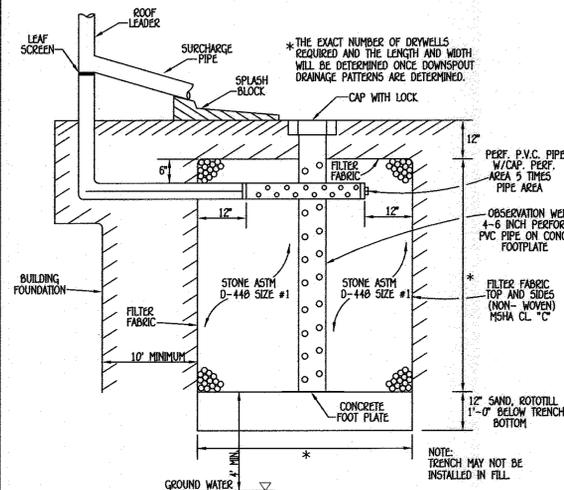


SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ENVIRONMENTAL CONCEPT PLAN

SOILS LEGEND			
SOIL	NAME	CLASS	K FACTOR
GbC	Gladstone loam, 0 to 15 percent slopes	A	0.20
GfB	Gladstone-Urban land complex, 0 to 0 percent slopes	A	0.20
Gub	Glenville-Urban land-Udorthents complex, 0 to 0 percent slopes	C	0.43

STORMWATER MANAGEMENT SUMMARY			
AREA ID.	ESDV REQUIRED CU.FT.	ESDV PROVIDED CU.FT.	REMARKS
SITE	395	472	DRY WELLS (M-5)
TOTAL	395	472	

GROSS AREA = 0.62 ACRES (SITE)
 LOD = 0.30 ACRES
 RCN = 39
 TARGET Pe = 1.0'



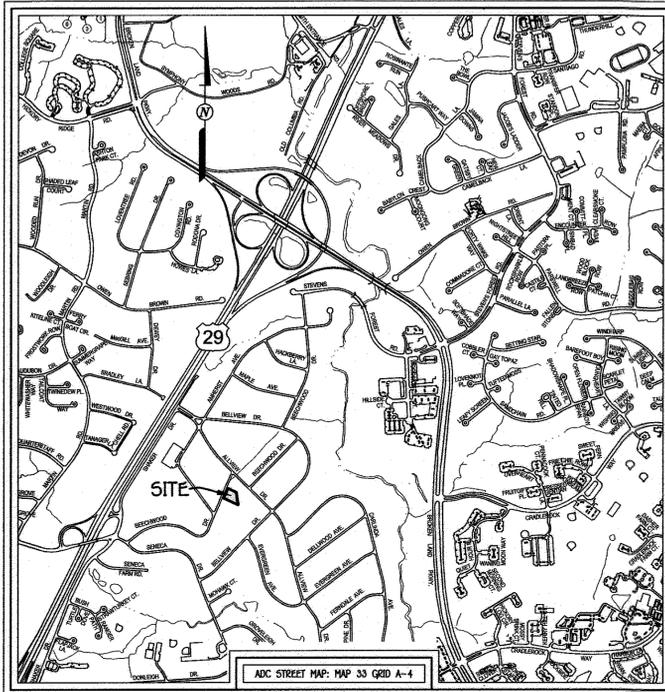
GUTTER DRAIN FILTER DETAIL
 NOT TO SCALE

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 DOWNSPOUT SHALL BE 1,000 SQ. FT. OR LESS.
- DRYWELLS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH OF DISCONNECTION IS LESS THAN 75' AT 5% THE SIZE AND CONSTRUCTION OF THE DRYWELL SHALL BE IN ACCORDANCE WITH THE DETAIL SHOWN ON THIS SHEET.
- FINAL GRADING IS SHOWN ON THE SITE DEVELOPMENT PLAN.

DRY WELL CHART						
DRYWELL NO.	AREA OF ROOF PER DOWN SPOUT	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF TREATMENT	L	W
FRONT RIGHT	826 SQ. FT.	66 C.F.	200 C.F.	100%*	10'	10' x 5'
FRONT LEFT	929 SQ. FT.	74 C.F.	200 C.F.	100%*	10'	10' x 5'
REAR	504 SQ. FT.	40 C.F.	72 C.F.	100%*	6'	6' x 5'

* AREA OF TREATMENT EXCEEDS THAT REQUIRED.



VICINITY MAP
 SCALE: 1" = 1200'

BENCHMARK INFORMATION	
B.M.#1 - HOWARD COUNTY CONTROL STATION #0070 - HORIZONTAL - (NAD '83)	N 596041.795 E 1,350,374.704 ELEVATION = 406.331 - VERTICAL - (NAVD '89)
B.M.#2 - HOWARD COUNTY CONTROL STATION #360F - HORIZONTAL - (NAD '83)	N 596,122,368 E 1,349,925,206 ELEVATION = 392.348 - VERTICAL - (NAVD '89)

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.

LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXISTING 2' CONTOURS		PROPOSED CONTOUR
	EXISTING 10' CONTOURS		SPOT ELEVATION
	SOILS LINES AND TYPE		LIMITS OF DISTURBANCE
	EXISTING TREELINE		PROPOSED TREELINE
	EXISTING FENCE LINE		SILT FENCE
	PROPOSED PAVING		EROSION CONTROL MATTING
	DRAINAGE AREA DIVIDE		SUPER SILT FENCE
			STABILIZES CONSTRUCTION ENTRANCE

GENERAL NOTES

- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY (MISG UTILITY) AT 1-800-297-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- BOUNDARY SHOWN HEREON IS BASED ON FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED BY FISHER, COLLINS & CARTER, INC. DATED DECEMBER, 2016.
- TOPOGRAPHY SHOWN HEREON IS BASED ON HOWARD COUNTY GIS TOPOGRAPHY AT 2' CONTOUR INTERVAL INTERPOLATED AND FIELD RUN BY FISHER, COLLINS & CARTER, INC. DATED NOVEMBER, 2016.
- 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. 0070 AND 360F WERE USED FOR THIS PROJECT.
- PREVIOUS OPZ FILE NUMBERS: PLAT BOOK 5 FOLIO 96.
- STORM WATER MANAGEMENT IS IN ACCORDANCE WITH THE H.D.E. STORM WATER DESIGN MANUAL, VOLUMES I & II, REVISED 2009.
- NON-STRUCTURAL PRACTICES IN ACCORDANCE WITH CHAPTER 5 ARE BEING UTILIZED.
- THIS PROPERTY IS LOCATED INSIDE THE METROPOLITAN DISTRICT. LOT IS TO BE SERVED BY PUBLIC WATER CONTRACT AND BY PUBLIC SEWER CONTRACT.
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- THE SUBJECT PROPERTY IS ZONED R-20 (PER DATE 10/06/2013 COMPREHENSIVE ZONING PLAN).
- NO 100 YEAR FLOODPLAIN, WETLANDS, STREAMS AND/OR THEIR BUFFERS, NOR STEEP SLOPES EXIST ON-SITE.
- NO WETLANDS EXIST ON-SITE. SEE ENVIRONMENTAL FINDINGS LETTER PREPARED BY ECO-SCIENCE, INC. DATED DECEMBER 2016.
- LOT IS EXEMPT FROM FOREST CONSERVATION REQUIREMENTS SINCE IT IS A SINGLE LOT WITH A TOTAL AREA LESS THAN 40,000 SF.
- SOIL BORINGS WILL BE SECURED FOR THE PROPOSED STORMWATER MANAGEMENT DEVICES.
- APPROVAL OF THIS ECP DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT AND ASSOCIATED SUBDIVISION PLAN/PLAT AND/OR SITE DEVELOPMENT PLAN AND/OR RED-LINE REVISION PLAN. REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE HOWARD COUNTY ZONING REGULATIONS SHALL OCCUR AT THE SUBDIVISION PLAN/PLAT AND/OR SITE DEVELOPMENT PLAN STAGES AND/OR RED-LINE REVISION PROCESS. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED REVIEW COMMENTS (INCLUDING COMMENTS THAT MAY ALTER THE OVERALL SITE DESIGN) AS THIS PROJECT PROGRESSES THROUGH THE PLAN REVIEW PROCESS.
- NO STRUCTURES EXIST ON THIS PROPERTY.
- PROPERTY LOCATED ON HOWARD COUNTY SOIL SURVEY MAP #24.

DESIGN NARRATIVE

Introduction:

This report will demonstrate how the criteria set forth in the Maryland Stormwater Design Manual, Volumes I and II (effective October 2000, revised May 2009) will be satisfied on this project. The goal of creating hydrology similar to that of "Woods in Good Condition" will be accomplished through the use of the practices contained within Chapter 5 of said manual. The achievement of this goal will remove the requirement of providing Channel Protection Volume.

General Site Conditions:

6505 Beechwood Drive is zoned R-20 and is located on Tax Map 361, Parcel No.237, Lot 17 of the Howard County, Maryland Tax Map Database System. The property is recorded as platbook 5, page 96. The site is a vacant lot (not forested) with some individual trees. Lot is exempt from Forest Conservation requirements since it is a single lot less than 40,000 square feet in size. The proposed house will be served by public water and sewer. The runoff from the lot is mostly from south to north to the left side of the lot. Drywells (M-5) will be utilized to treat rooftop runoff. Per the 2004 Web Soil Survey, soils on-site consist of "GbC" Gladstone loam and "GfB", Gladstone - Urban land complex, Type A soil.

I. Natural Resource Protection:

Environmentally sensitive features such as wetlands, streams, forests, their buffers, steep slopes, or floodplains do not exist on-site.

