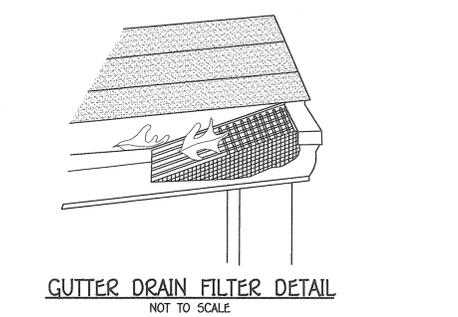
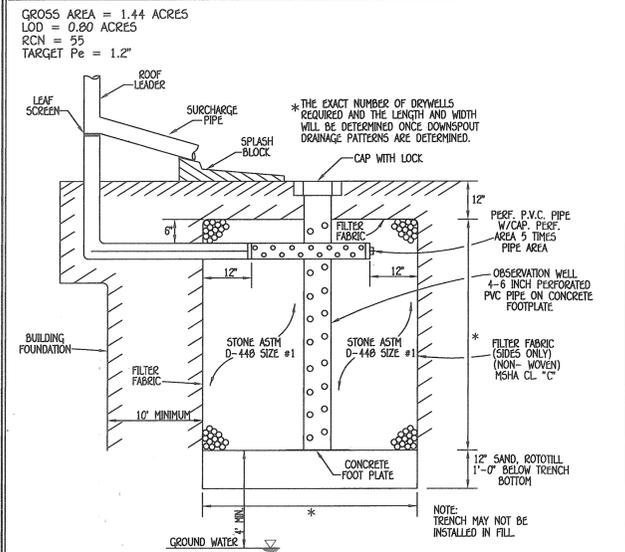


SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	SITE DEVELOPMENT PLAN
3	SEDIMENT & EROSION CONTROL NOTES & DETAILS

Minimum Lot Size Tabulation				
Lot No.	Gross Area	Pipestem Area	Net Area	Minimum Lot Size
4	20,933 Sq. Ft.*	926 Sq. Ft.*	20,007 Sq. Ft.*	20,000 Sq. Ft.*
5	21,274 Sq. Ft.*	1,265 Sq. Ft.*	20,009 Sq. Ft.*	20,000 Sq. Ft.*
6	20,695 Sq. Ft.*	692 Sq. Ft.*	20,003 Sq. Ft.*	20,000 Sq. Ft.*

STORMWATER MANAGEMENT PRACTICES			
LOT NO.	ADDRESS	DRY WELLS (M-5) Y/N, NUMBER	GRASS SWALE (M-6) Y/N, NUMBER
4	5449 WECKER WAY	YES, FOUR (4)	-
5	5450 WECKER WAY	YES, FOUR (4)	-
6	5446 WECKER WAY	YES, FOUR (4)	-
-	USE-IN-COMMON	-	YES, ONE (1)

STORMWATER MANAGEMENT SUMMARY			
AREA ID.	ESDV REQUIRED CU.FT.	ESDV PROVIDED CU.FT.	REMARKS
SITE	1,391	1,427	DRY WELLS (M-5) & GRASS SWALE (M-6)
TOTAL	1,391	1,427	



DRYWELL NO.	AREA OF ROOF PER DOWN SPOUT	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF TREATMENT	L	W	D
DW1	558 SQ. FT.	54 C.F.	98 C.F.	100%*	7'	7'	5'
DW2	816 SQ. FT.	78 C.F.	128 C.F.	100%*	8'	8'	5'
DW3	344 SQ. FT.	33 C.F.	98 C.F.	100%*	7'	7'	5'
DW4	395 SQ. FT.	38 C.F.	98 C.F.	100%*	7'	7'	5'
DW5	506 SQ. FT.	49 C.F.	128 C.F.	100%*	8'	8'	5'
DW6	1092 SQ. FT.	99 C.F.	128 C.F.	100%*	8'	8'	5'
DW7	794 SQ. FT.	76 C.F.	128 C.F.	100%*	8'	8'	5'
DW8	646 SQ. FT.	49 C.F.	98 C.F.	100%*	7'	7'	5'
DW9	606 SQ. FT.	50 C.F.	128 C.F.	100%*	8'	8'	5'
DW10	646 SQ. FT.	62 C.F.	128 C.F.	100%*	8'	8'	5'
DW11	504 SQ. FT.	48 C.F.	128 C.F.	100%*	8'	8'	5'
DW12	504 SQ. FT.	48 C.F.	98 C.F.	100%*	7'	7'	5'



Table B.4. Materials Specifications for Micro-Bioretenion, Rain Gardens & Landscape Infiltration

Material	Specification	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%		USDA soil types loamy sand or sandy loam; clay content <5% (2\"/>

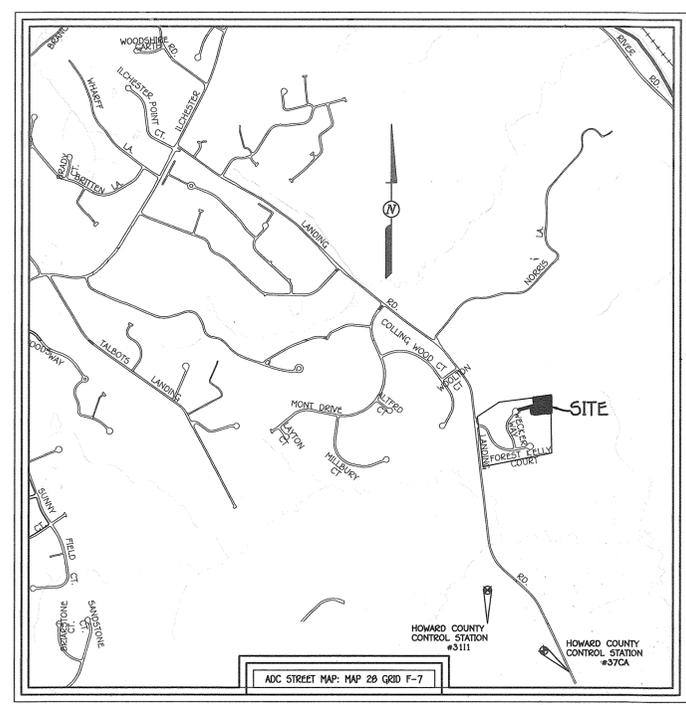
STORMWATER MANAGEMENT NOTES

- STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH CHAPTER 5, "ENVIRONMENTAL SITE DESIGN" OF THE 2007 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL, EFFECTIVE MAY 4, 2010.
- MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DRYWELL SHALL BE 1,000 SQ. FT. OR LESS.
- DRYWELLS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH OF DISCHARGE CONNECTION IS LESS THAN 75' AT 5%XX. THE SIZE AND CONSTRUCTION OF THE DRYWELL SHALL BE IN ACCORDANCE WITH THE DETAIL SHOWN ON THIS SHEET.
- FINAL GRADING IS SHOWN ON THIS SITE DEVELOPMENT PLAN.

