

GENERAL NOTES

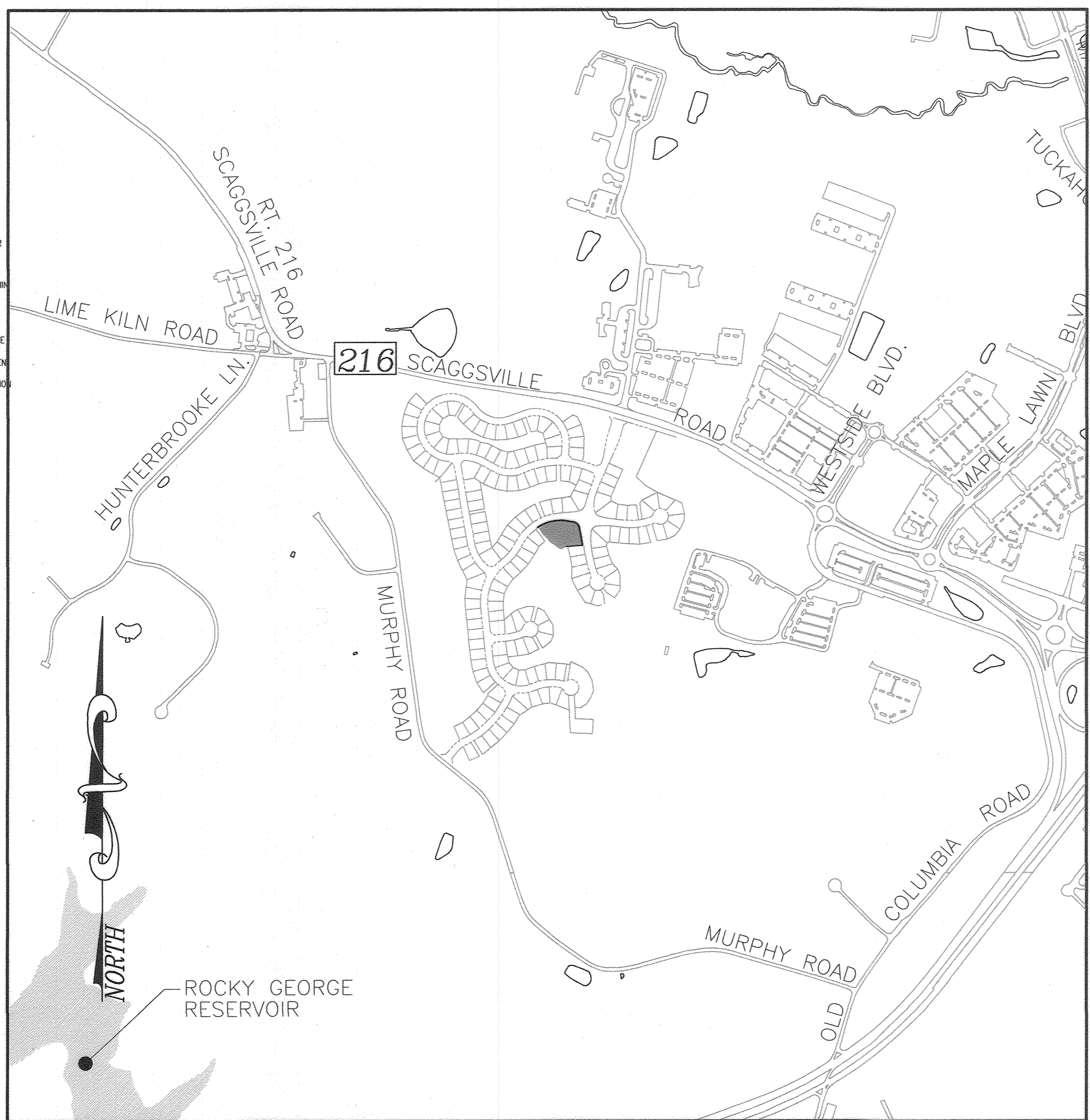
- ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE UNLESS WAIVERS HAVE BEEN APPROVED.
- THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK ON THESE DRAWINGS:
 - MISS UTILITY 1-800-257-7777
 - VERIZON TELEPHONE COMPANY: 1-410-954-6281
 - HOWARD COUNTY BUREAU OF UTILITIES: 410-313-2366
 - AT&T CABLE LOCATION DIVISION: 1-800-393-3553
 - B.G.&E. CO. CONTRACTOR SERVICES: 410-850-4620
 - B.G.&E. CO. UNDERGROUND DAMAGE CONTROL: 410-787-4620
 - STATE HIGHWAY ADMINISTRATION: 410-331-5533
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- 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 START OF WORK. IN ADDITION, THE CONTRACTOR OR DEVELOPER SHALL CONTACT THE CONSTRUCTION INSPECTION DIVISION 24 HOURS IN ADVANCE OF COMMENCEMENT OF WORK AT (410) 313-1880.
- EXISTING UTILITIES LOCATED FROM ROAD CONSTRUCTION PLANS, FIELD SURVEYS, PUBLIC WATER AND SEWER EXTENSION PLANS AND AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTOR'S INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- ANY DAMAGE TO PUBLIC RIGHT-OF-WAY, PAVING, OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- THE SUBJECT PROPERTY IS ZONED R-ED-MXD-3 IN ACCORDANCE WITH THE 10/6/13 ZONING REGULATIONS, AND IS SUBJECT TO THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS EFFECTIVE 10/2/03 PER COUNCIL BILL 75-2003.
- THIS PROJECT IS SUBJECT TO COMPLIANCE WITH THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. DEVELOPMENT OR CONSTRUCTION ON THIS PROPERTY 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 APPLICATIONS.
- THE PROJECT BOUNDARY IS BASED ON A BOUNDARY SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED APRIL 30, 2014.
- THE EXISTING TOPOGRAPHY SHOWN HEREON IS BASED ON A TOPOGRAPHIC SURVEY PREPARED BY POTOMAC AERIAL SURVEYS, DATED FEBRUARY 25, 2014. OFFSITE TOPOGRAPHY FROM HOWARD COUNTY GIS.
- THE OFFICIAL PRE-SUBMISSION COMMUNITY MEETING FOR THE MAPLE LAWN SOUTH PROJECT WAS HELD ON JUNE 5, 2014 AT NORTH LAUREL COMMUNITY CENTER.
- SOIL TYPES SHOWN HEREON ARE IN ACCORDANCE WITH THE WEB SOIL SURVEY HOWARD COUNTY, MARYLAND - CLARKSVILLE SE MAP #23.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 410E AND 46AA WERE USED FOR THIS PROJECT.
- AN ENVIRONMENTAL CONCEPT PLAN (ECP-14-093) WAS APPROVED ON NOVEMBER 21, 2014.
- A PRELIMINARY EQUIVALENT SKETCH PLAN (SP-15-014) WAS APPROVED ON SEPTEMBER 18, 2015.
- ALL DRIVEWAY ENTRANCES SHALL UTILIZE HOWARD COUNTY STANDARD DETAIL NO. R-6-06.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 - WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE).
 - SURFACE - 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CLIP COATING.
 - GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% CHANGE AND MINIMUM OF 45-FOOT DEPTH TURNING RADIUS.
 - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING).
 - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRAINAGE SURFACE.
 - STRUCTURE CLEARANCES - MINIMUM 12 FEET.
 - MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.
- THIS PROPERTY WAS INCORPORATED INTO THE METROPOLITAN DISTRICT BY CR-19-2016 BY THE COUNTY COUNCIL ON MAY 2, 2016 AND SHALL BECOME EFFECTIVE AS LAW ON JULY 5, 2016. THE AMENDMENT TO THE WATER AND SEWER MASTER PLAN WAS PASSED BY A COUNTY COUNCIL RESOLUTION (CR-36-2016) ON MAY 2, 2016 AND BECAME EFFECTIVE ON MAY 5, 2016.
 - THE PROJECT FOREMAN, GRAVITY SEWER AND WATER HOUSE CONNECTION TO OPEN SPACE LOT 182 SHALL BE CONSTRUCTED AS PART OF CONTRACT CONTRACT 24-4989-D
 - PUMPING STATION SHALL BE CONSTRUCTED UNDER CONTRACT NO. 20-4955
- SOIL COMPACTION SPECIFICATIONS, REQUIREMENTS, METHODS AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEER. GEOTECHNICAL ENGINEER TO CONFIRM ACCEPTABILITY OF PROPOSED PAVING SECTION, BASED ON SOIL TEST PRIOR TO CONSTRUCTION.
- TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL GROUNDS OR CEMETERIES LOCATED ON THIS PROPERTY.
 - THIS SITE IS NOT LOCATED IN A HISTORIC DISTRICT.
 - NO STEEP SLOPES OVER 20.000 SF CONTIGUOUS ARE LOCATED ONSITE.
 - NO AFD TRAFFIC STUDY IS REQUIRED FOR THIS COMMUNITY BUILDING PROJECT. REQUIRED STUDY PERFORMED AS PART OF THE MAPLE LAWN SOUTH PROJECT.
 - A TRAFFIC STUDY FOR THIS PROJECT PREPARED BY THE TRAFFIC GROUP, INC., DATED DECEMBER 19, 2014, WAS APPROVED APRIL 2015.
 - THE PROPOSED ACCESS POINT IS SHOWN HEREON FROM THE MAPLE LAWN SOUTH PROJECT STREET EUGENE AVENUE, CLASSIFIED AS A PUBLIC ACCESS STREET.
 - A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
 - THERE ARE NO FLOODPLAIN, WETLANDS, WETLAND BUFFERS, STREAMS, STREAM BUFFERS OR STEEP SLOPES WITHIN THE PROJECT.
 - TEST PITS WERE COMPLETED BY ROBERT H. VOGEL ENGINEERING, INC. DATED NOVEMBER/DECEMBER 2014.
 - THE PROPOSED BUILDINGS SHALL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM INSTALLED.
 - ALL EXTERIOR LIGHTING TO COMPLY WITH THE REQUIREMENTS FOUND IN ZONING SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.
 - THE EXTERIOR LIGHTING OF THE PUMP STATION STRUCTURE SHALL BE DIRECTED DOWNWARD.
 - SIGNAGE SHALL BE PROVIDED ON THE BUILDING IDENTIFYING THE BUILDING ADDRESS.
- PARKING DATA:
 - INTENDED USE OF STRUCTURE: COMMUNITY CENTER/POOL (RECREATIONAL USE)
 - NUMBER OF SPACES REQUIRED: 39
 - NUMBER OF SPACES PROVIDED: 23 ONSITE - SEE PARKING TABULATION NOTES
- THERE ARE NO WETLANDS OR STREAMS ON OPEN SPACE LOT 179. WETLANDS AND STREAMS SHOWN OFFSITE ARE BASED ON THE DELINEATION BY ENVIRONMENTAL SYSTEMS ANALYSIS, INC. (ESA), AUGUST 2013.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100-YEAR FLOODPLAIN.
- FOREST STAND DELINEATION PLAN FOR THE ENTIRE MAPLE LAWN SOUTH DEVELOPMENT WAS PREPARED BY KLEBASCO ENVIRONMENTAL, LLC. C/O MR. MICHAEL J. KLEBASCO, P.E., DATED MAY 2014.
- FOREST CONSERVATION HAS BEEN ADDRESSED UNDER F16-021 TO FULFILL THE REQUIREMENTS OF SECTION 16.100 OF THE HOWARD COUNTY FOREST CONSERVATION ACT.
- NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
- A TEST PIT REPORT FOR THIS PROJECT WAS PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED FEBRUARY 2015.
- STORMWATER MANAGEMENT FOR THIS PROJECT IS PROVIDED BY MICRO-SCALE PRACTICES IN ACCORDANCE WITH ENVIRONMENTAL DESIGN CRITERIA. THE MICRO-RETENTION FACILITY AND DRYWELL WILL BE PRIVATELY OWNED AND MAINTAINED (TO INCLUDE OUTLET STRUCTURE AND PIPE, MULCH, WEEDING, PLANTINGS, PERFORATED UNDERDRAINS, FEEDER PIPES, AND ROUTINE SOIL REPLACEMENT).
- THIS PLAN IS EXEMPT FROM PERIMETER LANDSCAPING REQUIREMENTS AS IT IS INTERIOR TO THE PROJECT.
 - STREET TREES HAVE BEEN PROVIDED UNDER F-16-072.
- HEALTH DEPARTMENT APPROVAL OF THIS SITE DEVELOPMENT PLAN DOES NOT ENSURE APPROVAL OF BUILDING PERMIT APPLICATIONS ASSOCIATED WITH THIS PLAN. PLANS FOR CERTAIN FACILITIES TO BE CONSTRUCTED WITHIN THE LIMITS DESCRIBED BY THIS PLAN WILL REQUIRE REVIEW AND APPROVAL BY THE HEALTH DEPARTMENT. SUCH FACILITIES MAY INCLUDE, BUT ARE NOT LIMITED TO, THOSE WHICH HAVE SWIMMING POOLS, OR THAT SELL PREPARED OR PACKAGED FOODS, OR THAT MAY HAVE EQUIPMENT THAT EMITS RADIATION.
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED QUICK PUNCH, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED QUICK PUNCH, SQUARE TUBE SLEEVE (12 GAUGE - 3" LONG).
 - THE ANCHOR SHALL NOT EXTEND MORE THAN TWO "QUICK PUNCH" HOLES ABOVE GROUND LEVEL.
 - A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON THE TOP OF EACH POST.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. A FINANCIAL SURETY IN THE AMOUNT OF \$ 4,740.00 FOR THE REQUIRED LANDSCAPING 6 SHADE TREES (1,800), 12 EVERGREENS (1,800), 2 PARKING LOT SHADE TREES (600) AND 18 SHRUBS (540) SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS PLAN.
- THIS COMMUNITY BUILDING PROJECT IS SUBJECT TO AA CASE NO. AA-17-018; THE DIRECTOR OF THE DEPARTMENT OF PLANNING AND ZONING SIGNED THE DECISION AND ORDER ON AUGUST 13, 2018 AN ADMINISTRATIVE ADJUSTMENT FROM:
 - SECTION 107.0.D.4.b(3) - REDUCE THE REQUIRED 20' OTHER STRUCTURE OR USE SETBACK TO 16.9' FOR THE PURPOSE OF PARKING ADJACENT TO EUGENE AVENUE
 - SECTION 107.0.D.4.b(4) - REDUCE THE REQUIRED 20' USE SETBACK TO 16.7' FOR THE PURPOSE OF PARKING ADJACENT TO THE WEST PROPERTY LINE.
 - SECTION 107.0.D.4.b(4) - REDUCE THE REQUIRED 20' USE SETBACK TO 17.6 TO ACCOMMODATE THE POOL DECK WHICH SURROUNDS THE COMMUNITY POOL.

SITE ANALYSIS DATA CHART

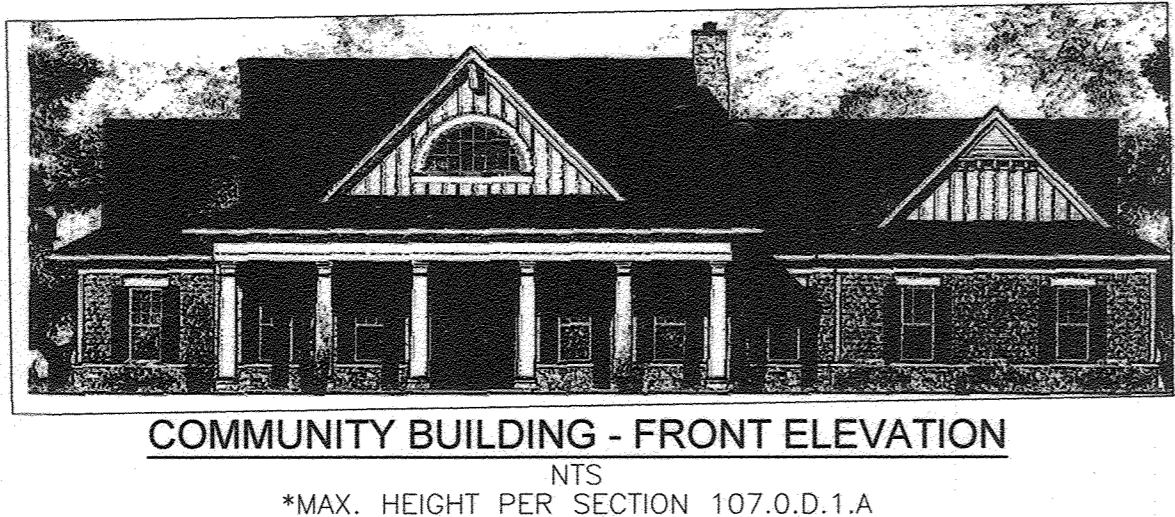
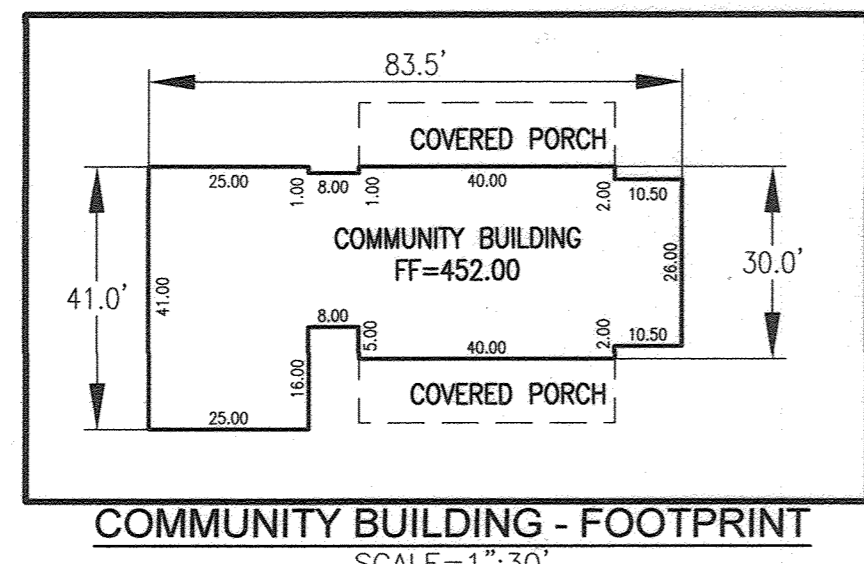
SUBJECT PROPERTY:		TAX MAP 46 GRID 2 P/O PARCEL 113 OPEN SPACE LOT 179 PLAT # 24661
PROPERTY REFERENCE:		
A. TOTAL PROJECT AREA:		0.987 AC.
B. AREA OF PLAN SUBMISSION:		0.987 AC.
C. LIMIT OF DISTURBED AREA:		1.06 AC.
D. PRESENT ZONING DESIGNATION:		R-ED-MXD-3
E. PROPOSED USES FOR SITE AND STRUCTURES:		POOL AND COMMUNITY CENTER 2,690 SF 2 FLOOR AREA
F. FLOOR SPACE ON EACH LEVEL:		6,256
G. TOTAL NUMBER OF UNITS ALLOWED:		N/A
H. TOTAL NUMBER OF UNITS PROPOSED:		1 BUILDING
I. MAXIMUM # OF EMPLOYEES:		N/A
J. NUMBER OF PARKING SPACES REQUIRED:		39
K. NUMBER OF PARKING SPACES PROVIDED:		23 *SEE PARKING TABULATION NOTE
L. BUILDING COVERAGE:		6.25%
M. DPZ FILE REFERENCES:		ECP-14-093, WP-15-136, PB#415, SP-15-014, F-16-021, F16-072, CONF# 24-4989-D, AA-17-018, WP-18-117
N. ANY OTHER INFORMATION:		N/A
O. FLOOR AREA RATIO (FAR):		N/A

SITE DEVELOPMENT PLAN MAPLE LAWN SOUTH COMMUNITY BUILDING

OPEN SPACE LOT 179
HOWARD COUNTY, MARYLAND



NOTE
THE EXISTING GRADES SHOWN HEREON WILL BE ESTABLISHED UNDER THE FINAL ROAD AND STORM DRAIN CONSTRUCTION PLANS FOR MAPLE LAWN SOUTH PHASE 1 - SECTION 2 F-16-072.



