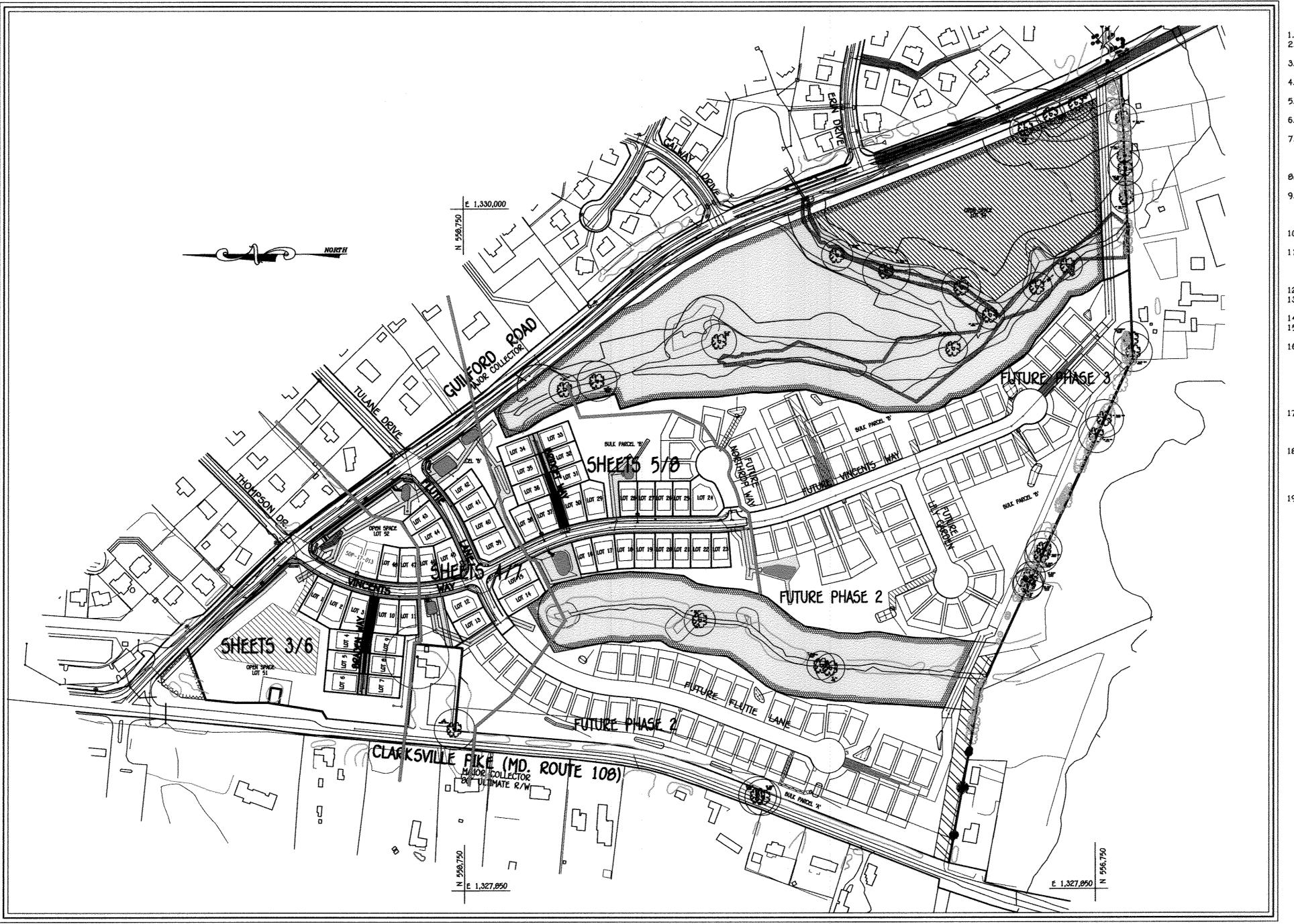
	SHEET INDEX
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERIC BOXES & HOUSE TYPES
3	SITE DEVELOPMENT PLAN LOTS 1 THRU 11 & 47 THRU 50
4	SITE DEVELOPMENT PLAN LOTS 12 THRU 15 & 39 THRU 46
5	SITE DEVELOPMENT PLAN LOTS 16 THRU 30
6	SEDIMENT/EROSION CONTROL PLAN LOTS 1 THRU 11 & 47 THRU 50
7	SEDIMENT/EROSION CONTROL PLAN LOTS 12 THRU 15 & 39 THRU 46
В	SEDIMENT/EROSION CONTROL PLAN LOTS 16 THRU 38
9	SEDIMENT/EROSION CONTROL NOTES
10	SEDIMENT/EROSION CONTROL DETAILS
11	STORMWATER MANAGEMENT NOTES & DETAILS
12	STORMWATER MANAGEMENT NOTES & DETAILS
13	BORING DETAILS
14	Boring Details
- 15	LANDSCAPE NOTES AND DETAILS

