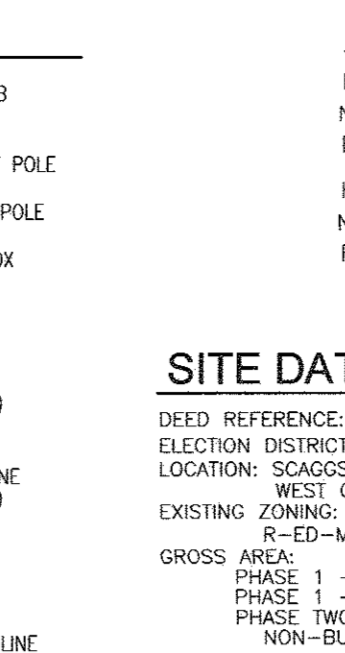
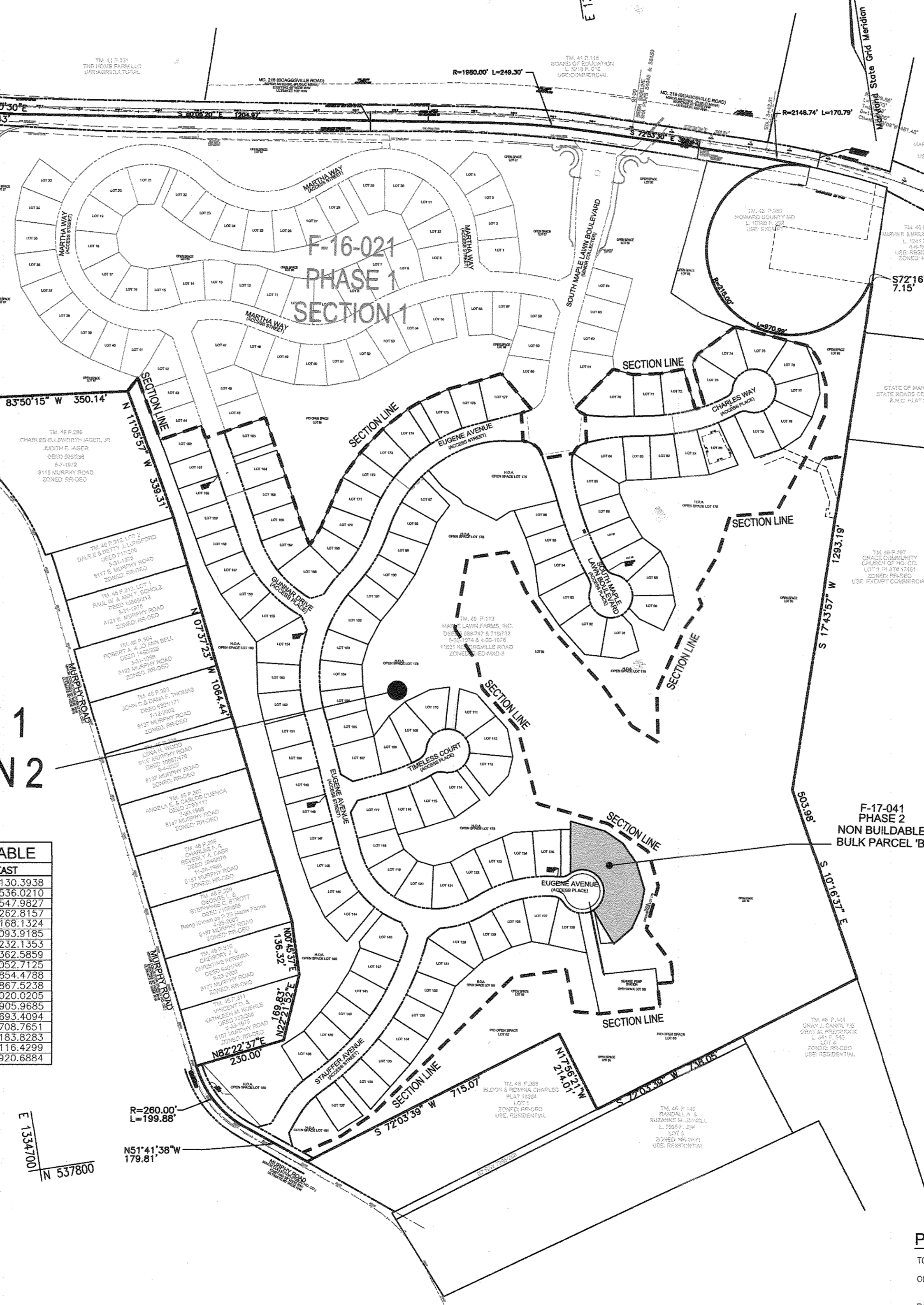


GENERAL NOTES

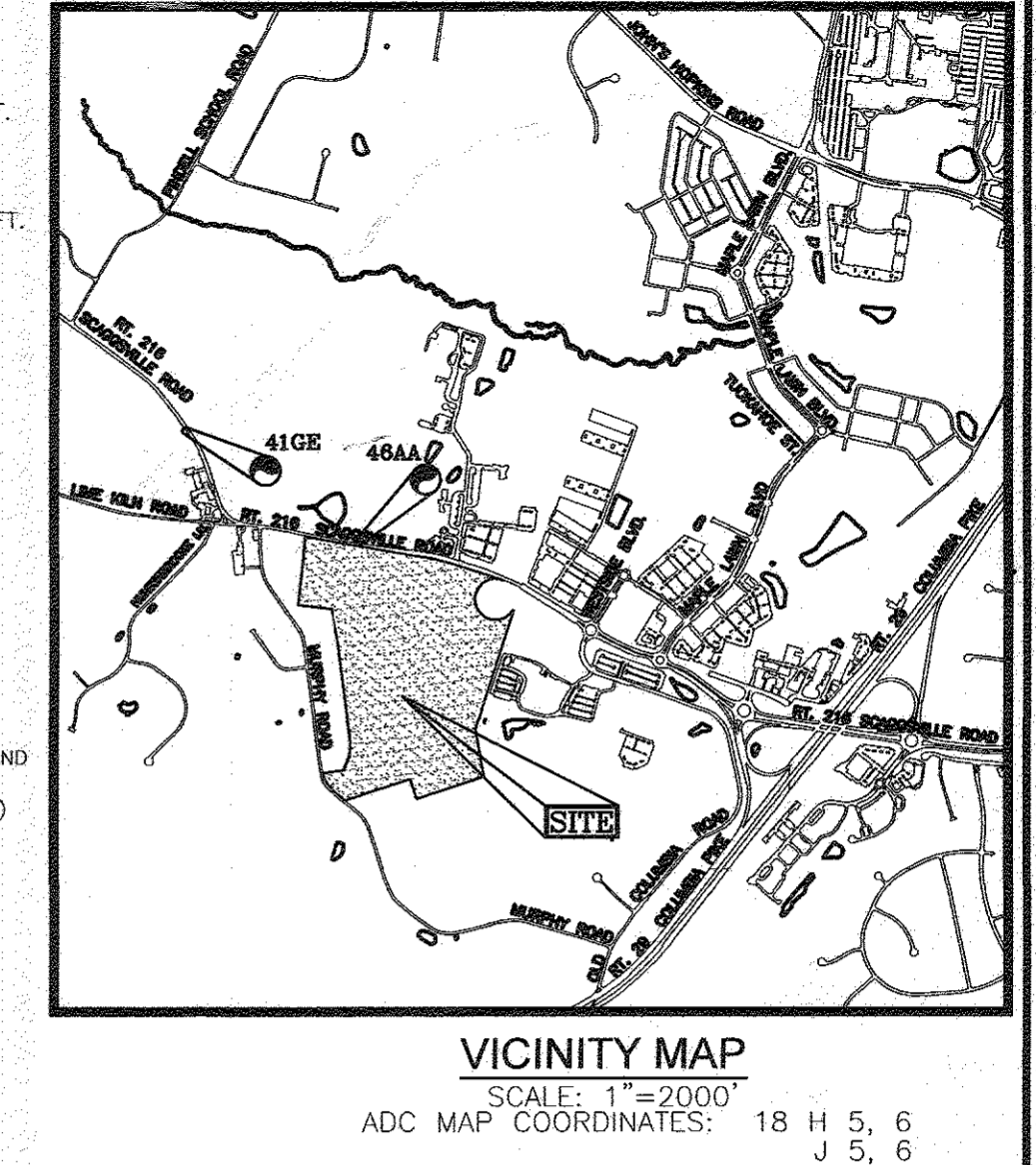
- 1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE UNLESS WAIVERS HAVE BEEN APPROVED.
2. THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK ON THESE DRAWINGS: MISS UTILITY, VERIZON TELEPHONE COMPANY, HOWARD COUNTY BUREAU OF UTILITIES, AT&T CABLE LOCATION DIVISION, B.G.E. CO. CONTRACTOR SERVICES, B.G.E. CO. UNDERGROUND DAMAGE CONTROL, STATE HIGHWAY ADMINISTRATION.
3. THE CONTRACTOR SHALL NOTIFY "M&S UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
4. 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.
5. 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.
6. THE PROJECT BOUNDARY IS BASED ON A BOUNDARY SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED APRIL 30, 2014.
7. THE EXISTING TOPOGRAPHY SHOWN HEREON IS BASED ON A TOPOGRAPHIC SURVEY PREPARED BY POTOMAC AERIAL SURVEYS, DATED FEBRUARY 26, 2014. OFFSITE TOPOGRAPHY FROM HOWARD COUNTY GIS.
8. SOIL TYPES SHOWN HEREON ARE IN ACCORDANCE WITH THE WEB SOIL SURVEY HOWARD COUNTY, MARYLAND - CLARKVILLE SE MAP #23.
9. 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 404A WERE USED FOR THIS PROJECT.
10. ACCORDING TO THE HOWARD COUNTY CEMETERY INVENTORY, THIS PARCEL DOES NOT CONTAIN A CEMETERY THAT IS LISTED. IN RESEARCHING THE PROPERTY, THE COUNTY ARCHITECTURAL HISTORIAN FOUND THAT THERE IS A DEED FROM 1871 THAT RESERVES "AN ACRE WHERE THE FAMILY GRAVE YARD STANDS WHICH THE GRANTORS HEREBY RESERVE FOR THEMSELVES AND THEIR FAMILY WITH THE RIGHT OF ACCESS THERE TO". TO THE BEST OF THE OWNER'S KNOWLEDGE, THERE ARE NO BURIAL GROUNDS OF CEMETERIES LOCATED ON THE PROJECT SITE, BUT THERE ARE RECORDS THAT SHOW A CEMETERY ONCE EXISTED ON THE PROPERTY. AS THE LAND HAS BEEN SUBDIVIDED OVER TIME, THE CEMETERY MAY NO LONGER BE PART OF THIS FINAL PLAN. THE LOCATION IS UNKNOWN.
11. THERE IS A HISTORIC HOUSE LOCATED ON PARCEL 113 TO BE DEMOLISHED, THAT IS LOCATED AT THE SITE OF LOT 59 & 60 PLAT NO. 18-021. THIS PLAN WAS PRESENTED TO THE COMMISSION IN DECEMBER 2014. THE COMMISSION WANTED THE HOUSE TO REMAIN ON-SITE. THE HOUSE IS NOT LISTED ON THE HISTORIC SITES INVENTORY. INSPECTION OF THIS HOUSE WAS CONDUCTED BY A CONSULTANT IN 2014 AND IT WAS DETERMINED THE HOUSE IS IN VERY POOR CONDITION, IS BEYOND LIFE EXPECTANCY AND SHOULD BE REMOVED FOR SAFETY REASONS.
12. THE OFFICIAL PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT ON JUNE 5, 2014 AT NORTH LAUREL COMMUNITY CENTER.
13. THE PROPOSED STREETS ARE CLASSIFIED AS PUBLIC ACCESS STREET OR ACCESS PLACE.
14. MURPHY ROAD IS CLASSIFIED AS AN EXISTING MINOR COLLECTOR ROADWAY.
15. DRIVEWAYS (S) SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
A) WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE).
B) SURFACE - 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CLIP COATING.
C) GEOMETRY - MAXIMUM 12% GRADE, MAXIMUM 10% CHANGE AND MINIMUM OF 45-FOOT DEPTH TURNING RADIUS.
D) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING).
E) DRAINAGE ELEMENTS-CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE.
F) STRUCTURE CLEARANCES-MINIMUM 12 FEET.
G) MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.
16. THIS PROJECT WAS INCORPORATED INTO THE METROPOLITAN DISTRICT BY CB-19-2016, WHICH WAS PASSED BY THE COUNTY COUNCIL ON MAY 2, 2016 AND BECAME EFFECTIVE ON JULY 5, 2016.
17. AN AMENDMENT TO THE WATER AND SEWER MASTER PLAN WAS PASSED BY A COUNTY RESOLUTION (CR-36-2016) ON MAY 2, 2016 AND BECAME EFFECTIVE ON MAY 5, 2016.
18. WATER & SEWER FOR THIS PROJECT PROVIDED PER CONTRACT 24-4899-D.
19. THE PROPOSED UNITS SHALL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
20. EXISTING UTILITIES LOCATED FROM ROAD CONSTRUCTION PLANS, TOPOGRAPHIC SURVEY, PUBLIC WATER AND SEWER EXTENSION PLANS, AND AS-BUILT DRAINAGE PLANS SHALL BE MAINTAINED AND PROTECTED IN ADVANCE OF CONSTRUCTION ACTIVITIES AND ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE.
21. ANY DAMAGE INCURRED TO THE EXISTING UTILITIES, DUE TO CONTRACTOR'S OPERATIONS, SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
22. IN ANY DAMAGE TO PUBLIC RIGHT-OF-WAY, PAVING, OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
23. THE PROPOSED UNITS SHALL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
24. A NON CRITICAL FLOODPLAIN IS LOCATED ON-SITE, APPROVED UNDER F16-021.
25. STEEP SLOPES ARE LOCATED AND SHOWN HEREON.
26. WETLANDS AND STREAMS SHOWN ONCE ARE BASED ON THE DELINEATION BY ENVIRONMENTAL SYSTEMS ANALYSIS, INC. (ESA), AUGUST 2013.
27. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAMS) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100-YEAR FLOODPLAIN.
28. FOREST STAND Delineation WAS PREPARED BY KLEBASKO ENVIRONMENTAL, LLC BY MR. MICHAEL J. KLEBASKO, P.E.W.S., DATED MAY 2014.
29. FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL A PORTION OF THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY FOREST CONSERVATION MANUAL. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT. HOWEVER, FOREST MANAGEMENT AND FOREST RESTORATION ACTIVITIES PERMITTED UNDER THE FOREST CONSERVATION EASEMENT ARE ALLOWED.
30. TOTAL FOREST CONSERVATION OBLIGATION OF THIS PROJECT WAS FULFILLED UNDER F16-021.
31. A TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY THE TRAFFIC ENGINEERING, INC. DATED DECEMBER 19, 2014, WAS APPROVED APRIL 2015.
32. A NOISE STUDY WAS PREPARED BY ROBERT H. VOGEL ENGINEERING, INC. DATED JANUARY 2015. THE STUDY UTILIZES PROPOSED BERM AND PROPOSED HOMES AS SHIELDING BARRIERS TO REDUCE THE NOISE EXPOSURE TO ACCEPTABLE LEVELS.
33. THE 65 DBA NOISE CONTOR LINE DRAWN ON THIS SUBDIVISION PLAN IS ADVISORY AS REQUIRED BY THE HOWARD COUNTY DESIGN MANUAL, CHAPTER 5, REVISED FEBRUARY, 1992 AND CANNOT BE CONSIDERED TO EXACTLY LOCATE THE 65 DBA NOISE EXPOSURE. THE 65 DBA NOISE LINE WAS ESTABLISHED BY HOWARD COUNTY AND FUTURE RESIDENTS THAT ARE NEARER TO THE PROJECT THAN THE 65 DBA NOISE THRESHOLD MAY EXCEED GENERALLY ACCEPTED NOISE LEVELS ESTABLISHED BY THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.
34. A TEST PIT REPORT FOR THIS PROJECT WAS PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED FEBRUARY 2015.
35. AN ENVIRONMENTAL CONCEPT PLAN (ECP-18-021) WAS APPROVED ON NOVEMBER 21, 2014.
36. A PRELIMINARY EQUIVALENT SKETCH PLAN (SP-15-014) WAS APPROVED ON SEPTEMBER 23, 2015.
37. STORMWATER MANAGEMENT FOR THE PROJECT IS PROVIDED BY THE USE OF NON STRUCTURAL PRACTICES & MICRO-SCALE PRACTICES IN ACCORDANCE WITH ENVIRONMENTAL SITE DESIGN CRITERIA. MICRO-SCALE PRACTICES INCLUDE MICRO-BIOTENTATION, BIO SWALES AND DRYWELLS. THESE FACILITIES WILL BE PRIVATELY OWNED AND JOINTLY MAINTAINED. MICRO-SCALE FACILITIES MANAGING ROAD RUNOFF SHALL BE DESIGNATED AS PRIVATELY OWNED AND JOINTLY MAINTAINED (P.O.A.) AND HOWARD COUNTY WILL MAINTAIN OUTLET STRUCTURES AND PIPES WHILE THE P.O.A. SHALL MAINTAIN MULCH, WEEDING, PLANTING, PERFORATED UNDERDRAINS, FEEDLINE PIPES, AND ROUTINE SOIL REPLACEMENT. 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 \$ 15,750 FOR THE PERIMETER LANDSCAPING (REQUIRED 36 SHADE TREES @10,800.00 AND 9 EVERGREENS @1,500.00) AND 12 SHADE TREES (CREAM CHERRY REPLACEMENT \$3,600) SHALL BE POSTED WITH THE DEVELOPERS AGREEMENT FOR THIS PLAN.
38. PUBLIC STREET TREES ARE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.124(A)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. FINANCIAL SURETY (\$ 73,500) SHALL BE POSTED AS PART OF THIS FINAL PLAN DEVELOPER'S AGREEMENT FOR THE REQUIRED 245 STREET TREES.
39. IN ACCORDANCE WITH SECTION 16.121(A)(2) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, THE OPEN SPACE REQUIREMENTS FOR THIS R-ED-MXD-3 PROJECT IS 50% OF GROSS AREA (91,316 AC. GROSS AREA X 50% = 45,658 AC.).
40. OPEN SPACE LOTS 178 - 181 TO BE OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION.
41. OPEN SPACE LOT 182 TO BE OWNED BY HOWARD COUNTY (SCAVENGE PUMP STATION).
42. IN ACCORDANCE WITH SECTION 16.121(A)(4) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, RECREATION OPEN SPACE FOR THIS R-ED-MXD-3 PROJECT IS 300 SF / UNIT (176 X 300 = 52,800 SF). THE OVERALL REQUIREMENT SHALL BE MET PER REGULATION OR IN COMBINATION WITH THE JUNE 2012 POLICY REGARDING THE ALLOWANCE OF A MAXIMUM 50% CREDIT FOR RECREATIONAL AMENITIES IN LIEU OF LAND AREA.
43. PER SECTION 107.0.E OF THE ZONING REGULATIONS, AT LEAST 10% OF THE DWELLINGS IN A R-ED DEVELOPMENT SHALL BE MODERATE INCOME HOUSING UNITS (MIHU). 176 X 10% IS 17.6. 18 UNITS OR THE EQUIVALENT SHALL BE PROVIDED FOR THIS PROJECT.
44. IN ACCORDANCE WITH DESIGN MANUAL-VOLUME 3, CHAPTER 2 - SECTION 2.9.B, PARKING IS REQUIRED AT TWO (2) SPACES PER UNIT OFF STREET PARKING TO INCLUDE GARAGE SPACE, DRIVEWAY AND PARKING PADS. GARAGES COUNT AS A FULL SPACE. SEE TABULATION HEREON.
45. ALL DRIVEWAY ENTRANCES SHALL UTILIZE HOWARD COUNTY STANDARD DETAIL NO. R-6-05.
46. TRAFFIC CONTROL WILL BE PROVIDED FOR THE PROPOSED ROAD WIDENING IN ACCORDANCE WITH THE LATEST MDMUTD.
47. TRAFFIC CONTROL DEVICES:
A. THE R1-1 SIGN AND STREET NAME SIGN (SNS) ASSEMBLIES FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETE.
B. THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
C. ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MDMUTD).
D. ALL SIGN POST 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, 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 SHALL BE MOUNTED ON THE TOP OF EACH POST.
48. STREET LIGHTING IS REQUIRED FOR THIS SITE IN ACCORDANCE WITH SECTION 16.135 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURES AND POLES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME SECTION 5.8.A. A MINIMUM OF 20 FEET SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
49. THIS PLAN IS SUBJECT TO PLANNING BOARD # PB 415, ON JUNE 30, 2015, THE PLANNING BOARD OF HOWARD COUNTY, MARYLAND APPROVED SP-15-014 FOR THE SUBDIVISION OF 176 SINGLE-FAMILY DETACHED RESIDENTIAL LOTS AND THIRTEEN OPEN SPACE LOTS ON 91.31 ACRES OF LAND ZONED R-ED-MXD-3.
50. THIS SUBDIVISION, LOCATED IN THE WEST SCHOOL REGION, THE FULTON ELEMENTARY SCHOOL DISTRICT AND THE LIME KILN MIDDLE SCHOOL DISTRICT, HAS PASSED THE INFO TEST FOR THE ALLOCATION YEAR 2017, BUT HAS FAILED THE APPO SCHOOLS TEST FOR THE ALLOCATION YEAR OF 2018 FOR THE 4 TENTATIVE HOUSING UNITS BECAUSE OF A CLOSED ELEMENTARY SCHOOL. THEREFORE, THIS SUBDIVISION WILL HAVE TO BE PHASED INTO TWO PARTS.
51. ON JULY 11, 2016, WITH THE COUNTY COUNCIL'S ADOPTION OF RESOLUTION OR-80-2016, A NEW OPEN/CLOSED SCHOOL CHART WAS CREATED AND THE 4 ALLOCATION UNITS FOR YEAR 2018 IN THE WEST REGION PASSED THE APPO TEST FOR OPEN SCHOOLS.
52. THIS PROJECT IS SUBJECT TO A DESIGN MANUAL WAVE, ON MAY 22, 2015, THE CHIEF OF THE DEVELOPMENT ENGINEERING DIVISION:
1. APPROVED THE REQUEST TO WAVE VOL. III - SECTION 2.5.B.9 AND 2.2.0 TABLE 2.0.1, WHICH REQUIRES THAT A NEWLY PROPOSED INTERSECTION MUST MEET THE MINIMUM REQUIREMENTS FOR INTERSECTION AND/OR STOPPING SIGHT DISTANCE. APPROVAL IS SUBJECT TO THE FOLLOWING DPW RECOMMENDATIONS:
A. PROVIDING DISTANCE ASSESSMENTS AS SHOWN ON THE SIGHT DISTANCE ANALYSIS.
2. APPROVED THE REQUEST TO WAVE VOL. III - SECTION 2.3.A.1.A (AND APPENDIX A) TO REDUCE THE MINIMUM ROAD RADIUS FOR NUMEROUS ROADWAYS WITHIN THE SUBDIVISION. THE WAVE FOR ROADWAYS B AND E ARE APPROVED SUBJECT TO THE FOLLOWING DPW REQUIREMENTS:
A. ROAD B - DPW REQUESTS 26' PAVEMENT WIDTH ALONG THE REDUCED CURVE AND FLATTERING THE INW INTERSECTION FILLET.
B. ROAD E - DPW REQUESTS 26' PAVEMENT WIDTH ALONG THE REDUCED CURVES, ESPECIALLY FROM STATION 0+00 TO 16+00.
THE REQUESTED WAVE FOR ROAD G IS DENIED. ROAD G IS TO CONNECT TO MURPHY ROAD. THIS ROAD WILL SERVE AS THE SECONDARY ACCESS TO THIS MAJOR DEVELOPMENT (TRAFFIC ENGINEERING, INC.).
3. APPROVED THE REQUEST TO WAVE VOL. III - SECTION 2.2.C AND 2.4.A TO REVISE THE TYPICAL SECTIONS FOR AN ACCESS PLACE, ACCESS STREET, AND MINOR COLLECTOR TO INCLUDE A 5-FOOT SIDEWALK ADJACENT TO THE CURB. APPROVAL SUBJECT TO THE FOLLOWING DPW REQUIREMENTS:
A. PLEASE ENSURE THAT NO STREET TREES ARE PLANTED WITHIN 50 FEET OF ANY STOP SIGN.
B. THIS PROJECT IS SUBJECT TO WP-15-136, ON MAY 29, 2015, THE PLANNING DIRECTOR APPROVED THE REQUEST TO WAVE SECTION 16.1205(A)(7) OF THE AMENDED FIFTH EDITION WHICH REQUIRES THE RETENTION OF SPECIMEN TREES HAVING A DIAMETER OF 30" OR MORE AND SECTION 16.121(A)(1) OF THE AMENDED FIFTH EDITION WHICH REQUIRES OPEN SPACE LOTS TO HAVE A MINIMUM OF 40 FEET OF FRONTAGE ON A PUBLIC ROAD OR ACCESS BY PERISTENTIES AND MAINTENANCE VEHICLES. APPROVAL IS SUBJECT TO THE FOLLOWING FIVE (5) CONDITIONS:
1) REMOVAL OF THE ELEVEN (11) SPECIMEN TREES WILL REQUIRE MITIGATION WITH THE PLANTING OF 2 TO 1 REPLACEMENT TREES (22 TOTAL) WITH A MINIMUM 3" DBH TRUNK. THE REPLACEMENT TREES SHALL BE BONDED AND SHOWN ON EITHER THE LANDSCAPE OR FOREST CONSERVATION PLAN WITH THE FINAL PLAN.
2) THE FORTY-THREE (43) REMAINING SPECIMEN TREES MUST REMAIN UNDISTURBED, UNLESS A NEW WAIVER PETITION IS FILED WITH ADEQUATE JUSTIFICATION.
3) ANY SPECIMEN TREE THAT SHALL REMAIN ON-SITE (THAT ARE WITHIN THE LIMIT OF DISTURBANCE) MUST BE PROTECTED WITH TREE PROTECTION DEVICES AND, SUCH DEVICES MUST BE DEPICTED ON FOREST CONSERVATION PLANS AND THE SITE DEVELOPMENT PLAN.
4) ALL PROPOSED OPEN SPACE LOTS MUST PROVIDE THE MINIMUM PUBLIC ROAD FRONTAGE AS SHOWN AND APPROVED ON THE SP PLAN (SP-15-014). OPEN SPACE LOTS 177, 178 AND 179 SHOULD HAVE AT LEAST ONE PUBLIC ROAD FRONTAGE STRIP OF 20 FEET IN WIDTH.
5) PROVIDE A NOTE ON SP-15-014, THE FINAL PLAN AND THE SITE DEVELOPMENT PLAN THAT INCLUDES THIS WAIVER'S FILE NUMBER AND THE SECTIONS TO BE WAIVED, THE WAIVER DECISION, THE DATE OF THE DECISION AND ALL CONDITIONS OF APPROVAL.
47. AS APPROVED UNDER SP-15-014, THIS PROJECT PROVIDES ADDITIONAL STORMWATER STORAGE VOLUME FOR LARGER STORM EVENTS WHICH HAS BEEN PROPORTIONALLY DISTRIBUTED AMONG EACH OF F-16-021 BLDG-SUBS AND MUCH BIGNONIA BLDG. A MINOR BURNING RESERVOIR BELOW EACH INDIVIDUAL FACILITY'S UNDER DRAIN HAS BEEN PROVIDED.

MAPLE LAWN SOUTH APFO PHASING table with columns: PHASE NUMBER, YEAR, TOTAL NO. OF ALLOCATIONS

MAPLE LAWN SOUTH - DENSITY TABULATION table with columns: PHASE, GROSS AREA, FLOODPLAIN STEEP SLOPES, NET AREA, LIMITS PERMITTED BY NET, UNITS (PROPOSED), OPEN SPACE (REQUIRED), NON CREDITED OPEN SPACE PROVIDED, CREDITED OPEN SPACE PROVIDED

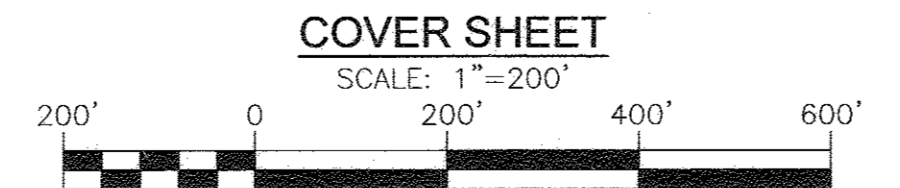


BENCHMARKS table with columns: BENCHMARK, ELEVATION, LOCATION, COORDINATES



PHASE 1 SECTION 2

COORDINATE TABLE table with columns: NO., NORTH, EAST



RECREATION OPEN SPACE TABULATION table with columns: PHASE, SEC 1, SEC 2, PROVIDED UNDER PHASE 1 - SEC 1

AMENITIES table with columns: CLUBHOUSE, POOL, TOT LOT

OPEN SPACE TABULATION table with columns: PHASE 1/1, PHASE 1/2, CREDITED, NON-CREDITED

PARKING TABULATION table with columns: TOTAL NUMBER OF DWELLING UNITS PROPOSED, OFF-STREET PARKING SPACES REQUIRED, PARKING SPACES PROVIDED

SHEET INDEX table with columns: COVER SHEET, DESCRIPTION, SHEET NO.

OWNER: MAPLE LAWN FARMS, INC. DEVELOPER: MAPLE LAWN PARTNERS, LLC

FINAL ROAD CONSTRUCTION PLAN COVER SHEET

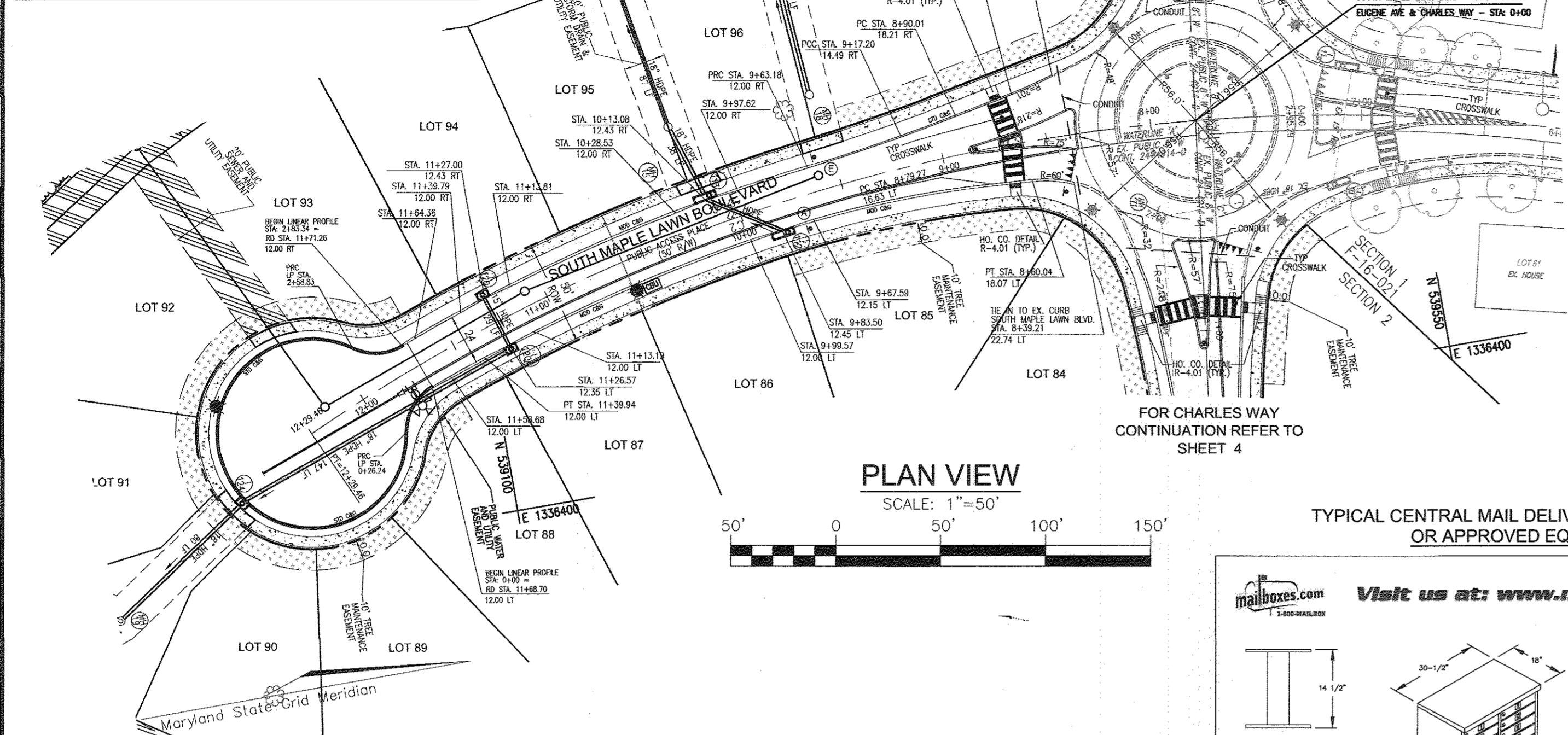
MAPLE LAWN SOUTH PHASE 1 - SECTION 2 LOTS 70 - 177 AND OPEN SPACE LOTS 178 - 182

ROBERT H. VOGEL ENGINEERING, INC. logo and contact information: 8407 MAIN STREET, ELLIOTT CITY, MD 21043

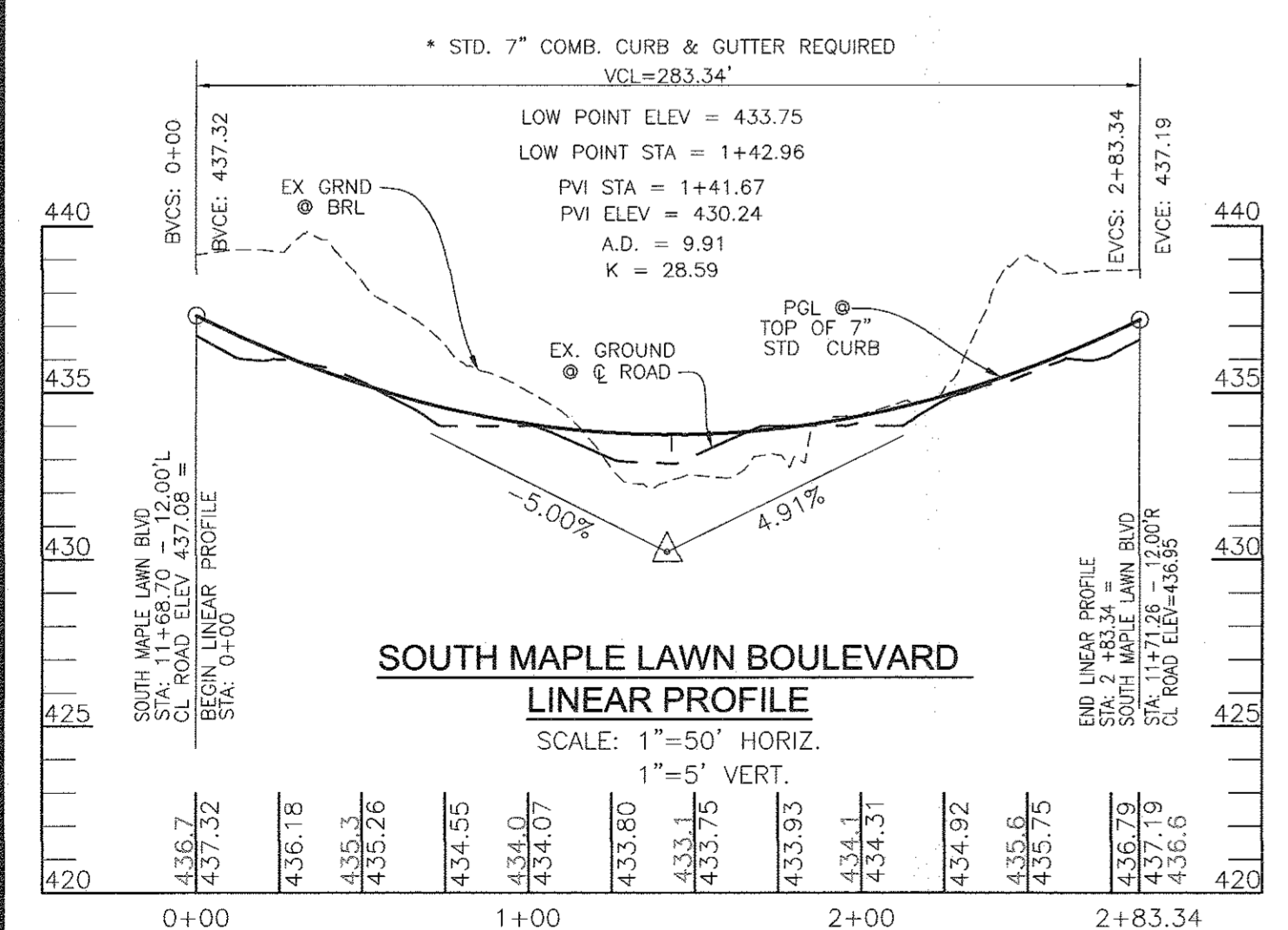
PROFESSIONAL CERTIFICATE for Robert H. Vogel, PE No. 16193, dated March 2017

ROAD	CURVE	LENGTH	RADIUS	DELTA ANGLE	TANGENT	CHORD DIRECTION	CHORD LENGTH
SOUTH MAPLE LAWN BLVD	CZ	450.99'	860.00'	30°02'46"	230.81'	S09°29'59"E	445.84'

ROAD NAME	STATION	OFFSET	FIXTURE/POLE TYPE
SOUTH MAPLE LAWN BLVD	10+59.5	15.1' L	LED-100 WATT COLONIAL
SOUTH MAPLE LAWN BLVD (LINEAR PROFILE)	1+80.5	2.30' L	FIXTURE MOUNTED ON A 14 BLACK FIBERGLASS POLE



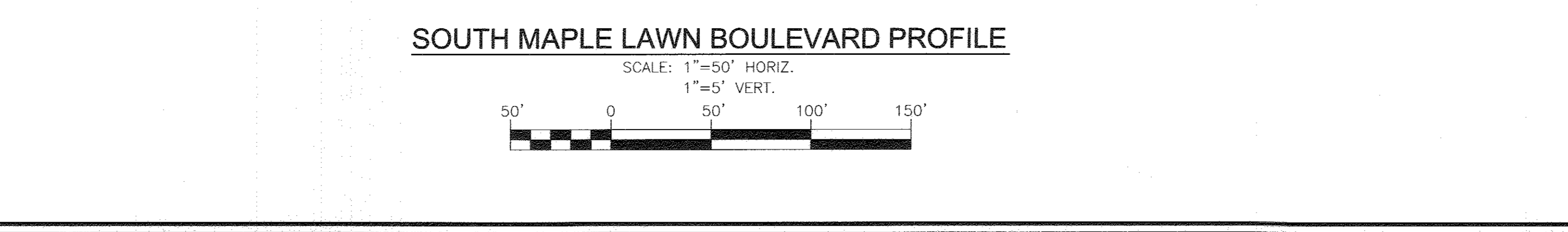
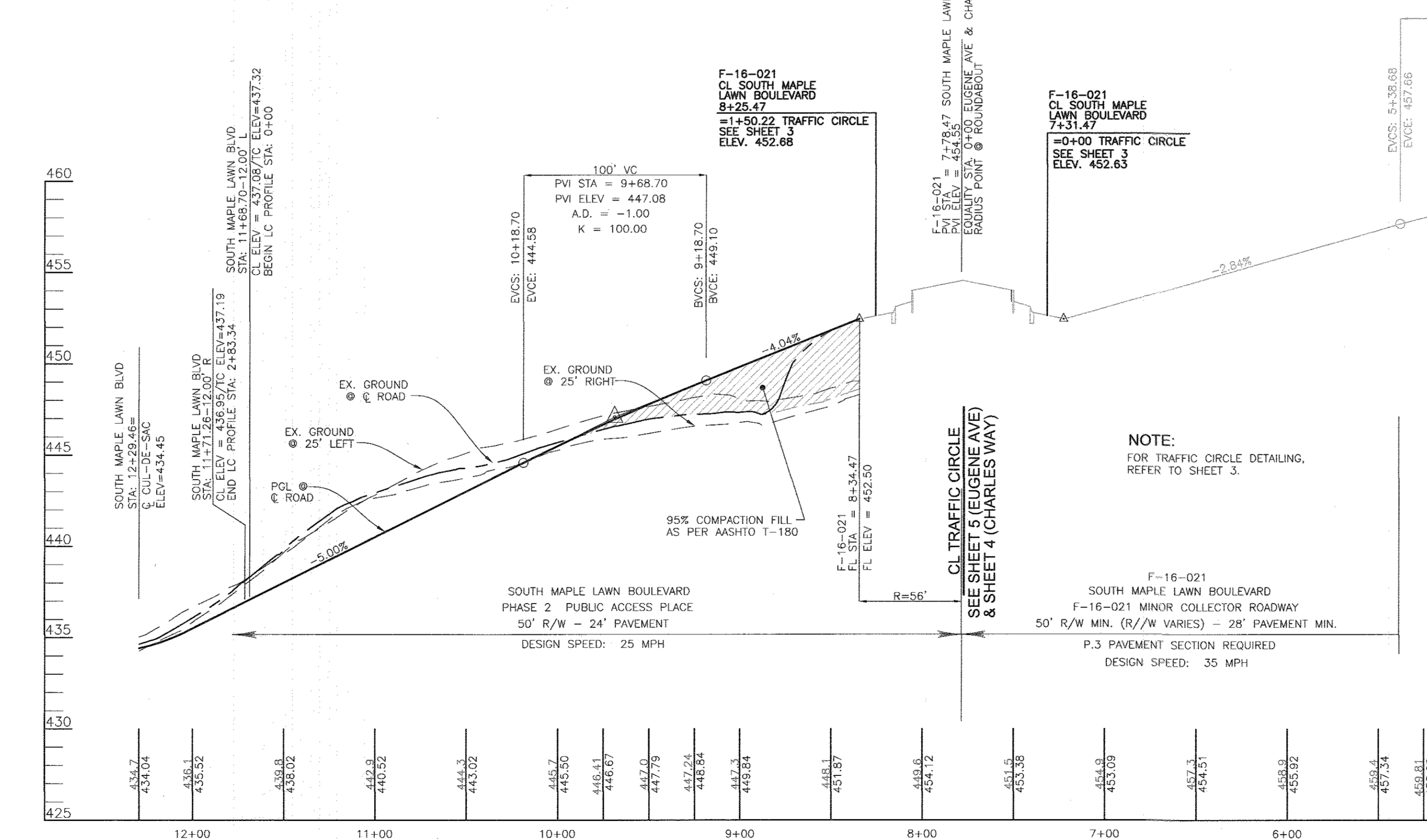
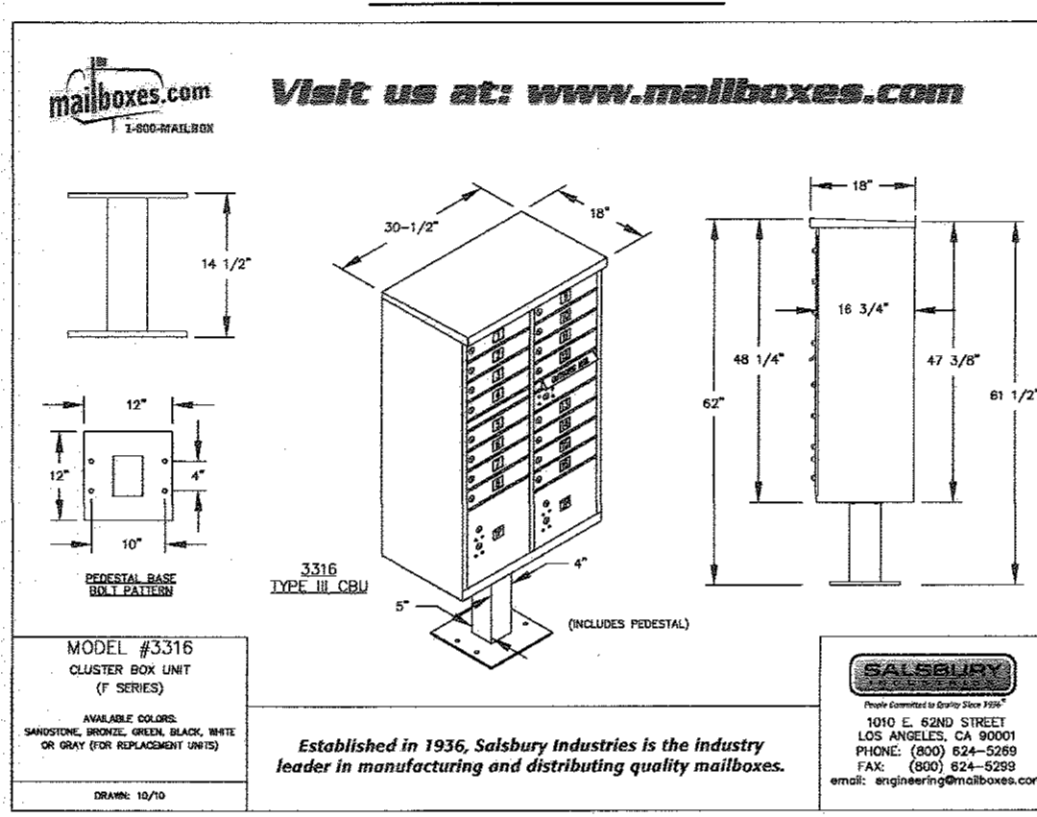
- LEGEND:**
- EXISTING CURB AND GUTTER
 - CURB AND GUTTER
 - EXISTING UTILITY POLE
 - EXISTING LIGHT POLE
 - STORM DRAIN
 - STORM DRAIN INLET
 - EXISTING FENCE
 - PROPERTY LINE
 - RIGHT-OF-WAY LINE
 - 5' SIDEWALK
 - REINFORCED SIDEWALK
 - PUBLIC STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT
 - PRIVATE STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT
 - STREET LIGHT
 - STREET SIGN
 - 10' TREE MAINTENANCE EASEMENT



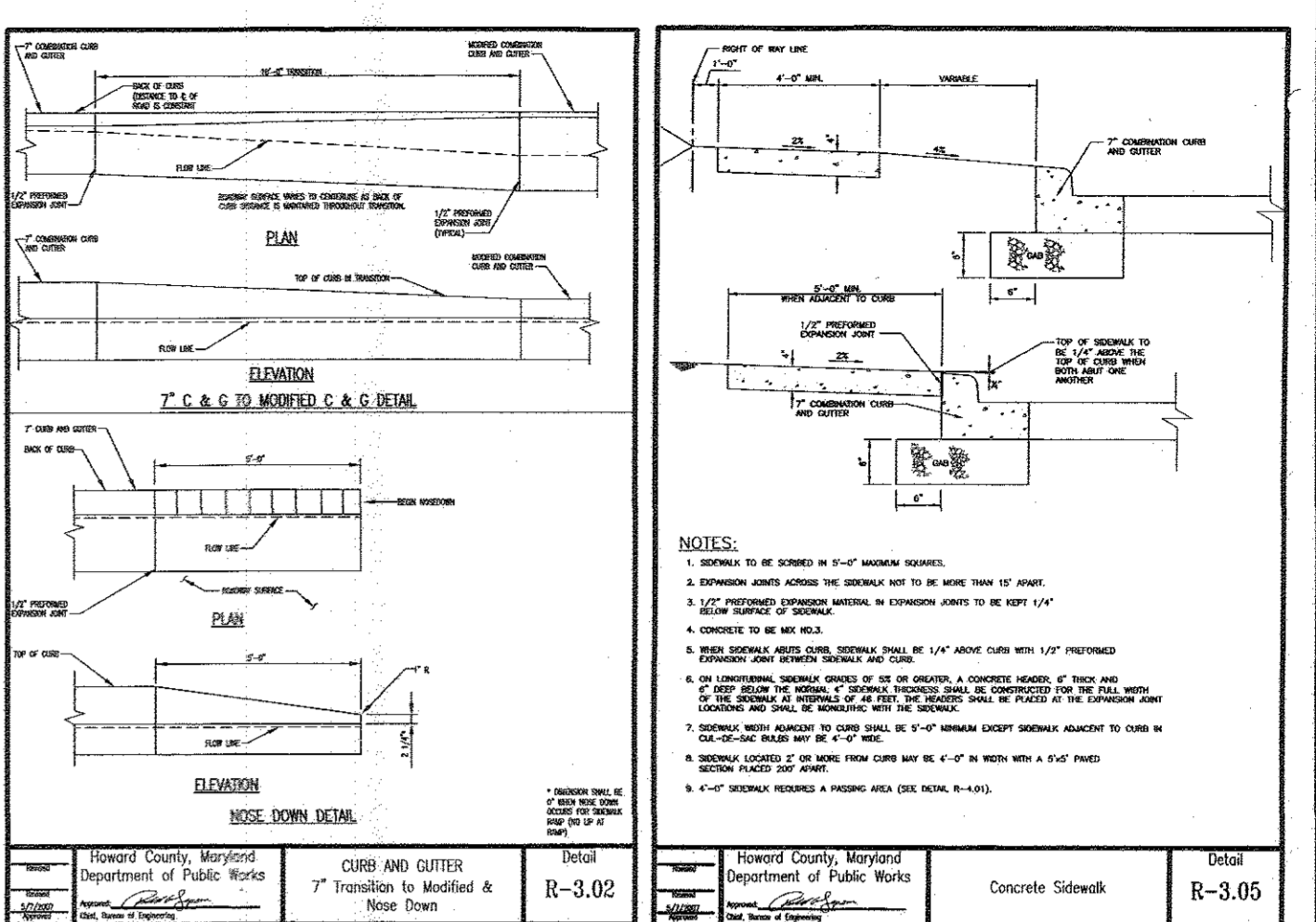
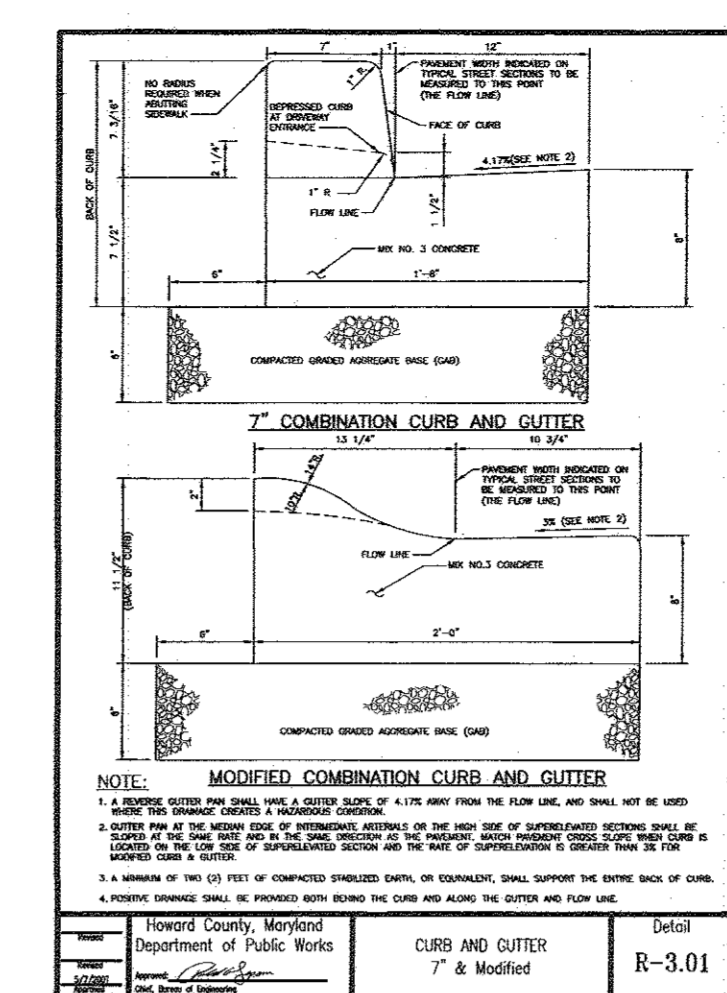
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 Chief, Division of Land Development

CBU BOX LOCATION: SUBJECT TO CHANGE
 ONE (1) UNIT "CLUSTER BOX UNIT" HAS BEEN PLACED NEAR LOT 86/87 TO SERVE LOTS 85 - 96.

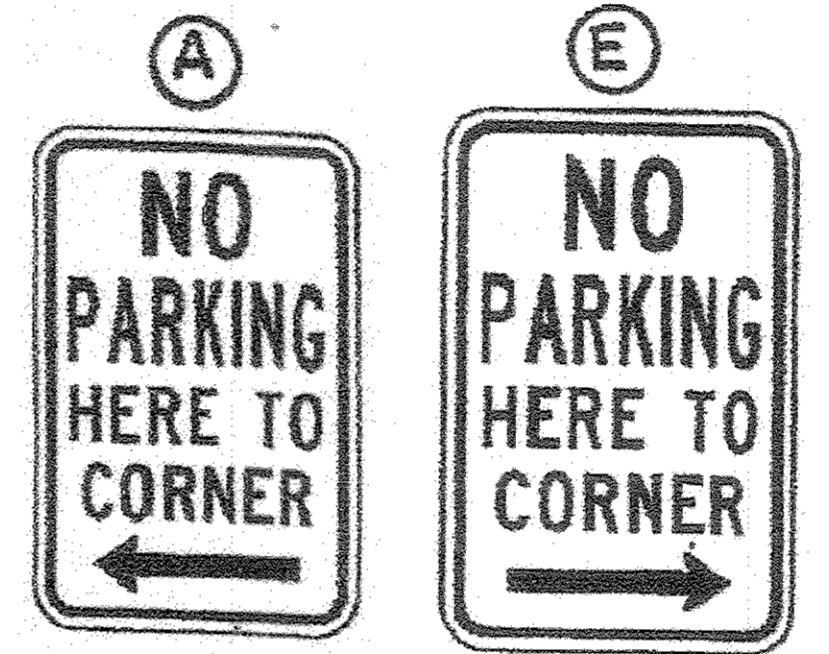
SALSBUURY INDUSTRIES MANUFACTURES CBU'S THAT ARE OFFICIALLY LICENSED BY THE U.S.P.S. SALSBUURY 3300 SERIES CLUSTER BOX UNITS ARE MANUFACTURED TO U.S.P.S. "T" SPECIFICATIONS. THEY ARE AN OFFICIALLY LICENSED PRODUCT OF THE U.S. POSTAL SERVICE FOR CENTRALIZED MAIL DELIVERY. LICENSE NUMBER 10D502-08-B-00.



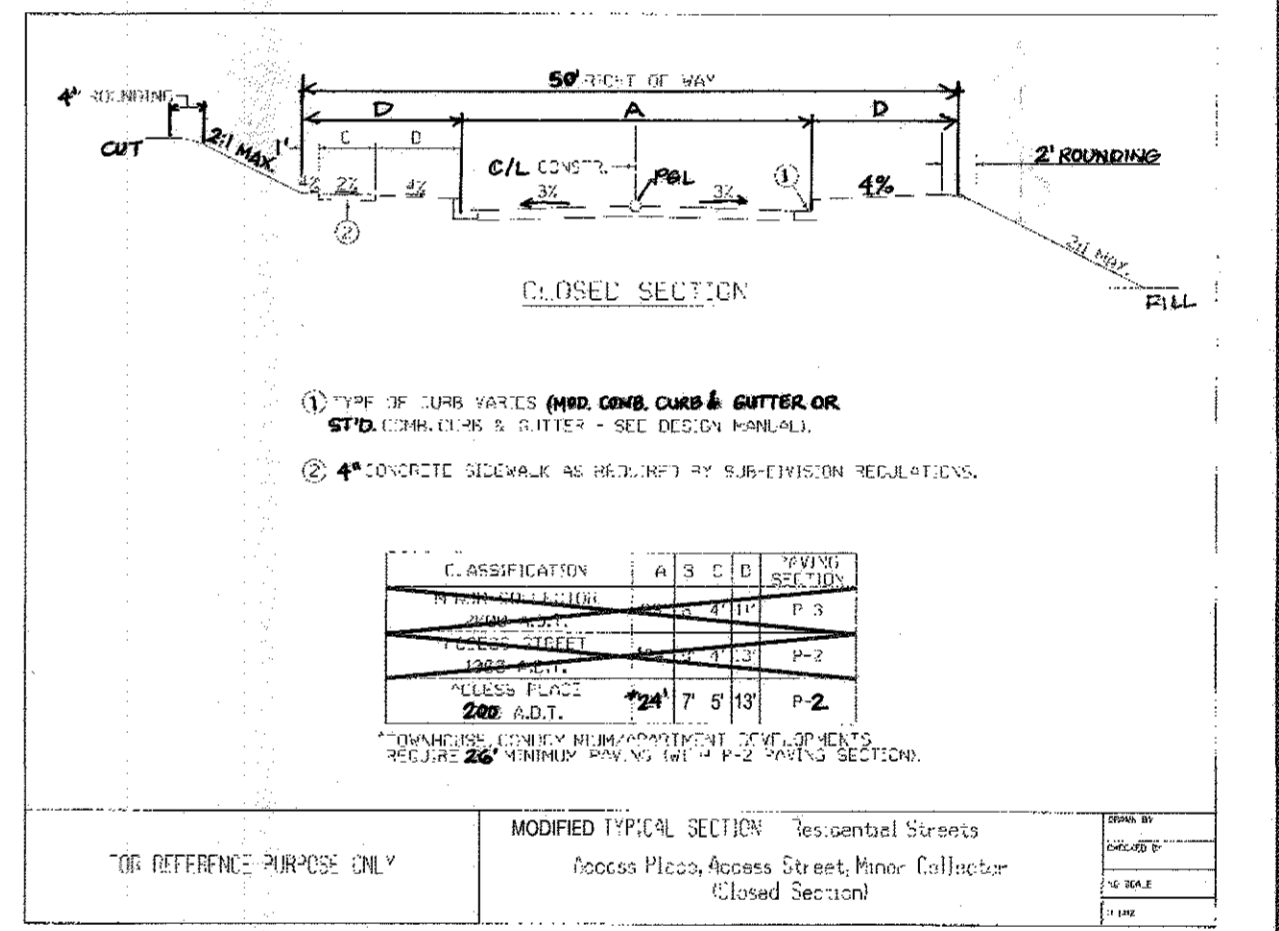
SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING AND CURVE	3 TO +8	3 TO -8	3 TO +8	3 TO -8
P-1	PAVING DRIVE (RESIDENTIAL)	MIN SUPERELEVATION SURFACE 5.0 MM PG 64-25, LEVEL 1 (20%)	1.5	1.5	1.5	1.5
P-2	PAVING DRIVE (RESIDENTIAL)	MIN SUPERELEVATION SURFACE 5.0 MM PG 64-25, LEVEL 1 (20%)	1.5	1.5	1.5	1.5
P-3	PAVING DRIVE (RESIDENTIAL)	MIN SUPERELEVATION SURFACE 5.0 MM PG 64-25, LEVEL 1 (20%)	1.5	1.5	1.5	1.5
P-4	PAVING DRIVE (RESIDENTIAL)	MIN SUPERELEVATION SURFACE 5.0 MM PG 64-25, LEVEL 1 (20%)	1.5	1.5	1.5	1.5



ROAD NAME	STATION	OFFSET	NO.	TYPE
SOUTH MAPLE LAWN BLVD	9+58.84	16.00' R	E	"E" NO PARKING SIGN
SOUTH MAPLE LAWN BLVD	9+70.26	16.00' L	A	"A" NO PARKING SIGN



- NOTES:**
- REFER TO SHEETS 24 TO 28 FOR STORMDRAIN PROFILES.
 - REFER TO SHEETS 27 & 28 FOR STORMDRAIN STRUCTURE SCHEDULE.
 - FOR STREET TREE LOCATIONS, REFER TO SHEETS 29 - 32.
 - ALL STREET TREES AND/OR SIGN SHALL BE LOCATED 5' MIN. FROM PROPOSED DRAINAGE, UTILITY STRUCTURE.
 - THERE SHOULD BE A MINIMUM OF 20' BETWEEN STREET LIGHTS AND STREET TREES.
 - IN THE DIRECTION FACING A TRAFFIC CONTROL SIGN:
 - THERE SHALL BE A MINIMUM OF 40' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL STOP SIGNS.
 - THERE SHALL BE A MINIMUM OF 35' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL SIGNS OTHER THAN A STOP SIGN.
 - 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.



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

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

NO.	REVISION	DATE

FINAL ROAD CONSTRUCTION PLAN
 SOUTH MAPLE LAWN BOULEVARD PLAN & PROFILE
 STA 7+78.47 TO STA 12+29.46
 MAPLE LAWN SOUTH
 PHASE 1 - SECTION 2
 LOTS 70 - 177 AND OPEN SPACE LOTS 178 - 182
 A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL "A"

ROBERT H. VOGEL ENGINEERS, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410-461-7666
 FAX: 410-461-8951

DESIGN BY: RVE
 DRAWN BY: RVE
 CHECKED BY: RHV
 DATE: MARCH 2017
 SCALE: AS SHOWN
 W.O. NO.: 11-34

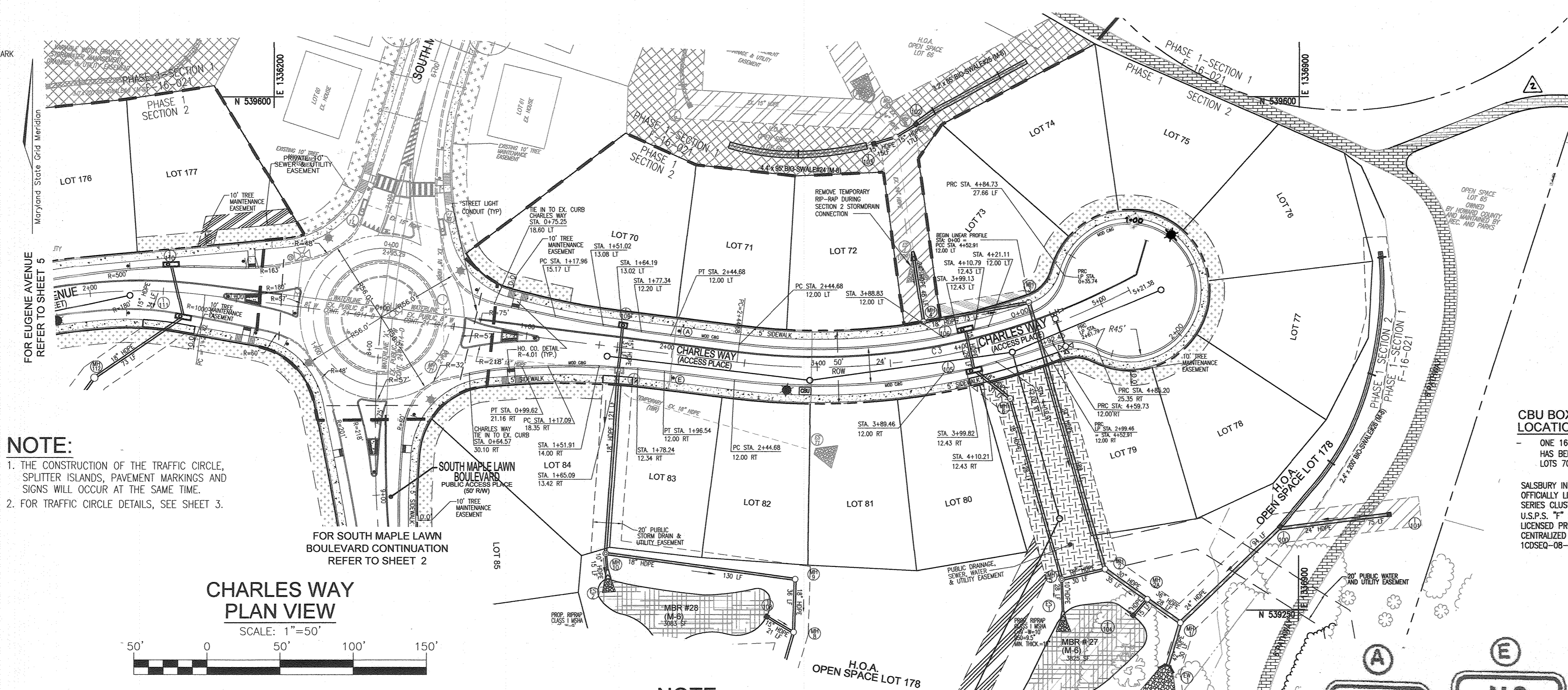
2 SHEET OF 39

ROAD NAME	STATION	OFFSET	TYPE
CHARLES WAY	2+02.85	16.00' L	"A" NO PARKING SIGN
CHARLES WAY	2+03.11	16.00' R	"E" NO PARKING 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.

- LEGEND:**
- EXISTING CURB AND GUTTER
 - CURB AND GUTTER
 - EXISTING UTILITY POLE
 - EXISTING LIGHT POLE
 - STORM DRAIN
 - STORM DRAIN INLET
 - EXISTING FENCE
 - PROPERTY LINE
 - RIGHT-OF-WAY LINE
 - 5' SIDEWALK
 - REINFORCED SIDEWALK
 - PUBLIC STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT
 - PRIVATE STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT
 - STREET LIGHT
 - STREET SIGN
 - 10' TREE MAINTENANCE EASEMENT

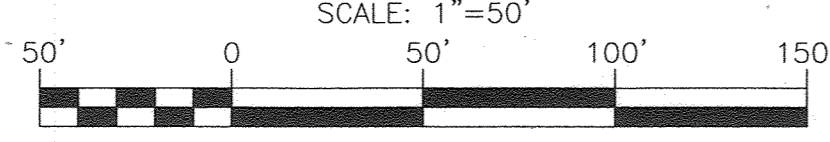
- NOTES:**
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 - REFER TO SHEETS 27 & 28 FOR STORMDRAIN STRUCTURE SCHEDULE.
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- THERE SHALL BE A MINIMUM OF 40' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL STOP SIGNS.
 - THERE SHALL BE A MINIMUM OF 35' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL SIGNS OTHER THAN A STOP SIGN.
6. 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.



