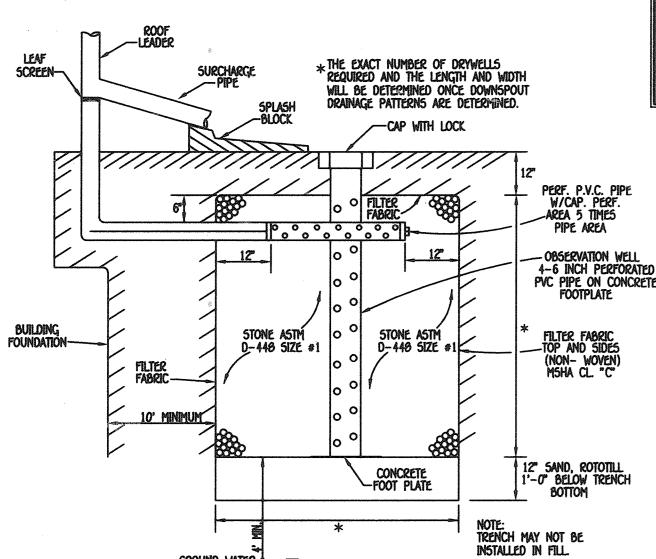


	STORMWA	TER MAN	agement summary
area id.	E5Dv REQUIRED CU.FT.	E5Dv PROVIDED CU.FT.	REMARK5
SITE	1,006	1,304	DRYWELLS (M-5) & MICRO-BIORETENTION (M-6)
TOTAL	1,006	1,304	

	0.12	1,000	17- '	MICRO-BIORETENTION (M-
	TOTAL	1,006	1,304	
1				
		ROOF LEADER	8	



DRY WELL DETAIL (M-5)

STORMWATER

MANAGEMENT NOTES

ACCORDANCE WITH WITH CHAPTER 5,

ENVIRONMENTAL SITE DESIGN OF THE

DESIGN MANUAL, EFFECTIVE MAY 4, 2010.

EACH DOWNSPOUT SHALL BE 1,000 SQ. FT.

LOCATIONS WHERE THE LENGTH OF DISCONNECTION IS LESS THAN 75' AT 5%.

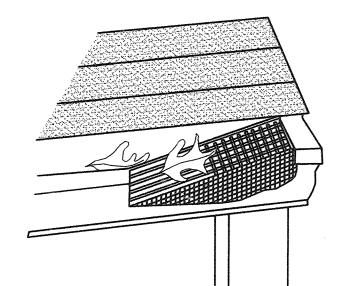
drywell shall be in accordance with

THE SIZE AND CONSTRUCTION OF THE

THE DETAIL SHOWN ON THIS SHEET.

4. FINAL GRADING IS SHOWN ON THE SITE

3. DRYWELLS SHALL BE PROVIDED AT



GUTTER DRAIN FILTER DETAIL

OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5)

- A. 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
- ENSURE TRENCH DRAINAGE.
 C. THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS. D. WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN A SEVENTY-TWO (72) HOUR TIME PERSOD, CORRECTIVE ACTION SHALL BE TAKEN.
- THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNT FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
 F. 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 prequent schedule is required. <u>DEVELOPER</u> B. JAMES GREENFIELD, MANAGING MEMBER IN CAPACITY AS TRUSTEE THE COLUMBIA BUILDER GROUP. LL 6420 AUTUMN SKY WAY

			-		وبالناطاب البائمان أحسب يبدعوك	
	DRY	WELL	CHART			
DRYWELL ID.	AREA OF ROOF PER DOWN SPOUT	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF TREATMENT	L W	0
LOT 2 (RR LT	473 5Q. FT.	43 C.F.	162 C.F.	100%*	9' x 9'	x 5'
LOT 2 (RR RT	505 5Q. FT.	53 C.F.	162 C.F.	100%*	9' x 9'	x 5'

* AREA OF TREATMENT EXCEEDS THAT REQUIRED.

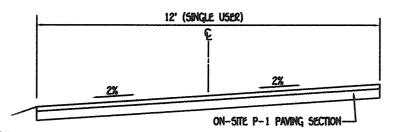
6° PVC PIPE

UNDERDRAIN

COLLECTION SYSTEM @ 0.5% MIN

OBSERVATION WELL

-PROPOSED GROUND



ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION.

<u>TYPICAL PRIVATE DRIVE CROSS SLOPE SECTION</u>

STORMWATER MANAGEMENT PRACTICES

(NUMBER)

MICRO BIO-RETENTION PLANTING

NOT TO SCALE

ROUND PLASTIC

ATRIUM GRATE

PROVIDE FILTER FABRIC

-(SEE PLANS)-

MICRO BIO-RETENTION SECTION

NO SCALE

WITH 6" OVERFLOW DISTRIBUTION PIPE

(SIDES ONLY)

