

"MICRO-BIORETENTION" PLANTING SCHEDULE NOTES:

1.

ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AAN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HOWARD COUNTY PLANTING SPECIFICATIONS.
2.

CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
3.

FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
4.

CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.
5.

MICROBIORETENTION AREAS ARE TO BE PLANTED BASED ON A MINIMUM DENSITY OF 1000 STEMS PER PLANTED ACRE (.0229 STEMS PER SQUARE FOOT). ABOVE PLANTING RATIOS ARE TO BE APPLIED TO THE AREAS PROVIDED IN THE ESDv SUMMARY.
6.

FILTER AREA SHALL BE 50% COVERED BY PLANTINGS AT FULL GROWTH
1.

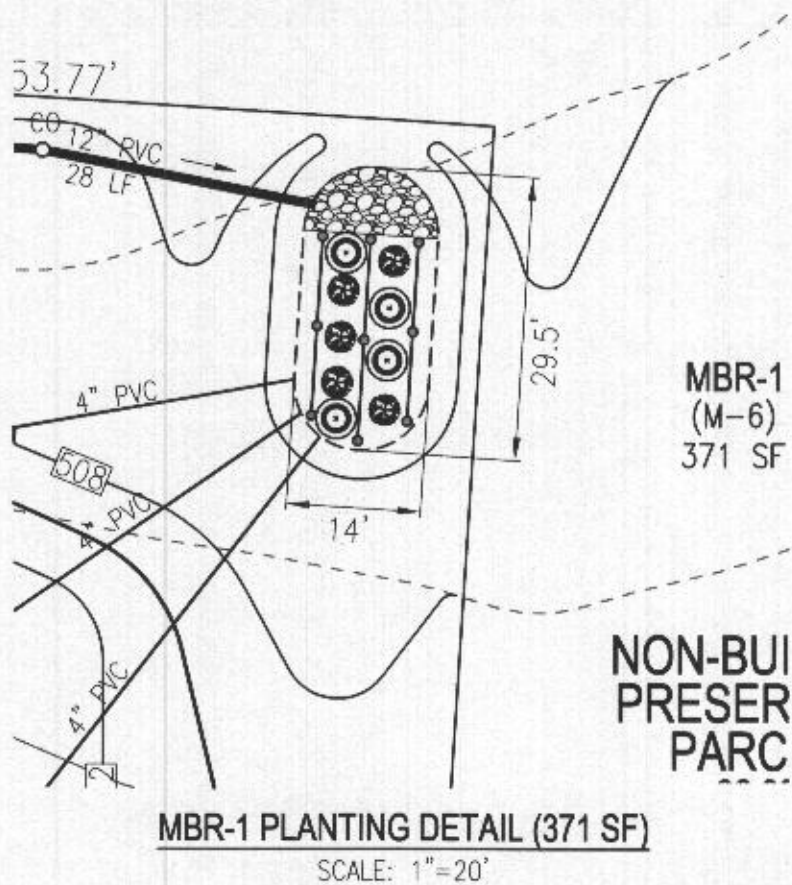
TABLE A.4 IS TAKEN FROM THE "2000 MARYLAND STORMWATER MANUAL, VOLUME II - APPENDIX A.
2.

CONTRACTOR SHALL BE FAMILIAR WITH APPENDIX B.4.C "CONSTRUCTION SPECIFICATIONS", AND TABLE B.4.1 "MATERIAL SPECIFICATIONS". IN ADDITION, THE "2000 MARYLAND STORMWATER DESIGN MANUAL, VOULME II - APPENDIX A, OFFERS ADDITIONAL HELPFUL INFORMATION.
3.

NO TREES SHALL BE PLANTED WITHIN A MICRO-BIORETENTION FACILITY. USE ONLY SHRUB OR HERBACEOUS SPECIES.
4.

ABOVE TABLE A.4 IS FOR INFORMATIONAL PURPOSES ONLY. LANDSCAPE CONTRACTOR SHALL INSTALL PLANTINGS SPECIFIED IN THE PLANTING SCHEDULES SHOWN HEREON. CHOOSE FROM THE ABOVE TABLE, OR USE APPROVED EQUAL SPECIES WHICH ARE TOLERANT TO FLUCTUATING WATER LEVELS. IF SUBSTITUTIONS ARE CHOSEN, APPROVAL FROM THE ENGINEER IS REQUIRED.
5.

