



Howard County  
Health Department

**Bureau of Environmental Health**

8930 Stanford Boulevard, Columbia, MD 21045

Main: 410-313-2640 | Fax: 410-313-2648

TDD 410-313-2323 | Toll Free 1-866-313-6300

[www.hchealth.org](http://www.hchealth.org)

Facebook: [www.facebook.com/hocohealth](http://www.facebook.com/hocohealth)

Maura J. Rossman, M.D., Health Officer

RECEIPT DATE:

11/2/16

**ONSITE SEWAGE DISPOSAL SYSTEM**

P

559827-C

APPROVAL DATE:

12/9/16

**PERMIT:**

**CONSTRUCTION**

A

PROPERTY ADDRESS: 2007 Terrapin Creek Road

SUBDIVISION: Terrapin Creek

LOT: 2

TAX ID: 03-596025

CONTRACTOR: WTC Contractors

EMAIL:

CONTRACTOR ADDRESS: 3033 Salem Bottom Road, Westminster, MD 21157

PHONE: 443-458-7024

CONTRACTOR CERTIFIED FOR BAT INSTALLATION:



MDE



MANUFACTURER:

PROPERTY OWNER: LDG Inc.

EMAIL:

OWNER ADDRESS: 8601 Georgia Avenue, Silver Spring, MD 20110

PHONE: 301-585-7000

BAT UNIT MODEL: Norweco 750

PUMP SIZE:

PUMP TANK CAPACITY:

OPERATION & MAINTENANCE AGREEMENT

DATE SIGNED: 8/10/16

DATE RECORDED: 8/10/16

DISTRIBUTION SYSTEM:



GRAVITY



PRESSURE DOSED

BEDROOMS: 5

APPLICATION RATE:

TRENCHES:

LINEAR FEET REQUIRED: 105

INLET DEPTH: 4

TRENCH WIDTH: 3

MAXIMUM BOTTOM DEPTH: 8

MINIMUM SPACE

BETWEEN TRENCHES: 10

EFFECTIVE AREA BEGINNING DEPTH: 4

LOCATION:

PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.

NOTES:

ISSUED BY: Robert Freemon

ISSUE DATE:

11/2/16

EXPIRATION DATE:

11/2/17

NOTE: CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION INSPECTION PRIOR TO BEGINNING ANY INSTALLATION

NOTE: CONTRACTOR MUST SCHEDULE AN INSPECTION AND GAIN APPROVAL OF ALL COMPONENTS PRIOR TO COVERING

NOTE: STONE MUST BE APPROVED BY HEALTH DEPARTMENT AND GRAVEL TICKET MUST BE AVAILABLE FOR REVIEW.

NOTE: WATERTIGHT SEPTIC TANKS REQUIRED

NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET DOWNGRADIENT FROM ANY WATER WELL

NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS

NOTE: AN ELECTRICAL PERMIT IS REQUIRED FOR INSTALLATION OF ANY ELECTRICAL COMPONENTS OF THE SYSTEM



ELECTRICAL PERMIT ISSUED



E 16004924

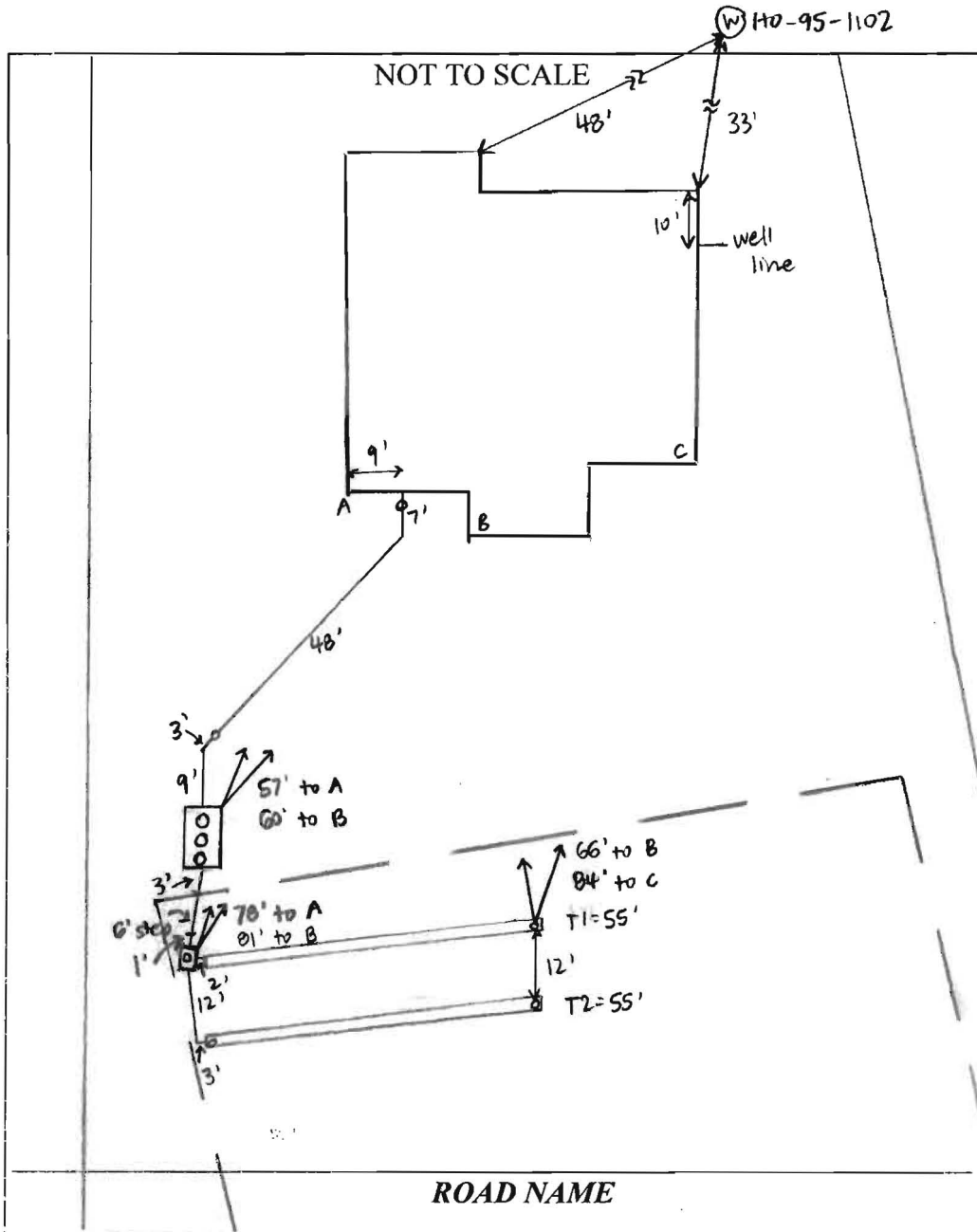
NOTE: AN INDIVIDUAL CERTIFIED BY MDE AND THE MANUFACTURER FOR BAT INSTALLATION MUST BE PRESENT AT ALL TIMES DURING BAT INSTALLATION.

NOTE: MDE RECOMMENDS SEPTIC TANKS, BAT, AND OTHER PRETREATMENT UNITS BE PUMPED AT A FREQUENCY ADEQUATE TO ENSURE THAT SOLIDS ARE NOT DISCHARGED TO THE DISPOSAL AREA

NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM.

PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT.

CALL 410-313-1771 TO SCHEDULE INSPECTIONS.



TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
3'	4'	8'
NUMBER OF TRENCHES		2
TOTAL LENGTH		110'
ABSORPTION AREA		330' + SIDEWALL
DISTRIBUTION BOX LEVEL		YES
DISTRIBUTION BOX BAFFLE		YES
DISTRIBUTION BOX PORT		YES

SEPTIC TANK DATA	
SEPTIC TANK 1 LEVEL	YES
MANUFACTURER	BACKLIVER/NORWEE
CAPACITY	1300 GAL
SEAM LOC	TOP
TANK LID DEPTH	1-2'
BAFFLES	NO
BAFFLE FILTER	NO
MANHOLE LOC	FRONT, MID, REAR
6" PORT LOC	NONE
WATERTIGHT TEST	NO
SLOTTED	NO
DATE ON LID	8-17-16

PUMP/SEPTIC TANK LEVEL	
MANUFACTURER	
CAPACITY	GAL
SEAM LOC	
TANK LID DEPTH	
BAFFLES	
BAFFLE FILTER	
MANHOLE LOC	
6" PORT LOC	
WATERTIGHT TEST	
SLOTTED	
DATE ON LID	

#### PRE-CONSTRUCTION:

11/14/16 On site with WTC for layout. SDA corners and BAT tank staked. Shot contour and laid out 2 x 53' trenches on contour. (SC)

INSTALLATION: 11/15/16 WTC digging T1 - 35' to stone, 3' wide. Using laser to check depths. House connection made, tank set. Pipe laid from house to tank. D-box set. (SC) 11/16/16 Trenches complete, T2 left open at ends. Levelled speed levelers on D-box. Need BAT startup certification. (SC) 12/9/16 BAT startup certification received. (SC) 4/10/17 On site for BAT startup. Alarm sounds, aerator runs. Middle riser has loose bolts - WTC fixed. (SC)

FINAL INSPECTOR Sarah Collins DATE OF APPROVAL 12/9/16

- NOTES:
- 1) FOUNDATION AND FOOTINGS ARE IN PLACE AS SHOWN HEREON.
  - 2) BUILDING TIES ARE  $\pm 0.5'$  UNLESS OTHERWISE NOTED.
  - 3) TOP OF WALL = 571.5

PRESERVATION  
PARCEL 'D'  
TERRAPIN CREEK  
PLAT NO. 22662

PRESERVATION PARCEL 'A'  
TERRAPIN CREEK  
PLAT NO. 22664

Wall Check  
OK  
R/L 10/18/16

LOT 1  
TERRAPIN CREEK  
PLAT NO. 22662

LOT 2  
41,039 SQ. FT.  
OR 0.9421 AC.  $\pm$

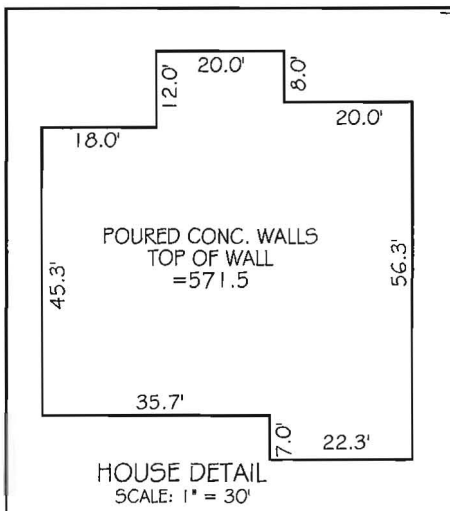
LOT 3  
TERRAPIN CREEK  
PLAT NO. 22662

POURED CONC.  
WALLS  
TOP OF WALL  
= 571.5  
(SEE DETAIL)

EX. WELL  
H095-1102

PUBLIC 10' DRAINAGE  
& TREE MAINTENANCE  
EASEMENT

TERRAPIN CREEK ROAD  
50' RW



PROFESSIONAL CERTIFICATION:

I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21087, EXPIRATION DATE JULY 26, 2017, IN ACCORDANCE WITH COMAR 09.13.06.42

For VanMar Associates, Inc.  
Thomas L. Frazier, Jr., Prof. Land Surveyor  
Date 9/26/16

WALL CHECK DRAWING  
LOT 2  
TERRAPIN CREEK

PLAT No. 22662

2007 TERRAPIN CREEK ROAD  
THIRD ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
SCALE: 1" = 50' SEPTEMBER, 2016

I CERTIFY THIS PLAT TO BE CORRECT, IT IS THE RESULT OF AN ACTUAL FIELD SURVEY, BASED ON DATA FOUND AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND, AS REFERENCED HEREON.



VANMAR  
ASSOCIATES, INC.  
Engineers Surveyors Planners  
310 South Main Street Mount Airy, Maryland 21771  
(301) 829-2890 (301) 831-5015 (410) 549-2751  
©Copyright, Latest Date Shown

REFERENCE	JOB NO.
PLAT NO. 22662	B4-5428

## Back River Pre-Cast, LLC

PO BOX 329  
Glyndon, MD 21071  
Phone # 410-833-3394  
Fax # 410-833-4116

### Letter of Certification

This is to certify that the Norweco Singulair TNT 600 GPD Septic Tank installed at 2007  
Terrapin Creek <sup>Drive</sup> November 15, 2016 was installed according to the manufacture's  
specifications.

Installer: Walter Coon

Property Owner: Prasad Challagulla

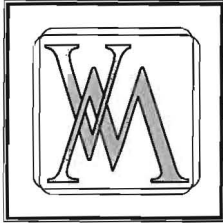
Permit #

**THIS CERTIFICATION IS FOR INSTALLATION  
ONLY. THE 5-YEAR OPERATIONS &  
MAINTENANCE AGREEMENT FROM DATE OF  
INSTALLATION WILL ONLY GO INTO EFFECT  
AFTER BACK RIVER PRE-CAST, LLC RECEIVES  
FINAL AND FULL PAYMENT FOR THE SYSTEM.**



---

MATTHEW GECKLE  
Vice-President



**VANMAR  
ASSOCIATES, INC.**

**Engineers • Surveyors • Planners**

310 South Main Street, P.O. Box 328, Mount Airy, Maryland 21771

(301) 829-2890

(301) 831-5015

(410) 549-2751

(301) 695-0600

Fax (301) 831-5603

July 18, 2016

Mr. Robert Freemon  
Howard County Health Department  
Bureau of Environmental Health  
8930 Stanford Blvd.  
Columbia, MD 21045

RE: Lot 2 Site Plan for BAT Installation  
Terrapin Creek Subdivision  
2007 Terrapin Creek Road

The following is a response to the July 18, 2016 comments.

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1. *On the Plot Plan/Site Plan for BAT Technology for the septic tank Norweco 970 is not recognized as a certified BAT unit by MDE. Certified tank models by Norweco are TNT 500, 750, 1000 and Singular Green. Norweco TNT 750 or 1000 would be the ones capable of handling a 6BR.*

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**Response 1:** The Norweco 750 is now specified.

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2. *Also the house needs to be located 30t from the well locations. The concrete slab for the front porch is part of the new foundation which needs to meet the setback of 30ft.*

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**Response 2:** The house location has been adjusted to be 30ft from the well locations.

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Thank you,  
VANMAR ASSOCIATES

Ronald E. Thompson, P.E.



## Bureau of Environmental Health

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[www.hchealth.org](http://www.hchealth.org)

Facebook: [www.facebook.com/hocohealth](https://www.facebook.com/hocohealth)

Twitter: HowardCoHealthDep

Maura J. Rossman, M.D., Health Officer

### OPERATION AND MAINTENANCE AGREEMENT FOR AN ON-SITE SEWAGE DISPOSAL SYSTEM HAVING AN ADVANCED PRE-TREATMENT SYSTEM

THIS AGREEMENT is made this 10th day of AUGUST 2016, among Catonsville Homes, L.L.C., hereinafter collectively referred to as "Owner", and the Howard County Health Department hereinafter referred to as the "County".

