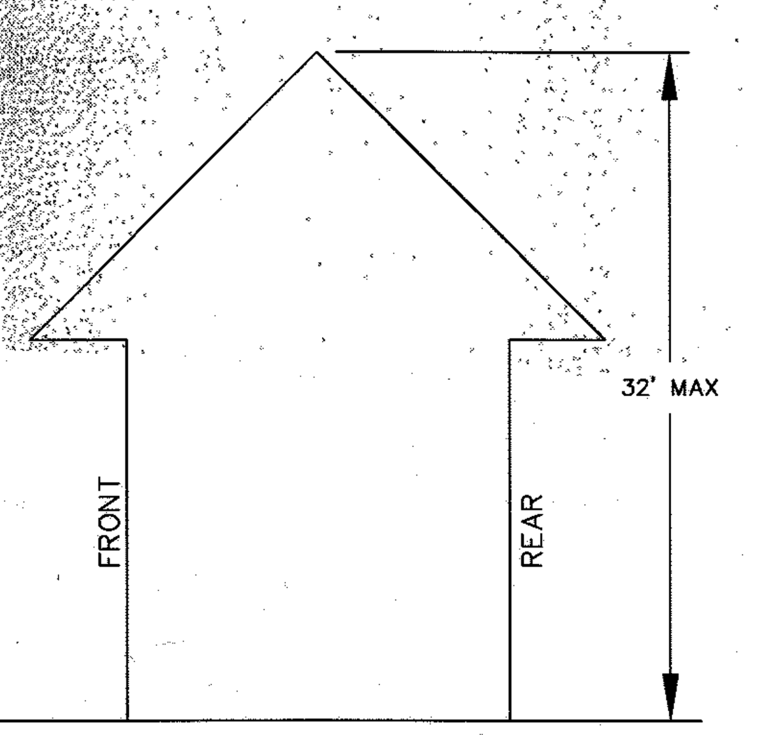
SHEET INDEX
1. COVER SHEET
2. E&S PLAN
3. DETAILS
4. SEC NOTES

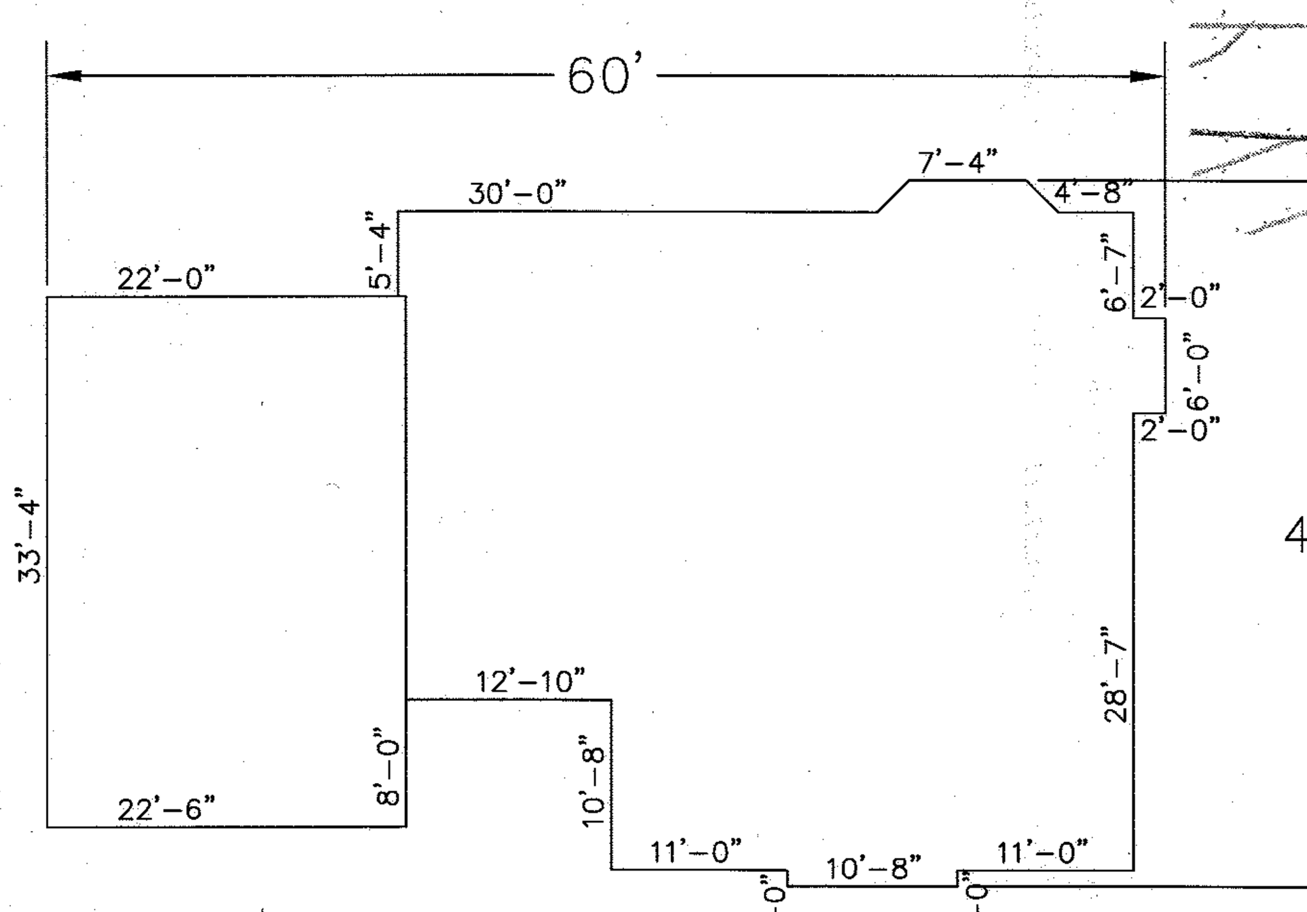
SITE ANALYSIS
THE SITE IS TO BE REGRADED TO REDUCE THE STEEP SLOPES AS MUCH AS POSSIBLE. ESD WILL BE PROVIDED BY THE BIORETENTION AREA IN THE SOUTHERN CORNER OF THE SITE.

WETLANDS – 0.0 ACRES
FLOODPLAINS – 0.0 ACRES
FOREST – 0.0 ACRES
STEEP SLOPES >15% – 0.18 ACRES
TOTAL LOT AREA – 0.828 ACRES
LIMIT OF DISTURBANCE – 0.80 ACRES
GREEN/OPEN SPACE – 0.628 ACRES
IMPERVIOUS AREA – 0.20 ACRES
SINGLE FAMILY RESIDENTIAL USE
TOTAL AREA OF PARCEL 425: 0.79 AC OR 34,412 SQ. FT.
ZONING: R-12
MAXIMUM HEIGHT: 34 FEET FOR PRINCIPLE STRUCTRE; 15 FEET FOR ACCESSORY STRUCTURE
EXISTING USE: VACANT (UNDEVELOPED)
PROPOSED USE: SINGLE-FAMILY DETACHED RESIDENTIAL DWELLING
BUILDING COVERAGE: 2538 SQ. FT./ 0.07%
PARGING REQUIRED @ 2 SPACES PER DWELLING UNIT: 2 SPACES
PARKING PROVIDED: 2 IN GARAGE; 2 SPACES IN PAVEMENT OUTSIDE GARAGE; 4 TOTAL

