RECEIVED

JUL 21 2020

LICENSES & PERMITS DIVISION

PERMIT NUMBER: B 20002351 **DATE ACCEPTED:**

RESIDENTIAL BUILDING PERMIT APPLICATION

HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES, AND PERMITS

3430 COURT HOUSE DRIVE, ELLICOTT CITY, MD 21043 - PHONE: (410) 313-2455 OPTION #4

www.howardcountymd.gov

BUILDING SITE ADDRESS *REQUIRED*

Street Address: **14556 OLD FREDERICK ROAD** | Unit:

City: **COOKSVILLE** | State: **MD** | Zip Code: **21723**

Subdivision/Village/Complex Name: **QUARTZ HILL III** | SDP/WP/BA #:

Lot: **6** | Tax Map: **0008** | Parcel: **0407** | Grading Permit #:

DESCRIPTION OF WORK *REQUIRED*

Existing Use: **VACANT LOT** | Proposed Use: **SFD** | Estimated Cost: $**400,000.00**

Trade Work to Be Completed *(Separate Permits Required)*: ■ Mechanical (HVACR) ■ Electrical ■ Plumbing ☐ None

"SUMMERFIELD" MODEL WITH FRONT PORCH AND REAR DECK

PROPERTY OWNER INFORMATION *REQUIRED*

Owner(s) Name(s) *(As it appears on tax records)*: **CATONSVILLE HOMES, LLC** | Primary Residence: ☐ Yes ■ No

Owner's Street Address: **11175 STRATFIELD COURT**

City: **MARRIOTTSVILLE** | State: **MD** | Zip Code: **21104**

Phone: **(410) 442-2211** | Email: **PWALTER@CATONSVILLEHOMES.COM**

APPLICANT NAME *REQUIRED - INDIVIDUAL WHO SIGNS THIS APPLICATION*

Business Name: **CBI HOMES, LLC** | Contact Name: **ROB SCRANTON**

Street Address: **11175 STRATFIELD COURT**

City: **MARRIOTTSVILLE** | State: **MD** | Zip Code: **21104**

Phone: **(410) 442-2211** | Email: **PWALTER@CATONSVILLEHOMES.COM**

CONTRACTOR INFORMATION *REQUIRED*

Business Name: **CBI HOMES, LLC**

Licensee's Name: **CBI HOMES, LLC** | **License #: 13640384 - MHBR #8409**

Street Address: **11175 STRATFIELD COURT**

City: **MARRIOTTSVILLE** | State: **MD** | Zip Code: **21104**

Phone: **(410) 442-2211** | Email: **PWALTER@CATONSVILLEHOMES.COM**

ARCHITECT/ENGINEER INFORMATION *INDIVIDUAL WHO SIGNED PLANS, IF APPLICABLE*

Business Name: **PLYMOUTH ROAD ARCHITECTS** | Name: **LISA WENRICH**

Street Address: **640 PLYMOUTH ROAD**

City: **BALTIMORE** | State: **MD** | Zip Code: **21229**

Phone: **(410) 788-0281** | Email: **LWENRICH@PLYMOUTHROADARCHITECTS.COM**

BUILDING CHARACTERISTICS *REQUIRED*

Primary Structure: ■ SF Dwelling ☐ SF Townhouse ☐ SF Duplex ☐ Mobile Home ☐ Multi-Family Dwelling (MF*) | Condo: ☐ Yes ■ No

Utilities: ■ Electric ■ Gas | Water Supply: ☐ Public ■ Private (Well) | Sewage Disposal: ☐ Public ■ Private (Septic)

Heating System: ☐ Electric ☐ Natural Gas ■ Propane ☐ Other: | Roadside Tree Project: ■ No ☐ Yes: #

Sprinkler System: ☐ NFPA 13 ☐ NFPA 13R ■ NFPA 13D ☐ None | Fire Alarm System: ☐ Yes ☐ No ☐ Voice Evac

ADDITIONAL RESIDENTIAL INFORMATION *(PLEASE SELECT/COMPLETE ALL THAT APPLY)*

Model Name & Options: **SUMMERFIELD W/FRONT PORCH AND REAR DECK**

# of Bedrooms (SF): **4** | # of efficiency units (MF*): | # of 1 BR (MF*): | # of 2 BR (MF*): | # of 3 BR (MF*):

Rooms: **10** | # Full Baths: **3** | # Half Baths: **1** | # Fireplaces: **1**

Garage/Carport Info: ☐ Attached Garage ☐ Detached Garage ■ Integral Garage ☐ Carport ☐ None

Basement/Foundation Info: ☐ Slab on Grade ☐ Post & Pier ■ Unfinished Basement ☐ Finished Basement Full or ☐ Partial

1st Fl Width: **58** | 1st Fl Depth: **55** | 2nd Fl Width: **58** | 2nd Fl Depth: **36** | Bsmt Width: **58** | Bsmt Depth: **55**

Energy Method: ☐ Prescriptive ■ Performance ☐ UA Alternative ☐ ERI | Gross Area: **6,085** sq ft | Occupiable Area: **5,585** sq ft

AGREEMENT/ DISCALIMER *REQUIRED*

THE UNDERSIGNED HEREBY CERTIFIES AND AGREES AS FOLLOWS: (1) THAT HE/SHE IS AUTHORIZED TO MAKE THIS APPLICATION; (2) THAT THE INFORMATION IS CORRECT; (3) THAT HE/SHE WILL COMPLY WITH ALL REGULATIONS OF HOWARD COUNTY WHICH ARE APPLICABLE THERETO; (4) THAT HE/SHE WILL PERFORM NO WORK ON THE ABOVE REFERENCED PROPERTY NOT SPECIFICALLY DESCRIBED IN THIS APPLICATION; (5) THAT HE/SHE GRANTS COUNTY OFFICIALS THE RIGHT TO ENTER ONTO THIS PROPERTY FOR THE PURPOSE OF INSPECTING THE WORK PERMITTED AND POSTING NOTICES.