— 6" PVC OBSERVATION PIPE W/ DRAIN CAP & PERFORATED

PIPE THROUGH STONE

6" PVC OBSERVATION PIPE

-12" PONDING

DEPTH

-6" OVERFLOW DISTRIBUTION PIPE

OVER DRAIN

MESH (4x4) OR

PERF. PIPE THROUGH

STONE RESERVOIR TO

BE WRAPPED WITH 1/2

SMALLER GALVANIZED

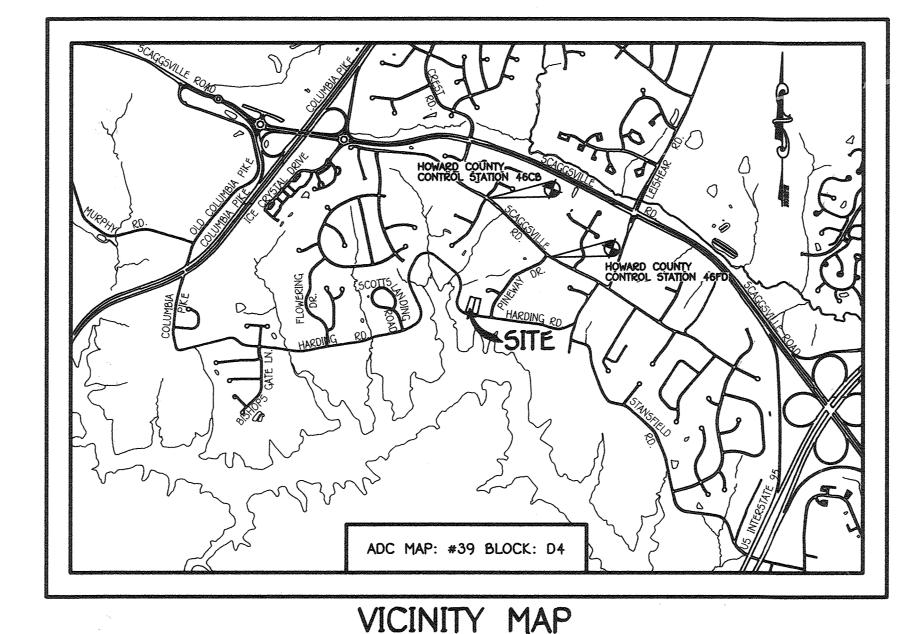
W/ DRAIN CAP & PERFORATED

PIPE THROUGH STONE

OBSERVATION WELL

SITE DEVELOPMENT PLAN PINE VALLEY, SECTION ONE LOT5 1 & 2

TAX MAP No.: 46, GRID No: 11, PARCEL No.: 242 SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND



			SCALE	. 1 = 2
		o,	2000	0,
			5CAL	E: 1"
=				
ı	PLANT	MATERIAL		

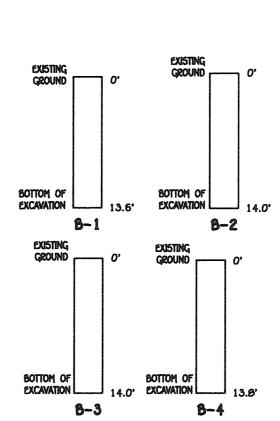
MIJMIXAM

PLANT AWAY FROM INFLOW LOCATION

	MI	CRO-	-BIO	RETE	NTION	15		
MICRO-BIO FILTER	A	В	С	D	E	F	G	Н
#1	319.00	319.00	318.00	316.50	316.25	315.75	314.50	314.98
#2	31950	319.50	318.30	316.80	316.55	315.90	314/73	3(5.8

NOTE: H FOR MICRO-BIO FILTER IS THE INVERT INTO THE PROPOSED YARD INLET. MICRO-BIO 1 - CO2 INV. 315.58/315.49, CO1 INV. 315.44/315.34 Table B.4. 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%		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
Pea gravel diaphragm	peà gràvel: ASTM-D-440	No. 0 or No. 9 (1/8" to 3/8")	
Curtain drain	omamental 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. Aggregate (3/8° to 3/4°)	
Underdräin piping	F 750, Type P5 20 or AASHTO M-270	4" to 6" rigid schedule 40 PVC or 50R35	Slotted or perforated pipe; 3/6" pert. © 6" on center. 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with 1/4 inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; f = 3500 psi at 20 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n.ā	on-site testing of poured-in-place concrete required: 20 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/09; 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 no acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.



SOIL PROFILE BASED ON ON-SITE OBSERVATION ON AUGUST 7, 2017. LITTLE OR NO ROCK AND NO WATER WAS ENCOUNTERED.

OPERATION AND MAINTENANCE SCHEDULE FOR

MICRO-BIORETENTION AREAS (M-6) 1. The owner shall maintain the plant material, mulch layer and soil layer annually. maintenance 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 maintenance will address dead material and pruning. Acceptable replacement plant material is limited to the following: 2000 Maryland stormwater design manual

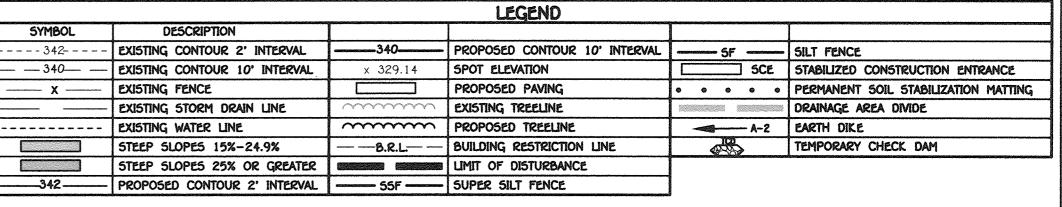
2. The owner shall perform a plant in the spring and in the fall each year during the inspection, the owner shall remove dead and diseased vegetation considered beyond treatment, replace dead plant material with acceptable replacement plant materia Treat diseased trees and shrubs and replace all deficient stakes

3. 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.

