

**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: 3/22/17 **ONSITE SEWAGE DISPOSAL SYSTEM** P 50548-B

APPROVAL DATE: 4/13/17 (SEC) **PERMIT: CONSTRUCTION** A \_\_\_\_\_

PROPERTY ADDRESS: 703 Woodbine Crossing Road

SUBDIVISION: Woodbine Crossing LOT: 1 TAX ID: 04-374398

CONTRACTOR: WTC Contractors EMAIL: \_\_\_\_\_

CONTRACTOR ADDRESS: 3033 Salem Bottom Road, Westminster, MD 21157 PHONE: 410-458-7024

PROPERTY OWNER: LDG Inc. EMAIL: \_\_\_\_\_

OWNER ADDRESS: 8601 Georgia Avenue, Silver Spring, MD 20110 PHONE: 301-585-7000

SEPTIC TANK SIZE (GALLONS): 1500 TANK MANUFACTURER: \_\_\_\_\_

PUMP MODEL: \_\_\_\_\_ PUMP SIZE \_\_\_\_\_ PUMP TANK CAPACITY: \_\_\_\_\_

DISTRIBUTION SYSTEM:  GRAVITY  PRESSURE DOSED BEDROOMS: 5 APPLICATION RATE: 0.8

TRENCHES:	LINEAR FEET REQUIRED: <u>156.25</u>	INLET DEPTH: <u>4</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>8</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>5</u>
LOCATION:	<b>PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND TANK LOCATIONS MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.</b>	
NOTES:		

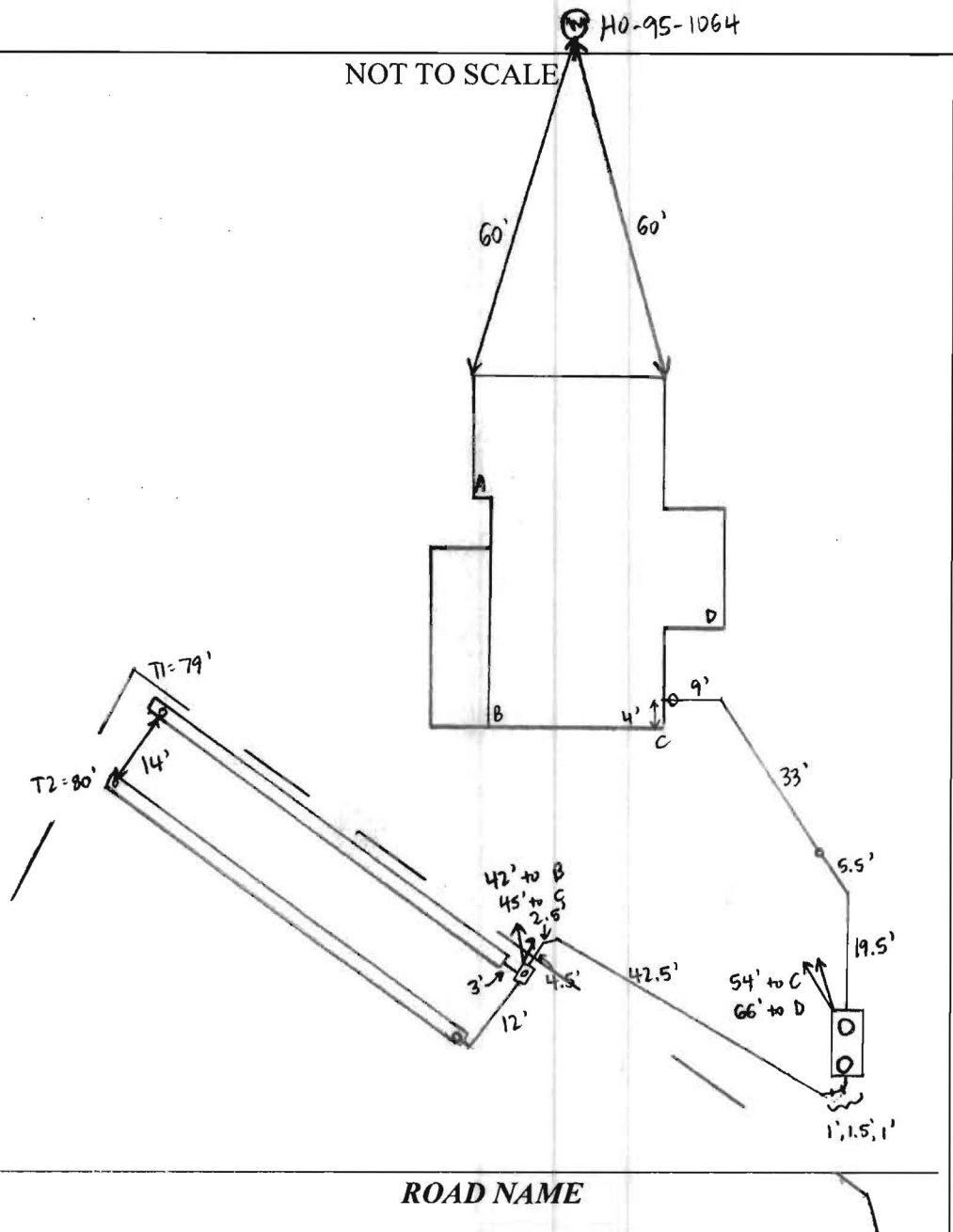
ISSUED BY: Hank Oswald ISSUE DATE: 3/22/17 EXPIRATION DATE: 3/22/18

- 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 TANKS REQUIRED
- NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET DOWNGRAIDENT 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 \_\_\_\_\_
- 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.**

H0-95-1064

NOT TO SCALE



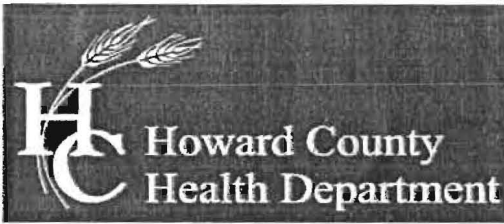
TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
3'	4'	8'
NUMBER OF TRENCHES	2	
TOTAL LENGTH	159'	
ABSORPTION AREA	477' + SIDEWALL	
DISTRIBUTION BOX LEVEL	YES	
DISTRIBUTION BOX BAFFLE	YES	
DISTRIBUTION BOX PORT	YES	

SEPTIC TANK DATA	
SEPTIC TANK I LEVEL	YES
MANUFACTURER	BABYLON
CAPACITY	1500 GAL
SEAM LOC	TOP
TANK LID DEPTH	3'
BAFFLES	YES
BAFFLE FILTER	NO
MANHOLE LOC	FRONT + REAR
6" PORT LOC	NONE
WATERTIGHT TEST	NO
SLOTTED	YES
DATE ON LID	3-3-17
<b>PUMP/SEPTIC TANK LEVEL</b>	
MANUFACTURER	
CAPACITY	GAL
SEAM LOC	
TANK LID DEPTH	
BAFFLES	
BAFFLE FILTER	
MANHOLE LOC	
6" PORT LOC	
WATERTIGHT TEST	
SLOTTED	
DATE ON LID	

**PRE-CONSTRUCTION:**

4/11/17 Met WTC on site for layout. All SDA corner stakes + tank stake present. Shot elevations @ house sewer (under footer) + tank location - fall will be 17% w/ 3' cover on tank. Okay to move tank farther from house to ensure 3' or less cover. Shot contour in SDA + laid out 2 x 79' trenches. (SC)

INSTALLATION: 4/13/17 System installed. House connection made and sewer line covered from house to tank - estimated measurements based on WTC's info on location of bends. Trenches 3' wide, 3.5' to stone. Levelled speed levelers in D-box (SC)



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

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

THIS AGREEMENT is made this 28 day of May, 2014, among LDG, Inc., 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 703 Woodbine Crossing, Woodbine, MD 21797 (Lot 1), in the 04 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 1988 Folio 258.

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.