WHEREAS, Owner is the owner or contract owner of a parcel of land located at 2007 Terrapin Creek Road, Sykesville, MD 21784 (Lot 2), in the 03 Election District of Howard County, Maryland, and the deed to same is recorded or shall be recorded among the Land Records of Howard County, Maryland in Liber 01988 Folio 00258.

WHEREAS, The Lot is suitable for the installation of a conventional on-site sewage disposal system with an advanced pre-treatment system, utilizing best available technology to perform nitrogen reduction, in accordance with the Code of Maryland Regulations 26.04.02.07, effective January 1, 2013. The pre-treatment device being installed is Norweco Singulair TNT 600.

NOW, THEREFORE, the parties hereto agree as follows:

- A. Owner hereby grants to the County the right to enter upon the Lot at any reasonable time for access to the system to make periodic inspections and the Owner agrees to provide any information and data in Owner's possession reasonably requested and needed by the County to develop accurate and thorough test results.
- B. Owner acknowledges and agrees that neither the County nor any of its agents or employees, either officially or individually, underwrites the operation of any system approved by them.
- C. The Owner will devote reasonable care and effort to the operation and maintenance of the system in perpetuity or until a public sewer connection is made so that a system malfunction is not the result of poor maintenance, faulty operation, or neglect.
- D. The Owner agrees to enter into a contract reasonably acceptable to the Owner and the County with a private entity to operate and maintain on a regularly scheduled basis an approved advanced pre-treatment system. The owner shall supply a copy of the contract to the County when it is renewed or altered.
- E. This agreement shall run with the land and upon Owner's taking title to the Lot shall bind the Owner, their heirs, successors, and assigns to the provisions of the agreement as long as the property is in existence and after installation of the system. Owner further agrees that they shall inform in writing any subsequent purchaser or lessee of the Lot that the system shall require

maintenance or other attention. Upon taking title to the Lot, the Owner agrees to cause this agreement to be recorded in the Land Records of Howard County and assure that it becomes part of the Deed for the subject property in order that prospective buyers may be aware of the special conditions affecting this property.

F. This agreement shall not be construed to limit any authority of the County to protect the public health, safety or comfort or to issue any other orders to take any other action which is now or may hereafter be within its authority.

G. This agreement may be voided at any time at the discretion of the County.

H. This agreement contains the entire agreement and understanding between the County and the Owner. There are no additional terms other than as contained in this agreement. This agreement may not be modified, except in writing signed by each of the parties or by their authorized representatives.

I. The laws of the State of Maryland govern the provisions of all transactions pursuant to this agreement.

J. Owner acknowledges and agrees that interior renovations to increase the number of bedrooms or an increase in living space shall not be permitted without approval from the County.

IN WITNESS WHEREOF, the parties have signed and sealed this agreement on the date indicated above.

Beet Nijon 8/10/2016  
Howard County Health Department

CATONSKILL HOMES, LLC  
BY: [Signature] 6/28/16  
Owner #1 Signature Date

ROBERT A. RANTON  
Owner #1 Print Name

[Signature] 6-19-16  
Buyer #1 Signature Date

PRASAD CHALLAGULLA  
Buyer #1 Print Name



\_\_\_\_\_  
Owner #2 Signature Date

\_\_\_\_\_  
Owner #2 Print Name

Kaithach 6/19/16  
Buyer #2 Signature Date

KAITHA CHALLAGULLA  
Buyer #2 Print Name



**CATONSVILLE HOMES, LLC  
OPERATING MAINTENANCE AGREEMENTS**

8/10/2016

- |    |  |           |                |
|----|--|-----------|----------------|
| 1. | TC4-Mallampati-Devonshire<br>2015 Terrapin Creek Road 2  | B16000079 | O&M<br>8/10/16 |
| 2. | TCA-Gladstein-Ashland<br>12707 Milo Court 21784          | B16000971 | O&M<br>8/10/16 |
| 3. | TC10-Apte-Devonshire<br>12726 Milo Court 21784           | B16001641 | O&M<br>8/10/16 |
| 4. | TC6-Mehta-Charleston II<br>12721 Milo Court 21784        | B16001946 | O&M<br>8/10/16 |
| 5. | TC17-Shah-Charleston II<br>2026 Terrapin Creek Road 2    | B16002635 | O&M<br>8/10/16 |
| 6. | TC2-Challagulla-Devonshire<br>2007 Terrapin Creek Road 2 | B16002795 | O&M<br>8/10/16 |
| 7. | TC14-Gandhi-Devonshire<br>12710 Milo Court 21784         | B16003009 | O&M<br>8/10/16 |

Clerk of the Circuit Court for  
Howard County  
Land Records/Licensing

The Thomas Dorsey Building  
9250 Bendix Road  
Columbia, MD 21045  
410-313-5850

=====

LR - Agreement Recording Fee	1x	20.00	20.00
Grantor/Grantee Name: catonsville homes			
Reference/Control #: 69			

LR - Agreement Surcharge	1x	40.00	40.00
LR - Agreement Recording Fee	1x	20.00	20.00
Grantor/Grantee Name: catonsville homes			
Reference/Control #: 70			

LR - Agreement Surcharge	1x	40.00	40.00
LR - Agreement Recording Fee	1x	20.00	20.00
Grantor/Grantee Name: catonsville homes			
Reference/Control #: 71			

LR - Agreement Surcharge	1x	40.00	40.00
LR - Agreement Recording Fee	1x	20.00	20.00
Grantor/Grantee Name: catonsville homes			
Reference/Control #: 72			

LR - Agreement Surcharge	1x	40.00	40.00
LR - Agreement Recording Fee	1x	20.00	20.00
Grantor/Grantee Name: catonsville homes			
Reference/Control #: 73			

LR - Agreement Surcharge	1x	40.00	40.00
LR - Agreement Recording Fee	1x	20.00	20.00
Grantor/Grantee Name: catonsville homes			
Reference/Control #: 74			

LR - Agreement Surcharge	1x	40.00	40.00
LR - Agreement Recording Fee	1x	20.00	20.00
Grantor/Grantee Name: catonsville homes			
Reference/Control #: 75			

LR - Agreement Surcharge	1x	40.00	40.00
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SubTotal:	420.00
Total:	420.00

REV-Check-BOA	420.00
Number : 23140	

08/10/2016 14:15 CC13-SB  
#6702903 /496/109  
Thank you for visiting us today~



# LETTER OF TRANSMITTAL

☐ AGENCY ☐ CLIENT ☐ FILE ☐ BILLING ☐ CORRESPONDANCE ☐ OTHER

## VanMar Associates, Inc.

Engineers ~ Surveyors ~ Planners  
310 South Main Street, P.O.Box 328, Mt. Airy, MD 21771  
301-829-2890 301-831-5015 301-695-0600  
410-549-2751 (FAX) 301-831-5603

**TO:** : Howard County Health Department  
Bureau of Environmental Health  
8930 Stanford Blvd  
Columbia, Maryland 21045

Attn: Robert Freemon

**DATE:** July 18, 2016

**PROJECT:** Terrapin Creek, Lot 2

**VMA#** B4-5428

## ENCLOSED:

COPIES	DATE	DESCRIPTION
1	7/18/16	Letter of Response to Comments to Robert Freemon
1	7/11/6	Howard County Comment letter from Robert Freemon
3	7/18/16	Plot Plan / Site Plan for BAT Technology Lot 2, Terrapin Creek

**REMARKS:** Hi Robert, plan revised to reflect your comments and submitted for your review and approval.  
Thank you and have a great day!