EX 18 CMP

^odrcel

4. The owner shall correct soil erosion on an as needed basis, with a minimum of once per month and after each heavy storm



General Notes:

- BOUNDARY SHOWN HEREON IS BASED ON FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED BY FISHER, COLLINS & CARTER. INC. DATED MARCH 2017. TOPOGRAPHY SHOWN HEREON IS BASED ON A TOPOGRAPHIC SUVERY PERFORMED BY FISHER, COLLINS & CARTER, INC. IN MARCH 2017 AND SUPPLEMENTED WITH HOWARD COUNTY GIS TOPOGRAPHY AT 5' CONTOUR INTERVAL INTERPOLATED FOR 2' CONTOUR INTERVAL.
- 2. COORDINATES ARE BASED ON NAD 03 MARYLAND COORDINATES SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS.
 - 46FD N 535,092.901 E 1,345,540.050 ELEV. 379.934
 - 46CB N 537,123.037 E 1,344,291.422 ELEV. 394.632
- STORMWATER MANAGEMENT IS IN ACCORDANCE WITH THE M.D.E. STORMWATER DESIGN MANUAL, VOLUMES I & II, REVISED 2009. NON-STRUCTURAL PRACTICES IN ACCORDANCE WITH CHAPTER 5 ARE BEING UTILIZED, TWO DRYWELLS (M-5) AND TWO MICRO-BIORETENTIONS (M-6) ARE PROPOSED. ALL DEVICES ARE TO BE PRIVATELY OWNED AND MAINTAINED.
- 4. THIS PROPERTY IS LOCATED INSIDE THE METROPOLITAN DISTRICT. LOTS TO BE SERVED BY PUBLIC WATER AND SEWER.
- 5. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- 6. THE SUBJECT PROPERTY IS ZONED R-20 (PER DATE 10/06/2013 COMPREHENSIVE ZONING PLAN.
- 8. WETLANDS, STREAM(S) AND/OR THEIR BUFFERS, AND FLOODPLAIN DO NOT EXIST ON-SITE. SEE ENVIRONMENTAL FINDINGS LETTER PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED APRIL, 2017. FOREST DOES EXIST ON BOTH OF THE
- 9. LANDSCAPING WILL NOT BE REQUIRED FOR THESE EXISTING LOTS SINCE THEY ARE EXISTING
- 10. LOT 1 IS EXEMPT FROM FOREST CONSERVATION REQUIREMENTS OF SECTION 16.1202(b)(1)(i) SINCE IT IS LESS THAN 40,000 SQ.FT. LOT 2 IS SUBJECT TO SECTION 16.1202(b)(2)(i)(a), A DECLARATION OF INTENT (DOI) FOR CLEARING LESS THAN 20,000 SQ.FT. OF FOREST
- 11. NO STRUCTURES EXIST ON THIS PROPERTY.
- 12. PROPERTY LOCATED ON HOWARD COUNTY SOIL SURVEY MAP #23.
- 14. DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO ENSURE SAFE ACCESS for fire and emergency vehicles per the following (minimum) requirements:
 - A). WIDTH 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE);
 - B). SURFACE SIX (6") INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING. (1 -1/2" MINIMUM);
 - C). GEOMETRY MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND 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 SURFACE; F). STRUCTURE CLEARANCE - MINIMUM 12 FEET;

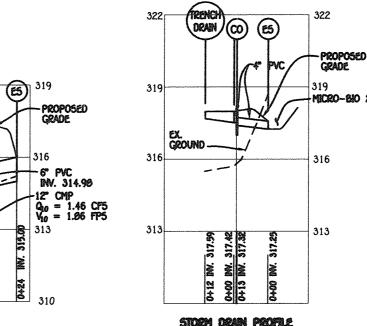
 - G). MAINTENANCE SUFFICIENT TO ENSURE ALL WEATHER USE.
- 15. NO HISTORIC STRUCTURES OR CEMETERIES EXIST ON THE SUBJECT PROPERTY BASED ON VISUAL OBSERVATION OR LISTED IN AVAILABLE HOWARD COUNTY CEMETERY INVENTORY MAP.

16. SITE IS ADJACENT TO A SCENIC ROAD.

- 17. THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. 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.
- 10. THERE ARE NO DISTURBANCES TO ENVIRONMENTAL FEATURES AS THERE ARE NO ENVIRONMENTAL FEATURES LOCATED ON THIS PROPERTY
- 19. A TRAFFIC STUDY IS NOT REQUIRED FOR THIS PROJECT.
- 20. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- 21. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE
- 23. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC
- CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- 24. DRIVEWAY SHALL BE PROVIDED IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAIL R-6.06 IN THE VOL. IV DESIGN MANUAL
- 25. IN ACCORDANCE WITH SECTION 128.0 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS, PORCHES OR DECKS, OPEN OR ENCLOSED MAY
- PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK 26. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING

WORK SHOWN ON THESE PERIS.	
STATE HIGHWAY ADMINISTRATION	410.531.5533
BGE(CONTRACTOR SERVICES)	410.850.4620
BGE(UNDERGROUND DAMAGE CONTROL)	410.767.9066
MISS UTILITY	1.800.257.7777
COLONIAL PIPELINE COMPANY	410.795.1390
HOWARD COUNTY, DEPT. OF PUBLIC WORKS, BUREAU OF UTILITIES	410.313.4900
HOWARD COUNTY HEALTH DEPARTMENT	410.313.2640
AT&T	1.800.252.1133
VERIZON	1.000.743.0033/410.224.9210