COMMUNITY BUILDING - FRONT ELEVATION
NTS
*MAX. HEIGHT PER SECTION 107.0.D.1.A

PARKING TABULATION

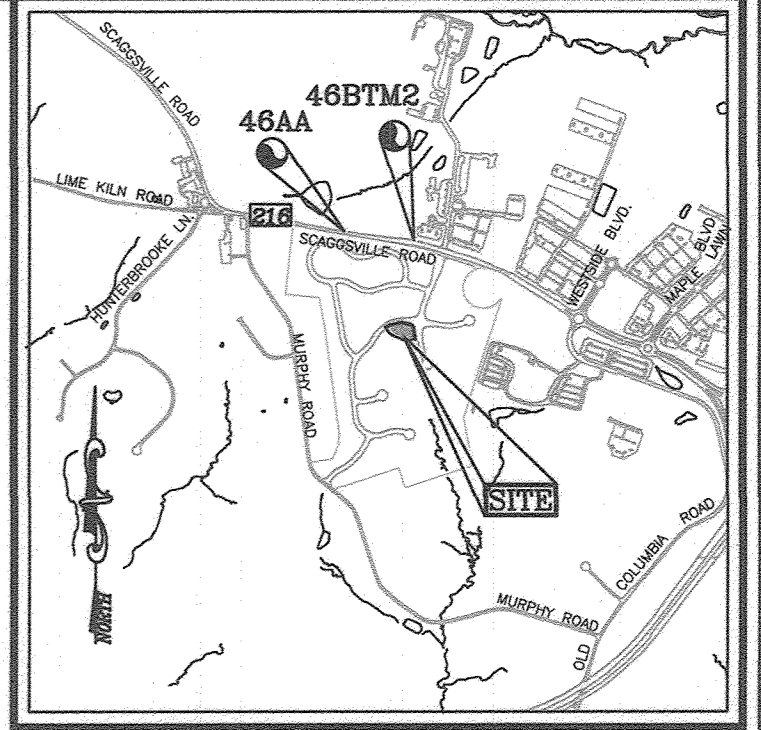
1. NUMBER OF PARKING SPACES REQUIRED:	COMMUNITY POOL @ 3,262 SF 1 PER 7 PERMITTED IN POOL AT ONE TIME AS REQ. BY HOWARD COUNTY HEALTH
2. NUMBER OF PARKING SPACES PROVIDED:	23 SPACES*

*NOTE:
THE DIVISION OF LAND DEVELOPMENT APPROVES THE PARKING REDUCTION FOR THE COMMUNITY BUILDING POOL, BASED ON THE FOLLOWING REASONS:
1. THE DEVELOPER HAS DEMONSTRATED THAT SIMILAR RESIDENTIAL DEVELOPMENTS HAVE NOT HAD PARKING ISSUES AT COMMUNITY POOL AREA.
2. ON-STREET PARKING IS PERMITTED ON THE PUBLIC STREETS NEAR THE POOL.
3. THE CLUBHOUSE WILL NOT BE AN EVENT CENTER, WILL MAINLY FUNCTION AS A H.O.A. MEETING PLACE AND RESTROOM FOR POOL ATTENDEES.

BENCHMARKS

HOWARD COUNTY BENCHMARK 46AA
N 540,396.42 E 1,335,505.31 ELEV: 447.01 FT.
RT. 216, 33.2' WEST OF BG&E POLE#315163

HOWARD COUNTY BENCHMARK 410E
N 541,559.78 E 1,333,898.38 ELEV: 465.05 FT.
RT. 216, 82.4' WEST OF BG & E#557787



VICINITY MAP
SCALE: 1"=2000'
ADC MAP COORDINATES: 18J 5, 6
18J 5, 6

SHEET INDEX

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OPEN SPACE LOT 179: METES AND BOUNDS
SCALE: 1"=50'

COORDINATE TABLE

POINT	NORTHING	EASTING
10	539394.5568	1335938.8137
11	539441.7905	1336085.1423
12	539439.3286	1336134.3250
13	539430.0227	1336187.4419
14	539390.5243	1336227.8534
15	539335.6084	1336238.7733
16	539269.7559	1336249.5975
17	539260.2700	1336127.4633
18	539243.4952	1336089.7658
19	539297.3102	1336013.5874
20	539311.4606	1336006.5727
21	539348.1681	1335967.3223

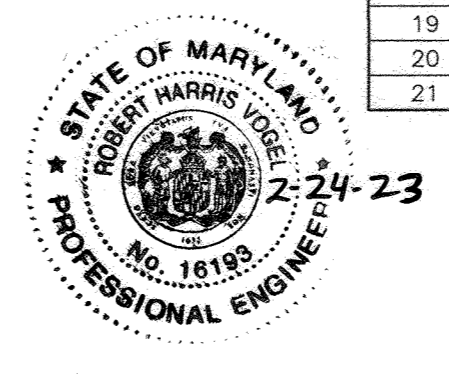
OWNER
MAPLE LAWN FARMS, INC.
11788 SCAGGSVILLE ROAD
FULTON, MD 20759-0562
301-725-2074

DEVELOPER
MAPLE LAWN PARTNERS, LLC
2661 RIVA ROAD, SUITE 220
ANNAPOLIS, MARYLAND 21401
443-472-2846

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
Wilson for Maurea Rossman 2/22/2019
COUNTY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chad Edmister 2-26-19 415-19
CHIEF, DEVELOPMENT ENGINEERING DIVISION
West 4-24-19
CHIEF, DIVISION OF LAND DEVELOPMENT
Nalini 4-24-19
DIRECTOR

AS-BUILT CERTIFICATION FOR PSM
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREAS ARE SUFFICIENTLY STABILIZED TO PREVENT CLOGGING OF THE UNDERGROUND SWM FACILITY.
Robert H. Vogel 16193 2-24-23
PE # DATE



NO AS-BUILT INFORMATION ON THIS SHEET

ADDRESS CHART

LOT NUMBER	STREET ADDRESS
OPEN SPACE	11101 EUGENE AVENUE
LOT 179	

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION/AREA	LOTS/PARCEL #
MAPLE LAWN SOUTH	N/A	OPEN SPACE LOT 179
PLAT # OR L/F	BLOCK NO.	ZONE
F-16-072	2	R-ED MXD-3
PLAT # 24661		
TAX MAP	ELECT. DIST.	CENSUS TR.
46	5TH	605102

**SITE DEVELOPMENT PLAN
COVER SHEET**

**MAPLE LAWN SOUTH
COMMUNITY BUILDING**
MAPLE LAWN SOUTH - PHASE 1 - SECTION 2
OPEN SPACE LOT 179

TAX MAP 46 - GRID 2 - PARCEL 113
5TH ELECTRIC DISTRICT
DPZ REF: ECP-14-093, WP-15-136, PB#415, SP-15-014, F-16-021, F-16-072, AA-17-018, WP-18-117

HOWARD COUNTY, MARYLAND
ZONED: R-ED-MXD-3

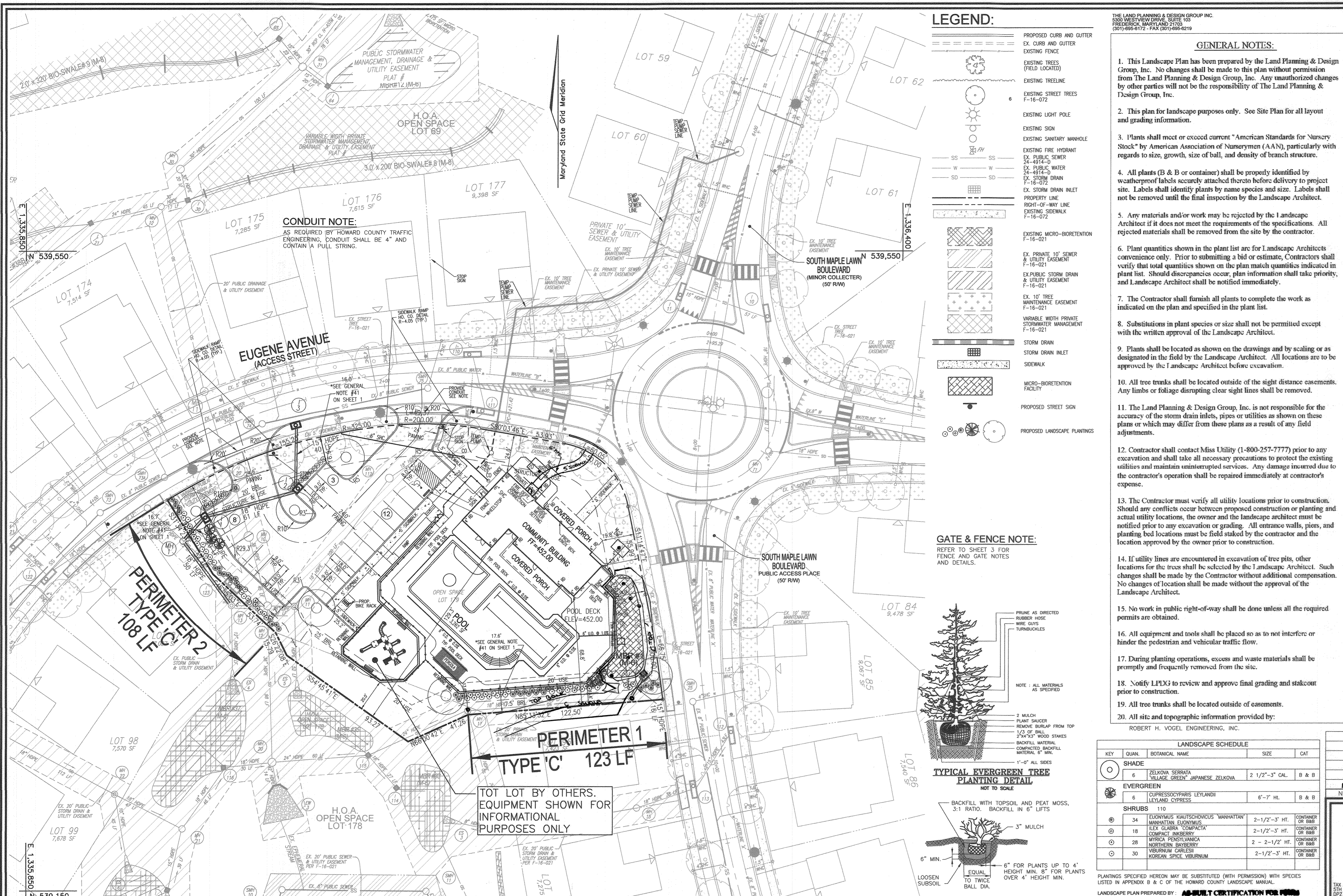
**ROBERT H. VOGEL
ENGINEERING, INC.**
ENGINEERS • SURVEYORS • PLANNERS
3300 N. RIDGE ROAD, SUITE 110, ELLETTT CITY, MD 21043
TEL: 410.461.7666 FAX: 410.461.8961

DESIGN BY: RVE
DRAWN BY: RVE
CHECKED BY: RHV
DATE: SEPTEMBER 2018
SCALE: AS SHOWN
W.O. NO.: 11-34

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. MY LICENSE NO. IS 16193. EXPIRATION DATE: 08-27-2020

1 SHEET OF 9

AS-BUILT, NOVEMBER 2022



LEGEND:

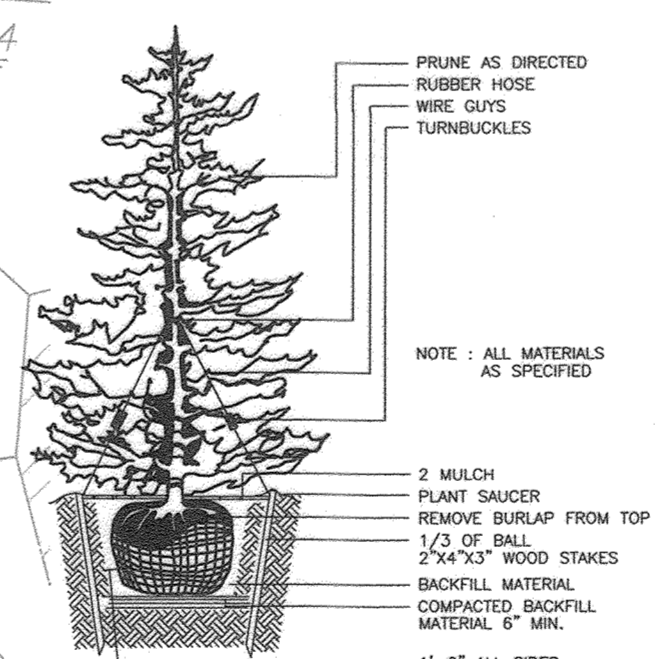
- PROPOSED CURB AND GUTTER
- EX. CURB AND GUTTER
- EXISTING FENCE
- EXISTING TREES (FIELD LOCATED)
- EXISTING TREETRINE
- EXISTING STREET TREES F-16-072
- EXISTING LIGHT POLE
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING FIRE HYDRANT
- EX. PUBLIC SEWER 24-4914-D
- EX. PUBLIC WATER 24-4914-D
- EX. STORM DRAIN F-16-072
- EX. STORM DRAIN INLET
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- EXISTING SIDEWALK F-16-072
- EXISTING MICRO-BIORETENTION F-16-021
- EX. PRIVATE 10" SEWER & UTILITY EASEMENT F-16-021
- EX. PRIVATE 10" WATER & UTILITY EASEMENT F-16-021
- EX. 10" TREE MAINTENANCE EASEMENT F-16-021
- VARIABLE WIDTH PRIVATE STORMWATER MANAGEMENT F-16-021
- STORM DRAIN
- STORM DRAIN INLET
- SIDEWALK
- MICRO-BIORETENTION FACILITY
- PROPOSED STREET SIGN
- PROPOSED LANDSCAPE PLANTINGS

GENERAL NOTES:

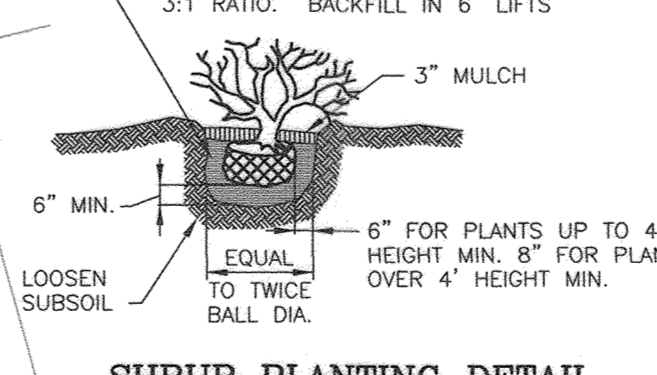
1. This Landscape Plan has been prepared by the Land Planning & Design Group, Inc. No changes shall be made to this plan without permission from The Land Planning & Design Group, Inc. Any unauthorized changes by other parties will not be the responsibility of The Land Planning & Design Group, Inc.
2. This plan for landscape purposes only. See Site Plan for all layout and grading information.
3. Plants shall meet or exceed current "American Standards for Nursery Stock" by American Association of Nurserymen (AAN), particularly with regards to size, growth, size of ball, and density of branch structure.
4. All plants (B & B or container) shall be properly identified by weatherproof labels securely attached thereto before delivery to project site. Labels shall identify plants by name species and size. Labels shall not be removed until the final inspection by the Landscape Architect.
5. Any materials and/or work may be rejected by the Landscape Architect if it does not meet the requirements of the specifications. All rejected materials shall be removed from the site by the contractor.
6. Plant quantities shown in the plant list are for Landscape Architects convenience only. Prior to submitting a bid or estimate, Contractors shall verify that total quantities shown on the plan match quantities indicated in plant list. Should discrepancies occur, plan information shall take priority, and Landscape Architect shall be notified immediately.
7. The Contractor shall furnish all plants to complete the work as indicated on the plan and specified in the plant list.
8. Substitutions in plant species or size shall not be permitted except with the written approval of the Landscape Architect.
9. Plants shall be located as shown on the drawings and by scaling or as designated in the field by the Landscape Architect. All locations are to be approved by the Landscape Architect before excavation.
10. All tree trunks shall be located outside of the sight distance easements. Any limbs or foliage disrupting clear sight lines shall be removed.
11. The Land Planning & Design Group, Inc. is not responsible for the accuracy of the storm drain inlets, pipes or utilities as shown on these plans or which may differ from these plans as a result of any field adjustments.
12. Contractor shall contact Miss Utility (1-800-257-7777) prior to any excavation and shall take all necessary precautions to protect the existing utilities and maintain uninterrupted services. Any damage incurred due to the contractor's operation shall be repaired immediately at contractor's expense.
13. The Contractor must verify all utility locations prior to construction. Should any conflicts occur between proposed construction or planting and actual utility locations, the owner and the landscape architect must be notified prior to any excavation or grading. All entrance walls, pipes, and planting bed locations must be field staked by the contractor and the location approved by the owner prior to construction.
14. If utility lines are encountered in excavation of tree pits, other locations for the trees shall be selected by the Landscape Architect. Such changes shall be made by the Contractor without additional compensation. No changes of location shall be made without the approval of the Landscape Architect.
15. No work in public right-of-way shall be done unless all the required permits are obtained.
16. All equipment and tools shall be placed so as to not interfere or hinder the pedestrian and vehicular traffic flow.
17. During planting operations, excess and waste materials shall be promptly and frequently removed from the site.
18. Notify LDPG to review and approve final grading and stakout prior to construction.
19. All tree trunks shall be located outside of easements.
20. All site and topographic information provided by: ROBERT H. VOGEL ENGINEERING, INC.

GATE & FENCE NOTE:

REFER TO SHEET 3 FOR FENCE AND GATE NOTES AND DETAILS.

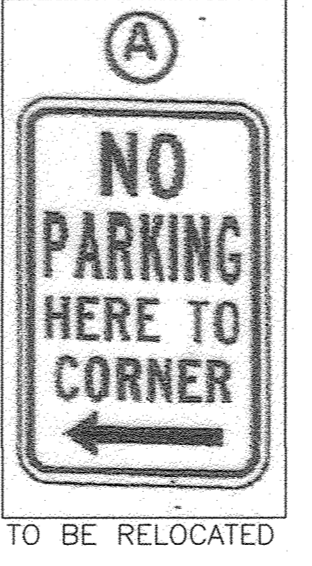


TYPICAL EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE



SHRUB PLANTING DETAIL
NOT TO SCALE

F-16-072 SIGN



TO BE RELOCATED

LANDSCAPE SCHEDULE NOTES:

1. ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT ANY SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HRO PLANTING SPECIFICATIONS.
2. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING. FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS.
3. 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.

