SUPPLEMENTAL INFORMATION PLAN

STELLA GLEN II - LOTS 8-17

A RE-SUBDIVISION OF STELLA GLEN LOTS 1-7 & A SUBDIVISION OF PARCEL 346

GENERAL NOTES

1. THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
3. THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK ON THESE DRAWINGS:

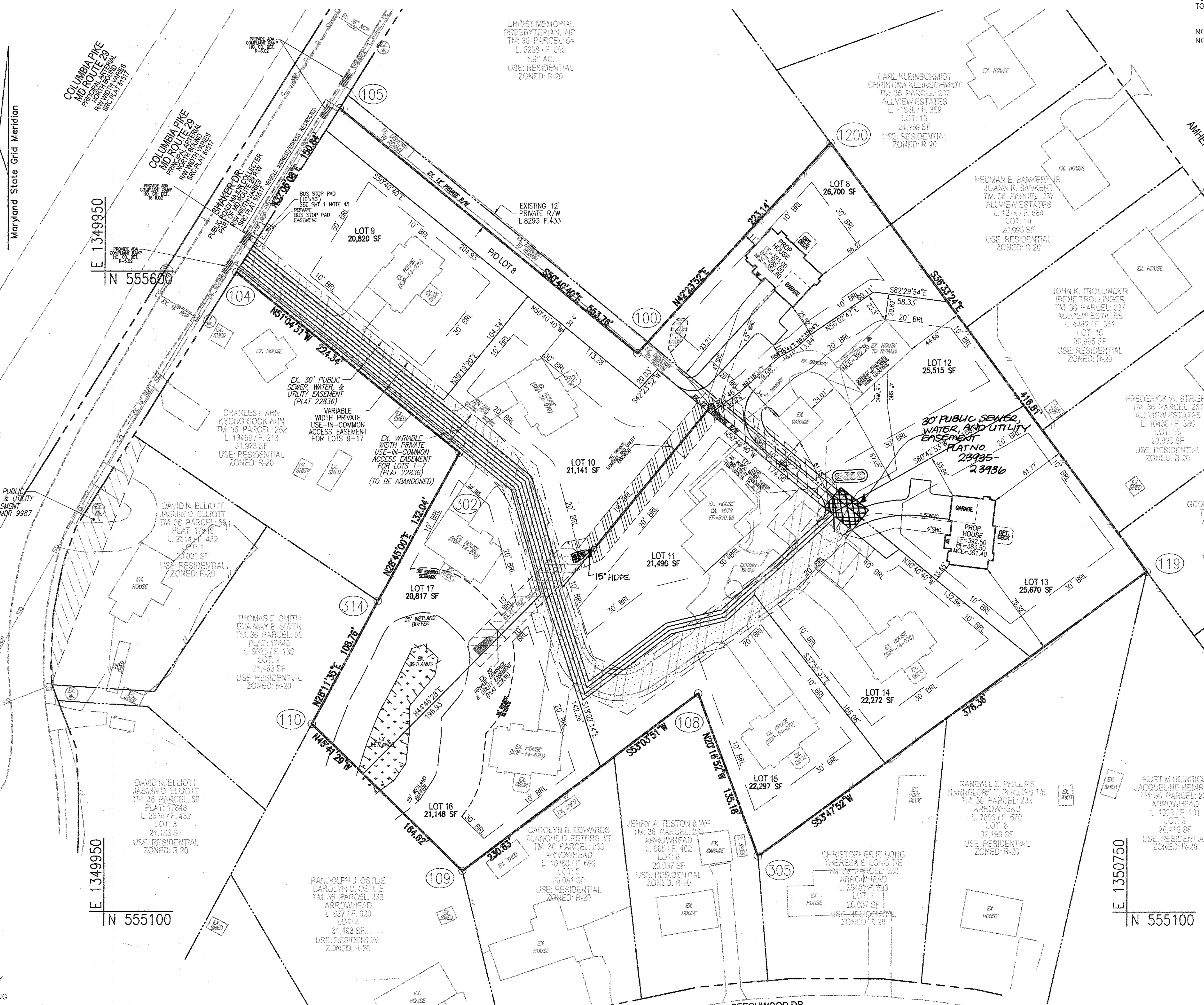
MISS UTILITY	1-800-257-7777
VERIZON TELEPHONE COMPANY:	1-410-954-6281
HOWARD COUNTY BUREAU OF UTILITIES:	410-313-2366
AT&T CABLE LOCATION DIVISION:	1-800-393-3553
B.G.&E. CO. CONTRACTOR SERVICES:	410-850-4620
B.G.&E. CO. UNDERGROUND DAMAGE CONTROL:	410-787-4620
STATE HIGHWAY ADMINISTRATION:	410-531-5533

4. THIS SUPPLEMENTAL INFORMATION PLAN IS SUBJECT TO THE FOLLOWING DPZ FILES: ECP-13-024, CONT. #24-3108, WP-13-138, SP-13-009, F-14-049, SDP-14-070, CONT. 14-4794-D, AND ECP-15-025 (APPROVED 01/13/15).
5. THE EXISTING TOPOGRAPHY IS TAKEN FROM A FIELD RUN TOPOGRAPHIC SURVEY WITH 2-FOOT CONTOUR INTERVALS PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED JUNE 2012 AND UPDATED JULY 2014. OFFSITE TOPO FROM HOWARD COUNTY GIS.
6. THE PROJECT BOUNDARY SHOWN HEREON IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT JUNE, 2012 BY ROBERT H. VOGEL ENGINEERING, INC., AND UPDATED SEPTEMBER 2014.
7. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
8. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
9. ANY DAMAGE TO PUBLIC RIGHT-OF-WAY, PAVING, OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
10. TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL GROUNDS, CEMETERIES, OR HISTORIC STRUCTURES LOCATED ON THIS SUBJECT PROPERTY.
11. STORM WATER MANAGEMENT FOR THIS PROJECT IS PROVIDED BY THE USE OF NON-STRUCTURAL PRACTICES AND MICRO-SCALE PRACTICES IN ACCORDANCE WITH ENVIRONMENTAL SITE DESIGN CRITERIA. THESE FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED.
12. THIS SUBDIVISION IS SUBJECT TO SECTION 18.122B OF THE HOWARD COUNTY CODE. PUBLIC WATER AND/OR SEWER SERVICE HAS BEEN GRANTED UNDER THE TERMS AND PROVISIONS, THEREOF, EFFECTIVE 05/05/2014, ON WHICH DATE DEVELOPER AGREEMENT #F-14-049 WAS FILED AND ACCEPTED.
13. THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. DEVELOPMENT OR CONSTRUCTION OF THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION, OR BUILDING AND GRADING PERMITS.
14. THE SUBJECT PROPERTY IS ZONED "R-20" IN ACCORDANCE WITH THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN AND IS SUBJECT TO THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS EFFECTIVE 10/2/03 PER COUNCIL BILL 75-2003.
15. THIS SITE IS NOT LOCATED IN A HISTORIC DISTRICT.
16. THE WETLANDS DELINEATION STUDY FOR F14-049 WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED SEPTEMBER 12, 2012, AND APPROVED ON JUNE 20, 2013. THERE ARE NO PROPOSED DISTURBANCES TO THE WETLANDS OR ASSOCIATED BUFFERS.
 -PARCEL 346 - BASED ON ECO-SCIENCE PROFESSIONALS, INC. C/O MR. JOHN CANOLES, NOVEMBER 14, 2014. NO WETLANDS OR STREAMS ARE PRESENT ON OR IMMEDIATELY ADJACENT TO THE SUBJECT PROPERTY
17. EXISTING UTILITIES ARE BASED ON ROAD CONSTRUCTION PLANS, FIELD SURVEYS, PUBLIC WATER AND AND SEWER EXTENSION PLANS AND AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTORS INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
18. 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. 35I3 AND 41CC WERE USED FOR THIS PROJECT.
19. NO RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED ON THE PROPERTY.
20. THERE IS NO 100-YR FLOODPLAIN WITHIN THE LIMITS OF THIS SITE.
21. SEDIMENT AND EROSION CONTROL WILL BE PROVIDED FOR THIS SITE UNDER THE FUTURE SDP.
22. -PARCEL 58 - A FOREST STAND DELINEATION PLAN WAS PREPARED UNDER F14-049 BY ECO-SCIENCE PROFESSIONALS, INC., DATED SEPTEMBER 12, 2012.
 -PARCEL 346 - BASED ON ECO-SCIENCE PROFESSIONALS, INC. C/O MR. JOHN CANOLES, NOVEMBER 14, 2014, NO PORTIONS OF PARCEL 346 WOULD BE CONSIDERED FOREST AND NO SPECIMEN TREES ARE PRESENT ON THE SITE.
23. A TOTAL OF 10 LOTS ARE PROPOSED UNDER THIS PLAN. 7 FROM F14-049 TO BE RECONFIGURED, 2 PROPOSED, AND 1 EXISTING LOT TO REMAIN.
24. NO CLEARING, GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING OR NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF THE WETLANDS OR THEIR REQUIRED BUFFERS.
25. A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT. A NOISE WALL IS REQUIRED FOR THIS SITE AND WILL BE CONSTRUCTED IN ACCORDANCE WITH SHA PROJECT HO-3175170 WHICH IS FUNDED FOR CONSTRUCTION.
26. FOREST CONSERVATION OBLIGATIONS IN ACCORDANCE WITH SECTION 16.1202 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL HAVE BEEN MET.
 - F14-049 MET THE OBGLIGATION BY THE PLACEMENT OF 2.76 AC. (2:1 RATIO) OF RETENTION INTO AN OFF-SITE FOREST CONSERVATION BANK IDENTIFIED AS DENSITY SOLUTIONS, APPROVED UNDER SDP-13-059FC WHICH WAS SUFFICIENT TO MEET THE 1.28 ACRES OF REQUIRED REFORESTATION AND 0.10 ACRES OF REQUIRED AFFORESTATION.
 - FOREST CONSERVATION OBLIGATIONS FOR THIS FINAL PLAN WILL BE MET BY A FEE-IN-LIEU PAYMENT OF $7,188. MADE OUT TO HOWARD COUNTY FOREST CONSERVATION FUND FOR THE 0.22 ACRE AFFORESTATION REQUIREMENT FOR THIS PROJECT.
 FEE-IN-LIEU - (0.22 AC.) 9,583.2 SF x .75 = $7,188.
27. DRIVEWAY(S) SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE 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. (1-1/2" MIN).
 c) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM 45-FOOT TURNING RADIUS.
 d) STRUCTURE (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 INSURE ALL WEATHER USE.
28. THERE ARE EXISTING DWELLINGS TO REMAIN LOCATED ON LOTS 11 AND 12. THE EXISTING DRIVEWAY TO LOT 11 SHALL BE UTILIZED AS ROAD ACCESS FOR LOT 12, REMAINING PORTIONS TOWARD LOT 11 SHALL BE REMOVED AND PHOTOGRAPHIC EVIDENCE OF REMOVAL SHALL BE PROVIDED PRIOR TO RECORDATION OF THE FINAL PLAT.
 ACCESS TO LOT 11 SHALL BE FROM UIC SHARED DRIVEWAY FOR LOTS 9 TO 17.
 - ANY NEW ADDITIONS OR NEW CONSTRUCTION TO THE EXISTING DWELLINGS SHALL CONFORM TO SETBACKS AS SHOWN ON THE FINAL PLAT FOR THIS SUBDIVISION.
29. SHAKER DRIVE IS NOT A SCENIC ROAD. IT IS CLASSIFIED AS A MAJOR COLLECTOR.
30. A USE-IN-COMMON MAINTENANCE AGREEMENT FOR THE SHARED DRIVEWAY FOR LOTS 9 TO 17 WILL BE RECORDED SIMULTANEOUSLY WITH THE PLAT IN THE LAND RECORDS OF HOWARD COUNTY, MD.
31. FLAG AND PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE FOR LOTS 8-17 ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND ROAD RIGHT-OF-WAY LINE AND NOT ONTO THE PIPESTEM LOT DRIVEWAY.
32. LANDSCAPING OBLIGATIONS HAVE BEEN PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
 - F14-049 PROVIDED A FINANCIAL SURETY IN THE AMOUNT OF $8,850 FOR THE REQUIRED 25 SHADE TREES AND 45 SHRUBS SHALL BE POSTED WITH THE F14-049 DEVELOPERS AGREEMENT.
 - A FINANCIAL SURETY IN THE AMOUNT OF $3,900 WILL BE PROVIDED FOR THE REQUIRED 13 SHADE TREES FOR LOTS 8, 12, & 13 (2:1 ORNAMENTAL PLANTINGS SUBSTITUTED). POSTING OF SURETY IS DEFERRED TO GRADING/BUILDING PERMITS FILED AFTER SITE DEVELOPMENT PLAN APPROVAL.
33. DEED REFERENCE: L. 15747 / F. 001
34. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
35. A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLY SHALL BE FABRICATED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT EACH DRIVEWAY ACCESS POINT ONTO SHAKER DRIVE AT THE DEVELOPERS/OWNERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5752 FOR DETAILS AND COST ESTIMATES.
36. GEOTECHNICAL INVESTIGATIONS SHALL BE COMPLETED AS PART OF THE SITE DEVELOPMENT PLAN PACKAGE.
37. BG&E HAS REVIEWED AND APPROVED THE PROPOSED PERIMETER TREE PLANTINGS.
38. -A FEE-IN-LIEU OF OPEN SPACE FOR SIX (6) LOTS WAS PAID UNDER F14-049.
 -A FEE-IN-LIEU OF OPEN SPACE FOR TWO (2) LOTS SHALL BE PROVIDED UNDER THIS FINAL PLAN IN THE AMOUNT OF $3,000.00.
39. ALL EXISTING WELLS AND SEPTIC SYSTEM COMPONENTS MUST BE PROPERLY ABANDONED AND NOTIFICATION OF SUCH SENT TO THE HEALTH DEPARTMENT PRIOR TO HEALTH OFFICER SIGNATURE OF THE FINAL RECORD PLAT.
40. THE PROPOSED UNITS SHALL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
41. NO STEEP SLOPES OVER 20,000 SF ARE LOCATED ON THIS SITE.
42. WATER AND SEWER FOR THIS PROJECT WILL BE PUBLIC. WATER WILL BE PROVIDED THROUGH CONTRACT14-4794-D.
43. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
44. SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
 - A WHITE ON GROWN RANGE OF ADDRESS SIGN SHALL BE PROVIDED
45. THIS PROJECT IS SUBJECT TO A DESIGN MANUAL WAIVER UNDER F-14-049. ON MARCH 19, 2013 THE CHIEF OF THE DEVELOPMENT ENGINEERING DIVISION APPROVED THE REQUEST TO ALLOW SEVEN USERS ON A USE-IN-COMMON SHARED DRIVEWAY
 - AN AMENDED DESIGN MANUAL WAIVER TO ALLOW NINE USERS ON A USE-IN-COMMON SHARED DRIVEWAY WAS APPROVED BY THE DEVELOPMENT ENGINEERING DIVISION ON SEPTEMBER 1, 2015 UNDER THIS FINAL PLAN. APPROVAL IS SUBJECT TO PROVIDING A SCHOOL BUS PAD AND ADDING ITS MAINTENANCE TO THE USE-IN-COMMON DRIVEWAY MAINTENANCE AGREEMENT.
46. THIS PROJECT IS SUBJECT TO WP-13-138. ON MARCH 25, 2013; THE PLANNING DIRECTOR DENIED THE REQUEST, TO ALLOW FOREST CONSERVATION EASEMENTS ON LOTS LESS THAN 10 ACRES.
47. THE OFFICIAL PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT ON DECEMBER 10, 2014 AT EAST BRANCH COLUMBIA LIBRARY
48. - A TRAFFIC STUDY WAS PREPARED BY THE TRAFFIC GROUP, INC. DATED JULY 12, 2012 AND WAS APPROVED AS PART OF F-14-049, JUNE 20, 2013.
 - PARCEL 346, AN ADDENDUM/LETTER TO THE APPROVED TRAFFIC STUDY PREPARED BY THE TRAFFIC GROUP, INC. DATED JULY 12, 2012 (F14-049) HAS BEEN INCLUDED WITH THIS PLAN, APPROVED AUGUST 19, 2015.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[signature] 10-28-15
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