NOTE:

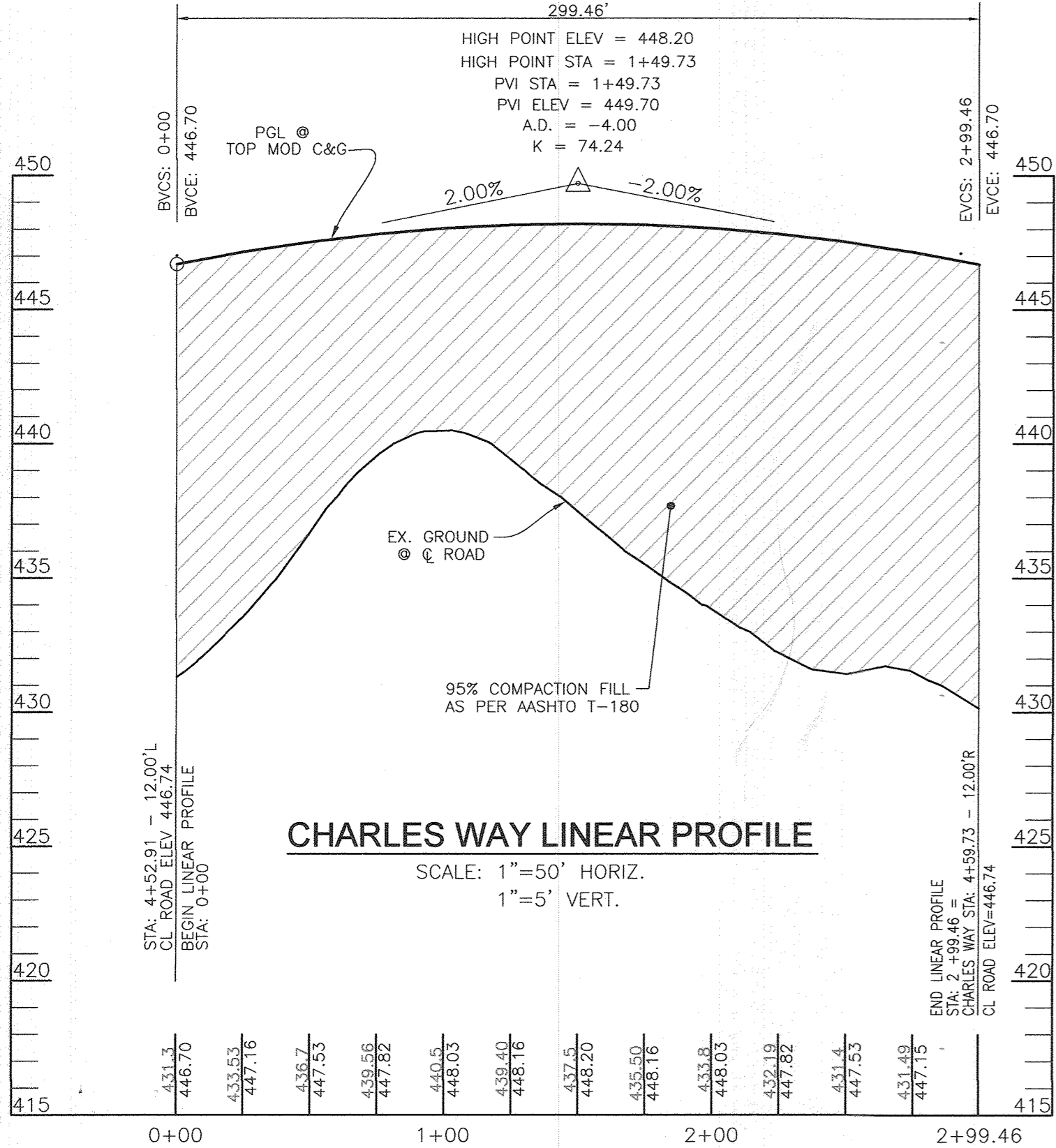
- THE CONSTRUCTION OF THE TRAFFIC CIRCLE, SPLITTER ISLANDS, PAVEMENT MARKINGS AND SIGNS WILL OCCUR AT THE SAME TIME.
- FOR TRAFFIC CIRCLE DETAILS, SEE SHEET 3.

CHARLES WAY PLAN VIEW

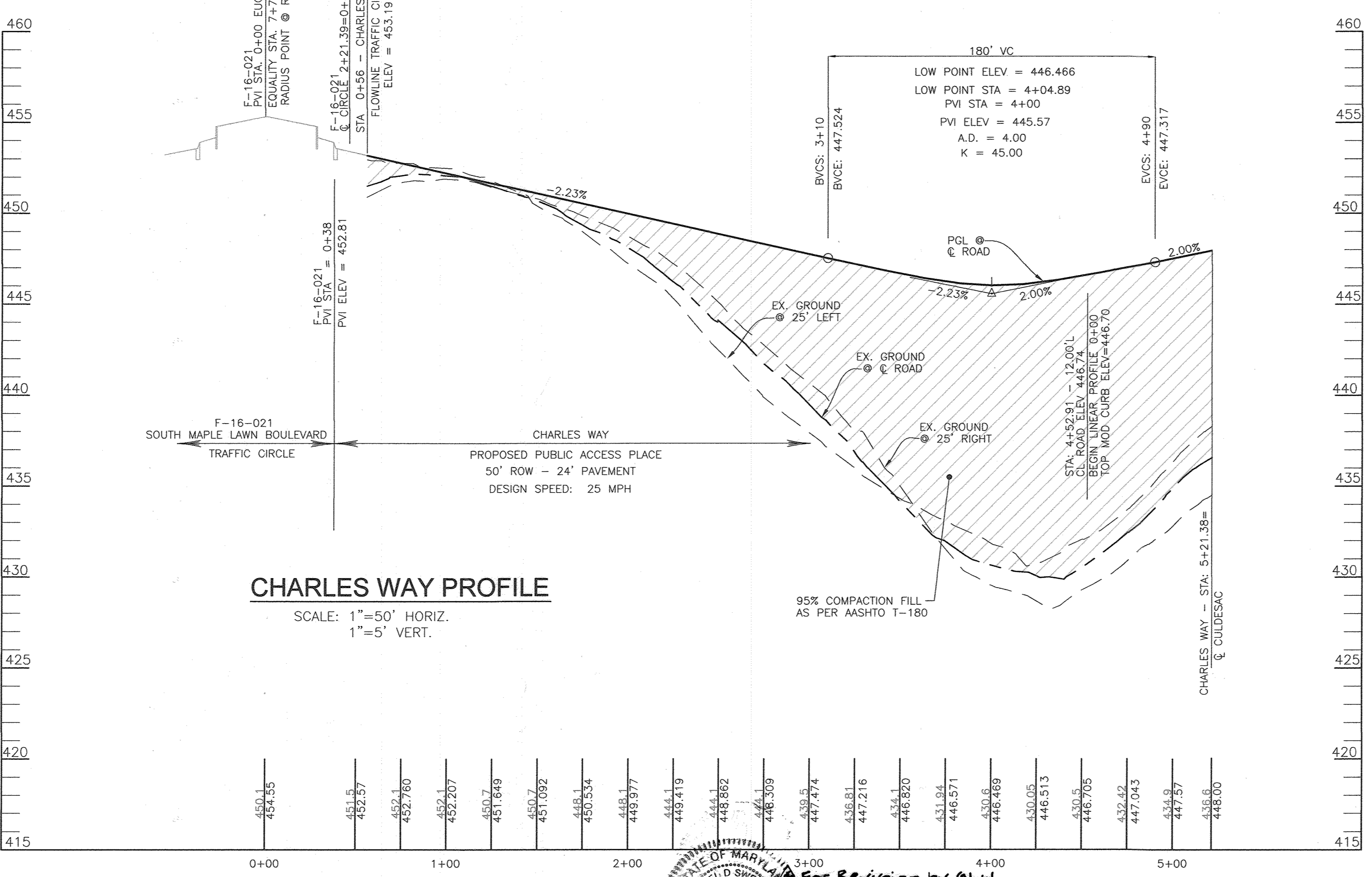


NOTE:
RIP RAP PROTECTION AT ES-T1 SHALL BE REMOVED WITH ULTIMATE STORM DRAIN ALIGNMENT TO MH 10

ROAD NAME	STATION	OFFSET	FIXTURE/POLE TYPE
CHARLES WAY	2+79.91	16.00' R	LED-100 WATT COLONIAL FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE
CHARLES WAY (LINEAR PROFILE)	1+25.33	2.55' L	



CHARLES WAY LINEAR PROFILE



CHARLES WAY PROFILE

ROAD	CURVE	LENGTH	RADIUS	DELTA ANGLE	TANGENT	CHORD	CHORD DIRECTION	CHORD LENGTH
CHARLES WAY	C3	276.70'	450.00'	35°13'49"	142.88'	N79°35'19"E	272.36'	

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 DATE: 5/17/2017

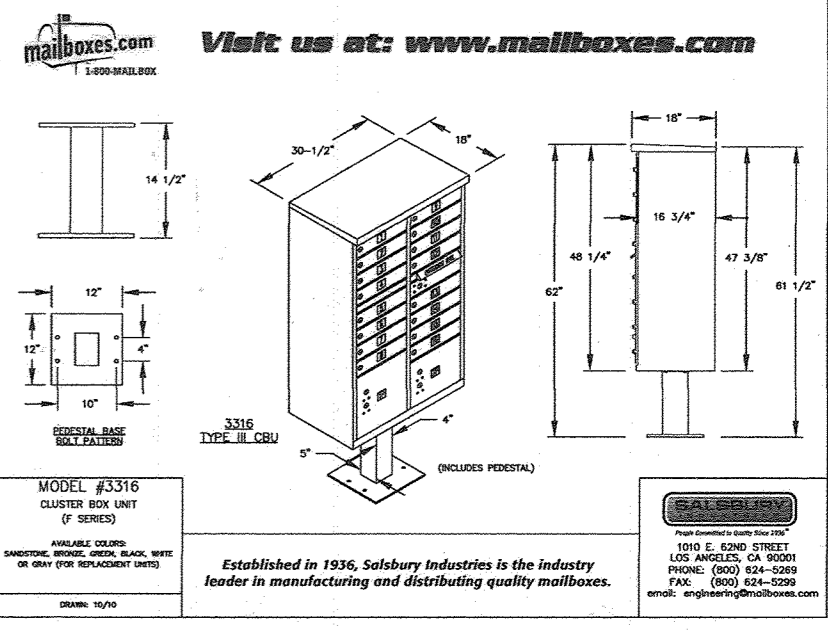
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 DATE: 5-31-17

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development
 DATE: 5-28-17

FOR REVISION BY GLW
 Professional Certification
 I hereby certify that these plans 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. 642990
 Expiration Date: May 14, 2025.

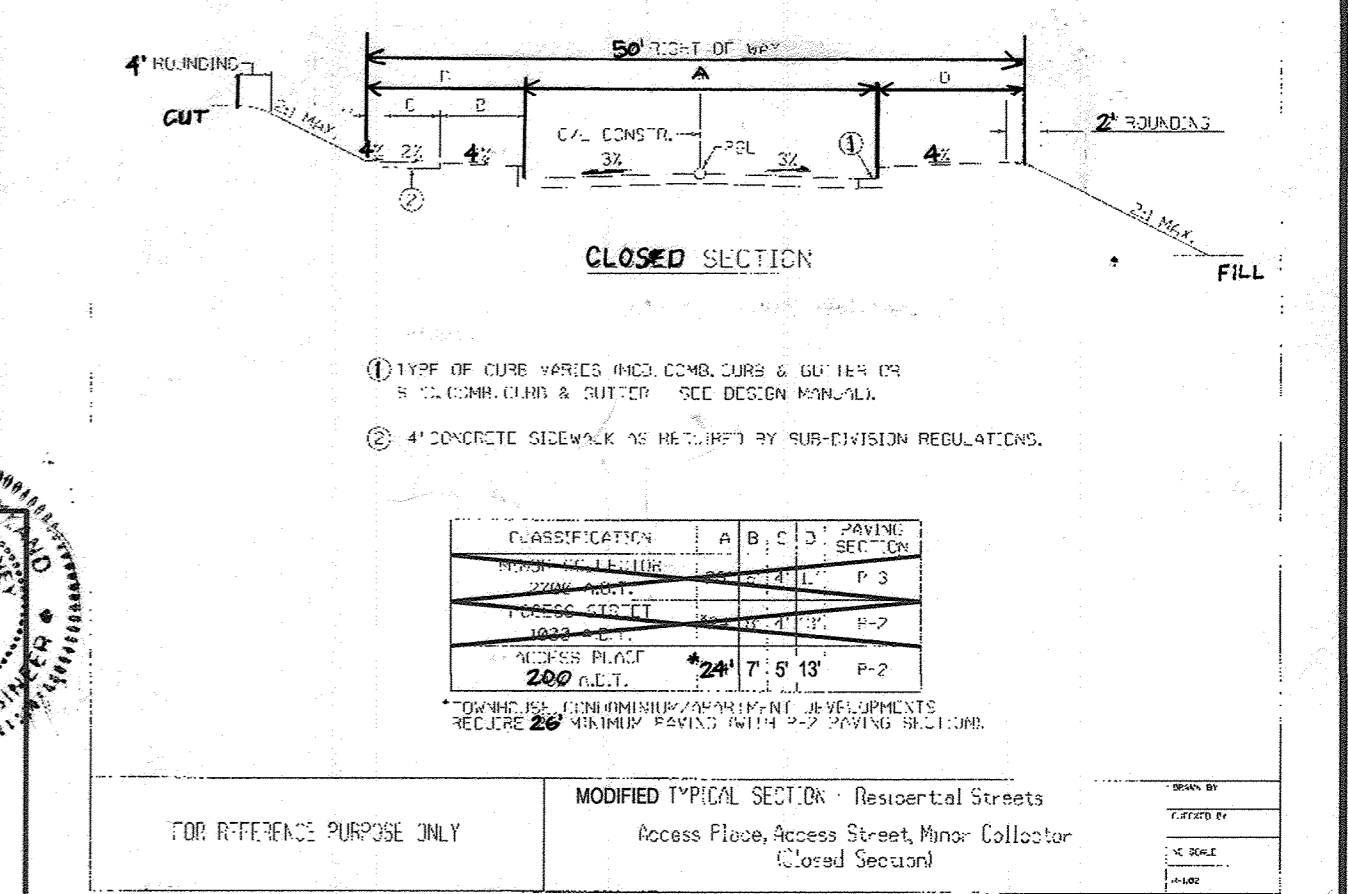
SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA STANDARD SPECIFICATIONS (CSS)			
		1 TO 4	5 TO 7	8 TO 11	12 TO 15
P-1	PAVEMENT SURFACE: 1.5" ASPHALT SURFACE OVER 4" ASPHALT BASE OVER 4" GRANULAR FILL OVER 4" GRANULAR SUBGRADE SIDEWALK: 4" CONCRETE OVER 4" GRANULAR FILL OVER 4" GRANULAR SUBGRADE	1.5	1.5	1.5	1.5
P-2	PAVEMENT SURFACE: 1.5" ASPHALT SURFACE OVER 4" ASPHALT BASE OVER 4" GRANULAR FILL OVER 4" GRANULAR SUBGRADE SIDEWALK: 4" CONCRETE OVER 4" GRANULAR FILL OVER 4" GRANULAR SUBGRADE	1.5	1.5	1.5	1.5
P-3	PAVEMENT SURFACE: 1.5" ASPHALT SURFACE OVER 4" ASPHALT BASE OVER 4" GRANULAR FILL OVER 4" GRANULAR SUBGRADE SIDEWALK: 4" CONCRETE OVER 4" GRANULAR FILL OVER 4" GRANULAR SUBGRADE	1.5	1.5	1.5	1.5
P-4	PAVEMENT SURFACE: 1.5" ASPHALT SURFACE OVER 4" ASPHALT BASE OVER 4" GRANULAR FILL OVER 4" GRANULAR SUBGRADE SIDEWALK: 4" CONCRETE OVER 4" GRANULAR FILL OVER 4" GRANULAR SUBGRADE	1.5	1.5	1.5	1.5

TYPICAL CENTRAL MAIL DELIVERY BOX (CBU) OR APPROVED EQUAL



CBU BOX LOCATION: SUBJECT TO CHANGE
 ONE 16 UNIT "CLUSTER BOX UNIT" HAS BEEN PLACED NEAR LOT 81/82 TO SERVE LOTS 70 - 84.

SALSBUURY INDUSTRIES MANUFACTURES CBU'S THAT ARE OFFICIALLY LICENSED BY THE U.S.P.S. SALSBUURY 3300 SERIES CLUSTER BOX UNITS ARE MANUFACTURED TO U.S.P.S. TYPE 11 SPECIFICATIONS. THEY ARE AN OFFICIALLY LICENSED PRODUCT OF THE U.S. POSTAL SERVICE FOR CENTRALIZED MAIL DELIVERY. LICENSE NUMBER 100502-08-B-0026



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

NO.	REVISION	DATE
1	REVISE 6' PATHWAY (BY GLW)	7/10/15
2	TO REVISE HOUSE ORIENTATION ON LOT 75, RELOCATE STREET LIGHT ON CHARLES WAY AND REVISE GRADING ON OPEN SPACE LOT 65	5-24-17

FINAL ROAD CONSTRUCTION PLAN
 CHARLES WAY ROAD PLAN & PROFILES
 STA 0+00 TO STA 5+21.38
 MAPLE LAWN SOUTH
 PHASE 1 - SECTION 2
 LOTS 70 - 177 AND OPEN SPACE LOTS 178 - 182
 A RESUBDIVISION OF NON-BUILDABLE PARCEL 'A'

ROBERT H. VOGEL, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

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.
 EXPIRATION DATE: 09-27-2018

DESIGN BY: RVE
 DRAWN BY: RVE
 CHECKED BY: RHV
 DATE: MARCH 2017
 SCALE: AS SHOWN
 W.O. NO.: 11-34

4 SHEET OF 39

ROAD	CURVE	LENGTH	RADIUS	DELTA ANGLE	TANGENT	CHORD DIRECTION	CHORD LENGTH
EUGENE AVE	C4	430.87'	350.00'	70°32'04"	247.51'	S61°56'11"W	404.17'
EUGENE AVE	C5	158.34'	350.00'	25°55'15"	80.55'	N39°37'46"E	156.99'

LEGEND:

- EXISTING CURB AND GUTTER
- CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- STORM DRAIN
- STORM DRAIN INLET
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- 5' SIDEWALK
- REINFORCED SIDEWALK
- PUBLIC STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT
- PRIVATE STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT
- STREET LIGHT
- STREET SIGN
- 10' TREE MAINTENANCE EASEMENT

NOTES:

- REFER TO SHEETS 24 TO 28 FOR STORMDRAIN PROFILES.
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- FOR EUGENE AVE. MAILBOX LOCATIONS, REFER TO SHEET 6.
- 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.

NOTE

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- CONTACT HOWARD COUNTY TRAFFIC (410-313-5752) PRIOR TO INSTALLING THE THERMOPLASTIC CHEVRONS ON THE RAMPS.
- TRAFFIC DIVISION MAY NEED TO RESTRICT PARKING NEAR THE PROPOSED SPEED TABLES. TO BE DETERMINED AFTER SPEED TABLES ARE INSTALLED.

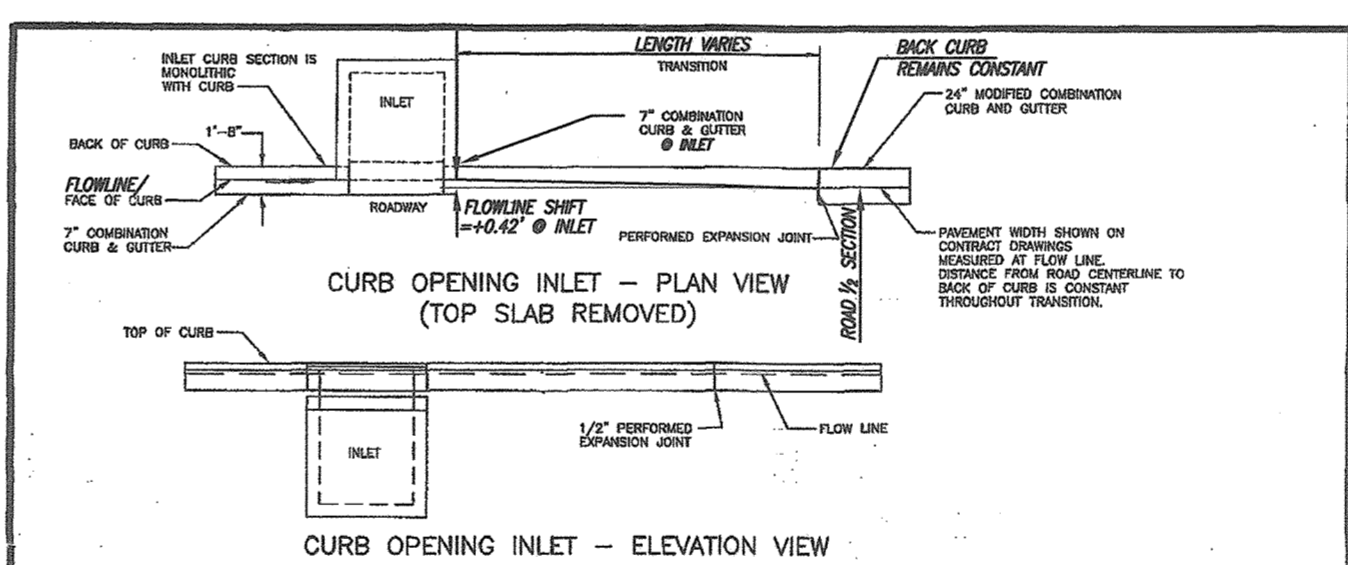
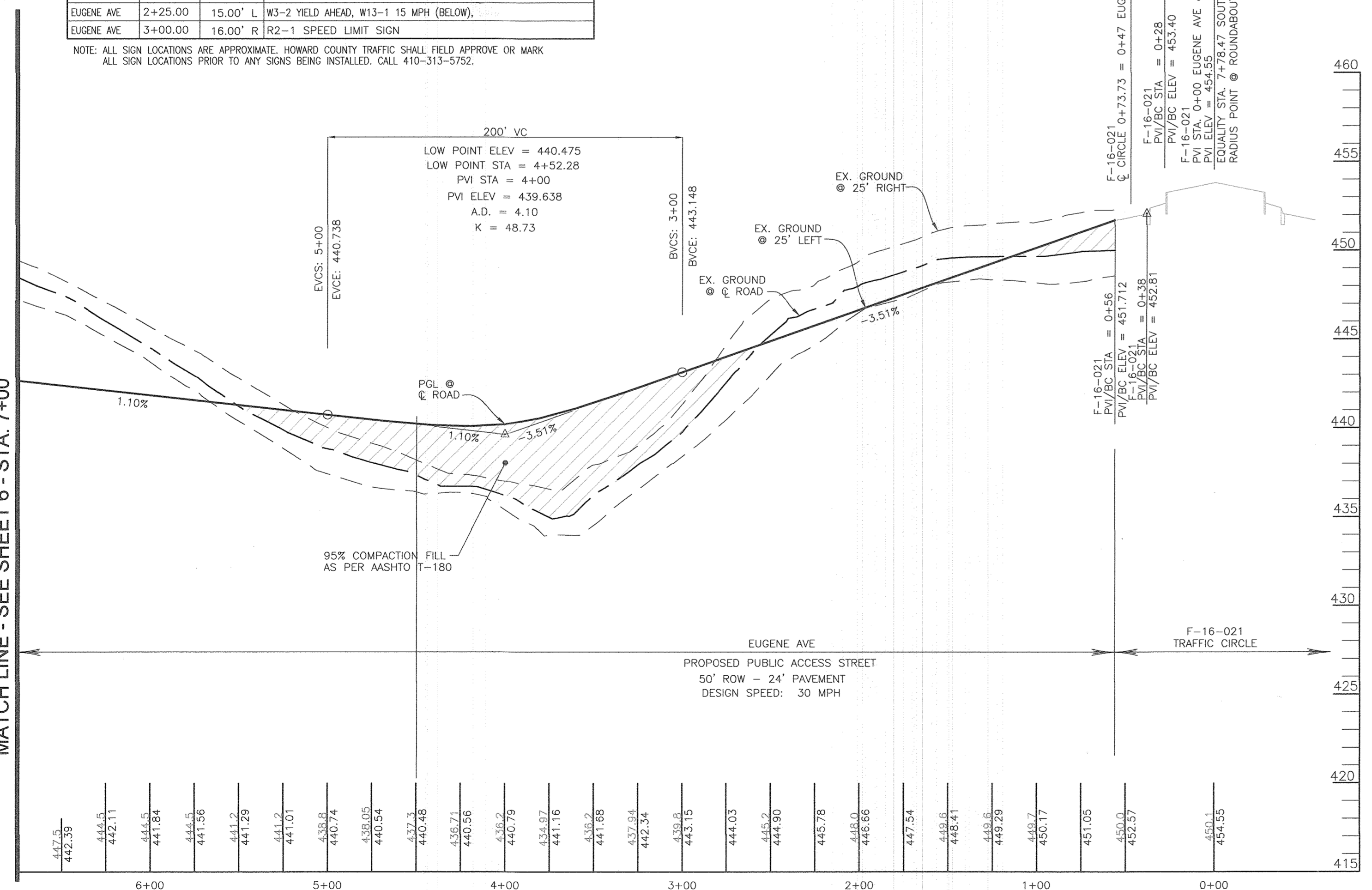
SECTION A-A
CURB TREATMENT
PAVEMENT MARKING DETAIL
SIGN DETAILS
PAVEMENT MARKING DETAILS

CBU BOX LOCATIONS: SUBJECT TO CHANGE
ONE 12 UNIT "CLUSTER BOX UNIT" HAS BEEN PLACED NEAR LOT 99 TO SERVE LOTS 97-102 & 168-172.

ROAD NAME	STATION	OFFSET	FIXTURE/POLE TYPE
EUGENE AVE	2+04.6	16.4' L	LED-100 WATT COLONIAL FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE
EUGENE AVE	3+34.2	16.00' L	
EUGENE AVE	6+25.00	16.00' L	

ROAD NAME	STATION	OFFSET	TYPE
EUGENE AVE	0+61.34	26.13' L	R1-2 YIELD
EUGENE AVE	0+83.65	21.41' L	W11-2 (30x30) FYG / W16-7P (24x12) FYG
EUGENE AVE	0+98.43	26.00' R	W11-2 (30x30) FYG / W16-7P (24x12) FYG
EUGENE AVE	1+05.50	1.00' R	R4-7 KEEP RIGHT (SEE DETAIL), (2) YELLOW O.M. (OM1-3) BACK TO BACK
EUGENE AVE	1+73.82	17.00' R	R2-1 SPEED LIMIT 25/"E" NO PARKING SIGN
EUGENE AVE	1+74.34	15.06' L	"A" NO PARKING SIGN
EUGENE AVE	2+25.00	15.00' L	W3-2 YIELD AHEAD, W13-1 15 MPH (BELOW).
EUGENE AVE	3+00.00	16.00' R	R2-1 SPEED LIMIT 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.



OWNER	Howard County, Maryland Department of Public Works	DETAIL	R-3.06
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SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA FINISHING BRIDG (SBS)	3 TO 4	5 TO 6	7 TO 8	9 TO 10	11 TO 12	13 TO 14	15 TO 16
P-1	RESIDENTIAL, NON-RESIDENTIAL, ACCESS DRIVE, ACCESS STREET, RESIDENTIAL	18.0 MIL PG 64-22, LEVEL 1 (SBS)	1.5	1.5	1.5	1.5	1.5	1.5	1.5
P-2	RESIDENTIAL, NON-RESIDENTIAL, ACCESS DRIVE, ACCESS STREET, RESIDENTIAL	18.0 MIL PG 64-22, LEVEL 1 (SBS)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
P-3	RESIDENTIAL, NON-RESIDENTIAL, ACCESS DRIVE, ACCESS STREET, RESIDENTIAL	18.0 MIL PG 64-22, LEVEL 1 (SBS)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
P-4	RESIDENTIAL, NON-RESIDENTIAL, ACCESS DRIVE, ACCESS STREET, RESIDENTIAL	18.0 MIL PG 64-22, LEVEL 1 (SBS)	1.0	1.0	1.0	1.0	1.0	1.0	1.0

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 5/17/2017

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 5-31-17

CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 8-28-17

EUGENE AVENUE PROFILE
SCALE: 1"=50' HORIZ.
1"=5' VERT.

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

FINAL ROAD CONSTRUCTION PLAN
EUGENE AVENUE PLAN & PROFILE
STA 0+00 TO STA 7+00
MAPLE LAWN SOUTH
PHASE 1 - SECTION 2
LOTS 170 - 177 AND OPEN SPACE LOTS 173 - 182
A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL "A"

TAX MAP 46 - GRD 2 - PARCEL 113
5TH ELECTION DISTRICT
OFF. REG. EOP-14-025, WP-15-136, PB#415, SP-15-014, F 16-021

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

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS - SURVEYORS - PLANNERS
8407 MAIN STREET, ELICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.2961

DESIGN BY: RVE
DRAWN BY: RVE
CHECKED BY: RHV
DATE: MARCH 2017
SCALE: AS SHOWN
W.O. NO.: 11-34

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. 18183, EXPIRATION DATE: 09-27-2018

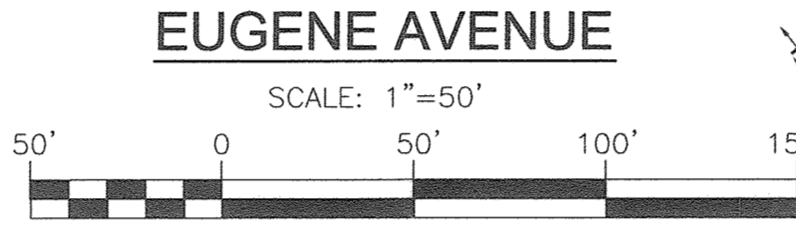
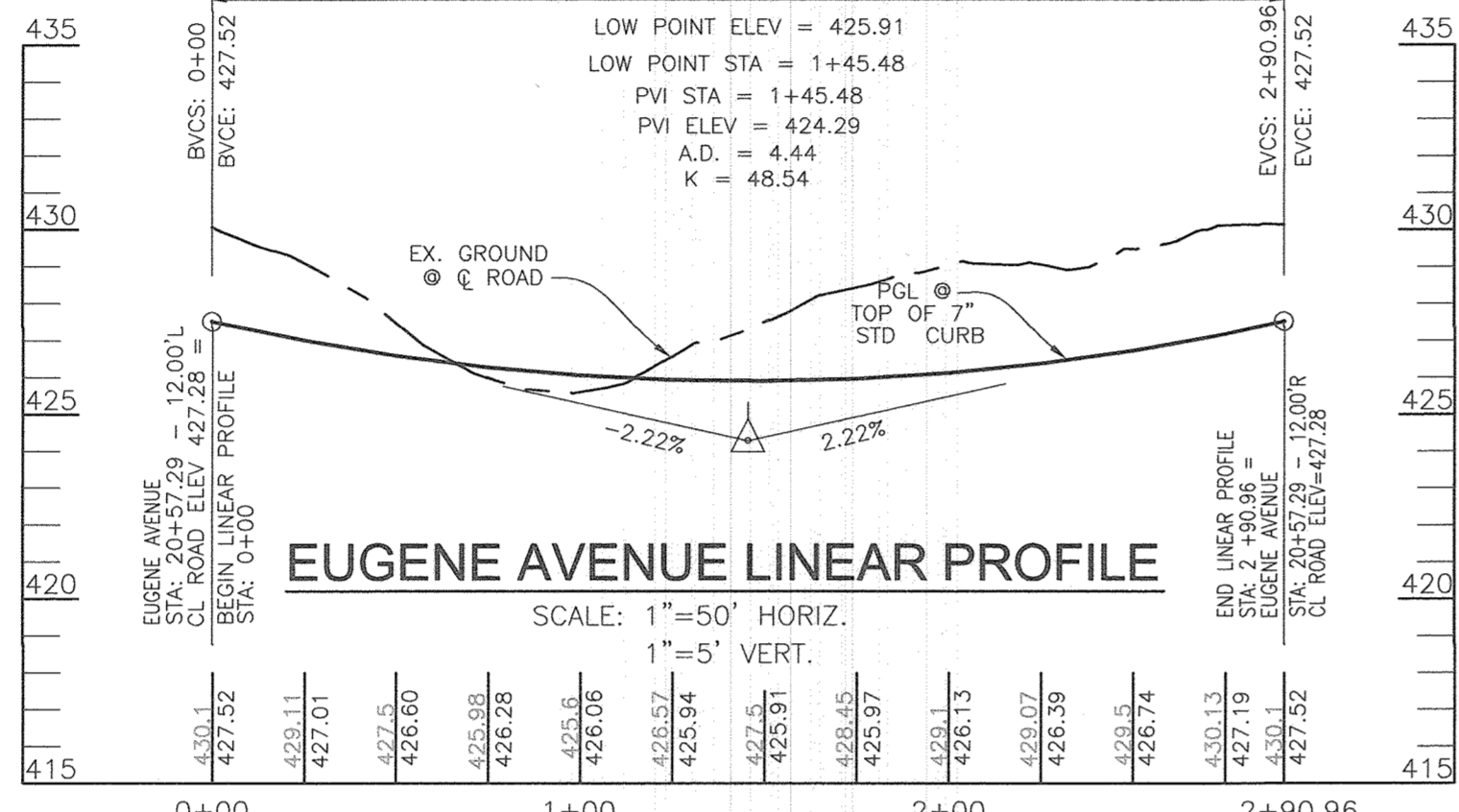
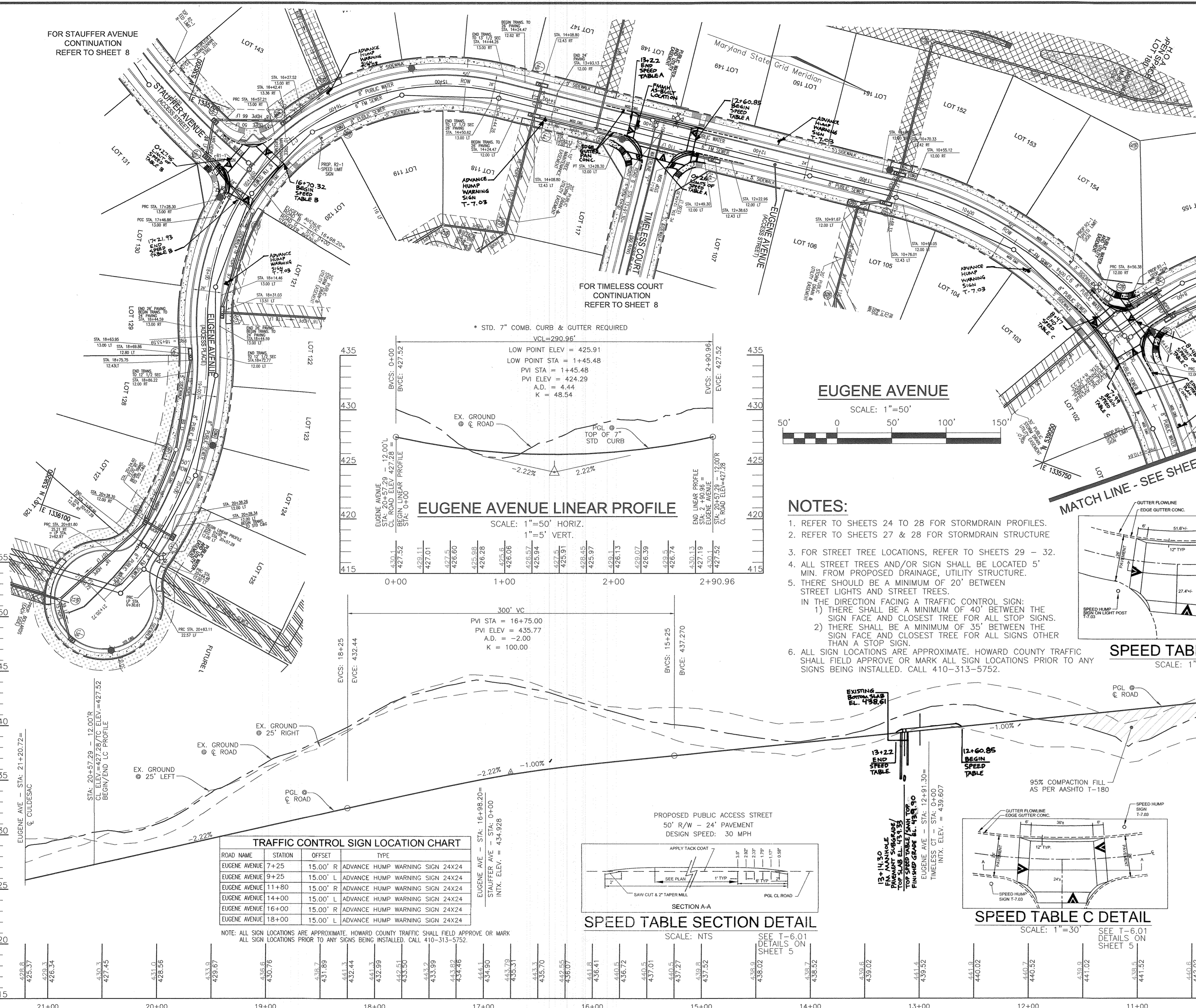
5 SHEET OF 39

FOR STAUFFER AVENUE CONTINUATION REFER TO SHEET 8

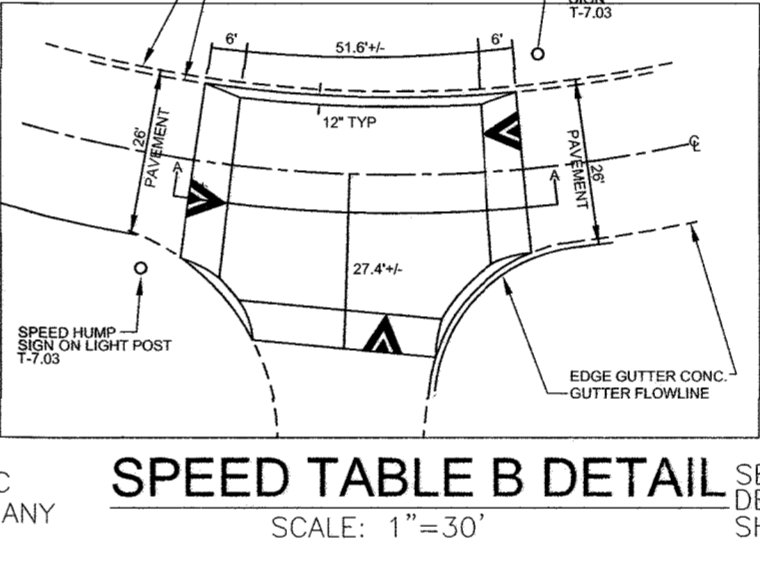
FOR TIMELESS COURT CONTINUATION REFER TO SHEET 8

FOR GUNNAR DRIVE CONTINUATION REFER TO SHEET 7

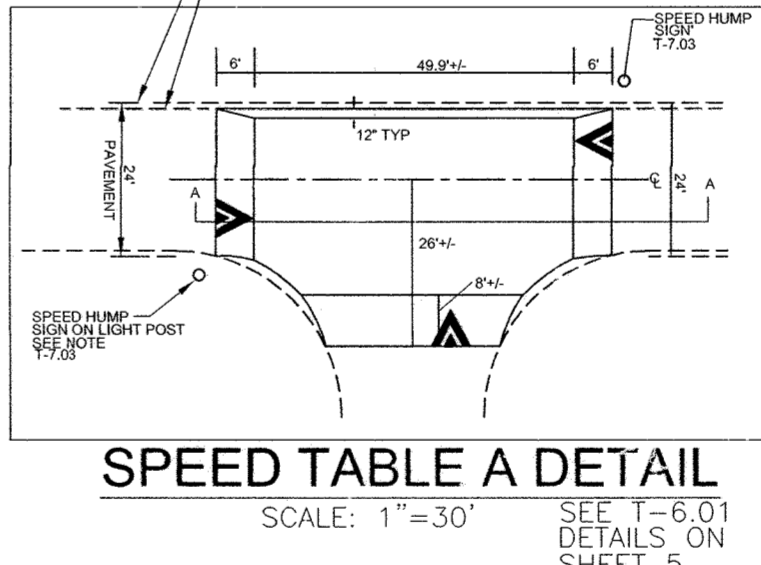
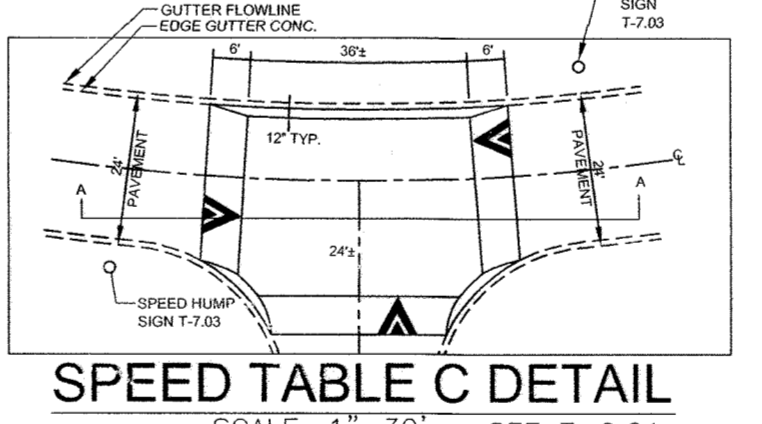
NOTE
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 2. CONTACT HOWARD COUNTY TRAFFIC (410-313-5752) PRIOR TO INSTALLING THE THERMOPLASTIC CHEVRONS ON THE RAMP. REFER TO DETAILS, SHEET 5.



- NOTES:**
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 - REFER TO SHEETS 27 & 28 FOR STORMDRAIN STRUCTURE.
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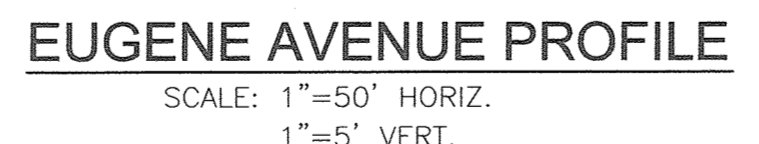
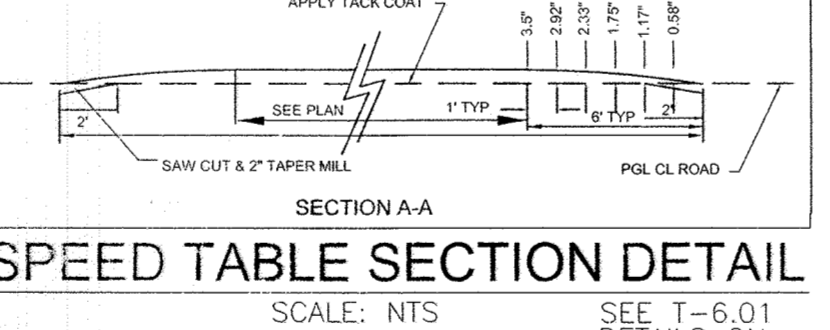


200' VC
 HIGH POINT ELEV = 443.766
 HIGH POINT STA = 8+27.74
 PVI STA = 8+22.98
 PVI ELEV = 444.290
 A.D. = -2.10
 K = 95.06



TRAFFIC CONTROL SIGN LOCATION CHART

ROAD NAME	STATION	OFFSET	TYPE
EUGENE AVENUE	7+25	15.00' R	ADVANCE HUMP WARNING SIGN 24X24
EUGENE AVENUE	9+25	15.00' L	ADVANCE HUMP WARNING SIGN 24X24
EUGENE AVENUE	11+80	15.00' R	ADVANCE HUMP WARNING SIGN 24X24
EUGENE AVENUE	14+00	15.00' L	ADVANCE HUMP WARNING SIGN 24X24
EUGENE AVENUE	16+00	15.00' R	ADVANCE HUMP WARNING SIGN 24X24
EUGENE AVENUE	18+00	15.00' L	ADVANCE HUMP WARNING SIGN 24X24



CURVE TABLE

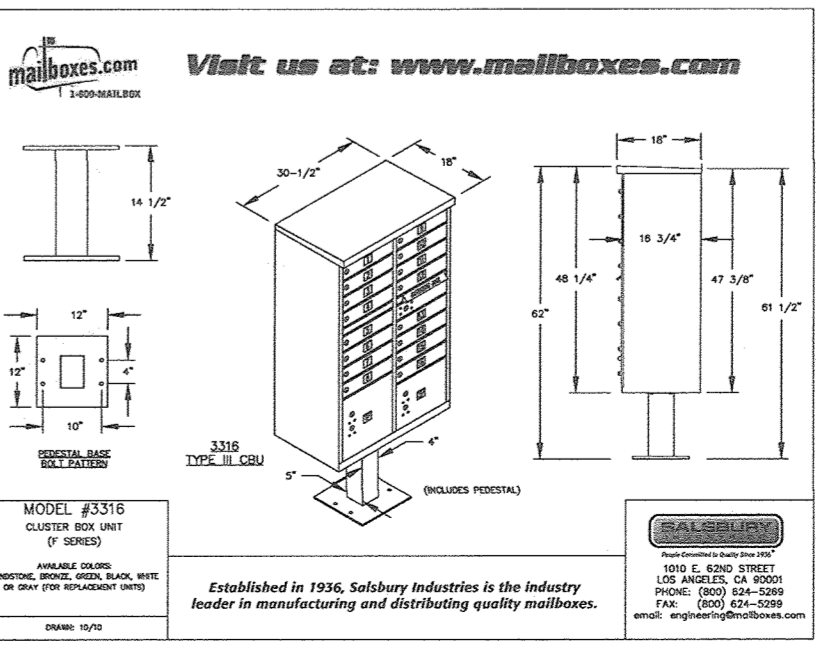
ROAD	CURVE	LENGTH	RADIUS	DELTA ANGLE	TANGENT	CHORD DIRECTION	CHORD LENGTH
EUGENE AVE	C6	357.70'	350.00'	58°33'27"	196.23'	S23°18'43"W	542.33'
EUGENE AVE	C7	409.33'	218.00'	107°34'51"	292.76'	S59°45'24"E	351.79'
EUGENE AVE	C8	267.14'	310.00'	48°22'25"	142.50'	N88°51'38"E	258.95'

TRAFFIC CONTROL SIGN LOCATION CHART

ROAD NAME	STATION	OFFSET	TYPE
EUGENE AVENUE	7+50.00	16.00' L	R2-1 SPEED LIMIT SIGN
EUGENE AVENUE	9+00.00	16.00' R	R2-1 SPEED LIMIT SIGN
EUGENE AVENUE	16+25.00	16.00' L	R2-1 SPEED LIMIT SIGN

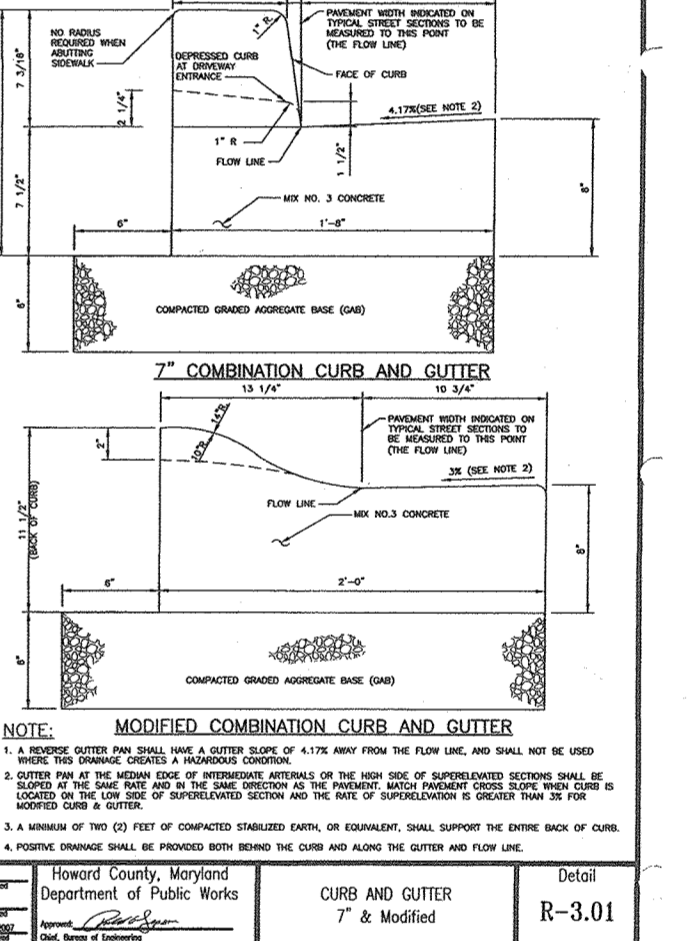
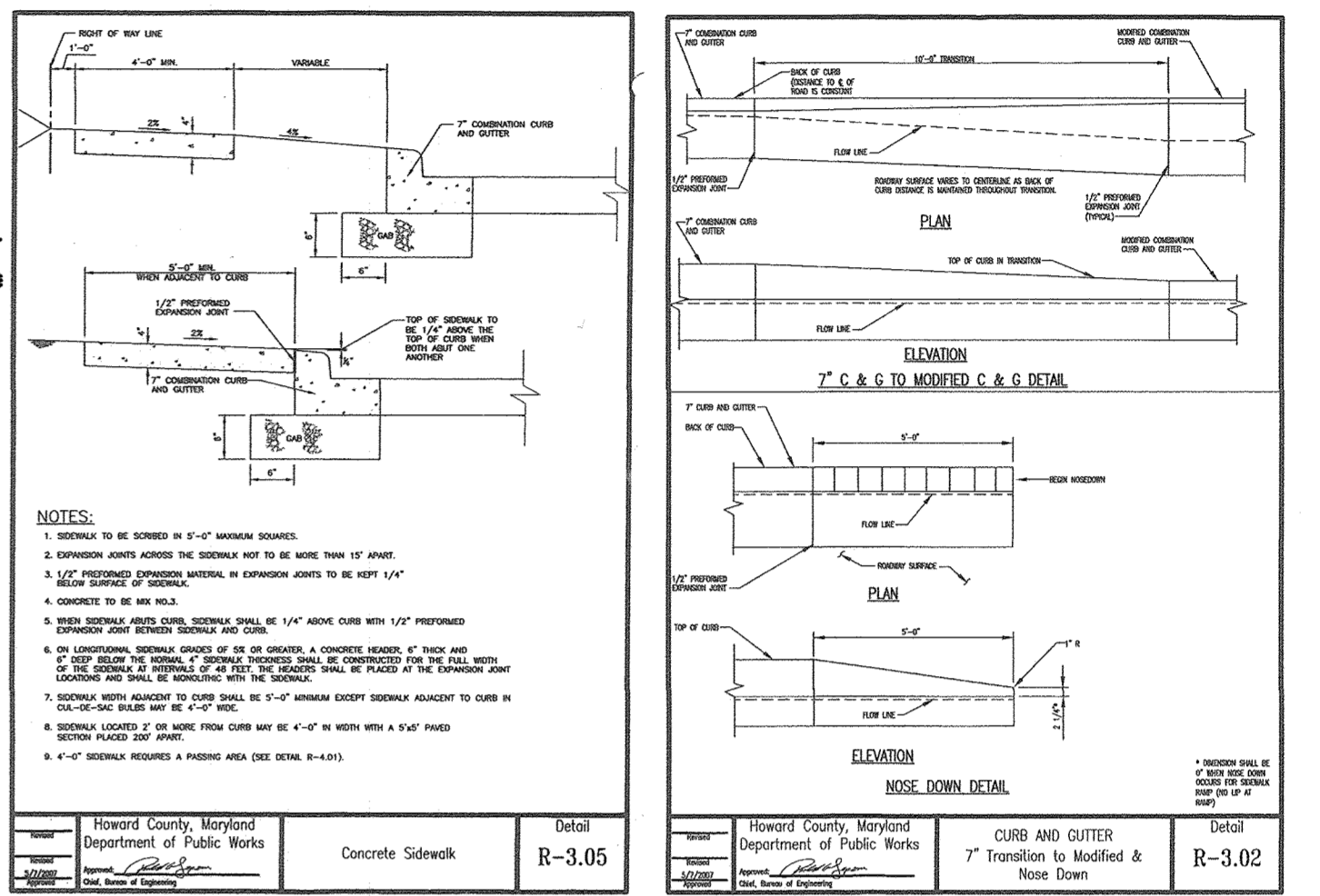
CBU BOX LOCATIONS: SUBJECT TO CHANGE

- ONE 12 UNIT "CLUSTER BOX UNIT" HAS BEEN PLACED NEAR LOT 99 TO SERVE LOTS 97-102 & 188-172 SHEET 5
- ONE 12 UNIT "CLUSTER BOX UNIT" HAS BEEN PLACED NEAR LOT 60 TO SERVE LOTS 149 - 154 & LOTS 100-106
- ONE 12 UNIT "CLUSTER BOX UNIT" HAS BEEN PLACED NEAR LOT 119 TO SERVE LOTS 143 - 148 & LOTS 118-122
- ONE 12 UNIT "CLUSTER BOX UNIT" HAS BEEN PLACED NEAR LOT 123 TO SERVE LOTS 123 - 130 & 4 FUTURE LOTS.



PAVING SECTIONS

SECTION	PAVING SECTION	PAVING SECTION	PAVING SECTION	PAVING SECTION
P-1	CONCRETE SIDEWALK	CONCRETE SIDEWALK	CONCRETE SIDEWALK	CONCRETE SIDEWALK
P-2	CONCRETE SIDEWALK	CONCRETE SIDEWALK	CONCRETE SIDEWALK	CONCRETE SIDEWALK
P-3	CONCRETE SIDEWALK	CONCRETE SIDEWALK	CONCRETE SIDEWALK	CONCRETE SIDEWALK
P-4	CONCRETE SIDEWALK	CONCRETE SIDEWALK	CONCRETE SIDEWALK	CONCRETE SIDEWALK



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

FINAL ROAD CONSTRUCTION PLAN
 EUGENE AVE PLAN & PROFILE
 STA 7+00 TO STA 21+20.72
 MAPLE LAWN SOUTH
 PHASE 1 - SECTION 2
 LOTS 70 - 177 AND OPEN SPACE LOTS 178 - 182
 A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A'

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET, ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.1661

DESIGN BY: RVE
DRAWN BY: RVE
CHECKED BY: RRV
DATE: MARCH 2017
SCALE: AS SHOWN
W.O. NO.: 11-34

PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19185, EXPIRATION DATE: 09-27-2018.

6 SHEET OF 39

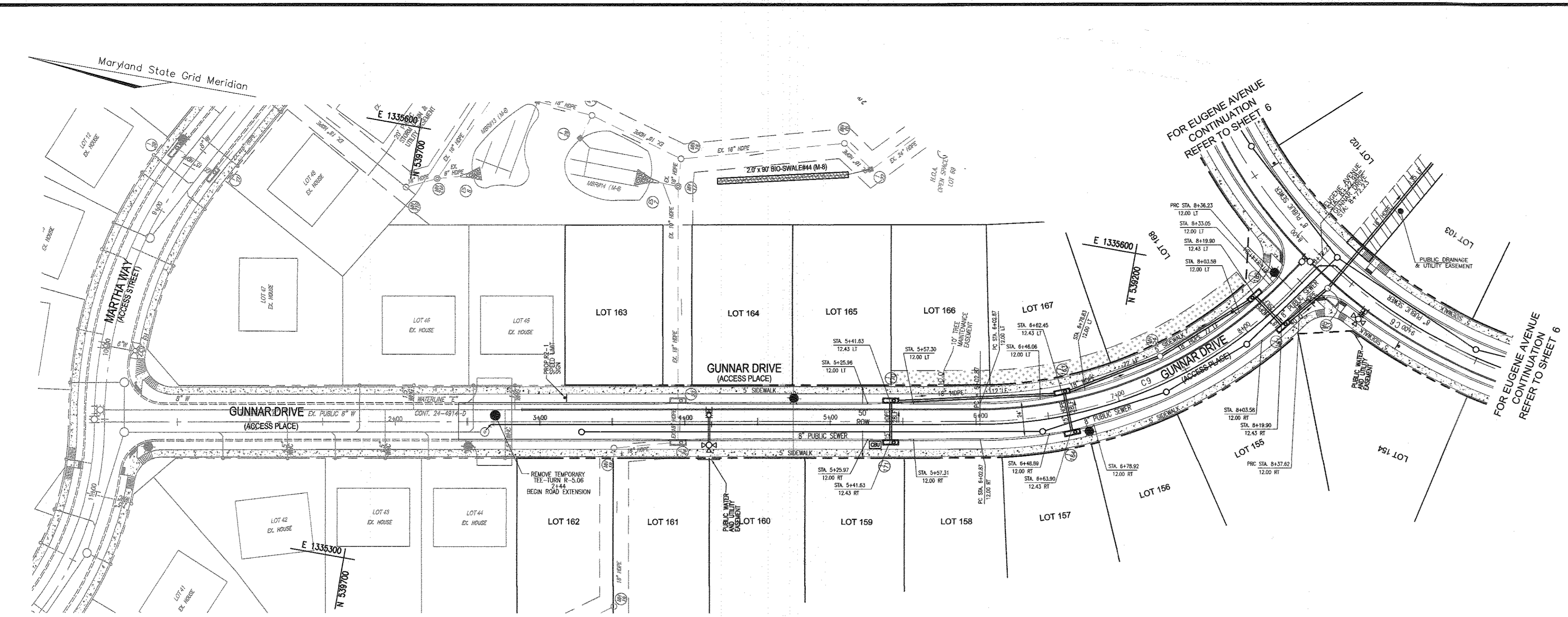
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 5/17/2017

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 5-31-17

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 8-28-17

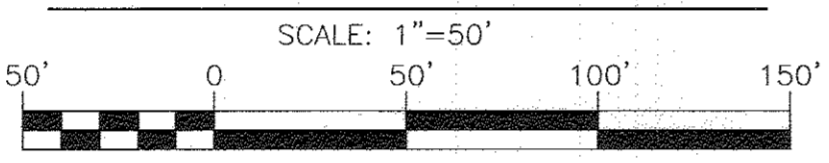
LEGEND:

	EXISTING CURB AND GUTTER
	CURB AND GUTTER
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	STORM DRAIN
	STORM DRAIN INLET
	EXISTING FENCE
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	5' SIDEWALK
	REINFORCED SIDEWALK
	PUBLIC STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT
	PRIVATE STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT
	STREET LIGHT
	STREET SIGN
	10' TREE MAINTENANCE EASEMENT



GUNNAR DRIVE PLAN VIEW

CURVE TABLE						
ROAD	CURVE	LENGTH	RADIUS	DELTA ANGLE	TANGENT	CHORD DIRECTION
GUNNAR DRIVE	C9	238.97'	300.00'	45°38'24"	126.23'	S32°49'29"E



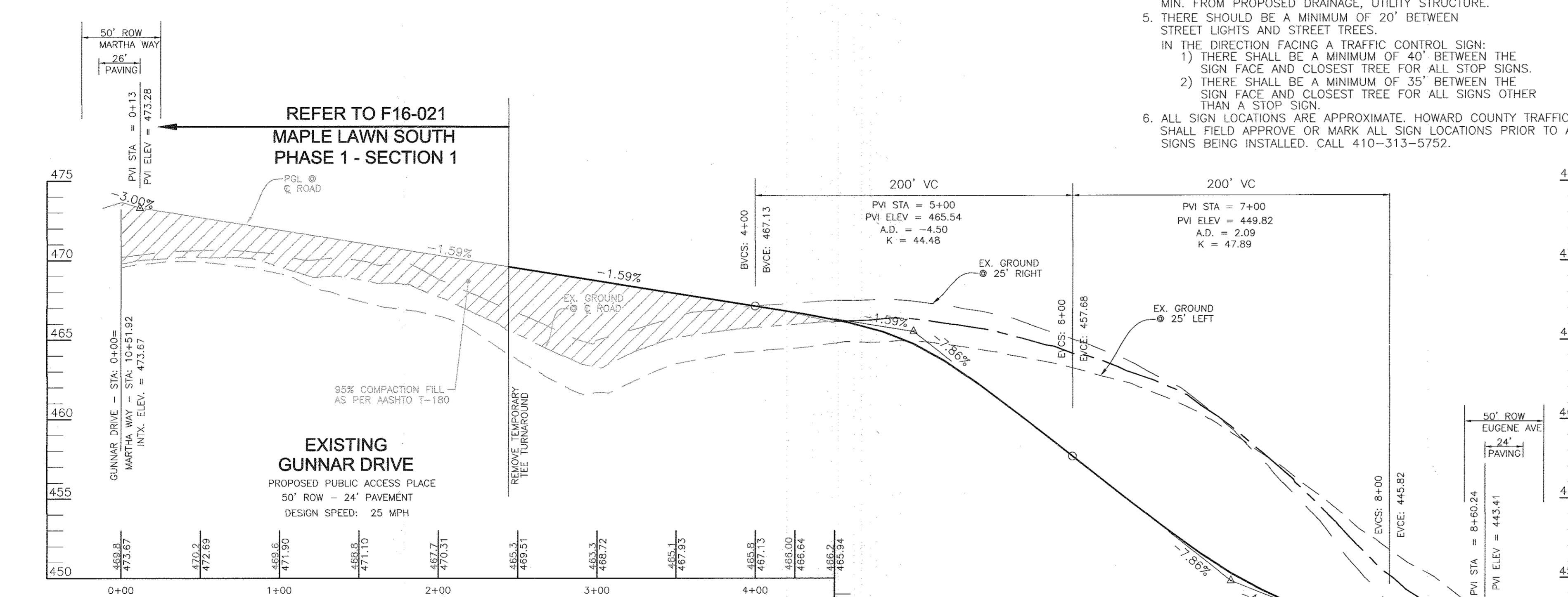
NOTES:

- REFER TO SHEETS 24 TO 28 FOR STORMDRAIN PROFILES.
 - REFER TO SHEETS 27 & 28 FOR STORMDRAIN STRUCTURE.
 - FOR STREET TREE LOCATIONS, REFER TO SHEETS 29 - 32.
 - ALL STREET TREES AND/OR SIGN SHALL BE LOCATED 5' MIN. FROM PROPOSED DRAINAGE, UTILITY STRUCTURE.
 - THERE SHOULD BE A MINIMUM OF 20' BETWEEN STREET LIGHTS AND STREET TREES.
- IN THE DIRECTION FACING A TRAFFIC CONTROL SIGN:
- THERE SHALL BE A MINIMUM OF 40' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL STOP SIGNS.
 - THERE SHALL BE A MINIMUM OF 35' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL SIGNS OTHER THAN A STOP SIGN.
6. 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.

LEGEND:

- EXISTING CURB AND GUTTER
- CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- STORM DRAIN
- STORM DRAIN INLET
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- 5' SIDEWALK
- REINFORCED SIDEWALK
- PUBLIC STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT
- PRIVATE STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT
- STREET LIGHT
- STREET SIGN
- 10' TREE MAINTENANCE EASEMENT

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)			
		3 TO 45 TO 61	2.7	3 TO 45 TO 61	3.7
P-1	PAVED DRIVE	1.5	2.0	1.5	1.5
		2.0	2.0	3.0	2.5
P-2	GRADED DRIVE	1.5	1.0	1.0	1.0
		1.0	1.0	1.0	1.0
P-3	GRADED DRIVE	1.5	1.0	1.0	1.0
		1.0	1.0	1.0	1.0
P-4	GRADED DRIVE	1.5	1.0	1.0	1.0
		1.0	1.0	1.0	1.0



GUNNAR DRIVE PROFILE

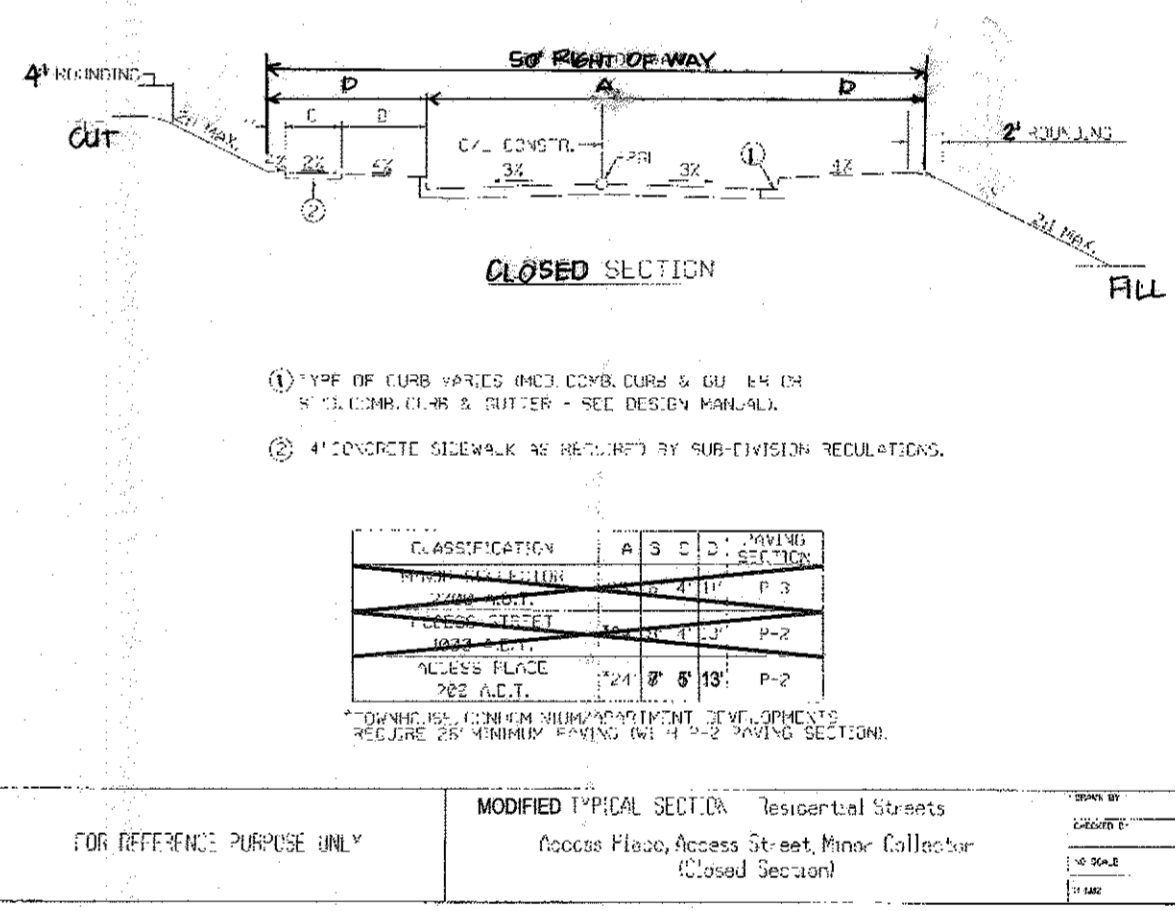
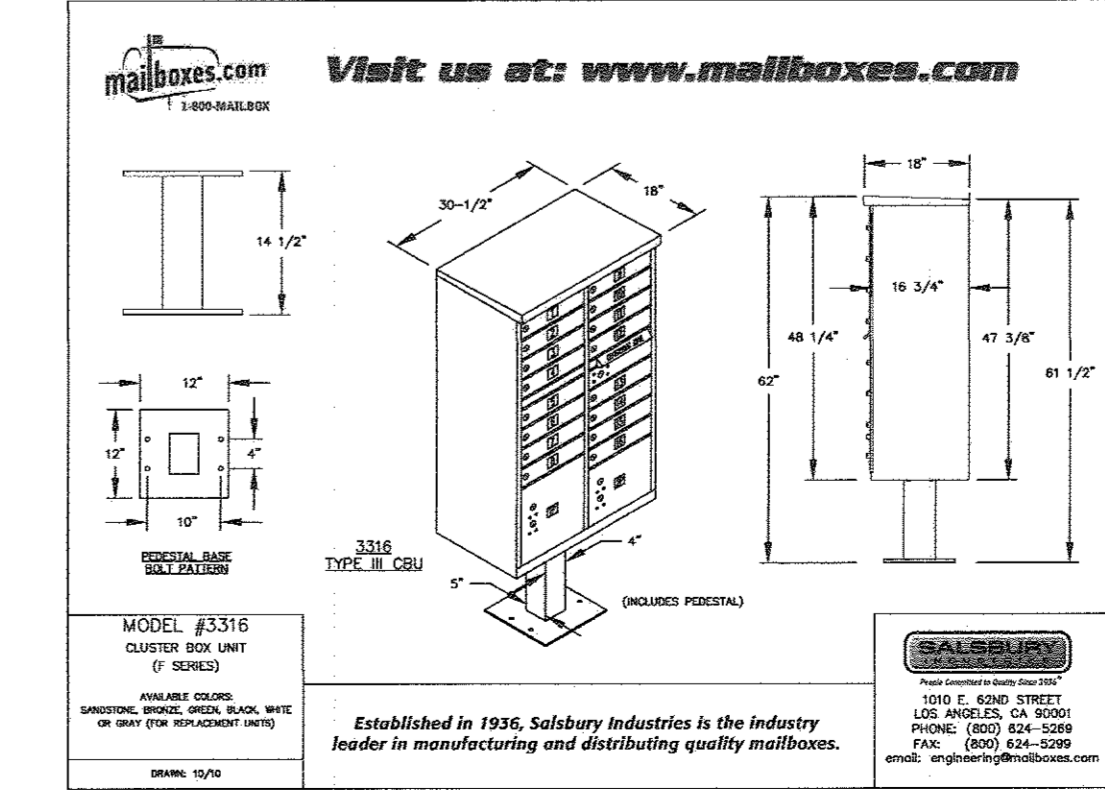
SCALE: 1"=50' HORIZ.
1"=5' VERT.

