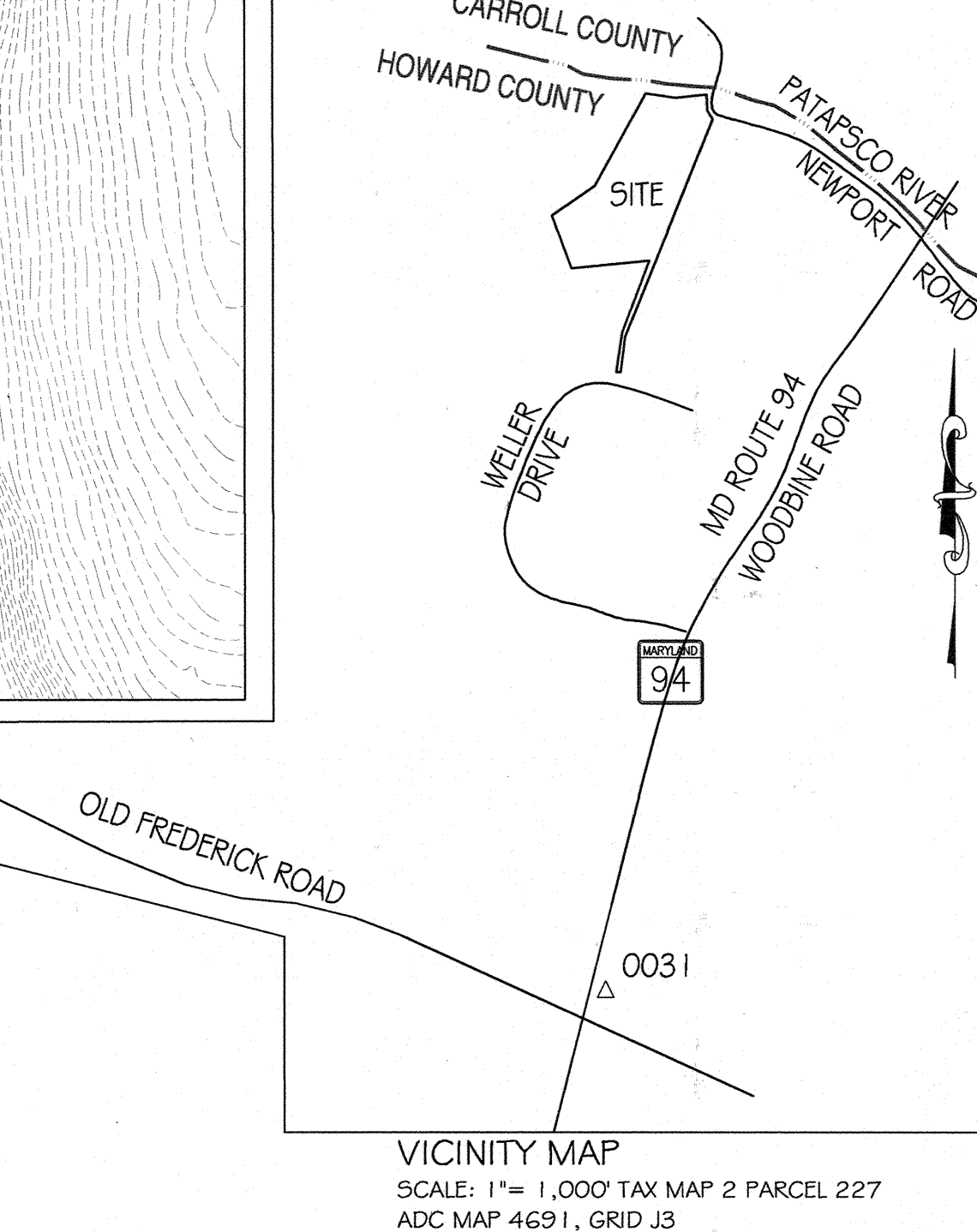
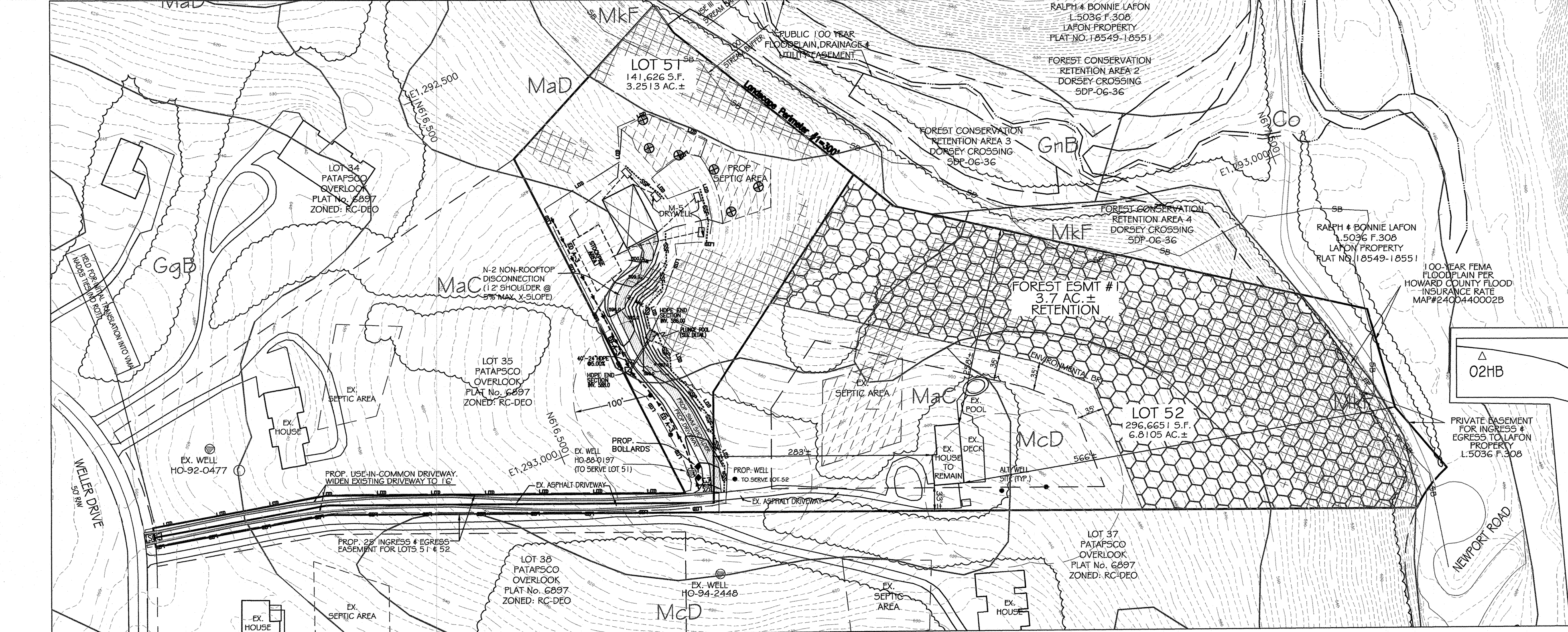
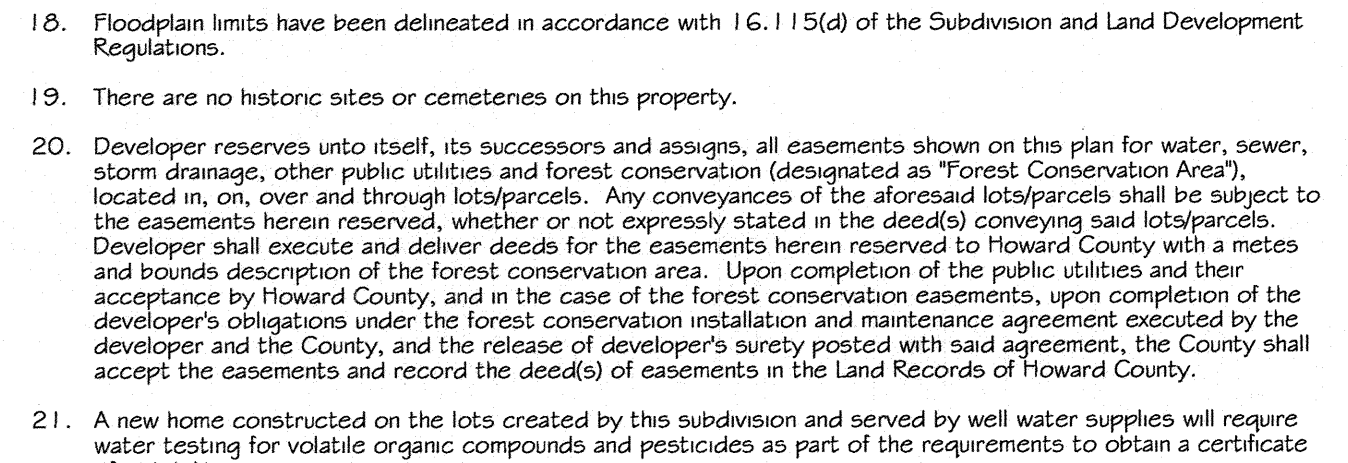