[signature] 11-02-15
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE



COVER SHEET & LAYOUT PLAN

SCALE: 1"=50'

SITE DATA

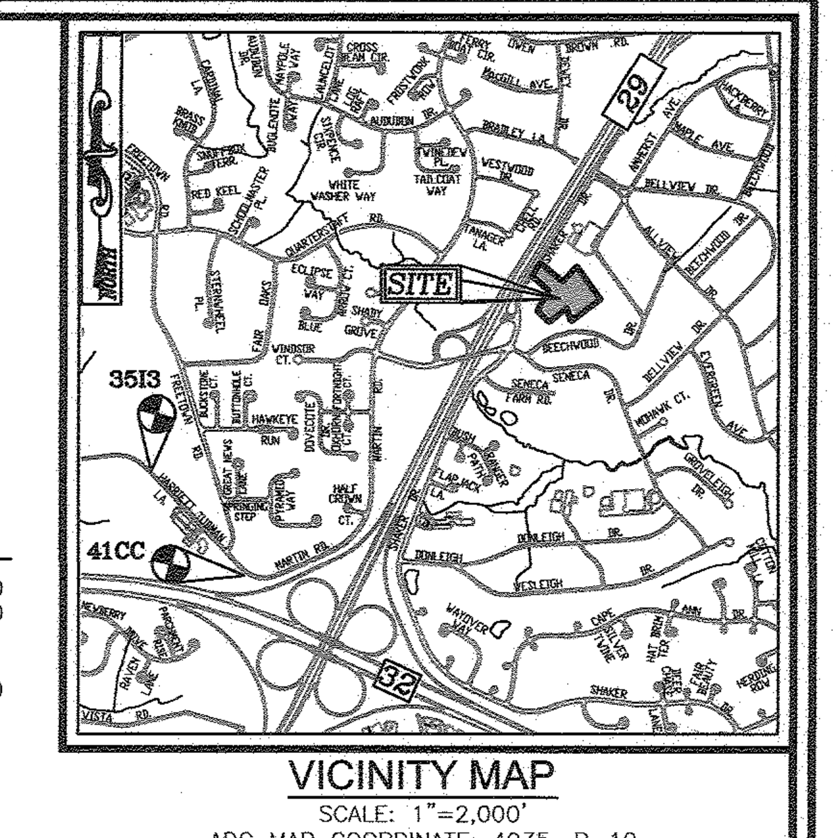
LOCATION: TAX MAP 36, BLOCK 19
PARCEL: 57, 58, 417 & 346
10590 SHAKER DRIVE, COLUMBIA, MARYLAND
DEED REFERENCE: L. 15747 / F. 001
6TH ELECTION DISTRICT
PRESENT ZONING: R-20
GROSS AREA OF PROJECT: 1.48 AC. (5.3 AC W/ RESUB)
LIMIT OF DISTURBANCE: 0.54 AC.
PROPOSED USE OF SITE: RESIDENTIAL (SFD)
NUMBER OF RESIDENTIAL LOTS PROPOSED: 3 LOTS
AREA OF RESIDENTIAL LOTS PROPOSED: 1.48 AC.
AREA OF PROPOSED ROADS AND OPEN SPACE DEDICATION: 0.00 AC.
OPEN SPACE REQUIRED: 0.09 AC. (6%)
OPEN SPACE PROVIDED: 0.00 AC.
IMPERVIOUS AREA: 0.19 AC.
AREA OF STREAM/BUFFER: 0.00 AC.
AREA OF WETLANDS/BUFFER: 0.00 AC.
AREA OF STEEP SLOPES (25% OR GREATER): 0.00 AC.
AREA OF FLOOD PLAIN: 0.00 AC.
NET PROJECT AREA: 1.48 AC.
AREA OF EXISTING FOREST COVER: 0.00 AC.
AREA OF ERODIBLE SOILS: 0.00 AC.

COORDINATE TABLE

NO.	NORTH	EAST
100	555535.96	1350366.45
104	555599.43	1350052.82
105	555727.21	1350132.98
108	555270.45	1350414.60
109	555131.86	1350230.26
110	555246.85	1350112.46
119	555365.94	1350765.16
302	555458.47	1350227.35
305	555143.65	1350461.46
314	555342.71	1350163.84
1200	555700.75	1350516.91

LOT TABULATION

TOTAL NO. OF PROPOSED LOTS:	10
TOTAL NO. OF DWELLING UNITS:	10
EXISTING DWELLING UNITS:	8
PROPOSED DWELLING UNITS:	2
NO. OF SINGLE FAMILY DETACHED:	10
NO. OF OPEN SPACE LOTS:	0



VICINITY MAP

SCALE: 1"=2,000'
ADC MAP COORDINATE: 4935, B-10

BENCHMARKS

HOWARD COUNTY BENCHMARK 35I3 (CONC. MON.)
N 553573.69 E 1346098.09 ELEV. 415.34
HARRIET TUBMAN LA. BY ATHOLTON HS

HOWARD COUNTY BENCHMARK 41CC (CONC. MON.)
MARTIN RD. NEAR CORNER OF FREETOWN RD.
N 552494.26 E 1347062.39 ELEV. 399.95

SHEET INDEX

DESCRIPTION	SHEET NO.
COVER SHEET AND LAYOUT PLAN	1 OF 5
GRADING PLAN	2 OF 5
DRAINAGE AREA MAP AND SWM PLAN	3 OF 5
LANDSCAPE AND FOREST CONSERVATION PLAN - NOTES AND DETAILS	4 OF 5
STORMWATER MANAGEMENT - NOTES & DETAILS	5 OF 5

LEGEND:

PROPERTY LINE
RIGHT-OF-WAY LINE
ADJACENT PROPERTY LINE
EXISTING CURB AND GUTTER
EXISTING EDGE OF PAVING
EXISTING WETLANDS (PLAT 22836)
EXISTING WETLAND BUFFER
EX. VARIABLE WIDTH PRIVATE USE-IN-COMMON ACCESS EASEMENT FOR LOTS 1-7 (PLAT 22836) (TO BE ABANDONED)
PROP. VARIABLE WIDTH PRIVATE USE-IN-COMMON ACCESS EASEMENT FOR LOTS 9-17
EX. 30' PUBLIC SEWER, WATER, & UTILITY EASEMENT (PLAT 22836)
EX. 20 PRIVATE DRAINAGE & UTILITY EASEMENT (PLAT 22836)
EX. PUBLIC SEWER & UTILITY EASEMENT PLAT MDR 9987
20' PRIVATE DRAINAGE DRAINAGE & UTILITY EASEMENT
20' PUBLIC SEWER, WATER & UTILITY EASEMENT

OWNER

MARY THERESE PFAU
3675 PARK AVE., SUITE 301
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(410) 480-0023

DEVELOPER

TRINITY QUALITY HOMES, INC.
3675 PARK AVE., SUITE 301
ELLICOTT CITY, MD 21043
(410) 480-0023

NO.	REVISION	DATE
1	REVISE PLAN TO AMEND STORM DRAIN; CHANGE FROM CLOSED SYSTEM NOT TO CONNECT AT ES 2 BUT PROVIDE END SECTION AT ES3	8/22/16

MIHU AGREEMENT

PLEASE NOTE THAT ALL NEW LOTS/RESIDENTIAL UNITS IN THIS SUBDIVISION (LOTS 8 & 13) ARE SUBJECT TO THE MIHU FEE-IN-LIEU REQUIREMENT THAT IS TO BE CALCULATED AND PAID TO THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS AT THE TIME OF BUILDING PERMIT ISSUANCE BY THE PERMIT APPLICANT.

