

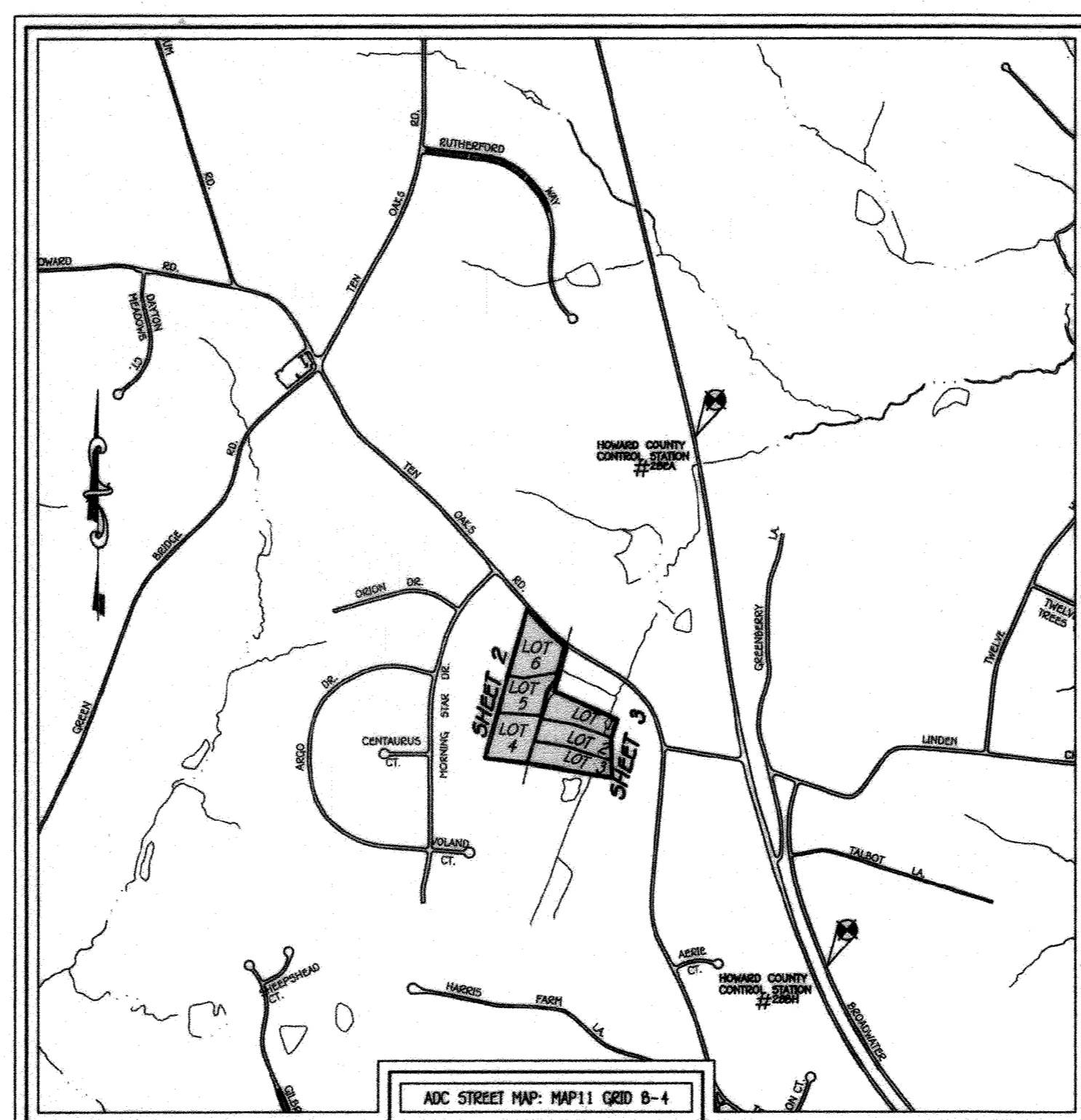
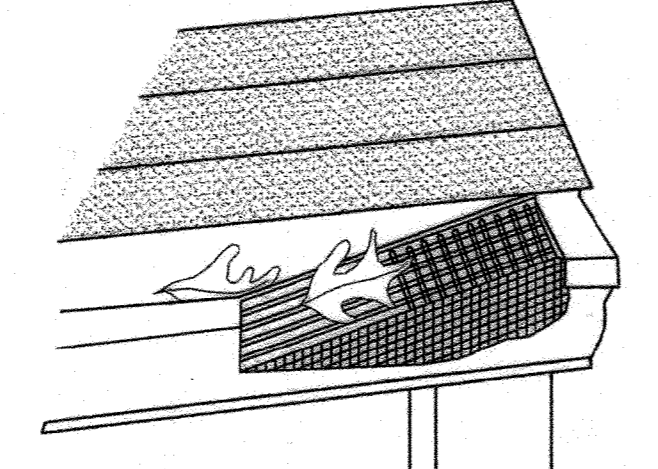
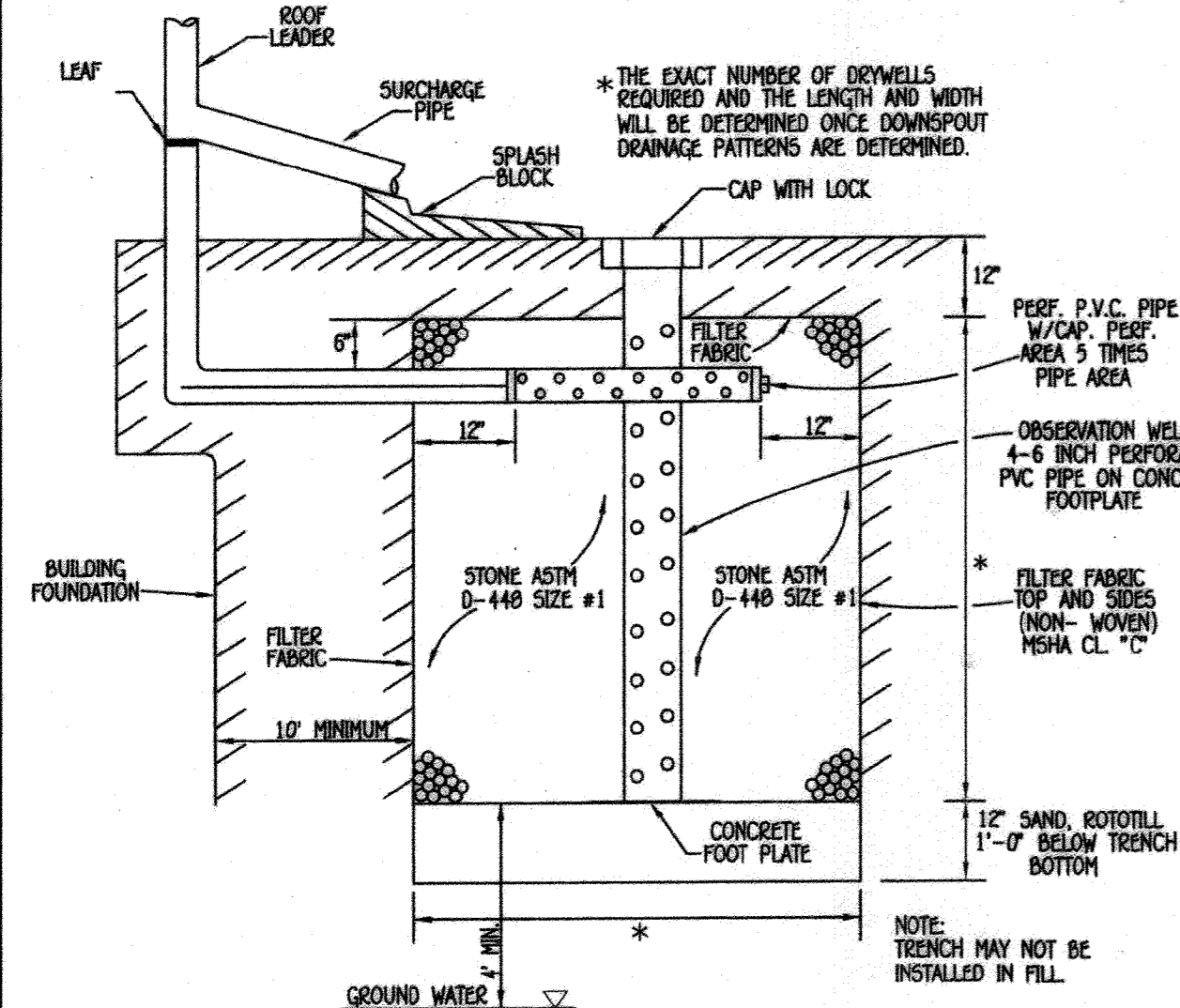
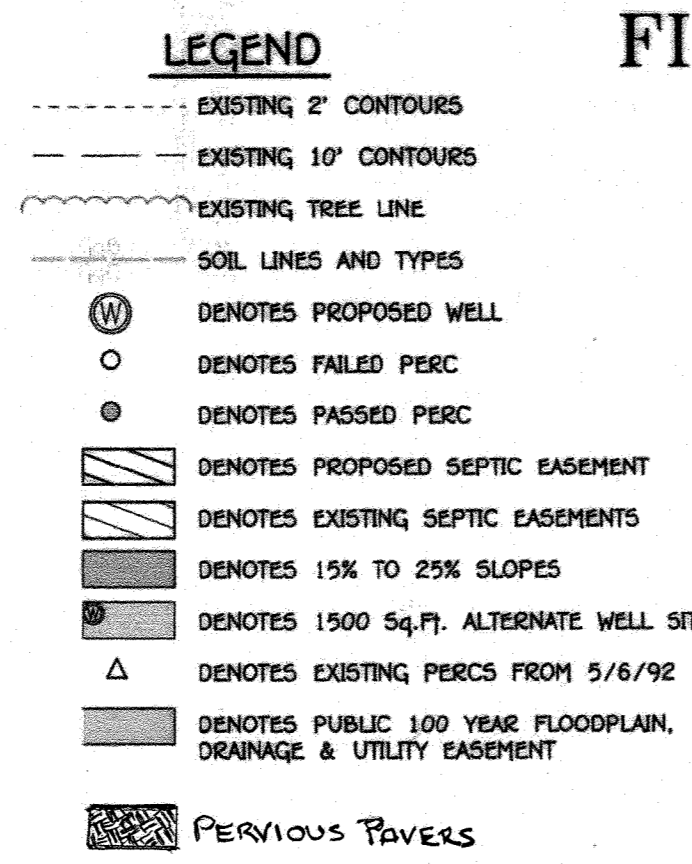
SUPPLEMENTAL PLAN TEN OAKS FARM LOTS 1 THRU 6

TAX MAP No. 28 GRID No. 14 PARCEL Nos. 140
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	SUPPLEMENTAL PLAN - TITLE SHEET
2	SUPPLEMENTAL PLAN - TOPOGRAPHY, SOILS, STORMWATER MANAGEMENT, LANDSCAPE & FOREST CONSERVATION
3	SUPPLEMENTAL PLAN - TOPOGRAPHY, SOILS, STORMWATER MANAGEMENT, LANDSCAPE & FOREST CONSERVATION
4	DETAILS
5	SEDIMENT & EROSION CONTROL NOTES & DETAILS
6	SUPPLEMENTAL PLAN - TOPOGRAPHY, SOILS, STORMWATER MANAGEMENT, LANDSCAPE & FOREST CONSERVATION

NO.	REVISION	DATE
1	REVISE GAS LINE BASE, POE, CURBSET AND FLOORPLAN SHIT 2 & 3	3/3/20
2	REVISE HSE, GRADING, SWM, SEPTIC, WELL LOT 3 SHEETS 2 & 3, DRY WELL CHART & SWM SUMMARY	12/8/21
3	REVISE HSE, GRADING, SWM, SEPTIC, WELL LOT 3 SHEETS 2 & 3, DRY WELL CHART & SWM SUMMARY	3/15/22
4	REVISE LOT 2 DRIVEWAY, GRADING AND LOD	8/15/22
5	REVISE LOT 1 DRIVEWAY, GRADING AND LOD	9/7/23
6	REVISED HSE, GRADING, SWM, SEPTIC, WELL LOT 3 SHEETS 2 & 3, DRY WELL CHART & SWM SUMMARY	6/15/23

SOILS LEGEND			
SOIL	NAME	CLASS	SW FACTOR
BaA	Baile silt loam, 0 to 3 percent slopes	D	0.37
GgB	Glenelg loam, 3 to 8 percent slopes	B	0.28
GgC	Glenelg loam, 8 to 15 percent slopes	B	0.28
GmB	Glenview silt loam, 3 to 8 percent slopes	C	0.43
MdD	Manor loam, 15 to 25 percent slopes	B	0.28



General Notes (Cont.):

54. INSPECTION FEE FOR THE REDLINE REVISION WILL BE SUBMITTED WITH THE BUILDING PERMIT IN THE AMOUNT OF \$100.
57. LANDOWNER ATTENDED HOWARD COUNTY HISTORIC PRESERVATION COMMISSION MEETING ON THURSDAY, FEBRUARY 7, 2019 (HPC-19-05) WHERE REMOVAL OF EXISTING STRUCTURES WAS REQUESTED.

General Notes:

1. Subject Property is Zoned RR-DEO Per The 10/06/13 Comprehensive Zoning Plan.
2. Coordinates Based on NAD 83, Maryland Coordinate System as Projected by Howard County Geodetic Control Stations No. 288A and No. 288B.
3. This Plan is Based on Field Run Monumented Boundary Survey Performed On Or About June 7, 2015 by Fisher, Collins & Carter, Inc.
4. B.S.L. Denotes Building Restriction Line.
5. Denotes Iron Pipe or Iron Bar Found.
6. Denotes Changes in Boundary or Right-of-Way.
7. Denotes Changes in Boundary or Right-of-Way.
8. Denotes Concrete Monument Set With Aluminum Flag "C.C. 100".
9. Denotes Concrete Monument or Stone Found.
10. For Fly or Pipe Stone Labels, Snow Removal and Road Maintenance Are Provided to the Junction of Fly or Pipe Stone and the Road Right-of-Way Line Only and Not Onto the Flag or Pipe Stone Lot Driveway.
11. Driveway Shall be Provided Prior to Residential Occupancy to Insure Safe Access for Fire and Emergency Vehicles Per The Following Requirements:
 - a) Width - 12 Feet (10 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) Minimum 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 Flooding 100 Year Flood With No More Than 1 Foot Depth Over Surface;
 - f) Minimum 12 Feet;
 - g) Maintenance - Sufficient to Ensure All Weather Use.
12. All Lot Areas Are More Or Less (±).
13. Distances Shown Are Based on Surface Measurement And Not Reduced to NAD 83 Grid Measurement.
14. No Cemeteries Exist On This Site Based On A Visual Site Visit And Based On An Examination of the Howard County Cemetery Inventory Map. No Historic Structures Exist On This Site.
15. Property Subject to Prior Department of Planning And Zoning File No's: WP-16-108, WP-16-195, And ECP-16-013.
16. The Floodplain Shown For This Project is Based on Howard County Digital Floodplain & FEMA.
17. Private Water And Sewage Will be Used Within This Site.
18. This Property is Not Located Within The Metropolitan District.
19. THE EXISTING HISTORIC BUILDING AND SWIMMING POOL LOCATED ON LOT 4, HAVE BEEN REPAIRED PERMANENT TO RESIDENTIAL OCCUPATION PERMITS NO. 20190203, DATED JULY 26, 2019.

DRY WELL CHART						
LOT #	NO.	AREA OF ROOF PER DOWN SPOUT	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF TREATMENT	L W D
LOT 3	#1	838 SQ. FT.	173 C.F.	174 C.F.	100%	11' x 11' x 6'
LOT 3	#2	957 SQ. FT.	197 C.F.	200 C.F.	100%	11' x 12' x 3'
LOT 5	(FRONT LT)	875 SQ. FT.	91 C.F.	182 C.F.	100%	9' x 9' x 5'
LOT 5	(FRONT RT)	875 SQ. FT.	91 C.F.	182 C.F.	100%	9' x 9' x 5'
LOT 5	(REAR LT)	875 SQ. FT.	91 C.F.	182 C.F.	100%	9' x 9' x 5'
LOT 5	(REAR RT)	875 SQ. FT.	91 C.F.	182 C.F.	100%	9' x 9' x 5'

STORMWATER MANAGEMENT NOTES

1. STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH CHAPTER 5, "ENVIRONMENTAL SITE DESIGN" OF THE 2007 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL, EFFECTIVE MAY 4, 2010.
2. MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE 1,000 SQ. FT. OR LESS.
3. DRYWELLS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH OF DISSECTION IS LESS THAN 75' AT 5%. THE SIZE AND CONSTRUCTION OF THE DRYWELL SHALL BE IN ACCORDANCE WITH THE DETAIL SHOWN ON THIS SHEET.
4. FINAL GRADING IS TO BE SHOWN ON A GRADING PLAN.