ROAD NAME	STATION	OFFSET	TYPE
GUNNAR DRIVE	3+17.00	16.00'	R2-1 SPEED LIMIT SIGN
GUNNAR DRIVE	8+00.00	15.50'	R2-1 SPEED LIMIT SIGN
GUNNAR DRIVE	8+45.92	17.00'	R STOP SIGN

STREET LIGHT LOCATIONS			
ROAD NAME	STATION	OFFSET	FIXTURE/POLE TYPE
GUNNAR DRIVE	4+75.00	16.00'	L ED-100 WATT COLONIAL
GUNNAR DRIVE	6+75.00	16.00'	R FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE
GUNNAR DRIVE	8+41.84	16.83'	L

CBU BOX LOCATION: SUBJECT TO CHANGE
ONE 12 UNIT "CLUSTER BOX UNIT" HAS BEEN PLACED NEAR LOT 159 TO SERVE LOTS 163 - 167 AND 155 - 162.

TYPICAL CENTRAL MAIL DELIVERY BOX (CBU) OR APPROVED EQUAL



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

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

FINAL ROAD CONSTRUCTION PLAN

GUNNAR DRIVE
STA. 2+44 TO STA. 8+72.23
MAPLE LAWN SOUTH
PHASE 1 - SECTION 2
LOTS 160 - 177 AND OPEN SPACE LOTS 178 - 182
A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A'

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER
ROBERT H. VOGEL, P.E. No. 16193

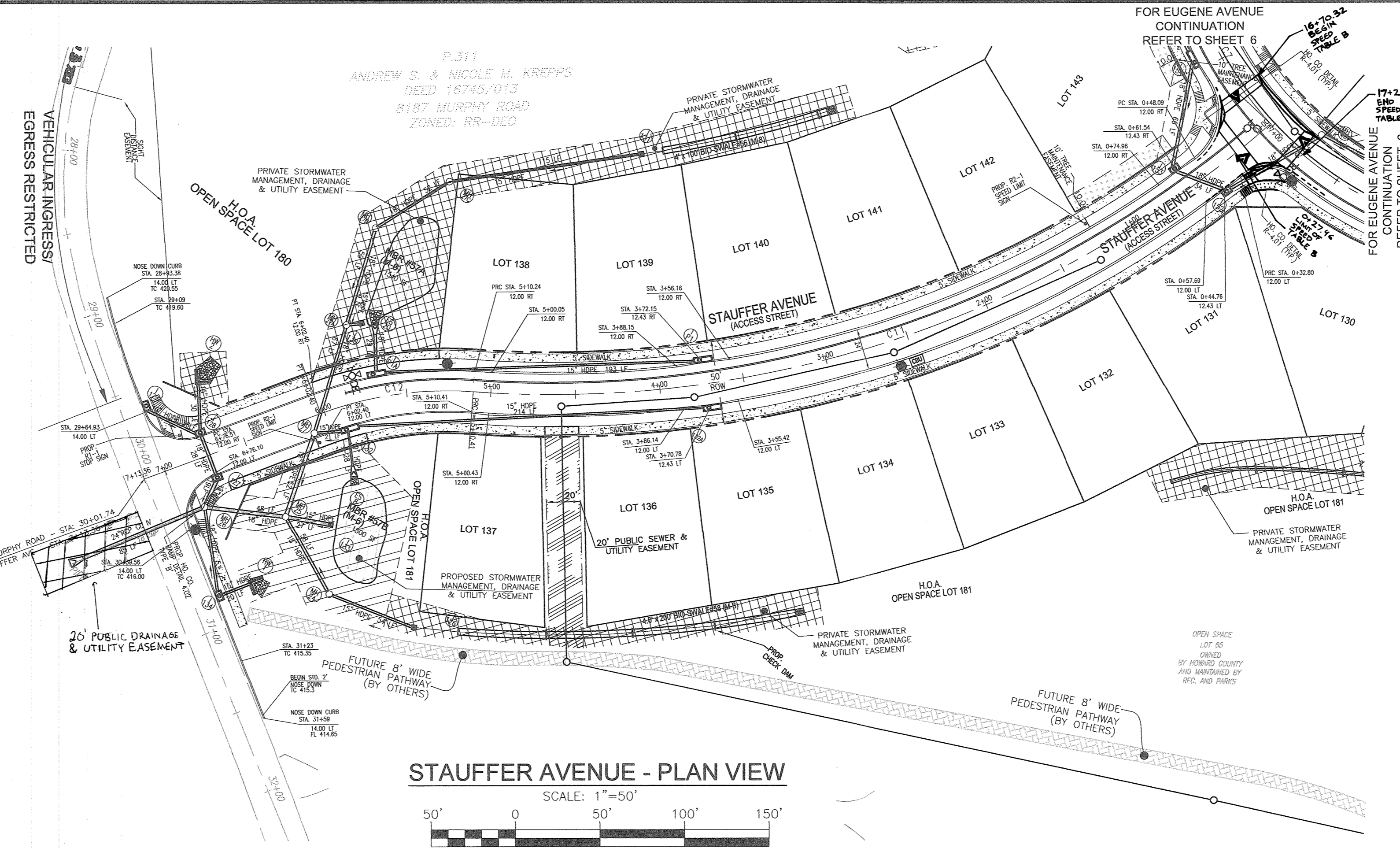
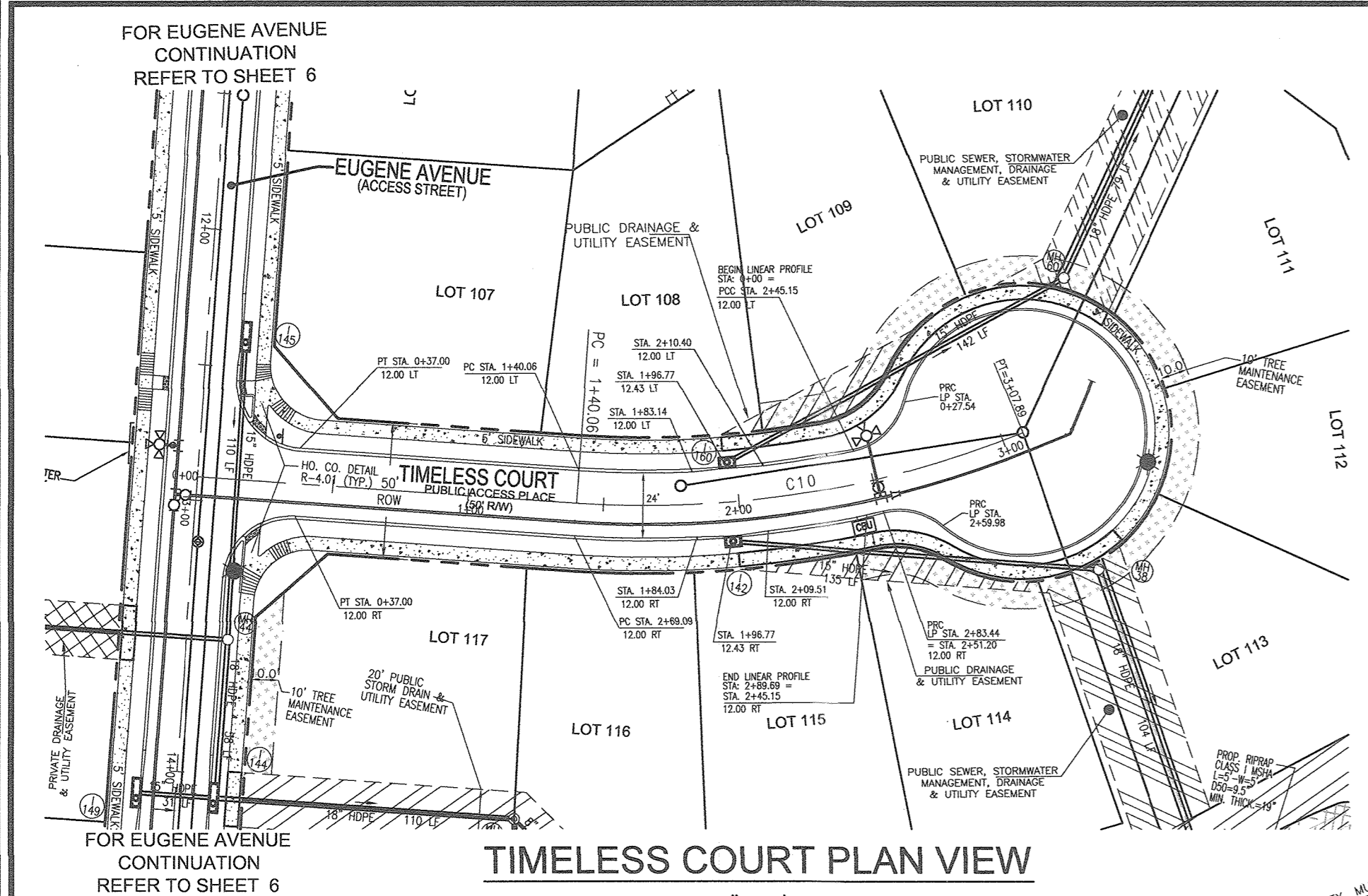
DESIGN BY: RVE
DRAWN BY: RVE
CHECKED BY: RHY
DATE: MARCH 2017
SCALE: AS SHOWN
W.O. NO.: 11-34

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY OR UNDER MY SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 09-27-2018.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
M. K...
CHIEF, BUREAU OF HIGHWAYS
DATE: 5/17/2017

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
D. L...
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 5-31-17

G. J...
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 5-28-17



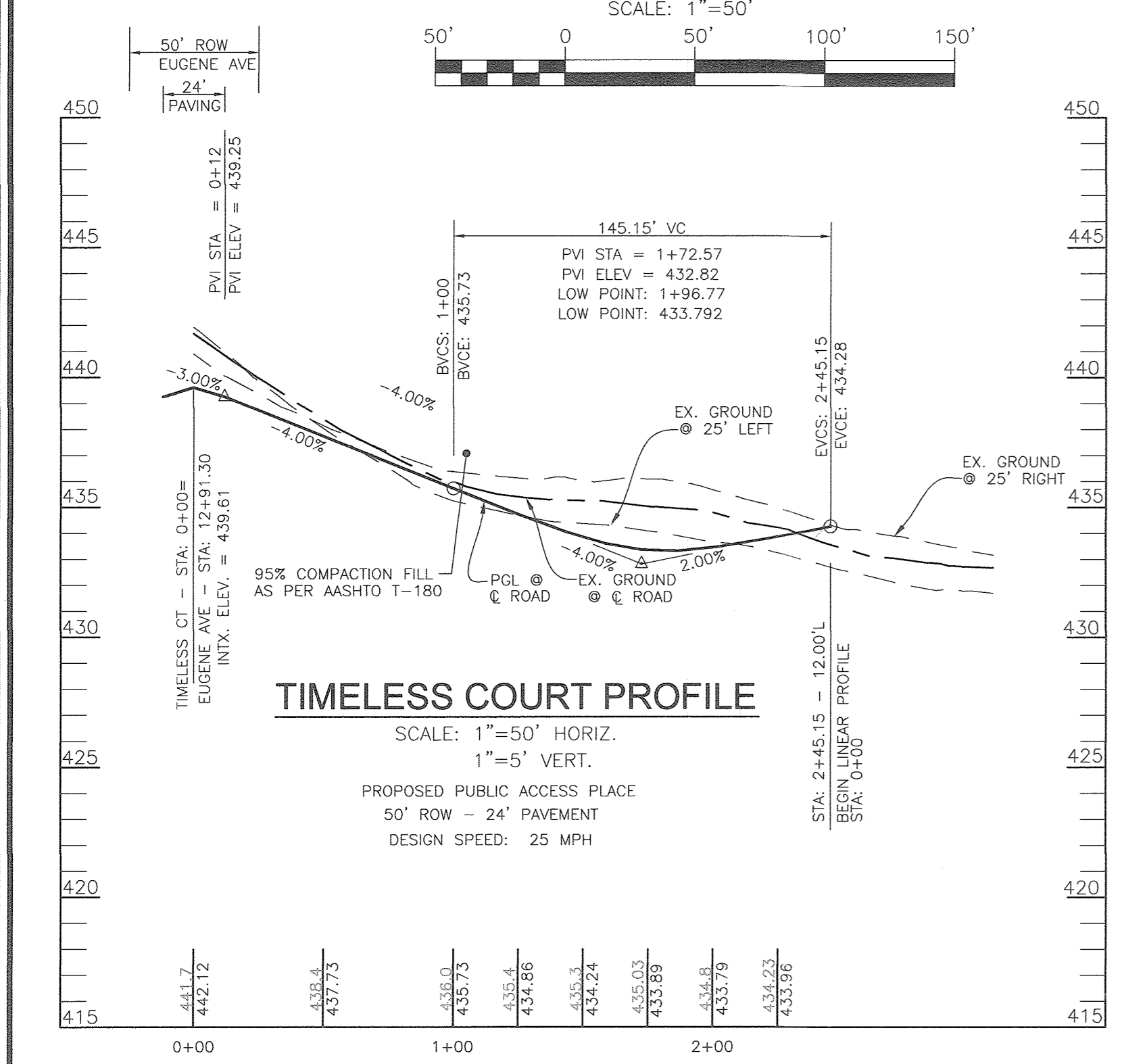
CBU BOX LOCATION: SUBJECT TO CHANGE

ONE 12 UNIT "CLUSTER BOX UNIT" HAS BEEN PLACED NEAR LOT 114 TO SERVE LOTS 107 - 117.

ONE 12 UNIT "CLUSTER BOX UNIT" HAS BEEN PLACED NEAR LOT 133 TO SERVE LOTS 131 - 142.

SALSBRURY INDUSTRIES MANUFACTURES CBU'S THAT ARE OFFICIALLY LICENSED BY THE U.S.P.S. SALSBRURY 3300 SERIES CLUSTER BOX UNITS ARE MANUFACTURED TO U.S.P.S. "T" SPECIFICATIONS. THEY ARE AN OFFICIALLY LICENSED PRODUCT OF THE U.S. POSTAL SERVICE FOR CENTRALIZED MAIL DELIVERY. LICENSE NUMBER 1C0SE0-08-0026

TYPICAL CENTRAL MAIL DELIVERY BOX (CBU) OR APPROVED EQUAL



STREET LIGHT LOCATIONS

ROAD NAME	STATION	OFFSET	FIXTURE/POLE TYPE
TIMELESS COURT (LINEAR PROFILE)	1+68.00	2.50' L	LED-100 WATT COLONIAL FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE
STAUFFER AVENUE	2+58	16.00' L	LED-150 WATT COLONIAL FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE
STAUFFER AVENUE	5+25.87	16.00' R	LED-150 WATT COLONIAL FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE
STAUFFER AVENUE	6+95.35	38.6' L	LED-150 WATT COLONIAL FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE

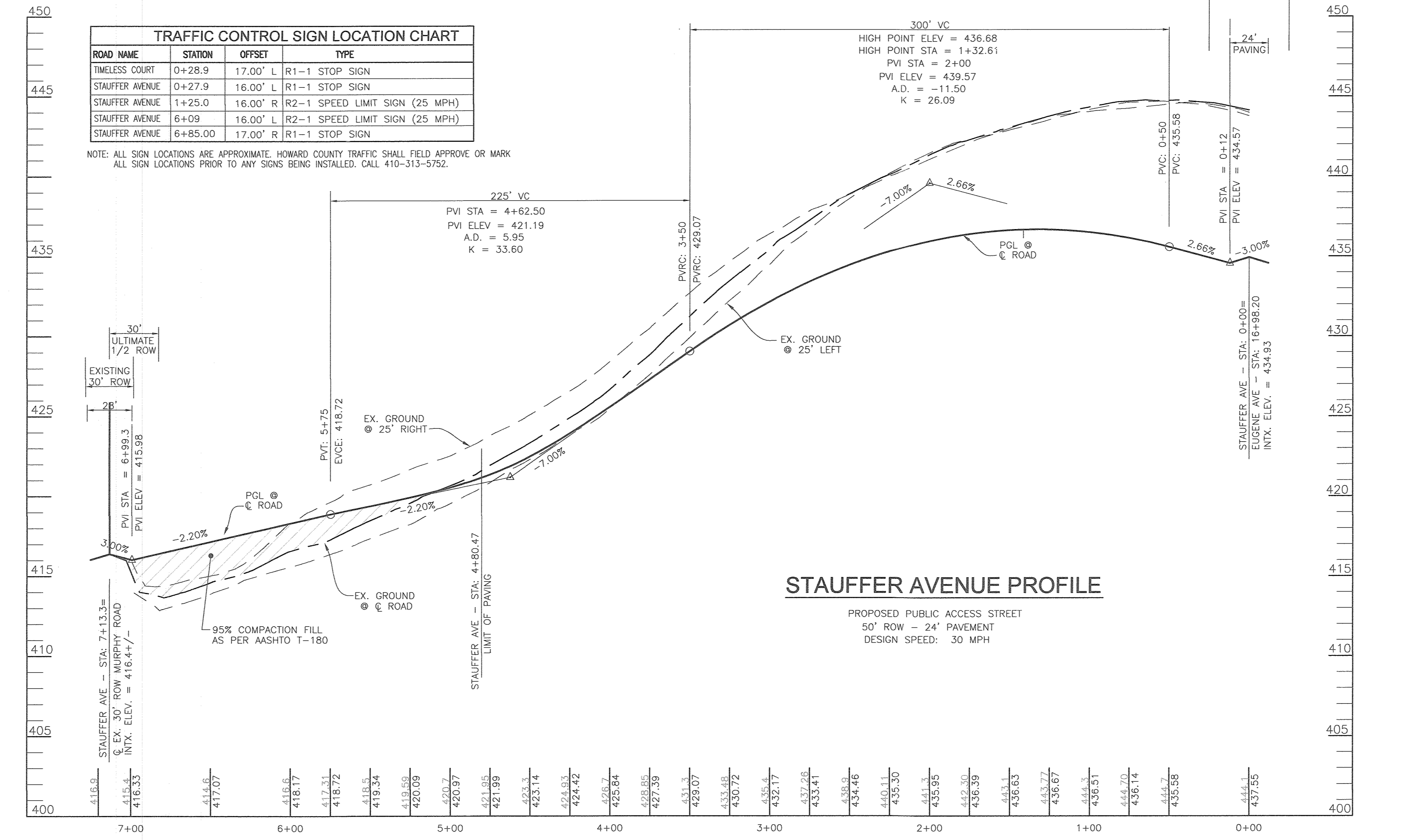
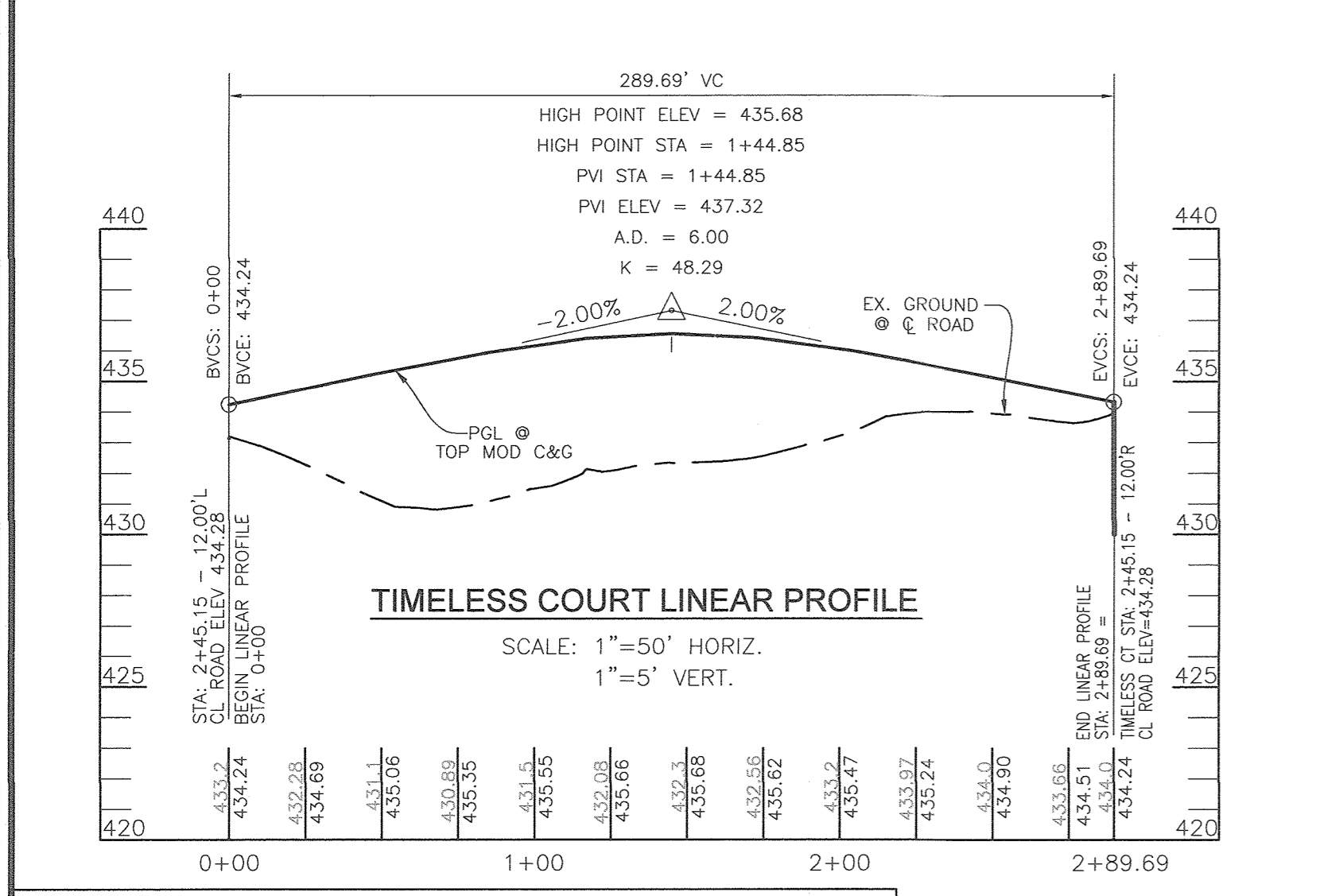
CURVE TABLE

ROAD	CURVE	LENGTH	RADIUS	DELTA ANGLE	TANGENT	CHORD DIRECTION	CHORD LENGTH
TIMELESS COURT	C10	163.83'	367.00'	26°12'06"	85.41'	N70°55'59"E	166.37'
STAUFFER AVENUE	C11	510.41'	642.00'	45°33'06"	269.55'	N41°29'45"E	497.07'
STAUFFER AVENUE	C12	92.00'	215.00'	24°30'58"	46.71'	S52°00'49"W	91.29'

TRAFFIC CONTROL SIGN LOCATION CHART

ROAD NAME	STATION	OFFSET	TYPE
TIMELESS COURT	0+28.9	17.00' L	R1-1 STOP SIGN
STAUFFER AVENUE	0+27.9	16.00' L	R1-1 STOP SIGN
STAUFFER AVENUE	1+25.0	16.00' L	R2-1 SPEED LIMIT SIGN (25 MPH)
STAUFFER AVENUE	6+09	16.00' L	R2-1 SPEED LIMIT SIGN (25 MPH)
STAUFFER AVENUE	6+85.00	17.00' R	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.



LEGEND:

- EXISTING CURB AND GUTTER
- CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- STORM DRAIN
- STORM DRAIN INLET
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- 5' SIDEWALK
- REINFORCED SIDEWALK
- PUBLIC STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT
- PRIVATE STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT
- STREET LIGHT
- STREET SIGN
- 10' TREE MAINTENANCE EASEMENT

NOTES:

- REFER TO SHEETS 24 TO 28 FOR STORMDRAIN PROFILES.
- REFER TO SHEETS 27 & 28 FOR STORMDRAIN STRUCTURE SCHEDULE.
- FOR STREET TREE LOCATIONS, REFER TO SHEETS 29 - 32.
- ALL STREET TREES AND/OR SIGN SHALL BE LOCATED 5' MIN. FROM PROPOSED DRAINAGE, UTILITY STRUCTURE.
- THERE SHALL BE A MINIMUM OF 20' BETWEEN STREET LIGHTS AND STREET TREES.
- REFER TO SHEET 7 FOR SIDEWALK, CURB TRANSITION, PAVING SECTION, TYPICAL SECTION AND SURB DETAILS.
- 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.

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: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 DATE: 5/17/17

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 DATE: 5/23/17

APPROVED: DIVISION OF LAND DEVELOPMENT
 Chief, Division of Land Development
 DATE: 5/23/17

2 TO ADD SPEED TABLES 4-28-20

NO. REVISION DATE

FINAL ROAD CONSTRUCTION PLAN
 TIMELESS COURT STA 0+00 TO STA 3+07.89
 STAUFFER AVENUE STA 0+00 TO STA 7+12.36

MAPLE LAWN SOUTH PHASE 1 - SECTION 2
 LOTS 70 - 117 AND OPEN SPACE LOTS 178 - 182
 A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A'

TAX MAP 46 - GRID 2 - PARCEL 113
 5TH ELECTION DISTRICT
 802' REF. ECP-14-093, WP-15-135, PB#415, SP-15-014, F 16-021

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

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET, ELLICOTT CITY, MD 21043
 TEL: 410.461.2666
 FAX: 410.461.1661

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. 16193, EXPIRATION DATE: 09-27-2018.

DESIGN BY: RVE
 DRAWN BY: RVE
 CHECKED BY: RHV
 DATE: MARCH 2017
 SCALE: AS SHOWN
 W.O. NO.: 11-34

8 SHEET OF 39

NOTES

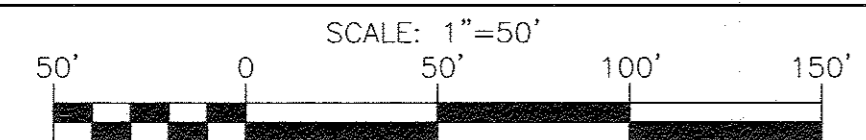
1. REFER TO SHEET 17 FOR SEQUENCE OF CONSTRUCTION
2. REFER TO SHEETS 17 FOR STANDARD DETAILS AND STABILIZATION NOTES
3. REFER TO SHEET 38 FOR SOIL BORINGS

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.

TRAP #5
S.O.S.T. - ST-II
EXISTING Q1 = 1 CFS
PROPOSED Q1 = 9 CFS
TRAP OUTFLOW Q1 = 1 CFS

NOTES
1. ALL EARTH DIKES ARE TO BE PLACED IN ORDER AT THE END OF EACH WORKING DAY

PHASE 1 - SOILS MAP, GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

M. Meunier
CHIEF, BUREAU OF HIGHWAYS
DATE: 5/17/2017

John P. ...
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 5-31-17

Robert H. Vogel
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 8-28-17

OWNER/DEVELOPER CERTIFICATION:
I, THE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING 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 OF EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE INSPECTIONS BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT.

OWNER/DEVELOPER SIGNATURE: _____ DATE: _____

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.

DESIGNER'S SIGNATURE: _____ DATE: 4/21/17

ROBERT H. VOGEL
PROFESSIONAL ENGINEER
M.D. REGISTRATION NO. 16193
(P.E., R.L.S., OR R.L.A. (circle one))

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.

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

John P. ...
4/14/17

MAPPED SOILS TYPES - CLARKSVILLE SE MAP #23

SYMBOL NAME / DESCRIPTION	GROUP	HYDRIC	HYDRO INCLUSIONS	K FACTOR	PERCENT SAND	PERCENT SILT	PERCENT CLAY
Bva BALE SILT LOAM, 0 TO 3 PERCENT SLOPES	B	YES	YES	0.32	NO	YES	NO
Gva GLENLEIG LOAM, 0 TO 3 PERCENT SLOPES	G	NO	NO	0.20	YES	NO	NO
Gsb GLENLEIG SILT LOAM, 3 TO 8 PERCENT SLOPES	B	NO	NO	0.20	YES	NO	NO
Gmb GLENLEIG SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.37	YES	YES	NO
Ghb GLENLEIG-BALE SILT LOAM, 0 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIAL**	0.37	NO	PARTIAL	NO
Mbc 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

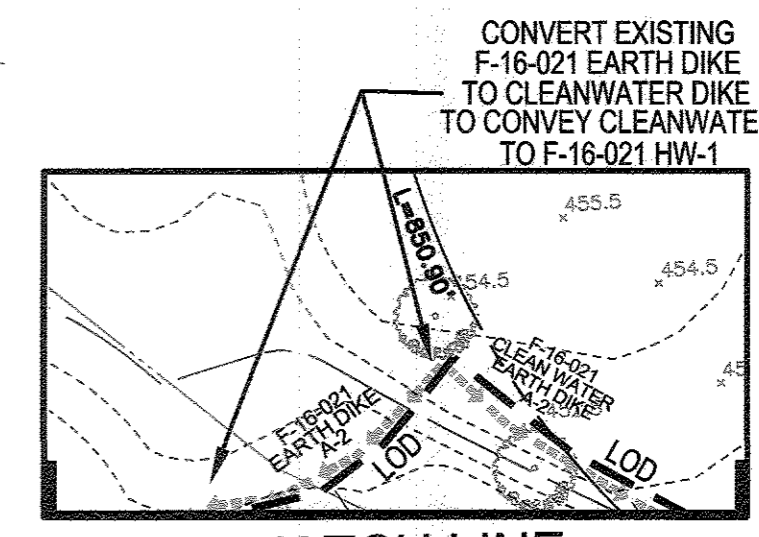
*BALE COMPONENT OF Gvb, ERODIBILITY FACTOR IS 0.32 AND IS CONSIDERED HYDRIC

LEGEND:

- - - - - EXISTING CONTOUR
- - - - - PROPOSED CONTOUR
- + 402.88 PROPOSED SPOT ELEVATION
- + 402.88 EXISTING SPOT ELEVATION
- - - - - EXISTING CURB AND GUTTER
- - - - - PROPOSED CURB AND GUTTER
- ⊙ 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 SPECIMEN TREE TO BE REMOVED
- - - - - EXISTING TREELINE
- - - - - EXISTING FENCE
- - - - - PROPERTY LINE
- - - - - RIGHT-OF-WAY LINE
- - - - - SOILS BOUNDARY
- - - - - SUPER SILT FENCE
- ⊙ STABILIZED CONSTRUCTION ENTRANCE
- - - - - BAFFLE
- - - - - LIMIT OF DISTURBANCE
- - - - - EARTH DIKE / CLEAN WATER DIVERSION
- - - - - EXISTING DRAINAGE DIVIDE
- - - - - PROPOSED DRAINAGE DIVIDE
- ⊙ GABION PROTECTION
- ⊙ REMOVABLE PUMP STATION
- ⊙ SOIL BORING
- ▨ GRADING UNIT #1
- ▨ GRADING UNIT #2

TRAP #4
P.O.S.T. - ST-I
EXISTING Q1 = 10 CFS
PROPOSED Q1 = 12-00FS
TRAP OUTFLOW Q1 = 2 CFS

EXISTING DRAINAGE AREA
P.O.S.T. - ST-I - TRAP #4
AREA = 18.5 ACRES±
TC = 0.19 HOURS



MATCH LINE
TOP OF SHEET

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

NO.	REVISION	DATE

FINAL ROAD CONSTRUCTION PLAN
PHASE 1 - SOILS MAP, GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN
MAPLE LAWN SOUTH
PHASE 1 - SECTION 2
LOTS 170 - 177 AND OPEN SPACE LOTS 178 - 182
A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL "A"

TAX MAP 46 - GRID 3 - PARCEL 113
5TH ELECTION DISTRICT
REF: ECP-14-093, WP-15-136, PB#415, SP-15-014, F-16-021

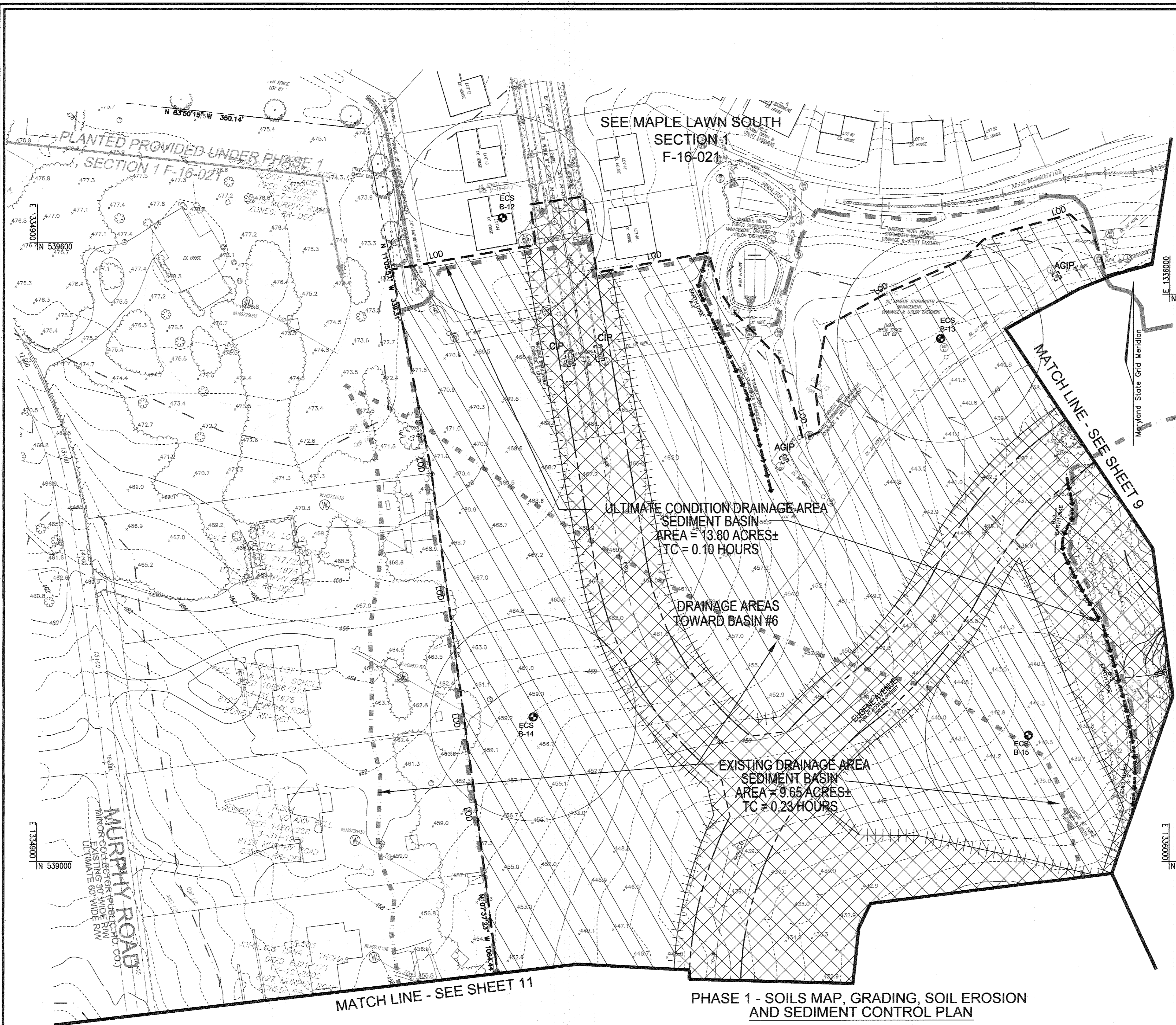
ZONED: R-ED-MD-3
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
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8407 MAIN STREET
ELICOTT CITY, MD 21043
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9 SHEET OF 39



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.

LEGEND:

	EXISTING CONTOUR
	PROPOSED CONTOUR
	EXISTING SPOT ELEVATION
	EXISTING CURB AND GUTTER
	PROPOSED CURB AND GUTTER
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	EXISTING MAILBOX
	EXISTING SANITARY MANHOLE
	EXISTING SANITARY LINE
	EXISTING CLEANOUT
	EXISTING FIRE HYDRANT
	EXISTING WATER LINE
	PROPOSED STORM DRAIN
	PROPOSED STORM DRAIN INLET
	EXISTING SPECIMEN TREE TO BE REMOVED
	EXISTING TREE LINE
	EXISTING FENCE
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	SOILS BOUNDARY
	SUPER SILT FENCE
	STABILIZED CONSTRUCTION ENTRANCE
	BAFFLE
	LIMIT OF DISTURBANCE
	EARTH DIKE / CLEAN WATER DIVERSION
	EXISTING DRAINAGE DIVIDE
	PROPOSED DRAINAGE DIVIDE
	CABIN PROTECTION
	REMOVABLE PUMP STATION
	SOIL BORING
	GRADING UNIT #1
	GRADING UNIT #2
	GRADING UNIT #3

NOTES

- REFER TO SHEET 17 FOR SEQUENCE OF CONSTRUCTION
- REFER TO SHEETS 17 FOR STANDARD DETAILS AND STABILIZATION NOTES
- REFER TO SHEET 38 FOR SOIL BORINGS

NOTES

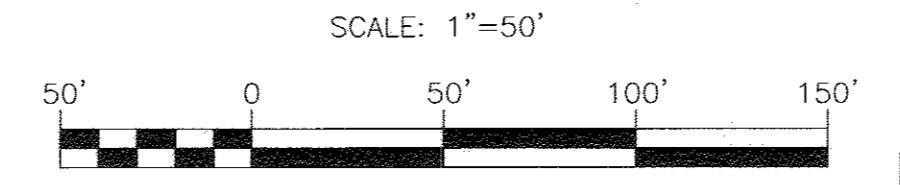
- ALL EARTH DIKES ARE TO BE PLACED IN WORKING ORDER AT THE END OF EACH WORKING DAY.
- IMBRICATE SF/SF'S IN 35' SEGMENTS AS REQUIRED UPHILL BY 2' IN ELEVATION.

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.

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

PHASE 1 - SOILS MAP, GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN



MAPPED SOILS TYPES - CLARKSVILLE SE MAP #23

SYMBOL NAME / DESCRIPTION	GROUP	HYDROIC INCLUSIONS	K FACTOR	PERCENT FINE SAND AND SILT	CLAY CONTENT
BaA	B	NO	0.32	NO	YES
GaA	B	NO	0.20	YES	NO
GbB	B	NO	0.20	YES	NO
LbB	C	NO	0.37	YES	YES
GbB	C	PARTIALLY	0.37	NO	PARTIAL
MaC	B	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 GbB, ERODIBILITY FACTOR IS 0.32 AND IS CONSIDERED HYDROIC

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

 CHIEF, BUREAU OF HIGHWAYS
 DATE: 5/17/2017

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 5/31/17

CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 8/28/17

OWNER/DEVELOPER CERTIFICATION:
 I HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING 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 OF EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE CHECKS BY THE HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT.

OWNER/DEVELOPER
 DATE: 3/21/17

PRINTED NAME & TITLE

DESIGNER 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.

DESIGNER'S SIGNATURE
 DATE: 3/21/17

ROBERT H. VOGEL
 PRINTED NAME
 MD REGISTRATION NO. 16193
 (E), R.L.S., OR R.L.A. (circle one)

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

JOHN ROBERTS
 DATE: 4/14/17

NO.	REVISION	DATE

FINAL ROAD CONSTRUCTION PLAN
PHASE 1 - SOILS MAPS, GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN
MAPLE LAWN SOUTH
PHASE 1 - SECTION 2
 LOTS 70 - 177 AND OPEN SPACE LOTS 178 - 182
 A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A'

TAX MAP #6 - GRID 2 - PARCEL 113
 5TH ELECTION DISTRICT
 REF: ECP-14-093, WP-15-136, PB-15-014, F-16-021

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

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

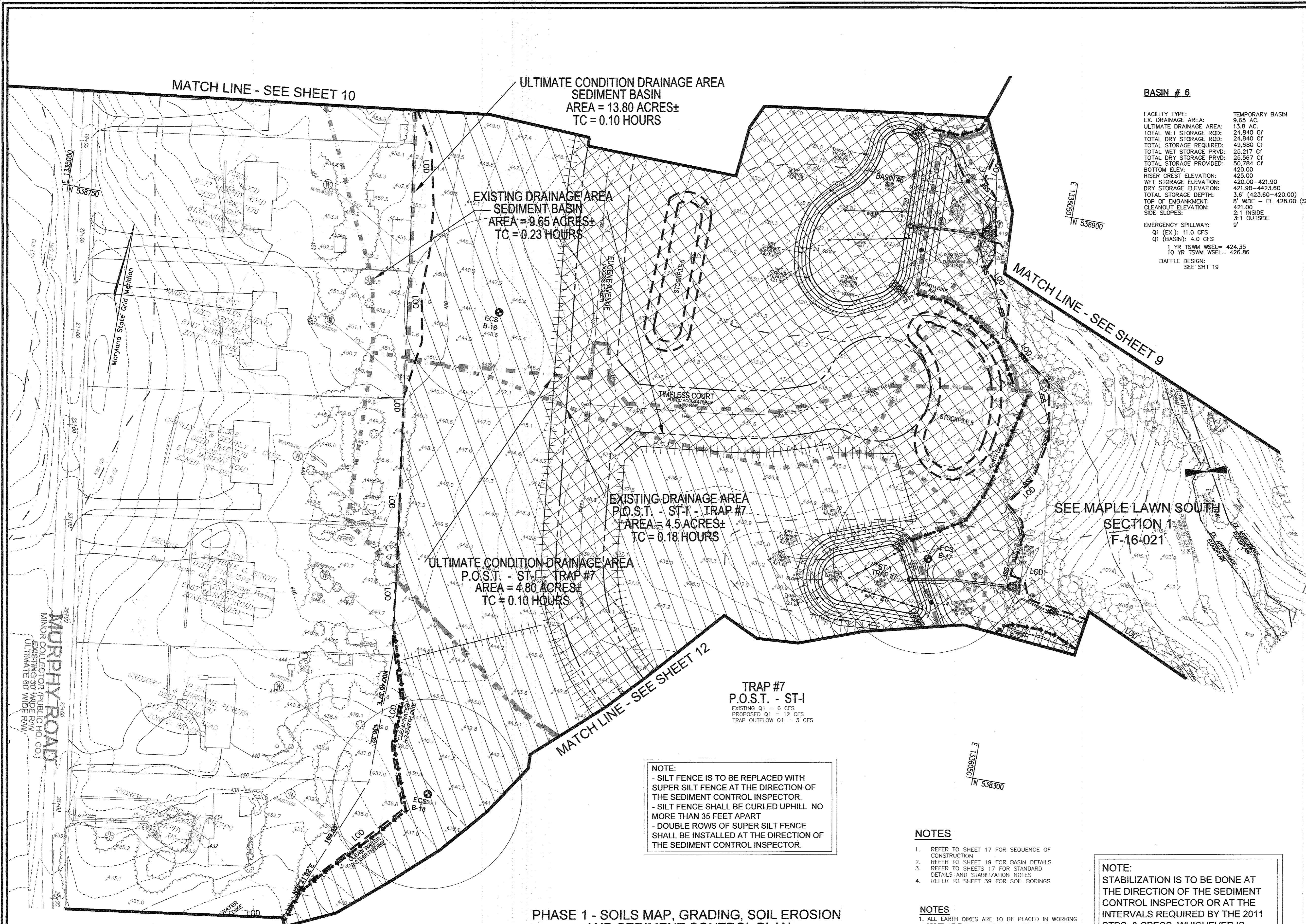
PROFESSIONAL CERTIFICATE

DESIGN BY: RVE
 DRAWN BY: RVE
 CHECKED BY: RHV
 DATE: MARCH 2017
 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 FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2018

ROBERT H. VOGEL, PE No. 16193

10 SHEET OF 39



LEGEND:

	EXISTING CONTOUR
	PROPOSED CONTOUR
	PROPOSED SPOT ELEVATION
	EXISTING SPOT ELEVATION
	EXISTING CURB AND GUTTER
	PROPOSED CURB AND GUTTER
	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 SPECIMEN TREE TO BE REMOVED
	EXISTING TREE LINE
	EXISTING FENCE
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	SOILS BOUNDARY
	SUPER SILT FENCE
	STABILIZED CONSTRUCTION ENTRANCE
	BAFFLE
	LIMIT OF DISTURBANCE
	EARTH DIKE / CLEAN WATER DIVERSION
	EXISTING DRAINAGE DIVIDE
	PROPOSED DRAINAGE DIVIDE
	GABION PROTECTION
	REMOVABLE PUMP STATION
	SOIL BORING
	GRADING UNIT #1
	GRADING UNIT #2
	GRADING UNIT #3

BASIN # 6

FACILITY TYPE: TEMPORARY BASIN
 EX. DRAINAGE AREA: 9.65 AC.
 ULTIMATE DRAINAGE AREA: 13.80 AC.
 TOTAL WET STORAGE ROD: 24,840 CF
 TOTAL DRY STORAGE ROD: 24,840 CF
 TOTAL STORAGE REQUIRED: 49,680 CF
 TOTAL WET STORAGE PRVD: 25,217 CF
 TOTAL DRY STORAGE PRVD: 25,967 CF
 TOTAL STORAGE PROVIDED: 50,784 CF
 BOTTOM ELEV.: 420.00
 RISER CREST ELEVATION: 425.00
 WET STORAGE ELEVATION: 420.00-421.90
 DRY STORAGE ELEVATION: 421.90-4423.60
 TOTAL STORAGE DEPTH: 3.6' (423.60-420.00)
 TOP OF EMBANKMENT: 8' WIDE - EL 428.00 (SETTLED)
 CLEANOUT ELEVATION: 421.00
 SIDE SLOPES: 3:1 INSIDE
 5:1 OUTSIDE

EMERGENCY SPILLWAY:
 Q1 (EX): 11.0 CFS
 Q1 (BASIN): 4.0 CFS
 1 YR TSM WSEL= 424.35
 10 YR TSM WSEL= 426.86
 BAFFLE DESIGN: SEE SHT 19

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.

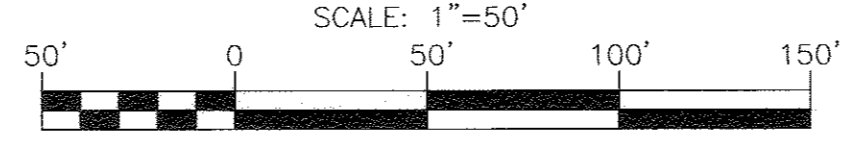
- NOTES**
- REFER TO SHEET 17 FOR SEQUENCE OF CONSTRUCTION
 - REFER TO SHEET 19 FOR BASIN DETAILS
 - REFER TO SHEETS 17 FOR STANDARD DETAILS AND STABILIZATION NOTES
 - REFER TO SHEET 39 FOR SOIL BORINGS

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.

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

PHASE 1 - SOILS MAP, GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN



MAPPED SOILS TYPES - CLARKSVILLE SE MAP #23

SYMBOL / NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT ORGANIC MATTER	K FACTOR	PERCENT EROSION POTENTIAL	PERCENT FERTILITY
BsA	B	NO	0.32	0.32	NO	YES
CgA	B	NO	0.20	0.20	YES	NO
CgB	B	NO	0.20	0.20	YES	NO
GmB	C	NO	0.37	0.37	YES	NO
GhB	C	PARTIALLY	0.37	0.37	NO	PARTIAL
Msc	B	NO	0.24	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 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

NO.	REVISION	DATE

FINAL ROAD CONSTRUCTION PLAN

PHASE 1 - SOILS MAP, GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN

MAPLE LAWN SOUTH

PHASE 1 - SECTION 2

LOTS 70 - 177 AND OPEN SPACE LOTS 178 - 182
 A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL "A"

TAX MAP 46 - GRID 2 - PARCEL 113
 5TH ELECTION DISTRICT
 (REF: ECP-14-093, WP-15-136, PB415, SP-15-014, F 16-021)

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

ROBERT H. VOGEL ENGINEERING, INC.

ENGINEERS • SURVEYORS • PLANNERS

8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

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. 16193 EXPIRATION DATE: 09-27-2018

DESIGN BY: RVE
 DRAWN BY: RVE
 CHECKED BY: RPH
 DATE: MARCH 2017
 SCALE: AS SHOWN
 W.O. NO.: 11-34

11 SHEET OF 39

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, BUREAU OF HIGHWAYS
 DATE: 5/12/2017

CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 5-31-17

CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 6-28-17

DIRECTOR

OWNER/DEVELOPER CERTIFICATION:

I HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING 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.

OWNER/DEVELOPER SIGNATURE: [Signature]
 DATE: 3/21/17

PRINTED NAME & TITLE: [Name]

DESIGNER 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.

DESIGNER'S SIGNATURE: [Signature]
 DATE: 3/21/17

ROBERT H. VOGEL
 PRINTED NAME: [Name]
 MD REGISTRATION NO. 16193
 (E), R.L.S., OR R.L.A. (circle one)

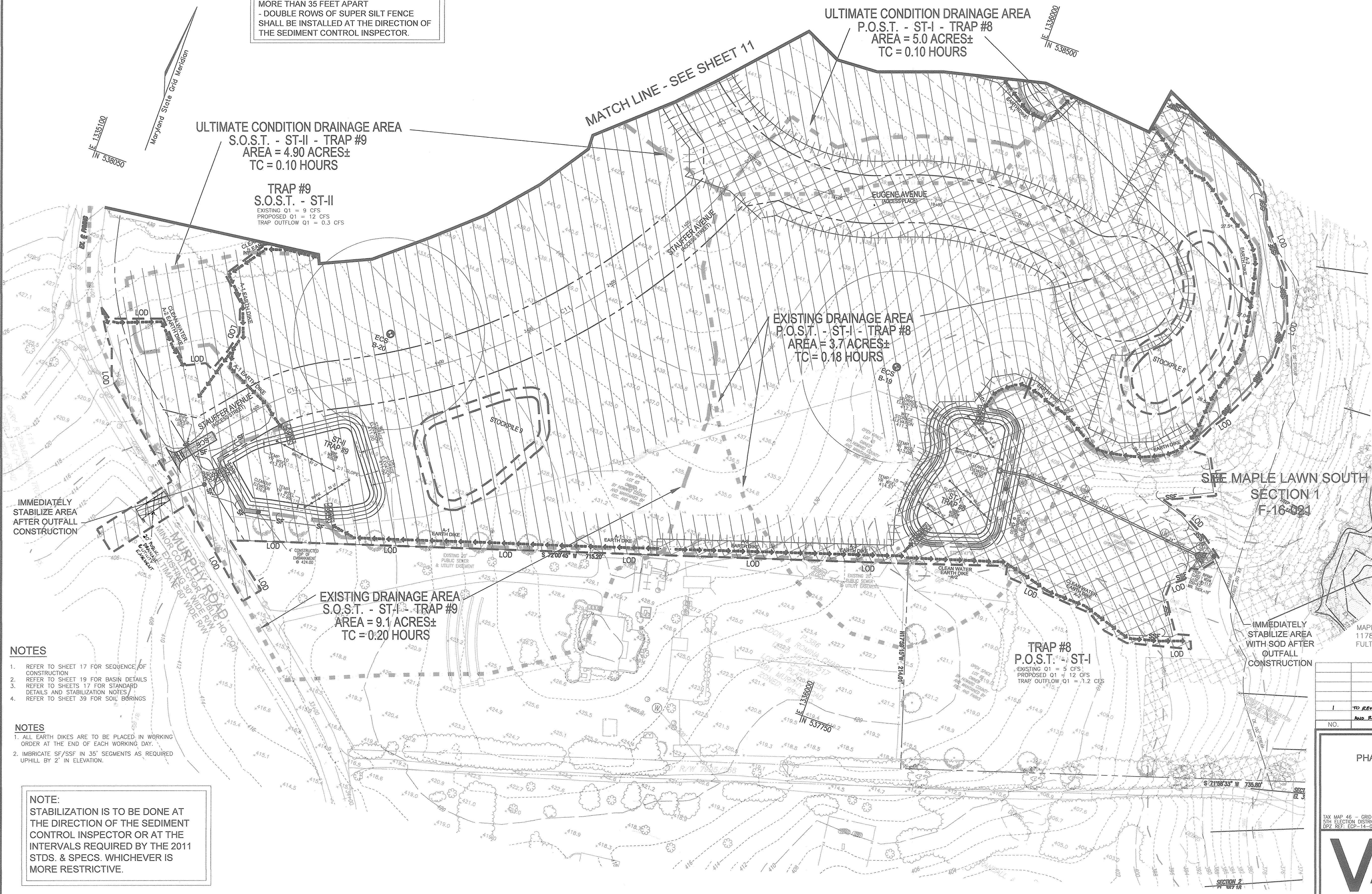
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD S.C.D.
 DATE: 9/4/17

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.

LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- EXISTING CURB AND GUTTER
- PROPOSED CURB AND GUTTER
- 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 SPECIMEN TREE TO BE REMOVED
- EXISTING TREELINE
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SOILS BOUNDARY
- SUPER SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- BAFFLE
- LIMIT OF DISTURBANCE
- EARTH DIKE / CLEAN WATER DIVERSION
- EXISTING DRAINAGE DIVIDE
- PROPOSED DRAINAGE DIVIDE
- CABON PROTECTION
- REMOVABLE PUMP STATION
- SOIL BORING
- GRADING UNIT #1
- GRADING UNIT #3



- NOTES**
- REFER TO SHEET 17 FOR SEQUENCE OF CONSTRUCTION
 - REFER TO SHEET 19 FOR BASIN DETAILS
 - REFER TO SHEETS 17 FOR STANDARD DETAILS AND STABILIZATION NOTES
 - REFER TO SHEET 39 FOR SOIL BORINGS

- NOTES**
- ALL EARTH DIKES ARE TO BE PLACED IN WORKING ORDER AT THE END OF EACH WORKING DAY.
 - IMBRICATE SF/SSF IN 3' 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.

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

NO.	REVISION	DATE
1	TO REVISE HOUSE ORIENTATION ON LOT 75, RELocate STREET LIGHT ON CHARLES WAY AND REVISE GRADING ON OPEN SPACE LOT 65	5-24-19

FINAL ROAD CONSTRUCTION PLAN
PHASE 1 - SOILS MAP, GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN
MAPLE LAWN SOUTH
PHASE 1 - SECTION 2
 LOTS 70 - 177 AND OPEN SPACE LOTS 178 - 182
 A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A'

TAX MAP 46 - GRID 2 - PARCEL 113
 ELECTION DISTRICT
 DP REF: ECP-14-093, WP-15-136, PB#415, SP-15-014, F 16-021

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

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE

DESIGN BY: RVE
 DRAWN BY: RVE
 CHECKED BY: RHV
 DATE: MARCH 2017
 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. 18163, EXPIRATION DATE: 09-27-2018

12 SHEET OF 39

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 5/10/2017
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 5-31-17
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 8-23-17
 CHIEF, DIVISION OF LAND DEVELOPMENT

OWNER/DEVELOPER CERTIFICATION:
 I HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING 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 OF EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE INSPECTION TO HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] DATE
 OWNER/DEVELOPER

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.

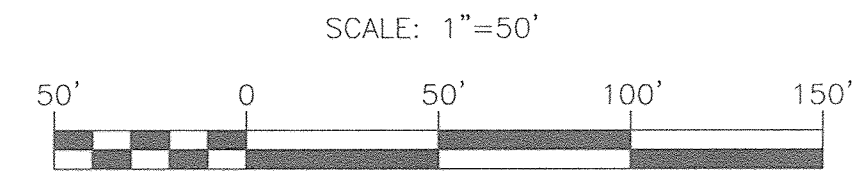
[Signature] DATE
 DESIGNER'S SIGNATURE

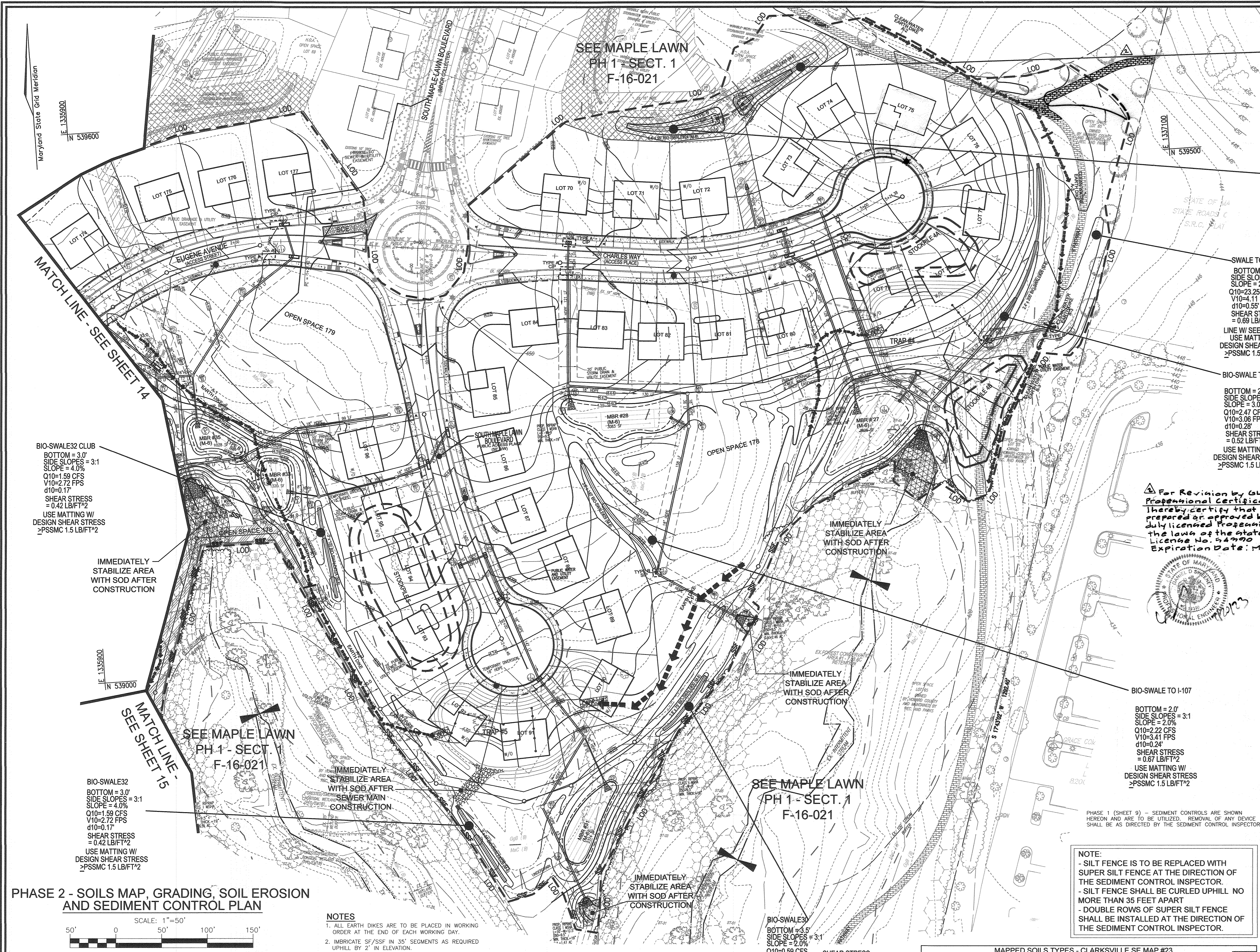
ROBERT H. VOGEL
 PRINTED NAME MD REGISTRATION NO. 16193
 (P), R.L.S., OR R.L.A. (circle one)

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

[Signature] 4/4/17
 HOWARD S.C.D.

PHASE 1 - SOILS MAP, GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN





LEGEND:

- 100' --- EXISTING CONTOUR
- 400' --- PROPOSED CONTOUR
- 402.88 --- EXISTING SPOT ELEVATION
- 402.88 --- EXISTING SPOT ELEVATION
- 402.88 --- EXISTING CURB AND GUTTER
- 402.88 --- PROPOSED CURB AND GUTTER
- 402.88 --- EXISTING UTILITY POLE
- 402.88 --- EXISTING LIGHT POLE
- 402.88 --- EXISTING MAILBOX
- 402.88 --- EXISTING SIGN
- 402.88 --- EXISTING SANITARY MANHOLE
- 402.88 --- EXISTING SANITARY LINE
- 402.88 --- EXISTING CLEANOUT
- 402.88 --- EXISTING FIRE HYDRANT
- 402.88 --- EXISTING WATER LINE
- 402.88 --- PROPOSED STORM DRAIN
- 402.88 --- PROPOSED STORM DRAIN INLET
- 402.88 --- EXISTING TREES (FIELD LOCATED)
- 402.88 --- EXISTING TREELINE (FIELD LOCATED)
- 402.88 --- EXISTING FENCE
- 402.88 --- PROPERTY LINE
- 402.88 --- RIGHT-OF-WAY LINE
- 402.88 --- SOILS BOUNDARY
- 402.88 --- MODERATE SLOPES (1:25 - 24:25)
- 402.88 --- STEEP SLOPE (>25%)
- 402.88 --- PROPOSED PUBLIC DRAINAGE AND UTILITY EASEMENT
- 402.88 --- PROPOSED PRIVATE DRAINAGE AND UTILITY EASEMENT
- 402.88 --- EXISTING WETLAND
- 402.88 --- PROPOSED STREET LIGHT
- 402.88 --- LIMIT OF DISTURBANCE
- 402.88 --- SUPER SILT FENCE
- 402.88 --- STABILIZED CONSTRUCTION ENTRANCE
- 402.88 --- BAFFLE
- 402.88 --- LIMIT OF DISTURBANCE
- 402.88 --- EARTH DIKE / CLEAN WATER DIVERSION

NOTES

- REFER TO SHEET 18 FOR SEQUENCE OF CONSTRUCTION
- REFER TO SHEET 19 FOR BASIN DETAILS
- REFER TO SHEETS 17 FOR STANDARD DETAILS AND STABILIZATION NOTES

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

NO.	REVISION	DATE
1	Revise B' Pathway (By GLW) AND REUSE GRADING ON OPEN SPACE LOT 65	7/10/23
2	TO REVISE HOUSE ORIENTATION ON LOTS 75, RELOCATE STREET LIGHT ON CHARLES WAY	5-24-19

FINAL ROAD CONSTRUCTION PLAN
PHASE 2 - SOILS MAP, GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN

MAPLE LAWN SOUTH PHASE 1 - SECTION 2
 LOTS 70 - 177 AND OPEN SPACE LOTS 178 - 182, A RESUBDIVISION OF NON-BUILDABLE BLOCK PARCEL 'A'

TAX MAP 46 - GRID 2 - PARCEL 113 ZONED: R-ED-MXD-3
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DEP. REF. EOP-14-023, WP-15-136, PB#415, SP-15-014, F 16-021

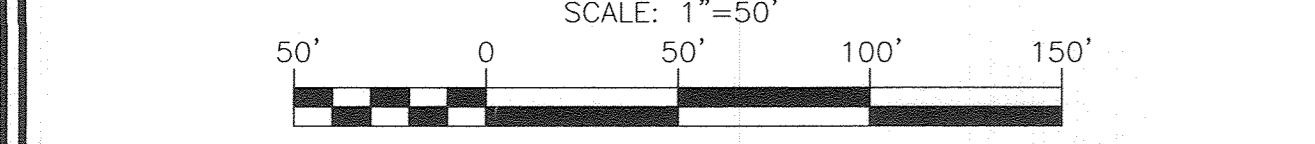
ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET, ELICOTT CITY, MD 21043 TEL: 410-461-7666 FAX: 410-461-8961

DESIGN BY: RVE
DRAWN BY: RVE
CHECKED BY: RRV
DATE: MARCH 2017
SCALE: AS SHOWN
W.O. NO.: 11-34

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. 16193, EXPIRATION DATE: 09-27-2018.

13 SHEET OF **39**

PHASE 2 - SOILS MAP, GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN



NOTES

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 5/17/2017

CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 5-23-17

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 PROJECT ON-SITE REVIEW BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT.

OWNER/DEVELOPER SIGNATURE: [Signature] DATE: 5/17/17

DESIGNER 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.

DESIGNER SIGNATURE: [Signature] DATE: 5/17/17

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

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

DATE: 4/14/17

MAPPED SOILS TYPES - CLARKSVILLE SE MAP #23

SYMBOL NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT CLAY	PERCENT SILT	PERCENT SAND	ERODIBILITY FACTOR	
						K	PERCENT
Bsa	D	YES	YES	0.32	NO	YES	
Gsa	B	NO	NO	0.20	YES	NO	
Gsb	B	NO	NO	0.20	YES	NO	
Gsbh	C	NO	NO	0.37	YES	NO	
Gsb	C	PARTIALLY	PARTIALLY	0.37	NO	PARTIAL	
Msc	B	NO	NO	0.24	YES	NO	

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

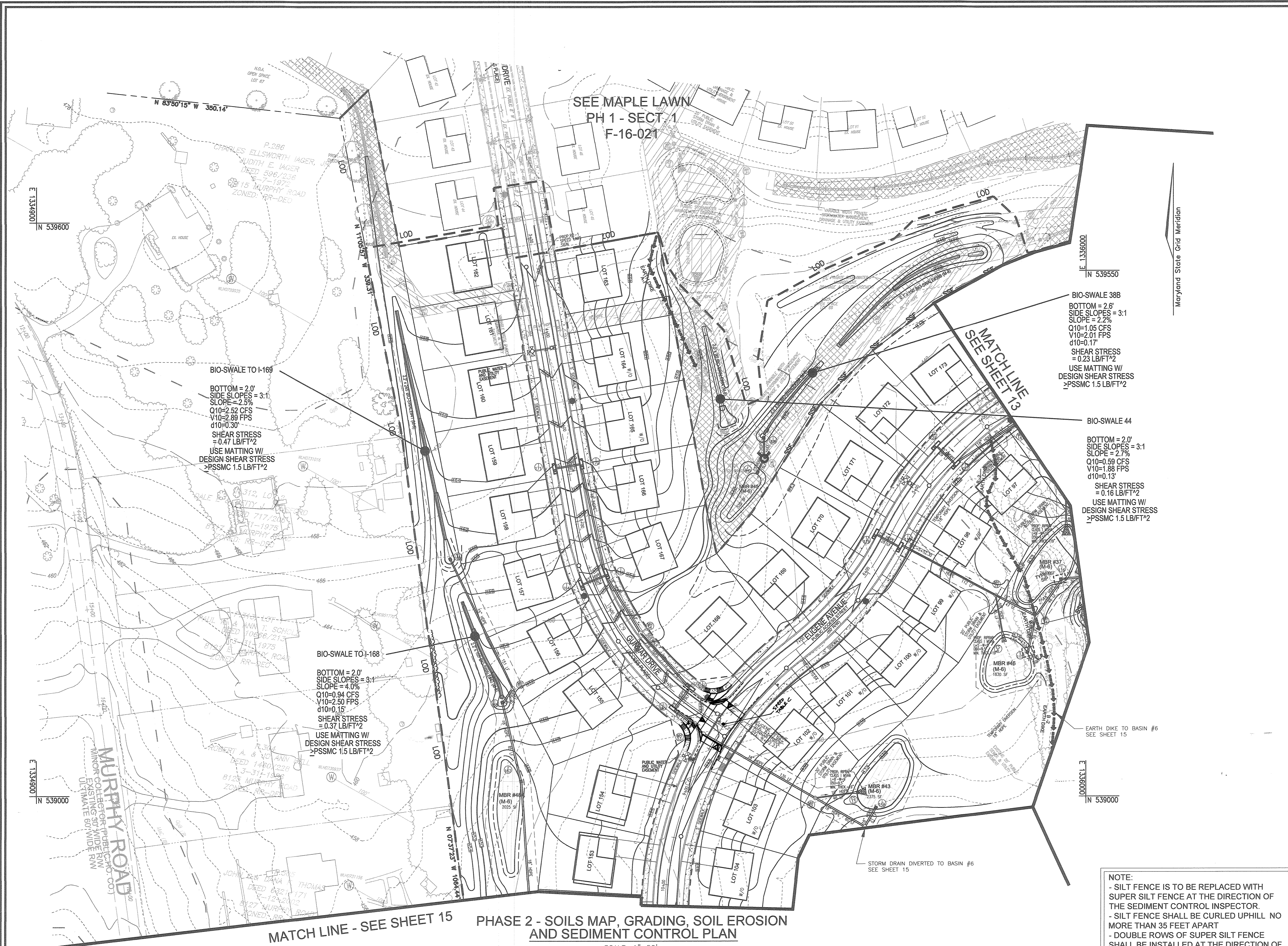
NOTE:
 HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

*BAILE COMPONENT OF Gsb, ERODIBILITY FACTOR IS 0.32 AND IS CONSIDERED HYDRIC

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.

