

GENERAL NOTES

- 1. 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.
2. THE CONTRACTOR SHALL NOTIFY 'MISS UTILITY' AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
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
VERISON TELEPHONE COMPANY: 1-410-954-6281
HOWARD COUNTY BUREAU OF UTILITIES: 410-313-2366
AT&T CABLE LOCATION DIVISION: 1-800-363-3553
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. ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
5. THIS SDP PLAN IS SUBJECT TO THE FOLLOWING DPZ FILES:
PLAT 8 F. 53, VP-84-129, F-85-041 (PLAT#111), ECP-15-038, WP-16-083, F-16-002.
6. THE DEVELOPER HAS OBTAINED THE NECESSARY STATE PERMIT FOR THE PROPOSED ENVIRONMENTAL IMPACTS.
- THE AUTHORIZATION NUMBER IS 16-NT-3055 / 20160474, EFFECTIVE APRIL 19, 2016.
ALL WORK IN THE NONTOTAL WETLAND BUFFER SHALL BE COMPLETED PER THE BEST MANAGEMENT PRACTICES FOR WORKING IN NONTOTAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS.
7. A PRE-SUBMISSION COMMUNITY MEETING WAS HELD ON MARCH 31, 2015 AT 6:00 PM AT THE MEETING ROOM AT NORTH LAUREL COMMUNITY CENTER.
8. AN ENVIRONMENTAL CONCEPT PLAN (ECP-15-038) WAS APPROVED ON MAY 6, 2015.
9. THE SUBJECT PROPERTY ZONING IS R-SC IN ACCORDANCE WITH THE 10/6/13 COMPREHENSIVE ZONING PLAN AND IS SUBJECT TO THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS EFFECTIVE 10/27/03 PER COUNCIL BILL 77-2003.
10. THE EXISTING TOPOGRAPHY SHOWN HEREON IS BASED ON A TOPOGRAPHIC SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED SEPTEMBER 2014 MERGED TOGETHER WITH PROPOSED CONTOURS FROM F-16-002.
11. THE PROJECT BOUNDARY SHOWN HEREON IS BASED ON A BOUNDARY SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC. DATED DECEMBER, 2014.
12. 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. 476D AND 476E WERE USED FOR THIS PROJECT.
13. THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, DEVELOPMENT CONCEPT PLAN AND SOILS MAP.
14. STORMWATER MANAGEMENT FOR THE PROJECT IS PROVIDED BY THE USE OF NON STRUCTURAL PRACTICES AND MICRO-SCALE PRACTICES IN ACCORDANCE WITH ENVIRONMENTAL SITE DESIGN CRITERIA.
- F-16-002 BONDED THE CONSTRUCTION OF THE PROJECTS GRAVEL WETLAND (M-2), BIO-SWALE (M-8) AND MICRO-BIORETENTION FACILITY NUMBER 1 (M-7).
- THIS SDP PLAN WILL BOND THE ON-LOT PRACTICES WHICH INCLUDE THE FOLLOWING MICRO-SCALE PRACTICES: RAIN BARRELS (M-1) AND RAIN GARDEN (M-7). NON-STRUCTURAL PRACTICES INCLUDE ROOFTOP DISCONNECTIONS. THESE FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED.
15. CERTIFIED TEST PITS HAVE BEEN PROVIDED TO VERIFY THE LOCATIONS OF GROUNDWATER AND/OR ROCK. OPEN TEST PITS WERE OBSERVED BY ROBERT H. VOGEL ENGINEERING ON APRIL 20, 2015.
16. EXISTING UTILITIES LOCATED FROM ROAD CONSTRUCTION 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.
17. ANY DAMAGE TO THE COUNTY'S RIGHTS-OF-WAY, PAVING, OR EXISTING UTILITIES SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
18. SHG ELEVATIONS ARE LOCATED AT THE PROPERTY LINE/EDGE OF EASEMENT.
19. THERE ARE NO EXISTING DWELLING/STRUCTURES LOCATED ON THIS SITE. THE EXISTING DWELLING AND STRUCTURES WERE RAZED PRIOR TO RECORDECTION OF THE FINAL PLAT, F-16-002.
20. REFER TO SHEET 2 FOR RESTRICTIONS PER SECTION 12.02 OF THE HOWARD COUNTY ZONING REGULATIONS.
21. THE PROPOSED UNITS SHALL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
22. DRIVENAILS SHALL BE INSTALLED AT THE PERCENTAGE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES FOR 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 CHIP COATINGS (1-1 1/2" MIN).
c) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% CHANGE AND MINIMUM OF 45-FOOT 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 INSURE ALL WEATHER USE.
23. LOTS 2-4 WILL UTILIZE A USE-IN-COMMON DRIVEWAY.
A USE-IN-COMMON MAINTENANCE AGREEMENT FOR THE SHARED DRIVEWAY WAS PREVIOUSLY RECORDED AS L 17386 F. 44.
A PRIVATE BANK OF ADDRESS SIGNAGE SHALL BE FABRICATED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DRIVEWAY ACCESS POINT ONTO STANSFIELD ROAD AT THE DEVELOPER'S/OWNERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5752 FOR DETAILS AND COST ESTIMATES. - A WHITE ON GROWN RANCE OF ADDRESS SIGN SHALL BE PROVIDED.
24. 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.
25. FLAG AND PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE FOR LOTS 2-4 ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND ROAD RIGHT-OF-WAY LINE AND NOT ONTO THE PIPESTEM LOT DRIVEWAY.
26. TRASH AND RECYCLING COLLECTION WILL BE AT STANSFIELD ROAD WITHIN 5' OF THE EDGE OF THE COUNTY ROADWAY. THE MAINTENANCE OF THE TRASH PAD AND ITS LANDSCAPING IS THE RESPONSIBILITY OF THE HOA.
27. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
SEWER AND WATER FOR THIS PROJECT SHALL BE FROM CONTRACT NO. 24-4840-D.
-WATER AND SEWER SERVICE WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 16.122 OF THE HOWARD COUNTY CODE. ALLOCATIONS WILL BE GRANTED AT TIME OF ISSUANCE OF BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME.
28. ALL WATER HOUSE CONNECTIONS SHALL BE OUTSIDE METER SETTING UNLESS OTHERWISE NOTED ON THE PLANS OR IN SPECIFICATIONS.
29. TO THE BEST OF THE OWNERS KNOWLEDGE OR THE HOWARD COUNTY CEMETERY INVENTORY MAP, THERE ARE NO BURIAL GROUNDS, CEMETERIES LOCATED ON THE SUBJECT PROPERTY.
30. THIS SITE IS NOT LOCATED IN A HISTORIC DISTRICT.
31. TO THE BEST OF THE OWNERS KNOWLEDGE OR THE HOWARD COUNTY HISTORIC SITES MAP, THERE ARE NO HISTORIC STRUCTURES LOCATED ON THE SUBJECT PROPERTY.
32. STANSFIELD ROAD IS CLASSIFIED AS A MINOR COLLECTOR.
33. SITE ACCESS FOR LOTS 2, 3 AND 4 SHALL BE VIA A USE-IN-COMMON DRIVEWAY.
34. A LANDSCAPE PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
FINANCIAL SURETY IN THE AMOUNT OF \$ 5,850.00 FOR THE REQUIRED 16 SHADE TREES, 5 SHRUBS (TRASH PAD) AND 3 SHADE (WP-16-083) WAS POSTED WITH THE DEVELOPER AGREEMENT FOR F-16-002.
35. FOREST STAND DELINEATION PLAN PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. C/O MR. JOHN CANOLES, NOVEMBER 26, 2014.
36. FOREST CONSERVATION REQUIREMENTS, AS SET FORTH IN SECTION 16.1202 OF THE HOWARD COUNTY CODE AND MANUAL HAVE BEEN MET UNDER CONSTRUCTION IS CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
37. IN ACCORDANCE WITH SECTION 10.01 OF THE 10/06/13 COMPREHENSIVE ZONING REGULATIONS, THIS SUBDIVISION IS SUBJECT TO MODERATE INCOME HOUSING UNITS. THE MHU OBLIGATION FOR THIS DEVELOPMENT WILL BE PROVIDED BY A PAYMENT OF FEE-IN-LIEU TO THE HOWARD COUNTY HOUSING DEPARTMENT FOR EACH UNIT OR PORTION OF THE UNITS REQUIRED BY THE DEVELOPMENT.
- THE MHU AGREEMENT WILL BE RECORDED SIMULTANEOUSLY WITH THE RECORDING OF THE F-16-002 PLAT. UTILIZE HOWARD COUNTY STANDARD DETAIL NO. R-6.05 FOR THE USE-IN-COMMON DRIVEWAY ENTRANCE AT STANSFIELD ROAD.
38. A NOISE STUDY IS NOT REQUIRED. NOISE WALL MITIGATION CURRENTLY EXISTS ALONG INTERSTATE 95.
39. IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME 3, CHAPTER 4 - SECTION 4.7(B)(9), A TRAFFIC STUDY IS NOT REQUIRED FOR THIS PROJECT.
40. WETLANDS AND STREAMS SHOWN ON SITE ARE BASED ON ECO-SCIENCE PROFESSIONALS, INC. C/O MR. JOHN CANOLES, NOVEMBER 26, 2014.
41. PER ECO-SCIENCE PROFESSIONALS, INC. C/O MR. JOHN CANOLES; NO RARE, THREATENED OR ENDANGERED SPECIES OR THEIR HABITATS WERE OBSERVED ON THE PROPERTY.
42. NO GRADING, REMOVAL OF VEGETATION COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAM(S), OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.
- REFER TO WP-16-083, GRADING IN THE WETLAND BUFFER (TO AS CLOSE AS 15' FROM THE EDGE OF THE WETLAND), HAS BEEN DEEMED A NECESSARY DISTURBANCE. SEE NOTE 6.
43. NO FLOODPLAIN IS LOCATED ON SITE.
44. THERE ARE NO STEEP SLOPES LOCATED ON THE SUBJECT SITE.
45. THIS PROJECT IS SUBJECT TO WP-16-083, ON FEBRUARY 18, 2016; THE PLANNING DIRECTOR CONSIDERED AND ACTED ON FOUR (4) OF THE EIGHT (8) REQUESTED WAIVERS FROM THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. THE PLANNING DIRECTOR APPROVED THE REQUEST TO WAIVE:
1) SECTION 16.132(A)(2)(i)(a) - PROVIDE REQUIRED ROAD FRONTAGE IMPROVEMENTS AND
2) SECTION 16.136 - PROVIDE STREET TREES SUBJECT TO THE FOLLOWING CONDITIONS:
1. COMPLIANCE WITH ANY SUBDIVISION REVIEW COMMITTEE (SRC) COMMENTS BASED ON THE REVIEW AND APPROVAL OF THE ASSOCIATED FINAL SUBDIVISION PLAN (F-16-002)
2. COMPLIANCE WITH THE ATTACHED COMMENTS FROM THE DEVELOPMENT ENGINEERING DIVISION DATED FEBRUARY 4, 2016, SPECIFICALLY:
A. DEED COMMENT #4 WHICH REQUIRES THE DEVELOPER TO PAY A FEE-IN-LIEU FOR THE CONSTRUCTION OF THE FRONTAGE IMPROVEMENTS. A COMPLETED COST ESTIMATE MUST BE SUBMITTED AND APPROVED BY DPZ AND DTM REGARDING THE FINAL COSTS. THE ESTIMATE SHOULD INCLUDE ALL FRONTAGE IMPROVEMENTS, MOBILIZATION, MOT, SEDIMENT CONTROL, UTILITY RELOCATION, GRADING, ETC. THE FINAL PLANS AND PLAT WILL NOT BE SIGNED UNTIL THE ASSOCIATED FEE HAS BEEN PAID.
B. DEED COMMENT #5 WHICH REQUIRES THAT THE COST OF SIDEWALK CONSTRUCTION TO BE INCLUDED IN THE FEE-IN-LIEU ESTIMATE.
C. DEED COMMENT #7 WHICH REQUIRES THE DEVELOPER TO INSTALL THREE(3) REQUIRED STREET TREES WITHIN THE SITE (OUTSIDE OF THE POWER LINES) BETWEEN THE HOUSE AND THE RIGHT-OF-WAY.
3. THE APPLICANT SHALL REDESIGN LOT 1 TO REDUCE THE LOT SIZE AND ADJUST THE EASTERN LOT LINE TO EXCLUDE THE 24' WIDE USE-IN-COMMON DRIVEWAY EASEMENT AND THE PRIVATE 18' WIDE USE-IN-COMMON DRIVEWAY PAVEMENT FROM WITHIN LOT 1. THE APPLICANT SHALL ALSO EXCLUDE THE DRIVEWAY PAVEMENT FOR LOT 2 FROM WITHIN LOT 1.
- THE PLANNING DIRECTOR DENIED YOUR REQUEST TO WAIVE 1) SECTION 16.134(C)(1) - PROVIDE SIDEWALKS AND 2) SECTION 16.120(C)(2)(ii) LOT LAYOUT - SHARED DRIVEWAY EASEMENT.
- THE DIVISION OF LAND DEVELOPMENT HAS DETERMINED THE FOLLOWING FOUR (4) REQUESTED WAIVERS ARE NOT REQUIRED: A. SECTION 16.116(A) - PROTECTION OF WETLANDS - DETERMINED TO BE 'ESSENTIAL DISTURBANCE'.
B. SECTION 16.120(B)(4) - LOTS SHOULD BE REGULAR, GENERALLY RECTANGULAR, IN SHAPE.
C. SECTION 16.121(C) OPEN SPACE ACCESS AND FRONTAGE
D. SECTION 16.135(A) PROVIDE STREET LIGHTING