APPLICANT'S ORIGINAL SIGNATURE

DATE SIGNED 7/21/20

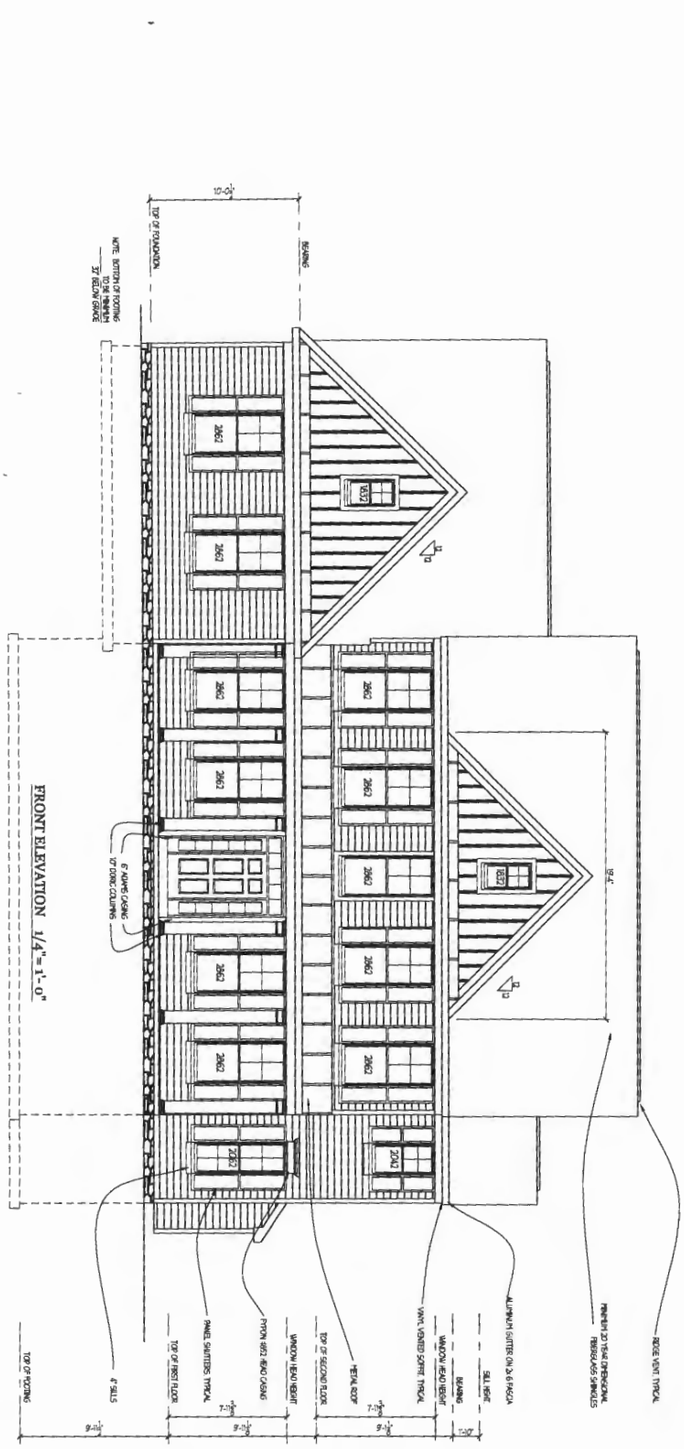
FOR OFFICE USE ONLY

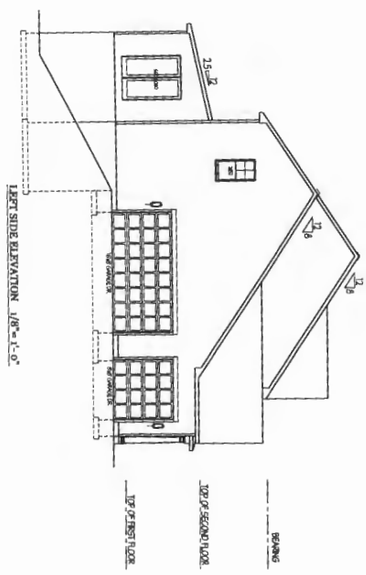
CHECKS PAYABLE TO: DIRECTOR OF FINANCE OF HOWARD COUNTY

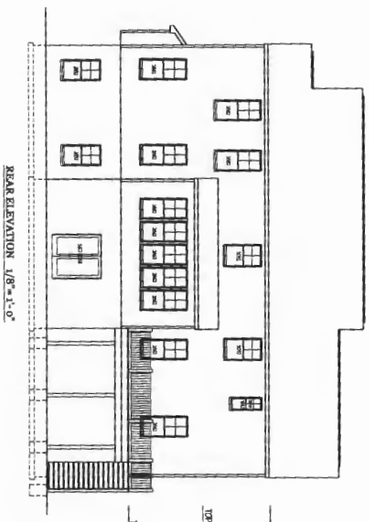
AGENCIES REQUIRED/APPROVALS:

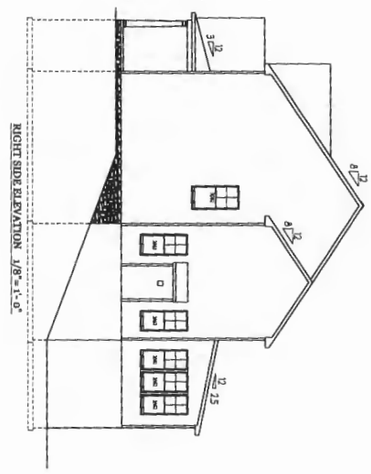
☑ PR ____ | ☑ DPZ ____ | ☑ DED ____ | 7/21/2020 ☑ Health ____ | ☐ SHA | ☐ CID

SUBMITTAL FEES: $150 | PAYMENT: | ACCEPTED BY: DROPBOX







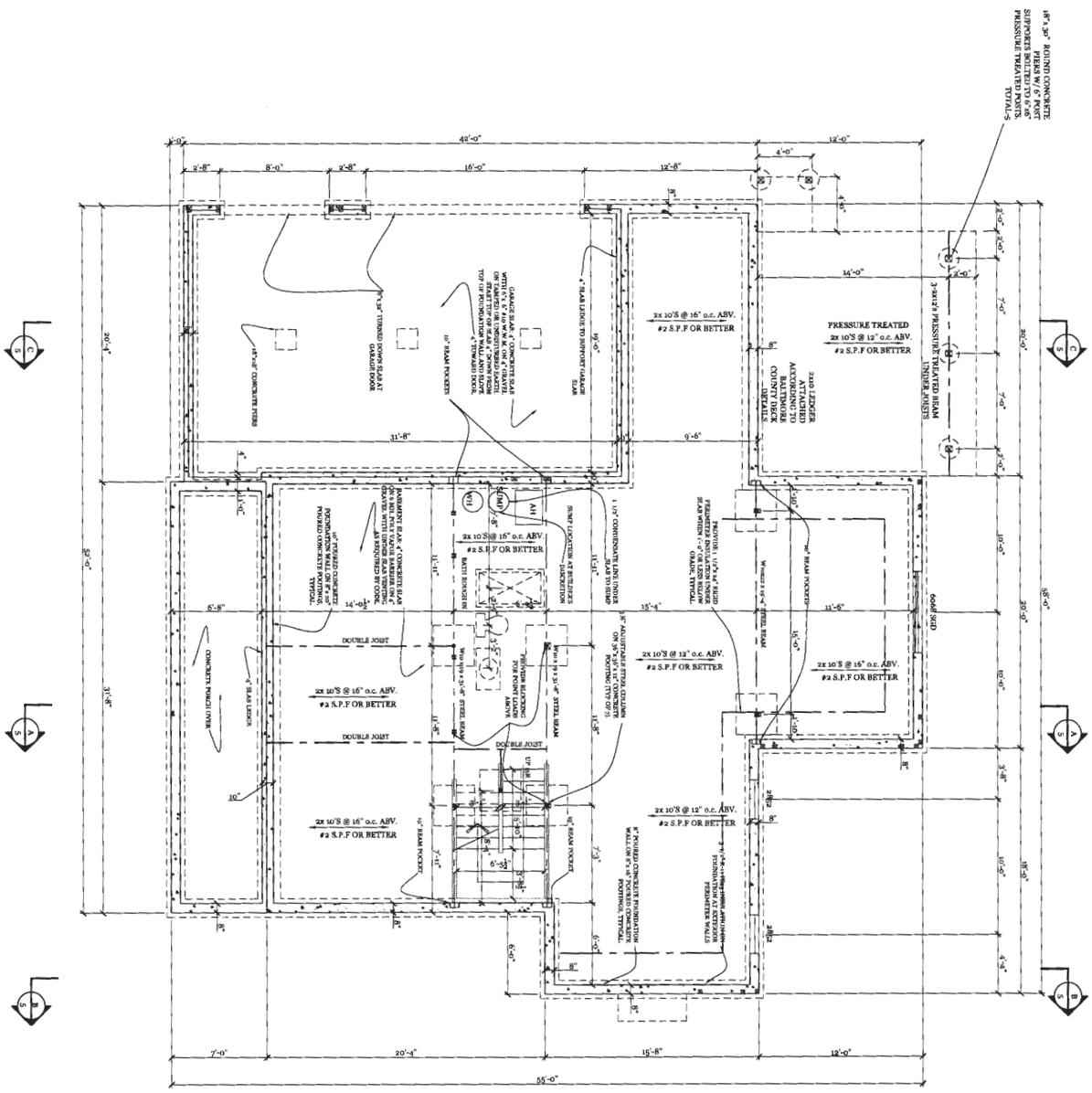


BID AND PERMIT SET 6/11/20

1	Project No.: C20.08 Date: 6/20 Scale: NOTED	Drawing: ELEVATIONS Project: **CATONSVILLE HOMES** SUMMERFIELD QUARTZ HILL LOT 6	Notes:	**Plymouth Road Architects** 640 Plymouth Road Baltimore, MD 21229 Phone: 410-788-0281 arch@plymouth-road.com