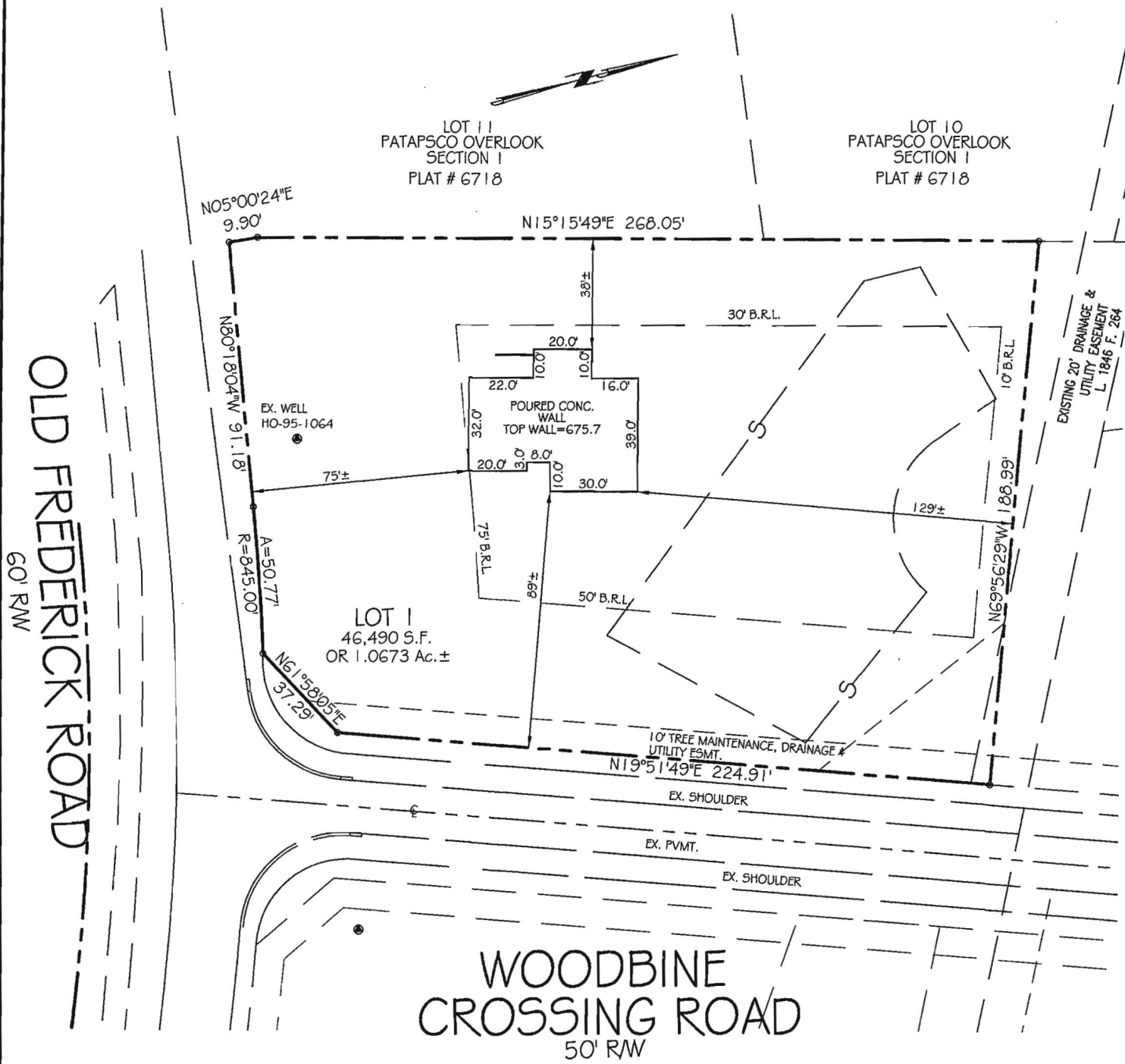
NOW, THEREFORE, the parties hereto agree as follows:

- 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



NOTES:

- 1) FOUNDATION AND FOOTINGS ARE IN PLACE AS SHOWN HEREON.
- 2) BUILDING TIES ARE ±0.5' UNLESS OTHERWISE NOTED.
- 3) TOP OF WALL = 675.7



3/22/17 - well check  
okay - u.o.

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. 21266, EXPIRATION DATE JULY 26, 2017, IN ACCORDANCE WITH COMAR 13.02.12.

*Thomas L. Frazier, Jr.*  
 For VanMar Associates, Inc.  
 Thomas L. Frazier, Jr., Professional Land Surveyor  
 Date: 1/30/17



WALL CHECK DRAWING  
 LOT 1  
 WOODBINE CROSSING

PLAT No. 20055  
 703 WOODBINE CROSSING ROAD  
 FOURTH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 SCALE: 1" = 50' JANUARY, 2017

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. 20055	B4-5416

## Oswald, Hank

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**From:** Oswald, Hank  
**Sent:** Monday, December 12, 2016 8:53 AM  
**To:** ron@vanmar.com  
**Subject:** BAT Plan\_703 Woodbine Crossing Road  
**Attachments:** BAT Plan\_703 Woodbine Crossing Road.pdf

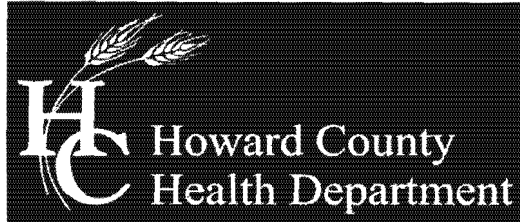
Hi Ron:

Please see attached letter with comments pertaining to the BAT Plan for 703 Woodbine Crossing Road.

Thanks,

Hank

Hank Oswald, L.E.H.S.  
Howard County Health Department  
Bureau of Environmental Health  
Well & Septic Program  
8930 Stanford Boulevard  
Columbia, MD 21045  
410.313.1786 (Office)  
410.313.2648 (Fax)



## Bureau of Environmental Health

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

---

December 12, 2016

Vanmar Associates  
310 South Main Street  
Mount Airy, MD 21771  
Attn: Ron Thompson

*Sent via email to:* [ron@vanmar.com](mailto:ron@vanmar.com)

**RE: BAT Plan  
703 Woodbine Crossing Road  
Woodbine Crossing, Lot 1**

Ron:

This letter is in response to the BAT Plan for 703 Woodbine Crossing Road. Upon review of the plan, a couple of items need to be added or changed on the plan. Please revise the plan to include the following:

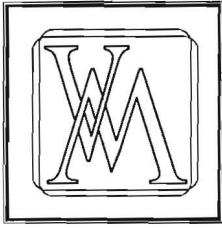
- 1.) Place initial system on left side of SDA. If possible, utilize left side for first and second replacement system as well.
- 2.) Side wall reduction credit for systems should be 0.5 unless using test hole # 503 than effective area begins at 6 ft. and bottom at 7 ft.
- 3.) Application rate is 0.8 for all 3 systems.

Should you have any questions, please don't hesitate to ask.

Respectfully,

*Hank Oswald*

Hank Oswald, L.E.H.S  
Bureau of Environmental Health  
Well & Septic Program



**VANMAR  
ASSOCIATES, INC.**

Engineers • Surveyors • Planners

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

(301) 829-2890  
(301) 695-0600

(301) 831-5015

(410) 549-2751  
Fax (301) 831-5603

December 13, 2016

Mr. Hank Oswald, L.E.H.S.  
Howard County Health Department  
Bureau of Environmental Health  
8930 Stanford Blvd.  
Columbia, MD 21045

RE: Sewage Disposal System Design Plan  
Woodbine Crossing Subdivision, Lot 1  
703 Woodbine Crossing Road

The following is a response to the December 12 comments.

---

1. *Place initial system on left side of SDA. If possible, utilize left side for first and second replacement system as well.*

---

**Response 1:** The left side of the SDA was used for the initial and first replacement systems. However there wasn't sufficient room for the second replacement system. The second replacement system was place on the right side of the SDA.

*Incorrect  
(See initial  
plan.)*

---

2. *Sidewall reduction credit for systems should be 0.5 unless using test hole #503 than effective area begins at 6 ft. and bottom at 7 ft.*

---

**Response 2:** Sidewall reduction credit of 0.5 was used for initial and first replacement system. Since the second replacement system is near hole #503, the sidewall reduction credit factor of 0.83 was used.

*Incorrect  
(see initial  
plan)*

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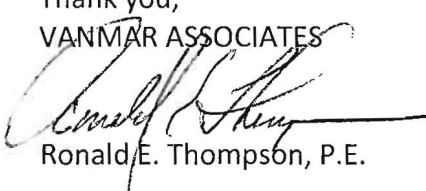
3. *Application rate is 0.8 for all 3 systems.*

---

**Response 3.** Application rate revised to 0.8 for all three systems.

---

Thank you,  
VANMAR ASSOCIATES

  
Ronald E. Thompson, P.E.