THE LAND PLANNING & DESIGN GROUP, INC.
3300 WEST DRIVE, SUITE 103
FREDERICK, MARYLAND 21703
(301) 498-9172 FAX (301) 498-9219

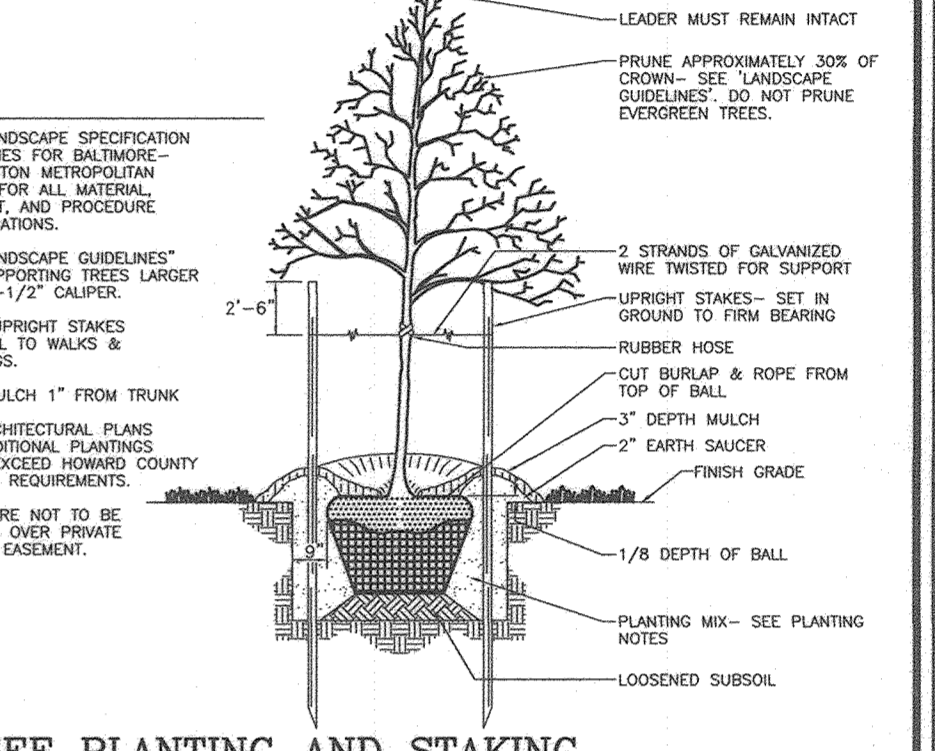
SCHEDULE A PERIMETER LANDSCAPE EDGE

CATEGORY	ROAD AND PERIMETER PROPERTIES		TOTAL
	C	C	
PERIMETER FRONTAGE DESIGNATION	123'	108'	
LANDSCAPE TYPE	C	C	
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	NO	NO	
CREDIT FOR EXISTING VEGETATION (YES/NO LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	
CREDIT FOR WALL FENCE OR BERM (YES/NO LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	
NUMBER OF PLANTS REQUIRED	140	140	3
SHRUBS	120	6	120
EVERGREEN TREES			6
NUMBER OF PLANTS PROVIDED	2	2	4
SHRUBS	3	3	6
EVERGREEN TREES	46	46	92
OTHER TREES (2:1 SUBSTITUTION) SHRUBS (10:1 SUBSTITUTION) EX. SPECIMEN TREES TO REMAIN DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED			
PERIMETER 1 SUBSTITUTIONS 1 SHADE = 10 SHRUBS, 3 EVERGREEN + 30 SHRUBS = 40 TOTAL REQ 46 SHRUBS PROVIDED			
PERIMETER 2 SUBSTITUTIONS 1 SHADE = 10 SHRUBS, 3 EVERGREEN + 30 SHRUBS = 40 TOTAL REQ 46 SHRUBS PROVIDED			

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING

CATEGORY	ROAD AND PERIMETER PROPERTIES		TOTAL
	C	C	
NUMBER OF PARKING SPACES			23
NUMBER OF TREES REQUIRED			2SHADE/18 SHRUBS
NUMBER OF TREES PROVIDED			2
SHRUBS (10:1 SUBSTITUTION)			18
NUMBER OF SPACES = 1 PER 10 SPACES			

THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. A FINANCIAL SURETY IN THE AMOUNT OF \$ 4,740.00 FOR THE REQUIRED LANDSCAPING 6 SHADE TREES (1,800), 12 EVERGREENS (1,800), 2 PARKING LOT SHADE TREES (600) AND 18 SHRUBS (540) SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS PLAN.



TREE PLANTING AND STAKING
DECIDUOUS TREES UP TO 2-1/2" CALIPER NOT TO SCALE

LANDSCAPE NOTES:

1. AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THE APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO THE APPLICABLE PLANS.
2. THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
3. SHOULD ANY TREE DESIGNATED FOR PRESERVATION FOR WHICH LANDSCAPING CREDIT IS GIVEN, DIE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD, AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST BE A MINIMUM OF 3 INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE HOWARD COUNTY LANDSCAPE MANUAL.
4. PLANTINGS SHOWN HEREON ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL DURING THE CONSTRUCTION OF THE FINAL PLAN.
5. SURETY FOR THE PROPOSED LANDSCAPING SHALL BE BASED ON THE NUMBER OF PLANTINGS REQUIRED.

OWNER MAPLE LAWN FARMS, INC. 11788 SCAGGSVILLE ROAD FULTON, MD 20759-0562 301-725-2074	DEVELOPER MAPLE LAWN PARTNERS, LLC 2661 RIVA ROAD, SUITE 220 ANNAPOLIS, MARYLAND 21401 443-472-2846
---	--

LANDSCAPE SCHEDULE			
KEY	QUAN.	BOTANICAL NAME	CAT
○	6	SHADE ZELKOVA SERRATA 'VILLAGE GREEN' JAPANESE ZELKOVA	2 1/2"-3" CAL. B & B
●	6	EVERGREEN CUPRESSOCYPARIS LEYLANDII LEYLAND CYPRESS	6"-7" HL. B & B
⊙	SHRUBS 110		
⊙	34	EURYNANUS KRUTSCHOWICUS 'MANHATTAN'	2-1/2"-3" HT. CONTAINER OR BAR
⊙	18	MANHATTAN EURYNANUS 'LEX GLABRA' 'COMPACTA'	2-1/2"-3" HT. CONTAINER OR BAR
⊙	20	MYRTICA PENNSYLVANICA NORTHERN BAYBERRY	2 - 2-1/2" HT. CONTAINER OR BAR
⊙	38	VIBURNUM CARLESII KOREAN SPICE VIBURNUM	2-1/2"-3" HT. CONTAINER OR BAR

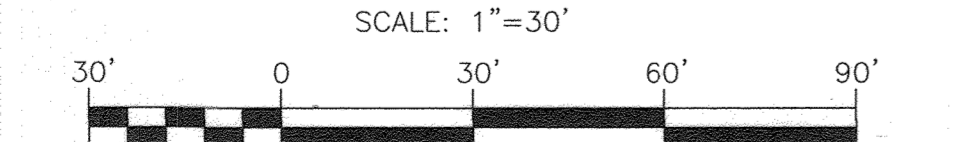
PLANTINGS SPECIFIED HEREON MAY BE SUBSTITUTED (WITH PERMISSION) WITH SPECIES LISTED IN APPENDIX B & C OF THE HOWARD COUNTY LANDSCAPE MANUAL.

LANDSCAPE PLAN PREPARED BY: **AS-BUILT CERTIFICATION FOR PERMS**
THE LAND PLANNING & DESIGN GROUP, INC.
3300 WEST DRIVE, SUITE 103, FREDERICK, MARYLAND 21703
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THESE PLANS WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS WITH THE APPROVED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREAS REPRESENTED ON THESE PLANS ARE ACCURATE AND CORRECTLY REPRESENTED BY THE UNDERGROUND SWM FACILITY.

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 CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

SIGNATURE OF DEVELOPER: _____ DATE: 2-4-19

SITE LAYOUT & LANDSCAPE PLAN
SCALE: 1"=30'



TRAFFIC CONTROL SIGN LOCATION CHART			
ROAD NAME	STATION	OFFSET	TYPE
EUGENE AVE	1+42.7	17.1' L	EXISTING F-16-072 SIGN - "A" NO PARKING SIGN RELOCATE/REPLACE FROM 1+74.34; 15.06' L
EUGENE AVE	2+25.00	15.00' L	EXISTING W3-2 YIELD AHEAD, W13-1 15 MPH (BELOW), ADD "NO PARKING HERE TO CORNER" (DBL ARROW)
EUGENE AVE	4+4.00	16.0' L	"A" "NO PARKING HERE TO CORNER"
EUGENE AVE	1+62.6	27.0' L	R1-1 STOP SIGN
EUGENE AVE	2+79.5	27.0' L	R1-1 STOP SIGN

NOTE: ALL SIGN LOCATIONS ARE APPROXIMATE. HOWARD COUNTY TRAFFIC SHALL FIELD APPROVE OR MARK ALL SIGN LOCATIONS PRIOR TO ANY SIGNS BEING INSTALLED. CALL 410-313-5752.

TOT LOT NOTE:

TOT LOT EQUIPMENT IS SHOWN FOR INFORMATION ONLY. PLAY EQUIPMENT SHALL BE PROVIDED IN ACCORDANCE WITH SECT 16.121(A)(4) AND ASSOCIATED POLICY DATED JUNE 15, 2012. REFER TO CREDITED RECREATION OPEN SPACE F-16-021.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division: _____ DATE: 4-15-19
 Chief, Division of Land Development: _____ DATE: 4-24-19
 Director: _____ DATE: 4-24-19

NO.	TO ADD HANDICAP ROUTE AND SHOW EXIT DOOR ON A REVISION	DATE
1		7-30-19

SITE DEVELOPMENT PLAN
SITE LAYOUT & LANDSCAPE PLAN
MAPLE LAWN SOUTH COMMUNITY BUILDING
MAPLE LAWN SOUTH - PHASE 1 - SECTION 2
OPEN SPACE LOT 179

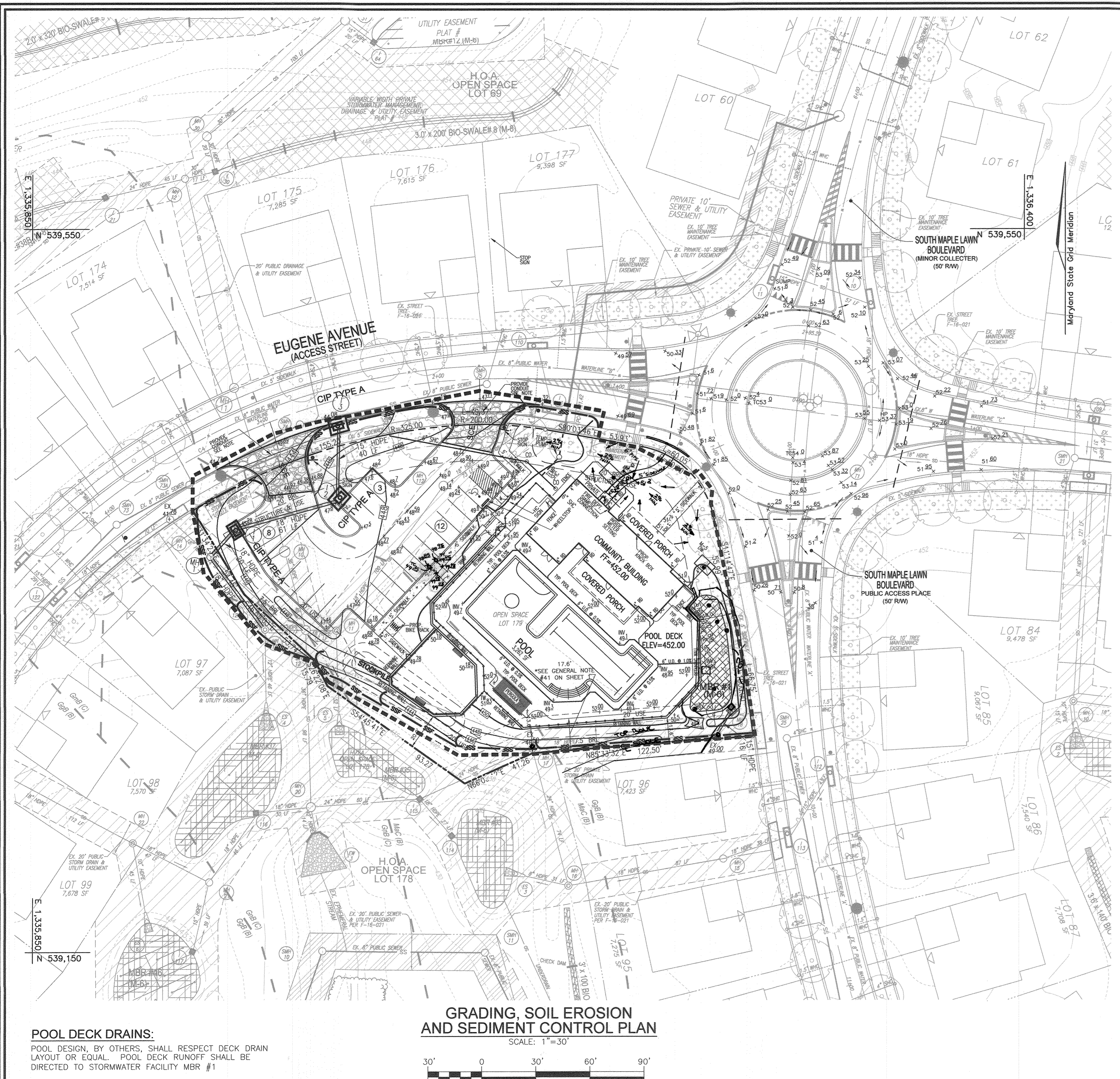
TAX MAP 46 - GRID 2 - PARCEL 113
5TH ELECTION DISTRICT
ZONED: R-ED-MXD-3
HOWARD COUNTY, MARYLAND
REF: EOP-14-003, WP-15-136, PRB415, SP-15-014, F-16-021, F-16-072, AA-17-018, WP-18-117

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
3300 N. RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
TEL: 410.461.7666 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE
DESIGN BY: RVE
DRAWN BY: RVE
CHECKED BY: RHV
DATE: SEPTEMBER 2018
SCALE: AS SHOWN
W.O. NO.: 11-34

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAW OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRES 09-27-2020

STATE OF MARYLAND
ROBERT H. VOGEL, PE, No. 16193



POOL DECK NOTE:
 POOL & POOL DECK DESIGN BY OTHERS.
 TYPICAL POOL DECK SHALL NOT EXCEED A 2% SLOPE
 WHERE REQUIRED TO BE HANDICAP ACCESSIBLE

LEGEND:

	EXISTING CONTOUR
	PROPOSED CONTOUR
	PROPOSED SPOT ELEVATION
	EXISTING CURB AND GUTTER
	PROPOSED CURB AND GUTTER
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	EXISTING SIGN
	EXISTING SANITARY MANHOLE
	EXISTING SANITARY LINE
	EXISTING CLEANOUT
	EXISTING FIRE HYDRANT
	EXISTING WATER LINE
	EXISTING STORM DRAIN LINE
	EXISTING FORCE MAIN LINE
	EXISTING SPECIMEN TREE
	EXISTING STREET TREES
	EXISTING TREE LINE
	6' HIGH CHAIN LINK FENCE
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	EXISTING SIDEWALK
	EXISTING MICRO-BIORETENTION
	EX. PRIVATE 10' SEWER & UTILITY EASEMENT
	EX. PUBLIC STORM DRAIN & UTILITY EASEMENT
	EX. 10' TREE MAINTENANCE EASEMENT
	VARIABLE WIDTH PRIVATE STORMWATER MANAGEMENT
	PROPOSED STORM DRAIN
	PROPOSED STORM DRAIN INLET
	PROPOSED SIDEWALK
	SOILS BOUNDARY
	SUPER SILT FENCE
	STABILIZED CONSTRUCTION ENTRANCE
	LIMIT OF DISTURBANCE

NOTE
 THE EXISTING GRADES SHOWN HEREON WILL BE ESTABLISHED UNDER THE FINAL ROAD AND STORM DRAIN CONSTRUCTION PLANS FOR MAPLE LAWN SOUTH PHASE 1 - SECTION 2 F16-072



AS-BUILT CERTIFICATION FOR P591M
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND COMPARES WITH THE ASHAWKED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONSTRUCTING DRAINAGE AREA IS SUFFICIENTLY STABILIZED TO PREVENT CLOGGING OF THE UNDERGROUND SWM FACILITY.

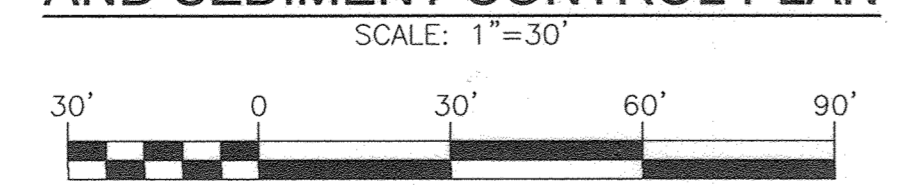
DATE: 11-19-22
 P.E. # 16193

- NOTES**
- ALL EARTH DIKES ARE TO BE PLACED IN WORKING ORDER AT THE END OF EACH WORKING DAY.
 - IMBRICATE SF/SF IN 35' SEGMENTS AS REQUIRED UPHILL BY 2' IN ELEVATION.

NOTE:
 STABILIZATION IS TO BE DONE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR OR AT THE INTERVALS REQUIRED BY THE 2011 STDS. & SPECS. WHICHEVER IS MORE RESTRICTIVE.

NOTE:
 - SILT FENCE IS TO BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
 - SILT FENCE SHALL BE CURLED UPHILL NO MORE THAN 35 FEET APART
 - DOUBLE ROWS OF SUPER SILT FENCE SHALL BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN



POOL DECK DRAINS:
 POOL DESIGN, BY OTHERS, SHALL RESPECT DECK DRAIN LAYOUT OR EQUAL. POOL DECK RUNOFF SHALL BE DIRECTED TO STORMWATER FACILITY MBR #1

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 4/15/19
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 4-24-19
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 4-24-19
 DIRECTOR DATE

OWNER/DEVELOPER CERTIFICATION:
 I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING RESPECTING AND MAINTAINING CONTROLS, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE INSPECTION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT, AND THE STATE OF MARYLAND.

[Signature] 2-4-19
 OWNER/DEVELOPER SIGNATURE DATE

[Signature]
 PRINTED NAME & TITLE

DESIGN CERTIFICATION:
 I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS. THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 2/15/19
 DESIGNER'S SIGNATURE DATE

[Signature]
 PRINTED NAME

NO. REGISTRATION NO. 16193
 (P.E., R.L.S., OR R.L.A. (circle one))

NOTES

- REFER TO SHEET 4 FOR STANDARD DETAILS AND STABILIZATION NOTES.
- REFER TO SHEET 5 FOR SOIL BORINGS.

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

[Signature] 2/15/19
 HOWARD S.C.D. DATE

MAPPED SOILS TYPES - CLARKSVILLE SE MAP #23

SYMBOL / DESCRIPTION	GROUP	HYDRIC	PERCENT HYDRIC	K FACTOR	PERCENT FROM	PERCENT FROM	PERCENT FROM
GsB CLENGLE LOAM, 3 TO 8 PERCENT SLOPES	B	NO	NO	0.20	YES	NO	NO
GmB CLENGLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.37	YES	YES	NO
GhB CLENGLE-SILT LOAM, 0 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO	PARTIAL	NO
MmC MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.24	YES	NO	NO

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY

NOTE:
 HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

* BAILE COMPONENT OF GsB SOIL, ERODIBILITY FACTOR IS 0.32 AND IS CONSIDERED HYDRIC.