SITE DEVELOPMENT PLAN ENCLAVE AT RIVER HILL PHASE 1 LOTS 1 THRU 48, OPEN SPACE 51, AND BULK PARCEL 'B'

R-ED (RESIDENTIAL: ENVIRONMENTAL DEVELOPMENT) TAX MAP No. 34 GRID No. 18 **PARCEL NOS. 88 & 97** HOWARD COUNTY, MARYLAND

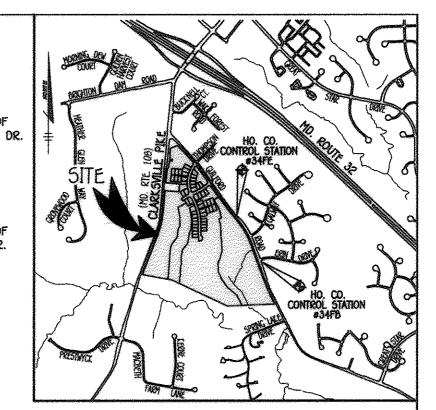
	ADDRES	55 CHART	
LOT NUMBER	STREET ADDRESS	LOT NUMBER	STREET ADDRESS
1	12510 VINCENTS WAY	26	12567 VINCENTS WAY
2	12514 VINCENTS WAY	27	12563 VINCENTS WAY
3	12510 VINCENTS WAY	28	12559 VINCENTS WAY
4	6104 BRADEN WAY	29	12553 VINCENTS WAY
5	6100 BRADEN WAY	30	12549 VINCENTS WAY
6	6112 BRADEN WAY	31	6206 BRIDGET WAY
7	6113 BRADEN WAY	32	6210 BRIDGET WAY
8	6109 BRADEN WAY	33	6214 BRIDGET WAY
9	6105 BRADEN WAY	34	6215 BRIDGET WAY
10	12522 VINCENTS WAY	35	6211 BRIDGET WAY
11	12526 VINCENTS WAY	36	6207 BRIDGET WAY
12	6122 FLUTTE LANE	37	12545 VINCENTS WAY
	12530 VINCENTS WAY	39	12541 VINCENTS WAY
13	6126 FLUTTE LANE	39	6119 FLUTTE LANE
14	6127 FLUTTE LANE		12537 VINCENTS WAY
15	6123 FLUTIE LANE 12536 VINCENTS WAY	40	6115 FLUTTE LANE
16	12550 VINCENTS WAY	- 41 - 1	6111 FLUTTE LANE
17	12554 VINCENTS WAY	42	6107 FLUTTE LANE
18	12550 VINCENTS WAY	43	6106 FLUTTE LANE
19	12562 VINCENTS WAY	_ 44	6110 FLUTTE LANE
20	12566 VINCENTS WAY	45	6114 FLUTIE LANE 12531 VINCENTS WAY
21	12570 VINCENTS WAY	46	12527 VINCENTS WAY
	12574 VINCENTS WAY	47	12523 VINCENTS WAY
22 23	12576 VINCENTS WAY	48	12519 VINCENTS WAY
24	12575 VINCENTS WAY		ILAI CHIMINI (ILAI
25	12571 VINCENTS WAY		