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

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December 12, 2016

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Mount Airy, MD 21771  
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*Sent via email to:* [ron@vanmar.com](mailto:ron@vanmar.com)

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Should you have any questions, please don't hesitate to ask.

Respectfully,

*Hank Oswald*

Hank Oswald, L.E.H.S  
Bureau of Environmental Health  
Well & Septic Program

# LETTER OF TRANSMITTAL

AGENCY  CLIENT  FILE  ACCT.  CORR.  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 Department of  
Environmental Health  
8930 Strafford Drive  
Columbia, Maryland 21045

**Attn:** Hank Oswald, L.E.H.S.

**DATE:** December 13, 2016

**PROJECT:** Woodbine Crossing, Lot 1

**VMA#:** b45416

### ENCLOSED:

COPIES	DATE	DESCRIPTION
3	12/13/16	Letter of Response to Hank Oswald
3	12/12/16	Howard County Comments
3	12/13/16	On Site Sewage Disposal System Design Lot 1, Woodbine Crossing

**REMARKS:** Good Morning Mr. Oswald, the plan has and revised to reflect your 12/12/16 comments.  
Thank you for your review and approval. Have a great day!

**COPIES TO (ADDRESS):** Catonsville Homes, 11175 Stratfield Boulevard, Marriottsville, Maryland 21104

**SUBMITTED BY:** dkv

g\enr\b45416 hd plot plan-bat plan lot 1 submission 12.13.16

**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:**  
1. Soil Preparation  
a. Seeded 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 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 tilled with ridges running parallel to the contour of the slope.  
b. Apply fertilizer and lime as prescribed on the plan.  
c. Suitable soils less than 3 to 5 inches of soil by disk or other suitable means.  
2. Permanent Stabilization  
a. Soil pH 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 100 parts per million (ppm).  
iii. Soil contains less than 40 percent clay or more clay 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.  
vi. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.

3. Seeded areas must be maintained as specified on the approved plan.  
4. Seeded areas must be otherwise loosened to a depth of 3 to 5 inches. Disking or other soil amendment methods are permitted on the approved plan or as indicated by the results of a soil test.  
5. Mix soil amendments into the top 3 to 5 inches of soil by disk or other suitable means. Rake level areas to smooth the surface, remove large objects like stones and branches, and relevel the soil. The surface must be free of debris and not permit normal seedbed.  
6. Apply fertilizer and lime as prescribed on the plan. Fertilizer and lime must be applied in a uniform condition with ridges 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.  
7. Topsoiling  
a. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soil specified on the approved plan, content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.  
b. 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.  
c. Topsoiling is limited to areas having 2:1 or flatter slopes where:  
i. a. The texture of the exposed subsoil/parent material is not adequate to support vegetative growth.  
ii. 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.  
iii. c. The original soil to be vegetated contains material toxic to plant growth.  
iv. d. The soil is so acidic that treatment with limestone is not feasible.  
5. Areas having slopes steeper than 2:1 require special consideration and design.  
6. Topsoil Application  
a. Erosion and sediment control practices must be maintained when applying topsoil.  
b. 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 seeding 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 a frozen or muddy condition when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading, B-4, and seeded preparation.  
d. Soil Amendments (Fertilizer and Lime Specifications)  
i. 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.  
ii. Fertilizer 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 loaded according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.  
iii. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroxydes) 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.  
iv. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disk or other suitable means.  
v. 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.

**Application:**  
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**TEMPORARY STABILIZATION SPECIFICATIONS TABLE**

No.	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-20-20)		Lime Rate
					N	P205	
1	ANNULAR RYEGRASS	40	MAR. 1 - MAY 15 AUG. 1 - OCT. 15	0.5 INCHES	436 lb/oc	2 tons/oc	2 tons/oc
2	FOXTAIL MILLET	30	JUNE 1 - JULY 31	0.5 INCHES	10 lb/1000 sf	(90 lb/1000 sf)	

**PERMANENT STABILIZATION SPECIFICATIONS TABLE**

No.	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-20-20)		Lime Rate
					N	P205	
1	PERENNIAL BLYSSGRASS	20	MAR. 1 - MAY 15 AUG. 1 - OCT. 15	1/4-1/2 in	45 pounds per acre (1.0 lb/1000 sf)	90 lb/oc (90 lb/1000 sf)	2 tons/oc (90 lb/1000 sf)
2				1/4-1/2 in			
3				1/4-1/2 in			

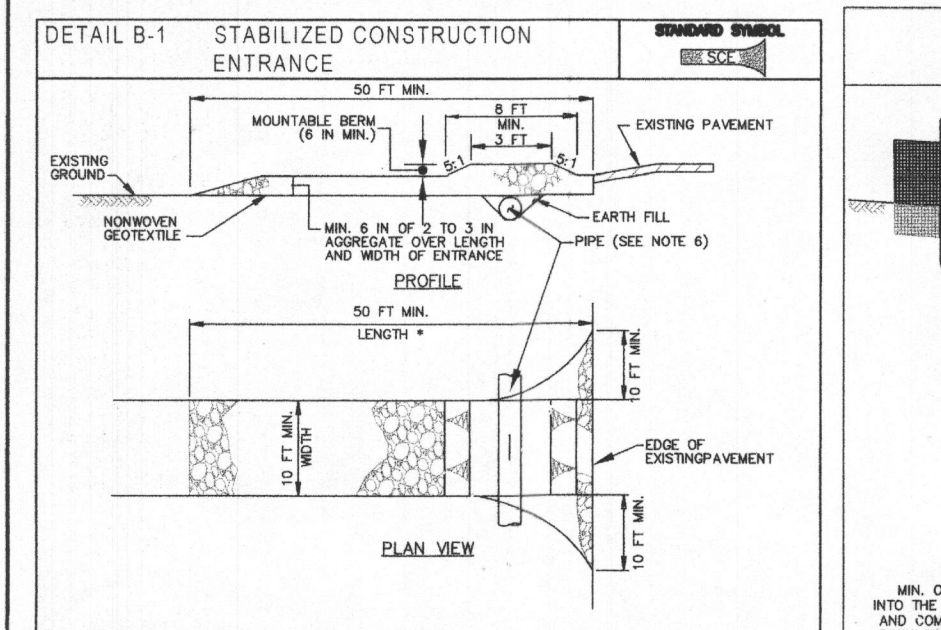
**B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA**

**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-4-1 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.



**CONSTRUCTION SPECIFICATIONS**

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SIZE. USE MINIMUM LENGTH OF 50 FEET (100 FEET FOR SINGLE RESURFACE LANE) USE MINIMUM WIDTH OF 10 FEET. FLARE SIZE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- REMOVE EXISTING DRIVEWAY TO BE SURVEYED THROUGH THE SIDE SLOPE OF THE ENTRANCE. MAINTAIN POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SIDE SLOPE WITH A MOUNTAINABLE BERM (B.M.) MINIMUM OF 3 TO 3.5 INCHES HIGH AND 18 INCHES WIDE. THE BERM MUST BE LOCATED AT A HIGH SPOT. WHEN THE SIDE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO BE LOCATED AT A HIGH SPOT.
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-4 MATERIALS.
- PLACE CURBING 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.
- MAINTAIN ENTRANCE IN A CONDITION THAT MAINTAINS TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAR PASSAGE. REMOVE STONE, AND TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAYS TO REMOVE TRACKS AND PREVENT TRACK ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

**HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES**

**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 B-4-1 regarding the quality of seed. Seed lots must be available upon request to the inspector to verify type of seed and seeding rate.  
b. Mulch must be applied between the top 1 to 2 inches and spring seeding dates only if the ground is frozen. 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 use. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.  
d. 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.  
2. Application  
a. Dry Seeding: This includes use of conventional row or broadcast spreaders.  
b. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).  
i. 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.  
ii. Drill or Outdragger Seeding: Mechanized seeders that apply and cover seed with soil.  
iii. Outdragger seeders are required to bury the seed in such a fashion as to provide a minimum 1/4 inch of soil covering. Seeded must be firm after planting.  
iv. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Apply hydroseeding. Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).  
v. If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: Nitrogen, 100 pounds per acre; Phosphorus, P2 O5 (phosphorus), 200 pounds per acre; K2 O (potassium), 200 pounds per acre.  
vi. 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 time. Do not use burnt or hydrated lime when hydroseeding.  
vii. Mix seed and fertilizer on site and seed immediately and without interruption.  
viii. 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 light and color. Straw is to be free of noxious weeds such as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw from areas where one species of grass is desired.  
b. Wood cellulose fiber mulch consisting of specially prepared wood cellulose fiber mulch.  
i. WCFM is to be dyed green and contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniform 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 batter-like ground cover on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil until inhibiting the growth of the grass seedings.  
iv. WCFM material must not contain elements or compounds at concentrations levels that will be phytotoxic.  
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. B.17  
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 acre. 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 tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface to 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 (Agra-Tack), DCA-70, Petrosol, Terra Tax II, Terra Tax III, or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders is to be heavier at the slopes where wind catches much, 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's recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 1000 feet long.

