

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
 Facebook: www.facebook.com/hocohealth

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

RECEIPT DATE: 8/1/16 **ONSITE SEWAGE DISPOSAL SYSTEM** P 558812
 APPROVAL DATE: 9/6/16 (SEC) **PERMIT: CONSTRUCTION** A _____
 PROPERTY ADDRESS: 12726 Milo Court
 SUBDIVISION: Terrapin Creek LOT: 10 TAX ID: 03-596033
 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: Apte Subodh and Rane Tripti Etal EMAIL: _____
 OWNER ADDRESS: 2035 Crescent Moon Court, Woodstock, MD 21163 PHONE: _____

BAT UNIT MODEL: Norweco TNT-500 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: 0.8

TRENCHES:	LINEAR FEET REQUIRED: <u>142 1/2'</u>	INLET DEPTH: <u>4</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>8'7"</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>4.5</u>

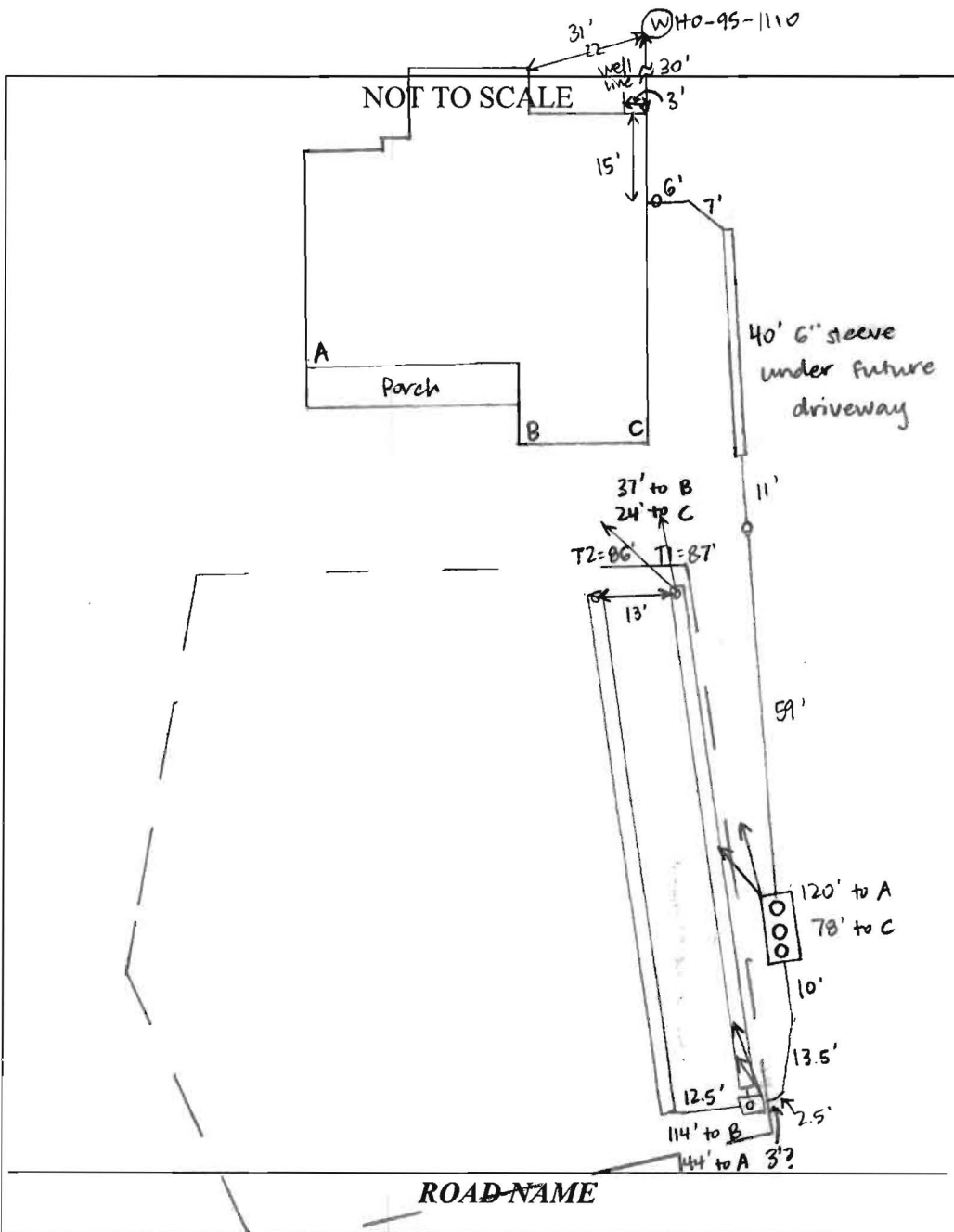
LOCATION: **PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.**

NOTES: Install 2x 86' trenches

ISSUED BY: Hank Oswald ISSUE DATE: _____ EXPIRATION DATE: 8/1/17

- 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 16003058
- 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'	7'
NUMBER OF TRENCHES		2
TOTAL LENGTH		173'
ABSORPTION AREA		519' + SIDEWALL
DISTRIBUTION BOX LEVEL		YES
DISTRIBUTION BOX BAFFLE		YES
DISTRIBUTION BOX PORT		YES

SEPTIC TANK DATA	
SEPTIC TANK I LEVEL	YES
MANUFACTURER	BACKRIVER/NORWECO
CAPACITY	1300 GAL
SEAM LOC	TOP
TANK LID DEPTH	1-1.5'
BAFFLES	NO
BAFFLE FILTER	NO
MANHOLE LOC	FRONT, MID, REAR
6" PORT LOC	NONE
WATERTIGHT TEST	NO
SLOTTED	NO
DATE ON LID	7-18-16

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: 8/22/16 Met WTC on site for layout. Tank stake present, all SDA corner stakes present except E corner - knocked over, measured off house to find location. Laid out 2-86' trenches on contours (SC)

INSTALLATION: 8/23/16 WTC digging tank hole - working on house connection. Tank delivery set for tomorrow. (SC) 8/24/16 System all installed. House connection made, tank set. Levelled speed levelers in D-box. T1 open at ends, T2 open - 3.5-4' to stone and 3' wide. Need BAT startup certification. (SC) 9/6/16 BAT startup certification received. (SC) 11/29/16 On site for BAT startup. Norweco alarm sounds + aerator runs (SC)

FINAL INSPECTOR Sarah Collins DATE OF APPROVAL 9/6/16

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 Singlair TNT 600 GPD Septic Tank installed at 12726 Milo Ct., Sykesville, MD 21784 August 24, 2016 was installed according to the manufacture's specifications.

Installer: Walter Coon

Property Owner: Subodh Apte

Permit #

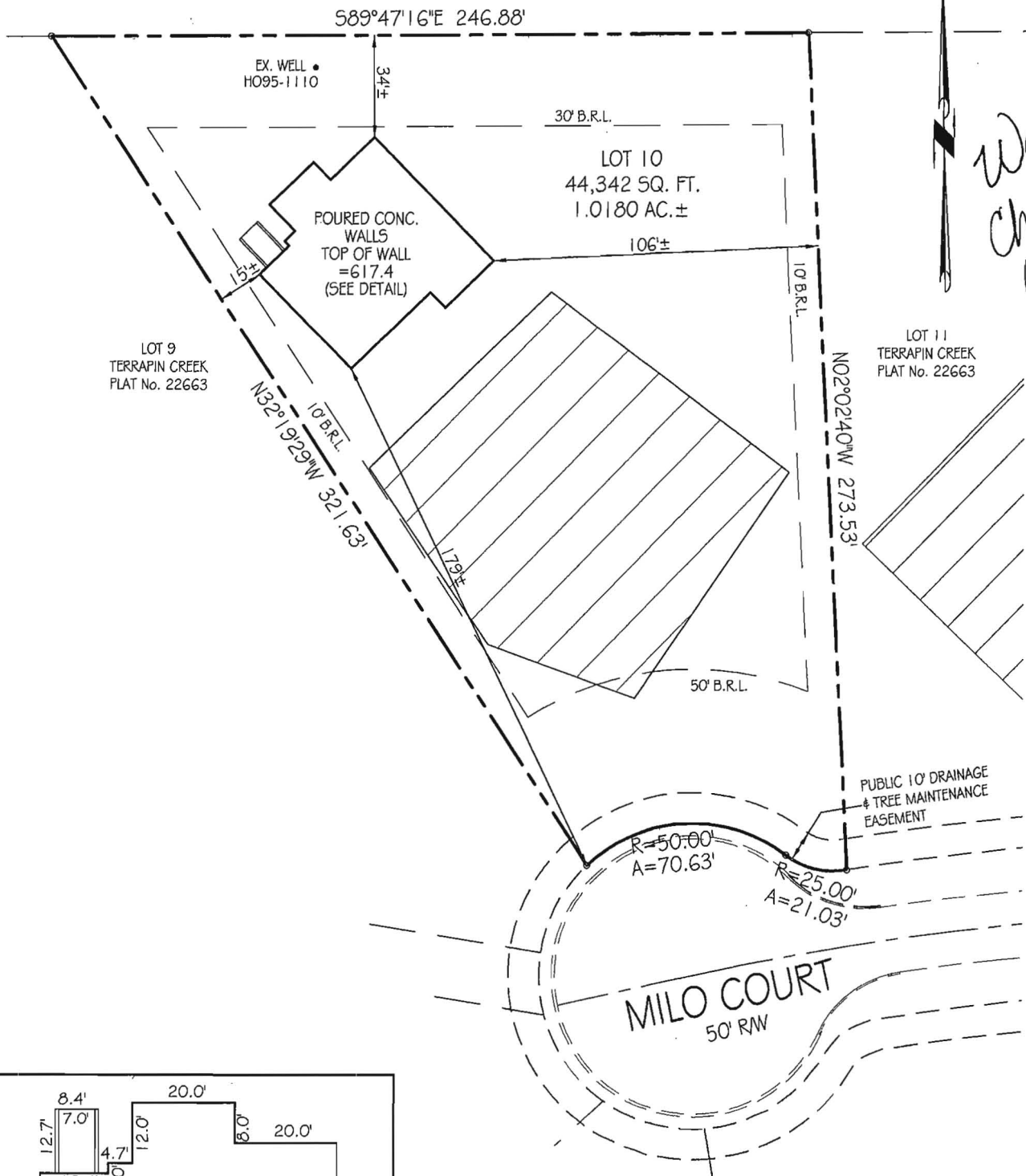
THIS CERTIFICATION IS FOR INSTALLATION ONLY. THE 5-YEAR OPERATIONS & MAINTENANCE AGREEMENT FROM DATE OF INSTALLATION WILL ONLY GO INTO EFFECT AFTER BACK RIVER PRE-CAST, LLC RECEIVES FINAL AND FULL PAYMENT FOR THE SYSTEM.