OWNER
 MAPLE LAWN FARMS, INC.
 11788 SCAGSVILLE ROAD
 FULTON, MD 20759-0562
 301-725-2074

DEVELOPER
 MAPLE LAWN PARTNERS, LLC
 2661 RIVA ROAD, SUITE 220
 ANNAPOLIS, MARYLAND 21401
 443-472-2846

1	TO ADD HANDICAP ROUTE AND SHOW EXIT DOOR O/A	1-30-19
NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
 GRADING, SOILS MAP AND SOIL EROSION AND SEDIMENT CONTROL PLAN

MAPLE LAWN SOUTH COMMUNITY BUILDING
 MAPLE LAWN SOUTH - PHASE 1 - SECTION 2
 OPEN SPACE LOT 179

TAX MAP 46 - GRID 2 - PARCEL 113 ZONED: R-ED-MXO-3
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DPZ REF: EOP-14-003, WP-15-136, PB#415, SP-15-014, F 16-021, F 16-072, AA-17-016, WP-18-117

ROBERT H. VOGEL ENGINEERING, INC.
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 3300 N. RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 TEL: 410.461.7666 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE

DESIGN BY: RVE
 DRAWN BY: RVE
 CHECKED BY: RHV
 DATE: SEPTEMBER 2018
 SCALE: AS SHOWN
 W.O. NO.: 11-34

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. 16193 EXPIRATION DATE 09-27-2026)

4 SHEET OF 9

AS-BUILT, NOVEMBER 2022 SDP-17-023

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

1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS CONSTRUCTION INSPECTION DIVISION (CD) 410-313-1188 AFTER THE FUTURE LEO AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CD MUST BE GIVEN AT THE FOLLOWING STAGES:

- PRIOR TO THE START OF ANY DISTURBANCE.
- UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.
- PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING LINE.
- 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. COVER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.

2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS HERETO.

3. PERMANENT STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROL, DICES, SLOTTES, DITCHES, PERMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1 HORIZONTAL (S:1) AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.

4. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, FOR TOPSOIL, (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-3), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-5). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING PERIODS IF THE GROUND IS FROZEN. INCLEMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15% CUT AND/OR FILL, STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT, MUST BE BENTONITED WITH STABLE OUTLET, ALL CONCENTRATED FLOW, STEEP SLOPES, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATING (SEC. B-4-6).

5. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE, AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMANENT REMOVAL HAS BEEN OBTAINED FROM THE CD.

6. SITE ANALYSIS:

TOTAL AREA OF SITE:	0.987 ACRES
AREA TO BE ROOFED OR PAVED:	0.51 ACRES
AREA TO BE VEGETATIVELY STABILIZED:	0.49 ACRES
TOTAL CUT:	CU YDS.
TOTAL FILL:	CU YDS.
OFFSITE WASTE/BORROW AREA LOCATION:	F-16-072

(1) REFER TO ITEM 11 BELOW

7. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEMAND NEEDED BY THE CD. 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 LATEST RECORDED PRECIPITATION)
- BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE)
- AND/OR CURRENT ACTIVITIES
- EVIDENCE OF SEDIMENT DISCHARGES
- IDENTIFICATION OF PLAN DEFICIENCIES
- IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
- IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
- COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
- PHOTOGRAPHS
- MONITORING/SAMPLING
- MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
- OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE).

9. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.

10. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE CD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CD FOR THE LIST OF HCSO-APPROVED FIELD CHANGES.

11. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGINS ON AN GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME WHEN YOU PROCEED TO A SUBSEQUENT GRADING UNIT WHICH AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE CD, UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE CD, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.

12. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WITHOUT STRUCTURE.

13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.

14. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-COUNTOUR, AND BE IMBERGATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPWARD BY 2' IN ELEVATION.

15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUDES):

- USE III AND IV MARCH 1 - JUNE 15
- USE III AND IV OCTOBER 1 - APRIL 30
- USE III MARCH 1 - MAY 31

16. 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 AVAILABLE WHEN THE SITE IS ACTIVE.

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION
TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

PURPOSE
TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES
EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

CRITERIA

- SEED MIXTURES
 - GENERAL USE
 - SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDNESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PRIORITY FOUND ON TABLE 8.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES AND SEEDING DEPTHS IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
 - ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SLOTTES, 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.
 - FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE LOCAL STATE AGENCY.
 - FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3-1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.
 - TURFGRASS MIXTURES
 - AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
 - SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DEPTHS IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
 - INTENSIVE MAINTENANCE: FULL SUN MIXTURE FOR USE IN AREAS THAT RECEIVE INTENSIVE MAINTENANCE (REGULATED 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.
 - KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MAINTENANCE. 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 TOTAL MIXTURE, BY WEIGHT.
 - FULL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE FOR USE IN PROBLEMATIC PROBLE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MAINTENANCE IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 10 TO 5 PERCENT. SEEDING RATE: 3 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE TURFGRASS MAY BE BLENDED.
 - MARYLAND 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: 1X TO 3 POUNDS PER 1000 SQUARE FEET.

2. TURFGRASS MIXTURES

- AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
- SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DEPTHS IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
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- KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MAINTENANCE. 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 TOTAL MIXTURE, BY WEIGHT.
- FULL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE FOR USE IN PROBLEMATIC PROBLE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MAINTENANCE IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 10 TO 5 PERCENT. SEEDING RATE: 3 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE TURFGRASS MAY BE BLENDED.
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3. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE CATION RATIOS AND APPLICATION RATES FOR BOTH LIQUID AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSIS.

2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FINE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE OR TRADEMARK AND WARRANTY OF THE PRODUCER.

3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDE (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.

4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

5. WHERE THE SUBSOIL IS EITHER HEAVILY 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.

4. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE CATION RATIOS AND APPLICATION RATES FOR BOTH LIQUID AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSIS.

2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FINE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE OR TRADEMARK AND WARRANTY OF THE PRODUCER.

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5. WHERE THE SUBSOIL IS EITHER HEAVILY 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.

5. WHERE THE SUBSOIL IS EITHER HEAVILY 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.

6. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE CATION RATIOS AND APPLICATION RATES FOR BOTH LIQUID AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSIS.

2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FINE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE OR TRADEMARK AND WARRANTY OF THE PRODUCER.

3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDE (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.

4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

5. WHERE THE SUBSOIL IS EITHER HEAVILY 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.

PERMANENT SEEDING SUMMARY

NO	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DEPTHS	FERTILIZER RATE (10-20-20)			LIME RATE
				N	P ₂ O ₅	K ₂ O	
1	COOL SEASON TALL FESCUE OR EQUAL	1.7, 60 LB / AC	MAR 1 TO MAY 15	45 LB/AC (1 LB PER 1000 SF)	90 LB/AC (2 LB PER 1000 SF)	2 TONS/AC (90 LB PER 1000 SF)	2 TONS/AC (90 LB PER 1000 SF)
	WARM SEASON BERMUDA GRASS OR EQUAL	K.B. 40 LB / AC	AUG. 15 TO OCT. 15	1/4-1/2 IN.	1000 SF	1000 SF	1000 SF

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

DEFINITION
THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

PURPOSE
TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

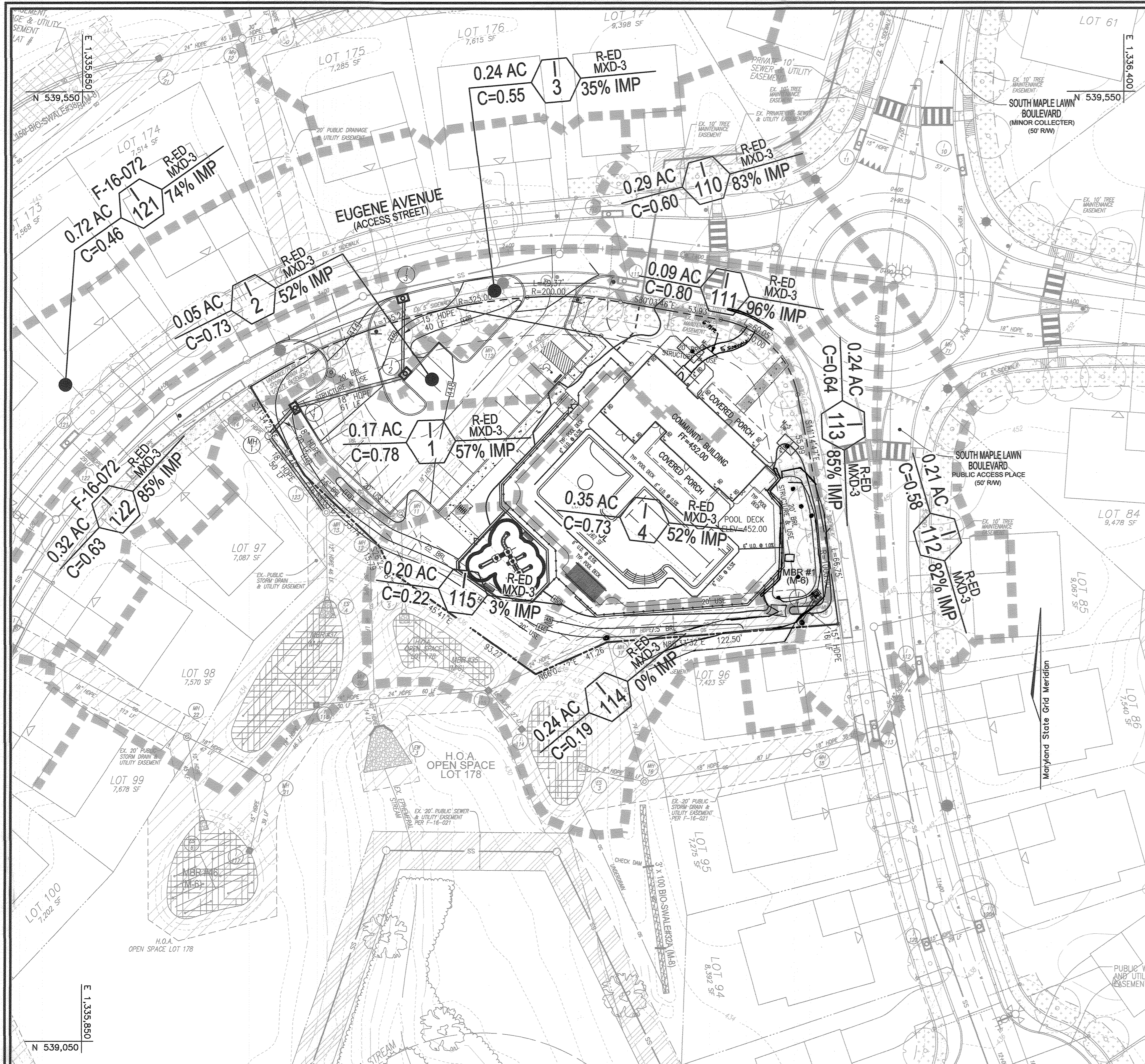
CONDITIONS WHERE PRACTICE APPLIES
WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CRITERIA

- SOIL PREPARATION
 - TEMPORARY STABILIZATION
 - SOIL 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 PLOW, OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT AFTER THE SOIL IS LOOSENEED. IT MUST NOT BE ROLLED OR BRANDED 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.
 - APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
 - INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
 - PERMANENT STABILIZATION
 - A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE ABOVE CONTINGENT RATES AND RATIO.
 - SOILS WITH LESS THAN 500 PARTS PER MILLION (PPM) OF AVAILABLE NITROGEN.
 - SOILS WITH 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 ORGANIC MATTER. THESE MATERIALS WILL BE PLANTED. THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.
 - CONTAINING 5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
 - SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
- APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONTINGENT RATES AND RATIO.
- GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN. THEN SPURRED OR OTHERWISE LOOSENEED TO A DEPTH OF 3 TO 5 INCHES.
- APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.
- SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAMPS ARE TO SMOOTH THE SURFACE. REMOVE LARGE OBJECTS, LIMB STONES AND BRANCHES, AND REAR THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN CLAY SURFACES WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDING.
- 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 FRABLE. SEEDING LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

2. MULCHING

- MULCH MATERIALS (IN ORDER OF PREFERENCE)
 - STRAW CONSISTING OF THRESHED WHEAT, LIVE, OR, OR DRYLY AND REASONABLY CLEAN MATERIALS TO BE PLANTED 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. MUST FORM A BUTTER-LIKE GROUND ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST CONTAIN AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF GRASS SEEDS.
 - MFCM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
 - IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 10 POUNDS PER ACRE TOTAL SOLUBLE NITROGEN; P2O5 (PHOSPHORUS), 20 POUNDS PER ACRE; K2O (POTASSIUM), 20 POUNDS PER ACRE.
 - LIME USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 2 INCHES MAXIMUM PARTICLE SIZE), NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNED OR HYDRATED LIME WHEN HYDROSEEDING.
 - USE ONLY STRAW MULCH WITH A MINIMUM OF 2 INCHES OF SOIL COVER.
 - HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).
 - IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 10 POUNDS PER ACRE TOTAL SOLUBLE NITROGEN; P2O5 (PHOSPHORUS), 20 POUNDS PER ACRE; K2O (POTASSIUM), 20 POUNDS PER ACRE.
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 - IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 10 POUNDS PER ACRE TOTAL SOLUBLE NITROGEN; P2O5 (PHOSPHORUS), 20 POUNDS PER ACRE; K2O (POTASSIUM), 20 POUNDS PER ACRE.
 - LIME USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 2 INCHES MAXIMUM PARTICLE SIZE), NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNED OR HYDRATED LIME WHEN HYDROSEEDING.
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 - HYDROSEEDING: APPLY SE



LEGEND:

- EXISTING CONTOUR
- EXISTING SPOT ELEVATION
- EXISTING CURBS AND GUTTER
- PROPOSED CURBS AND GUTTER
- EXISTING STREET TREES (F-16-072)
- EXISTING TREES (FIELD LOCATED)
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- PROPOSED STORM DRAIN
- PROPOSED STORM DRAIN INLET
- EXISTING TREE LINE
- EXISTING FENCE
- EXISTING SIDEWALK (F-16-072)
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- PROPOSED SIDEWALK
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR

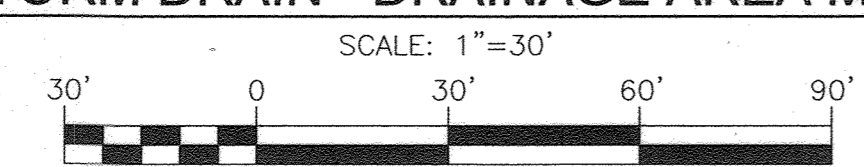
DRAINAGE AREA
C FACTOR

INLET
#

ZONING
% IMPERVIOUS

- EXISTING MICRO-BIOTRETMENT (F-16-021)
- EX. PRIVATE 10' SEWER & UTILITY EASEMENT (F-16-021)
- EX. PUBLIC STORM DRAIN & UTILITY EASEMENT (F-16-021)
- EX. 10' TREE MAINTENANCE EASEMENT (F-16-021)
- VARIABLE WIDTH PRIVATE STORMWATER MANAGEMENT (F-16-021)

STORM DRAIN - DRAINAGE AREA MAP



- NOTES:**
- WORST CASE 5 MIN. TO ASSUMED THROUGHOUT DESIGN.
 - PERCENT IMPERVIOUS SHOWN, IGNORES STORMWATER MANAGEMENT "CREDITS", I.E. ROOFTOP DISCONNECTS
 - DESIGN ASSUMES COMPLETE FAILURE OF PROPOSED MICRO-SCALE PRACTICES

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 4/15/19
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 4-24-19
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 4-24-19
DIRECTOR DATE



AS-BUILT CERTIFICATION FOR PERMS

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE EXISTING DRAINAGE AREA IS SUFFICIENTLY STABLE TO PREVENT CLOSING OF ANY UNDERGROUND SWW FACILITY.

[Signature] 16/13 2-24-23
P.E. #

MAPPED SOILS TYPES - CLARKSVILLE SE MAP #23

SYMBOL NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT HYDRIC	K FACTOR	PERCENT EROSION	PERCENT STABILIZATION
BaA BALE SILT LOAM, 0 TO 3 PERCENT SLOPES	D	YES	YES	0.32	NO	YES
GaA GLENNIC LOAM, 0 TO 3 PERCENT SLOPES	B	NO	NO	0.20	YES	NO
GaB GLENNIC LOAM, 3 TO 8 PERCENT SLOPES	B	NO	NO	0.20	YES	NO
GmB GLENNIC SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.37	YES	YES
GmD GLENNIC-BALE SILT LOAM, 0 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO	PARTIAL
MmC MIMOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.24	YES	NO

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

*BALE COMPONENT OF GmB, ERODIBILITY FACTOR IS 0.32 AND IS CONSIDERED HYDRIC

OWNER
MAPLE LAWN PARTNERS, INC.
11788 SCAGGSVILLE ROAD
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2661 RIVA ROAD, SUITE 2240
ANNAPOLIS, MARYLAND 21401
443-472-2846

NO.	TO ADD HANDICAP ROUTE AND SHOW EXIT DOOR CIA	7-30-19
	REVISION	DATE

SITE DEVELOPMENT PLAN
STORM DRAIN DRAINAGE AREA MAP

MAPLE LAWN SOUTH COMMUNITY BUILDING
MAPLE LAWN SOUTH - PHASE 1 - SECTION 2
OPEN SPACE LOT 179

TAX MAP 46 - GRID 2 - PARCEL 113 ZONED: R-ED-MXD-3
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SPZ REF: E09-14-093, WP-15-136, PB#415, SP-15-014, F 16-021, F-16-072, AA-17-016, WP-18-117

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
3300 N. RIDGE ROAD, SUITE 110, ELICOTT CITY, MD 21043
TEL: 410-461-1766 FAX: 410-461-1993

PROFESSIONAL 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 UNDER NO. 16193 EXPIRATION DATE: 10-27-2020

DESIGN BY: RVE
DRAWN BY: RVE
CHECKED BY: RHV
DATE: SEPTEMBER 2018
SCALE: AS SHOWN
W.O. NO.: 11-34

6 SHEET OF 9

AS BUILT, NOVEMBER 2022 SDP-17-023

STRUCTURE SCHEDULE

STR #	TYPE	INV. IN	INV. OUT	TOP OR SLAB LOW SIDE	DETAIL	LOCATION	REMARKS
I-1	A-5	437.50	434.00	445.88	D-4.01	N 539383.50 E 1335962.63	
I-2	A-5	439.00	438.75	447.80	D-4.01	N 539401.62 E 1336020.55	
I-3	A-5	-	440.00	444.75	D-4.01	N 539441.27 E 1336019.23	
I-4	S	6" U.D.	440.76	449.76	D-4.22	N 539289.72 E 1336237.82	CLUBHOUSE MBR
MH-1	48" MANHOLE	432.80/432.83	432.70	GRATE = 442.00	G-5.12	N 539368.84 E 1335948.55	(1)
MH-11A (Future 1-20)	F-16-021 EXISTING 60" MANHOLE	431.00	430.90	444.50	G-5.13	N 539462.40 E 1335961.39	(1)
RAISE EXISTING F-16-021 MANHOLE TOP ELEVATION FROM 437.00 TO 444.50, USE OFFSET TOP CONE LID ON EAST SIDE OF MANHOLE, SEE PLAN VIEW							
MH-10	F-16-072 EXISTING 60" MANHOLE	430.50	430.00	446.15	G-5.13	N 539371.69 E 1335969.36	(1)
RAISE EXISTING F-16-072 MANHOLE TOP ELEVATION FROM 435.00 TO 446.15							
MH-12	F-16-072 EXISTING 60" MANHOLE	432.85/431.35/429.10	429.00	448.00	G-5.13	N 539328.24 E 1336001.16	(1)
RAISE EXISTING F-16-072 MANHOLE TOP ELEVATION FROM 443.00 TO 448.00							
MH-13	F-16-072 EXISTING 48" MANHOLE	435.88	435.40	442.50	G-5.12	N 539488.86 E 1335782.26	(1)
RAISE EXISTING F-16-072 MANHOLE TOP ELEVATION FROM 442.00 TO 442.50							

