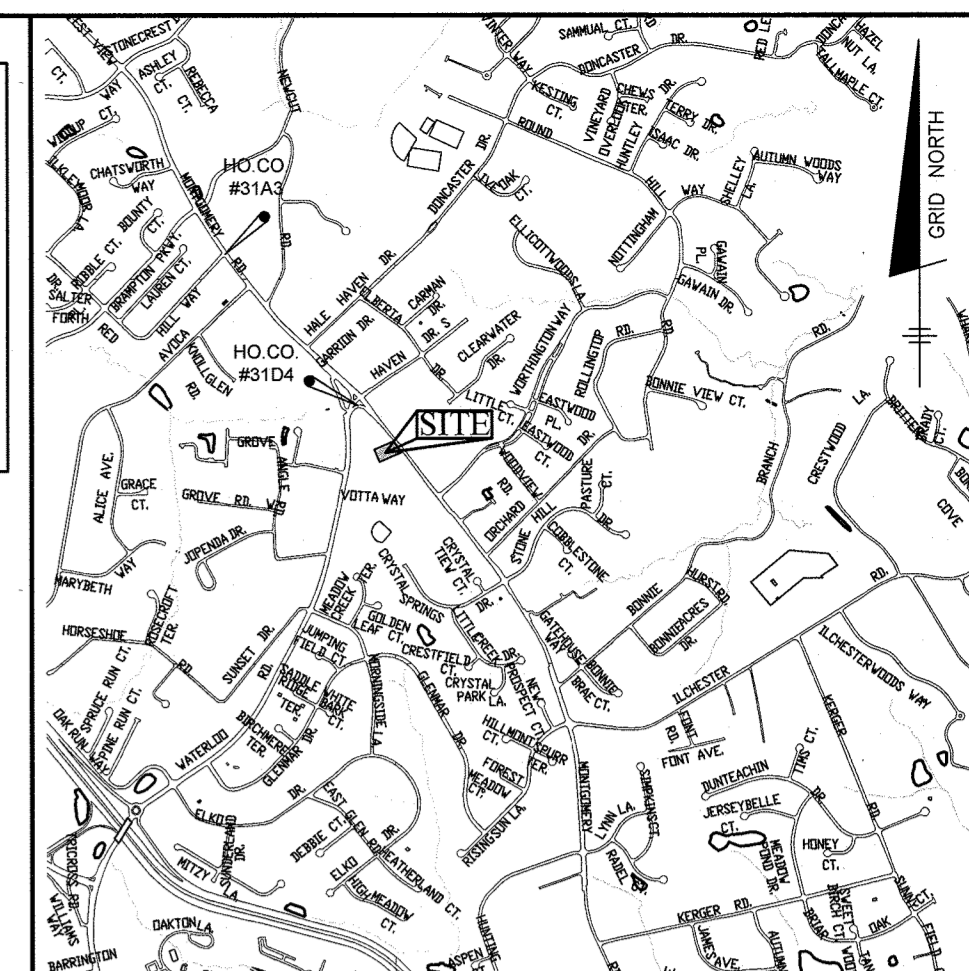


SOILS CHART - SOIL SURVEY HOWARD COUNTY, MARYLAND				
SYMBOL	HYDRIC	HYDROLOGIC GROUP	ALTERNATE GROUP	NAME
CHC		B	C	CHILLUM-RUSSETT LOAMS, 5 TO 10 PERCENT SLOPES
UCB**		D	B/C	URBAN LAND-CHILLUM-BELTSVILLE COMPLEX, 0 TO 5 PERCENT SLOPES
				K-VALUE
				0.43
				-