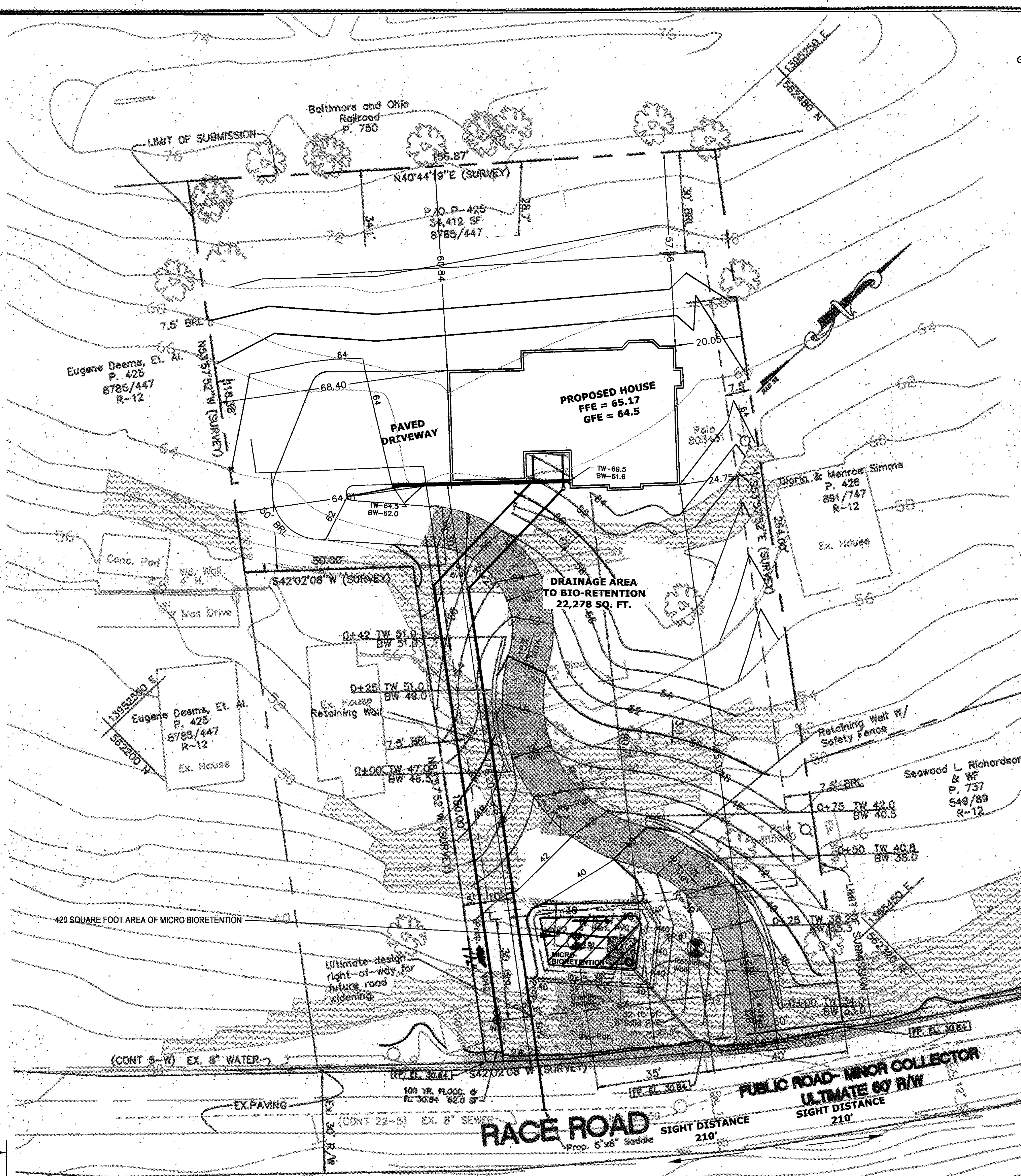
EXISTING DPZ FILE NUMBER SDP-07-026



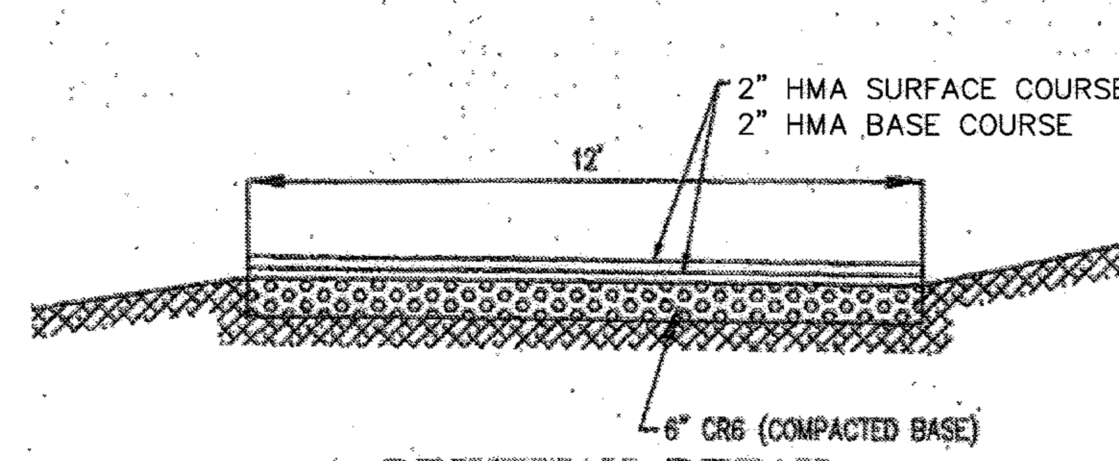
HOUSE SCHEMATIC
NOT TO SCALE



HOUSE PLAN
NOT TO SCALE



▨ = FILTER MEDIA @ BIO RETENTION AREA



DRIVEWAY DETAIL
NOT TO SCALE

DESIGN NARRATIVE
– THE SITE HAS SOME EXISTING STEEP SLOPES (0.18 ACRES) AND THEY ARE FROM THE PREVIOUS USE OF A SINGLE FAMILY HOME AND NATURAL GRADES. THE AREA DISTURBED FOR THIS PROJECT WILL BE STABILIZED WITH AS MUCH OF A REDUCTION IN SLOPE AS POSSIBLE.
– ALL NATURAL DRAINAGE PATTERNS ARE TO BE PRESERVED WITH VERY MINIMAL CHANGES.
– EROSION CONTROL FILTER LOGS WILL BE USED TO KEEP SEDIMENTS FROM LEAVING THE SITE AND TREAT/FILTER THE WATER LEAVING THE SITE DURING CONSTRUCTION.
– THE ESD BMP TO BE UTILZED ON SITE IS A MICRO BIORETENTION AREA THAT WILL PROVIDE THE REQUIRED TREATMENT VOLUME.

HYDROLOGY SUMMARY
THE EXISTING SITE IS UNDEVELOPED AND THE CURRENT OWNER IS REVISING THE LAYOUT OF THE PROPOSED DWELLING. THE SITE HAS BEEN ANALYZED USING THE MARYLAND ESD WORKSHEET AND THEN THE PROPOSED BIORETENTION AREA SIZED TO PROVIDE THE NECESSARY WATER QUALITY TREATMENT.

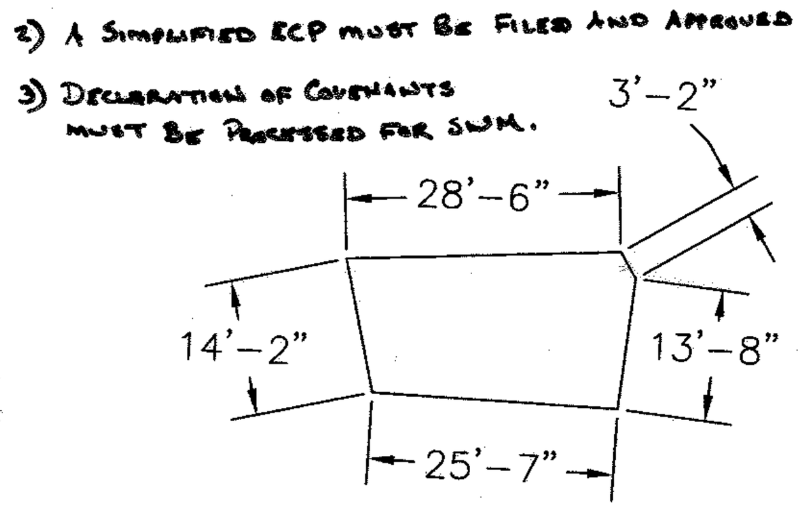
GENERAL NOTES:

1. The contractor shall notify the Department of Public Works/Bureau of Engineering/Construction Division at 410-313-1880 at least five (5) working days prior to the start of work.
2. The contractor shall notify Miss utility at 1-800-257-7777 at least 48 hours prior to any excavation work being done.
3. The existing topography is taken from aerial topo, and field verified in March 2007 by Marks and Associates.
4. The coordinate shown hereon are based upon Howard County Geodetic Control which is based upon the Maryland State Plane Coordinate System. Howard County Monument No. 38BM1 and 38WM1 were used for this project.
5. Any damage to Howard County Right-of-Way shall be corrected at the developer's expense.
6. The subject property is zoned R-12 per the October 6, 2013 Comprehensive Zoning Plan.
7. Driveways shall be provided prior to issuance of a use and occupancy permit for any new dwellings to insure safe access for fire and emergency vehicles per the following minimum requirements:
   - Width - 12' (16' serving more than one residence)
   - Surface - 6" of compacted crusher run base with tar and chip coating (1-1/2" minimum)
   - Geometry - Max. 15% grade max. 10% grade change and minimum 45' turning radius.
   - Structures (culverts/bridges) capable of supporting 25 gross tons. (H 25 loading)
   - Drainage easements - Capable of safely passing the 100 year flood with no more than 1-foot depth over the driveway surface
   - Maintenance - Sufficient to ensure all-weather use.
8. This project is in conformance with the latest Howard County standards unless waivers have been approved.
9. This property is located within the Metropolitan District. The water and sewer is public. The contract number is : 5-W/111-S.
10. Water and sewer service to this parcel will be granted under the provisions of Section 18.122.B of the Howard County Code. Public water and sewerage allocation will be granted at time of issuance of building permit if capacity is available at that time.
11. The on-site and off-site contiguous steep slopes are less than 20,000 square feet.
12. This site contains retaining walls that are at or under 3 feet in height. In accordance with Section 16.128.0.9.a.(3) of the Zoning Regulations.
13. Stormwater management is provided by the Bioretention area.
14. This project is exempt from the requirements of Section 16.1200 of the Howard County Code for Forest Conservation since this parcel is less than 40,000 square feet in area, per Section 16.1202(b)(1)(i) of the Howard County code.
15. Landscaping for this site has been provided in accordance with Section 16.124 of the Howard County Code and Landscape Manual. A total of 12 shade trees are required and a surety of $3,600 shall be paid with the builders' grading permit application.
16. This plan is subject to waiver request WP-16-103 that was approved on Aril 5, 2016. There were six conditions of the approval; SEE NOTE 20 FOR THE CONDITIONS OF APPROVAL.

A redline revision (or replacement sheets) request to SDP-07-026 for the proposed site improvements, house changes, and associated lot grading must be submitted within 90 days prior to the DPZ, processed and approved prior to any application for permits for

a. grading/construction on the site. The redline revision request shall be submitted directly to the DPZ, Development Engineering Division (DED) for processing and approval.
b. A simplified Environmental Concept Plan must be filed and approved by the Development Engineering Division prior t the submittal of the redline revision.
c. Declaration of Covenants for Stormwater management purposes must be processed as part of the redline revision approval. Contact DPZ, DED directly.
d. Within 90 days of the redline revision approval, the owner and/or builder must file for building permits with the Department of Inspection, Licenses and permits (DILP)
e. The required perimeter landscaping, with appropriate landscape surety, must be provided as part of the redline revision to SDP-07-026.
f. Reference to this waiver petition request. Decision and conditions of approval on the cover sheet of the redline revision/replacements for SDP-07-026.

17. Previous DPZ file reference: WP-07-130 (waived Section 16.115.(c)(2) and 16.116(b)(1) of the Amended 5th edition of the Subdivision and Land Development Regulations.
18. The retaining walls are to be built per the detail shown on sheet 4 of these plans.
19. Sight distance is shown on this sheet at the entrance location.
20. WP-16-103 WAIVED SUBDIVISION/LAND DEVELOPMENT SECT. 16.156(O)(1)(I) and (O)(2) SUBJECT TO THE FOLLOWING 6 CONDITIONS:
   1) A REDLINE REVISION REQUEST TO SDP-07-026 MUST BE APPROVED FOR THE PROPOSED SITE IMPROVEMENTS
   2) A SIMPLIFIED ECP MUST BE FILED AND APPROVED BY DED
   3) DECLARATION OF COVENANTS MUST BE PROCESSED FOR SWM.
   4) WITHIN 90 DAYS OF THE REDLINE REVISION APPROVAL, THE OWNER OR BUILDER MUST APPLY FOR BUILDING PERMITS WITH DILP.
   5) THE REQUIRED LANDSCAPING MUST BE PROVIDED, WITH THE APPROPRIATE SURETY.
   6) REFERENCE THIS WAIVER PETITION ON SDP-07-026



BIORETENTION AREA DIMENSIONS.