**GENERAL NOTES**

- The lots shown hereon comply with the minimum ownership width and lot area as required by the Maryland State Department of the Environment regulations.
- Coordinates are based on the Maryland Coordinate System (NAD 83/07) as projected by Howard County Geographic Control Stations No. 0218B & 0031. Distances shown are ground distances.  
0218B N 61°32'0.9334" E 1,297,573.2797' sft  
0031 N 61°2,408.1774" E 1,292,800.7066' sft
- This area designates a private sewage easement of at least 10,000 square feet per lot for shared drain fields associated with a shared sewage disposal facility as required by Maryland State Department of the Environment for individual sewage disposal (COMAR 26.04.03). Improvements in any nature in this area are restricted until public sewage is available. These easements shall become null and void upon connection to a public sewerage system. The County Health Officer shall have the authority to grant adjustments. Recordation of a modified sewage easement shall not be necessary.
- B.R.L. - Represents building restriction line
- Represents concrete monument set (unless otherwise noted)
- Represents iron rebar set (unless otherwise noted)
- Percolation test holes shown hereon have been field located and shown thus ● Proposed wells indicated thus ●
- Public water and sewer are not available at this site. Well water and septic will be provided until public utilities are available.
- The subject property is zoned RC-DEO in accordance with the October 6, 2013 Comprehensive Zoning Regulations.
- Driveway(s) shall be provided prior to issuance of a use and occupancy permit for any new dwellings to insure safe access for fire and emergency vehicles per the following minimum requirements:  
a) Width - 12' (16' serving more than one residence)  
b) Surface - 6" of compacted crushed run base with tar and chip coating (1-1/2" min.)  
c) Geometry - Maximum 15% grade, maximum 10% grade change and minimum 45-foot turning radius.  
d) Structures (culverts/bridges) - Capable of supporting 25 gross tons (H25 loading)  
e) Drainage Elements - Capable of safely passing 100-year flood with no more than 1 foot depth over driveway surface.  
f) Structure clearances - minimum 12 feet.  
g) Maintenance - sufficient to insure all weather use.
- 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 NAVD83
- Areas as stated on this plat are to be taken as more or less, unless otherwise noted.
- No grading, removal of vegetative cover or trees, or placement of new structures is permitted within the limits of wetlands, stream(s), or their buffers and forest conservation easement areas.
- Stormwater Management will be addressed by using the 2000 MDE stormwater management regulations as amended in 2009 to provide ESD to the MCF. These requirements are being met by the use of non-rooftop disconnection (N-2) and Drywells (M-5). At the building permit stage, lot grading and site of impervious areas including the proposed house and driveway shall be per the approved stormwater management exhibit. If changes are made, a new stormwater management exhibit shall be required.
- The approval of the plat will be subject to the recordation of on-lot stormwater management declaration of covenants for the drywells and non-rooftop disconnections on Lot 51.
- There is an existing dwelling/structure located on Lot 52 to remain. No new buildings, extensions or additions to the existing dwelling are to be constructed at a distance less than the zoning regulations require.
- This plan is subject to the 2nd Amendment to the 5th Edition of the Subdivision and Land Development Regulations effective October 7, 2007. Development or construction on these lots must comply with setback and buffer regulations in effect at the time of submission of the site development plan, waiver petition application, or building/grading permit.
- Floodplain limits have been delineated in accordance with 16.115(d) of the Subdivision and Land Development Regulations.
- There are no historic zones or cemeteries on this property.
- Developer reserves unto itself, its successors and assigns, all easements shown on this plan for water, sewer, storm drainage, other public utilities and forest conservation (designated as "Forest Conservation Area"), located in, on, over and through lots/parcels. Any conveyances of the aforesaid lots/parcels shall be subject to the easements herein reserved, whether or not expressly stated in the deed(s) conveying said lots/parcels. Developer shall execute and deliver deeds for the easements herein reserved to Howard County with a metes and bounds description of the forest conservation area. Upon completion of the public utilities and their acceptance by Howard County, and in the case of the forest conservation easements, upon completion of the developer's obligations under the forest conservation installation and maintenance agreement executed by the developer and the County, and the release of developer's surety with said agreement, the County shall accept the easements and record the deed(s) of easements in the Land Records of Howard County.
- A new home constructed on the lots created by this subdivision and served by well water supplies will require water testing for volatile organic compounds and pesticides as part of the requirements to obtain a certificate of potability.
- Previous D.P.Z. File No. ECP-13-040, F-86-147, WF-13-131
- Trash and recycling collections will be at Weller Drive within 5 feet of the county roadway.
- There are no wetlands on site that will be disturbed or that will require 401 and 404 wetlands permits from the State of Maryland. On November 2, 2012, a wetlands investigation was performed on the subject property by David Adams, Geologist.
- No grading, removal of vegetative cover or trees, paving and new structures shall be permitted within the limits of wetlands, stream(s), or their required buffers, floodplain and forest conservation easement areas.
- The subject property is not located within the Metropolitan District.
- Residential development on Lot 51 will not impact wetlands, streams, or their buffers, or floodplain.
- Percolation test results have been used to determine infiltration rates for the use of drywells. Infiltration rates of test pits in the vicinity of the proposed drywells are 4.5-5.0, 20.0, 6.0, & 5.0 inches per hour for the test pits B, B1, C & D respectively.
- WF-13-131  
On September 26, 2013, the Planning Director approved a request to waive the following sections of the Subdivision and Land Development Regulations:  
Section 16.103(g) of the Amended Fifth Edition - Conflict With Other Regulations. If a provision of this Subtitle (Subtitle I) overlaps or contradicts another law covering the same subject matter, the provision which is more restrictive or imposes higher standards or requirements shall govern. The request is to allow this resubdivision plat to be approved and recorded.  
Section 16.20(b)(4)(b) of the Amended Fifth Edition - For a lot or buildable preservation parcel 10 acres or greater in floodplains, wetlands, streams, their buffers, and forest conservation easements for afforestation, reforestation, or retention may be located on the lot or parcel if the building envelope is no closer than 35 feet from these environmental features, provided that a deck may project 10 feet beyond the building envelope. The waiver request is to allow a stream, stream buffers and forest conservation easement on lots less than 10 acres in size.  
Section 16.147 of the Amended Fifth Edition - Requires the subdivision of a final plan. The petitioner is requesting to re-activate the existing voided final plan, F-13-048, that was in the plan review process prior to its voiding on March 22, 2013.  
Approval is subject to the following five (5) conditions:  
1) The Final Plan, F-13-048 and its Supplemental Plan (landscape plan, forest stand delineation plan) are hereby reactivated to active plan status as a revised plan submission.  
2) Compliance with all SRC review comments on the Final Plan (plat), F-13-048, is required prior to signature approval of the final plat.  
3) On the Final Plan, F-13-048 and its Supplemental Plan, provide a brief description of waiver petition, WF-13-131, as a general note that includes the waiver requests, sections of the regulations, action and date of waiver approval.  
4) The applicant shall revise the building restriction lines on the final plat to provide the required 35' BRL from all environmental features, buffers and forest conservation easements on the revised final plat submitted for F-13-048.  
5) The applicant shall add the following as a general note on the final plat:  
"The subject property is located in the County's designated Growth Area IV in accordance with Plan/Ordinance 2030 and is subject to State law, SB-236. The Sustainable Growth and Agricultural Preservation Act of 2012." Therefore, Lot 52 (6.8 acres) cannot be re-subdivided, further subdivided in accordance with SB-236. No further subdivision or resubdivision is permitted from this property."