ADDRESS CHART	
LOT #	STREET ADDRESS
4	5449 WECKER WAY
5	5450 WECKER WAY
6	5446 WECKER WAY

SITE DEVELOPMENT PLAN GROVEMONT OVERLOOK - II LOTS 4 THRU 6

TAX MAP No. 31 GRID No. 24 PARCEL No. 619
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND



VICINITY MAP
SCALE: 1" = 1200'

BENCHMARK INFORMATION	
B.M.#1 - HOWARD COUNTY CONTROL STATION #3111 - HORIZONTAL - (NAD '83)	N 565,004.702 E 1,361,586.987 ELEVATION = 305.961 - VERTICAL - (NAVD '80)
B.M.#2 - HOWARD COUNTY CONTROL STATION #37CA - HORIZONTAL - (NAD '83)	N 564,321.637 E 1,362,742.900 ELEVATION = 256.893 - VERTICAL - (NAVD '80)

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

- THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS AND AFTER EVERY HEAVY STORM EVENT.
- THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS OVER A PERIOD OF SEVERAL DAYS TO ENSURE TRENCH DRAINAGE.
- THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN A SEVENTY-TWO (72) HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
- THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

SITE ANALYSIS DATA CHART

- TOTAL AREA OF THIS SUBMISSION = 1.44 AC.*
- LIMIT OF DISTURBED AREA = 0.80 AC.*
- PERCENT ZONING DESIGNATION = R-ED (PER 10/06/2013 COMPREHENSIVE ZONING PLAN)
- PROPOSED USE: RESIDENTIAL
- PREVIOUS HOWARD COUNTY FILES: VP-83-84, F-94-214 (GEEHAR PROPERTY, LOT 1 PLAT 9941), F-09-122, S0P-12-024, F-13-054, F-13-095, ECP-13-046, F-13-091, S0P-13-081, & WP-14-038.
- TOTAL AREA OF FLOODPLAIN LOCATED ON-SITE = 0.00 AC.*
- TOTAL AREA OF SLOPES IN EXCESS OF 15% TO 24.99% = 0.34 AC.*
- TOTAL AREA OF SLOPES IN EXCESS OF 25% OR GREATER = 0.00 AC.*
- TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0.00 AC.*
- TOTAL AREA OF STREAM (INCLUDING BUFFER) = 0.00 AC.*
- TOTAL AREA OF EXISTING FOREST = 0.00 AC.*
- TOTAL AREA OF FOREST TO BE RETAINED = 0.00 AC.*
- TOTAL AREA OF LOTS / BUILDABLE PARCELS = 1.44 AC.*
- TOTAL GREEN OPEN AREA = 1.17 AC.*
- TOTAL IMPERVIOUS AREA = 0.27 AC.*
- TOTAL AREA OF ERODIBLE SOILS = 0.00 AC.*
- TOTAL AREA OF ROAD DEVIATION = 0.00 AC.*
- TOTAL NUMBER OF PERMITTED UNITS = 3 UNITS
- TOTAL NUMBER OF PROPOSED UNITS = 3 UNITS
- PARKING REQUIRED = 2.5 SPACES PER UNIT X 3 UNITS = 8 SPACES
PARKING PROVIDED = (2 PER GAR + 2 PER DRIVEWAY PER UNIT) X 3 UNITS = 12 SPACES

LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXISTING 2' CONTOURS		PROPOSED CONTOUR
	EXISTING 10' CONTOURS		SPOT ELEVATION
	SOILS LINES AND TYPE		LIMITS OF DISTURBANCE
	EXISTING TREELINE		DRAINAGE AREA DIVIDE
	EXISTING INDIVIDUAL TREES		SILT FENCE
	EXISTING FENCE LINE		PERMANENT SOIL STABILIZATION MATTING
	PROPOSED PAVING		SUPER SILT FENCE
	EX. FOREST CONSERVATION EASEMENT		STABILIZED CONSTRUCTION ENTRANCE
	15% TO 24.99% SLOPES		TEMPORARY CHECK DAM
	PRIVATE SEWER, WATER & UTILITY EASEMENT FOR THE USE OF LOTS 4 & 5 (PLAT 24459)		PRIVATE USE-IN-COMMON ACCESS EASEMENT FOR THE USE AND BENEFIT LOTS 1, 2 & 3 (PLAT 24459)

General Notes:

- SUBJECT PROPERTY ZONED R-ED PER 10/06/13 COMPREHENSIVE ZONING PLAN.
- COORDINATES BASED ON NAD '83, MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 3111 AND NO. 37CA.
- STA. 3111 N 565,004.702 E 1,361,586.987 ELEV = 305.961
- STA. 37CA N 564,321.637 E 1,362,742.900 ELEV = 256.893
- THIS PLAN IS BASED ON FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT NOVEMBER, 2008 BY ROBERT H. VOGEL ENGINEERING, INC.
- ALL AREAS ARE MORE OR LESS (±).
- DISTANCES SHOWN ARE BASED ON SURFACE MEASUREMENT AND NOT REDUCED TO NAD '83 GRID MEASUREMENT.
- FOR FLAG OR PIPE STEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF FLAG OR PIPE STEM AND ROAD RIGHT-OF-WAY LINE ONLY AND NOT ONTO THE FLAG OR PIPE STEM LOT DRIVEWAY.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING (MINIMUM) REQUIREMENTS:
 - WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE);
 - SURFACE - SIX (6) INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1 - 1/2" MINIMUM);
 - GEOMETRY - MAXIMUM 10% GRADE CHANGE AND 45-FOOT TURNING RADIUS;
 - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25-LOADING);
 - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER SURFACE;
 - STRUCTURE CLEARANCE - MINIMUM 12 FEET;
 - MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.
- TO THE BEST OF OUR KNOWLEDGE AND BELIEF, THERE ARE NO HISTORIC STRUCTURES EXISTING ON THIS SITE. TO THE BEST OF THE OWNERS' KNOWLEDGE, THERE ARE NO BURIAL CRYPTS LOCATIONS EXISTING ON THIS SITE. EXISTING STRUCTURES IS TO BE REMOVED.
- SITE IS NOT ADJACENT TO A SCENIC ROAD.
- NO 100 YEAR FLOODPLAIN, WETLANDS, STREAMS AND/OR THEIR BUFFERS, NOR STEEP SLOPES EXIST ON-SITE.
- STORMWATER MANAGEMENT IS IN ACCORDANCE WITH THE M.D.E. STORM WATER DESIGN MANUAL, VOLUMES I & II, REVISED 2009. NON-STRUCTURAL PRACTICES IN ACCORDANCE WITH CHAPTER 5 ARE BEING UTILIZED, DRYWELLS (M-5) AND GRASS SWALE (M-6).
- THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, 2009. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION OR BUILDING/GRADING PERMIT.
- THESE ARE NO WETLANDS ON THIS SITE PER INVESTIGATION DATED DECEMBER 20, 2012 BY ECO-SCIENCE PROFESSIONALS, INC.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1800 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TRAFFIC CONTROL 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.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM A FIELD RUN TOPOGRAPHIC SURVEY WITH (MAXIMUM TWO FOOT) CONTOUR INTERVALS PREPARED BY FISHER, COLLINS & CARTER, INC. DATED SEPTEMBER, 2011 AND SUPPLEMENTED WITH HOWARD COUNTY GIS TOPOGRAPHY.
- TRASH AND RECYCLABLES COLLECTION WILL BE AT WECKER WAY WITHIN 5' OF THE COUNTY ROADWAY. TRASH / REFUSE COLLECTION PAD WILL BE MAINTAINED BY THE PROPERTY OWNERS (IF AN HOA) IS NOT PROPOSED. THE MAINTENANCE OF THIS COLLECTION AREA SHOULD BE REFERENCED IN THE PRIVATE USE-IN-COMMON ACCESS AGREEMENT.
- DRIVEWAY SHALL BE PROVIDED IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAIL R-6.06 IN THE VOL. IV DESIGN MANUAL.
- IN ACCORDANCE WITH SECTION 128.0 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN HEIGHT WITHIN 4 FEET INTO ANY SETBACKS, PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