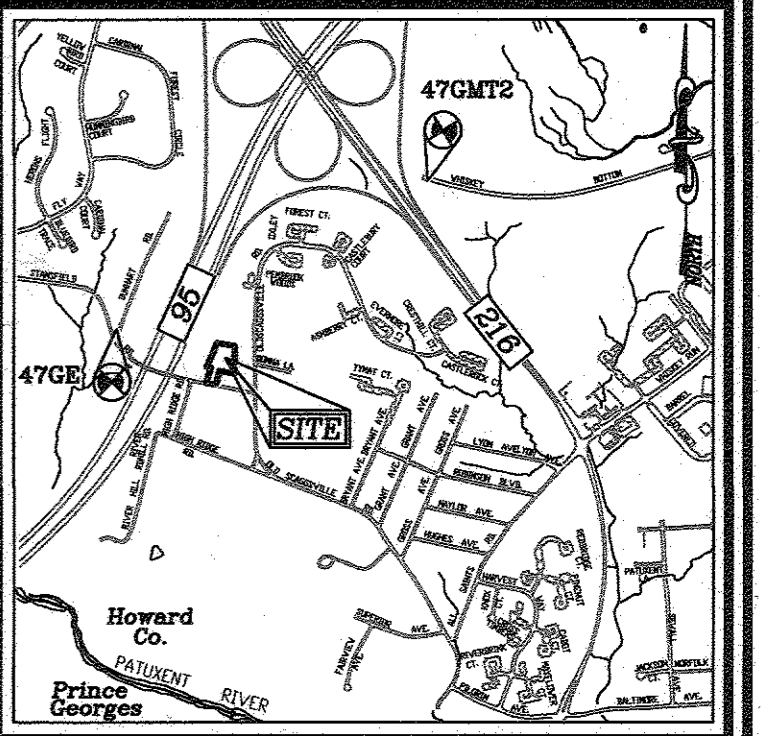
SITE ANALYSIS DATA

- A. TOTAL PROJECT AREA: 1.84 AC
B. AREA OF PLAN SUBMISSION: 1.84 AC
C. LIMIT OF DISTURBANCE: 0.48 AC
D. PROPOSED ZONING DESIGNATION: R-SC
E. PROPOSED USES FOR SITE AND STRUCTURES: SINGLE FAMILY DETACHED
F. FLOOR SPACE ON EACH LEVEL OF BUILDING PER USE: N/A
G. TOTAL NUMBER OF UNITS ALLOWED FOR PROJECT AS SHOWN ON FINAL PLAT: 4 BUILDABLE LOTS TOTAL
H. TOTAL NUMBER OF UNITS PROPOSED ON SUBMISSION: 4
I. MAXIMUM NUMBER OF EMPLOYEES, TENANTS ON SITE PER USE: N/A
J. NUMBER OF PARKING SPACES REQUIRED BY HO, CO, ZONING REGULATIONS: 2.5 PER SFD HOUSE
K. NUMBER OF PARKING SPACES PROVIDED ON SITE: N/A
L. OPEN SPACE ON SITE: 1.06 AC
M. AREA OF RECREATION OPEN SPACE REQUIRED BY SUBDIVISION & LAND DEVELOPMENT REGULATIONS: N/A
N. BUILDING COVERAGE OF SITE: N/A
O. APPLICABLE DPZ FILE REFERENCES: SEE NOTE 5
P. ANY OTHER INFORMATION WHICH MAY BE RELEVANT: SEE GENERAL NOTES
Q. OPEN AREA RATIO: N/A
R. MHU REQUIREMENT: SEE NOTE 37

SITE DEVELOPMENT PLAN PINEHURST LOTS 1-4

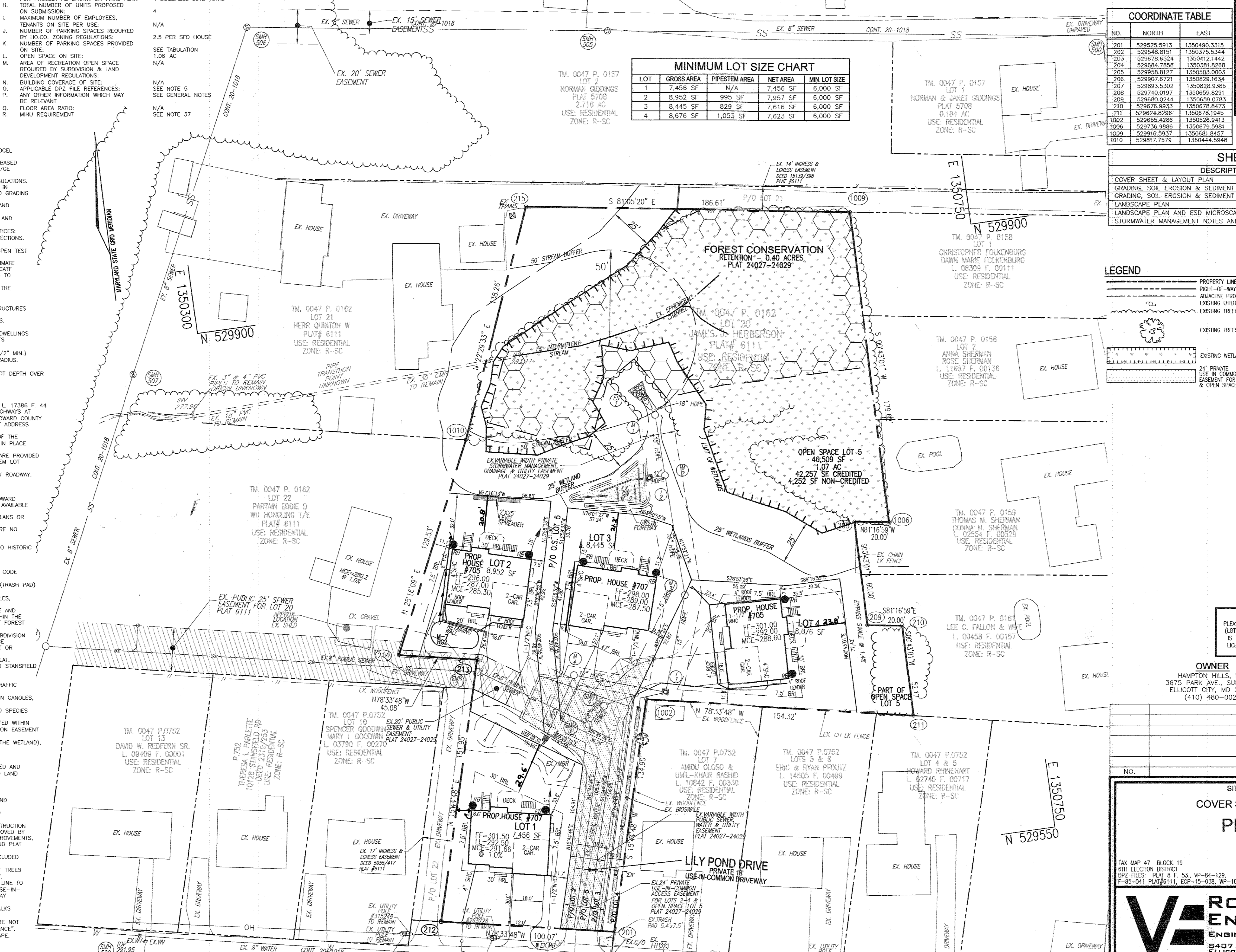
NOTES:
1. ALL WATER CONNECTIONS SHALL BE 1-1/2" WITH 1" OUTSIDE METER SETTINGS, UNLESS OTHERWISE NOTED. REFER TO HOWARD COUNTY DETAILS W-3.28 OUTSIDE METER SETTINGS.