- 27. ANY DAMAGE TO PUBLIC RIGHT-OF WAYS, PAVING OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. 28. TRASH AND RECYCLABLES COLLECTION WILL BE AT HARDING ROAD WITHIN 5' OF THE COUNTY ROADWAY
- 29. PROPERTY SUBJECT TO PRIOR DEPARTMENT OF PLANNING AND ZONING FILE NO'5: ECP-17-051, PB 9, F 32.
- 30. EXISTING UTILITIES ARE BASED ON FIELD LOCATION BY FISHER, COLLINS & CARTER, INC. IN MARCH 2017 AND SUPPLEMENTED WITH AVAILABLE
- 31. SHC ELEVATIONS ARE SHOWN ARE LOCATED AT THE PROPERTY LINE. SEE SHC TABLE, SHEET 2.



Street Address

10844 HARDING ROAD, LAUREL, MD 20723

10040 HARDING ROAD, LAUREL, MD 20723

46

SIXTH

606805

32. SURETY FOR THE LANDSCAPING IN THE TOTAL AMOUNT OF \$900.00 WILL BE POSTED AT THE TIME OF BUILDING PERMIT FOR LOT 1 IN THE AMOUNT OF \$720.00 AND FOR LOT 2 IN THE SITE ANALYSIS DATA CHART

TOTAL AREA OF THIS SUBMISSION = 1.76 AC= LIMIT OF DISTURBED AREA = 1.06 AC# (SITE) (26.363 SQ.FT. LOT 1 & 19,867 SQ.FT. LOT 2) PRESENT ZONING DESIGNATION = R-20 (PER 10/06/2013 COMPREHENSIVE PROPOSED USE: RESIDENTIAL PREVIOUS HOWARD COUNTY FILES: 24-4999-D; ECP-17-051; PB9, PG32

TOTAL AREA OF FLOODPLAIN LOCATED ON-SITE = 0.00 AC TOTAL AREA OF STEEP SLOPES = 0.31 AC: (MODERATED STEEP SLOPES: 15%-24.9% = 0.30 AC = 0.30 AC) (STEEP SLOPES: 25% OR GREATER = 0.01 AC+)

TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0 AC TOTAL AREA OF STREAM (INCLUDING BUFFER) = 0 AC TOTAL AREA OF FOREST TO BE RETAINED = 0 AC (LOT 1 IS EXEMPT SINCE IT IS LESS THAN 40,000 SQ.FT. AND A DECLARATION OF INTENT FOR CLEARING OF LESS THAN 20,000 SQ.FT. OF

FOREST WILL BE UTILIZED FOR LOT 2) TOTAL GREEN OPEN AREA = 1.55 AC= TOTAL IMPERVIOUS AREA = 0.21 AC:

TOTAL AREA OF ERODIBLE SOILS = 0 AC.

TITLE SHEET

PINE VALLEY, SECTION ONE

TAX MAP No.: 46 GRID No.: 11 PARCEL No.: 242 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SHEET 1 OF 3

50P-17-048

OWNER (LOT 1) ANDREW SIEUNGUYEN QUACH & KATRINA YUJIAN PEI QUACH 6450 BIRDHOUSE CIRCLE COLUMBIA, MARYLAND 21046 C/O JAMES GREENFIELD 443-324-4732

COLUMBIA, MARYLAND 21044

443-324-4732

OWNER (LOT 2) ROBERT F. COCKER & BARBARA A COHEN

IAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL P

3156 GALAXY WAY LAUREL, MARYLAND 20724

C/O JAMES GREENFIELD 443-324-4732 FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

ENGINEER'S CERTIFICATE 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. Juiti Junan

PROVIDE 50D-

ABOVE MULCH

3" MULCH LAYER -

18" PLANTING SOIL -

3" PEA GRAVEL LAYER (1/8" - 3/8" STONE)

6" #57 WASHED STONE

6" PERF. UNDER

14" #57 WASHED STONE-

TO PROVIDE THE

25% ESDV REQ.

DRAIN TO OUTFALL -

WITH OBSERVATION WELLS

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan f sediment and erosion control, and that all responsible personnel involved in the constructio project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. also authorize periodic on-site inspection by the Howard Soil Conservation District."

the HOWARD SOIL CONSERVATION DISTRICT.

DATE

MICRO-BIORETENTION

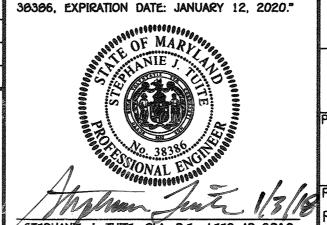
MICRO-810 2

SILKY DOGWOOD

REVISION BLOCK APPROVED: DEPARTMENT OF PLANNING AND ZONING 4.2-18 Chief. Division of Land Development Date Chief, Development Engineering Division