STATE HIGHWAY ADMINISTRATION (BE/CONTRACTOR SERVICES)	410.531.9533
BE/UNDERGROUND UTILITY CONTROL	410.590.4020
MISS UTILITY	1.800.257.7777
CENTRAL PIPELINE COMPANY	410.795.1590
HOWARD COUNTY, DEPT. OF PUBLIC WORKS, BUREAU OF UTILITIES	410.513.4900
HOWARD COUNTY HEALTH DEPARTMENT	410.513.2640
AT&T	1.800.252.1133
VERIZON	1.800.743.0033/410.224.9210
- ANY DAMAGE TO PUBLIC RIGHT-OF-WAYS, PAVING OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- THIS PROPERTY IS LOCATED WITHIN THE NEIGHBORHOOD DESIGNATED UNDER F-09-122 BY PLACEMENT OF 1.00 ACRES OF THE HOWARD COUNTY CODE.
- WATER AND SEWER SERVICE FOR THIS PROJECT WILL BE PUBLIC WATER WILL BE PROVIDED THROUGH CONTRACT NO. 14-4412-D. SEWER WILL BE PROVIDED THROUGH CONTRACT NO. 14-4412-D. UTILITY EXTENSIONS SHALL BE COMPLETED UNDER THE HOWARD COUNTY ADO PROGRESS.
- PUBLIC WATER AND SEWER ALLOCATION WILL BE GRANTED AT THE TIME OF ISSUANCE OF THE BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME.
- ALL WATER HOUSE CONNECTIONS SHALL BE OUTSIDE METER SETTING UNLESS OTHERWISE NOTED ON THE PLANS OR IN SPECIFICATIONS.
- THIS PROJECT IS IN THE 15-20 PERCENT OF THE R-ED REGULATIONS IN ACCORDANCE WITH SECTION 107.011 OF THE ZONING REGULATIONS.
- DENSITY TABULATION (PROJECT): 1.44 ACRES
DWELLING UNITS PER NET ACRE = 62,903 SF / 20.00 SF = 3.14 OR 3 ALLOWED DWELLING UNITS PER ACRE = 3
- A FOREST STAND DELINEATION PLAN WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED DECEMBER 20, 2012.
- FOREST CONSERVATION OBLIGATIONS FOR THE FOREST CONSERVATION HAVE BEEN FULFILLED UNDER F-09-122 BY PLACEMENT OF 1.00 ACRES OF RETENTION, 1.00 ACRES OF RESTORATION AND 0.78 ACRES OF AFFORESTATION INTO ON-SITE EASEMENT AREAS. SURETY WAS POSTED WITH THE DEVELOPER AGREEMENT FOR F-09-122 (REFER TO PLATS 21469-21472).
 - UNDER F-13-095, THE FOREST CONSERVATION OBLIGATIONS WERE AMENDED WHICH PLACED 1.00 ACRE OF RETENTION PLAT 21470, 0.45 (SHEET 2) + PLAT 21472, 0.27 (SHEET 4) + PLAT 21472, 0.28 (SHEET 4) 1.99 ACRES OF Restoration (PLAT 22233) AND 0.66 ACRES OF AFFORESTATION (PLAT 22254) INTO EASEMENT AREAS.
 - REQUIRED OBLIGATION FOR THE ADDITION OF LOTS 4 TO 6 HAS BEEN FULFILLED UNDER F-13-091 BY THE PAYMENT OF A FEE-IN-LIEU FOR THE FOREST CONSERVATION FUND IN THE AMOUNT OF \$6,534.00 FOR THE 0.20 ACRES OF REQUIRED AFFORESTATION (0.712 SF X 0.75)
- THE PROPOSED ACCESS SHALL BE PROVIDED BY THE EXISTING USE-IN-COMMON DRIVEWAY TO WECKER WAY, GROVEMONT OVERLOOK PHASE I F-09-122.
- A USE-IN-COMMON ACCESS MAINTENANCE AGREEMENT FOR LOTS 4, 5, 6, 18, 19, & 37 WAS PREVIOUSLY RECORDED AS L 14673 F 433. THE DOCUMENTS DESCRIBED THE EASEMENT TO BENEFIT "GROVEMONT OVERLOOK, LOTS 18, 19, 37, LOT 3 - GEEHAR PROPERTY, NON-BUILDABLE BULK PARCEL "H" AND THE FUTURE RESUBDIVISION OF LOT 3 - GEEHAR PROPERTY. THIS DOCUMENT WAS RECORDED IN THE LAND RECORDS OF HOWARD COUNTY, MARYLAND AS L 14673 F 433 UNDER F-13-054 LOTS 4, 5 AND 6 ARE THE RESULT OF THE RESUBDIVISION OF LOT 3 - GEEHAR PROPERTY AND NON-BUILDABLE BULK PARCEL "H" (F-13-091) AND THEREFORE SHOULD NOT REQUIRE THE RE-RECORDING OF THE PREVIOUS L 14673 F 433.
- LOTS 4 TO 6 ARE SUBJECT TO THE COVENANTS AND RESTRICTIONS OF THE GROVEMONT OVERLOOK HOMEOWNERS ASSOCIATION AS RECORDED IN L13065 F. 009 DECEMBER 9, 2010.
- THE HOMEOWNERS ASSOCIATION ARTICLES OF INCORPORATION HAVE BEEN RECORDED WITH THE MARYLAND DEPARTMENT OF ASSESSMENTS AND TAXATION ON FEBRUARY 26, 2010 AS RECORDED REFERENCE NUMBER D13443308.
- LOTS 4 THRU 6 ARE SUBJECT TO THE COVENANTS AND RESTRICTIONS OF THE GROVEMONT OVERLOOK HOMEOWNERS ASSOCIATION AS RECORDED IN L13065 F. 009 DECEMBER 9, 2010.
- PERMETER LANDSCAPING FOR LOTS 4 TO 6 SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE, THE LANDSCAPE MANUAL, AND AS SHOWN ON THE SUPPLEMENTAL/LANDSCAPING/FOREST CONSERVATION PLAN SHEETS FOR THIS SUBDIVISION, F-13-091. FINANCIAL SURVEY IN THESE AMOUNT OF \$3,000.00 FOR 10 SHADE TREES SHALL BE POSTED WITH THE GRADING PERMIT ON THE SUBJECT LOTS AS FOLLOWS:
 - LOT 4: 4 SHADE TREES = \$1,200.00
 - LOT 5: 3 SHADE TREES = \$900.00
 - LOT 6: 3 SHADE TREES = \$900.00
- TRASH AND SCREENING FOR LOTS ON THIS SHARED USE-IN-COMMON EASEMENT HAS BEEN PROVIDED UNDER S0P-12-024.
- OPEN SPACE REQUIREMENTS FOR THIS R-ED PROJECT HAVE BEEN MET THROUGH A PAYMENT OF FEE-IN-LIEU FOR THE TWO PROPOSED LOTS IN THE AMOUNT OF \$3,000.00 UNDER F-13-091.
- SOILS INFORMATION BASED ON NRCS WEB SOIL SURVEY FOR HOWARD COUNTY, MARYLAND AND HOWARD COUNTY SOILS MAP #19.
- THE PROPOSED UNITS SHALL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
- PARKING FOR THIS PROJECT IS PROVIDED AS FOLLOWS:
 - REQUIRED = 2.5 SPACES PER UNIT X 3 UNITS = 8 SPACES
 - PROPOSED = 12 SPACES = 4 SPACES PER LOT (2 CAR GARAGES = 2 SPACES + 2 SPACES PER PRIVATE ON-LOT DRIVEWAYS)
 - TWO CAR GARAGES SHALL BE USED FOR PARKING PURPOSES ONLY OR STORAGE SPACE.
- VISITOR AND GUEST PARKING IS RESTRICTED ALONG THE USE-IN-COMMON DRIVEWAY.
- A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLY SHALL BE FABRICATED AND INSTALLED AT THE LOCATION SHOWN ON SHEET 2) BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPERS/OWNERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5792 FOR DETAILS AND COST ESTIMATES.
- THIS PROJECT IS SUBJECT TO WP-14-038, APPROVED ON OCTOBER 22, 2013, TO WAIVE SECTION 16.122(b)(7) REGARDING THE RETENTION OF SPECIMEN TREES HAVING A DIAMETER OF 30" OR MORE.
- APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
 - APPROVAL IS GIVEN FOR REMOVAL OF ONE SPECIMEN TREE (SPECIMEN TREE A), THE THREE OTHER SPECIMEN TREES ALONG THE EASTERN PROPERTY LINE OF PROPOSED LOT 5 SHALL REMAIN.
 - REF. DPT. FILE NO'S: VP-83-84, F-94-214 (GEEHAR PROPERTY, LOT 1 PLAT 9941), F-09-122, S0P-12-024, F-13-054, ECP-13-046, F-13-095, F-13-091, S0P-13-081, & WP-14-038.

SOILS LEGEND			
SOIL	NAME	CLASS	K FACTOR
CeB	Chillum loam, 2 to 5 percent slopes	B	0.28
CeC	Chillum loam, 5 to 10 percent slopes	B	0.28
SrD	Sassafras and Croom soils, 10 to 15 percent slopes	B	0.24

OWNERS
ROBERT & TESRI GEEHAR
5449 WECKER WAY
ELK RIDGE, MD 21075

DEVELOPER
COLUMBIA BUILDERS INC.
C/O JIM GREENFIELD
10715 LITTLE PATUXENT PKWY.
SUITE 150
COLUMBIA, MD 21044
(443) 324-4732

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELKJOTT CITY, MARYLAND 21042
(410) 461 - 2099

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

PROFESSIONAL CERTIFICATION
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. 38386, EXPIRATION DATE: 01/12/2020.

John K. Robertson 1/18/18
Signature of Professional Engineer DATE

Stephen Jantz 1/2/18
Signature of Professional Engineer DATE

BUILDER/DEVELOPER'S CERTIFICATE
I/WE CERTIFY THAT ALL FILING AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, FOR SEDIMENT AND EROSION CONTROL, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTRIBUTION 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 SOIL CONSERVATION DISTRICT.