BENCHMARKS
COORDINATES BASED ON NAD 83 MARYLAND COORDINATE SYSTEM AS PROVIDED BY HOWARD COUNTY GEODETIC CONTROL STATIONS 476T, 476E.
HOWARD COUNTY BENCHMARK
476D N 530494.47 E 1350872.301 ELEV. 312.315
476E N 529044.96 E 1350854.953 ELEV. 335.756



MINIMUM LOT SIZE CHART
LOT GROSS AREA PIPESTEM AREA NET AREA MIN. LOT SIZE
1 7,456 SF N/A 7,456 SF 6,000 SF
2 8,952 SF 995 SF 7,957 SF 6,000 SF
3 8,445 SF 829 SF 7,616 SF 6,000 SF
4 8,676 SF 1,053 SF 7,623 SF 6,000 SF

COORDINATE TABLE
NO. NORTH EAST
201 529525.5913 1350490.3315
202 529548.8157 1350775.5344
203 529678.8524 1350412.1442
204 529684.7858 1350381.8268
205 529958.8127 1350503.0003
206 529907.8721 1350829.1834
207 529893.5402 1350828.9385
208 529740.0197 1350659.8291
209 529680.0244 1350659.0783
210 529678.9932 1350678.8421
211 529624.8296 1350678.1945
1002 529655.2286 1350626.9413
1006 529746.9898 1350679.5981
1009 529916.5937 1350681.8457
1010 529817.7579 1350444.5948



SHEET INDEX
DESCRIPTION SHEET NO
COVER SHEET & LAYOUT PLAN 1 OF 6
GRADING, SOIL EROSION & SEDIMENT CONTROL PLAN AND SOILS MAP 2 OF 6
GRADING, SOIL EROSION & SEDIMENT CONTROL PLAN - DETAILS 3 OF 6
LANDSCAPE PLAN 4 OF 6
LANDSCAPE PLAN AND ESD MICROSCALE PLANTING NOTES AND DETAILS 5 OF 6
STORMWATER MANAGEMENT NOTES AND DETAILS 6 OF 6

LEGEND
PROPERTY LINE
RIGHT-OF-WAY LINE
ADJACENT PROPERTY LINE
EXISTING UTILITY POLE
EXISTING TREE LINE
EXISTING TREES
EXISTING WETLANDS
24' PRIVATE DRIVEWAY ACCESS
PROPERTY LINE
RIGHT-OF-WAY LINE
ADJACENT PROPERTY LINE
EXISTING UTILITY POLE
EXISTING TREE LINE
EXISTING TREES
EXISTING WETLANDS
24' PRIVATE DRIVEWAY ACCESS

PARKING TABULATION:
TOTAL NUMBER OF DWELLING UNITS PROPOSED: 4
1. PARKING SPACES REQUIRED: 2 SPACES PER UNIT = 8 SPACES
ADDITIONAL PARKING SPACES REQUIRED (VISITOR): 0.5 SPACES PER UNIT X 4 UNITS = 2 SPACES
TOTAL REQUIRED = 10 SPACES
2. PARKING SPACES PROVIDED:
STD = 2 GARAGE / 2 DRIVEWAY
2 SPACE IN GARAGE = 8 SPACES (FOR 4 UNITS)
2 SPACES ON DRIVEWAY = 8 SPACES (FOR 4 UNITS)
TOTAL PARKING SPACES PROVIDED: 16 SPACES

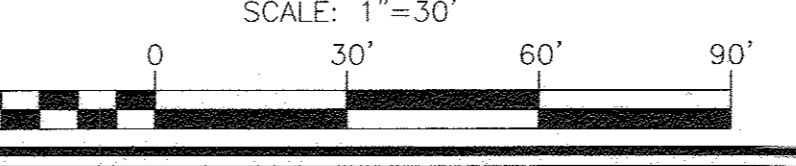
ADDRESS CHART
UNIT/BUILDING STREET ADDRESS
LOT 1 10122 STANSFIELD ROAD
LOT 2 10109 LILY POND DRIVE
LOT 3 10110 LILY POND DRIVE
LOT 4 10106 LILY POND DRIVE

MHU AGREEMENT
PLEASE NOTE THAT ALL NEW LOTS/RESIDENTIAL UNITS IN THIS SUBDIVISION (LOTS 1-4) ARE SUBJECT TO THE MHU FEE-IN-LIEU REQUIREMENT THAT IS TO BE CALCULATED AND PAID TO THE DEPARTMENT OF INSURANCE, LICENSES AND PERMITS AT THE TIME OF BUILDING PERMIT ISSUANCE BY THE PERMIT APPLICANT.
OWNER: HAMPTON HILLS, LLC
DEVELOPER: TRINITY HOMES MARYLAND, LLC

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION: 3-17-17
CHIEF, DIVISION OF LAND DEVELOPMENT: 3-21-17
DIRECTOR: 3-22-17

GENERAL NOTES CONTINUED
48. SOIL TYPES SHOWN HEREON ARE IN ACCORDANCE WITH THE WEB SOIL SURVEY - HOWARD COUNTY, MARYLAND.
49. THE PINEHURST HOMEOWNERS ASSOCIATION, INC. DOCUMENTS HAVE BEEN RECORDED WITH THE MARYLAND STATE DEPARTMENT OF ASSESSMENTS AND TAXATION AS RECORDING REFERENCE NUMBER D17073818 ON FEBRUARY 25, 2016.
50. THE PINEHURST HOMEOWNERS ASSOCIATION, INC. HOMEOWNERS ASSOCIATION COVENANTS AND RESTRICTIONS WERE RECORDED SIMULTANEOUSLY WITH F-16-002 AS LIBER 17386 FOLD 49, ON NOVEMBER 3, 2016.

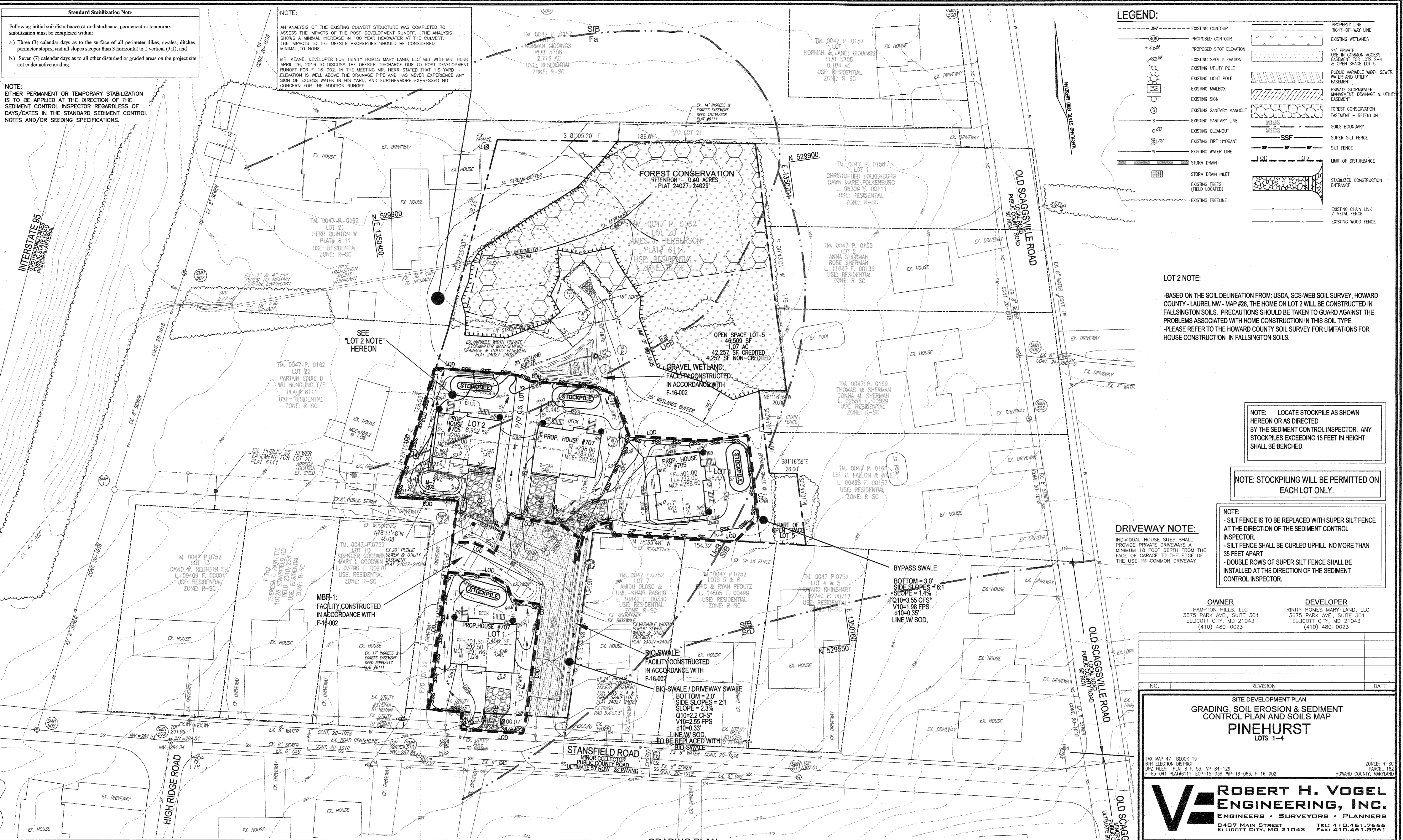
COVER SHEET & LAYOUT PLAN



PERMIT INFORMATION CHART
SUBDIVISION NAME: PINEHURST
SECTION/AREA: N/A
LOT/PARCEL NUMBER: 162
PLAT OR L/F: 24027-24029
GRID NO./ZONING: 19 R-SC
TAX MAP NO./ELECT. DIST. CENSUS TR.: 47 6TH 606906

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

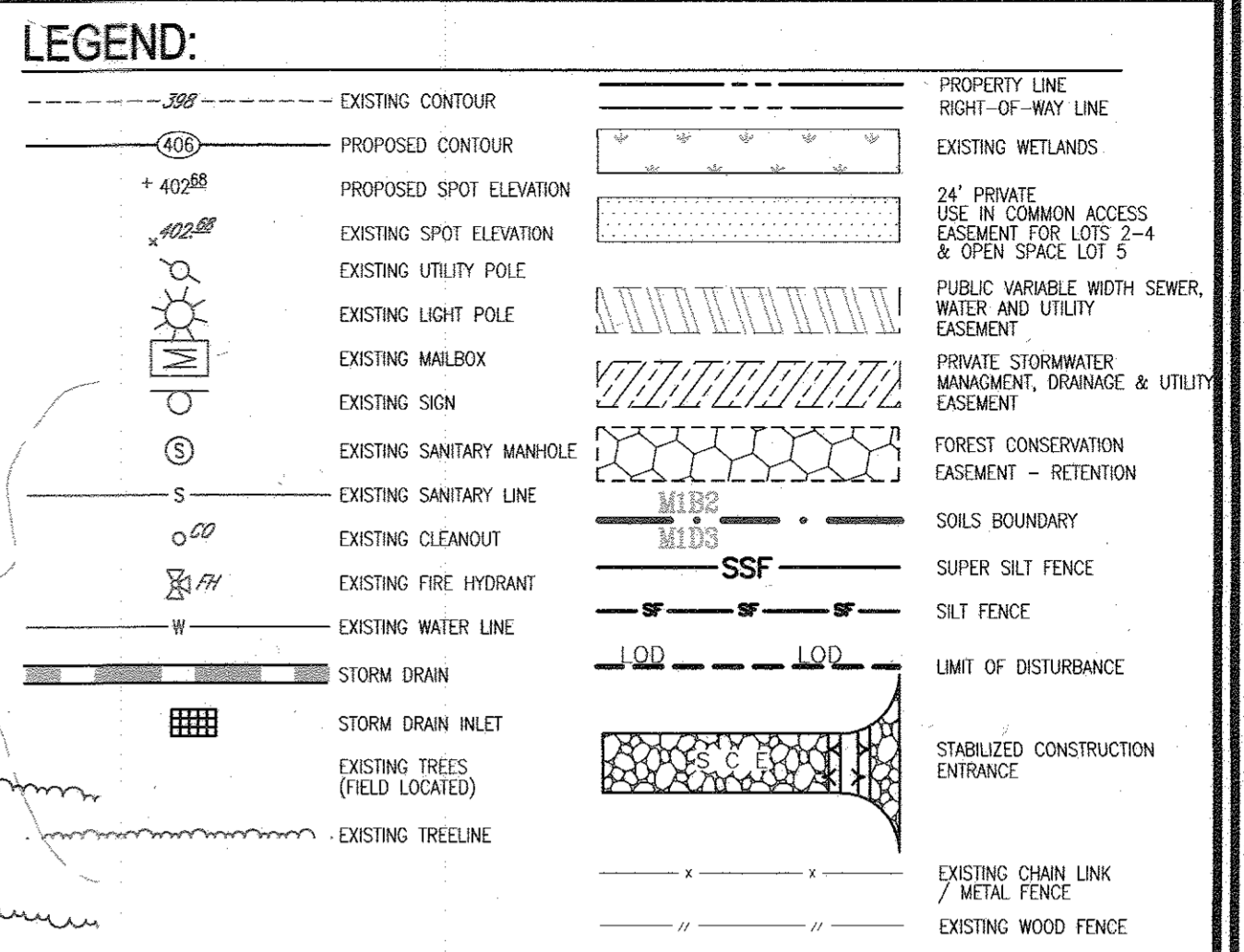
PROFESSIONAL CERTIFICATE
DESIGN BY: RVE
DRAWN BY: KG/RVE
CHECKED BY: RHY
DATE: FEBRUARY 2017
SCALE: AS SHOWN
W.O. NO.: 14-34
1 SHEET OF 6



Standard Stabilization Note
 Following initial soil disturbance or re-disturbance, permanent or temporary stabilization must be completed within:
 a) Three (3) calendar days as to the surface of all perimeter dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and
 b) Seven (7) calendar days as to all other disturbed or graded areas on the project site not under active grading.