MINIMUM LOT SIZE CHART

LOT	GROSS AREA	PIPESTEM AREA	NET AREA	MIN. LOT SIZE
8	26,700 SF	6,400 SF	20,300 SF	20,000 SF
9	20,820 SF	NA	20,820 SF	20,000 SF
10	21,141 SF	574 SF	20,567 SF	20,000 SF
11	21,490 SF	1,114 SF	20,376 SF	20,000 SF
12	25,515 SF	2,052 SF	23,463 SF	20,000 SF
13	25,670 SF	2,074 SF	23,596 SF	20,000 SF
14	22,272 SF	1,830 SF	20,443 SF	20,000 SF
15	22,297 SF	1,355 SF	20,942 SF	20,000 SF
16	21,148 SF	1,083 SF	20,065 SF	20,000 SF
17	20,817 SF	674 SF	20,143 SF	20,000 SF

SUPPLEMENTAL INFORMATION PLAN
COVER SHEET & LAYOUT PLAN

STELLA GLEN II - LOTS 8-17

A RE-SUBDIVISION OF STELLA GLEN LOTS 1-7
& A SUBDIVISION OF PARCEL 346

TAX MAP: 36 GRID: 19 — ZONED: R-20
6TH ELECTION DISTRICT — PARCELS: 57, 58, 417 & 346
DPZ REF'S: SEE GENERAL NOTE #4 ON COVER SHEET — 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

STATE OF MARYLAND ROBERT HARRIS VOGEL NO. 16193 REGISTERED PROFESSIONAL ENGINEER 10/15/15

ROBERT H. VOGEL, PE No.16193

DESIGN BY: RHV/EDS
DRAWN BY: JMR
CHECKED BY: RHV
DATE: OCTOBER 2015
SCALE: AS SHOWN
W.O. NO.: 14-37

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: 09-27-2016

F-15-105

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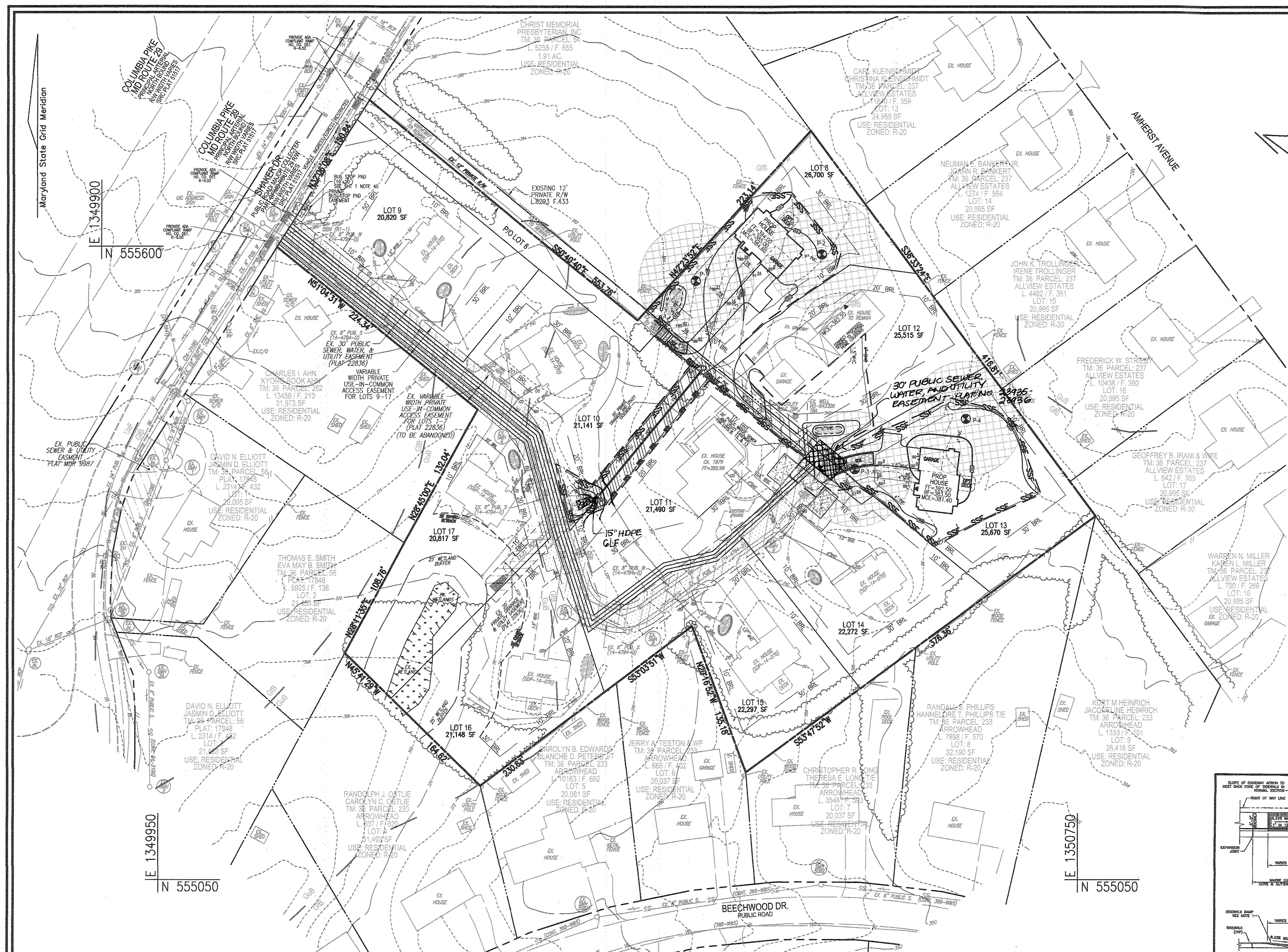
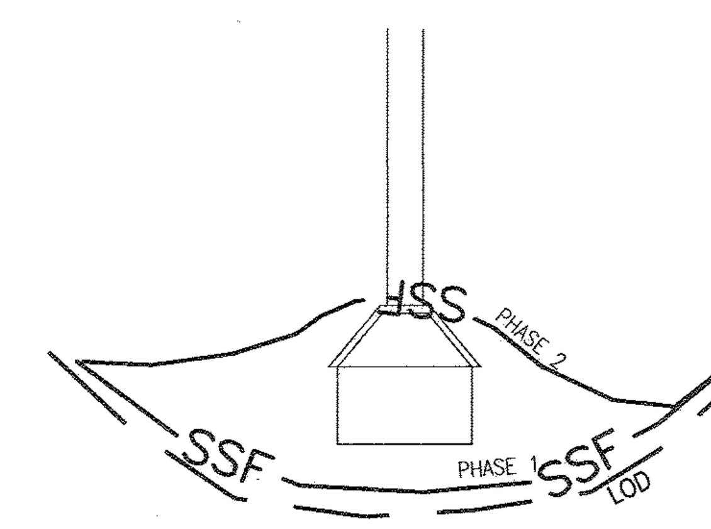


GRADING PLAN

SCALE: 1"=50'

50' 0 50' 100' 150'



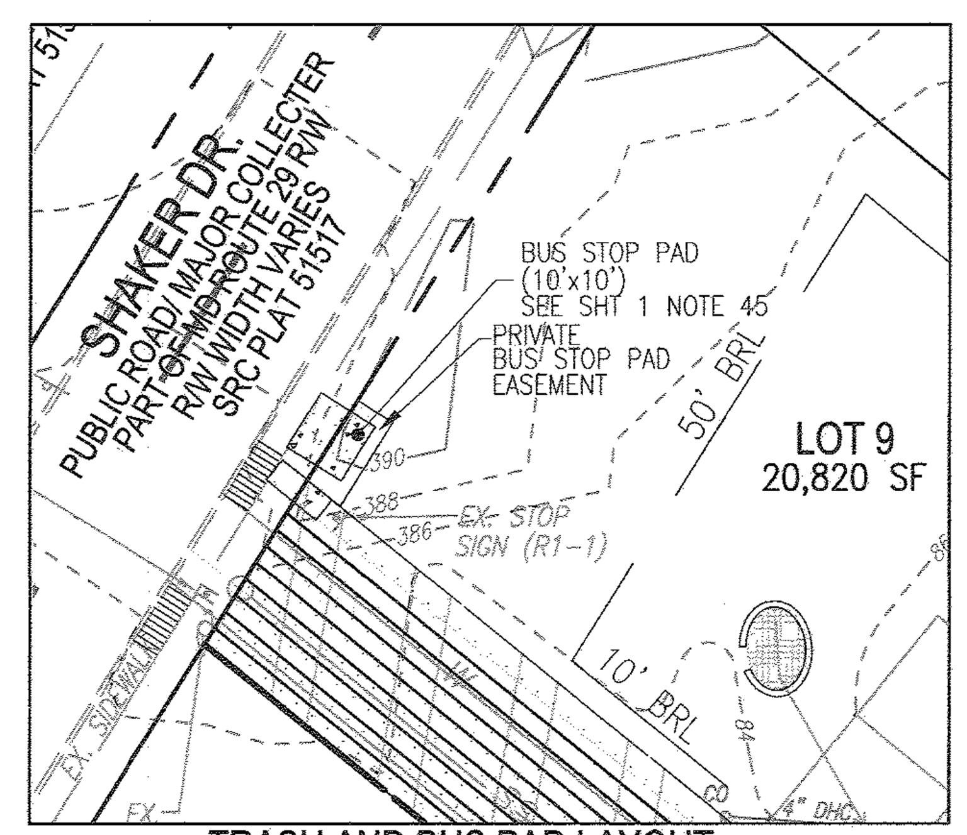
SILT FENCE PHASING DETAIL

N.T.S.