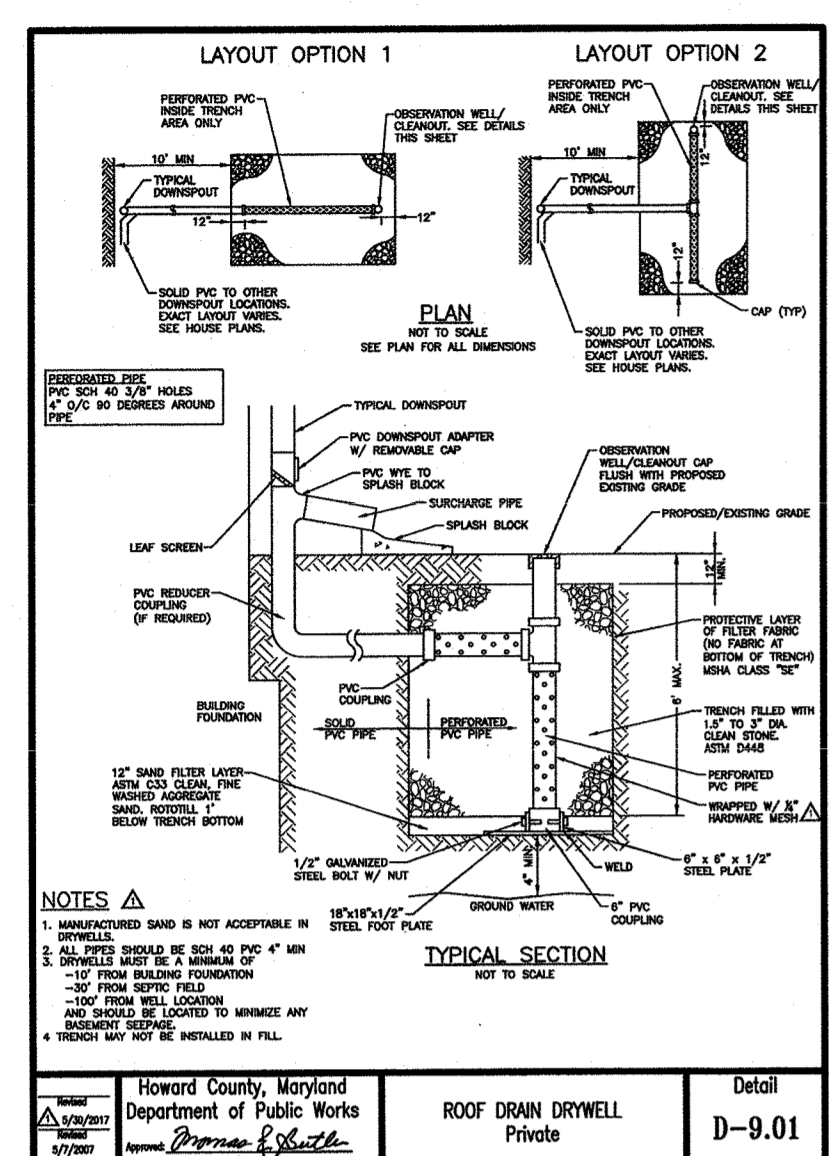
HOWARD COUNTY SOIL INDEX PAGE 19.
 * INCLUDES HYDRIC SOILS
 ** HIGHLY ERODIBLE K>0.35, AND/OR SOILS 15% OR GREATER

ENVIRONMENTAL CONCEPT PLAN RAUSCHER PROPERTY 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

BENCH MARKS	
HO. CO. #31A3 (NAD '83)	ELEV. 86.905
STANDARD DISC ON CONCRETE MONUMENT	
N 573217.889	E 1368237.788
HO. CO. #31D4 (NAD '83)	ELEV. 494.445
STANDARD DISC ON CONCRETE MONUMENT	
N 571700.664	E 1369606.417



ADC MAP 28, B6 VICINITY MAP
 SCALE: 1" = 2000'



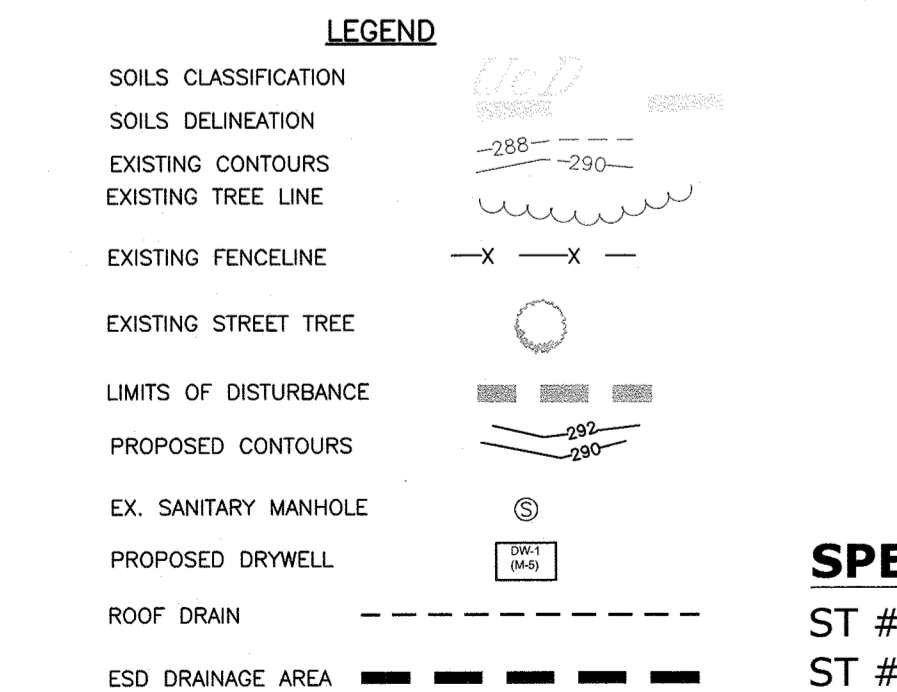
Drywell No.	Length (ft)	Width (ft)	Stone Depth (ft)	Grade	Top of Stone	Bottom of Stone
DW-1	8.00	8.00	4.00	509.3	508.3	504.3
DW-2	8.00	8.00	4.00	509.1	508.1	504.1