II. Maintenance of Natural Flow Patterns:

Nature flow patterns will be maintained. Existing and proposed runoff flows from south to north on-site. The neighboring house to the south acts as a high point for runoff.

III. Reduction of Impervious Areas through better site design, alternative surfaces and Nonstructural Practices

A single driveway is proposed to provide access to the proposed house. Due to the steepness of the proposed driveway, and the width of road right of way, it isn't possible to provide stormwater management for the proposed driveway that meets the maximum slope requirement. Drywells treating rooftop runoff have been oversized to overcompensate for the driveway area not being treated.

IV. Integration of Erosion and Sediment Controls into Stormwater Strategy:

Silt Fence and Super Silt Fence will be utilized to provide erosion and sediment control.

V. Implementation of ESD Planning Techniques and practices to the Maximum Extent Practicable (MEP)

The full required ESD volume is being provided.

VI. Request for a Design Manual Waiver:

No waivers are required.

SITE ANALYSIS DATA CHART

- TOTAL AREA OF THIS SUBMISSION = 26,889 SQ.FT. OR 0.62 AC.*
- LIMIT OF DISTURBED AREA = 12,900 SQ.FT. OR 0.30 AC.*
- PRESENT ZONING DESIGNATION = R-20 (PER 10/06/2013 COMPREHENSIVE ZONING PLAN)
- PROPOSED USE: RESIDENTIAL
- PREVIOUS HOWARD COUNTY FILES: PLAT BOOK 5 FOLIO 96
- TOTAL AREA OF FLOODPLAIN LOCATED ON-SITE = 0.00 AC
- TOTAL AREA OF SLOPES IN EXCESS OF 15% = 0.00 AC
- TOTAL AREA OF WETLANDS (INCLUDING BUFFERS) = 0.00 AC.
- TOTAL AREA OF STREAM (INCLUDING BUFFERS) = 0.00 AC.
- TOTAL AREA OF EXISTING FOREST = 0.00 AC
- TOTAL GREEN OPEN AREA = 0.00 AC*
- TOTAL IMPERVIOUS AREA = 0.00 AC*
- TOTAL AREA OF ERODIBLE SOILS = 0.00 AC.
- TOTAL AREA OF ROAD DEDICATION = 0.00 AC.

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

Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil (2" to 4" deep)	loamy sand 60-85% compost 30-40% or sandy loam 30% coarse sand 30% compost 40%		USDA soil types loamy sand or sandy loam; clay content <5%
Organic Content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum
Pea gravel diaphragm	pea gravel: ASTM-D-440	No. 8 or No. 9 (1/8" to 3/8")	
Curtain drain	ornamental stone: washed cobble	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrain and infiltration berms)	ASHTO M-43	No. 57 or No. Aggregate (3/8" to 3/4")	
Underdrain piping	F 750, Type PS 28 or ASHTO M-270	4" to 6" rigid schedule 40 PVC or 50839	slotted or perforated pipe; 3/8" perft. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipes shall be wrapped with 1/4 inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; f = 3500 psi at 28 days, normal weight, air-entrained, reinforcing to meet ASTM-619-60	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 308.2R99; vertical loading D1-10 or H-202; allowable horizontal loading (based on soil pressure); and analysis of potential cracking
Sand	ASHTO-M-6 or ASTM-C-33	0.075 to 0.04"	Sand substitutions such as Diabase and Gneiss (ASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

OWNERS
 JOSEPH & DOLORES JABLONSKI
 6505 BEECHWOOD DRIVE
 COLUMBIA, MD 21046
 c/o JOHN MINUTOLI 410-409-0333

DEVELOPER
 MG RENOVATIONS, LLC
 6139 WHITE MARBLE COURT
 CLARKSVILLE, MD 21029
 410-409-0333

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 1072 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21042
 (410) 491 - 2995

NO.	REVISION	DATE	X

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: 01/12/2018.

Stephanie Jute 3/31/17
 Signature Of Professional Engineer DATE



APPROVED: DEPARTMENT OF PLANNING AND ZONING

<i>Ved S. J. [Signature]</i> Chief, Dept. of Land Development	4-12-17 Date
<i>[Signature]</i> Chief, Development Engineering Division	4/21/17 Date
PROJECT ALLVIEW ESTATES SECTION 3, BLOCK G LOT 17	SECTION 3
PARCEL NO. 237	
PLAT PB 5, PG 96	BLOCK NO. 14
ZONE R-20	TAX/ZONE 36
ELEC. DIST. SIXTH	CENSUS TR. 606701

TITLE SHEET

ALLVIEW ESTATES,
 SECTION 3, BLOCK G, LOT 17
 6505 BEECHWOOD DRIVE
 ZONED R-20
 TAX MAP No. 36 GRID No. 14 PARCEL No. 237
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: MARCH, 2017
 SHEET 1 OF 2

ECP-17-030