LEGEND							
SYMBOL	DESCRIPTION						
	EXISTING CONTOUR 2' INTERVAL						
	EXISTING CONTOUR 10' INTERVAL						
	PROPOSED CONTOUR 10" INTERVAL						
	PROPOSED CONTOUR 2' INTERVAL						
×362.2	SPOT ELEVATION						
\bowtie	DRYWELL (M-5)-TYPICAL						
100	LIMIT OF DISTURBANCE						
55F	SUPER SILT FENCE						
	STREET TREES PER F-15-110						
* 0	PERIMETER LANDSCAPE TREES PER F-15-110						
P	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED						
	EXISTING BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED						
*8	PROPOSED LANDSCAPE TREES PROVIDED BY THIS SOP						



BENCH MARKS

- T.P. 34FB ELEV. 406.146 N. 557,439.913 E. 1,330,191.322 LOC. NEAR INTERSECTION OF GUILFORD ROAD & GALWAY D
- T.P. 34FE ELEV. 431.118 N. 558.339.601 E. 1,329,709.025 LOC. NEAR 1-95 BRIDGE LOC. NEAR INTERSECTION OF



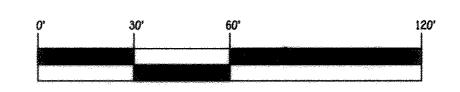
VICINITY MAP

- SUBJECT PROPERTY ZONED R-ED PER THE 10/06/13 COMPREHENSIVE ZONING PLAN. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTION DIVISION AT (410)313-1860 A LEAST (5) FIVE WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-000-257-7777 AT LEAST 40 HOURS PRIOR TO ANY EXCAVATION WORK. THIS PROJECT IS SUBJECT TO HOWARD COUNTY FILES: ECP-15-005, PB CASE NO. 40
- 5P-15-006 F-15-110, WP-15-069 AND WP-16-152. . THIS PLAN IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY
- ABOUT FEBRUARY, 2014 BY FISHER, COLLINS & CARTER INC. TOPOGRAPHY SHOWN IS BASED ON FINAL ROAD CONSTRUCTION, GRADING AND STORMWAT MANAGEMENT PLANS F-15-110.
- HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON NAD 83, MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS. HOWARD COUNTY MONUMENT 34FB N 557.439.913 E 1.330.191.322
- HOWARD COUNTY MONUMENT 34FE N 550,339.601 E 1,329,709.025
- APPROVED ROAD CONSTRUCTION PLANS F-15-110. FOR APPROVED WATER CONTRACT NO.

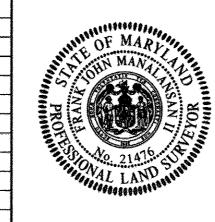
- BIO-RETENTION FACILITIES (F-6) TO BE OWNED AND MAINTAINED BY THE H.O.A. THIS SITE
- 10. MODERATE INCOME HOUSING UNITS (M.I.H.U.) REQUIREMENTS FOR PHASE 1 OF THE ENCLAVE AT RIVER HILL HAVE BEEN SATISFIED UNDER F-15-110. THE REQUIRED 5 M.I.H.U. (50 LOTS X 10%) HAVE BEEN SATISFIED BY THE DEVELOPER THROUGH AN ALTERNATIVE COMPLIANCE AND PAYMENT OF A FEE-IN-LIEU TO THE HOWARD COUNTY HOUSING DEPARTMENT. AN EXECUTED M.I.H.U. AGREEMENT WITH THE HOWARD COUNTY HOUSING DEPARTMENT HAS BEEN COMPLETED.
- 19. 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' IF SERVING MORE THAN ONE RESIDENCE)
 - B.) SURFACE 6" OF COMPACTED CRUSHER RUN BASE W/TAR AND CHIP COATING
 - C.) GEOMETRY MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND 45 FOOT TURNING RADIUS. D.) STRUCTURES - (BRIDGES/CULVERTS) CAPABLE OF SUPPORTING 25 GROSS TONS
 - (H25-LOADING) E.) DRAINAGE ELEMENTS CAPABLE OF SAFETY PASSING 100 YEAR FLOOD WITH NO
 - MORE THAN I FOOT DEPTH OVER DRIVEWAY SURFACE.
 - F.) STRUCTURE CLEARANCES MINIMUM 12 FEET G.) MAINTENANCE SUFFICIENT TO INSURE ALL WEATHER USE.