1/31/19 REVISE ELEVS OF MICRO-BIOZ PER AS-BYILT

DESCRIPTION



PROFESSIONAL CERTIFICATION. I HEREBY CERTIF

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

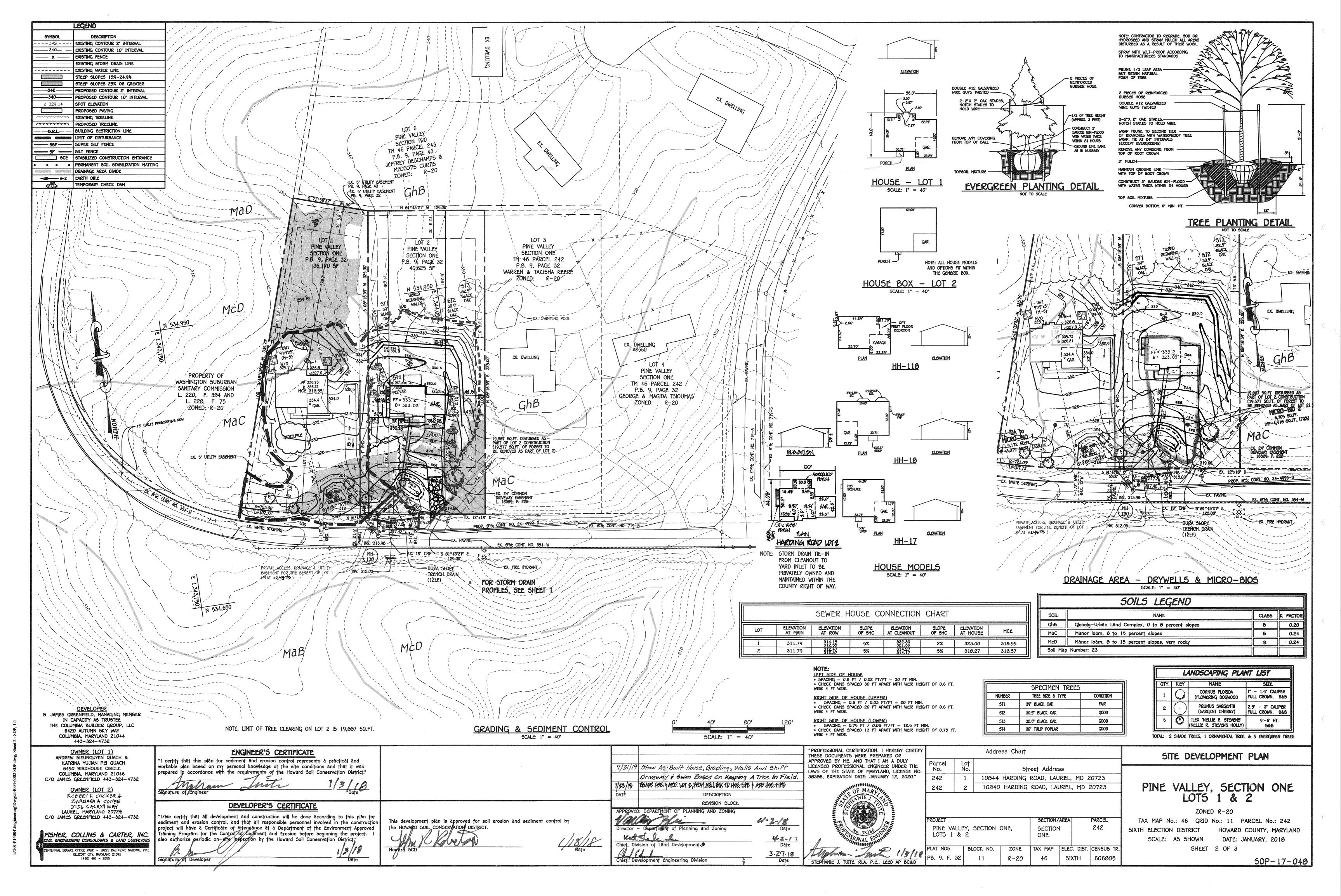
PINE VALLEY, SECTION ONE, 242 SECTION LOTS 1 & 2 ONE TAX MAP | ELEC. DIST. CENSUS TR ZONE

R-20

Address Chart

ZONED R-20

DATE: JANUARY, 2018 SCALE: AS SHOWN



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.

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:

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 sit 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. scarified or otherwise loosened to a depth of 3 to 5 inches.

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.

1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide 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 an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.

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 1 1/2 inches in diameter b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.

c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

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 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 or 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 appropriate equipment. Hanuse 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

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 90 to 100 percent will pass

4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or

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

Conditions Where Practice Applies

a. All seed must meet the requirement 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. The appropriate seeding mixture must be applied.

when the ground thaws.

c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add firesh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cook 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.

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 8.1, Permanent Seeding Table 8.3, or site—specific seeding ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with weighted roller to

provide good seed to soil contact.

b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil. . Cultipacking 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.

ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.

B. Mulching

c. Hydroseeding: Apply seed uniformly with hydroseeder (sturry 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; P 0 (phosphorus), 200 pounds per acre; K 0 (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.

DEVELOPER B. JAMES GREENFIELD. MANAGING MEMBER IN CAPACITY AS TRUSTEE

COLUMBIA, MARYLAND 21044

OWNER (LOT 1)

ANDREW SIEUNGUYEN QUACH &

KATRINA YUJIAN PEI OUACH

6450 BIRDHOUSE CIRCLE

COLUMBIA, MARYLAND 21046

C/O JAMES GREENFIELD 443-324-4732

OWNER (LOT 2)

ROBERT F. COCKER&

3156 GALAXY WAY LAUREL, MARYLAND 20724

BARBARA A COHEN

443-324-4732

THE COLUMBIA BUILDER GROUP. 6420 AUTUMN SKY WAY

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 strew mulch in areas where one species of grass is desired. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into uniform fibrous physical state.

engineer's certificate

DEVELOPER'S CERTIFICATE

'I/We certify that all development and construction will be done according to this plan for

sediment and erosion control, and that all responsible personnel involved in the construction

certify that this plan for sediment and erosion 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."