**Forest Conservation Worksheet 2.1**

Note: Use 0 for all negative numbers that result from the calculations

Net Tract Area	Value
A. Total Tract Area	Aw 10.10
B. Deductions (Critical Area, area restricted by local ordinance or program)	Bs 0.00
C. Net Tract Area (Net Tract Area = Total Tract (A) - Deductions (B))	Cn 10.10

**Land Use Category:**

Category	Value
D. Afforestation Threshold (Net Tract Area (C) * 20%)	Dt 2.02
E. Conservation Threshold (Net Tract Area (C) * 25%)	Et 2.53
F. Existing Forest Cover within the Net Tract Area	Ft 8.10
G. Area of Forest Above Conservation Threshold (If the Existing Forest Cover (F) is greater than the Conservation Threshold (E), then G = F - E. Otherwise G = 0.)	Gt 5.58

**Break-even Point**

Category	Value
H. Break-even Point (Amount of forest that must be retained so that no mitigation is required) (1) If the Area of Forest Above the Conservation Threshold (G) is greater than 0, then H = (0.2 * the Area of Forest Above the Conservation Threshold (G)) + the Conservation Threshold (E); (2) If the Area of Forest Above the Conservation Threshold (G) is equal to 0, then H = Existing Forest Cover (F)	Ht 3.64
I. Forest Clearing Permitted Without Mitigation I = Existing Forest Cover (F) - Break-even Point (H)	Ii 4.46

**Proposed Forest Clearing**

Category	Value
J. Total Area of Forest to be Cleared	Jt 4.40
K. Total Area of Forest to be Retained K = Existing Forest Cover (F) - Forest to be Cleared (J)	Kt 3.70
L. Total Retention Requirement (Rt = Jt - Kt)	Lt 161172 sf

**Planting Requirements**

Category	Value
M. Reforestation for Clearing Above the Conservation Threshold (1) If the Total Area of Forest to be Retained (K) is at or above the Break-even Point (H), or (2) If the Forest to be Retained (K) is less than or equal to the Conservation Threshold (E), then L = Area of Forest Above Conservation Threshold (G) * 0.25	Mt 0.00
N. Reforestation for Clearing Below the Conservation Threshold (1) If Existing Forest Cover (F) is greater than the Conservation Threshold (E) and the Forest to be Retained (K) is less than or equal to the Conservation Threshold (E), then M = 2.0 * (Conservation Threshold (E) - Forest to be Retained (K)) (2) If Existing Forest Cover (F) is less than or equal to the Conservation Threshold (E), then M = 2.0 * Forest to be Cleared (J)	Nt 0.00
O. Credit for Retention Above the Conservation Threshold If the Area of Forest to be Retained (K) is greater than the Conservation Threshold (E), then N = K - E	Ot 0.00
P. Total Reforestation Required (P = L + M - N)	Pt 0.00
Q. Total Afforestation Required If Existing Forest Cover (F) is less than the Afforestation Threshold (D), then Q = Afforestation threshold (D) - Existing Forest Cover (F)	Qt 0.00
R. Total Planting Requirement (Rp = P + Q)	Rt 0.00

**SCHEDULE A PERIMETER LANDSCAPE EDGE**

Category	Adjacent to Properties	Totals
LANDSCAPE TYPE	#1 = a	TOTALS
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	N/A	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	YES, 300' EX. FOREST	
CREDIT FOR WALL, FENCE, OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	
NUMBER OF PLANTS REQUIRED (DESCRIBE PLANTS IF NEEDED)		
NUMBER OF PLANTS PROVIDED (DESCRIBE PLANTS IF NEEDED)		
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)		

**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER INFILTRATION TRENCHES (N-1), DRY WELLS (M-5)**

- The Owner shall inspect the monitoring wells and structures on a quarterly basis and after every heavy storm event.
- The Owner shall record the water levels and sediment build up in the monitoring wells over a period of several days to insure trench drainage.
- The Owner shall maintain a log book to determine the rate at which the facility drains.
- When the facility becomes clogged so that it does not drain down within a seventy-two (72) hour time period, corrective action shall be taken.
- The maintenance log book shall be available to Howard County for inspection to insure compliance with operation and maintenance criteria.

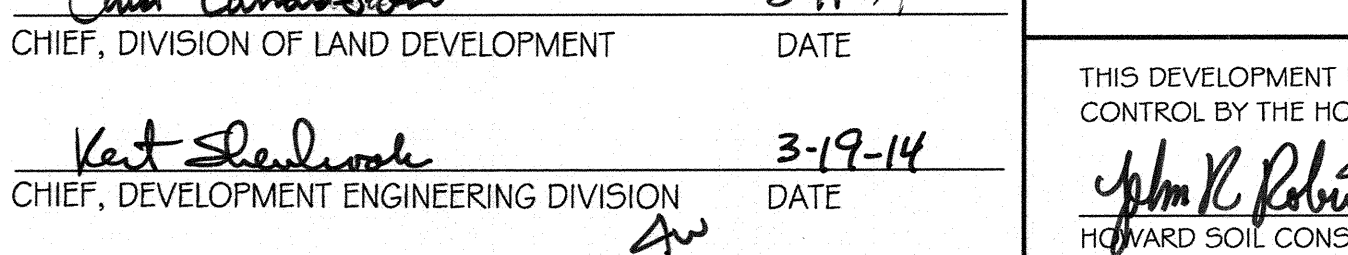
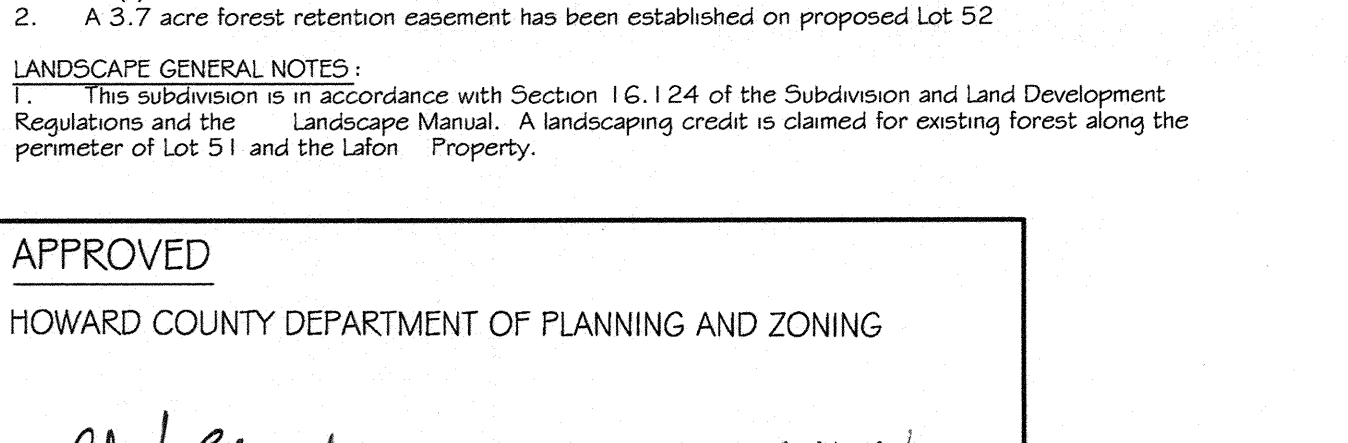
1. Once the performance characteristics of the infiltration facility have been verified, the monitoring schedule can be reduced to an annual basis unless the performance data indicates that a more frequent schedule is required.

**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DISCONNECTION OF ROOFTOP RUNOFF (N-1), DISCONNECTION OF NON-ROOFTOP RUNOFF (N-2)**

- Maintenance of areas receiving disconnected runoff is generally no different than that required for other lawn or landscaped areas. The Owner shall ensure the areas receiving runoff are protected from future compaction or development of impervious areas. In commercial areas, foot traffic should be discouraged as well.

**DRY WELL - Residential: Operation and Maintenance**

- Dry wells shall be inspected and cleaned annually. This includes pipes, gutters, downspouts and all filters.
- Ponding, standing water or algae growth on the top of a dry well may indicate failure due to sedimentation in the gravel media should be excavated and replaced.
- If water ponds for more than 48 hours after a major storm or more than 6" of sediment has accumulated, the gravel media should be excavated and replaced.
- Privately owned practices shall have a maintenance plan and shall be protected by easement, deed restriction, ordinance or other legal measures preventing its neglect, adverse alteration and removal.