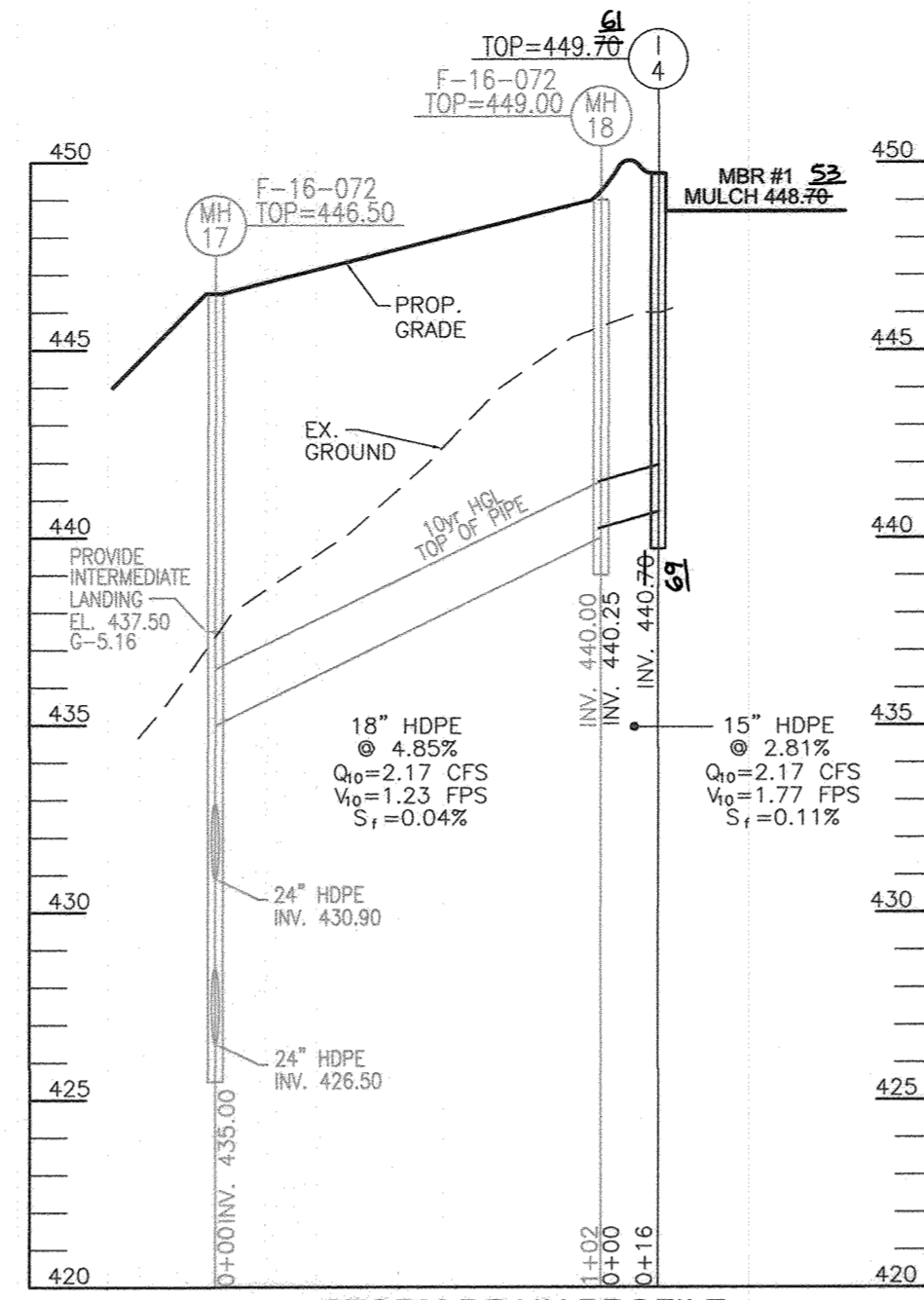
(1) Coordinate for Proposed Structure = Centerline of Structure
 (2) Coordinate for End Section = Centerline of Pipe @ Downstream Face

PIPE SCHEDULE

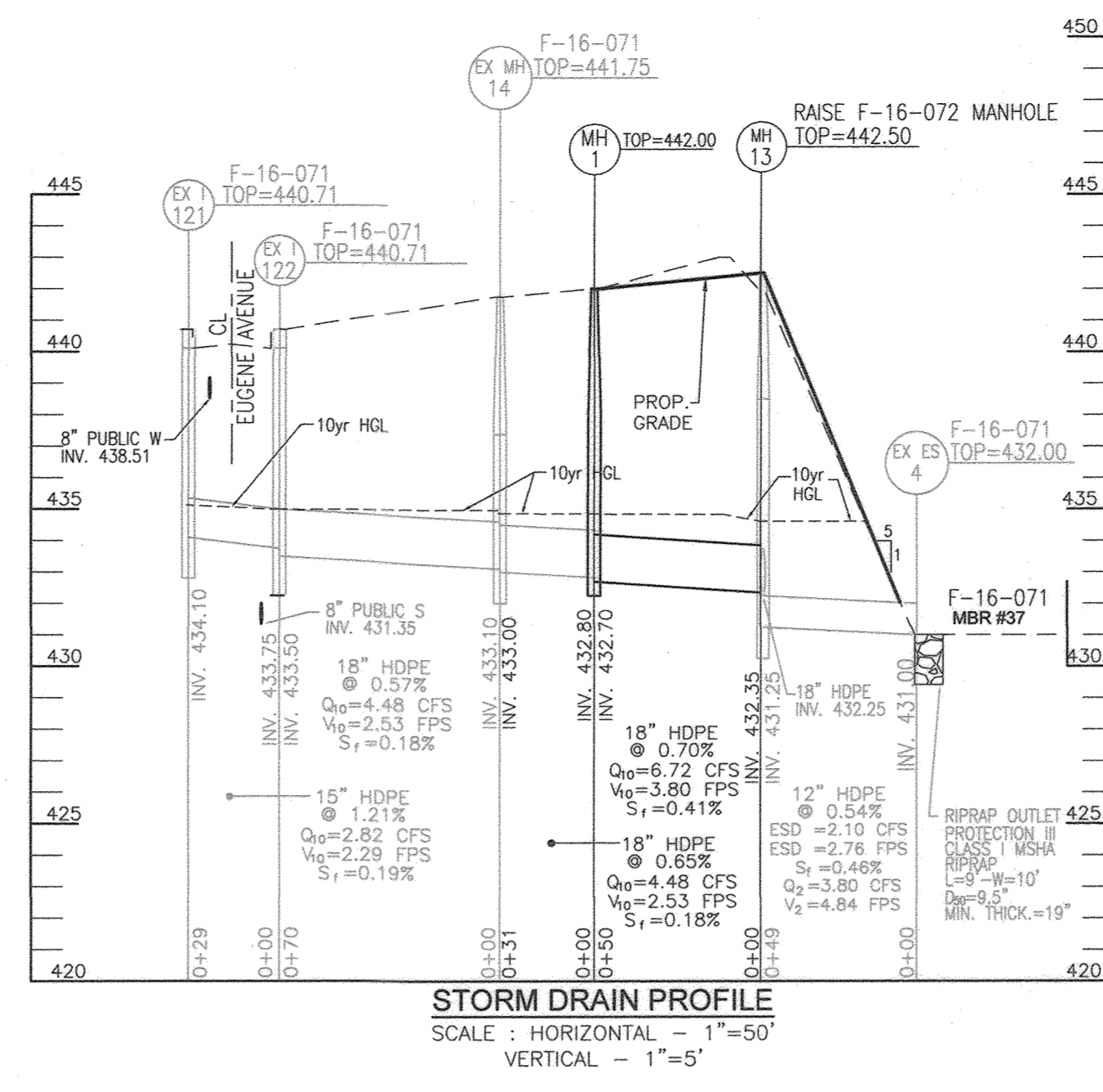
Size	Class	Total Length'
15"	HDPE	56
18"	HDPE	81

* The total length of pipe is linear feet only.

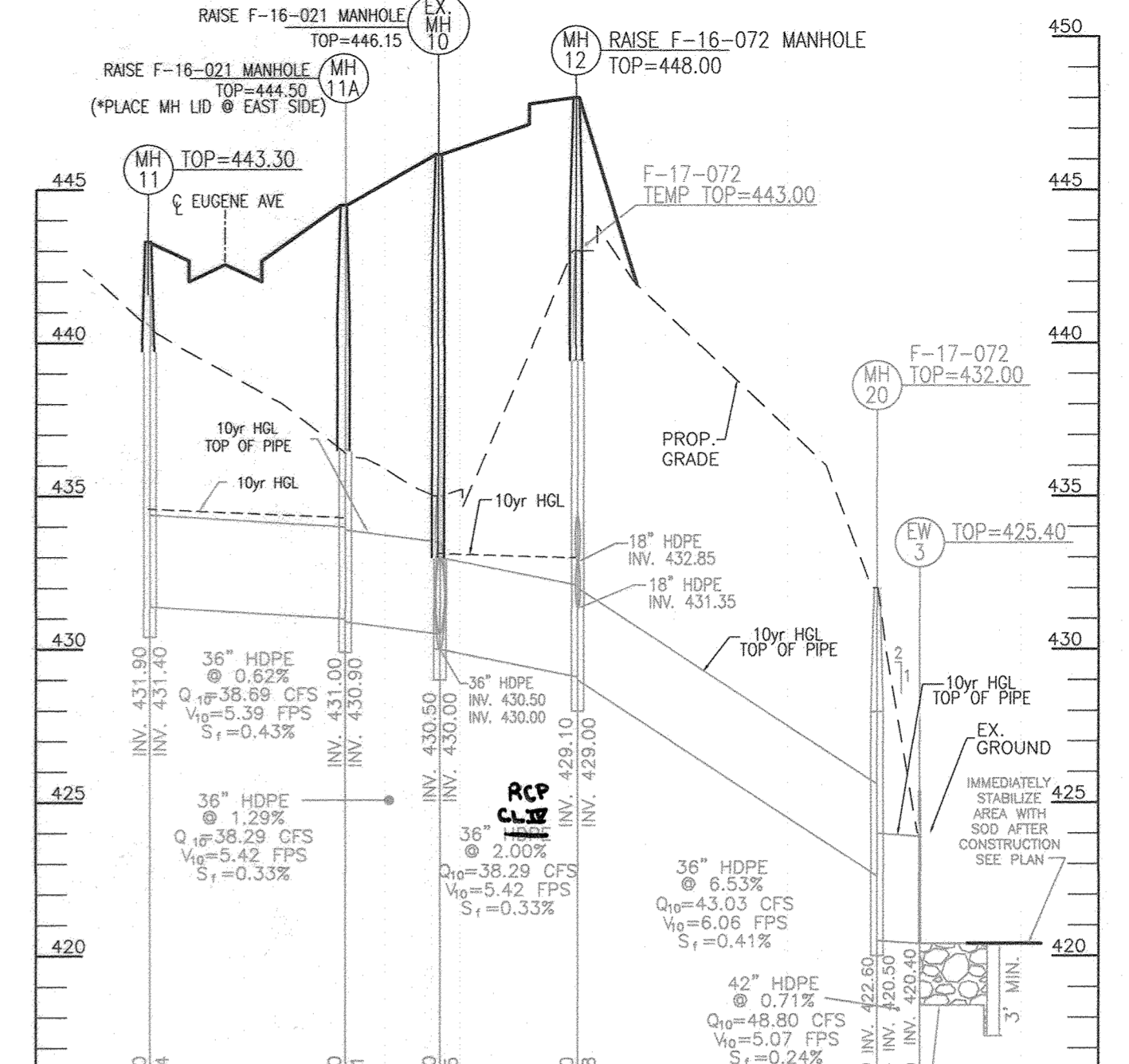
HDPE is to be smooth interior. Contractor shall install pipe in accordance with manufacturer's specifications.



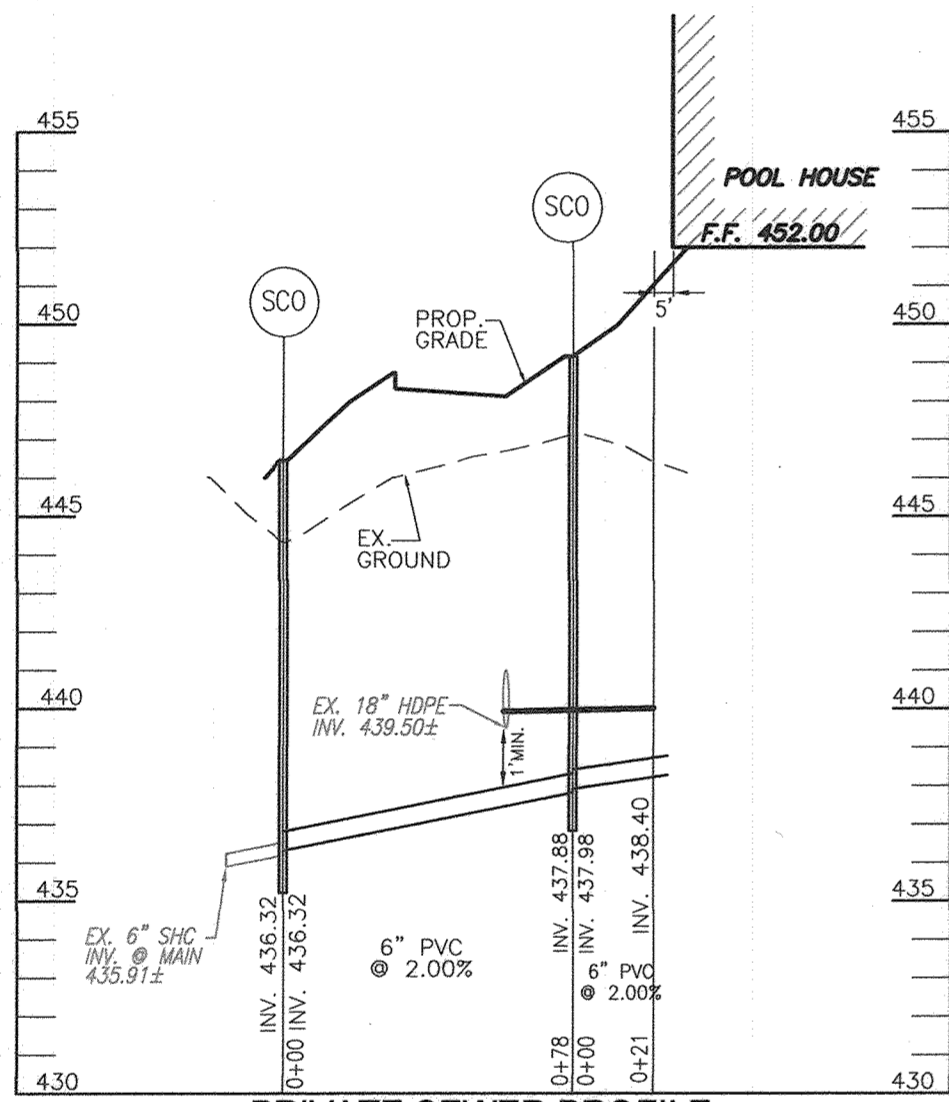
STORM DRAIN PROFILE
 SCALE: HORIZONTAL - 1"=50'
 VERTICAL - 1"=5'



STORM DRAIN PROFILE
 SCALE: HORIZONTAL - 1"=50'
 VERTICAL - 1"=5'

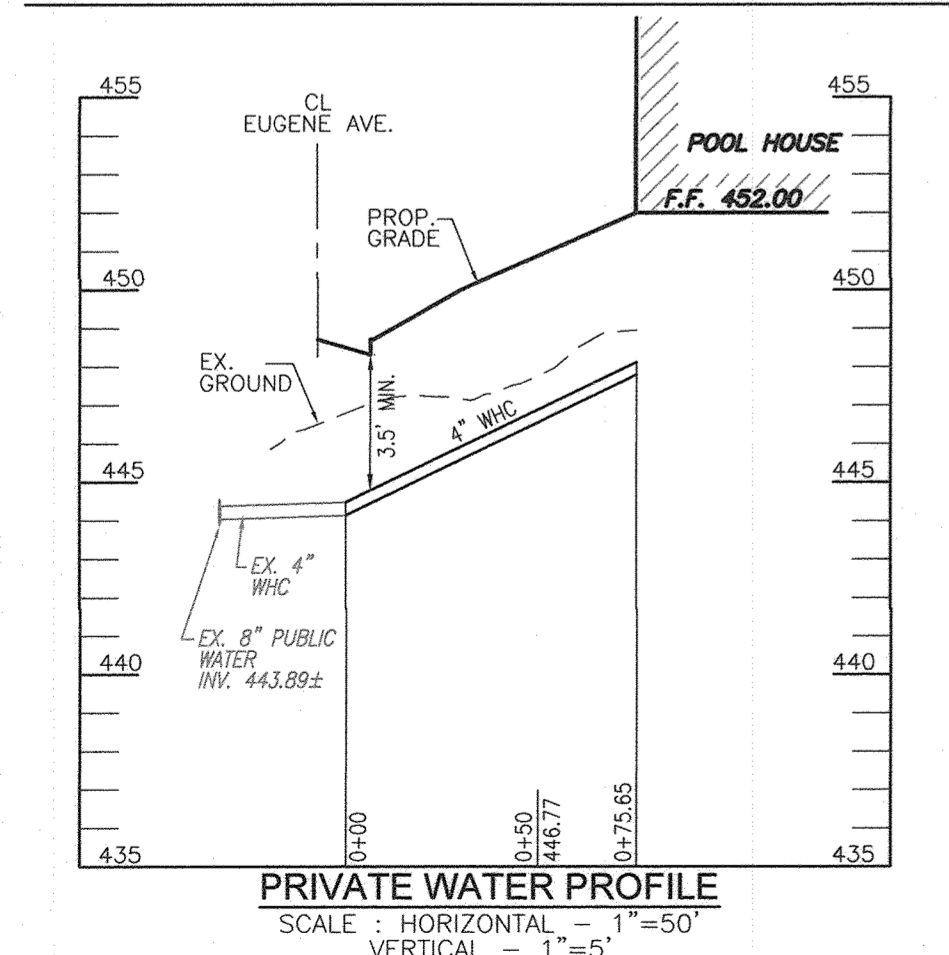


STORM DRAIN PROFILE
 SCALE: HORIZONTAL - 1"=50'
 VERTICAL - 1"=5'