PHASE 1 SILT FENCE LOCATION SHALL BE REMOVED AND RELOCATED ABOVE THE OUTFALL ONCE OUTFALL INSTALLATION IS COMPLETE, AREA STABILIZED AND PERMISSION HAS BEEN OBTAINED BY THE SEDIMENT CONTROL INSPECTOR

LEGEND:

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING CURB AND GUTTER
- EXISTING EDGE OF PAVING
- EXISTING WETLANDS
- EXISTING WETLAND BUFFER
- EX. VARIABLE WIDTH PRIVATE USE-IN-COMMON ACCESS EASEMENT FOR LOTS 1-7 (PLAT 22836) (TO BE ABANDONED)
- PROP. VARIABLE WIDTH PRIVATE USE-IN-COMMON ACCESS EASEMENT FOR LOTS 9-17
- EX. 30' PUBLIC SEWER, WATER, & UTILITY EASEMENT (PLAT 22836)
- EX. 20 PRIVATE DRAINAGE & UTILITY EASEMENT (PLAT 22836)
- EX. PUBLIC SEWER & UTILITY EASEMENT PLAT MDR 9987
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- ON-LOT DRYWELL (M-5)
- ON-LOT RAIN GARDEN MICRO-BIORETENTION M-7
- PROPOSED TEST PIT WITH 50' COVERAGE RADIUS
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING TREELINE
- EXISTING TREES
- EXISTING FENCE
- PROPOSED STORMDRAIN
- PROPOSED SIDEWALK
- PROPOSED TREELINE
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- SOILS
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- PROPOSED SPOT ELEVATION
- EXISTING STEEP SLOPES
- EXISTING MODERATE SLOPES SOILS BOUNDARY
- PROPOSED TEST PIT
- SILT FENCE
- SUPER SILT FENCE
- LIMIT OF DISTURBANCE
- STABILIZED CONSTRUCTION ENTRANCE
- ROOFTOP DISCONNECT (N-1)
- NON-ROOFTOP DISCONNECT (N-2)

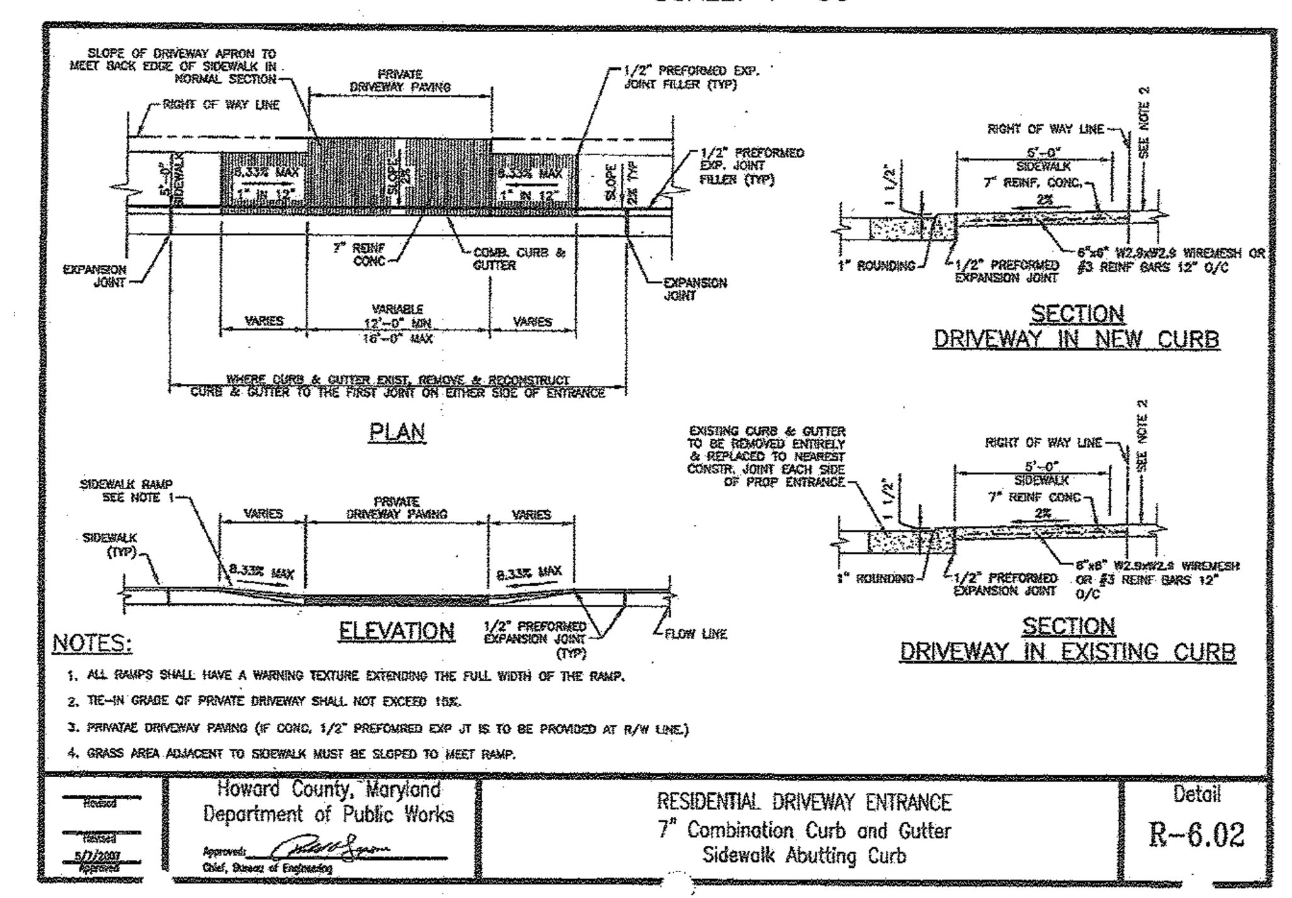


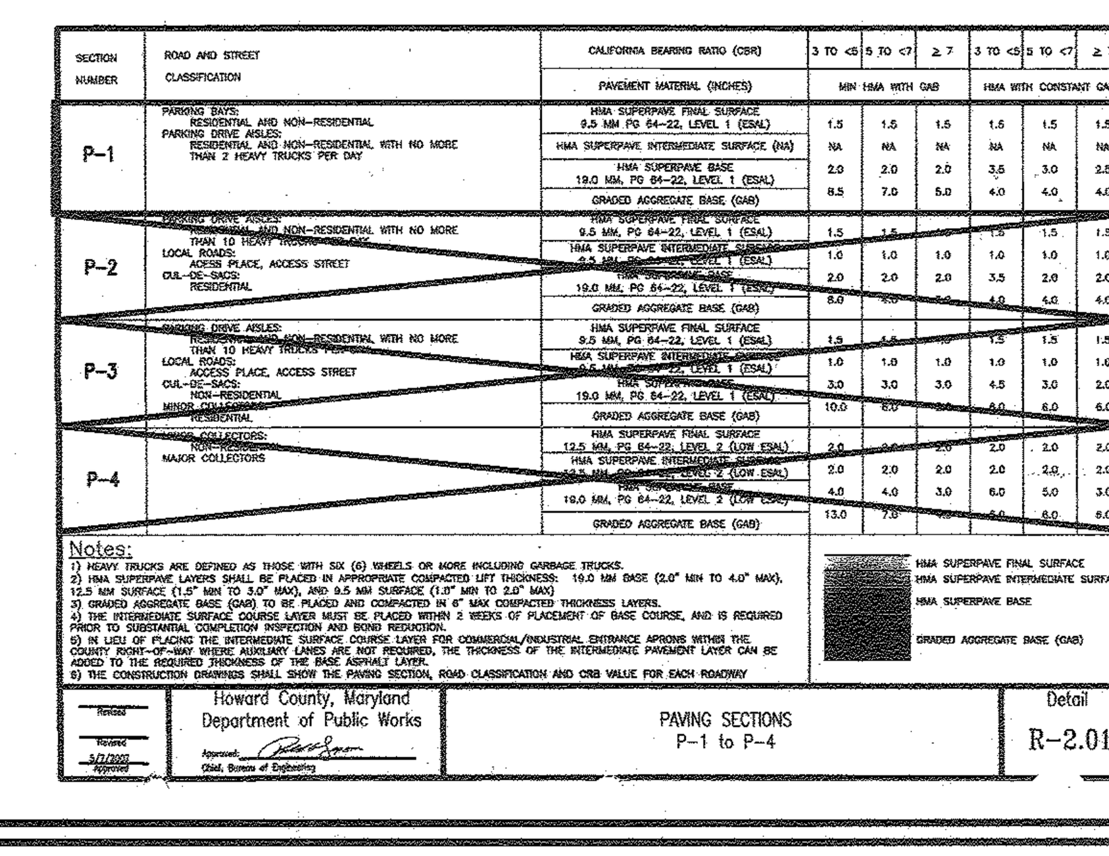
TRASH AND BUS PAD LAYOUT

SCALE: 1"=30'

NOTE:

THIS PLAN MAY NOT BE USED FOR HOUSE CONSTRUCTION





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NO.	REVISION	DATE
1	REVISE PLAN TO AMEND STORM DRAIN; CHANGE FROM CLOSED SECTION TO NOT CONNECT AT ES2 BUT PROVIDE AND END SECTION AT ES3	8/22/16

SOILS LEGEND

SOIL MAP# 24

SYMBOL	NAME / DESCRIPTION	GROUP	K-FACTOR	<15% SLOPE W/ EROSION POTENTIAL
GfB	GLADSTONE-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	B	0.20	NO
GuB	GLENVILLE-URBAN LAND-UDORTHENTS COMPLEX, 0 TO 8 PERCENT SLOPES	C	0.37	YES
UaF	UDORTHENTS, HIGHWAY, 0 TO 65 PERCENT SLOPES	–	–	–

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.

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.

NOTE:
EITHER PERMANENT OR TEMPORARY STABILIZATION IS TO BE APPLIED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR REGARDLESS OF DAYS/DATES IN THE STANDARD SEDIMENT CONTROL NOTES AND/OR SEEDING SPECIFICATIONS.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[signature] 10-28-15
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

[signature] 11-02-15
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

SUPPLEMENTAL INFORMATION PLAN

GRADING PLAN

STELLA GLEN II - LOTS 8-17

A RE-SUBDIVISION OF STELLA GLEN LOTS 1-7
& A SUBDIVISION OF PARCEL 346

TAX MAP: 36 GRID: 19 — ZONED: R-20
6TH ELECTION DISTRICT — PARCELS: 57, 58, 417 & 346
DPZ REF'S: SEE GENERAL NOTE #4 ON COVER SHEET — 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

STATE OF MARYLAND — ROBERT HARRIS VOGEL — NO. 16193 — REGISTERED PROFESSIONAL ENGINEER — 10/18/15

ROBERT H. VOGEL, PE No.16193

DESIGN BY: RHV/EDS
DRAWN BY: JMR
CHECKED BY: RHV
DATE: OCTOBER 2015
SCALE: AS SHOWN
W.O. NO.: 14-37

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: 09-27-2016

F-15-105

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LEGEND:

PROPERTY LINE
RIGHT-OF-WAY LINE
ADJACENT PROPERTY LINE
EXISTING CURB AND GUTTER
EXISTING EDGE OF PAVING
EXISTING WETLANDS
EXISTING WETLAND BUFFER
EX. VARIABLE WIDTH PRIVATE USE-IN-COMMON ACCESS EASEMENT FOR LOTS 1-7 (PLAT 22836) (TO BE ABANDONED)
PROP. VARIABLE WIDTH PRIVATE USE-IN-COMMON ACCESS EASEMENT FOR LOTS 9-17
EX. 30' PUBLIC SEWER, WATER, & UTILITY EASEMENT (PLAT 22836)
EX. 20' PRIVATE DRAINAGE & UTILITY EASEMENT (PLAT 22836)
EX. PUBLIC SEWER & UTILITY EASEMENT PLAT MDR 9987
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 TREELINE
EXISTING FENCE
PROPOSED STORMDRAIN
PROPOSED TREELINE
EXISTING 10' CONTOUR
EXISTING 2' CONTOUR
PROPOSED 10' CONTOUR
PROPOSED 2' CONTOUR
PROPOSED SPOT ELEVATION
DRAINAGE AREA DIVIDE
ROOFTOP DISCONNECT (N-1)
RAIN GARDEN (M-7)
NON-ROOFTOP DISCONNECT (N-2)
DRYWELL (M-5)