For Revision by GLW
Professional Certification
 I hereby certify that these plans 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. 54760
 Expiration Date: May 14, 2025

[Signature]
 PROFESSIONAL ENGINEER



LEGEND:

	EXISTING CONTOUR
	PROPOSED CONTOUR
	PROPOSED SPOT ELEVATION
	EXISTING SPOT ELEVATION
	EXISTING CURB AND GUTTER
	PROPOSED CURB AND GUTTER
	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 TREES (FIELD LOCATED)
	EXISTING TREELINE (FIELD LOCATED)
	SOILS BOUNDARY
	EXISTING FENCE
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	PROPOSED PUBLIC DRAINAGE AND UTILITY EASEMENT
	PROPOSED PRIVATE DRAINAGE AND UTILITY EASEMENT
	PROPOSED STREET LIGHT
	PROPOSED SIDEWALK
	LIMIT OF DISTURBANCE
	SUPER SILT FENCE
	STABILIZED CONSTRUCTION ENTRANCE
	BAFFLE
	LIMIT OF DISTURBANCE
	EARTH DIKE / CLEAN WATER DIVERSION

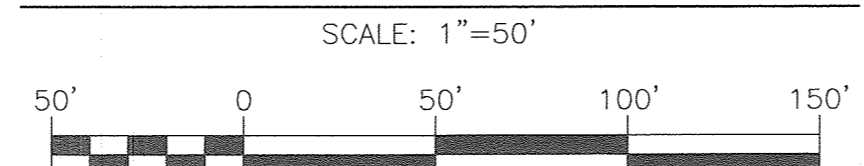
- NOTES**
- REFER TO SHEET 18 FOR SEQUENCE OF CONSTRUCTION
 - REFER TO SHEET 19 FOR BASIN DETAILS
 - REFER TO SHEETS 17 FOR STANDARD DETAILS AND STABILIZATION NOTES

OWNER
 MAPLE LAWN PARTNERS, 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

- 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.

PHASE 2 - SOILS MAP, GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN



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.

MAPPED SOILS TYPES - CLARKSVILLE SE MAP #23

SYMBOL NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT ORGANIC	K FACTOR	PERCENT SAND	PERCENT SILT	PERCENT CLAY
BcA BME SILT LOAM, 0 TO 3 PERCENT SLOPES	D	YES	YES	0.32	NO	YES	NO
CpA GLEBE LOAM, 0 TO 3 PERCENT SLOPES	B	NO	NO	0.20	YES	NO	NO
GhB GLEBE LOAM, 3 TO 8 PERCENT SLOPES	B	NO	NO	0.20	YES	NO	NO
GmB GLEBE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.37	YES	YES	NO
GhB GLEBE-SILT LOAM, 0 TO 8 PERCENT SLOPES	C	PARTIAL	PARTIAL	0.37	NO	PARTIAL	NO
MhC MAJOR 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
 *BALE COMPONENT OF GhB, ERODIBILITY FACTOR IS 0.32 AND IS CONSIDERED HYDRIC

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 5/17/2017

CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 5/17/2017

CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 5-28-17

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 INSPECTING 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 OF 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.

OWNER/DEVELOPER SIGNATURE: [Signature]
 DATE: 3/23/17

DESIGNER 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.

DESIGNER SIGNATURE: [Signature]
 DATE: 3/22/17

ROBERT H. VOGEL
 PRINTED NAME
 MD REGISTRATION NO. 16193
 R.L.S. OR R.L.A. (circle one)

PHASE 1 - SEDIMENT CONTROLS ARE SHOWN HEREON AND ARE TO BE UTILIZED. REMOVAL OF ANY DEVICE SHALL BE AS DIRECTED BY THE SEDIMENT CONTROL INSPECTOR.

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

HOWARD S.C.D. DATE: 4/14/17

2	ADD SPEED TABLES	4-28-20
NO.	REVISION	DATE

FINAL ROAD CONSTRUCTION PLAN
 PHASE 2 - SOILS MAP, GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN
MAPLE LAWN SOUTH PHASE 1 - SECTION 2
 LOTS 104 - 117 AND OPEN SPACE LOTS 178 - 182
 A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A'

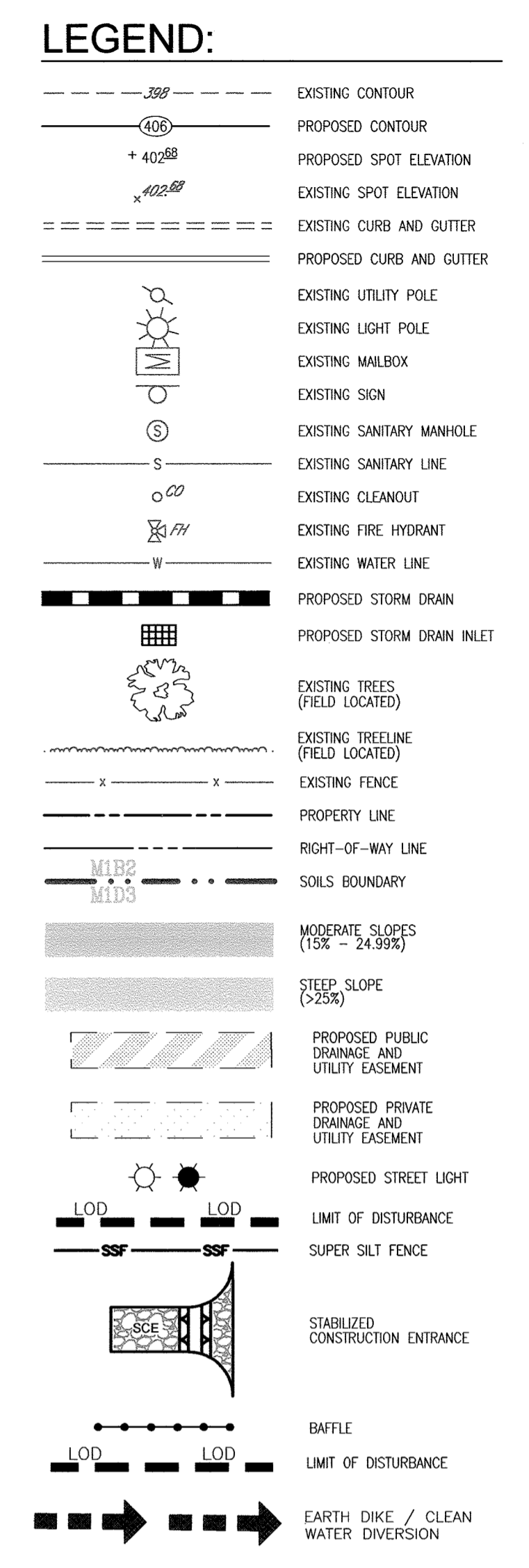
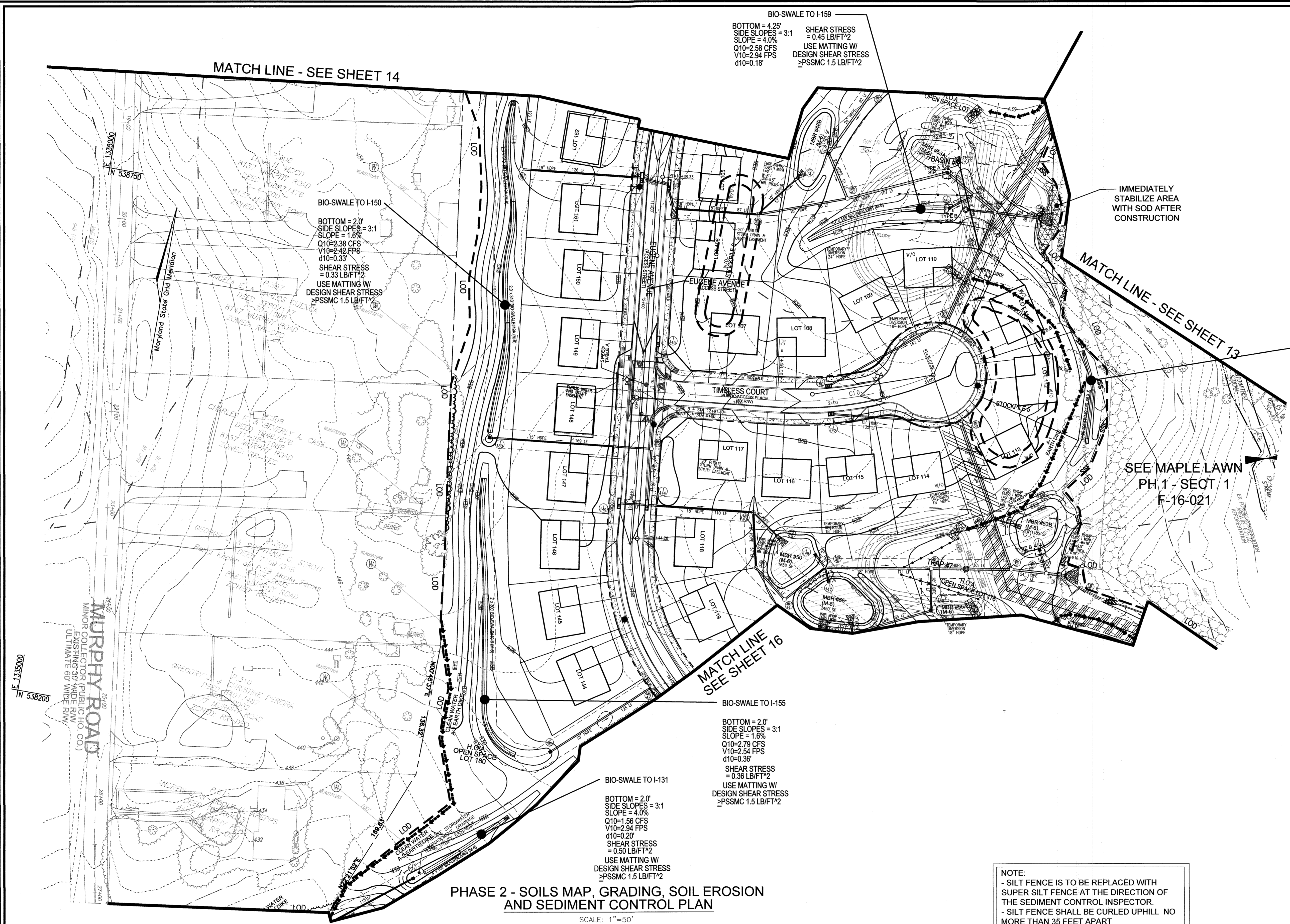
TAX MAP 46 - GRID 2 - PARCEL 113
 5TH ELECTION DISTRICT
 024, 025, 026, 027, 028, 029, 030, 031, 032, 033, 034, 035, 036, 037, 038, 039, 040, 041, 042, 043, 044, 045, 046, 047, 048, 049, 050, 051, 052, 053, 054, 055, 056, 057, 058, 059, 060, 061, 062, 063, 064, 065, 066, 067, 068, 069, 070, 071, 072, 073, 074, 075, 076, 077, 078, 079, 080, 081, 082, 083, 084, 085, 086, 087, 088, 089, 090, 091, 092, 093, 094, 095, 096, 097, 098, 099, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

DESIGN BY: RVE
 DRAWN BY: RVE
 CHECKED BY: RHV
 DATE: MARCH 2017
 SCALE: AS SHOWN
 W.O. NO.: 11-34

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. 16193, EXPIRATION DATE: 09-27-2018

14 SHEET OF 39



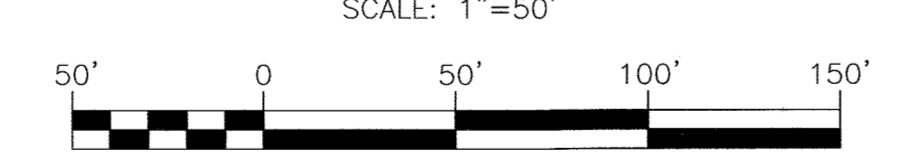
- NOTES**
- REFER TO SHEET 18 FOR SEQUENCE OF CONSTRUCTION
 - REFER TO SHEET 19 FOR BASIN DETAILS
 - REFER TO SHEETS 17 FOR STANDARD DETAILS AND STABILIZATION NOTES

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

NO.	TO ADD / REVISION	DATE
2	TO ADD SPEED TABLES	4-28-20

PHASE 2 - SOILS MAP, GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN



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.

- 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.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 Chief, Development Engineering Division
 Chief, Division of Land Development

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 INSPECTING 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 EVALUATION IS SHOWN AS REQUIRED BY THE HOWARD COUNTY CONSTRUCTION DISTRICT.

DESIGN CERTIFICATION:
 I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL PLAN 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.

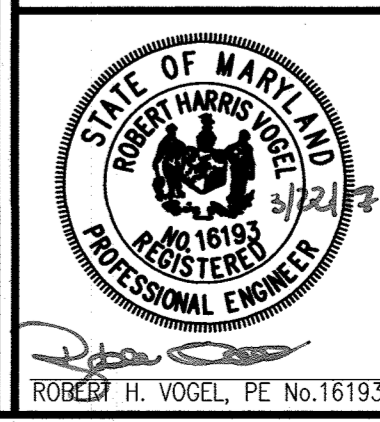
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

MAPPED SOILS TYPES - CLARKSVILLE SE MAP #23

SYMBOL NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT	K. FACTOR	PERCENT	PERCENT
BaA BALE SILT LOAM, 0 TO 3 PERCENT SLOPES	D	YES	0.32	NO	YES	
GpA CLENEC LOAM, 0 TO 3 PERCENT SLOPES	B	NO	0.20	YES	NO	
GpB CLENEC LOAM, 3 TO 8 PERCENT SLOPES	B	NO	0.20	YES	NO	
GmB GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	0.37	YES	YES	
GmC GLENVILLE-SWALE SILT LOAM, 0 TO 8 PERCENT SLOPES	C	PARTIALLY	0.37	NO	PARTIAL	
MmC MANDALAY LOAM, 8 TO 15 PERCENT SLOPES	B	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

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 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
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DESIGN BY: RVE
 DRAWN BY: RVE
 CHECKED BY: RHV
 DATE: MARCH 2017
 SCALE: AS SHOWN
 W.O. NO.: 11-34

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. 16193, EXPIRATION DATE: 09-27-2018

15 SHEET OF 39

LEGEND:

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING TREE LINE
- EXISTING TREES
- PROP. PERMEABLE CONCRETE
- EXISTING FENCE
- PROPOSED STORM DRAIN
- PROPOSED TREE LINE
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- LIMIT OF DISTURBANCE
- SUPER SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- BAFFLE
- LIMIT OF DISTURBANCE
- EARTH DIKE / CLEAN WATER DIVERSION

NOTE
IMMEDIATELY STABILIZE DISTURBANCE TO HW-2 WITH SOD OR AS DIRECTED BY THE SEDIMENT CONTROL INSPECTOR

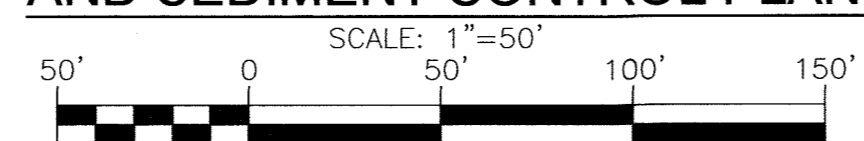
NOTE
IMMEDIATELY STABILIZE DISTURBANCE TO HW-1 WITH SOD OR AS DIRECTED BY THE SEDIMENT CONTROL INSPECTOR

IMMEDIATELY STABILIZE AREA WITH SOD AFTER CONSTRUCTION

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

PHASE 2 - SOILS MAP, GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN



BIO-SWALE 59A
BOTTOM = 3.0'
SIDE SLOPES = 3:1
SLOPE = 4.0%
Q10=2.62 CFS
V10=3.22 FPS
d10=0.22'
SHEAR STRESS = 0.55 LB/FT²
USE MATTING W/ DESIGN SHEAR STRESS >PSSMC 1.5 LB/FT²

PHASE 1 - SEDIMENT CONTROLS ARE SHOWN HEREON AND ARE TO BE UTILIZED. REMOVAL OF ANY DEVICE SHALL BE AS DIRECTED BY THE SEDIMENT CONTROL INSPECTOR.

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.

- NOTES**
- REFER TO SHEET 18 FOR SEQUENCE OF CONSTRUCTION
 - REFER TO SHEET 19 FOR BASIN DETAILS
 - REFER TO SHEETS 17 FOR STANDARD DETAILS AND STABILIZATION NOTES

MAPPED SOILS TYPES - CLARKSVILLE SE MAP #23

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT CLAY	K FACTOR	PERCENT ORGANIC MATTER	PERCENT ROCK
BsA	BALE SILT LOAM, 0 TO 3 PERCENT SLOPES	B	NO	NO	0.32	NO	YES
GgA	CLENELE LOAM, 0 TO 3 PERCENT SLOPES	B	NO	NO	0.20	YES	NO
GgB	CLENELE LOAM, 3 TO 8 PERCENT SLOPES	B	NO	NO	0.20	YES	NO
GmB	CLENELE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.37	YES	YES
GmC	CLENELE-SILT LOAM, 0 TO 8 PERCENT SLOPES	C	PARTIALLY*	NO	0.37	NO	PARTIAL
MmC	MARION LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.24	YES	NO

TAKEN FROM: USDA, SCB-WE 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

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

BIO-SWALE TO I-26
BOTTOM = 3.5'
SIDE SLOPES = 3:1
SLOPE = 4.0%
Q10=2.29 CFS
V10=2.97 FPS
d10=0.19'
SHEAR STRESS = 0.47 LB/FT²
USE MATTING W/ DESIGN SHEAR STRESS >PSSMC 1.5 LB/FT²

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
5/17/2017
CHIEF, BUREAU OF HIGHWAYS
CHIEF, DEVELOPMENT ENGINEERING DIVISION
CHIEF, DIVISION OF LAND DEVELOPMENT

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 INSPECTING 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.
3/23/17
OWNER/DEVELOPER 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.
3/23/17
DESIGNER'S SIGNATURE
ROBERT H. VOGEL
PRINTED NAME
MD REGISTRATION NO. 16193
(P.E., R.L.S., OR R.L.A. (circle one))

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
4/19/17
HOWARD S.C.D. DATE

NO.	REVISION	DATE
2	TO ADD SPEED TABLES	4-28-20
1	TO REVERSE HOUSE ORIENTATION ON LOT 15, RELOCATE STREET LIGHT ON CHARLES WAY AND REVERSE GRADING ON OPEN SPACE LOT 65	5-24-19

FINAL ROAD CONSTRUCTION PLAN
PHASE 2 - SOILS MAP, GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN
MAPLE LAWN SOUTH
PHASE 1 - SECTION 2
LOTS 70 - 177 AND OPEN SPACE LOTS 178 - 182
A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL "A"

TAX MAP 46 - GRID 2 - PARCEL 113
5TH ELECTION DISTRICT
REG. REG. EOP-14-025, WP-15-136, PB#415, SP-15-014, F 18-021

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

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

DESIGN BY: RVE
DRAWN BY: RVE
CHECKED BY: RHV
DATE: MARCH 2017
SCALE: AS SHOWN
W.O. NO.: 11-34

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. 16193, EXPIRATION DATE: 09-27-2018

16 SHEET OF 39

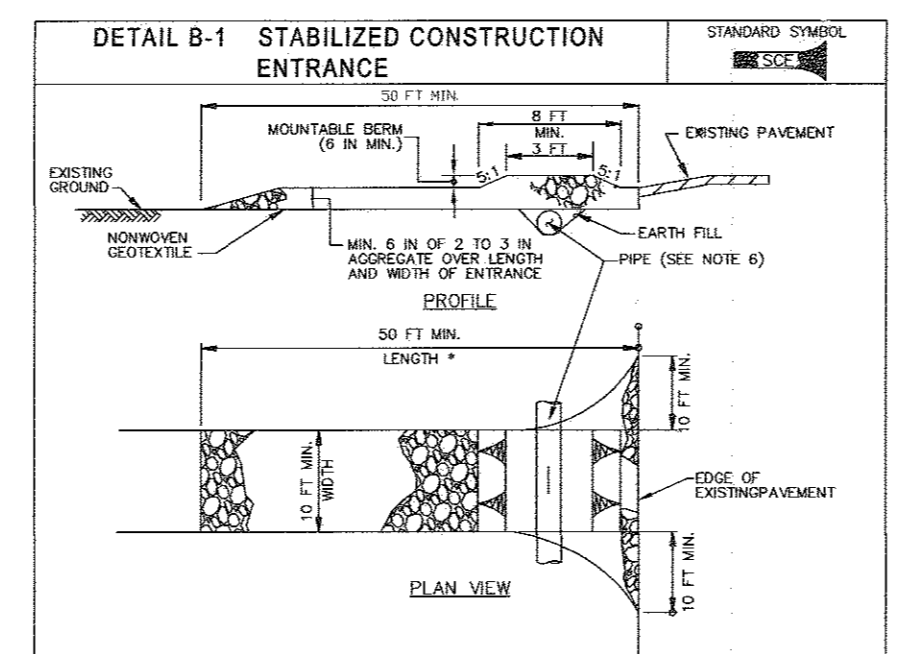
HOWARD SOIL CONSERVATION DISTRICT
STANDARD SEDIMENT CONTROL NOTES

1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS... MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES: A. PRIOR TO THE START OF EARTH DISTURBANCE... C. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER DRAINING UNIT...

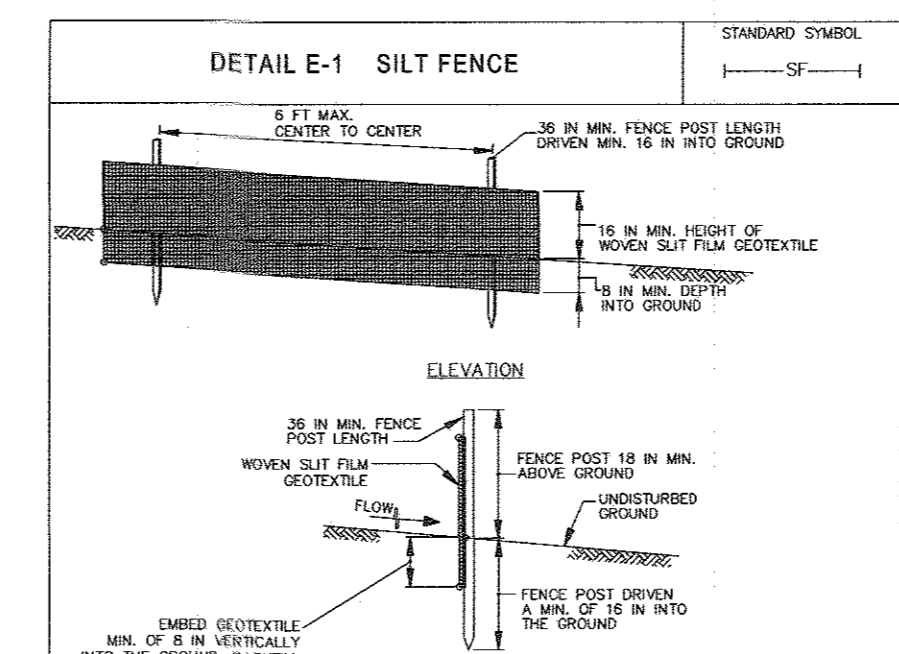
B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION... DEFINITION: TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION... PURPOSE: TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS...

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

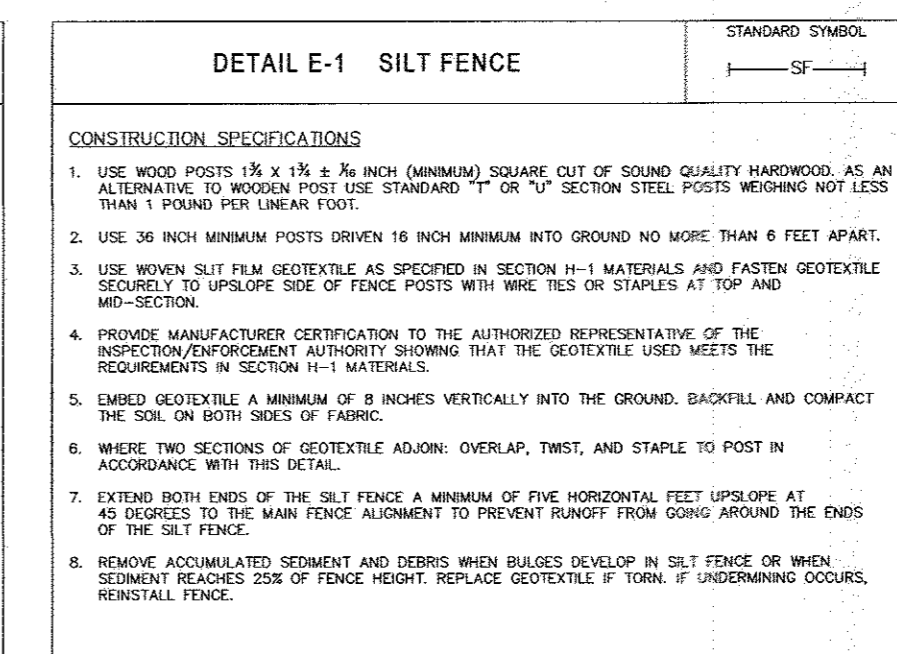
DEFINITION: THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION... PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH... CRITERIA: A. SOIL PREPARATION 1. TEMPORARY STABILIZATION... 2. PERMANENT STABILIZATION...



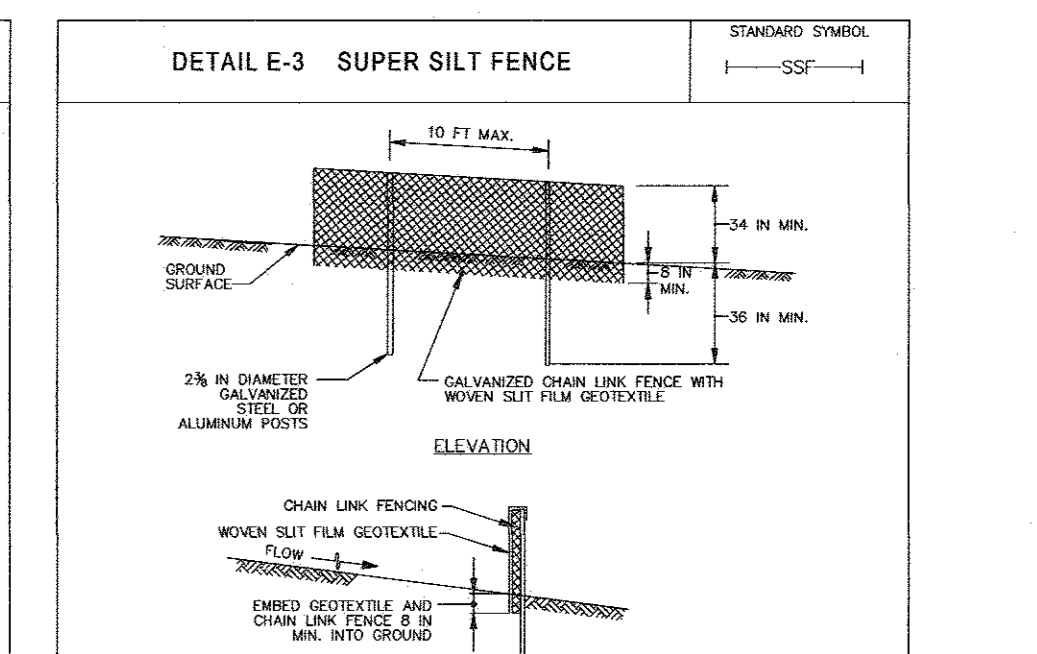
CONSTRUCTION SPECIFICATIONS: 1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN... 2. PEEL OFF SURFACE WATER FLOWING TO OR DIVERTED THROUGH THE SIDE UNDER THE ENTRANCE... 3. PREPARE SUBGRADE AND PLACE NONWOOL CELLULOSE FIBER MAT AS SPECIFIED IN SECTION H-1 MATERIALS... 4. PLACE CROWNED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE...



CONSTRUCTION SPECIFICATIONS: 1. USE NONWOOL FIBER 1 1/2 IN. X 2 1/4 IN. HIGH ANNUAL SQUARE FOOT OF SOUND QUALITY HAYMAKING... 2. USE 36 INCH MINIMUM POSTS... 3. USE NONWOOL SILT FIBER GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UNDERLIE SURFACE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION...



CONSTRUCTION SPECIFICATIONS: 1. INSTALL 2 1/2 INCH DIAMETER GALVANIZED STEEL POSTS OF 1/8 INCH INCH THICKNESS AND 30 FT LENGTH... 2. FASTEN 8 BARS OR HEAVIER GALVANIZED CHAIN LINK FENCE (30 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURED TO THE FENCE POSTS WITH WIRE TIES OR RIVETS... 3. FASTEN WOVEN SILT FIBER GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS SECURELY TO THE UNDERLIE SURFACE OF CHAIN LINK FENCE WITH WIRE SPACED EVERY 24 INCHES AT TOP AND MID SECTION...



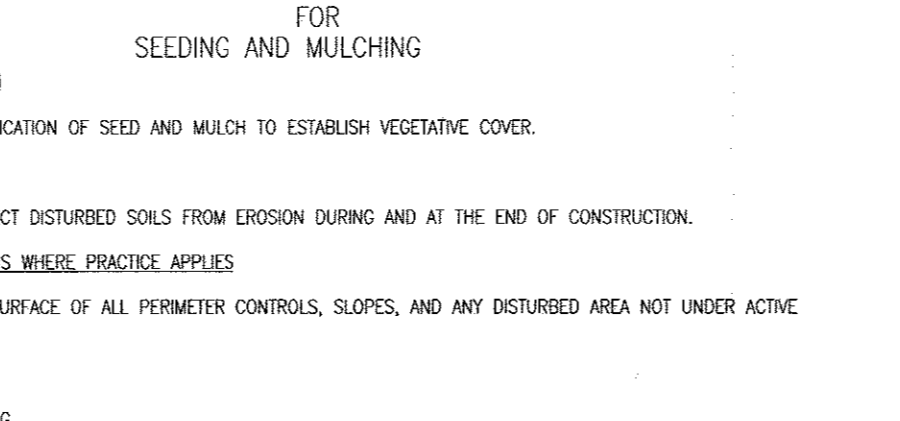
CONSTRUCTION SPECIFICATIONS: 1. REPAIR AND STONE MUST CONFORM TO THE SPECIFIED CLASS... 2. USE LIQUID CURING COMPOUND AS SPECIFIED IN SECTION H-1 MATERIALS AND PROTECT FROM PUNCTURING CUTTING OR BEARING REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE... 3. PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (8 TO 18 INCH MINIMUM STONE SIZE)...

PHASE 1 SITE ANALYSIS: TABLE WITH 4 COLUMNS: CATEGORY, VALUE, UNIT, and COMMENTS. Categories include Grading Unit 1, 2, and 3; Total Area of Site; Area to be Regraded/PAVED; Total Filled; and Offsite Fill/Borrow Area Location.

ESTIMATE ONLY: CONTRACTOR SHALL VERIFY QUANTITIES TO HIS OWN SATISFACTION... INSPECTION DATE: PRE-STORED EMBANKMENT DURING RAIN EVENT... WEATHER INFORMATION (CURRENT AND FORECAST) MUST BE AVAILABLE TO ALL CONTRACTORS...

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

DEFINITION: THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER... PURPOSE: TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION... CRITERIA: A. SEEDING 1. SPECIFICATIONS: ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW... 2. APPLICATION: ALL SEED MUST BE PLANTED TO THE SURFACE OF ALL PERMETER CONTROL, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRAVING...



CONSTRUCTION SPECIFICATIONS: 1. SEED WITH STRAW MULCH AND TACK (NOT ALLOWED FOR CLEAR WATER DIVERSION) A-1-A-2... 2. STABILIZE EARTH ONE WITHIN THREE DAYS OF INSTALLATION... 3. MAINTAIN EARTH ONE WITHIN THREE DAYS OF INSTALLATION... 4. UPOPERATING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING...

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION... DEFINITION: TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS... PURPOSE: TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS... CRITERIA: 1. MULCH MATRINGS (IN ORDER OF PREFERENCE): STRAW, MULCH, BARK, OR BARLEY AND REASONABLY BRIGHT IN COLOR... 2. APPLICATION: APPLY MULCH TO ALL SEIZED AREAS IMMEDIATELY AFTER SEEDING...

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION (continued): 3. MULCHING: MULCH MATRINGS (IN ORDER OF PREFERENCE): STRAW, MULCH, BARK, OR BARLEY... 4. APPLICATION: APPLY MULCH TO ALL SEIZED AREAS IMMEDIATELY AFTER SEEDING... 5. MULCHING: MULCH MATRINGS (IN ORDER OF PREFERENCE): STRAW, MULCH, BARK, OR BARLEY...

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA... DEFINITION: TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS... PURPOSE: TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS... CRITERIA: 1. STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN... 2. STOCKPILE AREA MUST BE MAINTAINED AT NO STEEPER THAN A 2:1 RATIO...

PERMANENT SEEDING SUMMARY: TABLE WITH 4 COLUMNS: NO., SPECIES, APPLICATION RATE (LB/AC), SEEDING DATES, SEEDING DEPTHS. Includes entries for Cool Season Tall Fescue and Warm Season Bermudagrass.

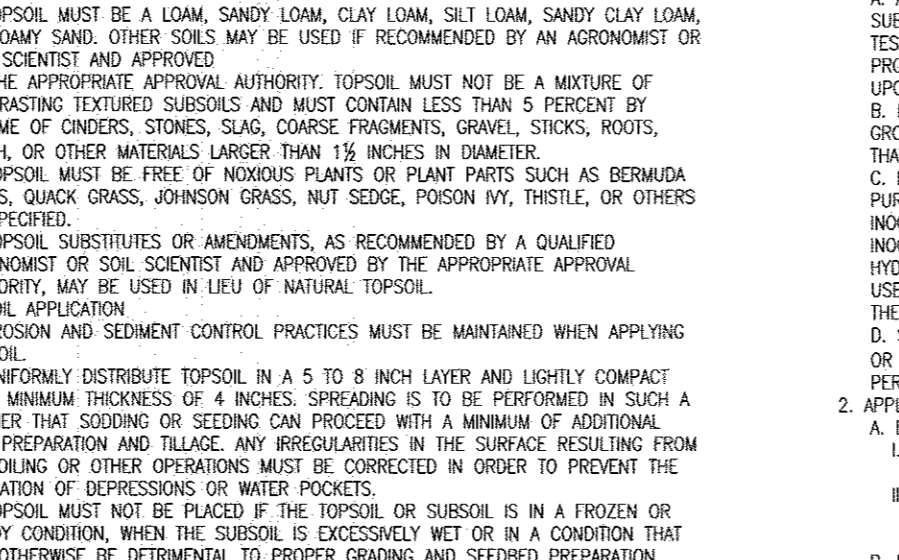
TEMPORARY SEEDING SUMMARY: TABLE WITH 4 COLUMNS: NO., SPECIES, APPLICATION RATE (LB/AC), SEEDING DATES, SEEDING DEPTHS. Includes entries for Annual Ryegrass and Annual Ryegrass/Berly Grass.

OWNER/DEVELOPER CERTIFICATION: I/WE CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN... I/WE CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS...

DESIGNER CERTIFICATION: I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS... I/WE CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN...

DESIGNER SIGNATURE: Robert H. Vogel, PE No. 16193. DATE: 5/17/2017.

DEVELOPER SIGNATURE: [Signature]. DATE: 5/17/2017.



HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS: APPROVED 5/17/2017. HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING: APPROVED 5/17/2017.

PHASE 1 SILT FENCE LOCATION SHALL BE REMOVED AND RELOCATED AFTER THE EROSION AND SEDIMENT CONTROL PLAN IS COMPLETE, AREA STABILIZED AND PERMSSION HAS BEEN OBTAINED BY THE SEDIMENT CONTROL INSPECTOR.

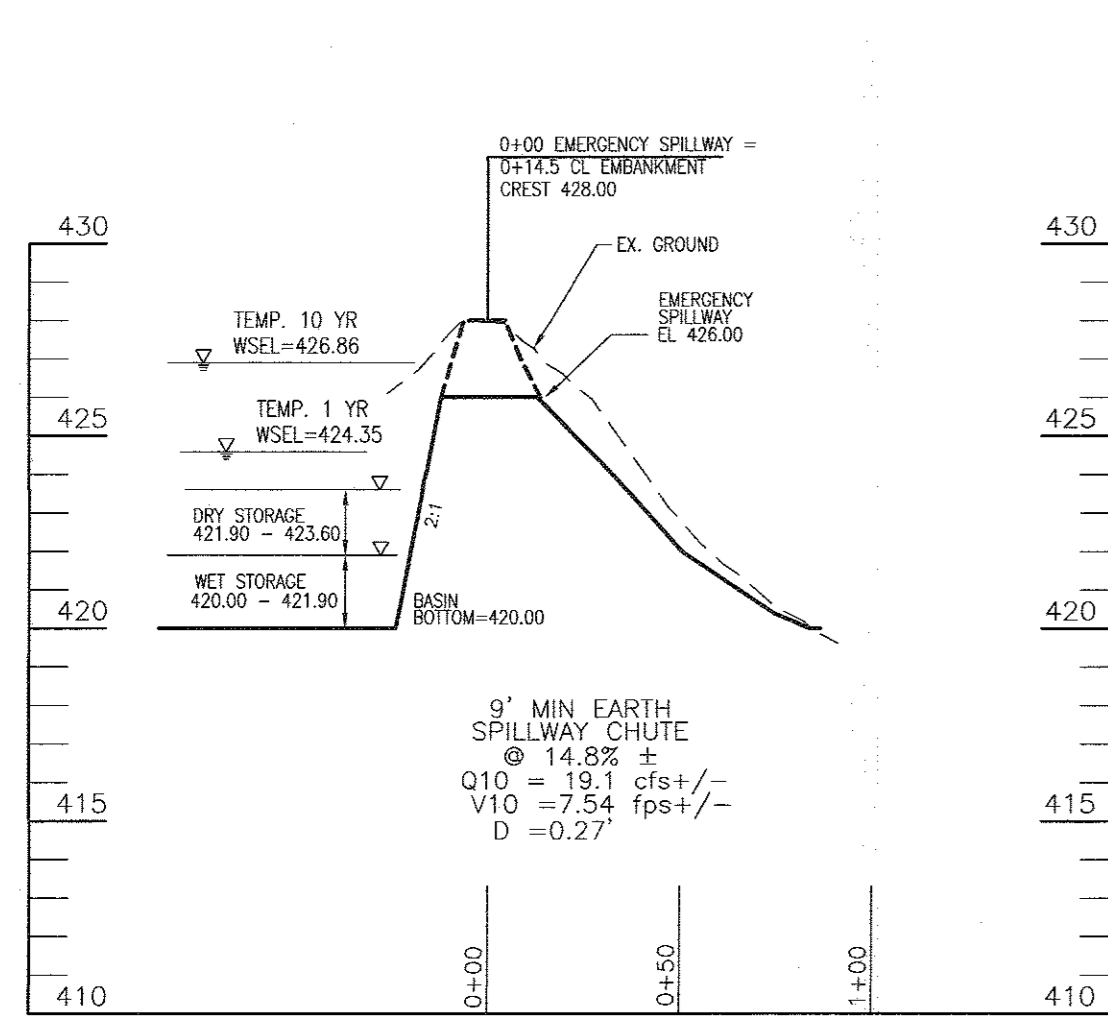
FINAL ROAD CONSTRUCTION PLAN: GRADING AND SOIL EROSION, AND SEDIMENT CONTROL PLAN - DETAILS. MAPLE LAWN SOUTH PHASE 1 - SECTION 2.

ROBERT H. VOGEL ENGINEERS & SURVEYORS - PLANNERS. 8407 MAIN STREET, ELICOTT CITY, MD 21043. TEL: 410.461.7666 FAX: 410.461.8961.

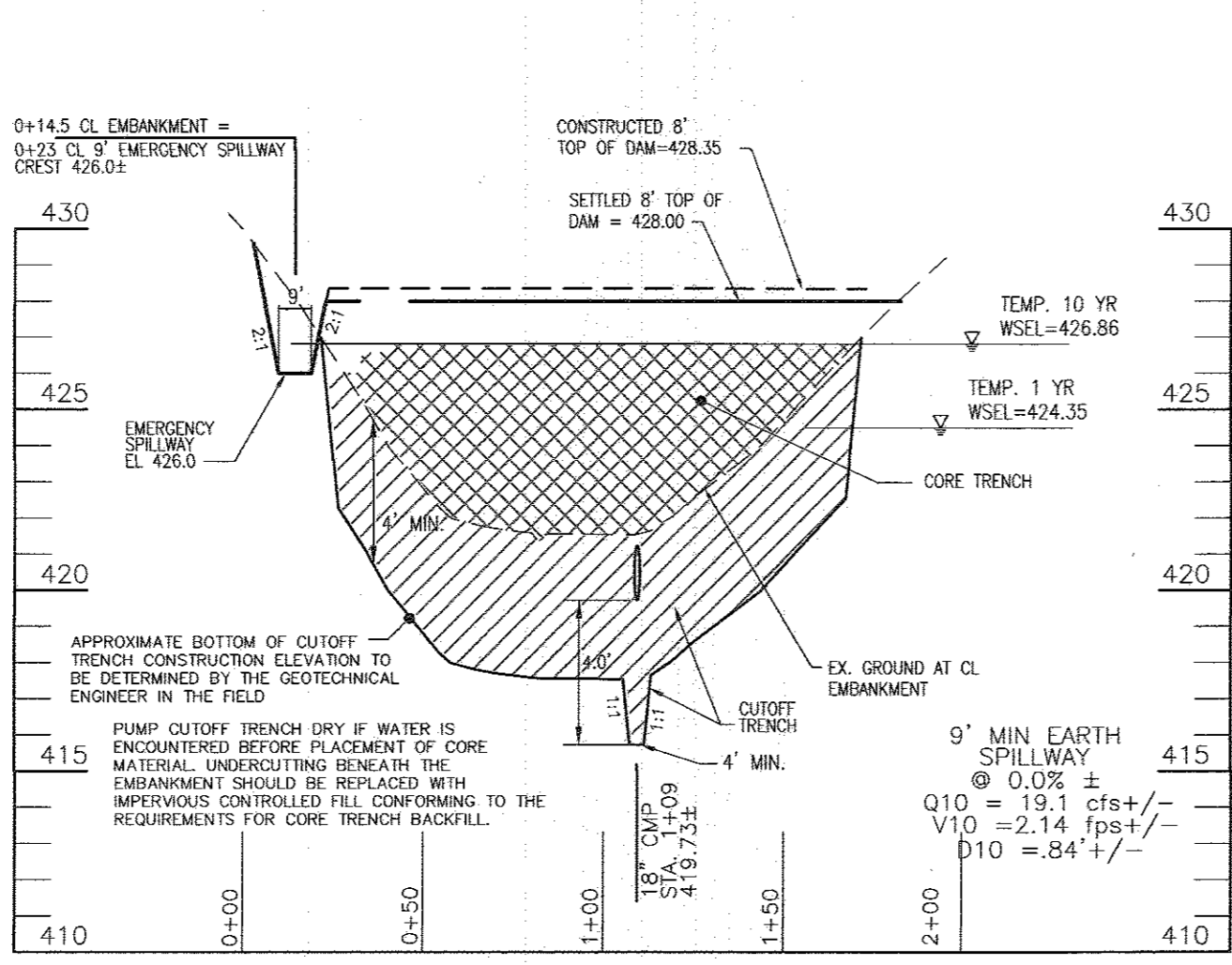
DESIGN BY: RVE. DRAWN BY: RVE. CHECKED BY: RHV. DATE: MARCH 2017. SCALE: AS SHOWN. W.O. NO.: 11-34. 17 SHEET OF 39.

DESIGN BY: RVE. DRAWN BY: RVE. CHECKED BY: RHV. DATE: MARCH 2017. SCALE: AS SHOWN. W.O. NO.: 11-34. 17 SHEET OF 39.

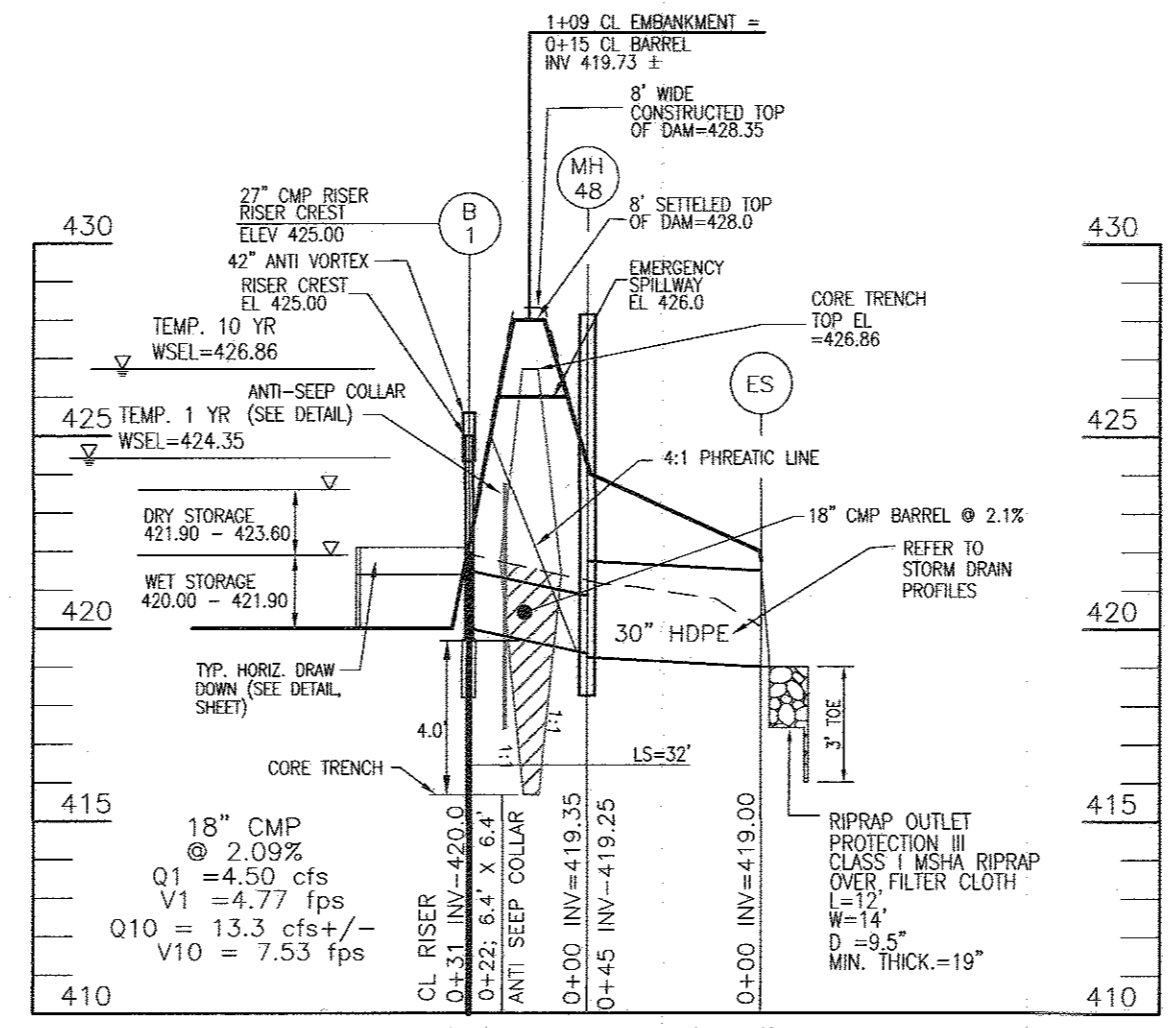
STATE OF MARYLAND PROFESSIONAL ENGINEER REG. NO. 3121. ROBERT H. VOGEL, P.E. No. 16193.



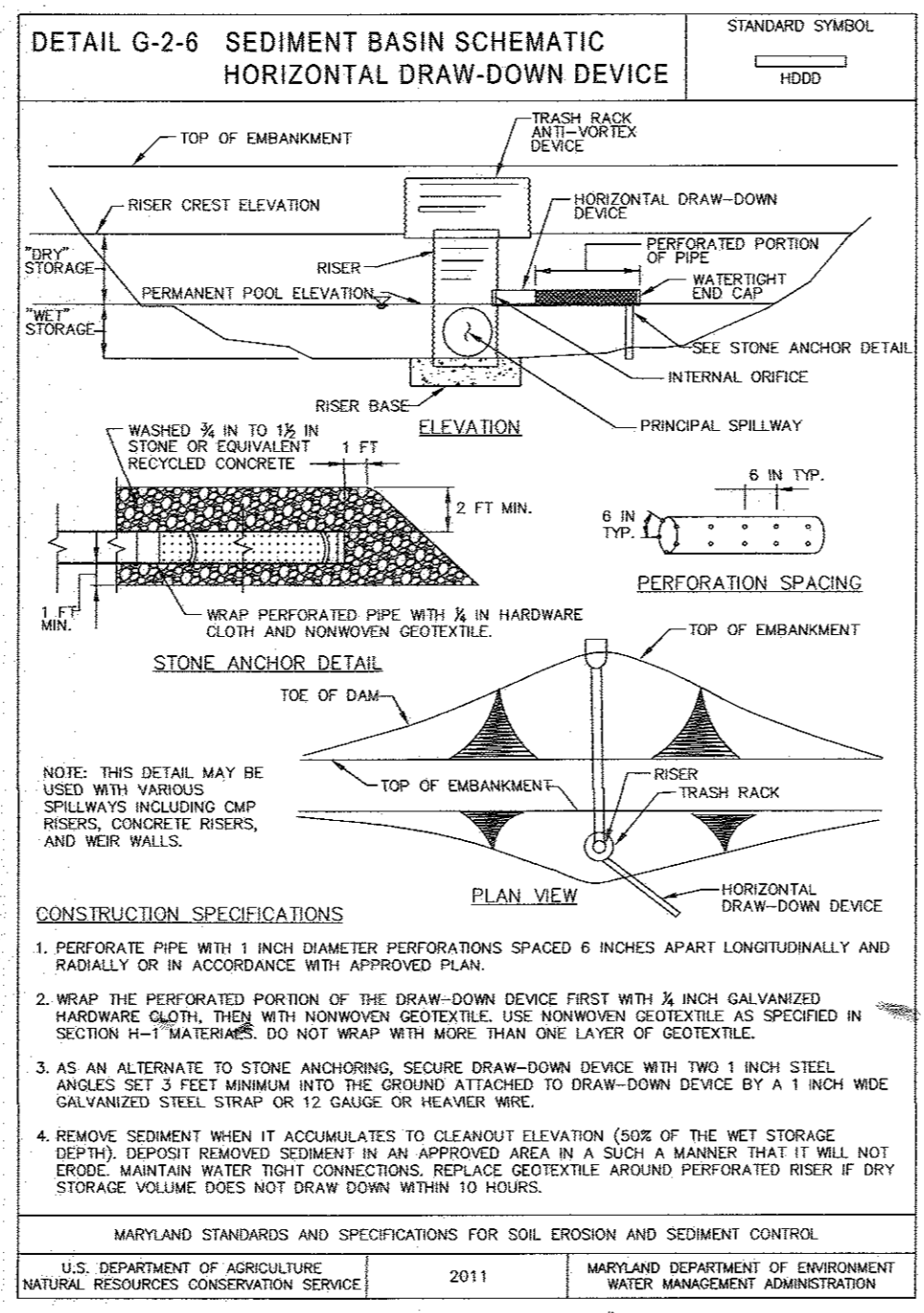
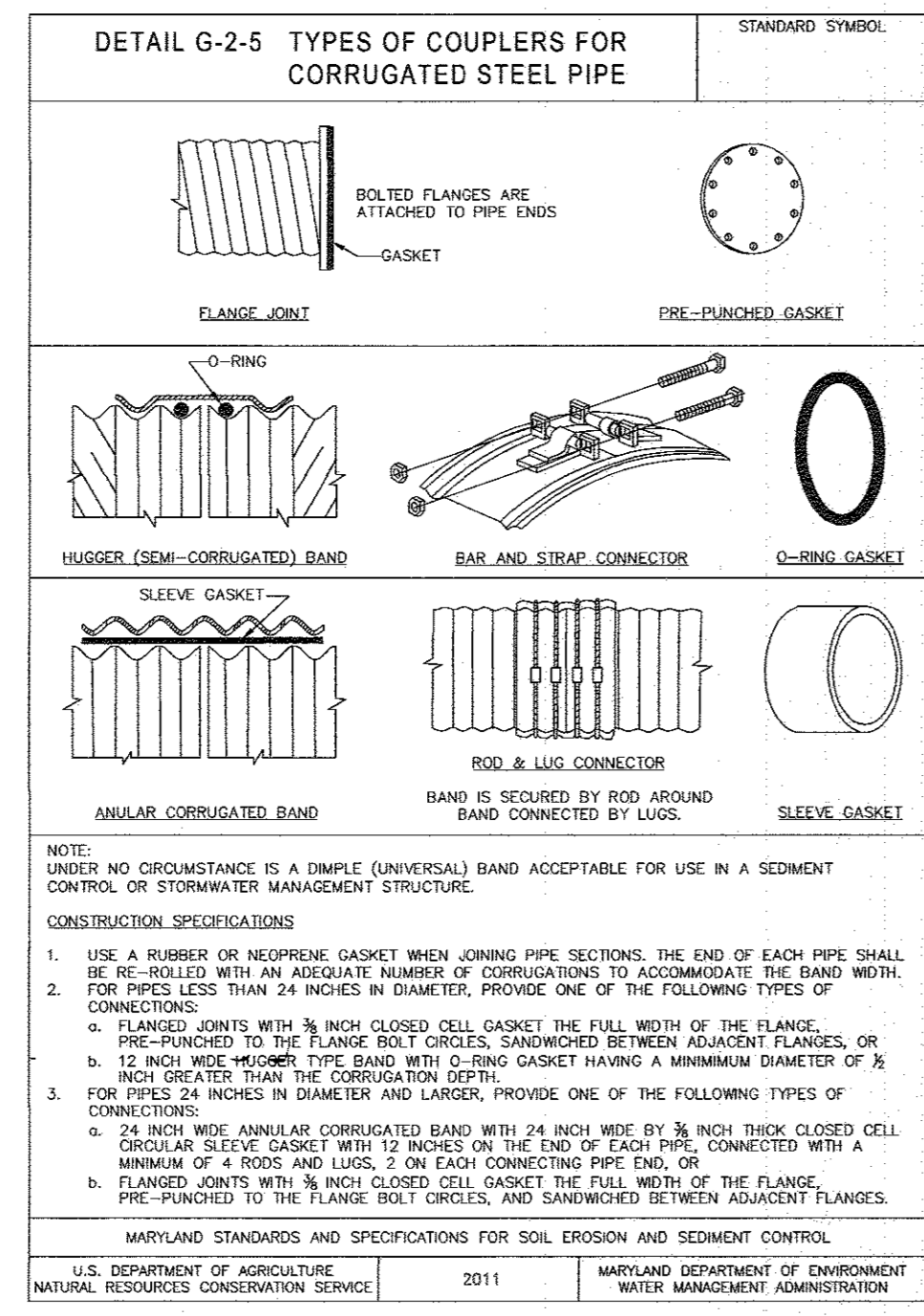
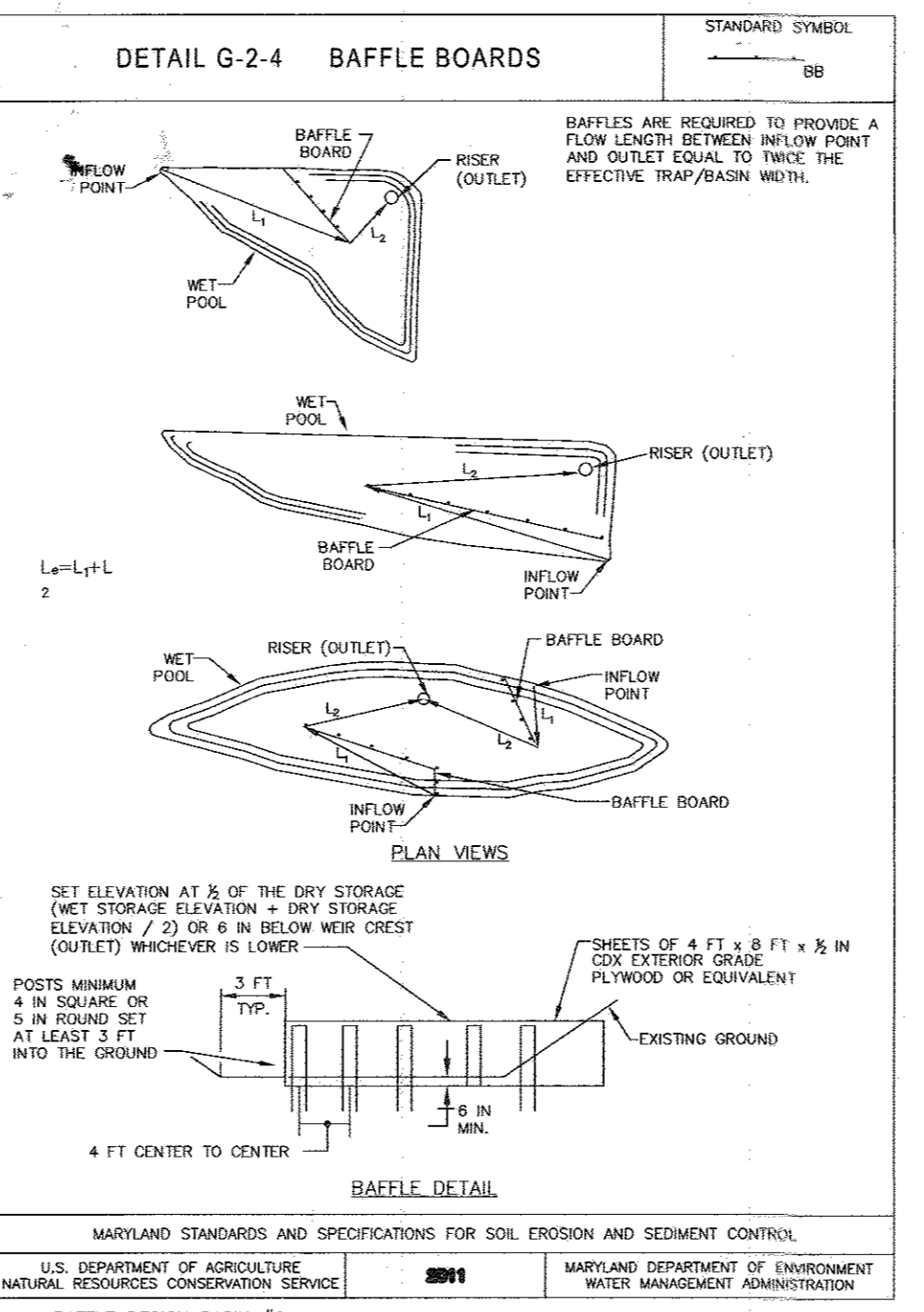
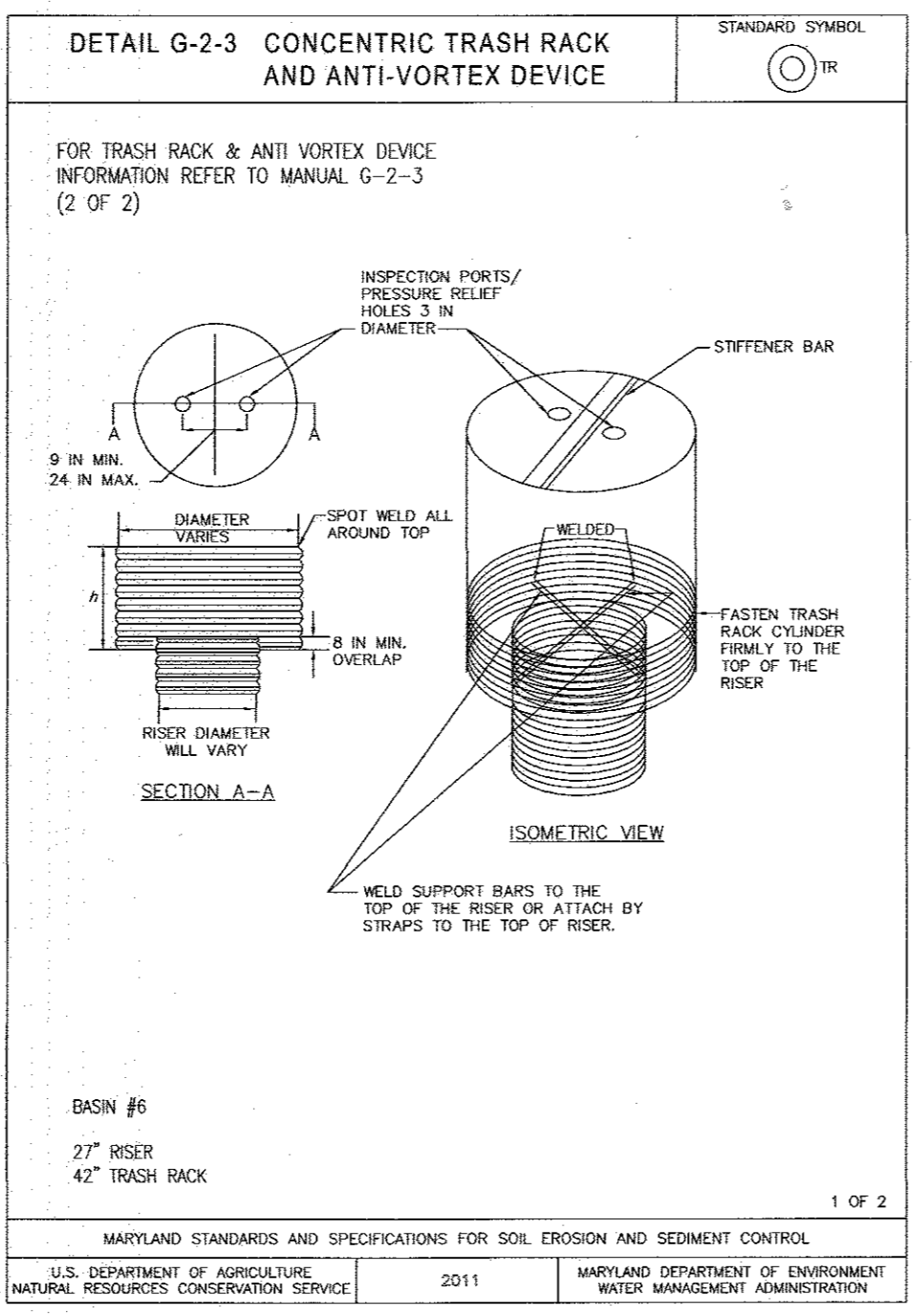
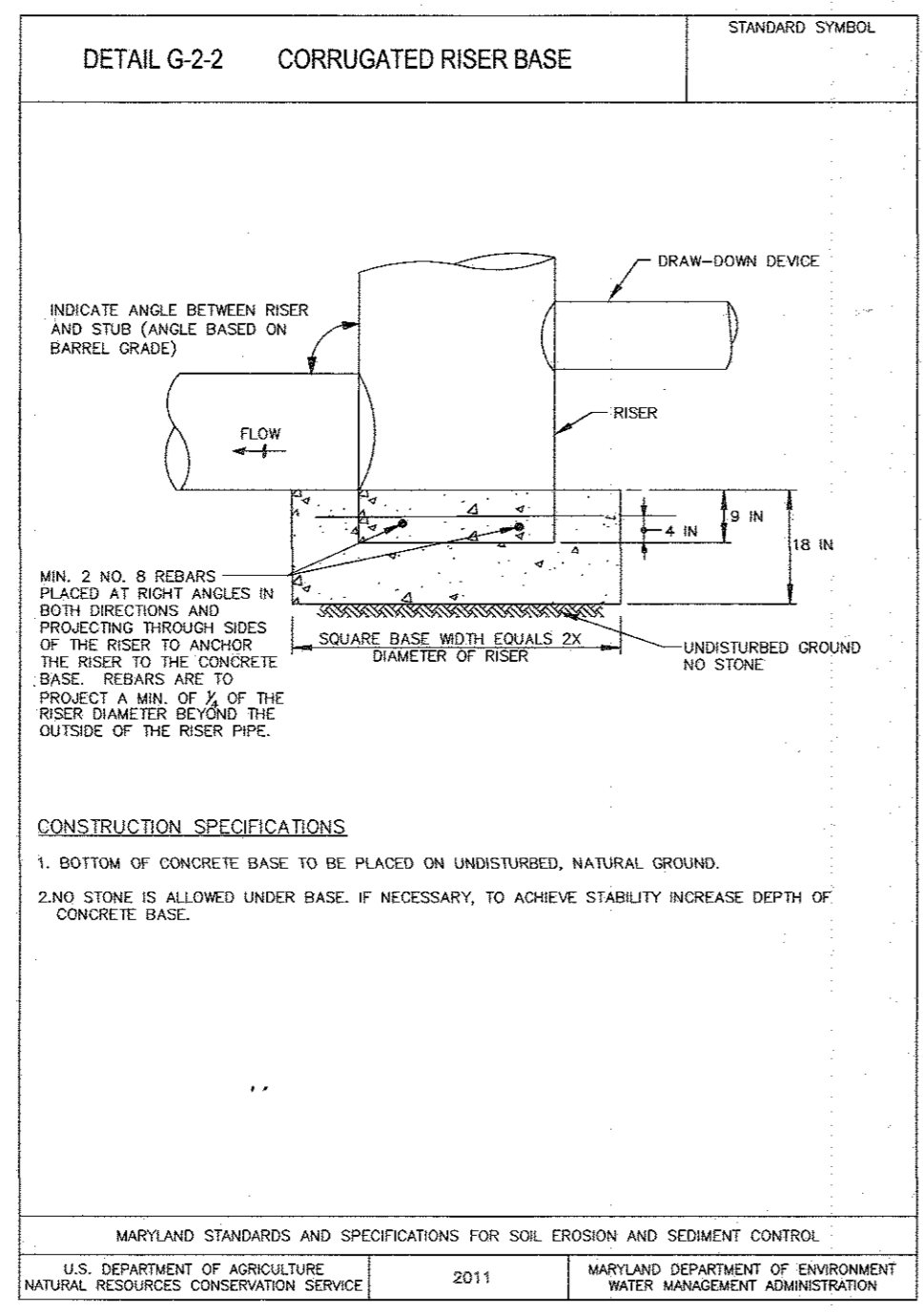
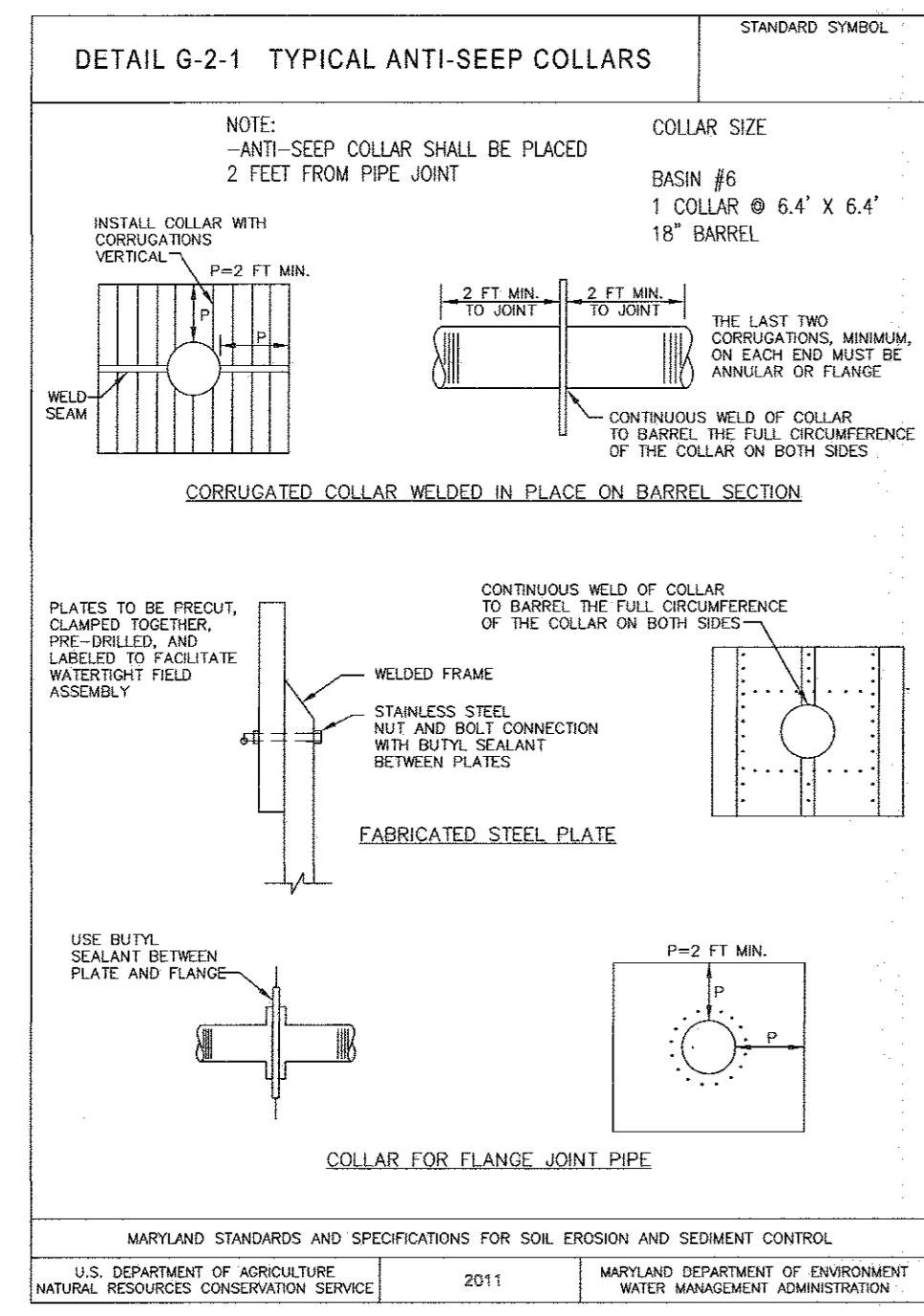
**SEDIMENT BASIN #6
PROFILE ALONG CL OF EMBANKMENT SPILLWAY**
SCALE: HORIZONTAL = 1"=50'
VERTICAL = 1"=5'



**SEDIMENT BASIN #6
PROFILE ALONG CL OF EMBANKMENT**
SCALE: HORIZONTAL = 1"=50'
VERTICAL = 1"=5'



**SEDIMENT BASIN #6
PROFILE ALONG CL OF BARREL**
SCALE: HORIZONTAL = 1"=50'
VERTICAL = 1"=5'



OWNER/DEVELOPER CERTIFICATION:
I HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING 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 OF EROSION AND SEDIMENT PRIOR TO BEING ON THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODS ON-SITE TO THE HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT.