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

NOTE:
 AN ANALYSIS OF THE EXISTING CULVERT STRUCTURE WAS COMPLETED TO ASSESS THE IMPACTS OF THE POST-DEVELOPMENT RUNOFF. THE ANALYSIS SHOWS A MINIMAL INCREASE IN 100 YEAR HEADWATER AT THE CULVERT. THE IMPACTS TO THE OFFSITE PROPERTIES SHOULD BE CONSIDERED MINIMAL TO NONE.
 MR. KEANE, DEVELOPER FOR TRINITY HOMES MARY LAND, LLC MET WITH MR. HERR APRIL 26, 2016 TO DISCUSS THE OFFSITE DISCHARGE DUE TO POST DEVELOPMENT RUNOFF FOR F-16-002. IN THE MEETING MR. HERR STATED THAT HIS YARD ELEVATION IS WELL ABOVE THE DRAINAGE PIPE AND HAS NEVER EXPERIENCED ANY SIGN OF EXCESS WATER IN HIS YARD, AND FURTHERMORE EXPRESSED NO CONCERN FOR THE ADDITION RUNOFF.



LOT 2 NOTE:
 -BASED ON THE SOIL DELINEATION FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY - LAUREL NW - MAP #28, THE HOME ON LOT 2 WILL BE CONSTRUCTED IN FALLSINGTON SOILS. PRECAUTIONS SHOULD BE TAKEN TO GUARD AGAINST THE PROBLEMS ASSOCIATED WITH HOME CONSTRUCTION IN THIS SOIL TYPE.
 -PLEASE REFER TO THE HOWARD COUNTY SOIL SURVEY FOR LIMITATIONS FOR HOUSE CONSTRUCTION IN FALLSINGTON SOILS.

NOTE: LOCATE STOCKPILE AS SHOWN HEREON OR AS DIRECTED BY THE SEDIMENT CONTROL INSPECTOR. ANY STOCKPILES EXCEEDING 15 FEET IN HEIGHT SHALL BE BENCHED.

NOTE: STOCKPILING WILL BE PERMITTED ON EACH LOT ONLY.

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.

DRIVEWAY NOTE:
 INDIVIDUAL HOUSE SITES SHALL PROVIDE PRIVATE DRIVEWAYS A MINIMUM 18 FOOT DEPTH FROM THE FACE OF GARAGE TO THE EDGE OF THE USE-IN-COMMON DRIVEWAY

OWNER
 HAMPTON HILLS, LLC
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 3/17/17
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 3-21-17
 CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 3-22-17
 DIRECTOR

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

[Signature] 2/16/17
 SIGNATURE OF DEVELOPER

BY THE ENGINEER:
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY CONSERVATION DISTRICT.

[Signature] 2/11/17
 SIGNATURE OF ENGINEER

GRADING PLAN
 SCALE: 1" = 30'

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

[Signature] 3/31/17
 HOWARD S.C.D. DATE

MAPPED SOILS TYPES - LAUREL NW - MAP #28

SYMBOL / DESCRIPTION	GROUP	FACTOR	HYDRO	HYDRO INCLUSIONS	FARMLAND	<15% SLOPE W/ EROSION POTENTIAL
Fa FALLSINGTON SANDY LOAM, 0 TO 2 PERCENT SLOPES	B	0.02	YES		FARMLAND OF STATEWIDE IMPORTANCE	NO
SfB SASSAFRAS GRAVELLY SANDY LOAM, 2 TO 5 PERCENT SLOPES	B	0.24	NO		PRIME FARMLAND	NO
Ss SASSAFRAS AND CROOM SOILS, 10 TO 15 PERCENT SLOPES	B	0.37	NO		NOT PRIME FARMLAND	YES
UeB URBAN LAND CHILLUM-BELTSVILLE COMPLEX, 0 TO 5 PERCENT SLOPES	D	0.37	NO		NOT PRIME FARMLAND	YES

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

NO. REVISION DATE

SITE DEVELOPMENT PLAN
GRADING, SOIL EROSION & SEDIMENT CONTROL PLAN AND SOILS MAP
PINEHURST
 LOTS 1-4

TAX MAP 47, BLOCK 19
 6TH ELECTION DISTRICT
 DPZ FILES: PLAT 8 F. 53, VP-84-129,
 F-85-041 PLAT#6111, ECP-15-038, WP-16-083, F-16-002

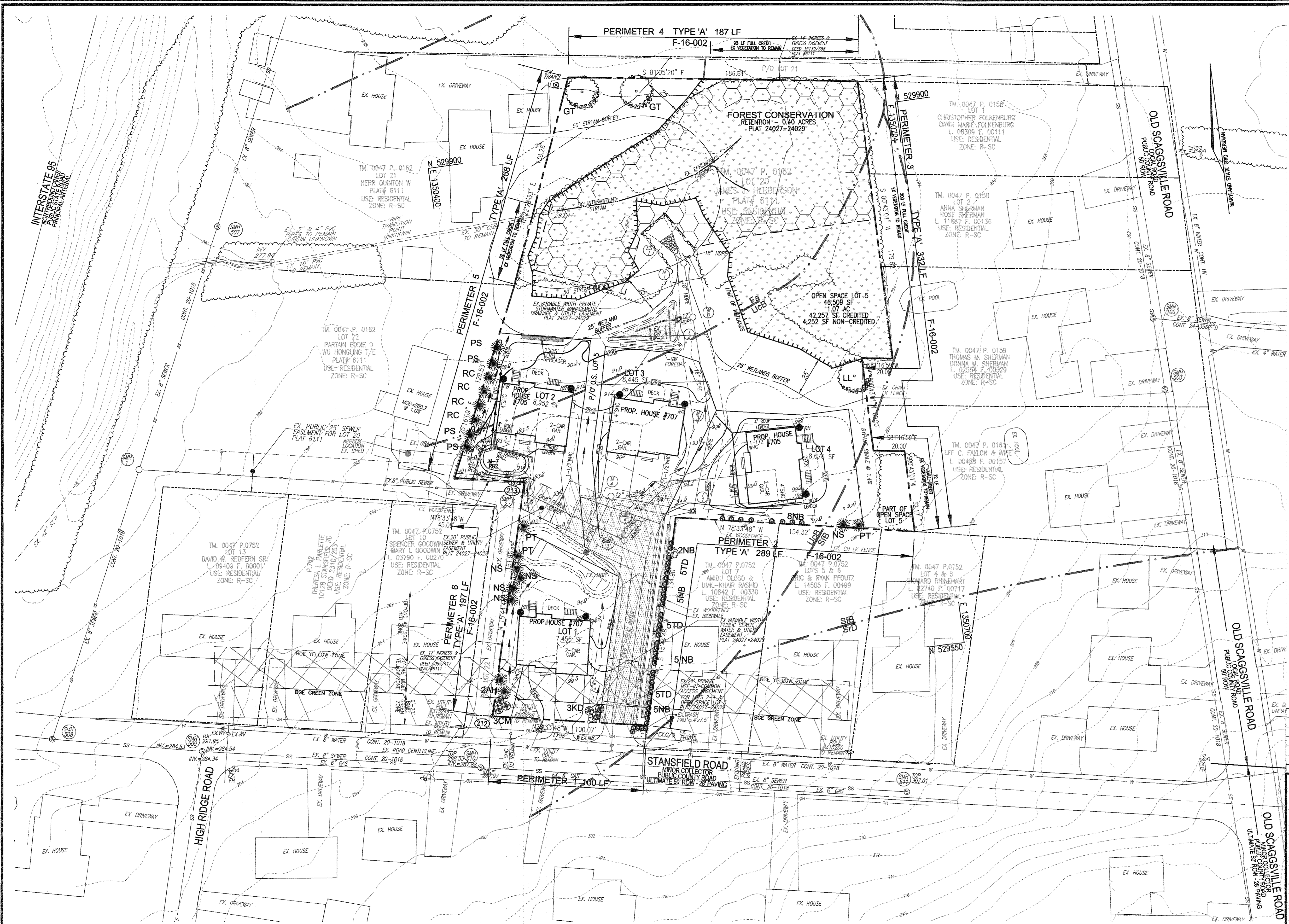
ZONED: R-SC
 PARCEL 162
 HOWARD COUNTY, MARYLAND

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 SOILS LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 09-27-2018

DESIGN BY: RVE
 DRAWN BY: KG/RVE
 CHECKED BY: RHW
 DATE: FEBRUARY 2017
 SCALE: AS SHOWN
 W.O. NO.: 14-34

2 SHEET OF 6



LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- STORM DRAIN
- STORM DRAIN INLET
- EXISTING TREES (FIELD LOCATED)
- EXISTING TREE LINE
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- EXISTING WETLANDS
- ACCESS EASEMENT FOR BENEFIT OF LOT 22
- 24' PRIVATE USE IN COMMON ACCESS EASEMENT FOR LOTS 2-4 & OPEN SPACE LOT 5
- PUBLIC VARIABLE WIDTH SEWER, WATER AND UTILITY EASEMENT
- PRIVATE STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT
- FOREST CONSERVATION EASEMENT - RETENTION
- SOILS BOUNDARY
- PROPOSED SHADE TREE
- PERIMETER 3
- LANDSCAPE PERIMETER
- BGE GREEN ZONE
- BGE YELLOW ZONE

OWNER
 HAMPTON HILLS, LLC
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

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

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
LANDSCAPE PLAN
PINEHURST
 LOTS 1-4

TAX MAP 47, BLOCK 19
 5TH ELECTION DISTRICT
 DPZ FILES: PLAT 8 F. 53, VP-84-129,
 F-85-041 PLAT 6111, ECP-15-038, WP-16-083, F-16-002
 ZONED: R-SC
 PARCEL 162
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
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PROFESSIONAL CERTIFICATE

DESIGN BY: RVE
 DRAWN BY: KG/RVE
 CHECKED BY: RHW
 DATE: FEBRUARY 2017
 SCALE: AS SHOWN
 W.D. NO.: 14-34

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. 19033, EXPIRATION DATE: 09-27-2018

4 SHEET OF 6

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 3-17-17
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE

[Signature] 3-24-17
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE

[Signature] 3-22-17
 DIRECTOR
 DATE

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.