SITE ANALYSIS DATA

- A. TOTAL AREA OF OVERALL PROJECT SITE = 88.90 AC.± B. TOTAL AREA OF THIS SUBMISSION = 24.46 AC. =
- LIMIT OF DISTURBED AREA = 9.69 AC. * . PRESENT ZONING DESIGNATION = R-ED
- PROPOSED USE: SINGLE FAMILY DETACHED
- FLOOR SPACE ON EACH LEVEL OF BUILDING: N/A TOTAL NUMBER OF UNITS: 48 UNITS TOTAL NUMBER OF PARKING SPACES REQUIRED = 96 SPACES
- TOTAL NUMBER OF PARKING SPACES PROVIDED = 192 SPACES OPEN SPACE ON SITE: 4.07 AC. #
- BUILDING COVERAGE OF SITE: 12% PREVIOUS HOWARD COUNTY FILES: ECP-15-005, PB CASE NO. 409,
- 5P-15-006 F-15-110, WP-15-069 & WP-16-152 TOTAL AREA OF FLOODPLAIN: 0.00 AC.+
- TOTAL AREA OF SLOPES IN EXCESS OF 25% = 0.000 AC.+
- AREA OF WETLANDS = 0.00 AC. +
- AREA OF FOREST = 0.00 AC. ± Q. IMPERVIOUS AREA = 3.57 AC.+ or 38%







PROFESSIONAL CERTIFICATION

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE, 7/14/19.

			Director - Department of Planning and Zoning				10 - 26 - Date			
		· .	PROJECT			PHASE	F	ARCEL NOs.		
-	OWNERS	DEVELOPER		RIVER HILL	TONE	TAY (TONG	I stee Net	88 & 97		
	TIERNEY FARMS-CLARKSVILLE, LP. 24151 VENTURE BOULEVARD	BEAZER HOMES, LLC 8965 GUILFORD ROAD - SUITE 290	PLAT 24231- 24244	BLOCK NO.	ZONE R-ED	TAX/ZONE 34	ELEC. DIST.	60510		
	CALABASAS, CALIFORNIA 91302 (010)-305-3697	COLUMBIA, MARYLAND 21046 (765)-894-0182	PREVIOUS HOWARD COUNTY FILES: ECP-15-005, PB CASE NO. 409, SP-15-006, F-15-110, WP-15-					/P-16-152		

Ve	82/2 l	-1.			10-26-17	
Chief, Divis	sion of Land D	evelopment		games and all of the long the give Earthy	10 · >6 · 17 Date	
0119		B	•		10-19-17	
Chief Deve	elopment Engine	eering Divisi	ion JP		Date	
10W		<i></i>			0-26-17	
Director -	Department of	Planning i	and Zoning	lokadak valdaga juliko ata akta arta a	Dațe	
PROJECT			PHASE		PARCEL NOs.	
ENCLAVE AT RIVER HILL			u l		88 & 97	
LAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST	. CENSUS TR.	
24231- 24244	18	R-ED	34	5	605102	