ADDRESS CHART						
Parcel No.	STREET ADDRESS					
P/O 425	5824 Race Road					
PERMIT INFORMATION CHART						
Liber: 16630 00020 Folio: 449	BLOCK 6	ZONE R-12	TAX/ZONE MAP 38	ELEC. DIST. 1st	CENSUS TR. 6011.02	
PLAT N/A	WATER CODE 5W		SEWER CODE 26-S			

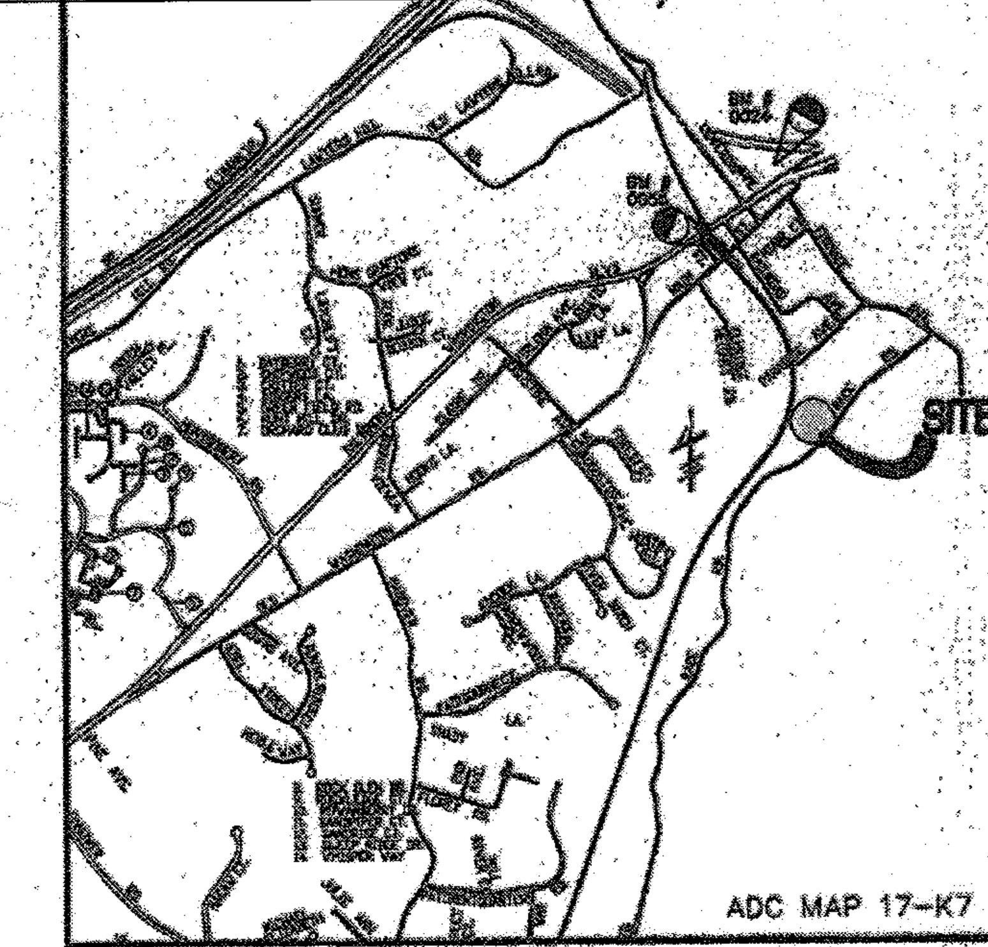
Professional Certification
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 22821, Expiration Date: 2018-09-01.

STATE OF MARYLAND MICHAEL DONALD HARRIS No. 22821 REGISTERED PROFESSIONAL ENGINEER

3-17-08
Date

STATE OF MARYLAND JOHN R. HEINRICHS REGISTERED PROFESSIONAL ENGINEER

[illegible]
JOHN R. HEINRICHS
Professional Engr. No. 14920



VICINITY MAP
SCALE: 1"=2000'

BM# 0024 NAD83 Elevation: 26.934'
Description: Brass disc, located at the intersection of southbound US. Rt. 1 and the off ramp from I-895, 600' +\- east of Levering Avenue, 81.75' NE of BGE Pole #229974
Northing: 565065.4512
Easting: 1395212.1044

BM# 0055 NAD83 Elevation: 68.812'
Description: Brass disc located in a concrete wingwall 9.3' east of the intersection of US RT 1 and the B&O Railroad tracks
Northing: 564363.703
Easting: 1394202.3634

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[illegible] Chief, Development Engineering Division	10-12-16 Date
[illegible] Chief, Division of Land Development	10-17-16 Date
[illegible] Director	10-19-16 Date

Date	No	Revision Description
9/08/16	2	FINAL REVISION PER COMMENTS
6/22/16	1	REVISED HOUSE PER CURRENT OWNER

OWNER/DEVELOPER
JUSTIN & SARAH PORTS
4608 MEWS DRIVE
OWINGS MILLS, MD 21117

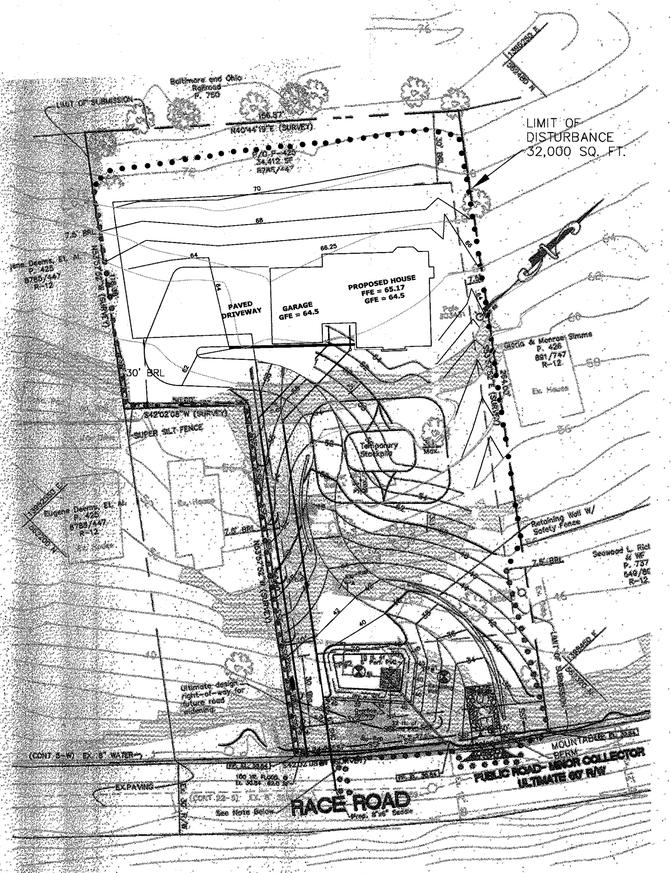
PREPARED BY:
PHOENIX ENGINEERING, INC.
CONSULTING ENGINEERS
1420 JOH AVENUE, SUITE A
BALTIMORE, MARYLAND 21227
(410) 247-8833 FAX 247-8397

PROJECT LOCATION:
ELKRIDGE
GRID: 4 PARCEL: P/O 425
CENSUS TRACT 6011.02 TAX MAP: 38
DEED: 8785/447 1 ST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
THE PROPERTY AT 5824 RACE ROAD
REVISED SITE DEVELOPMENT PLAN

Des By: R.J.W.	Scale: 1"=20'	Proj No: 05-058	
Drn By: S.E.W.	Date: July, 2007	Drawing: ps03.dwg	
Chk By: J.R.H.	SDP 07-026	1 OF 4	

SDP 07-026



SEDIMENT CONTROL PLAN

SCALE: 1"=30'

A DOUBLE ROW OF "SUPER" SILT FENCE IS TO BE INSTALLED ALONG RACE ROAD AT THE DIRECTION OF CID INSPECTOR.

UTILITY NOTES:

a. Contractor shall open only that section of trench that can be backfilled and stabilized each day. If the trench must remain open longer than one day, silt fence shall be placed below (down slope of) the trench.

b. Place all excavated material on the upside of the trench.

c. Any sediment controls disturbed by utility construction are to be repaired immediately.

THE TOPSOIL STOCKPILE CAN BE RELOCATED ON SITE WITH THE PERMISSION OF THE CID.

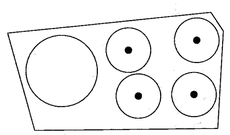
ALL GRADED AREAS THAT ARE SLOPED 4:1 TO 3:1 SLOPES ARE TO BE STABILIZED UTILIZING ERONET™ S75® EROSION CONTROL BLANKET.

SEQUENCE OF CONSTRUCTION

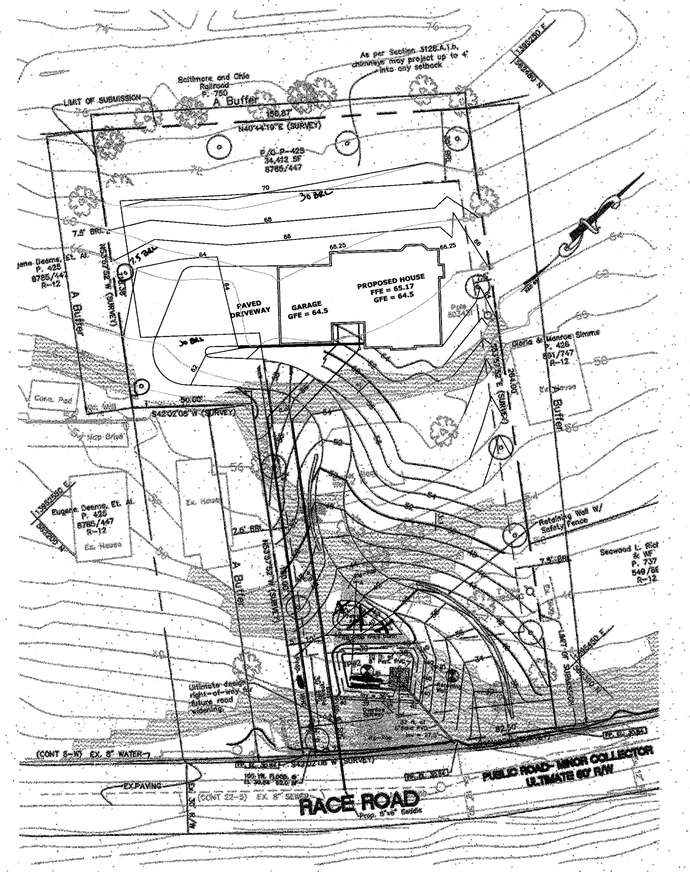
(1 DAY)	DAY 1	OBTAIN A GRADING PERMIT
(2 DAYS)	DAY 2-3	CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE WITH A MOUNTABLE BERM (SCE).
(3 DAYS)	DAY 4-6	CLEAR AND GRUB AREA FOR, AND INSTALL REMAINING SEDIMENT CONTROL DEVICES, AND GET PERMISSION FROM SEDIMENT CONTROL INSPECTOR BEFORE PROCEEDING.
(12 DAYS)	DAY 7-18	ROUGH GRADE SITE AND STABILIZE AS PER TEMPORARY SEEDING NOTES.
(60 DAYS)	DAY 20-80	CONSTRUCT HOUSE AND DRIVEWAY.
(8 DAYS)	DAY 81-89	FINE GRADE SITE AND SEED DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES.
(6 DAYS)	DAY 90-96	WHEN ALL DISTURBED AREAS HAVE BEEN STABILIZED AND UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES.

BIORETENTION AREA TO BE CONSTRUCTED. ONCE CONSTRUCTED THE AREAS DISTURBED DURING CONSTRUCTION OF THE BIORETENTION ARE TO BE STABILIZED.

EITHER TEMPORARY OR PERMANENT SEEDING AND/OR STABILIZATION IS TO BE PROVIDED AT THE DIRECTION OF THE CID INSPECTOR OR AT THE TIME FRAMES REQUIRED BY THE 2011 MARYLAND STANDARD & SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL WHICHEVER IS MORE STRINGENT.