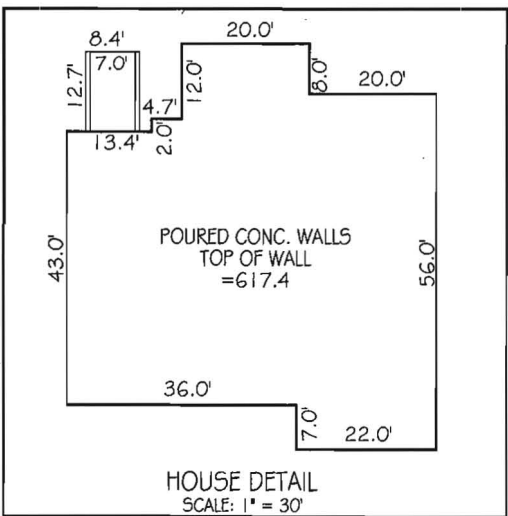
MATTHEW GECKLE

Vice-President

BUILDABLE PRESERVATION PARCEL 'A'
TERRAPIN CREEK
PLAT No. 22664



Wall
Check
OK
DB
8-1-16



- NOTES:
- 1) FOUNDATION AND FOOTINGS ARE IN PLACE AS SHOWN HEREON.
 - 2) BUILDING TIES ARE ±0.5' UNLESS OTHERWISE NOTED.
 - 3) TOP OF WALL = 617.4

WALL CHECK DRAWING
LOT 10
TERRAPIN CREEK

PLAT No. 22663
12726 MILO COURT
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: 1" = 50' JULY, 2016

PROFESSIONAL CERTIFICATION:

I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A FULLY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21097, EXPIRATION DATE JULY 12, 2017, IN ACCORDANCE WITH COMAR 09.13.06.12.

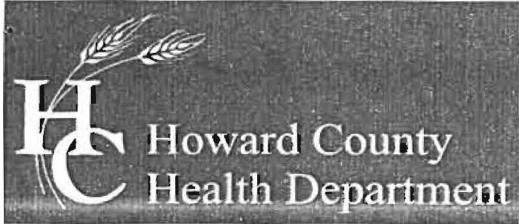
Thomas L. Frazier, Jr.
THOMAS L. FRAZIER, JR.
Professional Land Surveyor
Date 7/8/16

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. 22663	B4-5428



Bureau of Environmental Health

8930 Stanford Boulevard, Columbia, MD 21045

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

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Facebook: 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 2014, 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
12726 Milo Court, Sykesville, MD 21784 (Lot 10), 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.

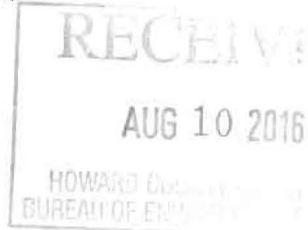
G. This agreement may be voided at any time at the discretion of the County.

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.



Beed Wilson 8/10/2016
Howard County Health Department
CATONSVILLE HOMES, LLC

BY: [Signature] 8/3/14
Owner #1 Signature Date
ROBERT A SCRANTON

Owner #2 Signature Date

Owner #1 Print Name

Owner #2 Print Name

[Signature] 08/09/2016
Buyer #1 Signature Date

[Signature] 08/06/2016
Buyer #2 Signature Date

Subarbh Arte
Buyer #1 Print Name

Tripti Rane
Buyer #2 Print Name

**CATONSVILLE HOMES, LLC
OPERATING MAINTENANCE AGREEMENTS**

8/10/2016

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

=====
SubTotal: 420.00
Total: 420.00
=====

REV-Check-BDA 420.00
Number : 23140

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

Oswald, Hank

From: Oswald, Hank
Sent: Monday, May 02, 2016 9:14 AM
To: 'Ron Thompson'; Pam Walter
Subject: RE: BAT Plan and Floor Plan Comments_12726 Milo Court

Hi Ron:

I received the revised BAT plan (with the SDA adjustment) and it's approvable pending the revised perc cert.

Thanks,

Hank

From: Ron Thompson [<mailto:ron@vanmar.com>]
Sent: Thursday, April 28, 2016 2:32 PM
To: Oswald, Hank; Pam Walter
Subject: RE: BAT Plan and Floor Plan Comments_12726 Milo Court

Attached is the updated BAT Plan for 5 bedrooms and 20' separation from the septic area.

Ronald E. Thompson, PE
VANMAR ASSOCIATES
310 South Main Street
PO Box 328
Mount Airy, Maryland 21771
301-829-2890 (O)
443-421-2164 (C)
301-831-5603 (F)

From: Oswald, Hank [<mailto:hoswald@howardcountymd.gov>]
Sent: Thursday, April 28, 2016 11:44 AM
To: Pam Walter <PWalter@catonsvillehomes.com>; Ron Thompson <ron@vanmar.com>
Cc: Rob Scranton <rscranton@catonsvillehomes.com>; Steve Edmondson <SEdmondson@catonsvillehomes.com>
Subject: RE: BAT Plan and Floor Plan Comments_12726 Milo Court

Will do but we still need a revised plan meeting 20 foot setback from garage to easement.

Tx,

Hank

From: Pam Walter [<mailto:PWalter@catonsvillehomes.com>]
Sent: Thursday, April 28, 2016 11:25 AM
To: Oswald, Hank; Ron Thompson
Cc: Rob Scranton; Steve Edmondson
Subject: RE: BAT Plan and Floor Plan Comments_12726 Milo Court

Hank,

Please proceed with the 5 bedroom plan, per the existing floorplan.

Thanks!

Pam Walter

Catonsville Homes, LLC
11175 Stratfield Court
Marriottsville, MD 21104
410-442-2211 x 202
410-442-2215 Fax
pwalter@catonsvillehomes.com

From: Oswald, Hank [<mailto:hoswald@howardcountymd.gov>]
Sent: Wednesday, April 27, 2016 3:01 PM
To: Ron Thompson; Pam Walter
Cc: Rob Scranton; Steve Edmondson
Subject: RE: BAT Plan and Floor Plan Comments_12726 Milo Court

At a quick glance, the TNT 500 is only good for 5 bedrooms.

From: Ron Thompson [<mailto:ron@vanmar.com>]
Sent: Wednesday, April 27, 2016 2:37 PM
To: Pam Walter
Cc: Oswald, Hank; Rob Scranton; Steve Edmondson
Subject: RE: BAT Plan and Floor Plan Comments_12726 Milo Court

Pam:

Updated plan is attached. Copies being delivered overnight to your office.

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Subject: RE: BAT Plan and Floor Plan Comments_12726 Milo Court

Ron,

Please update the BAT plan for 6 bedrooms.

Thanks!

Pam Walter

Catonsville Homes, LLC
11175 Stratfield Court
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410-442-2211 x 202
410-442-2215 Fax
pwalter@catonsvillehomes.com

From: Oswald, Hank [<mailto:hoswald@howardcountymd.gov>]
Sent: Tuesday, April 26, 2016 10:52 AM
To: Pam Walter; ron@vanmar.com
Subject: BAT Plan and Floor Plan Comments_12726 Milo Court

Pam:

Floor Plan Comment:

BAT Plan is sized for 5 bedrooms (BR's) and the floor plans shows 5 BR's (1 BR on 1st floor, 4 BR's on 2nd floor) with a potential for at least one more in the basement. Please see attached memo regarding extra bedrooms.

Ron:

BAT Plan Comment:

The septic easement is less than 20 feet to garage. Please revise the plan to meet the setback requirement. The septic easement area may be modified but a percolation certification plan must be revised as well.

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

Respectfully,

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)

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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)

Oswald, Hank

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Sent: Tuesday, April 26, 2016 10:52 AM
To: Pam Walter (PWalter@catonsvillehomes.com); ron@vanmar.com
Subject: BAT Plan and Floor Plan Comments_12726 Milo Court
Attachments: Basement Bedroom Memo_12726 Milo Court_2016.pdf

Pam:

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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)

B-2-4 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
 - Soil 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 chain plows or rippers mounted on construction equipment. After the soil has been loosened, it must be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with rippers 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.
 - 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 loessless 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 or specified on the plans. Amendments do not meet the above conditions. C. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches as indicated by the results of a soil test.
 - 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. Roll 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. Do not use any equipment that will permit normal seeded areas to be tracked. 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 published by USDA-NRCS.
 - 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 in contact with soil to support plants or furnish continuing supplies of moisture and plant nutrients.
 - The original soil to be vegetated contains material toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.
 - Areas having slopes steeper than 2:1 require special consideration and design.