SWM PRACTICE CHART

ESD PRACTICES BY LOT

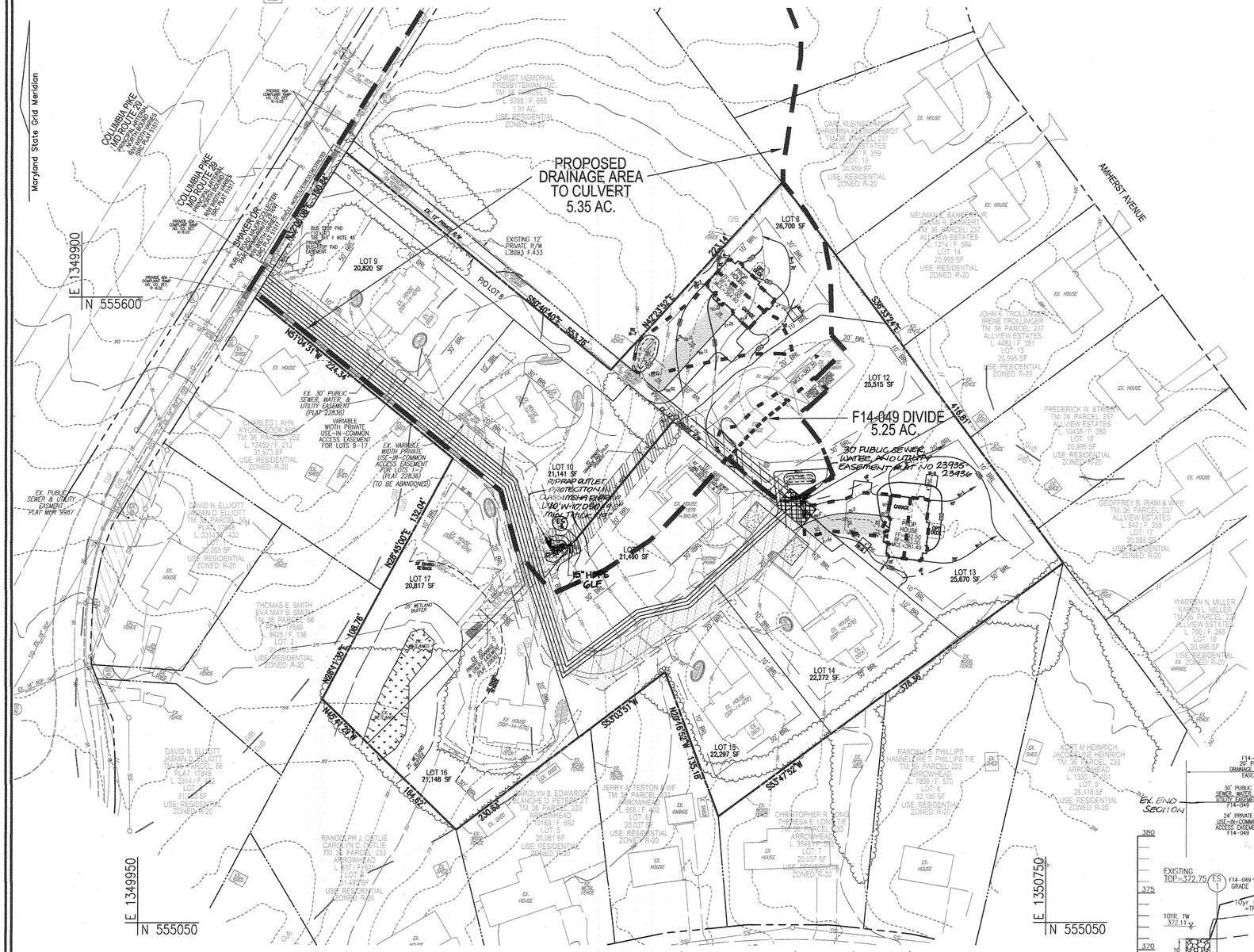
LOT #	ADDRESS	ESD PRACTICE
#8	10592 SHAKER DRIVE	DISCONNECT ROOFTOP RUNOFF (N-1), RAIN GARDEN (M-7), DISCONNECT NON-ROOFTOP RUNOFF (N-2), AND DRYWELL (M-5)
#12	10517 JUSTICE PLACE	RAIN GARDEN (M-7)
#13	19520 JUSTICE PLACE	DISCONNECT ROOFTOP RUNOFF (N-1), DISCONNECT NON-ROOFTOP RUNOFF (N-2), AND DRYWELLS (M-5)

STELLA "2" - ESDv COMPUTATIONS

SITE AREA: 1.10 AC 47916 SF
TARGET Pe: 1.20 IN
SITE IMPERVIOUS: 17.6 PERCENT
SITE Rv: 0.2084
SITE ESDv: 999 CF +/-

Rv=0.05+0.009(I)
V min=1.0" rainfall (1.0x0.95xA)/12
V max= 1yr rainfall=2.6" (2.6x0.95xA)/12

DA #	% IMPERV	Rv	DA (SF)	DA (AC)	MINIMUM VOLUME	MAXIMUM VOLUME	1.2" VOLUME	VOLUME PROVIDED*	IMPERV (SF)	IMPERV (AC)	GREEN AREA	REMARKS
LOT 13 REAR HSE	100.00	0.9500	1100	0.03	87	226	105	107	1100	0.03	0.00	NON STRUCTURAL (N-1) - ROOFTOP DISCONNECT 24 23.75 CF EA 45' DISCON 1 PROVIDED NON STRUCTURAL (N-1) - ROOFTOP DISCONNECT 40 39.58 CF EA 75' DISCON 1 PROVIDED MICROSCALE DRYWELL (M-5) 43 6 6 4 DRYWELL 6' X 6' X 4' DEEP DRYWELL
LOT 13 FRONT HSE	100.00	0.9500	1100	0.03	87	226	105	124	1100	0.03	0.00	NON STRUCTURAL (N-1) - ROOFTOP DISCONNECT 8 7.92 CF EA 15' DISCON 1 PROVIDED NON STRUCTURAL (N-1) - ROOFTOP DISCONNECT 40 39.58 CF EA 75' DISCON 1 PROVIDED MICROSCALE DRYWELL (M-5) 77 8 8 4 DRYWELL 8' X 8' X 4' DEEP DRYWELL*
LOT 13 DRIVEWAY	61.33	0.6020	2250	0.05	113	293	135	113	1380	0.03	0.02	NON STRUCTURAL (N-2) - NON ROOFTOP DISCONNECT 113 CF PER 1" SUCESSFUL DISCONNECT * LARGER "FRONT" DRYWELL PROVIDES ADDITIONAL VOLUME ACCOUNTING FOR DRIVEWAYS ADDITIONAL 0.2" REQUIREMENT
					TOTAL REQUIRED EDSv LOT 13 =			344				
					TOTAL PROVIDED EDSv LOT 13 =			**344**				
LOT 12 NEW DRIVEWAY	21.82	0.2464	5500	0.13	133	294	136	140	1200	0.03	0.10	MICROSCALE RAIN GARDEN (M-7) 140 105 SF MICRO BIO
					TOTAL REQUIRED EDSv LOT 12 =			136				
					TOTAL PROVIDED EDSv LOT 12 =			**140**				
LOT 8 REAR HSE	100.00	0.9500	1100	0.03	87	226	105	114	1100	0.03	0.00	NON STRUCTURAL (N-1) - ROOFTOP DISCONNECT 16 15.83 CF EA 30' DISCON 1 PROVIDED NON STRUCTURAL (N-1) - ROOFTOP DISCONNECT 40 39.58 CF EA 75' DISCON 1 PROVIDED MICROSCALE DRYWELL (M-5) 59 7 7 4 DRYWELL 7' X 7' X 4' DEEP DRYWELL
LOT 8 FRONT HSE P/O DRIVE	33.09	0.3478	4306	0.10	125	325	150	168	1425	0.03	0.07	NON STRUCTURAL (N-1) - ROOFTOP DISCONNECT 8 7.92 CF EA 15' DISCON 1 PROVIDED MICROSCALE RAIN GARDEN (M-7) 160 120 SF MICRO BIO
LOT 8 P/O DRIVEWAY	68.48	0.6664	1650	0.04	92	238	110	92	1130	0.03	0.01	NON STRUCTURAL (N-2) - NON ROOFTOP DISCONNECT 92 CF PER 1" SUCESSFUL DISCONNECT * LARGER "FRONT" RAIN GARDEN PROVIDES ADDITIONAL VOLUME ACCOUNTING FOR DRIVEWAYS ADDITIONAL 0.2" REQUIREMENT
					TOTAL REQUIRED EDSv LOT 8 =			364				
					TOTAL PROVIDED EDSv LOT 8 =			**374**				
PROJECT TOTALS	49.6	0.4964	17006	0.39	703	1829	844	**857**	8435	0.19	0.20	



DRAINAGE AREA MAP

SCALE: 1"=50'

MAPPED SOILS TYPES - SAVAGE NW MAP #18

SYMBOL	NAME / DESCRIPTION	GROUP	K-FACTOR	HYDRIC	HYDRIC INCLUSIONS	FARMLAND	<15% SLOPE W/ EROSION POTENTIAL
GfB	GLADSTONE-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	B	0.20	NO		0.20	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

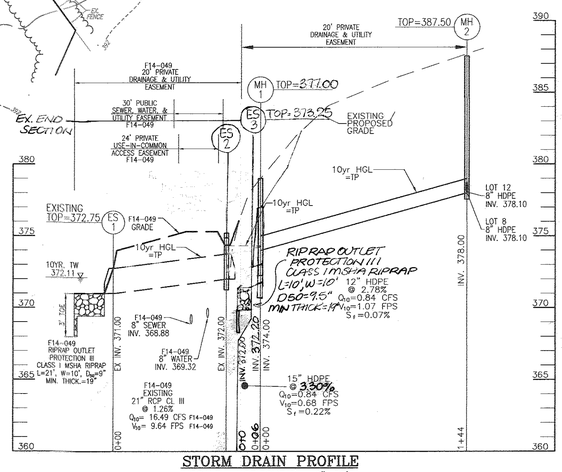
PIPE SCHEDULE

SIZE	TYPE	LENGTH
12"	HDPE	144 LF
15"	HDPE	24 LF

STRUCTURE SCHEDULE

NO.	TYPE	LOCATION	TOP ELEV.	INV. IN	INV. OUT	COMMENTS
MH-2	4'-0" STANDARD PRECAST MANHOLE	N 555494 E 1350424	387.50	8" CO 378.10	378.00	HO. CO. STD. G-5.12
MH-1	4'-0" STANDARD PRECAST MANHOLE	N 555383 E 1350333	377.00	374.00	372.20	HO. CO. STD. G-5.12
ES-3*	TYPE "C" ENDWALL (15" SPECS)	N 555381 E 1350326	373.25	372.20	372.00	HO. CO. STD SD-5.21
EX ES-2	EX 21" CONCRETE END SECTION	N 555317 E 1350256	372.75	371.00	371.00	HO. CO. STD SD-5.21

* REPLACE F14-049 ES-2 END SECTION



STORM DRAIN PROFILE

SCALE : HORIZONTAL — 1"=50'
VERTICAL — 1"=5'