PLANTINGS SHOWN HEREON ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL DURING THE CONSTRUCTION OF THIS FINAL PLAN.



MICRO-BIORETENTION PLANTING SCHEDULE (MBR-1)				
	QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
	4	LINDERA BENZOIN SPICEBUSH	3 GALLON	CONT
	5	ILEX GLABRA INKBERRY	3 GALLON	CONT

1. SF x 0.0229 STEMS PER SQUARE FOOT = PLANTS REQUIRED
2. PLANTINGS REQUIRED: 8

Table A.4 Commonly Used Species for Bioretention Areas

Trees	Shrubs	Herbaceous Species
<i>Acer rubrum</i> Red Maple	<i>Aesculus parviflora</i> Bottlebrush Buckeye	<i>Andropogon virginicus</i> Broomsedge
<i>Betula nigra</i> River Birch	<i>Cephalanthus occidentalis</i> Buttonbush	<i>Eupatorium perpurea</i> Joe Pye Weed
<i>Juniperus virginiana</i> Eastern Red Cedar	<i>Hamamelis virginiana</i> Witch Hazel	<i>Scirpus pungens</i> Three Square Bulrush
<i>Chionanthus virginicus</i> Fringe-tree	<i>Vaccinium corymbosum</i> Highbush Blueberry	<i>Iris versicolor</i> Blue Flag
<i>Nyssa sylvatica</i> Black Gum	<i>Ilex glabra</i> Inkberry	<i>Lobelia cardinalis</i> Cardinal Flower
<i>Diospyros virginiana</i> Persimmon	<i>Ilex verticillata</i> Winterberry	<i>Panicum virgatum</i> Switchgrass
<i>Platanus occidentalis</i> Sycamore	<i>Viburnum dentatum</i> Arrowwood	<i>Dichanthelium scoparium</i> Broom Panic Grass
<i>Quercus palustris</i> Pin Oak	<i>Lindera benzoin</i> Spicebush	<i>Rudbeckia laciniata</i> Tall Coneflower
<i>Quercus phellos</i> Willow Oak	<i>Myrica pennsylvanica</i> Bayberry	<i>Scirpus cyperinus</i> Woolgrass
<i>Salix nigra</i> Black willow		<i>Vernonia noveboracensis</i> New York Ironweed

Note 1: For more options on plant selection for bioretention, consult Bioretention Manual (ETAB, 1993) or the Design of Stormwater Filtering Systems (Claytor and Schueler, 1997).

PLOT PLAN
ROVER MILL ESTATES
LOT 3
3008 SKYE MEADOW WAY

SCALE1"=30'