14556 OLD FREDERICK ROAD

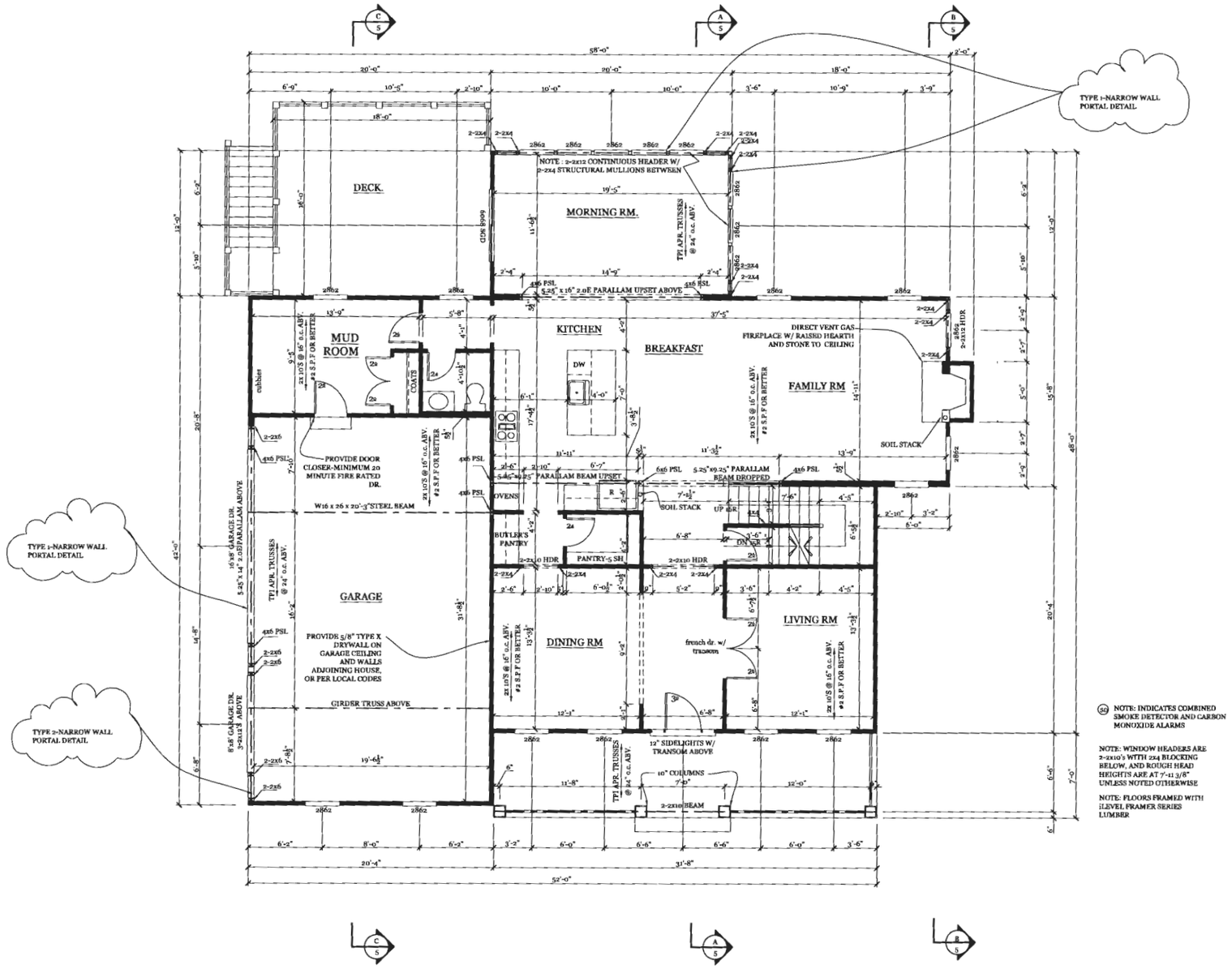
B2000235 1



BID AND PERMIT SET 6/11/20

tim graham 6/11/2020 7:01 AM Summerfield 2 0916 shared.dwg

2	Project No.: C20.08 Date: 6/20 Scale: 1/4"=1'-0"	Drawing: BASEMENT/ FOUNDATION PLAN Project: **CATONSVILLE HOMES** SUMMERFIELD QUARTZ HILL LOT 6	Notes:	Plymouth Road Architects 640 Plymouth Road Baltimore, MD 21229 Phone: 410-788-0281 arch@plymouth-road.com



(SD) NOTE: INDICATES COMBINED SMOKE DETECTOR AND CARBON MONOXIDE ALARMS

NOTE: WINDOW HEADERS ARE 2-2x10's WITH 2x4 BLOCKING BELOW, AND ROUGH HEAD HEIGHTS ARE AT 7'-11 3/8" UNLESS NOTED OTHERWISE

NOTE: FLOORS FRAMED WITH iLEVEL FRAMER SERIES LUMBER

BID AND PERMIT SET 6/11/20

Plymouth Road Architects
640 Plymouth Road Baltimore, MD 21229
Phone: 410-788-0281 arch@plymouth-road.com

Notes:

Drawing: FIRST FLOOR PLAN

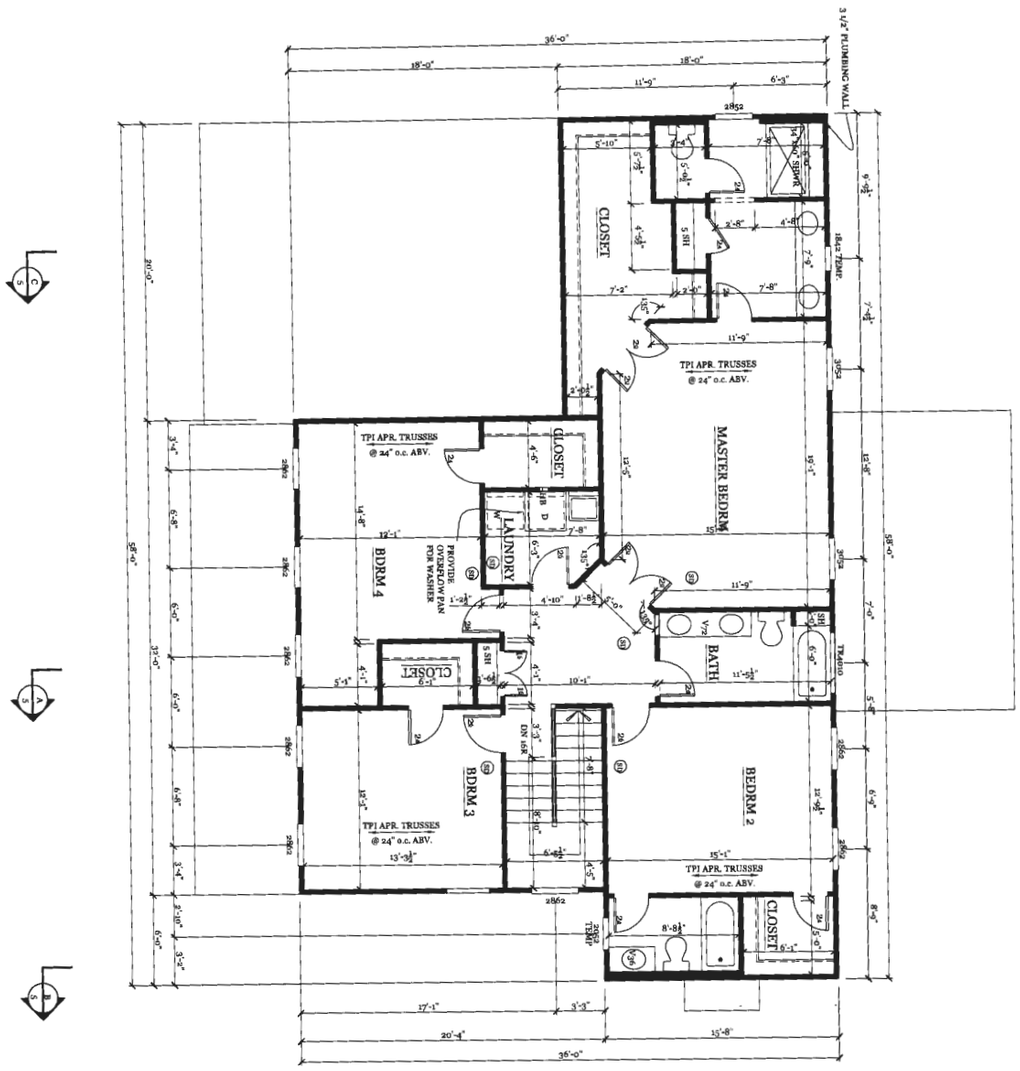
Project: CATONSVILLE HOMES
SUMMERFIELD
QUARTZ HILL LOT 6