B. James Crawford 1/3/18
Signature of Developer DATE

ENGINEER'S CERTIFICATE
I/WE 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 IS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Stephen Jantz 1/2/18
Signature of Engineer DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Valdis Jyliva 3-19-18
Director - Department of Planning and Zoning DATE

John Jantz 3/16/18
Chief, Division of Land-Development DATE

David Chubb 3-15-18
Chief, Development Engineering Division DATE

PROJECT: GROVEMONT OVERLOOK - II
SECTION: N/A
PARCEL NO.: 619
PLAT: #22646
BLOCK NO.: 24
ZONE: R-ED
TAX/ZONING: 31
ELEC. DIST.: FIRST
CENSUS TR.: 6011.01

TITLE SHEET

GROVEMONT OVERLOOK - II
LOT 4 THRU 6

ZONED R-ED
TAX MAP No. 31 GRID No. 24 PARCEL No. 619
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: DECEMBER, 2017
SHEET 1 OF 3

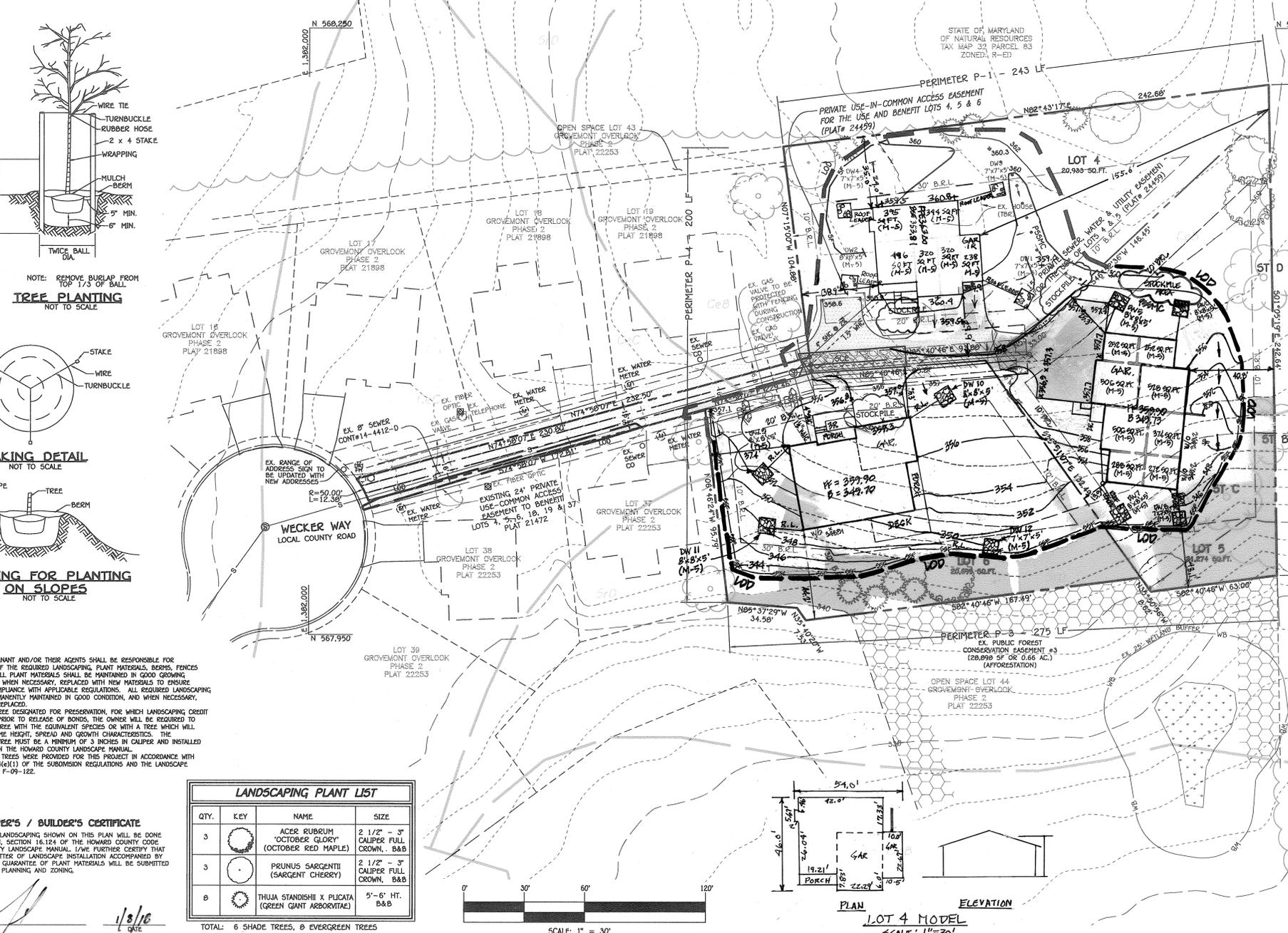
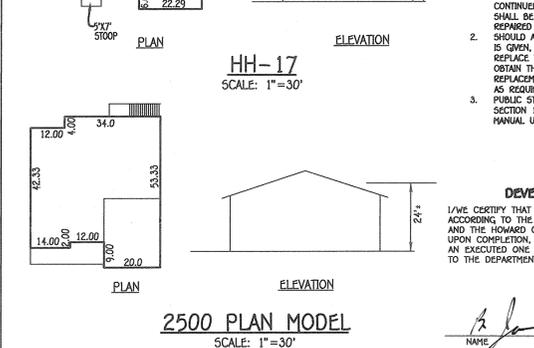
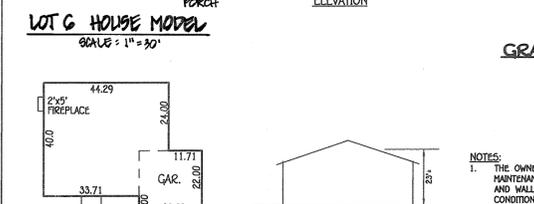
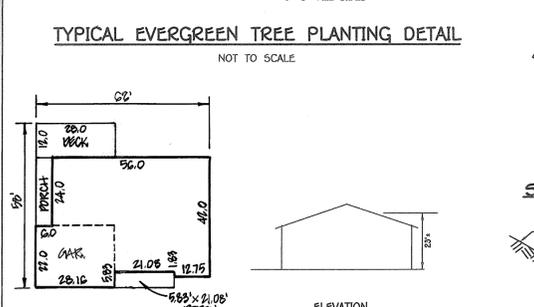
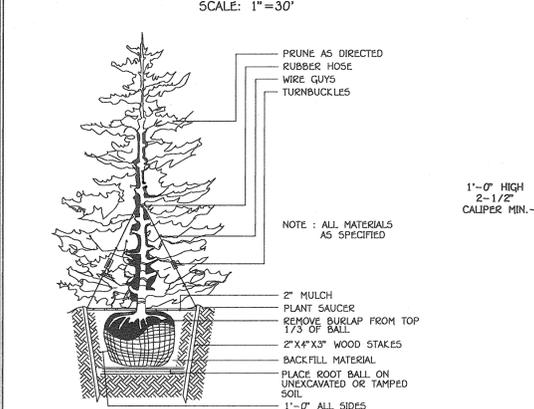
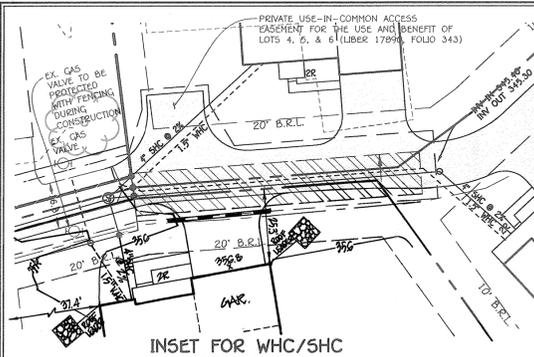
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SCHEDULE A - PERIMETER LANDSCAPE EDGE					
PERIMETER	P-1	P-2	P-3	P-4	TOTAL
CATEGORY	ADJACENT TO PERIMETER PROPERTIES	N/A			
LANDSCAPE TYPE	A	A	A	N/A	
LINEAR FEET OF PERIMETER	243 L.F.	243 L.F.	275 L.F.	200 L.F.	
NUMBER OF PLANTS REQUIRED	4	4	5	0	13
SHADE TREES	(243/60' = 4.1 OR 4)	(243/60' = 4.1 OR 4)	(275/60' = 4.6 OR 5)	0	
EVERGREEN TREES	0	0	0	0	
CREDIT FOR EXISTING VEGETATION	0	2*	1*	0	3
SHADE TREES	0	0	0	0	0
SMALL/MEDIUM DECIDUOUS TREES (SUBSTITUTION)	0	0	0	0	0
NUMBER OF PLANTS PROVIDED	2	2	2	0	6
SHADE TREES	4	0	4	0	8
EVERGREEN TREES					