DRAWN BYJMR

CHECKED BYRHV

DATE01/20/21

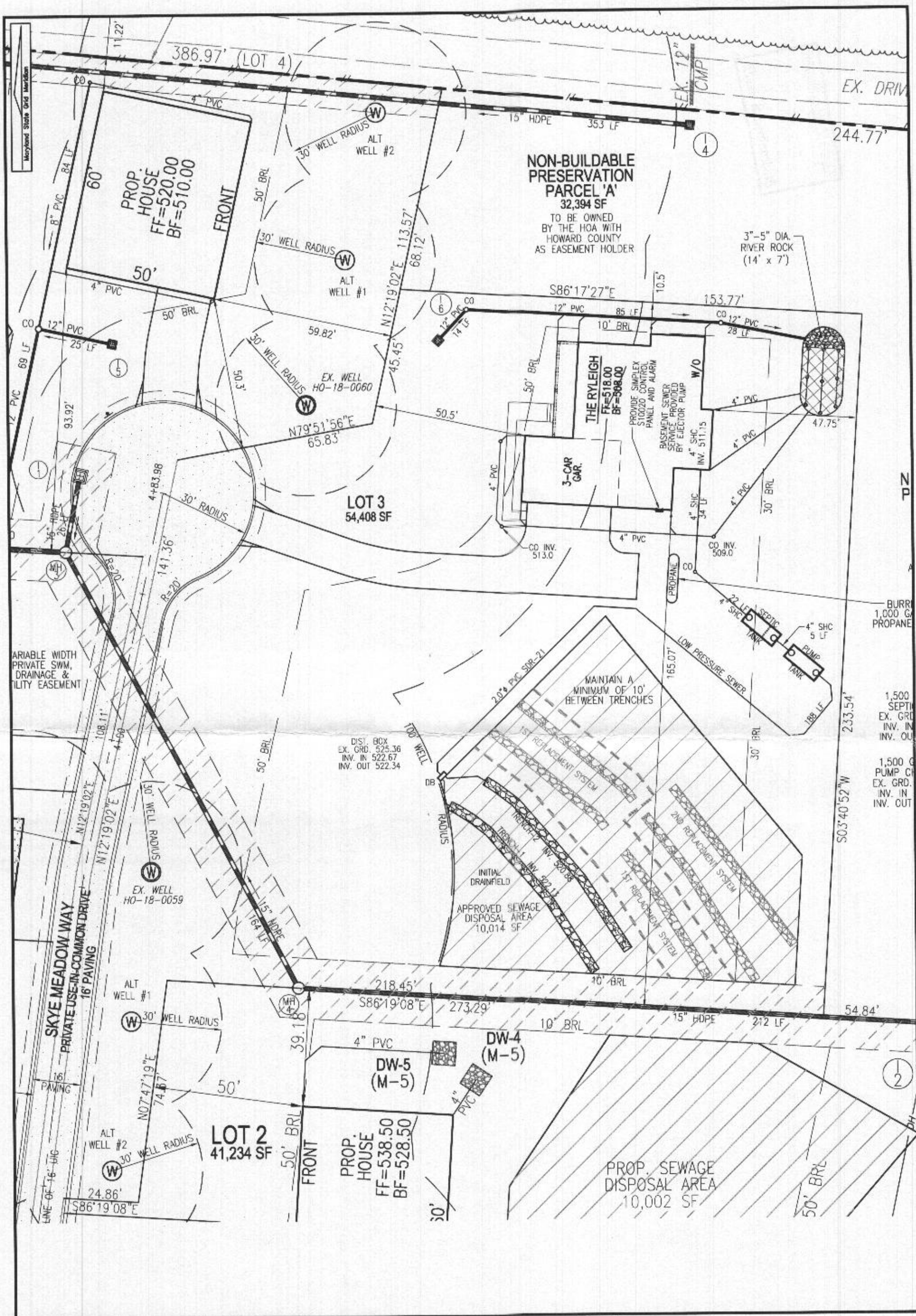
W. O. #15-36

SHEET#4 OF 4

PARCEL: 169
TAX MAP: 15 GRID: 14
3RD ELECTION DISTRICT

REF: F-19-056

ZONED: RR-DEO
L 19082 / F. 490
