

Determine ESD Implementation Goals			
Soil Conditions for "Woods in Good Condition"			
HSI	RCN	Area (ft ²)	Percent
A	38	0	0%
B	55	25,736	100%
C	70	0	0%
D	77	0	0%
Weighted RCN	55	25,736	

Determine Target Pe Using Table 6.3			
Soil Conditions Developed Condition			
HSI	Area (ft ²)	Impervious	Percent Target Pe
A	0	0	0%
B	25,736	4,280	16.6%
C	0	0	0%
D	0	0	0%
Weighted Pe	25,736	4,280	16.6%

Practices and Sizing			
Soils = "B"	S = 0.26	1.1 inches	
Drainage Area GS-1			
Treated by Grass Swale	4014 sq. ft.	Swale Sizing/Storage Computations	
Impervious Area:	1209 sq. ft.	Swale Length:	70 ft.
Impervious:	0.321	Bottom width:	2
ESDV =	114.4 c.f.	Side Slopes:	3:1
Rev =	314.34 c.f.	Cross Sec. Area:	1.65 or 5.76 inches
ESDV Provided:	115.6	ESDV Provided:	115.6

Drainage Area MB-1			
Treated by Micro-Biorotation	6717 sq. ft.	Storage Computation	
Impervious Area:	1791 sq. ft.	Volume:	108.9
Impervious:	2.7%	Volume:	108.9
ESDV (before red.) =	172.9 c.f.	Volume:	108.9
Rev =	466.6 c.f.	Volume:	108.9

SCHEDULE A PERIMETER LANDSCAPE EDGE				
CATEGORY	ADJACENT TO PERIMETER PROPERTY			
	① A	② A	③ A	④ A
LINEAR FEET OF PERIMETER	450'	165'	150'	148'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	YES*	YES*	YES*	YES*
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET)	NO	NO	NO	NO
NUMBER OF PLANTS REQUIRED				
SHADE TREES	6	0	0	1
EVERGREEN TREES	-	-	-	-
OTHER TREES (2:1 SUBSTITUTE)	-	-	-	-
NUMBER OF PLANTS PROVIDED				
SHADE TREES	7	0	0	1
EVERGREEN TREES	-	-	-	-
OTHER TREES (2:1 SUBSTITUTE)	-	-	-	-

NOTE: LANDSCAPING SHOWN ON THIS PLAN IS IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. A SURETY IN THE AMOUNT OF \$2,400 FOR 8 SHADE TREES WILL BE POSTED WITH THE GRADING PERMIT.

THE PORTION OF PERIMETER ADJACENT TO THE ROAD IS NOT SHOWN, AS IT IS ONLY 12" IN WIDTH, ALLOWING FOR THE DRIVEWAY APRON.

SECTION NUMBER	CALIFORNIA BEARING RATIO (CBR)	3 TO <5	5 TO <7	7 TO <9	9 TO <12	12 TO <15	15 TO <20	20 TO <27	27 TO <35	35 TO <45	45 TO <60
P-1	PAVEMENT MATERIAL (INCHES)	MIN	HMA WITH GAB	HMA WITH CONTAINMENT GAB							
	HMA SUPERPAVE FINAL SURFACE	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	8.5 MM PG 64-22, LEVEL 1 (ESAL)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	HMA SUPERPAVE INTERMEDIATE SURFACE										
	HMA SUPERPAVE BASE										
	19.0 MM PG 64-22, LEVEL 1 (ESAL)	2.0	2.0	2.0	3.5	3.0	2.5				
	GRADED AGGREGATE BASE (GAB)	8.5	7.0	5.0	4.0	4.0	4.0				

SITE ANALYSIS DATA CHART	
A.) TOTAL PROJECT AREA	0.68 AC.
B.) AREA OF THIS PLAN SUBMISSION	0.68 AC.
C.) APPROXIMATE LIMIT OF DISTURBANCE	0.44 AC.
D.) PRESENT ZONING:	R-20
E.) PROPOSED USE OF SITE:	RESIDENTIAL SINGLE FAMILY DETACHED
F.) TOTAL NUMBER OF UNITS ALLOWED AS SHOWN ON FINAL PLAN(S)	1
G.) TOTAL NUMBER OF UNITS PROPOSED	1
H.) APPLICABLE DPZ FILE REFERENCES:	F-88-050
I.) PROPOSED WATER AND SEWER SYSTEMS:	<input checked="" type="checkbox"/> PUBLIC <input type="checkbox"/> PRIVATE

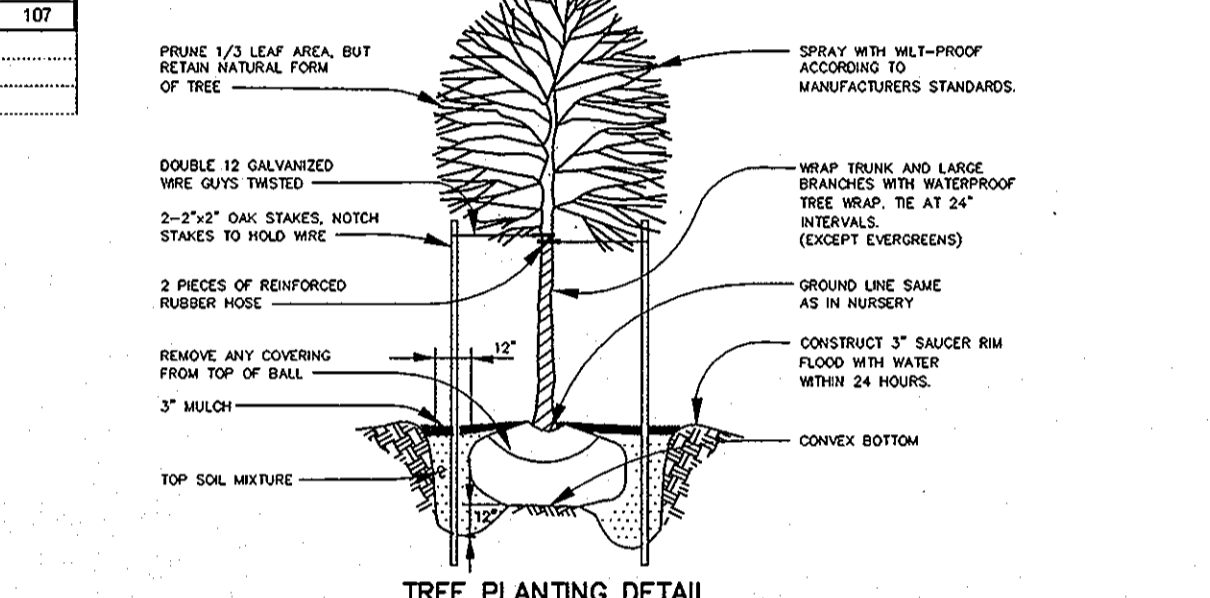
APPROVED: DEPARTMENT OF PLANNING AND ZONING