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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.  
e. Other building or grading inspection approvals may not be authorized until this initial approval by 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 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:  
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5. All sediment control structures are to remain in place and are to be maintained in operative condition until permanent for their removal has been obtained from the CID.  
6. Site Analysis:  
Total Area of Site: 1.0673 Acres.  
Area to be vegetatively stabilized: 0.87 Acres.  
Area to be roofed or paved: 0.10 Acres.  
Area to be vegetatively stabilized: 0.37 Acres.  
Total Cut: 0.00 cu. yds.  
Offsite waste/borrow area location: N/A.  
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 control practices that require maintenance  
• Identification of missing or improperly installed sediment controls  
• Compliance status regarding the schedule 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, MDES)

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Area to be vegetatively stabilized: 0.

**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
    - Seeded 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.
    - 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 vegetative establishment are:
      - Soil pH between 6.0 and 7.0.
      - Soil salinity 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 1.5 percent minimum organic matter by weight.
      - Soil contains sufficient pore space to permit adequate root penetration.
    - Application of amendments if topsoil is not available or 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, B-1.3.
    - Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
    - 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 all conditions will not permit normal seeding 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. Seeded loosening may be unnecessary on newly disturbed areas.
  - Topsoiling
    - 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.
    - Topsoil salvaged from an existing site may be used provided it meets the standards 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 as published by USDA-NRCS.
    - Topsoiling is limited to areas having 2:1 or flatter slopes where:
      - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
      - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish 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 consideration and design.
    - Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
      - Topsoil must be used if recommended by an agronomist or soil scientist and approved by the appropriate authority. Topsoil must be a mixture of contrasting textural 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.
      - 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.
      - Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate 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 seeding or seeding and compacting 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.
    - 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, B-1.4 and seeded preparation.
  - Soil Amendments (Fertilizer and Lime Specifications)
    - Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas 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 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 hydroseeding) which contains at least 50 percent total solids (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.
    - 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.
    - 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.