HOWARD COUNTY, MARYLAND



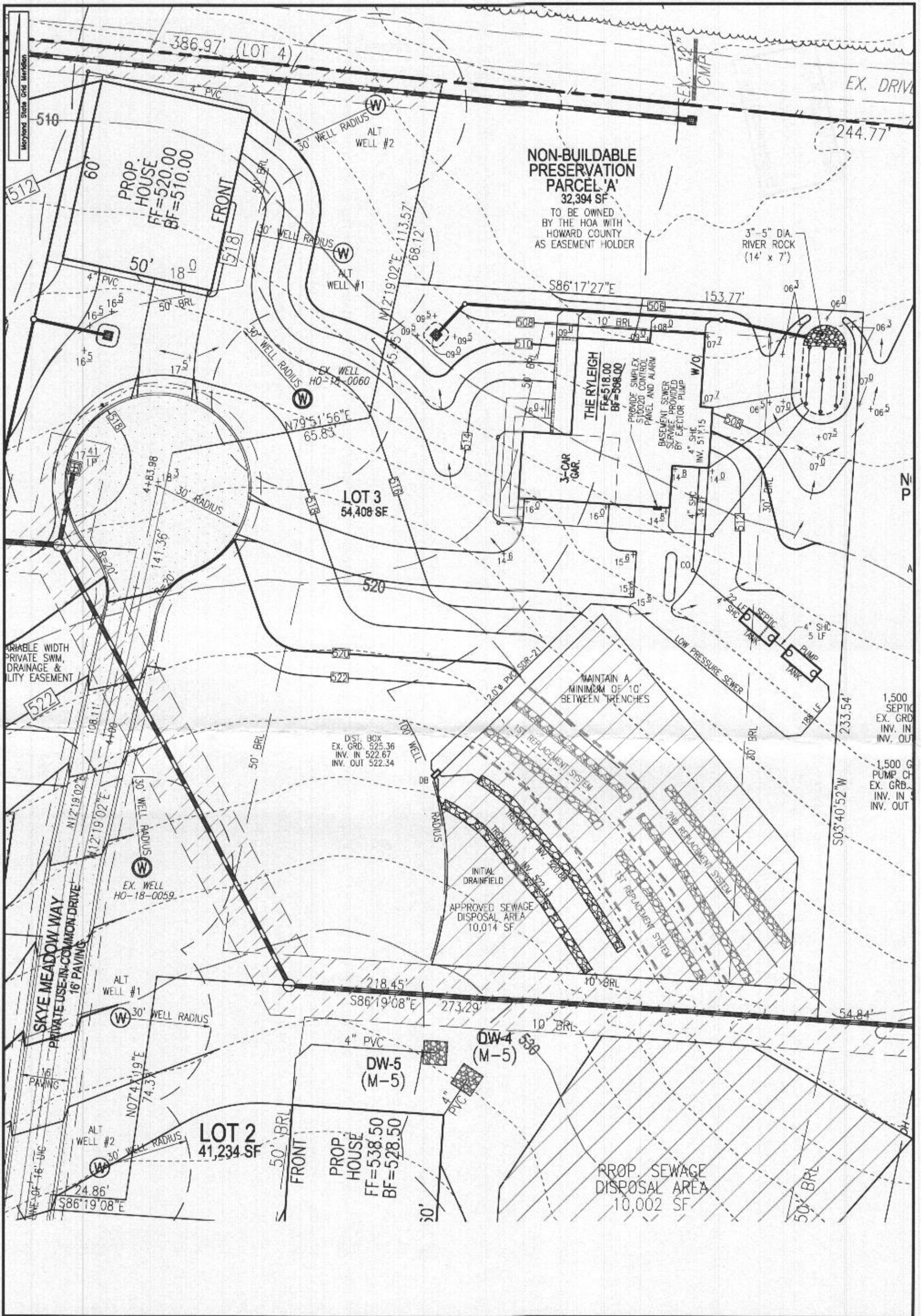
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 DRAWN BY JMR
 CHECKED BY RHV
 DATE 01/20/21
 W. O. # 15-36
 SHEET# 1 OF 4