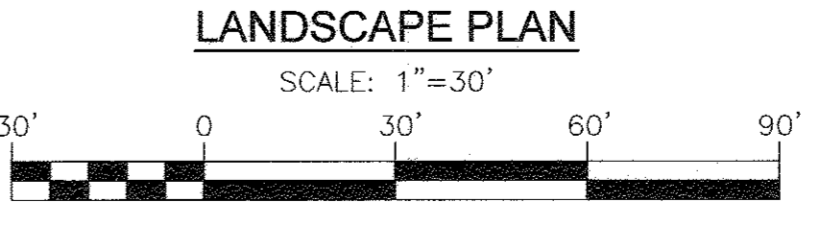
[Signature] 2/16/17
 SIGNATURE OF DEVELOPER
 DATE

B & G E NOTES:

- 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.
- 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 OF 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 CONSENTATION ENERGY'S NEED TO PROTECT ITS TRANSMISSION LINES AND WILL NOT UNREASONABLY WITHHOLD PERMISSION.
- CALL MISS UTILITY TO MARK UP THE LOCATION OF EXISTING GAS LINE BEFORE PLANTING STREET TREES ALONG HANOVER ROAD & PLANT STREET TREES 10' AWAY FROM EXISTING GASLINE AS REQUIRED.

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 ARE 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



LANDSCAPE NOTES

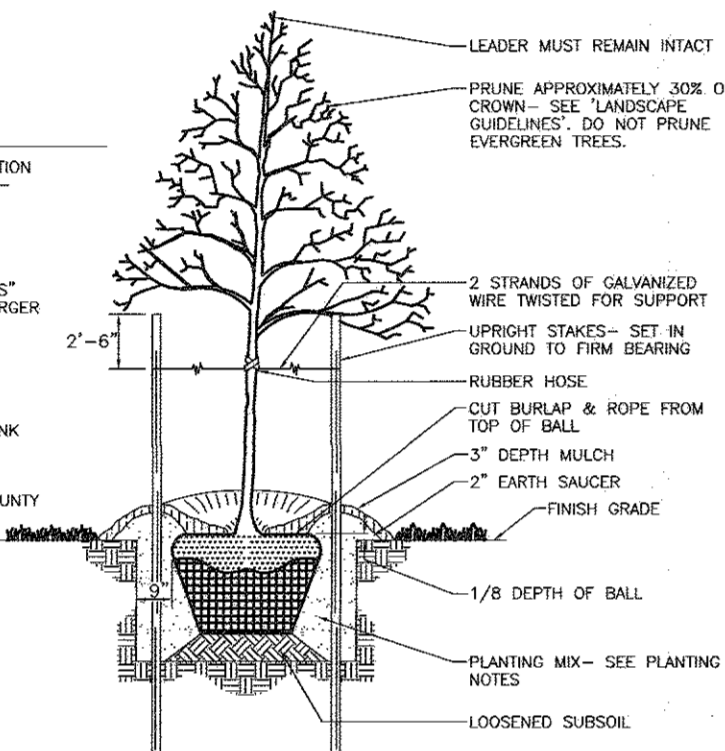
- AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN, SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR 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 BENCHES, 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 AND/OR THIS SITE DEVELOPMENT PLAN.

GENERAL NOTE:

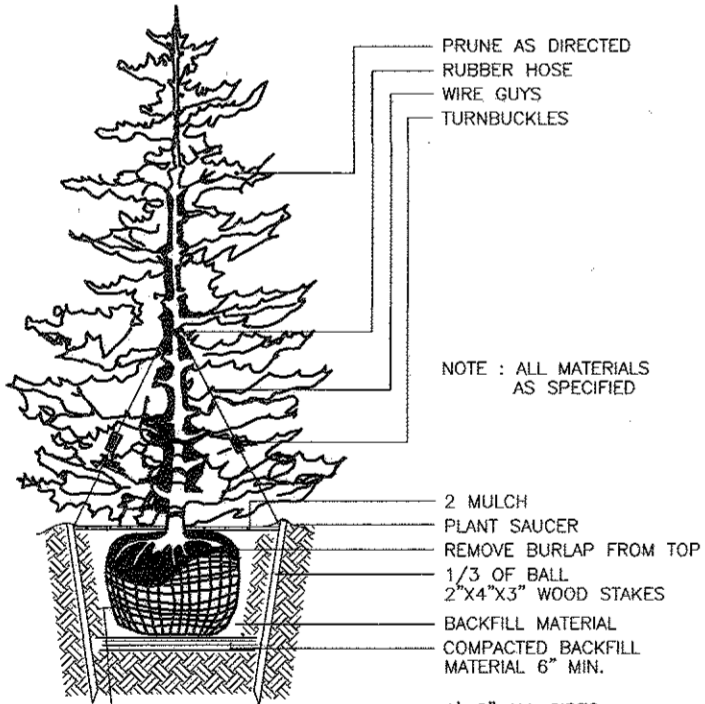
- LANDSCAPING FOR LOTS 1-4 IS PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. A FINANCIAL SURETY IN THE AMOUNT OF \$ 5,850.00 FOR THE REQUIRED 16 SHADE TREES, 9 SHRUBS (TRASH PAD) AND 3 SHADE (WP16-083) SHALL BE POSTED WITH THE BUILDERS GRADING PERMIT.

NOTES

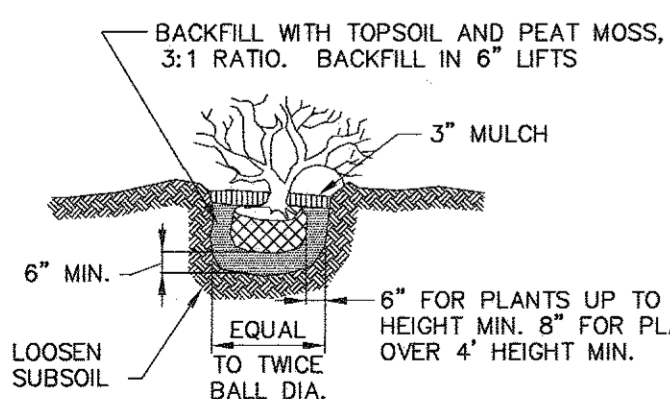
- SEE "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS" FOR ALL MATERIAL, PRODUCT, AND PROCEDURE SPECIFICATIONS.
- SEE "LANDSCAPE GUIDELINES FOR SUPPORTING TREES LARGER THAN 2-1/2" CALIPER" FOR SUPPORTING TREES LARGER THAN 2-1/2" CALIPER.
- PLACE UPRIGHT STAKES PARALLEL TO WINDS & BUILDINGS.
- KEEP MULCH 1" FROM TRUNK.
- SEE ARCHITECTURAL PLANS FOR ADDITIONAL PLANTINGS WHICH EXCEED HOWARD COUNTY MINIMUM REQUIREMENTS.
- 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



TYPICAL EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE



SHRUB PLANTING DETAIL
NOT TO SCALE

CATEGORY	ADJACENT TO ROADWAYS		ADJACENT TO PERIMETER PROPERTIES				TOTAL
	1	2	3	4	5	6	
PERIMETER/FRONTAGE DESIGNATION (LANDSCAPE TYPE)	NONE	A	A	A	A	A	
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	100'	289'	332'	187'	268'	197'	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	YES 272'	YES 95'	YES 52'	NO	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO	NO	
NUMBER OF PLANTS REQUIRED (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)		289	60	92	216	197	16
SHADE TREES		150	1	1	150	4	16
EVERGREEN TREES							
SHRUBS							
NUMBER OF PLANTS PROVIDED							
SHADE TREES			1	2			3
EVERGREEN TREES					8		8
OTHER TREES (2:1 SUBSTITUTION)							18
SHRUBS (10:1 SUBSTITUTION)			40				40
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED							

SYMBOL	QTY.	DESCRIPTION	SIZE	REMARKS
⊙	5	DWARF JAPANESE YEW	3'-4" HT	B & B

SYM	KEY	QUAN	BOTANICAL NAME	SIZE	CAT
⊙	SHADE				
GT	2	2	GLEDITSIA TRIACANTHOS INERMIS 'IMPERIAL' / IMPERIAL THRONLESS HONEY LOCUST	2 1/2"-3" CAL.	B & B
LL	1	1	TILIA CORDATA 'GREENSPIRE' / LITTLELEAF LINDEN	2 1/2"-3" CAL.	B & B
☀	EVERGREENS				
PS	4	4	PINUS STROBUS / EASTERN WHITE PINE	6'-8' HT.	B & B
AH	2	2	ILEX OPACA / AMERICAN HOLLY (BGE COMPLIANT)	5'-6' HT.	B & B
RC	4	4	JUNIPERUS VIRGINIANA CULTIVARS / RED CEDAR (BGE COMPLIANT)	6'-8' HT.	B & B
NS	5	5	ILEX 'NELLIE R. STEVENS' / NELLIE R. STEVENS HOLLY (BGE COMPLIANT)	5'-6' HT.	B & B
PT	3	3	PINUS THUNBERGIANA / JAPANESE BLACK PINE	6'-8' HT.	B & B
⊙	SHRUBS				
NB	25	25	MYRICA PENNSYLVANICA / NORTHERN BAYBERRY	2'-2 1/2' HT.	B & B
TD	15	15	TAXUS MEDIA 'DENSIFORMIS' / DENSI-FORMIS YEW	2 1/2"-3" HT.	B & B
⊕	WP 16-083 - STREET TREE REQUIREMENT - PLANTING SCHEDULE (1)				
KD	3	3	CORNUS KOUSA / KOUSA DOGWOOD (BGE COMPLIANT)	6'-8' HT.	B & B
CM	3	3	LAGERSTROEMIA TUSCARORA / TUSCARORA CRAPE MYRTLE (BGE COMPLIANT)	6'-8' HT.	B & B

(1) WP 16-083 STREET TREES ARE TO BE SUBSTITUTED WITH SMALLER TREES AT 2:1 AS REQUIRED BY THE BGE PLANTING ZONES

LANDSCAPE SCHEDULE NOTE:

- 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 HED 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.