SITE ANALYSIS DATA CHART	
A.	TOTAL AREA OF THIS SUBMISSION = 20.12 AC.
B.	LIMIT OF DISTURBED AREA = 142,000 SQ.FT. OR 0.56 AC. (SWM BASED ON LOD)
C.	PRESENT ZONING DESIGNATION = RR-DEO (PER 10/06/2013 COMPREHENSIVE ZONING PLAN)
D.	PROPOSED USE: RESIDENTIAL
E.	PREVIOUS HOWARD COUNTY FILES: ECP-16-013; WP-16-108; WP-16-195; WP-11-100; WP-23-146
F.	TOTAL AREA OF FLOODPLAIN LOCATED ON-SITE = 1.76 AC. (15% TO 25% SLOPES)
G.	TOTAL AREA OF SLOPES IN EXCESS OF 15% = 0.16 AC. (15% TO 25% SLOPES)
H.	TOTAL AREA OF WETLANDS (INCLUDING BUFFERS) = 5.76 AC.
I.	TOTAL AREA OF STREAM (INCLUDING BUFFERS) = 2.64 AC.
J.	TOTAL AREA OF EXISTING FOREST = 0.55 AC. (EXCLUDING FLOODPLAIN)
K.	TOTAL AREA OF FOREST TO BE RETAINED = 0.55 AC. (FOREST CONSERVATION REGULATIONS, WILL BE MET BY AFFORESTATION, SINCE MINIMAL FOREST EXISTS ON-SITE OUTSIDE OF THE FLOODPLAIN)
L.	TOTAL AREA OF LOTS / BUILDABLE PARCELS = 20.12 AC.
M.	TOTAL GREEN OPEN AREA = 19.04 AC. (WITHIN LOD)
N.	TOTAL IMPERVIOUS AREA = 156 AC. (WITHIN LOD)
O.	TOTAL AREA OF ERODIBLE SOILS = 0.16 AC.
P.	TOTAL AREA OF ROAD DEDICATION = 0.16 AC.

BENCHMARK INFORMATION

B.M.# 288A - HOWARD COUNTY CONTROL STATION #288A - HORIZONTAL - NAD 83
N 572,150.967
E 1,315,402.744
ELEVATION = 484.996 - VERTICAL - (NAVD 80)

B.M.# 288B - HOWARD COUNTY CONTROL STATION #288B - HORIZONTAL - NAD 83
N 567,548.744
E 1,320,251.726
ELEVATION = 956.088 - VERTICAL - (NAVD 80)

Table B.4. Materials Specifications for Micro-Bioretenation, Rain Gardens & Landscape Infiltration

Material	Specification	Size	Notes
Plantings	see Appendix A Table 4.4	n/a	plantings are site-specific
Planting soil	loamy sand 60-65% compost 35-40% or sandy loam 30% compost 40%	n/a	USDA soil types loamy sand or sandy loam; clay content <5% (12" to 4" deep)
Organic Content	Min. 10% by dry weight (ASTM D 2914)	n/a	
Mulch	shredded hardwood	n/a	aged 6 months, minimum
Post gravel diaphragm	post gravel: ASTM-D-448	No. 8 or No. 9 (1/8" to 3/8")	
Curbs/drain	ornamental stone: washed cobble	stones: 2" to 5"	
Geotextile	n/a	n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	ASTM-M-43	No. 57 or No. 4 Aggregate (3/8" to 3/4")	
Underdrain piping	F 750, Type PS 25 or ASTM-N-578	4" to 6" rigid schedule 40 PVC or 30093	slotted or perforated pipe 3/8" per ft. or 4" on center, 4 holes per row, minimum of 2" of gravel over pipe; not necessarily underdrain pipe. 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 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 (slab-on-grade 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 308.2R(9); vertical loading 01-10 or 01-20; allowable horizontal loading (based on soil pressures); and analysis of potential cracking
Sand	ASTM-M-6 or ASTM-C-33	0.075" to 0.04"	sand substitutions such as Diabase and Graystone (ASTM) #10 are not acceptable. No calcium chlorinated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

Professional Certification

I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 26238
Expiration Date: 11-26-26

6/15/23

STORMWATER MANAGEMENT SUMMARY			
AREA ID.	ESD REQUIRED CU.FT.	ESD PROVIDED CU.FT.	REMARKS
LOT 1	-	989	MICRO-BIORETENTION (M-6)
LOT 2	-	1,048	MICRO-BIORETENTION (M-6) 80% OF IMP.
LOT 3	-	662	DRYWELL (M-5)
PERVIOUS PAVERS			
LOT 4	-	955	(M-2) BIORETENTION (M-6)
LOT 5	-	1,244	DRYWELLS (M-5) & BIORETENTION (F-6)
LOT 6	-	1,163	BIORETENTION (F-6)
TOTAL	5,707	6,557	

GROSS AREA = 20.19 ACRES
LOD = 4.67 ACRES (SITE)
RCN = 63.2
TARGET Pe = 1.3'

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.
- B. 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 PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
- E. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY 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 FREQUENT SCHEDULE IS REQUIRED.

53. THIS PLAN WAS APPROVED BY THE PLANNING BOARD UNDER PS CASE No. 426 ON JANUARY 5, 2017.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Kurt L. Deane
Chief, Division of Land Development

5-15-17
Date

John C. Coleman
Chief, Development Engineering Division

5-12-17
Date

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 26238, EXPIRATION DATE 11/26/2026.

Matthew J. Lint 5/31/23
Signature of Professional Engineer

DATE

OWNER
ORVILLE E. & PATRICIA L. SHEPHERD (ESTATE OF)
5020 TEN OAKS ROAD
CLARESVILLE, MARYLAND 21029
C/O JAMES GREENFIELD 443-324-4732

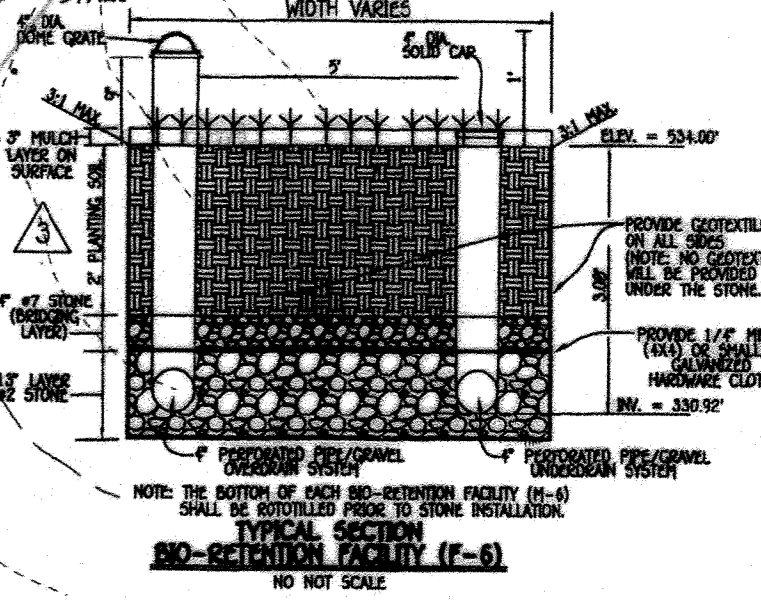
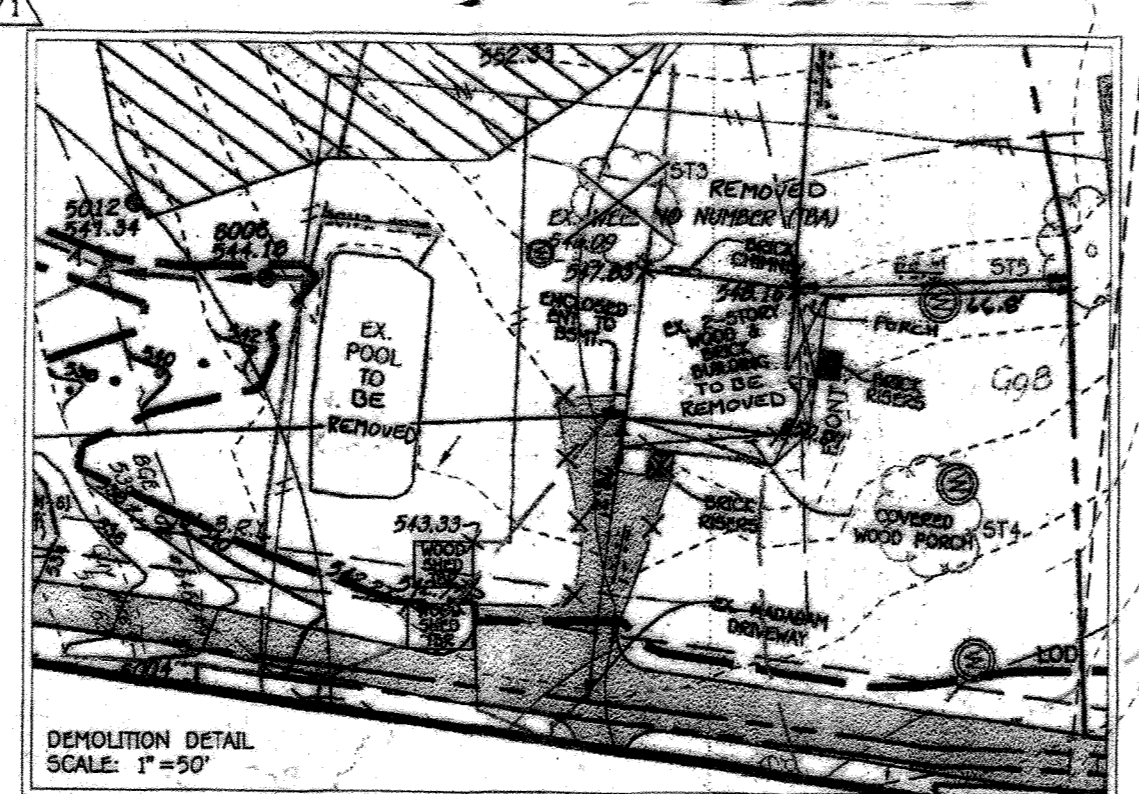
DEVELOPER
MG LAND HOLDINGS 1, LLC
6420 AUTUMN SKY WAY
COLUMBIA, MARYLAND 21044
443-324-4732

General Notes:

20. This Plan is in Compliance with the Amended Fifth Edition of the Subdivision and Land Development Regulations Per Council Bill No. 49-2008 And the Zoning Regulations As Amended by Council Bill 79-2009. Development Or Construction On These Lots Or Parcels 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.
21. No Noise Study is Required For This Project.
22. Section 16.121 of the Subdivision Regulations Requires A \$150,000 Payment For Fee-In-Lieu of Providing Open Space For Non-Cluster Subdivisions in the RR Zoning District. The Developer Will Pay The Fee-In-Lieu in the Amount of \$7,500.00 Based on A Non-Cluster Lots x \$1,500.00/lot.
23. Property Subject to Prior Department of Planning And Zoning File No's: WP-16-108, WP-16-195, And ECP-16-013.
24. The Floodplain Shown For This Project is Based on Howard County Digital Floodplain & FEMA.
25. Private Water And Sewage Will be Used Within This Site.
26. This Property is Not Located Within The Metropolitan District.
27. THE EXISTING HISTORIC BUILDING AND SWIMMING POOL LOCATED ON LOT 4, HAVE BEEN REPAIRED PERMANENT TO RESIDENTIAL OCCUPATION PERMITS NO. 20190203, DATED JULY 26, 2019.
28. Stormwater Management Practices Are Required in Accordance with the Design Manual. Prior to Signature Approval of the Final Plan, the Subdivision Regulations Require A \$150,000 Payment For Fee-In-Lieu of Providing Open Space For Non-Cluster Subdivisions in the RR Zoning District. The Developer Will Pay The Fee-In-Lieu in the Amount of \$7,500.00 Based on A Non-Cluster Lots x \$1,500.00/lot.
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99. THE EXISTING HISTORIC BUILDING AND SWIMMING POOL LOCATED ON LOT 4, HAVE BEEN REPAIRED PERMANENT TO RESIDENTIAL OCCUPATION PERMITS NO. 20190203, DATED JULY 26, 2019.
100. Stormwater Management Practices Are Required in Accordance with the Design Manual. Prior to Signature Approval of the Final Plan, the Subdivision Regulations Require A \$150,000 Payment For Fee-In-Lieu of Providing Open Space For Non-Cluster Subdivisions in the RR Zoning District. The Developer Will Pay The Fee-In-Lieu in the Amount of \$7,500.00 Based on A Non-Cluster Lots x \$1,500.00/lot.
101. Property Subject to Prior Department of Planning And Zoning File No's: WP-16-108, WP-16-195, And ECP-16-013.
102. The Floodplain Shown For This Project is Based on Howard County Digital Floodplain & FEMA.
103. Private Water And Sewage Will be Used Within This Site.
104. This Property is Not Located Within The Metropolitan District.
105. THE EXISTING HISTORIC BUILDING AND SWIMMING POOL LOCATED ON LOT 4, HAVE BEEN REPAIRED PERMANENT TO RESIDENTIAL OCCUPATION PERMITS NO. 20190203, DATED JULY 26, 2019.
106. Stormwater Management Practices Are Required in Accordance with the Design Manual. Prior to Signature Approval of the Final Plan, the Subdivision Regulations Require A \$150,000 Payment For Fee-In-Lieu of Providing Open Space For Non-Cluster Subdivisions in the RR Zoning District. The Developer Will Pay The Fee-In-Lieu in the Amount of \$7,500.00 Based on A Non-Cluster Lots x \$1,500.00/lot.
107. Property Subject to Prior Department of Planning And Zoning File No's: WP-16-108, WP-16-195, And ECP-16-013.
108. The Floodplain Shown For This Project is Based on Howard County Digital Floodplain & FEMA.
109. Private Water And Sewage Will be Used Within This Site.
110. This Property is Not Located Within The Metropolitan District.
111. THE EXISTING HISTORIC BUILDING AND SWIMMING POOL LOCATED ON LOT 4, HAVE BEEN REPAIRED PERMANENT TO RESIDENTIAL OCCUPATION PERMITS NO. 20190203, DATED JULY 26, 2019.
112. Stormwater Management Practices Are Required in Accordance with the Design Manual. Prior to Signature Approval of the Final Plan, the Subdivision Regulations Require A \$150,000 Payment For Fee-In-Lieu of Providing Open Space For Non-Cluster Subdivisions in the RR Zoning District. The Developer Will Pay The Fee-In-Lieu in the Amount of \$7,500.00 Based on A Non-Cluster Lots x \$1,500.00/lot.
113. Property Subject to Prior Department of Planning And Zoning File No's: WP-16-108, WP-16-195, And E

NO.	REVISION	DATE
1	REVISED CULVERT LAYOUT, NOTES, AND SECTIONS	5/3/17
2	SEE SHEET G FOR REVISED LOTS 5 AND 6	12/18/17
3	REVISED GRADING, PERMITS, AND DEMO DETAIL FOR LOT 4 AND 5	5/15/18
4	REVISED LOT 2 DRIVEWAY, GRADING AND LOD	8/17/18
5	REVISED LOT 1 DRIVEWAY, LOD, MICRO-BIO BAY	5/14/19

SEAL 22538 FOR REVISION 5 ONLY
Professional Certification
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
 License No.: 22538
 Expiration Date: 11-24-25
 6/15/23