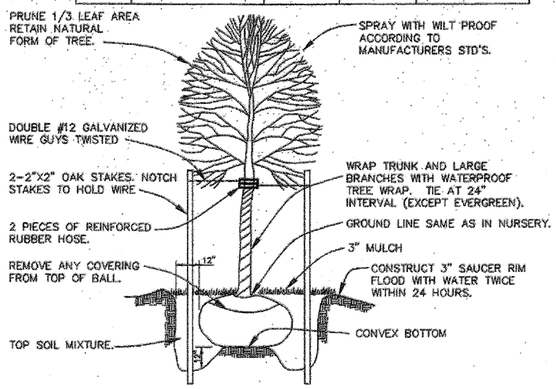
BIORETENTION AREA PLANTING PLAN



LANDSCAPE PLAN

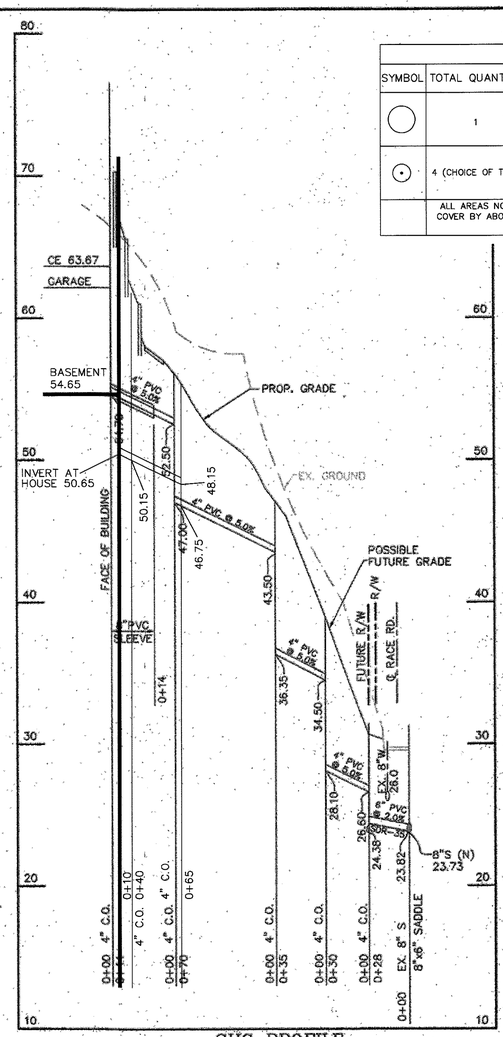
SCALE: 1"=30'

Schedule A- Perimeter Landscape Edge				
Perimeter- Adjacent to Perimeter Properties				
Landscape Type	A			
L/F Perimeter	740 L/F Perimeter			
Spacing	1:60			
Trees Required	12			
Trees Provided	12			
⊙	Quercus Rubra Red Oak	2½"-3" Cal.	10'-12' Hgt.	B&B



TREE PLANTING DETAIL

NO SCALE



SHC PROFILE

SCALE: H: 1"=50'
V: 1"=5'

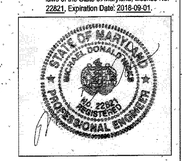
LANDSCAPE NOTES:

1. Contractor shall be responsible for making himself familiar with all existing on-site conditions prior to submission of bid. The contractor is responsible for the location of all underground utilities, pipes, and structures. Contractor shall take sole responsibility for any cost incurred due to damage of said utilities. Call Miss Utility, 48 hours, prior to digging. (1-800-257-7777)
2. Size and standards of plant materials shall conform to the latest edition of "USA Standards For Nursery Stock", by the American Association of Nurserymen, Inc. (AAN).
3. All planting procedures and specifications shall conform to "Landscaping Guidelines for Baltimore-Washington Metropolitan Area" latest edition.
4. Contractor shall guarantee all plant material for one (1) year from planting approval/acceptance.
5. Contractor shall confirm quantity of plant materials by plan count.
6. Plant pit backfill shall be a uniform mixture of one (1) part soil, two (2) parts existing soil and one (1) part Leafgrow or approved alternate organic compost.
7. All mulch to be shredded hardwood mulch.
8. All plants shall be thoroughly watered by the contractor immediately following installation.
9. Contractor to adjust plant location in field as necessary.
10. All plants shall be placed as not to obstruct drainage.
11. No plant substitutes without prior approval.
12. Where field conditions exist which would adversely affect plant performance, or interfere with proper planting procedures, the contractor shall notify the Engineer prior to installation of plant material.
13. All areas not otherwise indicated are to be seeded or sodded as per plan project specifications and in accordance with the Maryland Standards and Specifications for Soil Erosion and Sediment Control.
14. A financial surety for the required landscaping has been has been posted as a part of the DPW Developers Agreement in the amount of $3,600. This surety is based on 12 shade trees $300 per shade tree.
15. The owner, tenant, and thier respective agents, if any, shall jointly and severally be responsible for the maintenance of the required landscaping. All required plantings shall be maintained in good growing condition and, whenever necessary, replaced with new plant materails to ensure continued compliance with applicable regulations.

BIORETENTION PLANTING SCHEDULE						
SYMBOL	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	SPACING
◯	1	VIBURNUM DENTATUM ILEX. VERTICILLATA RHODODENDRON CANADENSE VIBURNUM LENTAGO	ARROW-WOOD VIBURNUM WINTERBERRY RHODODENDRON NANNYBERRY	18" HEIGHT	1 GALLON	AS SHOWN ON PLAN
⊙	4 (CHOICE OF TWO)	ILEX GLABRA LINDERA BENZOIN CLETHRA ALNIFOLIA FOTHERGILLA GARDENII	INK-BERRY NORTHERN SPICEBUSH SWEET PEPPERBUSH DWARF WITCH-ALDER	36" HEIGHT	3 GALLON	AS SHOWN ON PLAN
	ALL AREAS NOT COVER BY ABOVE	GRASSES (CHOOSE FROM LIST BELOW)		PLUGS	MINIMUM FIVE VARIETIES	24" ON CENTER

GRASSES
SPREADING BENTGRASS
BLUE-EYE-GRASS
BOG BLUEGRASS
BUSHY BLUESTEM
MARSH FLATSEDGE
ROUGH BARNYARD GRASS
SWITCH GRASS
VIRGINIA, WILD RYE

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. 22821, Expiration Date: 2018-09-01.

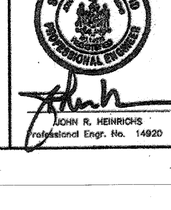


LEGEND

EX. CONTOUR 306
PROP. CONTOUR 308
PROPERTY LINE
25% SLOPES (6,462 S.F.)
STABILIZED CONSTR. ENTRANCE MOUNTABLE BERM SCE
SUPER SILT FENCE SSF
TREE PROTECTION FENCE TPF
LIMIT OF DISTURBANCE

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED AND APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 14920 EXP. DATE 5/12/08

3-12-08
Date



JOHN R. HEINRICHS
Professional Engr. No. 14920

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 SOIL CONSERVATION DISTRICT."

09-09-16
SIGNATURE OF ENGINEER MICHAEL HICKS DATE

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."

09-29-16
SIGNATURE OF DEVELOPER: JUSTIN PORTS DATE

DEVELOPER/OWNER LANDSCAPING CERTIFICATE
"I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

09-29-16
DEVELOPER/OWNER: JUSTIN PORTS DATE

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

10/5/16
HOWARD SCD DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

10-12-16
Chief, Development Engineering Division Date

10-17-16
Chief, Division of Land Development Date

10-19-16
Director Date

Date	No	Revision Description
9/08/16	2	FINAL REVISION PER COMMENTS
6/22/16	1	REVISED HOUSE PER CURRENT OWNER

OWNER/DEVELOPER
JUSTIN & SARAH PORTS
4608 MEWS DRIVE
OWINGS MILLS, MD 21117

PHOENIX ENGINEERING, INC.

PREPARED BY:
ECO LAND SOLUTIONS LLC
Land Planning & Engineering
Eco Land Solutions, LLC
220 N. Prospect St. Ste 304
Hagerstown, MD 21740
Tel: (410) 747-4683
Tel: (301) 797-9180
Fax: (866) 814-9344
1420 Joh Ave. Suite A
Baltimore, MD 21227
info@ecolandsolutions.com

PROJECT LOCATION:
ELKRIDGE
GRID: 4 PARCEL: P/O 425
CENSUS TRACT 6011.02 TAX MAP: 38
DEED: 8785/447 1 ST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
SEDIMENT CONTROL, SWM AND LANDSCAPE PLAN

Des By:	R.J.W.	Scale: As Shown	Proj No: 06-058
Drn By:	C.M.F.	Date: September, 2006	Drawing: EP01.dwg
Chk By:	J.R.H.	SDP 07-028	2 OF 4

SDP-07-028

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:
   a. PRIOR TO THE START OF EARTH DISTURBANCE,
   b. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING,
   c. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT,
   d. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.

OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.

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 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.
4. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15'OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6).
5. 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 CID.
6. SITE ANALYSIS:
   TOTAL AREA OF SITE: 0.828 ACRES
   AREA DISTURBED: 0.80 ACRES
   AREA TO BE ROOFED OR PAVED: 0.20 ACRES
   AREA TO BE VEGETATIVELY STABILIZED: 0.628ACRES
   TOTAL CUT: 1,800 CU. YDS.
   TOTAL FILL: 100 CU. YDS.
   OFFSITE WASTE/BORROW AREA LOCATION: NOT APPLICABLE
7. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY; AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:
   - INSPECTION DATE
   - INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
   - NAME AND TITLE OF INSPECTOR
   - WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
   - BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES
   - EVIDENCE OF SEDIMENT DISCHARGES
   - IDENTIFICATION OF PLAN DEFICIENCIES
   - IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
   - IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
   - COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
   - PHOTOGRAPHS
   - MONITORING/SAMPLING
   - MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
   - OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE).
9. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.
10. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES.
11. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE HSCD. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE HSCD, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
12. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.
13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.
14. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBRICATED AT 25'MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2'IN ELEVATION.
15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUSIVE):
   - USE I AND IP MARCH 1 – JUNE 15
   - USE III AND IIIP OCTOBER 1 – APRIL 30
   - USE IV MARCH 1 – MAY 31
16. A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