- Topsoil Application
 - Topsoil must 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 textures 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 approval authority, may be used in lieu of natural topsoil.
 - Topsoil Application
 - Erosion and sediment control practices must be maintained when applying topsoil.
 - Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that staking 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 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 soil is excessively wet or in a condition that may otherwise be detrimental to proper grading B14 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 commercial private or commercial laboratory 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. Measures may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must be all delivered to the site fully labeled according to the applicable laws and must bear the name, trade name of 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 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.
 - 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.

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TEMPORARY STABILIZATION SPECIFICATIONS TABLE

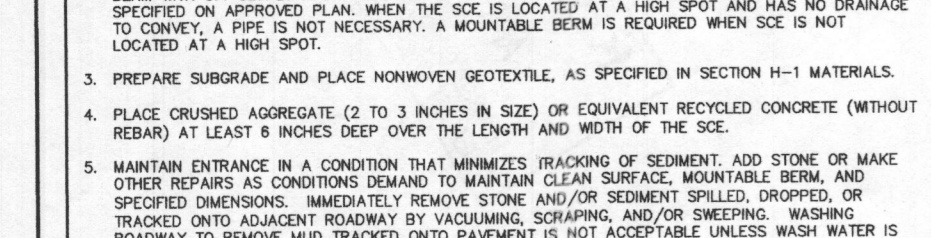
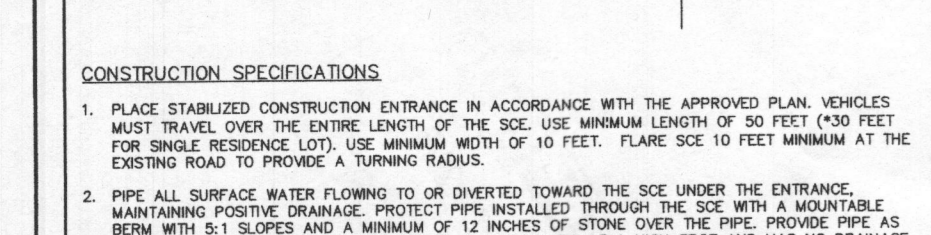
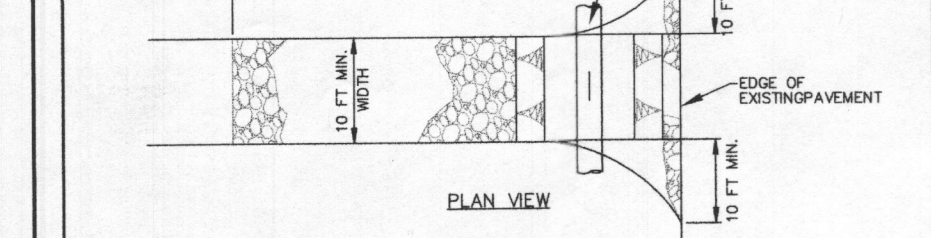
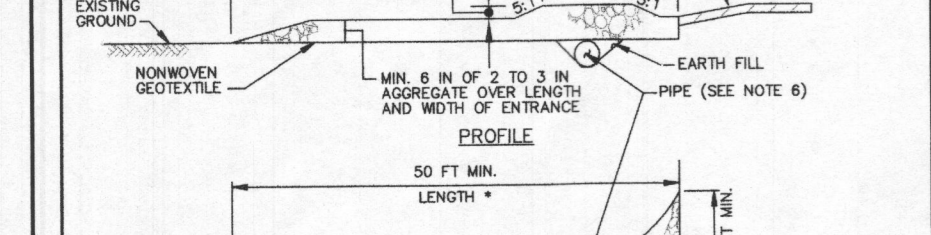
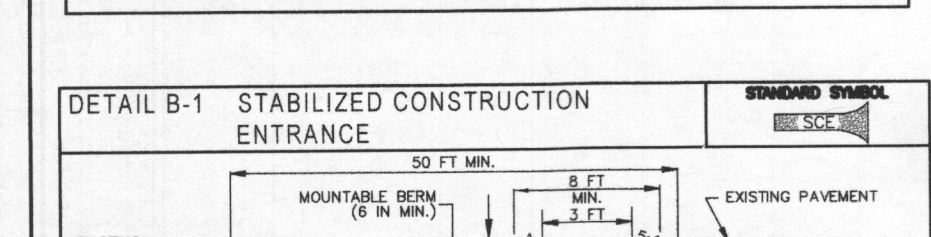
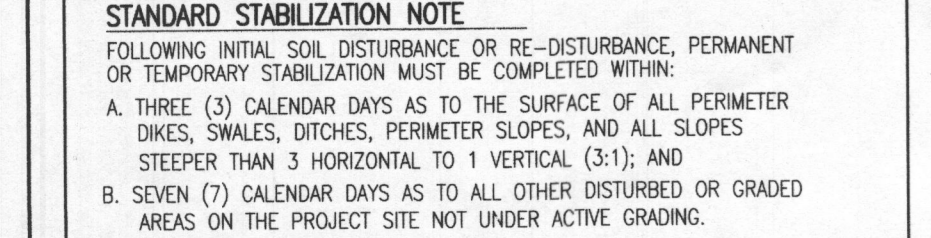
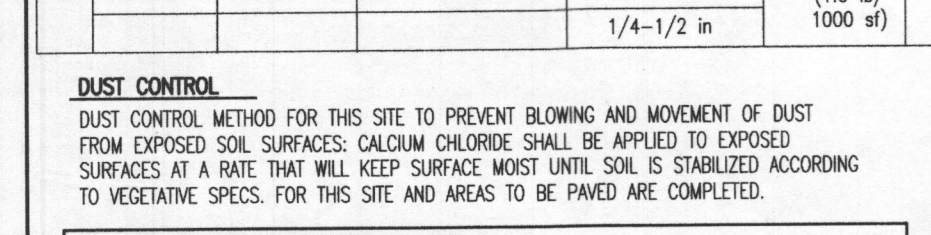
No.	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-20-20)		Lime Rate
					N	P2O5	
ANNUAL BROMUS	40	MAR 1 - MAY 15 AUG 1 - OCT 15	0.5 INCHES	436 lb/acre (10 lb/1000 sq ft)	2 tons/acre (90 lb/1000 sq ft)		
FOXTAIL MILLET	30	JUNE 1 - JULY 31	0.5 INCHES				

PERMANENT STABILIZATION SPECIFICATIONS TABLE

No.	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-20-20)		Lime Rate
					N	P2O5	
METROPOLIS BROMUS	20	MAR 1 - MAY 15 AUG 1 - OCT 15	1/4-1/2 in	45 pounds per acre (11 lb/1000 sq ft)	90 lb/acre (22 lb/1000 sq ft)	2 tons/acre (90 lb/1000 sq ft)	
			1/4-1/2 in				
			1/4-1/2 in				

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 INSTALLATION NOTE
FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
A. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SLOPES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
B. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.



MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. U.S. DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE. 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:**
- Seeding
 - Seeding 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 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 shall 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.
 - Incubants: The incubant for testing purposes in the seed mixture must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Incubants must not be used later than the date indicated on the container. Add fresh incubants as directed on the package. Use four times the recommended rate when seeding 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.

- Disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (Sec. B-4-2), permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization (Sec. B-4-8) in excess of 20 ft. must be seeded with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6).

- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the CID.
- Site Erodibility
 - Total Area of Site: 1.01 Acres.
 - Area Disturbed: 0.39 Acres.
 - Area to be seeded or mulched: 0.16 Acres.
 - Area to be vegetatively stabilized: 0.23 Acres.
 - Total Turbidity: 771 Cu. Yds.
 - Off-site Turbidity: N/A.

- Use only ground granulated limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, more than 2 tons per acre should be hydroseeded at any one time. Do not use burnt or hydrated lime when hydroseeding.
- Mix seed and fertilizer on site and seed immediately into soil without interruption. When hydroseeding do not incorporate seed into the soil.

- Mulch
 - Mulch Materials (in order of preference)
 - Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw to be free of noxious weed seeds as specified in the Maryland Seed Law and not color, show to be free of noxious weed seeds as specified in the Maryland Seed Law and not color, show to be free of noxious weed seeds as specified in the Maryland Seed Law and not color, show to be free of noxious weed seeds as specified in the Maryland Seed Law.
 - Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
 - WCWM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
 - WCWM including dye, must contain no germination or growth inhibiting factors.
 - WCWM 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 bi-layer 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 grass seedlings.
 - WCWM material must not contain elements or compounds at concentration levels that will be phytotoxic.
 - WCWM 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, cation content of 1.6 percent maximum and water holding capacity of 50 percent of d.m.
 - Application
 - Apply mulch to all seeded areas immediately after seeding.
 - 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 spreading 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 mulch with water to 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 (tested by preference), depending upon the size of the area and other conditions:
 - 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.
 - Wood cellulose fiber mulch 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 D.B. (Acracel), DCA-70, Petroseal, Terra Tex II, Terra Lock 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 stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 15 to 15 feet wide and 300 to 3,000 feet long.

- Seeding
 - Seeding 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 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.
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MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. U.S. DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE. 2011.

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 L.O.D. and protected area marked clearly in the field. A minimum of 48 hour notice to O.D. must be given a the following stages:
 - Prior to the start of earth disturbance.
 - Upon 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, to ensure coordination and to avoid conflicts with this plan.

- 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.

- 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.

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- Use only ground granulated limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, more than 2 tons per acre should be hydroseeded at any one time. Do not use burnt or hydrated lime when hydroseeding.
- Mix seed and fertilizer on site and seed immediately into soil without interruption. When hydroseeding do not incorporate seed into the soil.