**APPROVED**  
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development: *Chad Edmondson* 3-11-14  
Chief, Development Engineering Division: *Karl Steinhilber* 3-19-14

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
Howard Soil Conservation District: *John R. Roberts* 3/13/14

**SWM TREATMENT SUMMARY**

Practice	Area Treated	Methodology	Volume (ESDv)
N-2: Non-Rooftop Disconnection	3650	ESDv = P <sub>r</sub> RV DA/12 where P <sub>r</sub> = 1.0' & RV = 0.95	289 cft
M-5: Drywells	Rootfalls and LOD	storage within the drywells	461 cft
Total ESDv Provided =			750 cft
ESDv Required =			741 cft

**SOIL TYPE**

Soil Type	Symbol	Land Capability	Kw	Slope %	Hydric?	Hydrologic Soil Group
Manor Loam	MoC	3e	0.24	8-15%	NO	B
Manor Loam	MoD	4s	0.24	15-25%	NO	B
Manor Loam Very Rocky	McD	6s	0.24	15-25%	NO	B
Manor-Brinklow	MkF	7s	0.24	25-65%	NO	B

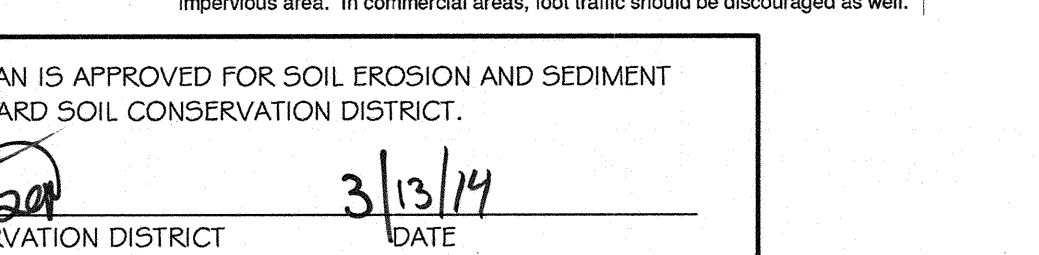
**OWNER:** ROBERT & KELLY GABLE  
715 WELDER DR.  
WOODBINE, MD 21797  
c/o SHAWN MULLAN  
443-790-2374

**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: 9-18-15.

**SUPPLEMENTAL PLAN**  
SOILS/TOPOGRAPHY/STORMWATER MANAGEMENT  
LANDSCAPE PLAN/ FOREST CONSERVATION PLAN  
PATAPSCO OVERLOOK, SECTION 3  
LOTS 51 & 52, A RESUBDIVISION OF LOT 36

TAX MAP: 2 ELECTION DISTRICT: No. 4 SCALE: AS SHOWN  
GRID NO: 24 HOWARD COUNTY, MARYLAND DATE: NOV, 2013  
PARCEL NO: 227EX. ZONING: RC-DEO SHEET 1 OF 2

**VANMAR ASSOCIATES, INC.**  
Engineers Surveyors Planners  
310 South Main Street P.O. Box 528 Mount Airy, Maryland 21771  
(301) 829 2890 (301)851 5015 (410) 549 2751



COUNTY FILE # F-13-048

**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**
      - Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must be rolled or dragged smooth and 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: topsoil will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
        - Soil contains 1 to 5 percent minimum organic matter by weight.
        - Soil contains sufficient pore space to permit adequate root penetration.
      - Application of amendments or topsoils is required if one or more of the above conditions.
      - Graded areas must be maintained in a true and even grade as specified on the approved plan, then seeded 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. Rate law areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and malleable. Seedbed loosening may be unnecessary on newly disturbed areas.

- WCFFM, including dye, must contain no germination or growth inhibiting factors.
  - WCFFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mesh material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
  - WCFFM material must not contain elements or compounds at concentration levels that will be phytotoxic.
  - WCFFM must conform to the following physical requirements: fiber length of approximately 1.0 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 6.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum. B.1.7
- 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 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.
    - Anchoring
      - 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 may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
      - Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroseal, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphaltic binders is strictly prohibited.
      - Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

**B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION**

**Definition:**  
To stabilize disturbed soils with vegetation for up to 6 months.

**Purpose:**  
To use fast-growing vegetation that provides cover on disturbed soils.

**Conditions Where Practice Applies:**  
Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, Permanent stabilization practices are required.

- Criteria:**
- Select one or more of the species or seed mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary.
  - 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 be salvaged from the project area.
    - Topsoil must be a loam, sandy loam, clay loam, sandy clay loam, or loamy sand.
    - Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, shells, 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 are approved if 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 10 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.
    - 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 seedbed preparation.
    - Soil Amendments (Fertilizer and Lime Specifications)
      - Soil tests must be performed to determine the exact rates and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analysis.
      - Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and name of the producer.
      - Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydrosolting) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Lime materials must be ground to such fineness that at least 90 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 6 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-20-20)	Lime Rate
1.	ANNULAR RYEGRASS	40	MAR. 1 - MAY 15 AUG. 1 - OCT. 15	0.5 INCHES	43G lb/ac (10 lb/1000 sq ft)	2 tons/acre (90 lb/1000 sq ft)
	FOXTAIL MILLET	30	JUNE 1 - JULY 31	0.5 INCHES		

**B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION**

**Definition:**  
To stabilize disturbed soils with permanent vegetation.

**Purpose:**  
To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

**Conditions Where Practice Applies:**  
Exposed soils where ground cover is needed for 6 months or more.

- Criteria:**
- Seed Mixtures**
    - General Use**
      - Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixtures, application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
      - Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guides, Section 542 - Critical Area Planning.
      - For areas having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency.
      - For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
    - Turfgrass Mixtures**
      - Areas where turfgrass may be desired include lawns, parkways, and commercial sites which will receive a medium to high level of maintenance.
      - Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixtures, application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
        - Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rates: 1.5 to 2.0 pounds per 1,000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
        - Kentucky Bluegrass/Perennial Ryegrass: Full Sun Mixture: For use in full sun areas where B.2.2 rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass/Certified Kentucky Bluegrass Seeding Rates: 2 pounds mixture per 1,000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
        - Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes: Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 5 to 5 percent. Seeding Rates: 5 to 6 pounds per 1,000 square feet. One or more cultivars may be blended.
        - Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in drought prone areas. For establishment in high quality, intensively managed turf area. Mixture includes: Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rates: 1 1/2 to 3 pounds per 1,000 square feet.

**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 in 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.
      - 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.
      - 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 hydrosolting. 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 (1-4 days min.) to permit dissipation of phytotoxic materials.
    - Application**
      - Dry Seeding: This includes use of conventional dry 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.
      - Apply seed in two directions, perpendicular to each other. Apply 1/2 the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact. B.1.6
      - Disk or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil. Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
      - Apply seed in two directions, perpendicular to each other. Apply 1/2 the seeding rate in each direction.
      - Hydrosolting: Apply seed uniformly with hydrosolter (slurry includes seed and fertilizer). If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; 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 hydrosolting). Normally, not more than 2 tons are applied by hydrosolting at any one time. Do not use burnt or hydrated lime when hydrosolting.
      - Mix seed and fertilizer on site and seed immediately and without interruption.
      - When hydrosolting do not incorporate seed into the soil.
  - Mulching**
    - 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 mucky, 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 (WCFFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
      - WCFFM 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 seeded slurry.

No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P2O5	K2O	Lime Rate
1.	Kentucky Bluegrass	20	MAR. 1 - MAY 15 AUG. 1 - OCT. 15	1/4 - 1/2 in	45 pounds per 1000 sq ft	90 lb/ac (2 1/2 tons/acre)	90 lb/ac (2 1/2 tons/acre)	2 tons/acre (90 lb/1000 sq ft)
2.	Kentucky Bluegrass	20	MAR. 1 - MAY 15 AUG. 1 - OCT. 15	1/4 - 1/2 in	45 pounds per 1000 sq ft	90 lb/ac (2 1/2 tons/acre)	90 lb/ac (2 1/2 tons/acre)	2 tons/acre (90 lb/1000 sq ft)

APPROVED  
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Chad Edmister* 3/11/14  
CHIEF, DIVISION OF LAND DEVELOPMENT  
*John R. Robinson* 3/13/14  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
HOWARD SOIL CONSERVATION DISTRICT

**B. Sod:** To provide quick cover on disturbed areas (2:1 grade or flatter).

- General Specifications**
  - Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
  - Sod must be machine cut at a uniform soil thickness of 3/4 inch, plus or minus 1/8 inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.
  - Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
  - Sod must not be harvested or transported when moisture content (excessively dry or wet) may adversely affect its survival.
  - Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transported within this period must be approved by an agronomist or soil scientist prior to its installation.
- Sod Installation**
  - During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
  - Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger laterals joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.
  - Whenever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact between sod roots and the underlying soil surface.
  - Water the sod immediately following rolling and tamping until the underside of the net.
- Sod Maintenance**
  - In the absence of adequate rainfall, water daily during the first week or so often and sufficiently to maintain moist soil to a depth of 4 inches. Water-sod during the least of the day to prevent wilting.
  - During the first week, sod watering is required as necessary to maintain adequate moisture content.
  - Do not mow until the soil is firmly rooted. No more than 1/2 of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