RETAINING WALL GENERAL NOTES

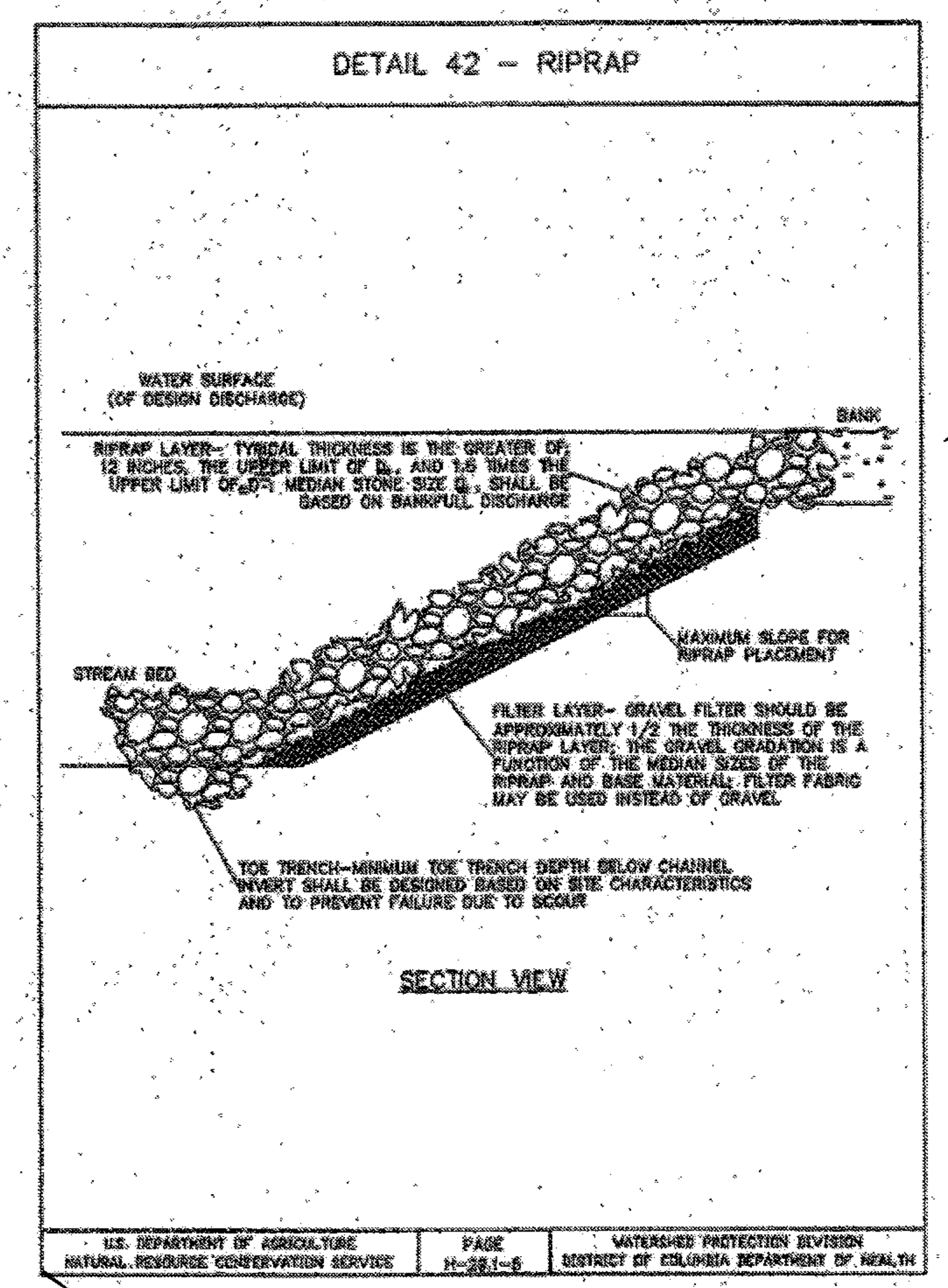
1. RETAINING WALLS SHALL ONLY BE CONSTRUCTED UNDER THE OBSERVATION OF A REGISTERED PROFESSIONAL ENGINEER AND A (NICET, WACEL OR EQUIVALENT) CERTIFIED SOILS TECHNICIAN.
2. THE REQUIRED BEARING PRESSURE BENEATH THE FOOTING OF THE WALL SHALL BE VERIFIED IN THE FIELD BY A CERTIFIED SPOILS TECHNICIAN. TESTING DOCUMENTATION SHALL BE PROVIDED TO THE HOWARD COUNTY INSPECTOR PRIOR TO THE START OF CONSTRUCTION. THE REQUIRED TEST PROCEDURE SHALL BE THE DYNAMIC CONE PENETROMETER TEST ASTM STP-399.
3. THE SUITABILITY OF FILL MATERIAL SHALL BE CONFIRMED BY THE ONSITE SOILS TECHNICIAN. EACH EIGHT (8) INCH LIFT SHALL BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY AND THE TESTING REPORT SHALL BE MADE AVAILABLE TO THE HOWARD COUNTY INSPECTOR UPON COMPLETION OF CONSTRUCTION.
4. THIS WALL IS NOT DESIGNED FOR SURCHARGE LOADS.

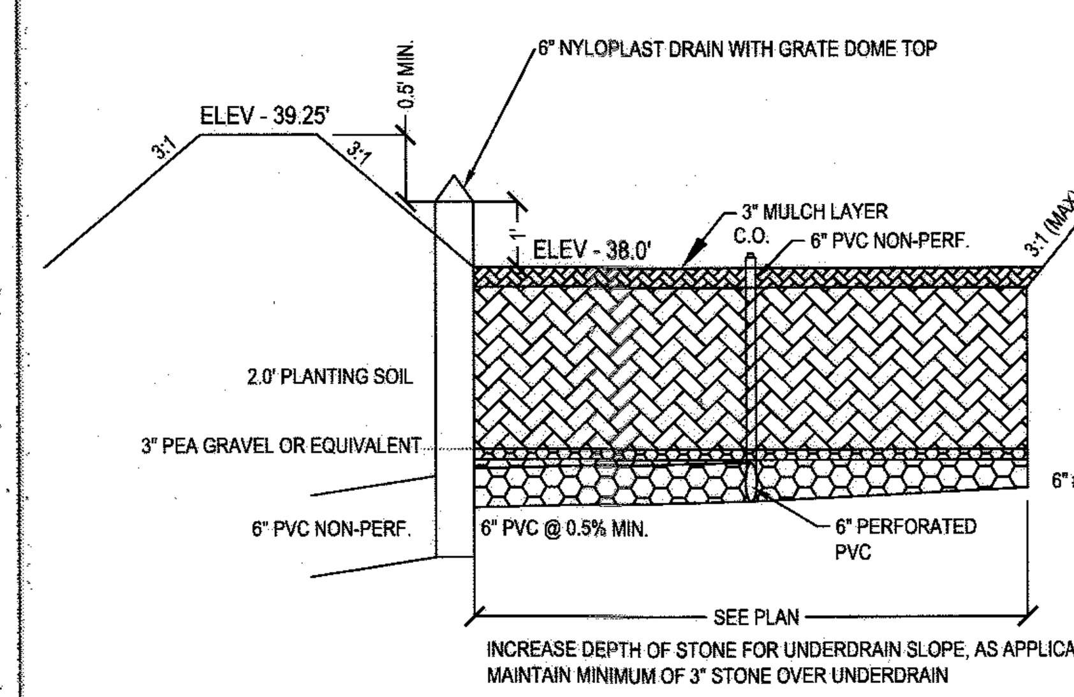
B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

DEFINITION
THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.
PURPOSE TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.
CONDITIONS WHERE PRACTICE APPLIES
WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.
CRITERIA
A. SOIL PREPARATION
1. TEMPORARY STABILIZATION
   a. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
   b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
   c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
2. PERMANENT STABILIZATION
   a. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
   i. SOIL PH BETWEEN 6.0 AND 7.0.
   ii. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
   iii. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.
   iv. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
   v. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
   b. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
   c. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.
   d. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOILTEST.
   e. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

B. TOPSOILING
1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS 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.
2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED 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-NRCS.
3. TOPSOILING 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.
4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
   a. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1½ INCHES IN DIAMETER.
   b. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
   c. 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.
6. TOPSOIL APPLICATION
   a. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
   b. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO 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 MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
   c. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)
1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.
2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.
3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.
4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.





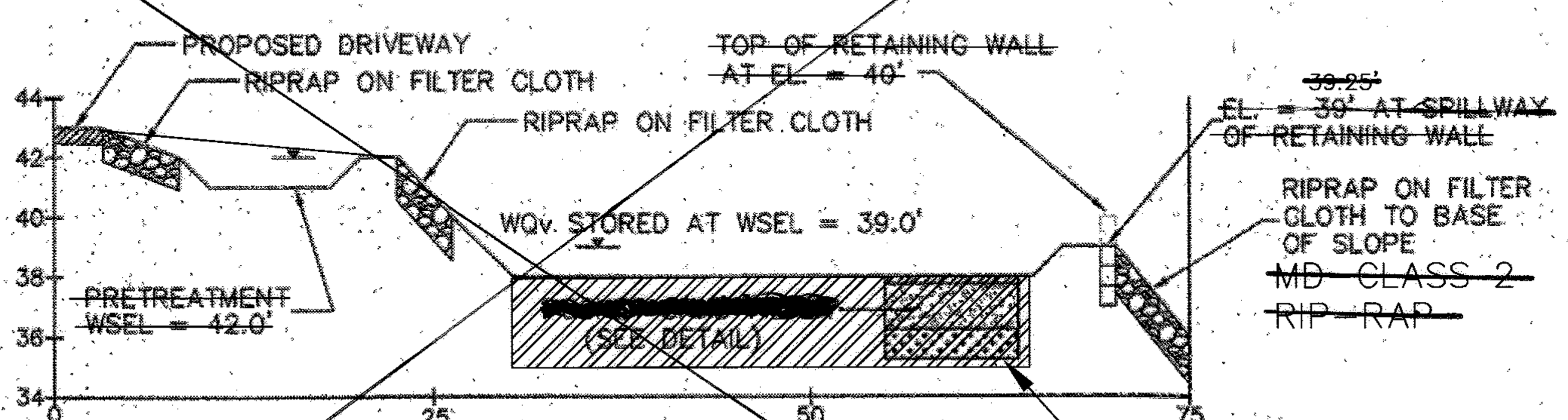
INCREASE DEPTH OF STONE FOR UNDERDRAIN SLOPE, AS APPLICABLE
MAINTAIN MINIMUM OF 3" STONE OVER UNDERDRAIN

THERE IS TO BE A 420 SQUARE FOOT AREA OF MICRO BIORETENTION CONSTRUCTED AS SHOWN ON THIS SHEET.