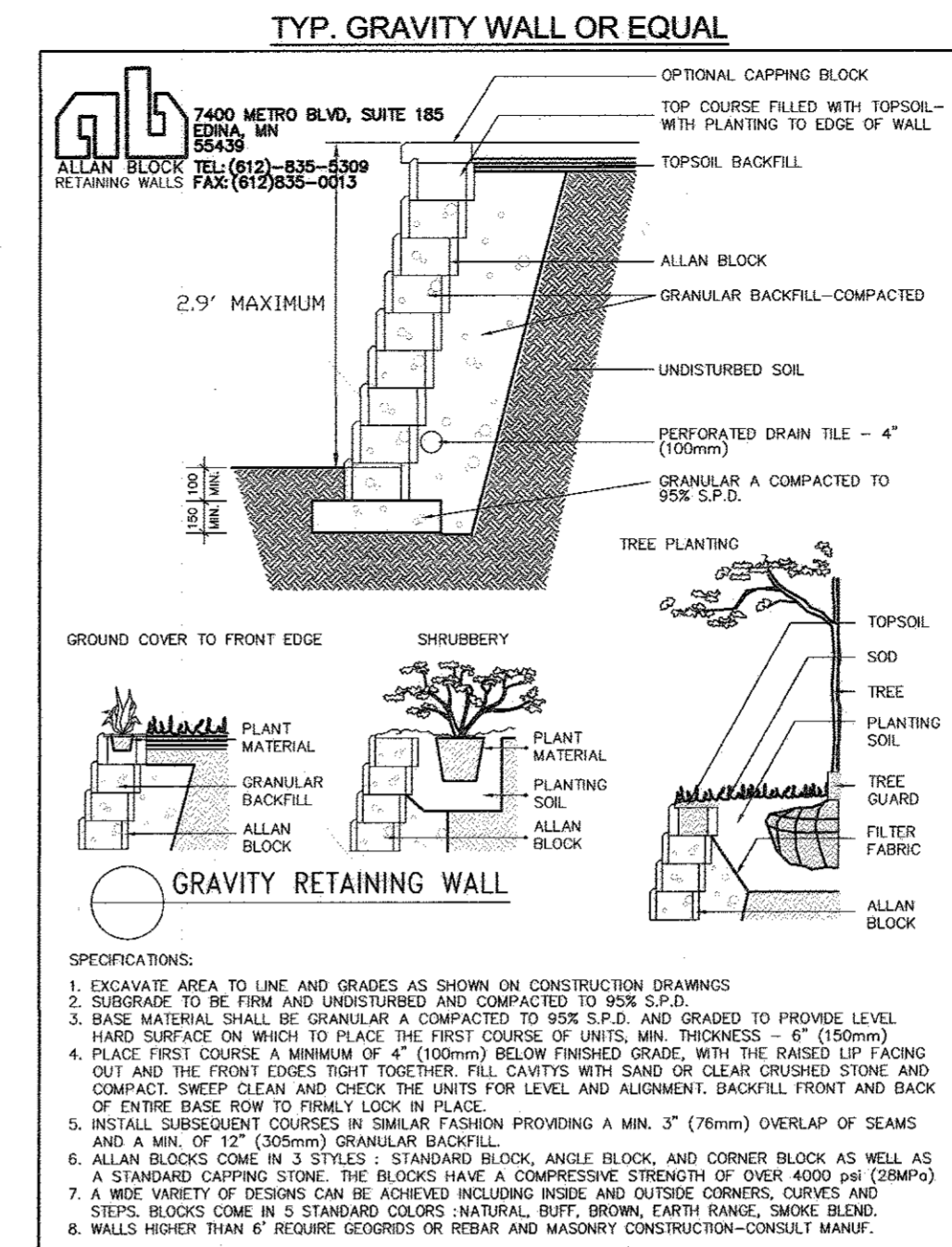
DEVELOPER'S/BUILDER'S CERTIFICATE

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Signature of Developer: *Michael P. ...* DATE: 2/16/17

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: *[Signature]* DATE: 3-17-17
 Chief, Division of Land Development: *[Signature]* DATE: 3-21-17
 Director: *[Signature]* DATE: 3-22-17

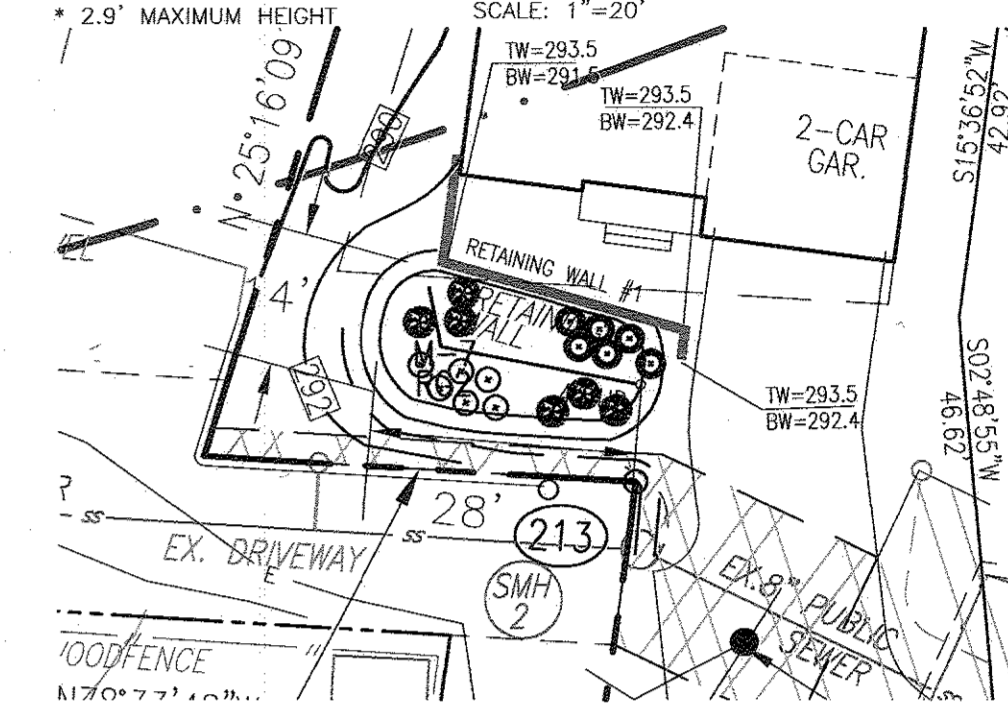


- SPECIFICATIONS:**
- EXCAVATE AREA TO LINE AND GRADES AS SHOWN ON CONSTRUCTION DRAWINGS
 - SUBGRADE TO BE FIRM AND UNDISTURBED AND COMPACTED TO 90% S.P.D.
 - BASE MATERIAL SHALL BE GRANULAR A COMPACTED TO 90% S.P.D. AND GRADED TO PROVIDE LEVEL HARD SURFACE ON WHICH TO PLACE THE FIRST COURSE OF UNITS. MIN. THICKNESS = 4" (100mm)
 - PLACE FIRST COURSE A MINIMUM OF 4" (100mm) BELOW FINISHED GRADE, WITH THE RAISED LIP FACING OUT AND THE FRONT EDGES TIGHT TOGETHER. FILL CAVITIES WITH SAND OR CLEAR CRUSHED STONE AND COMPACT SWEEP CLEAN AND CHECK THE UNITS FOR LEVEL AND ALIGNMENT. BACKFILL FRONT AND BACK OF ENTIRE BASE ROW TO FINELY LOCK IN PLACE.
 - INSTALL SUBSEQUENT COURSES IN SIMILAR FASHION PROVIDING A MIN. 3" (76mm) OVERLAP OF SEAMS AND A MIN. OF 1/2" (12.5mm) GRANULAR BACKFILL.
 - ALLAN BLOCKS COME IN 3 STYLES - STANDARD BLOCK, ANGLE BLOCK, AND CORNER BLOCK AS WELL AS A STANDARD CAPPING STONE. THE BLOCKS HAVE A COMPRESSIVE STRENGTH OF OVER 4000 PSI (28MPa)
 - A WIDE VARIETY OF DECORS CAN BE ACHIEVED INCLUDING ROSES AND OUTSIDE CORNERS, CURVES AND STEPS. BLOCKS COME IN 5 STANDARD COLORS: NATURAL BUFF, BROWN, EARTH RANGE, SMOKE BLEND.
 - WALLS HIGHER THAN 6' REQUIRE GEOTECH OR RETAIN AND MAGNET CONSTRUCTION-CONSULT MANAGER.

"MICRO-BIORETENTION/RAINGARDEN" PLANTING SCHEDULE NOTES:

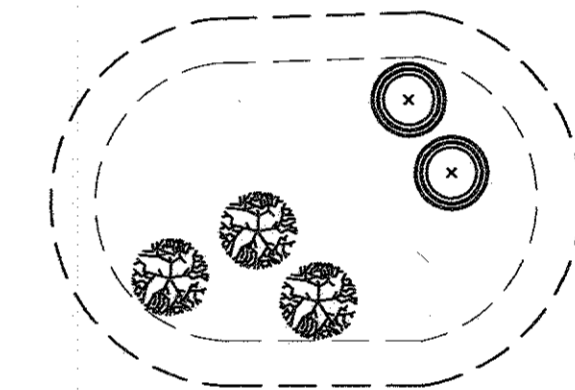
- ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AAN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HOWARD COUNTY PLANTING SPECIFICATIONS.
- CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
- FINAL LOCATION OF 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 PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.
- MICROBIORETENTION AREAS ARE TO BE PLANTED BASED ON A MINIMUM DENSITY OF 1000 STEMS PER PLANTED ACRE (.0229 STEMS PER SQUARE FOOT). ABOVE PLANTING RATIOS ARE TO BE APPLIED TO THE AREAS PROVIDED IN THE ESDY SUMMARY.
- FILTER AREA SHALL BE 50% COVERED BY PLANTINGS AT FULL GROWTH

GRAVITY RETAINING WALL #1 AND RG-1 - PLANTING DETAIL (320 SF)

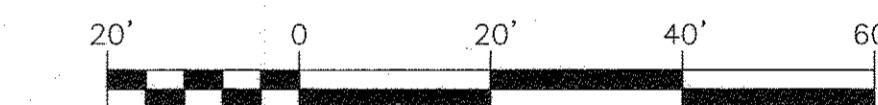


QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
6	LINDERA BICOLOR / SPICEBUSH	5 GALLON	CONT
6	ILEX GLABRA / HOBBLERY	3 GALLON	CONT
6	VIBURNUM TRILOBUM / AMERICAN HIGHBUSH CRANBERRY	3 GALLON	CONT

SF X .75% X .0229 STEMS PER SQUARE FOOT = PLANTS REQUIRED
 50% OF BIO-RETENTION SURFACE SHALL BE COVERED WITH PLANT MATERIAL



TYPICAL PLANTING DETAIL FOR MICRO-BIORETENTION / RAINGARDENS
NOT TO SCALE



OWNER: HAMPTON HILLS, LLC
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

DEVELOPER: TRINITY HOMES MARY LAND, LLC
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
LANDSCAPE PLAN AND ESD MICROSCALE
PLANTING NOTES AND DETAILS
PINEHURST
 LOTS 1-4

TAX MAP 47, BLOCK 19
 6TH ELECTION DISTRICT
 DPZ FILES: PLAT B F. 53, VP-84-129,
 F-85-041 PLAT#1111, ECP-15-038, WP-16-083, F-16-002

ZONED: R-5C
 PARCEL 162
 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: KG/RVE
 CHECKED BY: RHY
 DATE: FEBRUARY 2017
 SCALE: AS SHOWN
 W.O. NO.: 14-34

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

5 SHEET OF 6

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

- MATERIAL SPECIFICATIONS**
THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.
- 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 JOHNSON OR HARMFUL TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF HERMUDA GRASS, QUACKGRASS, PROHORN GRASS, OR OTHER NOxious WEEDS AS SPECIFIED UNDER COMPOUND LABELS.
THE PLANTING SOIL MUST BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:
• SOIL COMPONENT - LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION)
• ORGANIC CONTENT - MINIMUM 10% BY 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.
THERE SHALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURAL ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.
- COMPACTION**
IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING LOADERS, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TUFF 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 RESTORE THE SOIL PROFILE THROUGHOUT THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.
ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE.
WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.
WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 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.
- PLANT MATERIAL**
RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.
- 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 MOST 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 STAGERS 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 PLOTS 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 DEFLEATS, OR AT A MINIMUM, IMPROVES THIS GOAL. ONLY AID 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.
- 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 ROW. PIPE SHALL BE WRAPPED WITH 1/4" (NO. 4 OR 44) 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 1000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.
• A 1/4" LAYER OF FINE 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).
- MISCELLANEOUS**
THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

OPERATION AND MAINTENANCE SCHEDULE FOR MICROBIORRETENTION AREAS

- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME 8, TABLE A-4.1 AND 2.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
- MULCH SHALL BE INSPECTED EACH SPRING. REMOVE 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.