* NOTE: CREDIT TAKEN FOR 1 EXISTING 38.5" TULIP POPLAR AND 1 EXISTING 32.5" WHITE OAK ALONG PERIMETER P-2 AND 1 EXISTING 35" BLACK OAK ALONG PERIMETER P-3. IN ACCORDANCE WITH F-13-091, ALONG PERIMETER 4, CREDIT IS BEING TAKEN FOR THE 4 EXISTING TREES SHOWN ON ADJACENT GROVEMONT OVERLOOK (F-09-122). THEREFORE NO LANDSCAPE BUFFER IS REQUIRED.

NOTE: PERMANENT OR TEMPORARY STABILIZATION IS TO BE PERFORMED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR AT THE INTERVALS REQUIRED BY THE 2011 MD STANDARDS & SPECIFICATIONS FOR SOIL EROSION & SEDIMENT CONTROL WHICHEVER IS MORE STRINGENT.

SEWER HOUSE CONNECTION CHART							
LOT	SLOPE	ELEVATION AT V.H.	ELEVATION AT EASEMENT	ELEV. AT HOUSE	MCE	BSE	FFE
4	2%	343.93	344.15	345.41	349.45	352.53	362.70
5	2%	343.93	344.15	346.06	348.92	350.33	360.50
6	2%	343.93	344.15	345.39	349.51	349.83	360.00



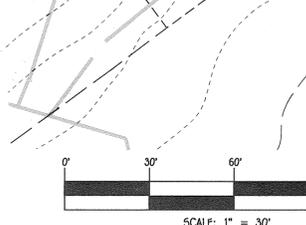
- NOTES:
- THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, PLANT MATERIALS, BERRS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPLACED OR REPLANTED.
 - 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.
 - PUBLIC STREET TREES WERE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.12X(11) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL UNDER F-09-122.

DEVELOPER'S / BUILDER'S CERTIFICATE
 I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.12X OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION ACCOMPANIED BY AN EXERCISED ONE YEAR GUARANTEE OF PLANT MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

NAME: *[Signature]* DATE: 1/3/18

LANDSCAPING PLANT LIST			
QTY.	KEY	NAME	SIZE
3		ACER RUBRUM ('OCTOBER GLORY' ('OCTOBER RED MAPLE'))	2 1/2" - 3" CALIPER FULL CROWN, B&B
3		PRUNUS SARGENTII ('SARGENT CHERRY')	2 1/2" - 3" CALIPER FULL CROWN, B&B
8		THUJA STANDISHII X PLICATA ('GREEN GIANT ARBORVITAE')	5'-6" HT. B&B

TOTAL: 6 SHADE TREES, 8 EVERGREEN TREES



BUILDER/DEVELOPER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, FOR SEDIMENT AND EROSION CONTROL, AND THAT ANY 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 SOIL CONSERVATION DISTRICT.

APPROVED: *[Signature]* DATE: 1/3/18
 SIGNATURE OF DEVELOPER

ENGINEER'S CERTIFICATE
 I/WE 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 SOIL CONSERVATION DISTRICT.