- Mulch
 - Mulch Materials (in order of preference)
 - Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw to be free of noxious weed seeds as specified in the Maryland Seed Law and not color, show to be free of noxious weed seeds as specified in the Maryland Seed Law and not color, show to be free of noxious weed seeds as specified in the Maryland Seed Law.
 - Wood Cellulose Fiber Mulch (WCWM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
 - WCWM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
 - WCWM including dye, must contain

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

Definition:
The process of preparing the soil 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. Temporary Stabilization
 - a. Seeding 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 be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with rippers running parallel to the contour of the slope.
 - b. Apply fertilizer and lime as specified on the plans.
 - c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
2. Permanent Stabilization
 - a. Soil tests are 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 7.5.
 - ii. Soluble salts less than 500 parts per million (ppm).
 - iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent all 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 all plus clay) would be acceptable.
 - iv. Soil contains 1.5 percent minimum organic matter by weight.
 - v. Soil contains sufficient pore space to permit adequate root penetration.
 - b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
 - c. Graded areas must be maintained in a top and even grade as specified on the approved plan. Then scarified or otherwise loosened to a depth of 3 to 5 inches. B.1.1.
 - d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
 - e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake level 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 alternative conditions will not permit normal seeding preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in a irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and light seed application. Seeded loosening may be necessary on newly disturbed areas.

3. Topsoiling
 - a. Topsoil placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soil containing low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
 - b. Topsoil salvaged from an existing site 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. Topsoil is limited to areas having 2:1 or flatter slopes.
 - d. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - e. 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.
 - f. The original soil to be vegetated contains material toxic to plant growth.
 - g. The soil is so acidic that treatment with limestone is not feasible.
 - h. Areas having slopes steeper than 2:1 require special consideration and design.
4. Topsoil Specifications
 - a. Topsoil must be a loam, sandy loam, clay loam, all 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 substrates 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 Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
 - c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
5. Topsoil Application
 - a. Erosion and sediment control practices must be maintained when applying topsoil.
 - b. Uniformly distribute topsoil to a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in a manner that seedling or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.
 - c. Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet in a condition that may otherwise be detrimental to proper grading, B.1.4 and seeded preparation.
6. 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 sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
 - b. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Moisture may be substituted for fertilizer when approved by the appropriate approval authority. Fertilizers must 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.
 - c. 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 #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

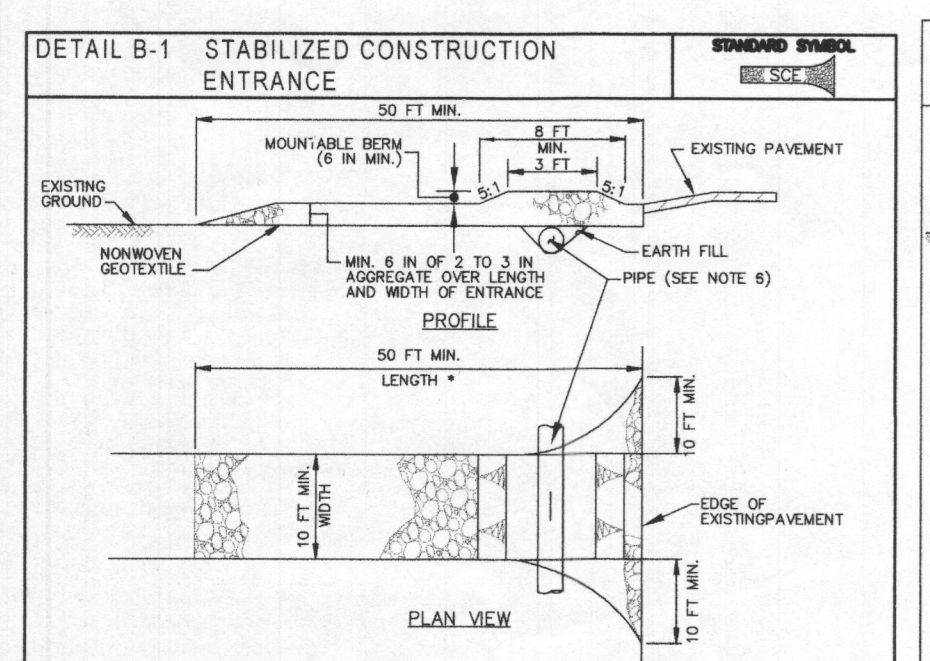
Hardness Zone (from Figure B.3): Bb		Seed Mixture (from Table B.3):	
No.	Species	Application Rate (lb/ac)	Seeding Dates
1	ANNUAL REGRASS	40	MAR 1 - MAY 15
2	FOXTAIL MILLET	30	JUN 1 - JULY 31

PERMANENT STABILIZATION SPECIFICATIONS TABLE

Hardness Zone (from Figure B.3): Bb		Seed Mixture (from Table B.3):	
No.	Species	Application Rate (lb/ac)	Seeding Dates
1	Perennial Ryegrass	20	MAR 1 - MAY 15
2	Perennial Ryegrass	20	AUG 1 - OCT 15

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
FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
A. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SLOPES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
B. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.



- CONSTRUCTION SPECIFICATIONS**
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST NOT EXCEED THE ENTRANCE WIDTH OF SOIL. USE MINIMUM LENGTH OF 50 FEET PLUS FEET FOR SINGLE REDUNDANT LANE USE. MINIMUM WIDTH OF 10 FEET. FLOOR SIZE TO FEET MINIMUM AT THE ROAD TO PREVENT TURNING RADII.
 2. PIPE 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 BEAM OR METEORIC. IMMEDIATELY REMOVE AND/OR REPAIR ANY DAMAGE TO THE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SIDE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CORRECT, A PIPE IS NOT NECESSARY. A MOUNTABLE BEAM IS REQUIRED WHEN SIDE IS NOT LOCATED AT A HIGH SPOT.
 3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
 4. PLACE CURBSIDE APPROXIMATE (2 TO 3 INCHES IN SIZE) ON EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE SIDE.
 5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BEAM, AND PROTECT DRAINAGE. IMMEDIATELY REMOVE AND/OR REPAIR ANY DAMAGE TO THE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SIDE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CORRECT, A PIPE IS NOT NECESSARY. A MOUNTABLE BEAM IS REQUIRED WHEN SIDE IS NOT LOCATED AT A HIGH SPOT.

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 contours, slopes, and any disturbed area not under active grading.

Criteria:

1. Seeding
 - a. Seeding must meet the requirements of the Maryland Seed Law. All seed must be subject to 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 tags must be available upon request to the inspector to verify type of seed and seeding rate.
 - b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
 - c. 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 cool as possible until used. 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 development of phyto-toxic materials.
2. Application
 - a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
 - b. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
 - c. Permanent Seeding Table B.3, or site-specific seeding summaries.
 - d. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeders roller to provide even coverage.
 - e. Drill or Outdrill Seeding: Mechanized seeders that apply and cover seed with soil.
 - f. Outdrill Seeding: Mechanized seeders that apply and cover seed with soil.
 - g. 1/4 inch of soil covering: Seeded must be firm after planting.
 - h. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
 - i. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
 - j. If fertilizer is applied at the time of seeding, the application rates shall not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P2 O5 (phosphorus), 200 pounds per acre total; K2 O (potassium), 200 pounds per acre.
 - k. Lime: Use one gallon 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.
 - l. Mix seed and fertilizer on site and seed immediately and without interruption.
 - m. If hydroseeding do not incorporate seed into the soil.

3. Mulching
 - a. Mulch Materials (in order of preference)
 - i. Straw consisting of thoroughly threshed, rye, oat, or barley and reasonably light in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not matted, moldy, caked, decayed, or excessively dusty. Note: Use only stierie straw mulch in areas where one species of grass is desired.
 - ii. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
 - iii. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
 - iv. WCFM, including dye, must contain no germination or growth inhibiting factors.
 - v. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and drainage properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
 - vi. WCFM material must not contain elements or compounds of concentration levels that will be phyto-toxic.
 - vii. 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.1.7
 - b. Apply mulch to all seeded areas immediately after seeding.
 - c. 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 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.
 - d. Wood cellulose fiber mulch must be applied at a net dry weight of 1500 pounds per acre.
 - e. WCFM must be applied to a net dry weight of 1500 pounds per acre.
 - f. Synthetic binders such as Acrylic DLR (Ago-Tex), DOA-70, Petrocel, Terra Top, Terra Top, or other approved equipment may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.
 - g. Lightweight netting may be applied over the mulch according to the manufacturer's recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

4. Stockpiling
 - a. A mound or pile of soil protected by appropriately designed erosion and sediment control measures.
 - b. To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.
 - c. Stockpile areas are utilized when it is necessary to salvage and store soil for later use.
5. Conditions Where Practice Applies
 - a. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
 - b. 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.
 - c. Benches must be provided in accordance with Section B-3 Land Grading.
 - d. Runoff from the stockpile area must drain to a suitable sediment control practice.
 - e. Access to the stockpile area must be provided in accordance with Section B-3 Land Grading.
 - f. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary silt or diversion fence.
 - g. Provisions must be made for discharging concentrated flow in a non-erosive manner.
 - h. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
 - i. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
 - j. 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.
6. Maintenance
 - a. 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, benches must be provided in accordance with Section B-3 Land Grading.