OWNER/DEVELOPER: MAPLE LAWN PARTNERS, LLC
DATE: 3/19/17

DESIGNER 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.

DESIGNER: ROBERT H. VOGEL, P.E.
DATE: 3/17/17

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DATE: 3/17/17

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DATE: 3/28/17

CONSTRUCTION SPECIFICATIONS

- INSTALL SEDIMENT CONTROL PRACTICES NECESSARY TO CONSTRUCT BASIN, CLEAR AND GRUB TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIAL FROM THE AREA WHERE THE EMBANKMENT IS TO BE PLACED. DO NOT CLEAR THE POOL AREA UNTIL COMPLETION OF THE EMBANKMENT, UNLESS THE POOL AREA IS TO BE USED FOR BORROW, SALVAGE TOPSOIL FOR LATER USE. EXCAVATE CUT-OFF TRENCH ALONG CENTERLINE OF PROPOSED EMBANKMENT A MINIMUM DEPTH OF 4 FEET AND A BOTTOM (MIN. 4 FEET) WIDE ENOUGH TO PERMIT OPERATION OF EXCAVATION AND COMPACTION EQUIPMENT. CONSTRUCT SIDE SLOPES 1:1 OR FLATTER. CUT-OFF TRENCH MUST BE CONTINUOUS AND EXTEND THE ENTIRE LENGTH OF EMBANKMENT. COMPACTION REQUIREMENTS ARE THE SAME AS THOSE FOR THE EMBANKMENT. DEWATER THE TRENCH DURING THE BACKFILLING/COMPACTION OPERATIONS, USING AN APPROVED PRACTICE.
- CONSTRUCT EMBANKMENT OF CLEAN SOIL FREE OF ROOTS, WOODY VEGETATION, OVERSIZED STONES, ROCKS, OR OTHER OBJECTIONABLE MATERIAL. FILL MATERIAL FOR IMPERVIOUS CORE AND CUT-OFF TRENCH MUST CONFORM TO UNIFIED SOIL CLASSIFICATION CC, SC, CL, OR CL AND MUST HAVE AT LEAST 30 PERCENT PASSING THE #200 SIEVE. USE FILL MATERIAL CONTAINING SUFFICIENT MOISTURE SO THAT THE SOIL CAN BE FORMED BY HAND INTO A BALL WITHOUT CRUMBLING. IF WATER CAN BE SQUEEZED OUT OF THE BALL, IT IS TOO WET FOR PROPER COMPACTION. PLACE FILL MATERIAL IN SIX-INCH TO EIGHT INCH THICK CONTINUOUS LIFTS OVER THE ENTIRE LENGTH OF THE FILL. OBTAIN COMPACTION BY PASSING CONSTRUCTION EQUIPMENT OR COMPACTOR OVER THE FILL, SO THAT THE ENTIRE SURFACE OF EACH LAYER OF FILL IS TRAVERSED AT LEAST FOUR TIMES. CONSTRUCT THE EMBANKMENT TO AN ELEVATION A MINIMUM OF 10 PERCENT HIGHER THAN THE DESIGN HEIGHT TO ALLOW FOR SETTLEMENT.
- INSTALL PRINCIPAL SPILLWAY PRIOR TO, OR CONCURRENTLY WITH, FILL PLACEMENT. DO NOT EXCAVATE EMBANKMENT FOR SETTLEMENT. ALL PIPE CONNECTIONS, INCLUDING ANTI-SEEP COLLARS MUST BE COMPLETELY WATER-TIGHT. INSTALL FILTER DRAINAGE WHEN SPECIFIED ON PLAN. BARREL CONNECTION TO RISER MUST BE WELDED ALL AROUND WHEN THE PIPE AND RISER ARE METAL. ATTACH BARREL STUB TO RISER AT THE SAME PERCENT GRADE AS THE BARREL. USE NONWOVEN GEOTEXTILE ASSEMBLY, POLYUR RISER WITH BARREL IN PLACE OR SET PRE-CAST RISER AND INSTALL PROJECTION COLLAR FOR WATER-TIGHT CONNECTION. PLACE FILL MATERIAL AROUND THE PIPE TO A DEPTH OF 1.5 TIMES THE PIPE DIAMETER (MINIMUM). SECURELY INSTALL ANTI-VORTEX DEVICE AND TRASH RACK AS SHOWN ON PLAN.
- INSTALL THE EMERGENCY SPILLWAY IN UNDISTURBED NATURAL GROUND. CONSTRUCT SPILLWAY WITHIN A TOLERANCE OF ± 0.2 FEET.
- STABILIZE EMBANKMENT AND ASSOCIATED DISTURBED AREAS WITHIN THREE (3) DAYS OF COMPLETION WITH SEED AND MULCH. MONITOR EMBANKMENT AND MAINTAIN EROSION FREE DURING THE LIFE OF THE BASIN.
- INSTALL FENCING AND SIGNAGE IN ACCORDANCE WITH THE APPROVED PLAN. REMOVE SEDIMENT WHEN ACCUMULATED MATERIAL HAS REACHED 25 PERCENT OF THE TOTAL STORAGE DEPTH. RESTORE BASIN TO ORIGINAL DESIGN VOLUME. PLACE REMOVED SEDIMENTS IN A CONTROLLED AREA AND STABILIZE. DO NOT DEPOSIT SEDIMENT DOWNSTREAM OF THE EMBANKMENT, ADJACENT TO A STREAM OR FLOODPLAIN.
- WHEN THE CONTRIBUTING DRAINAGE AREA IS STABLE, THE BASIN CAN BE REMOVED IN ACCORDANCE WITH THE APPROVED SEDIMENT CONTROL PLAN. A SEDIMENT BASIN DESIGNED, BUILT, AND CERTIFIED AS A STORMWATER MANAGEMENT STRUCTURE, MAY BE CONSIDERED WHEN THE CONTRIBUTORY DRAINAGE AREA IS STABLE, PROPERLY DEWATER, BASIN, MODIFY OUTLET STRUCTURE, PERFORM ADDITIONAL GRADING, AND PROVIDE REQUIRED STORAGE VOLUME IN ACCORDANCE WITH APPROVED STORMWATER MANAGEMENT PLANS.

DEWATERING STRATEGY

Dewatering refers to the act of removing and discharging water from excavated areas on construction sites or from sediment traps or basins on construction sites. Standards and specifications for dewatering practices follow:

These standards apply to removal and discharge of water from any excavated area or sediment trap or basin at any construction site. Given the unique conditions of any particular construction site, any or all of the practices may apply. Regardless of the practices listed herein, operators are required to use acceptable procedures for maintenance and dewatering. In all cases, every effort shall be made to eliminate sediment pollution associated with dewatering.

Designers shall specify the preferred procedures for dewatering on plans. In particular, designers should identify procedures for dewatering sediment traps and basins prior to elimination of the last sediment control facility on the site or prior to completion of sediment control facilities to stormwater management facilities. Recommended procedures shall be consistent with these standards. Atypical site conditions may require innovative dewatering designs. Dewatering measures not referenced in this standard may be used with the consent of the approval authority.

Dewatering of Excavated Areas

- Designers shall specify on plans, and in sequences of construction included on plans, practices for dewatering of excavated areas. Plan reviewers shall check to see that procedures for dewatering are included on plans.
- In all cases, water removed from excavated areas shall be discharged such that it shall pass through a sediment control device prior to entering receiving waters. Sediment control devices include sediment traps and basins, in addition to the practices in this section.

Approved Practices for Dewatering of Excavated Areas

- Pumping of water to an existing sediment basin or trap in which the entire volume of water from the area to be dewatered can be contained without discharge to receiving waters.
- Pumping of water to an existing sediment trap or trap such that the entire volume of water from the area to be dewatered can be managed without exceeding the design outflow from the sediment control structure.
- Removable Pumping Station 7 Standards and specifications for Removable Pumping Station are on Detail 20A.
- Use of a Sump Pit. Standards and specifications for a sump pit are on Detail 20B.

Dewatering of Sediment Traps and Basins

Designers shall specify on plans, and in sequences of construction included on plans, the practices for dewatering of traps and basins. Plan reviewers shall check to see that procedures for dewatering to be used are included on plans. In all cases, water removed from traps and basins shall be discharged so that it passes through a sediment control device prior to entering receiving waters.

Approved Practices for Dewatering of Traps and Basins

- Removable pumping station.
- Use of a Sump Pit.
- Use of a floating suction hose to pump the cleanest water from the top of the pond. As the cleaner water is pumped the suction hose will lower and eventually enclose sediment laden water. When this happens the pumping operation will cease. Provisions shall be made to filter water.

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

**FINAL ROAD CONSTRUCTION PLAN
SEDIMENT BASIN - NOTES AND DETAILS**

**MAPLE LAWN SOUTH
PHASE 1 - SECTION 2**
LOTS 70 - 177 AND OPEN SPACE LOTS 178 - 182,
A RESUBDIVISION OF NON-BUILDABLE "BULK PARCEL A"

TAX MAP 46 - GRID 2 - PARCEL 113
5TH ELECTION DISTRICT
FOP REF. EOP-14-093, WP-15-136, PB415, SP-15-014, F. 16-021

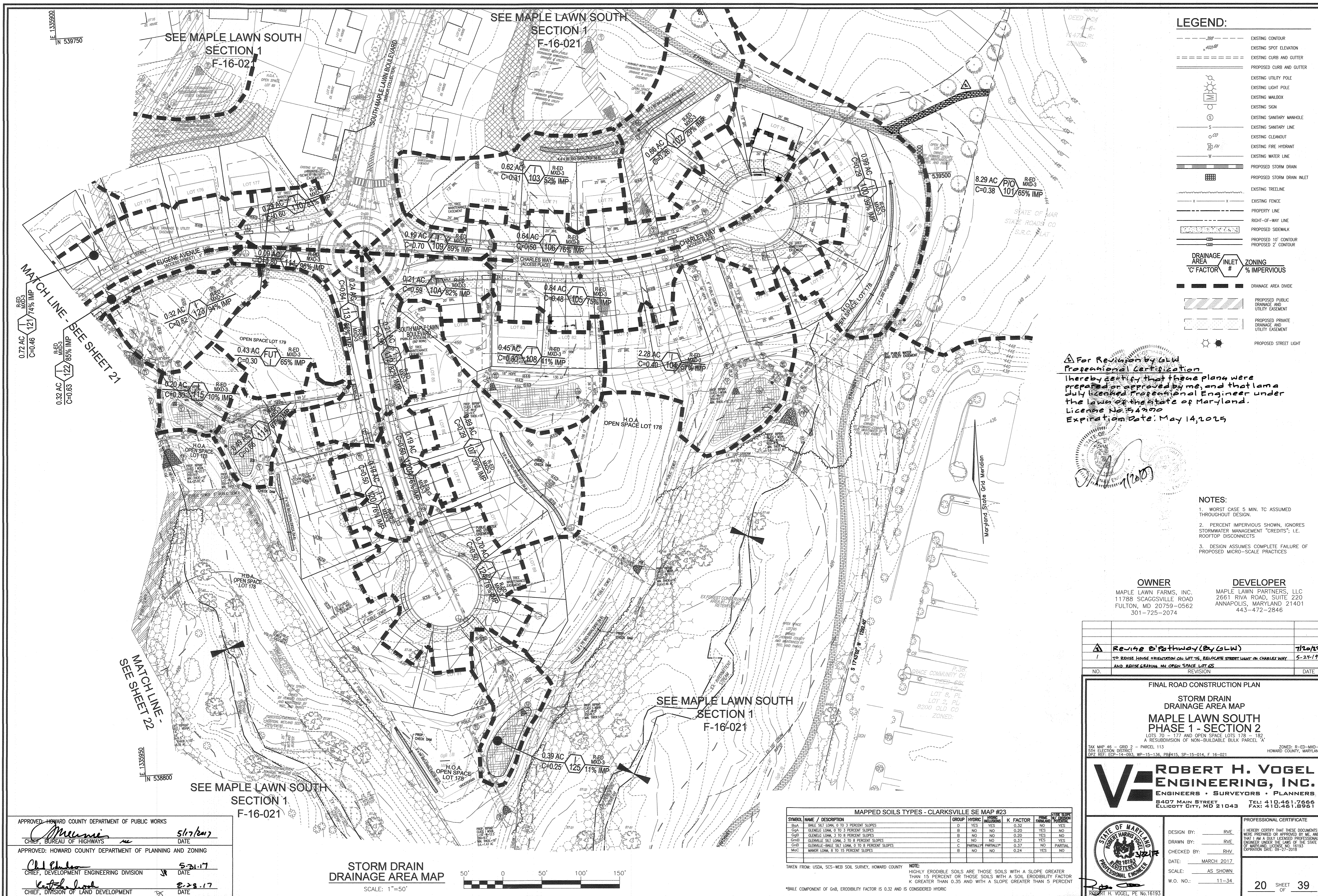
ZONED: R-ED-MD-3
HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL
ENGINEERING, INC.**
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

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. 16193, EXPIRATION DATE: 09-27-2018.

DESIGN BY: RVE
DRAWN BY: RVE
CHECKED BY: RRV
DATE: MARCH 2017
SCALE: AS SHOWN
W.O. NO.: 11-34

19 SHEET OF 39



LEGEND:

	EXISTING CONTOUR
	EXISTING SPOT ELEVATION
	EXISTING CURB AND GUTTER
	PROPOSED CURB AND GUTTER
	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 TREELINE
	EXISTING FENCE
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	PROPOSED SIDEWALK
	PROPOSED 10' CONTOUR
	PROPOSED 2' CONTOUR

DRAINAGE AREA
C FACTOR

ZONING
% IMPERVIOUS

DRAINAGE AREA DIVIDE |

PROPOSED PUBLIC DRAINAGE AND UTILITY EASEMENT |

PROPOSED PRIVATE DRAINAGE AND UTILITY EASEMENT |

PROPOSED STREET LIGHT |

For Revision by GLW Professional Certification
 I hereby certify that these plans 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. 34970
 Expiration Date: May 14, 2025



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

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

NO.	REVISION	DATE
1	Revise S Pathway (By GLW)	7/20/23
1	TO REVISE HOUSE ORIENTATION ON LOT 15, RELOCATE STREET LIGHT ON CHARLES WAY AND REVISE GRADING ON OPEN SPACE LOTS	5-24-19

FINAL ROAD CONSTRUCTION PLAN

STORM DRAIN DRAINAGE AREA MAP

MAPLE LAWN SOUTH PHASE 1 - SECTION 2

LOTS 70, 117 AND OPEN SPACE LOTS 118 - 122, A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A'

TAX MAP 46 - GRID 2 - PARCEL 113
 5TH ELECTION DISTRICT
 DIST. REF: ECP-14-093, WP-15-136, PB#415, SP-15-014, F-16-021

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

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET ELLICOTT CITY, MD 21043
 TEL: 410.461.7666 FAX: 410.461.8961

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. 16163 EXPIRATION DATE: 05-27-2018

DESIGN BY: RVE
 DRAWN BY: RVE
 CHECKED BY: RHW
 DATE: MARCH 2017
 SCALE: AS SHOWN
 W.O. NO.: 11-34

20 SHEET OF 39

MAPPED SOILS TYPES - CLARKSVILLE SE MAP #23

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT HYDRIC	K FACTOR	PERCENT FURROWED	PERCENT TERRACE
B0A	SHALE SILT LOAM, 0 TO 3 PERCENT SLOPES	D	YES	YES	0.32	NO	YES
G0A	GLENNLE LOAM, 0 TO 3 PERCENT SLOPES	B	NO	NO	0.20	YES	NO
G0B	GLENNLE LOAM, 3 TO 8 PERCENT SLOPES	B	NO	NO	0.20	YES	NO
G0C	GLENNLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.37	YES	YES
G0D	GLENNLE-SAND SILT LOAM, 0 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO	PARTIAL
M0C	MINOR 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 G0B, ERODIBILITY FACTOR IS 0.32 AND IS CONSIDERED HYDRIC

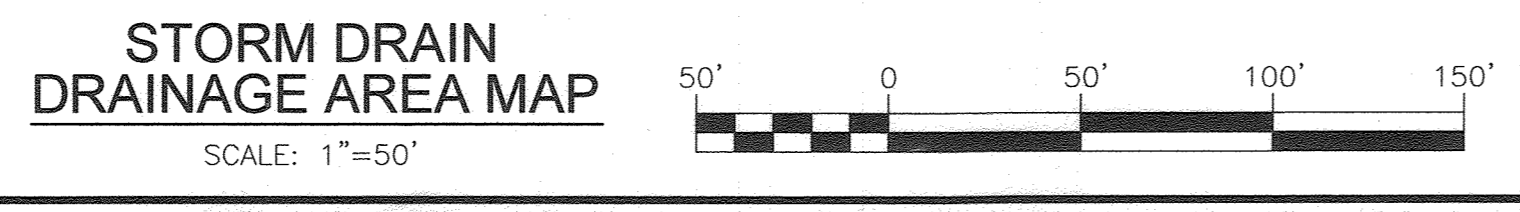
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

 M. Munnie, 5/17/2017
 CHIEF, BUREAU OF HIGHWAYS, DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

 Ch. Edwards, 5-31-17
 CHIEF, DEVELOPMENT ENGINEERING DIVISION, DATE

K. Edwards, 8-28-17
 CHIEF, DIVISION OF LAND DEVELOPMENT, DATE

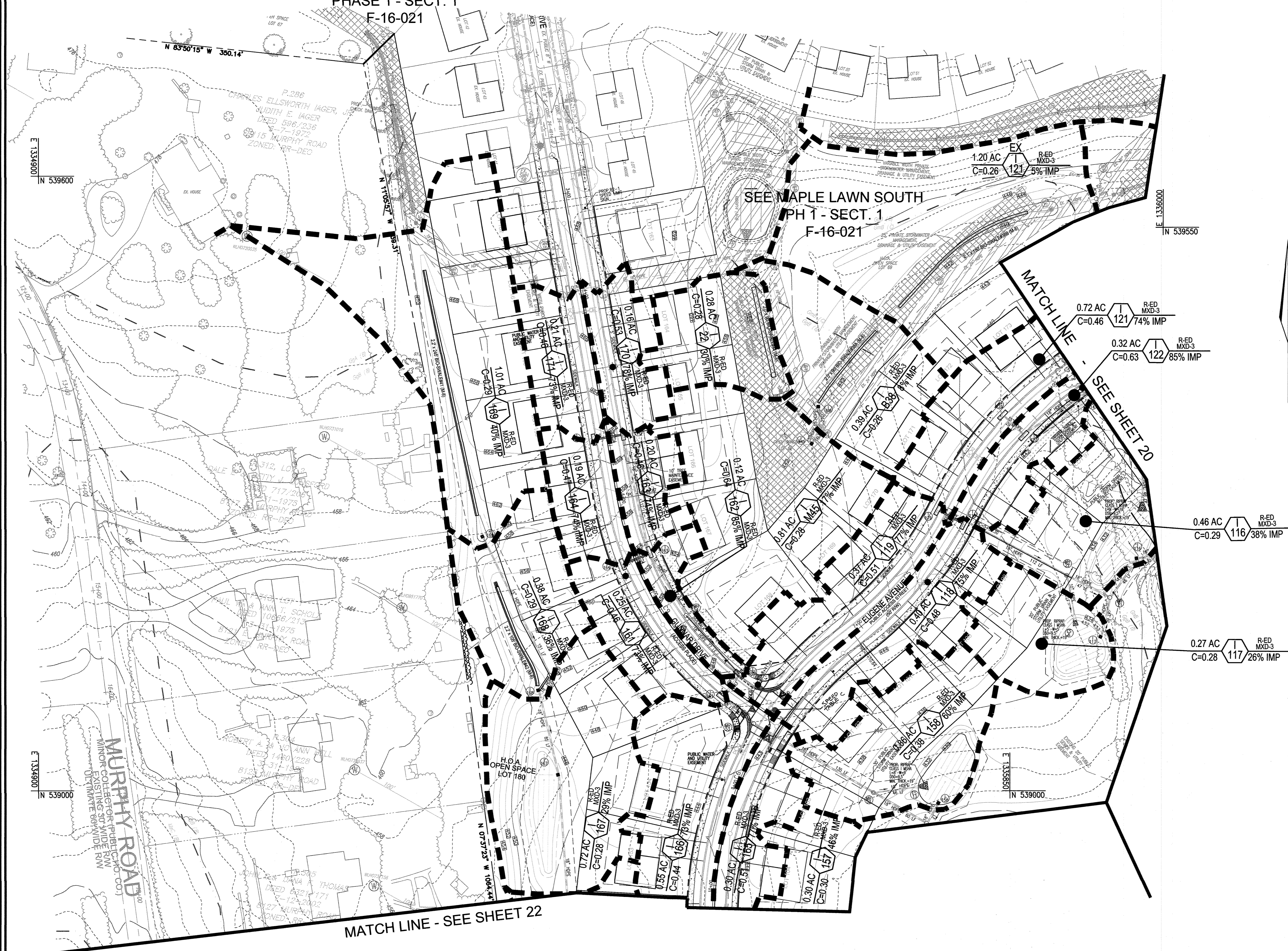


SEE MAPLE LAWN SOUTH
PHASE 1 - SECT. 1
F-16-021

SEE MAPLE LAWN SOUTH
PH 1 - SECT. 1
F-16-021

LEGEND:

- EXISTING CONTOUR
 - EXISTING SPOT ELEVATION
 - EXISTING CURB AND GUTTER
 - PROPOSED CURB AND GUTTER
 - 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 TREELINE
 - EXISTING FENCE
 - PROPERTY LINE
 - RIGHT-OF-WAY LINE
 - PROPOSED SIDEWALK
 - PROPOSED 10' CONTOUR
 - PROPOSED 2' CONTOUR
- DRAINAGE AREA**
C FACTOR #
- INLET**
#
- ZONING**
% IMPERVIOUS
- DRAINAGE AREA DIVIDE
 - PROPOSED PUBLIC DRAINAGE AND UTILITY EASEMENT
 - PROPOSED PRIVATE DRAINAGE AND UTILITY EASEMENT
 - PROPOSED STREET LIGHT



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

OWNER
MAPLE LAWN FARMS, INC.
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301-725-2074

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

NO.	REVISION	DATE
2	TO ADD SPEED TABLES	4-28-20

FINAL ROAD CONSTRUCTION PLAN
STORM DRAIN
DRAINAGE AREA MAP
MAPLE LAWN SOUTH
PHASE 1 - SECTION 2
LOTS 170 - 177 AND OPEN SPACE LOTS 178 - 182
A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A'

TAX MAP 46 - GRID 2 - PARCEL 113
5TH ELECTION DISTRICT
02/21/17, ECP-14-023, WP-15-136, PB#415, SP-15-014, F 16-021

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

ROBERT H. VOGEL ENGINEERING, INC.
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8407 MAIN STREET
ELUGOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

DESIGN BY: RVE
DRAWN BY: RVE
CHECKED BY: RHY
DATE: MARCH 2017
SCALE: AS SHOWN
W.O. NO.: 11-34

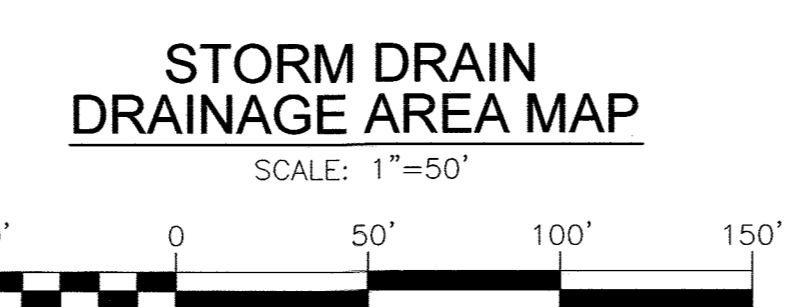
PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18193, EXPIRATION DATE: 09-27-2018

21 SHEET OF 39

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS
5/17/2017
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION
5/23/17
DATE

CHIEF, DIVISION OF LAND DEVELOPMENT
5/28/17
DATE



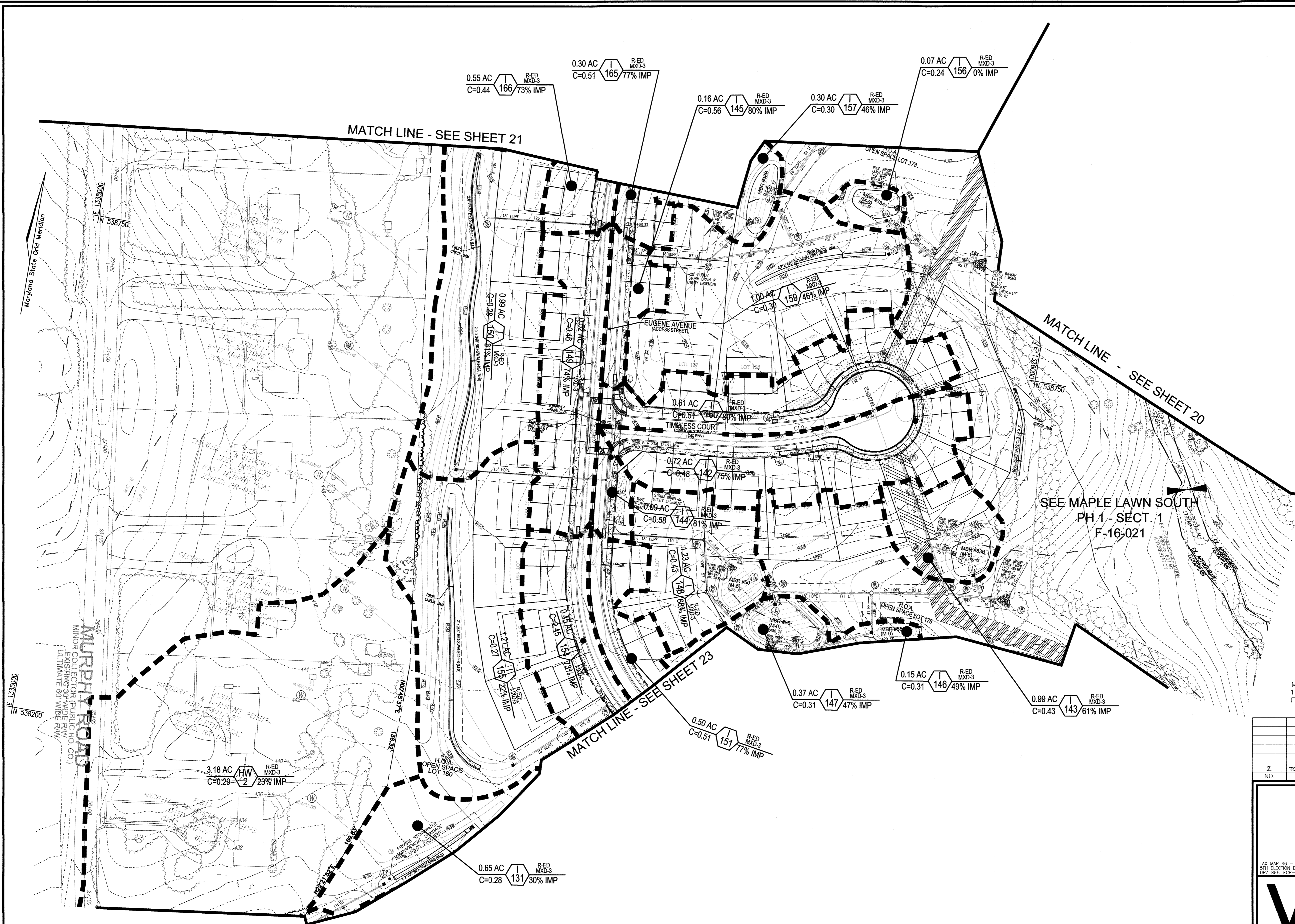
MAPPED SOILS TYPES - CLARKSVILLE SE MAP #23

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT CLAY	K FACTOR	PERCENT IMPERVIOUS	PERCENT OPEN SPACE
BsA	BALU SILT LOAM, 0 TO 3 PERCENT SLOPES	D	YES	YES	0.32	NO	YES
GpA	GLENDEL LOAM, 0 TO 3 PERCENT SLOPES	B	NO	NO	0.20	YES	NO
GpB	GLENDEL LOAM, 3 TO 8 PERCENT SLOPES	B	NO	NO	0.20	YES	NO
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.37	YES	YES
GhB	GLENVILLE-SANDY SILT LOAM, 0 TO 8 PERCENT SLOPES	C	PARTIALLY*	NO	0.37	NO	PARTIAL
MmC	MORRIS 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



LEGEND:

- EXISTING CONTOUR
- EXISTING SPOT ELEVATION
- EXISTING CURB AND GUTTER
- PROPOSED CURB AND GUTTER
- 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 TREELINE
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- PROPOSED SIDEWALK
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR

DRAINAGE AREA
C FACTOR

INLET
#

ZONING
% IMPERVIOUS

- DRAINAGE AREA DIVIDE
- PROPOSED PUBLIC DRAINAGE AND UTILITY EASEMENT
- PROPOSED PRIVATE DRAINAGE AND UTILITY EASEMENT
- PROPOSED STREET LIGHT

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

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

NO.	REVISION	DATE
2	TO ADD SPEED TABLES	4-28-20

FINAL ROAD CONSTRUCTION PLAN
STORM DRAIN DRAINAGE AREA MAP
MAPLE LAWN SOUTH PHASE 1 - SECTION 2
LOTS 70 - 177 AND OPEN SPACE LOTS 175 - 182
A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A'

TAX MAP 46 - GRID 2 - PARCEL 113
5TH ELECTION DISTRICT
BIZ. REG. ECP-14-0263, WP-15-136, PB#415, SP-15-014, F. 16-021

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

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLICOTT CITY, MD 21043
TEL: 410.461.2666
FAX: 410.461.8161

PROFESSIONAL CERTIFICATE

DESIGN BY: RVE
DRAWN BY: RVE
CHECKED BY: RRV
DATE: MARCH 2017
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 EXPIRES DATE: 09-27-2018

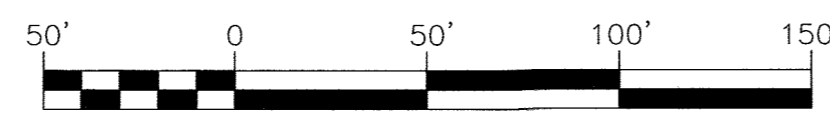
22 SHEET OF 39

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS
DATE: 5/12/2017

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 5/31/17

CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 5/23/17

STORM DRAIN DRAINAGE AREA MAP
SCALE: 1"=50'



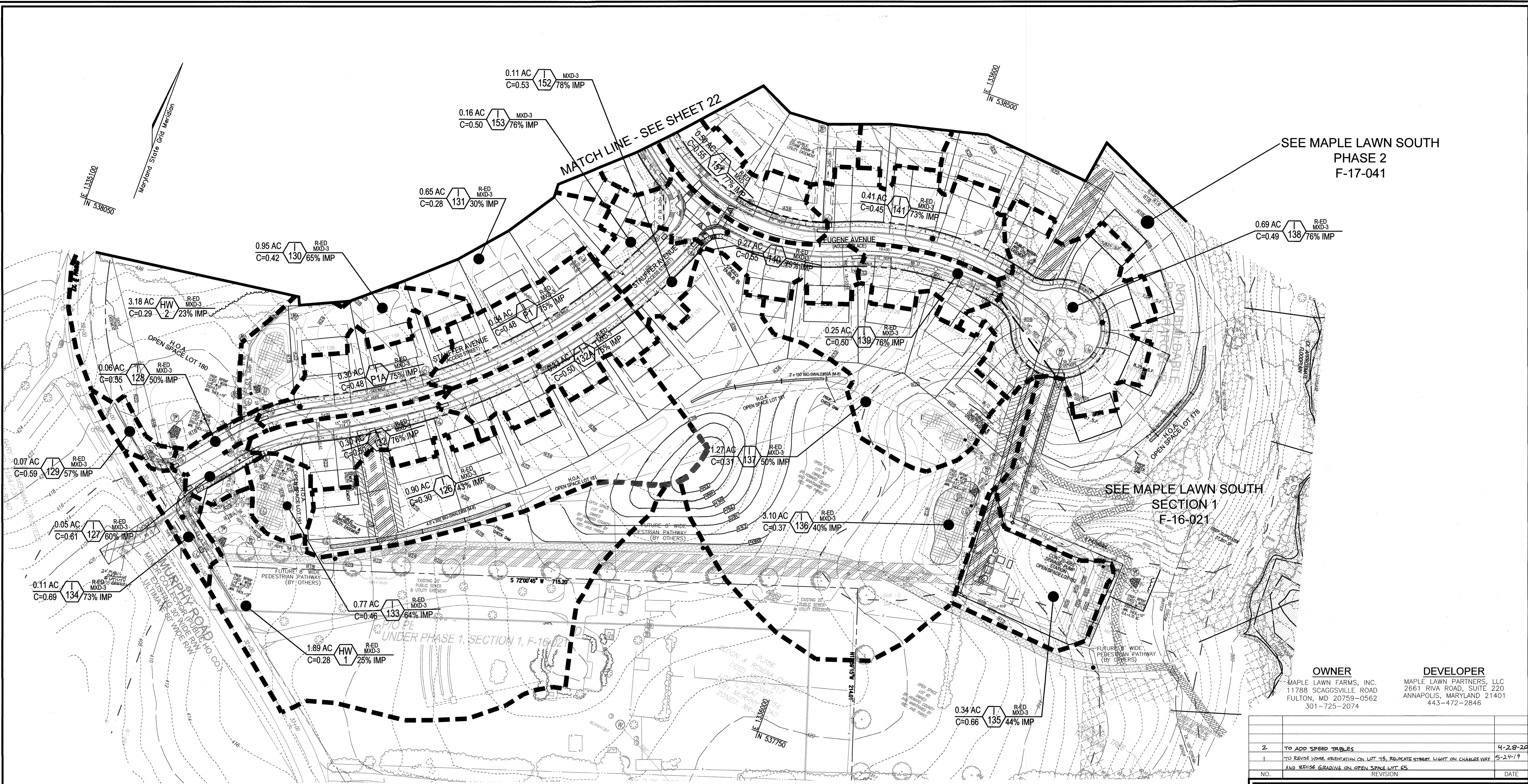
MAPPED SOILS TYPES - CLARKSVILLE SE MAP #23

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT SAND	K FACTOR	PERCENT FINE SAND	PERCENT SILT	PERCENT CLAY
BaA	BALE Silt LOAM, 0 TO 3 PERCENT SLOPES	D	YES	YES	0.32	NO	YES	NO
GaB	GLENDLE LOAM, 0 TO 3 PERCENT SLOPES	B	NO	NO	0.20	YES	NO	NO
GaB	GLENDLE LOAM, 3 TO 8 PERCENT SLOPES	B	NO	NO	0.20	YES	NO	NO
GmB	GLENDLE Silt LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.37	YES	YES	YES
GmB	GLENDLE-Silt LOAM, 0 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO	PARTIAL	NO
MaC	MAJOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.24	YES	NO	NO

TAKEN FROM: USDA, SCS-WE8 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



SEE MAPLE LAWN SOUTH
PHASE 2
F-17-041

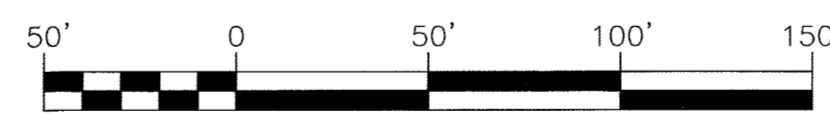
SEE MAPLE LAWN SOUTH
SECTION 1
F-16-021

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

**STORM DRAIN
DRAINAGE AREA MAP**

SCALE: 1"=50'



LEGEND:

- 3.00 --- EXISTING CONTOUR
- 4.02 --- EXISTING SPOT ELEVATION
- --- EXISTING CURB AND GUTTER
- --- PROPOSED CURB AND GUTTER
- --- 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 TREELINE
- --- EXISTING FENCE
- --- PROPERTY LINE
- --- RIGHT-OF-WAY LINE
- --- PROPOSED SIDEWALK
- --- PROPOSED 10' CONTOUR
- --- PROPOSED 2' CONTOUR
- --- DRAINAGE AREA
- --- INLET
- --- ZONING
- --- 'C' FACTOR
- --- % IMPERVIOUS
- --- DRAINAGE AREA DIVIDE
- --- PROPOSED STREET LIGHT

MAPPED SOILS TYPES - CLARKSVILLE SE MAP #23

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT WATER LOGS	K FACTOR	PERCENT FILLING	PERCENT ERODIBLE
BaA	BALE SILT LOAM, 0 TO 3 PERCENT SLOPES	D	YES	NO	0.32	NO	YES
GaA	GLENVILLE LOAM, 0 TO 3 PERCENT SLOPES	B	NO	NO	0.20	YES	NO
GaB	GLENVILLE LOAM, 3 TO 8 PERCENT SLOPES	B	NO	NO	0.20	YES	NO
GaB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.37	YES	YES
GaB	GLENVILLE-BALE SILT LOAM, 0 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY*	0.37	NO	PARTIAL
MaC	MAJOR 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 GaB, ERODIBILITY FACTOR IS 0.32 AND IS CONSIDERED HYDRIC

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 5/17/2017

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 5/21/17

CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 5-23-17

NO.	REVISION	DATE
2	TO ADD SPEED TABLES	4-28-20
1	TO REVISE HOME ORIENTATION ON LOT 15, RELOCATE STREET LIGHT ON CHARLES WAY, AND REVISE GRADING ON OPEN SPACE LOT 65	5-24-19

FINAL ROAD CONSTRUCTION PLAN

STORM DRAIN
DRAINAGE AREA MAP

**MAPLE LAWN SOUTH
PHASE 1 - SECTION 2**
 LOTS 70 - 177 AND OPEN SPACE LOTS 178 - 182
 A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A'

TAX MAP 46 - GRID 2 - PARCEL 113
 20th ELECTION DISTRICT
 SIZE: REF. EOP-14-1023, WP-15-136, PBF#15, SP-15-014, F 16-021

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

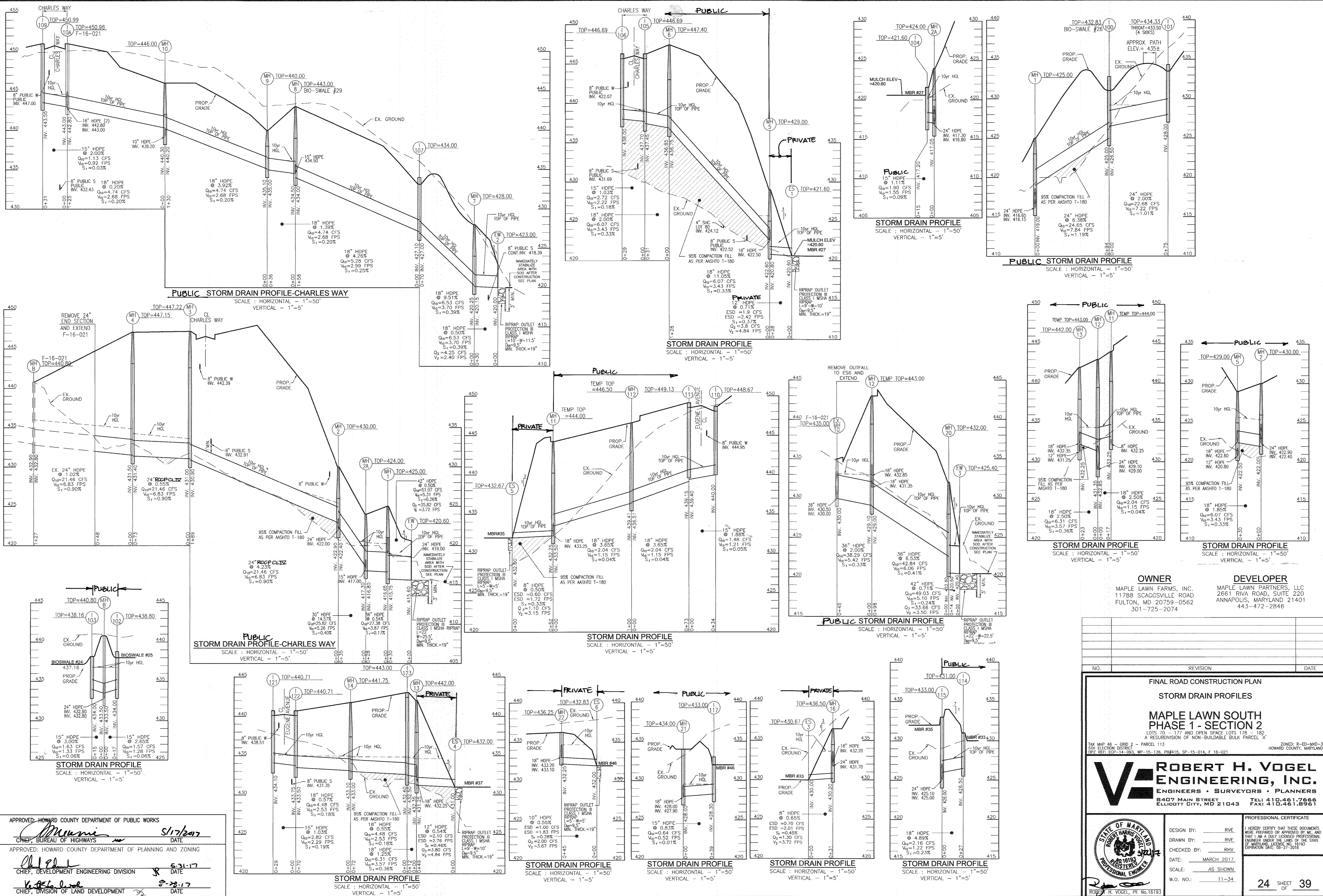
**ROBERT H. VOGEL
ENGINEERING, INC.**
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLIGOTT CITY, MD 21043
 TEL: 410.461.2669
 FAX: 410.461.9161

PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 09-27-2018

DESIGN BY: RVE
 DRAWN BY: RVE
 CHECKED BY: RHV
 DATE: MARCH 2017
 SCALE: AS SHOWN
 W.O. NO.: 11-34

23 SHEET OF 39

ROBERT H. VOGEL, PE No.16193



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

NO. _____ REVISION _____ DATE _____

FINAL ROAD CONSTRUCTION PLAN
 STORM DRAIN PROFILES
**MAPLE LAWN SOUTH
 PHASE 1 - SECTION 2**
 LOTS 70, 177 AND OPEN SPACE LOTS 178, 182,
 A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL "A"

TAX MAP 46 - GRID 2 - PARCEL 113 ZONED: R-ED-MXD-3
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 1977 REP. 629-14-093, WP-15-136, PB#415, SP-15-014, F. 16-021

**ROBERT H. VOGEL
 ENGINEERS • SURVEYORS • PLANNERS**
 8407 MAIN STREET TEL: 410.461.7666
 ELLICOTT CITY, MD 21043 FAX: 410.461.8961

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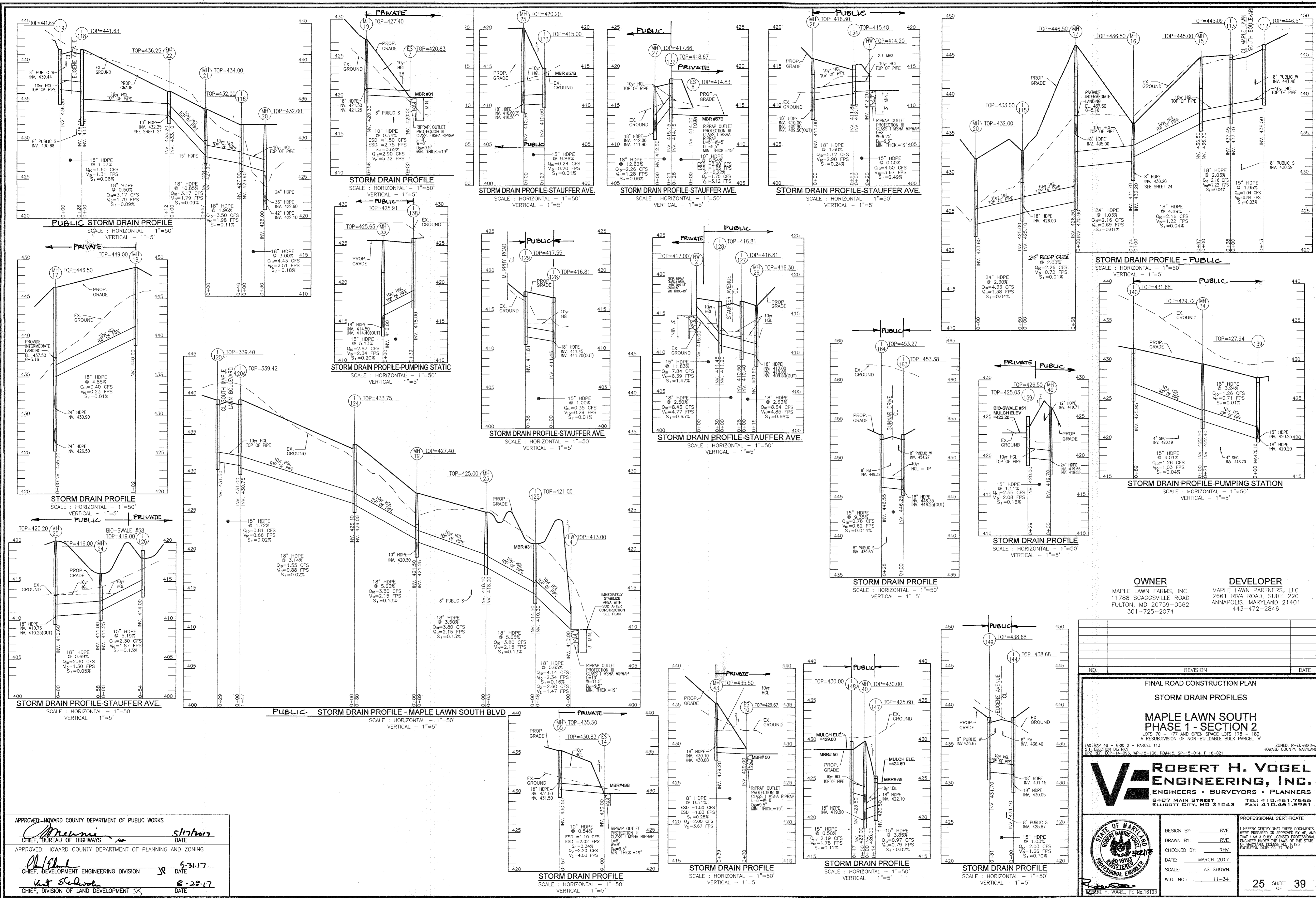
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 ENGINEER UNDER THE LAWS OF THE STATE
 OF MARYLAND, LICENSE NO. 16193
 EXPIRATION DATE: 07-27-2018

24 SHEET OF 39

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 5/17/2017
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 5/31/17
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 5-23-17
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE



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

DEVELOPER
 MAPLE LAWN PARTNERS, LLC
 2561 RIVA ROAD, SUITE 220
 ANNAPOLIS, MARYLAND 21401
 443-472-2846

NO.	REVISION	DATE

FINAL ROAD CONSTRUCTION PLAN
STORM DRAIN PROFILES
MAPLE LAWN SOUTH
PHASE 1 - SECTION 2
 LOTS 70 - 177 AND OPEN SPACE LOTS 178 - 182,
 A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A'

TAK MAP 48 - GRID 2 - PARCEL 113
 5TH ELECTION DISTRICT
 (RIP REF: ECP-14-093, WP-15-136, PB#415, SP-15-014, F 16-021)

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

ROBERT H. VOGEL
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 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: 09-27-2018.

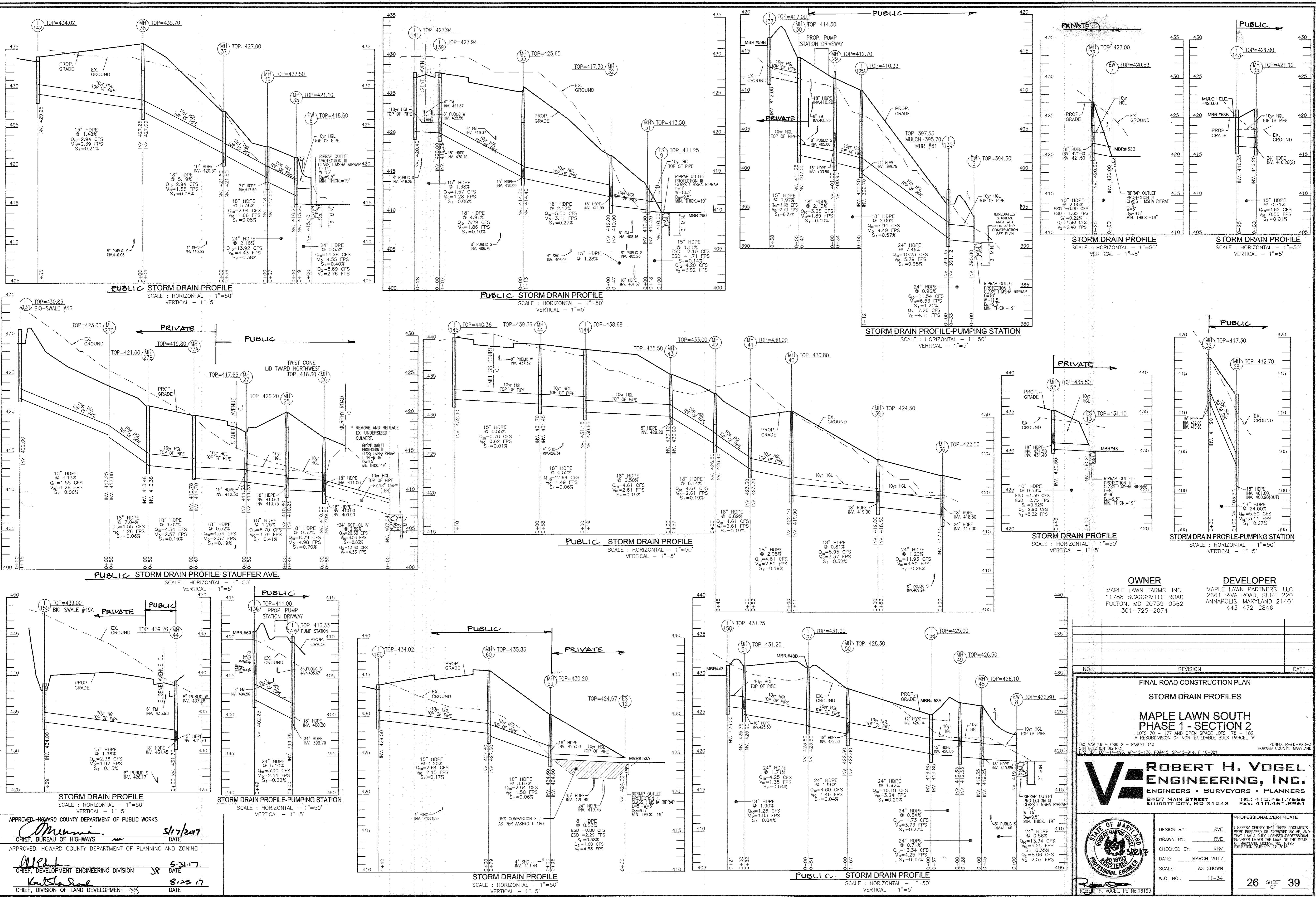
STATE OF MARYLAND
REGISTERED PROFESSIONAL ENGINEER
 ROBERT H. VOGEL, PE No. 16193

25 SHEET OF 39

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 5/17/2017
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 5-31-17
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 8-28-17
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE



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

NO.	REVISION	DATE

FINAL ROAD CONSTRUCTION PLAN
STORM DRAIN PROFILES
MAPLE LAWN SOUTH
PHASE 1 - SECTION 2
 LOTS 70 - 177 AND OPEN SPACE LOTS 178 - 182
 A RESUBDIVISION OF NON-BUILDABLE BLOCK PARCEL 'A'

TAX MAP 46 - GRID 2 - PARCEL 113
 5TH ELECTION DISTRICT
 BZ REF: ECP-14-003, WP-15-138, PB#415, SP-15-014, F-16-021

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRES 03/31/2018.

DESIGN BY: RVE
 DRAWN BY: RVE
 CHECKED BY: RHY
 DATE: MARCH 2017
 SCALE: AS SHOWN
 W.O. NO.: 11-34

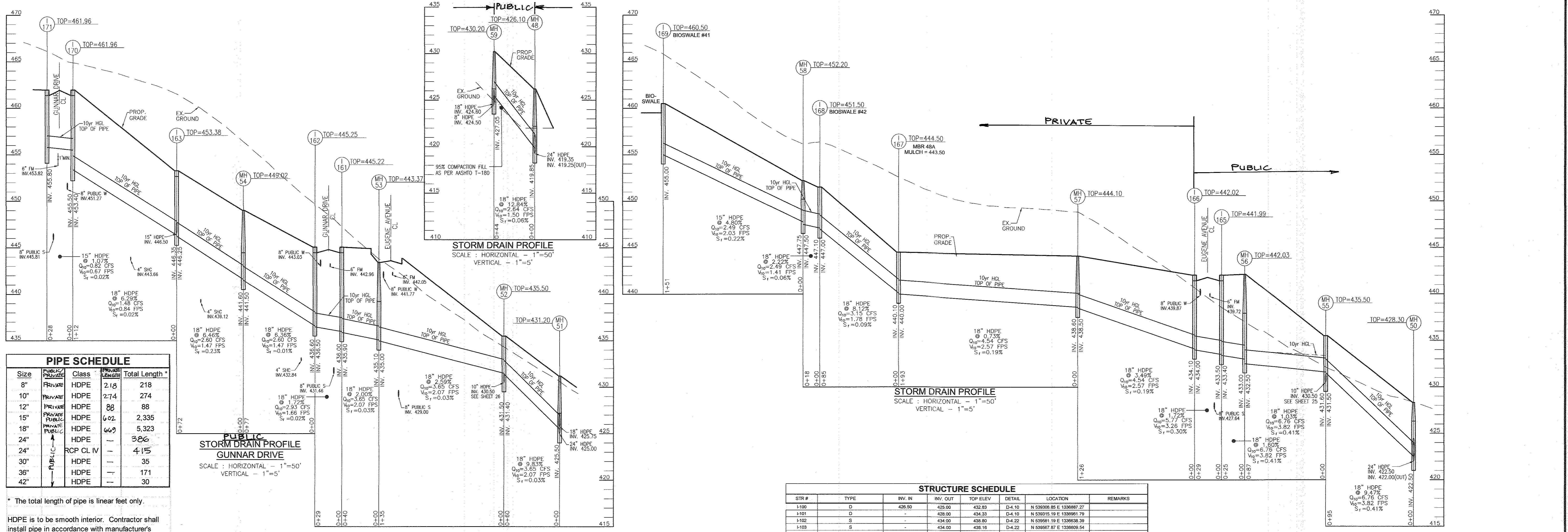
26 SHEET OF 39

ROBERT H. VOGEL, PE No. 16193

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 5/17/2017
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 5-31-17
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 8-28-17
 CHIEF, DIVISION OF LAND DEVELOPMENT



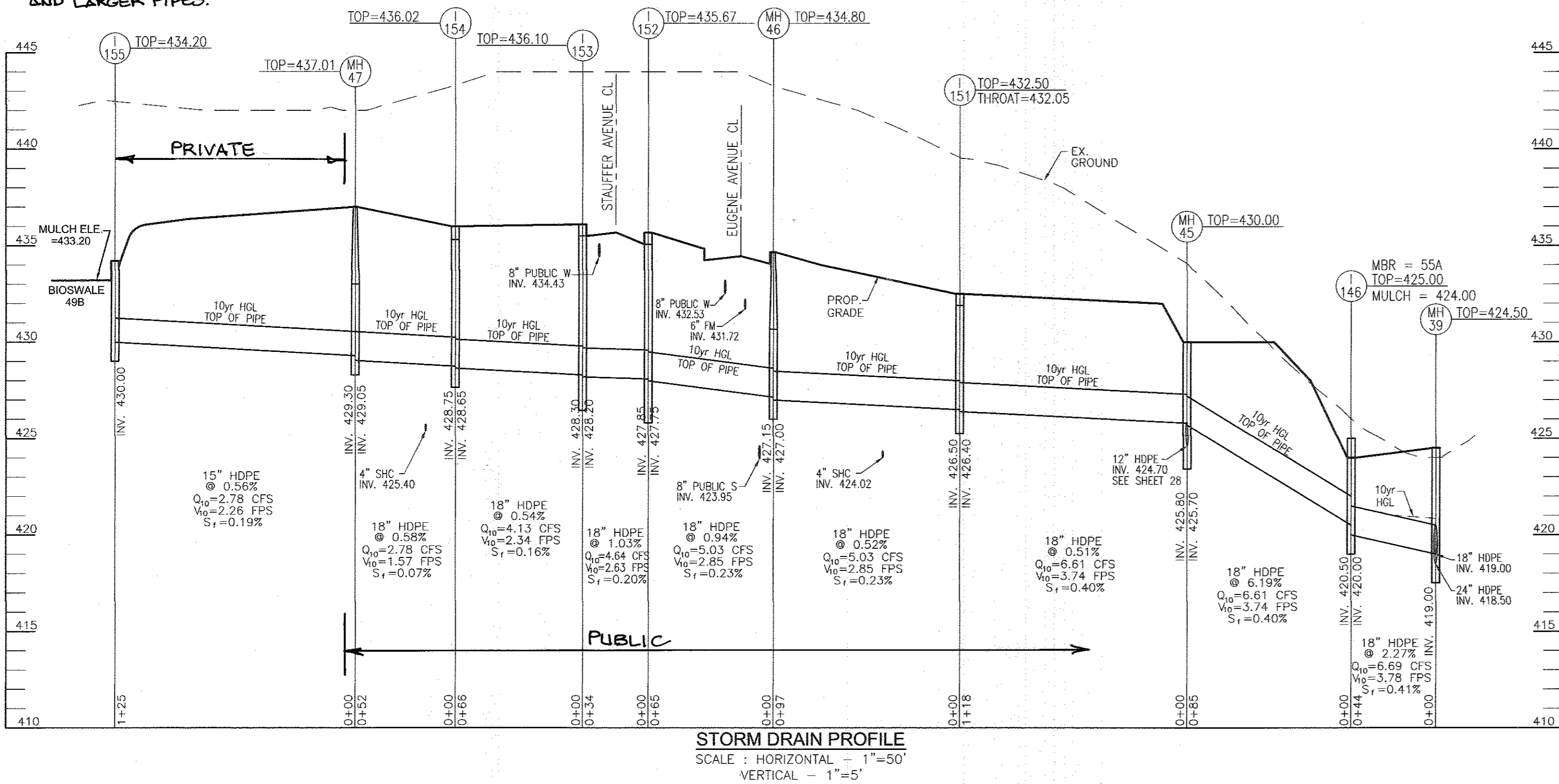
PIPE SCHEDULE

Size	Class	Material	Length	Total Length *
8"	PRIVATE	HDPE	218	218
10"	PRIVATE	HDPE	274	274
12"	PRIVATE	HDPE	88	88
15"	PRIVATE	HDPE	602	2,335
18"	PRIVATE	HDPE	669	5,323
24"	PRIVATE	HDPE	—	326
24"	PRIVATE	RCP CL IV	—	415
30"	PUBLIC	HDPE	—	35
36"	PUBLIC	HDPE	—	171
42"	PUBLIC	HDPE	—	30

* 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.

HOWARD COUNTY ONLY MAINTAINS 15" AND LARGER PIPES.