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

iv. WCFM material must not contain elements or compounds at concentration levels that will by 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

a. Apply mulch to all seeded areas immediately after seeding.
 b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.

c. Wood cellulose fiber used as mulch must be applied to 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. 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 safety. If used on sloping land, this practice should follow the contour.

"What callulate fiber may be used for anchoring strow. Apply the fiber binder at a net dry weight of 750 pounds per acre.

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 except the contributed.

iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually

TEMPORARY SEEDING NOTES (8-4-4)

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

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,

Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness

Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus

2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.

3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section 8-4-3.1. and maintain until the next seeding season.

Hardiness Zoi Seed Mixture	ne (from Figure B. (from Table B.1):	Fertilizer Rațe (10-20-20)	Lime Rate		
Species	Application Rate (lb/ac)	Seeding Odtes	Seeding Depths		
BARLEY	96	3/1 - 5/15.		436 lb/ac	2 tons/ac
OAT5	72	8/15 - 10/15	์ ใ"	(10 lb/ 1000 sf)	(90 lb/ 1000 sf)
RYE	112		. {]"		

PERMANENT SEEDING NOTES (8-4-5) A. Seed Mixtures

a. Select one or more of the species or mixtures listed in Table 8.3 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 — Critical 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 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 .

a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.

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 use in full sun areas where rapid stablishment is necessary and when 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 of the

iii. 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 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. 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 Rate: 1 1/2 to 3

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

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

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 1 1/2 inches in diameter The resulting seedbed must be in such condition that future moving of grasses will pose no difficulty. e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (1/2 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.

Permanent Seeding Summary

		(from Table 8.3):						
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P ₂ O ₅	K ₂ 0	
8	TALL FESCUE	100	Mar. 1-May 15 Aug. 15-Oct. 15	1/4-1/2 in.	45 lbs. per acre	90 lb/ac (2 lb/	(2 lb/	2 tons/do (90 lb/
					(1.0 lb/ 1000 sf)	1000 sf)	1000 sf)	1000 sf)

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

1. General Specifications

b. Sod must be machine cut at a uniform soil thickness to % inch, plus or minus % 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

d. Sod must not be harvested or transplanted when moisture content (excessively dry of wet) may adversely affect its survival.

e. 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

 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 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

c. Wherever 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 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.

a. In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water soil during the heat of the day to prevent wilting.

b. After the first week, sod watering is required as necessary to maintain adequate moisture content c. Do not mow until the sod is firmly rooted. No more than 1/3 of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a

B-4-B STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREAS

A mound or pile of soil protected by appropriately designed erosion and sediment control measures To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns

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

1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.

2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in 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 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 8-4-1 Incremental Stabilization and Standard 8-4-4 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

The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section 8-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1

HOWARD SOIL CONSERVATION DISTRICT (HSCD)

STANDARD SEDIMENT CONTROL NOTES A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 40 hour notice to CID must be given at the following stages:

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 the inspection agency is made. Other related state and federal permits shall be referenced, to ensure coordination and to avoid conflicts with this plan. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARD

All vegetative and structural practices are to be installed according to the provisions of this plan and the to be in conformance with the conformance and the conformance of the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading.

All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL the disjurced areas trials be squalized within the time period specified above in accordance with the seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-3).

8-4-1) specifications shall be enforced in areas with >15 of cut and/or fill. Stockpiles (Sec. 8-4-8) in excess of 20 ft. must be benched with stable outlet. A concentrated flow, steep slope, and highly crodible areas shall receive soil stabilization matting (Sec. 8-4-6). All sediment control structures are to remain in place, and are to be maintained in operative condition until permission for their removal has been obtained fro

the CID. Site Analysis: Total Area of Site: 1.06 Acres 0.21 Acres 0.05 Acres Area Disturbed: _ Area to be roofed or paved: ____

Offsite waste/borrow area location: N/A

Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

Additional sediment control must be provided, if deemed necessary by the CID. The site and all controls shall be inspected by the contractor weekly; and the next day after each rain event. A written report by the contractor, made available upon request, is part of every inspection and should include:

inspection date
inspection type (routine, pre-storm event, during rain event)
Name and title of inspector
Weather information (current conditions as well as time and amount of last recorded precipitation)
Brief description of projects status (e.g., percent complete) and/or current activities

Evidence of sediment discharges Identification of plan deficiencies tentification of sediment controls that require maintenance tentification of missing or improperty installed sediment controls

Compliance status regarding the sequence of construction and stabilization requirement

Photographs
Monitoring/eampling
Maintenance and/or corrective action performed Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE). can and shall be back-filled and stabilized by the end of each workday, whichever is

Any major changes or revisions to the plan or sequence of construction must be eviewed and approved by the HSCO prior to proceeding with construction. Minor Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50

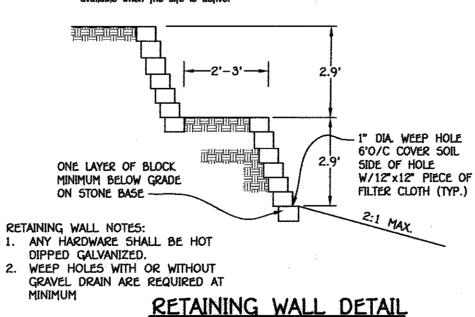
unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the HSCD. Unless otherwise specified and approved by the HSCD, no more than 30 acres cumulatively may be disturbed at a given time.

Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure.

Topsoli shall be stockpiled and preserved on—site for redistribution onto final grade.

All Silf Fence and Super Silf Fence shall be placed on-the-contour, and be imbricated at 25 minimum intervals, with lower ends curled uphill by 2 in elevation. Stream channels must not be disturbed during the following restricted time periods Use I and IP March 1 - June 15

Use III and IIIP October 1 - April 30 Use IV March 1 - May 31 A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and vailable when the site is active.



NOT TO SCALE

DESCRIPTION

4-2-10

DETAIL C-1 A-1 SHALL SWALL SEE OF 18 EARTH DIKE -2:1 SLOPE OR FLATTER CROSS SECTION DIKE TYPE CONTINUIALS GRADE 0.5% MIN. TO 10% MAX. SLOPE A B a - DIKE HEIGHT 18 IN MIN. 30 IN MIN. AAAAAAA b - DIKE WIDTH 24 IN MIN. 36 IN MIN. VVVVVVV c - FLOW WIDTH 4 FT MIN. 6 FT MIN. d - FLOW DEPTH 12 IN MIN. 24 IN MIN. PLAN VIEW FLOW CHANNEL STABILIZATION SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER SCED WITH SOIL STABILIZATION MATTING OR LINE WITH SOO. 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL A MINIMUM OF 7 INCHES AND FLUSH WITH GROUND. A-3/B-3 CONSTRUCTION SPECIFICATIONS REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF EARTHDIKE. EXCAVATE OR SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED. COMPACT FILL CONSTRUCT FLOW CHANNEL ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN. STABILIZE EARTH DIKE WITHIN THREE DAYS OF INSTALLATION. STABILIZE FLOW CHANNEL FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL FROSION AND SEDIMENT CONTROL PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL DETAIL E-3 SUPER SILT FENCE |-----SSF------| 10 FT MAX. -36 IN MIN. - GALVANIZED CHAIN LINK FENCE WITH WOVEN SLIT FILM GEOTEXTRE WOVEN SLIT FILM GEOTEXTILE-FLOW ___ CONSTRUCTION SPECIFICATIONS INSTALL 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2% INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT OF GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.

DETAIL B-1

STABILIZED CONSTRUCTION

PROFILE

PLAN VIEW

PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF SO FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.

PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMAM OF 12 INCHES OF STONE CYRET THE PIPE PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN, WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.

PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.

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 SCE.

50 FT MIN.

ENTRANCE

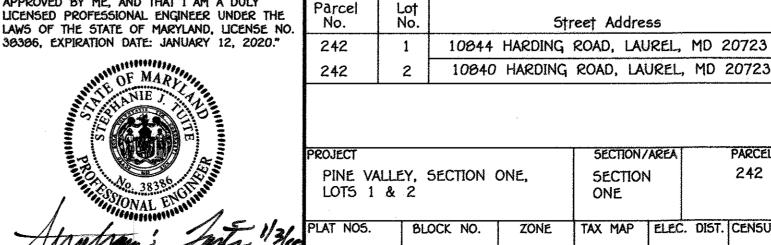
MOUNTABLE BERM______

GSTING PAVEMENT

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL WARTLAND DEPARTMENT OF ENVIRONMEN WATER MANAGEMENT ADMINISTRATION **DETAIL D-2** STONE CHECK DAM -4 TO 7 IN STONE (TYP.) ___12 IN MIN. A SWI L12 IN LAYER OF WASHED AGGREGATE B IN GEOTEXTILE S IN -NONWOVEN GEOTEXTILE SPACING, X APRON_/ (TYP.) 4 TO 7 IN STONE NONWOVEN-GEOTEXTILE CONSTRUCTION SPECIFICATIONS

PREPARE SWALES IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS DESCRIBED IN SECTION C-2, STANDARDS AND SPECIFICATIONS FOR TEMPORARY SWALE, OR AS SPECIFIED ON PLAN. PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, UNDER THE BOTTOM AND SIDES OF THE DAM PRIOR TO PLACEMENT OF STONE. CONSTRUCT THE CHECK DAM WITH WASHED 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) WITH SIDE SLOPES OF 2:1 OR FLATTER AND A MINIMUM TOP WIDTH OF 12 INCHES, PLACE THE STONE SO THAT IT COMPLETED COVERS THE WIDTH OF THE CHANNEL AND CHANNEL BANKS, FORM THE WERR SO THAT TOP OF THE OUTLET CREST IS APPROXIMATELY 6 INCHES LOWER THAN THE OUTER EDGES. LINE THE UPSTREAM FACE OF THE DAM WITH A 1 FOOT THICK LAYER OF WASHED AGGREGATE (% TO 1½ INCH). set the height for the weir crest equal to one—half the depth of the channel or ditch, to avoid scour the maximum height of the weir crest must not exceed 2.0 feet REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES ONE—HALF OF THE HEIGHT OF THE WEIR CREST. MAINTAIN LINE, GRADE, AND CROSS SECTION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL



DETAIL E-1 SILT FENCE 6 FT MAX. CENTER TO CENTER ___36 IN MIN. FENCE POST LENGTH
DRIVEN MIN. 16 IN INTO GROUND ELEVATION IDINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW) CONSTRUCTION SPECIFICATIONS

USE WOOD POSTS 1% X 1% \pm % inch (minimum) square cut of sound quality hardwood. As an alternative to wooden post use standard "t" or "u" section steel posts weighing not less than 1 pound per linear foot. ise 36 inch miribhum posts driven 16 inch minimum into ground no more than 6 feet apar use woven slit film geotextile as specified in section H-1 materials and fasten geotextile securely to upslope side of fence posts with wire ties or staples at top and mid-section EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND, BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC. HERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE ITN THIS DETAIL.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL PERMANENT SOIL STABILIZATION MATTING (* RELIEF WEAR SWEET) CHANNEL APPLICATION CONSTRUCTION SPECIFICATIONS: USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAM THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.

USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS

staple/stake mat in a staggered pattern on 4 foot (maxmari) centers throughout and ? Foot (maxmari) centers along seams, joints, and roll ends. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION 9—4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL 2011 SHEAR STRESS FOR PSSMC (LEFT) = 62.4 LBS/FT 6 x 0.15 FT x 0.02 = 0.2 LBS/FT 6 SHEAR STRESS FOR PSSMC (RIGHT) = 62.4 LBS/FT 6 x 0.39 FT x 0.03 = 0.3 LBS/FT 6 SHEAR STRESS FOR PSSMC (RIGHT) = 62.4 LBS/FT 6 x 0.34 FT x 0.06 = 1.3 LBS/FT 6

SEQUENCE OF CONSTRUCTION obtain a grading permit and hold pre-construction meeting with county INSPECTOR. (2 WEEKS)

NOTIFY "MISS UTILITY" AT LEAST 40 HOURS BEFORE BEGINNING ANY WORK AT

1-000-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/ INSPECTION

AT 410-313-1330 AT LEAST 24 HOURS BEFORE STARTING WORK. INSTALL STABILIZED CONSTRUCTION ENTRANCES, SILT FENCE, SUPER SILT PENCE, AND

EARTH DIKE. (1 DAY)
REMOVE NECESSARY TREES AND ROUGH GRADE LOTS. INSTALL RETAINING WALLS ON LOT
2. AT TIME OF CONSTRUCTION OF SWALE ALONG SIDE YARD OF LOT 2, INSTALL
TEMPORARY CHECK DAMS. (3 DAYS PER LOT)
INSTALL TEMPORARY SEEDING WHERE NECESSARY. (1 DAY)
CONSTRUCT HOUSES AND DRIVEWAYS. INSTALL SEWER AND WATER HOUSE CONNECTIONS. 4 MONTHS PER LOT) Install roof leaders & drywells (Lot 1) upon construction of Houses, fine grade. Install permanent soil stabilization matting in swales as shown. (3 Days

INSTALL PERPANENT SEEDING WITH CONSTRUCTION WHERE NECESSARY. (1 DAY FER LOT) UPON COMPLETION OF STABILIZATION, INSTALL MICRO-BIORETENTIONS. (3 DAYS PER LOT) ALL FINAL GRADES AND STABILIZATION SHOULD BE COMPLETED BEFORE ANY REMOVAL OF CONTROLS. WHEN ALL CONTRIBUTING AREAS TO THE SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE SEDIMENT CONTROL DEVICES MAY BE REMOVED. (3 DAYS PER LOT)

NOTE: THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE EACH RAINFALL

PINE VALLEY, SECTION ONE

SEDIMENT AND EROSION CONTROL DETAILS

LOTS 1 & 2 ZONED R-20

TAX MAP No.: 46 GRID No.: 11 PARCEL No.: 242 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: NOT TO SCALE DATE: JANUARY, 2018 SHEET 3 OF 3

5DP-17-048

C/O JAMES GREENFIELD 443-324-4732

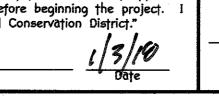
FISHER, COLLINS & CARTER, INC. IVIL ENGINEERING CONSULTANTS & LAND SURVEYORS ellicott city, maryland 21042

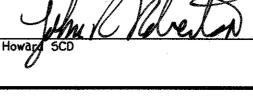
project will have a Certificate of Attendance at a Department of the Environment Approved

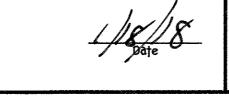
of Developer Signature of

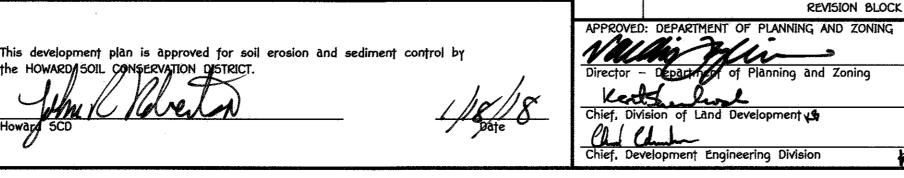
Training Program for the Control of Sediment and Erosion before beginning the project. also authorize periodic op site inspection by the Howard Soil Conservation District."

Thysham Suit

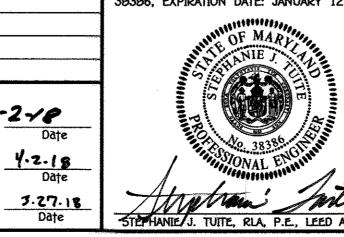








DATE



PARCEL 242 ELEC. DIST. CENSUS TR **SIXTH** 606805 46 R-20

Address Chart