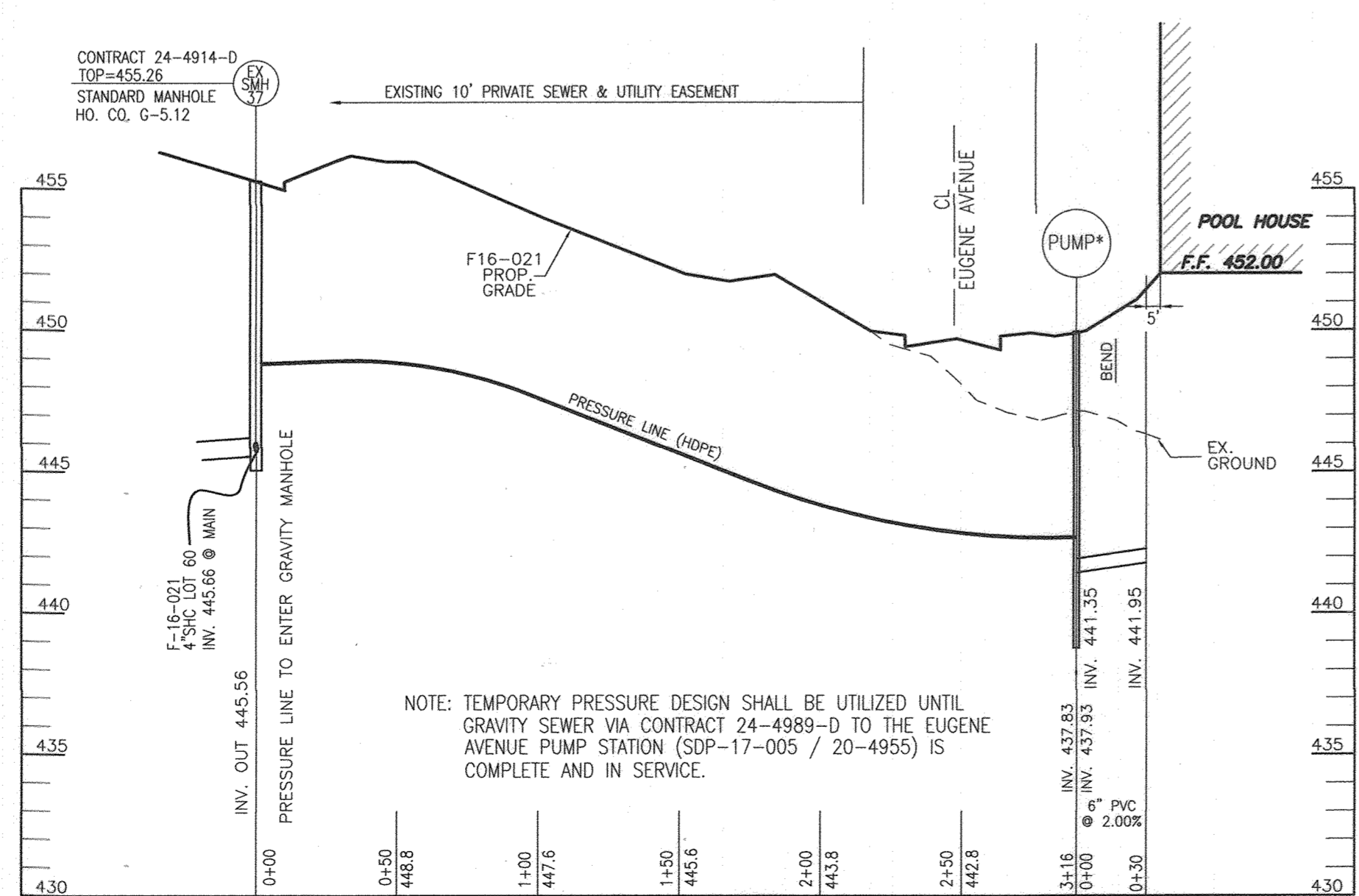


PRIVATE SEWER PROFILE
 SCALE: HORIZONTAL - 1"=50'
 VERTICAL - 1"=5'

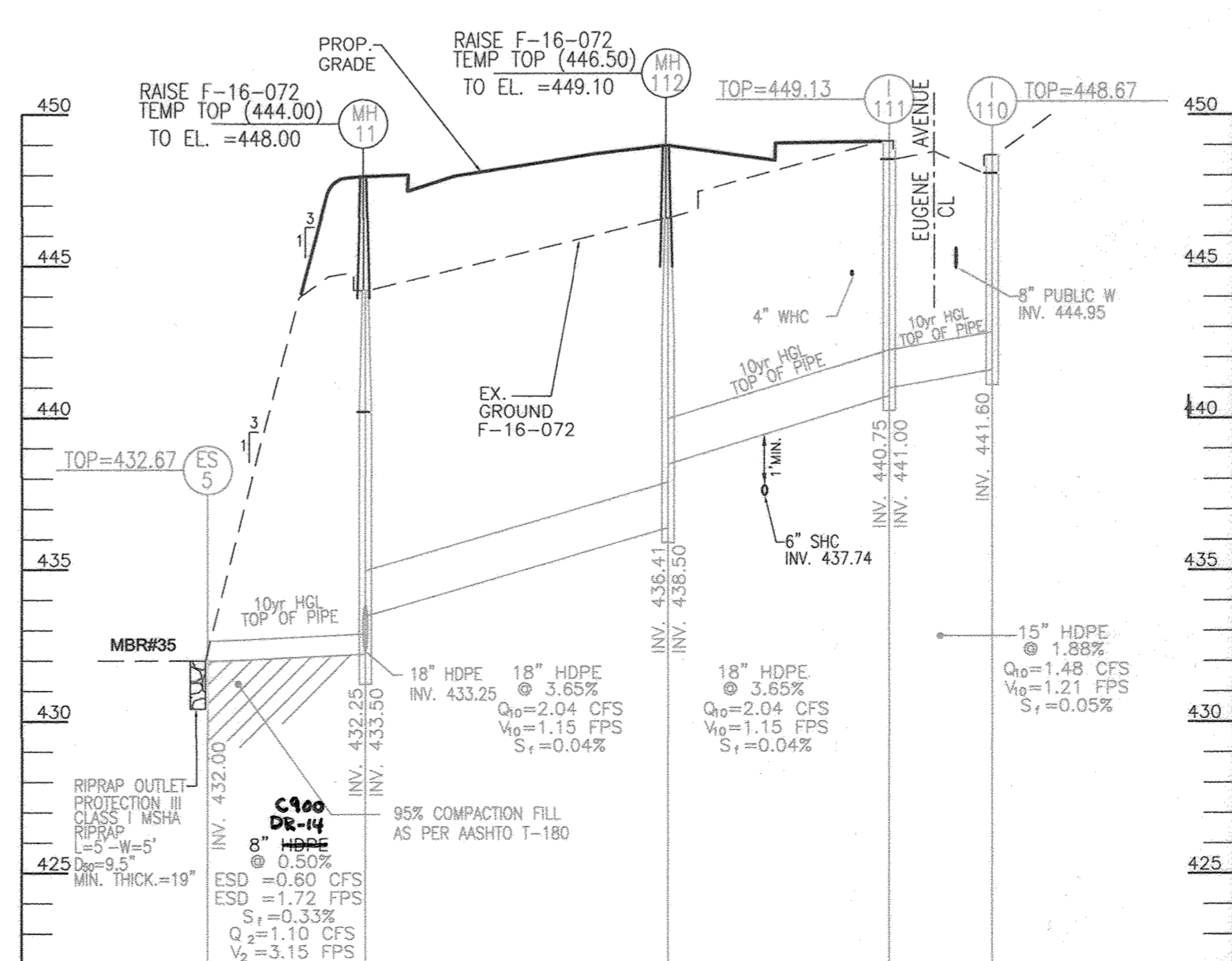
ONSITE PRIVATE UTILITY PROFILES



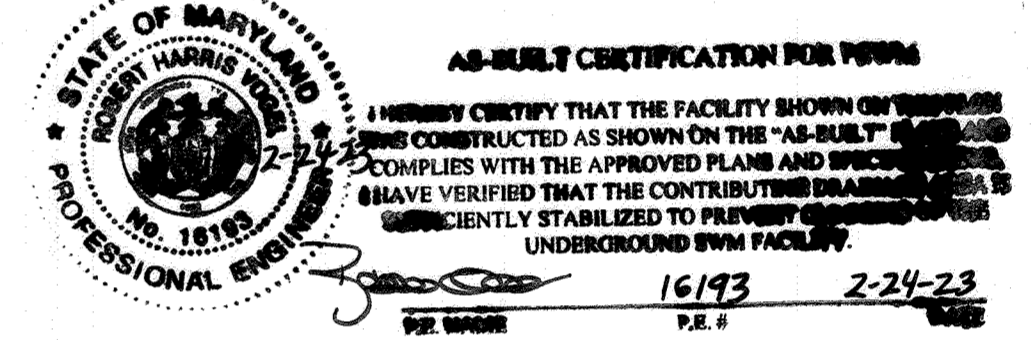
PRIVATE WATER PROFILE
 SCALE: HORIZONTAL - 1"=50'
 VERTICAL - 1"=5'



PRIVATE TEMPORARY PRESSURE SEWER PROFILE
 SCALE: HORIZONTAL - 1"=50'
 VERTICAL - 1"=5'



STORM DRAIN PROFILE
 SCALE: HORIZONTAL - 1"=50'
 VERTICAL - 1"=5'



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 - PERCENT IMPERVIOUS SURF, IGNORES STORMWATER MANAGEMENT CREDITS; I.E. ROOFTOP DISCONNECTS
 - DESIGN ASSUMES COMPLETE FAILURE OF PROPOSED MICRO-SCALE PRACTICES

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 301-725-2074

DEVELOPER
 MAPLE LAWN PARTNERS, LLC
 2661 RIVA ROAD, SUITE 220
 ANNAPOLIS, MARYLAND 21401
 443-472-2846

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 4-19-19
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 4-24-19
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 4-24-19
 DIRECTOR DATE

NO. REVISION DATE

SITE DEVELOPMENT PLAN
 STORM DRAIN, UTILITY PROFILES AND DETAILS

MAPLE LAWN SOUTH COMMUNITY BUILDING
 MAPLE LAWN SOUTH - PHASE 1 - SECTION 2
 OPEN SPACE LOT 179

TAX MAP 46 - GRID 2 - PARCEL 113 ZONED: R-ED-MXD-3
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 RPZ REF: ECP-14-093, WP-15-136, PR4415, SP-15-014, F-16-021, F-16-072, AA-17-018, WP-18-117

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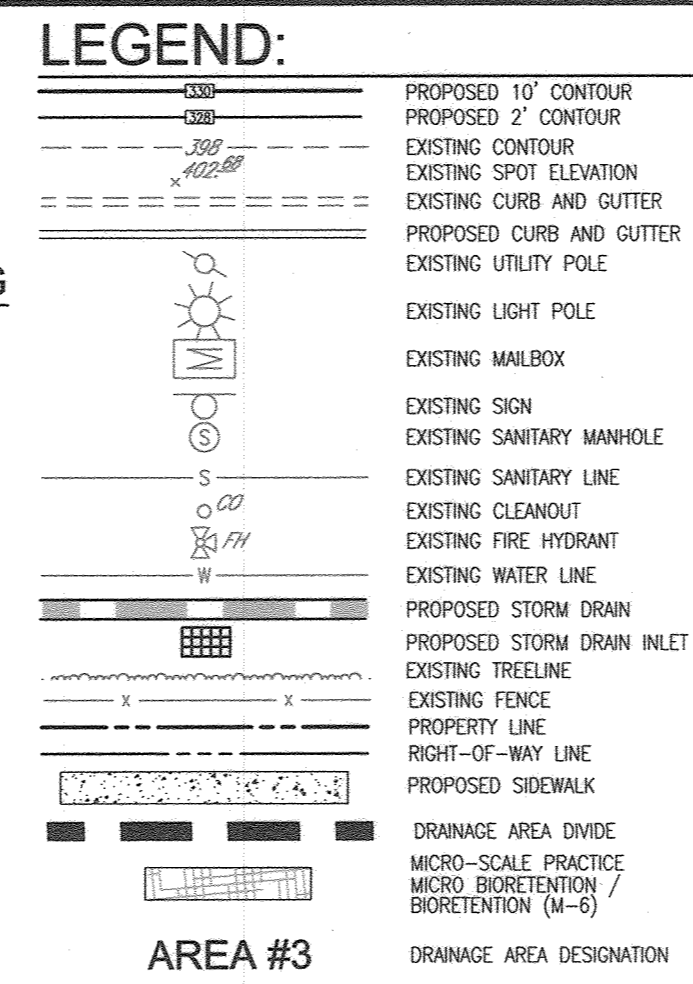
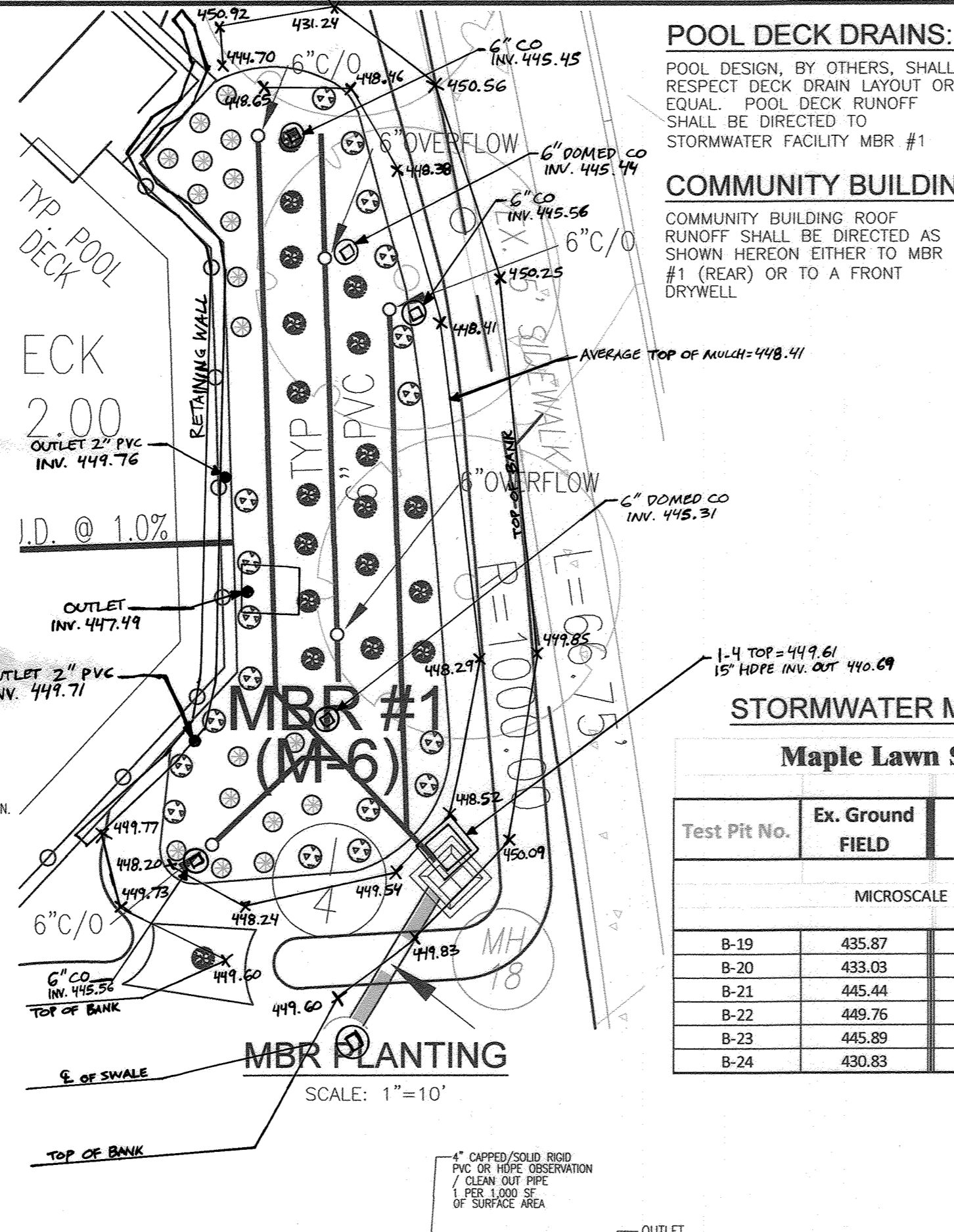
DESIGN BY: RVE
 DRAWN BY: RVE
 CHECKED BY: RHV
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 SCALE: AS SHOWN
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7 SHEET OF 9

APPENDIX B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDEN, LANDSCAPE INFILTRATION & INFILTRATION BERMS

- 1. MATERIAL SPECIFICATIONS**
THE AVAILABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.
- 2. FILTERING MEDIA OR PLANTING SOIL**
THE SOIL SHALL BE A UNIFORM MIX. FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED WITHIN THE MICRO-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVIDE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE MET WITH A MIXTURE OF LOAMY SAND (60%-65%) AND COMPOST (35%-40%) OR SANDY LOAM (30%), COARSE SAND (30%), AND COMPOST (40%).
* SOIL COMPONENT - LOAMY SAND OR SANDY LOAM (SOIL TEXTURAL CLASSIFICATION)
* ORGANIC CONTENT - MINIMUM 10% BY DRY WEIGHT (ASTM D 2974). IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60%-65%) AND COMPOST (35%-40%) OR SANDY LOAM (30%), COARSE SAND (30%), AND COMPOST (40%).
* CLAY CONTENT - MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 2%.
* pH RANGE - SHOULD BE BETWEEN 5.5 - 7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED IN TO THE SOIL TO INCREASE OR DECREASE PH.
THERE SHALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.
- 3. COMPACTION**
IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING LOADERS, THE CONTRACTOR SHOULD USE WIDE TRACK OR WHEEL TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TIRE TYPES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.
COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO RESTRUCTURE THE SOIL PROFILE THROUGHOUT THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.
ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE.
WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.
WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12 TO 15". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPORT THE SAND AND GRADE BERTENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.
- 4. PLANT MATERIAL**
RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.
- 5. PLANT INSTALLATION**
COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS. MULCH SHOULD BE PLACED IN SUBSURROUNDING TO A UNIFORM THICKNESS OF 2" TO 3". SHREDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.
ROOTS OF THE PLANT MATERIAL SHALL BE KEPT MOSTLY DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/2" OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER WOOD BED COVER AFTER INSTALLATION. TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.
GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.
THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADJACENT FERTILIZERS, DEFOLIANTS, OR AT A MINIMUM, IMPROVES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.
- 6. UNDERDRAINS**
UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:
* PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM F 758, TYPE PS 28, OR AASHTO-M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED 1/2" RIGID PIPE (E.G., PVC OF HDPE).
* PERFORATIONS - IF PERFORATIONS ARE USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (NO. 4 OR 4A) GALVANIZED HARDWARE CLOTH.
* GRAVEL - THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.
* THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.
* A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.
* A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES IN TO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".
THE MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA).
- 7. MISCELLANEOUS**
THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.