B-4-4 STANDARDS AND SPECIFICATIONS STOCKPILE AREA

Definition:
A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

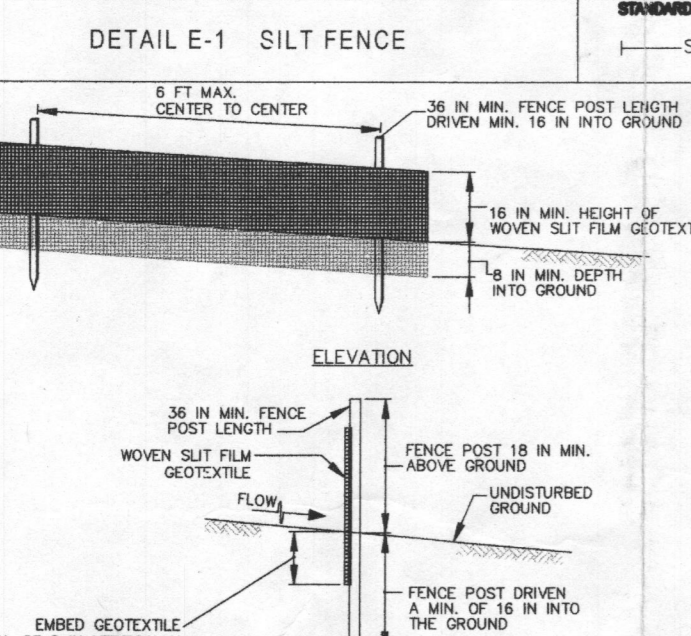
Purpose:
To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

Conditions Where Practice Applies:
Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

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. Benches must be provided in accordance with Section B-3 Land Grading.
4. Runoff from the stockpile area must drain to a suitable sediment control practice.
5. Access to the stockpile area must be provided in accordance with Section B-3 Land Grading.
6. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary silt or diversion fence.
7. Provisions must be made for discharging concentrated flow in a non-erosive manner.
8. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
9. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
10. 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 EARTHWORK 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 ORIGINAL APPROVED L.O.D. AND FOLLOW TEMPORARY STABILIZATION NOTES.

STANDARD STABILIZATION NOTE
FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
A. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SLOPES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
B. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.



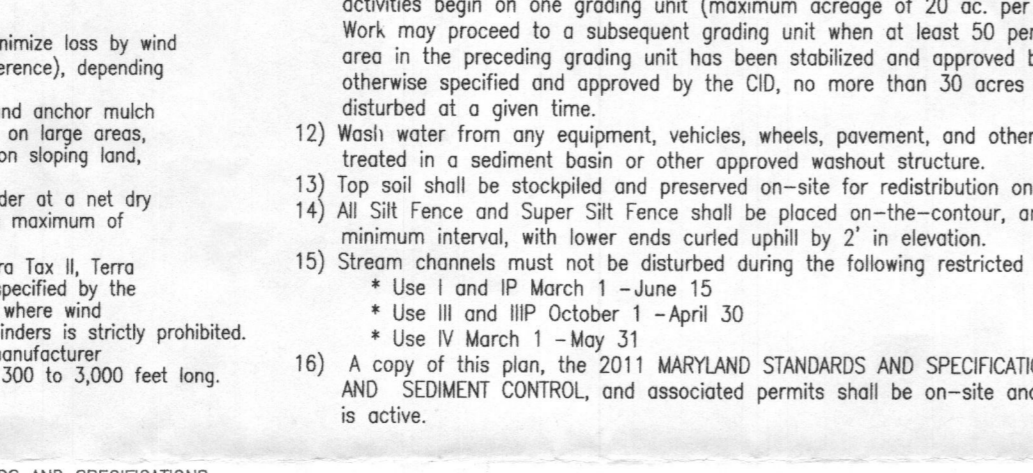
- CONSTRUCTION SPECIFICATIONS**
1. INSTALL 2x4 DIAMETER GALVANIZED STEEL POSTS OF 0.905 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
 2. FASTEN WOVEN SILT FENCE GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSIDE SIDE OF CHAIN LINK FENCE WITH TIES SPACED 24 INCHES AT THE TOP AND MID SECTION. GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
 3. WARE END OF THE GEOTEXTILE OVER THE CHAIN LINK FENCE. ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY-PASS.
 4. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GRASS AROUND THE ENDS OF THE SUPER SILT FENCE.
 5. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/APPROPRIATE AUTHORITY SHOWING THAT THE SUPER SILT FENCE MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
 6. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BUILDS UP IN FENCE OR WHEN SEDIMENT REACHES 20% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN, IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCE AND GEOTEXTILE.

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 at the following stages:
a. Prior to the start of earth disturbance,
b. Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading,
c. Prior to the start of another phase of construction or opening of another grading unit,
d. Prior to the removal or modification of sediment control practices.

- 2) All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
- 3) Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter contours, 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-4-5). Temporary stabilization (Sec. B-4-4) 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: 1.01 Acres.
 - Area Disturbed: 0.32 Acres.
 - Area to be reseeded or paved: 0.18 Acres.
 - Area to be vegetatively stabilized: 0.23 Acres.
 - Total Cut: 200 Cu. Yds.
 - Total Fill: 200 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. 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
 - * 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/followup
 - * Maintenance and/or corrective action performed
- 9) Trenches for the construction of utilities are limited to three pipe lengths or that which can and shall be back-filled and stabilized by the end of each workday, whichever is shorter.
- 10) Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may allowed by the CID per the list of HSCD-approved field changes.
- 11) Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities begin on a grading unit (maximum grading of 20 ac. per grading unit at a time) and 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 CID, no more than 30 acres cumulatively may be disturbed at any one time.
- 12) Wash water from any equipment, vehicles, wheels, pavement, and other surfaces 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) All Silt Fence and Super Silt Fence shall be placed on-the-contour, and be imbricated 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 II March 1 - June 15
 - * Use III and III October 1 - April 30
 - * Use IV March 1 - May 31
- 16) A copy of this plan and 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.

