soil is above final grade surface. The diameter of the planting pit should be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight (upright) during the planting process. Thoroughly water ground bed cover after installation.

Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball.

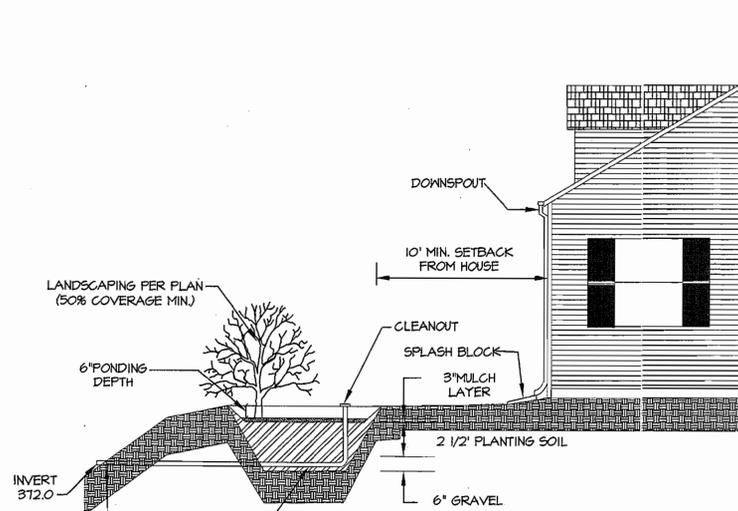
Grasses and legume seed should be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the non-grass ground cover specifications.

The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the raingarden is to improve water quality. Adding fertilizers, pesticides, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch is used to amend the soil.

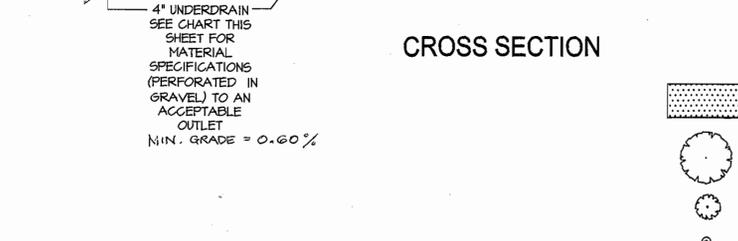
E. PLANTING GUIDANCE

Plant material selection should be based on the goal of stimulating a terrestrial community of species but may be tailored to various gardening themes. Raingardens stimulate upland-species ecosystems that are dominated by trees and herbaceous materials but may also contain trees. By creating a diverse, dense plant cover, the raingarden will be able to treat stormwater runoff and withstand urban stresses from insects, disease, drought, temperature, wind and exposure.

The proper selection and installation of plant materials is key to a successful system. There are essentially three zones within a raingarden. The lowest elevation supports plant species that are adapted to standing or fluctuating water levels. The middle elevation supports plants that like drier soil conditions but may tolerate occasional inundation by water. The outer edge is the highest elevation and generally supports plants adapted to drier conditions. A listing of appropriate plant materials is included in Appendix A of the Design Manual and Appendix I of these instructions. The layout of plant material should be flexible, but should also follow the general principles outlined in Table 4B. The objective is to have a system that resembles a random and natural plant layout, while maintaining optimal plant conditions for plant establishment and growth.

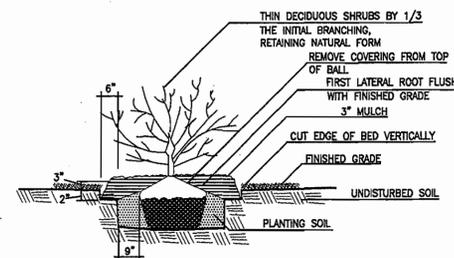


CROSS SECTION

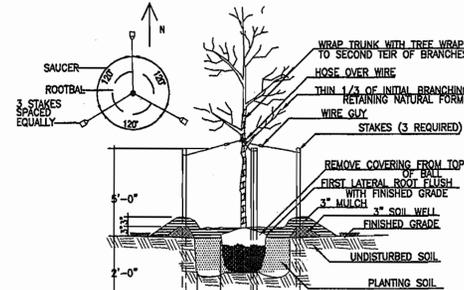


NOTE: UNLESS OTHERWISE NOTED, DIRECT ALL DOWN SPOUTS TO PROPOSED RAINGARDENS. SEE THE FLOW ARROWS ON THE DRAINAGE AREA MAP