STORMWATER MANAGEMENT TEST PIT DATA

Maple Lawn South - Phase 1 Test Pit Data

Test Pit No.	Ex. Ground FIELD	Test Pit Prop. Depth	Test Pit Depth Excavated	Test Pit Condition *
MICROSCALE - MBR, DRYWELL AND BIOSWALE TEST PITS				
B-19	435.87	11.4	12.0	DRY
B-20	433.03	11.3	11.5	DRY
B-21	445.44	7.7	8.0	DRY
B-22	449.76	9.0	9.2	DRY
B-23	445.89	8.0	8.0	DRY
B-24	430.83	7.3	8.0	DRY

Appendix B.4. Construction Specifications for Environmental Site Design Practices

Table B.4.1. Materials Specifications for Micro-Bioretenion, Rain Gardens & Landscape Infiltration

Material	Specification	Size	Notes
Planting soil	loamy sand (60-65%) & compost (35-40%) or sandy loam (30%), coarse sand (30%) & compost (40%)	n/a	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974)	n/a	
Mulch	shredded hardwood	aged 6 months, minimum no pine or wood chips	
Pea gravel/drainage	see Appendix A, Table A.4	NO. 57 OR NO. 9 (1/4" TO 3/8")	
Curtain drain	ornamental stone: washed cobble	stone: 2" to 3"	
Geotextile	AASHTO M-43	n/a	PE Type I nonwovens
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" to 3/4")	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underdrains pipes. Perforated pipe shall be wrapped with 1/4" galvanized hardware cloth.
Poured in place concrete (if required)	MSHA Mix No. 3; $f_c = 3500$ psi @ 28 days, normal weight, air-entrained, reinforcing to meet ASTM-615-04	n/a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved State or local standards require design drawings sealed and approved by a professional structural engineer (licensed in the State of Maryland) - design to include meeting ACT Code 350.8/89; vertical loading (14-10 or 14-20); allowable horizontal loading (based on soil pressure); and analysis of potential cracking.
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Dabas and Graystone (AASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

- OPERATION AND MAINTENANCE SCHEDULE FOR MICROBIORETENTION AREAS**
- 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, VOLUME II, TABLE A.4.1 AND 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.
 - MULCH SHALL BE INSPECTED EACH SPRING. REMOVE EXCESSIVE MULCH LAYER BEFORE REPLACING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
 - SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

MICRO-BIORETENTION #2 PLANTING SCHEDULE

SYMBOL	QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
⊙	18	PANICUM VIRGATUM	1 GALLON	36" o/c
⊙	18	HYDRANGEA QUERCIFOLIA	1 GALLON	30" o/c
⊙	18	ELIX QUERCUS 'STARBUCK'	1 GALLON	CONT

1049 SF x 75% x .0229 STEMS PER SQUARE FOOT = 18 PLANTS REQUIRED

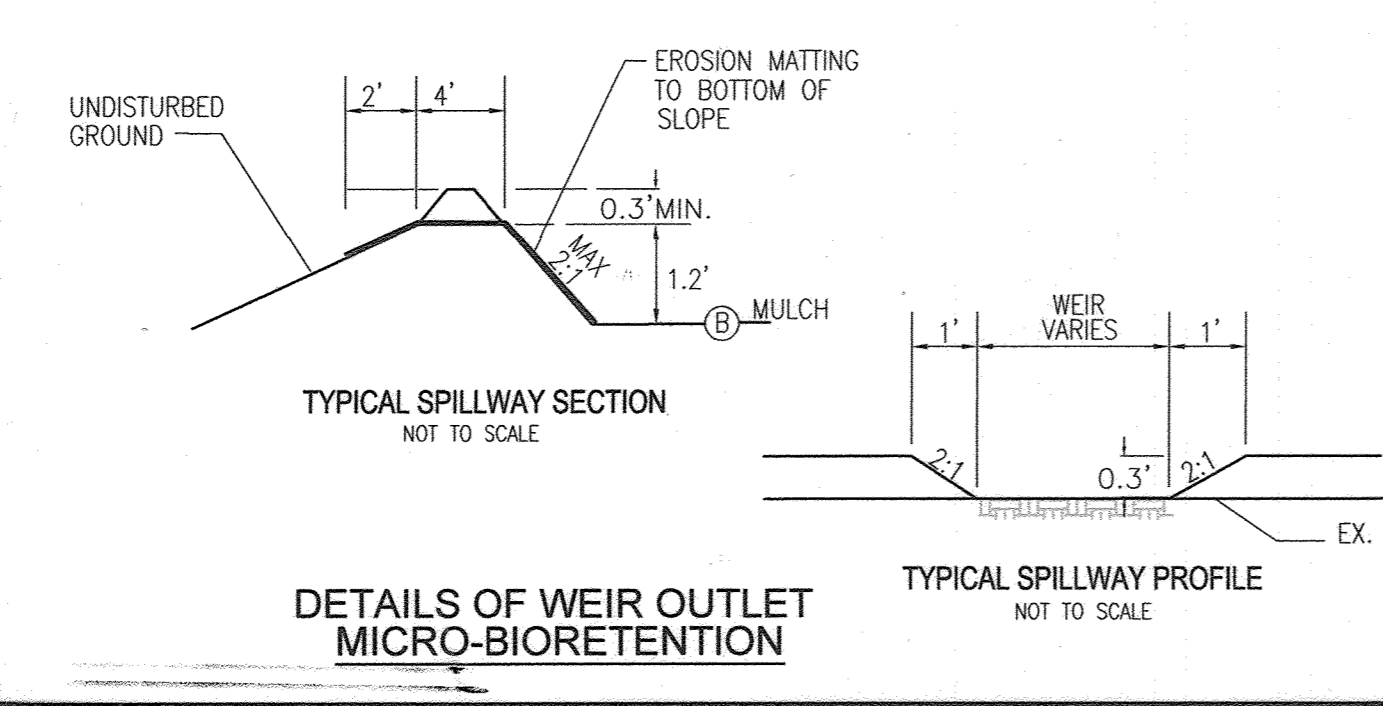
ADDITIONAL PLANTINGS SHALL BE WITH THE FINAL INSPECTION IF 50% OF THE SURFACE AREA OF THE MICRO-BIORETENTION FACILITY DOES NOT HAVE VEGETATIVE COVER.
PLANT SUBSTITUTIONS MAY BE MADE WITH PERMISSION FROM HOWARD COUNTY

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 4-15-19 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

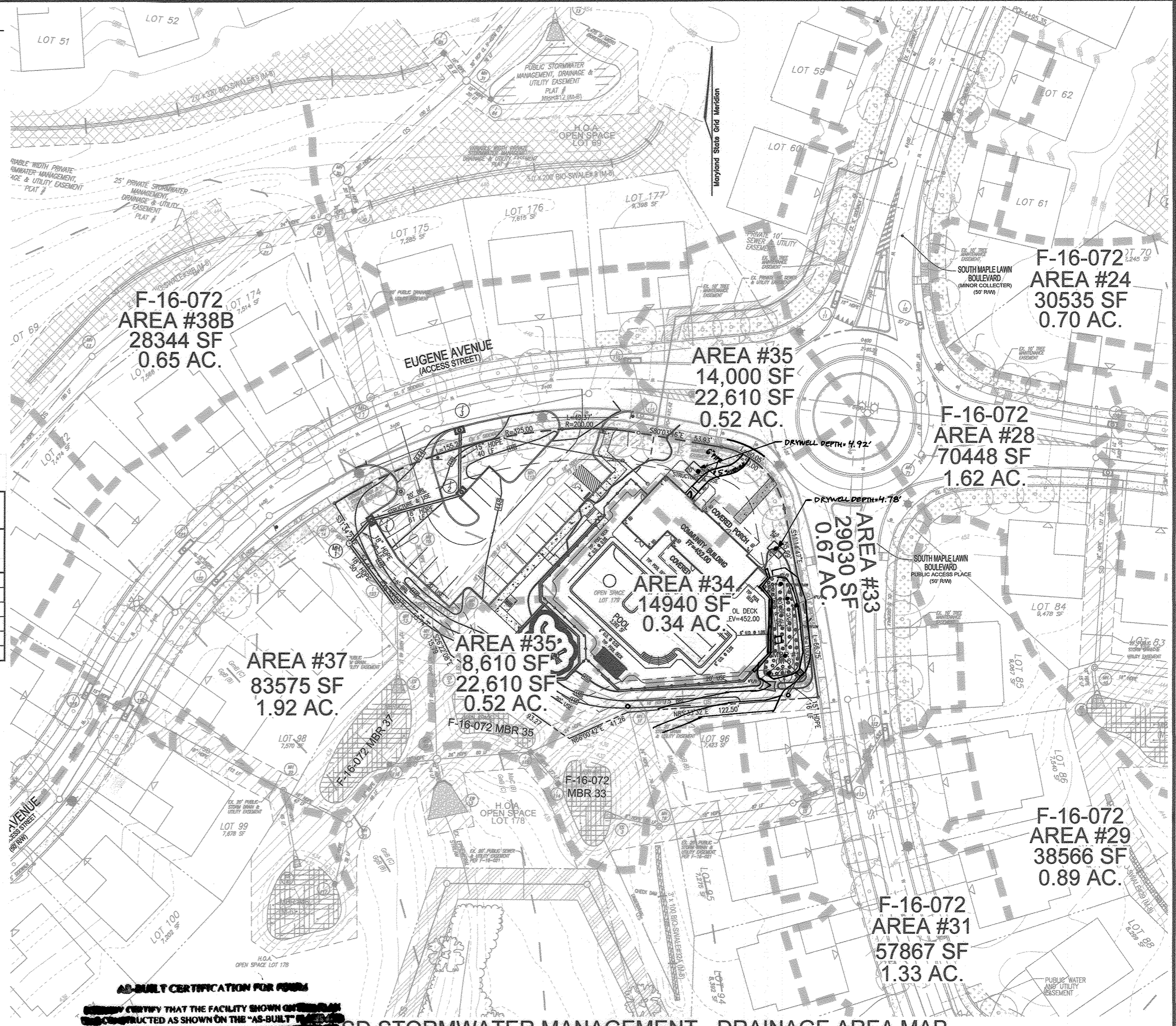
[Signature] 4-24-19 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 4-24-19 DATE
DIRECTOR



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

- THE MONITORING WELLS AND STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM EVENT.
- WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS SHALL BE RECORDED OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.
- A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN THE 72 HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
- THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- 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.



AD-BUILT CERTIFICATION FOR FOUND... HENRY GETTBY THAT THE FACILITY SHOWN... CONDUCTED AS SHOWN ON THE 'AS-BUILT'... WITH THE APPROVED PLANS AND SPECIFICATIONS... CURRENTLY STABILIZED TO PREVENT CL... UNDERGROUND TWIN FACILITY

16/93 P.E.# 2-24-23

MAPPED SOILS TYPES - CLARKSVILLE SE MAP #23

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRO	INCLUSIONS	K FACTOR	PERM. FAMILY	PERM. SUBTYPE	CRS. SLOPE
B3a	TALE SILT LOAM, 0 TO 3 PERCENT SLOPES	D	YES	NO	0.32	NO	NO	YES
G3a	GLENNLE SILT LOAM, 0 TO 3 PERCENT SLOPES	B	NO	NO	0.20	YES	NO	NO
G3b	GLENNLE LOAM, 3 TO 8 PERCENT SLOPES	B	NO	NO	0.20	YES	NO	NO
G3b	GLENNLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.37	YES	YES	YES
G3c	GLENNLE-SAND SILT LOAM, 0 TO 8 PERCENT SLOPES	C	NO	PARTIALLY	0.37	NO	PARTIAL	NO
M3c	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.24	YES	NO	NO

TAKEN FROM USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY, MD. NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

*BASE COMPONENT OF G3b, ERODIBILITY FACTOR IS 0.32 AND IS CONSIDERED HYDRO

OWNER
MAPLE LAWN FARMS, INC.
11788 SCAGGSVILLE ROAD
FULTON, MD 20759-0562
301-725-2074

DEVELOPER
MAPLE LAWN PARTNERS, LLC
2661 RIVA ROAD, SUITE 220
ANNAPOLIS, MARYLAND 21401
443-472-2846

SITE DEVELOPMENT PLAN
STORMWATER MANAGEMENT
DRAINAGE AREA MAP, NOTES AND DETAILS
MAPLE LAWN SOUTH COMMUNITY BUILDING
MAPLE LAWN SOUTH - PHASE 1 - SECTION 2
OPEN SPACE LOT 179

TAX MAP 46 - GRID 2 - PARCEL 113 ZONED: R-ED-MXD-3
HOWARD COUNTY, MARYLAND
BPZ REF: EOP-14-093, WP-15-136, PB415, SP-15-014, F-16-021, F-16-072, AA-17-016, WP-18-117

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
3300 N. RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
TEL: 410-461-7666 FAX: 410-461-8991

DESIGN BY: RVE
DRAWN BY: RVE
CHECKED BY: RHV
DATE: SEPTEMBER 2018
SCALE: AS SHOWN
W.O. NO.: 11-34

PROFESSIONAL CERTIFICATE
I, HENRY GETTBY, 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. 16193, EXPIRES ON 09-26-2020.

8 SHEET OF 9

AS-BUILT, NOVEMBER 2022 SDP-17-023

**SPECIFICATIONS
MODULAR CONCRETE BLOCK RETAINING WALL**

PART 1: GENERAL

1.01 DESCRIPTION

A. WORK SHALL CONSIST OF FURNISHING AND CONSTRUCTION OF A MODULAR RETAINING WALL SYSTEM IN ACCORDANCE WITH THESE SPECIFICATIONS AND IN REASONABLY CLOSE CONFORMITY WITH THE LINES, GRADES, DESIGN, AND DIMENSIONS SHOWN ON THE PLANS.

B. WORK INCLUDES PREPARING FOUNDATION SOIL, FURNISHING AND INSTALLING LEVELING PAD, UNIT DRAINAGE FILL AND BACKFILL TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS.

C. WORK INCLUDES FURNISHING AND INSTALLING GEOGRID SOIL REINFORCEMENT OF THE TYPE, SIZE, LOCATION, AND LENGTHS DESIGNATED ON THE CONSTRUCTION DRAWINGS.

1.02 DELIVERY, STORAGE AND HANDLING

A. CONTRACTOR SHALL CHECK ALL MATERIALS UPON DELIVERY TO ASSURE THAT THE PROPER TYPE, GRADE, COLOR, AND CERTIFICATION HAS BEEN RECEIVED.

B. CONTRACTOR SHALL PROTECT ALL MATERIALS FROM DAMAGE DUE TO JOB SITE CONDITIONS AND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. DAMAGED MATERIALS SHALL NOT BE INCORPORATED INTO THE WORK.

PART 2: PRODUCTS

2.01 MODULAR CONCRETE RETAINING WALL UNITS

A. MODULAR CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING ARCHITECTURAL REQUIREMENTS:
FACE COLOR - COLOR MAY BE SPECIFIED BY THE OWNER.
FACE FINISH - SCULPTURED ROCK FACE IN ANGULAR TRI-PLANNER OR FLAT CONFIGURATION. OTHER FACE FINISHES WILL NOT BE ALLOWED WITHOUT WRITTEN APPROVAL OF OWNER.

BOND CONFIGURATION - RUNNING WITH BONDS NOMINALLY LOCATED AT MIDPOINT VERTICALLY ADJACENT UNITS, IN BOTH STRAIGHT AND CURVED ALIGNMENTS.

EXPOSED SURFACES OF UNITS SHALL BE FREE OF CHIPS, CRACKS OR OTHER IMPERFECTIONS WHEN VIEWED FROM A DISTANCE OF 10 FEET UNDER DIFFUSED LIGHTING.

B. MODULAR CONCRETE MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C1372 - STANDARD SPECIFICATIONS FOR SEGMENTAL RETAINING WALL UNITS.

C. MODULAR CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING STRUCTURAL AND GEOMETRIC REQUIREMENTS MEASURED IN ACCORDANCE WITH APPROPRIATE REFERENCES:

COMPRESSIVE STRENGTH = 3000 PSI MINIMUM;
ABSORPTION = 8% MAXIMUM (6% IN NORTHERN STATES) FOR STANDARD WEIGHT AGGREGATES;

DIMENSIONAL TOLERANCES = ±1/8" FROM NOMINAL UNIT DIMENSIONS NOT INCLUDING ROUGH SPLIT FACE, ±1/16" UNIT HEIGHT - TOP AND BOTTOM PLANES; UNIT SIZE - 8" (H) X 18" (W) X 12" (D) MINIMUM;

UNIT WEIGHT - 75 LBS/UNIT MINIMUM FOR STANDARD WEIGHT AGGREGATES;
INTER-UNIT SHEAR STRENGTH - 1000 PLF MINIMUM AT 2 PSI NORMAL PRESSURE; AT 2 PSI NORMAL FORCE.

GEOGRID/UNIT PEAK CONNECTION STRENGTH - 1000 PLF MINIMUM

D. MODULAR CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING CONSTRUCTION REQUIREMENTS:

VERTICAL SETBACK = 1/8" PER COURSE (NEAR VERTICAL) OR 1" PER COURSE PER THE DESIGN; ALIGNMENT AND GRID POSITIONING MECHANISM - FIBERGLASS PINS, TWO PER UNIT MINIMUM;

MAXIMUM HORIZONTAL GAP BETWEEN ERECTED UNITS SHALL BE - 1/2 INCH.

2.02 SHEAR CONNECTORS

SHEAR CONNECTORS SHALL BE 1/2 INCH DIAMETER THERMOSET ISOPHTHALIC POLYESTER RESIN-PROTRUDED FIBERGLASS REINFORCEMENT RODS OR EQUIVALENT TO

PROVIDE CONNECTION BETWEEN VERTICALLY AND HORIZONTALLY ADJACENT UNITS. STRENGTH OF SHEAR CONNECTORS BETWEEN VERTICAL ADJACENT UNITS SHALL BE APPLICABLE OVER A DESIGN TEMPERATURE OF 10 DEGREES F TO + 100 DEGREES F. B. SHEAR CONNECTORS SHALL BE CAPABLE OF HOLDING THE GEOGRID IN THE PROPER DESIGN POSITION DURING GRID PRE-TENSIONING AND BACKFILLING.

2.03 BASE LEVELING PAD MATERIAL

A. MATERIAL SHALL CONSIST OF A COMPACTED #57 CRUSHED STONE BASE AS SHOWN ON THE CONSTRUCTION DRAWINGS.

2.04 UNIT DRAINAGE FILL

A. UNIT DRAINAGE FILL SHALL CONSIST OF #57 CRUSHED STONE

2.05 REINFORCED BACKFILL

A. REINFORCED BACKFILL SHALL BE TYPE SM, FREE OF DEBRIS AND MEET THE FOLLOWING GRADATION TESTED IN ACCORDANCE WITH ASTM D-422 AND MEET OTHER PROPERTIES SHOWN ON THE PLAN:

SIEVE SIZE	PERCENT PASSING
2 INCH	100-75
3/4 INCH	100-75
NO. 40	0-60
NO. 200	0-35

PLASTICITY INDEX (PI) <10 AND LIQUID LIMIT <35 PER ASTM D-4318.

B. MATERIAL CAN BE SITE EXCAVATED SOILS WHERE THE ABOVE REQUIREMENTS CAN BE MET. UNSATURATED SOILS FOR BACKFILL (HIGH PLASTIC CLAYS OR ORGANIC SOILS) SHALL NOT BE USED IN THE REINFORCED SOIL MASS.

2.06 GEOGRID SOIL REINFORCEMENT

A. GEOSYNTHETIC REINFORCEMENT SHALL CONSIST OF GEOGRIDS MANUFACTURED SPECIFICALLY FOR SOIL REINFORCEMENT APPLICATIONS AND SHALL BE MANUFACTURED FROM HIGH TENACITY POLYESTER YARN.

2.07 DRAINAGE PIPE

A. THE DRAINAGE PIPE SHALL BE PERFORATED CORRUGATED HDPE PIPE MANUFACTURED IN ACCORDANCE WITH ASTM D-1246.

PART 3: EXECUTION

3.01 EXCAVATION

A. CONTRACTOR SHALL EXCAVATE TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS. OWNER'S REPRESENTATIVE SHALL BE RESPONSIBLE FOR INSPECTING AND APPROVING THE EXCAVATION PRIOR TO PLACEMENT OF LEVELING MATERIAL OR FILL SOILS.

3.02 BASE LEVELING PAD

A. LEVELING PAD MATERIAL SHALL BE PLACED TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS, TO A MINIMUM THICKNESS OF 6 INCHES AND EXTEND LATERALLY A MINIMUM OF 6" IN FRONT AND BEHIND THE MODULAR WALL UNIT.

B. LEVELING PAD SHALL BE PREPARED TO INSURE FULL CONTACT TO THE BASE SURFACE OF THE CONCRETE UNITS.

3.03 MODULAR UNIT INSTALLATION

A. FIRST COURSE OF UNITS SHALL BE PLACED ON THE LEVELING PAD AT THE APPROPRIATE LINE AND GRADE. ALIGNMENT AND LEVEL SHALL BE CHECKED IN ALL DIRECTIONS AND INSURE THAT ALL UNITS ARE IN FULL CONTACT WITH THE BASE AND PROPERLY SEATED.

B. PLACE THE FRONT OF UNITS SIDE-BY-SIDE. DO NOT LEAVE GAPS BETWEEN ADJACENT UNITS. LAYOUT OF CORNERS AND CURVES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

C. INSTALL SHEAR/CONNECTING DEVICES PER MANUFACTURER'S RECOMMENDATIONS.

D. PLACE AND COMPACT DRAINAGE FILL WITHIN AND BEHIND WALL UNITS. PLACE AND COMPACT BACKFILL SOIL BEHIND DRAINAGE FILL. FOLLOW WALL ERECTION AND DRAINAGE FILL CLOSELY WITH STRUCTURE BACKFILL.