**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:**

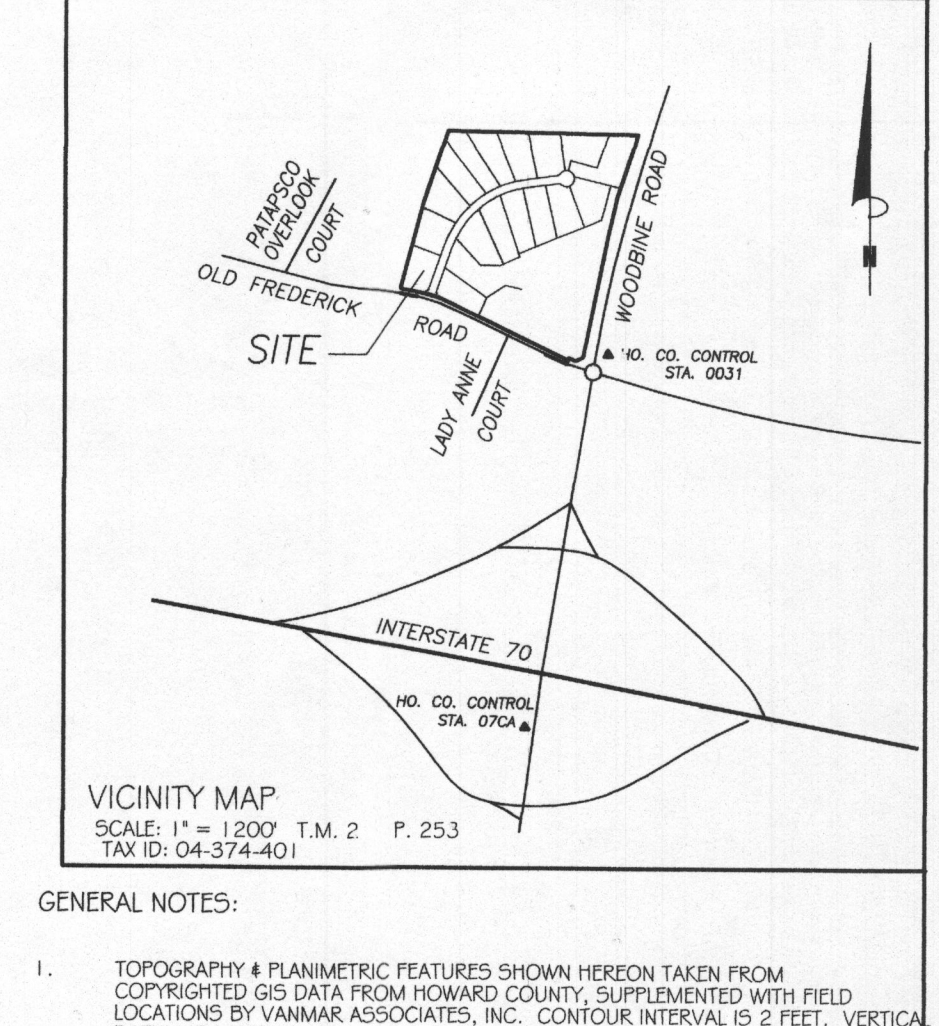
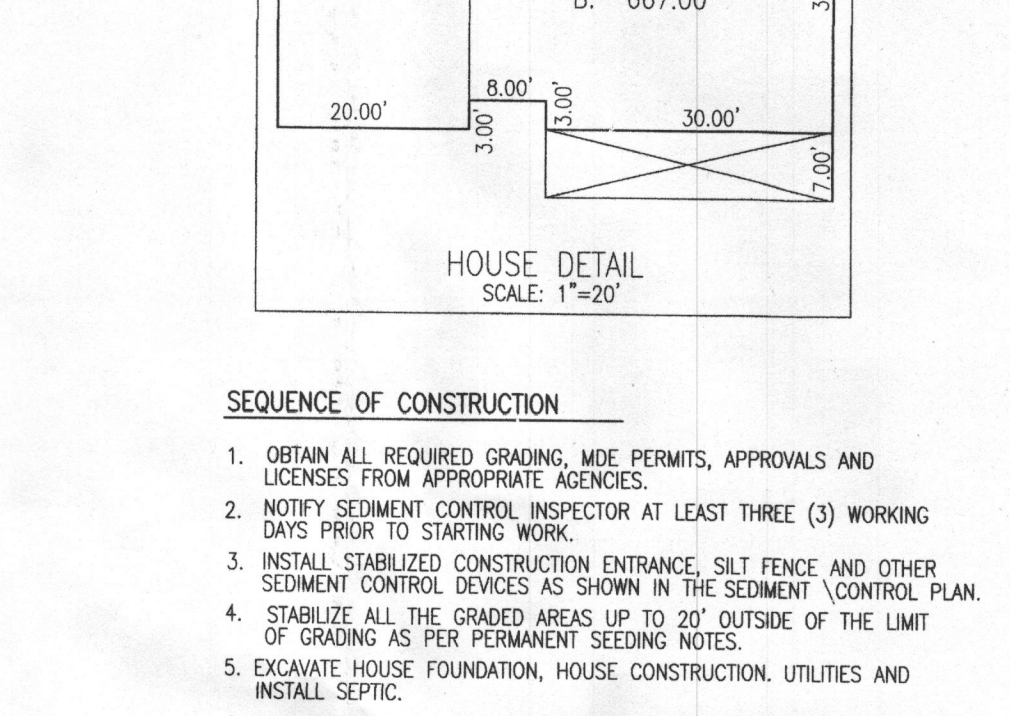
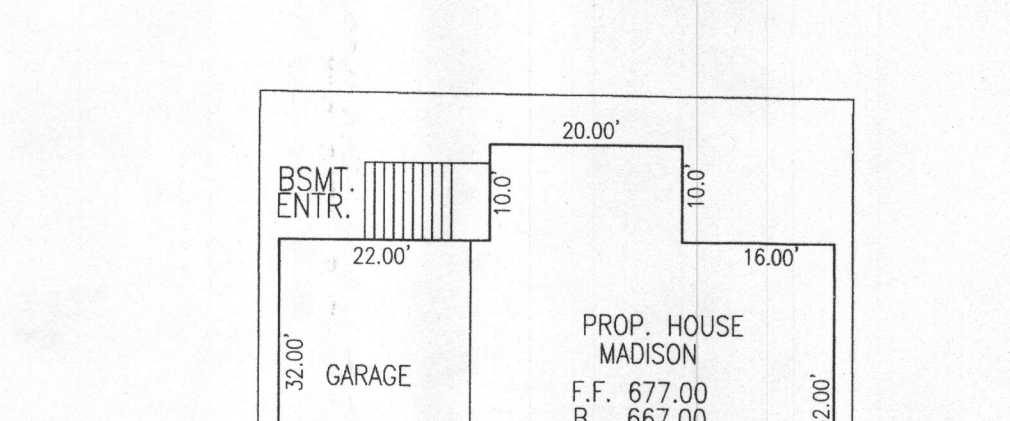
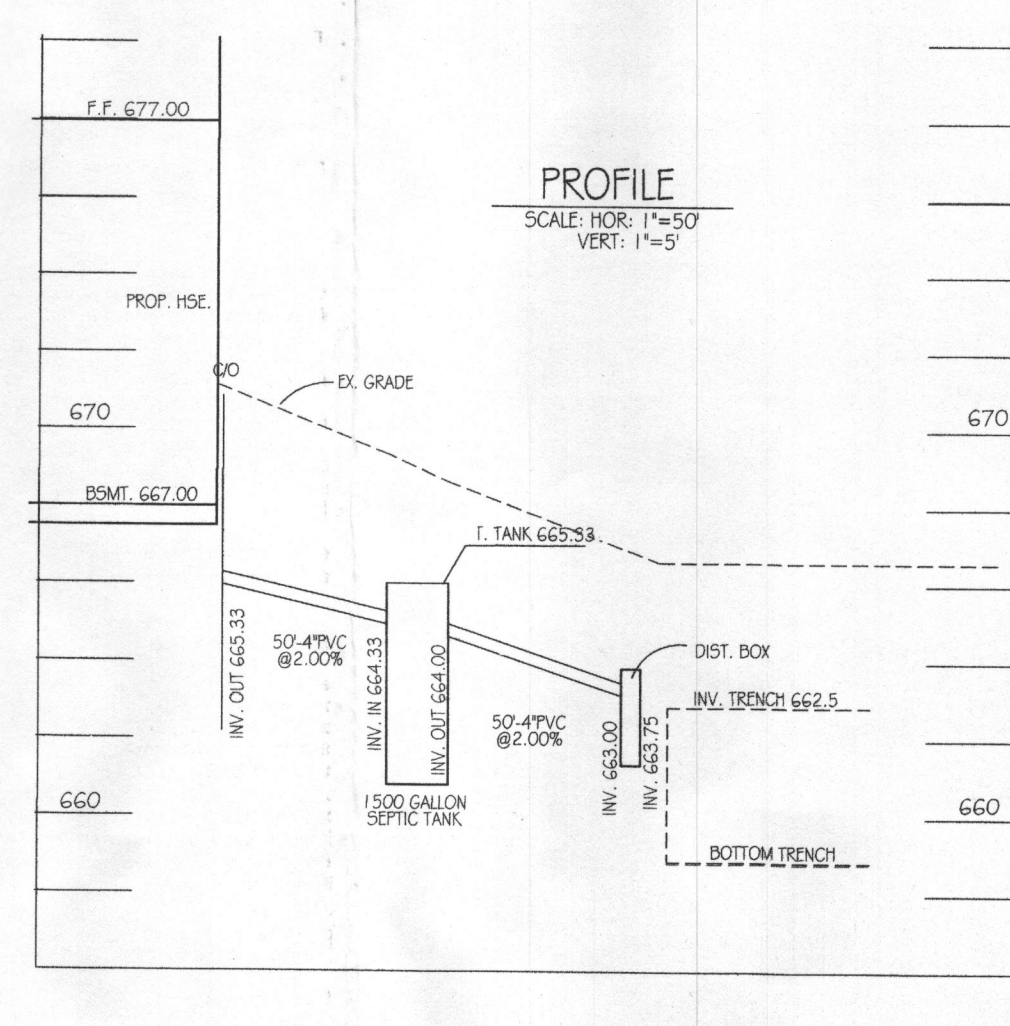
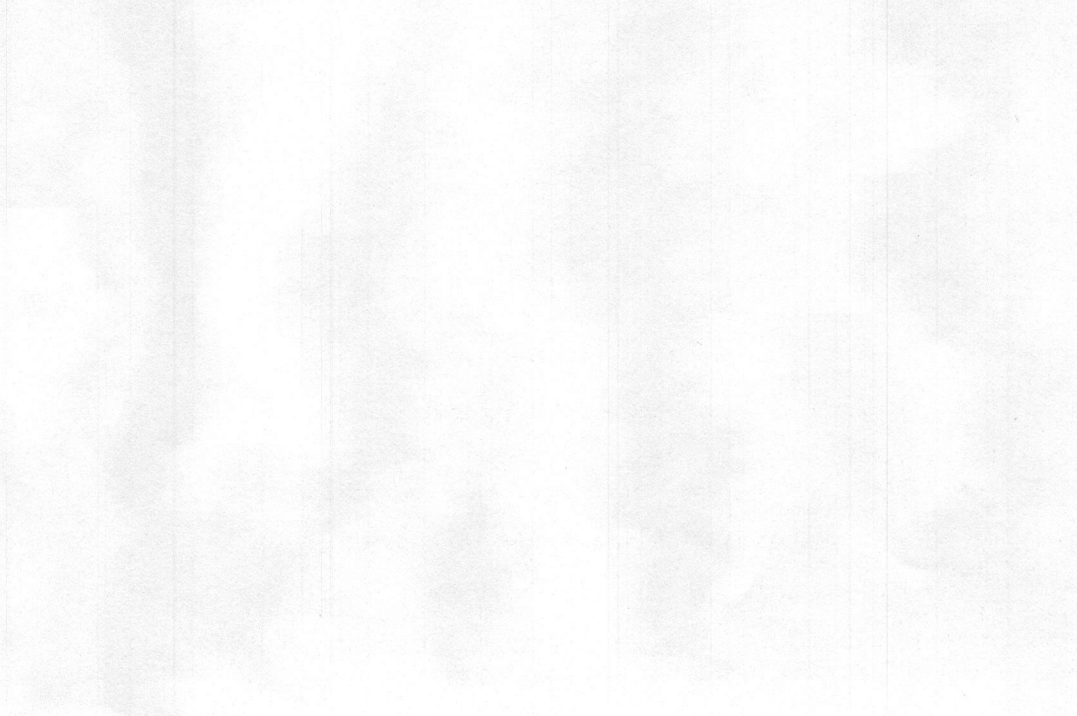
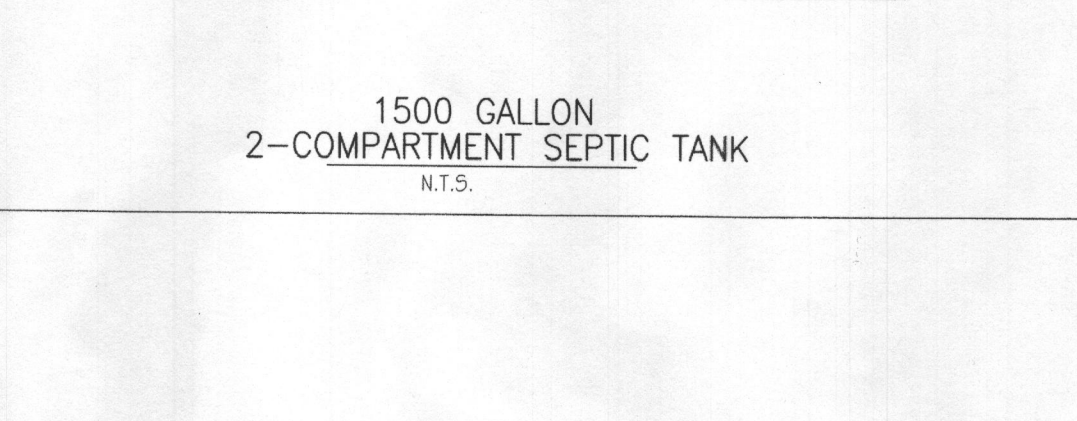
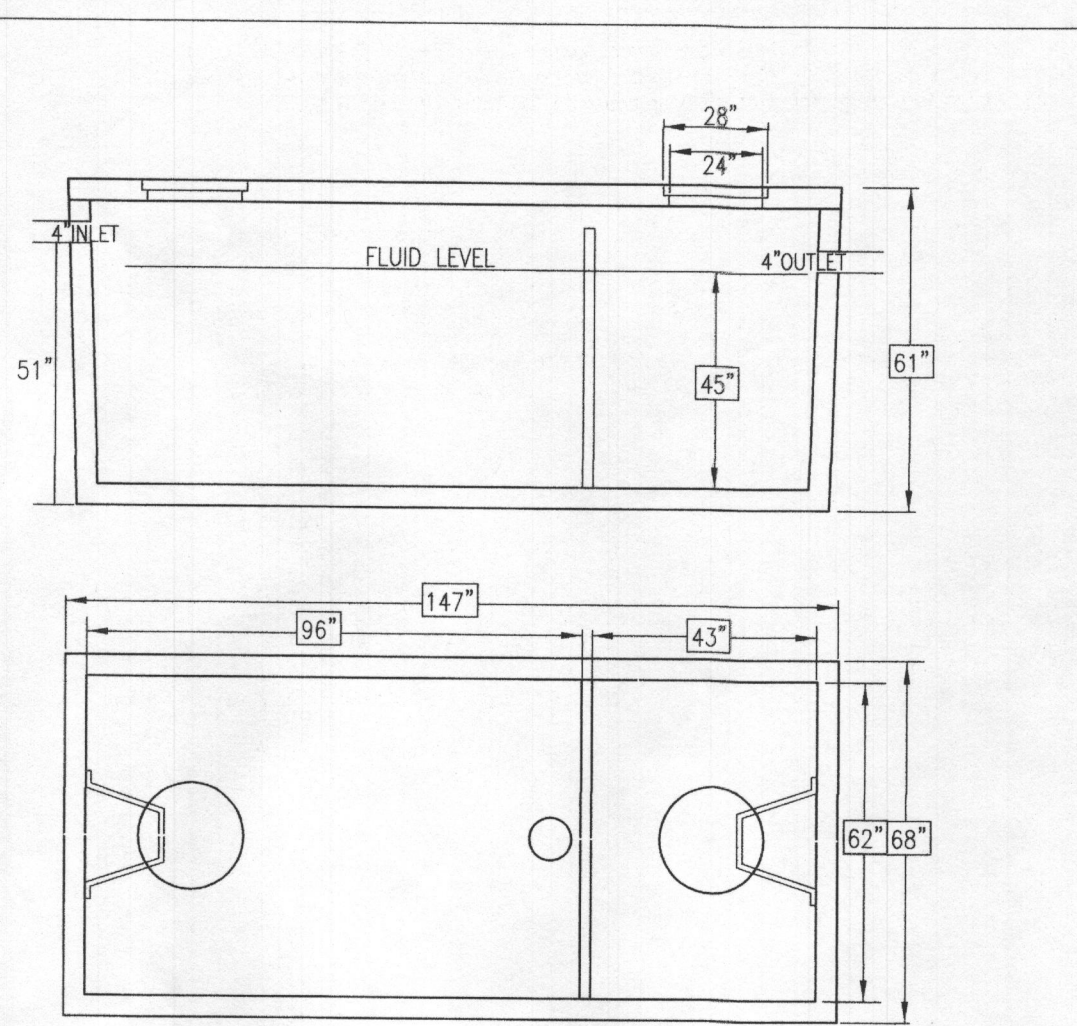
- Seeding
  - Specifications
    - All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. 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 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.
    - Inoculating the inoculant for nitrogen fixing bacteria 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 inoculants as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
    - 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 decomposition of phytotoxic materials.
  - Application
    - Dry Seeding: This includes use of conventional drop or broadcast spreaders.
    - 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.
    - Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
    - Fertilizer is being applied at the application rates 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.
    - 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 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 must be dry and green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
  - WCFM, including dye, must contain no germination or growth inhibiting factors.
  - 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 batter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil until 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 1.5 percent maximum and water holding capacity of 90 percent minimum. B-1.7
- Application
  - Apply mulch to all seeded areas immediately after seeding.
  - Apply mulch to 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 completely covered. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
  - Wood cellulose fiber used as 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 erosion. 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 to a depth 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.
      - 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 to a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
      - Synthetic binders such as Acrylic DER (Agra-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 must be done in a timely manner. Binders catch mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited. Lightweight plastic netting may be applied 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.

**HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES**

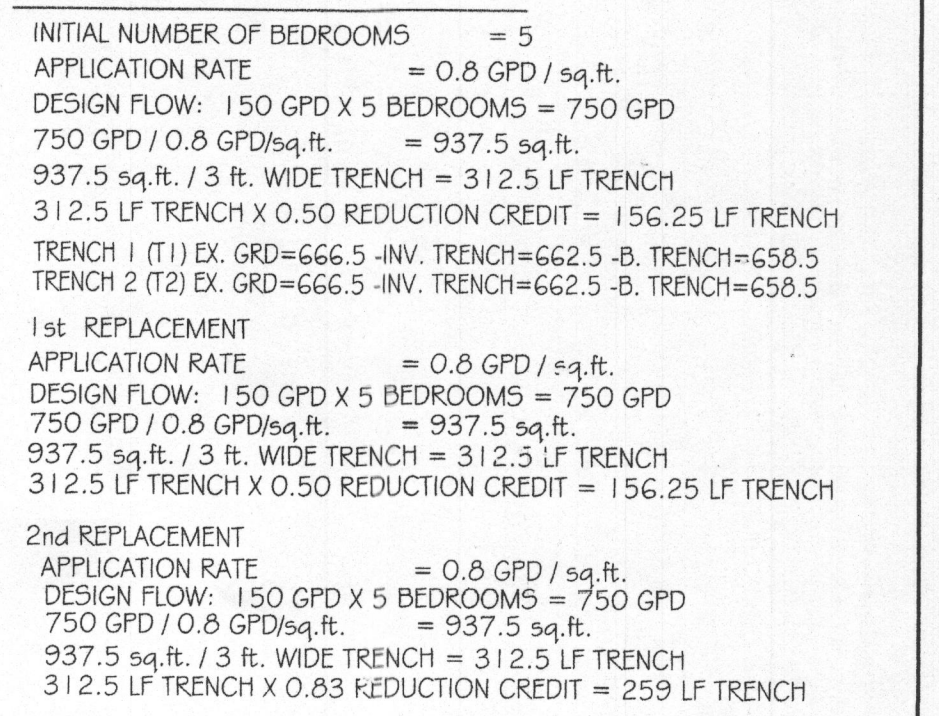
- A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1855 after the future LOD and protected area marked clearly in the field. A minimum of 48 hour notice to CID must be given in the following stages:
  - Prior to the start of earth disturbance.
  - Prior to the completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading.
  - Prior to the start of another phase of construction or opening of another grading unit.
  - 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 inspection agency is made. Other related state and federal permits shall be referenced, to ensure coordination and to avoid conflicts with this plan.
- All negative 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.
- 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.
- 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-4-4-6).
- All sediment control structures are to remain in place and are to be maintained in operative condition until permanent permission for their removal has been obtained from the CID.
- Site Analysis:
 

Total Area of Site	1.0673 Acres
Area Disturbed	0.47 Acres
Area to be roofed or paved	0.10 Acres
Area to be vegetatively stabilized	0.37 Acres
Total Cut	0.00 Yds.
Total Fill	0.00 Yds.