OWNER

MARY THERESE PFAU
3675 PARK AVE., SUITE 301
ELLICOTT CITY, MD 21043
(410) 480-0023

DEVELOPER

TRINITY QUALITY HOMES, INC.
3675 PARK AVE., SUITE 301
ELLICOTT CITY, MD 21043
(410) 480-0023

NO.	REVISION	DATE
1	REVISE PLAN TO AMEND STORM DRAIN, CHANGE FROM CLOSED SYSTEM TO NOT CONNECT AT ES2 BUT PROVIDE END SECTION AT ES3	8/22/16

SUPPLEMENTAL INFORMATION PLAN
DRAINAGE AREA MAP AND SWM PLAN

STELLA GLEN II - LOTS 8-17

A RE-SUBDIVISION OF STELLA GLEN LOTS 1-7
& A SUBDIVISION OF PARCEL 346

TAX MAP: 36 GRID: 19 ZONED: R-20
6TH ELECTION DISTRICT PARCELS: 57, 58, 417 & 346
DPZ REF'S: SEE GENERAL NOTE #4 ON COVER SHEET HOWARD COUNTY, MARYLAND

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APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10-28-15

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 11-02-15

STATE OF MARYLAND — ROBERT HARRIS VOGEL — No. 16193 — REGISTERED PROFESSIONAL ENGINEER

ROBERT H. VOGEL, PE No.16193

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: 09-27-2016

DESIGN BY:	RHV/EDS
DRAWN BY:	JMR
CHECKED BY:	RHV
DATE:	OCTOBER 2015
SCALE:	AS SHOWN
W.O. NO.:	14-37

SHEET 3 OF 5

F-15-105

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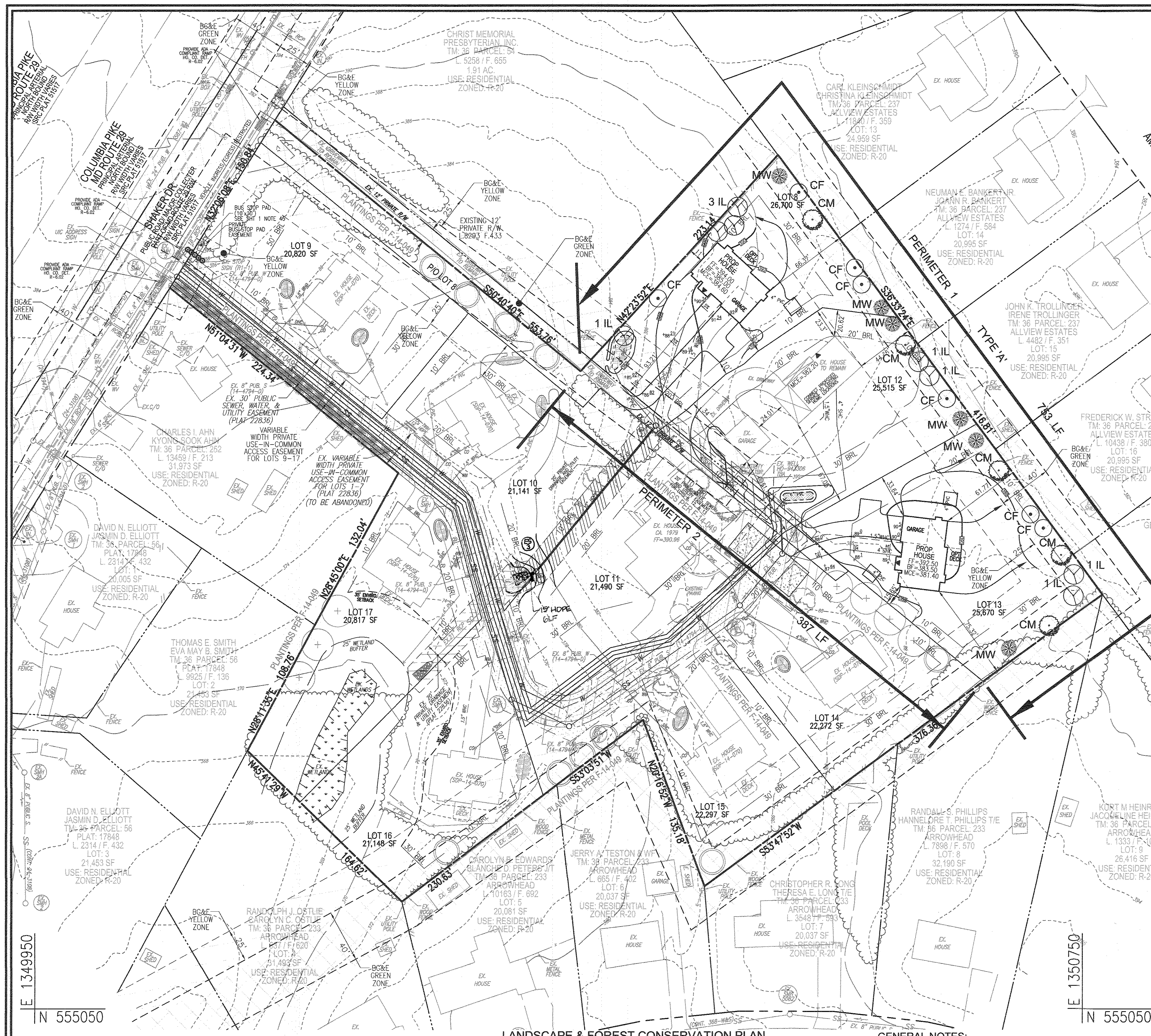


LANDSCAPE & FOREST CONSERVATION PLAN
SCALE: 1"=40'

Eco-Science Professionals, Inc.
Consulting Ecologists
P.O. Box 5006 Glen Arm, Maryland 21057 Telephone (410) 832-2480 Fax (410) 832-2488

MD DNR Qualified Professional
USACOE Wetland Delineator
Certification # WDCP93MD0610044B2
John P. Canoles

1. SURROUNDING LAND USE INCLUDES HIGH DENSITY RESIDENTIAL.
2. NO PORTIONS OF THE SITE WOULD BE CONSIDERED FOREST AND NO SPECIMEN TREES ARE PRESENT ON THE SITE
3. NO WETLANDS OR STREAMS ARE PRESENT ON OR IMMEDIATELY ADJACENT TO THE SUBJECT PROPERTY

HOWARD COUNTY FOREST CONSERVATION WORKSHEET

ZONED R-20

NET TRACT AREA:
- A. TOTAL TRACT AREA 1.48 AC.
- B. AREA WITHIN 100 YEAR FLOODPLAIN 0.00 AC
- C. NET TRACT AREA 1.48 AC

LAND USE CATEGORY

INPUT THE NUMBER "1" UNDER THE APPROPIATE LAND USE ZONING, AND LIMIT TO ONLY ONE ENTRY.

ARA	MDR	IDA	HDR	MPD	CIA
0	0	0	1	0	0

- D. AFFOREST THRESHOLD 15% X 1.48 = 0.22 AC
- E. CONSERVATION THRESHOLD 20% X 1.48 = 0.30 AC

EXISTING FOREST COVER:
- F. EXISTING FOREST COVER = 0.00 AC (FSD REPORT)
- G. AREA OF FOREST ABOVE CONSERVATION THRESHOLD = 0.00 AC

BREAK EVEN POINT:

(.2 X I) + F = BREAK EVEN POINT (0 AC)
- H. BREAK EVEN POINT = 0.00 AC
- I. FOREST CLEARING PERMITTED WITHOUT MITIGATION = 0.00 AC

PROPOSED FOREST CLEARING:
- J. TOTAL AREA OF FOREST TO BE CLEARED = 0.00 AC
- K. TOTAL AREA OF FOREST TO BE RETAINED = 0.00 AC

PLANTING REQUIREMENTS:
- L. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD (L X.25) = 0.00 AC
- M. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD = 0.00 AC
- N. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD (M−F) = 0.00 AC
- P. TOTAL REFORESTATION REQUIRED (N+P−Q) = 0.00 AC
- Q. TOTAL AFFORESTATION REQUIRED = 0.22 AC
- R. TOTAL PLANTING REQUIREMENT (REFORESTATION AND AFFORESTATION) = 0.22 AC

FOREST CONSERVATION:

FOREST CONSERVATION OBLIGATIONS IN ACCORDANCE WITH SECTION 16.1202 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL HAVE BEEN MET.
- F14-049 MET THE OBGLIGATION BY THE PLACEMENT OF 2.76 AC. (2:1 RATIO) OF RETENTION INTO AN OFF-SITE FOREST CONSERVATION BANK IDENTIFIED AS DENSITY SOLUTIONS, APPROVED UNDER SDP-13-059FC WHICH WAS SUFFICIENT TO MEET THE 1.28 ACRES OF REQUIRED REFORESTATION AND 0.10 ACRES OF REQUIRED AFFORESTATION.
- FOREST CONSERVATION OBLIGATIONS FOR THIS FINAL PLAN WILL BE MET BY A FEE-IN-LIEU PAYMENT OF $7,187.25 MADE OUT TO HOWARD COUNTY FOREST CONSERVATION FUND FOR THE 0.22 ACRE AFFORESTATION REQUIREMENT FOR THIS PROJECT.
  FEE-IN-LIEU – (0.22 AC.) 9,583.2 SF x .75 = $7,187.40

LANDSCAPE SCHEDULE NOTE:

1. ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AAN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HRD PLANTING SPECIFICATIONS.
2. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
3. FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
4. CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.

LANDSCAPE SCHEDULE

SYMBOL	KEY	QUAN.	BOTANICAL NAME	SIZE	REMARKS
	CF	7	CORNUS FLORIDA 'RUBRA' RED FLOWERING DOGWOOD	8'–10' HT.	B & B
	MW	6	CARPINUS CAROLINIANA MUSCLEWOOD (BGE COMPLIANT)	1 1/2"–2" CAL.	B & B
	CM	5	LAGERSTROEMIA TUSCARORA TUSCARORA CRAPE MYRTLE (BGE COMPLIANT)	1 1/2"–2" CAL.	B & B
	IL	8	ILEX 'NELLIE R. STEVENS' NELLIE R. STEVENS HOLLY (BGE COMPLIANT)	5'–6' HT	B & B

SCHEDULE A PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO PERIMETER		TOTAL
PERIMETER/FRONTAGE DESIGNATION LANDSCAPE TYPE	1 A	2 N/A*	
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	753'	387'*	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	YES*	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	N/A*	
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	753' 1:60 13 - -	N/A*	13 - -
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION) SHRUBS (10:1 SUBSTITUTION)	- - 26(1) -	N/A*	- - 26** -
EX. SPECIMEN TREES TO REMAIN	-		-
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED	-		-

* INTERIOR PERIMETER. PREVIOUSLY PLANTED AS PERIMETER 1 (F 14-049)

**SHADE TREES ARE TO BE SUBSTITUTED WITH SMALLER TREES AT 2:1 AS REQUIRED BY THE BGE PLANTING ZONES

LEGEND:

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING CURB AND GUTTER
- EXISTING EDGE OF PAVING
- EXISTING WETLANDS
- EXISTING WETLAND BUFFER
- EX. VARIABLE WIDTH PRIVATE USE-IN-COMMON ACCESS EASEMENT FOR LOTS 1-7 (PLAT 22836) (TO BE ABANDONED)
- PROP. VARIABLE WIDTH PRIVATE USE-IN-COMMON ACCESS EASEMENT FOR LOTS 8-17
- EX. 30' PUBLIC SEWER, WATER, & UTILITY EASEMENT (PLAT 22836)
- EX. 20 PRIVATE DRAINAGE & UTILITY EASEMENT (PLAT 22836)
- EX. PUBLIC SEWER & UTILITY EASEMENT PLAT MDR 9987
- EXISTING BG&E GREEN ZONE
- EXISTING BG&E YELLOW ZONE
- 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 TREELINE
- PROPOSED TREES
- EXISTING FENCE
- PROPOSED STORMDRAIN
- PROPOSED TREELINE
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR

F-14-049 TRASH PAD LANDSCAPING

KEY	QTY.	DESCRIPTION	SIZE	REMARK
DJ	5	DWARF JAPANESE YEW	3'–4' HT	B & B

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.