**B-4-6 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 in drainage patterns.

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

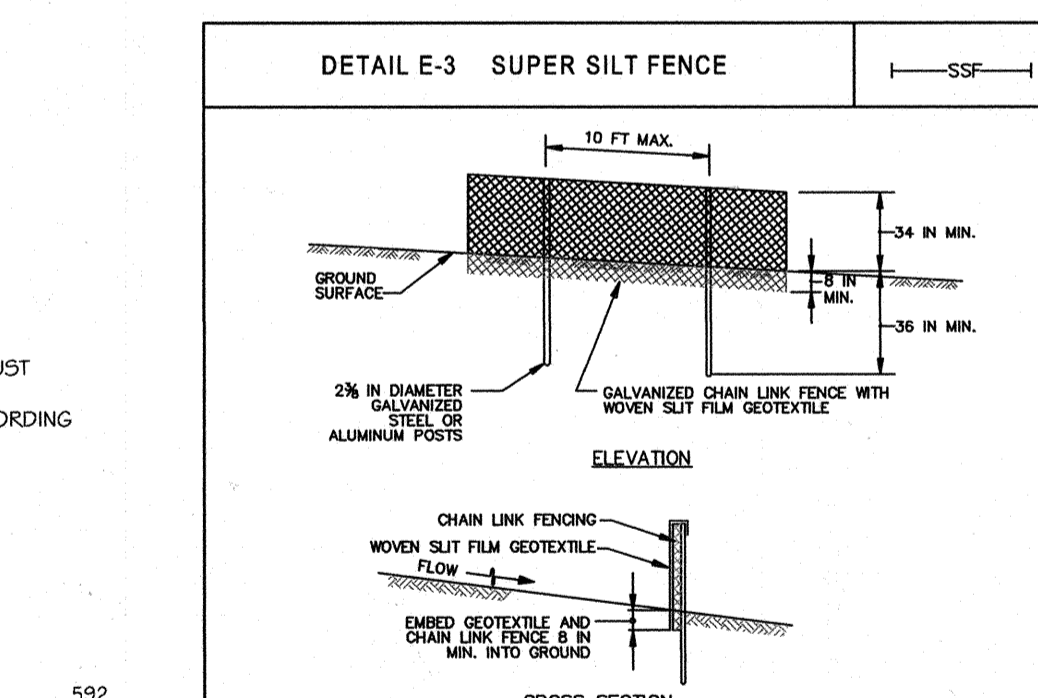
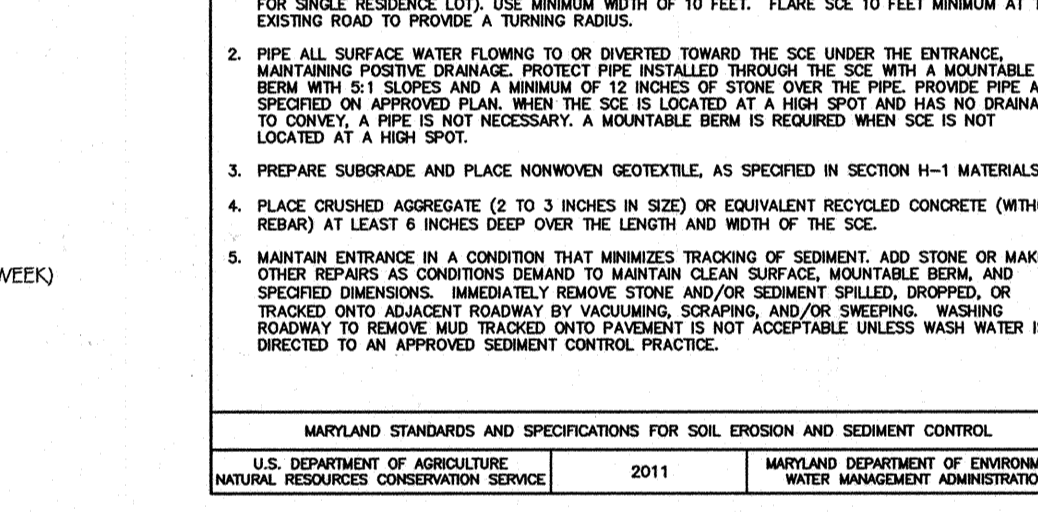
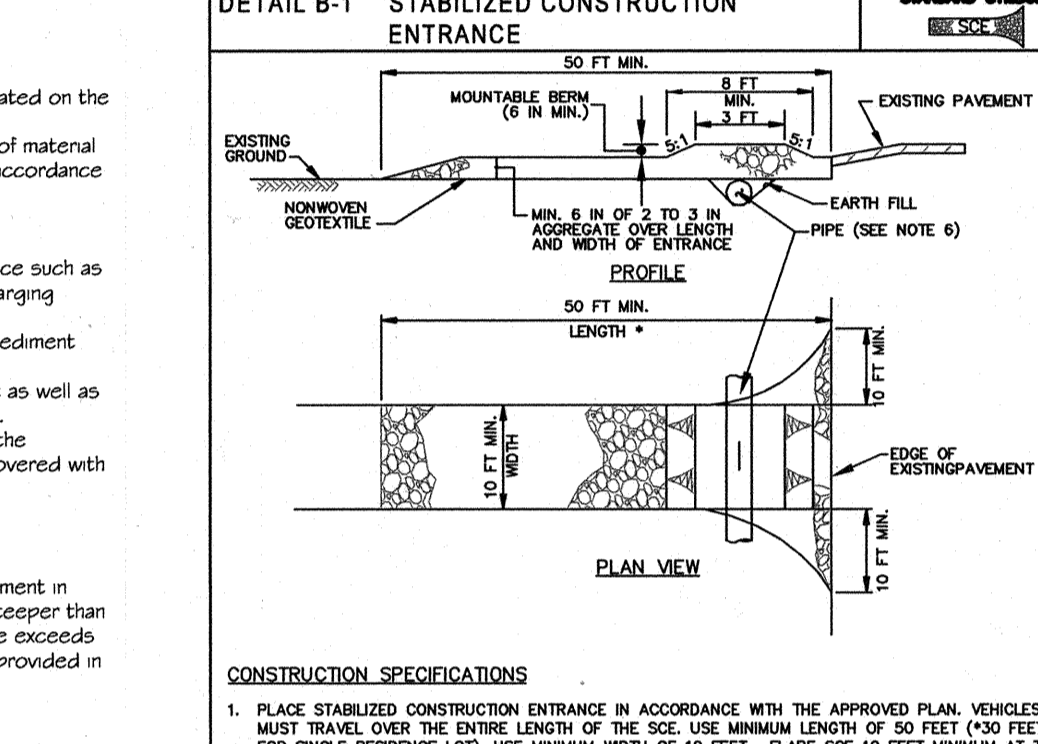
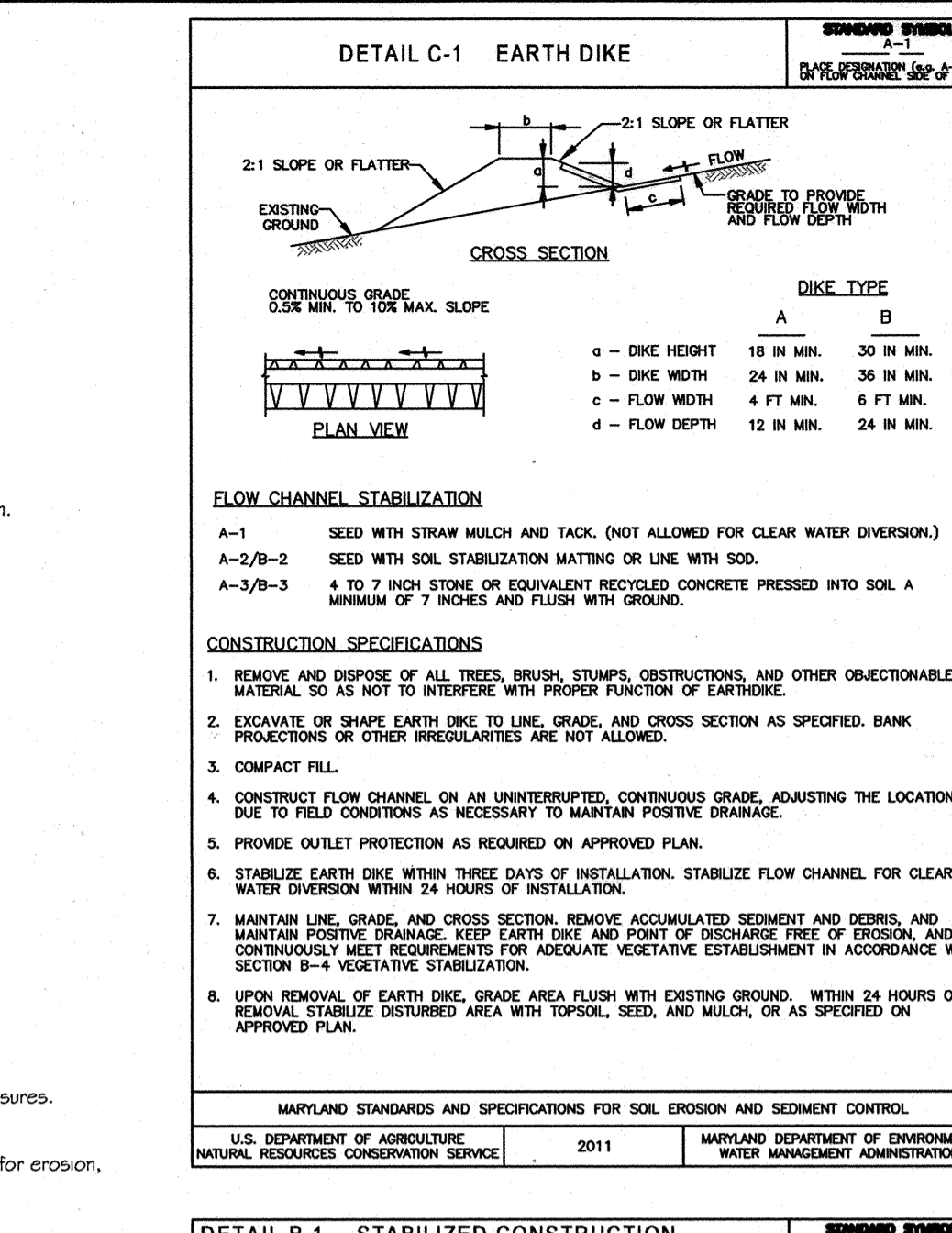
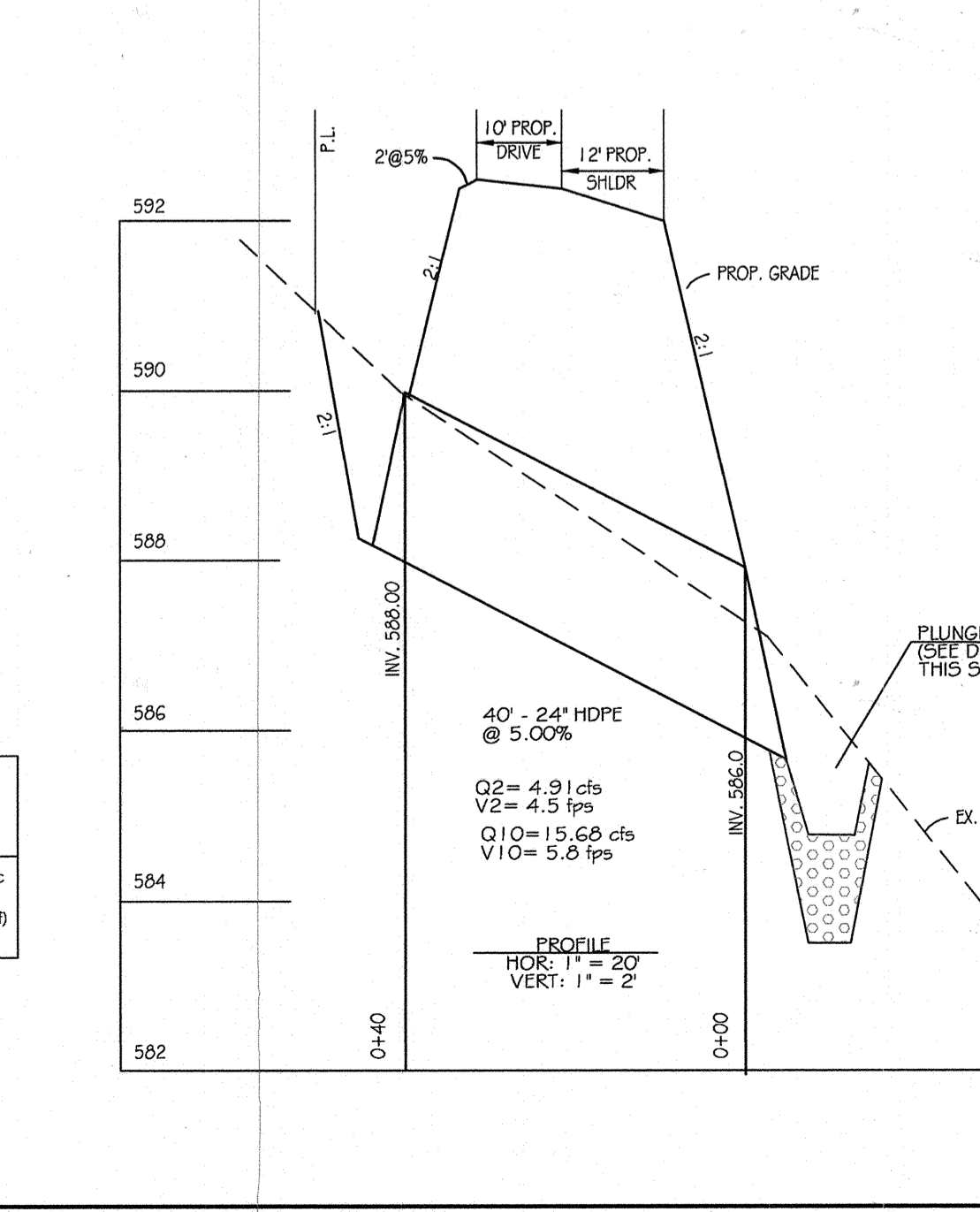
- Criteria:**
- The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
  - The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3.3 for slope stabilization.
  - Runoff from the stockpile area must drain to a suitable sediment control practice.
  - Access the stockpile area from the upgrate side.
  - Clear water runoff into the stockpile area must be minimized by use of a diversion device such as a earthy dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
  - Where runoff concentrates along the top 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 3:1 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
  - If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.
- Maintenance**
- The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than 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.