APPROVED: *[Signature]* DATE: 1/2/18
 SIGNATURE OF ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning: *[Signature]* DATE: 3-19-18
 Chief, Division of Land Development: *[Signature]* DATE: 3-16-18
 Chief, Development Engineering Division: *[Signature]* DATE: 3-15-18

SITE DEVELOPMENT PLAN
 GROVEMONT OVERLOOK - II
 LOT 4 THRU 6

ZONED R-ED
 TAX MAP No. 31 GRID No. 24 PARCEL No. 619
 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: DECEMBER, 2017
 SHEET 2 OF 3

OWNERS
 ROBERT & TERRI GELHAAR
 5449 WECKER WAY
 ELK RIDGE MD 21075

DEVELOPER
 COLUMBIA BUILDERS INC.
 C/O JIM GREENFIELD
 10715 LITTLE PATUXENT PKWY.
 SUITE 150
 COLUMBIA MD 21044
 (443) 324-4732

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10275 BALTIMORE NATIONAL PIKE
 ELKTON CITY, MARYLAND 21828
 (410) 461 - 2255

NO.	REVISION	DATE	X
5	REMOVE DUCTWORK PIPE AT DRIVEWAY FOR LOT 6;	10/18/19	
4	REVISE GRADING, HOUSE ELEV'S, & DRYWELL LOCATIONS	9/28/19	
3	REVISE PERMITS ON WECKER WAY & W/4 & W/5 ALL LOT 5	11/20/18	
2	REVISE HOUSE & GAR. LOT 6, ADD HOUSE, CIPR	10/20/18	
1	REVISE HOUSE & GAR. LOT 5, ADD HOUSE, CIPR	1/20/18	

SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS (B-4-2)

- A. Soil Preparation**
- Temporary Stabilization
 - Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or tillage mounted construction equipment. After the soil is loosened, it must be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be treated with ridges running parallel to the contour of the slope.
 - Apply fertilizer and lime as prescribed on the plans.
 - Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
 - Permanent Stabilization
 - A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
 - Soil pH between 6.0 and 7.0.
 - Soluble salts less than 500 parts per million (ppm).
 - Soil contains less than 40 percent clay (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if leucogras will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
 - Soil contains 1.5 percent minimum organic matter by weight.
 - Soil contains sufficient pore space to permit adequate root penetration.
 - Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
 - Graded areas must be maintained in a true and even grade as specified on the approved plan, then constructed or otherwise loosened to a depth of 3 to 5 inches.
 - Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
 - Soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Disk trow areas to smooth the surface, remove large stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seeded preparation. Track shoes 2:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seeded loosening may be unnecessary on newly disturbed areas.

- B. Topsoiling**
- Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, metallic ions, salts, and/or unacceptable soil gradation.
 - Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
 - Topsoiling is limited to areas having 2:1 or flatter slopes where:
 - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
 - The original soil to be vegetated contains material toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.
 - Areas having slopes steeper than 2:1 require special consideration and design.
 - Topsoil specifications: Soil to be used as topsoil must meet the following criteria:
 - Topsoil must be a loam, sandy loam, clay loam, silty loam, silty clay loam, or loamy sand. Other soils may be used if recommended by a soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of clinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2 inches in diameter.
 - Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, plastic, or others as specified.
 - Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
 - Topsoil Application
 - Erosion and sediment control practices must be maintained when applying topsoil.
 - Uniformly distribute topsoil in a 5 to 10 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that seedling or seedling can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.
 - Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seeded preparation.

- C. Soil Amendments (Fertilizer and Lime Specifications)**
- Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on areas having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
 - Fertilizers must be uniform in composition, free from adulterants, and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable label. The date of manufacture and the name, trademark and variety of the producer must be indicated on the label.
 - Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydrous) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that 90 percent will pass through a #100 mesh sieve and 90 to 100 percent will pass through a #20 mesh sieve.
 - Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
 - Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

- B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING**
- Definition**
The application of seed and mulch to establish vegetative cover.
- Purpose**
To protect disturbed soils from erosion during and after the end of construction.
- Conditions Where Practice Applies**
To the surface of all perimeter control, slopes, and any disturbed area not under active grading.
- A. Seeding**
- Specifications
 - All seed must meet the requirement of the Maryland State Seed Law. All seed must be subject to re-testing by a laboratory. All seed must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tests must be available upon request to the inspector to verify type and seeding rate.
 - Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding rate must be applied when the ground thaws.
 - Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
 - If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P₂O₅ (phosphorus), 200 pounds per acre; K₂O (potassium), 200 pounds per acre.
 - Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
 - Mix seed and fertilizer on site and seed immediately and without interruption.
 - Soil or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
 - Application
 - Dry Seeding: This includes use of conventional drop or broadcast spreaders.
 - Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
 - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with weighted roller to provide good seed to soil contact.
 - Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
 - Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seeded must be firm after planting.
 - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
 - Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
 - If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P₂O₅ (phosphorus), 200 pounds per acre; K₂O (potassium), 200 pounds per acre.
 - Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
 - Mix seed and fertilizer on site and seed immediately and without interruption.
 - Soil or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.

- B. Mulching**
- Materials (in order of preference)
 - Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not rusty, moldy, coated, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of grass is desired.
 - Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into uniform fibrous physical state.

- WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
- WCFM including dye, must contain no germination or growth inhibiting factors.
- WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material is to be ground coarse on application, leaving moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
- WCFM material must not contain elements or compounds at concentration levels that will be phytotoxic.
- WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, cation content of 1.6 percent maximum and water holding capacity of 90 percent minimum.
- Application
 - Apply mulch to all seeded areas immediately after seeding.
 - When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using wood cellulose fiber mulch, increase the application rate to 2.5 tons per acre.
 - Wood cellulose fiber used as mulch must be applied to a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to obtain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
- Anchoring
 - Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area to be anchored:
 - A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is not limited to flatter slopes where equipment can operate safely. If used on sloping lands, this practice should follow the contour.
 - Wood cellulose fiber used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
 - Synthetic binders such as Acrylic D.B. (Acryl-D.B.), DCA-70, Petrosol, Terra Tex II, Terra Lock AB or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches much, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.
 - Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually applied to 1/2 to 3/4 inch diameter and 300 to 3,000 foot long lengths.
 - Soil Maintenance
 - In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water soil during the height of the dry to prevent wilting.
 - After the first week, soil wetting to maintain adequate moisture content.
 - Do not mow until the soil is firmly rooted. No more than 1/3 of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

- TEMPORARY SEEDING NOTES (B-4-4)**
- Definition**
To stabilize disturbed soils with vegetation for up to 6 months.
- Purpose**
To use fast growing vegetation that provides cover on disturbed soils.
- Conditions Where Practice Applies**
Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.
- Criteria**
- Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
 - For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
 - When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.B and maintain until the next seeding season.