**COPIES TO (ADDRESS):** Catonsville Homes, 11175 Stratford Court, Marriottsville, Maryland 21104

**SUBMITTED BY** dlv

G:ENGRS..B45428.Ho.Co.H.D lot 2 plot plan for bat submission 7.18.16



## 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:

- Soil Preparation**
  - Temporary Stabilization
    - Standardized preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disk harrows or chain plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dropped 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.
    - Apply fertilizer and lime as prescribed on the plans.
    - Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
  - Permanent Stabilization
    - A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent stabilization are as follows:
      - Soil must be free of toxic substances.
      - Soil pH between 6.0 and 7.0.
      - Soluble salts less than 500 parts per million (ppm).
      - 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 lowgrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
      - Soil contains 15 percent minimum organic matter by weight.
    - Soil contains sufficient pore space to permit adequate root penetration.
    - Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
    - 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, P-11.
    - Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
    - Mix amendments into the soil by disking or other suitable means. Do not permit normal seeded preparation, track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition. Slopes running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seeded loosening may be unnecessary on newly disturbed areas.

- Topsoiling**
  - Topsoil is prepared 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 pH, material toxic to plants, and/or unacceptably soil gradation.
  - 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.
  - Topsoiling is limited to areas having 2:1 or flatter slopes where:

- The texture of the exposed subsoil material is not adequate to produce vegetative growth.
- The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish containing supplies of moisture and plant nutrients.
- The original soil to be vegetated contains material toxic to plant growth.
- The soil is so acidic that treatment with limestone is not feasible.
- Areas having slopes steeper than 2:1 require special treatment and design.
- Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
  - 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 subsols and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/4 inches in diameter.
  - Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, trillium, or others as specified.
  - 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.

- Erosion and sediment control practices must be maintained when applying topsoil.**
- Uniformly distribute topsoil in a 3 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that spreading or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the texture resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.
- Topsoil must not be placed if the topsoil is frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading, B-14 and seeded preparation.
- Soil Amendments (Fertilizer and Lime Specifications)**
  - Soil tests must be performed to determine the exact rates 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 analysis.
  - 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.
  - Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroxydizing 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 #200 mesh sieve.
  - When 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.

TEMPORARY STABILIZATION SPECIFICATIONS TABLE						
Hardness Zone (from Figure B-3):		Fertilizer Rate (10-20-20)		Lime Rate		
Seed Mixture (from Table B-1):						
No.	Species	Application Rate (lb/oc)	Seeding Dates	Seeding Depths		
1.	ANNUAL RYEGRASS	40	MAR. 1 - MAY 15 AUG. 1 - OCT. 15	0.5 INCHES	436 lb/oc	2 tons/oc
2.	PERENNIAL RYEGRASS	30	JUNE 1 - JULY 31	0.5 INCHES	(10 lb/1000 sf)	(90 lb/1000 sf)

PERMANENT STABILIZATION SPECIFICATIONS TABLE						
Hardness Zone (from Figure B-3):		Fertilizer Rate (10-20-20)		Lime Rate		
Seed Mixture (from Table B-3):						
No.	Species	Application Rate (lb/oc)	Seeding Dates	Seeding Depths	N	P205
1.	Kentucky Bluegrass	20	MAR. 1 - MAY 15 AUG. 1 - OCT. 15	1/4 - 1/2 in	45 pounds per acre (10 lb/1000 sf)	90 lb/oc (90 lb/1000 sf)
2.	Perennial Ryegrass	20	JUNE 1 - JULY 31	1/4 - 1/2 in		90 lb/oc (90 lb/1000 sf)

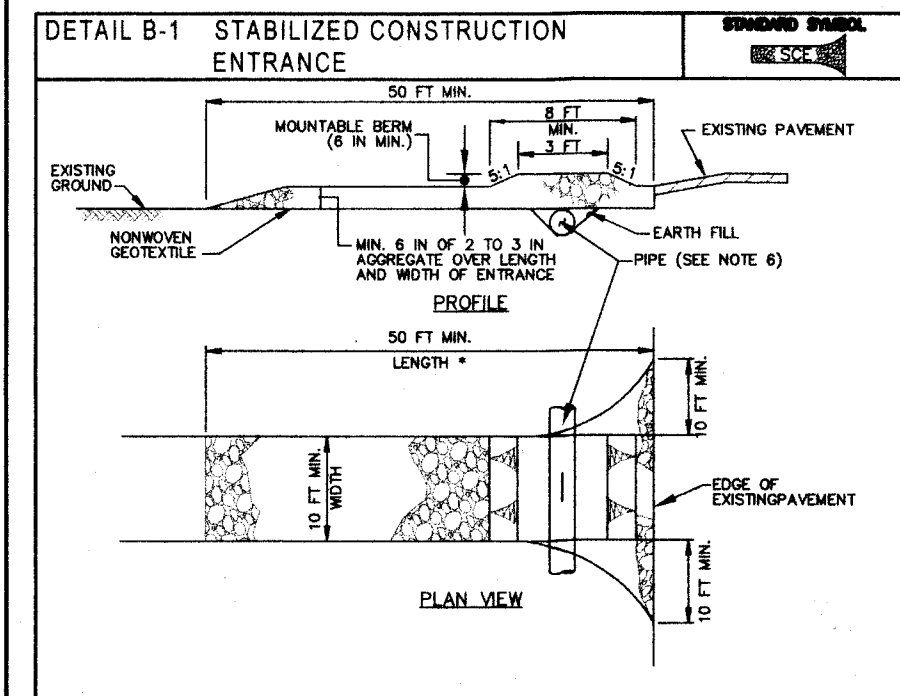
## DUST CONTROL

DUST CONTROL METHOD FOR THIS SITE TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES: CALCIUM CHLORIDE SHALL BE APPLIED TO EXPOSED SURFACES AT A RATE THAT WILL KEEP SURFACE MOIST UNTIL SOIL IS STABILIZED ACCORDING TO VEGETATIVE SPECS. FOR THIS SITE AND AREAS TO BE PAVED ARE COMPLETED.

## STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

- 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
- SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.



1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST NOT TRAVEL OVER THE ENTRANCE UNTIL THE SOIL IS STABILIZED TO A MINIMUM OF 50 FEET FOR SINGLE RESIDENCE LOTS. USE MINIMUM WIDTH OF 10 FEET. PLANT SIZE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PAVE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SIDE UNDER THE ENTRANCE. MAINTAIN POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SIDE 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 SIDE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SIDE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE HOMOGENEOUS GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. PLACE DRUMMED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 8 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SIDE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT, AND STONE OR MAKE OTHER REPAIRS AS CONDITIONS WARRANT. CLEAN SURFACE, MOUNTABLE BERM, AND SLOPES TO SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED DURING ANY CONSTRUCTION OR ROADWAY MAINTENANCE. WHEN TRUCKING MATERIAL, ROADWAY TO BE APPROVED. WHEN TRUCKING TO PAYMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROPRIATE 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 AND NATURAL RESOURCES, 2011.

## 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:

- Specifications**
  - 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 B-4.3 regarding the quality of seed. Seed lots must be available upon request to the inspector to verify type of seed and seeding rate.
  - Mulch must be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
  - Inoculant for treating legume seeds in the seed mixture 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 use. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and lower the inoculant less effective.
  - Do not seed or mulch on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.

- Seeding**
  - Seeding. This includes use of conventional drill or broadcast spreading.
  - 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-16.
  - Drill. Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seeded must be firm after planting.
  - Hydroseeding. Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer). Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until use. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and lower the inoculant less effective.
  - Time. Use only ground agricultural limestone (up to 3 tons per acre) may be applied by hydroseeding. Normally, not more than 2 tons per acre applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
  - Mix seed and fertilizer on site and seed immediately and without interruption.
  - When hydroseeding do not incorporate seed into the soil.

- Mulch Materials (in order of preference)**
  - Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. 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.
  - 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 sprayed slurry.
  - WCFM, including dye, must contain no germination or growth inhibiting factors.
  - WCFM materials are to be applied 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 blatter-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.
  - WCFM material must not contain elements or compounds at concentration levels that will be phytotoxic.
  - 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 80 percent minimum. B-17.