Project No.: C20.08

Date: 6/20

Scale: 1/4"=1'-0"

3



(H) NOTE: H INDICATES COMBINED SMOKE DETECTOR AND CARBON MONOXIDE ALARMS

NOTE: WINDOW HEADERS ARE 6'-8" UNLESS NOTED BLOCKING BELOW, AND ROUGH HEAD HEIGHTS ARE AT 7'-11 3/8" UNLESS NOTED OTHERWISE

BID AND PERMIT SET 6/11/20

tim graham 6/11/2020 7:01 AM Summerfield 2 Q16 plan2.dwg

4	Project No.: C20.08 Date: 6/20 Scale: 1/4"=1'-0"	Drawing: SECOND FLOOR PLAN Project: **CATONSVILLE HOMES** SUMMERFIELD QUARTZ HILL LOT 6	Notes:	Plymouth Road Architects 640 Plymouth Road Baltimore, MD 21229 Phone: 410-788-0281 arch@plymouth-road.com

PERMIT NUMBER: B 20003257 **DATE ACCEPTED:**

COMMERCIAL BUILDING PERMIT APPLICATION

HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES, AND PERMITS

3430 COURT HOUSE DRIVE, ELLICOTT CITY, MD 21043 - PHONE: (410) 313-2455 OPTION #4

www.howardcountymd.gov

BUILDING SITE ADDRESS *REQUIRED*

Street Address:			Unit:
City:		State: **MD**	Zip Code:
Subdivision/Village/Complex Name:			SDP/WP/BA #:
Lot:	Tax Map:	Parcel:	Grading Permit #:

DESCRIPTION OF WORK *REQUIRED*

Existing Use:	Proposed Use:	Estimated Cost: $

Trade Work to Be Completed *(Separate Permits Required)*: ☐ Mechanical (HVACR) ☐ Electrical ☑ Plumbing ☐ None

PROPERTY OWNER INFORMATION *REQUIRED*

Owner(s) Name(s) *(As it appears on tax records)*:

Owner's Street Address:

City:	State:	Zip Code:
Phone:	Email:	

TENANT INFORMATION *REQUIRED*

Business Name:	Contact Name:	
Street Address:		
City:	State:	Zip Code:
Phone:	Email:	

APPLICANT NAME *REQUIRED - INDIVIDUAL WHO SIGNS THIS APPLICATION*

Business Name:	Contact Name:	
Street Address:		
City:	State:	Zip Code:
Phone:	Email:	

CONTRACTOR INFORMATION *REQUIRED*

Business Name:		
Licensee's Name:	**License #:**	
Street Address:		
City:	State:	Zip Code:
Phone:	Email:	

ARCHITECT/ENGINEER INFORMATION *REQUIRED - INDIVIDUAL WHO SIGNED PLANS*

Business Name:	Name:	
Street Address:		
City:	State:	Zip Code:
Phone:	Email:	

BUILDING CHARACTERISTICS *(PLEASE SELECT/COMPLETE ALL THAT APPLY)*

Utilities: ☐ Electric ☐ Gas	Water Supply: ☐ Public ☑ Private (Well)	Sewage Disposal: ☐ Public ☑ Private (Septic)
Heating System: ☐ Electric ☐ Natural Gas ☐ Propane ☐ Other:		Roadside Tree Project: ☑ No ☐ Yes:#
Sprinkler System: ☐ NFPA 13 ☐ NFPA 13R ☐ None	Fire Alarm System: ☐ Yes ☐ No ☐ Voice Evac	

ADDITIONAL COMMERCIAL INFORMATION *(PLEASE SELECT/COMPLETE ALL THAT APPLY)*

Area of Construction: sq ft	Gross Area: sq ft	Height: ft	# of Stories:
Construction Classification(s):	Use Group:		
Was the tenant space previously occupied? ☐ Yes ☐ No	Shell Building Permit # *(for interior completions)*:		

ADDITIONAL MULTI-FAMILY INFORMATION *IF APPLICABLE*

# of efficiency units (MF):	# of 1 BR (MF):	# of 2 BR (MF):	# of 3 BR (MF):
Energy Method: ☐ Performance ☐ UA Alternative ☐ ERI ☐ A 90.1		Gross Area: sq ft	Occupiable Area: sq ft

AGREEMENT/ DISCLAIMER *REQUIRED*

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APPLICANT'S ORIGINAL SIGNATURE — DATE SIGNED

FOR OFFICE USE ONLY

CHECKS PAYABLE TO: DIRECTOR OF FINANCE OF HOWARD COUNTY

AGENCIES REQUIRED/APPROVALS:

☑ PR	☑ DPZ	☐ DED	☑ Health 10/15/20	☐ SHA	☐ CID

SUBMITTAL FEES:	PAYMENT:	ACCEPTED BY:

Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with ¼-inch galvanized hardware cloth

on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) *not using previously approved State or local standards* requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 350.R/89; vertical loading [H-10 or H-20]; allowable horizontal loading (based on soil pressures); and analysis of potential cracking.

Sand substitutions such as Diabase and Graystone (AASHTO #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

ion Berms

jects larger than two inches. ptention practice that may be rations. The planting soil shall specified under COMAR

on)
ils can be met with a mixture se sand (30%), and compost

sts plus sulfur) may be mixed

he standard soil test for pH, ained from the site stockpiled location where the topsoil was

ices and the required backfill. ted using a loader, the h turf type tires. Use of -pressure tires will cause compaction will significantly

mary tilling operation such as l profile through the 12 inch typically do not till deep

kfilling the optional sand layer.

il over the sand, then rototill to final grade.

heavy equipment within the to supply soils and sand. dozer/loader with marsh

placed in the invert and other 3". Shredded or chipped and move to the perimeter of h must be well aged (6 to 12

torage. The plant root ball of the planting pit shall be the plant straight during the

rowing season only. Stakes are

e inch. Grass and legume

ients from natural cycling. The rtilizers defeats, or at o amend the soil. Rototill urea

g-term performance of

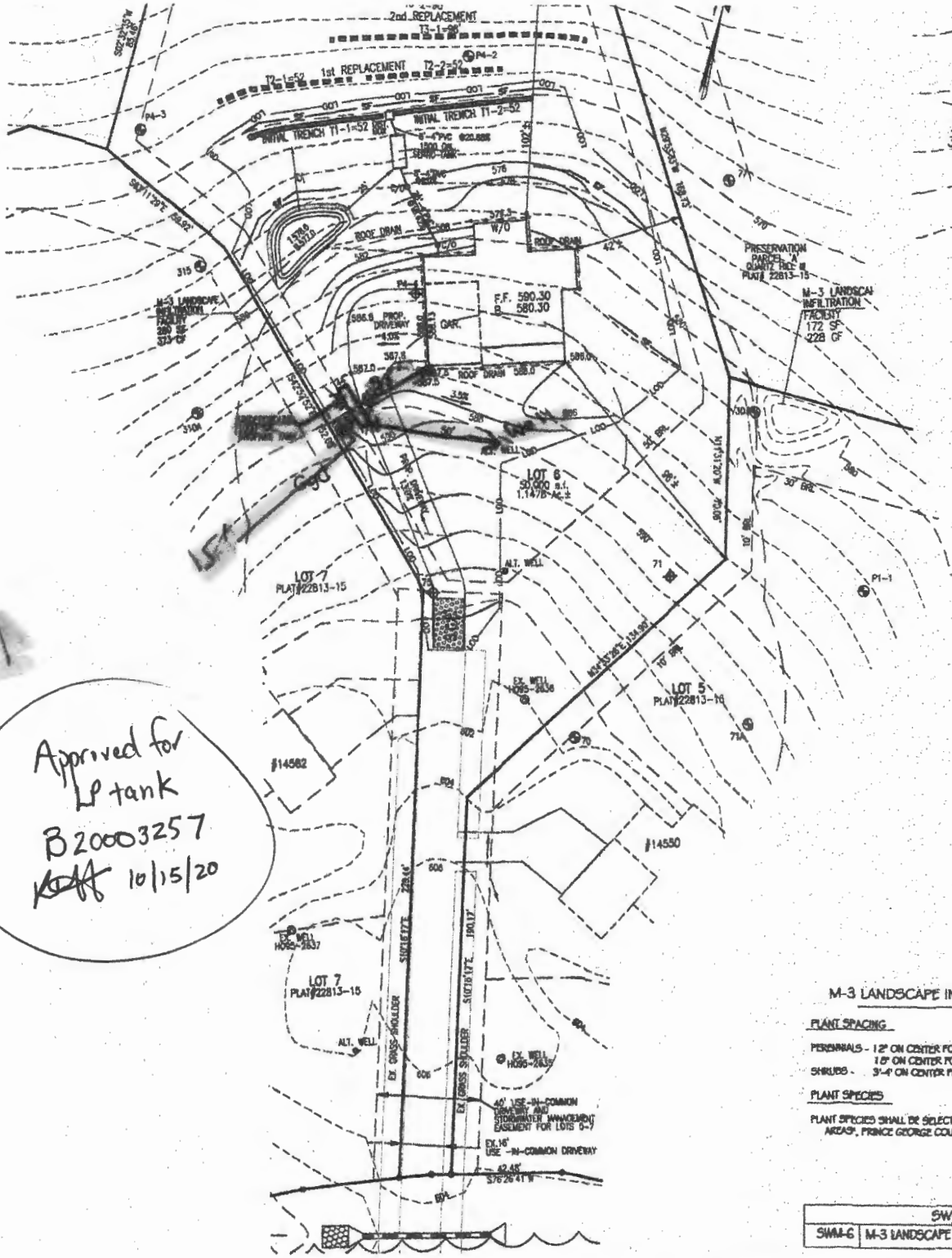
d by easement, deed tion, and removal.