Hardness Zone (from Figure B.3): 6b
Seed Mixture (from Table B.1):

Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depth	Fertilizer Rate (10-20-20)	Lime Rate
BARLEY	96	3/1 - 5/15	1"	436 lb/ac (90 lb/1000 sq ft)	2 tons/ac (1000 sq ft)
OATS	72	8/15 - 10/15	1"		
RYE	112		1"		

PERMANENT SEEDING NOTES (B-4-5)

A. Seed Mixtures

- General Use
 - Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.
 - For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency.
 - For areas requiring low maintenance, apply urea fertilizer (46-0-0) at 3 1/2 pounds per 1,000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
- Turfgrasses
 - Areas where turfgrasses may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
 - Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
 - Kentucky Bluegrass/Perennial Ryegrass: Full Sun Mixture: For use in areas that receive intensive maintenance. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1,000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Kentucky Bluegrass/Perennial Ryegrass: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive maintenance. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1,000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium maintenance in full sun to medium shade. Recommended mixture includes: Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1,000 square feet. One or more cultivars may be blended.
 - Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes: Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1,000 square feet.

PERMANENT SEEDING SUMMARY

Hardness Zone (from Figure B.3):	6b	Fertilizer Rate (10-20-20)	Lime Rate			
Seed Mixture (from Table B.3):						
No. Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depth	N	P ₂ O ₅	K ₂ O
1	TALL FESCUE 100	Mar. 1 - May 15 Aug. 15 - Oct. 15	1/4 - 1/2 in.	45 lbs. (1.0 lb/1000 sq ft)	90 lb/acre (2.0 lb/1000 sq ft)	90 lb/acre (2.0 lb/1000 sq ft)
						2 tons/ac (1000 sq ft)

- Notes:**
- Select turfgrasses varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrasses Cultivar Recommendations for Maryland"
 - Choose certified material. Certified material is the best quality of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.
 - Ideal Times of Seeding for Turf Grasses Western MD: March 15 to June 1, August 1 to October 1 (Hardness Zones: 5b, 6a) Central MD: March 1 to May 15, August 15 to October 15 (Hardness Zones: 5b, 6a) Eastern MD: March 1 to May 15, August 15 to October 15 (Hardness Zones: 7a, 7b)
 - Turf areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches. level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1 1/2 inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.
 - If soil moisture is deficient, supply new seedlings with adequate water for plant growth (1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedlings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

- B. Sod:** To provide quick cover on disturbed areas (2:1 grade or flatter).
- General Specifications
 - Class of turfgrasses sod must be Maryland State Certified. Sod labels must be available to the job foreman and inspector.
 - Sod must be machine cut at a uniform soil thickness 3/4 inch, plus or minus 1/4 inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken blades and torn or uneven ends will not be acceptable.
 - Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
 - Sod must not be harvested or transported when moisture content (excessively dry or wet) may adversely affect its survival.
 - Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transported within this period must be approved by an agronomist or soil scientist prior to its installation.
 - Sod Installation
 - During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
 - Lay the first row of sod in a straight line in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the sod.
 - Wherever possible, lay sod with the long edges parallel to the contour and with adjoining joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure soil contact exists between sod roots and the underlying soil surface.
 - Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping, and irrigating for any piece of sod within eight hours.
 - Sod Maintenance
 - In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water soil during the height of the dry to prevent wilting.
 - After the first week, soil wetting to maintain adequate moisture content.
 - Do not mow until the soil is firmly rooted. No more than 1/3 of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

- B-4-B STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREAS**
- Definition**
A mound or pile of soil protected by appropriately designed erosion and sediment control measures.
- Purpose**
To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.
- Conditions Where Practice Applies**
Stockpile areas are utilized when it is necessary to salvage and store soil for later use.
- Criteria**
- The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
 - The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section 3-3 Land Grading.
 - Runoff from the stockpile area must drain to a suitable sediment control practice.
 - Where runoff concentration occurs, the runoff must be controlled by a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
 - Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
 - Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
 - If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

- HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES**
- A pre-construction meeting must occur with the Howard County Public Works Construction Division (CDD), 410-313-1095 after the future LID and protected areas are marked clearly in the field. A minimum of 40 hour notice to CDD must be given at the following stages:
 - Prior to the start of earth disturbance.
 - Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading.
 - Prior to the start of another phase of construction or opening of another grading unit.
 - Prior to the removal or modification of sediment control practices.
 - Other building or grading inspection approvals may be required until this initial approval by the inspection agency is made. Other related state and federal permits shall be referenced, to ensure coordination and to avoid conflicts with this plan.
 - All vegetative and structural practices to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereof.
 - Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter control, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1), and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading.
 - All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, for topsoil (Sec. B-4-2), permanent seeding (Sec. B-4-5) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15% cut and/or fill. Stockpiles (Sec. B-4-B) in excess of 20 ft. must be benched with stable soil. All sediment control structures are to remain in place, and are to be maintained in operative condition until permission for their removal has been obtained from the CDD.
 - Site Analysis:

Total Area of Site:	1.44	Acres
Area Disturbed:	0.80	Acres
Area to be graded or paved:	0.27	Acres
Area to be vegetatively stabilized:	0.53	Acres
Total Cut:	700	Cu. Yds.
Total Fill:	700	Cu. Yds.

 Off-site water/borrow area location: N/A
 - Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
 - Additional sediment control must be provided, if deemed necessary by the CDD. The site and all controls shall be inspected by the contractor weekly, and the next day after each rain event. A written report to the contractor, made available upon request, is part of every inspection and should include:
 - Inspection date
 - Name and title of inspector
 - Weather information (current conditions be site time and amount of last recorded precipitation)
 - Brief description of project status (e.g., percent complete) and/or current activities
 - Evidence of sediment discharges
 - Identification of rain deficiencies
 - Identification of sediment controls that require maintenance
 - Identification of missing or improperly installed sediment controls
 - Compliance status regarding the sequence of construction and stabilization requirements
 - Photographs
 - Monitoring/inspecting
 - Maintenance and/or corrective action performed
 - Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).
 - Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be back-filled and stabilized by the end of each workday, whichever is shorter.
 - Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may be allowed by the CDD per a list of HSCD-approved field changes.
 - Disturbance shall not occur outside the LID. A project to be sequenced so that grading activities begin on one grading unit (maximum average of 20 ac. per grading unit) at a time. Work may proceed a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the HSCD. Unless otherwise specified and approved by the HSCD, no more than 30 ac cumulative may be disturbed at a given time.
 - Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved without structure.
 - Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade.
 - All Site Fence and Super Site Fence shall be placed on the contour, and be indicated at 25 minimum intervals, with lower ends curved uphill by 2' in elevation.
 - Stream channels must not be disturbed during the following restricted time periods (include):
 - Use I and II: March 1 - June 15
 - Use III and III: October 1 - April 30
 - Use IV: March 1 - May 31
 - A copy of the plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active.