PARCEL: 169
 TAX MAP: 15 GRID: 14
 3RD ELECTION DISTRICT

PLOT PLAN
ROVER MILL ESTATES
LOT 3
3008 SKYE MEADOW WAY

REF: F-19-056

ZONED: RR-DEC
 L. 19082 / F. 490
 HOWARD COUNTY, MARYLAND



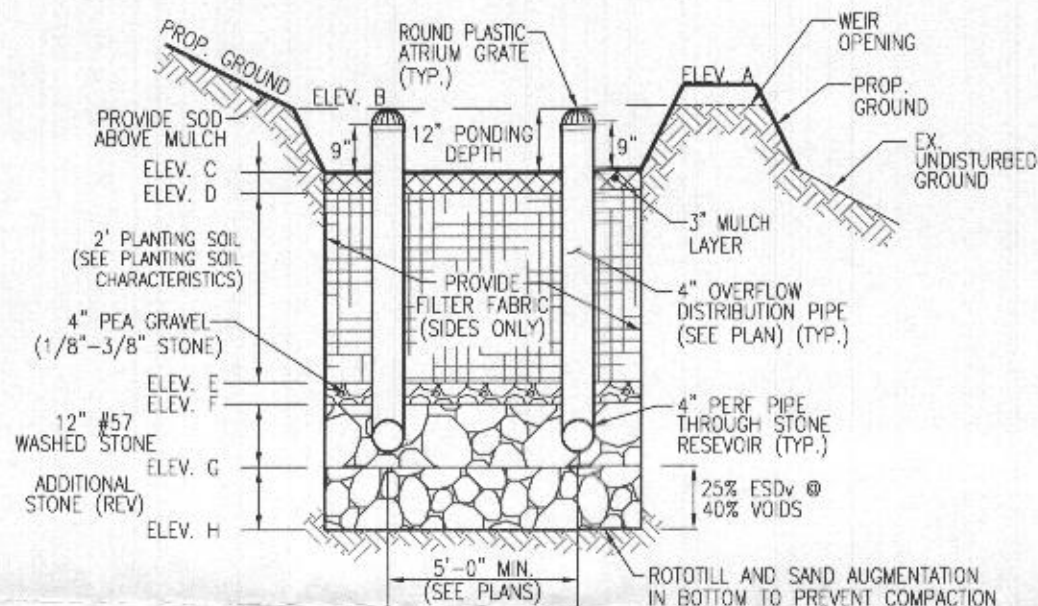
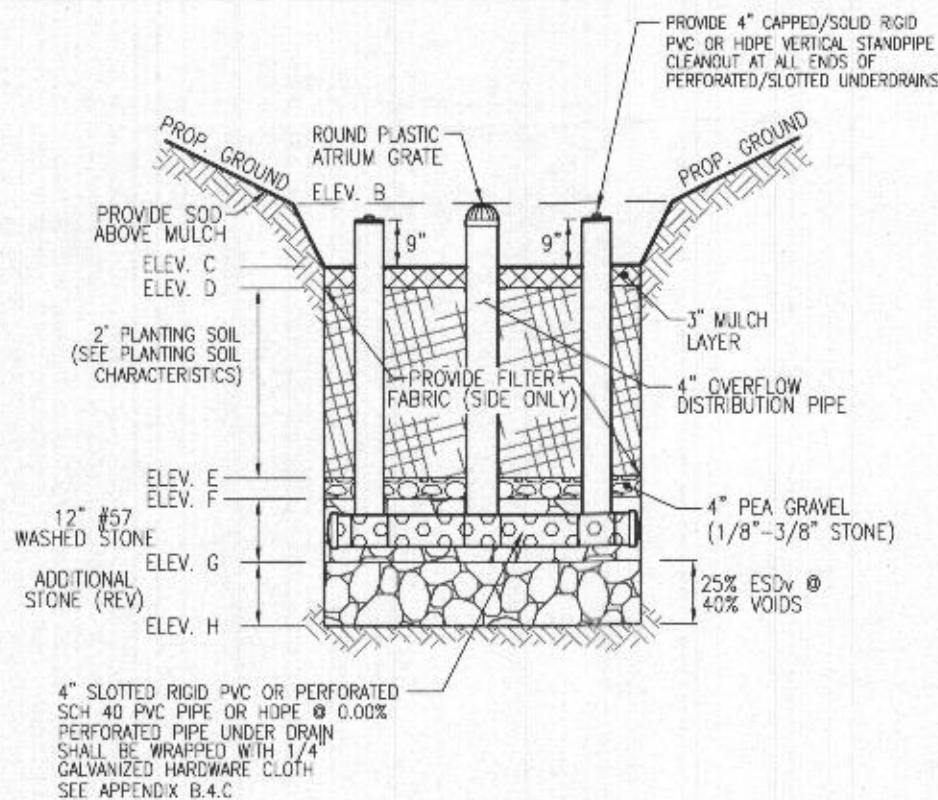
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DRAWN BY	JMR
CHECKED BY	RHV
DATE	01/20/21
W. O. #	15-36
SHEET #	2 OF 4

PARCEL: 169
TAX MAP: 15 GRID: 14
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REF: F-19-056