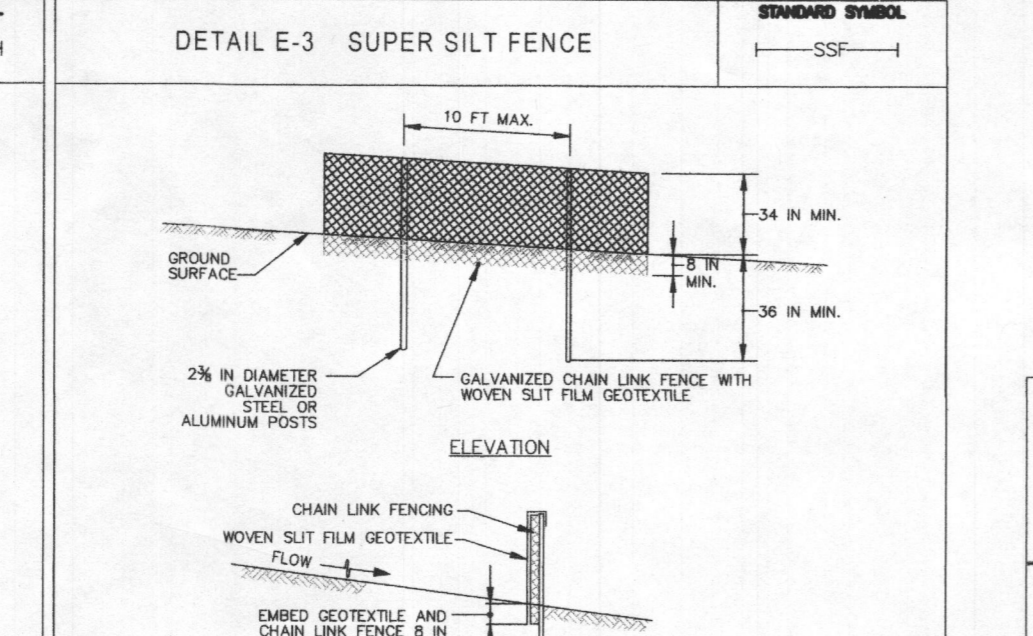


SEQUENCE OF CONSTRUCTION

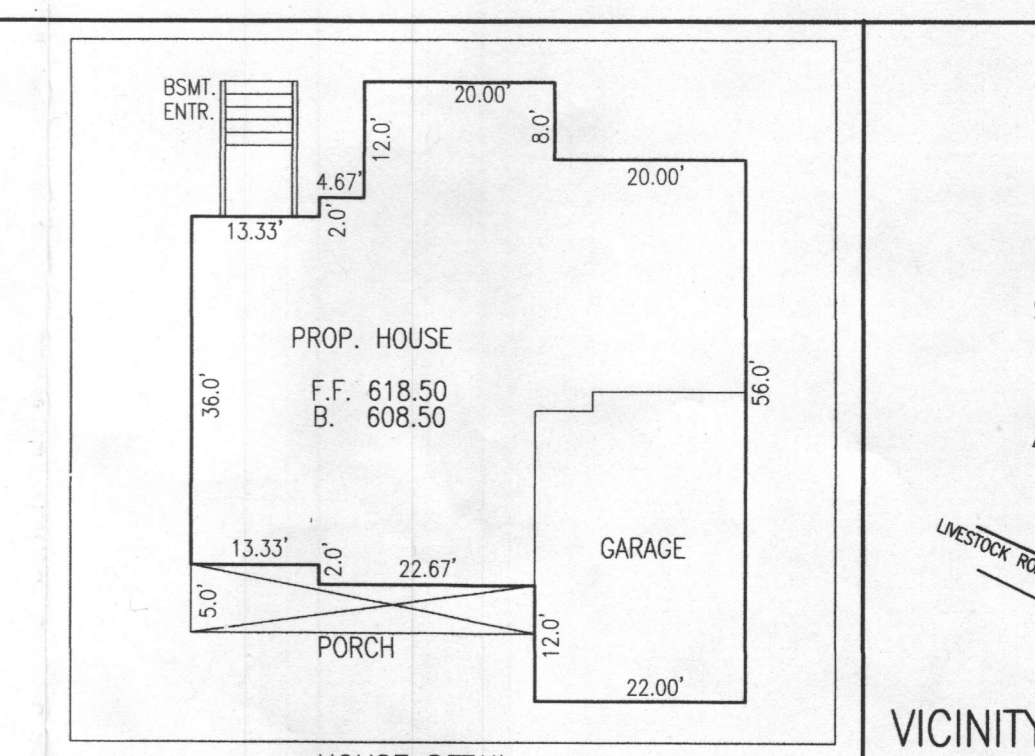
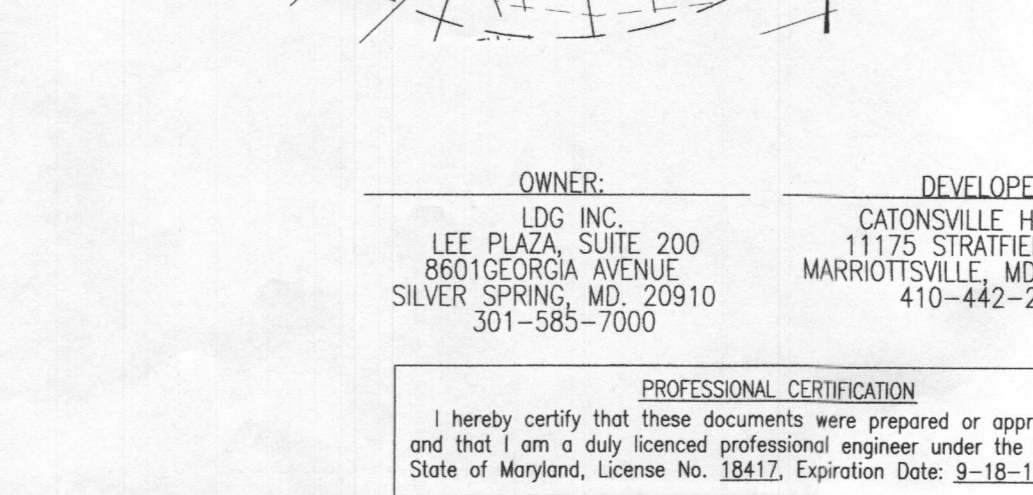
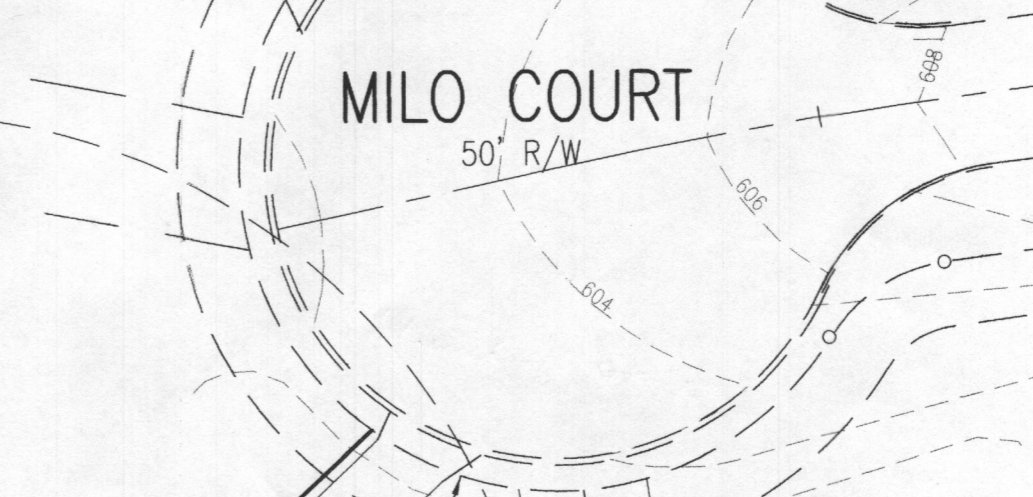
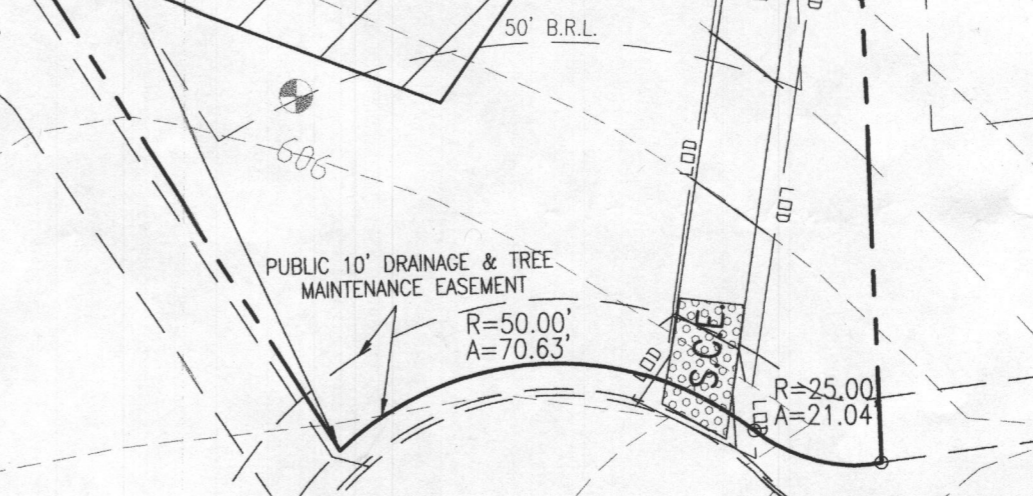
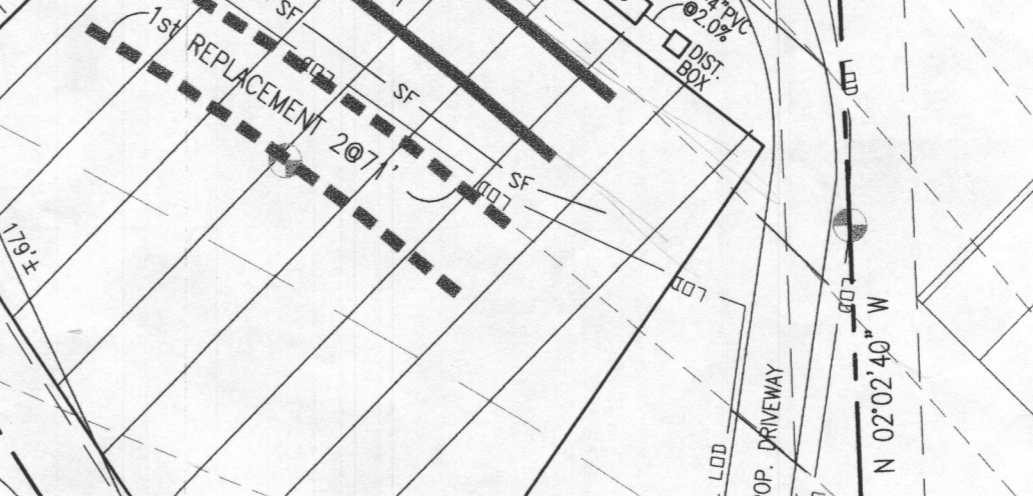
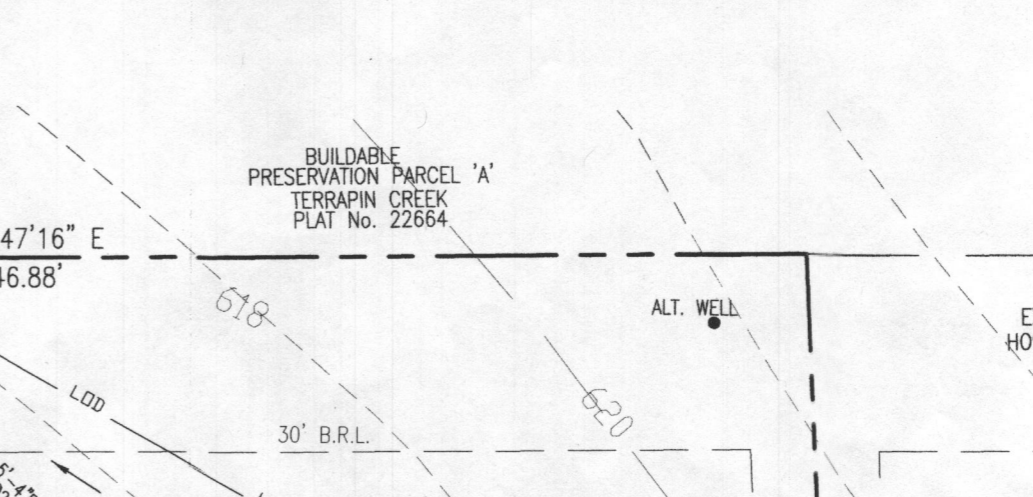
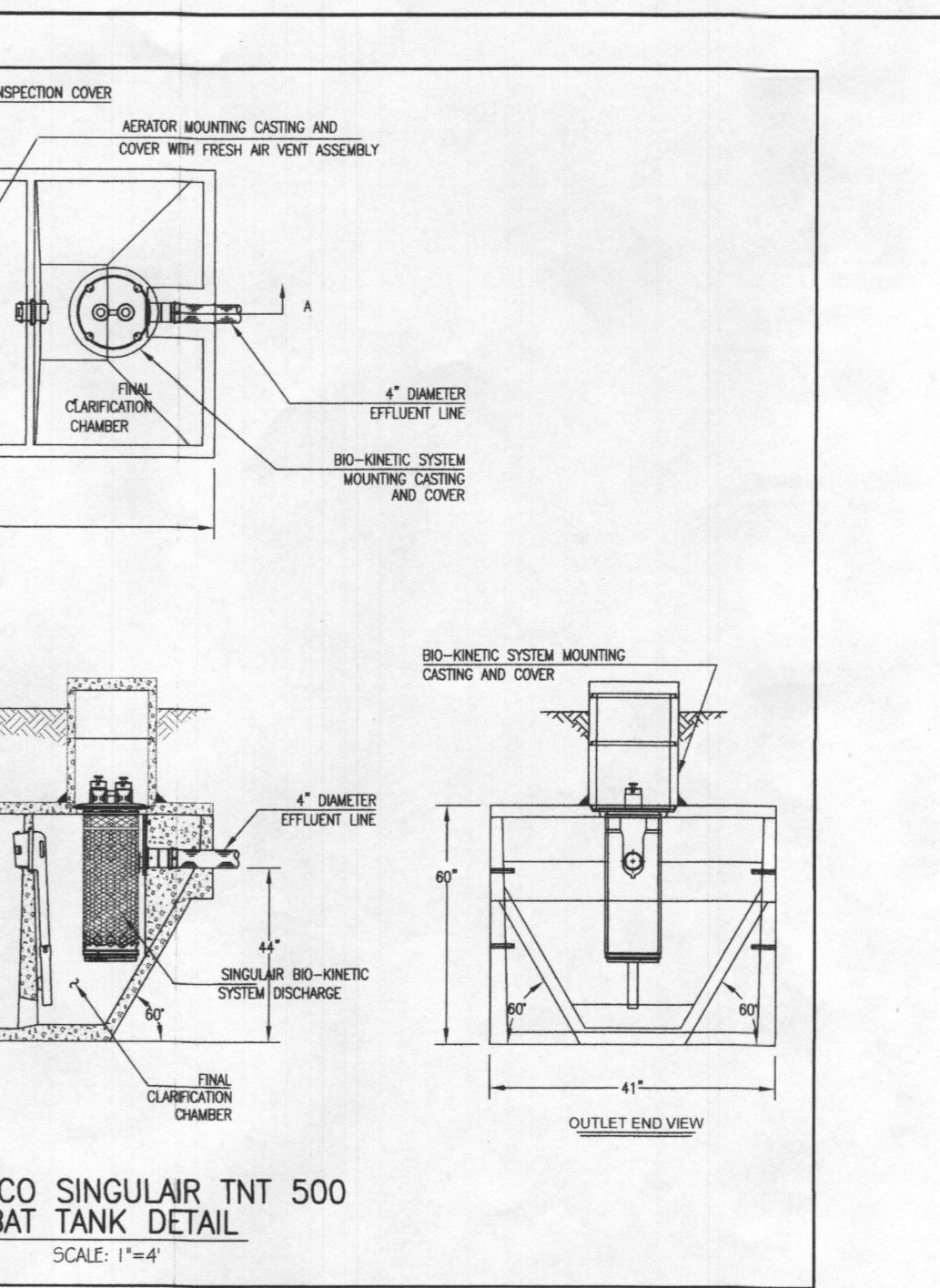
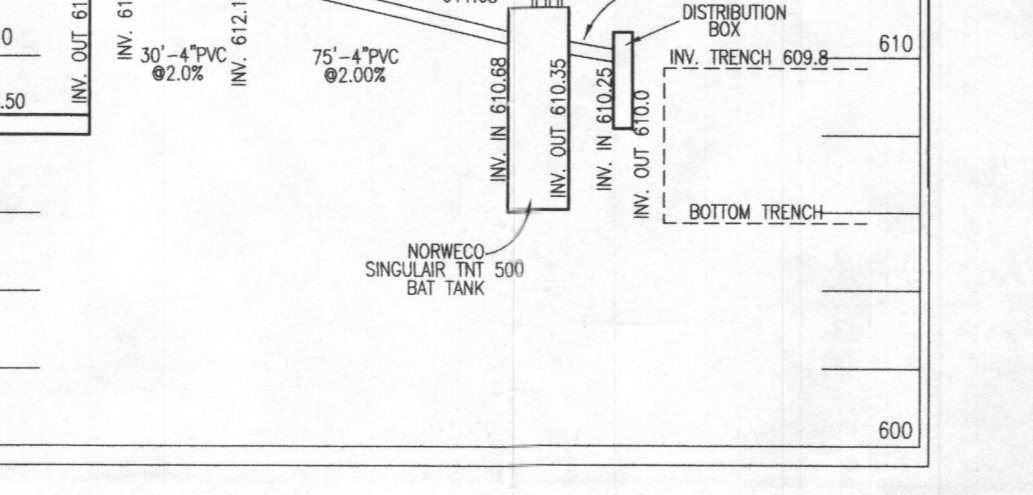
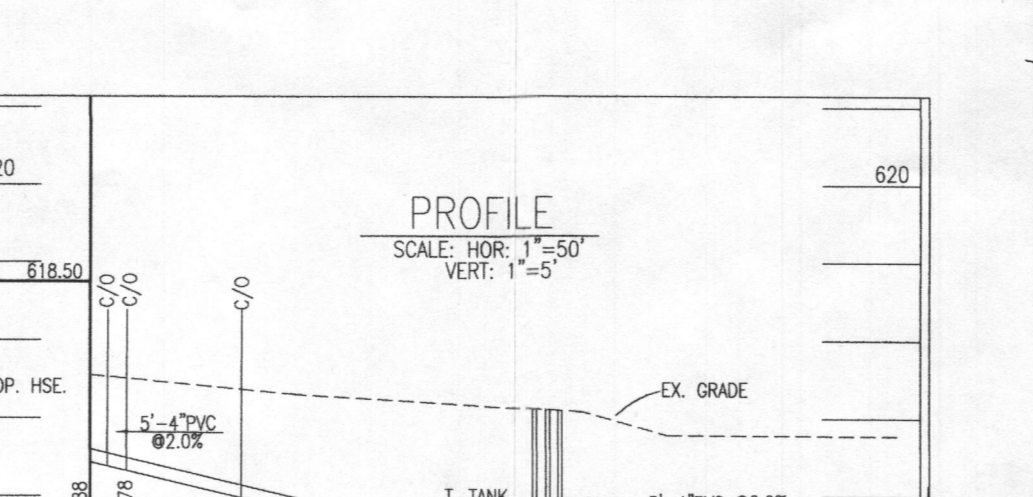
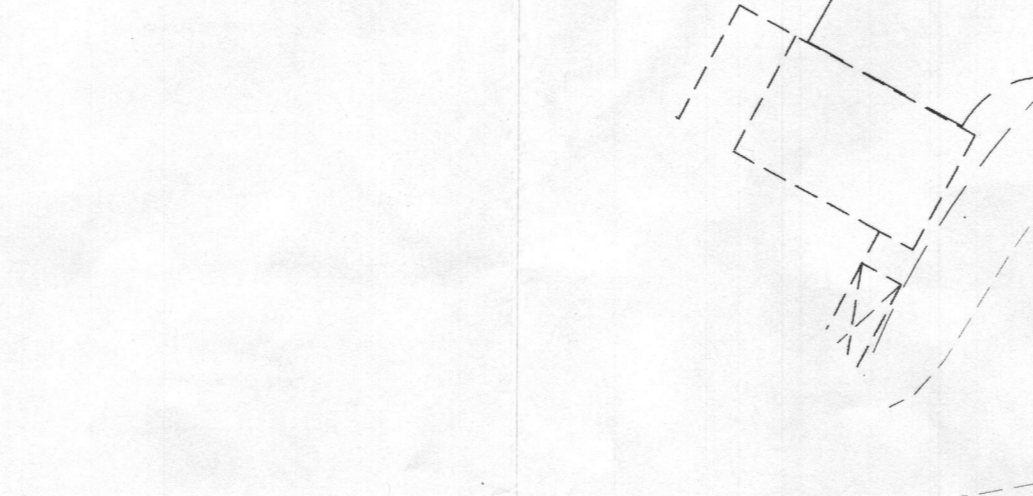
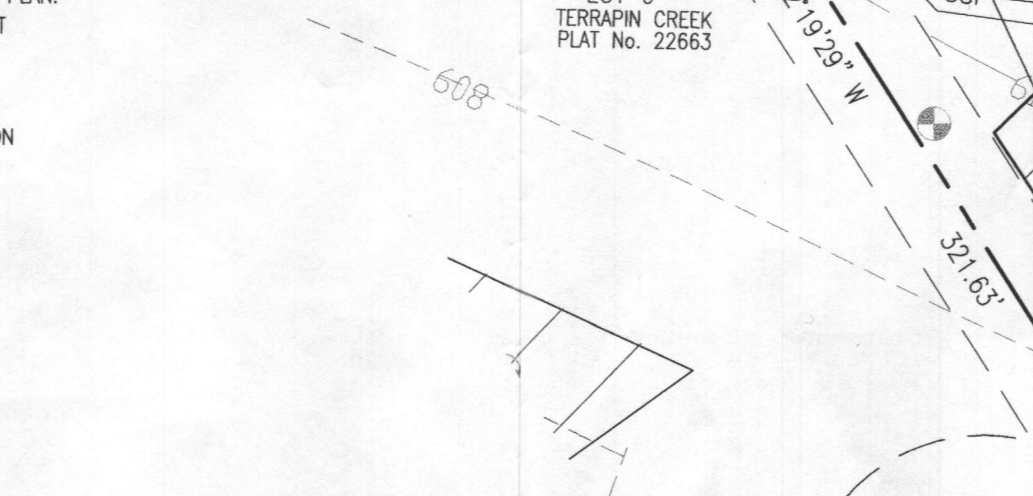
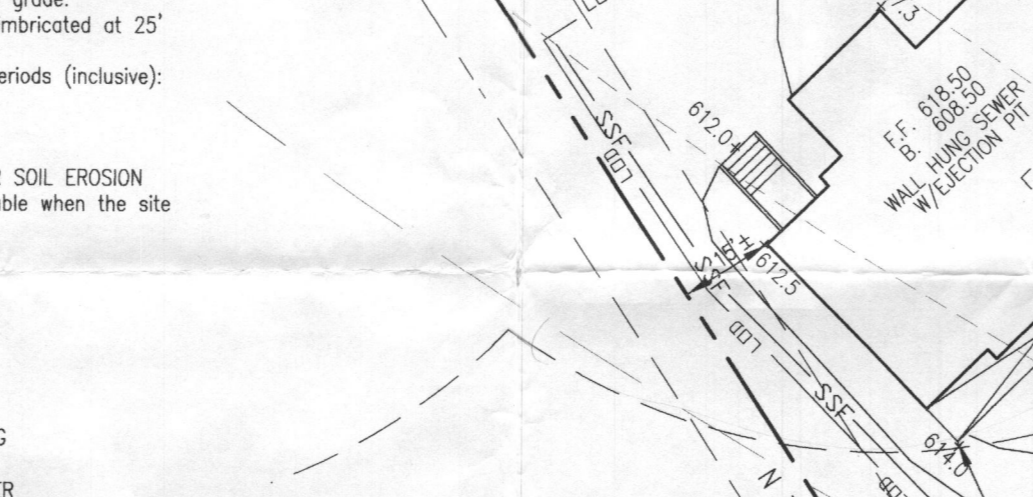
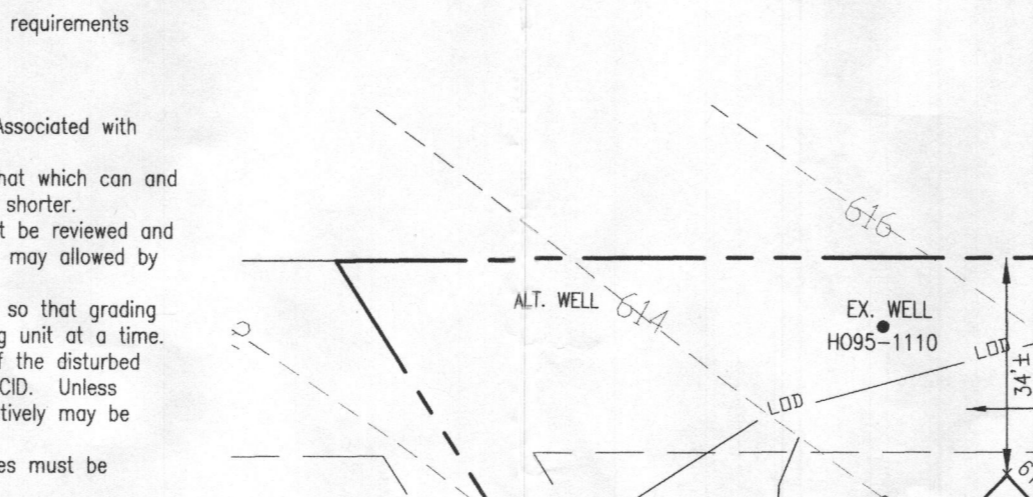