Ket Stalman 10/11/11
CHIEF, DIVISION OF LAND DEVELOPMENT

Alma De... 10/5/11
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Morgan S. Fuller 10/11/11
DIRECTOR

Project #	4031	Test Pit #	TP-1	Ground Water	None Encountered	
Project Name	Cedar Acres	Equipment	Hand Auger	24 Hr Ground Water	N/A	
Testing Date	10/11/11	Depth of Pit	8' deep	End of Drilling Cave	7.5'	
Logged By	Chris Stone	Soil Type		Soil Type	N/A	
Remarks	Hand Auger performed in proposed location of bio-retention facility.					
Depth	Blows Per Foot	Soil Description	U.S.C.S.	D.D.	% Moist	Nat. Moisture
0'	1	No Topsoil Encountered				
1'	1	Yellowish - Brown Silty, Sandy Silty w/ Rock	ML			
2'	8	Reddish - Brown Silty, Sandy Silty, trace Rock	CL - ML			
3'	1	Dark Yellowish Brown Sandy Silty w/ Rock Frag.	ML			
4'	1					
5'	1					
6'	1					
7'	1					
8'	1					
9'	1					
10'	1					
11'	1					
12'	1					
13'	1					
14'	1					
15'	1					
16'	1					
17'	1					
18'	1					
19'	1					
20'	1					

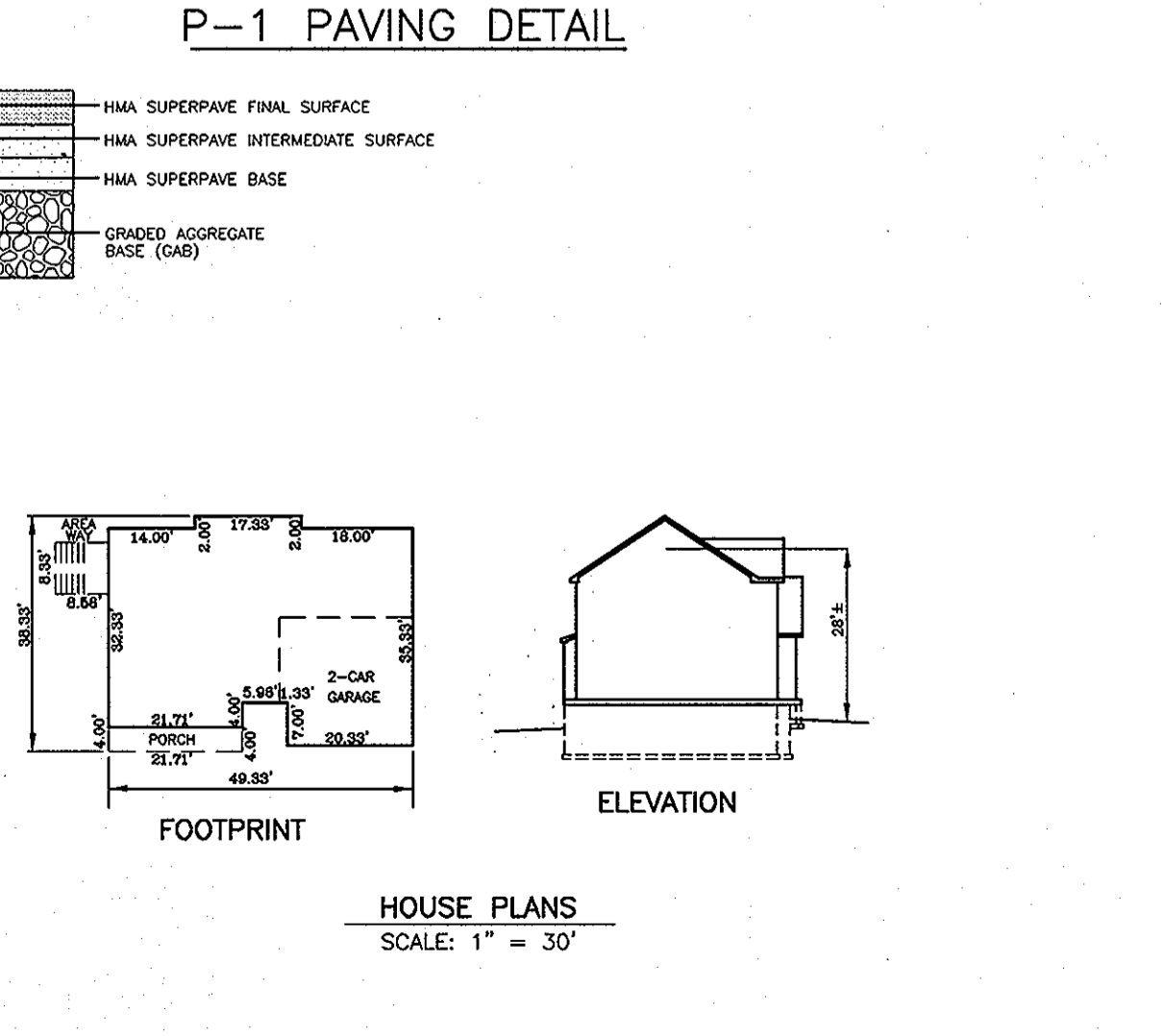
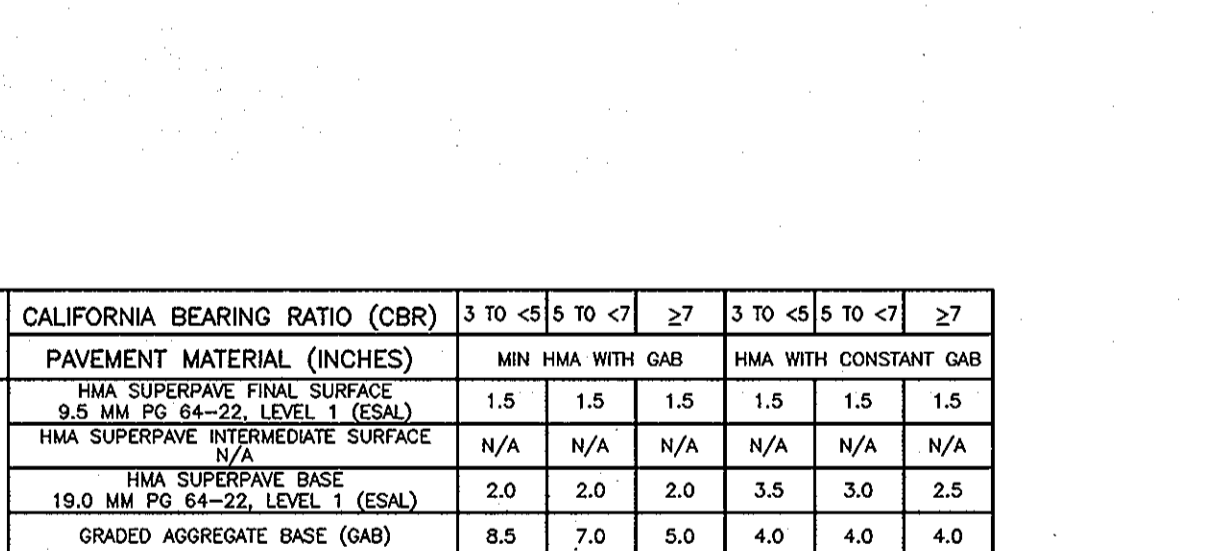


NOTE: 1. TREES SHOULD BE PLANTED A MINIMUM OF 6 FEET FROM THE EDGE OF PAVING AND MUST BE A MINIMUM OF 5 FEET FROM ANY STORM DRAIN.