- Application**
  - Apply mulch to all seeded areas immediately after seeding.
  - When straw mulch is used, apply 3:1 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. Note: If the soil surface is not exposed when using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
  - Wood cellulose fiber mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to obtain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
  - Anchoring
    - 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:
      - A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into 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 of the slope.
      - 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.
      - Synthetic binders such as Acrylic DLR (Ago-Tack), DCA-70, Petrolsol, Terra Tack 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 much, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.
      - Lightweight plastic netting may be used according to manufacturer's recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

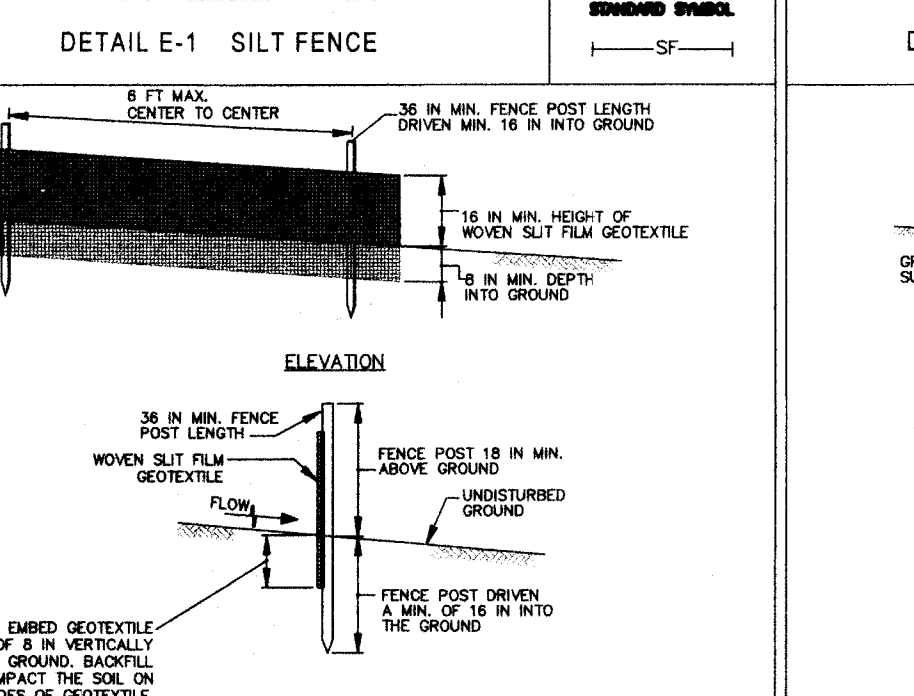
B-4-B STANDARDS AND SPECIFICATIONS STOCKPILE AREA						
Definition		Purpose		Conditions Where Practice Applies		
A mound or pile of soil protected by appropriately designed erosion and sediment control measures.		To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.		Stockpile areas are utilized when it is necessary to salvage and store soil for later use.		
No.	Species	Application Rate (lb/oc)	Seeding Dates	Seeding Depths	N	P205
1.	ANNUAL RYEGRASS	40	MAR. 1 - MAY 15 AUG. 1 - OCT. 15	0.5 INCHES	436 lb/oc	2 tons/oc
2.	PERENNIAL RYEGRASS	30	JUNE 1 - JULY 31	0.5 INCHES	(10 lb/1000 sf)	(90 lb/1000 sf)

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.
3. Runoff from the stockpile area must drain to a suitable sediment control practice.
4. Access the stockpile area must be minimized by the use of a diversion device, such as an earth dike, temporary water or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
5. Clear water runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
6. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirements as per Standard B-4-1 - Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
7. 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.

## TEMPORARY STOCKPILE NOTE

SITE EARTHWORKS HAS BEEN BALANCED SUCH THAT A TEMPORARY STOCKPILE SHOULD NOT BE NECESSARY. SHOULD CONTRACTOR DECIDE TO USE A STOCKPILE, CONTRACTOR SHALL PLACE STOCKPILE WITHIN THE ORIGINALLY APPROVED L.O.D. AND FOLLOW TEMPORARY STABILIZATION NOTES.

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 ratio. 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.



1. INSTALL 2 1/2 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.008 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 A GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 1/2 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR RING BOLTS.
3. FASTEN WOVEN SILT FLM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPPER SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. DIBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 6 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 SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSTREAM AT 45 DEGREES TO THE FENCE LINE. THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM THE ENDS OF THE SILT FENCE.
6. PROVIDE MAINTENANCE 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 ONE OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN, IF UNDOING 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 AND NATURAL RESOURCES, 2011.

## HOWARD SOIL CONSERVATION DISTRICT 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 area marked clearly in the field. A minimum of 48 hour notice to CID must be given a 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.

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 THE 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-4-3), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization (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: 0.94 Acres.
  - Area Disturbed: 0.40 Acres.
  - Area to be seeded or mulched: 0.12 Acres.
  - Area to be vegetatively stabilized: 0.28 Acres.
  - Total Cut: 0.00 Cu. Yds.
  - Total Fill: 0.00 Cu. Yds.
7. Offsite waste/borrow area location: N/A.

8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9. Additional sediment control must be provided, if deemed necessary by the 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 control practices
  - 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).

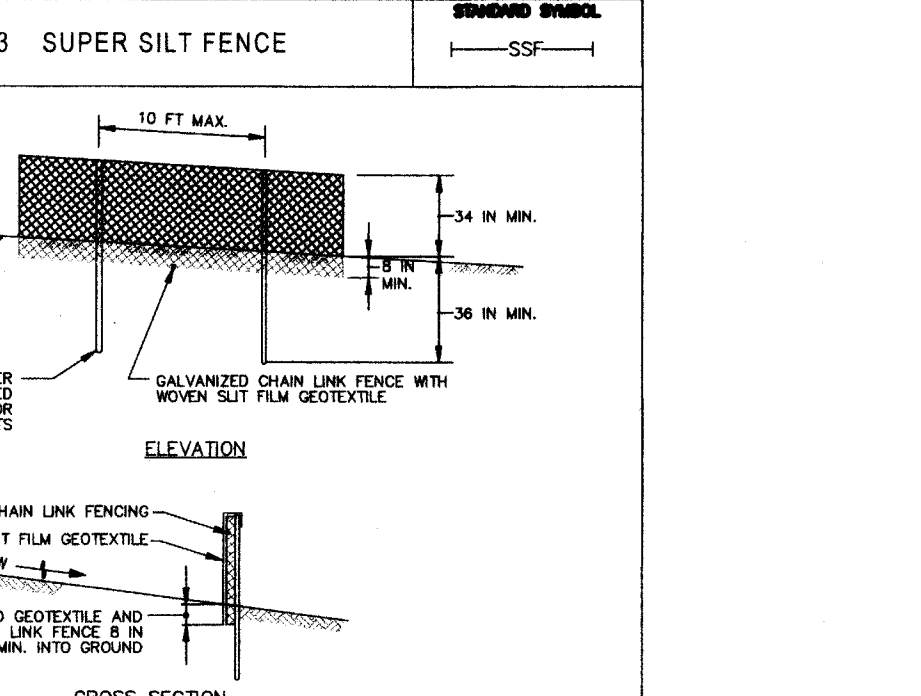
10. Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may allowed by the CID per the list of HSCD-approved field changes.
11. Disturbance shall not occur outside the L.O.D. A project 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 until when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the CID. Unless otherwise specified and approved by the CID, no more than 30 acres cumulatively may be disturbed at a given time.
12. Wash water, equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure.
13. Top soil shall be stockpiled and preserved on-site for redistribution until final grade.
14. Silt Fence and Super Silt Fence shall be placed on-the-contour and be embanked at 25' minimum interval, with lower ends disturbed uphill by 2' in elevation.
15. Stream channels must not be disturbed during the following restricted time periods (inclusive):
  - \* Use I and IIP March 1 - June 15
  - \* Use III and IIP October 1 - April 30
  - \* Use IV March 1 - May 31

