GENERAL NOTES

- THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS AND ALTERNATIVE COMPLIANCE HAVE BEEN APPROVED.
- 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. 301B AND 31GB WERE USED FOR THIS PROJECT.
- THE SUBJECT PROPERTY IS ZONED "POR" IN ACCORDANCE WITH THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.

 THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.

 PUBLIC WATER IS PROVIDED BY CONTRACT 13-3564-D. PUBLIC SEWER IS PROVIDED BY CONTRACT 13-1395.

 THERE IS NO 100-YEAR FLOODPLAIN ON THIS SITE.

 THERE ARE STEEP SLOPES LOCATED ONSITE.

 FOREST STAND DELINEATION REPORT PREPARED BY JOHN CANOLES,
- ECO-SCIENCE PROFESSIONALS, INC. DATED MARCH 5, 2019. THERE IS/ARE NO FLOODPLAIN, WETLANDS STREAMS OR THEIR BUFFERS
- 9. THERE IS/ARE NO FLOUDPLAIN, WEILANDS STREAMS OR THEIR BOFFERS LOCATED WITHIN THE LOD.

 10. A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.

 11. WATERLOO ROAD IS CLASSIFIED AS A MINOR ARTERIAL ROAD.

 12. TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL GROUNDS OR CEMETERIES ON THIS PROPERTY. THERE ARE NO HISTORIC
- 13. STORMWATER MANAGEMENT FOR THE PROJECT IS PROVIDED BY SIX MICRO-BIORETENTION FACILITIES (M-6). THIS FACILITIES SHALL BE PRIVATELY
- 14. APPROVAL OF THIS ENVIRONMENTAL CONCEPT PLAN (ECP) DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT AND ASSOCIATED SUBDIVISION PLAN/PLAT AND/OR SITE DEVELOPMENT PLAN AND/OR REDLINE 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 AND/OR REDLINE 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. 15. APPROVAL OF THIS ENVIRONMENTAL CONCEPT PLAN (ECP) BY THE HOWARD SOIL CONSERVATION DISTRICT DOES NOT GRANT APPROVAL OF THE PROPOSED SEDIMENT CONTROL SCHEME. THE FINAL PLAN SHALL INCLUDE A SEQUENCE OF CONSTRUCTION WHICH SHALL DETAIL SEDIMENT & EROSION CONTROLS AND PHASING AND ADDRESS THE PROJECT TEMPORARY STORMWATER MANAGEMENT REQUIREMENTS.
- 16. DPZ FILE REFERENCE NUMBERS: BA CASE NO. 06-005-V, APPROVED 04/24/06; SDP-07-038; F-08-064; SDP-07-137; WP-08-111; 17. THIS PROJECT IS SUBJECT TO A JOINT USE EASEMENT AND CONVENANT AGREEMENT (L.11060, F.306); RECORDED JANUARY 15, 2008; BY AND
- BETWEEN HOWARD COUNTY HOUSING COMMISSION (ELLICOTT GARDENS, SDP-07-038) AND TCS/JMT WATERLOO ROAD, LLC.
 THE FOREST CONSERVATION OBLIGATION FOR THIS PROJECT SHALL BE SATISFIED BY THE ON-SITE RETENTION OF 0.04 AC., AND BY A FEE-IN LIEU PAYMENT OF \$36,917.10 FOR THE 1.06 REFORESTATION OBLIGATION. THIS PROPOSED RETENTION AREA IS ADJACENT TO AN EXISTING FOREST CONSERVATION EASEMENT OF 1.17 AC. THIS FOREST CONSERVATION ALSO INCLUDED THE 18,730 S.F. OF FOREST REMOVAL IN CONJUNCTION WITH

SDP-10-021 AND THE DECLARATION OF INTENT DATED 02/19/2010. FOREST CONSERVATION SHALL BE ADDRESSED AT SDP PHASE.

19. THE REMOVAL OF SPECIMEN TREES WILL REQUIRE APPROVAL OF ALTERNATIVE

COMPLIANCE TO SECTION 16.1205(a)(7).