2. TREES MUST BE PLANTED A MINIMUM OF 5 FEET FROM AN OPEN SPACE ACCESS STRIP AND 10 FEET FROM A DRIVEWAY APRON.

3. SEE TREE PLANTING DETAIL - THIS SHEET.

LANDSCAPE PLANTING LIST			
SYMBOL	QUANTITY	NAME	REMARKS
+	4	PLANTANUS ACOFFOLIA 'BLOODGOOD'	2 1/2" MIN. CAL. B&B FULL HEAD
⊕	4	QUERCUS COCCINEA SCARLET OAK	2 1/2" MIN. CAL. B&B FULL HEAD

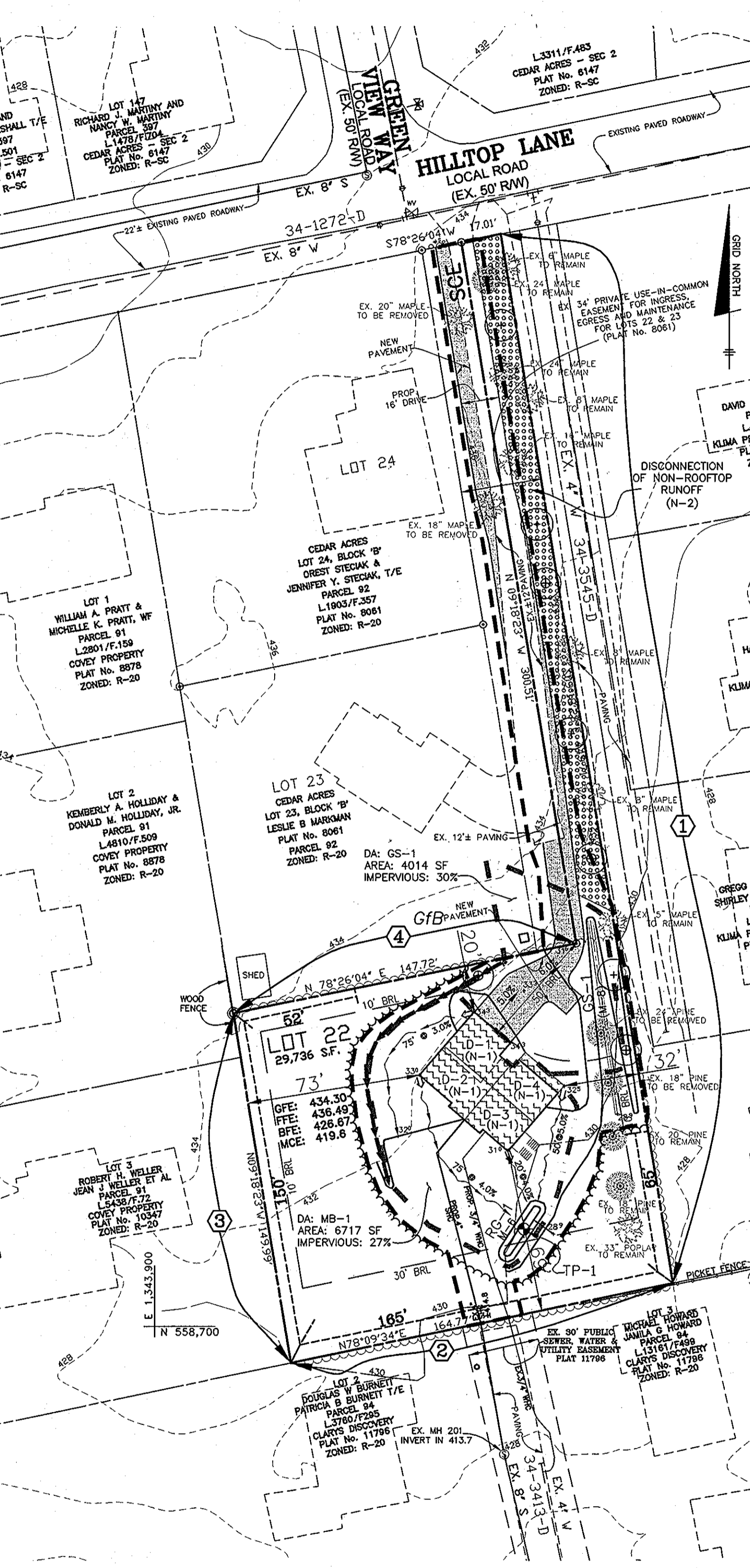


SITE DEVELOPMENT PLAN

CEDAR ACRES LOT 22

5th ELECTION DISTRICT

HOWARD COUNTY, MARYLAND



GENERAL NOTES

- THE SUBJECT PROPERTY IS ZONED R-20 PER THE 2/02/04 COMPREHENSIVE ZONING PLAN AND PER COMP. LITE ZONING AMENDMENTS EFFECTIVE 7/28/06.
- THE EXISTING TOPOGRAPHY AND BOUNDARY ARE TAKEN FROM FIELD RUN SURVEY BY BENCHMARK ENGINEERING, INC. IN MAY, 2011. ALL VERTICAL CONTROLS ARE BASED ON NAVD83.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS NOS. 35FA AND 35FT WERE USED FOR THIS PROJECT.
- WATER AND SEWER ARE PUBLIC AND CONNECTIONS WILL BE MADE TO IMPROVEMENTS MADE UNDER CONTRACT 34-3413-D.
- STORMWATER MANAGEMENT METHODS WERE DESIGNED BASED ON THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II, CHAPTER 5. THE IMPROVEMENTS WILL BE FULLY TREATED BY ENVIRONMENTAL SITE DESIGN METHODS, INCLUDING ROOFTOP DISCONNECT, NON-ROOFTOP DISCONNECT AND A RAIN GARDEN. ON-LOT RAIN GARDENS SHALL BE OWNED AND MAINTAINED BY THE HOME OWNER. EXISTING UTILITIES SHOWN WERE TAKEN FROM RECORD DRAWINGS PER CONTRACT 34-3413-D. IF NECESSARY, CONTRACTOR SHALL ADJUST STRUCTURE TOPS TO MEET SPD GRACES.
- THERE ARE NO WETLANDS ON THE SITE, BASED ON A CERTIFICATION FROM BENCHMARK ENGINEERING, INC. IN JUNE 2011.
- THIS PROJECT IS EXEMPT FROM A TRAFFIC AND SPEED STUDY.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WILL BE POSTED AS PART OF THE GRADING PERMIT.
- 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.
- THERE IS NO FOREST CONSERVATION ACT OBLIGATION FOR THIS PROJECT BECAUSE THE LOT IS LESS THAN 40,000 SF IN AREA.
- UNLESS NOTED AS "PRIVATE", ALL EASEMENTS ARE PUBLIC.
- BRL INDICATES ZONING BUILDING RESTRICTION LINE, OTHER RESTRICTIONS MAY APPLY.
- IN ACCORDANCE WITH SECTION 129 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 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.
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE BUILDERS EXPENSE. FOR FLAG OR PIPE STEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE 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 INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 - (a) WIDTH - 12' (16' SERVING MORE THAN ONE RESIDENCE)
 - (b) SURFACE - 6" OF COMPACT CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MIN.)
 - (c) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM 45' TURNING RADIUS.
 - (d) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING).
 - (e) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOODPLAIN WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY.
 - (f) STRUCTURE CLEARANCES - MINIMUM 12 FEET.
 - (g) MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
- THERE ARE NO CEMETERIES ON THIS PROPERTY, TO THE BEST OF OUR KNOWLEDGE.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY.
- ALL WATER METERS SHALL BE SET INSIDE.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- FOR DRIVEWAY ENTRANCE DETAIL SEE HOWARD COUNTY STANDARD DETAILS R-6.05.
- SHC ELEVATIONS SHOWN ARE AT THE PROPERTY LINE OR EASEMENT LINE.
- THE STAKING OF FOUNDATIONS PRIOR TO CONSTRUCTION TO ENSURE COMPLIANCE WITH REGULATORY BUILDING RESTRICTION LINES IS RECOMMENDED.
- DRIVEWAY SLOPES SHOWN ARE AVERAGE. THE SLOPE AT THE OUTSIDE EDGES COULD BE FLATTER OR STEEPER DEPENDING ON GRADE OF ROADWAY.
- THIS PLAN CONFORMS WITH THE AMENDED 5th EDITION OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE 1993 ZONING REGULATIONS AMENDED BY CG 50-2001. THE BUILDER SHALL APPLY FOR BUILDING PERMITS FOR ALL LOTS AS SHOWN ON THIS SITE DEVELOPMENT PLAN WITHIN FIVE YEARS OF SIGNATURE APPROVAL OF THIS PLAN.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100 YEAR FLOODPLAIN.
- WATER AND SEWER HOUSE CONNECTIONS WERE INSTALLED TO THIS PROPERTY UNDER CONTRACT 34-3413-D. THE EXISTING WATER HOUSE CONNECTION IS 3/4". THE MECHANICAL ENGINEER FOR THE PROJECT HAS PROPOSED A PUMP TO ALLOW USE OF THE EXISTING CONNECTION AND PROVIDE SUFFICIENT PRESSURE AND FLOW FOR THE SPRINKLER SYSTEM.
- EGP-11-064 WAS APPROVED 6/23/2011 AND SIGNED 7/19/2011. THE STORMWATER METHODS ON THIS PLAN ARE FINAL DESIGNS OF THE METHOD SHOWN ON THE ENVIRONMENTAL CONCEPT PLAN.
- A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLY FOR THE FLAG LOT DRIVEWAY SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPER'S/OWNER'S EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-2430 FOR DETAILS AND COST ESTIMATES.
- FOR DRIVEWAY ENTRANCE DETAIL SEE HOWARD COUNTY STANDARD DETAILS R-6.06.
- THE EXISTING DRIVEWAY SHALL BE WIDENED TO 16' AS SHOWN IN PLAN VIEW. THE WIDENING VARIES IN WIDTH, DEPENDING ON LOCATION.

STORMWATER MANAGEMENT PRACTICES					
LOT NUMBER	ADDRESS	DISCONNECTION OF ROOFTOP RUNOFF N-1 (NUMBER)	DISCONNECTION OF NON-ROOFTOP RUNOFF N-2 (NUMBER)	RAIN GARDEN (NUMBER)	SWALES M-8 (NUMBER)
LOT 22	10843 HILLTOP LANE	4	1	1	1

*NON-ROOFTOP DISCONNECT IS FOR THE SHARED ACCESS/MAINTENANCE DRIVEWAY.

ADDRESS CHART		
LOT	STREET ADDRESS	
22	10843 HILLTOP LANE	

MINIMUM LOT SIZE CHART			
LOT NO.	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
22	29,736 SF	5,111 SF	24,625 SF