 Offsite water/borrow area location: N/A.
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- 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 disturbances
  - 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, WDE).
- 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.
- 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 be allowed by the CID per the list of HSCD-approved field changes.
- 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 CID. Unless otherwise specified and approved by the Howard Soil Conservation District, no more than 30 acres cumulatively may be disturbed at a given time.
- Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure.
- Top soil shall be stockpiled and preserved on-site for redistribution onto final grade.
- All Silt Fence and Super Silt Fence shall be placed on-the-contour, and be imbricated at 25' minimum interval, with lower ends curled uphill by 2' in elevation.
  - Use I and IIIP March 1 - June 15
  - Use III and IIP October 1 - April 30
  - Use IV March 1 - May 31
- A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active.



- GENERAL NOTES:**
- TOPOGRAPHY 4 PLANIMETRIC FEATURES SHOWN HEREON TAKEN FROM COPYRIGHTED GIS DATA FROM HOWARD COUNTY, SUPPLEMENTED WITH FIELD LOCATIONS BY VANMAR ASSOCIATES, INC. CONTOUR INTERVAL IS 2 FEET. VERTICAL DATUM IS NAVD83.
  - THE EXISTING WELLS SHOWN ON THIS PLAN HAVE BEEN FIELD LOCATED BY VANMAR ASSOCIATES OR TAKEN FROM AVAILABLE RECORDS AND ACCURATELY SHOWN.
  - ZONING DISTRICT: RC-DEO
  - LIMIT OF DISTURBANCE (LOD) = 20,500 SQ. FT.
  - THERE ARE NO STREAMS, PONDS, FLOODPLAINS OR WETLANDS ON THIS LOT.
  - STORM WATER MANAGEMENT FOR THIS LOT IS PROVIDED BY EXISTING WOODBINE CROSSING STORM WATER MANAGEMENT FACILITIES FOR AND CONSTRUCTED BY THE DEVELOPER UNDER PLAN F-07-103.
  - DRIVEWAY CULVERT DESIGNED BY DEVELOPER UNDER PLAN F-07-103.



**TEMPORARY STABILIZATION SPECIFICATIONS TABLE**

No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-20-20)	Lime Rate
1	ANNUAL RYEGRASS	40	MAR. 1 - MAY 15 AUG. 1 - OCT. 15	0.5 INCHES	436 lb/ac	2 tons/ac
2	FOXTAIL MILLET	30	JUNE 1 - JULY 31	0.5 INCHES	10 lb/1000 sf	(90 lb/1000 sf)

**PERMANENT STABILIZATION SPECIFICATIONS TABLE**

No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P2O5	K2O	Lime Rate
1	PERENNIAL BUELL'S BLUEGRASS	20	MAR. 1 - MAY 15 AUG. 1 - OCT. 15	1/4"-1/2" in	45 pounds per acre	90 lb/ac (28/1000 sf)	90 lb/ac (90 lb/1000 sf)	2 tons/ac (90 lb/1000 sf)
2	MILLET	30	JUNE 1 - JULY 31	1/4"-1/2" in	10 lb/1000 sf	10 lb/1000 sf	10 lb/1000 sf	(10 lb/1000 sf)

**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:**

- The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
- 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.
- Section B-3 Land Grading.
- Control practices from the stockpile area must drain to a suitable sediment control practice.
- Access the stockpile area from the upgrade side.

**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.**

**Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.**

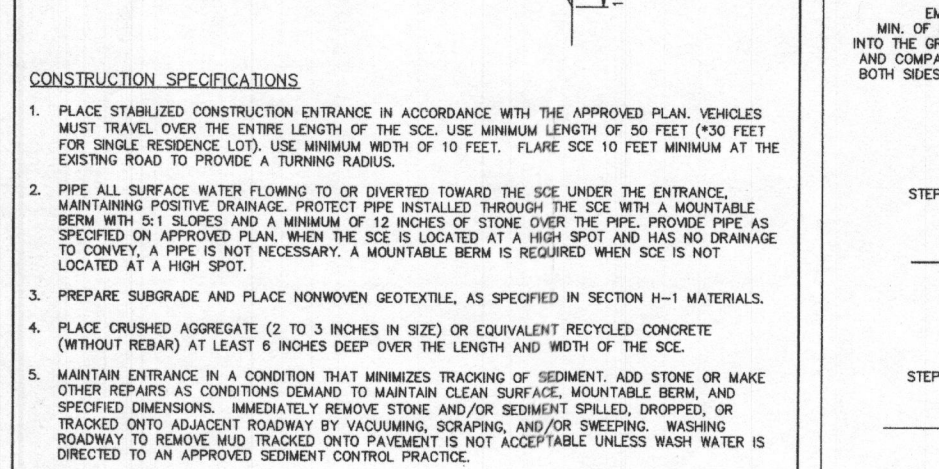
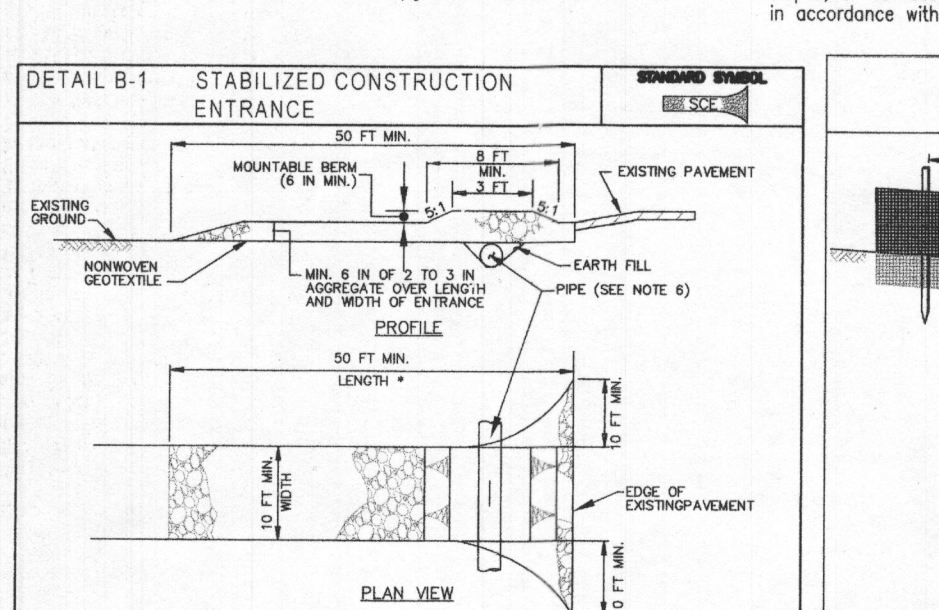
**Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization.**

**Temporary Stabilization.**

**If the stockpile is located on an impervious surface, a liner should be located below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.**

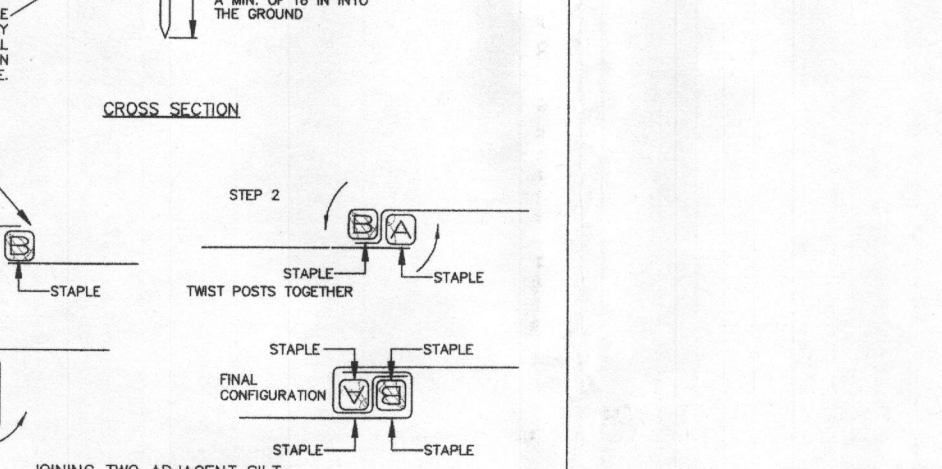
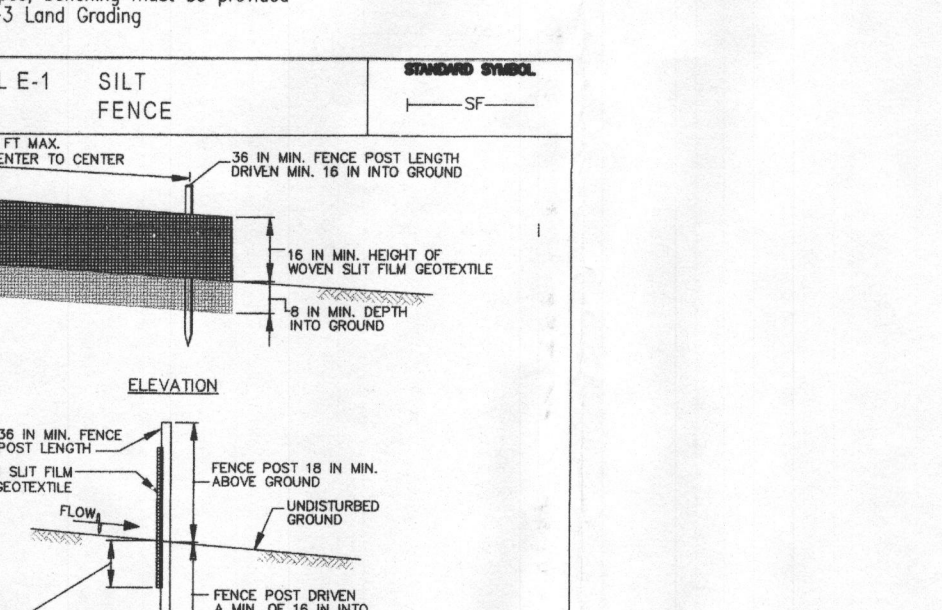
**Maintenance.**