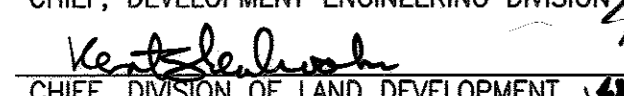
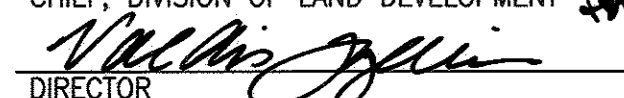
Appendix B.4. Construction Specifications for Environmental Site Design Practices

Material	Specifications	Size	Notes
Plantings	See Appendix A, Table A.4	n/a	Plantings are site-specific
Planting soil	loamy sand (60-65%) & compost (35-40%) or sandy loam (30%), coarse sand (30%) & compost (40%)	n/a	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974)	n/a	
Mulch	shredded hardwood	n/a	aged 6 months, minimum; no pine or wood chips
Pea gravel diaphragm	pea gravel: ASTM-D-448	NO. 8 OR NO. 9 (1/8"-3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile	n/a	n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (08"-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 pipe; not necessary underneath pipes. Perforated pipe shall be wrapped with 1/4-inch galvanized hardware cloth.
Poured in place concrete (if required)	MSHA Mix No. 3; F _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 pressure) and analysis of potential cracking.
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Craystone (AASHTO) #10 are not acceptable. No calcium carbonate or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

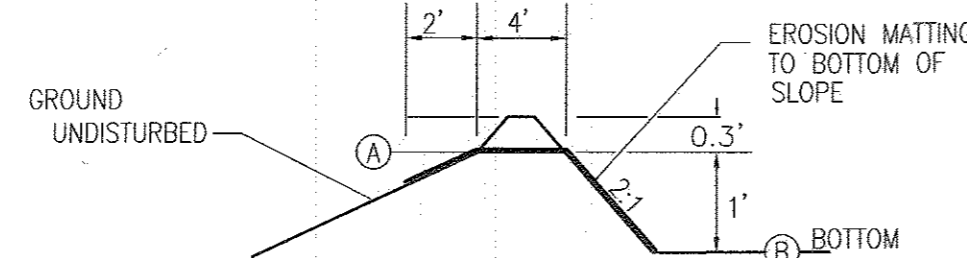
PINEHURST STORMWATER TEST PITS

TEST PIT #	SURFACE ELEVATION	BORING DEPTH PROPOSED	BUG	CONDITION
P-1	292.5	10.5	9.5	WATER @ 283
P-2	294.5	9.7	5	Water @ 289.5
P-3	296.5	9.5	4	Water @ 292.5

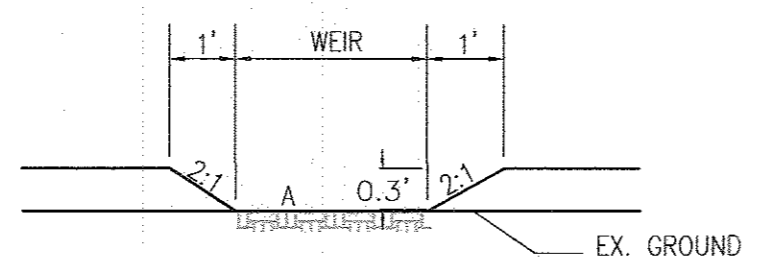
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

 3-17-17
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 3-21-17
 CHIEF, DIVISION OF LAND DEVELOPMENT
 3-22-17
 DIRECTOR

WEIR OUTLET MICRO-BIORETENTION/RAINGARDEN



TYPICAL SPILLWAY SECTION
NOT TO SCALE



TYPICAL SPILLWAY PROFILE
NOT TO SCALE

FACILITY	A	B	C	D	E	F	G	SURFACE AREA	APPROX. DIMENSIONS
RG LOT#2	292.20	291.20	290.95	289.45	289.12	288.45	N/A	320 SF	SEE PLAN

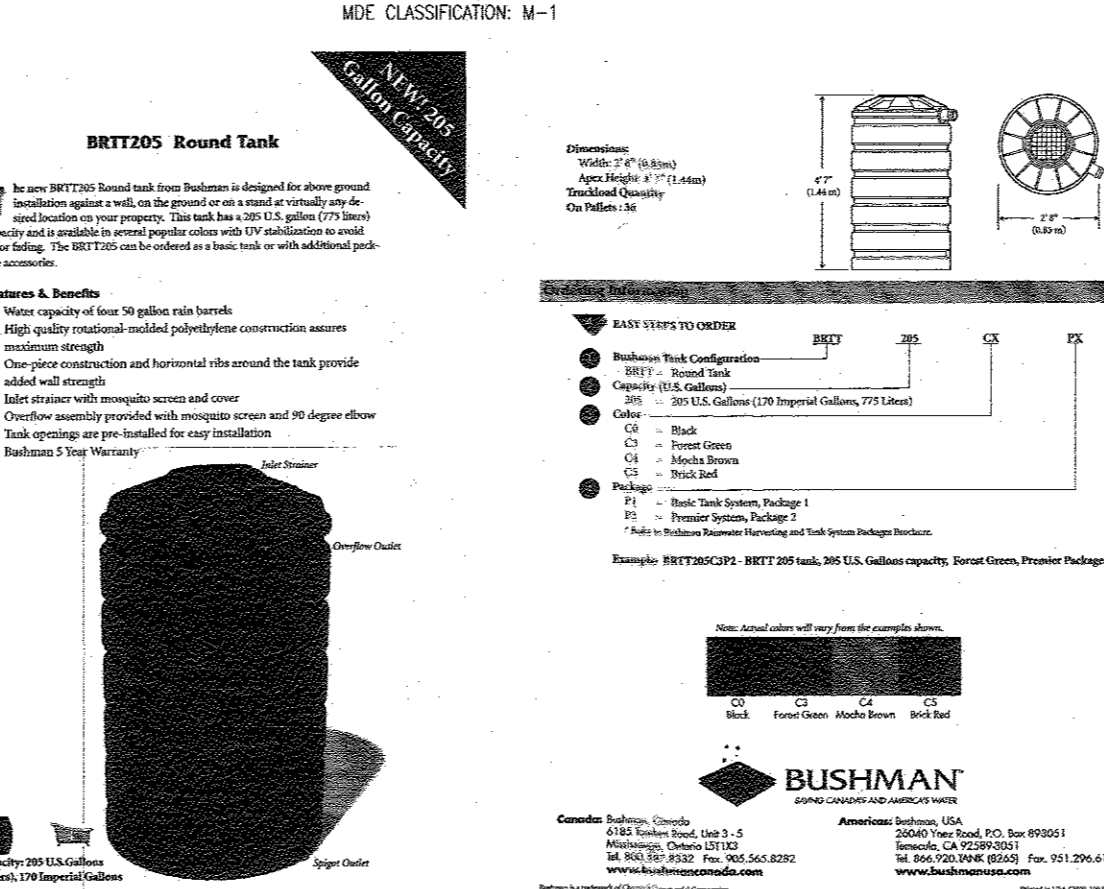


TYPICAL RAIN BARREL DESIGN

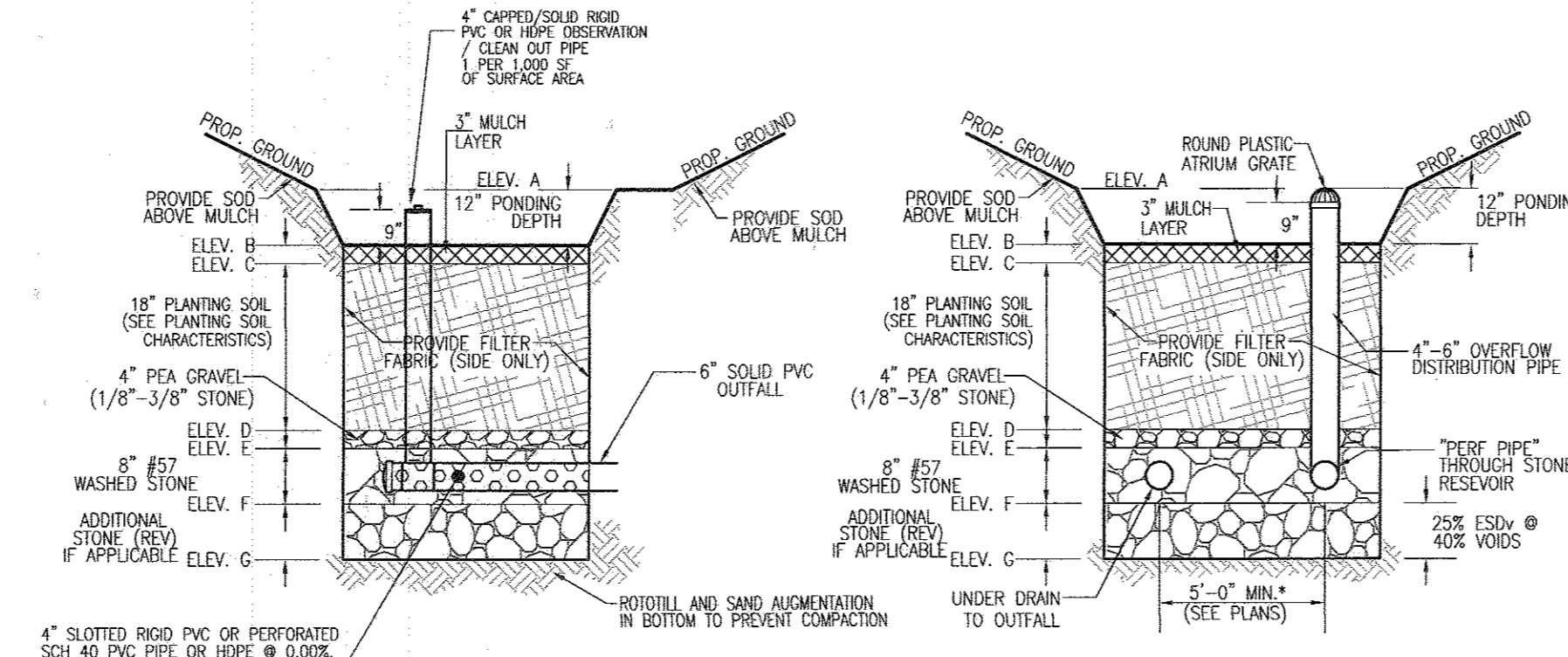
205 GAL = 27.41 CUFT
7.48 GAL/CUFT

500 SF X (X') = 27.41 CUFT
12

BUSHMAN BRT205 (205 GALLON) RAIN HARVESTING SYSTEM OR EQUIVALENT RAIN BARREL DETAIL



- OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED RAINWATER HARVESTING (M-1)**
- THE OWNER SHALL EMPTY BARRELS ON A MONTHLY BASIS AND CLEAN BARRELS WITH A HOSE.
 - THE OWNER SHALL VERIFY INTEGRITY OF LEAF SCREENS, GUTTERS, DOWNSPOUTS, SPIGOTS, AND MOSQUITO SCREENS, AND CLEAN AND REMOVE ANY DEBRIS.
 - THE OWNER SHALL REPLACE DAMAGED COMPONENTS AS NEEDED.
 - THE OWNER SHALL ALLOW THE BARREL TO DRAIN BY BOTTOM SPIGOT DURING THE WINTER SEASON.