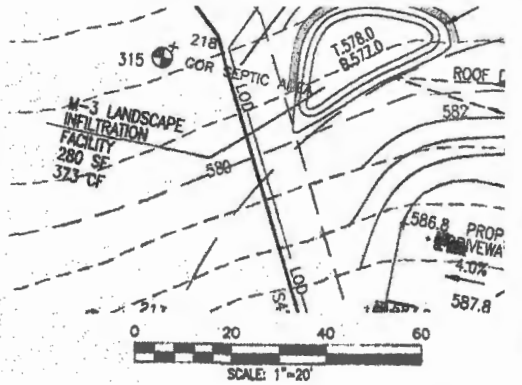
major storm and poorly

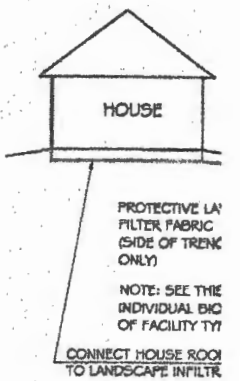
he top two to three inches of

water ponds for more than

oil, and sand may need to be







50:1

Approved for LP tank
B20003257
10/15/20

M-3 LANDSCAPE INFILTRATION PLANT SIZING AND SPACING

PLANT SPACING

PERENNIALS - 12" ON CENTER FOR QUART SIZE
15" ON CENTER FOR GALLON SIZE
SHRUBS - 3'-4' ON CENTER FOR QUART / GALLON SIZE

PLANT SPECIES

PLANT SPECIES SHALL BE SELECTED FROM 'PLANT SPECIES APPROPRIATE FOR USE IN BIORETENTION AREAS', PRINCE GEORGE COUNTY DEP, MD. (www.lowerpatuxentriver.org)

SWM FACILITY		
SWM-6	M-3 LANDSCAPE INFILTRATION	32' X 5.75' - 12"PONDING

COMPLETE THIS FORM WHEN DROPPING OFF ANY CORRESPONDENCE AND/OR PLANS TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS COUNTER:

Date: 08/26/2020

To: Building Permit Tech (Reviewer/Requestor's Name) DILP (Division)

From: Rob Scranton (Your Name, Company Name) (410) 977-1732 (Phone Number)

Subject: Project name Quartz Hill Lot 6

Project site address 14556 Old Frederick Road, 21723

Permit # B20002351 **SDP #** _____

Other information pertinent to this project _____

✓ Please check the attachments below that you are submitting with this transmittal:

- ☐ Letter of response to address plan review comment letter
- ☐ Revised plans and/or revised details: When submitting for a complete **re-review, duplicate sets shall be submitted.**
- ☐ Letter Summarizing Changes
- ☐ Energy conservation calculations
- ☑ Copies of Revised Plot Plan 8.25.20 (be specific).
  - ☑ Health Department Request ☐ DPZ/ DED Request ☐ Applicant's Request
- ☐ Two sets of single-family model plans to be placed on permanent file: Model Name/ #_____
- ☐ Other _____

Contact Person Information: (Required)

Rob Scranton
Please Print Name

Telephone No: (410) 977-1732

E-Mail Address: pwalter@catonsvillehomes.com

PLEASE ASSURE ALL DOCUMENTS AND/OR REVISIONS ARE APPROPRIATELY SIGNED AND SEALED, IF NECESSARY, BY A LICENSED ARCHITECT OR ENGINEER. PLEASE BE ADVISED THAT INSUFFICIENT INFORMATION MAY RESULT IN THE DELAY OF REVIEW BY THE PLANS EXAMINER. THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS WILL CONTACT YOU IF THERE IS A PROBLEM. IN ADDITION, ONCE THE BUILDING PERMIT IS APPROVED BY THE PLAN REVIEW DIVISION AND ALL OTHER REQUIRED SIGNATORY AGENCIES, AND THE BUILDING PERMIT IS READY FOR ISSUANCE, THE PERMIT DIVISION WILL NOTIFY THE APPROPRIATE CONTACT PERSON FOR PERMIT PICK UP. ALL PERMIT STATUS INQUIRIES SHALL BE DIRECTED TO THE PERMIT DIVISION AT 410-313-2455 OPTION #4 OR BY VISITING MYHOWARD.INFO. CODE RELATED QUESTIONS AND PLAN REVIEW INQUIRIES SHALL BE DIRECTED TO THE PLAN REVIEW DIVISION AT 410-313-2436. PLEASE ALLOW A MINIMUM OF FIVE (5) WORKING DAYS FOR ANY PLAN SUBMITTALS TO BE REVIEWED. THANK YOU.

Received by Drop Box

RECEIVED
AUG 26 2020
LICENSES & PERMITS DIVISION

White-Plan Review / Yellow-Applicant / Pink-Permit Division
T:\Operations\Updated forms\HoCoTransmittalForm04.2020

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

Definition:
The process of preparing the soils to sustain adequate vegetative stabilization.

Purpose:
To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies:
Where vegetative stabilization is to be established.

Criteria:
A. Soil Preparation
1. Temporary Stabilization
a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.
b. Apply fertilizer and lime as prescribed on the plans.
c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
2. Permanent Stabilization
a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
i. Soil pH between 6.0 and 7.0.
ii. Soluble salts less than 500 parts per million (ppm).
iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
iv. Soil contains 1.5 percent minimum organic matter by weight.
v. Soil contains sufficient pore space to permit adequate root penetration.
b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches. B.13
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 lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.
B. Topsoiling
1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
2. Topsoil salvaged from on existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
3. Topsoiling is limited to areas having 2:1 or flatter slopes where:
a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
c. The original soil to be vegetated contains material toxic to plant growth.
d. The soil is so acidic that treatment with limestone is not feasible.
4. Areas having slopes steeper than 2:1 require special consideration and design.
5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½ inches in diameter.
b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified on the plans.
c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
6. Topsoil Application
a. Erosion and sediment control practices must be maintained when applying topsoil.
b. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.
c. Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading B.14 and seedbed preparation.
C. Soil Amendments (Fertilizer and Lime Specifications)
1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by approved methods. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve.
4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200–400 pounds per 1,000 square feet) prior to the placement of topsoil.

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

Definition:
The application of seed and mulch to establish vegetative cover.

Purpose:
To protect disturbed soils from erosion during and at the end of construction.