Michael Pfau — SIGNATURE OF DEVELOPER 10/14/15 DATE

LANDSCAPE NOTES

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

OWNER
MARY THERESE PFAU
3675 PARK AVE., SUITE 301
ELLICOTT CITY, MD 21043
(410) 480-0023

DEVELOPER
TRINITY QUALITY HOMES, INC.
3675 PARK AVE., SUITE 301
ELLICOTT CITY, MD 21043
(410) 480-0023

40' 0 40' 80' 120'

NO.	REVISION	DATE
1	REVISE PLAN TO AMEND STORM DRAIN; CHANGE FROM A CLOSED SYSTEM TO NOT CONNECT AT ES 2 BUT PROVIDE AN END SECTION AT ES 3	8/22/16

GENERAL NOTES:

1. LANDSCAPING OBLIGATIONS HAVE BEEN PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
   - F14-049 PROVIDED FINANCIAL SURETY IN THE AMOUNT OF $8,850.00 FOR THE REQUIRED 25 SHADE TREES AND 45 SHRUBS WITH THE F14-049 DEVELOPERS AGREEMENT.
   - A FINANCIAL SURETY IN THE AMOUNT OF $3,900.00 WILL BE PROVIDED FOR THE REQUIRED 13 SHADE TREES FOR LOTS 8, 12, & 13 (2:1 ORNAMENTAL PLANTINGS SUBSTITUTED). POSTING OF SURETY IS DEFERRED UNTIL FILING OF GRADING/BUILDING PERMITS AFTER SITE DEVELOPMENT PLAN APPROVAL.
2. NO CLEARING OF EXISTING VEGETATION IS PERMITTED WITHIN THE LANDSCAPE EDGE FOR WHICH CREDIT IS BEING TAKEN; HOWEVER, LANDSCAPE MAINTENANCE IS AUTHORIZED."
3. AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS LISTED HEREWITH AND APPROVED FOR THIS SITE SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS 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 APPLICABLE PLANS AND CERTIFICATES.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10-28-15

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 11-02-15

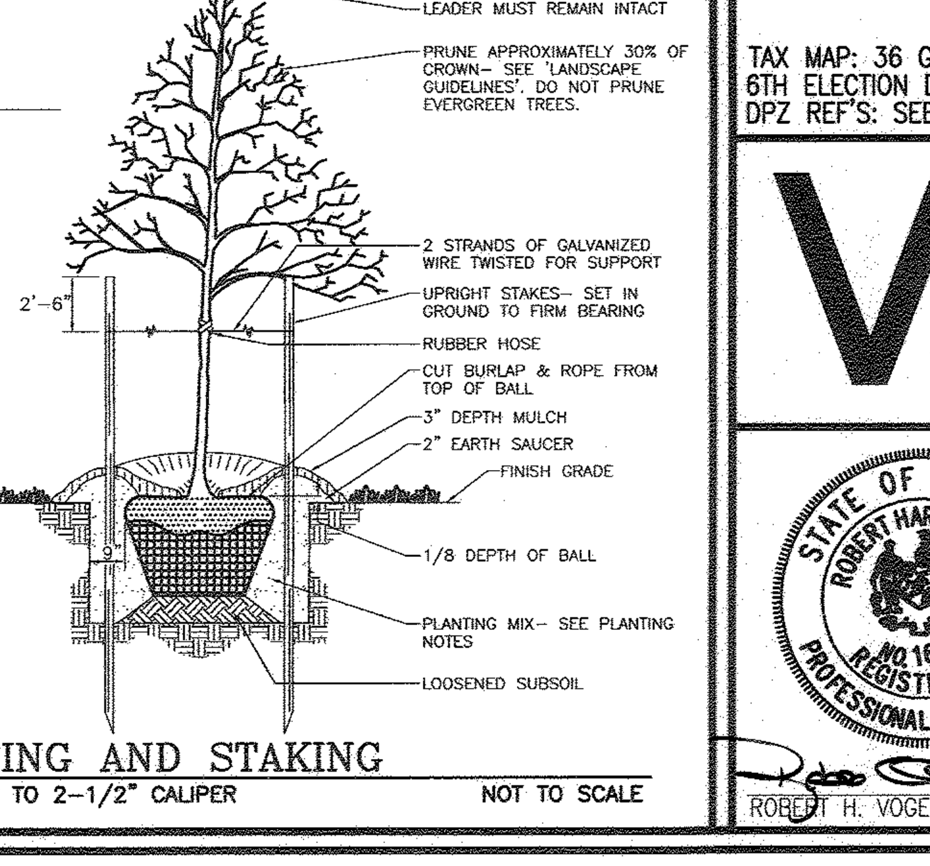
DPZ'S POLICIES GOVERNING THE PLACEMENT OF LANDSCAPING AND STREET TREES IN PROXIMITY TO BGE'S POWER LINES OR TRANSMISSION RIGHT-OF-WAY ARE BASED ON BGE'S PUBLISHED "PLANTING ZONE CONCEPT" WHICH STIPULATES THE MAXIMUM ALLOWABLE SIZE OF PLANT MATERIALS FOR THREE DEFINED ZONES. AS THE DISTANCE FROM BGE EQUIPMENT INCREASES, SO DOES THE SIZE OF THE ALLOWABLE PLANT MATERIALS. THESE THREE ZONES AREA DEFINED AS FOLLOWS:

ZONE	DISTANCE FROM THE BGE POWER LINE OR TRANSMISSION RIGHT-OF-WAY	MAXIMUM HEIGHT OF VEGETATION
GREEN	UP TO 20 FEET	25 FEET
YELLOW	BETWEEN 20 FEET AND 45 FEET	40 FEET
RED	BEYOND 45 FEET	ABOVE 40 FEET

B G & E NOTES:

1. BGE RESERVES THE RIGHT TO TRIM, TOP OR CUT DOWN ANY TREE IN PROXIMITY TO THE LINE THAT IN THE OPINION OF BGE SHALL BE DEEMED A HAZARD TO THE SAFE AND RELIABLE DELIVERY OF ELECTRICITY.
2. THE DEPARTMENT OF PLANNING AND ZONING MAY AUTHORIZE THE TRIMMING OR REMOVAL OF TREES OR VEGETATION IMMEDIATELY ADJACENT TO THE BGE R/W OR EASEMENT, IF BGE DETERMINES THE TREES ARE COMPROMISING THE SAFETY OR A TRANSMISSION LINE LOCATED WITHIN THEIR UTILITY R/W OR EASEMENT. IF BGE INTENDS TO TRIM OR REMOVE TREES WITHIN A FOREST CONSERVATION EASEMENT, A LETTER SPECIFYING THE LOCATION AND SCOPE OF WORK NEEDS TO BE SENT TO DPZ AT LEAST 30 DAYS IN ADVANCE OF UNDERTAKING THE WORK. DPZ UNDERSTANDS CONSTELLATION ENERGY'S NEED TO PROTECT ITS TRANSMISSION LINES AND WILL NOT UNREASONABLE WITHHOLD PERMISSION.
3. CALL MISS UTILITY TO MARK UP THE LOCATION OF EXISTING GAS LINE BEFORE PLANTING STREET TREES.
4. BGE ISSUED THEIR APPROVAL OF THE LANDSCAPING SHOWN HEREON ON

NOTES
1. SEE "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS" FOR ALL MATERIAL, PRODUCT, AND PROCEDURE SPECIFICATIONS.
2. SEE "LANDSCAPE GUIDELINES" FOR SUPPORTING TREES LARGER THAN 2-1/2" CALIPER.
3. PLACE UPRIGHT STAKES PARALLEL TO WALKS & BUILDINGS.
4. KEEP MULCH 1" FROM TRUNK
5. SEE ARCHITECTURAL PLANS FOR ADDITIONAL PLANTINGS WHICH EXCEED HOWARD COUNTY MINIMUM REQUIREMENTS.
6. TREES ARE NOT TO BE PLANTED OVER PRIVATE SEWAGE EASEMENT.



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

SUPPLEMENTAL INFORMATION PLAN
LANDSCAPE AND FOREST CONSERVATION PLAN
NOTES AND DETAILS

STELLA GLEN II - LOTS 8-17
A RE-SUBDIVISION OF STELLA GLEN LOTS 1-7
& A SUBDIVISION OF PARCEL 346

TAX MAP: 36 GRID: 19 — ZONED: R-20
6TH ELECTION DISTRICT — PARCELS: 57, 58, 417 & 346
DPZ REF'S: SEE GENERAL NOTE #4 ON COVER SHEET — HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET ELLICOTT CITY, MD 21043
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STATE OF MARYLAND — ROBERT HARRIS VOGEL — NO.16193 — REGISTERED PROFESSIONAL ENGINEER

ROBERT H. VOGEL, PE No.16193

DESIGN BY: RHV/EDS
DRAWN BY: JMR
CHECKED BY: RHV
DATE: OCTOBER 2015
SCALE: AS SHOWN
W.O. NO.: 14-37

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: 09-27-2016

F-15-105

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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 HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.
THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:
* SOIL COMPONENT – LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION).
* ORGANIC CONTEN – 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 5%.
* PH RANGE – SHOULD BE BETWEEN 5.5 – 7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED IN TO THE SOIL TO INCREASE OR DECREASE PH.

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 STOCKPILED TOPSOIL IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.

3. COMPACTION
IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE 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 ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE 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 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE.
WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.
WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 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.
ROOTSTOCK 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 PLUGS SHALL BE PLANTED FOLLOWING THE NON–GRASS GROUND COVER PLANTING SPECIFICATIONS.
THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFEATS, 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 (ASTMF 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 ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (NO. 4 OR 4x4) GALVANIZED HARDWARE CLOTH.
* GRAVEL – THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.
* THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.
* A RIGID, NON–PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,0000 SQUARE FEET) TO PROVIDE A CLEAN–OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.
* A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES IN TO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".

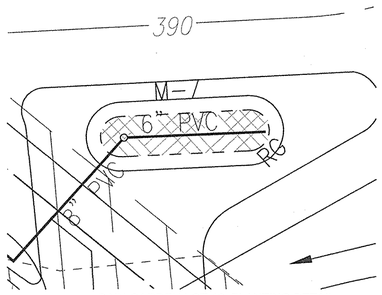
THIS MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR CLEAN–OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA).

7. MISCELLANEOUS
THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

OPERATION AND MAINTENANCE SCHEDULE FOR M-6, M-7 AND M-8 AREAS

1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.
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 DEFICIENT STAKES AND WIRES.
3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.
5. FILTER MATERIAL MUST BE REPLACED WHEN WATER REMAINS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 24 HOURS FOLLOWING A 1– OR 2–YEAR STORM EVENT OR MORE THAN 48 HOURS FOLLOWING A 10–YEAR STORM EVENT."

NOTE: UNDERDRAIN AND CHECK DAMS OF BIOSWALE SHALL BE PUBLICALLY MAINTAINED.