RAIN GARDEN (UNDERDRAIN)
NOT TO SCALE

RAIN GARDEN / MICROBIORRETENTION NOTES:

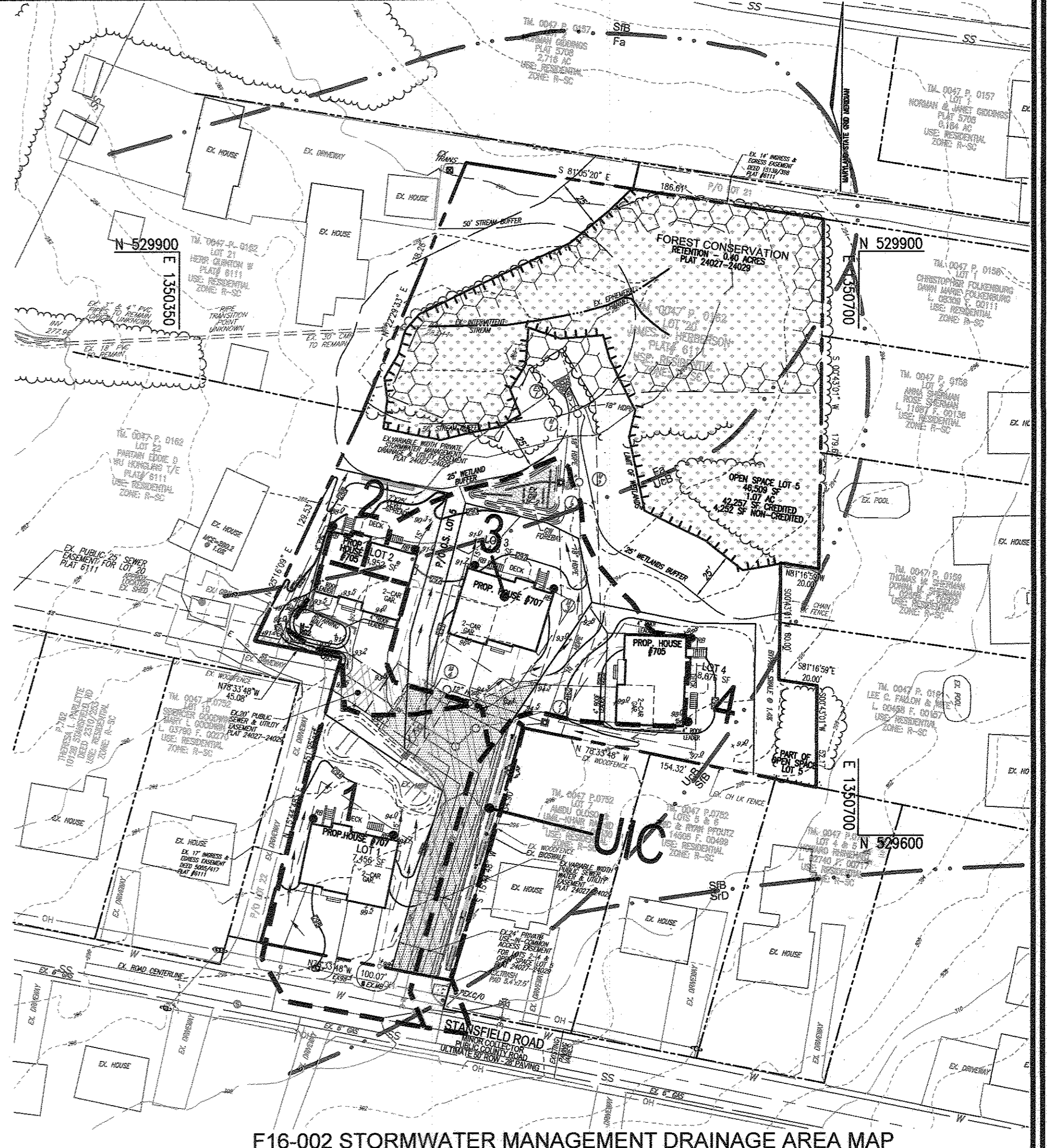
- ONLY THE SIDES OF MICROBIORRETENTION ARE TO BE WRAPPED IN FILTER FABRIC. FILTER FABRIC BETWEEN LAYER OR AT THE BOTTOM OF THE MICROBIORRETENTION WILL CAUSE THE WEIR TO FAIL, AND THEREFORE SHALL NOT BE INSTALLED.
- PERFORATED PVC/HDPE UNDER DRAIN TO BE WRAPPED WITH 1/4" GALVANIZED HARDWARE CLOTH OR EQUAL, 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)

PINEHURST - ESDv COMPUTATIONS

SITE DEVELOPABLE AREA: 1,000 AC 43900 SF
 TARGET P: 1.81 IN 32.05 PERCENT
 SITE IMPERV: 0.385
 SITE ESDv: 1.978 CF +/-

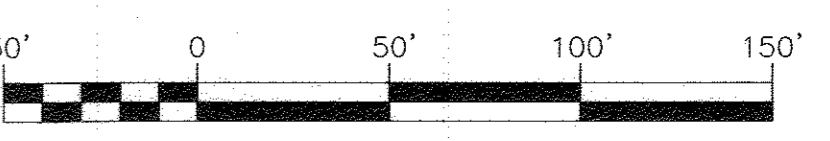
Rs=0.5+0.00291
 V min=1.0" rainfall
 W=3yr rainfall=2.67 (1,000.95A)/12 (2,602.95A)/12

DA #	% IMPERV	Rv	DA (SF)	DA (AC)	MINIMUM VOLUME	MAXIMUM VOLUME	1.61" VOLUME	VOLUME PROVIDED	IMPERV (SQ)	IMPERV (AC)	GREEN AREA	REMARKS
LOT 4 House								54				MICROSCALE RAIN BARREL 27 CF PER 205 GAL RAIN BARREL 2 PROVIDED
LOT 3 REAR	100.00	0.9500	740	0.02	59	152	94	62	740	0.02	0.00	NON STRUCTURAL (N-3) - ROOFTOP DISCONNECT 8 7.50 CF EA 8" DISCON MICROSCALE RAIN BARREL 27 CF PER 205 GAL RAIN BARREL 2 PROVIDED
LOT 2, 3 & 4 GRAVEL WETLAND	35.23	0.3671	14800	0.34	453	1177	729	300	5214	0.12	0.22	MICROSCALE GRAVEL WETLAND @ 0.5' PONDING 300 450 SF FOOTPRINT C.W.
LOT 2 REAR LT	100.00	0.9500	360	0.01	29	74	46	27	360	0.01	0.00	MICROSCALE RAIN BARREL 27 CF PER 205 GAL RAIN BARREL 1 PROVIDED
LOT 2 REAR RT	100.00	0.9500	375	0.01	30	77	48	35	375	0.01	0.00	MICROSCALE RAIN BARREL 27 CF PER 205 GAL RAIN BARREL 1 PROVIDED NON STRUCTURAL (N-3) - ROOFTOP DISCONNECT 8 7.50 CF EA 8" DISCON 1 PROVIDED
LOT 2 FRONT	57.15	0.5647	3200	0.07	151	392	242	425	1830	0.04	0.03	MICROSCALE RAINGARDEN @ 1.0' PONDING 425 320 SF MICRO RG
LOT 1 HALF C/D W/C	48.01	0.4821	12790	0.29	554	1336	827	1174	6140	0.14	0.15	MICROSCALE MICRO-BIORETENTION @ 1.0' PONDING 1130 800 SF MICRO RG MICROSCALE RAIN BARREL 27 CF PER 205 GAL RAIN BARREL 2 PROVIDED
HAIF C/D W/C	37.15	0.3844	3230	0.07	245	269	167	165	1200	0.03	0.05	MICROSCALE BIOSWALE 165 250 SF SWALE @ 0.5' PONDING
PROJECT TOTALS	44.7	0.4521	35485	0.81	1337	3477	2153	2242	15859	0.36	0.45	



F16-002 STORMWATER MANAGEMENT DRAINAGE AREA MAP

NOTE: THE PROJECTS GRAVEL WETLAND, MERR#1 AND THE USE-IN-COMMON DRIVEWAY B90-SMALL SHALL BE CONSTRUCTED UNDER F16-002 REFER TO F16-002 FOR CONSTRUCTION DETAILS.



N-1. DISCONNECTION OF 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.

N-3. SHEET FLOW TO CONSERVATION AREA

CONSTRUCTION CRITERIA:

THE FOLLOWING SHOULD BE ADDRESSED DURING CONSTRUCTION OF PROJECTS WITH SHEETFLOW TO CONSERVATION AREAS:

EROSION AND SEDIMENT CONTROL: EROSION AND SEDIMENT CONTROL PRACTICES SHALL CLEARLY INDICATE WHERE CONSERVATION AREAS ARE LOCATED AND WHAT MEASURES WILL BE USED FOR PROTECTION DURING CONSTRUCTION. THESE AREAS SHALL BE CLEARLY MARKED IN THE FIELD AND NOT RECEIVE SEDIMENT-LADEN RUNOFF PRIOR TO PROJECT COMPLETION. EROSION AND SEDIMENT CONTROL PRACTICES SHALL NOT BE LOCATED WITHIN BUFFERS.

SITE DISTURBANCE: BUFFERS SHALL NOT BE DISTURBED (I.E., CLEARED OR GRADED) DURING CONSTRUCTION EXCEPT FOR TEMPORARY IMPACTS ASSOCIATED WITH INCIDENTAL UTILITY CONSTRUCTION OR MITIGATION AND AFForestation PROJECTS. ANY TEMPORARY IMPACTS SHALL BE IMMEDIATELY REPAIRED AND STABILIZED.

INSPECTION:

REGULAR INSPECTIONS SHALL BE MADE DURING THE FOLLOWING STAGES OF CONSTRUCTION: DURING INITIAL GRADING OPERATIONS TO ENSURE THAT BUFFERS ARE CLEARLY MARKED IN THE FIELD. BEFORE USE AND OCCUPANCY APPROVAL TO VERIFY AREA MEASUREMENTS AND DENSURE THAT PERMANENT STABILIZATION HAS BEEN ESTABLISHED.

MAINTENANCE CRITERIA:

CONSERVATION AREAS SHALL REMAIN UNMANAGED OTHER THAN ROUTINE DEBRIS REMOVAL AND REPAIRING AREAS OF CONCENTRATED FLOW. INVASIVE AND NOXIOUS PLANT REMOVAL AND BI-ANNUAL MOWING FOR MEADOW AREAS MAY BE NEEDED. SIGNS SHOULD BE MAINTAINED AND SUPPLEMENTAL PLANTINGS PERFORMED AS NEEDED.

OWNER: HAMPTON HILLS, LLC
3675 PARK AVE., SUITE 301
ELLICOTT CITY, MD 21043
(410) 480-0023

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

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
STORMWATER MANAGEMENT
NOTES AND DETAILS
PINEHURST
LOTS 1-4

TAX MAP 47, BLOCK 19
6TH ELECTION DISTRICT
DPZ FILES: PLAT B F. 53, VP-84-129,
F-85-041 PLAT#1111, ECP-15-038, WF-16-083, F-16-002

ZONED: R-SC
PARCEL 162
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. 16103 EXPIRATION DATE: 09-27-2018

DESIGN BY: RVE
DRAWN BY: KG/RVE
CHECKED BY: RHW
DATE: FEBRUARY 2017
SCALE: AS SHOWN
W.O. NO.: 14-34

6 SHEET OF 6