**SEQUENCE OF CONSTRUCTION**

- OBTAIN ALL REQUIRED GRADING, MDE PERMITS, APPROVALS AND LICENSES FROM APPROPRIATE AGENCIES. (1 WEEK)
- NOTIFY SEDIMENT CONTROL INSPECTOR AT LEAST THREE (3) WORKING DAYS PRIOR TO STARTING WORK. (1 DAY)
- INSTALL STABILIZED CONSTRUCTION ENTRANCES, SIMULTANEOUSLY INSTALL 24"X18" CROSS SECTION CULVERT AND EARTH DIKES, INSTALL SILT FENCE AND OTHER SEDIMENT CONTROL DEVICES AS SHOWN IN THE SEDIMENT CONTROL PLAN. (1 WEEK)
- STABILIZE ALL THE GRADED AREAS UP TO 20' OUTSIDE OF THE LIMIT OF GRADING AS PER PERMANENT SEEDING NOTES. (2 WEEKS)
- ONCE THE SEDIMENT CONTROL DEVICES ARE INSTALLED THE PERMITTEE MUST OBTAIN APPROVAL FROM THE INSPECTOR BEFORE PROCEEDING WITH ADDITIONAL CLEARING, GRUBBING OR GRADING. (1 WEEK)
- GRADE DRIVEWAY AND INSTALL CULVERT. IMMEDIATELY STABILIZE UPSTREAM AND DOWNSTREAM DISTURBED AREAS WITH SO2. (2 WEEKS)
- ANY AREAS THAT CAN BE TEMPORARILY SEEDING DURING CONSTRUCTION MUST BE TEMPORARILY STABILIZED PER SEEDING NOTES.
- INSTALL DRIVEWAY. (1 WEEK)
- STABILIZE DISTURBED AREAS PER PERMANENT SEEDING NOTES.
- UPON APPROVAL OF SEDIMENT CONTROL INSPECTOR, REMOVE ALL TEMPORARY SEDIMENT CONTROL DEVICES FOR HOUSE CONSTRUCTION.
- NOTIFY INSPECTOR FOR FINAL INSPECTION.