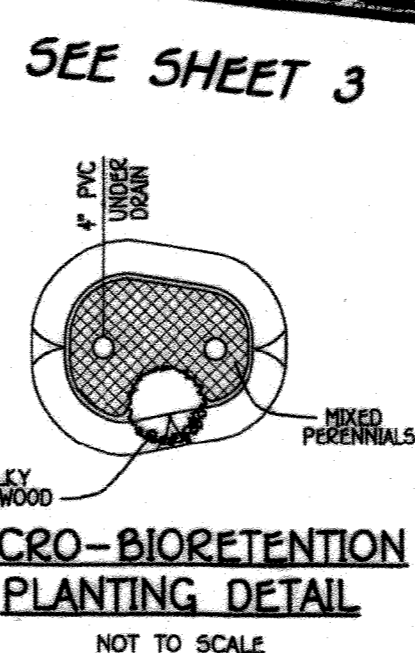
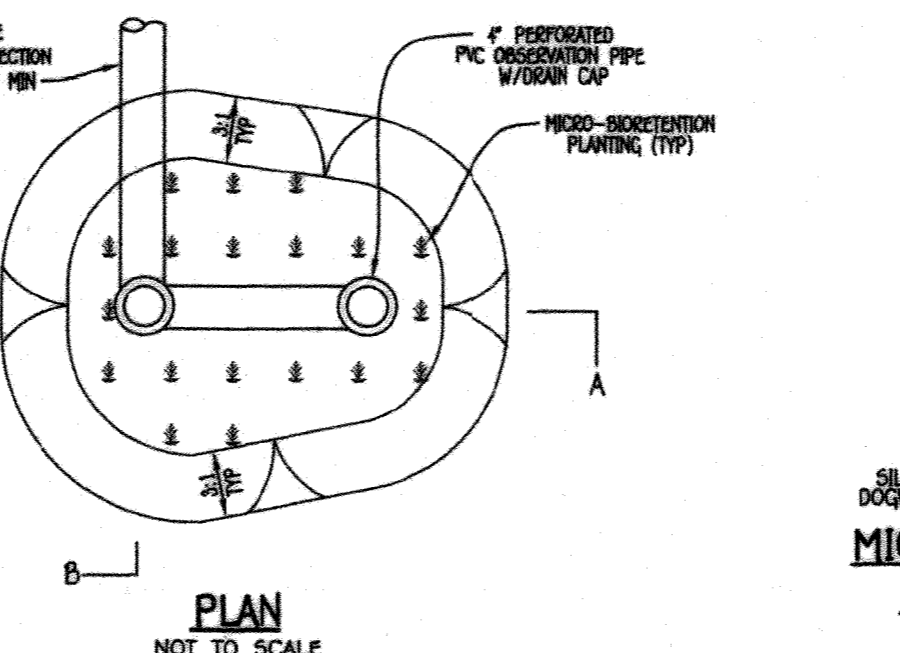
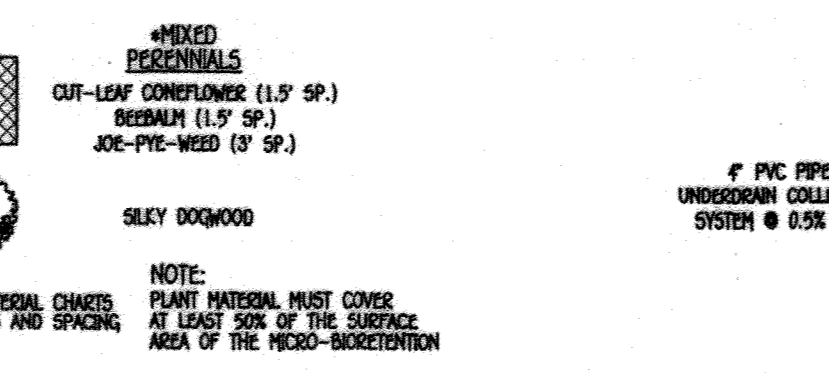
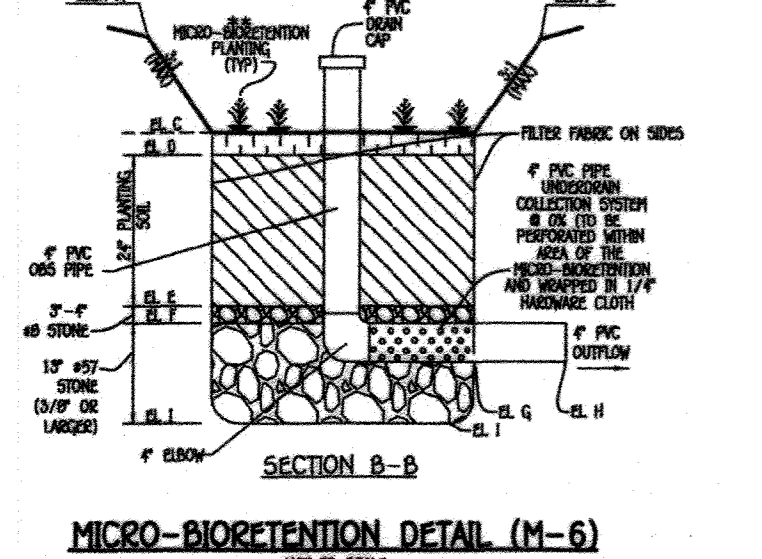
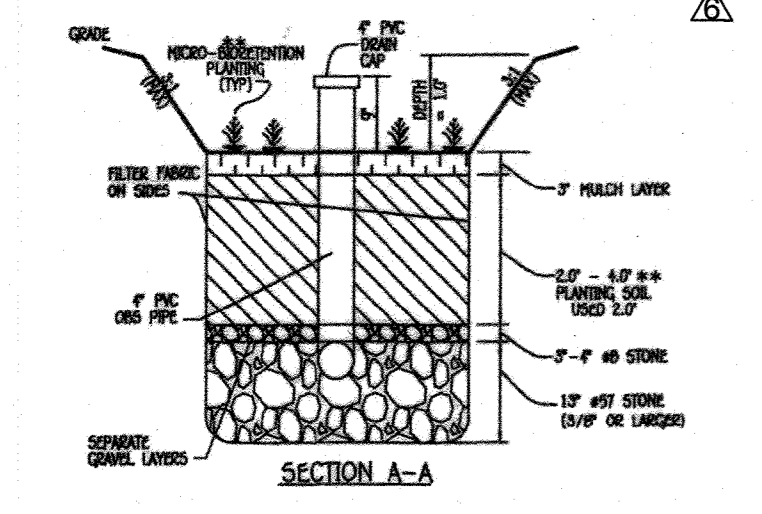


STONE OUTLET SEDIMENT TRAP
 TRAP TYPE = ST-II
 DRAINAGE AREA = 0.80 AC.
 TOTAL STORAGE REQUIRED = 2,800 CU.FT.
 TOTAL STORAGE PROVIDED = 2,977 CU.FT.
 WET STORAGE REQUIRED = 1,404 CU.FT.
 WET STORAGE PROVIDED = 1,421 CU.FT. @ 518.70
 DRY STORAGE REQUIRED = 1,404 CU.FT.
 DRY STORAGE PROVIDED = 1,836 CU.FT. @ 520.10
 EXISTING GROUND ELEV AT OUTLET = 519.00
 BOTTOM OF TRAP ELEV = 516.00
 BOTTOM OF TRAP DIMENSIONS = 39 FT x 9 FT
 WEIR LENGTH = 4 FT
 WEIR CREST ELEV = 520.10
 CLEANOUT ELEV = 517.35
 TOP OF EMBANKMENT = 521.10
 SIDE SLOPES = 2:1
 EMBANKMENT WIDTH = 4 FT
 EMBANKMENT HEIGHT = 4 FT
 OUTLET PROTECTION APRON LENGTH = 15 FT
 OUTLET PROTECTION DEPTH = 19 INCHES

OPERATION & MAINTENANCE SCHEDULE FOR MICRO-BIOTENTION (M-6) & BIOTENTION (F-6)

- 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 VOLUME II, TABLE A-4.1 AND 2.
- 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.
- 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. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

BIOTENTION & MICRO-BIOTENTION PLANT MATERIAL						
QUANTITY MICRO-BIO	QUANTITY MICRO-BIO 2	QUANTITY BIO 3	QUANTITY BIO 4	QUANTITY BIO 5	NAME	MAXIMUM SPACING (FT.)
55	70	90	80	70	PERENNIALS	1.5 TO 3.0 FT.
1	1	1	1	1	SILKY DOGWOOD	PLANT AWAY FROM INFLOW LOCATION



- PROCEDURE FOR CULVERT PIPE REMOVAL & REPLACEMENT**
- REPAIR CATCH BASIN AS NOTED ON PLANS.
 - INSTALL SPREAD OUTFALL AT DOWNSTREAM END OF PROPOSED CULVERT PIPE AND HEADWALL.
 - BLOCK WEIR OPENINGS OF CATCHBASIN.
 - UTILIZE EARTHBORE TO DIRECT EXISTING FROM AROUND AREA OF CULVERT.
 - IF NEEDED DURING CULVERT REPLACEMENT, UTILIZE CLEAN WATER PIPE DIVERSION PER DETAIL C-6 TO DIRECT DRAINAGE AROUND CULVERT HEADWALL.
 - ADD ADDITIONAL RIPRAP AT BASE OF CULVERT PIPE AND HEADWALL IF NECESSARY BASED ON FINAL PIPE ALIGNMENT.
 - BACKFILL CULVERT AND LAY GRAVEL FOR DRAINAGE BASE.
 - SEED DISTURBED AREAS AS NEEDED.
 - REMOVE BLOCKING OF CATCH BASIN AND REMOVE EARTHBORES AROUND CULVERT.

SPECIMEN TREE TABLE				
KEY	SPECIES	SIZE (DBH)	SIZE (HT)	STATUS
1	SILVER MAPLE	79"	118.5'	MULTI-STEMMED ABOVE BHL POOR CONDITION, TRUNK ROT TO REMAIN
2	ENGLISH WALNUT	40.5"	60.75'	POOR CONDITION, TRUNK ROT, NOT NATIVE TO REMAIN
3	NORWAY MAPLE	39"	52.5'	GOOD CONDITION, NOT NATIVE TO REMAIN
4	NORWAY MAPLE	39"	52.5'	POOR CONDITION, NOT NATIVE TO REMAIN
5	NORWAY MAPLE	31"	46.5'	GOOD CONDITION, NOT NATIVE TO REMAIN
6	MULBERRY	35"	52.5'	POOR CONDITION, TRUNK ROT & BROKEN LIMBS TO REMAIN
7	MULBERRY	37"	55.5'	POOR CONDITION, BROKEN TRUNK & LIMBS TO REMAIN
8	MULBERRY	42"	63'	POOR CONDITION, BROKEN TRUNK & LIMBS TO REMAIN
9	BOX ELDER	53.9"	80.25'	POOR CONDITION, BROKEN TRUNK & ROT TO REMAIN

"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 project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Signature of Developer: *[Signature]* Date: 5/4/17

"I 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."

Signature of Engineer: *[Signature]* Date: 5/3/17

MICRO-BIOTENTION									
BIOTENTION FILTER	A	B	C	D	E	F	G	H	I
1 (LOT 1)	518.00	518.00	518.00	518.00	518.00	518.00	518.00	518.00	518.00
2 (LOT 2)	516.00	516.00	516.00	516.00	516.00	516.00	516.00	516.00	516.00
3 (LOT 3)	528.00	528.00	528.00	528.00	528.00	528.00	528.00	528.00	528.00
4 (LOT 4)	521.00	521.00	521.00	521.00	521.00	521.00	521.00	521.00	521.00
5 (LOT 5)	528.00	528.00	528.00	528.00	528.00	528.00	528.00	528.00	528.00

DEVELOPER'S / BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

Signature of Developer: *[Signature]* Date: 5/4/17

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALDWIN NATIONAL PIKE
 ELKROTT CITY, MARYLAND 21042
 (410) 461-2299

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Signature of Chief, Division of Land Development: *[Signature]* Date: 5-15-17

Signature of Chief, Development Engineering Division: *[Signature]* Date: 5-12-17

PROFESSIONAL CERTIFICATION

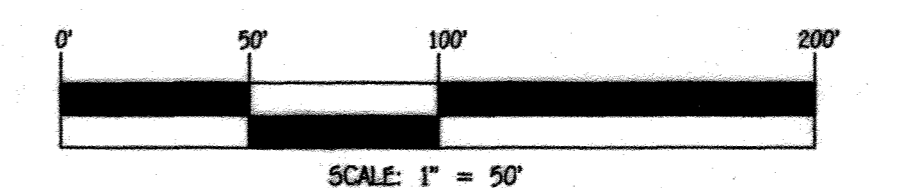
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 22538, EXPIRATION DATE: 01/12/2025.

Signature of Professional Engineer: *[Signature]* Date: 5/3/17

THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

OWNER
 ORVILLE E. & PATRICIA L. SHEPHERD (ESTATE OF)
 5020 TEN OAKS ROAD
 CLACKSVILLE, MARYLAND 21029
 C/O JAMES GREENFIELD 443-324-4732

DEVELOPER
 HG LAND HOLDINGS 1, LLC
 6420 AUTUMN SKY WAY
 COLUMBIA, MARYLAND 21044
 443-324-4732



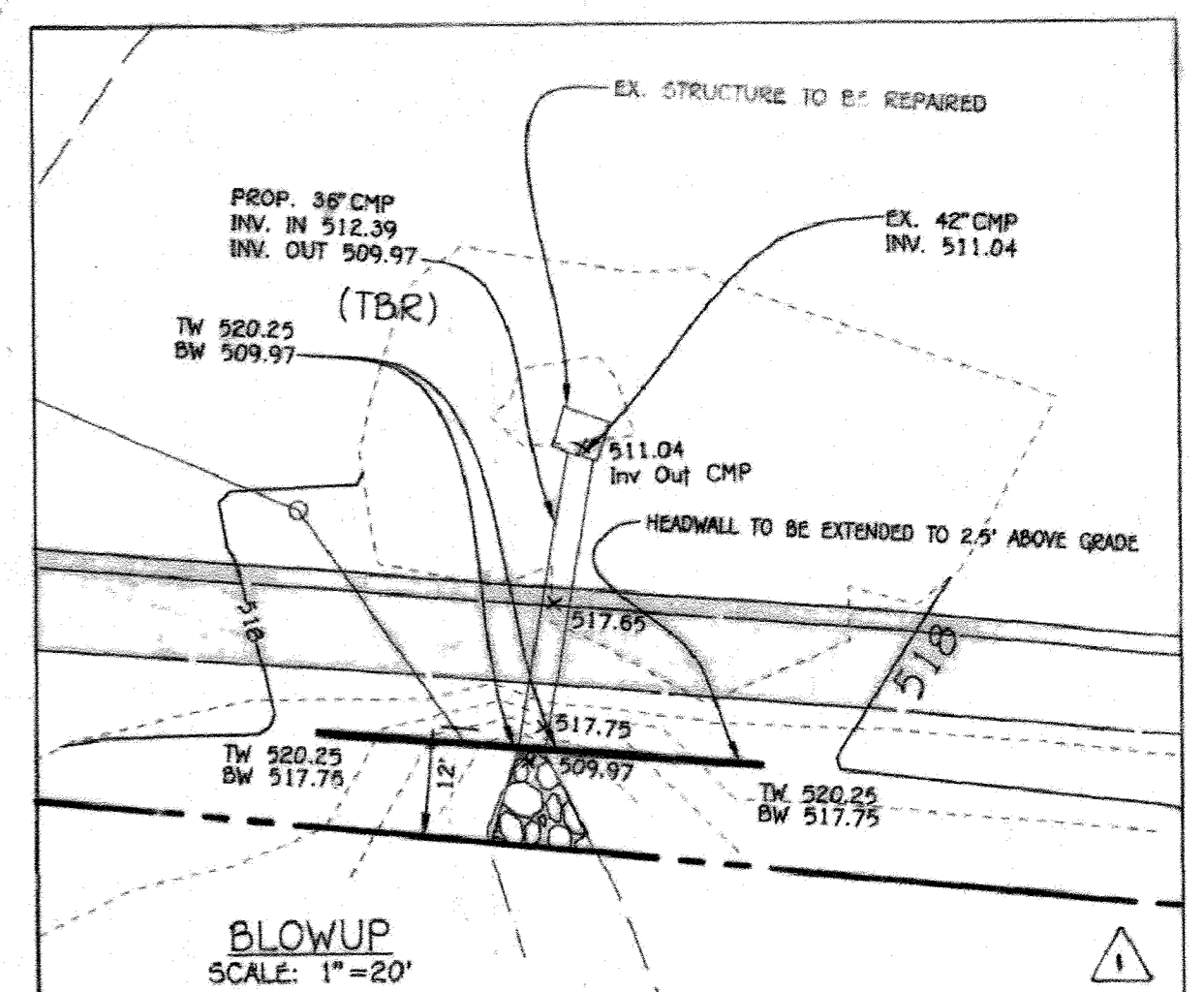
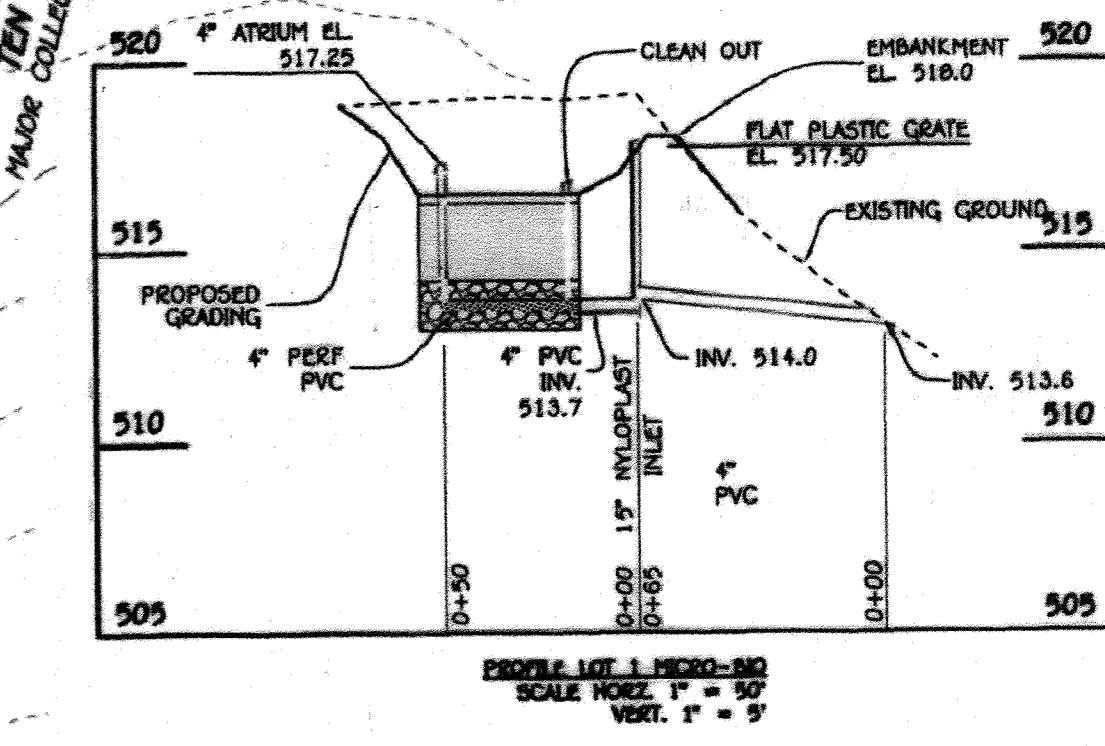
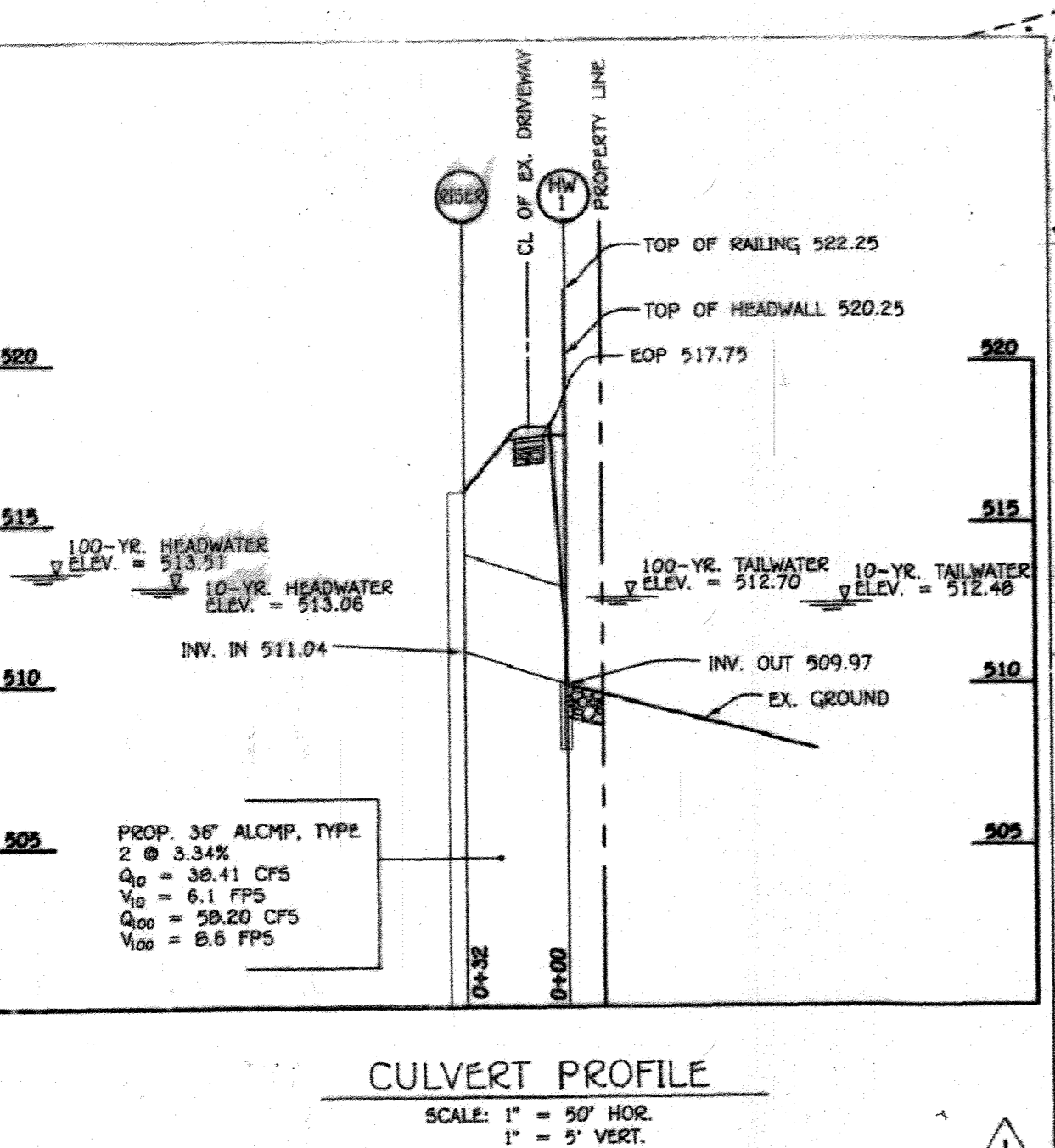
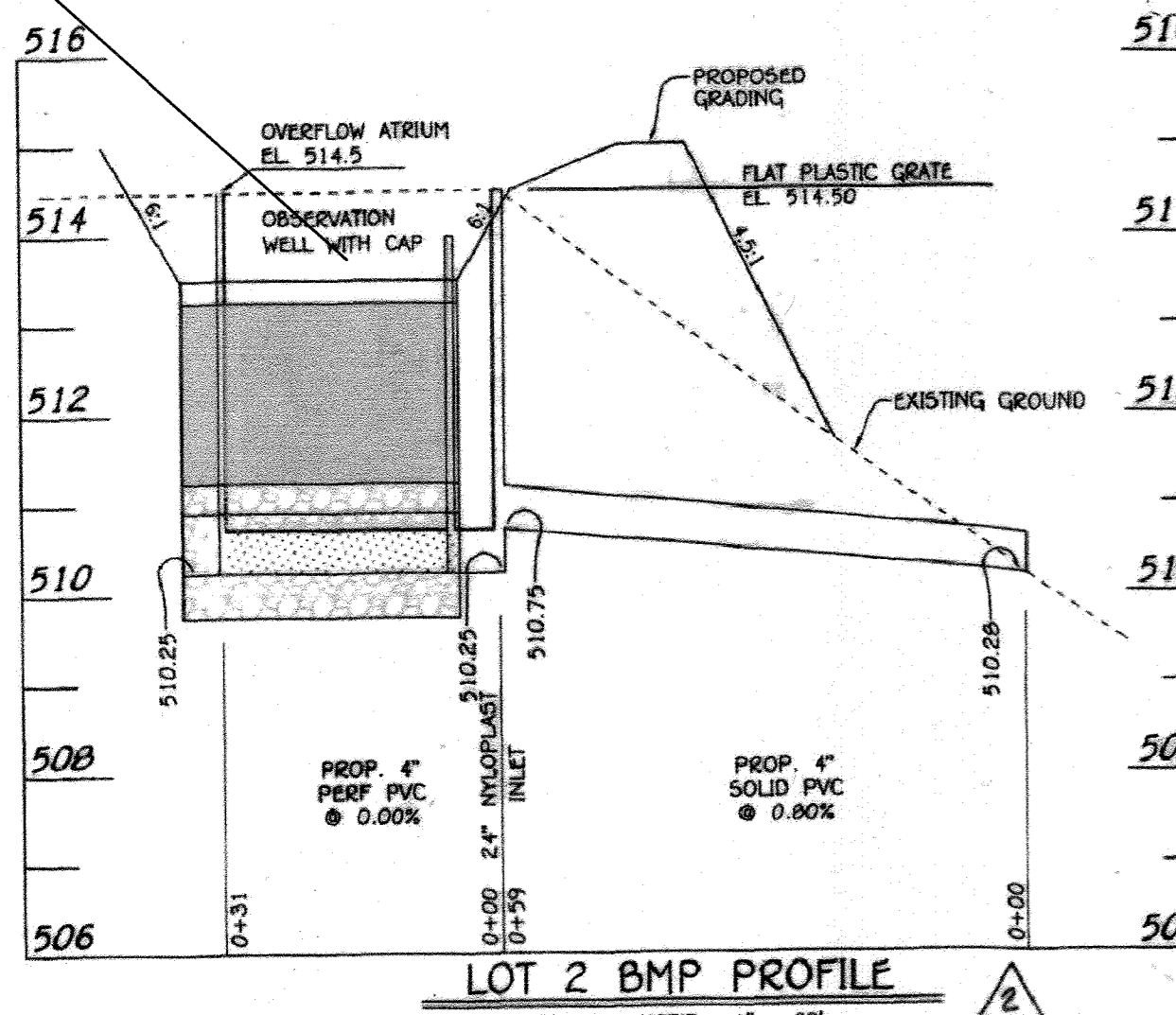
REVISED SUPPLEMENTAL PLAN - TOPOGRAPHY, SOILS, STORMWATER MANAGEMENT, LANDSCAPE & FOREST CONSERVATION