STRUCTURE SCHEDULE

STR #	TYPE	INV. IN	INV. OUT	TOP ELEV	DETAIL	LOCATION	REMARKS
1100	D	428.50	428.00	432.83	D-4.10	N 53938.85 E 1338887.27	
1101	D	428.00	428.00	434.33	D-4.10	N 53915.19 E 1338961.79	
1102	S	434.00	434.00	438.80	D-4.22	N 53951.91 E 1339028.39	
1103	S	434.00	438.16	438.16	D-4.22	N 53957.87 E 1339069.54	
1104	S	417.20	421.80	421.80	D-4.22	N 53948.48 E 1338767.87	
1105	A-10	437.70	437.45	448.69	D-4.03	N 53943.54 E 1338978.23	
1106	A-10	438.00	448.00	448.00	D-4.03	N 53941.98 E 1338971.99	
1107	A-10	427.75	427.80	427.80	D-4.03	N 53790.49 E 1335351.83	
1108	A-10	416.25	416.00	417.17	D-4.03	N 53788.85 E 1335388.55	
1109	A-10	427.10	427.00	434.00	D-4.22	N 53907.08 E 1338508.80	
1110	A-5	435.00	440.00	440.00	D-4.22	N 53945.45 E 1338536.87	
1111	A-5	443.55	450.89	450.89	D-4.01	N 53944.15 E 1338498.20	
1112	A-10	440.00	448.87	448.87	D-4.03	N 53948.36 E 1338121.07	
1113	A-10	439.40	439.15	449.13	D-4.03	N 53943.27 E 1338110.54	
1114	A-10	438.50	448.51	448.51	D-4.03	N 53946.19 E 1338291.93	
1115	A-10	437.70	445.08	445.08	D-4.03	N 53913.81 E 1338289.59	
1116	S	428.00/428.10	425.00	433.00	D-4.22	N 53924.91 E 1338064.33	
1117	D	427.00	426.00	432.00	D-4.10	N 53927.07 E 1338075.99	
1118	A-10	436.20	433.76	441.93	D-4.03	N 53920.49 E 1338004.90	
1119	A-10	436.50	441.83	441.83	D-4.03	N 53924.12 E 1338778.73	
1120	A-5	431.50	439.40	439.40	D-4.01	N 53911.18 E 1338290.08	
1120A	A-5	431.00	430.75	436.42	D-4.01	N 53910.92 E 1338251.67	
1121	A-10	434.10	440.71	440.71	D-4.03	N 53970.01 E 1338947.08	
1122	A-10	433.75	433.50	440.71	D-4.03	N 53930.75 E 1338971.34	
1123	A-10	432.60	432.50	443.00	D-4.03	N 53940.83 E 1338979.20	
1124	A-5	426.10	426.00	433.75	D-4.01	N 53971.79 E 1338737.87	
1125	S	414.50	421.00	421.00	D-4.22	N 53779.13 E 1338390.36	
1126	S	414.00	419.00	419.00	D-4.22	N 53779.68 E 1338461.63	
1127	A-5	410.50	410.40	416.81	D-4.01	N 53776.80 E 1338316.47	
1128	A-5	411.40/411.45	411.20	416.81	D-4.01	N 53786.44 E 1338294.37	
1129	A-5	411.81	417.55	417.55	D-4.01	N 53789.02 E 1338284.22	
1130	S	412.00	416.80	416.80	D-4.22	N 53779.68 E 1338342.28	
1131	D	422.00	430.83	430.83	D-4.10	N 53878.73 E 1338438.14	
1132	A-10	414.15/415.15	418.67	418.67	D-4.03	N 53782.30 E 1338389.87	
1132A	A-10	423.50	427.89	427.89	D-4.03	N 53771.79 E 1338488.26	
1133	S	410.50	415.00	415.00	D-4.22	N 53779.68 E 1338390.36	
1134	A-5	412.10	411.85	415.48	D-4.01	N 53776.65 E 1338352.31	
1135	D	391.35	391.12	397.53	D-4.10	N 53852.08 E 1338297.24	
1135A	D	398.75/400.20	399.70	410.33	D-4.10	N 53853.62 E 1338184.04	
1136	S	411.00	411.00	422.35	D-4.22	N 53853.62 E 1338158.94	
1137	S	412.00	417.00	417.00	D-4.22	N 53813.79 E 1338105.58	
1138	A-5	418.00	425.91	425.91	D-4.01	N 53828.88 E 1338205.03	
1139	A-5	420.10/420.10	419.75	427.94	D-4.01	N 53824.97 E 1338081.81	
1140	A-10	425.80	425.80	431.00	D-4.03	N 53831.28 E 1338029.62	
1141	A-5	420.40	427.94	427.94	D-4.01	N 53832.83 E 1338096.96	
1142	A-5	429.25	434.02	434.02	D-4.01	N 53838.42 E 1338142.72	
1143	S	416.35	421.00	421.00	D-4.22	N 53927.30 E 1338220.45	
1144	A-10	431.40/431.15	430.85	438.98	D-4.03	N 53869.50 E 1338592.80	
1145	A-10	440.38	440.38	440.38	D-4.03	N 53853.62 E 1338538.58	
1146	S	420.50	420.00	425.00	D-4.22	N 53845.31 E 1338520.23	
1147	S	420.50	425.00	425.00	D-4.22	N 53845.31 E 1338500.93	
1148	S	423.50	430.00	430.00	D-4.22	N 53849.68 E 1338791.87	
1149	A-10	431.70	438.68	438.68	D-4.03	N 53849.68 E 1338590.73	
1150	S	434.00	439.00	439.00	D-4.22	N 53843.02 E 1338543.13	
1151	A-10	426.50	426.40	432.50	D-4.03	N 53825.41 E 1338577.82	
1152	A-5	427.85	427.75	435.67	D-4.01	N 53822.60 E 1338749.33	
1153	A-5	428.30	428.20	436.10	D-4.01	N 53828.83 E 1338715.87	
1154	A-10	428.75	438.02	438.02	D-4.03	N 53822.30 E 1338568.42	
1155	S	430.00	434.00	434.00	D-4.22	N 53823.82 E 1338555.93	
1156	S	419.95	418.85	425.00	D-4.22	N 53885.90 E 1338859.03	
1157	S	423.00	423.50	431.00	D-4.22	N 53888.01 E 1338791.87	
1158	S	426.00	431.25	431.25	D-4.22	N 53881.68 E 1338791.87	
1159	D	420.00	425.03	425.03	D-4.10	N 53880.08 E 1338868.86	
1160	A-5	429.50	434.02	434.02	D-4.01	N 53885.90 E 1338804.81	
1161	A-10	436.00	435.90	445.22	D-4.03	N 53909.91 E 1338868.42	
1162	A-10	436.00	436.50	445.25	D-4.03	N 53914.15 E 1338885.35	
1163	A-10	446.50/446.35	446.25	453.38	D-4.03	N 53923.02 E 1338949.10	
1164	A-10	446.55	453.27	453.27	D-4.03	N 53922.52 E 1339471.73	
1165	A-10	433.50	433.40	441.99	D-4.03	N 53883.31 E 1338575.08	
1166	A-10	434.10	434.00	442.02	D-4.03	N 53885.97 E 1338546.62	
1171	A-10	445.80	445.90	444.50	D-4.22	N 53901.65 E 1338509.15	
1167	S	447.10	447.00	451.50	D-4.22	N 53968.38 E 1338386.57	
1168	S	455.00	460.50	460.50	D-4.22	N 53948.47 E 1338333.83	
1170	A-10	465.00	465.40	461.98	D-4.03	N 53947.98 E 1338471.06	
1171	A-10	455.80	461.96	461.96	D-4.03	N 53943.15 E 1338443.85	
11445	S	437.00	442.00	442.00	D-4.22	N 53839.10 E 1338565.80	
1138	S	437.01	441.40	441.40	D-4.22	N 53975.00 E 1338862.50	

OWNER
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FINAL ROAD CONSTRUCTION PLAN
STORM DRAIN PROFILES
MAPLE LAWN SOUTH
PHASE 1 - SECTION 2
 LOTS 70 - 177 AND OPEN SPACE LOTS 178 - 182
 A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A'

TAX MAP 46 - GRID 2 - PARCEL 113
 5TH ELECTION DISTRICT
 022 REF: ECP-14-093, WP-15-136, PB#415, SP-15-014, F 16-021
 ZONED: R-ED-MOD-3
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

DESIGN BY: RVE
 DRAWN BY: RVE
 CHECKED BY: RHY
 DATE: MARCH 2017
 SCALE: AS SHOWN
 W.O. NO.: 11-34

PROFESSIONAL CERTIFICATE
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27 OF 39

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 5/17/2017
 CHIEF, BUREAU OF HIGHWAYS

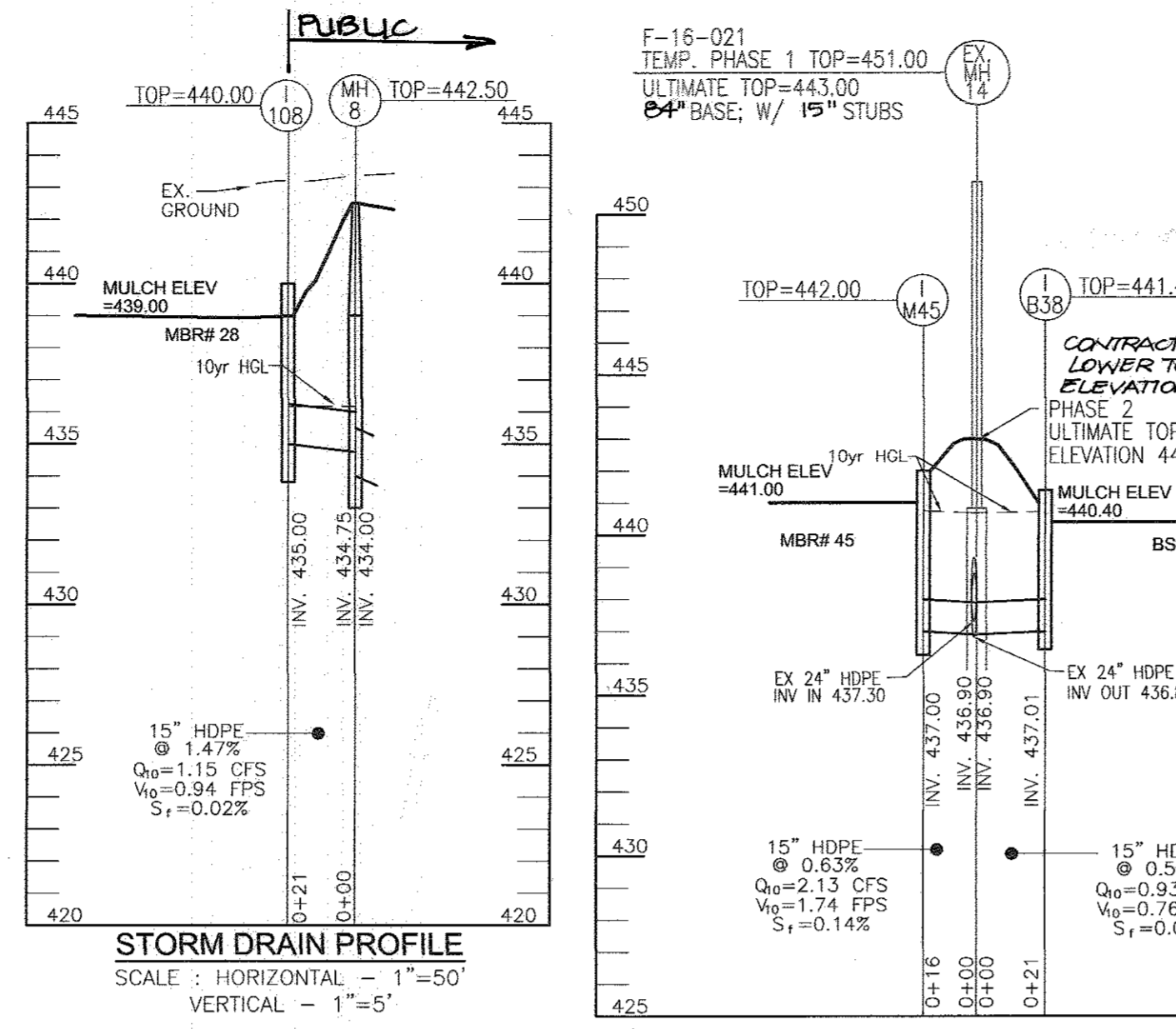
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 5/31/17
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 8/28/17
 CHIEF, DIVISION OF LAND DEVELOPMENT

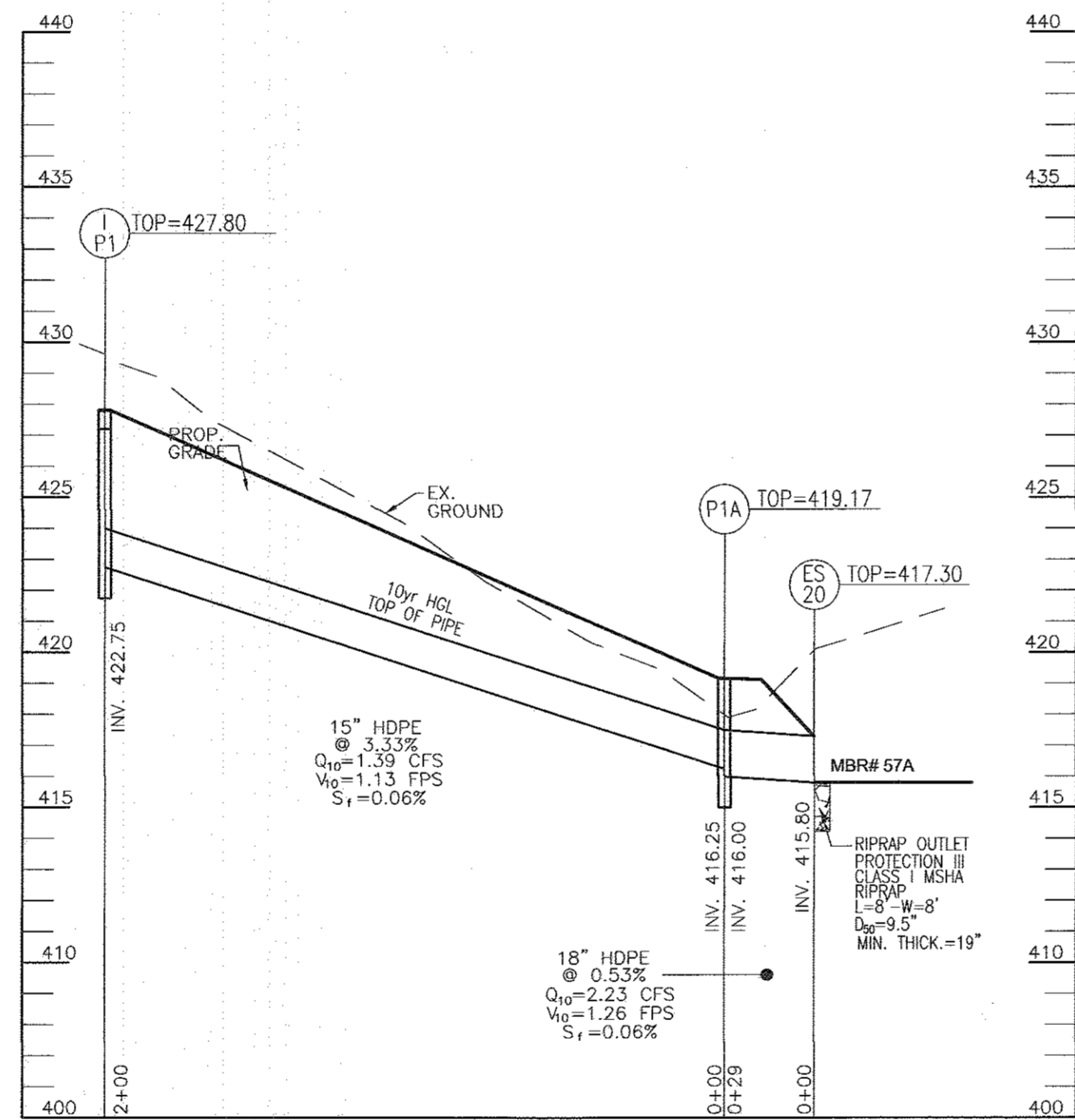
STRUCTURE SCHEDULE

STR#	TYPE	INV. IN	INV. OUT	UPPER/LOWER	DETAIL	LOCATION	REMARKS
ES-01	12" HDPE	-	420.60	HDPE	N 539242 75 E 1336739.57	(2)	
ES-02	10" HDPE	-	439.00	HDPE	N 539271 31 E 1336428.47	(2)	
ES-03	8" HDPE	-	430.00	HDPE	N 539191 22 E 1336721.76	(2)	
ES-04	12" HDPE	-	432.00	HDPE	N 539279 30 E 1336792.27	(2)	
ES-05	10" HDPE	-	432.00	HDPE	N 539276 48 E 1336791.89	(2)	
ES-06	10" HDPE	-	432.00	HDPE	N 539166 33 E 1336913.31	(2)	
ES-07	10" HDPE	-	420.83	HDPE	N 538587 83 E 1336435.82	(2)	
ES-08	10" HDPE	-	414.83	HDPE	N 531029 19 E 1336918.18	(2)	
ES-09	15" HDPE	-	410.00	HDPE	N 538060 67 E 1336134.84	(2)	
ES-10	8" HDPE	-	429.00	HDPE	N 538418 86 E 13368840.53	(2)	
ES-11	12" HDPE	-	425.00	HDPE	N 539233 65 E 1336914.42	(2)	
ES-12	6" HDPE	-	424.00	HDPE	N 538809 41 E 1336867.93	(2)	
ES-13	10" HDPE	-	430.25	HDPE	N 539004 04 E 1336781.66	(2)	
ES-14	10" HDPE	-	430.00	HDPE	N 538964 14 E 1336903.36	(2)	
ES-20	18" HDPE	-	417.30	HDPE	N 537913 38 E 1336352.05	(2)	
EW-01	TYPE "A"	415.60	-	420.60	D-5.11	N 539211 92 E 1336819.80	(2)
EW-02	TYPE "A"	420.00	-	423.00	D-5.11	N 539233 65 E 1336914.42	(2)
EW-03	TYPE "A"	420.40	-	425.40	D-5.11	N 539215 66 E 1336800.98	(2)
EW-04	TYPE "A"	410.00	-	413.00	D-5.11	N 538729 49 E 1336740.33	(2)
EW-05	TYPE "A"	390.80	-	394.30	D-5.11	N 538449 52 E 1336932.45	(2)
EW-06	TYPE "A"	415.10	-	418.80	D-5.11	N 538505 65 E 1336500.68	(2)
EW-07	TYPE "A"	420.00	-	420.83	HDPE	N 538547 51 E 1336992.84	(2)
EW-08	TYPE "A"	413.00	-	422.00	D-5.11	N 538966 04 E 1336960.49	(2)
HW-01	TYPE "E"	-	412.20	414.20	MD-356.01	N 537744 40 E 1336354.83	(2)
HW-02	TYPE "E"	-	418.00	417.00	MD-356.01	N 537881 08 E 1336780.80	(2)
MH-01	48" MANHOLE	415.65	-	425.00	G-5.12	N 539241 44 E 1336819.81	(1)
MH-02A	48" MANHOLE	442.90	422.04422.0	430.00	G-5.12	N 539277 67 E 1336787.72	(1)
MH-02B	48" MANHOLE	417.30417.00	416.80	424.00	G-5.12	N 539270 86 E 1336796.34	(1)
MH-03	48" MANHOLE	431.90	430.00	447.20	G-5.12	N 539449 52 E 1336714.41	(1)
MH-04	48" MANHOLE	431.50	431.40	447.15	G-5.12	N 539446 43 E 1336842.60	(1)
MH-05	48" MANHOLE	422.60	420.80422.50	420.00	G-5.12	N 539270 86 E 1336796.34	(1)
MH-06	48" MANHOLE	430.85	430.00	447.40	G-5.12	N 539449 52 E 1336714.41	(1)
MH-07	48" MANHOLE	420.25	420.15	428.00	G-5.12	N 539040 07 E 1336857.56	(1)
MH-08	48" MANHOLE	434.80434.75	434.00	443.00	G-5.12	N 539234 65 E 1336914.42	(1)
MH-09	48" MANHOLE	435.10	435.00	440.00	G-5.12	N 539449 52 E 1336714.41	(1)
MH-10	48" MANHOLE	440.30	439.20440.20	440.00	G-5.12	N 539288 61 E 1336428.62	(1)
MH-11	48" MANHOLE	436.40	436.00	446.00	G-5.12	N 539186 50 E 1336918.98	(1)
MH-12	48" MANHOLE	433.50	432.25433.25	444.00	G-5.12	N 539287 84 E 1336918.00	(1)
MH-13	60" MANHOLE	432.0431.35429.10	429.00	443.00	G-5.13	N 539328 24 E 1336901.16	(1)
MH-14	48" MANHOLE	433.10	431.25432.25	442.00	G-5.12	N 539186 50 E 1336918.98	(1)
MH-15	48" MANHOLE	433.10	433.00	441.75	G-5.12	N 539389 58 E 1336920.80	(1)
MH-16	48" MANHOLE	436.70	436.50	446.00	G-5.12	N 539201 86 E 1336223.21	(1)
MH-17	48" MANHOLE	433.20	431.75432.25	442.00	G-5.12	N 539186 50 E 1336918.98	(1)
MH-18	48" MANHOLE	435.4030.90	428.50	446.50	G-5.12	N 539287 84 E 1336918.00	(1)
MH-19	48" MANHOLE	421.50421.25	420.30	427.40	G-5.12	N 539004 04 E 1336918.98	(1)
MH-20	60" MANHOLE	428.00422.60423.60	420.00	432.00	G-5.13	N 539230 23 E 1336904.02	(1)
MH-21	48" MANHOLE	428.00428.00	427.90	434.00	G-5.12	N 539188 74 E 1336947.85	(1)
MH-22	48" MANHOLE	433.20	431.75432.25	438.25	G-5.12	N 539186 50 E 1336918.98	(1)
MH-23	48" MANHOLE	418.10	418.00	428.00	G-5.12	N 538831 89 E 1336367.62	(1)
MH-24	48" MANHOLE	411.25	411.00	416.00	G-5.12	N 537754 13 E 1336410.11	(1)
MH-25	48" MANHOLE	410.34410.60410.36	410.25	420.20	G-5.12	N 537768 50 E 1336360.98	(1)
MH-26	48" MANHOLE	411.00410.00409.9	409.00	418.30	G-5.12	N 537769 71 E 1336383.83	(1)
MH-27	48" MANHOLE	412.60411.30	411.25	417.00	G-5.12	N 537839 85 E 1336350.92	(1)
MH-27A	48" MANHOLE	412.60411.90	411.70	419.80	G-5.12	N 537904 47 E 1336331.79	(1)
MH-27B	48" MANHOLE	413.48	413.38	421.00	G-5.12	N 537962 59 E 1336323.95	(1)
MH-27C	48" MANHOLE	417.25	417.00	423.00	G-5.12	N 538008 11 E 1336346.07	(1)
MH-29	48" MANHOLE	401.00400.50	400.90	417.00	G-5.12	N 538097 23 E 1336162.27	(1)
MH-30	48" MANHOLE	411.25	410.50	414.50	G-5.12	N 538116 28 E 1336140.44	(1)
MH-31	48" MANHOLE	410.30	410.20	415.50	G-5.12	N 538102 56 E 1336145.53	(1)
MH-32	48" MANHOLE	412.00	410.90411.90	417.30	G-5.12	N 538132 81 E 1336180.38	(1)
MH-33	48" MANHOLE	414.80418.00	414.40	426.65	G-5.12	N 538246 28 E 1336174.33	(1)
MH-34	48" MANHOLE	422.50	422.40	428.72	G-5.12	N 538246 28 E 1336174.33	(1)
MH-35	48" MANHOLE	416.20	415.20	418.00	G-5.12	N 538504 43 E 1336031.35	(1)
MH-36	48" MANHOLE	418.50417.50	417.00	422.50	G-5.12	N 538502 13 E 1336994.85	(1)
MH-37	48" MANHOLE	421.80	421.50420.50	427.00	G-5.12	N 538560 82 E 1336987.66	(1)
MH-38	48" MANHOLE	427.25	427.00	435.70	G-5.12	N 538841 80 E 1336916.82	(1)
MH-39	48" MANHOLE	410.00419.00	419.50	424.50	G-5.12	N 538488 43 E 1336912.97	(1)
MH-40	48" MANHOLE	423.0420.04422.10	419.80	430.00	G-5.12	N 538470 18 E 1336903.38	(1)
MH-41	48" MANHOLE	423.30	423.20	430.80	G-5.12	N 538430 35 E 1336768.19	(1)
MH-42	48" MANHOLE	426.80	426.40	433.00	G-5.12	N 538467 82 E 1336733.18	(1)
MH-43	48" MANHOLE	430.10	430.00429.20	435.50	G-5.12	N 538513 88 E 1336720.69	(1)
MH-44	48" MANHOLE	431.70431.70	431.45	439.36	G-5.12	N 538560 88 E 1336608.13	(1)
MH-45	48" MANHOLE	425.80	425.70424.70	430.00	G-5.12	N 538407 97 E 1336843.81	(1)
MH-46	48" MANHOLE	427.15	427.00	434.80	G-5.12	N 538589 27 E 1336781.23	(1)
MH-47	48" MANHOLE	429.30	429.00	437.01	G-5.12	N 538317 39 E 1336648.59	(1)
MH-48	48" MANHOLE	419.30419.85	419.25	426.10	G-5.12	N 538863 88 E 1336914.17	(1)
MH-49	48" MANHOLE	418.60419.70	418.55	425.50	G-5.12	N 538877 18 E 1336909.01	(1)
MH-50	48" MANHOLE	422.50422.50	422.00	428.30	G-5.12	N 538851 38 E 1336769.51	(1)
MH-51	48" MANHOLE	425.6425.75	425.00	431.20	G-5.12	N 538868 05 E 1336769.42	(1)
MH-52	48" MANHOLE	431.50	430.50431.40	435.80	G-5.12	N 538997 88 E 1336716.37	(1)
MH-53	48" MANHOLE	435.10	435.00	443.37	G-5.12	N 539085 48 E 1336599.21	(1)
MH-54	48" MANHOLE	441.80	441.50	448.02	G-5.12	N 539171 06 E 1336593.28	(1)
MH-55	48" MANHOLE	431.60	430.50431.50	435.50	G-5.12	N 538818 88 E 1336871.65	(1)
MH-56	48" MANHOLE	433.00	432.50	442.03	G-5.12	N 538809 82 E 1336584.91	(1)
MH-57	48" MANHOLE	438.80	438.50	444.10	G-5.12	N 538822 82 E 1336421.57	(1)
MH-58	48" MANHOLE	441.75	441.50	452.20	G-5.12	N 539113 09 E 1336939.69	(1)
MH-59	48" MANHOLE	424.60	423.50424.50	430.20	G-5.12	N 538821 06 E 1336993.67	(1)
MH-60	48" MANHOLE	427.80	427.50	435.85	G-5.12	N 538745 12 E 1336885.51	(1)

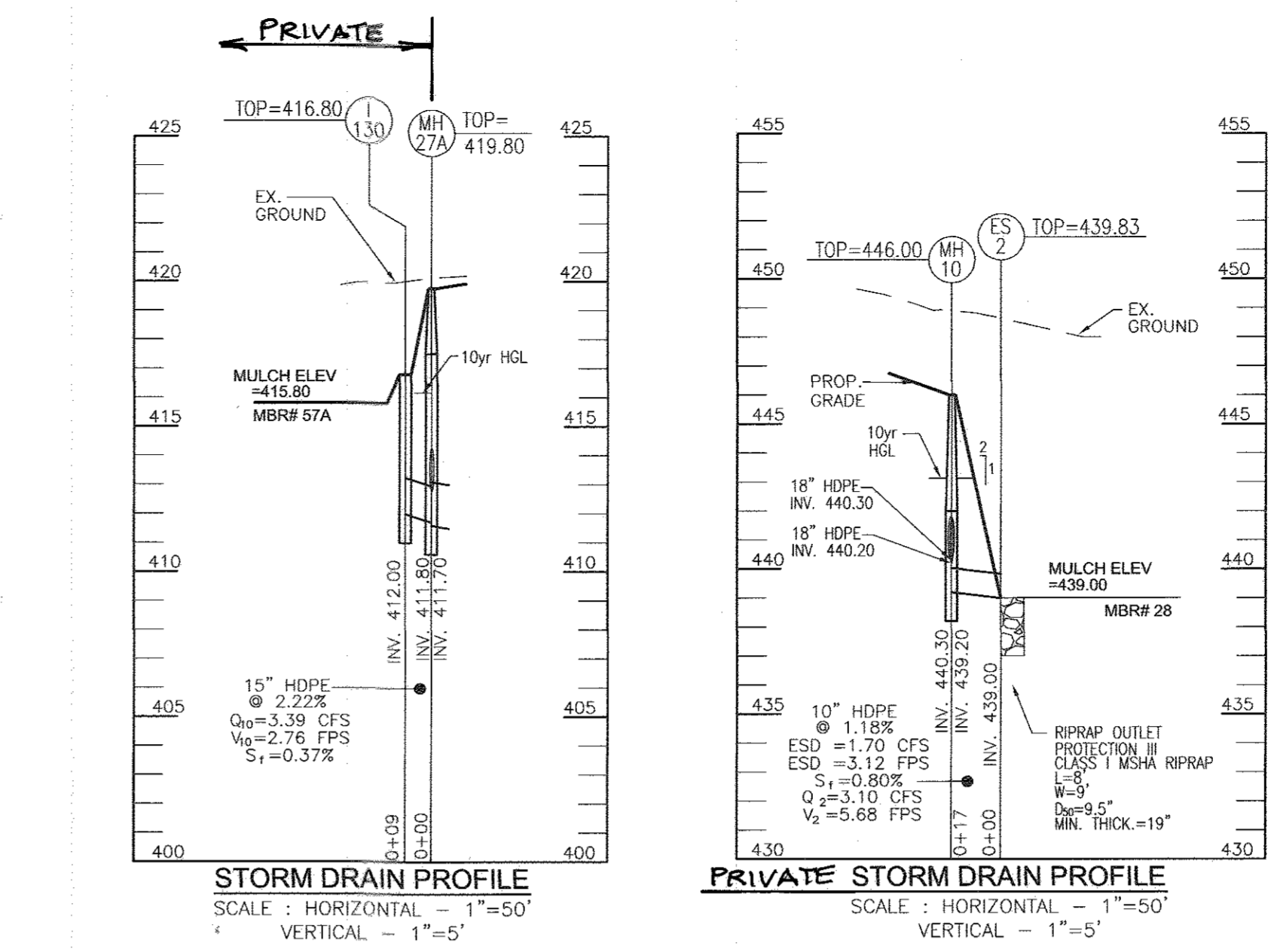
(1) Coordinate for Proposed Structure = Centerline of Structure
(2) Coordinate for End Section = Centerline of Pipe @ Downstream Face



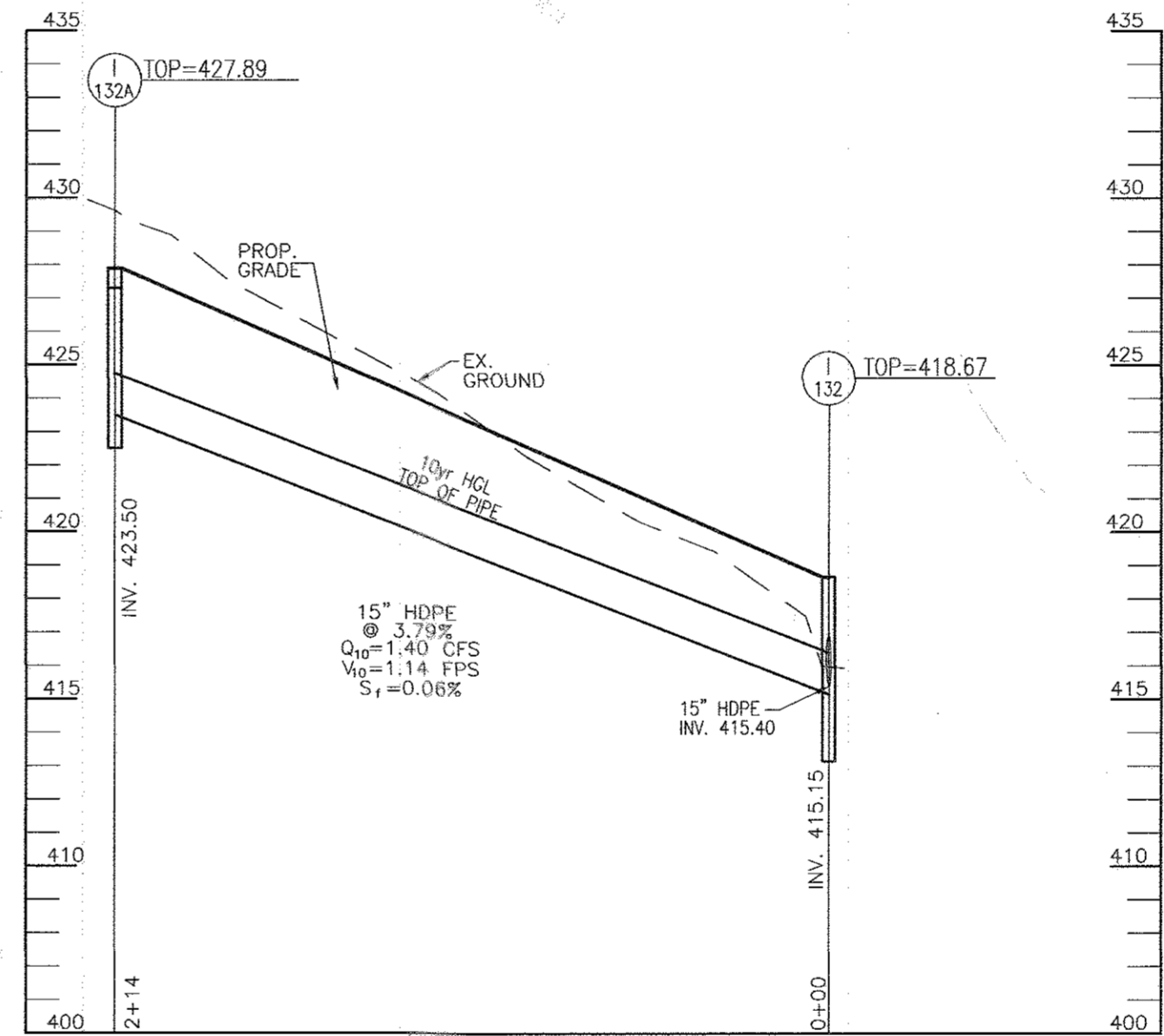
Public Storm Drain Profile
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



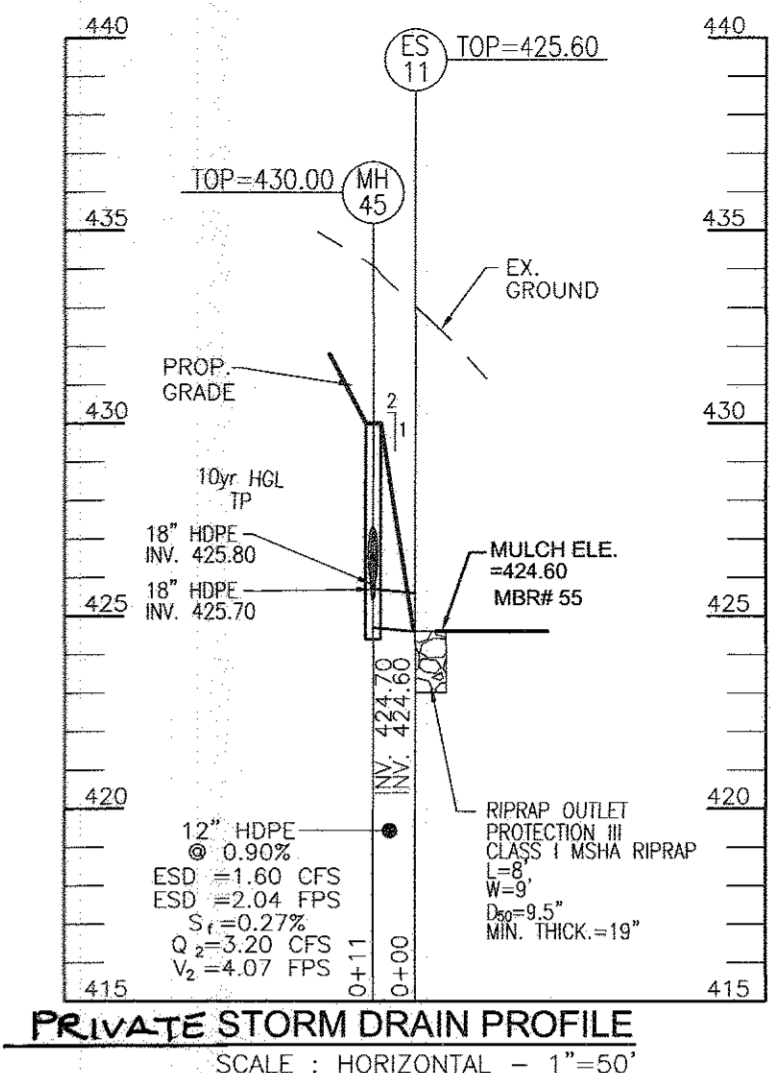
Public Storm Drain Profile
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



Private Storm Drain Profile
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



Public Storm Drain Profile
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



Private Storm Drain Profile
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

OWNER
MAPLE LAWN FARMS, INC.
11768 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

NO.	REVISION	DATE

FINAL ROAD CONSTRUCTION PLAN
STORM DRAIN PROFILES

MAPLE LAWN SOUTH
PHASE 1 - SECTION 2

LOTS 70 - 177 AND OPEN SPACE LOTS 178 - 182
A RESUBDIVISION OF NON-BUILDABLE PARCEL "A"

TAK MAP 46 - GRD 2 - PARCEL 113
5TH ELECTION DISTRICT
DPZ REF: RCP-11-093, WF-15-136, FD#415, SP-15-014, F-16-021
ZONED: R-ED-MOD-3
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

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. 16193, EXPIRATION DATE: 08-27-2018.

DESIGN BY: RVE
DRAWN BY: RVE
CHECKED BY: RHW
DATE: MARCH 2017
SCALE: AS SHOWN
W.O. NO.: 11-34

28 SHEET OF 39

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
M. M. M. M. 5/17/2017
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
A. E. E. E. 5-21-17
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

L. L. L. L. 8-28-17
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

SEE MAPLE LAWN SOUTH
PH. 1-SECT. 1
F-16-021

For Revision by G.W. Professional Certification
I hereby certify that these plans 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. 54990 Expiration Date: May 14, 2025

- LEGEND:**
- EXISTING CONTOUR
 - PROPOSED CONTOUR
 - + 402.88 PROPOSED SPOT ELEVATION
 - EXISTING SPOT ELEVATION
 - EXISTING CURB AND GUTTER
 - PROPOSED CURB AND GUTTER
 - EXISTING UTILITY POLE
 - EXISTING LIGHT POLE
 - EXISTING MAILBOX
 - EXISTING SIGN
 - EXISTING SANITARY MANHOLE
 - EXISTING SANITARY LINE
 - EXISTING CLEANOUT
 - EXISTING FIRE HYDRANT
 - EXISTING WATER LINE
 - EXISTING OVER HEAD LINE
 - PROPOSED STORM DRAIN
 - PROPOSED STORM DRAIN INLET
 - EXISTING SPECIMEN TREE
 - EXISTING TREELINE
 - EXISTING FENCE
 - PROPERTY LINE
 - RIGHT-OF-WAY LINE
 - SOILS BOUNDARY
 - PROPOSED SIDEWALK
 - EXISTING PERIMETER LANDSCAPING (F-16-021)
 - EXISTING STREET TREE F-16-021
 - PROP. STREET TREE
 - EXISTING FOREST REFORESTATION/AFFORESTATION EASEMENT (F-16-021)
 - EXISTING FOREST RETENTION EASEMENT (F-16-021)
 - EXISTING STREET LIGHT F-16-021
 - EX. 8' PATHWAY F-16-021
 - EX. 10' TREE MAINTENANCE EASEMENT (F-16-021)
 - EX. PUBLIC STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT (F-16-021)
 - EX. PRIVATE STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT (F-16-021)
 - EXISTING SPECIMEN TREE TO BE REMOVED

LANDSCAPE PLAN
SCALE: 1"=50'

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

NO.	REVISION	DATE
1	TO REVISE HOUSE ORIENTATION ON LOTS 175, RELOCATE STREET LIGHT ON CHARLES WAY AND REVISE GRADING ON OPEN SPACE LOT C5	5-24-19

FINAL ROAD CONSTRUCTION PLAN
LANDSCAPE PLAN
MAPLE LAWN SOUTH PHASE 1 - SECTION 2
LOTS 70 - 177 AND OPEN SPACE LOTS 178 - 182
A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A'

TAX MAP 46 - GRID 2 - PARCEL 113
5TH ELECTION DISTRICT
ZONED: R-ED-MD-3
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8966

PROFESSIONAL CERTIFICATE

DESIGN BY: RVE
DRAWN BY: RVE
CHECKED BY: RHV
DATE: MARCH 2017
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: 05-27-2018

29 SHEET OF 39

MAPPED SOILS TYPES - CLARKSVILLE SE MAP #23

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT CLAY	K FACTOR	PERCENT SAND	PERCENT SILT	PERCENT CLAY
BaA	BALDWIN SILT LOAM, 0 TO 3 PERCENT SLOPES	B	YES	YES	0.32	NO	YES	NO
BaB	GLENGLE LOAM, 0 TO 3 PERCENT SLOPES	B	NO	NO	0.20	YES	NO	NO
GgB	GLENGLE LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.20	YES	NO	NO
GhB	GLENGLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.37	YES	NO	NO
GhC	GLENGLE-SAND SILT LOAM, 0 TO 8 PERCENT SLOPES	C	NO	NO	0.37	NO	PARTIAL	NO
MgC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.24	YES	NO	NO

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 GhB, ERODIBILITY FACTOR IS 0.32 AND IS CONSIDERED HYDRIC.

NOTE: BIOLOGIC ROOT INHIBITOR BARRIER OR PHYSICAL CONTAINER BARRIERS SHALL BE INSTALLED WHERE STREET TREES ARE PLANTED BETWEEN SIDEWALK AND CURB

- NOTE:**
1. IN THE DIRECTION FACING A TRAFFIC CONTROL SIGN:
 - 1) THERE SHALL BE A MINIMUM OF 40' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL STOP SIGNS.
 - 2) THERE SHALL BE A MINIMUM OF 35' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL SIGNS OTHER THAN A STOP SIGN.

REPLACEMENT TREES FOR SPECIMEN TREE REMOVAL REFER TO WP-15-136

REPLACEMENT TREES FOR SPECIMEN TREE REMOVAL REFER TO WP-15-136

REPLACEMENT TREES FOR SPECIMEN TREE REMOVAL REFER TO WP-15-136

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS
DATE: 5/17/2017

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 5/24/17

CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 5-28-17

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 AN EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

SIGNATURE OF DEVELOPER: [Signature]
DATE: 3-23-17



NOTE:
 1. IN THE DIRECTION FACING A TRAFFIC CONTROL SIGN:
 1) THERE SHALL BE A MINIMUM OF 40' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL STOP SIGNS.
 2) THERE SHALL BE A MINIMUM OF 35' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL SIGNS OTHER THAN A STOP SIGN.

LEGEND:

	EXISTING CONTOUR
	PROPOSED CONTOUR
	PROPOSED SPOT ELEVATION
	EXISTING SPOT ELEVATION
	EXISTING CURB AND GUTTER
	PROPOSED CURB AND GUTTER
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	EXISTING MAILBOX
	EXISTING SIGN
	EXISTING SANITARY MANHOLE
	EXISTING SANITARY LINE
	EXISTING CLEANOUT
	EXISTING FIRE HYDRANT
	EXISTING WATER LINE
	EXISTING OVER HEAD LINE
	PROPOSED STORM DRAIN
	PROPOSED STORM DRAIN INLET
	EXISTING SPECIMEN TREE
	EXISTING TREELINE
	EXISTING FENCE
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	SOILS BOUNDARY
	PROPOSED SIDEWALK
	EXISTING PERIMETER LANDSCAPING (F-16-021)
	EXISTING STREET TREE F-16-021
	PROP. STREET TREE
	EXISTING STREET LIGHT F-16-021
	EX. 10' TREE MAINTENANCE EASEMENT (F-16-021)
	EX. PUBLIC STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT (F-16-021)
	EX. PRIVATE STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT (F-16-021)
	EXISTING SPECIMEN TREE TO BE REMOVED

NOTE:
 BIOLOGIC ROOT INHIBITOR BARRIER OR PHYSICAL CONTAINER BARRIERS SHALL BE INSTALLED WHERE STREET TREES ARE PLANTED BETWEEN SIDEWALK AND CURB.

REPLACEMENT TREES FOR SPECIMEN TREE REMOVAL

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

2	TO ADD SPEED TABLES	4-28-20
NO.	REVISION	DATE

FINAL ROAD CONSTRUCTION PLAN
LANDSCAPE PLAN

MAPLE LAWN SOUTH
PHASE 1 - SECTION 2
 LOTS 70 - 177 AND OPEN SPACE LOTS 178 - 182
 A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A'

TAX MAP 46 - GRID 2 - PARCEL 113
 5TH ELECTION DISTRICT
 BRZ REG. EGP-14-093, WP-15-136, PB#415, SP-15-014, F. 16-021

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

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 5/17/17

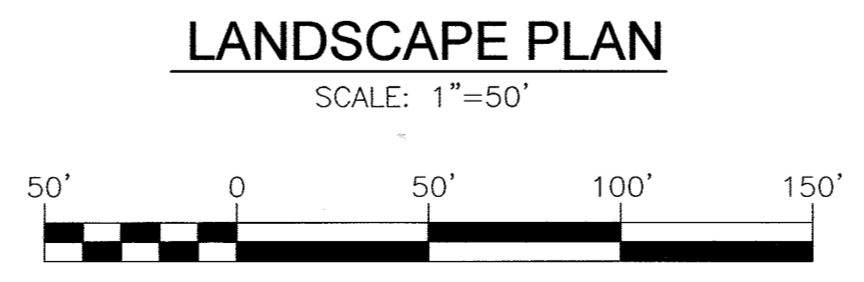
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 5-31-17

CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 5-28-17

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 AN EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

SIGNATURE OF DEVELOPER: [Signature]
 DATE: 3/23/17



MAPPED SOILS TYPES - CLARKSVILLE SE MAP #23

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	HYDRIC INCLUDING	K FACTOR	ERODIBLE	ELUVE SOIL
BaA	BALE SALT LOAM, 0 TO 3 PERCENT SLOPES	D	YES	YES	0.32	NO	YES
GaB	GLENGLE LOAM, 0 TO 3 PERCENT SLOPES	B	NO	NO	0.20	YES	NO
GaB	GLENGLE LOAM, 3 TO 8 PERCENT SLOPES	B	NO	NO	0.20	YES	NO
GmB	GLENGLE SALT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.37	YES	YES
GmB	GLENGLE SALT LOAM, 0 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO	PARTIAL
MmC	MINOR 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

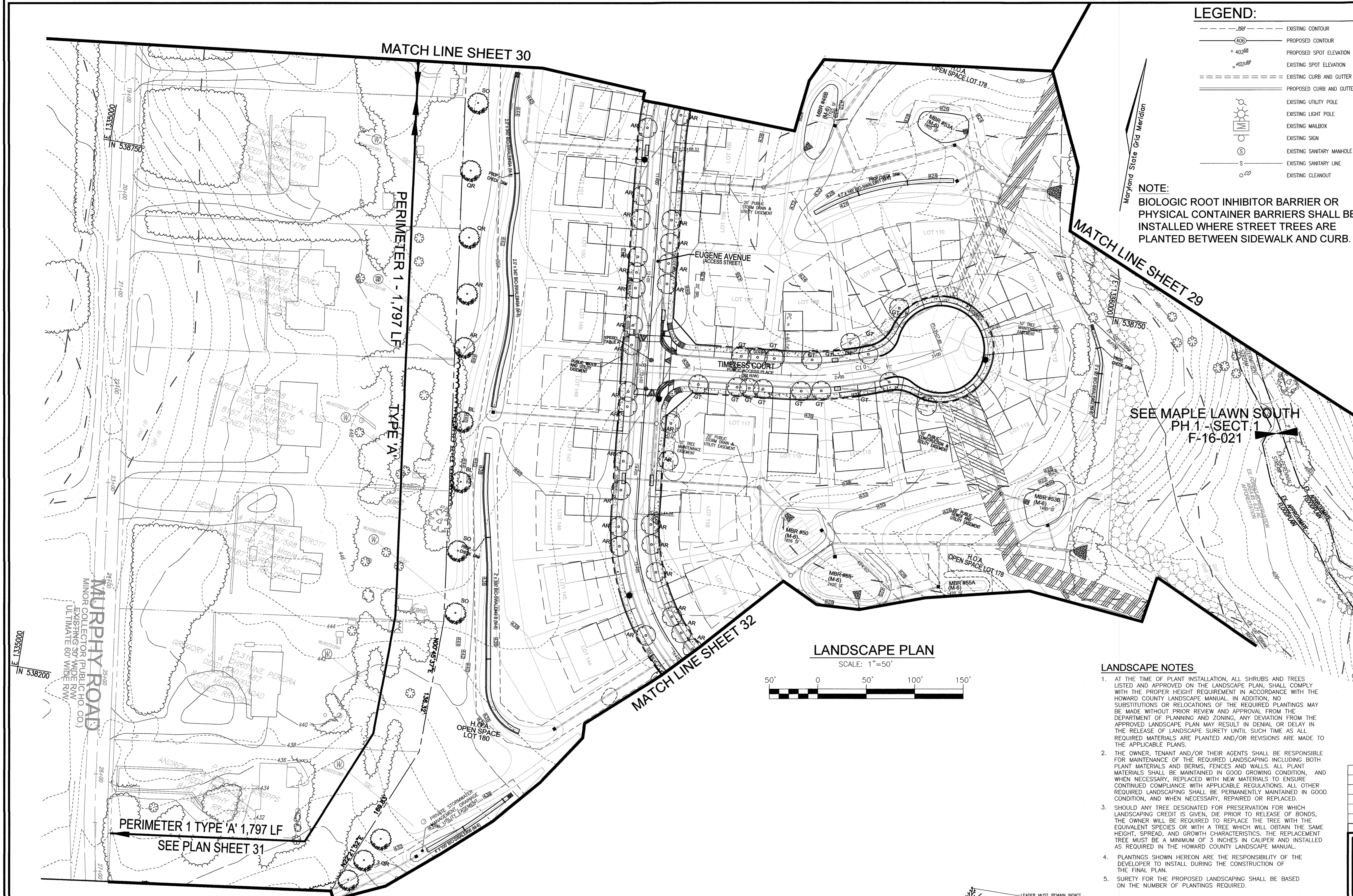
*BALE COMPONENT OF GaB, ERODIBILITY FACTOR IS 0.32 AND IS CONSIDERED HYDRIC

PROFESSIONAL CERTIFICATE

DESIGN BY: RVE
 DRAWN BY: RVE
 CHECKED BY: RHY
 DATE: MARCH 2017
 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 FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 09-27-2018

30 SHEET **39**
 OF



LEGEND:

	EXISTING CONTOUR		EXISTING FIRE HYDRANT		EXISTING FOREST
	PROPOSED CONTOUR		EXISTING WATER LINE		EXISTING FOREST
	PROPOSED SPOT ELEVATION		EXISTING OVER HEAD LINE		EXISTING FOREST
	EXISTING SPOT ELEVATION		PROPOSED STORM DRAIN		EXISTING FOREST
	EXISTING CURB AND GUTTER		EXISTING SPECIMEN TREES		EXISTING STREET LIGHT
	PROPOSED CURB AND GUTTER		EXISTING TREELINE		EXISTING FENCE
	EXISTING UTILITY POLE		EXISTING FENCE		EXISTING SIGN
	EXISTING LIGHT POLE		RIGHT-OF-WAY LINE		EXISTING SANITARY MANHOLE
	EXISTING MAILBOX		SOILS BOUNDARY		EXISTING SANITARY LINE
	EXISTING SIGN		PROPOSED SIDEWALK		EXISTING CLEANOUT
	EXISTING SANITARY MANHOLE		EXISTING PERIMETER LANDSCAPING		EXISTING STREET TREE
	EXISTING SANITARY LINE		PROP. STREET TREE		EXISTING SPECIMEN TREE
	EXISTING CLEANOUT				

NOTE:
BIOLOGIC ROOT INHIBITOR BARRIER OR PHYSICAL CONTAINER BARRIERS SHALL BE INSTALLED WHERE STREET TREES ARE PLANTED BETWEEN SIDEWALK AND CURB.

STREET TREE CALCULATIONS

STREET NAME	LINEAR FEET	NO. REQUIRED	NO. PROVIDED
SOUTH MAPLE LAWN BOULEVARD	902 / 40	23	23
EUGENE AVENUE	4242 / 40	106	106
CHARLES WAY	1042 / 40	26	26
GUNNAR DRIVE	1218 / 40	30	30
TIMELESS COURT	616 / 40	15	15
STAUFFER AVENUE	1424 / 40	36	36
MURPHY ROAD	333 / 40	9	9
TOTAL		245	245

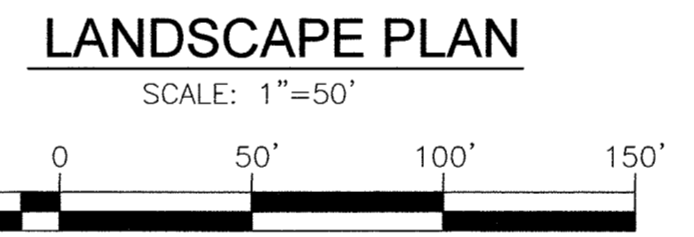
STREET TREE PLANTING SCHEDULE

KEY	QUAN	BOTANICAL NAME	SIZE	REM.
ZS	68	ZELKOVA SIBIRICA 'VILLAGE OREEN'	2 1/2"-3" CAL.	B & B
QP	28	QUERCUS PHellos	2 1/2"-3" CAL.	B & B
AR	78	ACER RUBRUM 'ARMSTRONG'	2 1/2"-3" CAL.	B & B
GT	71	GLEDITSIA TRACANTHOS 'IMPERIAL'	2 1/2"-3" CAL.	B & B

OR EQUAL SUBSTITUTION ALLOWED BY THE HOWARD COUNTY LANDSCAPE MANUAL.
PUBLIC STREET TREES ARE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.124(a)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. FINANCIAL SURETY (\$73,500.00) SHALL BE POSTED AS PART OF THIS FINAL PLAN DEVELOPER'S AGREEMENT FOR THE REQUIRED 245 STREET TREES.

LANDSCAPE SCHEDULE NOTES:

- 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 HRD PLANTING SPECIFICATIONS.
- 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.
- TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
- CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.



LANDSCAPE NOTES

- 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.
- 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.
- 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.
- PLANTINGS SHOWN HEREON ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL DURING THE CONSTRUCTION OF THE FINAL PLAN.
- SURETY FOR THE PROPOSED LANDSCAPING SHALL BE BASED ON THE NUMBER OF PLANTINGS REQUIRED.

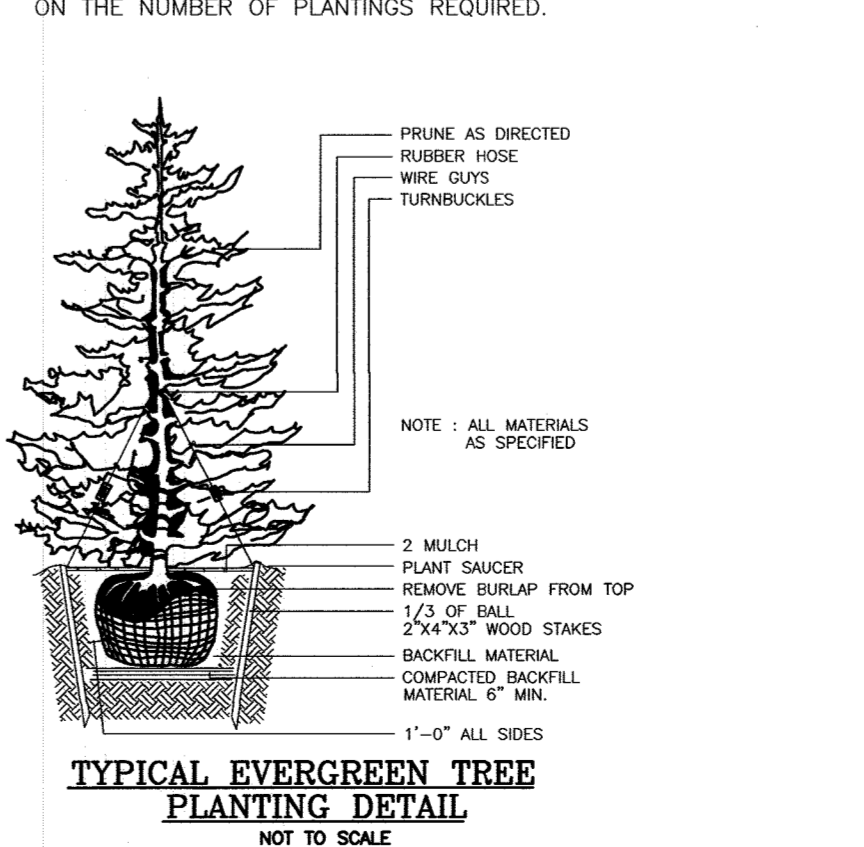
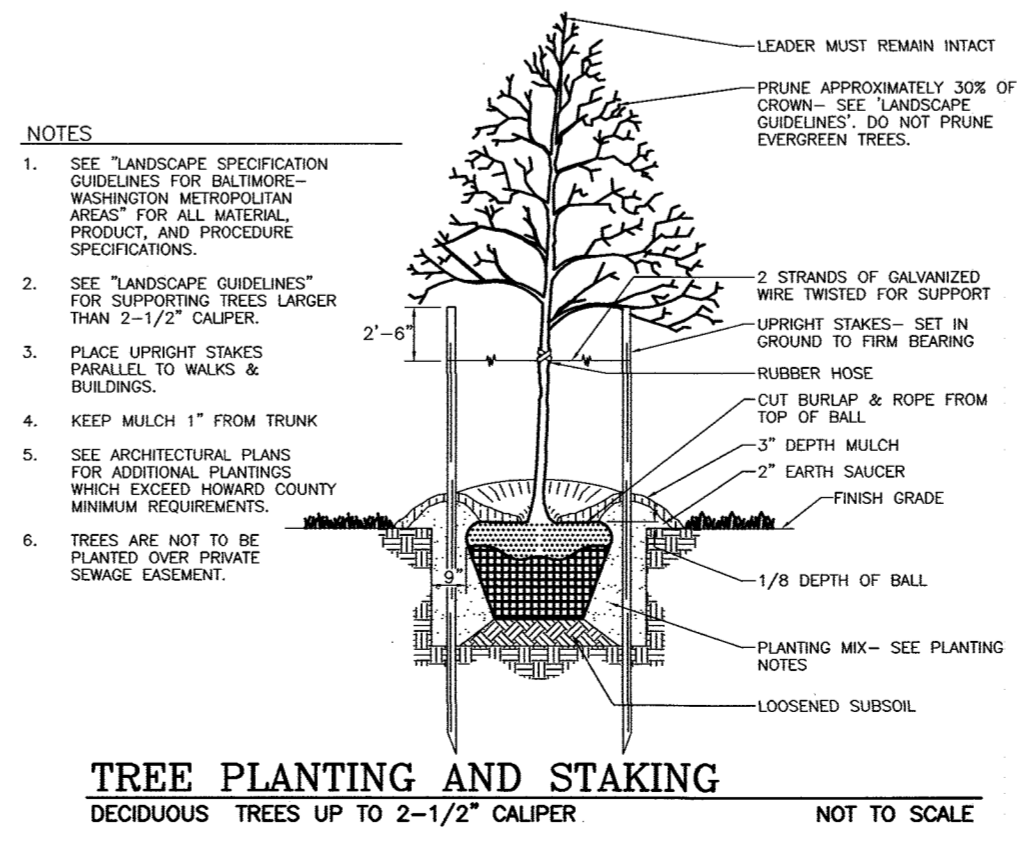
OWNER
MAPLE LAWN FARMS, INC.
11788 SCAGGSVILLE ROAD
FULTON, MD 20759-0562
301-725-2074

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

MAPPED SOILS TYPES - CLARKSVILLE SE MAP #23

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT HUMUS	K FACTOR	PERCENT FINE SAND	PERCENT SILT	PERCENT CLAY	ERODIBILITY
BGA	BULKY SILT LOAM, 0 TO 3 PERCENT SLOPES	D	YES	0.32	NO	NO	NO	NO	YES
GHA	CLINKY LOAM, 0 TO 3 PERCENT SLOPES	B	NO	0.20	YES	NO	NO	NO	NO
GBB	CLINKY LOAM, 3 TO 8 PERCENT SLOPES	B	NO	0.20	YES	NO	NO	NO	NO
GHB	CLINKY SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	0.37	YES	YES	NO	NO	NO
GIB	CLINKY BULKY SILT LOAM, 0 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIAL**	0.37	NO	PARTIAL	NO	PARTIAL
MCC	MINOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.24	YES	NO	NO	NO	NO

NOTE:
1. IN THE DIRECTION FACING A TRAFFIC CONTROL SIGN:
1) THERE SHALL BE A MINIMUM OF 40' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL STOP SIGNS.
2) THERE SHALL BE A MINIMUM OF 35' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL SIGNS OTHER THAN A STOP SIGN.
3) A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
M. Menn
CHIEF, BUREAU OF HIGHWAYS
DATE: 5/17/2017

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
K. Stalder
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 5/21/17

K. Stalder
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 8/28/17

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 AN EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

[Signature]
SIGNATURE OF DEVELOPER
DATE: 3/23/17

2. TO ADD SPEED TABLES REVISION 4-28-20

FINAL ROAD CONSTRUCTION PLAN
LANDSCAPE PLAN
MAPLE LAWN SOUTH
PHASE 1 - SECTION 2
LOTS 70 - 177 AND OPEN SPACE LOTS 178 - 182
A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A'

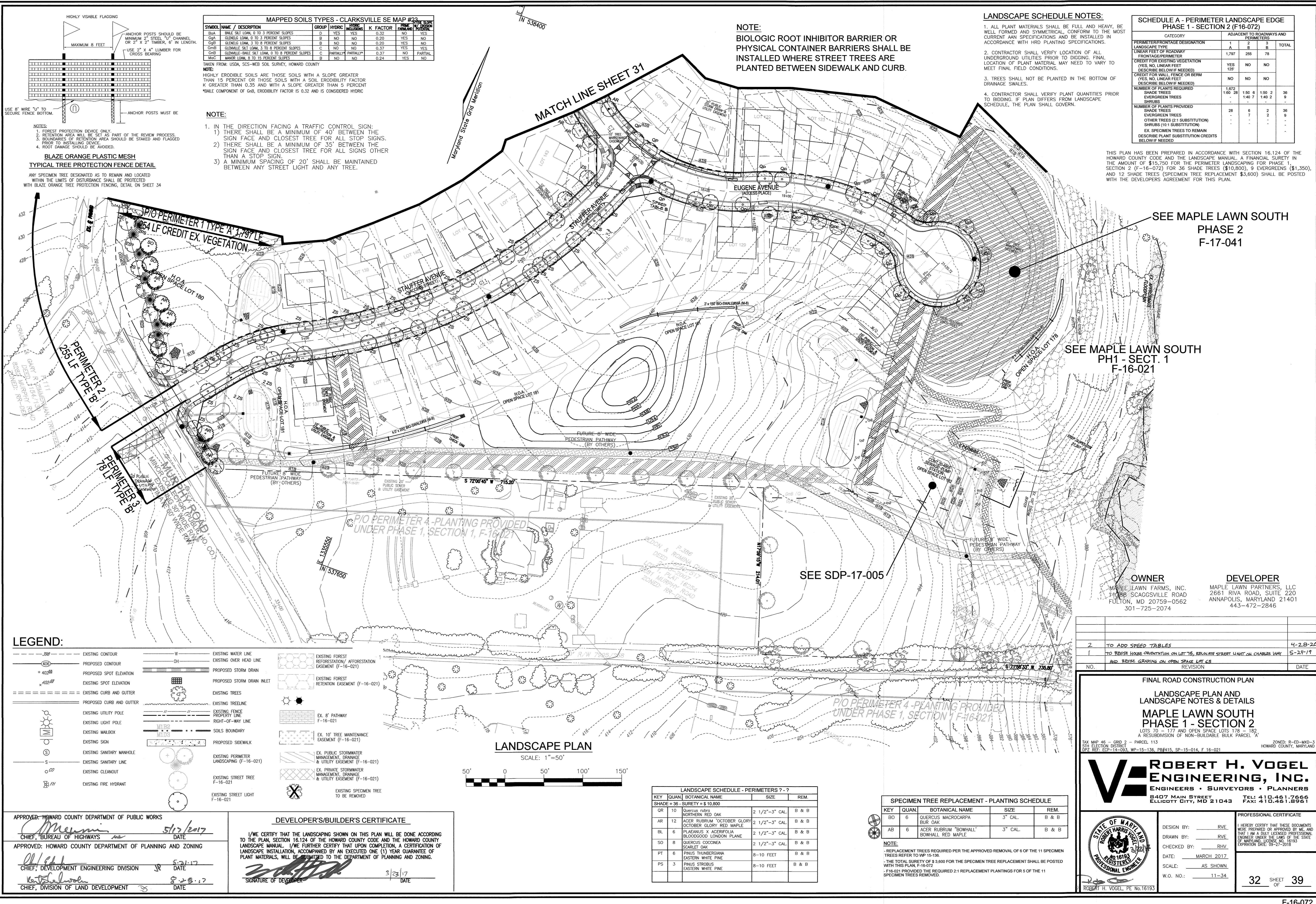
TAX MAP 48 - GRID 2 - PARCEL 113 ZONED: R-ED-MXD-3
11TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DPZ REF: ECP-14-093, WP-15-138, PB#415, SP-15-014, F 16-021

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET TEL: 410.461.7666
ELLCOTT CITY, MD 21043 FAX: 410.461.8961

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. 16193, EXPIRATION DATE: 09-27-2018

DESIGN BY: RVE
DRAWN BY: RVE
CHECKED BY: RHY
DATE: MARCH 2017
SCALE: AS SHOWN
W.O. NO.: 11-34

31 SHEET OF 39



MAPPED SOILS TYPES - CLARKSVILLE SE MAP #23

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT HYDRIC	K FACTOR	PERCENT EROSION	PERCENT STONE
B6a	BALE SILT LOAM, 0 TO 3 PERCENT SLOPES	D	YES	YES	0.32	NO	YES
G6a	GLENN SILT LOAM, 0 TO 3 PERCENT SLOPES	B	NO	NO	0.20	YES	NO
G6B	GLENN SILT LOAM, 3 TO 8 PERCENT SLOPES	B	NO	NO	0.20	YES	NO
G6B	GLENN SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.37	YES	YES
G6B	GLENN SILT LOAM, 0 TO 8 PERCENT SLOPES	C	PARTIALLY*	PARTIALLY*	0.37	NO	PARTIAL
M6C	MANOR 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 G6B, ERODIBILITY FACTOR IS 0.32 AND IS CONSIDERED HYDRIC

- NOTE:**
- IN THE DIRECTION FACING A TRAFFIC CONTROL SIGN:
 - THERE SHALL BE A MINIMUM OF 40' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL STOP SIGNS.
 - THERE SHALL BE A MINIMUM OF 35' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL SIGNS OTHER THAN A STOP SIGN.
 - A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.

NOTE:
BIOLOGIC ROOT INHIBITOR BARRIER OR PHYSICAL CONTAINER BARRIERS SHALL BE INSTALLED WHERE STREET TREES ARE PLANTED BETWEEN SIDEWALK AND CURB.

- LANDSCAPE SCHEDULE NOTES:**
- ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HRD PLANTING SPECIFICATIONS.
 - 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.
 - TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
 - CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.

SCHEDULE A - PERIMETER LANDSCAPE EDGE PHASE 1 - SECTION 2 (F-16-072)

CATEGORY	ADJACENT TO ROADWAYS AND PERIMETERS			TOTAL
	1	2	3	
PERIMETER FRONTAGE DESIGNATION	1	2	3	
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	1,797	255	78	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	YES 125'	NO	NO	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	NO	
NUMBER OF PLANTS REQUIRED	1,672	1,504	1,504	36
SHADE TREES	1,500	1,407	1,402	9
EVERGREEN TREES	-	-	-	-
SHRUBS	-	-	-	-
NUMBER OF PLANTS PROVIDED	28	6	2	36
SHADE TREES	-	-	-	-
EVERGREEN TREES	-	-	-	-
OTHER TREES (2:1 SUBSTITUTION)	-	-	-	-
SHRUBS (10:1 SUBSTITUTION)	-	-	-	-
EX. SPECIMEN TREES TO REMAIN	-	-	-	-
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED	-	-	-	-

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 \$15,750 FOR THE PERIMETER LANDSCAPING FOR PHASE 1, SECTION 2 (F-16-072) FOR 36 SHADE TREES (\$10,800), 9 EVERGREENS (\$1,350), AND 12 SHRUBS (SPECIMEN TREE REPLACEMENT \$3,600) SHALL BE POSTED WITH THE DEVELOPERS AGREEMENT FOR THIS PLAN.