20. A PRE-SUBMISSION COMMUNITY WAS HELD AT LINDEN HALL, ELLICOTT CITY, MD AT 6:00 PM ON FEBRUARY 6TH, 2019.

21. THE ZONING OFFICE HAS DETERMINED THAT ELLICOTT GARDENS I AND ELLICOTT GARDENS II WILL BE VIEWED AS A COMPREHENSIVE PROJECT IN TERMS OF MINIMUM DEVELOPMENT SIZE OF 3.00 ACRES, SECTION 128.0.J.

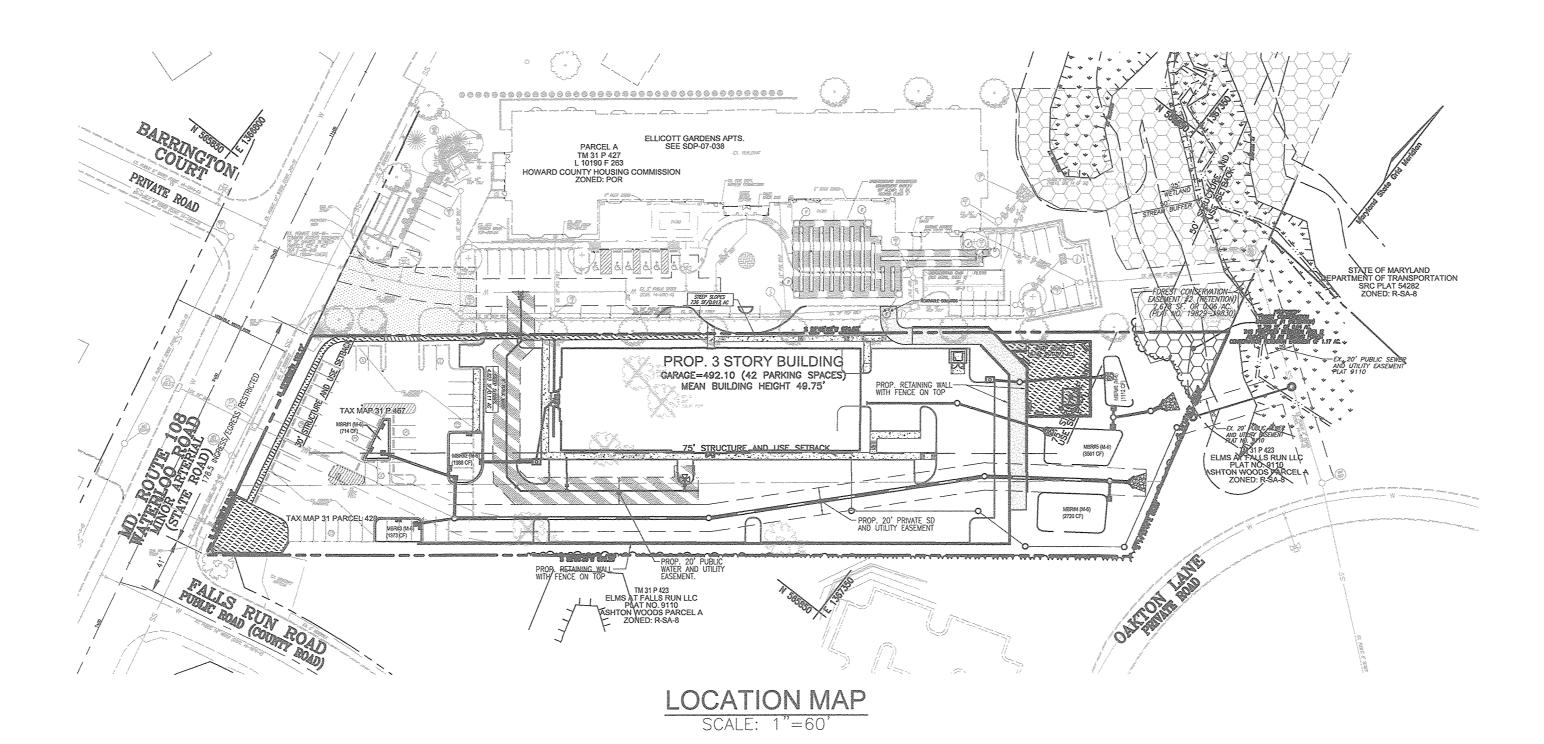
Forest Conservation Worksheet 2.2

Net Tr	act Area							
A.	Total Tract	Area					A =	2.53
B.	Deductions		B = "	0.00				
C.	Net Tract A	rea					C = -	2.53
Land	Use Category						_	
	1	nput the ni	ımber "1" ı	under the ap	propriate	e land use		
	2	zoning, and	l limit to or	nly one entry	1			
	ARA	MDR	IDA	HDR	MPD	CIA		
	0	0	0	0	0	1		
D.	Afforestation	n Threshol	d (Net Tr	act Area x	15%)	D =	0.38
E.	Conservatio	n Threshol	d (Net Ti	ract Area x	15%)	E = -	0.38
Existi	ng Forest Cove	٢					~	
F.	Existing Forest Cover within the Net Tract Area F = 2.18							
G.	Area of Forest Above Conservation Threshold							1.80
Break	Even Point						_	
H.	Break Even		H =	0.74				
Į.	Forest Clea		=	1.44				
Propo	sed Forest Clea	aring					-	
J.	Total Area of Forest to be Cleared							2.14
K.	Total Area of Forest to be Retained							0.04
Planti	ng Requireme	nts						
L.	Reforestation for Clearing Above the Conservation Threshold L = 0.45							