PERMIT INFORMATION CHART				
SUBDIVISION NAME:		SECTION/AREA:	LOT/PARCEL #	
CEDAR ACRES		N/A	LOT 22	

SOILS LEGEND				
MAP SYMBOL	SOIL GROUP	SOIL TYPE		
G18	B	GLADSTONE-URBAN LAND COMPLEX, 0 TO 8 PERCENT		

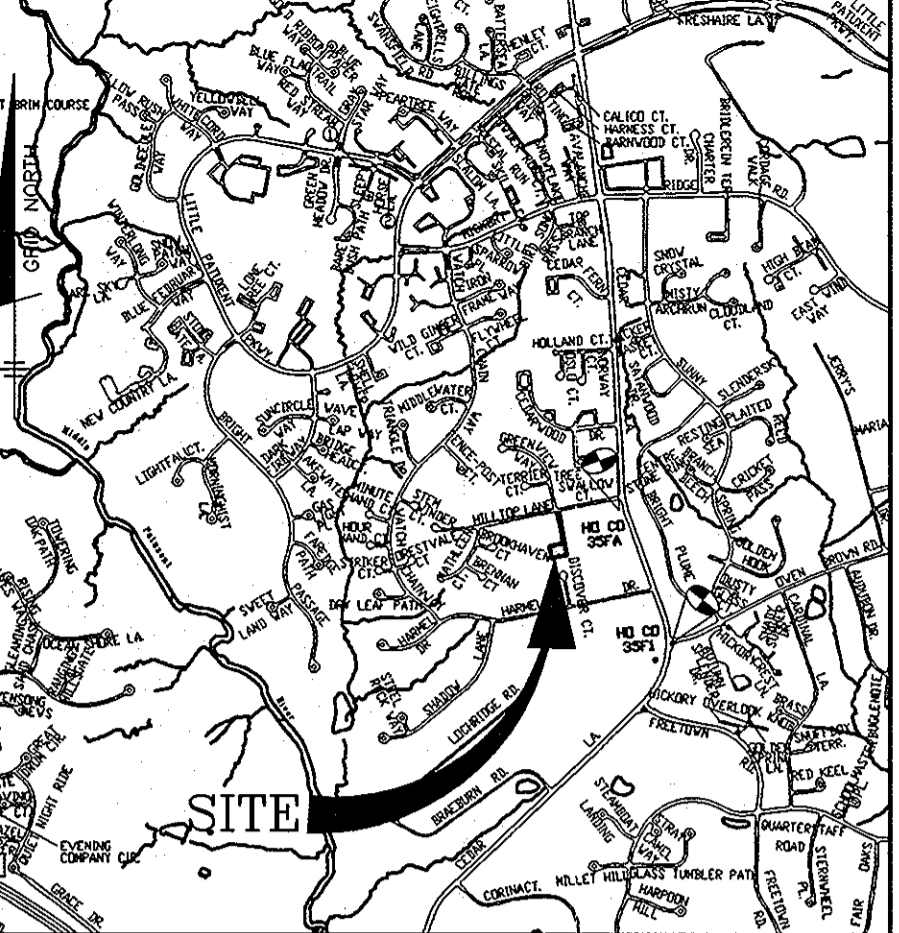
HOWARD COUNTY, MD (MD027) NRCS WEB SOIL SURVEY 2.0
NOTE THAT ONLY ONE SOIL TYPE OCCURS WITHIN THE AREA SHOWN ON THIS THE MAP. THE WEB SOIL SURVEY WEBSITE WAS VISITED IN JUNE, 2011.

OWNER:		BUILDER:	
HITESH AND CHRISTINA PATEL 826 CHAPELGADE DRIVE ODONTON, MARYLAND 21113 410-952-1326		CASTLE ROCK BUILDERS 2159 WHITE STREET, SUITE 3 YORK, PENNSYLVANIA 17404 888-864-4272	

LOCATION:		TITLE:	
TAX MAP: 35, GRID: 11 PARCEL: 32 ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND		SITE DEVELOPMENT PLAN F-88-60, W/S CONTRACT 34-3413-D	

DATE:		SCALE:	
JULY 2011 SEPTEMBER, 2011		AS SHOWN	

DESIGN:		CHECK:	
AAM		CAM	



LEGEND	
(Symbol)	EXISTING CONTOURS
(Symbol)	PROPOSED CONTOURS
(Symbol)	EXISTING TREELINE
(Symbol)	PROPOSED TREELINE
(Symbol)	SOILS CLASSIFICATION
(Symbol)	EXISTING STRUCTURE
(Symbol)	PROPOSED STRUCTURE
(Symbol)	FACILITY DRAINAGE AREA
(Symbol)	ROOFTOP DISCONNECT
(Symbol)	NON-ROOFTOP DISCONNECT RECEIVING AREA
(Symbol)	PROPOSED PAVEMENT
(Symbol)	LIMIT OF DISTURBANCE
(Symbol)	SILT FENCE
(Symbol)	STABILIZED CONSTRUCTION ENTRANCE
(Symbol)	EROSION CONTROL MATTING
(Symbol)	EARTH DIKE
(Symbol)	EXISTING TREES
(Symbol)	LANDSCAPE PERIMETER DESIGNATION
(Symbol)	LANDSCAPE CREDIT PERIMETER
(Symbol)	LANDSCAPE BUFFER TREES

BENCHMARK ENGINEERING, INC.
ENGINEERS & LAND SURVEYORS & PLANNERS

8480 BALTIMORE NATIONAL PIKE A SUITE 418 A ELICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6104
60 THOMAS JOHNSON DRIVE A FREDERICK, MARYLAND 21702
(P) 301-371-3505 (F) 301-371-3506
WWW.BEI-CVLENGINEERING.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. 25376, Expiration Date: 1-1-2013.

2 Sept 11

SHEET INDEX	
NO.	DESCRIPTION
1	SITE DEVELOPMENT PLAN
2	SEDIMENT AND EROSION CONTROL PLAN, NOTES AND DETAILS

SEDIMENT CONTROL NOTES

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION. (201-1880).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT "NATURAL VEGETATION SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" REVISIONS THEREIN.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN A 7 CALENDAR DAYS FOR ALL PERMITS EXCEPT FOR PERMANENT SEEDING (SEC. 51) AND PERMITS FOR STRUCTURE, DRIVE, FENCE, SLOPES AND ALL SLOPES GREATER THAN 3:1 (B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51) AND (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52), TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:

TOTAL AREA OF SITE (THIS SUBMISSION)	0.68 ACRES
AREA DISTURBED	0.44 ACRES
AREA TO BE ROOFED OR PAVED	0.17 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.27 ACRES
TOTAL CUT	272 CY*
TOTAL FILL	351 CY*
OFFSITE WASTE/BORROW AREA LOCATION	N/A
- CUT/FILL QUANTITIES ARE FOR SEDIMENT CONTROL PURPOSES ONLY. CONTRACTOR SHALL PERFORM THEIR OWN ESTIMATED CALCULATIONS FOR SITE BALANCING.
- 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 HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE ANY OTHER EARTH DISTURBANCE OR GRADING, OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES ARE LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

TEMPORARY SEEDBED PREPARATIONS

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCHING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- PREFERRED - APPLY 2 TONS PER ACRE DOLOMITE LIMESTONE (92 LBS/1000 SQ FT) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0 UREA-FORM FERTILIZER (9 LBS/1000 SQ FT).
- ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITE LIMESTONE (92 LBS/1000 SQ FT) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

SEEDING: FOR PERIODS MARCH 1 THROUGH APRIL 30 AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT) FOR THE PERIOD MAY 1 THROUGH AUGUST 1, SEED WITH 3 LBS PER ACRE OF WHEEDING LOVERGRASS (27 LBS/1000 SQ FT) FOR THE PERIOD NOVEMBER 15 THROUGH FEBRUARY 28. PROJECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOIL, OPTION (3) SEED WITH 80 LBS PER ACRE OF KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE OF WELL ANCHORED STRAW.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING, ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL, OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (6 GAL/1000 SQ FT) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDBED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

PERMANENT SEEDBED PREPARATIONS

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCHING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT).

SEEDING: FOR PERIOD MARCH 1 THROUGH APRIL 30 AND FROM AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT) FOR THE PERIOD MAY 1 THROUGH AUGUST 1, SEED WITH 3 LBS PER ACRE OF WHEEDING LOVERGRASS (27 LBS/1000 SQ FT) FOR THE PERIOD NOVEMBER 15 THROUGH FEBRUARY 28. PROJECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOIL.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING, ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL, OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (6 GAL/1000 SQ FT) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR FENCE, WIRE AND METHODS NOT COVERED.