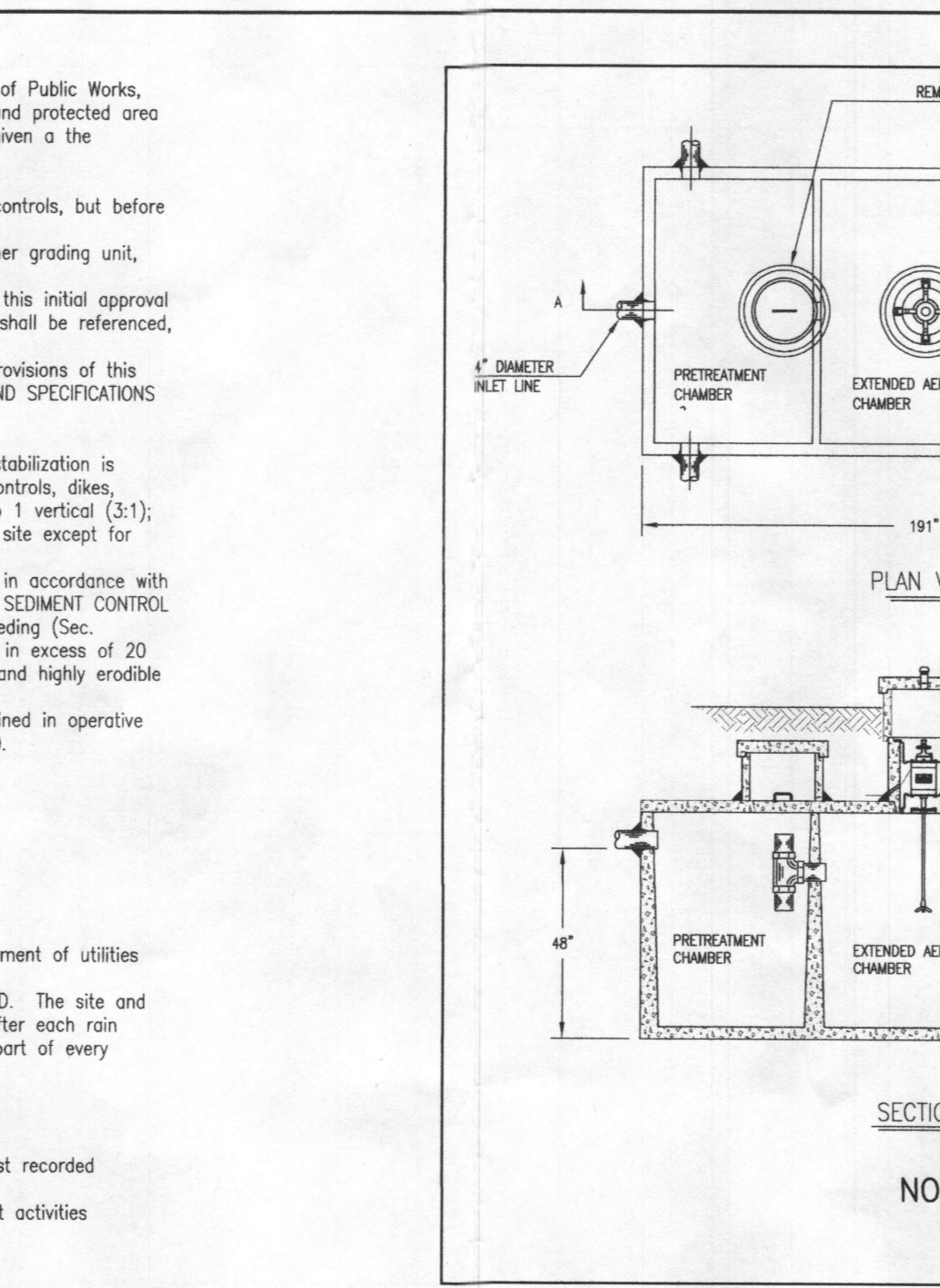
1. OBTAIN ALL REQUIRED GRADING, MOE PERMITS, APPROVALS AND LICENSES FROM APPROPRIATE AGENCIES.
2. NOTIFY SEDIMENT CONTROL INSPECTOR AT LEAST THREE (3) WORKING DAYS PRIOR TO STARTING WORK.
3. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE AND OTHER SEDIMENT CONTROL DEVICES AS SHOWN IN THE SEDIMENT 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 SEEDED 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 EARTHWORK 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 ORIGINAL APPROVED L.O.D. AND FOLLOW TEMPORARY STABILIZATION NOTES.