E. MAXIMUM STACKED VERTICAL HEIGHT OF WALL UNITS, PRIOR TO UNIT DRAINAGE FILL AND BACKFILL PLACEMENT AND COMPACTION, SHALL NOT EXCEED THREE COURSES.

3.04 STRUCTURAL GEOGRID INSTALLATION

A. GEOGRID SHALL BE ORIENTED WITH THE HIGHEST STRENGTH AXIS PERPENDICULAR TO THE WALL ALIGNMENT.

B. GEOGRID REINFORCEMENT SHALL BE PLACED AT THE STRENGTHS, LENGTHS, AND ELEVATIONS SHOWN ON THE CONSTRUCTION DESIGN DRAWINGS OR AS DIRECTED BY THE ENGINEER.

C. THE GEOGRID SHALL BE LAID HORIZONTALLY ON COMPACTED BACKFILL AND ATTACHED TO THE MODULAR WALL UNITS. PLACE THE NEXT COURSE OF MODULAR CONCRETE UNITS OVER THE GEOGRID. THE GEOGRID SHALL BE PULLED TAUT, AND ANCHORED PRIOR TO BACKFILL PLACEMENT ON THE GEOGRID.

D. GEOGRID REINFORCEMENTS SHALL BE CONTINUOUS THROUGHOUT THEIR EMBEDMENT LENGTHS AND PLACED SIDE-BY-SIDE TO PROVIDE 100% COVERAGE AT EACH LEVEL. SPLICED CONNECTIONS BETWEEN SHORTER PIECES OF GEOGRID OR GAPS BETWEEN ADJACENT PIECES OF GEOGRID ARE NOT PERMITTED.

3.05 REINFORCED BACKFILL PLACEMENT

A. REINFORCED BACKFILL SHALL BE PLACED, SPREAD, AND COMPACTED IN SUCH A MANNER THAT MINIMIZES THE DEVELOPMENT OF SLACK IN THE GEOGRID AND INSTALLATION DAMAGE.

B. REINFORCED BACKFILL SHALL BE PLACED AND COMPACTED IN LIFTS NOT TO EXCEED 6 INCHES WHERE HEAVY COMPACTION IS USED, OR 8 - 10 INCHES WHERE HAND COMPACTION EQUIPMENT IS USED. LIFT THICKNESS SHALL BE DECREASED TO ACHIEVE THE REQUIRED DENSITY AS REQUIRED.

C. REINFORCED BACKFILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM D698. THE MOISTURE CONTENT OF THE BACKFILL MATERIAL PRIOR TO AND DURING COMPACTION SHALL BE UNIFORMLY DISTRIBUTED THROUGHOUT EACH LAYER AND SHALL BE + 3% TO - 3% OF OPTIMUM.

D. ONLY LIGHTWEIGHT HAND-OPERATED EQUIPMENT SHALL BE ALLOWED WITHIN 3 FEET FROM THE TAIL OF THE MODULAR CONCRETE UNIT.

E. TRACKED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY UPON THE GEOGRID REINFORCEMENT. A MINIMUM FILL THICKNESS OF 6 INCHES IS REQUIRED PRIOR TO OPERATION OF TRACKED VEHICLES OVER THE GEOGRID. TRACKED VEHICLE TURNING SHOULD BE KEPT TO A MINIMUM TO PREVENT TRACKS FROM DISPLACING THE FILL AND DAMAGING THE GEOGRID.

F. RUBBER TIERED EQUIPMENT MAY PASS OVER GEOGRID REINFORCEMENT AT SLOW SPEEDS, LESS THAN 10 MPH. SUDDEN BRAKING AND SHARP TURNING SHALL BE AVOIDED.

G. AT THE END OF EACH DAY'S OPERATION, THE CONTRACTOR SHALL SLOPE THE LAST LIFT OF REINFORCED BACKFILL AWAY FROM THE WALL UNITS TO DIRECT RUNOFF AWAY FROM WALL FACE. THE CONTRACTOR SHALL NOT ALLOW SURFACE RUNOFF FROM ADJACENT AREAS TO ENTER THE WALL CONSTRUCTION SITE.

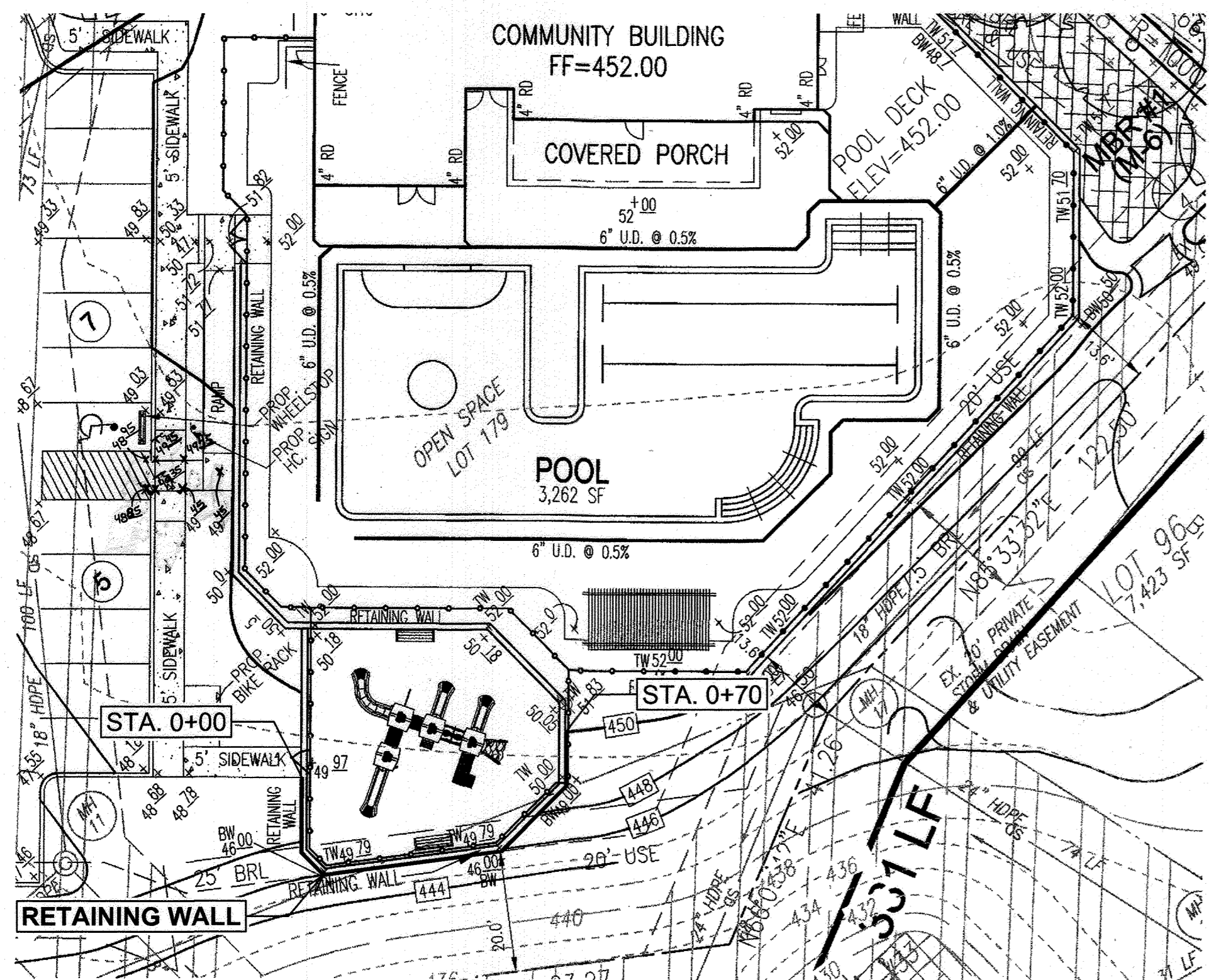
3.06 CAP INSTALLATION

A. CAP UNITS SHALL BE GLUED TO UNDERLYING UNITS WITH AN ALL-WEATHER ADHESIVE RECOMMENDED BY THE MANUFACTURER.

3.07 FIELD QUALITY CONTROL

A. THE OWNER SHALL ENGAGE INSPECTION AND TESTING SERVICES, INCLUDING INDEPENDENT LABORATORIES, TO PROVIDE QUALITY ASSURANCE AND TESTING SERVICES DURING CONSTRUCTION.

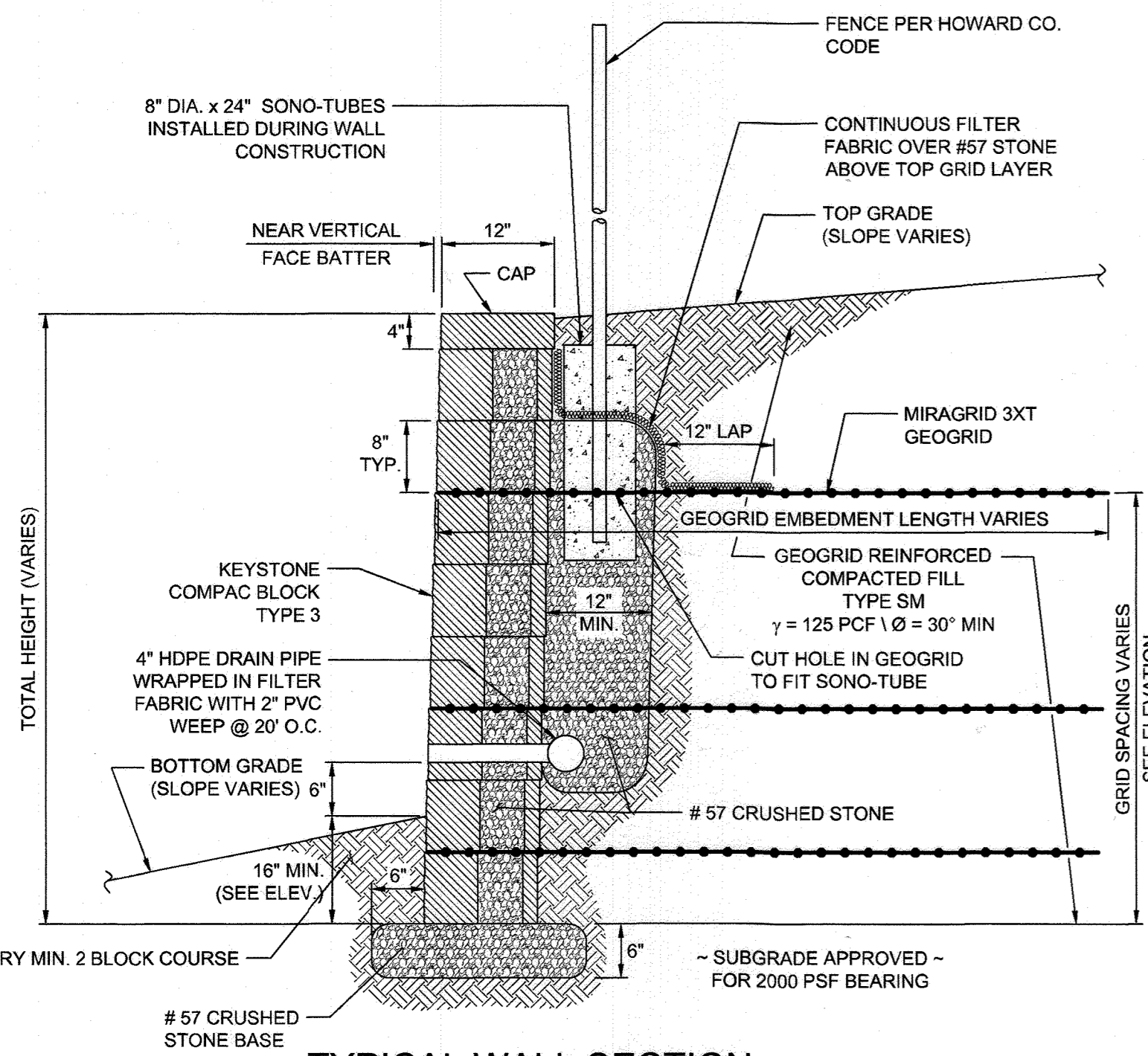
B. AS A MINIMUM, QUALITY ASSURANCE TESTING SHOULD INCLUDE FOUNDATION SOIL INSPECTION, SOIL AND BACKFILL TESTING, VERIFICATION OF DESIGN PARAMETERS, AND OBSERVATION OF CONSTRUCTION FOR GENERAL COMPLIANCE WITH DESIGN DRAWINGS AND SPECIFICATIONS.



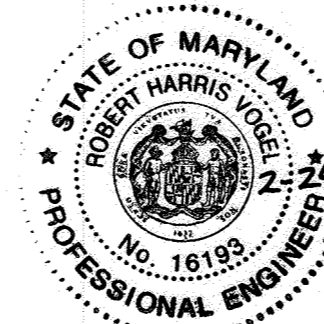
**WALL LOCATION PLAN
1" = 20'**

HOWARD COUNTY NOTES:

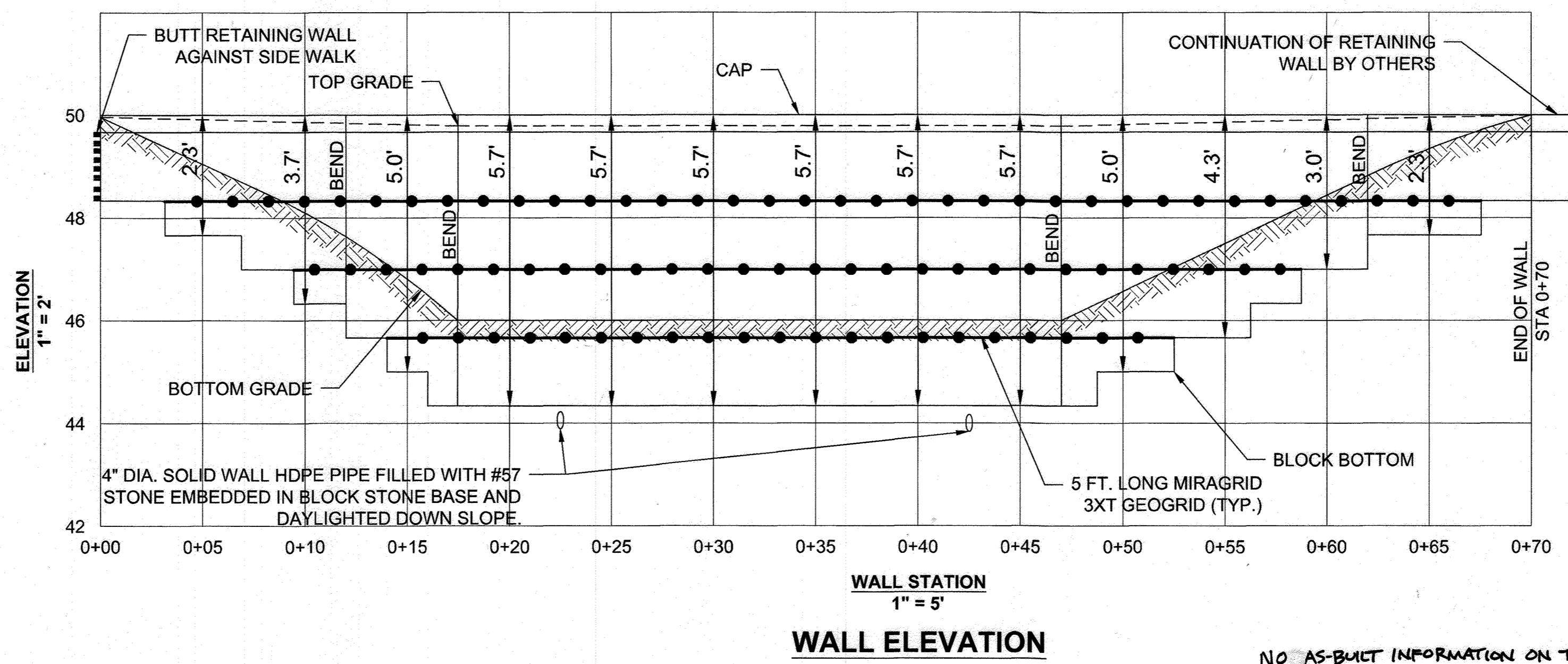
- NO TREES SHALL BE PLANTED WITHIN 10 FEET OF THE TOP OF THE RETAINING WALL.
- RETAINING WALLS SHALL ONLY BE CONSTRUCTED UNDER THE OBSERVATION OF A REGISTERED PROFESSIONAL ENGINEER AND A (NICET, WACEL, OR EQUIVALENT) CERTIFIED SOILS TECHNICIAN.
- THE REQUIRED BEARING PRESSURE BENEATH THE WALL SYSTEM SHALL BE VERIFIED IN THE FIELD BY A CERTIFIED SOILS TECHNICIAN. TESTING DOCUMENTATION MUST BE PROVIDED TO THE HOWARD COUNTY INSPECTOR PRIOR TO START OF CONSTRUCTION. THE REQUIRED BEARING TEST SHALL BE THE DYNAMIC CONE PENETROMETER TEST ASTM STP-399.
- THE SUITABILITY OF FILL MATERIAL SHALL BE CONFIRMED BY THE ON-SITE SOILS TECHNICIAN. EACH 6" LIFT MUST BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY AND THE TESTING REPORT SHALL BE MADE AVAILABLE TO THE HOWARD COUNTY INSPECTOR UPON COMPLETION OF CONSTRUCTION.
- WALLS SHALL NOT BE CONSTRUCTED ON UNCERTIFIED FILL MATERIALS.
- WALLS SHALL NOT BE CONSTRUCTED WITHIN A HOWARD COUNTY RIGHT-OF-WAY OR EASEMENT.



**TYPICAL WALL SECTION
N.T.S.**



AS-BUILT CERTIFICATION FOR PSW/M
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREAS ARE SUFFICIENTLY STABILIZED TO PREVENT CLOGGING OF THE UNDERGROUND SWM FACILITY.
R. H. HARRIS
16193
2-24-23
P.E. NAME P.E.# DATE



**WALL ELEVATION
1" = 5'**

NO AS-BUILT INFORMATION ON THIS SHEET

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 4-15-19
 CHIEF, DEVELOPMENT ENGINEERING DIVISION SR DATE
 [Signature] 4-24-19
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
 [Signature] 4-24-19
 DIRECTOR DATE

OWNER: MAPLE LAWN FARMS, INC. 11788 SCAGGSVILLE ROAD, FULTON, MD 20759-0562, 301-725-2074

DEVELOPER: MAPLE LAWN PARTNERS, LLC 2851 RIVA ROAD, SUITE 220 ANNAPOLIS, MARYLAND 21401, 443-472-2846

RETAINING WALL CONSTRUCTION DETAILS

MAPLE LAWN SOUTH COMMUNITY BUILDING

MAPLE LAWN SOUTH - PHASE 1 - SECTION 2
OPEN SPACE LOT 179

TAX MAP 46 - GRID 2 - PARCEL 113 5TH ELECTION DISTRICT DP2 REF: ECP-14-093, WP-15-138, PBM415, SP-15-014, F-16-072, AA-17-018, WP-18-117

ZONED: R-ED-MXD-3 HOWARD COUNTY, MARYLAND

HILLIS-CARNES ENGINEERING ASSOCIATES
10975 Guilford Road, Suite A Annapolis Junction, MD
Phone: (410) 880-4788 Fax: (410) 880-4098

DESIGN BY: AR
DRAWN BY: AR
CHECKED BY: RWS
DATE: SEPT. 2018
SCALE: AS SHOWN
HCEA NO.: 17539B

PROFESSIONAL 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. 14434 EXPIRATION DATE: 09-13-2019

9 SHEET OF 9