Conditions Where Practice Applies:
To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

Criteria:
A. Seeding
1. Specifications
a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table 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. An appropriate seeding mixture must be applied when the ground thaws.
c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
d. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.
2. Application
a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact. B.16
b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
i. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least ¼ inch of soil covering. Seedbed must be firm after planting.
ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
i. If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P2 O5 (phosphorous), 200 pounds per acre; K2 O (potassium), 200 pounds per acre.
ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
iii. Mix seed and fertilizer on site and seed immediately and without interruption.
iv. When hydroseeding do not incorporate seed into the soil.
B. Mulching
1. Mulch Materials (in order of preference)
a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of grass is desired.
b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
ii. WCFM, including dye, must contain no germination or growth inhibiting factors.
iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
iv. WCFM material must not contain elements or compounds at concentration levels that will be phyto-toxic.
v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum. B.17
2. Application
a. Apply mulch to all seeded areas immediately after seeding.
b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 ½ to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
3. Anchoring
a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:
i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface 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, the contour should follow the contour.
ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.
iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

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 o the following stages:
   a. Prior to the start of earth disturbance,
   b. Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading,
   c. Prior to the start of another phase of construction or opening of another grading unit,
   d. Prior to the removal or modification of sediment control practices.
   Other building or grading inspection approvals may not be authorized until this initial approval by inspection agency is made. Other related state and federal permits shall be referenced, to ensure coordination and to avoid conflicts with this plan.
2) All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 "MARYLAND STANDARDS AND SPECIFICATIONS FOR THE SOIL EROSION AND SEDIMENT CONTROL", and revisions thereto.
3) Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading.
4) All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (Sec. B-4-2, permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization (Sec. B-4-8) in excess of 20 ft. must be benched with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. 1-4-6).
5) All sediment control structures are to be maintained in operative 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	1.15 Acres.
Area Disturbed	0.51 Acres.
Area to be roofed or paved	0.108 Acres.
Area to be vegetatively stabilized	0.402 Acres.
Total Cut	— Cu. Yds.
Total Fill	— 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 regraded on the same day of disturbance.
8) Additional sediment control must be provided, if deemed necessary by the CID. The site and all controls shall be inspected by the contractor weekly; and the next day after each rain event. A written report by the contractor, made available upon request, is part of every inspection and should include:
   * Inspection date
   * Inspection type (routine, pre-storm event, during rain event)
   * Name and title of inspector
   * Weather information (current conditions as well as time and amount of last recorded precipitation)
   * Brief description of project's status (e.g. percent complete) and/or current activities
   * Evidence of sediment discharges
   * Identification of plan deficiencies
   * Identification of sediment controls that require maintenance
   * Identification of missing or improperly installed sediment controls
   * Compliance status regarding the sequence of construction and stabilization requirements
   * Photographs
   * Monitoring/sampling
   * Maintenance and/or corrective action performed
   * Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES), MDE.
9) Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be back-filled and stabilized by the end of each workday, whichever is shorter.
10) Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may allowed by the CID per the list of HSCD-approved field changes.
11) Disturbance shall not occur outside the LOD. A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the CID. Unless otherwise specified and approved by the HCSC, no more than 30 acres cumulatively may be disturbed at a given time.
12) Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure.
13) Top soil shall be stockpiled and preserved on-site for redistribution onto final grade.
14) All Silt Fence and Super Silt Fence shall be placed on-the-contour, and be imbricated at 25' minimum interval, with lower ends curled uphill by 2' in elevation.
15) Stream channels must not be disturbed during the following restricted time periods (inclusive):
   * Use I and IP March 1 – June 15
   * Use III and IIIP October 1 – April 30
   * Use IV March 1 – May 31
16) A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active.

B-4-8 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.

Criteria
1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.
3. Runoff from the stockpile area must drain to a suitable sediment control practice.
4. Access the stockpile area from the upgrade side.
5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

Maintenance
The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1slopes, 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

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
A. Seed Mixtures
1. General Use
a. Select one or more of the species or mixtures listed in Table 1.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
b. 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 Guide, Section 342 - Critica Area Planting.
c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency.
d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 ½ 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.
2. Turfgrass Mixtures
a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan
i. 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 Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For usein full sun areas whereregular establishment is necessary and where turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent if the total mixture by weight.
iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use indroughtt prone areas and/or for areas receiving low to medium management in full sun fo medium shade. Recommended mixture includes; Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One more cultivars may be blended.
iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass or 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 Rate: 1½ to 3 pounds per 1000 square feet
v. Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland" Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.
c. Ideal Times of Seeding for Turf Grass Mixtures
Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a)
Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b)
Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)
d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1½ inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.
e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (¾ to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.
B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).
1. General Specifications
i. Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
ii. Sod must be machine cut at a uniform soil thickness of ¾ inch, plus or minus ¼ 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.
iii. 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.
iv. Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
v. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its installation.
2. Sod Installation
a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral 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.
c. Wherever possible, lay sod with thelong edges parallel to the contour and with staggering Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.
d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping and irrigating for any piece of sod within eight hours.

TEMPORARY STABILIZATION SPECIFICATIONS TABLE

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

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

PERMANENT STABILIZATION SPECIFICATIONS TABLE

Hardiness Zone (from Figure B.3): 6b
Seed Mixture (from Table B.3): 11

No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P2O5	K2O	Fertilizer Rate	Lime Rate
	KENTUCKY BLUEGRASS	20	MAY 1–MAY 15 AUG. 1–OCT. 15	1/4–1/2 in	45 pounds per acre (1.0 lb/ 1000 sf)	90 lb/ac (2lb/1000 sf)	90 lb/ac (90 lb/1000 sf)	2 tons/ac (90 lb/ 1000 sf)	
				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 MOIST UNTIL SOIL IS STABILIZED ACCORDING TO VEGETATIVE SPECS. FOR THIS SITE AND AREAS TO BE PAVED ARE COMPLETED.

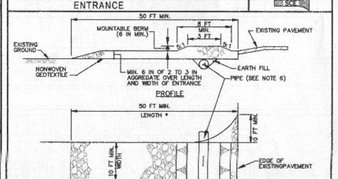
STANDARD STABILIZATION NOTE

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

A. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
B. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL



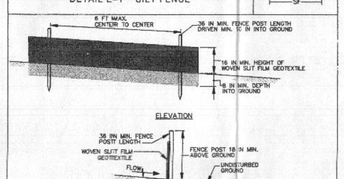
CONSTRUCTION SPECIFICATIONS

1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. WHERE NOT SHOWN ON PLAN, USE MINIMUM LENGTH OF 50 FEET (*50 FEET FOR SINGLE RESIDENCE LOT) OR THE FULL WIDTH OF INGRESS AND EGRESS WHICHEVER IS GREATER, BUT NOT LESS THAN MINIMUM WIDTH OF 10 FEET. FLARE SIDE 10 FEET MINIMUM AT THE ROADWAY TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SIDE UNDER THE ENTRANCE, MAINTAIN A MINIMUM 6 INCH HEIGHT OF MOUNTABLE BERM TO ENSURE RUNOFF DOES NOT BYPASS THE ENTRANCE, BEING WITH 5:1 SLOPES AND A MINIMUM 6 INCH DIAMETER PIPE. PIPE MUST BE PLACED AT A DEPTH SPECIFIED ON APPROVED PLAN. WHEN THE SIDE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONNECT, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SIDE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION M-1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SIDE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT. ADD STONE OR MAKE ANY OTHER REPAIRS OR MODIFICATIONS NECESSARY TO PREVENT SEDIMENT FROM LEAVING THE SPECIFIED DIMENSIONS. WHENEVER SEDIMENT IS REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD, TRACKED SEDIMENT MUST BE PERFORMED AS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE | 2011 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL



MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
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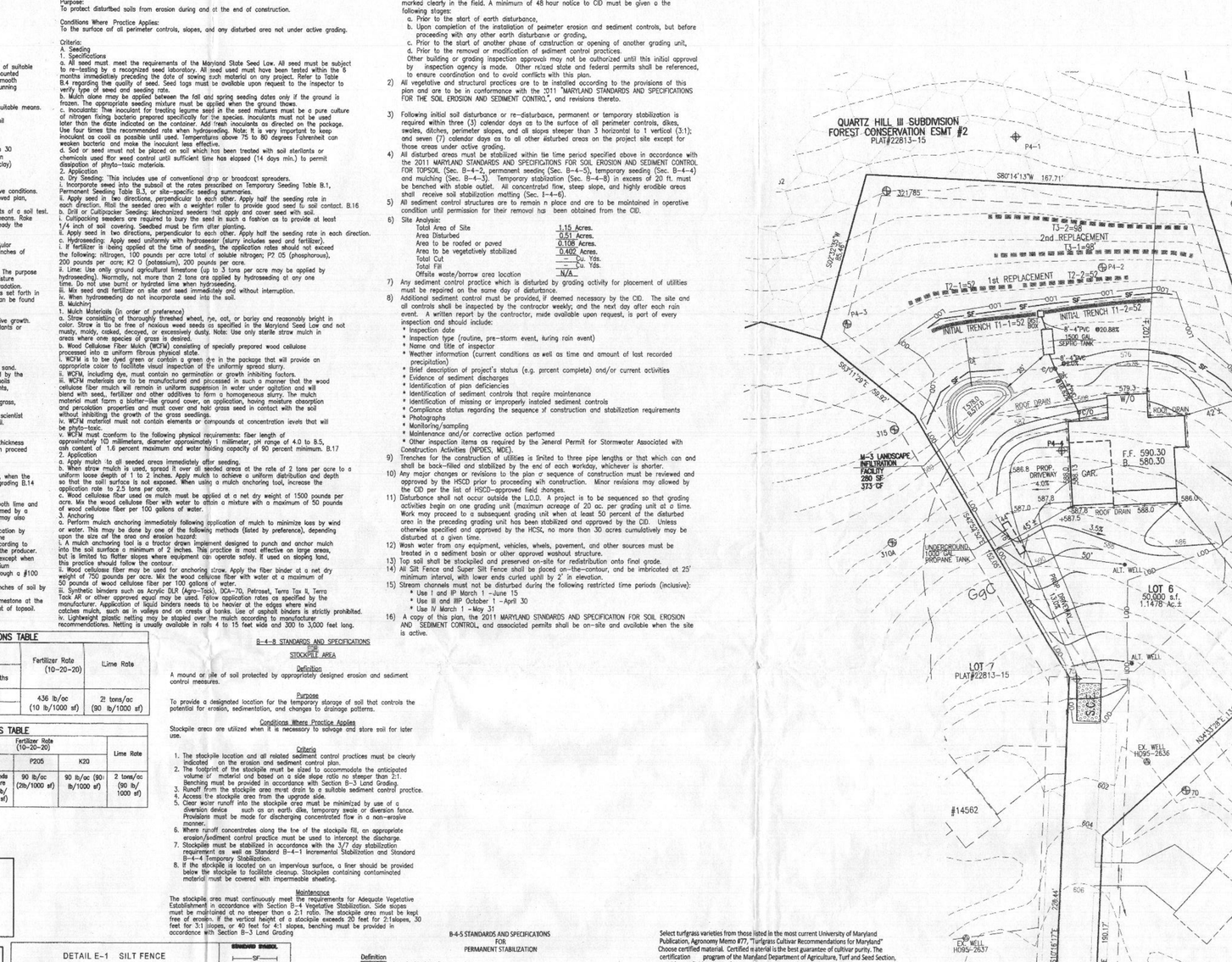
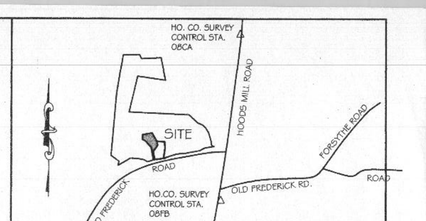
1 OF 2





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 NAVD88.
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) = 22,040 SQ.FT.
5. THERE ARE NO STREAMS, PONDS, FLOODPLAINS OR WETLANDS ON THIS LOT.
6. STORM WATER MANAGEMENT FOR THIS LOT IS PROVIDED BY M-3 LANDSCAPE INFILTRATION.

SEQUENCE OF CONSTRUCTION

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

SILT FENCE IS TO BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR

TEMPORARY STOCKPILE NOTE

SITE EARTHWORK HAS BEEN BALANCED SUCH THAT A TEMPORARY STOCKPILE SHOULD NOT BE NECESSARY.

Table B.4.1 Materials Specifications for Micro-Bioretention, Rain Gardens & Landscape Infiltration-			
Material	**Specification**	**Size**	**Notes**
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil [2' to 4' deep]	loamy sand (60 - 65%) & compost (35 – 40%) or sandy loam (30%), coarse sand (30%) & compost (40%)	n/a	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum; no pine or wood chips
Pea gravel diaphragm	pea gravel: ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" to 3/4")	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with ¼-inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; f'c = 3500 psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n/a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) *not using previously approved State or local standards* requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 350.R/89; vertical loading [H-10 or H-20]; allowable horizontal loading (based on soil pressures); and analysis of potential cracking
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone **(AASHTO)** #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

Specifications for Micro-Bioretention, Rain Gardens, Landscape Infiltration & Infiltration Berms

1. Material Specifications

The allowable materials to be used in these practices are detailed in Table B.4.1.

Planting Soil

The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the micro-bioretention practice that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda grass, Quackgrass, Johnson grass, or other noxious weeds as specified under COMAR 15.08.01.05.

The planting soil shall be tested and shall meet the following criteria:

Soil Component – Loamy Sand or Sandy Loam (USDA Soil Textural Classification)

Organic Content – Minimum 10% by dry weight (ASTM D 2974). In general, this can be met with a mixture of loamy sand (60%-65%) and compost (35% to 40%) or sandy loam (30%), coarse sand (30%), and compost (40%).

Clay Content – Media shall have a clay content of less than 5%.

pH Range – Should be between 5.5 – 7.0. Amendments (e.g., lime, iron sulfate plus sulfur) may be mixed into the soil to increase or decrease pH.

There shall be at least one soil test per project. Each test shall consist of both the standard soil test for pH, and additional tests of organic matter, and soluble salts. A textural analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated.

Compaction

It is very important to minimize compaction of both the base of bioretention practices and the required backfill. When possible, use excavation hoes to remove original soil. If practices are excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf type tires. Use of equipment with narrow tracks or narrow tires, rubber tires with large lugs, or thigh-pressure tires will cause excessive compaction resulting in reduced infiltration rates and is not acceptable. Compaction will significantly contribute to design failure.

Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to refracture the soil profile through the 12 inch compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.

Rototill 2 to 3 inches of sand into the base of the bioretention facility before backfilling the optional sand layer. Pump any ponded water before preparing (rototilling) base.
When backfilling the topsoil over the sand layer, first place 3 to 4 inches of topsoil over the sand, then rototill the sand/topsoil to create a gradation zone. Backfill the remainder of the topsoil to final grade.

When backfilling the bioretention facility, place soil in lifts 12" to 18". Do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.

Plant installation

Compost is a better organic material source, is less likely to float, and should be placed in the invert and other low areas. Mulch should be placed in surrounding to a uniform thickness of 2" to 3". Shredded or chipped hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable. Shredded mulch must be well aged (6 to 12 months) for acceptance.

Rootstock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8th of the ball is above final grade surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation

Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball.

Grasses and legume seed should be drilled into the soil to a depth of at leaslt one inch. Grass and legume plugs shall be planted following the non-grass ground cover planting specifications.

The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the bioretention structure is to improve water quality. Adding fertilizers defeats, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch are used to amend the soil. Rototill urea fertilizer at a rate of 2 pounds per 1000 square feet.

MAINTENANCE CRITERIA

1. The following items should be addressed to ensure proper maintenance and long-term performance of landscape infiltration:

2. 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.