SEQUENCE OF CONSTRUCTION

NOTIFY SEDIMENT CONTROL DIVISION 48 HOURS PRIOR TO START OF CONSTRUCTION

1. OBTAIN GRADING PERMIT.
2. INSTALL SEDIMENT CONTROLS THAT ARE NOTED TO BE INSTALLED UNDER THIS GRADING PLAN.
3. EXCAVATE FOR FOUNDATION, ROUGH GRADE AND STABILIZE IN ACCORDANCE WITH TEMPORARY SEEDBED NOTES.
4. CONSTRUCT HOUSE, BACKFILL AND CONSTRUCT DRIVEWAY.
5. FINAL GRADE AND STABILIZE IN ACCORDANCE WITH PERMANENT SEEDBED NOTES.
6. WHEN CONTRIBUTING AREAS ARE STABILIZED, CONSTRUCT GRASS SWALE, BIO RETENTION FACILITY AND INSTALL PLANT MATERIALS.
7. WITH THE APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES AND STABILIZE ANY REMAINING DISTURBED AREAS.

NOTE: EROSION CONTROL MATTING SHALL BE PLACED IN SWALES WHERE DEEMED NECESSARY UNTIL VEGETATION IS ESTABLISHED OR SOIL LOSS SHOULD BE STOPPED.

NOTE: THE UTILITY INVERT ELEVATIONS PROVIDED ON THIS PLAN SHALL BE FIELD VERIFIED PRIOR TO BEGINNING CONSTRUCTION.

ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION 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.

2011

15 Sept 2011

DEVELOPER'S CERTIFICATE

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE FROM THE HOWARD COUNTY SEDIMENT CONTROL 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.