M.	Reforestation for Clearing Below the Conservation Threshold M = 0.68							0.68
N.	Credit for Retention above the Conservation Threshold							0.00
Ρ.	Total Reforestation Required P = 1							1.13
Q.	Total Afforestation Required Q =							0.00
R.	Total Plantii	Total Planting Requirement R = 1.13						

THE ENTIRE WORKSHEET IS NOT PROVIDED AS THIS IS A PRELIMINARY WORKSHEET USED TO DETERMINE THE BASIC OBLIGATIONS. A COMPLETE WORKSHEET WILL BE PROVIDED WITH THE FOREST CONSERVATION PLAN.

ELLICOTT GARDENS II

70 UNIT - APARTMENT BUILDING (DEEDS: 7894/473 & 10427/313) ENVIRONMENTAL CONCEPT PLAN PARCEL A



BENCHMARKS

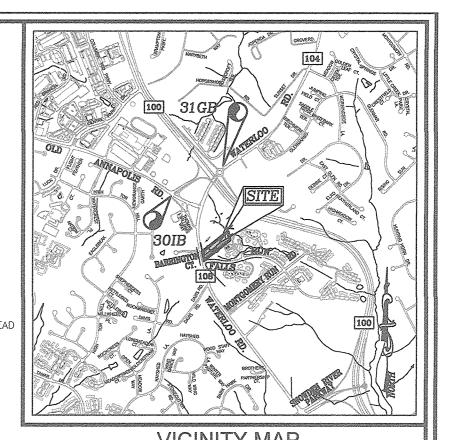
HOWARD COUNTY BENCHMARK 30IB N 566937.926 E 1366270.75 ELEV. 526.868 HOWARD COUNTY BENCHMARK 31GB N 567567.473 E 1367353.38 ELEV. 512.080

EXISTING CONTOUR -----[82]------ PROPOSED CONTOUR EXISTING SPOT ELEVATION PROPOSED SPOT ELEVATION DIRECTION OF FLOW EXISTING TREES TO REMAIN

LIGHT POLE - SINGLE OVERHEAD &-- DOUBLE OVERHEAD

SPECIMAN TREE (TO BE REMOVED)





SCALE: 1"=1000' ADC MAP Coordinates: MAP 27, GRID F8

SHEET INDEX DESCRIPTION SHEET NO. COVER SHEET 1 OF ENVIRONMENTAL CONCEPT LAYOUT 2 OF . ESD STORM WATER MANAGEMENT DRAINAGE AREA MAP, NOTES AND DETAILS

ENVIRONMENTAL SITE DESIGN NARRATIVE:

IN ACCORDANCE WITH THE DEVELOPMENT ENGINEERING DIVISION ECP CHECKLIST ITEM III.K.