SEE MAPLE LAWN SOUTH PHASE 2 F-17-041

SEE MAPLE LAWN SOUTH PH1 - SECT. 1 F-16-021

SEE SDP-17-005

OWNER
MAPLE LAWN FARMS, INC.
11488 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

NO.	REVISION	DATE
2	TO ADD SPEED TABLES	4-28-22
1	TO REVISE HOUSE ORIENTATION ON LOT 75, RELOCATE STREET LIGHT ON CHARLES WAY AND REVISE GRADING ON OPEN SPACE LOT 65	5-24-19

LEGEND:

--- 389 ---	EXISTING CONTOUR	W	EXISTING WATER LINE	XXXXXX	EXISTING FOREST REFORESTATION/AFFORESTATION EASEMENT (F-16-021)
--- 406 ---	PROPOSED CONTOUR	OH	EXISTING OVER HEAD LINE	XXXXXX	EXISTING FOREST RETENTION EASEMENT (F-16-021)
+ 402.68	PROPOSED SPOT ELEVATION	---	PROPOSED STORM DRAIN	XXXXXX	EX. 8' PATHWAY (F-16-021)
x 402.68	EXISTING SPOT ELEVATION	---	PROPOSED STORM DRAIN INLET	XXXXXX	EX. 10' TREE MAINTENANCE EASEMENT (F-16-021)
---	EXISTING CURB AND GUTTER	---	EXISTING TREES	XXXXXX	EX. PUBLIC STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT (F-16-021)
---	PROPOSED CURB AND GUTTER	---	EXISTING TREELINE	XXXXXX	EX. PRIVATE STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT (F-16-021)
---	EXISTING UTILITY POLE	---	EXISTING FENCE PROPERTY LINE	XXXXXX	EXISTING STREET TREE (F-16-021)
---	EXISTING LIGHT POLE	---	RIGHT-OF-WAY LINE	XXXXXX	EXISTING STREET LIGHT (F-16-021)
---	EXISTING MAILBOX	---	SOILS BOUNDARY	XXXXXX	EXISTING SPECIMEN TREE TO BE REMOVED
---	EXISTING SIGN	---	PROPOSED SIDEWALK	XXXXXX	
---	EXISTING SANITARY MANHOLE	---	EXISTING PERIMETER LANDSCAPING (F-16-021)	XXXXXX	
---	EXISTING SANITARY LINE	---	EXISTING STREET TREE (F-16-021)	XXXXXX	
---	EXISTING CLEANOUT	---	EXISTING STREET LIGHT (F-16-021)	XXXXXX	
---	EXISTING FIRE HYDRANT	---		XXXXXX	

LANDSCAPE PLAN
SCALE: 1"=50'

LANDSCAPE SCHEDULE - PERIMETERS 1-3

KEY	QUAN	BOTANICAL NAME	SIZE	REM.
SHADE	36	SURETY = \$ 10,800		
QR	10	Quercus rubra NORTHERN RED OAK	2 1/2"-3" CAL.	B & B
AR	12	ACER RUBRUM 'OCTOBER GLORY' OCTOBER GLORY RED MAPLE	2 1/2"-3" CAL.	B & B
BL	6	PLATANUS X ACERIFOLIA BLOODGOOD LONDON PLANE	2 1/2"-3" CAL.	B & B
SO	8	QUERCUS COCCINEA SCARLET OAK	2 1/2"-3" CAL.	B & B
PT	6	PINUS THUNBERGIANA EASTERN WHITE PINE	8-10 FEET	B & B
PS	3	PINUS STROBUS EASTERN WHITE PINE	8-10 FEET	B & B

SPECIMEN TREE REPLACEMENT - PLANTING SCHEDULE

KEY	QUAN	BOTANICAL NAME	SIZE	REM.
BO	6	QUERCUS MACROCARPA BUR OAK	3" CAL.	B & B
AB	6	ACER RUBRUM 'BOWHALL' BOWHALL RED MAPLE	3" CAL.	B & B

NOTE:
-REPLACEMENT TREES REQUIRED PER THE APPROVED REMOVAL OF 6 OF THE 11 SPECIMEN TREES REFER TO WP-15-199.
-THE TOTAL SURETY OF \$ 9,800 FOR THE SPECIMEN TREE REPLACEMENT SHALL BE POSTED WITH THIS PLAN, F-16-072.
-F16-021 PROVIDED THE REQUIRED 2:1 REPLACEMENT PLANTINGS FOR 5 OF THE 11 SPECIMEN TREES REMOVED.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 5/17/2017
 CHIEF, BUREAU OF HIGHWAYS
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 5/24/17
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] 8-28-17
 CHIEF, DIVISION OF LAND DEVELOPMENT

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 AN EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.
 [Signature] 3/23/17
 SIGNATURE OF DEVELOPER

FINAL ROAD CONSTRUCTION PLAN
LANDSCAPE PLAN AND LANDSCAPE NOTES & DETAILS
MAPLE LAWN SOUTH PHASE 1 - SECTION 2
 LOTS 70 - 177 AND OPEN SPACE LOTS 178 - 182
 A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A'

TAX MAP 46 - GRID 2 - PARCEL 113
 5TH ELECTION DISTRICT
 2022 REG. 602-14-003 WP-15-136, PBF415, SP-15-014, F-16-021

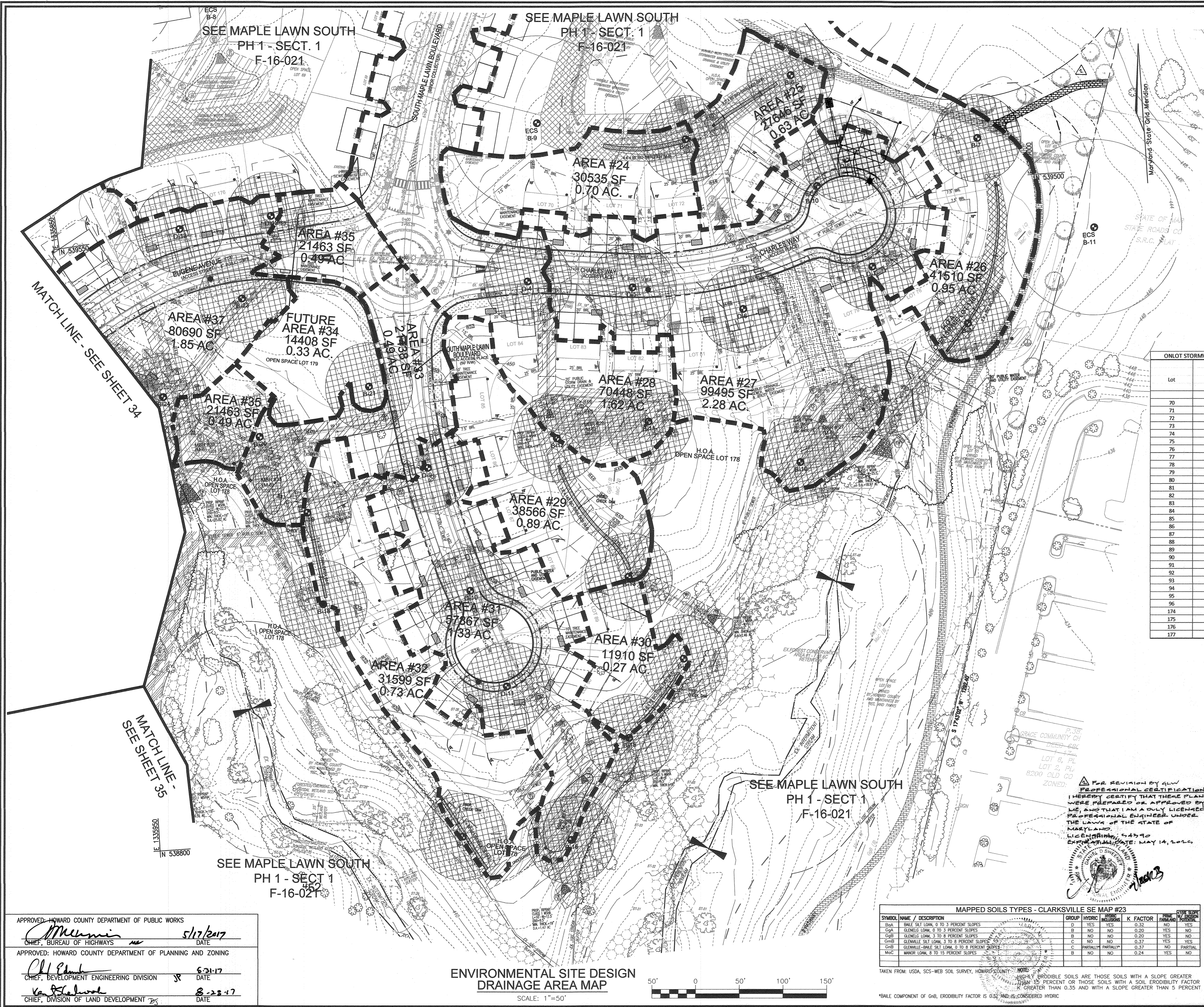
ZONED: R-ED-MXD-3
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.2666
 FAX: 410.461.5961

DESIGN BY: RVE
 DRAWN BY: RVE
 CHECKED BY: RRV
 DATE: MARCH 2017
 SCALE: AS SHOWN
 W.O. NO.: 11-34

PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2018

32 SHEET OF 39



- LEGEND:**
- - - - - EXISTING CONTOUR
 - EXISTING SPOT ELEVATION
 - ===== EXISTING CURB AND GUTTER
 - ===== PROPOSED CURB AND GUTTER
 - ⊙ EXISTING UTILITY POLE
 - ⊙ EXISTING LIGHT POLE
 - ⊙ EXISTING MAILBOX
 - ⊙ EXISTING SIGN
 - ⊙ EXISTING SANITARY MANHOLE
 - ⊙ EXISTING SANITARY LINE
 - ⊙ EXISTING CLEWOUT
 - ⊙ EXISTING FIRE HYDRANT
 - ⊙ EXISTING WATER LINE
 - ===== PROPOSED STORM DRAIN
 - ===== PROPOSED STORM DRAIN INLET
 - EXISTING TREELINE
 - EXISTING FENCE
 - PROPERTY LINE
 - RIGHT-OF-WAY LINE
 - PROPOSED SIDEWALK
 - PROPOSED 10' CONTOUR
 - PROPOSED 2' CONTOUR
 - DRAINAGE AREA DIVIDE
 - NON-STRUCTURAL ROOFTOP DISCONNECTIONS
 - MICRO-SCALE PRACTICE BIO-SWALE (M-8)
 - MICRO-SCALE PRACTICE MICRO BIoretention / BioRetention (M-6)
 - 200 GAL RAIN BARREL
 - DRAINAGE AREA DESIGNATION
 - PROPOSED DRYWELL
 - STORMWATER MANAGEMENT TEST PIT
 - ⊙ ECS B-10 SOIL BORING

ONLOT STORMWATER MANAGEMENT PRACTICES

Lot	AREA #3		
	M-5 Drywell	M-1 Rain Barrel	N-1 15' Disconnect
70	1	1	1
71	1	1	1
72	1	1	1
73	1	1	1
74	1	1	1
75	1	1	1
76	1	1	1
77	1	1	1
78	1	1	1
79	1	2	1
80	1	1	1
81	1	1	1
82	1	1	1
83	1	1	1
84	1	1	1
85	1	1	1
86	1	1	1
87	1	1	1
88	1	1	1
89	1	1	1
90	1	1	1
91	1	1	1
92	1	1	1
93	1	1	1
94	1	1	1
95	1	1	1
96	1	1	1
174	1	1	1
175	1	1	1
176	1	1	1
177	1	1	1

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

NO.	REVISION	DATE
1	REVISE 3' PATHWAY (BY GLW)	7-10-20
2	TO REVISE HOUSE ORIENTATION ON LOT 75, RELocate STREET LIGHT ON CHARLESWAY AND	5-28-19
3	REVISE GRADING ON OPEN SPACE LOT C5	

FINAL ROAD CONSTRUCTION PLAN
ENVIRONMENTAL SITE DESIGN
DRAINAGE AREA MAP
MAPLE LAWN SOUTH
PHASE 1 - SECTION 2
 LOTS 70 - 177 AND OPEN SPACE LOTS 178 - 182
 A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A'

TAX MAP 46 - GRID 2 - PARCEL 113
 5TH ELECTION DISTRICT
 077-RES; EOP-14-003; WP-15-136; PB#415; SP-15-014; F 16-021

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

ROBERT H. VOGEL
ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 840 MAIN STREET, SUITE 300
 ELLICOTT CITY, MD 21043
 TEL: 410-461-7666
 FAX: 410-461-8961

PROFESSIONAL CERTIFICATE

DESIGN BY: RVE
 DRAWN BY: RVE
 CHECKED BY: RHW
 DATE: MARCH 2017
 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: 09-27-2018.

33 SHEET OF 39

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 MUMFORD
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 5/17/2017

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature]
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 6/3/17

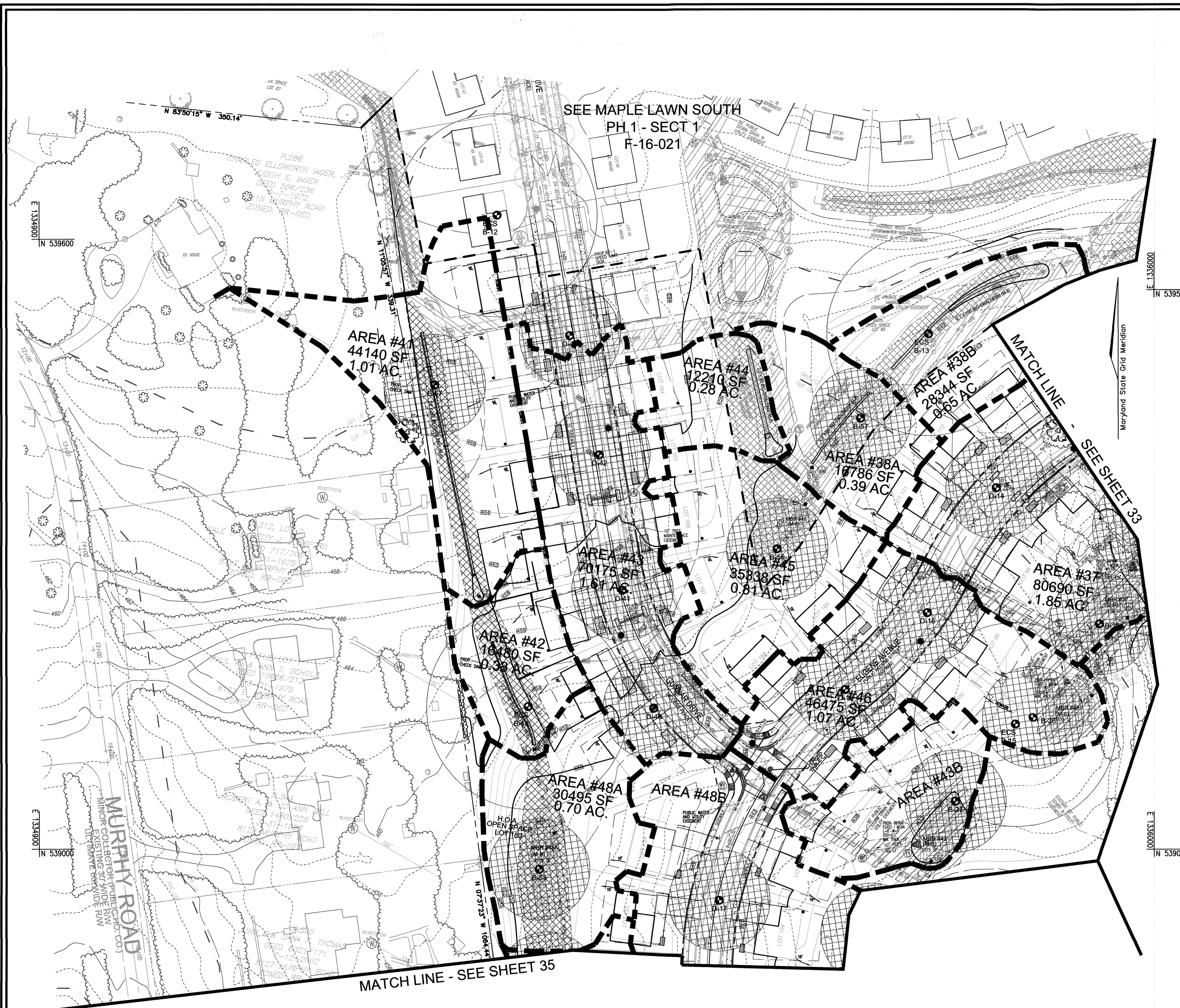
[Signature]
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 8/22/17

ENVIRONMENTAL SITE DESIGN
DRAINAGE AREA MAP
 SCALE: 1"=50'

MAPPED SOILS TYPES - CLARKSVILLE SE MAP #23

SYMBOL NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT ORGANIC	K FACTOR	PERCENT SAND	PERCENT SILT	PERCENT CLAY
Bsa BALE SILT LOAM, 0 TO 3 PERCENT SLOPES	D	YES	YES	0.32	NO	YES	NO
Cga GLENLEIGH LOAM, 0 TO 3 PERCENT SLOPES	B	NO	NO	0.20	YES	NO	NO
Cbf GLENLEIGH LOAM, 3 TO 8 PERCENT SLOPES	B	NO	NO	0.20	YES	NO	NO
Gmb GLENLEIGH SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.37	YES	YES	NO
Gbf GLENLEIGH SILT LOAM, 0 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO	PARTIAL	NO
Muc MUCK LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.24	YES	NO	NO

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY, MARYLAND
 NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL EROSION 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



Lot	ONLOT STORMWATER MANAGEMENT PRACTICES		
	M-5 Drywell	M-1 Rain Barrel	N-1 15' Disconnect
97	1	1	1
98	1	1	1
99	1	1	1
100	1	1	1
101	1	1	1
102	1	1	1
103	1	1	1
104	1	1	1
153	1	1	1
154	1	-	1
155	1	1	1
156	1	1	1
157	1	1	1
158	1	1	1
159	1	1	1
160	1	1	1
161	1	1	1
162	1	1	1
163	1	1	-
164	1	1	-
165	1	1	-
166	1	1	1
167	1	1	1
168	1	1	1
169	1	1	1
170	1	1	1
171	1	1	1
172	1	1	1
173	1	1	-

LEGEND:

- EXISTING CONTOUR
- EXISTING SPOT ELEVATION
- EXISTING CURB AND GUTTER
- PROPOSED CURB AND GUTTER
- 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 TREELINE
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- PROPOSED SIDEWALK
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- DRAINAGE AREA DIVIDE
- NON-STRUCTURAL ROOFTOP DISCONNECTIONS
- MICRO-SCALE PRACTICE BIO-SWALE (M-8)
- MICRO-SCALE PRACTICE MICRO BIORETENTION / BIORETENTION (M-6)
- 200 GAL RAIN BARREL
- DRAINAGE AREA DESIGNATION
- PROPOSED DRYWELL
- STORMWATER MANAGEMENT TEST PIT
- SOL BORING

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

NO.	REVISION	DATE
2	TO ADD SPEED TABLES	4-28-20

FINAL ROAD CONSTRUCTION PLAN
 ENVIRONMENTAL SITE DESIGN
 DRAINAGE AREA MAP
**MAPLE LAWN SOUTH
 PHASE 1 - SECTION 2**
 LOTS 170 - 177 AND OPEN SPACE LOTS 178 - 182
 A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A'

TAX MAP 46 - GRID 2 - PARCEL 113
 5TH ELECTION DISTRICT
 892' REF. EOP-14-093, WP-15-136, PB#415, SP-15-014, F 16-021

ROBERT H. VOGEL ENGINEERING, INC.
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 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE

DESIGN BY: RVE
 DRAWN BY: RVE
 CHECKED BY: RHY
 DATE: MARCH 2017
 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: 09-27-2018

34 SHEET OF 39

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 5/17/2017

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 5/31/17

CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 5-25-17

**ENVIRONMENTAL SITE DESIGN
 DRAINAGE AREA MAP**

SCALE: 1"=50'

MAPPED SOILS TYPES - CLARKSVILLE SE MAP #23

SYMBOL NAME / DESCRIPTION	GROUP	HYDRIC	HYDRIC	K FACTOR	PERCENT FROM A	PERCENT FROM B
BaA BARE SILT LOAM, 0 TO 3 PERCENT SLOPES	D	YES	YES	0.32	NO	YES
CgA GLENDEL LOAM, 0 TO 3 PERCENT SLOPES	B	NO	NO	0.20	YES	NO
CgB GLENDEL LOAM, 3 TO 8 PERCENT SLOPES	B	NO	NO	0.20	YES	NO
GmB GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.37	YES	YES
GmD GLENVILLE-SWALE SILT LOAM, 0 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY*	0.37	NO	PARTIAL
MmC MAJOR 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

ON LOT STORMWATER MANAGEMENT PRACTICES			
Lot	M-5 Drywell	M-1 Rain Barrel	N-1 15' Disconnect
105	1	1	1
106	1	1	1
107	1	1	1
108	1	1	1
109	1	1	1
110	1	1	1
111	1	1	2
112	1	1	2
113	1	1	-
114	1	2	2
115	1	2	2
116	1	1	1
117	1	1	1
118	1	1	1
119	1	1	1
144	1	1	1
145	1	1	1
146	1	1	1
147	1	1	1
148	1	1	1
149	1	1	1
150	1	1	1
151	1	1	1
152	1	1	1

LEGEND:

- EXISTING CONTOUR
- EXISTING SPOT ELEVATION
- EXISTING CURB AND GUTTER
- PROPOSED CURB AND GUTTER
- 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 TREELINE
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- PROPOSED SIDEWALK
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- DRAINAGE AREA DIVIDE
- PROPOSED PUBLIC DRAINAGE AND UTILITY EASEMENT
- PROPOSED PRIVATE DRAINAGE AND UTILITY EASEMENT
- PROPOSED FOREST CONSERVATION EASEMENT (AFFORESTATION)
- NON-STRUCTURAL ROOFTOP DISCONNECTIONS
- MICRO-SCALE PRACTICE BIO-SWALE (M-5)
- MICRO-SCALE PRACTICE MICRO BIORETENTION / BIORETENTION (M-6)
- 200 GAL RAIN BARREL
- DRAINAGE AREA DESIGNATION
- PROPOSED DRYWELL
- STORMWATER MANAGEMENT TEST PIT
- SOIL BORING



SEE MAPLE LAWN SOUTH
PH 1 - SECT 1
F-16-021

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

NO.	REVISION	DATE
2	TO ADD SPEED TABLES	4-28-22

FINAL ROAD CONSTRUCTION PLAN
ENVIRONMENTAL SITE DESIGN
DRAINAGE AREA MAP
**MAPLE LAWN SOUTH
PHASE 1 - SECTION 2**
LOTS 70 - 177 AND OPEN SPACE LOTS 178 - 182,
A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL "A"

TAX MAP 46 - GRID 2 - PARCEL 113
5TH ELECTION DISTRICT
BIZ REF: EGP-14-023, WP-15-136, PB#415, SP-15-014, F 16-021

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

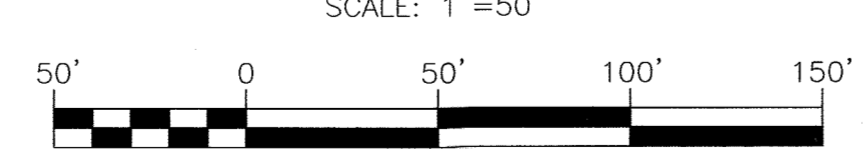
ROBERT H. VOGEL
ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

PROFESSIONAL CERTIFICATE
DESIGN BY: RVE
DRAWN BY: RVE
CHECKED BY: RHY
DATE: MARCH 2017
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: 09-27-2018

35 SHEET OF 39

**ENVIRONMENTAL SITE DESIGN
DRAINAGE AREA MAP**



MAPPED SOILS TYPES - CLARKSVILLE SE MAP #23

SYMBOL / NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT MOISTURE	K FACTOR	PERCENT DRAINAGE	PERCENT ERODIBILITY
BaA BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES	D	YES	YES	0.32	NO	YES
GaA GLENVIEW LOAM, 0 TO 3 PERCENT SLOPES	B	NO	NO	0.20	YES	NO
GaB GLENVIEW LOAM, 3 TO 8 PERCENT SLOPES	B	NO	NO	0.20	YES	NO
GmB GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.37	YES	YES
GhB GLENVILLE-BAILE SILT LOAM, 0 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO	PARTIAL
MmC MARSH LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.24	YES	NO

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

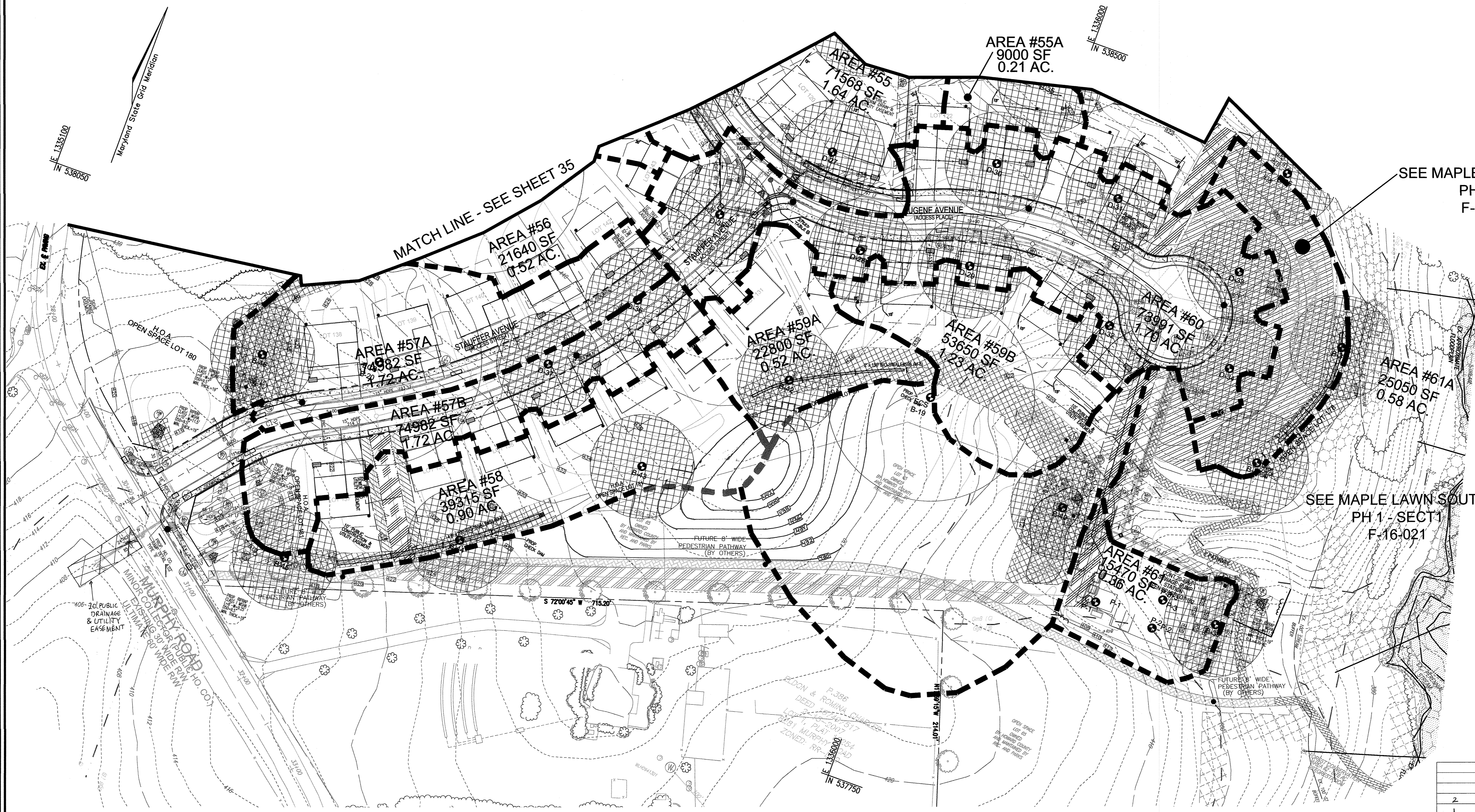
NOTE:
HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K > GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

*BAILE COMPONENT OF GhB, ERODIBILITY FACTOR IS 0.32 AND IS CONSIDERED HYDRIC

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS
DATE: 5/17/2017

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 5/31/17

CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 8-28-17



ONLOT STORMWATER MANAGEMENT PRACTICES

Lot	M-5	M-1	N-1
	Drywell	Rain Barrel	15' Disconnect
120	1	1	1
121	1	1	1
122	1	1	1
123	1	1	1
124	1	1	1
125	1	2	2
126	1	1	1
127	1	1	1
128	1	1	1
129	1	1	1
130	1	1	1
131	1	1	-
132	1	1	-
133	1	1	-
134	1	1	-
135	1	1	-
136	1	1	-
137	1	1	-
138	1	1	-
139	1	1	-
140	1	1	-
141	1	1	-
142	1	1	-
143	1	1	1

SEE MAPLE LAWN SOUTH PH 1 - SECT 1 F-16-021

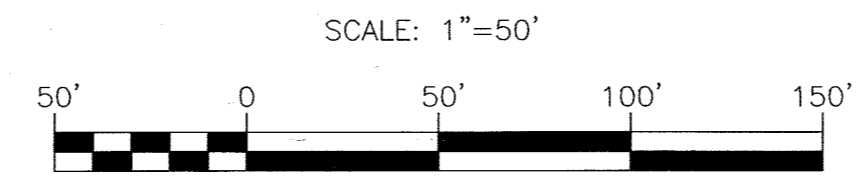
SEE MAPLE LAWN SOUTH PHASE 2 F-17-041

OWNER
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 11788 SCAGGSVILLE ROAD
 FULTON, MD 20759-0562
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DEVELOPER
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 2661 RIVA ROAD, SUITE 220
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NO.	REVISION	DATE
2	TO ADD SPEED TABLES	4.28.20
1	TO REVISE HOUSE ORIENTATION ON LOT 15, RELOCATE STREET LIGHT ON CHARLES WAY AND REVISE GRADING ON OPEN SPACE LOT 6E	5-24-19

ENVIRONMENTAL SITE DESIGN DRAINAGE AREA MAP



LEGEND:

- EXISTING CONTOUR
- EXISTING SPOT ELEVATION
- EXISTING CURB AND GUTTER
- PROPOSED CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
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MAPPED SOILS TYPES - CLARKSVILLE SE MAP #23

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	HYDROPHOBIC	K FACTOR	PERM. FIRMNESS	CLAY STONE POTENTIAL
BuA	BARE SILT LOAM, 0 TO 3 PERCENT SLOPES	D	YES	0.32	NO	YES	NO
GaA	GLENNELG LOAM, 0 TO 3 PERCENT SLOPES	B	NO	0.20	YES	NO	NO
GaB	GLENNELG LOAM, 3 TO 8 PERCENT SLOPES	B	NO	0.20	YES	NO	NO
GhB	GLENNELG SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	0.37	YES	YES	YES
GhC	GLENNELG-SILT LOAM, 0 TO 8 PERCENT SLOPES	C	PARTIALLY	0.37	NO	PARTIAL	NO
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	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 GhB, ERODIBILITY FACTOR IS 0.32 AND IS CONSIDERED HYDRIC

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 5/17/2017
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 5/31/17
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 8-28-17
 CHIEF, DIVISION OF LAND DEVELOPMENT

FINAL ROAD CONSTRUCTION PLAN
 ENVIRONMENTAL SITE DESIGN DRAINAGE AREA MAP
 MAPLE LAWN SOUTH PHASE 1 - SECTION 2
 LOTS 70 - 177 AND OPEN SPACE LOTS 175 - 182
 A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A'

TAX MAP 46 - GRID 2 - PARCEL 113
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 DCP REF: ECP-14-093, WP-15-136, PB#415, SP-15-014, F 16-021
 ZONED: R-ED-MXD-3
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ROBERT H. VOGEL ENGINEERING, INC.
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DESIGN BY: RVE
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36 SHEET OF 39

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

1. MATERIAL SPECIFICATIONS
THE ALLOWABLE 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 OR DUMPED WITHIN THE MICRO-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HURDLE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOINTED GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.02S.

THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:
 • SOIL COMPONENTS - LOAMY SAND OR SANDY LOAM (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% TO 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 INTO THE SOIL TO INCREASE OR DECREASE PH.
 THESE 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 STOPPED TOPSOIL IF TOPSOIL IS IMPORTED. THEN A TEXTURAL 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 UNDER, THE CONTRACTOR SHOULD USE WIDE TRUCK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TIRE TIRES. 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 AVOIDED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS CHISEL PLOW, REEFER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO RESTRUCTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

ROTOTILL TO 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDING WATER BEFORE ROTOTILLING (ROTOTILLED) SOIL. IF PRACTICES ARE EXCAVATED UNDER, THE CONTRACTOR SHOULD USE WIDE TRUCK OR MARSH TRACK EQUIPMENT. WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.
 WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

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 SURROUNDING TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.
 ROOTS OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION. TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.
 GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLOWS SHALL BE PLANTED FOLLOWING THE NON-CROSS-GROUND COVER PLANTING SPECIFICATIONS.

THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS, DEFOLIANTS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

6. UNDERDRAINS
UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:

- PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM 758, TYPE PS 28, OR AASHTO-M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED. 4" RIGID PIPE (E.G., PVC OF HDPE)
- PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER FOOT. PERFORATIONS SHALL BE WRAPPED WITH 1/4" MESH (4x4) OR SMALLER 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 10,000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.
- A 1/4" LAYER OF PEA GRAVEL (1/8"-3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES INTO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WITH THICKNESS EXCEEDS 2".

THIS 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.

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

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

Material	Specification	Notes
Plantings	see Appendix A, Table A.4	plantings are site-specific
Planting soil (2' to 4" deep)	loamy sand (60 - 65%) & compost (35 - 40%) or sandy loam (30%), coarse sand (30%) & compost (40%)	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974)	
Mulch	shredded hardwood	aged 6 months, minimum; no pine or wood chips
Pea gravel diaphragm	pea gravel: ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")
Curtain drain	ornamental stone: washed cobble	stone: 2" to 5"
Geotextile	n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" to 3/4")
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35
Poured in place concrete (if required)	MSHA Mix No. 3; f'c = 3500 psi @ 28 days, normal weight, air-entrained, reinforcing to meet ASTM-615-60	n/a
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"

OPERATION AND MAINTENANCE SCHEDULE FOR MICROBIOTRETENTION / BIO-SWALE 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. ANNUAL MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS ROAD MATERIALS 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 DEFUNCT STAKES AND WIRES.
- MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING 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.

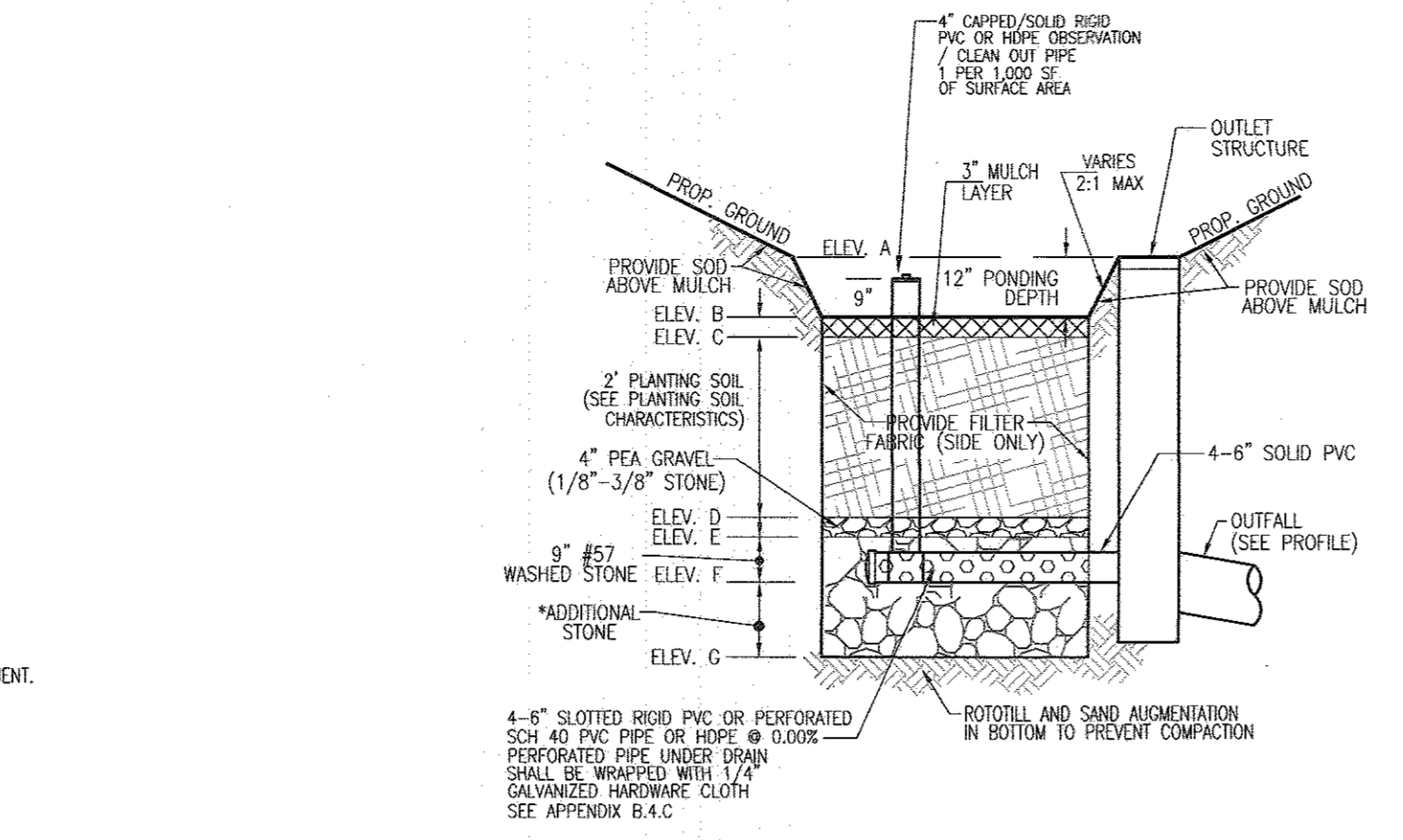
NOTE: ABOVE ITEMS ARE H.O.A. MAINTENANCE RESPONSIBILITIES

STORMWATER MANAGEMENT FOR THE PROJECT IS PROVIDED BY THE USE OF NON-STRUCTURAL PRACTICES A MICRO-SCALE PRACTICES IN ACCORDANCE WITH ENVIRONMENTAL SITE DESIGN CRITERIA. MICRO-SCALE FACILITIES INCLUDING MICRO-BIOTRETENTION, MICRO-SWALES AND DOWNSPOUTS WILL BE PRIVATELY OWNED AND MAINTAINED. MICRO-SCALE MICRO-BIOTRETENTION FACILITIES INCLUDING ROAD RUNOFF SHALL BE DESIGNATED AS PRIVATELY OWNED AND MAINTAINED. HOWARD COUNTY WILL MAINTAIN OUTLET STRUCTURES AND PIPES WHILE THE H.O.A. SHALL MAINTAIN MULCH, WEEDING, PLANTINGS, PERFORATED UNDERDRAINS, FEEDER PIPES AND ALL THE SOIL REPLACEMENT.

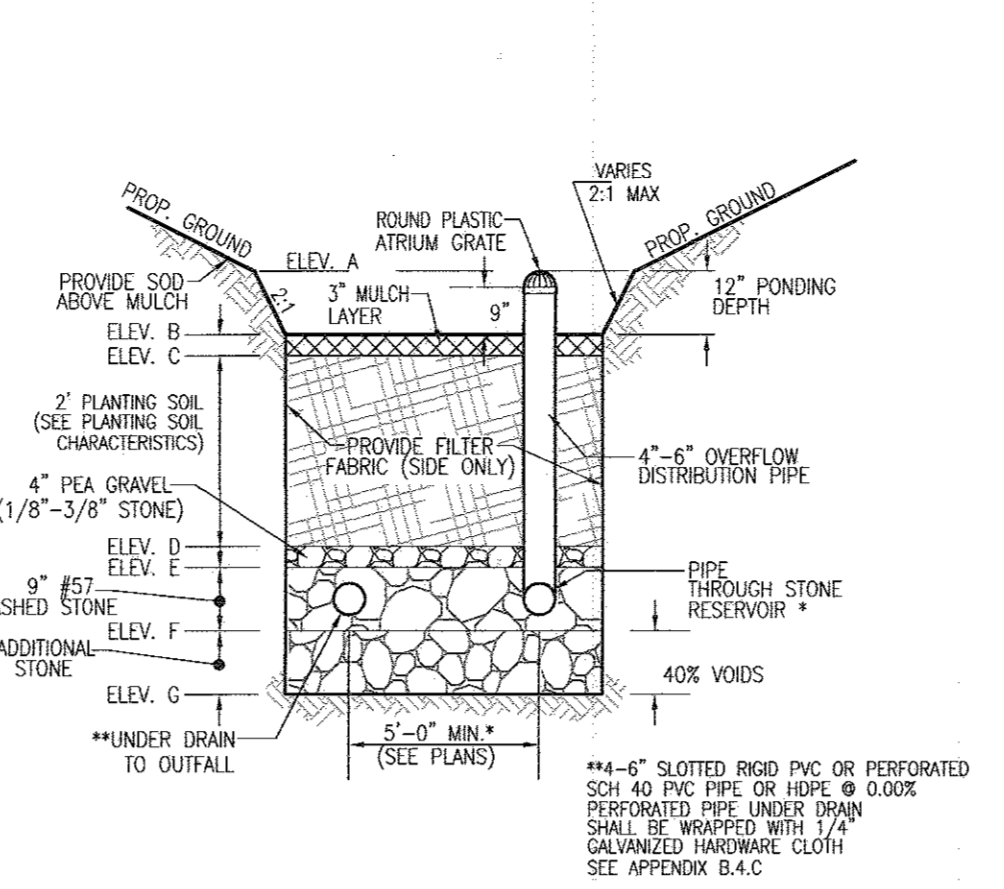
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 5/17/2017
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 5-31-17
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 5-22-17
 CHIEF, DIVISION OF LAND DEVELOPMENT



MICRO-BIOTRETENTION (UNDERDRAIN)
NOT TO SCALE



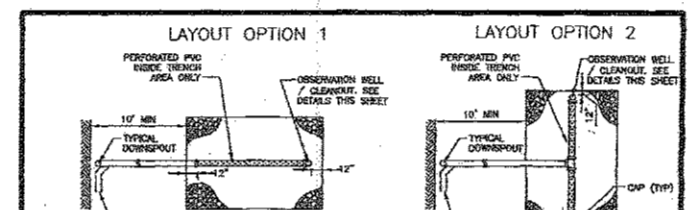
MICRO-BIOTRETENTION (OVERFLOW)
NOT TO SCALE

*ADDITIONAL STONE PROVIDED FOR 10 YEAR ATTENUATION/REV

*ADDITIONAL STONE PROVIDED FOR 10 YEAR ATTENUATION/REV

MICROBIOTRETENTION NOTES

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



TYPICAL SPILLWAY SECTION
NOT TO SCALE

TYPICAL SPILLWAY PROFILE
NOT TO SCALE

MICRO-BIOTRETENTION FACILITY - DESIGN ELEVATION CHART

FACILITY #	ESD WSEL A	TOP MULCH B	TOP PLANT SOIL C	BOTTOM PLANT SOIL D	BOTTOM PEA GRAVEL E	INV PIPE (F)	ADDITIONAL STONE * G	INV STONE H	SURFACE AREA SF	APPROX DIM	MAINTENANCE RESPONSIBILITY
27	421.60	420.60	420.35	418.35	418.02	417.27	2.70	414.57	3825	SEE PLAN	JOINT
28	440.00	439.00	438.75	436.75	436.42	435.67	2.70	432.97	3083	SEE PLAN	JOINT
45	442.00	441.00	440.75	438.75	438.42	437.67	2.70	434.97	525	SEE PLAN	PRIVATE
33	431.00	430.00	429.75	427.75	427.42	426.67	2.70	423.97	1320	SEE PLAN	JOINT
35	433.00	432.00	431.75	429.75	429.42	428.67	2.70	425.97	1028	SEE PLAN	JOINT
37	432.00	431.00	430.75	428.75	428.42	427.67	3.60	424.07	2410	SEE PLAN	JOINT
46	433.00	432.00	431.75	429.75	429.42	428.67	2.70	425.97	1838	SEE PLAN	JOINT
43	431.25	430.25	430.00	428.00	427.67	426.92	2.70	424.22	2375	SEE PLAN	JOINT
53A	425.00	424.00	423.75	421.75	421.42	420.67	2.70	417.97	1305	SEE PLAN	JOINT
48B	431.00	430.00	429.75	427.75	427.42	426.67	2.70	423.97	1725	SEE PLAN	JOINT
48A	444.50	443.50	443.25	441.25	440.92	440.17	2.70	437.47	2025	SEE PLAN	PRIVATE
31	421.00	420.00	419.75	417.75	417.42	416.67	3.45	413.22	2374	SEE PLAN	JOINT
53B	421.00	420.00	419.75	417.75	417.42	416.67	2.70	413.97	1485	SEE PLAN	JOINT
55A	425.00	424.00	423.75	421.75	421.42	420.67	2.70	417.97	420	SEE PLAN	PRIVATE
55	425.00	424.00	423.75	421.75	421.42	420.67	3.40	417.87	2420	SEE PLAN	JOINT
50	430.00	429.00	428.75	426.75	426.42	425.67	3.10	422.57	1656	SEE PLAN	JOINT
61	396.70	395.70	395.45	393.45	393.12	392.37	2.70	389.67	1000	SEE PLAN	PUBLIC
60	411.00	410.00	409.75	407.75	407.42	406.67	2.70	403.97	3075	SEE PLAN	JOINT
59B	417.00	416.00	415.75	413.75	413.42	412.67	2.70	409.97	700	SEE PLAN	PRIVATE
57B	415.00	414.00	413.75	411.75	411.42	410.67	2.70	407.97	1500	SEE PLAN	JOINT
57A	416.80	415.80	415.55	413.55	413.22	412.47	2.70	409.77	1540	SEE PLAN	JOINT

* 10 YEAR STORM ATTENUATION / REV
 (1) UNDERDRAIN PIPE AND OVERFLOW DISTRIBUTION PIPE
 NOTE:
 * FACILITY WILL BE OWNED AND MAINTAINED BY HOWARD COUNTY

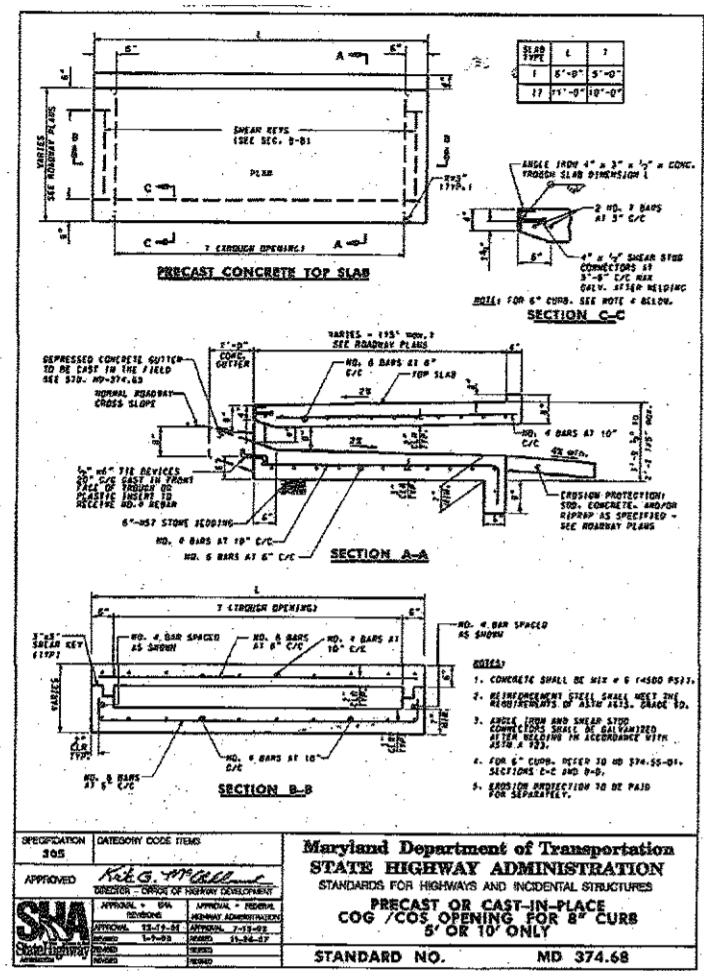
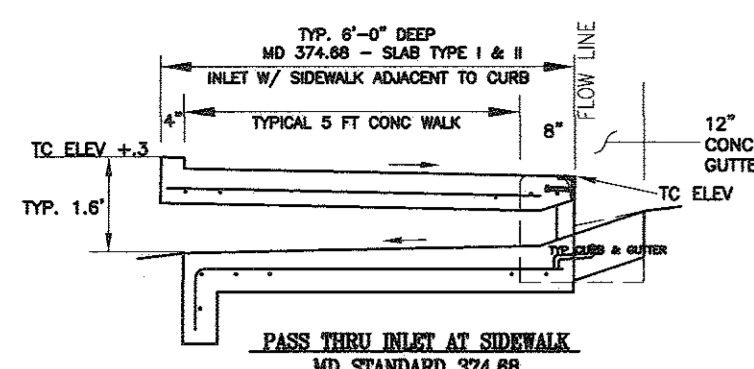
ON-LOT DRYWELL - DESIGN ELEVATION CHART

SWM DA	DW LOT #	DW LOCATION	NUMBER OF DWS	PROP GRADE OVER	TOP STONE*	INV STONE*	SURFACE SIZE FT X FT	STONE DEPTH FT	SAND DEPTH FT
27	70	F	1	451.00	450.00	446.00	8X12	4	1
71	F	1	449.00	448.00	444.00	8X12	4	1	
72	F	1	448.00	447.00	443.00	8X12	4	1	
73	F	1	448.00	447.00	443.00	8X12	4	1	
74	F	1	449.00	448.00	444.00	8X12	4	1	
75	F	1	449.00	448.00	444.00	8X12	4	1	
76	F	1	449.00	448.00	444.00	8X12	4	1	
77	F	1	449.00	448.00	444.00	8X12	4	1	
78	F	1	449.00	448.00	444.00	8X12	4	1	
79	F	1	448.00	447.00	443.00	8X12	4	1	
80	F	1	449.00	448.00	444.00	8X12	4	1	
81	F	1	449.00	448.00	444.00	8X12	4	1	
82	F	1	449.00	448.00	444.00	8X12	4	1	
83	F	1	450.00	449.00	445.00	8X12	4	1	
28	84	F	1	453.00	452.00	448.00	6X12	4	1
33	85	F	1	447.50	446.50	442.50	6X12	4	1
96	F	1	446.00	445.00	441.00	8X12	4	1	
31	86	F	1	443.80	442.80	438.80	6X12	4	1
87	F	1	439.80	438.80	434.80	6X12	4	1	
88	F	1	437.00	436.00	432.00	6X12	4	1	
89	F	1	435.00	434.00	430.00	6X12	4	1	
90	F	1	434.00	433.00	429.00	6X12	4	1	
91	F	1	434.00	433.00	429.00	6X12	4	1	
92	F	1	433.00	432.00	428.00	6X12	4	1	
93	F	1	436.00	435.00	431.00	6X12	4	1	
94	F	1	439.50	438.50	434.50	6X12	4	1	
95	F	1	443.00	442.00	438.00	6X12	4	1	
96	F	1	446.00	445.00	441.00	6X12	4	1	
37	97	F	1	442.00	441.00	437.00	8X14	4	1
98	F	1	442.00	441.00	437.00	8X14	4	1	
171	F	1	442.00	441.00	437.00	8X14	4	1	
172	F	1	442.50	441.50	437.50	8X14	4	1	
173	F	1	442.00	441.00	437.00	8X14	4	1	
174	F	1	442.50	441.50	437.50	8X14	4	1	
175	F	1	445.00	444.00	440.00	8X14	4	1	
176	F	1	447.50	446.50	442.50	8X14	4	1	
177	F	1	449.50	448.50	444.50	8X14	4	1	
46	99	F	1	443.00	442.00	438.00	6X12	4	1
100	F	1	443.50	442.50	438.50	6X12	4	1	
101	F	1	444.00	443.00	439.00	6X12	4	1	
102	F	1	444.50	443.50	439.50	6X12	4	1	
103	F	1	443.50	442.50	438.50	6X12	4	1	
104	F	1	443.00	442.00	438.00	6X12	4	1	
105	F	1	442.50	441.50	437.50	6X12	4	1	
43	155	F	1	447.50	446.50	442.50	7.5X14	4	1
156	F	1	450.00	449.00	445.00	7.5X14	4	1	
157	F	1	454.00	453.00	449.00	7.5X14	4	1	
158	F	1	457.00	456.00	452.00	7.5X14	4	1	
159	F	1	462.00	461.00	457.00	7.5X14	4	1	
160	F	1	465.00	464.00	460.00	7.5X14	4	1	
161	F	1	467.00	466.00	462.00	7.5X14	4	1	
162	F	1	469.00	468.00	464.00	7.5X14	4	1	
163	F	1	468.00	467.00	463.00	7.5X14	4	1	
164	F	1	466.00	465.00	4				

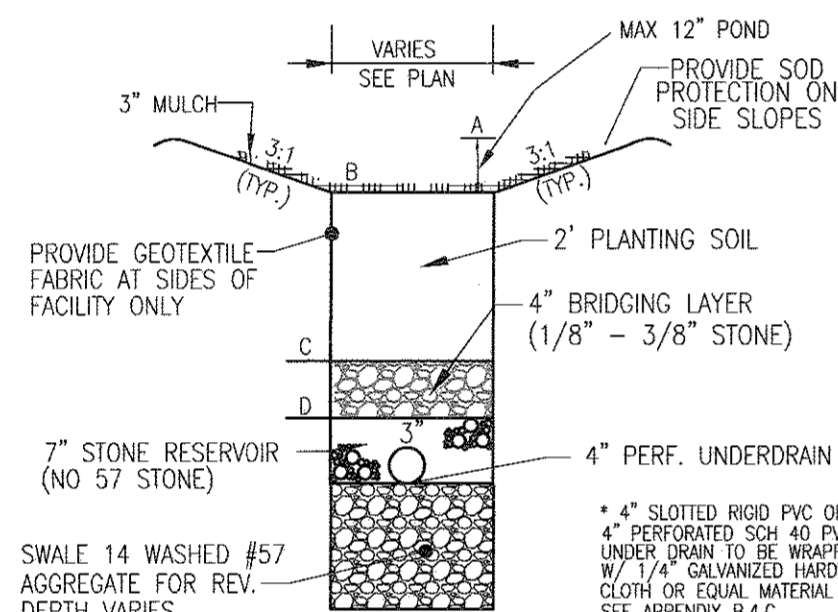
STORMWATER MANAGEMENT TEST PIT DATA

Maple Lawn South - Phase 2 Test Pit Data

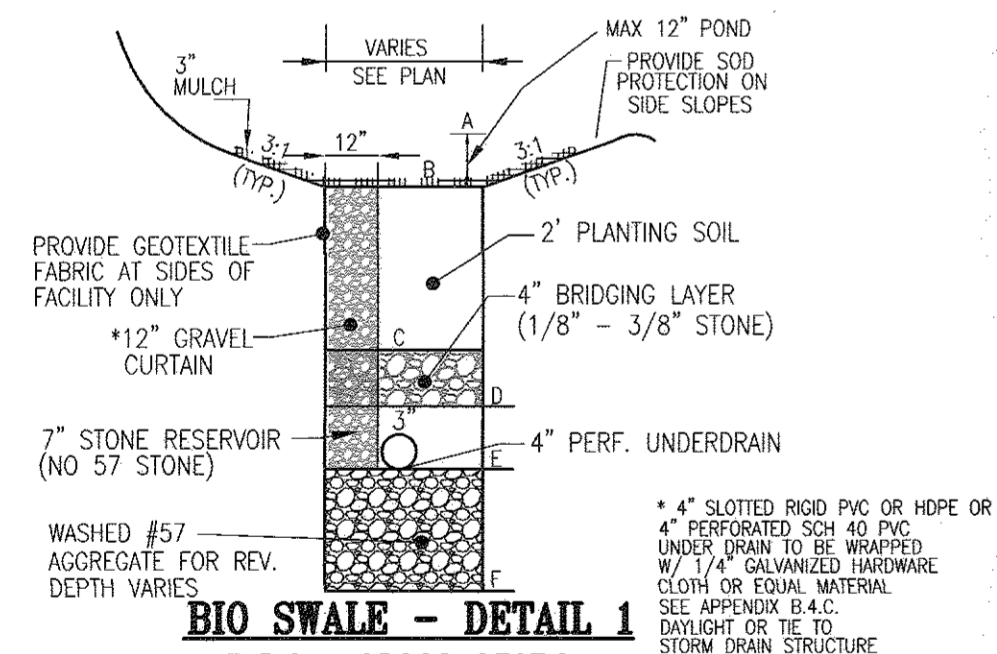
Test Pit No.	Ex. Ground FIELD	Test Pit Prop. Depth	Test Pit Depth Excavated	Test Pit Condition *
MICROSCALE - MBR, DRYWELL AND BIOSWALE TEST PITS				
B-2	458.91	16.2	16.2	DRY
B-3	448.62	9.3	9.3	DRY
B-60	454.14	15.5	15.5	DRY
B-62	451.51	8.8	8.8	DRY
B-63	453.14	5.2	5.2	DRY
B-64	458.76	18.9	18.9	DRY
B-65	454.12	11.4	11.4	DRY
B-66	452.99	10.4	10.4	DRY
B-67	470.53	14.9	14.9	DRY
B-68	473.57	12.6	12.6	DRY
B-69	473.66	11.7	11.7	DRY
B-71	466.86	9.0	9.0	DRY
B-72	463.17	7.2	8.0	DRY
B-73	457.49	3.4	8.0	DRY
B-74	449.97	-3.0	8.0	DRY
B-75	447.65	9.7	9.7	DRY
B-76	451.95	13.9	13.9	DRY
B-77	449.19	11.1	11.1	DRY
B-78	450.03	11.2	11.2	DRY
B-79	454.62	8.6	8.6	DRY
B-82	462.80	18.7	18.7	DRY
B-83	463.63	11.7	11.7	DRY
B-84	457.91	19.1	19.1	DRY
B-85	462.12	19.2	19.2	DRY
B-86	463.91	18.8	18.8	DRY
B-87	462.91	16.9	16.9	DRY
B-88	464.60	13.7	13.7	DRY
B-89	459.87	14.1	14.1	DRY
D-1	457.40	7.7	8.0	DRY
D-2	459.44	11.8	11.8	DRY
D-3	458.44	13.0	13.0	DRY
D-42	465.75	12.2	12.2	DRY
D-43	465.63	8.9	8.9	DRY
D-46	468.81	4.9	8.0	DRY
D-47	469.78	6.9	8.0	DRY
D-48	465.83	4.9	8.0	DRY
D-49	456.77	-1.2	8.0	DRY
D-50	452.40	-3.6	8.0	DRY
D-52	458.58	10.9	10.9	DRY
D-53	458.70	12.7	12.7	DRY
D-54	455.27	12.5	12.5	DRY
D-57	459.23	6.3	8.0	DRY
D-58	463.75	9.8	9.8	DRY
D-59	464.71	10.8	10.8	DRY
D-60	464.72	12.8	12.8	DRY
D-62	462.16	6.3	8.0	DRY
D-63	465.38	7.6	8.0	DRY
D-65	469.89	8.0	8.0	DRY



TYPICAL CURB OPENING INLETS

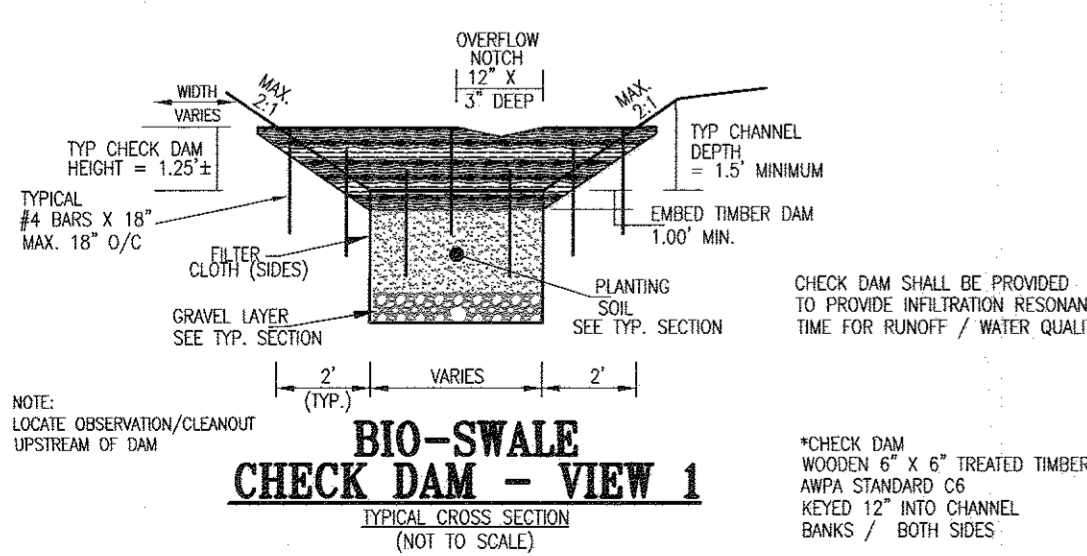


BIO-SWALE - DETAIL 2
TYPICAL CROSS SECTION
(NOT TO SCALE)



BIO-SWALE - DETAIL 1
TYPICAL CROSS SECTION
(NOT TO SCALE)

* GRAVEL CURTAIN SHALL BYPASS OFF-SITE OVERLAND RUNOFF TO SYSTEM/UNDERDRAIN. MANAGEMENT OF OFF-SITE WATER IS NOT REQUIRED.



BIO-SWALE CHECK DAM - VIEW 1
TYPICAL CROSS SECTION
(NOT TO SCALE)

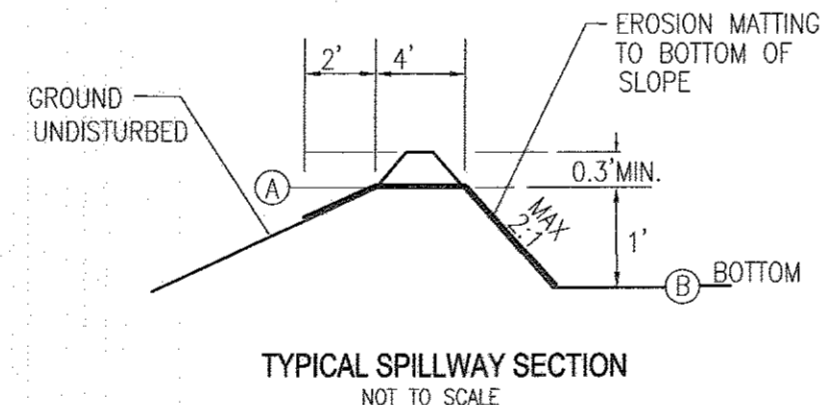
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 CHIEF, DIVISION OF LAND DEVELOPMENT

BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
PANICUM VERGATUM	1 GALLON	CONT.
IRIS VERSICOLOR	2" POT	1' O.C.
LIROPE MUSCARI 'MAJESTIC'	2" POT	1' O.C.
MAESTIC LILY TURF		

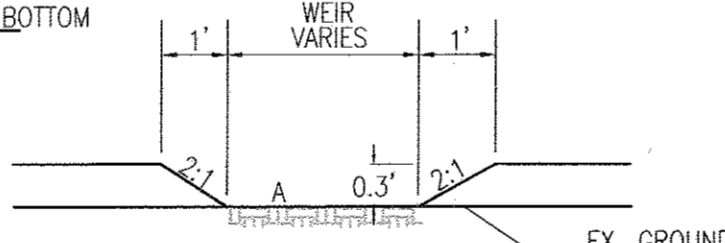
- BIO-SWALE AREAS ARE TO BE PLANTED BASED ON A MINIMUM DENSITY OF 1000 STEMS PER PLANTED ACRE (0.2229 STEMS PER SQ. FT.)
- 50 SF MAESTIC LILY TURF / BLUE FLAG = 1 PLANTING UNIT
- PLANTINGS SHALL BE AS DETAILED ABOVE OR WITH EQUAL SUBSTITUTION

SWALE #	FACILITY	PLANTING REQUIREMENTS		PLANTINGS OR EQUAL SUBSTITUTION	
		FOOTPRINT SF	REQUIRED TOTAL	NUMBER	SF
26	480	11	110	55	55
29	504	12	12	6	6
32A	300	7	70	35	35
41	539	12	124	62	62
30	210	5	48	24	24
32B	282	6	66	33	33
52	270	6	62	31	31
51	682	16	156	78	78
42	231	5	54	27	27
49B	600	14	138	69	69
49A	680	16	156	78	78
56	400	9	92	46	46
61A	375	9	86	43	43
59A	300	7	70	35	35
58	800	18	184	92	92
44	180	4	42	21	21
38A	180	4	42	21	21
38B	315	7	72	36	36
24	418	10	96	48	48
25	272	6	64	32	32
TOTALS:	8018	184	1744	872	872

BIOSWALE AREAS ARE TO BE PLANTED BASED ON A MINIMUM DENSITY OF 1000 STEMS PER PLANTED ACRE (0.2229 STEMS PER SQUARE FOOT).