TEN OAKS FARM
 LOTS 1 THRU 6
 ZONED RR-DEO
 TAX MAP No. 28 GRID No. 14 PARCEL Nos. 140
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: MARCH, 2017
 SHEET 2 OF 6

STORMWATER RUNOFF CALCULATIONS - LOT 3
 LOT 3
 Site Area = 136,777 sf
 Proposed (retention) on-site impervious area = 11' L x 12' W x 3.0 D = 200 of Provided
 DW & SW = 2,816sf + House = 4,280 sf + Deck = 232 sf = Total = 7,128 sf
 Total on-site Impervious Area (within LOD) = 7,128 sf
 B Soils On-site with infiltration test = 1.02 in/hr
 Total Limit of Disturbance (LOD) = 34,488 sf

ESDv summary
 On-site percent impervious = 7,128 sf / 136,777 sf = 0.052 or 5.2%
 Rainfall target to size runoff volume (Rv) = 1.0 inch
 Runoff volume factor (Rv) = 0.05 + (0.009 x 5.2) = 0.0968
 Environmental site design target volume (1.0") = (1.0 x 0.0968 x 34,488) / 12 = 279 cf

DRY Well-2 - Rv = 0.05 + (0.009 x 100) = 0.95 (Where Total Area = 957 sf of Impervious (RD10 & RD2))
 ESDv = [(2.8 x 0.95 x 957) / 12] = 197 cf - Dimensions = 11' L x 12' W x 3.0 D = 200 of Provided
 DRY Well-3 - Rv = 0.05 + (0.009 x 100) = 0.95 (Where Total Area = 958 sf of Impervious (RD9))
 ESDv = [(2.8 x 0.95 x 958) / 12] = 198 cf - Dimensions = 11' L x 9' W x 3.0 D = 196 of Provided
 DRY Well-4 - Rv = 0.05 + (0.009 x 100) = 0.95 (Where Total Area = 777 sf of Impervious (RD1 + RD5))
 ESDv = [(2.8 x 0.95 x 777) / 12] = 160 cf - Dimensions = 10' L x 10' W x 4.0 D = 160 of Provided
 DRY Well-5 - Rv = 0.05 + (0.009 x 100) = 0.95 (Where Total Area = 910 sf of Impervious (RD11))
 ESDv = [(2.8 x 0.95 x 910) / 12] = 188 cf - Dimensions = 10' L x 8' W x 4.0 D = 182 of Provided
 PERVIOUS PAVERS - Driveway Area = 1,313 sf + Sidewalk = 139 sf (1,452 sf x 1.0 x 3.0) = 436 cf
 The proposed ESD to MEP (922 cf) exceeds the required ESD volume (279 cf)
 P = (ESDv x 12) / (Rv x DA) = (922 x 12) / (1.02 x 34,488) = 3.31 (Per Provided)



DEVELOPER'S CERTIFICATE
 I/We hereby certify that all development and construction will be done according to this plan and that any responsible personnel involved in the construction project will have a certificate of attendance at a department of the environment approved training program for the control of sediment and erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.
 Signature of Developer: *[Signature]* Date: *March 6, 2017*

DEVELOPER'S CERTIFICATE
 I/We certify that all development and construction will be done according to this plan and that any responsible personnel involved in the construction project will have a certificate of attendance at a department of the environment approved training program for the control of sediment and erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.
 Signature of Developer: *Prof. [Signature]* Date: *11/19/2021*

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 project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.
 Signature of Developer: *[Signature]* Date: *5/14/17*

ENGINEER'S CERTIFICATE
 I 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.
 Signature of Engineer: *[Signature]* Date: *5/3/17*

Professional Certification
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 22538, Expiration Date: 11-24-25.
 Signature: *[Signature]* Date: *6/15/23*

DEVELOPER'S / BUILDER'S CERTIFICATE
 I/We certify that the landscaping shown on this plan will be done according to the plan, section 18.12.4 of the Howard County Code and the Howard County Landscape Manual. I/We further certify that upon completion, a letter of landscape installation accompanied by an executed one-year guarantee of plant materials will be submitted to the Department of Planning and Zoning.
 Signature: *[Signature]* Date: *5/4/17*

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10072 BALDWIN NATIONAL PLACE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2899

Professional Certification
 I hereby certify that these documents were prepared or approved by me and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 36366, Expiration Date: 01/12/2028.
 Signature: *[Signature]* Date: *5/15/17*
 Signature: *[Signature]* Date: *5/12/17*

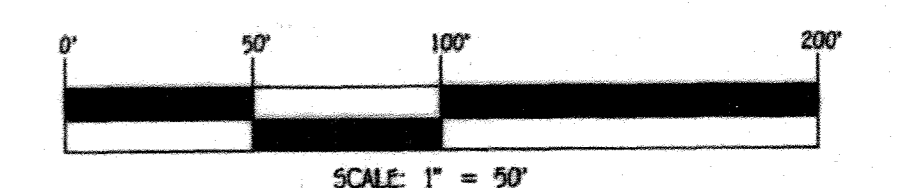
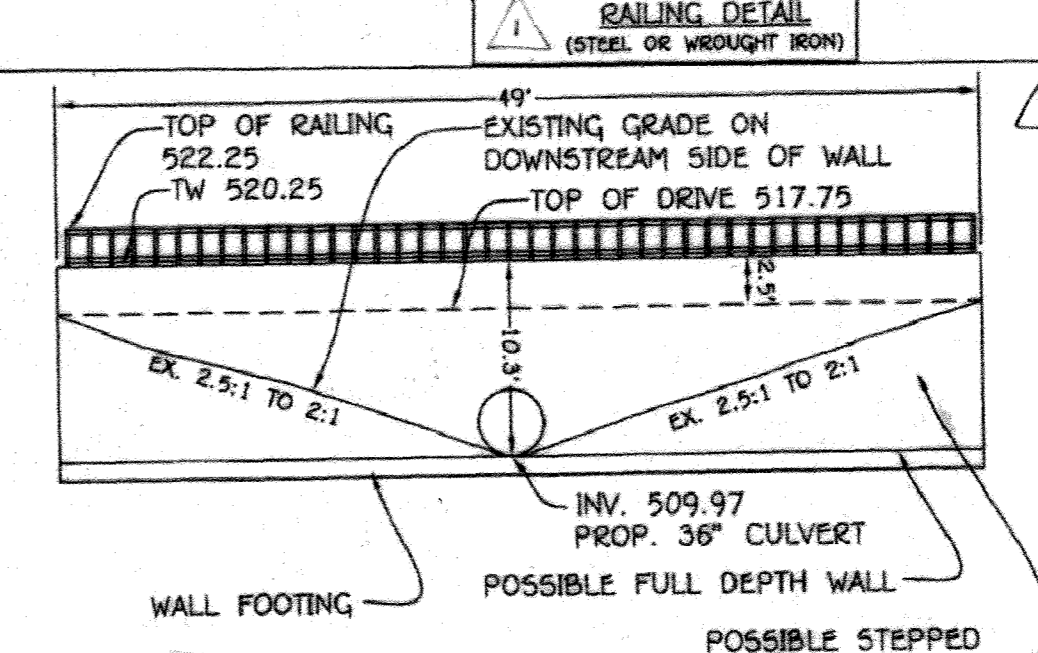
Professional Certification
 I hereby certify that these documents were prepared or approved by me and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 36366, Expiration Date: 01/12/2028.
 Signature: *[Signature]* Date: *5/3/17*

Professional Certification
 I hereby certify that these documents were prepared or approved by me and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 36366, Expiration Date: 01/12/2028.
 Signature: *[Signature]* Date: *5/3/17*

OWNER
 ORVILLE E. & PATRICIA L. SHEPHERD (ESTATE OF)
 3020 TEN OAKS ROAD
 CLARKSVILLE, MARYLAND 21029
 C/O JAMES GREENFIELD 443-324-4732

DEVELOPER
 MG LAND HOLDINGS I, LLC
 6420 AUTUMN SKY WAY
 COLUMBIA, MARYLAND 21044
 443-324-4732

NO.	REVISIONS	DATE
1	REVISE LOT 1 HOUSE TYPE, GRADING, ADD SWM PROFILE	3/7/13
2	REVISED LOT 2 DRIVEWAY, GRADING AND LOD	8/17/21
3	REVISED GROUND, SOILS, SWM AND EROSION CONTROL, SITE ANALYSIS, HOUSE GRADING, SEPTIC, SWM AND EROSION CONTROL FOR LOT 1, ADD TREES, ADD SPECIES TREE CHECK & UPDATE LANDSCAPE SURVEY	12/9/22



REVISED SUPPLEMENTAL PLAN - TOPOGRAPHY, SOILS, STORMWATER MANAGEMENT, LANDSCAPE & FOREST CONSERVATION
TEN OAKS FARM
 LOTS 1 THRU 6
 ZONED RR-DEO
 TAX MAP No. 28 GRID No. 14 PARCEL Nos. 140
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: MARCH, 2017
 SHEET 3 OF 6

PLANTING / SOIL SPECIFICATIONS

- Planting of Nursery Stock Shall Take Place Between March 15th And April 30th Or September 15th And November 15th.
- A Twelve (12) Inch Layer Of Topsoil Shall Be Spread Over All Restoration Areas Impacted By Site Grading To Assure A Suitable Planting Area, If Applicable. Disturbed Areas Will Be Seeded And Stabilized In Accordance With The Sediment & Erosion Control Plan For This Project. Planting Areas Not Impacted By Site Grading Shall Have No Additional Topsoil Installed.
- All Bare Root Planting Stock Shall Have Their Root System Dipped Into An Anti-Desiccant Gel Prior To Planting.
- Plants shall be installed so that the top of the root mass is level with the top of existing grade. Backfill in the planting pits shall consist of 3 parts existing soil to 1 part pine fines or equivalent.
- Fertilizer shall consist of Agriform 22-8-2, or equivalent, applied as per manufacturer's specifications.
- A Two (2) inch Layer of Hardwood Mulch shall be placed over the root area of all plantings. See Planting Detail.
- Plant Material shall be transported to the site in a Tarped Or Covered Truck. Plants shall be kept moist prior to planting.
- All Non-Organic Debris Associated With The Planting Operation shall be removed from the site by the contractor.

SEQUENCE OF PLANT INSTALLATION

- Follow Sequence of Construction shown on Sheet 5.
- Proposed Restoration Areas Impacted By The Site Grading Shall be Topsoiled and Stabilized as Per Note 2 of The Planting / Soil Specifications.
- Plants shall be installed and maintained as per notes and specifications for this project.
- Upon completion of the plantings, signage shall be installed as per the signage detail.
- Plantings shall be guaranteed and maintained in accordance with the "Guarantee Requirements" and "Maintenance of Plantings" associated with this project.

MULTIFLORA ROSE CONTROL NOTE:

PROVIDE TO PLANTING ALL MULTIFLORA ROSE WITHIN PLANTING AREAS SHALL BE REMOVED. Removal of the Multiflora Rose may be performed with mowing and herbicide treatments. Physical removal of all top growth followed by a periodic herbicide treatment of stump sprouts is recommended. Native tree and shrub species occurring within the rose thickets should be retained whenever possible. Herbicide treatments shall occur on two (2) month intervals during the first growing season and once in the spring and once in the fall for subsequent years. Herbicide used shall be made specifically to address woody plant material and shall be applied as per manufacturer specifications. Care should be taken not to spray planted trees or naturally occurring native tree and shrub seedlings. It is recommended that initiation of rose removal begin at least six months prior to planting so that new growth of roses is able to be more successfully managed.