RAIN GARDEN LOT 12 PLANTING DETAIL
SCALE: 1"=10'

RAIN GARDEN LOT 12 PLANTING SCHEDULE				
	QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
	10	CONVALLANRIA MAJAUS LILY–OF–THE–VALLEY	1 QT.	12" O.C.
	10	ACORUS GRAMINEUS 'OGON' GOLDEN VARIEGATED SWEET FLAG	1 QT.	12" O.C.

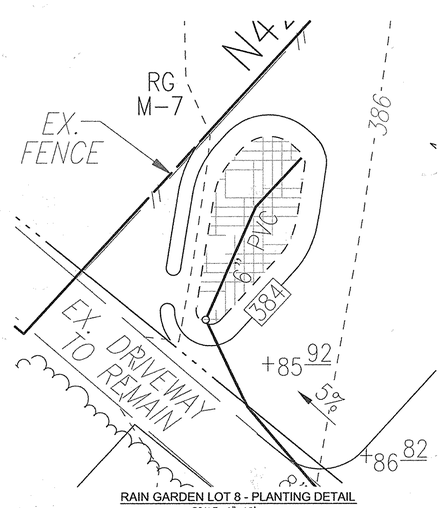
127 SF X 75% X .0229 STEMS PER SQUARE FOOT = 2 PLANTS REQUIRED
2 PROVIDED

10' 0 10' 20' 30'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10.28.15

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10-02-15



RAIN GARDEN LOT 8 - PLANTING DETAIL
SCALE: 1"=10'

RAIN GARDEN LOT 8 PLANTING SCHEDULE				
	QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
	10	CONVALLANRIA MAJAUS LILY–OF–THE–VALLEY	1 QT.	12" O.C.
	10	ACORUS GRAMINEUS 'OGON' GOLDEN VARIEGATED SWEET FLAG	1 QT.	12" O.C.

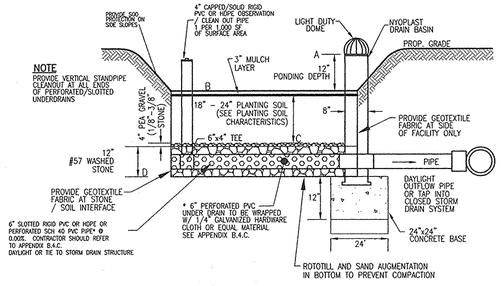
245 SF X 75% X .0229 STEMS PER SQUARE FOOT = 4 PLANTS REQUIRED
4 PROVIDED

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

Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil [2' to 4' deep] SEE O&M NOTE 5	loamy sand (60 - 65%) & compost (35 – 40%) or sandy loam (30%), coarse sand (30%) & compost (40%)	n/a	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974)		
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 cobbles	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	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with ¼-inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; f'_c = 3500 psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n/a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) *not using previously approved State or local standards* requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 350.R/89; vertical loading [H-10 or H-20]; allowable horizontal loading (based on soil pressures); and analysis of potential cracking
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone **(AASHTO)** #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

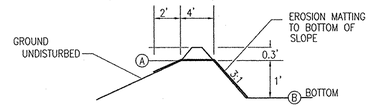
MICRO-BIORETENTION FACILITY - DESIGN ELEVATION CHART

MBR FACILITY #	ESD WSEL A	TOP MULCH B	BOTTOM PLANT SOIL C	INV STONE D	SURFACE AREA SF	APPROX DIM
8	384.00	383.00	380.75	379.42	245	SEE PLAN
12	387.00	386.00	383.75	382.42	127	SEE PLAN

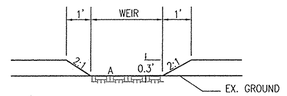


TYPICAL SMALL MICRO-BIORETENTION
NOT TO SCALE

WEIR OUTLET MICRO-BIORETENTION/RAINGARDEN

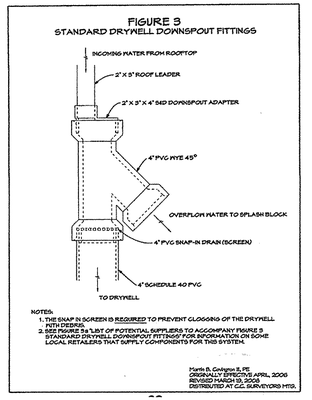


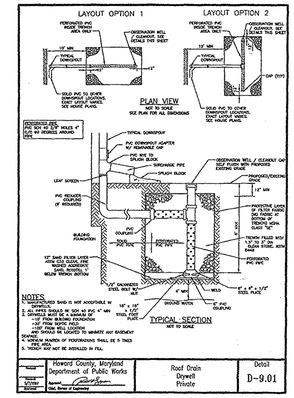
TYPICAL SPILLWAY SECTION
NOT TO SCALE



TYPICAL SPILLWAY PROFILE
NOT TO SCALE

SEQUENCE OF CONSTRUCTION
1. OBTAIN HOWARD COUNTY GRADING PERMIT. (1 WEEK)
2. NOTIFY HOWARD COUNTY AT LEAST 48 HOURS PRIOR TO START OF CONSTRUCTION. 410–313–2455 (2 DAYS)
3. CONDUCT A PRE–CONSTRUCTION MEETING WITH THE SEDIMENT CONTROL INSPECTOR PRIOR TO ANY LAND DISTURBANCE. (1 DAY)
4. INSTALL STABILIZED CONSTRUCTION ENTRANCE WITH MOUNTABLE BERM. (2 DAYS)
5. INSTALL SUPER SILT FENCE AS INDICATED ON PLAN (2 DAYS)
6. WITH APPROVAL OF SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB SITE. (1 WEEK)
7. BEGIN SITE GRADING AND UTILITY CONSTRUCTION. (1 WEEK)
8. BEGIN BUILDING CONSTRUCTION. (8 WEEKS)
9. WITH INSPECTOR'S APPROVAL, INSTALL ON–SITE PAVING BASE COURSE. (2 DAYS)
10. INSTALL ALL PAVING SURFACE COURSE. (1 DAY)
11. FINE GRADE PROPOSED LOTS IN CONFORMANCE WITH SPOT ELEVATIONS SHOWN AND IN ACCORDANCE WITH THE DISCONNECTION OF ROOFTOP AND NON ROOFTOP RUNOFF PRACTICE REQUIREMENTS. STABILIZE ALL AREAS OF PARCEL INCLUDING ANY EXPOSED EARTH AREAS OUTSIDE THE THE LOD. (2 DAYS)
12. INSTALL SITE LANDSCAPING, RAIN GARDEN FACILITIES AND DRYWELLS. (1 WEEK)
13. REMOVE ALL SEDIMENT CONTROL MEASURES AFTER RECEIVING APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR. (2 DAYS)





Howard County, Maryland Department of Public Works	Roof Drain Drywell Private	Detail D–9.01

HOWARD COUNTY – OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRYWELL (M–5)

A. THE OWNER SHALL INSPECT & CLEAN ANNUALLY, INCLUDING PIPES GUTTERS DOWNSPOUTS AND FILTERS.

B. PONDING STANDING WATER OR ALGAL GROWTH ON THE TOP OF A DRYWELL MAY INDICATE FAILURE DUE TO SEDIMENTATION IN THE GRAVEL MEDIA. IF WATER PONDS FOR MORE THAN 48 HOURS AFTER A MAJOR STORM OR MORE THAN SIX INCHES OF SEDIMENT HAS ACCUMULATED, THE GRAVEL MEDIA SHOULD BE EXCAVATED AND REPLACED.

ON-LOT DRYWELL - DESIGN ELEVATION CHART

DW LOT #	NUMBER OF DW'S	PROP GRADE OVER	TOP STONE	INV STONE	SURFACE SIZE FT X FT	STONE DEPTH FT
8	1	392.00	391.00	387.00	7 X 7	4
13F	1	387.00	386.00	382.00	8 X 8	4
13S	1	387.00	386.00	382.00	6 X 6	4

F= FRONT OF LOT
S= SIDE OF LOT

OWNER
MARY THERESE PFAU
3675 PARK AVE., SUITE 301
ELLICOTT CITY, MD 21043
(410) 480–0023

DEVELOPER
TRINITY QUALITY HOMES, INC.
3675 PARK AVE., SUITE 301
ELLICOTT CITY, MD 21043
(410) 480–0023

NO.	REVISION	DATE

N–1 & N–2. DISCONNECTION OF ROOFTOP AND NON–ROOFTOP RUNOFF

CONSTRUCTION CRITERIA:

THE FOLLOWING ITEMS SHOULD BE ADDRESSED DURING THE CONSTRUCTION OF PROJECTS WITH PLANNED ROOFTOP DISCONNECTIONS:

– EROSION AND SEDIMENT CONTROL: EROSION AND SEDIMENT CONTROL PRACTICES (E.G., SEDIMENT TRAPS) SHALL NOT BE LOCATED IN VEGETATED AREAS RECEIVING DISCONNECTED RUNOFF

– SITE DISTURBANCE: CONSTRUCTION VEHICLES AND EQUIPMENT SHOULD AVOID AREAS RECEIVING DISCONNECTED RUNOFF TO MINIMIZE DISTURBANCE AND COMPACTION. SHOULD AREAS RECEIVING DISCONNECTED RUNOFF BECOME COMPACTED, SCARIFYING THE SURFACE OR ROTOTILLING THE SOIL TO A DEPTH OF FOUR TO SIX INCHES SHALL BE PERFORMED TO ENSURE PERMEABILITY. ADDITIONALLY, AMENDMENTS MAY BE NEEDED FOR TIGHT, CLAYEY SOILS.

INSPECTION:

A FINAL INSPECTION SHALL BE CONDUCTED BEFORE USE AND OCCUPANCY APPROVAL TO ENSURE THAT SIZING FOR TREATMENT AREAS HAVE BEEN MET AND PERMANENT STABILIZATION HAS BEEN ESTABLISHED.

MAINTENANCE CRITERIA:

MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION (E.G., BY PLANTING TREES OR SHRUBS ALONG THE PERIMETER). IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

HOWARD COUNTY – OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DISCONNECTION OF ROOFTOP RUNOFF (N–1), DISCONNECTION OF NON–ROOFTOP RUNOFF (N–2)

A. MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE OWNER SHALL ENSURE THE AREAS RECEIVING RUNOFF ARE PROTECTED FROM FUTURE COMPACTION OR DEVELOPMENT OF IMPERVIOUS AREA. IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

SUPPLEMENTAL INFORMATION PLAN
STORMWATER MANAGEMENT - NOTES & DETAILS

STELLA GLEN II - LOTS 8-17

A RE-SUBDIVISION OF STELLA GLEN LOTS 1-7
& A SUBDIVISION OF PARCEL 346

TAX MAP: 36 GRID: 19 — ZONED: R–20
6TH ELECTION DISTRICT — PARCELS: 57, 58, 417 & 346
DPZ REF'S: SEE GENERAL NOTE #4 ON COVER SHEET — HOWARD COUNTY, MARYLAND

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FAX: 410.461.8961

STATE OF MARYLAND — ROBERT HARRIS VOGEL — NO. 16193 — REGISTERED PROFESSIONAL ENGINEER — 10/15/15

ROBERT H. VOGEL, PE No.16193

DESIGN BY: RHV/EDS
DRAWN BY: JMR
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DATE: OCTOBER 2015
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W.O. NO.: 14–37

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: 09–27–2016

SHEET 5 OF 5

F-15-105

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