1. THE NATURAL AREAS ON THE ELLICOTT GARDENS II PROJECT SITE ARE LOCATED TOWARD THE PROJECT BOUNDARIES. NO DISTURBANCE TO THE STREAM AND STREAM BUFFER, WETLAND AND WETLAND BUFFER OR THEIR WOODED RESOURCES IS PROPOSED UNLESS SHOWN HEREON.

PROPOSED GRADING SHEETS. 3. THE CONCEPTUAL REDUCTION IN IMPERVIOUS AREA THROUGH BETTER SITE DESIGN IS ACHIEVED THROUGH THE ENVIRONMENTAL SITE DESIGN (ESD) FOR THE PROJECT. THE ESD CONCEPT INCLUDES THE USE OF

2. NO DRAMATIC DISTURBANCE TO THE NATURAL DRAINAGE PATTERNS ARE PROPOSED, PLEASE REFER TO THE

MICRO-SCALE PRACTICES TO INCLUDE MICRO-BIORETENTION FACILITIES. 4. SEDIMENT CONTROL FOR THIS SPECIFIC SITE PLAN WILL BE PROVIDED THROUGH THE USE A PROPOSED SEDIMENT TRAP (TO BE CONVERTED TO A MICRO-BIORETENTION FACILITY, EARTH DIKES, AND SILT FENCE PERIMETER CONTROLS. SEDIMENT CONTROL SHALL BE IN ACCORDANCE WITH CURRENT REQUIREMENTS AND SHALL BE APPROVED BY THE HOWARD SOIL CONSERVATION DISTRICT.

5. STORMWATER MANAGEMENT FOR THE PROJECT HAS BEEN CONCEPTUALLY MET THROUGH THE USE OF MICRO-BIORETENTION FACILITIES. THE RESULTS OF THE ENVIRONMENTAL SITE DESIGN FOR THIS PROJECT WILL REFLECT "WOODS IN GOOD CONDITION".

TARGET PE = 1.95" TARGET ESDv = 11,371 CUFT

PROVIDED PE = 2.0" PROVIDED = 11,468+/- CUFT

6. AT THIS CONCEPT STAGE OF DEVELOPMENT, NO WAIVER PETITIONS FOR THE STORMWATER MANAGEMENT DESIGN ARE REQUIRED. THE REMOVAL OF SPECIMEN TREES WILL REQUIRE APPROVAL OF ALTERATIVE COMPLIANCE TO SECTION 16.1205(a)(7).

LOCATION: 5511 & 5513 WATERLOO ROAD, HO. CO., MD.; TAX MAP 31, BLOCK 19, PARCEL 428 & 467 1ST ELECTION DISTRICT PRESENT ZONING: POR

SITE AREA: 3.00 AC. (DEED) 0.47 AC. (SHA RIGHT-OF-WAY) 2.53 AC. (DEVELOPABLE)

TOTAL ELLICOTT GARDENS PHASE I & II PROJECT AREA: 5.93 AC. ELLICOTT GARDENS PHASE II (EXCLUDING RIGHT-OF-WAY): 2.53 AC. DPZ REFERENCES: BA CASE NO. 06-005-V, APPROVED 04/24/06; SDP-07-038; F-08-064; SDP-07-137; WP-08-111; WP-09-085; S-19-009; BA-08-042V, APPROVED 1/5/09

USE OF STRUCTURES: APARTMENTS TOTAL PARKING LOT AND BUILDING COVERAGE: 71,525 SF (1.64 AC.) OR 64.82% OF GROSS AREA) AREA OF LANDSCAPE ISLAND: 28,751 SF (0.89 AC. OR 35.18% OF GROSS AREA)

LIMIT OF DISTURBED AREA: 96,320 SF/2.21 AC WETLANDS ON SITE: 0.00 AC. WETLAND BUFFERS ON SITE: 0.007 AC.