FOREST PROTECTION GENERAL NOTES

- ALL FOREST RETENTION AREAS SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED BLAZE ORANGE PLASTIC MESH FENCING, AS NECESSARY, AND SIGNAGE AS INDICATED ON THE PLANS. THE DEVICES SHALL BE INSTALLED ALONG THE FOREST RETENTION BOUNDARY PRIOR TO ANY LAND CLEARING, GRUBBING, OR GRADING ACTIVITIES.
- THE FOREST PROTECTION DEVICES SHALL BE INSTALLED SUCH THAT THE CRITICAL ROOT ZONES OF ALL TREES WITHIN THE RETENTION AREA NOT OTHERWISE PROTECTED WILL BE WITHIN FOREST PROTECTION DEVICES, UNLESS ROOT PRUNING IS PROPOSED.
- ALL PROTECTION DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION INCLUDING SILT FENCE BEING USED AS PROTECTIVE FENCING. ALL DEVICES SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION HAS CEASED IN THE IMMEDIATE VICINITY.
- ATTACHMENT OF SIGNS, OR ANY OTHER OBJECTS TO TREES IS PROHIBITED. NO EQUIPMENT, MACHINERY, VEHICLES, MATERIALS OR EXCESSIVE PEDESTRIAN TRAFFIC SHALL BE ALLOWED WITHIN THESE PROTECTED AREAS.
- INSTALLATION AND MAINTENANCE OF PROTECTIVE FENCING AND SIGNAGE SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL TAKE THE UTMOST CARE TO PROTECT TREE ROOT SYSTEMS DURING ALL CONSTRUCTION ACTIVITIES. TREE ROOT SYSTEMS SHALL BE PROTECTED FROM SMOTHERING, FLOODING, EXCESSIVE WETTING FROM DE-WATERING OPERATIONS, OFF-SITE RUN OFF, SPILLAGE AND DRAINING OF MATERIALS THAT MAY BE HARMFUL TO TREES.
- THE GENERAL CONTRACTOR SHALL PREVENT PARKING OF CONSTRUCTION VEHICLES AND EQUIPMENT, AND THE STORING OF BUILDING SUPPLIES OR STOCKPILING OF EARTH WITHIN FOREST CONSERVATION EASEMENTS.
- REMOVAL OF TOPSOIL OR ROOT MAT WITHIN THE TREE PRESERVATION AREA SHALL BE PROHIBITED.
- THE GENERAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY TREES DAMAGED OR DESTROYED WITHIN THE FOREST CONSERVATION EASEMENTS.
- ROOT PRUNING SHALL BE USED AT THE LIMIT OF DISTURBANCE OR LIMIT OF GRADING WITHIN AND ADJACENT TO ALL PRESERVATION AREAS, AS NECESSARY.

REFORESTATION PLANTING NOTES

- Plants, Related Material, And Operations shall Meet The Detailed Description As Given On The Plans And As Described Herein.
- Plant Material, Unless Otherwise Specified, shall be Nursery Grown, Uniformly Branched And Have A Vigorous Root System. Plant Material shall be Healthy, Vigorous Plants Free From Defects, Decay, Disfiguring Roots, Sunscald Injuries, Abrasions Of The Bark, Plant Diseases, Insect Pest Feeds, Boxes, Infections Or Objectionable Disfigurements. Plant Material That is Weak Or Which has Been Cut Back From Larger Grades To Meet Specified Requirements Will be Rejected. Trees With Forked Leaders Will Not be Accepted. Plants shall be Freshly Dug; No Heeled-in Plants Or Plants From Cold Storage Will be Accepted.
- Unless Otherwise Specified, Plant Material shall Conform To "American Standard For Nursery Stock" ANSI Z60.1-1990, Published by The American Association of Nurserymen, Including All Addenda.
- Contractor will be required to guarantee plant material for a period of two (2) years after the date of acceptance and maintain a 75% survival rate at the end of the two (2) years.
- To Lessen The Chance Of Loss, The Plantings should be checked from time to time to insure that they are receiving sufficient water. See "Maintenance of Plantings" For Guidelines.
- The Location and Orientation of All Plant Material shall be Randomly Planted In Designated Reforestation Areas by the Contractor. Contractor shall be responsible for moving any plant material installed without approval.
- Mowing And Applying Herbicides To The Reforestation Area Is Prohibited At Any All Stages Of The Planting Process In Order To Encourage The Existing Saplings To Grow.
- Contractor is responsible for installing and pruning plant material in the proper planting season for each plant type. See Tree Planting & Maintenance Calendar.
- Upon completion of installation, signage shall be installed as shown.

MAINTENANCE OF PLANTINGS

- Maintenance Of Plantings shall Last For A Period Of 26 Months.
- All Plant Material shall be Generally Watered Twice A Month During The 1st Growing Season. Watering May be More Or Less Frequent Depending On Weather Conditions.
- During The 2nd Growing Season, Plant Material shall be Watered Once A Month From May To September, As Needed.
- Invasive Exotics And Noxious Weeds shall be Removed From The Reforestation Area(s). Old Field Successional Species shall be Retained.
- Plants shall be Examined A Minimum Of Two (2) Times During The Growing Season For Serious Plant Pests And Diseases With The Appropriate Agent.
- Dead Branched shall be Pruned From The Plantings.

GUARANTEE REQUIREMENTS

A 75% Survival Rate For The Reforestation Plantings is Required At The End Of The 24 Month Maintenance Period. All Plant Material Below The 75% Threshold is Required to be Replaced At The Beginning Of The Next Growing Season.

PRE-CONSTRUCTION MEETING

- AFTER THE BOUNDARIES OF THE FOREST RETENTION AREAS HAVE BEEN FIELD LOCATED AND MARKED, AND AFTER THE FOREST PROTECTION DEVICES HAVE BEEN INSTALLED, BUT BEFORE ANY OTHER DISTURBANCE HAS TAKEN PLACE ON SITE, A PRE-CONSTRUCTION MEETING SHALL TAKE PLACE ON SITE. THE DEVELOPER, CONTRACTOR OR PROJECT MANAGER, AND HOWARD COUNTY INSPECTORS SHALL ATTEND. THE PURPOSE OF THIS MEETING WILL BE:
 - TO IDENTIFY THE LOCATIONS OF THE FOREST RETENTION AREAS, SPECIEN TREES WITHIN 50 FEET OF THE LIMIT OF DISTURBANCE, LIMITS OF CONSTRUCTION, EMPLOYEE PARKING AREAS AND EQUIPMENT STAGING AREAS;
 - INSPECT ALL FLAGGED BOUNDARIES AND PROTECTION DEVICES;
 - MAKE ALL NECESSARY ADJUSTMENTS;
 - ASSIGN RESPONSIBILITIES AS APPROPRIATE AND DISCUSS PENALTIES.

CONSTRUCTION MONITORING

- THE SITE SHALL BE INSPECTED PERIODICALLY DURING THE CONSTRUCTION PHASE OF THE PROJECT. A QUALIFIED PROFESSIONAL SHALL BE RESPONSIBLE FOR IDENTIFYING DAMAGE TO PROTECTED FOREST AREAS OR INDIVIDUAL TREES WHICH MAY HAVE BEEN CAUSED BY CONSTRUCTION ACTIVITIES, SUCH AS SOIL COMPACTION, ROOT INJURY, TRUNK WOUNDS, LIMB INJURY, OR STRESS CAUSED BY FLOODING OR DROUGHT CONDITIONS. ANY SUCH DAMAGE THAT MAY OCCUR SHALL BE REMEDIATED IMMEDIATELY USING APPROPRIATE MEASURES. SEVERE PROBLEMS MAY REQUIRE CONSULTATION WITH A PROFESSIONAL ARBORIST.
- THE CONSTRUCTION PROCEDURE SHALL NOT DAMAGE AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE AS DESIGNATED ON THE PLANS. ANY DAMAGE SHALL BE RESTORED BY THE CONTRACTOR AT HIS EXPENSE AND TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.

FOREST CONSERVATION WORKSHEET VERSION 1.0

BASIC SITE DATA:	20.12 Ac
A. TOTAL TRACT AREA	1.76
B. AREA WITHIN 100 YEAR FLOODPLAIN	18.36 Ac
C. NET TRACT AREA	
LAND USE CATEGORY: (from table 3.2.1, page 40, Manual)	
AREA MOR IDA HDR MPD CIA	
INFORMATION FOR CALCULATIONS:	
D. AFForestation THRESHOLD	0.20% x D = 3.67
E. FOREST CONSERVATION THRESHOLD	0.25% x D = 4.59
F. EXISTING FOREST COVER	0.95
G. AREA OF FOREST ABOVE CONSERVATION THRESHOLD	0.00
BREAK EVEN POINT:	
H. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION	0.00
I. CLEARING PERMITTED WITHOUT MITIGATION	0.00
PROPOSED FOREST CLEARING:	
J. TOTAL AREA OF FOREST TO BE CLEARED	0.00
K. TOTAL AREA OF FOREST TO BE RETAINED	0.95
PLANTING REQUIREMENTS:	
L. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD	0.00
M. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD	0.00
N. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD	0.00
O. TOTAL REFORESTATION REQUIRED	0.00
P. TOTAL AFForestation REQUIRED	3.12
Q. TOTAL REFORESTATION AND AFForestation REQUIRED	0.00
R. EXCESS FOREST CREDIT	0.00

SCHEDULE A - PERIMETER LANDSCAPE EDGE

PERIMETER CATEGORY	P-1 ADJACENT TO ROADWAY	P-2 ADJACENT TO PERIMETER PROPERTIES	P-3 ADJACENT TO PERIMETER PROPERTIES	P-4 ADJACENT TO PERIMETER PROPERTIES	P-5 ADJACENT TO PERIMETER PROPERTIES	P-6 ADJACENT TO PERIMETER PROPERTIES	TOTAL
LANDSCAPE TYPE	B	A	A	A	A	A	
LINEAR FEET OF PERIMETER TO REMAIN	447 L.F. (LESS ENHANCE)	400 L.F.	606 L.F.	512 L.F.	1196 L.F.	1091 L.F.	
CREDIT FOR EXISTING TREES TO REMAIN	N/A	N/A	87 LF OF EX. TREE LINE 519 LF REMAINING	512 LF OF EX. TREE LINE 0 LF REMAINING	205 LF OF EX. TREE LINE 991 LF REMAINING	N/A	
NUMBER OF PLANTS REQUIRED	9/11	7	9	0	16	23	64
SHADE TREES	(447/50' = 8.9 OR 9)	(400/60' = 6.6 OR 7)	(519/60' = 8.6 OR 9)	0	(991/60' = 16.5)	(1091/60' = 22.5)	04
EVERGREEN TREES	(447/40' = 11.2 OR 11)						11
CREDIT FOR EXISTING VEGETATION							
SHADE TREES	1	0	0	0	0	0	0
MEDIUM DECIDUOUS TREES OR EVERGREENS	0	0	0	0	0	0	0
NUMBER OF PLANTS PROVIDED	8	14	6	0	16	23	67
SHADE TREES	11	0	6	0	0	0	17
EVERGREEN TREES							31

NOTE: CREDIT IS BEING TAKEN FOR AN EXISTING 53.5' BOXELDER ALONG PERIMETER 1. PROVIDE G (AT 2:1) REPLACEMENT TREES OF 3" CALIBER ON SITE IN PLACE OF THE REMOVED TREES AS MITIGATION PER WP-21-100 AND WP-21-146. 53 REQUIRED PERIMETER SHADE TREES + G REQUIRED SPECIEN REPLACEMENT TREES = 59 TOTAL SHADE TREES REQUIRED.

FCE - 3.12 acres

PLANTING REQUIRED: 624 = 2100 + 84 UNITS
PLANTING PROVIDED: 610 = 2135 + 84 UNITS (LANDSCAPE CREDIT)

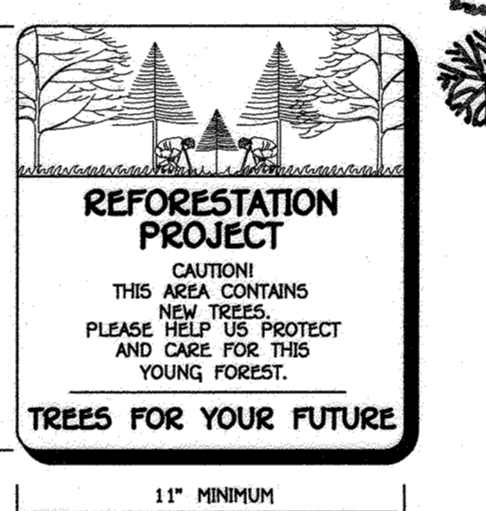
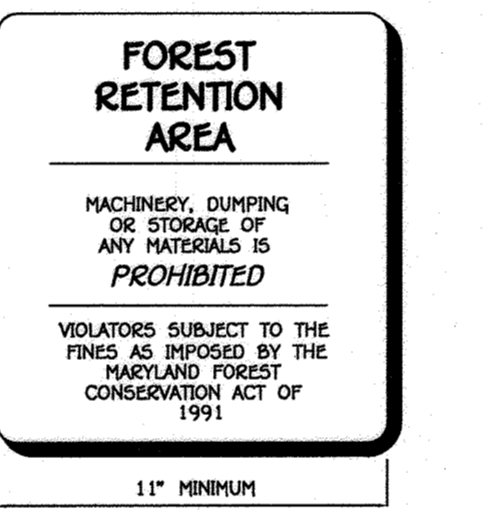
QTY	SPECIES	SIZE (Spacing)
110	Acer rubrum - Red maple	2" cal. (15'x6')
100	Carya tomentosa - Hickory	2" cal. (15'x6')
100	Quercus alba - White oak	2" cal. (15'x6')
40	Cornus florida - Flowering Dogwood	2" cal. (15'x6')
80	Liriodendron tulipifera - Tulip Poplar	2" cal. (15'x6')
80	Quercus alba - White oak	2" cal. (15'x6')
30	Quercus rubra - Red oak	2" cal. (15'x6')
20	Quercus velutina - Black oak	2" cal. (15'x6')
15	Viburnum acerifolium - Mapleleaf Viburnum	2 gal.
15	Viburnum dentatum - Arrowwood Viburnum	2 gal.

Note: (1) SIZE PROPOSED TO BE UTILIZED AND PLANTED AT 200 TREES PER ACRE (200 TREES/ACRE X 3.00 ACRES = 600 TREES). SHADERS (NONWOODS) NOT INCLUDED IN TOTAL QUANTITY.
(2) PLANTING UNITS: 3.5 UNITS = 1" CAL. TREE; 7 UNITS = 1.5" CAL. TREE.
(3) CREDIT TAKEN FOR LANDSCAPE PLANTING = 12 TREES = 84 PLANTING UNITS
(4) CREDIT TO BE BASED ON 3.00 ACRES DUE TO LANDSCAPE CREDIT.

LANDSCAPING PLANT LIST

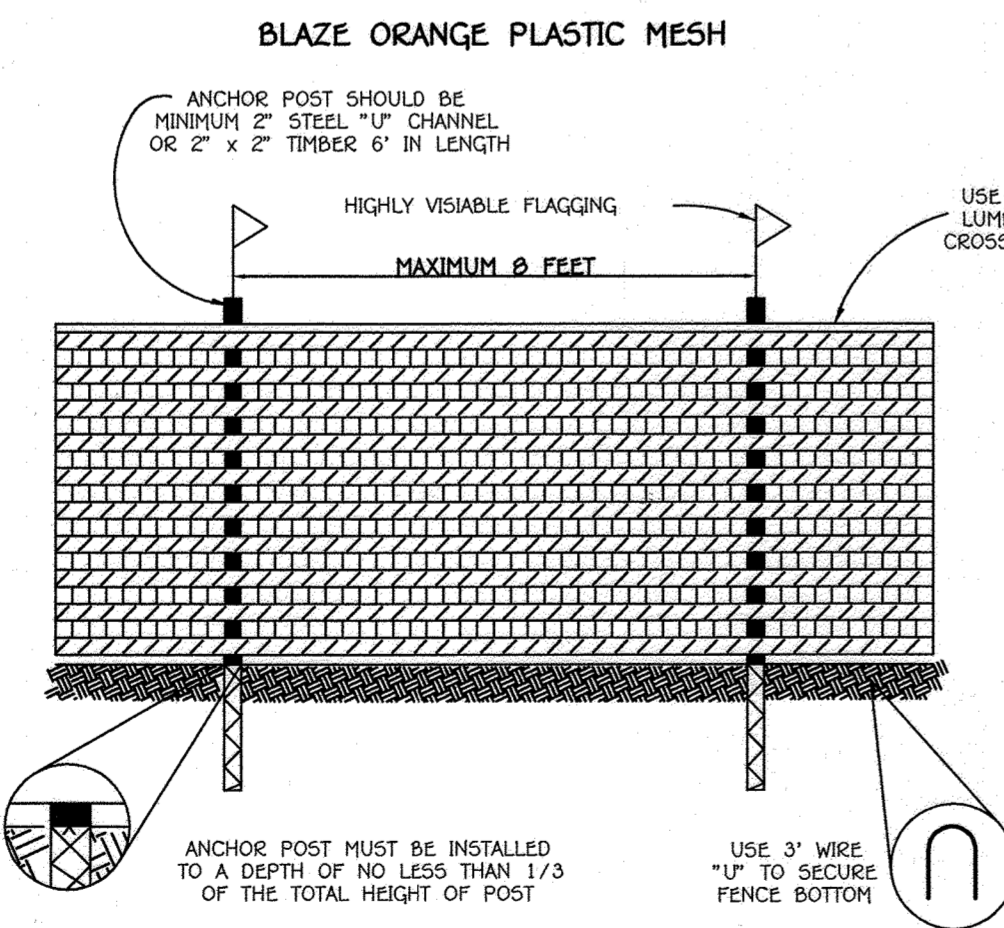
QTY.	KEY	NAME	SIZE
15	○	ACER RUBRUM 'RED SUNSET' (RED SUNSET RED MAPLE)	2.5" - 3" CAL. FULL CROWN, B&B
22	○	TILIA CORDATA 'GREENSPIRE' (GREENSPIRE LITTLELEAF LINDEN)	2.5" - 3" CAL. FULL CROWN, B&B
20	○	THUJA PLICATA (GIANT ARBORVITAE 'GREEN GIANT')	5' - 6' HT. B&B
11	○	ILEX 'NELLIE R. STEVENS' (NELLIE STEVENS HOLLY)	5' - 6' HT. B&B
12	+	PLATANUS X ACERIFOLIA (LONDON PLANE)	2.5" - 3" CAL. FULL CROWN, B&B

TOTAL: 59 SHADE TREES & 31 EVERGREENS
* PER CONDITION #1 OF WP-21-100 AND WP-21-146, A TOTAL OF 9X (6) 3" CALIBER TREES ARE REQUIRED TO BE PLANTED AS MITIGATION FOR THE REMOVAL OF SPECIEN TREE #1 & #3. 9X (6) LONDON PLANE TREES ARE PROPOSED AS REPLACEMENT DENOTED BY '+' ON SHEET 3.
* REPLACEMENT TREE (2) PER WP-21-100
* REPLACEMENT TREE (4) PER WP-21-146



FOREST CONSERVATION SIGN DETAIL

NOTE: THE PROTECTIVE SIGNAGE SHALL BE IN PLACE FOR PERPETUITY.