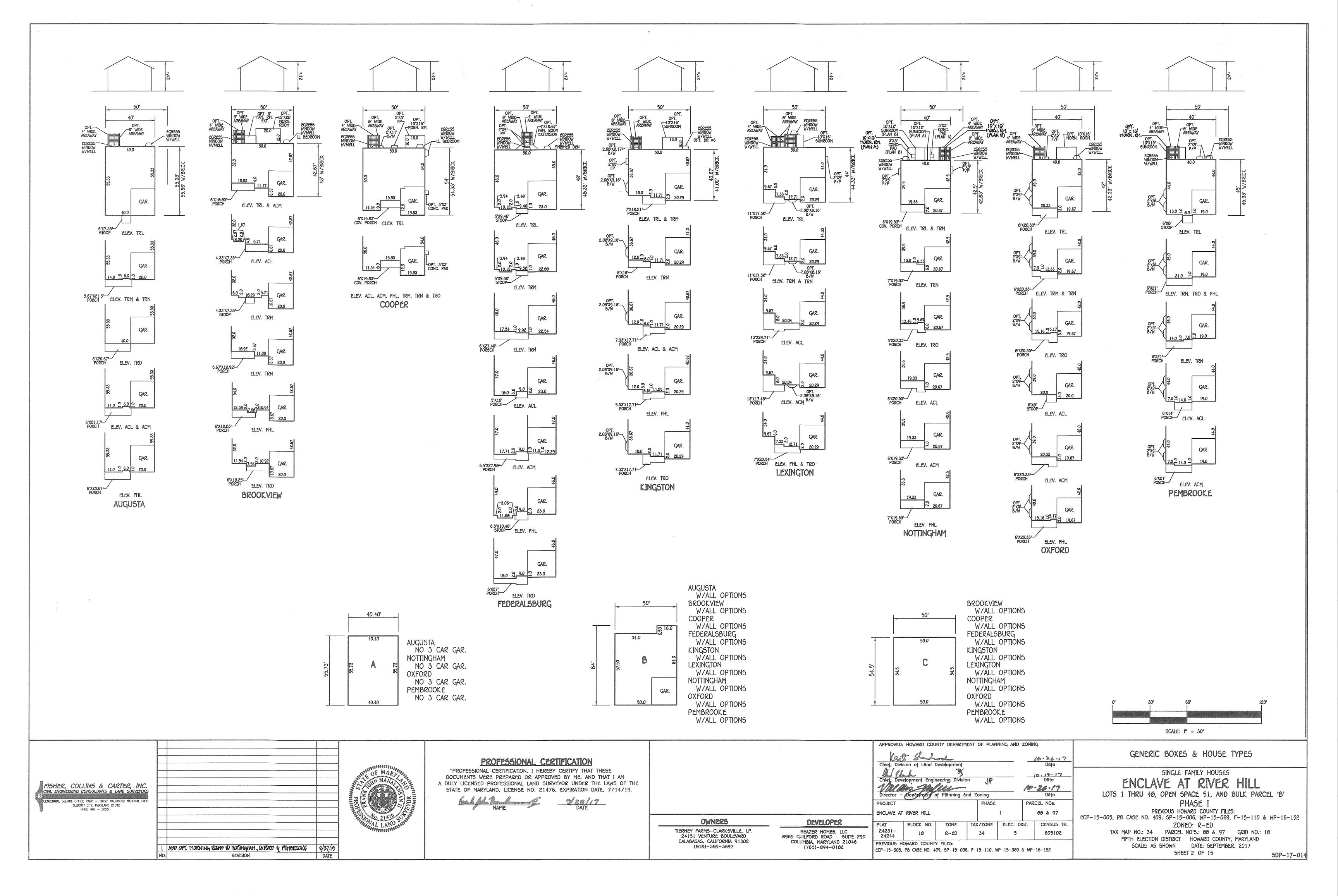
SINGLE FAMILY HOUSES