AREA OF ON-SITE STEEP SLOPES (25% OR GREATER): 0.21 AC AREA OF ON-SITE STEEP SLOPES (15% OR GREATER): 0.14 AC

AREA OF ERODIBLE SOILS: 1.87 AC AREA MANAGED BY ESDV (THIS PLAN): 2.21 AC. IMPERVIOUS AREA (MANAGED BY ESDV): 1.64 AC

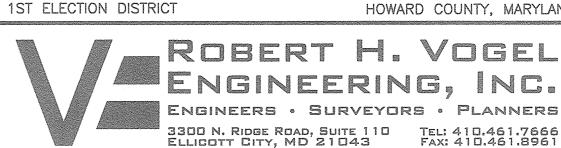
OWNER/DEVELOPER HOWARD COUNTY HOUSING COMMISSION 6751 COLUMBIA GATEWAY DRIVE COLUMBIA, MD 21046

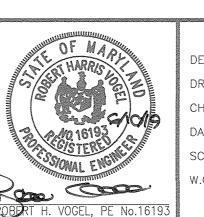
410-730-3725

ENVIRONMENTAL CONCEPT PLAN **COVER SHEET ELLICOTT GARDENS II** HOUSING COMMISSION HOUSING DEVELOPMENT: 70 APARTMENTS ZONED: POR 5511 & 5513 WATERLOO ROAD