- NOTES:**
- FOREST PROTECTION DEVICE ONLY.
 - RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
 - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
 - ROOT DAMAGE SHOULD BE ANCHORED PRIOR TO INSTALLING DEVICE.
 - PROTECTIVE SIGNAGE MAY ALSO BE USED.
 - DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION DETAIL

NOT TO SCALE

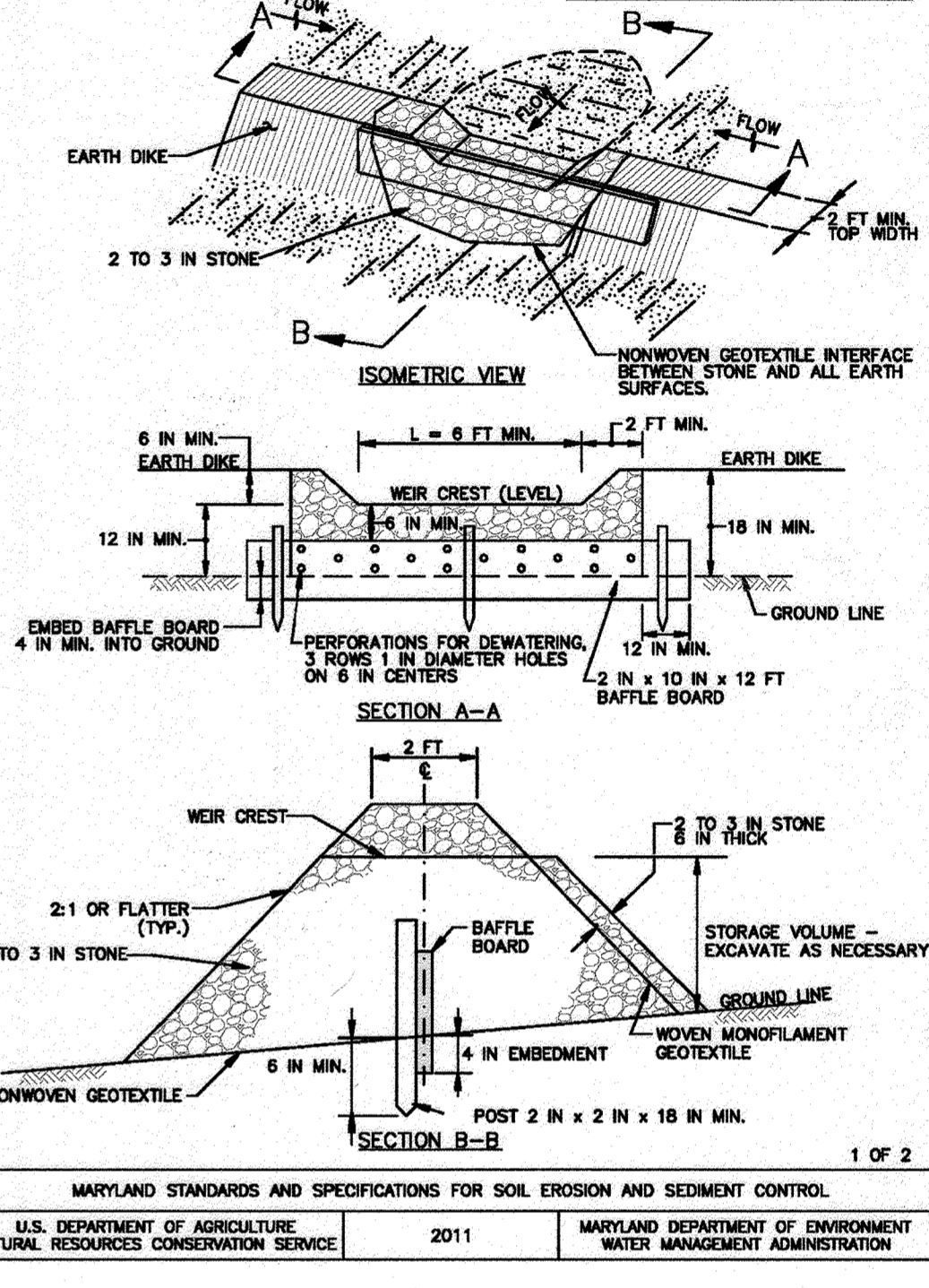
DEVELOPER'S CERTIFICATE

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 38306, EXPIRATION DATE: 01/12/2016.
Signature DATE: 5/3/17
OWNER: ORVILLE E. & PATRICIA L. SHEPHERD (ESTATE OF) 5020 TEN OAKS ROAD CLARKSVILLE, MARYLAND 21029 C/O JAMES GREENFIELD 443-324-4732
DEVELOPER: MG LAND HOLDINGS I, LLC 6420 AUTUMN SKY WAY COLUMBIA, MARYLAND 21044 443-324-4732

DEVELOPER'S / BUILDER'S CERTIFICATE

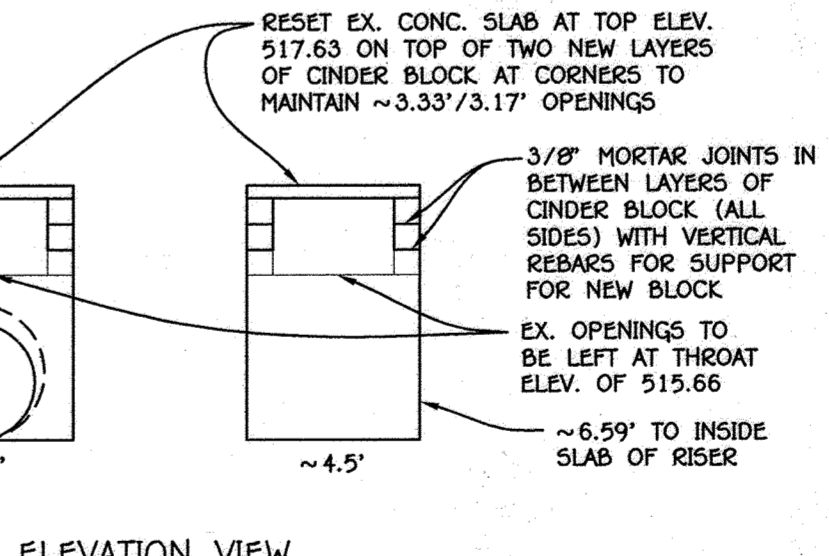
I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.
Signature DATE: 5/4/17

DETAIL E-7 TEMPORARY STONE OUTLET STRUCTURE



DETAIL E-7 TEMPORARY STONE OUTLET STRUCTURE

- CONSTRUCTION SPECIFICATIONS**
- PROVIDE STORAGE VOLUME AS SPECIFIED ON APPROVED PLANS.
 - USE NONWOVEN GEOTEXTILE ON INTERFACE BETWEEN GROUND AND STONE.
 - PERFORATE Baffle BOARD WITH 3 ROWS OF 1" DIAMETER HOLES 8" INCHES ON CENTER, EMBED A MINIMUM OF 4" INCHES INTO GROUND, AND EXTEND Baffle BOARD MINIMUM OF 12" INCHES INTO EARTH DIKE.
 - USE CLEAN 2" TO 3" INCH STONE OR EQUIVALENT RECYCLED CONCRETE. PLACE WOVEN MONOFLAMENT GEOTEXTILE ON UPSTREAM FACE AND COVER WITH A MINIMUM OF 6" INCHES OF ADDITIONAL STONE.
 - USE NONWOVEN AND WOVEN MONOFLAMENT GEOTEXTILES AS SPECIFIED IN SECTION H-1 MATERIALS.
 - SET WEIR CREST OF STONE 6" INCHES LOWER THAN THE TOP OF EARTH DIKE. USE MINIMUM LENGTH OF 6 FEET FOR WEIR CREST.
 - REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO WITHIN 6 INCHES OF WEIR CREST. REPLACE GEOTEXTILE AND STONE FACING WHEN STRUCTURE CEASES TO DRAIN, MAINTAIN LINE, GRADE, AND CROSS SECTION.
 - UPON REMOVAL OF STONE OUTLET STRUCTURE, GRADE AREA FLUSH WITH EXISTING GROUND, WITHIN 24 HOURS STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.



NOTE: ~3/8" MORTAR JOINTS TO BE UTILIZED TO REPAIR JOINTS BETWEEN EXISTING BLOCKS

RISER STRUCTURE MODIFICATION DETAIL

NOT TO SCALE

DETAILS
TEN OAKS FARM
LOTS 1 THRU 6
ZONED RR-DEO
TAX MAP No. 28 GRID No. 14 PARCEL Nos. 140
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: MARCH, 2017
SHEET 4 OF 6

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERS, CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PARK
BLUETOWN CITY, MARYLAND 21042
(410) 461-2895

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Signature DATE: 5-15-17
Signature DATE: 5-12-17

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 38306, EXPIRATION DATE: 01/12/2016.
Signature DATE: 5/3/17



SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS (B-4-2)

A. Soil Preparation
1. Temporary Stabilization
a. Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment...

B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).
1. General Specifications
a. Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector...

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

B. Topsoiling
1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable medium for seedling growth...

TEMPORARY SEEDING NOTES (B-4-4)

Definition
To stabilize disturbed soils with vegetation for up to 6 months.
Purpose
To use fast growing vegetation that provides cover on disturbed soils.

PERMANENT SEEDING NOTES (B-4-5)

Table with columns: Species, Application Rate (lb/ac), Seeding Dates, Seeding Depth, Fertilizer Rate (10-20-20), Lime Rate. Rows include BAHLEY, GARYS, and GRYE.

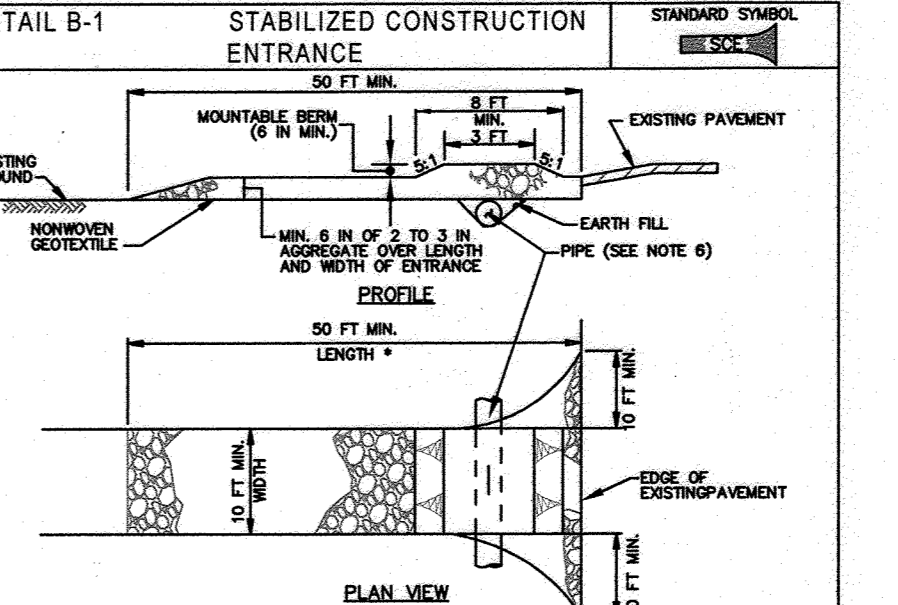
A. General Use
1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more...

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...

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

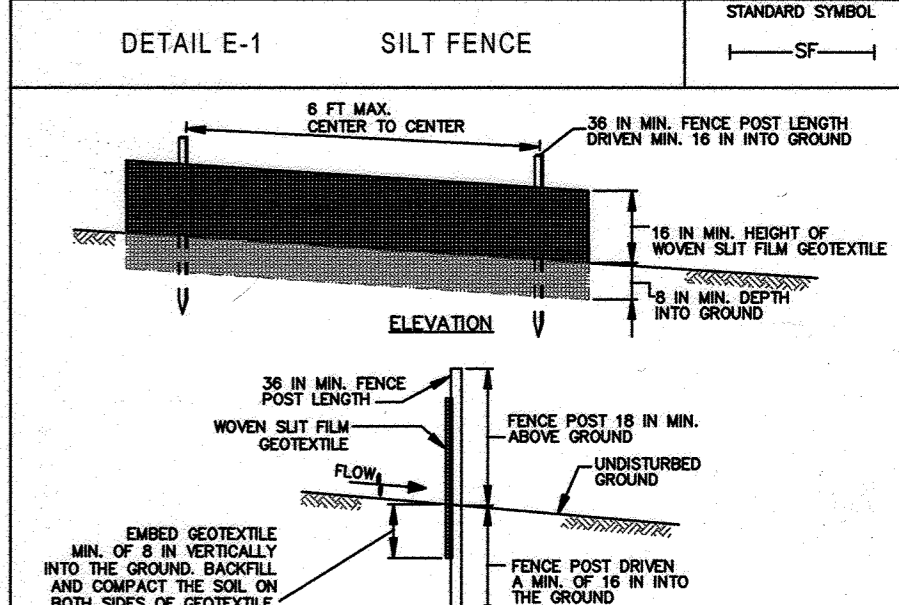
A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1999 after the future LDD and protected areas are marked clearly in the field...

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE



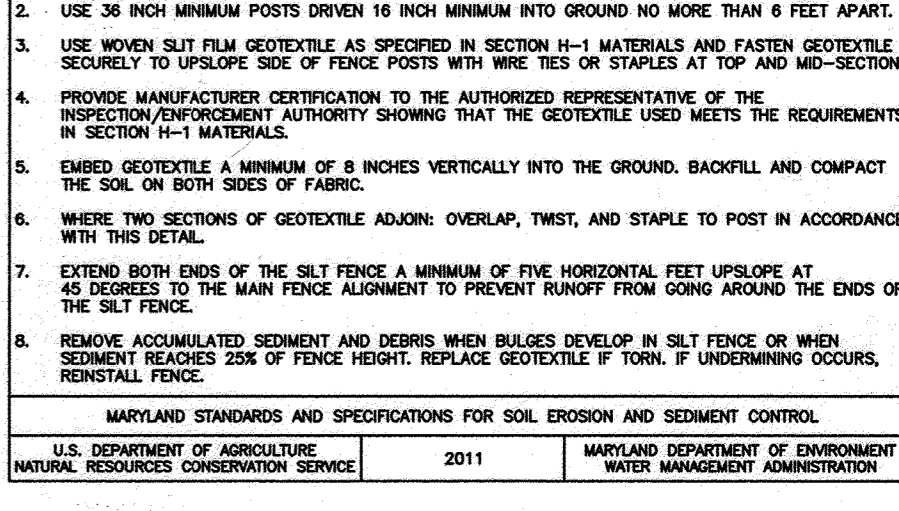
CONSTRUCTION SPECIFICATIONS
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTRANCE...

DETAIL B-1-1 SILT FENCE



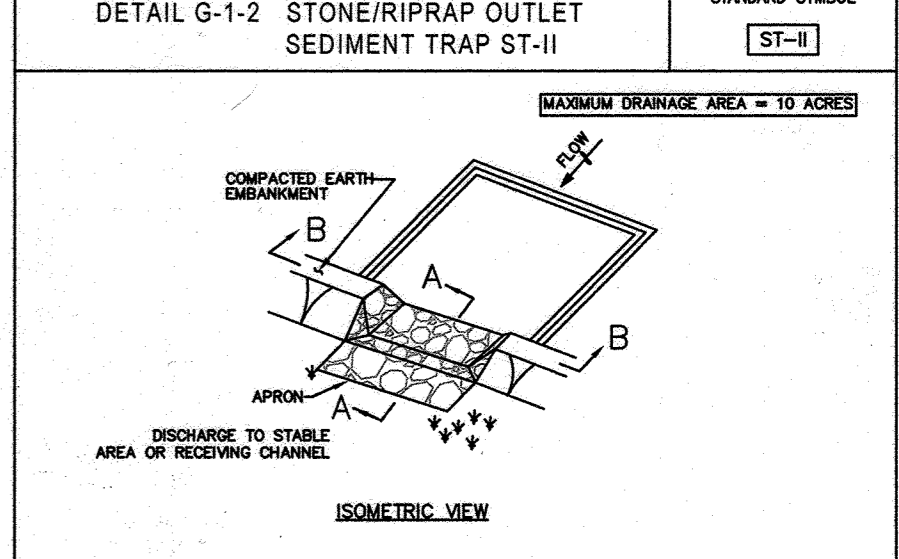
CONSTRUCTION SPECIFICATIONS
1. USE WOOD POSTS 1 1/2 x 3/4 x 8 1/2 (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD, AS AN ALTERNATIVE TO WOODEN POST USE STANDARD 'T' OR 'U' SECTION STEEL POSTS...