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

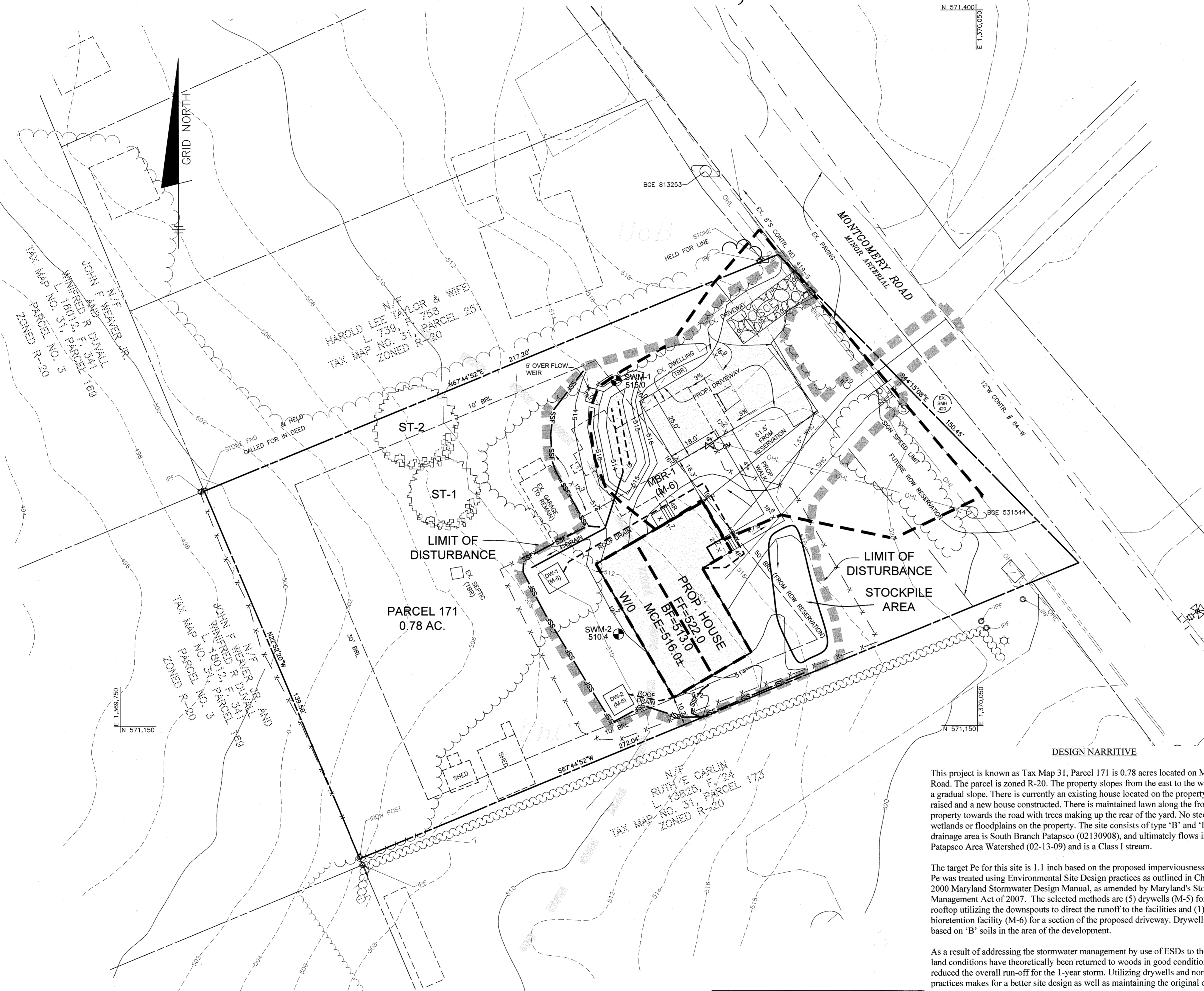
- THE MONITORING WELLS AND STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM EVENT.
- WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS SHALL BE RECORDED OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.
- A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN WITHIN THE 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.

OPERATION AND MAINTENANCE SCHEDULE FOR BIORETENTION (M-6) AND SWALES (M-8)

- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASHOUT. 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 II, TABLE A.4.1 AND 2.
- THE OWNER SHALL PERFORM A PLANT INSPECTION IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT. REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL. TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.