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PLOT PLAN
ROVER MILL ESTATES
LOT 3
3008 SKYE MEADOW WAY



MICRO-BIORETENTION (MBR-1) W/ WEIR ONLY NOT TO SCALE

MICRO-BIORETENTION FACILITY ELEVATIONS (M-6)										
FACILITY	A	B	C	D	E	F	G	H	WEIR ELEV.	UNDERDRAIN INVERT
MBR-1	506.30	506.00	505.00	504.75	502.75	502.42	501.42	500.59	506.00	501.75
										371 SF

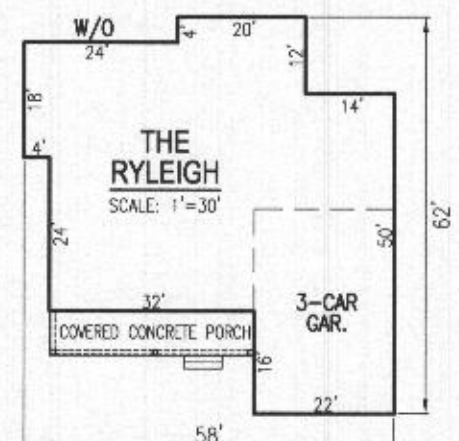
OPERATION AND MAINTENANCE SCHEDULE FOR (M-6) MICROBIORETENTION AREAS

1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. 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 VOL. II, TABLE A.4.1 AND 2.
2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

MICROBIORETENTION NOTES:

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

MBR-1
D.A.=20,589 SF IMP=5,145 I=25
Rv=0.05+(0.009)(25)=.28
ESDv=(20,589)(1.0)(0.28)/12=480 CF (MIN.)
AREA ABOVE MULCH=(480 CF)(0.75)=360 SF (MIN.)
AREA PROVIDED 371 SF
ESDv PROVIDED 371 SF/.75 = 495 CF



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SCALE 1"=30'
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W. O. # 15-36
SHEET# 3 OF 4

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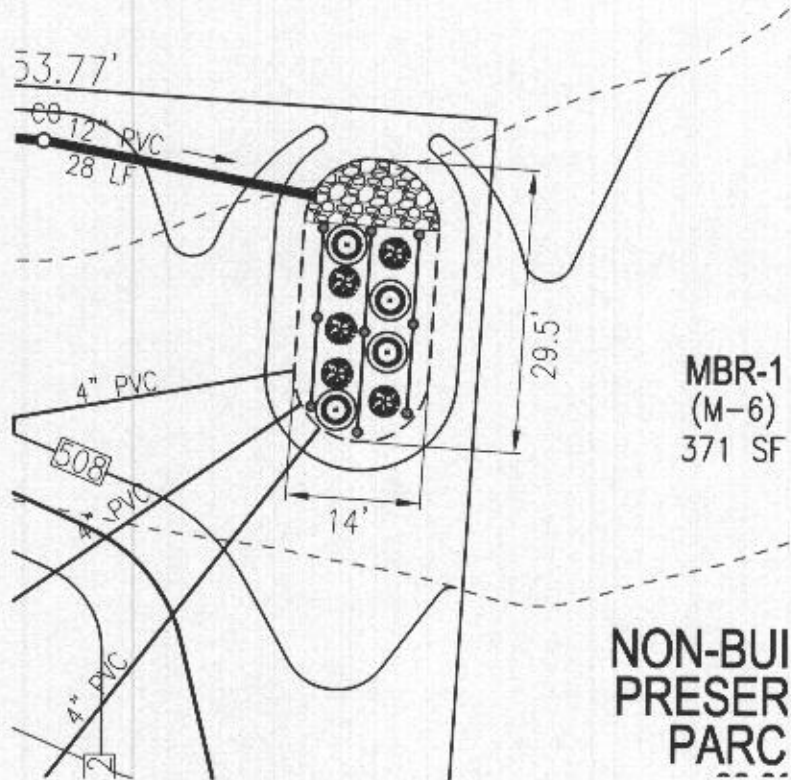
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MBR-1 PLANTING DETAIL (371 SF)
SCALE: 1"=20'

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