DETAIL C-1 SUPER SILT FENCE



CONSTRUCTION SPECIFICATIONS
1. INSTALL 2 IN. DIAMETER GALVANIZED STEEL POSTS OF 60 PSI WALL THICKNESS AND SIX FOOT LENGTH SPACED FOUR FEET TO FEET ABOVE THE POSTS A MINIMUM OF 36 INCHES...

DETAIL G-1-2 STONE/RIPRAP OUTLET SEDIMENT TRAP S-T-II



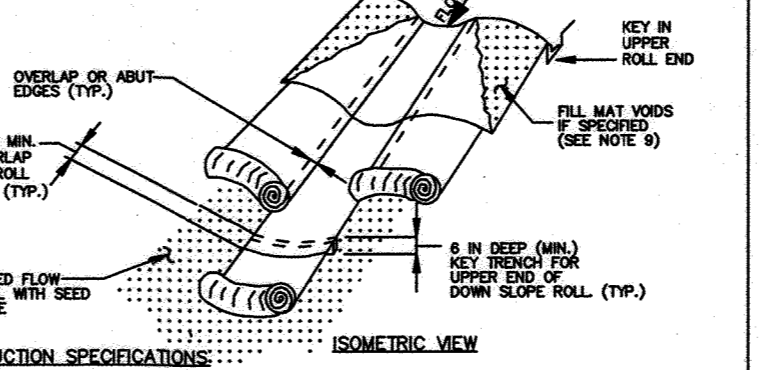
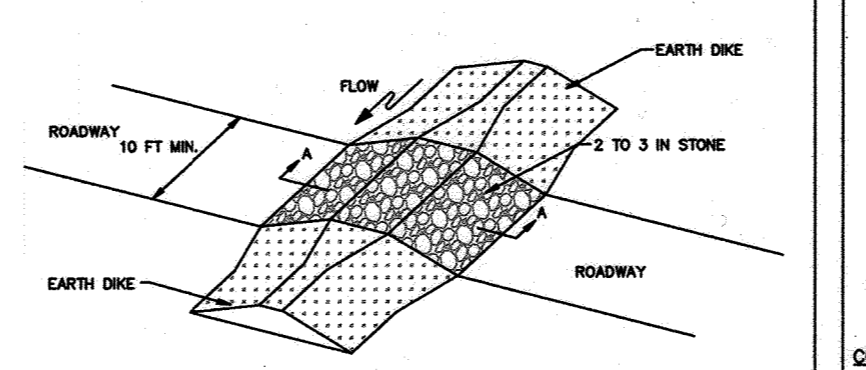
CONSTRUCTION SPECIFICATIONS
1. CONSTRUCT TRAP IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE AVOIDED. 2. CLEAR GROVE AND STRIP ANY VEGETATION AND ROOT MAT FROM THE AREA UNDER THE EMBANKMENT...

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

Definition
The application of seed and mulch to establish vegetation cover.
Purpose
To protect disturbed soils from erosion during and after the end of construction.

DETAIL C-8 MOUNTABLE BERM

DETAIL B-4-6-C PERMANENT SOIL STABILIZATION MATTING CHANNEL APPLICATION

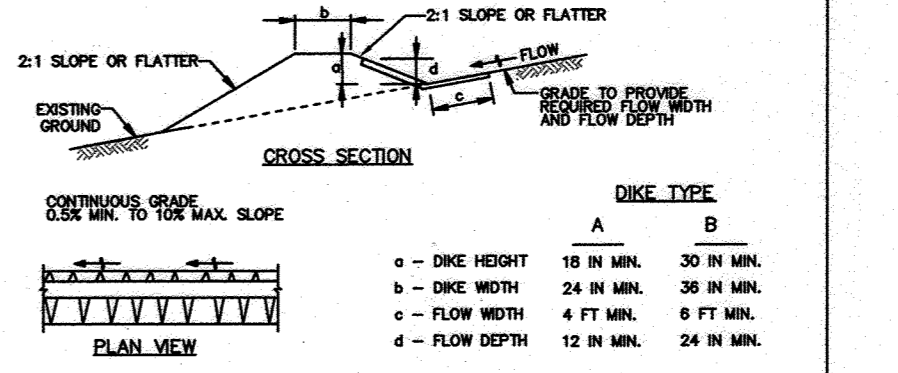


CONSTRUCTION SPECIFICATIONS
1. USE MINIMUM WIDTH OF 10 FEET TO ALLOW FOR VEHICULAR PASSAGE. 2. PLACE MOUNTABLE BERM AS SPECIFIED IN SECTION H-1 MATERIALS OVER THE EARTH MOUND PRIOR TO PLACING STONE...

CONSTRUCTION SPECIFICATIONS
1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DETERMINED ON APPROVED PLANS...

DETAIL G-1-1 EARTH CURE

SEQUENCE OF CONSTRUCTION



CONSTRUCTION SPECIFICATIONS
1. OBTAIN A GRADING PERMIT AND HOLD PRE-CONSTRUCTION MEETING WITH COUNTY INSPECTOR. (2 WEEKS) 2. NOTIFY 'THIS UTILITY' AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-297-7777...

Application
a. Dry Seeding: This includes use of conventional drop or broadcast spreaders. b. 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...

PERMANENT SEEDING SUMMARY

Table with columns: Hardness Zone, Species, Application Rate, Seeding Dates, Seeding Depth, Fertilizer Rate, Lime Rate.

DEVELOPER'S CERTIFICATE, ENGINEER'S CERTIFICATE, and PROFESSIONAL CERTIFICATION sections. Includes signatures of the developer and engineer, and a professional seal.

CONSTRUCTION SPECIFICATIONS and SEQUENCE OF CONSTRUCTION sections. Includes detailed instructions for matting application and construction steps.

SEDIMENT & EROSION CONTROL NOTES & DETAILS for TEN OAKS FARM. Includes site map, lot numbers, and a scale of 1 inch = 20 feet.

Table B.4. Materials Specifications for Micro-Bioretenion, 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	pea gravel: ASTM-D-448	No. 8 or No. 9 (1/8" to 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 3"	
Geotextile	n/a	n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	ASHTO M-43	No. 57 or No. Aggregates (3/8" to 3/4")	
Underdrain piping	F 750, Type FS 2B or ASHTO M-276	4" to 6" rigid schedule 40 PVC of 50R25	Slotted or perforated pipe; 3/8" perft @ 8" on center. 4 holes per row, minimum of 2" 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 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 (coat-in-place or pre-cast) not using previously approved sites 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 308.2R99; vertical loading (H-10 or H-20); allowable horizontal loading (based on soil pressures); and analysis of potential cracking
Sand	ASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Dabbase and Gesteone (ASHTO) #10 are not acceptable. No calcium chlorinated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

STORMWATER MANAGEMENT PRACTICES

LOT	ADDRESS	DRIVEWELLS (M-5) Y/N, NUMBER	ROOFTOP DISCONNECTION (N-1) Y/N, NUMBER	NON-ROOFTOP DISCONNECTION (N-2) Y/N, NUMBER	MICRO-BIO (M-6) Y/N, NUMBER	GRASS SWALE (M-8) Y/N, NUMBER	PE REQUIRED = 1.2"	PE PROVIDED = 1.4"
5	5018 TEN OAKS ROAD	N	N	N	Y, 1	N		
6	5020 TEN OAKS ROAD	N	N	N	Y, 1	Y, 1		

STRUCTURE SCHEDULE

STRUCTURE NO.	OWNERSHIP AND MAINTENANCE	TOP ELEVATION	INV. IN	INV. OUT	COORDINATES	INTERIOR WIDTH	TYPE	REMARKS
I-1	PRIVATE	535.50	532.25 (15")	531.75 (21")	N 570,377.20 E 1,317,649.83	2.58'	15" INLET	D-4.24
I-2	PRIVATE	537.50	-	534.75 (15")	N 570,481.48 E 1,317,800.58	2.58'	15" INLET	D-4.24
E-1	PRIVATE	-	-	529.50 (21")	N 570,287.92 E 1,317,925.42	21"	HOPE END SECTION	ADS OR EQUAL



DEVELOPER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.
 SIGNATURE OF DEVELOPER: *M. Chum* DATE: 11/6/2021

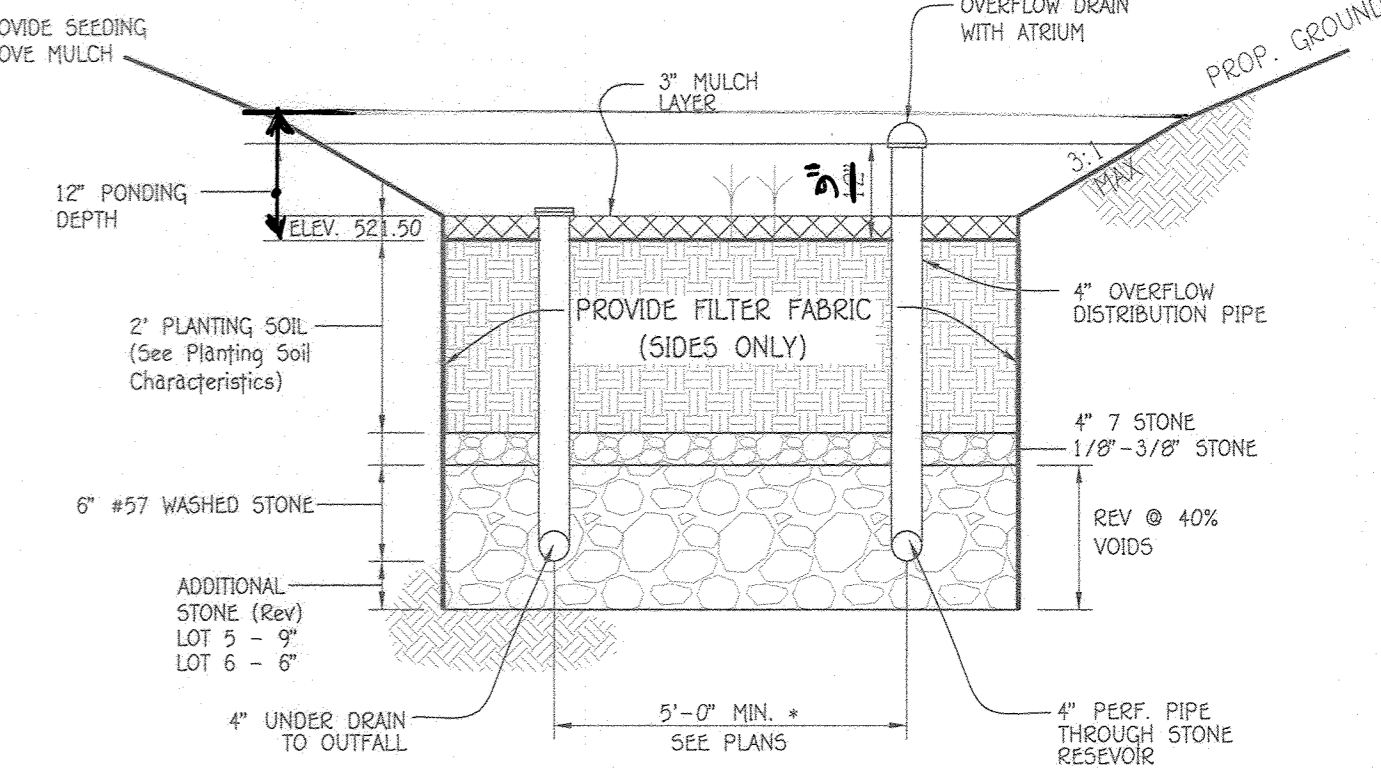
DEVELOPER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.
 SIGNATURE OF DEVELOPER: *M. Chum* DATE: 7.15.21

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED OPEN CHANNEL SYSTEMS GRASS SWALES AND WET SWALES, (M-8)

- THE OPEN CHANNEL SYSTEM SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONING PROPERLY.
- THE OPEN CHANNEL SHALL BE MAINTAINED TO A MINIMUM OF 1/8" DEPTH DURING THE GROWING SEASON TO MAINTAIN A MAXIMUM GRASS HEIGHT OF LESS THAN 6 INCHES.
- DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AS NEEDED.
- VISIBLE SIDES OF EROSION IN THE OPEN CHANNEL SYSTEM SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
- REMOVE SILT IN THE CHANNEL SYSTEM WHEN IT EXCEEDS 25% OF THE ORIGINAL WAY.
- INSPECT CHECK DAMS TWICE A YEAR FOR STRUCTURAL INTEGRITY. RESTORE CHECK DAMS TO ORIGINAL CONDITION AS APPLICABLE.

MICRO-BIORETENTION NOTES

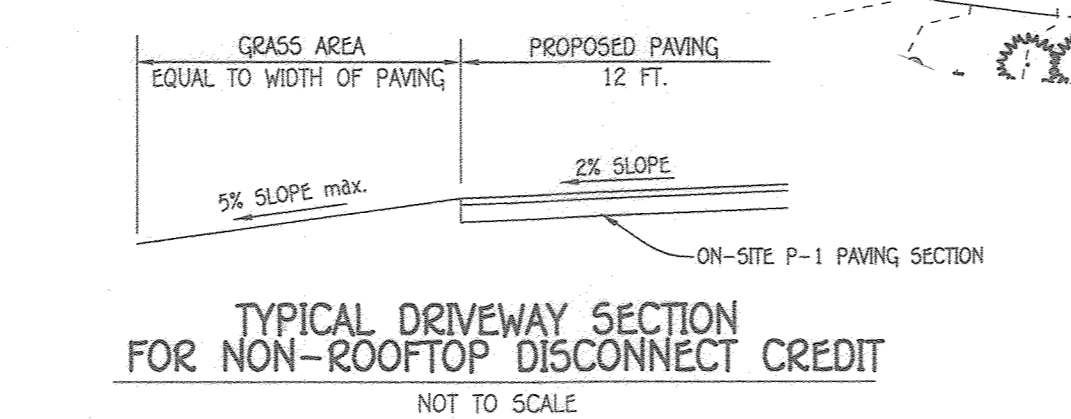
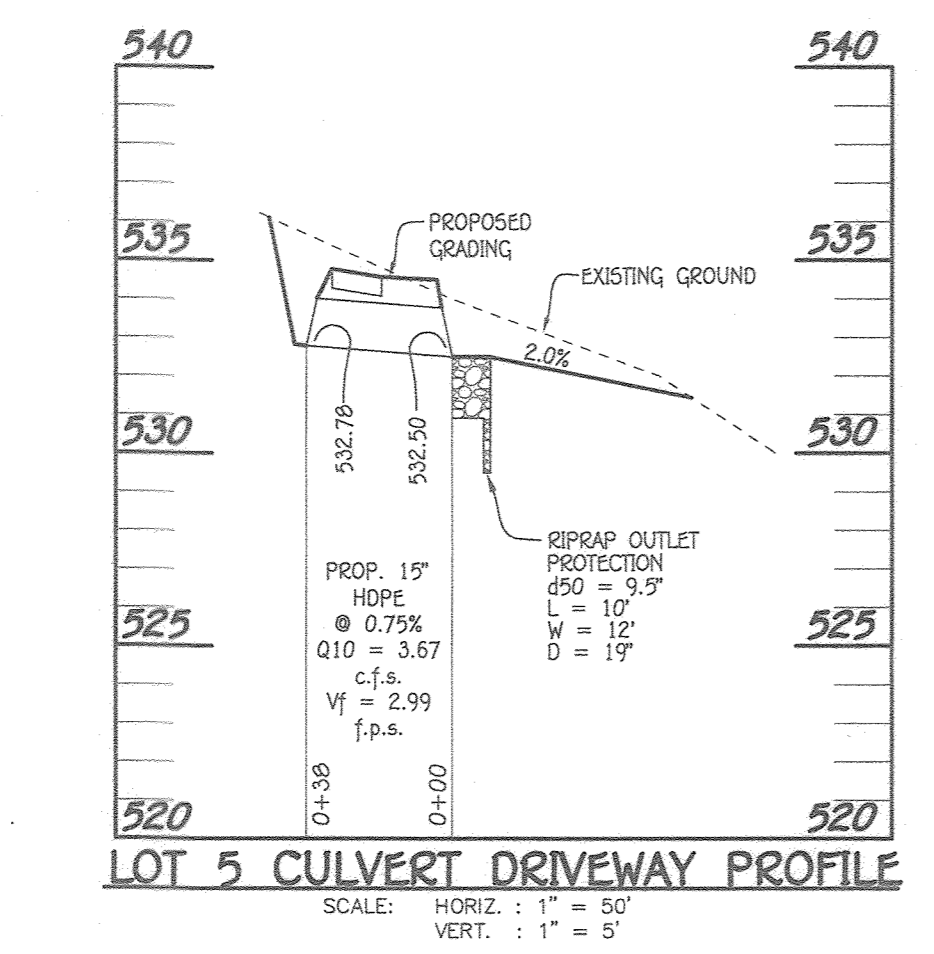
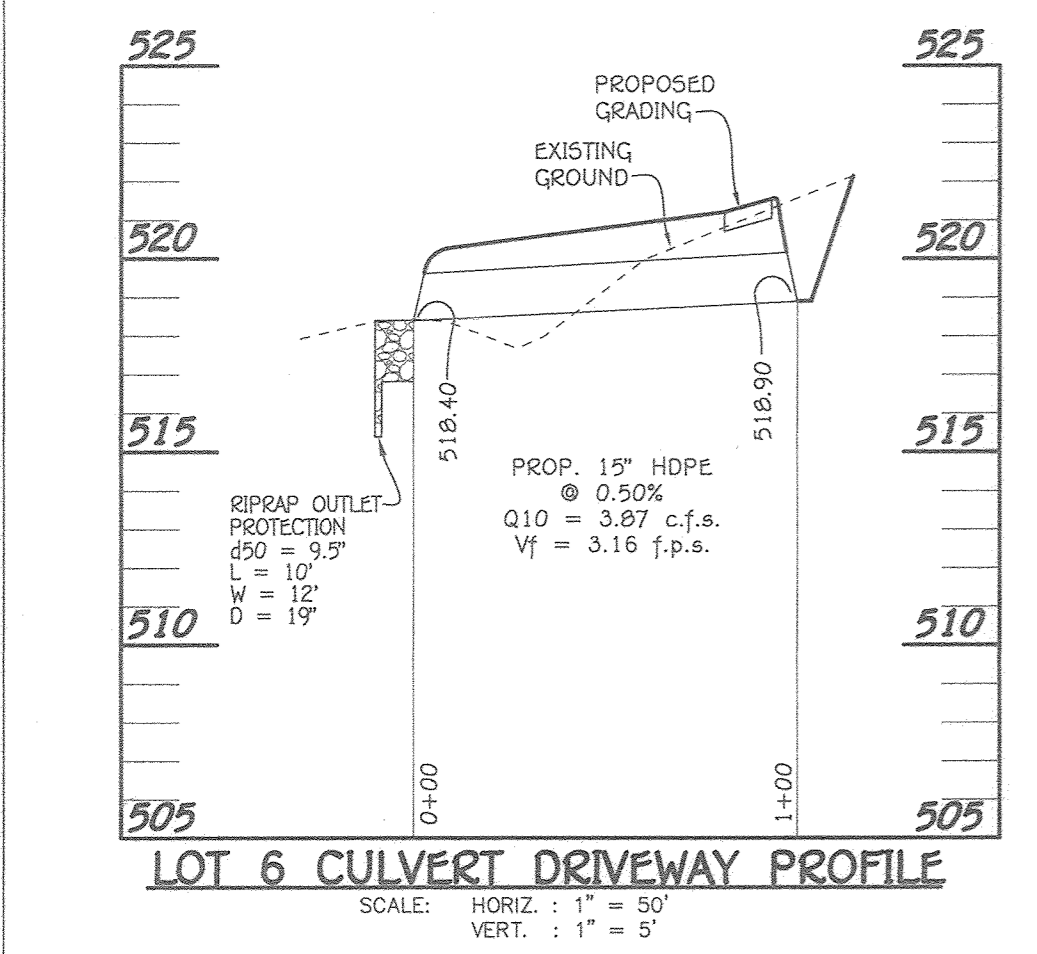
- ONLY THE SIDES OF THE MICRO-BIORETENTION ARE TO BE WRAPPED IN FILTER FABRIC. FILTER FABRIC BETWEEN LAYER OR AT THE BOTTOM OF THE MICRO-BIORETENTION WILL CAUSE THE MBR TO FAIL, AND THEREFORE SHALL NOT BE INSTALLED.
- WRAP THE PERFORATED HDPE UNDER DRAIN PIPE WITH 1/4" MESH (4x4) OR SMALLER GALVANIZED HARDWARE CLOTH.
- PROVIDE 5" MINIMUM SPACING BETWEEN UNDER DRAIN AND PERFORATED PIPE THROUGH STONE RESERVOIR OR SPACE PIPE EQUALLY ACROSS BOTTOM FOR SMALL BIOS. (SEE PLAN)