**The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-3 Land Grading. 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.**



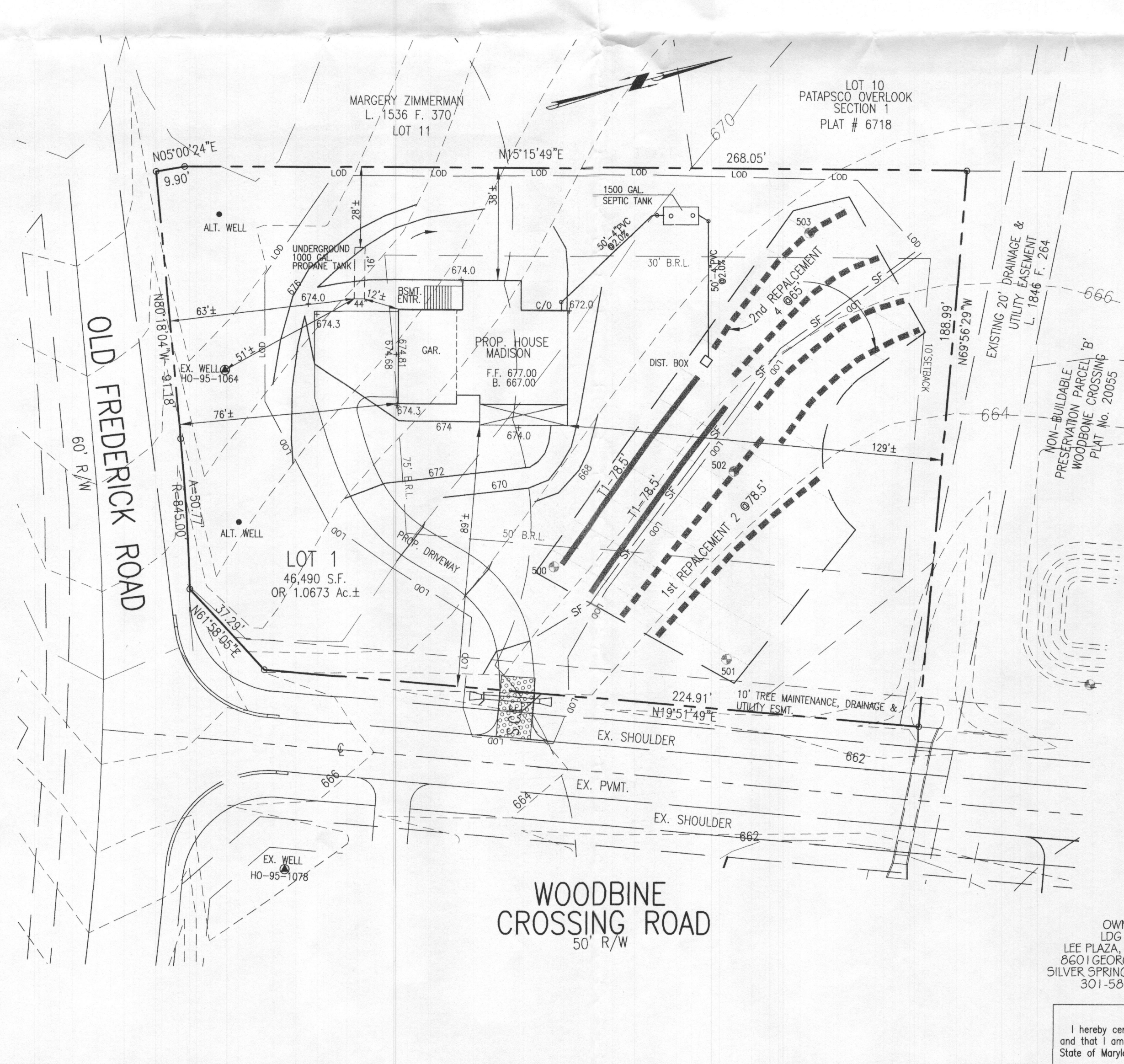
**CONSTRUCTION SPECIFICATIONS**

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE SURFACE LEVEL OF THE SIDE SLOPE MINIMUM LENGTH OF 50 FEET (100 FEET FOR SINGLE RESIDENCE LOTS). USE MINIMUM WIDTH OF 10 FEET. FLARE SIZE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SIDE UNDER THE ENTRANCE. PROVIDE POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SIDE WITH A MOUNTABLE BERM WITH SLOPES AND A MINIMUM OF 22 INCHES OF STONE OVER THE PIPE. PROVIDE BERM AS SHOWN ON THE PLAN. IF A PIPE IS NOT NECESSARY, A MOUNTABLE BERM IS REQUIRED WHEN SIDE IS NOT LOCATED AT A MINIMUM OF 22 INCHES OF STONE OVER THE PIPE.
- PREPARE SURROUND AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION B-1 MATERIALS.
- PLACE ORNAMENTED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT THE END OF THE ENTRANCE WITH A MINIMUM OF 18 INCHES OF STONE OVER THE PIPE.
- MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRAFFIC OF SEDIMENT AND STONE OR HAVE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAR SURFACE. MAINTAIN BERM AND PROTECTIVE ENDINGS. IMMEDIATELY REMOVE STONE OR SEDIMENT BUILT UP DURING OR TRAFFIC ON ADJACENT ROADWAY BY VOLUNTARY DONATIONS, AND/OR TRUCKING. MAINTAIN BERM TO REMAIN AND TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASHING WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.



**CONSTRUCTION SPECIFICATIONS**

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**Approved Septic System Plan**  
 Howard County Health Department  
 Howard County Health Department  
 Signature: [Signature] Date: 12/13/16

**OWNER:**  
 LDG INC.  
 LEE PLAZA, SUITE 200  
 860 GEORGIA AVENUE  
 SILVER SPRING, MD 20910  
 301-585-7000

**DEVELOPER:**  
 CATONSVILLE HOMES  
 11175 STRATFIELD CT.  
 MARRIOTTVILLE, MD 21104  
 410-442-2211

**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. 18417, Expiration Date: 8-18-17.

**DATE:** 11/30/16  
**REVISIONS:** 12/13/16  
**SEPTIC TANK HOOD COMMENTS:**

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

**ENGINEER'S CERTIFICATE:**  
 I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT AND THE 2011 MARYLAND STANDARDS & SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

**HOWARD SOIL CONSERVATION DISTRICT**

**ONSITE SEWAGE DISPOSAL SYSTEM DESIGN PLAN**

**LOT 1**  
**WOODBINE CROSSING**  
 PLAT No. 20055  
 703 WOODBINE CROSSING ROAD  
 FOURTH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 SCALE: 1" = 30' OCTOBER, 2016

**VANMAR ASSOCIATES, INC.**  
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**DATE:** 11/30/16  
**REVISIONS:** 12/13/16  
**SEPTIC TANK HOOD COMMENTS:**