BA-06-005V, SDP-07-038, F-08-064, BA-08-042V SD9-07-137, WP-08-111, WP-09-085 TAX MAP 31 BLOCK 19

PARCEL '428' & '467 HOWARD COUNTY, MARYLAND

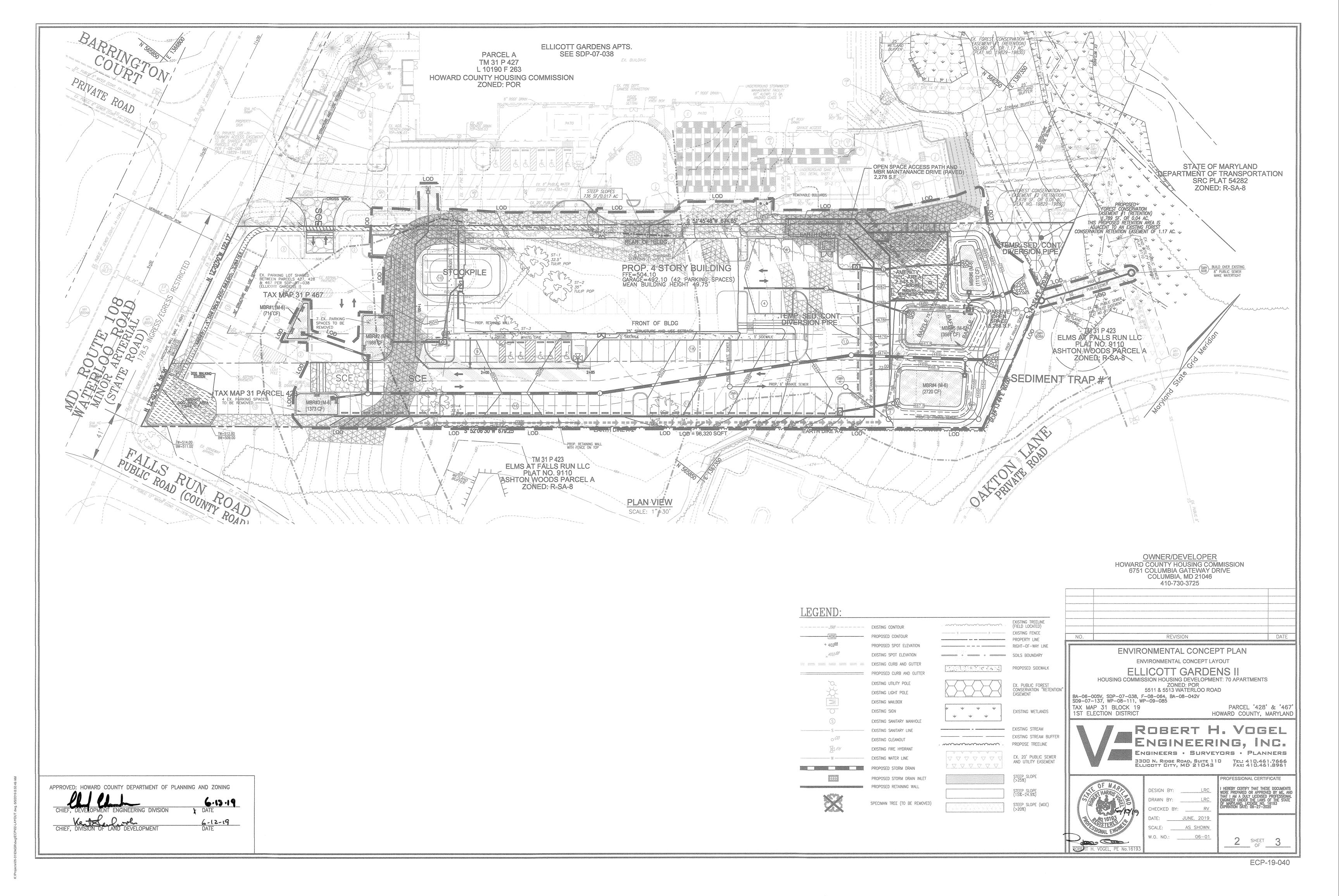


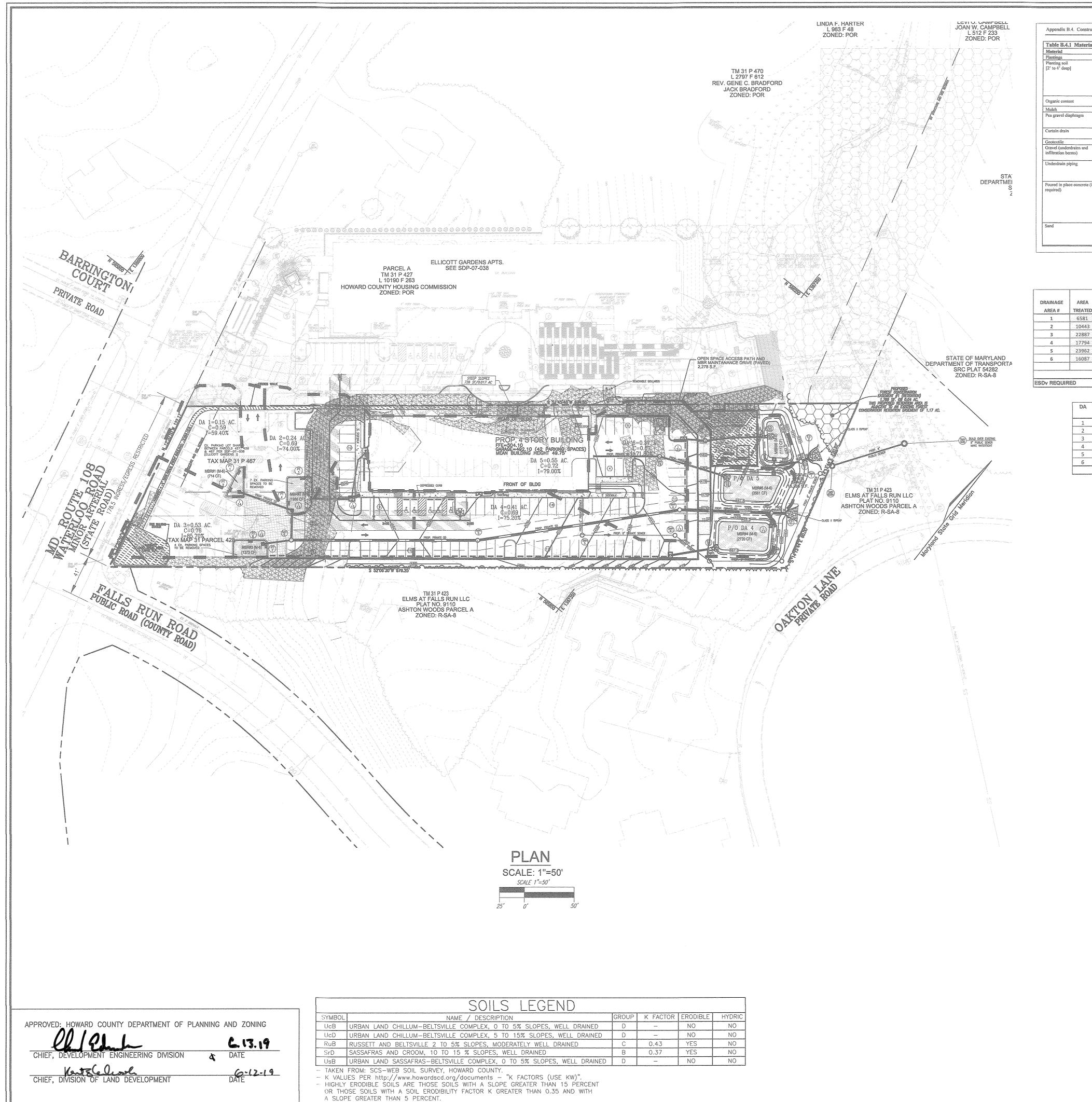


DRAWN BY: CHECKED BY: W.O. NO.: 06-01

PROFESSIONAL CERTIFICATE SHEET ___OF__

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING





i diffic apovol lyadistanis of	pecifications for Micro-Bioret	ention, Rain Gardens é	k 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 - 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)	To Company and the Company and	
Mulch	shredded hardwood		aged 6 months, minimum; no pine or wood chips
Pea gravel diaphragm	pea gravel: ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" to 3/4")	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with 1/4-inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; f' = 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 scaled and approved by a professional structural engineer licensed in the State of Marylan - design to include meeting ACI Code 350.R/89; vertical loading [H-10 or H-20]; allowable horizontal loading (based on soil pressures); and analysis of potential cracking
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone (AASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand

				ENVIRONMENTAL SITE DESIGN PRACTICE								
DRAINAGE	AREA	FACILITY	PERMEABLE	ADD UNDER	SURFACE	FILTERRA	GRAVEL	GREEN	MICRO BIO	ADD UNDER	Recharge	ESDv
AREA#	TREATED	NUMBER	PAVEMENT	PERM. PAVE	STORAGE		TRENCH	ROOF	RETENTION	MICRO BIO	Volume (Rev)	VOLUME
1	6581	MBR #1	0	0	0	0	0	0	376	338	94	714
2	10443	MBR #2	0	0	0	0	0	0	1112	500	278	1612
3	22887	MBR #3	0	0	0	0	0	0	723	650	181	1373
4	17794	MBR #4	0	0	0	0	0	0	1876	950	469	2826
5	23962	MBR #5	0	0	0	0	0	0	2456	1243	614	3699
6	16087	MBR #6	0	0	0	0	0	0	767	388	192	1155
		SUBTOTAL 1	0	0	0	0	0	0	7310	4069	1828	11379
		TOTALS:	0	0	0	0	0	0	7310	4069	1828	11379
ESDv REQUIRED			11349	CF	CONTRACTOR OF STREET	- Control of the Cont	ALTERNATION OF THE PARTY OF THE		TOTAL ESD	v PROVIDED:	11379	