## SEQUENCE OF CONSTRUCTION

1. OBTAIN ALL REQUIRED GRADING, MDE PERMITS, APPROVALS AND LICENSES FROM APPROPRIATE AGENCIES.
2. NOTIFY SEDIMENT CONTROL INSPECTOR AT LEAST THREE (3) WORKING DAYS PRIOR TO STARTING WORK.
3. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE AND OTHER SEDIMENT CONTROL DEVICES AS SHOWN IN THE SEDIMENT CONTROL PLAN.
4. STABILIZE ALL THE GRADED AREAS UP TO 20' OUTSIDE OF THE LIMIT OF GRADING AS PER PERMANENT SEEDING NOTES.
5. EXCAVATE HOUSE FOUNDATION, HOUSE CONSTRUCTION, UTILITIES AND INSTALL SEPTIC.
6. ANY AREAS THAT CAN BE TEMPORARILY SEEDING DURING CONSTRUCTION MUST BE TEMPORARILY STABILIZED PER SEEDING NOTES.
7. INSTALL DRIVEWAY.
8. STABILIZE DISTURBED AREAS PER PERMANENT SEEDING NOTES.
9. UPON APPROVAL OF SEDIMENT CONTROL INSPECTOR: REMOVE ALL TEMPORARY SEDIMENT CONTROL DEVICES FOR HOUSE CONSTRUCTION.
10. NOTIFY INSPECTOR FOR FINAL INSPECTION.

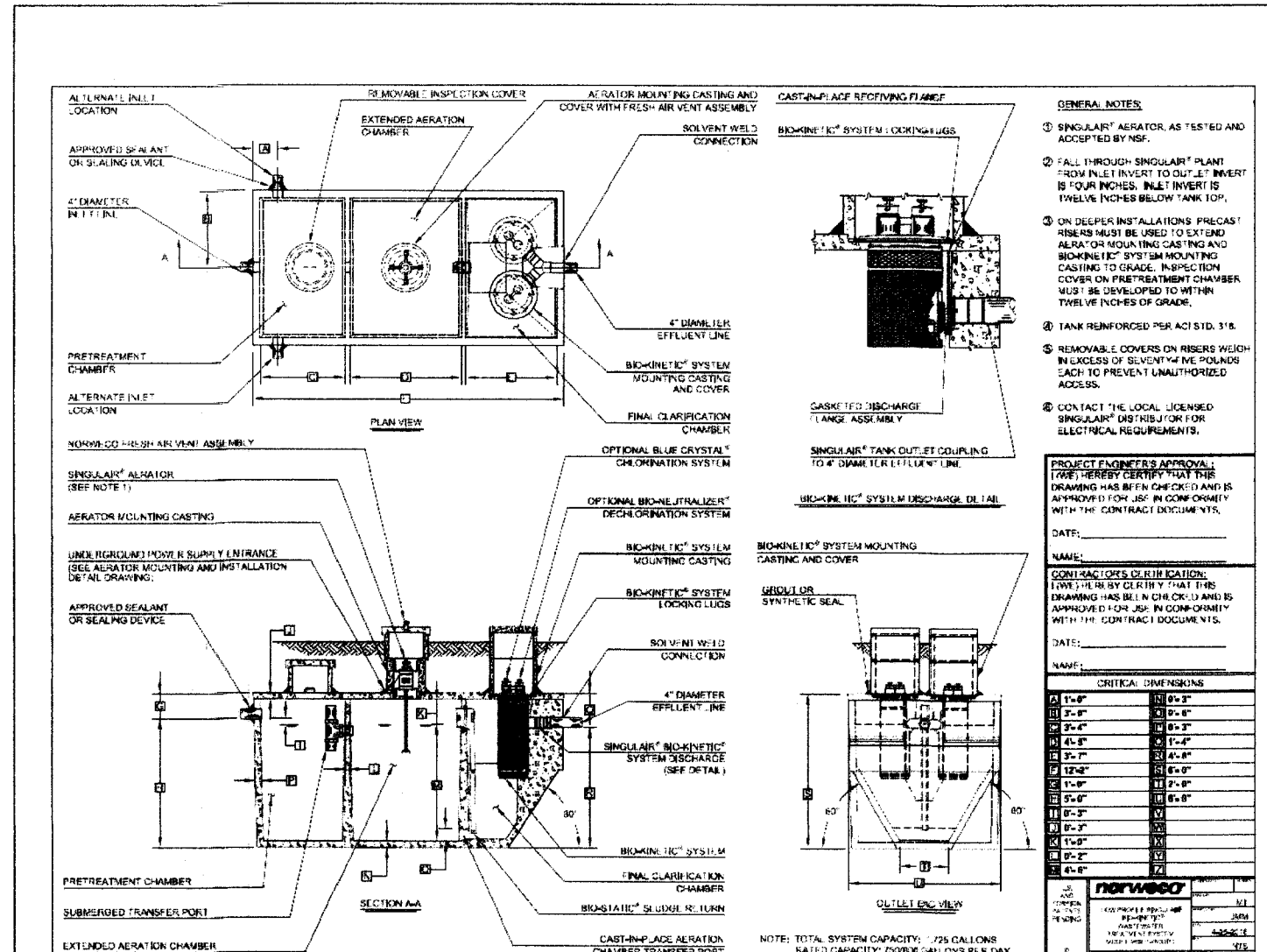
TEMPORARY STOCKPILE NOTE  
SITE EARTHWORKS HAS BEEN BALANCED SUCH THAT A TEMPORARY STOCKPILE SHOULD NOT BE NECESSARY. SHOULD CONTRACTOR DECIDE TO USE A STOCKPILE, CONTRACTOR SHALL PLACE STOCKPILE WITHIN THE ORIGINALLY APPROVED L.O.D. AND FOLLOW TEMPORARY STABILIZATION NOTES.

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 ratio. 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.



1. INSTALL 2 1/2 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.008 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 A GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 1/2 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR RING BOLTS.
3. FASTEN WOVEN SILT FLM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPPER SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. DIBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 6 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 SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSTREAM AT 45 DEGREES TO THE FENCE LINE. THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM THE ENDS OF THE SILT FENCE.
6. PROVIDE MAINTENANCE 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 ONE OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN, IF UNDOING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

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## NORWECO SINGULAR 750 BAT TANK DETAIL

1. OBTAIN ALL REQUIRED GRADING, MDE PERMITS, APPROVALS AND LICENSES FROM APPROPRIATE AGENCIES.
2. NOTIFY SEDIMENT CONTROL INSPECTOR AT LEAST THREE (3) WORKING DAYS PRIOR TO STARTING WORK.
3. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE AND OTHER SEDIMENT CONTROL DEVICES AS SHOWN IN THE SEDIMENT CONTROL PLAN.
4. STABILIZE ALL THE GRADED AREAS UP TO 20' OUTSIDE OF THE LIMIT OF GRADING AS PER PERMANENT SEEDING NOTES.
5. EXCAVATE HOUSE FOUNDATION, HOUSE CONSTRUCTION, UTILITIES AND INSTALL SEPTIC.
6. ANY AREAS THAT CAN BE TEMPORARILY SEEDING DURING CONSTRUCTION MUST BE TEMPORARILY STABILIZED PER SEEDING NOTES.
7. INSTALL DRIVEWAY.
8. STABILIZE DISTURBED AREAS PER PERMANENT SEEDING NOTES.
9. UPON APPROVAL OF SEDIMENT CONTROL INSPECTOR: REMOVE ALL TEMPORARY SEDIMENT CONTROL DEVICES FOR HOUSE CONSTRUCTION.
10. NOTIFY INSPECTOR FOR FINAL INSPECTION.