SPECIMEN TREES
 ST # 1 - 30.0" American Beech - *Fagus grandifolia* - Fair
 ST # 2 - 37.0" White Oak - *Quercus alba* - Fair - Small Cavity



DESIGN NARRATIVE

This project is known as Tax Map 31, Parcel 171 is 0.78 acres located on Montgomery Road. The parcel is zoned R-20. The property slopes from the east to the west and is with a gradual slope. There is currently an existing house located on the property that is to be raised and a new house constructed. There is maintained lawn along the front of the property towards the road with trees making up the rear of the yard. No steep slopes, wetlands or floodplains on the property. The site consists of type 'B' and 'D' soils. The drainage area is South Branch Patapsco (02130908), and ultimately flows into the Patapsco Area Watershed (02-13-09) and is a Class 1 stream.

The target Pe for this site is 1.1 inch based on the proposed imperviousness. The target Pe was treated using Environmental Site Design practices as outlined in Chapter 5 of the 2000 Maryland Stormwater Design Manual, as amended by Maryland's Stormwater Management Act of 2007. The selected methods are (5) drywells (M-5) for the house rooftop utilizing the downslopes to direct the runoff to the facilities and (1) micro-bioretenation facility (M-6) for a section of the proposed driveway. Drywells were utilized based on 'B' soils in the area of the development.

As a result of addressing the stormwater management by use of ESDs to the MEP the land conditions have theoretically been returned to woods in good condition and therefore reduced the overall run-off for the 1-year storm. Utilizing drywells and nonstructural practices makes for a better site design as well as maintaining the original drainage patterns.

Sediment and erosion control shall comply with the latest edition of the MDE Standards and Specifications for Sediment Control and has been limited to the areas necessary to conduct ESD practices and onsite functionality.

The development was design to limit the area of disturbance and to minimize clearing of vegetation and trees. It is anticipated that the Forest Conservation obligations for this development will be by DOI for less than 20,000 square feet of clearing.

It is concluded that all ESD to the MEP requirements as defined in the Stormwater Management Act of 2007 have been met for the proposed development. The Water Quality has been provided by the implementation of dry wells (M-5), and bioretention (M-6) to treat all of the proposed impervious onsite.

ECP Site Analysis Data Sheet											
Gross Area		0.78 ac									
100yr Floodplain		0.00 ac									
Slopes 25% or Greater		0.00 ac									
Slopes 15% or Greater		0.00 ac									
Wetlands		0.00 ac									
Wetlands Buffer		0.00 ac									
Stream		0.00 ac									
Stream Buffer		0.00 ac									
Forested Area		0.00 ac									
Erodible Soils(ChC)		0.39 ac									
Limit of Disturbance		0.30 ac									
Impervious Area		0.09 ac									
Green Space		0.21 ac									

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 4/17/20

SWM SUMMARY TABLE														
D.A.	MDE Type	Total DA	Impervious Area	Qe	Required	Provided	2% DA	Depth	Af		ESDv		RV	Pe
									Required	Provided	75% ESDv	RV		
MBR 1	(M-6)	8.255	1,900	0.28	165	200	PASS	1.0	146	436	PASS	0.26	2.46	
DW-1	(M-5)	1,087	1,087	0.28	95	102	PASS	4.0	95	102	PASS	0.26	1.19	
DW-2	(M-5)	851	851	0.28	74	102	PASS	1.0	74	102	PASS	0.26	1.52	
Totals		10,193	3,838	0.43					315	641				

NO.	DATE	REVISION

BENCHMARK ENGINEERS, INC.
 8480 BALTIMORE NATIONAL FREE & SUITE 310 ELLICOTT CITY, MARYLAND 21043
 (P) 410-665-6105 (F) 410-665-6444
 WWW.BEI-CIVILENGINEERING.COM

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. 22390, Expiration Date: 6-30-2021.

Cl. Malapan 3-27-20

OWNER: JAMES RAUSCHER 4928 MONTGOMERY ROAD ELLICOTT CITY, MARYLAND 21043 410-868-7551	RAUSCHER PROPERTY 4928 MONTGOMERY ROAD
DEVELOPER: JAMES RAUSCHER 4928 MONTGOMERY ROAD ELLICOTT CITY, MARYLAND 21043 410-868-7551	TAX MAP: 31 GRID: 14 PARCEL: 171 ZONED: R-20 ELECTION DISTRICT NO. 1ST HOWARD COUNTY, MARYLAND
RESIDENTIAL ENVIRONMENTAL CONCEPT PLAN	
DESIGN: JCO DRAFT: JCO	DATE: MARCH 2020 BEI PROJECT NO. 2936 SCALE: AS SHOWN SHEET 1 OF 1