DA	% IMPERV	Rv	DA	ESDv	MINIMUM	MAXIMUM	VOLUME	AREA SF	PERV AREA	IMP AREA
				REQ	VOLUME	VOLUME	PROVIDED		ar in the second	rayes de la constante de la co
1	59.40	0.58	0.15	321	321	834	714	6581	2672	3909
2	73.99	0.72	0.24	623	623	1620	1612	10443	2716	7727
3	85.67	0.82	0.53	1566	1566	4071	1373	22887	3280	19607
4	75.22	0.73	0.41	1078	1078	2803	2826	17794	4409	13385
5	78.98	0.76	0.55	1519	1519	3950	3699	23962	5037	18925
6	71.80	0.70	0.37	933	933	2427	1155	16087	4537	11550
TOTAL ESDv BY SUBAREA					6040	15704	11379	97754	22651	75103

1. APPROVAL OF THIS ENVIRONMENTAL CONCEPT PLAN (ECP) DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT AND ASSOCIATED SUBDIVISION PLAN/PLAT AND/OR SITE DEVELOPMENT PLAN AND/OR REDLINE 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 AND/OR REDLINE 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.

LEGEND:	
	PROPERTY LINE RIGHT-OF-WAY LINE ADJACENT PROPERTY LINE EXISTING CURB AND GUTTER
X	EXISTING UTILITY POLE
*	EXISTING LIGHT POLE
	EXISTING MAILBOX
0	EXISTING SIGN
(SNH) (2) ()	EXISTING SANITARY MANHOLE
SS	EXISTING SANITARY LINE
000	EXISTING CLEANOUT
<u> </u>	EXISTING FIRE HYDRANT
	EXISTING WATER LINE
······	EXISTING FENCE
330	EXISTING 10' CONTOUR
	EXISTING 2' CONTOUR
	CENTERLINE OF EXISTING STREAM PROPOSED DRAINAGE AREA DIVIDE
proprietation of controller is declared in individual in the controller in the contr	SOILS
	30163
	PROPOSED STORMDRAIN
.~~~~~.	PROPOSED TREELINE
	PROPOSED CURB
[328]	PROPOSED 10' CONTOUR PROPOSED 2' CONTOUR
	5' CONCRETE SIDEWALK
	PROPOSED CURB
	PROPOSED RETAINING WALL
	MICRO-BIORETENTION (M-6)
	STEEP SLOPE (>25%)
	STEEP SLOPE (15%-24.9%)
	STEEP SLOPE (MDE) (>20%)

OWNER/DEVELOPER
HOWARD COUNTY HOUSING COMMISSION
6751 COLUMBIA GATEWAY DRIVE
COLUMBIA, MD 21046

410-730-3725 REVISION

> ENVIRONMENTAL CONCEPT PLAN ESD STORM WATER MANAGEMENT DRAINAGE AREA MAP, NOTES AND DETAILS ELLICOTT GARDENS II
> HOUSING COMMISSION HOUSING DEVELOPMENT: 70 APARTMENTS
> ZONED: POR
> 5511 & 5513 WATERLOO ROAD

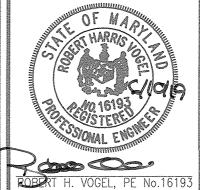
BA-06-005V, SDP-07-038, F-08-064, BA-08-042V SD9-07-137, WP-08-111, WP-09-085 TAX MAP 31 BLOCK 19 1ST ELECTION DISTRICT

PARCEL '428' & '467' HOWARD COUNTY, MARYLAND



ROBERT H. VOGEL ENGINEERING, INC. ENGINEERS · SURVEYORS · PLANNERS

3300 N. RIDGE ROAD, SUITE 110 TEL: 410.461.7666 ELLICOTT CITY, MD 21043 FAX: 410.461.8961



Transaction.	DESIGN BY:	LRC
	DRAWN BY:	LRC
	CHECKED BY:	RV
	DATE:	JUNE. 2019
	SCALE:	AS SHOWN
	W.O. NO.:	06-01
23		

PROFESSIONAL CERTIFICATE 3 SHEET 3

ECP-19-040