**DUST CONTROL**

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



**CONSTRUCTION SPECIFICATIONS**

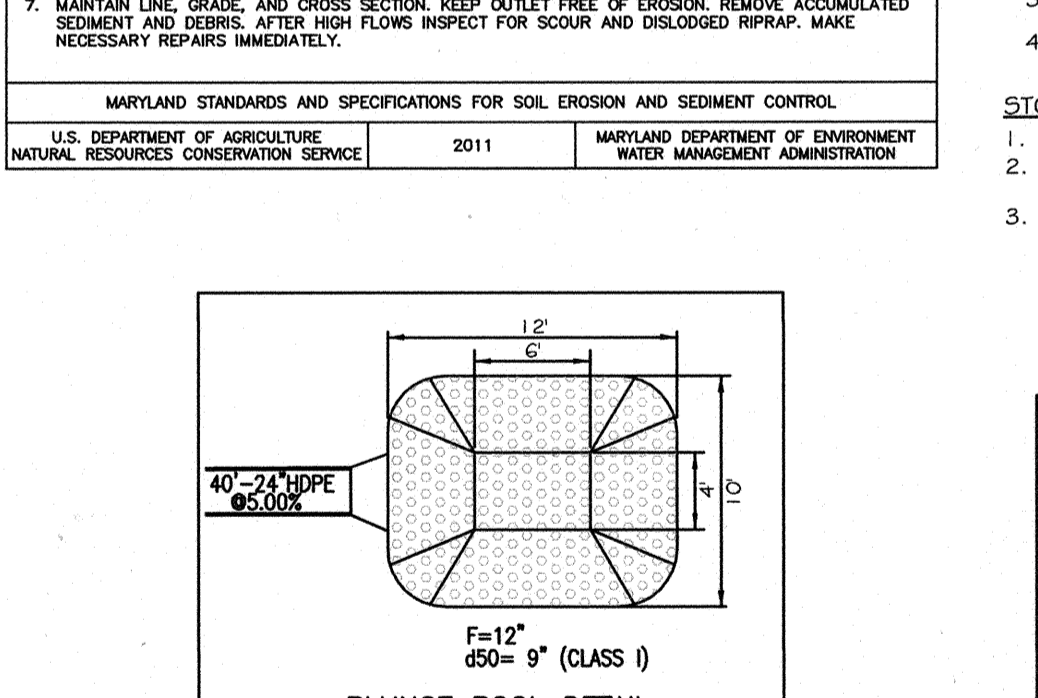
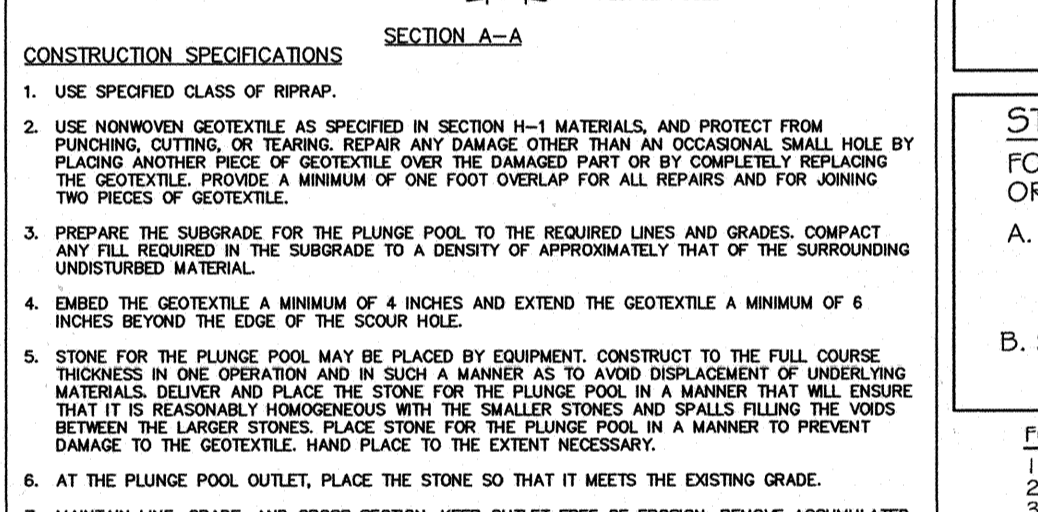
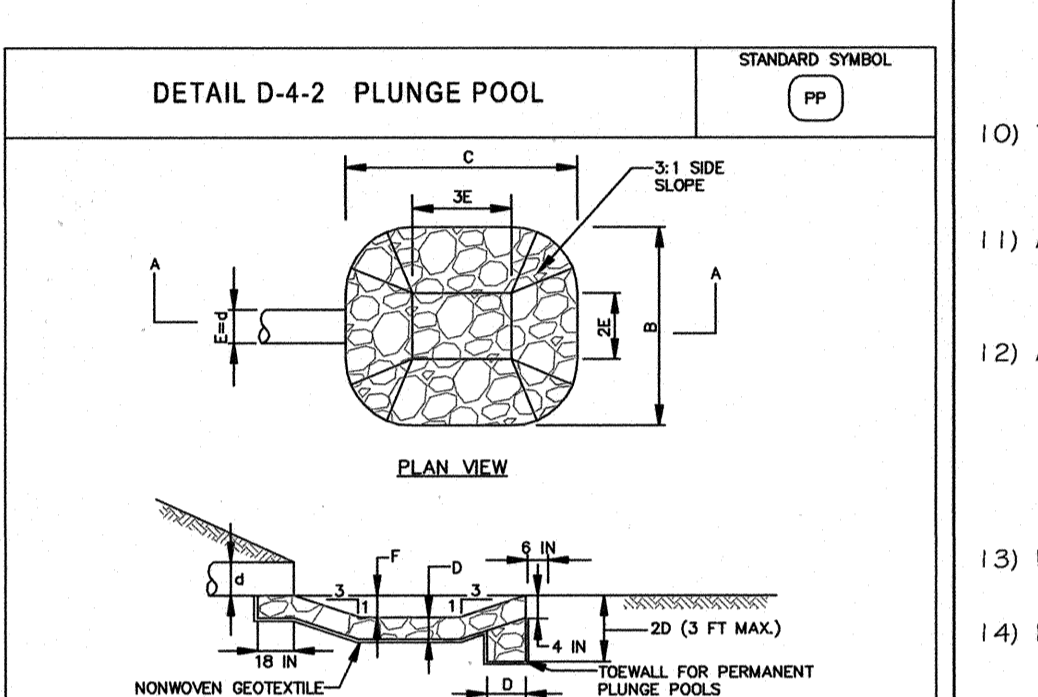
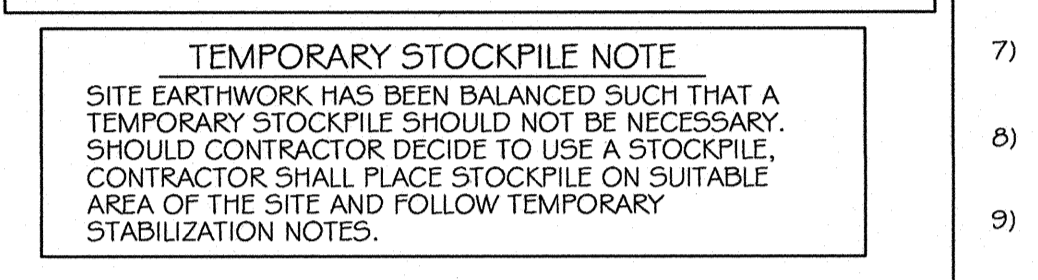
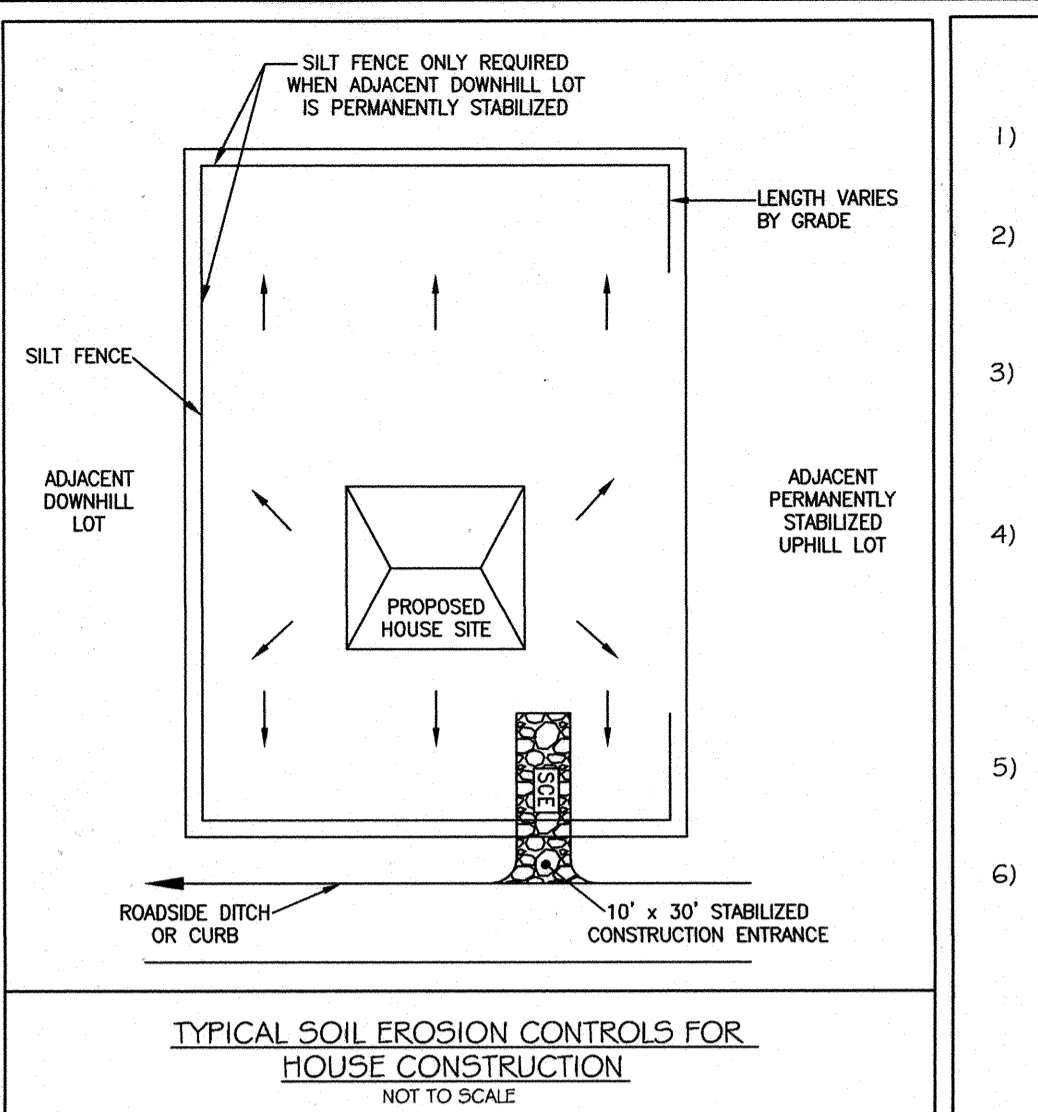
- INSTALL 2 1/2" DIAMETER GALVANIZED STEEL POSTS OF 0.095 MIN WALL THICKNESS AND SIX FOOT LENGTHS SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTEN 8 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (28 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURE TO THE STEEL POSTS WITH WIRE TIES OR WOOD RINGS.
- FASTEN WOVEN SILT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURE TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED 24 INCHES AT THE TOP AND MID HEIGHTS AND 12 INCHES AT THE BOTTOM. ENSURE THERE IS NO GAPS OR OVERLAP.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEEDING BY PASS.
- EXTEND THE ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT THE TOP AND MID HEIGHTS TO PREVENT RUNOFF FROM COMING AROUND THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MAINTENANCE CONTRIBUTION TO THE INSPECTION/OVERSEER AUTHORITY SHOWING THAT GEOTEXTILE MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BUILDS UP IN FENCE OR WHEN SEDIMENT REACHES 20% OF FENCE HEIGHT. REMOVE EXCESSIVE GEOTEXTILE IF TORN, IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