TYPICAL SPILLWAY SECTION
NOT TO SCALE



DETAILS OF WEIR OUTLET
BIO-SWALE
NOT TO SCALE

SWALE #	BIOSWALE DETAIL	BIOSWALE LOW PT. ESD WSEL	TOP PLANTING A	BOTTOM PLANTING B	BOTTOM PLANTING C	BOTTOM PLANTING D	INV. PIPE (1) E	ADDITIONAL STONE * F	INV. STONE G	WIDTH FT	LENGTH FT
24	2	438.16	437.16	434.91	434.58	434.00	2.70	431.30	4.4	95	
25	2	438.80	437.80	435.55	435.22	434.64	2.70	431.94	3.2	85	
26	2	432.00	431.00	428.75	428.42	427.84	2.70	425.14	2.4	200	
29	2	434.00	433.00	430.75	430.42	429.84	2.70	427.14	3.6	140	
30	2	421.70	420.70	418.45	418.12	417.54	2.70	414.84	2.8	75	
32A	2	432.50	431.50	429.25	428.92	428.34	2.70	425.64	3	100	
32B	2	421.90	420.90	418.65	418.32	417.74	2.70	415.04	3	94	
38A	2	441.40	440.40	438.15	437.82	437.24	2.70	434.54	2	90	
38B	2	439.00	438.00	435.75	435.42	434.84	2.70	432.14	2.1	150	
44	2	450.50	449.50	447.25	446.92	446.34	2.70	443.64	2	90	
41	1	460.50	459.50	457.25	456.92	456.34	2.70	453.64	2.2	245	
42	1	451.50	450.50	448.25	447.92	447.34	2.70	444.64	2.2	105	
49A	1	439.00	438.00	435.75	435.42	434.84	2.70	432.14	2	340	
49B	1	434.20	433.20	430.95	430.62	430.04	2.70	427.34	2	300	
56	2	430.00	429.00	426.75	426.42	425.84	2.70	423.14	4	100	
58	2	419.00	418.00	415.75	415.42	414.84	2.70	412.14	4	200	
59A	2	431.00	430.00	427.75	427.42	426.84	2.70	424.14	2	150	
61A	2	411.00	410.00	407.75	407.42	406.84	2.70	404.14	3	125	
52	2	426.00	425.00	422.75	422.42	421.84	2.70	419.14	3	90	
51	2	424.20	423.20	420.95	420.62	420.04	2.70	417.34	4.7	145	

* 10 YEAR STORM ATTENUATION / REV (1) UNDERDRAIN PIPE AND OVERFLOW DISTRIBUTION PIPE

EC5 - SOIL BORING LOGS

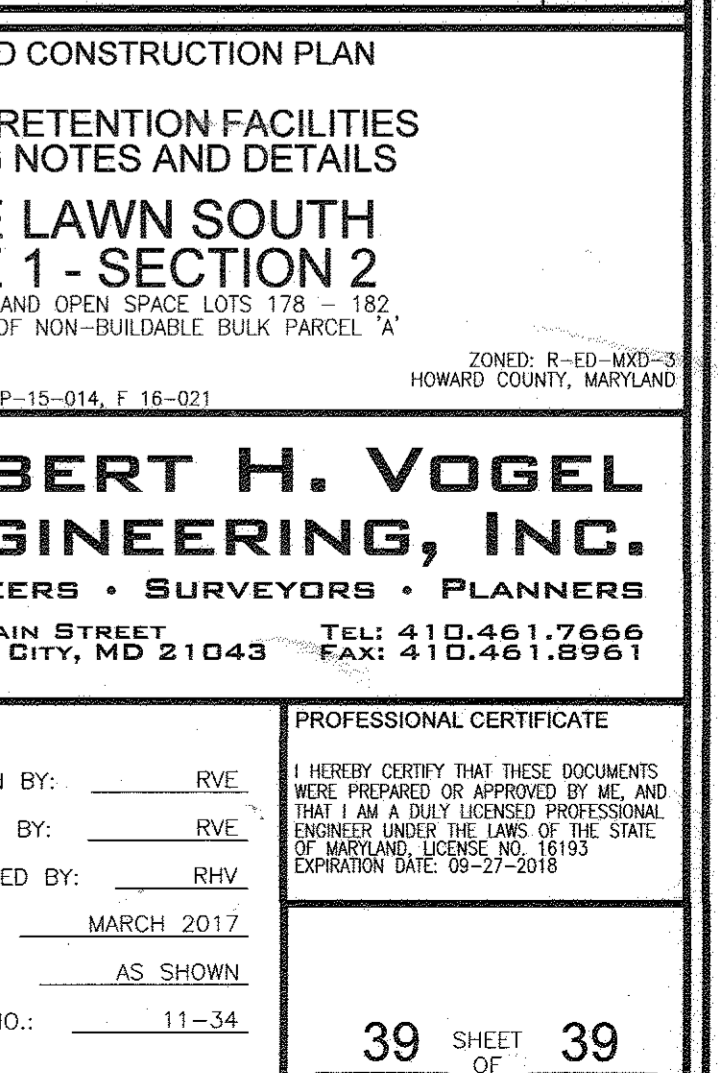
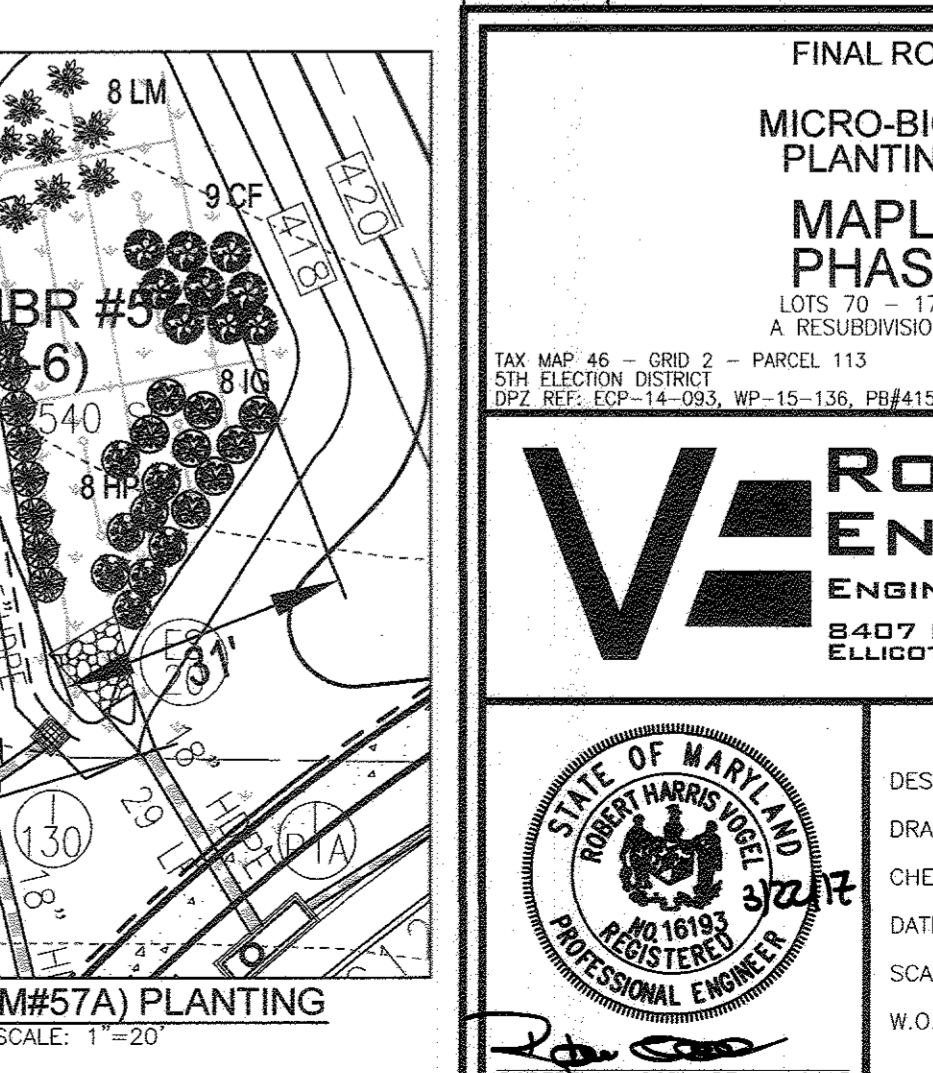
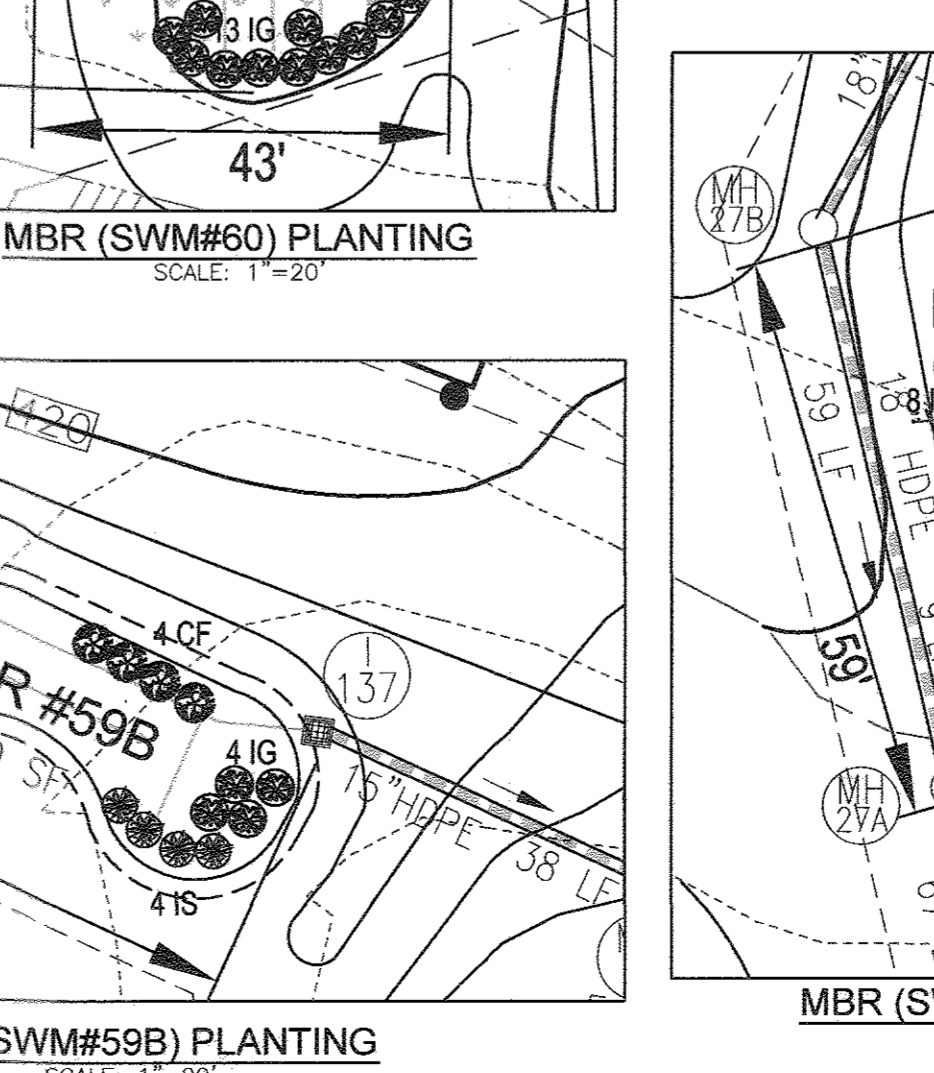
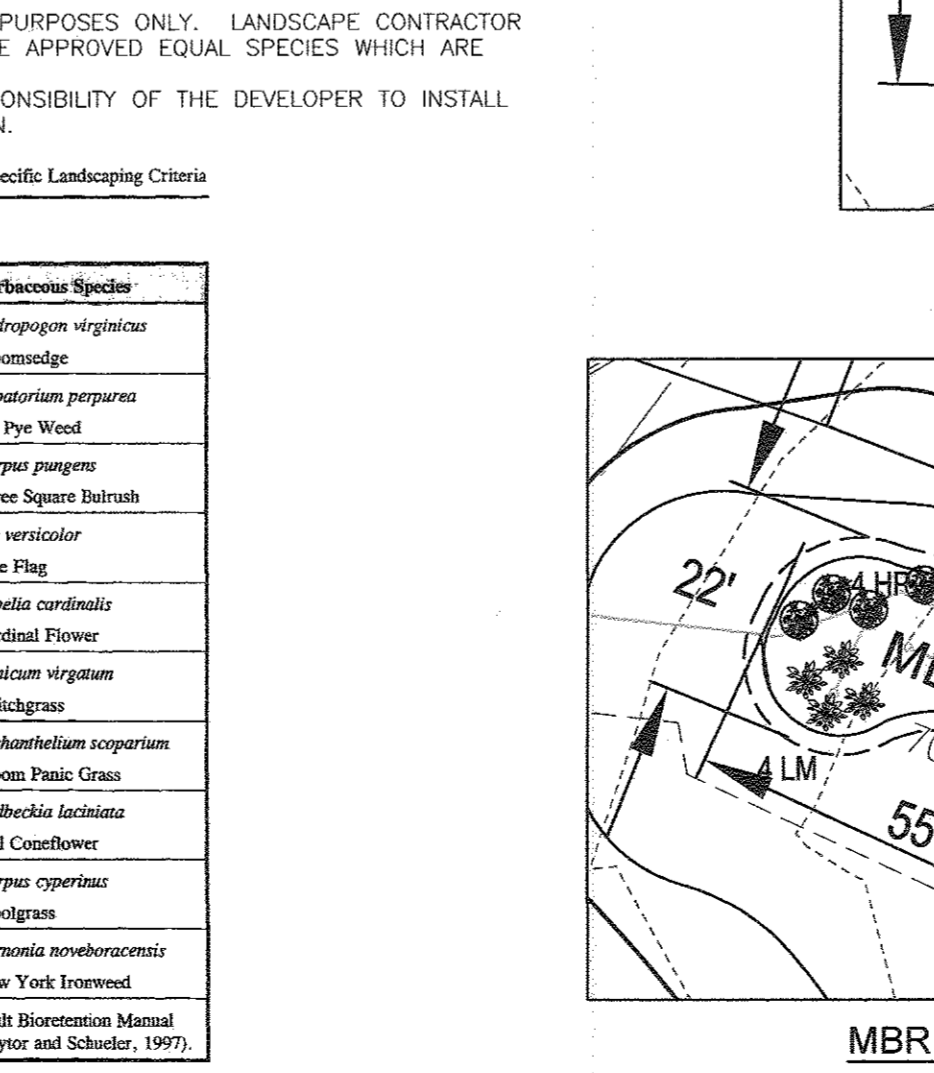
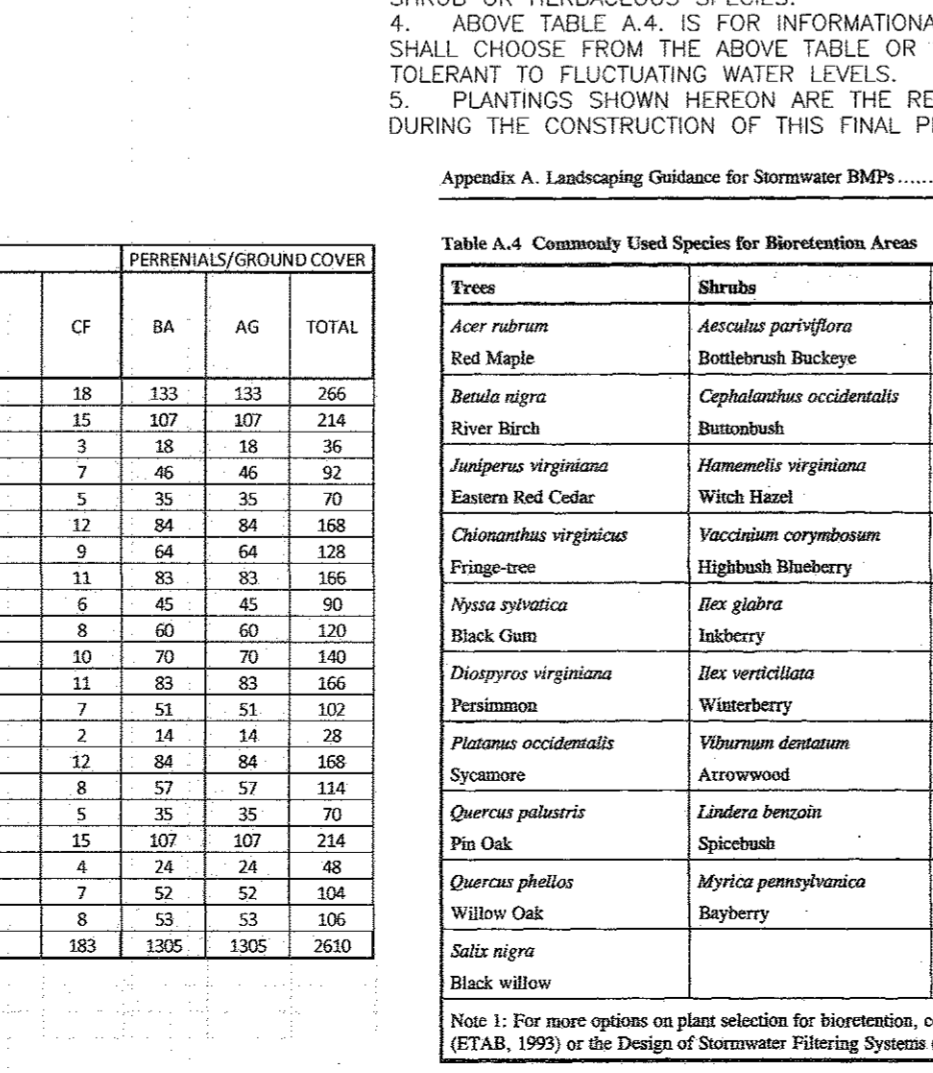
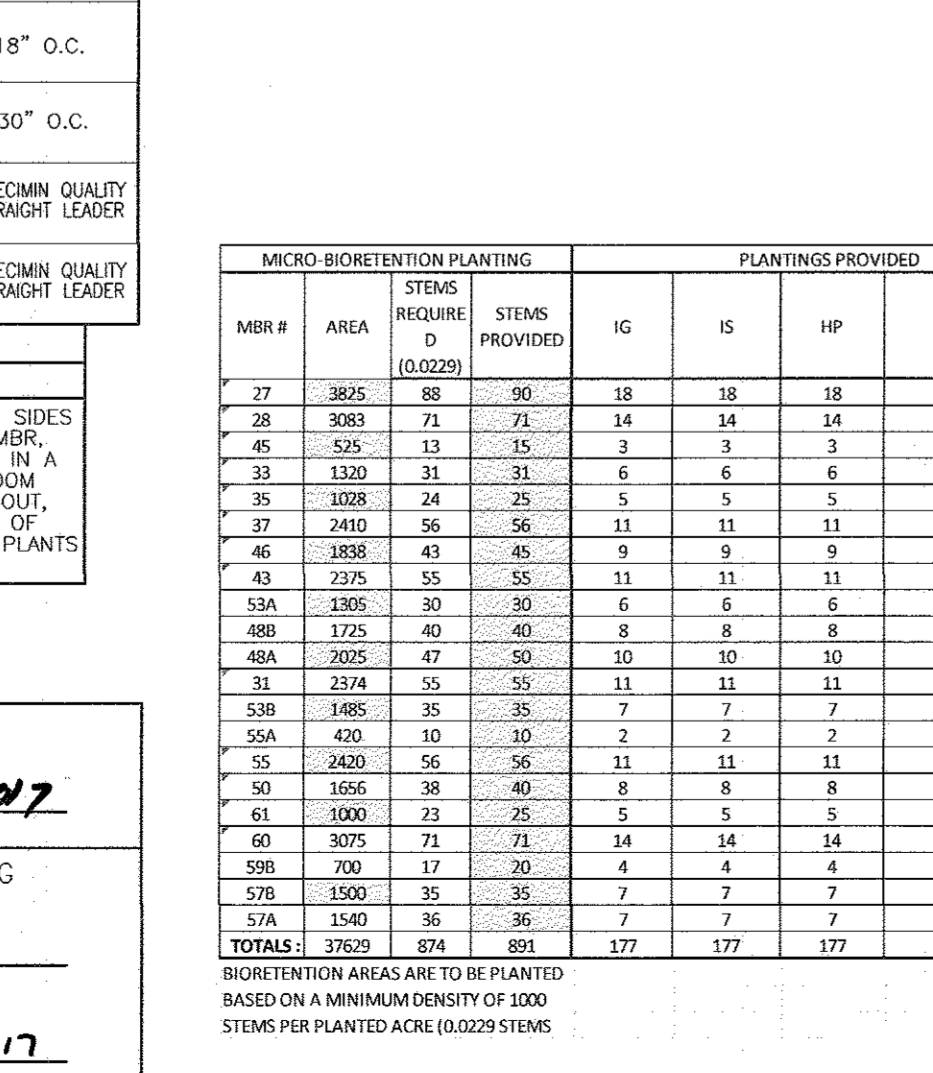
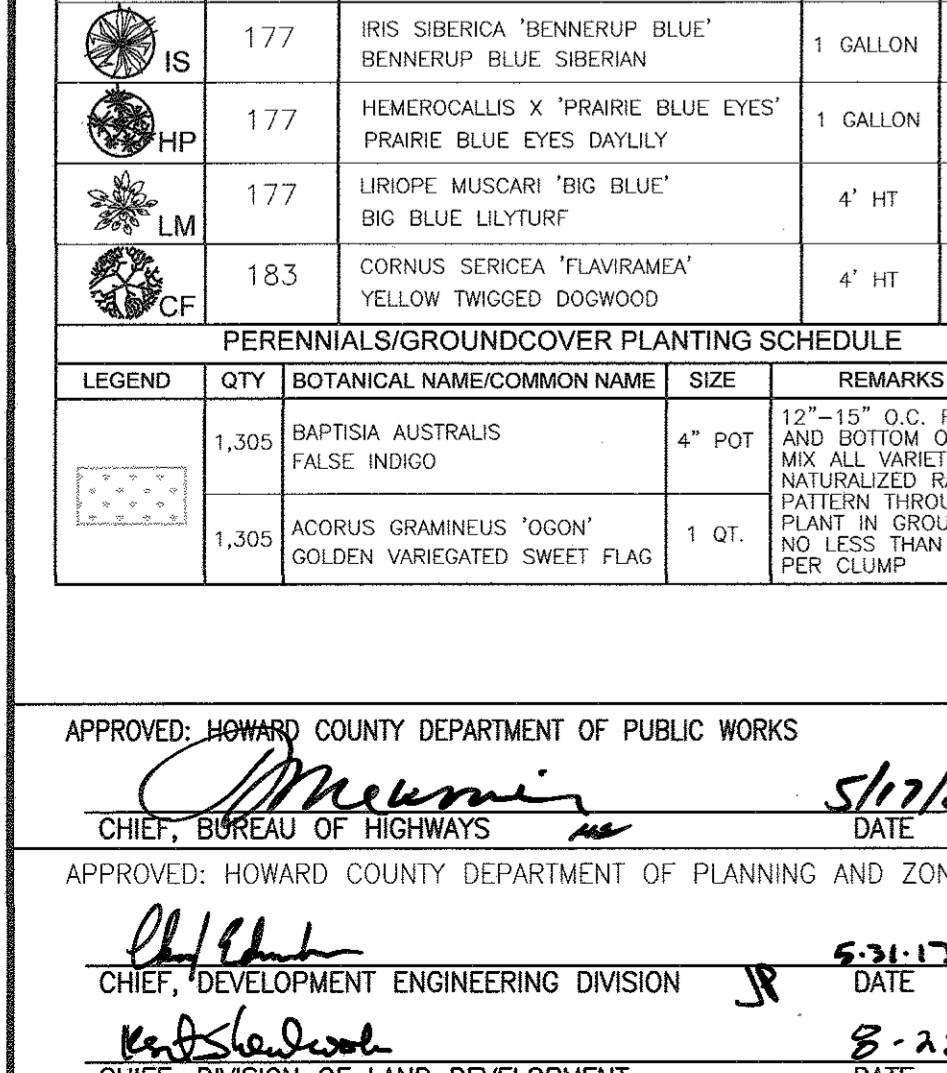
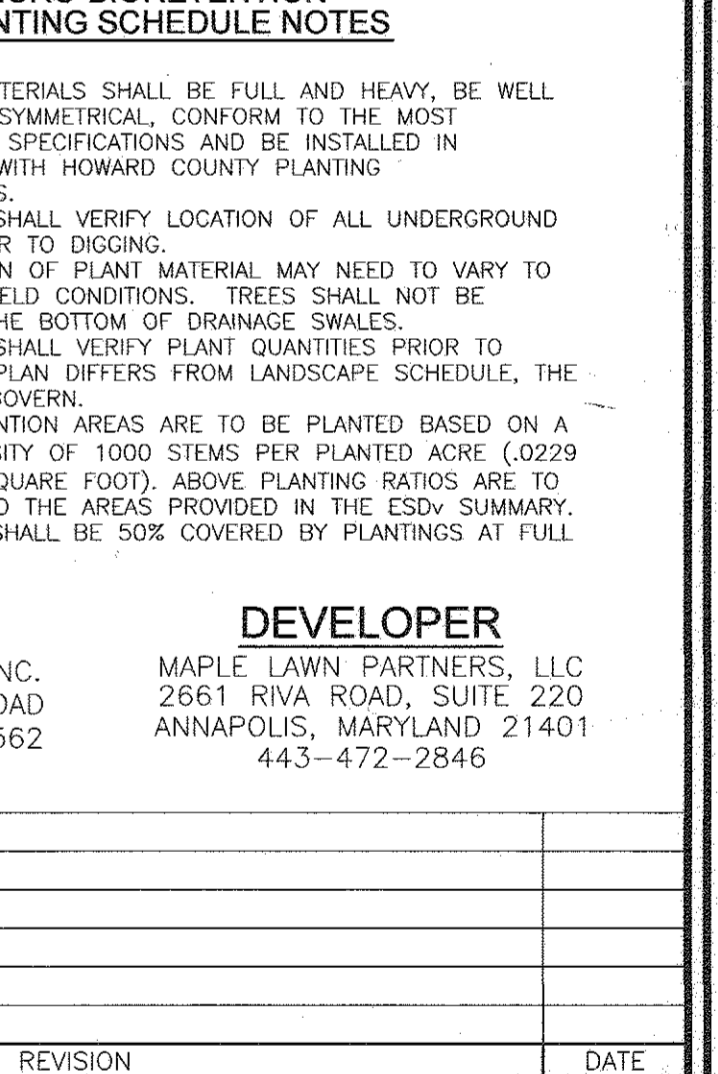
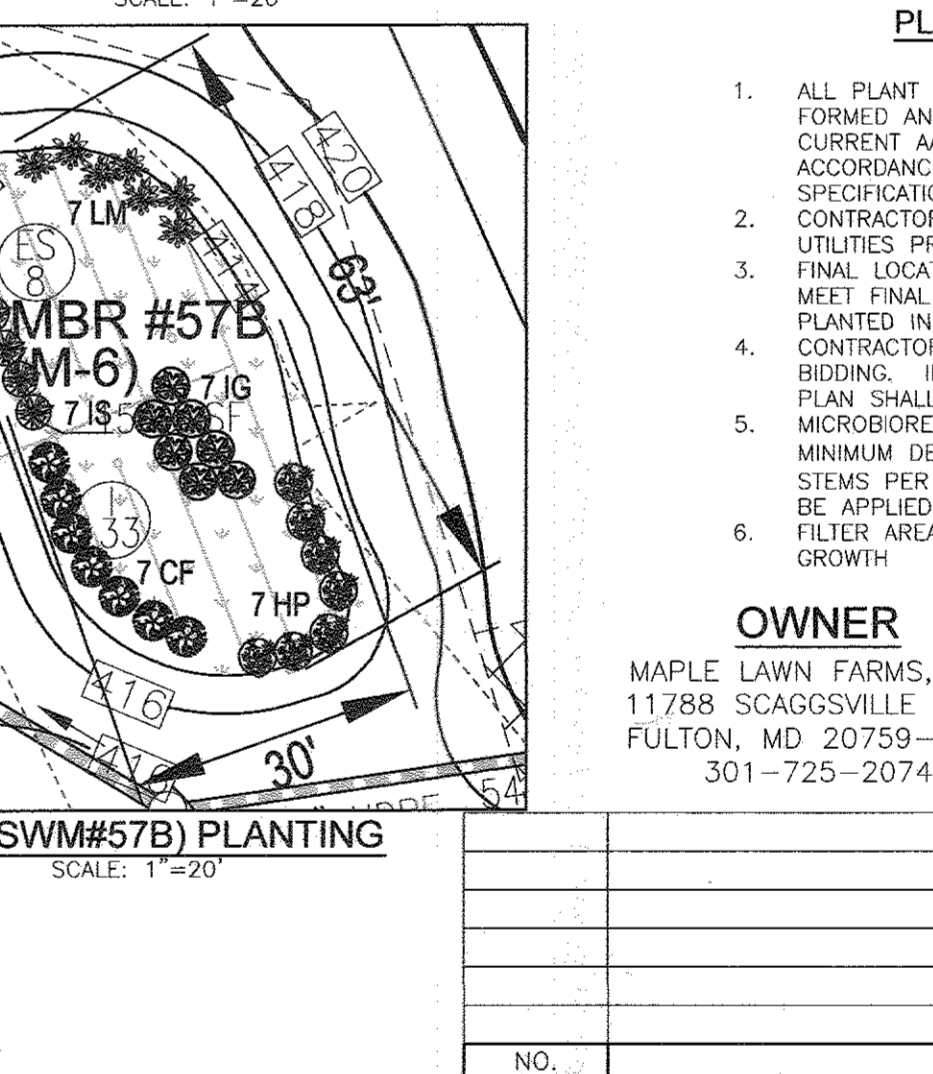
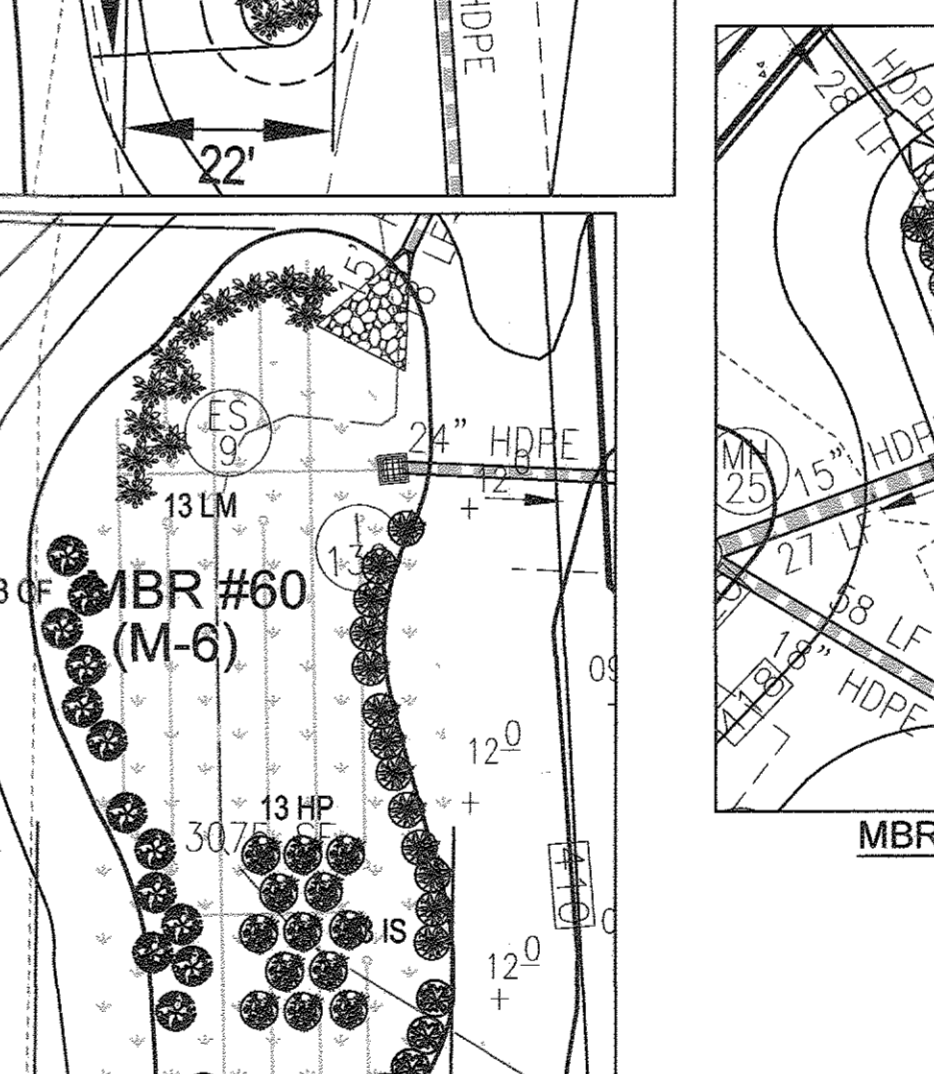
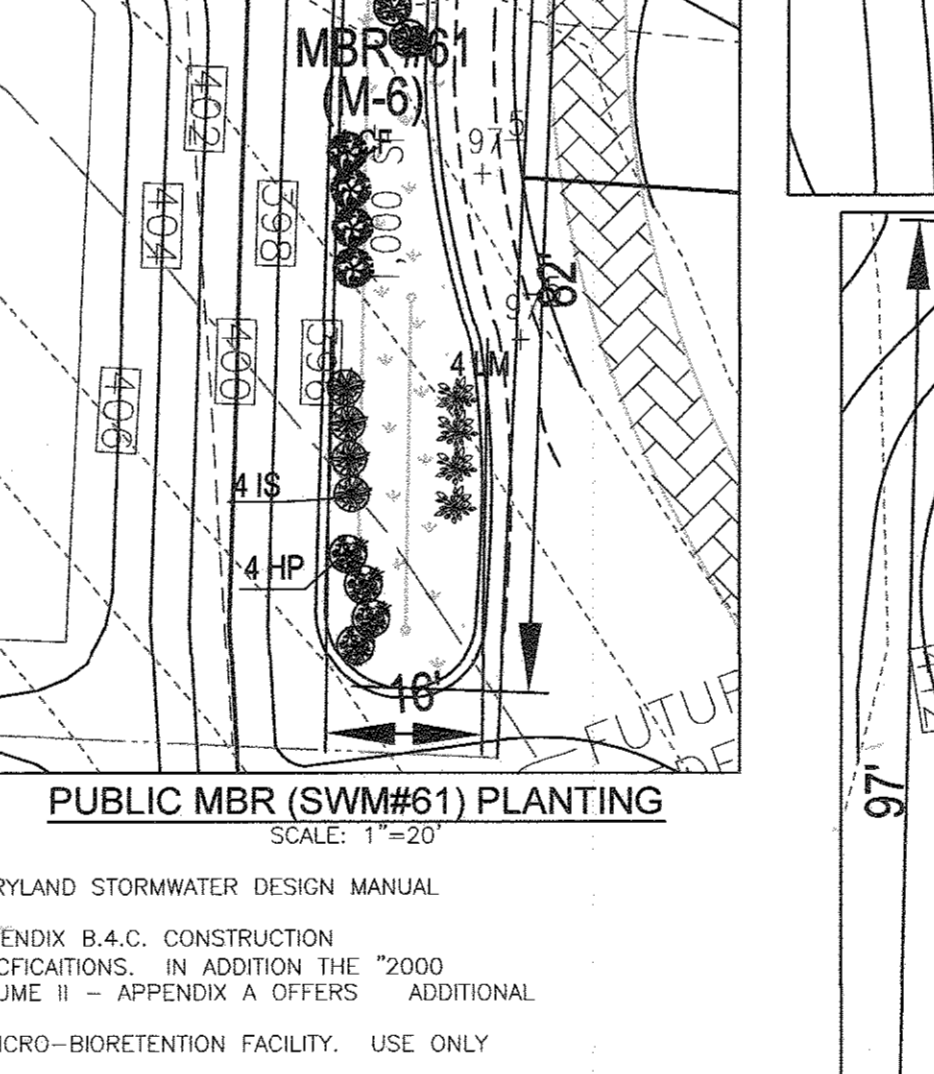
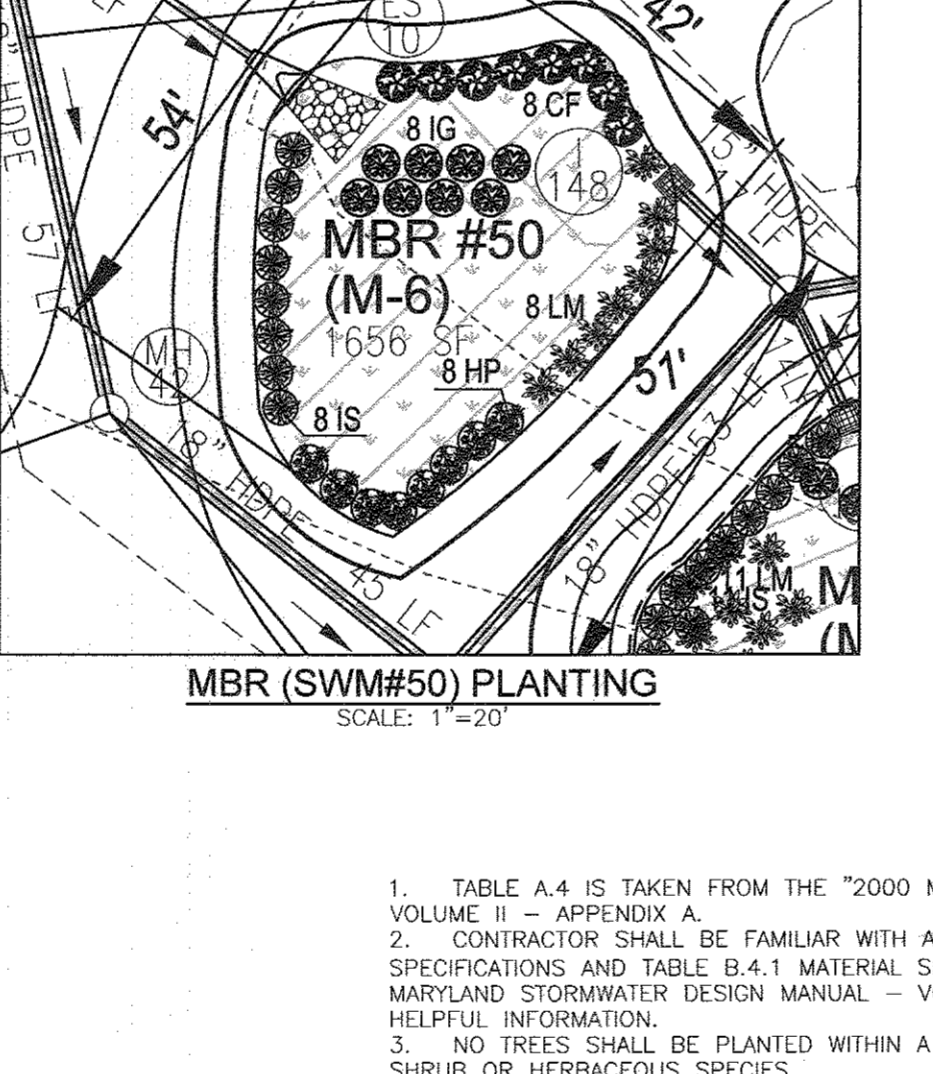
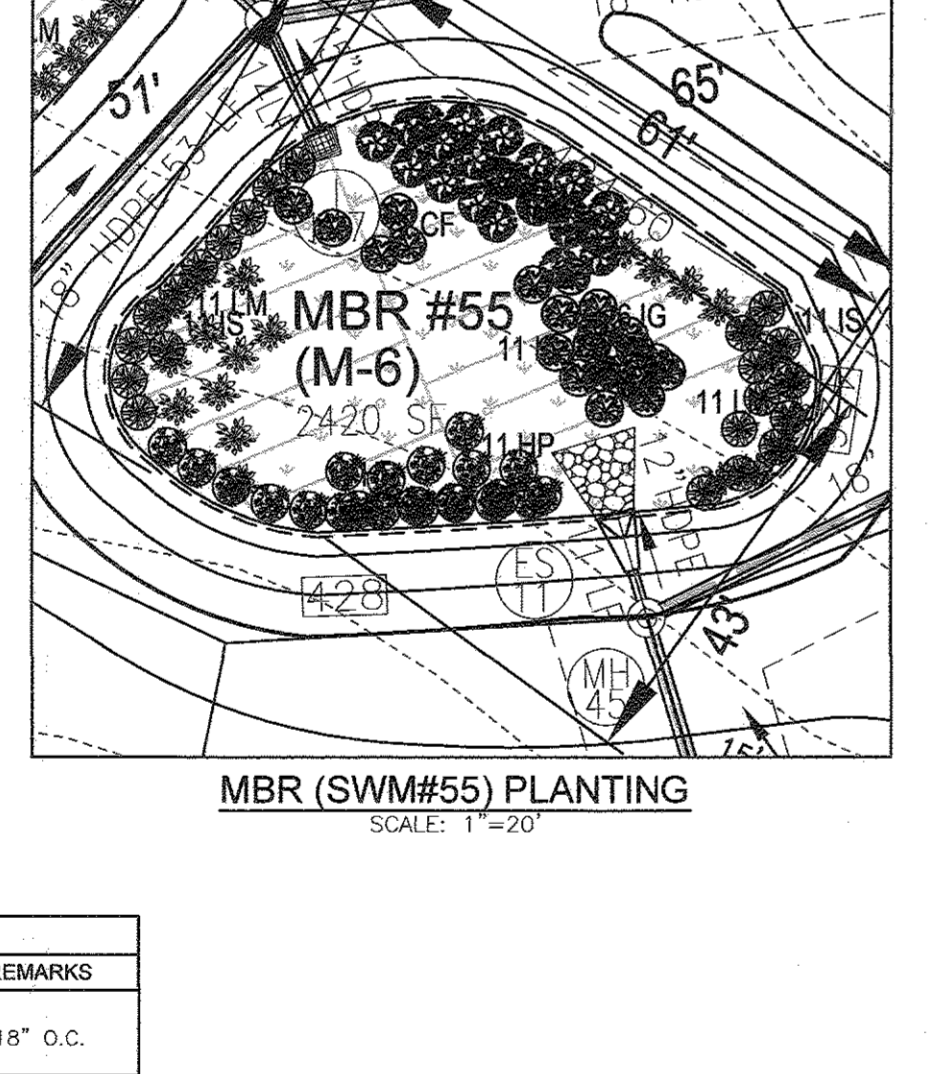
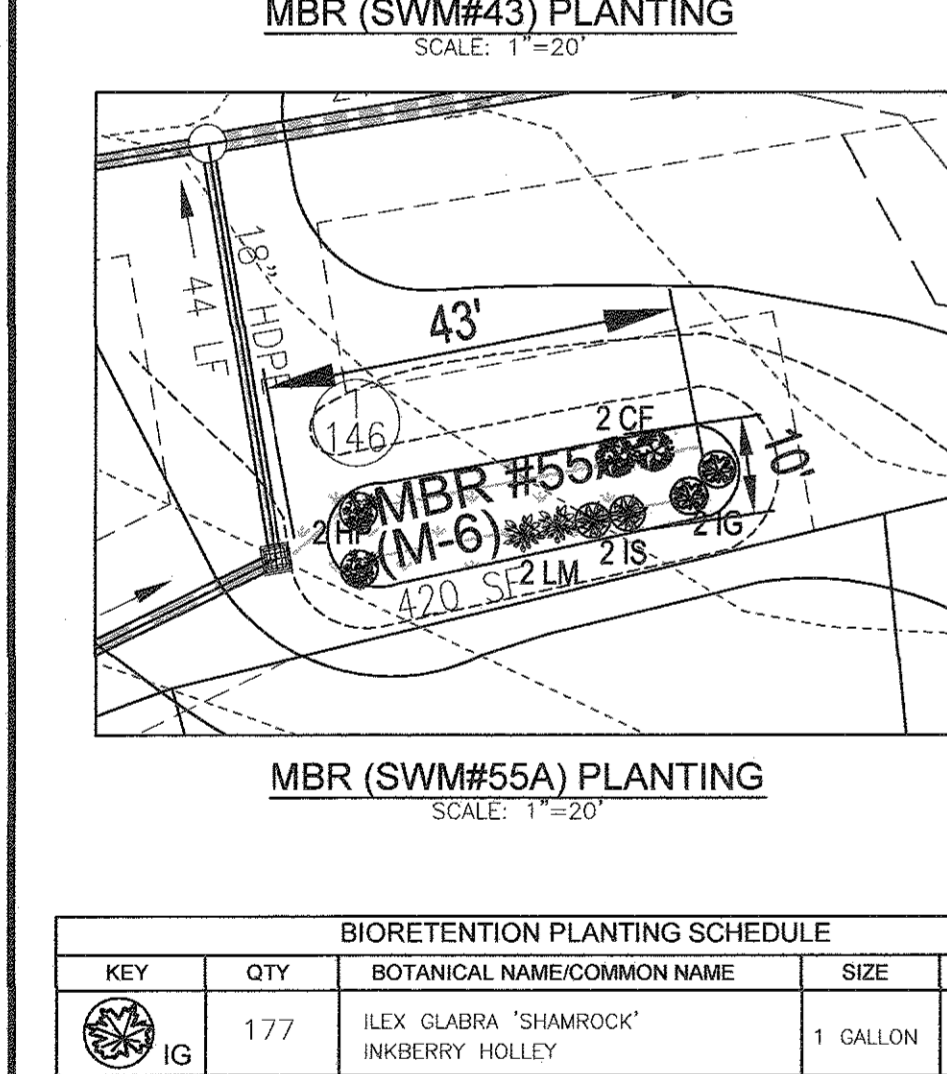
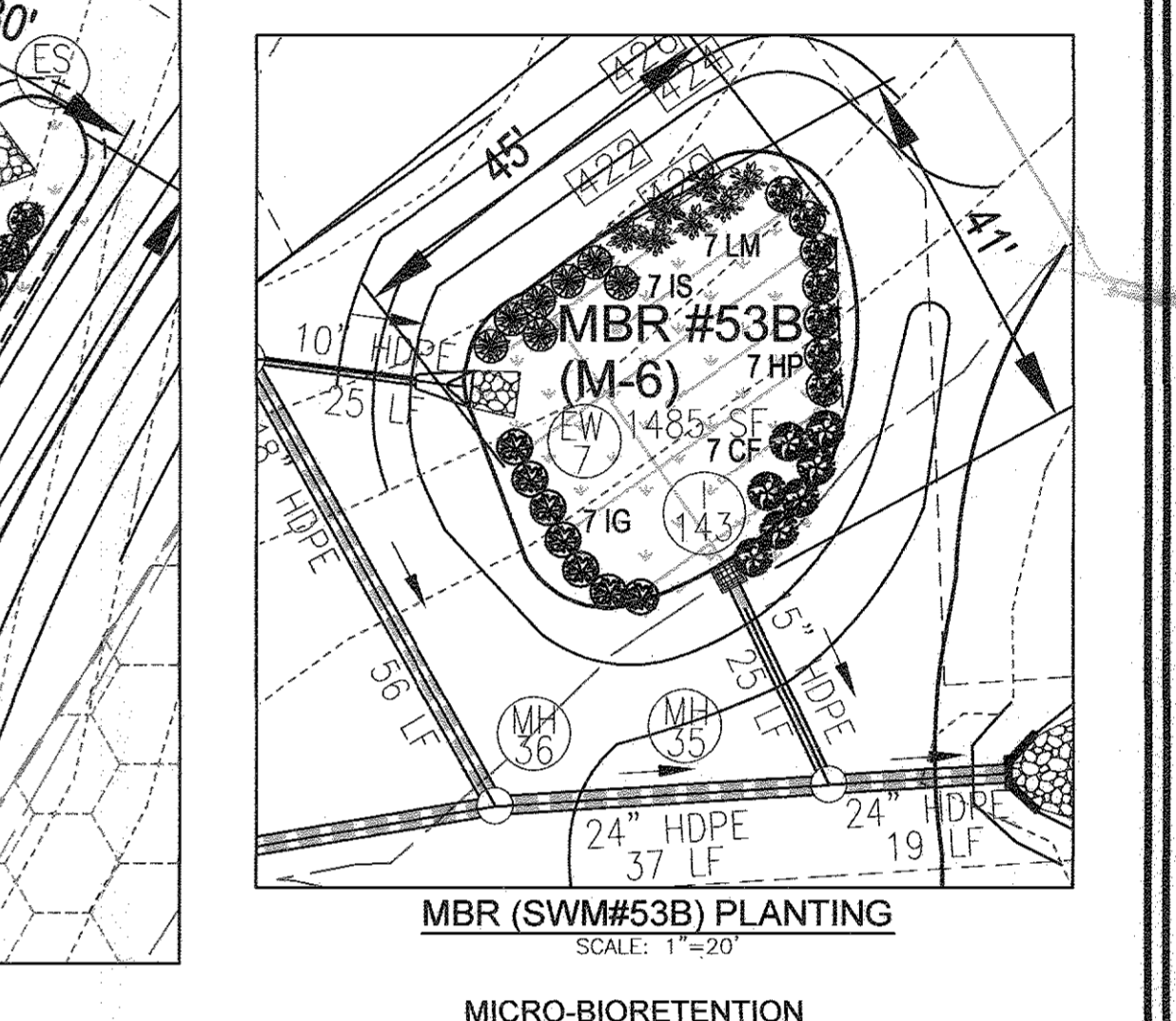
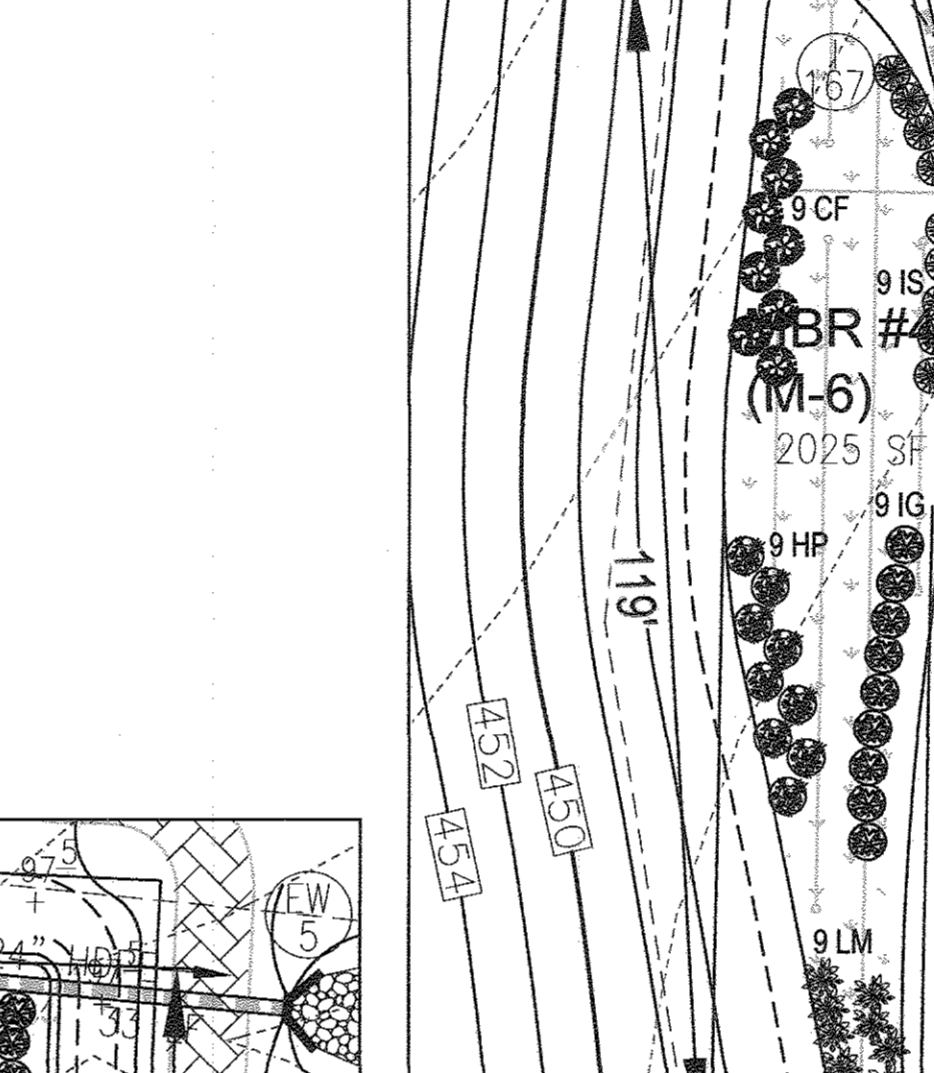
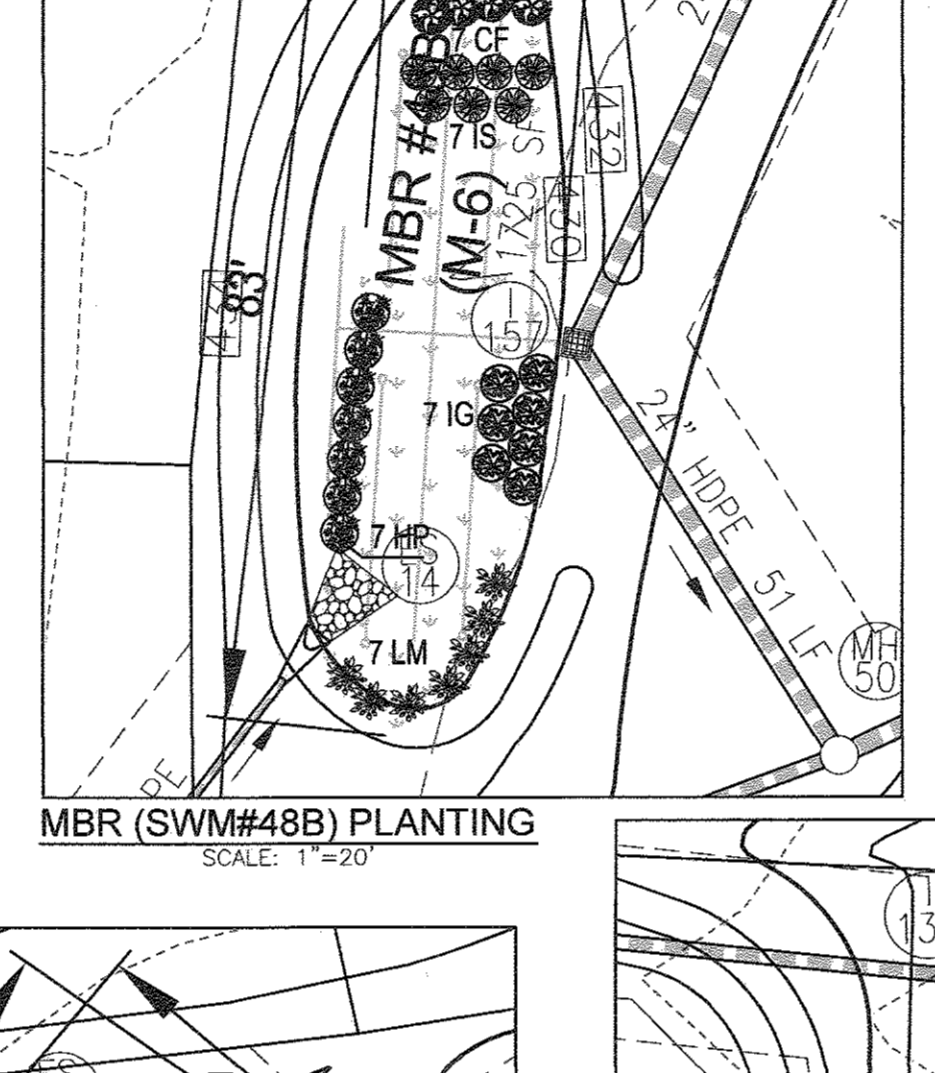
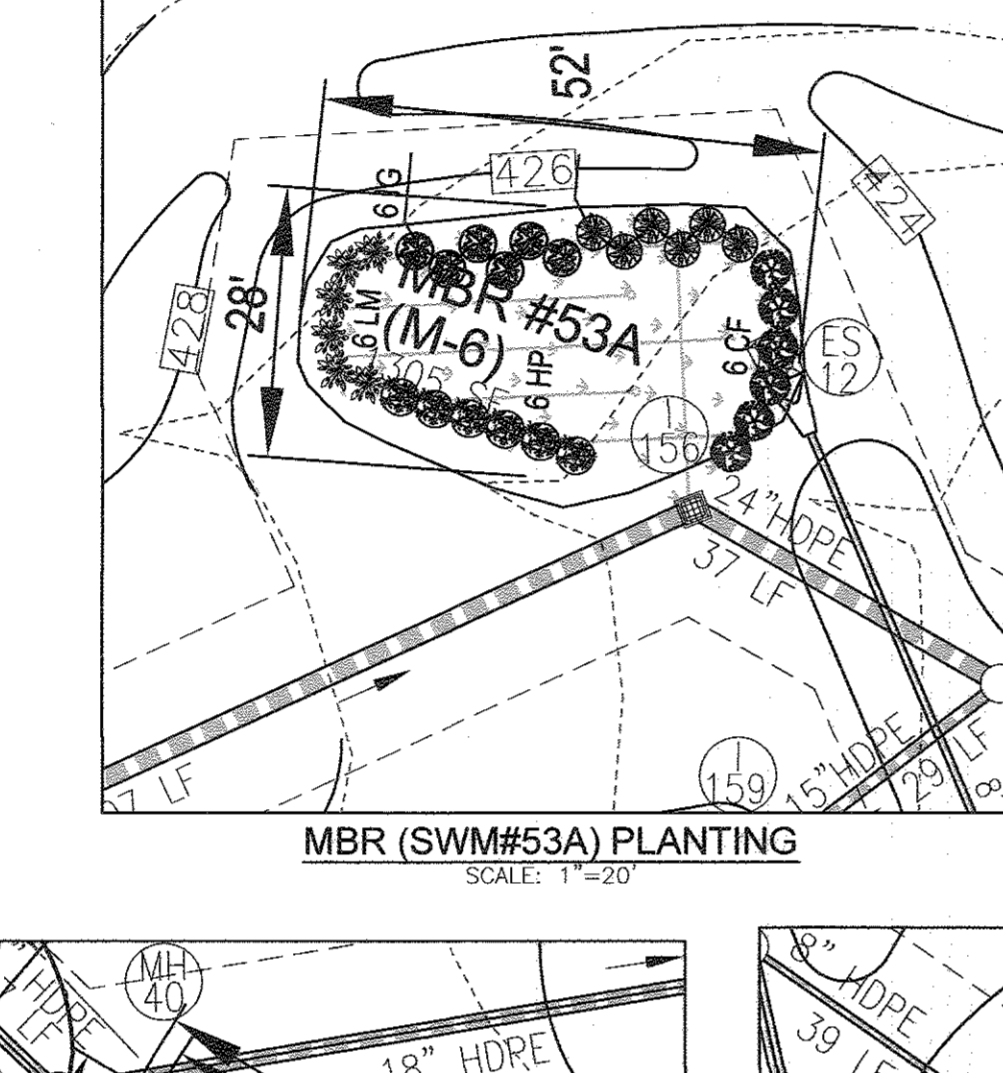
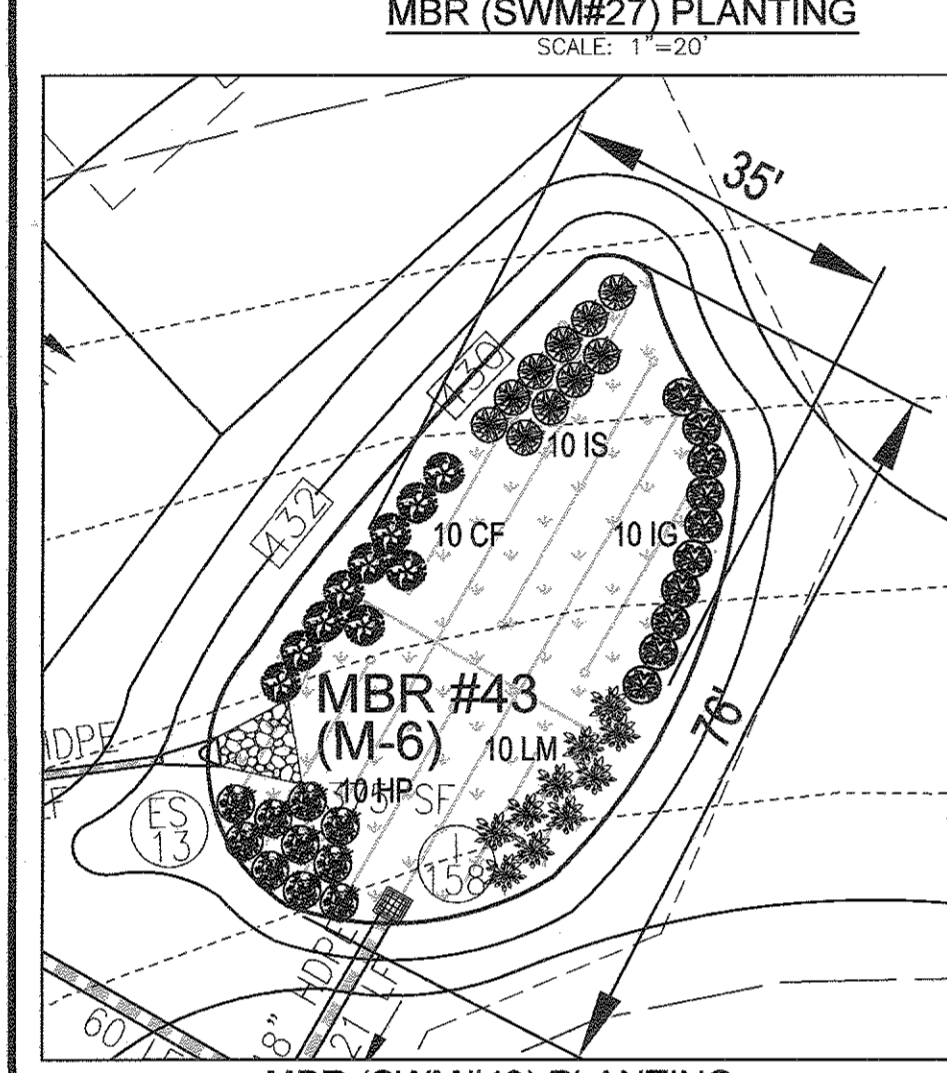
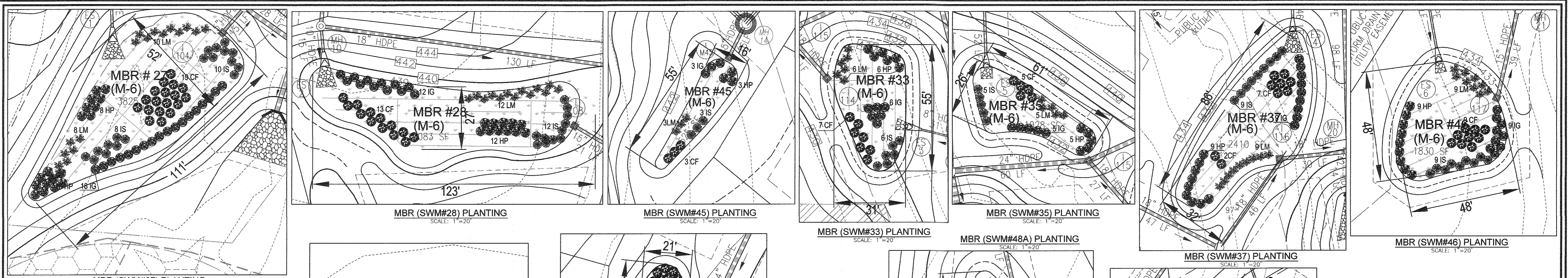
OWNER: MAPLE LAWN FARMS, INC., 11788 SCAGSVILLE ROAD, FULTON, MD 20759-0562, 301-725-2074
 DEVELOPER: MAPLE LAWN PARTNERS, LLC, 2661 RIVA ROAD, SUITE 220, ANNAPOLIS, MARYLAND 21401, 443-472-2846

FINAL ROAD CONSTRUCTION PLAN
 STORMWATER MANAGEMENT
 NOTES AND DETAILS AND SOIL BORING LOGS

MAPLE LAWN SOUTH
 PHASE 1 - SECTION 2
 LOTS 10 - 17 AND OPEN SPACE LOTS 178 - 182;
 A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL A;
 TAX MAP 46 - GRID 2 - PARCEL 113
 5TH ELECTION DISTRICT
 DFC REG. EOP-14-093, WP-15-136, PR#415, SP-15-014, F 16-021
 ZONED: R-ED-MXD-3
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS - SURVEYORS - PLANNERS
 8407 MAIN STREET, ELICOTT CITY, MD 21043
 TEL: 410-461-7666
 FAX: 410-461-8961

PROFESSIONAL CERTIFICATE
 DESIGN BY: RVE
 DRAWN BY: RVE
 CHECKED BY: RHV
 DATE: MARCH 2017
 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. 18193, EXPIRATION DATE 09-27-2018.
 38 SHEET OF 39



MICRO-BIORETENTION PLANTING SCHEDULE NOTES

- ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HOWARD COUNTY PLANTING SPECIFICATIONS.
- 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. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
- CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLANT OFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.
- MICROBIORETENTION AREAS ARE TO BE PLANTED BASED ON A MINIMUM DENSITY OF 1000 STEMS PER PLANTED ACRE (0.0229 STEMS PER SQUARE FOOT). ABOVE PLANTING RATIOS ARE TO BE APPLIED TO THE AREAS PROVIDED IN THE ESDV SUMMARY. FILTER AREA SHALL BE 50% COVERED BY PLANTINGS AT FULL GROWTH.

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

1. TABLE A.4 IS TAKEN FROM THE "2000 MARYLAND STORMWATER DESIGN 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 - VOLUME 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 CHOOSE FROM THE ABOVE TABLE OR USE APPROVED EQUAL SPECIES WHICH ARE TOLERANT TO FLUCTUATING WATER LEVELS.
5. PLANTINGS SHOWN HEREON ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL DURING THE CONSTRUCTION OF THIS FINAL PLAN.

Appendix A. Landscaping Guidance for Stormwater BMPs.....Specific Landscaping Criteria

Table A.4 Commonly Used Species for Bioretention Areas

MBR #	AREA	REQUIRE D (0.0229)	STEMS PROVIDED	IG	IS	HP	LM	CF	BA	AG	TOTAL
27	3825	88	90	18	18	18	18	18	133	133	266
28	3083	71	71	14	14	14	14	15	107	107	214
45	525	13	15	3	3	3	3	3	18	18	36
33	1329	31	31	6	6	6	6	7	46	46	92
35	1028	24	25	5	5	5	5	5	35	35	70
37	2410	56	56	11	11	11	11	12	84	84	168
46	3858	43	45	9	9	9	9	9	64	64	128
48	2225	55	55	11	11	11	11	11	88	88	176
53A	2305	30	30	6	6	6	6	6	45	45	90
53B	1725	40	40	8	8	8	8	8	60	60	120
50A	2025	47	50	10	10	10	10	10	70	70	140
51	2214	50	52	11	11	11	11	11	83	83	166
55B	1485	35	35	7	7	7	7	7	51	51	102
55A	420	10	10	2	2	2	2	2	14	14	28
55	2420	56	56	11	11	11	11	12	84	84	168
50	1656	38	40	8	8	8	8	8	57	57	114
61	1000	23	25	5	5	5	5	5	35	35	70
60	3075	71	71	14	14	14	14	15	107	107	214
59B	290	17	20	4	4	4	4	4	24	24	48
57B	1500	35	35	7	7	7	7	7	52	52	104
57A	1540	36	36	7	7	7	7	7	53	53	106
TOTALS	2763	824	824	177	177	177	177	183	1305	1305	2610

Tree	Shrub	Herbaceous Species
<i>Acer rubrum</i>	<i>Antennaria perfoliata</i>	<i>Andropogon virginicus</i>
<i>Rod Maple</i>	<i>Bouteloua curtipendula</i>	<i>Bromus</i>
<i>Betula nigra</i>	<i>Ophthalmodiscus occidentalis</i>	<i>Eragrostis pectinacea</i>
<i>River Birch</i>	<i>Burnsiana</i>	<i>Joe Pye Weed</i>
<i>Juncus virginiana</i>	<i>Hemodorum virginiana</i>	<i>Scirpus pungens</i>
<i>Eastern Red Cedar</i>	<i>Witch Hazel</i>	<i>Three Square Balm</i>
<i>Chamaecrista virginica</i>	<i>Vaccinium corymbosum</i>	<i>Iris versicolor</i>
<i>Prunella</i>	<i>Urtica dioica</i>	<i>Blue Flag</i>
<i>Nyssa sylvatica</i>	<i>Ilex glabra</i>	<i>Labelia cardinalis</i>
<i>Black Gum</i>	<i>Lobelia</i>	<i>Cardinal Flower</i>
<i>Diospyros virginiana</i>	<i>Ilex verticillata</i>	<i>Panicum virgatum</i>
<i>Periwinkle</i>	<i>Wintersbarr</i>	<i>Switchgrass</i>
<i>Platanus occidentalis</i>	<i>Viburnum dentatum</i>	<i>Dichanthium scoparium</i>
<i>Syringua</i>	<i>Astragalus</i>	<i>Brooms Panic Grass</i>
<i>Quercus palustris</i>	<i>Lindera benzoin</i>	<i>Rudbeckia laciniata</i>
<i>Pine Oak</i>	<i>Spiraea</i>	<i>Tall Coreopsis</i>
<i>Quercus phellos</i>	<i>Myrica pennsylvanica</i>	<i>Scirpus cyperoides</i>
<i>Willow Oak</i>	<i>Betula</i>	<i>Woolgrass</i>
<i>Solidago</i>		<i>Veronica zosterocarpa</i>
<i>Black willow</i>		<i>New York Ironweed</i>

Note: 1. For more options on plant selection for bioretention, consult Bioretention Manual (ETAB, 1999) or Design of Stormwater Filtering Systems (Clayton and Schaefer, 1997).

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

 CHIEF, BUREAU OF HIGHWAYS
 DATE: 5/17/2017

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 5/21/17

APPROVED: HOWARD COUNTY DEPARTMENT OF LAND DEVELOPMENT

 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 8-23-17

FINAL ROAD CONSTRUCTION PLAN
MICRO-BIORETENTION FACILITIES
PLANTING NOTES AND DETAILS
MAPLE LAWN SOUTH
PHASE 1 - SECTION 2
 LOTS 70 - 177 AND OPEN SPACE LOTS 178 - 182,
 A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A'

TAX MAP 46 - GRID 2 - PARCEL 113 ZONED: R-ED-MD-3
 5TH ELECTION DISTRICT
 DPZ REF: ECP-14-025, WP-15-136, PB#415, SP-15-014, F.16-021 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL
ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961

DESIGN BY: RVE
 DRAWN BY: RVE
 CHECKED BY: RHV
 DATE: MARCH 2017
 SCALE: AS SHOWN
 W.O. NO.: 11-34

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. 16193
 EXPIRATION DATE: 09-27-2018

STATE OF MARYLAND
 ROBERT H. VOGEL
 REGISTERED PROFESSIONAL ENGINEER
 LICENSE NO. 16193
 EXPIRES 09/27/2018

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