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 until when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the CID. Unless otherwise specified and approved by the CID, no more than 30 acres cumulatively may be disturbed at a given time.
12. Wash water, equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure.
13. Top soil shall be stockpiled and preserved on-site for redistribution until final grade.
14. Silt Fence and Super Silt Fence shall be placed on-the-contour and be embanked at 25' minimum interval, with lower ends disturbed uphill by 2' in elevation.
15. Stream channels must not be disturbed during the following restricted time periods (inclusive):
  - \* Use I and IIP March 1 - June 15
  - \* Use III and IIP October 1 - April 30
  - \* Use IV March 1 - May 31

## SEQUENCE OF CONSTRUCTION

1. OBTAIN ALL REQUIRED GRADING, MDE PERMITS, APPROVALS AND LICENSES FROM APPROPRIATE AGENCIES.
2. NOTIFY SEDIMENT CONTROL INSPECTOR AT LEAST THREE (3) WORKING DAYS PRIOR TO STARTING WORK.
3. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE AND OTHER SEDIMENT CONTROL DEVICES AS SHOWN IN THE SEDIMENT CONTROL PLAN.
4. STABILIZE ALL THE GRADED AREAS UP TO



# 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:
1. Soil Preparation
    - a. Temporary Stabilization
      - i. Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable equipment or construction equipment or chisel plow or heavy roller 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.
      - ii. Apply fertilizer and lime as prescribed on the plans.
      - iii. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
    - b. Permanent Stabilization
      - i. A soil test is required for any partial disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
        - A. Soil pH between 6.0 and 7.0.
        - B. Soluble salts 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 leucaena will be planted, then a sandy soil (no more than 30 percent silt plus clay) would be acceptable.
        - C. Soil contains 15 percent minimum organic matter by weight.
      - ii. Soil contains sufficient pore space to permit adequate root penetration.
      - iii. Application of amendments or topsoil is required if on-site soils do not meet the above conditions. Graded areas must be maintained as close as possible to the original surface on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches. B.13.
      - iv. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
      - v. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Roll down areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seeded 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 2 inches of soil loose and friable. Seeded loosening may be unnecessary on newly disturbed areas.
  2. Topsoiling 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.
  3. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. If it is to be salvaged for a given soil type it can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
  4. Topsoiling is limited to areas having 2:1 or flatter slopes where:
  5. Areas having slopes steeper than 2:1 require special consideration and design.
  6. The soil is so acidic that treatment with limestone is not feasible.
  7. Soil Specifications: Topsoil to be used as topsoil must meet the following criteria:
    - a. Topsoil must be a loam, sandy loam, silty 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 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 1 1/2 inches in diameter.
    - b. Topsoil must be free of noxious plants or plant parts such as dandelion grass, quack grass, johnson grass, nut sedge, poison ivy, brittle, 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.
  8. Topsoil Application
    - a. Erosion and sediment control practices must be maintained when applying topsoil.
    - b. Uniformly distributed 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 and 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 dry condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading, B.14 and seeded preparation.
  9. Soil Amendments (Fertilizer and Lime Specifications)
    - a. Soil tests must be performed to determine the exact rates and application rates for both lime and fertilizer on areas 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 analysis.
    - b. 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 be delivered to the site fully baled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
    - c. Lime materials must be ground limestone (hydrated or burnt lime) may be substituted except when hydroxydizing 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 #200 mesh sieve.
    - d. 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.
    - e. 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.

- Criteria:
1. Soil Preparation
    - a. Temporary Stabilization
      - i. Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable equipment or construction equipment or chisel plow or heavy roller 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.
      - ii. Apply fertilizer and lime as prescribed on the plans.
      - iii. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
    - b. Permanent Stabilization
      - i. A soil test is required for any partial disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
        - A. Soil pH between 6.0 and 7.0.
        - B. Soluble salts 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 leucaena will be planted, then a sandy soil (no more than 30 percent silt plus clay) would be acceptable.
        - C. Soil contains 15 percent minimum organic matter by weight.
      - ii. Soil contains sufficient pore space to permit adequate root penetration.
      - iii. Application of amendments or topsoil is required if on-site soils do not meet the above conditions. Graded areas must be maintained as close as possible to the original surface on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches. B.13.
      - iv. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
      - v. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Roll down areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seeded 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 2 inches of soil loose and friable. Seeded loosening may be unnecessary on newly disturbed areas.
  2. Topsoiling 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.
  3. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. If it is to be salvaged for a given soil type it can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
  4. Topsoiling is limited to areas having 2:1 or flatter slopes where:
  5. Areas having slopes steeper than 2:1 require special consideration and design.
  6. The soil is so acidic that treatment with limestone is not feasible.
  7. Soil Specifications: Topsoil to be used as topsoil must meet the following criteria:
    - a. Topsoil must be a loam, sandy loam, silty 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 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 1 1/2 inches in diameter.
    - b. Topsoil must be free of noxious plants or plant parts such as dandelion grass, quack grass, johnson grass, nut sedge, poison ivy, brittle, 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.
  8. Topsoil Application
    - a. Erosion and sediment control practices must be maintained when applying topsoil.
    - b. Uniformly distributed 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 and 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 dry condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading, B.14 and seeded preparation.
  9. Soil Amendments (Fertilizer and Lime Specifications)
    - a. Soil tests must be performed to determine the exact rates and application rates for both lime and fertilizer on areas 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 analysis.
    - b. 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 be delivered to the site fully baled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
    - c. Lime materials must be ground limestone (hydrated or burnt lime) may be substituted except when hydroxydizing 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 #200 mesh sieve.
    - d. 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.
    - e. 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.

- Criteria:
1. Soil Preparation
    - a. Temporary Stabilization
      - i. Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable equipment or construction equipment or chisel plow or heavy roller 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.
      - ii. Apply fertilizer and lime as prescribed on the plans.
      - iii. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
    - b. Permanent Stabilization
      - i. A soil test is required for any partial disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
        - A. Soil pH between 6.0 and 7.0.
        - B. Soluble salts 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 leucaena will be planted, then a sandy soil (no more than 30 percent silt plus clay) would be acceptable.
        - C. Soil contains 15 percent minimum organic matter by weight.
      - ii. Soil contains sufficient pore space to permit adequate root penetration.
      - iii. Application of amendments or topsoil is required if on-site soils do not meet the above conditions. Graded areas must be maintained as close as possible to the original surface on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches. B.13.
      - iv. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
      - v. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Roll down areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seeded 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 2 inches of soil loose and friable. Seeded loosening may be unnecessary on newly disturbed areas.
  2. Topsoiling 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.
  3. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. If it is to be salvaged for a given soil type it can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
  4. Topsoiling is limited to areas having 2:1 or flatter slopes where:
  5. Areas having slopes steeper than 2:1 require special consideration and design.
  6. The soil is so acidic that treatment with limestone is not feasible.
  7. Soil Specifications: Topsoil to be used as topsoil must meet the following criteria:
    - a. Topsoil must be a loam, sandy loam, silty 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 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 1 1/2 inches in diameter.
    - b. Topsoil must be free of noxious plants or plant parts such as dandelion grass, quack grass, johnson grass, nut sedge, poison ivy, brittle, 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.
  8. Topsoil Application
    - a. Erosion and sediment control practices must be maintained when applying topsoil.
    - b. Uniformly distributed 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 and 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 dry condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading, B.14 and seeded preparation.
  9. Soil Amendments (Fertilizer and Lime Specifications)
    - a. Soil tests must be performed to determine the exact rates and application rates for both lime and fertilizer on areas 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 analysis.
    - b. 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 be delivered to the site fully baled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
    - c. Lime materials must be ground limestone (hydrated or burnt lime) may be substituted except when hydroxydizing 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 #200 mesh sieve.
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        - A. Soil pH between 6.0 and 7.0.
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        - C. Soil contains 15 percent minimum organic matter by weight.
      - ii. Soil contains sufficient pore space to permit adequate root penetration.
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    - b. Topsoil must be free of noxious plants or plant parts such as dandelion grass, quack grass, johnson grass, nut sedge, poison ivy, brittle, or others as specified.
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  8. Topsoil Application
    - a. Erosion and sediment control practices must be maintained when applying topsoil.
    - b. Uniformly distributed 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 and 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 dry condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading, B.14 and seeded preparation.
  9. Soil Amendments (Fertilizer and Lime Specifications)
    - a. Soil tests must be performed to determine the exact rates and application rates for both lime and fertilizer on areas 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 analysis.
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    - c. Lime materials must be ground limestone (hydrated or burnt lime) may be substituted except when hydroxydizing 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 #200 mesh sieve.
    - d. 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.
    - e. 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.