**TABLE - STONE SIZE**

NUMBER	SIZE RANGE	D 50	D 100	AASHTO	WEIGHT
NUMBER 57*	3/8" - 1 1/2"	1 1/2"	1 1/2"	M-43	NA
NUMBER 1	2" - 3"	2 1/2"	3"	M-43	NA
NEW 54**	4 1/4" - 7"	2 1/2"	7"	NA	NA
CLASS 1	NA	9 1/2"	24"	NA	150 LB MAX
CLASS 2	NA	16"	34"	NA	700 LB MAX
CLASS 3	NA	23"	34"	NA	2000 LB MAX

\* THIS CLASSIFICATION IS TO BE USED ON THE INSIDE FACE OF STONE OUTLETS AND CHECK DAMS.  
\*\* THIS CLASSIFICATION IS TO BE USED WHENEVER SMALL RIP-RAP IS REQUIRED. THE STATE HIGHWAY ADMINISTRATION DESIGNATION FOR THIS STONE IS STONE FOR GABIONS (93S.01.04)

**PROFESSIONAL CERTIFICATION**  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A QUALIFIED LICENSED PROFESSIONAL ENGINEER UNDER THE PROVISIONS OF THE STATE OF MARYLAND, LICENSE NO. 1,841,7, EXPIRATION DATE: 02-18-15.



**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, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND  
B. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE UNDER ACTIVE GRADING.

**FOR UTILITY WORK ONLY OR FOR OFF-SITE UTILITY WORK**

- CAN NOT EXCEED 5,000 SQUARE FEET
- PLACE ALL EXCAVATED MATERIAL ON HIGH SIDE OF TRENCH.
- ONLY DO AS MUCH WORK AS CAN BE DONE IN ONE DAY SO BACKFILLING, FINAL GRADING, SEEDING AND MULCHING CAN OCCUR.
- ANY SEDIMENT CONTROL MEASURES DISTURBED BY CONSTRUCTION WILL BE REPAIRED THE SAME DAY.

**STOCKPILE NOTES:**

- NO STOCKPILING ALLOWED ON ASPHALT.
- ALL STOCKPILES LEFT AT THE END OF THE NEXT DAY NEED TO BE STABILIZED UNTIL THE NEXT RESTORATION.
- SHOULD THE STOCKPILE AREA EXCEED 15 FEET IN HEIGHT, IT MUST BE STABILIZED.

**NOTE:**  
EARTHWORK CUT AND FILL QUANTITIES AND AREA OF DISTURBANCE INDICATED ON THIS PLAN ARE SHOWN FOR PURPOSE OF OBTAINING SEDIMENT CONTROL PLAN APPROVAL AND ARE NOT TO BE USED FOR CONTRACTUAL OBLIGATION.

**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 DURING THE BEGINNING OF THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

*Shaun Miller* 3/7/14  
DEVELOPER

**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."

*Ronald E. Thompson, P.E.* 3/7/14  
DATE

**SUPPLEMENTAL PLAN**  
EROSION AND SEDIMENT CONTROL NOTES AND DETAILS  
PATAPSCO OVERLOOK, SECTION 3  
LOTS 51 & 52, A RESUBDIVISION OF LOT 36

TAX MAP: 2  
GRID NO: 24  
PARCEL NO: 227

ELECTION DISTRICT: No. 4  
HOWARD COUNTY, MARYLAND  
EX. ZONING: RC-DEO

SCALE: AS SHOWN  
DATE: NOV, 2013  
SHEET 2 OF 2

**VANMAR ASSOCIATES, INC.**  
Engineers Surveyors Planners  
310 South Main Street Mount Airy, Maryland 21771  
(301) 829-2890 (301) 831-5015 (410) 540-2751  
Fax (301) 831-5603 © Copyright, Latest Date Shown

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

- A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction, (S.13-1855).
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current "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 shall be completed within: a) 3 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1; b) 7 days as to all other disturbed or graded areas on the project site.
- 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 permanent seeding (Sec. B-4-4), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- 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 Howard County Sediment Control Inspector.
- Site Analysis:
 

Total Area of Site	10.07 Acres.
Area to be roofed or paved	1.25 Acres.
Area to be vegetatively stabilized	0.34 Acres.
Total Cut	0.31 Acres.
Total Fill	0.00 Acres.
Offsite waste/borrow area location	N/A.

 Location must have active grading permit and as approved by inspector.
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.