M-6 MICRO BIORETENTION

NOT TO SCALE

THIS DETAIL NOT USED

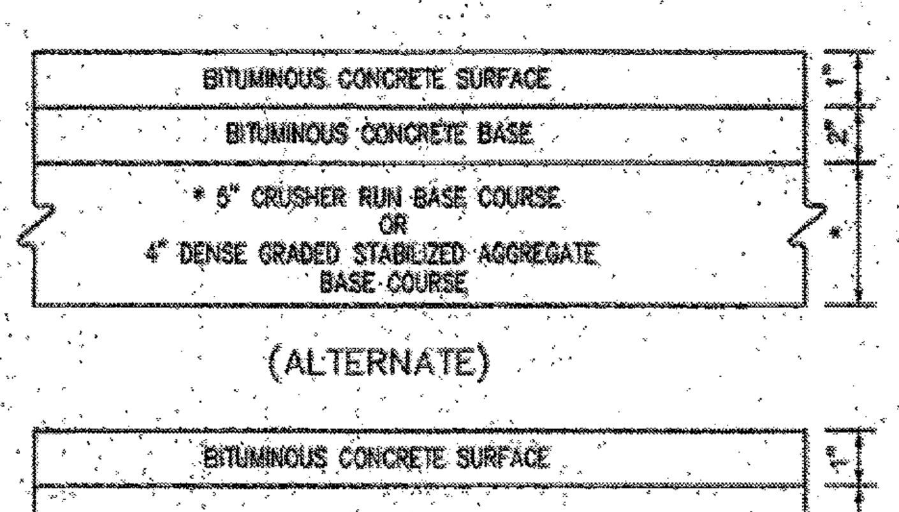


TYPE ~~M-6 MICRO BIORETENTION~~

CROSS SECTION A-A

~~SCALE : VERT 1"= 5'~~
~~HOR 1"= 10'~~

~~SEE BIORETENTION PLAN VIEW ON SHEET 1~~

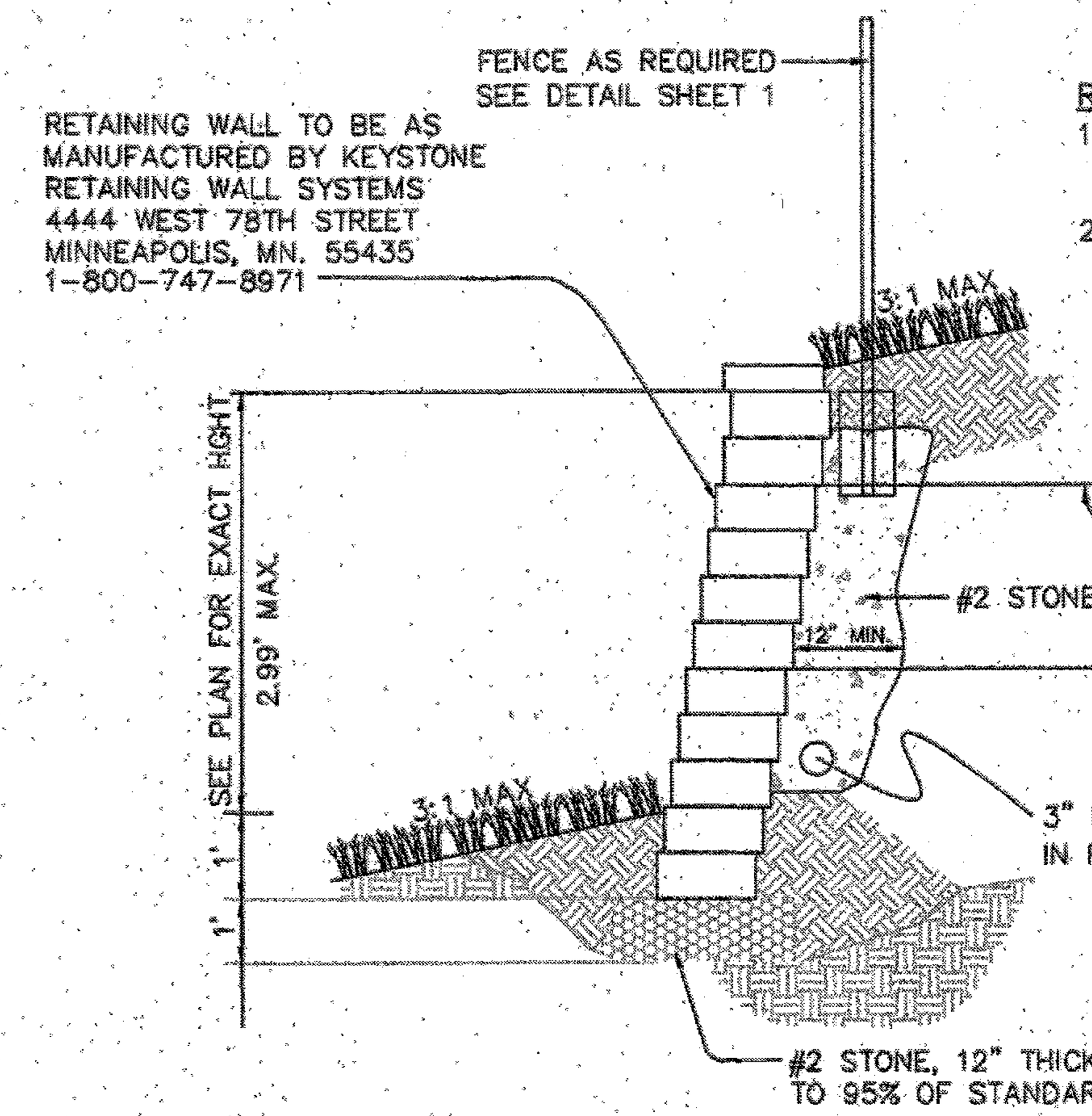


HOWARD COUNTY DESIGN MANUAL VOLUME IV STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-2.01)

(FOR USE ONLY WITIN THE PUBLIC R/W @ DRIVEWAY APRON)

P-1 PAVING

NOT TO SCALE

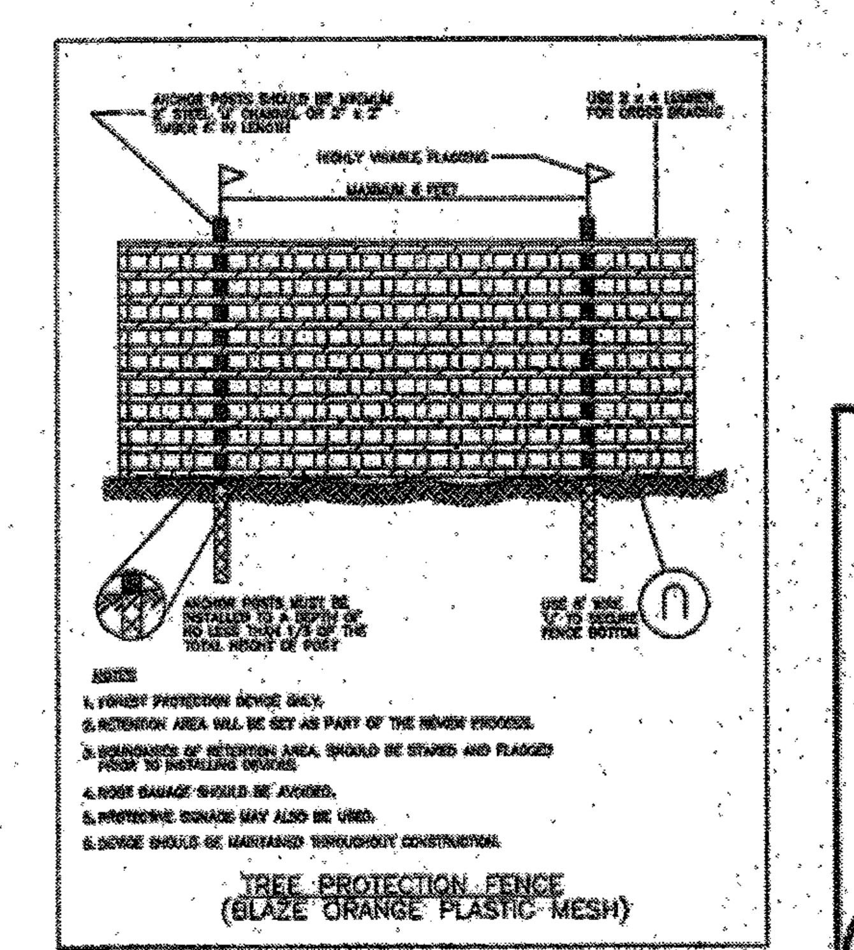


RETAINING WALL

NO SCALE

RETAINING WALL NOTES
1. THE LEVELING PAD SUB-GRADE BEARING MUST BE CERTIFIED BY A MARYLAND REGISTERED PROFESSIONAL GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.
2. THE RETAINING WALL CONSTRUCTION MUST BE INSPECTED BY A QUALIFIED ENGINEER DURING CONSTRUCTION.

MICHAEL D. HICKS



B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

DEFINITION
A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES.

PURPOSE
TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION, AND CHANGES TO DRAINAGE PATTERNS.

CONDITIONS WHERE PRACTICE APPLIES
STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.

CRITERIA
1. THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN.
2. THE FOOTPRINT OF THE STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1. BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.
3. RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE.
4. ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.
5. CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVICE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR DIVERSION FENCE. PROVISIONS MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER.
6. WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE.
7. STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION.
8. IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIAL MUST BE COVERED WITH IMPERMEABLE SHEETING.

MAINTENANCE
THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN A 2:1 THE STOCKPILE AREA MUST BE KEPT FREE OF EROSION. IF THE VERTICAL HEIGHT OF A STOCKPILE EXCEEDS 20 FEET FOR 2:1 SLOPES, 30 FEET FOR 3:1 SLOPES, OR 40 FEET FOR 4:1 SLOPES, BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.

NOTES:
1. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
   A.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
   B.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
2. A DOUBLE ROW OF SUPER SILT FENCE IS TO BE INSTALLED ALONG RACE ROAD AT THE DIRECTION OF THE CID INSPECTOR.
3. EITHER TEMPORARY OR PERMANENT SEEDING AND/OR STABILIZTION IS TO BE PROVIDED AT THE DIRECTION OF THE CID INSPECTOR OR AT TIME FRAMES REQUIRED BY THE 2011 MARYLAND STANDARD & SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, WHICHEVER IS MORE STRINGENT.

H-5 STANDARDS AND SPECIFICATIONS FOR DUST CONTROL

DEFINITION
CONTROLLING THE SUSPENSION OF DUST PARTICLES FROM CONSTRUCTION ACTIVITIES.

PURPOSE
TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES TO REDUCE ON AND OFF-SITE DAMAGE INCLUDING HEALTH AND TRAFFIC HAZARDS.

CONDITIONS WHERE PRACTICE APPLIES
AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON AND OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.

SPECIFICATIONS
1. MULCHES: SEE SECTION B-4-2 SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS, SECTION B-4-3 SEEDING AND MULCHING, AND SECTION B-4-4 TEMPORARY STABILIZATION. MULCH MUST BE ANCHORED TO PREVENT BLOWING.
2. VEGETATIVE COVER: SEE SECTION B-4-4 TEMPORARY STABILIZATION.
3. TILLAGE: TILL TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT THAT MAY PRODUCE THE DESIRED EFFECT.
4. IRRIGATION: SPRINKLE SITE WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. THE SITE MUST NOT BE IRRIGATED TO THE POINT THAT RUNOFF OCCURS.
5. BARRIERS: SOLID BOARD FENCES, SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING.
6. CHEMICAL TREATMENT: USE OF CHEMICAL TREATMENT REQUIRES APPROVAL BY THE APPROPRIATE PLAN REVIEW AUTHORITY.