STANDARD STABILIZATION NOTE
FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
A. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SLOPES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
B. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.



- CONSTRUCTION SPECIFICATIONS**
1. INSTALL 2x4 DIAMETER GALVANIZED STEEL POSTS OF 0.905 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 WOVEN SILT FENCE GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSIDE SIDE OF CHAIN LINK FENCE WITH TIES SPACED 24 INCHES AT THE TOP AND MID SECTION. GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
 3. WARE END OF THE GEOTEXTILE OVER THE CHAIN LINK FENCE. ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY-PASS.
 4. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GRASS AROUND THE ENDS OF THE SUPER SILT FENCE.
 5. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/APPROPRIATE AUTHORITY SHOWING THAT THE SUPER SILT FENCE MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
 6. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BUILDS UP IN FENCE OR WHEN SEDIMENT REACHES 20% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN, IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCE AND GEOTEXTILE.



GENERAL NOTES:

1. TOPOGRAPHY & 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 NAVD80.
2. THE EXISTING WELLS SHOWN ON THIS PLAN HAVE BEEN FIELD LOCATED BY VANMAR ASSOCIATES OR TAKEN FROM AVAILABLE RECORDS AND ACCURATELY SHOWN.
3. ZONING DISTRICT: RC-DEO
4. LIMIT OF DISTURBANCE (LOD) = 16,850 SQ.FT.
5. THERE ARE NO STREAMS, PONDS, FLOODPLAINS OR WETLANDS ON THIS LOT.
6. STORM WATER MANAGEMENT FOR THIS LOT IS PROVIDED BY EXISTING TERRAPIN CREEK STORM WATER MANAGEMENT FACILITIES PROVIDED FOR AND CONSTRUCTED BY THE DEVELOPER UNDER PLAN