9/16/2011

9/20/11

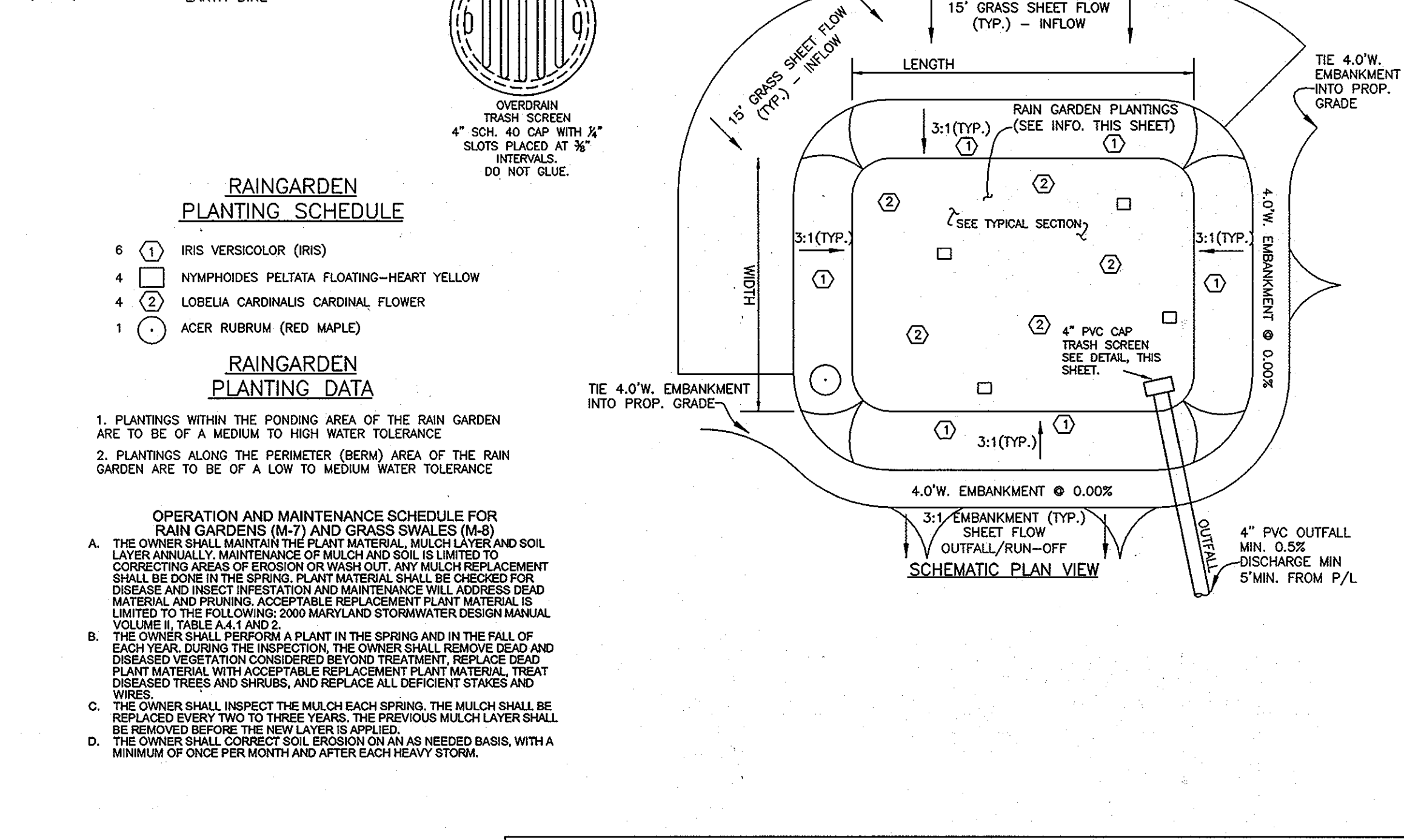
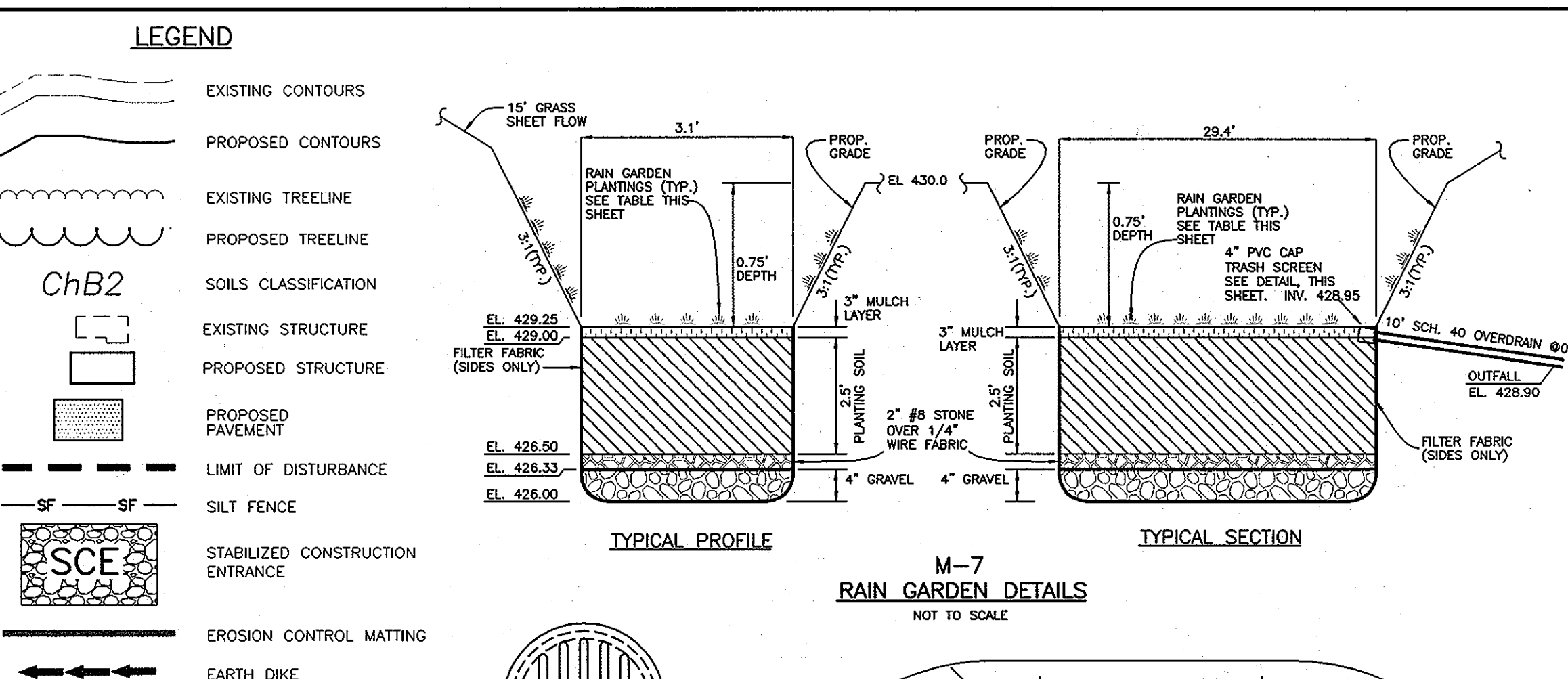