REFER TO SHEET 2 FOR PLANTING QUANTITIES
MICRO-BIORETENTION (OVERFLOW)(M-6)
 NO SCALE

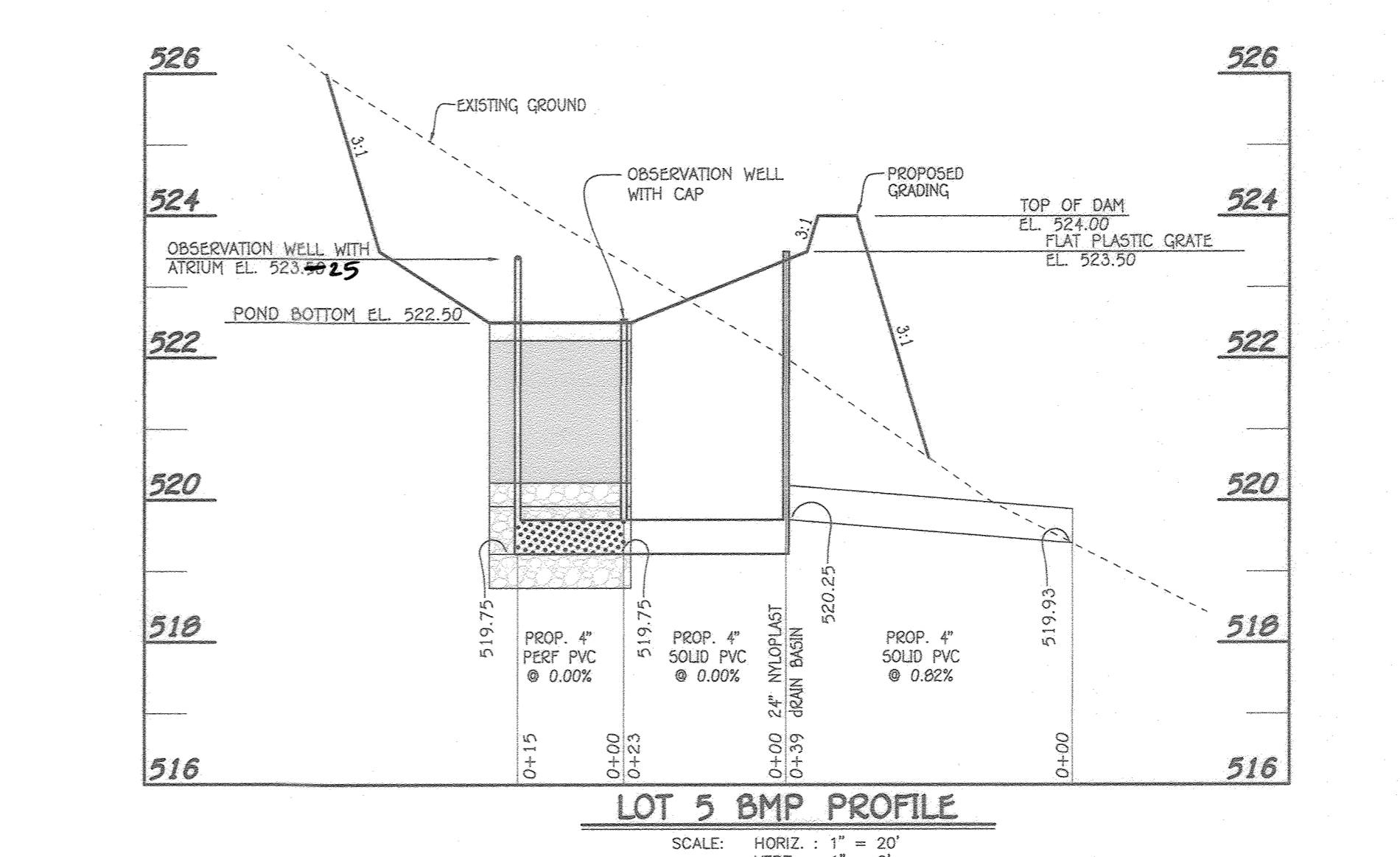
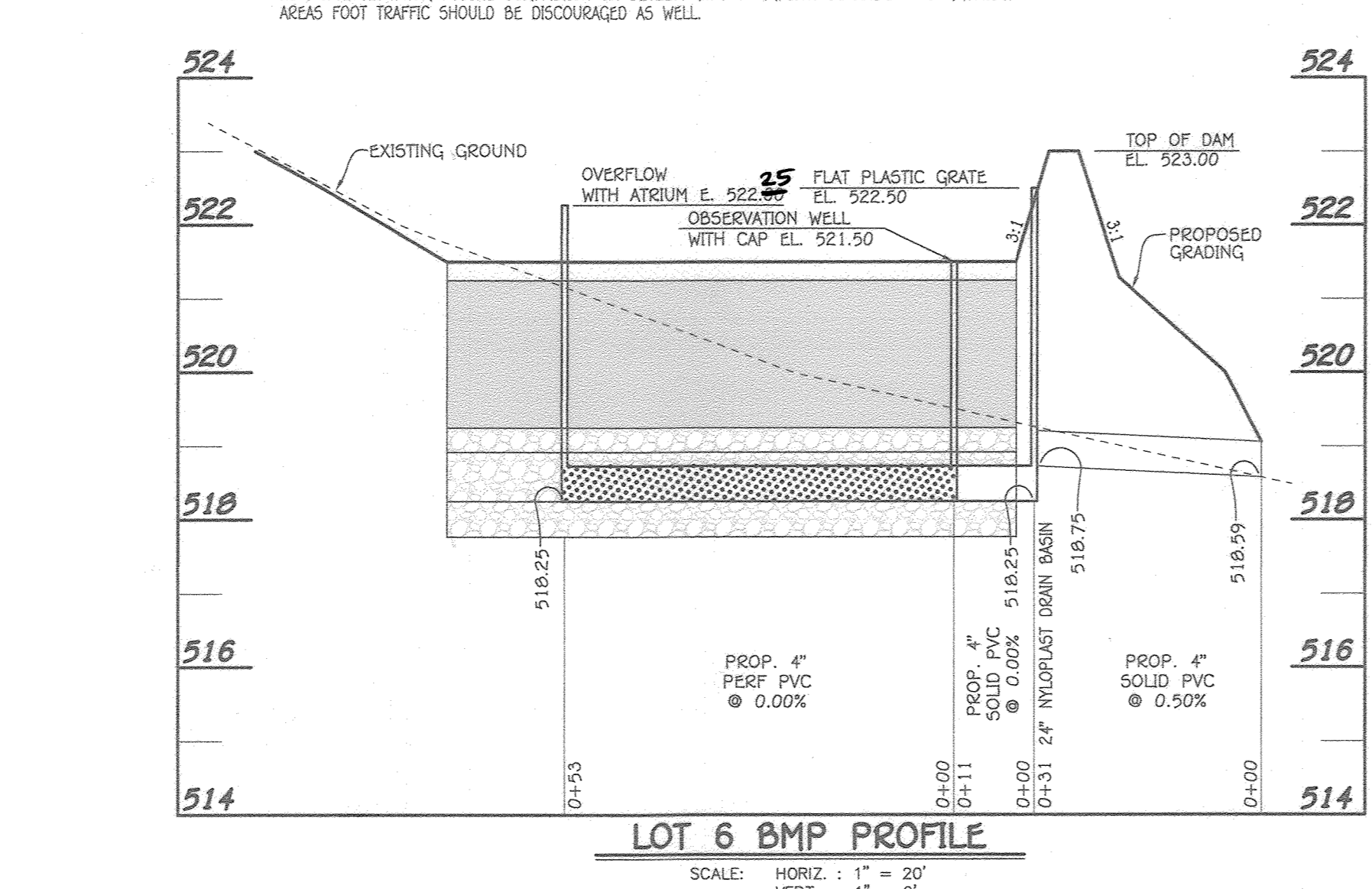
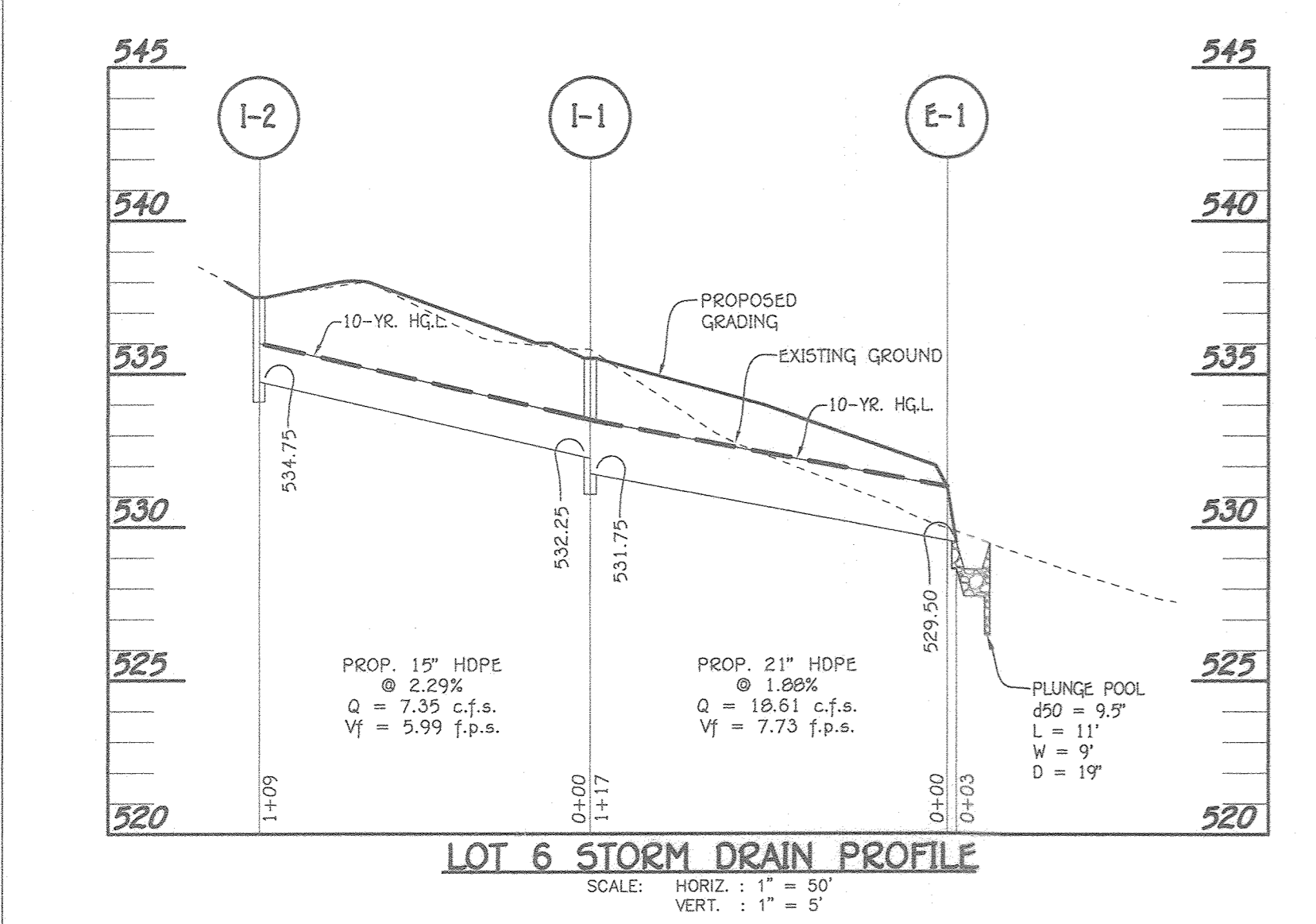
OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREAS (M-6)

- 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 volume II, table A.4.1 and 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 MATERIAL, TREAT DISEASED TREES AND SHRUBS AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- 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.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.



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

- MAINTENANCE OF AREAS RECEIVING DISCONNECTION RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION OR DEVELOPMENT OF IMPERVIOUS AREA. IN COMMERCIAL AREAS FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.



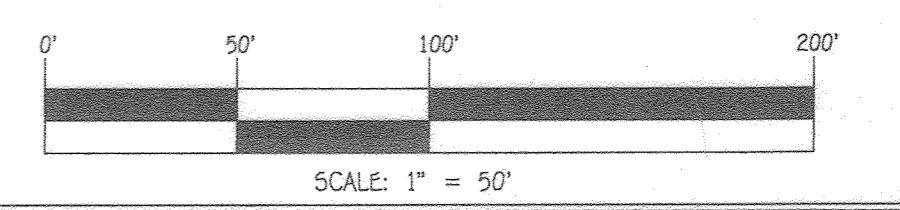
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
FISHER, COLLINS & CARTER, INC.
 CIVIL, ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 481-8295

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 27280, EXPIRATION DATE: 01/25/2022.
 DATE: 12/28/21
 DATE: 12-21-21

LOT 5 OWNER / DEVELOPER
 VILLA DEVELOPERS
 5018 Ten Oaks Road
 Clarksville, Md 21029
 443-832-8168

LOT 6 OWNER / DEVELOPER
 DEBO OOUNLAMI
 5016 Ten Oaks Road
 Clarksville, Md 21029

BUILDER
 Calm Custom Homes
 10549 Gorman Road
 Laurel, MD 20723
 Phone: 410-818-7382



ADDITIONAL SHEET
 SUPPLEMENTAL PLAN - TOPOGRAPHY, SOILS, STORMWATER MANAGEMENT, LANDSCAPE & FOREST CONSERVATION
TEN OAKS FARM
 LOTS 1 THRU 6
 ZONED RR-DEO
 TAX MAP No. 28 GRID No. 14 PARCEL Nos. 140
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: OCTOBER 28, 2021
 SHEET 6 OF 6