# TEMPORARY STABILIZATION SPECIFICATIONS TABLE

Hardness Zone (from Figure B.3): **6b**  
Seed Mixture (from Table B.1): **1**

No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	
	ANNUAL RYEGRASS	40	MAR. 1 - MAY 15 AUG. 1 - OCT. 15	0.5 INCHES	4
	FOXTAIL MILLET	30	JUNE 1 - JULY 31	0.5 INCHES	(10

# PERMANENT STABILIZATION SPECIFICATIONS TABLE

Hardness Zone (from Figure B.3): **6b**  
Seed Mixture (from Table B.3): **1**

No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P205	K20
Perennial Ryegrass	20	MAY 1 - MAY 15 AUG. 1 - OCT. 15	1/4 - 1/2 in	45 pounds per acre (10 lb/1000 sq ft)	90 lb/ac (90 lb/1000 sq ft)	2 tons/ac (90 lb/1000 sq ft)	

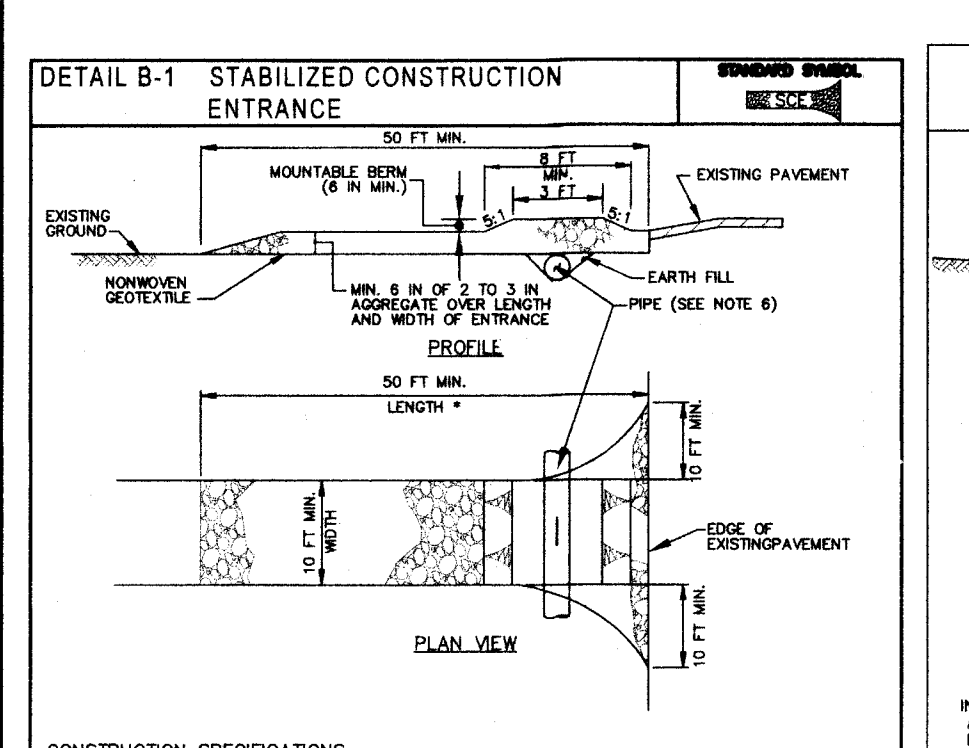
# DUST CONTROL

DUST CONTROL METHOD FOR THIS SITE TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES: CALCIUM CHLORIDE SHALL BE APPLIED TO EXPOSED SURFACES AT A RATE THAT WILL KEEP SURFACE MOST UNTIL SOIL IS STABILIZED ACCORDING TO VEGETATIVE SPECS. FOR THIS SITE AND AREAS TO BE PAVED ARE COMPLETED.

# STANDARD STABILIZATION NOTE

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 DITCHES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1 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.

# DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE



# CONSTRUCTION SPECIFICATIONS

1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTRANCE DURING THE ENTIRE CONSTRUCTION PERIOD. THE ENTRANCE SHALL BE MAINTAINED AT ALL TIMES. THE ENTRANCE SHALL BE MAINTAINED AT ALL TIMES. THE ENTRANCE SHALL BE MAINTAINED AT ALL TIMES.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SITE UNDER THE ENTRANCE. MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SITE WITH A MOUNTABLE BURNER WITH 6:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SITE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BURNER IS REQUIRED WHEN THE SITE IS LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. PLACE CURBED AGGREGATE (0 TO 3 INCHES IN SIZE) ON EXISTING RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SITE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT, ADDED STONE OR MAKE OTHER REPAIRS AS NECESSARY TO MAINTAIN THE ENTRANCE. WHEN THE ENTRANCE IS NOT IN USE, IT SHALL BE REMOVED. WHEN THE ENTRANCE IS REMOVED, IT SHALL BE REMOVED. WHEN THE ENTRANCE IS REMOVED, IT SHALL BE REMOVED.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, 2011

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# 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:
1. Seeding
    - a. Specifications
      - i. 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 B.4 regarding the quality of seed. Seed lots must be available upon request to the inspector to verify type of seed and seeding rates.
      - ii. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
      - iii. Inoculants: The inoculant for treating legume seed in the seed mixture 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.
      - iv. Soil 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 phytotoxic materials.
    - b. Application
      - i. This includes use of conventional drop or broadcast seeders.
      - ii. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1.
      - iii. Soil contains sufficient pore space to permit adequate root penetration.
      - iv. 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.16
      - v. Drill or Collector Seeding: Mechanical seeders that apply and cover seed with soil.
      - vi. Catapulting seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seeded must be applied 10-15 min after planting.
      - vii. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer). Seeded area 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; P2 O5 (phosphorus), 200 pounds per acre; K2 O (potassium), 200 pounds per acre.
      - viii. 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 time. Do not use burnt or hydrated lime when hydroseeding.
      - ix. Mix seed and fertilizer on site and spread immediately and without interruption.
      - x. When hydroseeding do not incorporate seed into the soil.
  2. Mulch
    - a. Specifications
      - i. Mulch materials (in order of preference)
        - A. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weeds 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.
        - B. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
        - C. 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 uniformity spread slurry.
        - D. WCFM, including dye, must contain no germination or growth inhibiting factors.
        - E. 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 blatter-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.
        - F. WCFM material must not contain elements or compounds at concentration levels that will be phytotoxic.
      - ii. 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 1.5 percent maximum and water holding capacity of 90 percent minimum. B.17
    - b. Application
      - i. Apply mulch to all seeded areas immediately after seeding.
      - ii. When straw used in seed, 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.
      - iii. Wood cellulose fiber mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to obtain a