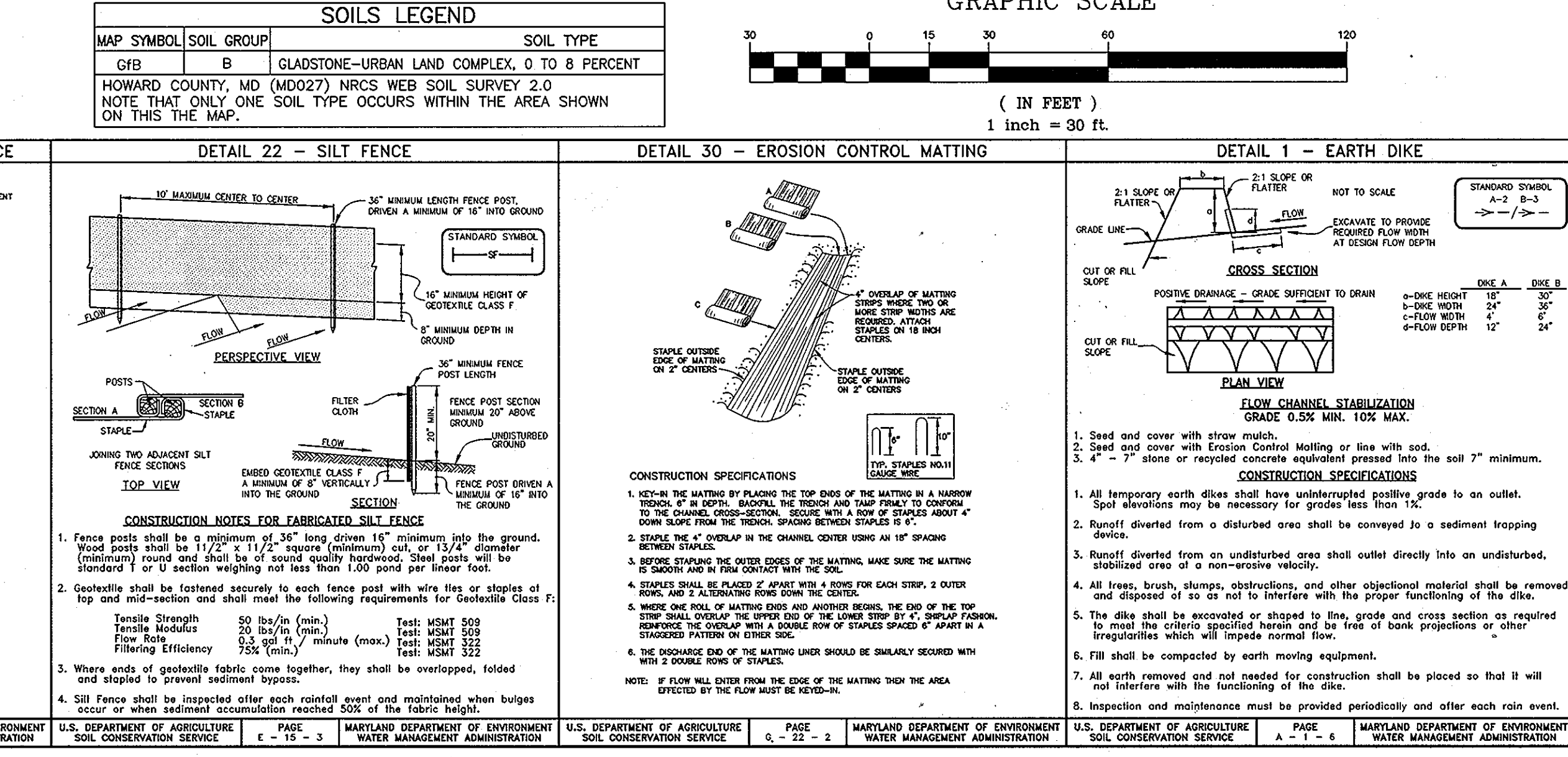
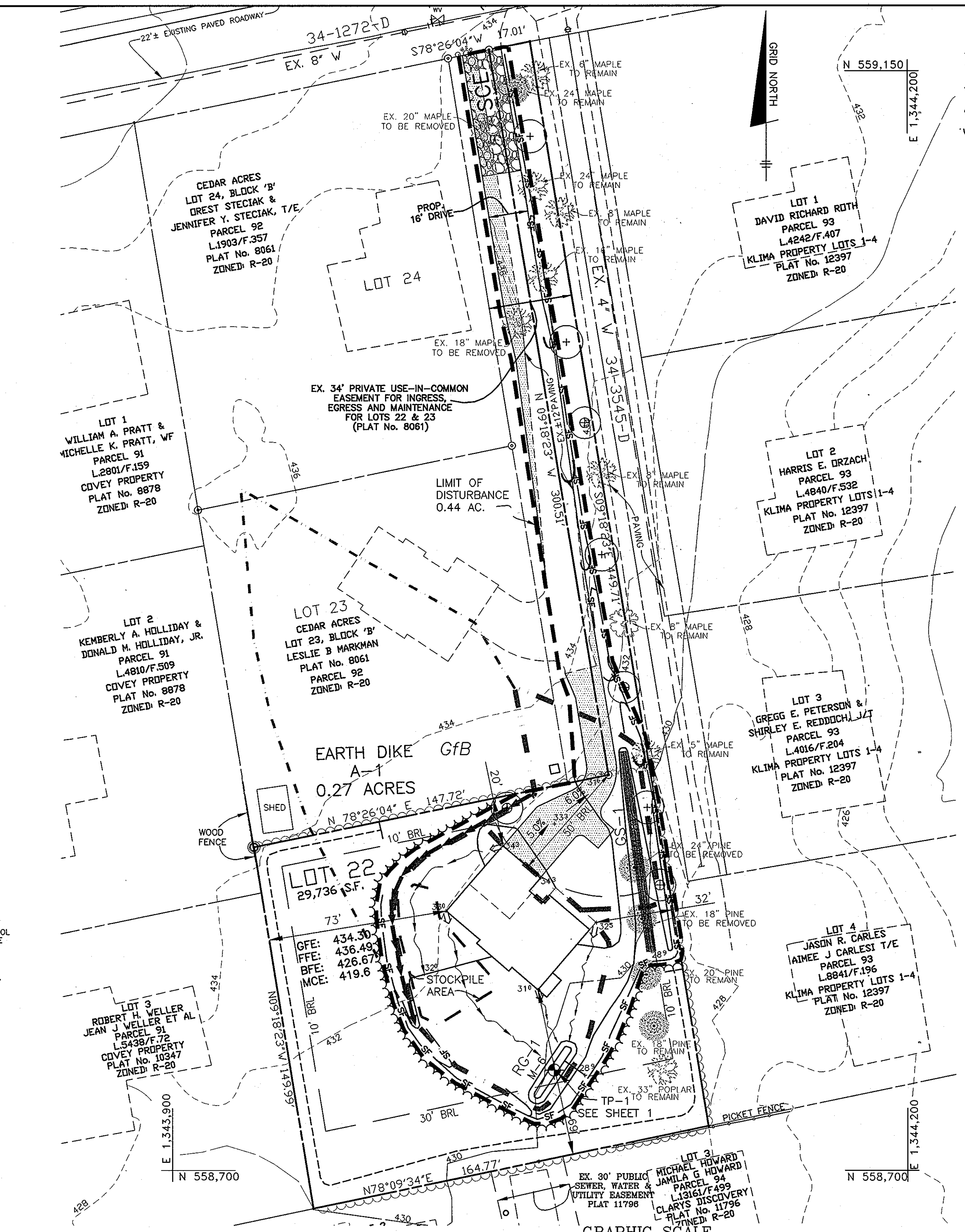
REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