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 SOIL CONSERVATION DISTRICT."

09-09-16
SIGNATURE OF ENGINEER MICHAEL HICKS — DATE

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."

09-29-16
SIGNATURE OF DEVELOPER: JUSTIN PORTS — DATE

DEVELOPER/OWNER LANDSCAPING CERTIFICATE
"I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

09-29-16
DEVELOPER/OWNER: JUSTIN PORTS — DATE

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

10/5/16
HOWARD SCD — DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — 10-17-16 — Date
Chief, Division of Land Development — 10-17-16 — Date
Director — 10-19-16 — Date

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. 22821, Expiration Date: 2018-09-01.

3-17-08
Date

JOHN R. HEINRICHS
Professional Engr. No. 14920

OWNER/DEVELOPER
JUSTIN & SARAH PORTS
4608 MEWS DRIVE
OWINGS MILLS, MD 21117

PREPARED BY:
PHOENIX ENGINEERING, INC.
CONSULTING ENGINEERS
1420 JOH AVENUE, SUITE A
BALTIMORE, MARYLAND 21227
(410) 247-8833 FAX 247-9397

PROJECT LOCATION:
ELKRIDGE
GRID: 4 — PARCEL: P/O 425
CENSUS TRACT 6011.02 — TAX MAP: 38
DEED: 8785/447 — 1 ST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
SEDIMENT CONTROL & SWM NOTES & DETAILS

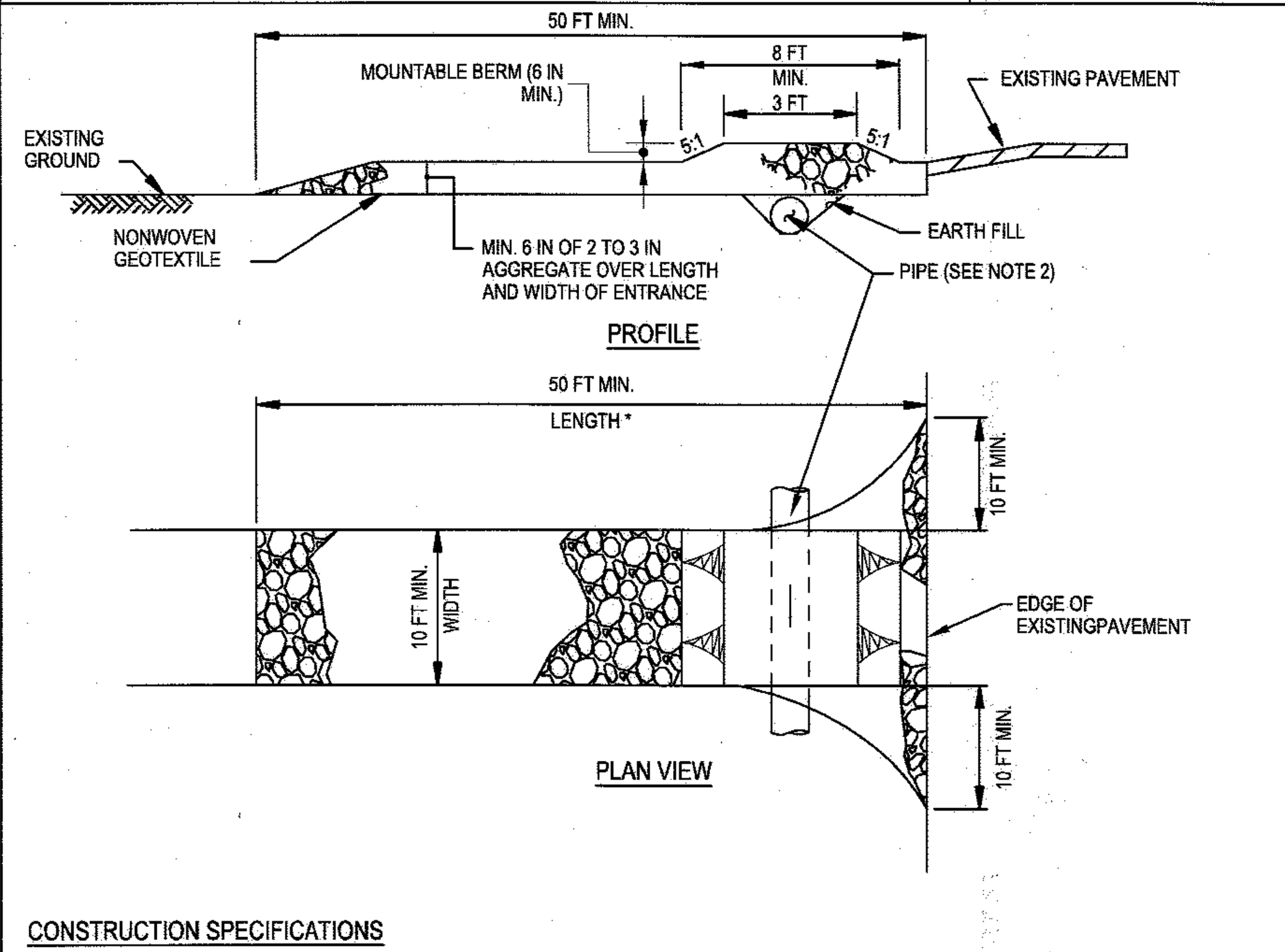
Des By: R.J.W.	Scale: As Shown	Proj No: 06-058
Drn By: S.E.W.	Date: September, 2006	Drawing: DE01.dwg
Chk By: J.R.H.	SDP 07-026	3 OF 4

SDP-07-026

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL

SCE



CONSTRUCTION SPECIFICATIONS

1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

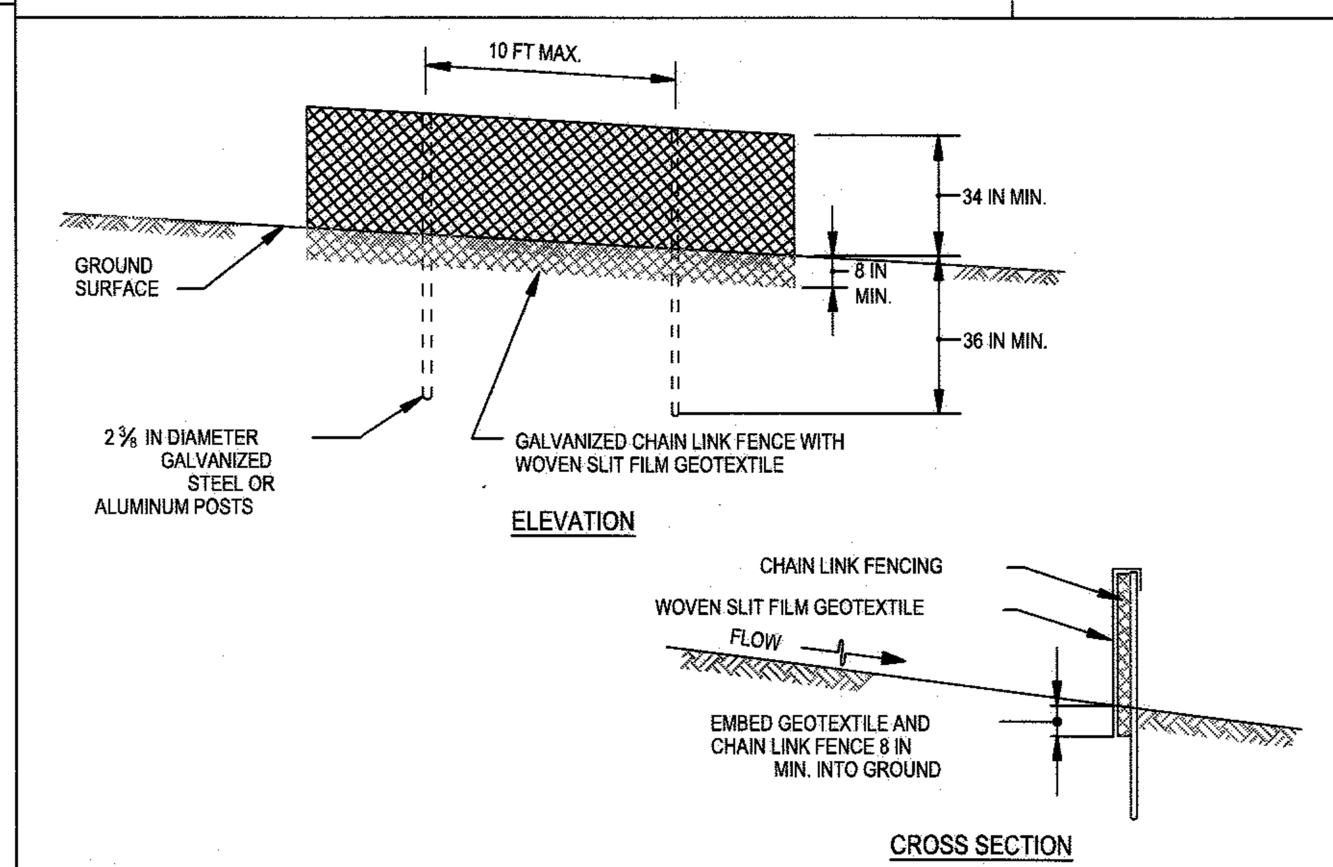
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL

SSF



CONSTRUCTION SPECIFICATIONS

1. INSTALL 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2⅜ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

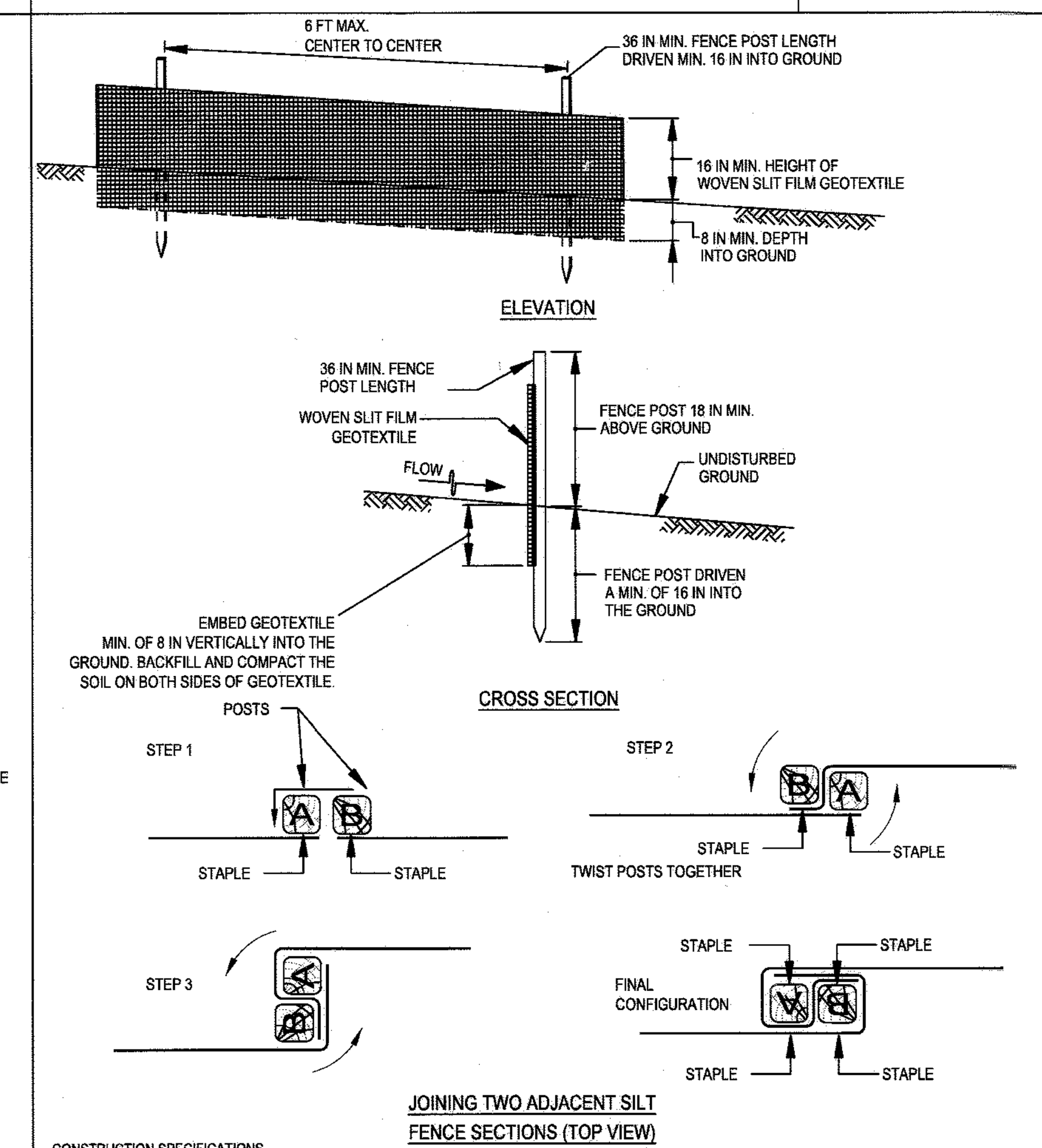
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL

SF



CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1¾ X 1¾ ± 1/16 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

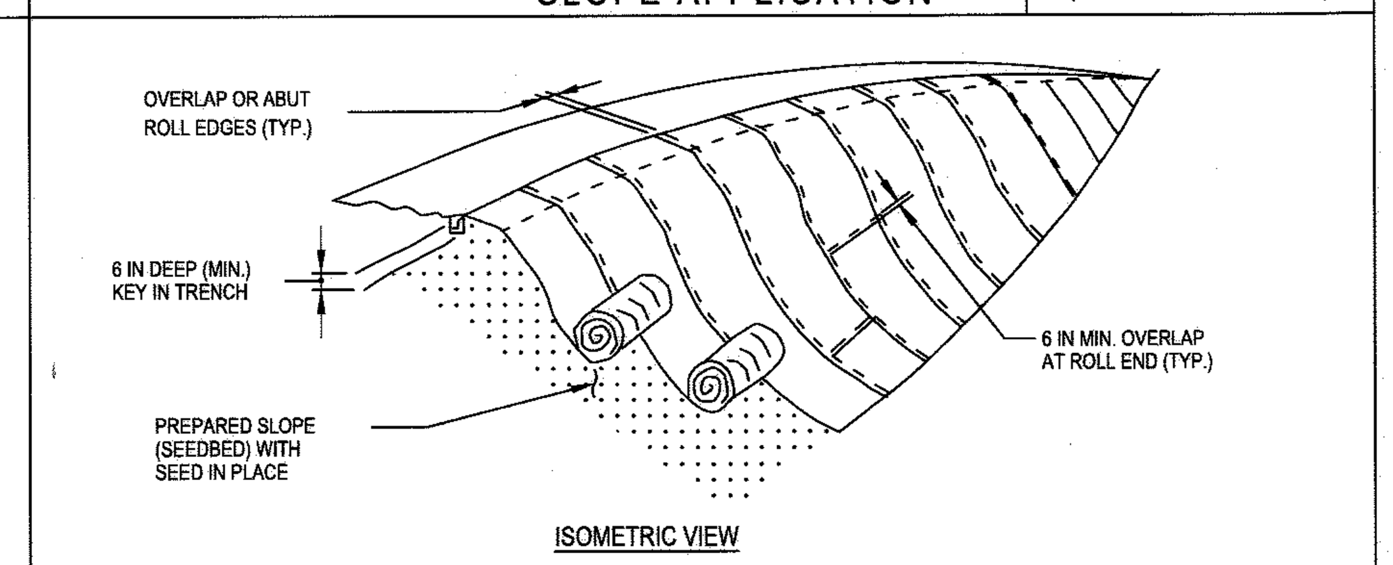
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-4-6-B TEMPORARY SOIL STABILIZATION MATTING SLOPE APPLICATION

STANDARD SYMBOL

TSSMS – 1.5 lb/ft²
(* INCLUDE SHEAR STRESS)



CONSTRUCTION SPECIFICATIONS

1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION & SEDIMENT CONTROL PLAN.
5. UNROLL MATTING DOWNSLOPE. LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. OVERLAP OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
7. KEY IN THE UPSLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

DEFINITION
THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.
PURPOSE
TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.
CONDITIONS WHERE PRACTICE APPLIES TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.
CRITERIA
A. SEEDING
1. SPECIFICATIONS
a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.
b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.
c. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.
d. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.
2. APPLICATION
a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
i. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.
ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
b. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.
i. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.
ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
c. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).
i. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K20 (POTASSIUM), 200 POUNDS PER ACRE.
ii. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.
iii. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
iv. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.
B. MULCHING
1. MULCH MATERIALS (IN ORDER OF PREFERENCE)
a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
i. WCFM IS TO 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.
ii. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
iii. WCFM MATERIALS ARE TO 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 MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.
iv. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
v. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.
2. APPLICATION
a. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
b. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.
c. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
3. ANCHORING
a. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:
i. A MULCH ANCHORING T OOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCHINTO THE SOIL SURFACE A MINIMUM OF 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 FOLLOW THE CONTOUR.
ii. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
iii. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.
iv. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

TEMPORARY SEEDING SUMMARY						
HARDINESS ZONE (FIGURE B.3): 6a & (6b) SEED MIXTURE (TABLE B.1)					FERTILIZER RATE (10-20-20)	LIME RATE
NO.	SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS		
1	Barley	96	Zone 6a: Mar 15-May 31/ Aug 1-Sept 30 Zone 6b: (Mar 15-May 31/ Aug 1-Sept 30)	1"	436 lb/ac. (10 lb/1000 s.f.)	2 tons/ac. (90 lb/1000 s.f.)

PERMANENT SEEDING SUMMARY								
HARDINESS ZONE (FIGURE B.3): 6a & (6b) SEED MIXTURE (TABLE B.1)					FERTILIZER RATE (10-20-20)			LIME RATE
NO.	SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTH	N	P205	K20	
6	Tall Fescue	40	Zone 6a: Mar 15-May 31/Aug 1-Sep 30 (Zone 6b: Mar 15-May 31/Aug 1-Sep 30)	1/4"-1/2"	45 lb/ac. (1 lb/1000 s.f.)	90 lb/ac. (2 lb/1000 s.f.)	90 lb/ac. (2 lb/1000 s.f.)	2 tons/ac. (90 lb/1000 s.f.)
	Perennial Ryegrass	25						
	White Clover	5						

OPERATION AND MAINTENANCE SCHEDULE FOR
LANDSCAPE INFILTRATION **(M-3)** MICRO-BIORETENTION **(M-6)**,
RAIN GARDENS **(M-7)**, BIORETENTION SWALE **(M-8)**,
ENHANCED FILTERS **(M-9)**

1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.
2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

OWNERS/DEVELOPER CERTIFICATION:
"I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE."

[illegible] 10-17-16
OWNER'S/ DEVELOPER'S SIGNATURE DATE

Justin Ports OWNER
PRINTED NAME & TITLE

DESIGN CERTIFICATION:
"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

[illegible] 09-13-16
DESIGNER'S SIGNATURE DATE

Michael D. Hicks, P.E. MD REGISTRATION NO. 22821
PRINTED NAME [✓ P.E.] R.L.S., OR R.L.A. (CIRCLE ONE)

PROFESSIONAL CERTIFICATION:
"I HEREBY CERTIFY 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. 22821, EXPIRATION DATE: 09-01-2018 ."

HOWARD SCD SIGNATURE BLOCK:
THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

[illegible] 10/5/16
HOWARD SOIL CONSERVATION DISTRICT 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 SOIL CONSERVATION DISTRICT."

[illegible] 09-13-16
SIGNATURE OF ENGINEER MICHAEL HICKS DATE

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."

[illegible] 09-29-16
SIGNATURE OF DEVELOPER: JUSTIN PORTS DATE

DEVELOPER/OWNER LANDSCAPING CERTIFICATE
"I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

[illegible] 09-29-16
DEVELOPER/OWNER: JUSTIN PORTS DATE

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

[illegible] 10/5/16
HOWARD SCD DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[illegible] 10.17.16
Chief, Development Engineering Division Date

[illegible] 10-17-16
Chief, Division of Land Development Date

[illegible] 10-19-16
Director Date

Date	No	Revision Description
9/08/16	2	FINAL REVISION PER COMMENTS
6/22/16	1	REVISED HOUSE PER CURRENT OWNER

OWNER/DEVELOPER
JUSTIN & SARAH PORTS
4608 MEWS DRIVE
OWINGS MILLS, MD 21117

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. 22821, Expiration Date: 2018-09-01.

STATE OF MARYLAND
MICHAEL DONALD HICKS
No. 22821
REGISTERED
PROFESSIONAL ENGINEER

MICHAEL D. HICKS

PREPARED BY:
ECO LAND SOLUTIONS LLC
Land Planning & Engineering

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Hagerstown, MD 21740

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PROJECT LOCATION:
ELKRIDGE
GRID: 4 PARCEL: P/O 425
CENSUS TRACT 6011.02 TAX MAP: 38
DEED: 8785/447 1 ST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: SEDIMENT EROSION CONTROL NOTES

Des By: R.J.W.	Scale: As Shown	Proj No: 06-058
Drn By: S.E.W.	Date: September, 2006	Drawing: DE01.dwg
Chk By: J.R.H.	SDP 07-026	4 OF 4

SDP-07-026