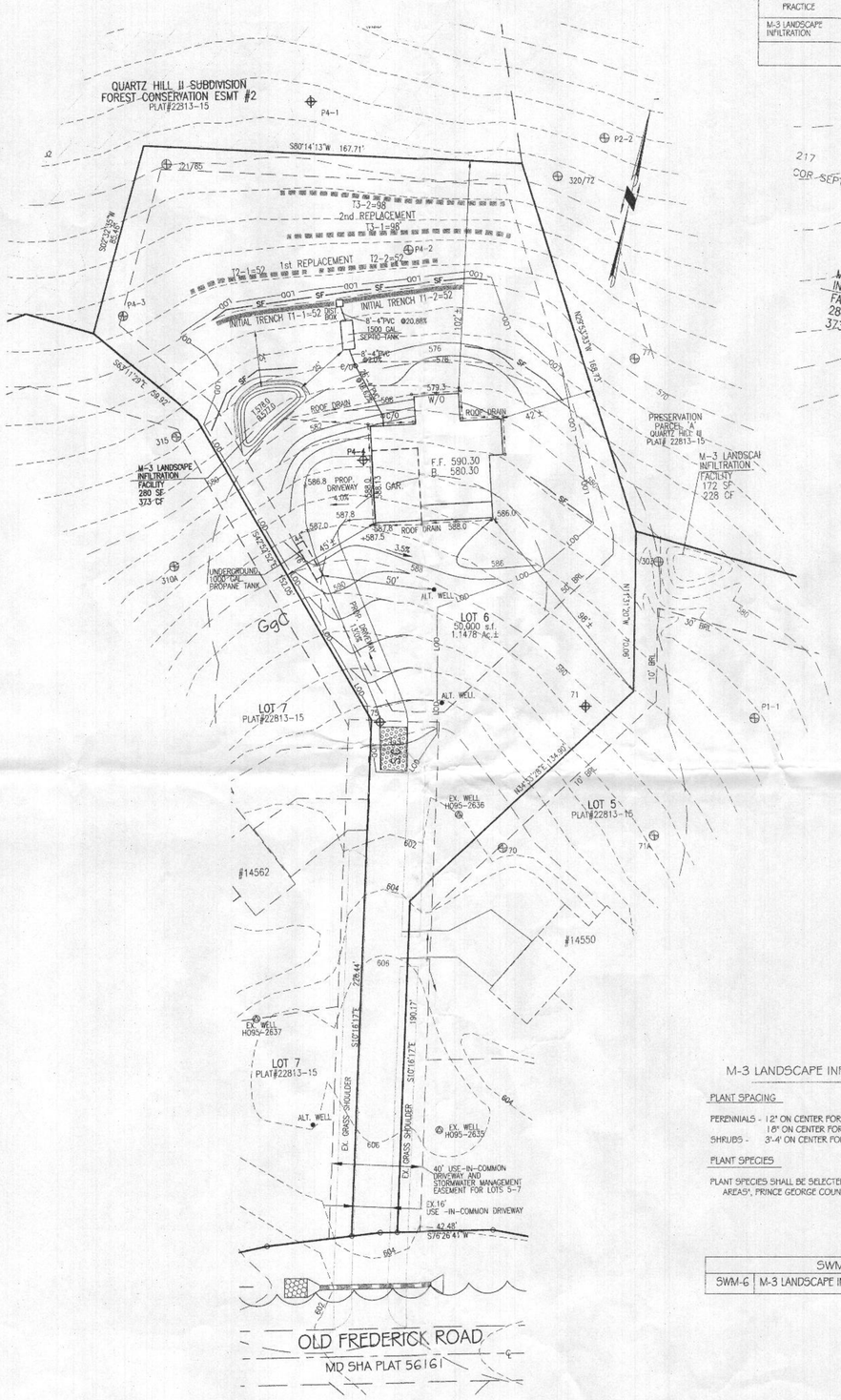
3. During the first year of operation, inspection frequency should be after every major storm and poorly established areas revegetated.

4. Sediment accumulation on the surface of the facility should be removed and the top two to three inches of surface layer replaced as needed.

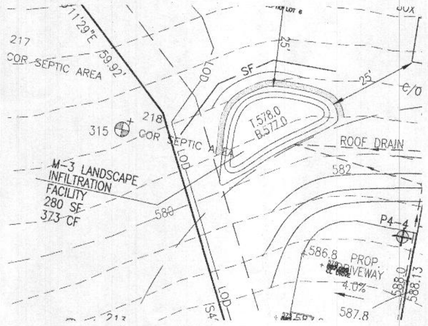
5. The top few inches of the planting soil should be removed and replaced when water ponds for more than 48 hours or there is algal growth on the surface of the facility.

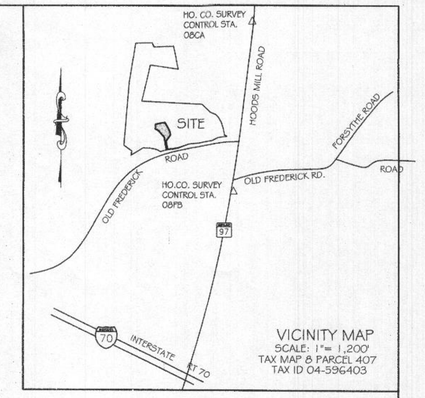
6. If standing water persists after filter media has been maintained, the gravel, soil, and sand may need to be cleaned and/or replaced.

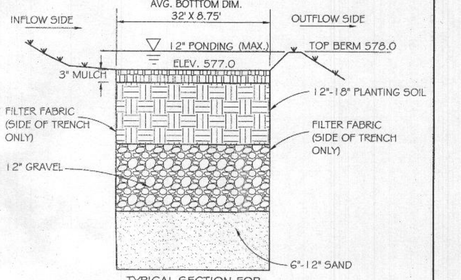
7. Occasional pruning and replacement of dead vegetation is necessary. If specific plants are not surviving, more appropriate species should be used. Watering may be required during prolonged dry periods.



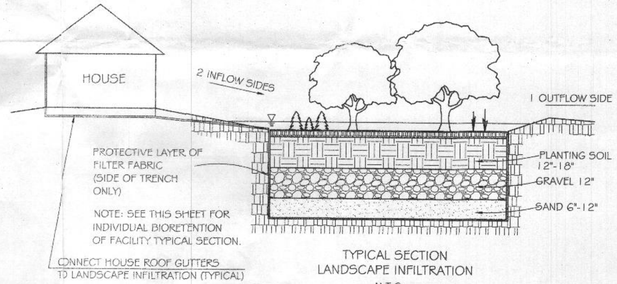
SWM TREATMENT SUMMARY					
PRACTICE	DRAINAGE AREA	IMPERVIOUS AREA TREATED	METHODOLOGY	VOLUME (ESDv) REQUIRED	VOLUME (ESDv) PROVIDED
M-3 LANDSCAPE INFILTRATION	6,780 S.F.	4,725 S.F.	ESDv=Pe * Rv * A/12 where Pe=1.0" & Rv=0.95	372 c.f.	373 c.f.
			TOTAL ESDv PROVIDED		373 c.f.
			ESDv REQUIRED	372 c.f.	







TYPICAL SECTION FOR
M-3 LANDSCAPE INFILTRATION FACILITIES
N.T.S.



TYPICAL SECTION
LANDSCAPE INFILTRATION
N.T.S.

M-3 LANDSCAPE INFILTRATION PLANT SIZING AND SPACING

PLANT SPACING

PERENNIALS - 12" ON CENTER FOR QUART SIZE
18" ON CENTER FOR GALLON SIZE
SHRUBS - 3'-4' ON CENTER FOR QUART / GALLON SIZE

PLANT SPECIES

PLANT SPECIES SHALL BE SELECTED FROM "PLANT SPECIES APPROPRIATE FOR USE IN BIORETENTION AREAS", PRINCE GEORGE COUNTY DEP, MD. (www.lowimpactdevelopment.org)

SWM FACILITY		
SWM-6	M-3 LANDSCAPE INFILTRATION	32' X 8.75' - 12"PONDING

OPERATION AND MAINTENANCE SCHEDULE FOR LANDSCAPE INFILTRATION (M-3)

A. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTAINANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTAINANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTIBLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 4.2.

B. THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.

C. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.

D. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER AND AFTER EACH HEAVY STORM.

OWNER / DEVELOPER:
CATONSVILLE HOMES
11175 STRATFIELD CT.
MARRIOTTSVILLE, MD. 21104
410-442-2211

PROFESSIONAL CERTIFICATION

I hereby certify that these documents were prepared or approved by me, and that I am a duly licenced professional engineer under the laws of the State of Maryland, License No. 18417, Expiration Date: 9-18-2

DATE	REVISIONS

STATE OF MARYLAND — CHRISTOPHER LEE VANMARCKE — 18417 — PROFESSIONAL ENGINEER — 9/25/2020

STORMWATER MANAGEMENT PLAN
14556 OLD FREDERICK ROAD
LOT 6
QUARTZ HILL III
PLAT No. 22813-22815

14556 OLD FREDERICK ROAD
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: 1" = 30' JUNE, 2020

SHEET 2 OF 2

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JOB NO. 86-5595

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