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

10/4/11

10/5/11

10/5/11



MATERIALS & SPECIFICATIONS FOR ON-LOT RAINGARDENS (M-7)

MATERIAL	SPECIFICATION	SIZE	PLANTINGS ARE SITE SPECIFIC	NOTES:
PLANTINGS	SEE APPENDIX A: TABLE A.4	N/A		USDA SOIL TYPES: LOAMY SAND, SANDY LOAM OR LOAM
PLANTING SOIL (2'-2" TO 4" DEEP)	SILT: 30-60% SAND: 30-50% CLAY: 0-25%	N/A		
MULCH	SHREDDED HARDWOOD	N/A		AGED 6 MONTHS, MINIMUM
GEOTEXTILE (CLASS C)	APPROPRIATE OPENING SIZE: (ASTM D-4751) GRAB TENSILE STRENGTH: (ASTM D-4853) PUNCTURE RESISTANCE: (ASTM D-4833)	N/A		FOR USE AS NECESSARY BENEATH UNDERDRAINS ONLY
GEOTEXTILE (1/4" WIRE MESH)		1/4" WIRE MESH	1/4" WIRE MESH	
DRAIN STONE		#8 STONE	#8 STONE	
UNDERDRAIN GRAVEL	ASHTO M-43	0.375" TO 0.750"		
UNDERDRAIN PIPING	F758, TYPE PS28 OR ASHTO M-278	4" TO 6" RIGID SCH.40 PVC, SD305 OR HDPE	3/8" PERF. @ 6" O/C, 4 HOLES PER ROW; MINIMUM OF 3" OF GRAVEL OVER PIPES, NOT NECESSARY UNDERNEATH PIPES	

OPERATION AND MAINTENANCE SCHEDULE FOR RAINGARDENS (M-7) AND GRASS SWALES (M-8)

1. MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTOR OR DEVELOPMENT OF IMPERVIOUS AREA.
2. THE OWNER SHALL PERSONALLY INSPECT A PLANT IN THE SPRING AND 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 STAPLES AND WIRES.
3. THE OWNER SHALL INSPECT THE MULCH ON 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.
4. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

REVISION

NO.	DATE	REVISION

BENCHMARK ENGINEERS & PLANNERS

ENGINEERS, LAND SURVEYORS & PLANNERS
ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE SUITE 418 & ELLOTT CITY, MARYLAND 21043
(P) 410-465-8100 (F) 410-465-8102
80 THOMAS JOHNSON DRIVE FREDERICK, MARYLAND 21702
(P) 301-371-3505 (F) 301-371-3506
WWW.BE-ENGINEERS.COM

15 Sept 2011

OWNER:

HITESH AND CHRISTINA PATEL
626 CHAPELGADE DRIVE
ODENTON, MARYLAND 21113
410-952-1326

BUILDER:

CASTLE ROCK BUILDERS
2159 WHITE STREET, SUITE 3
YORK, PENNSYLVANIA 17404
888-864-4272

LOCATION:

TAX MAP: 35, GRID: 11
PARCEL: 92
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

TITLE:

SEDIMENT AND EROSION CONTROL
PLAN, NOTES AND DETAILS

DATE: JULY 2011 BEI PROJ. NO. 2407
SEPTEMBER 2011

SCALE: AS SHOWN SHEET 2 OF 2

DESIGN: AAM DRAFT: AAM CHECK: CAM