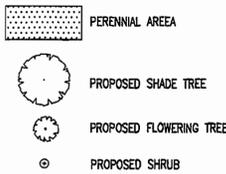
TYPICAL RAINGARDEN DETAIL



SHRUB DETAIL



DECIDUOUS TREE DETAIL



PLANT LIST:

SHADE TREES

KEY	QUANTITY	BOTANICAL NAME/ COMMON NAME	SIZE	ROOT	REMARKS
T-1	1	Quercus phellos Willow oak	2"-2 1/2"	B & B	Raingarden 'A'
T-1	1	Quercus palustris Pin oak	2"-2 1/2"	B & B	Raingarden 'B'

FLOWERING TREES

F-1	1	Silky dogwood Cornus amomum	6" - 7"	B & B	Raingarden 'A'
F-1	1	Red osier dogwood Cornus stolonifera	1 3/4"-2"	B & B	Raingarden 'B'

SHRUBS

S-1	2	Hypericum densiflorum Busy St. John's wort	24"-30"	Cont.	Raingarden 'A'
S-1	2	Rhododron viscosum Swamp azalea	24"-30"	Cont.	Raingarden 'B'
S-2	2	Ilex verticillata Winterberry	24"-30"	Cont.	

PERENNIALS

P-1	9	Vinca major Large periwinkle		Cont.	Raingarden 'A'
P-1	9	Vinca minor Common periwinkle		Cont.	Raingarden 'B'
P-2	9	Iris kaempferi Japanese water iris		Cont.	Raingarden 'A'
P-2	9	Iris pseudocorus Yellow water iris		Cont.	Raingarden 'B'
P-3	9	Hemerocallis fulva Day lily		Cont.	

LANDSCAPE PLAN GENERAL NOTES

- CONTRACTOR SHALL CONTACT "MISS UTILITY" (800-257-7777) AND SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA PRIOR TO INSTALLATION OF PLANT MATERIAL.
- PROPOSED LOCATIONS OF PLANT MATERIAL SHALL BE STAKED IN THE FIELD BY THE CONTRACTOR FOR APPROVAL BY OWNER'S REPRESENTATIVE PRIOR TO PLANTING.
- PLANT MATERIAL AND BEDS SHALL RECEIVE A MINIMUM 3-INCH DEPTH OF MULCH.
- ALL AREAS DISTURBED BY PLANTING OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
- QUANTITIES OF TREES, EVERGREENS, AND SHRUBS NOTED ON THE PLANT LIST ARE BASED UPON THE GRAPHIC SYMBOLS SHOWN ON THE DRAWINGS. CONTRACTOR SHALL PROVIDE AND INSTALL THESE ITEMS BASED UPON GRAPHIC SYMBOL QUANTITIES. CONTACT OWNER'S REPRESENTATIVE IF A DIFFERENCE IS FOUND BETWEEN THE QUANTITIES NOTED IN THE PLANT LIST AND THE SYMBOL COUNT OF PLANT MATERIALS SHOWN ON THE DRAWINGS.
- QUANTITIES OF GROUNDCOVERS, PERENNIALS, ANNUALS, BULBS, AND ORNAMENTAL GRASSES SHALL BE AS NOTED IN THE PLANT LIST REGARDLESS OF THE NUMBER OF GRAPHIC SYMBOLS SHOWN ON THE DRAWINGS.
- ALL PLANT MATERIALS SHALL BE NURSERY GROWN AND SHALL COMPLY WITH THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1), LATEST EDITION, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- ALL TREES TO CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN'S STANDARDS: SECTION 1.1.2-HEIGHT OF BRANCHING. ALL TREES TO BE MATCHED.
- ALL PLANT MATERIALS TO BE FULL HEAVY SPECIMENS.
- ALL AREAS WITHIN THE LIMIT OF DISTURBANCE OTHER THAN PAVEMENTS, WALKS, WALLS AND PLANTING BEDS SHALL BE SEEDED LAWN.

STORMWATER MANAGEMENT SPECIFICATIONS AND DETAILS  
RRIG CORPORATION PROPERTY LOT 2

DEED REF: 6555/133 2ND ELECTION DISTRICT TAX MAP: 24, GRID: 18  
IMPROVEMENTS: NEW SINGLE FAMILY HOUSE HOWARD COUNTY, MARYLAND PARCEL: 836

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SCALE AS SHOWN	DATE: 12/1/05
DRAWN BY: TAM	DESIGNED BY: MJE
CHECKED BY: MJE	JOB NO: 02-016

C5

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
3-1-7  
DATE  
3/6/02  
DATE  
3/6/02  
DATE

BY	NO.	REVISION	DATE

SDP 04-19