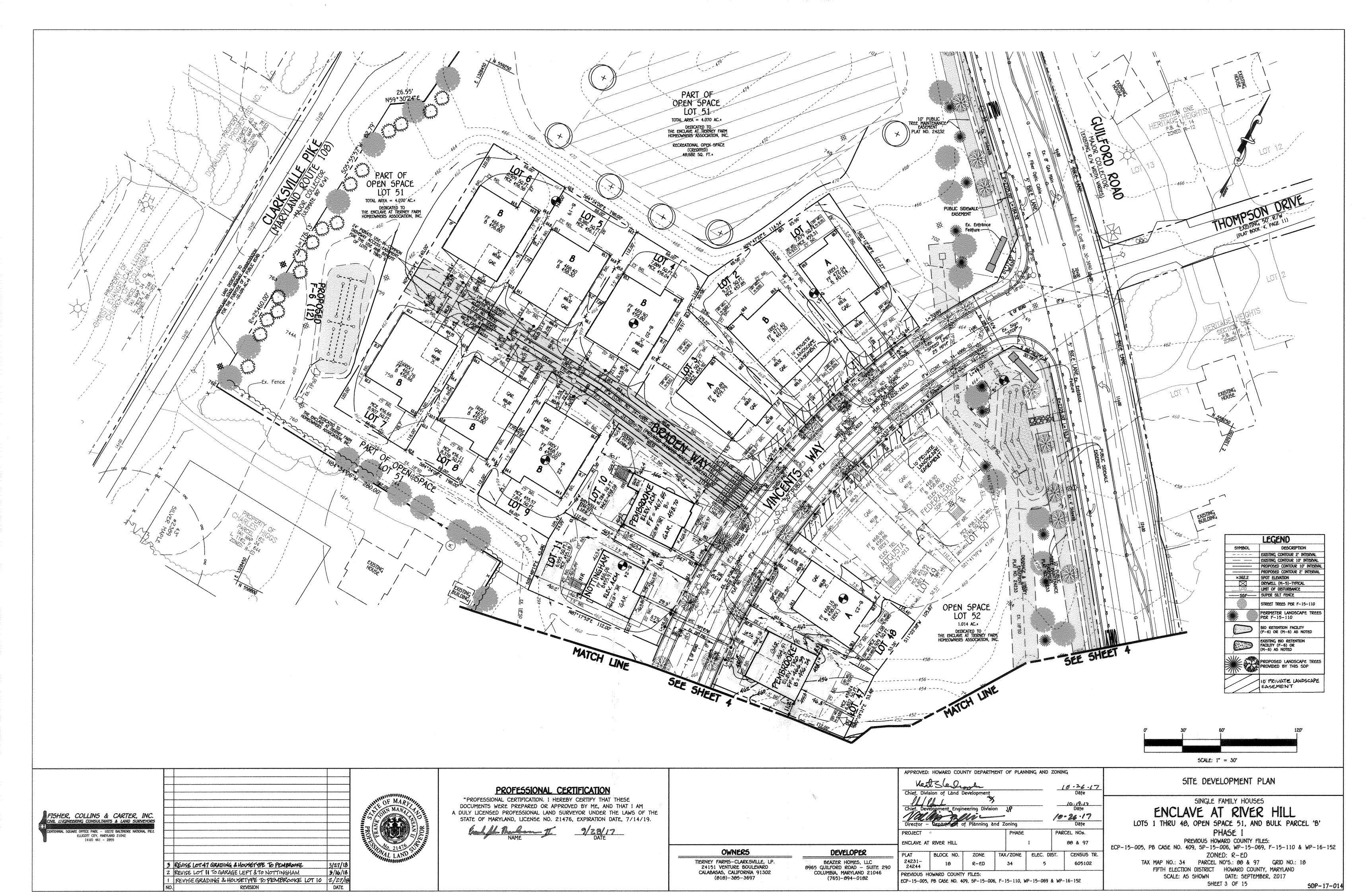
ENCLAVE AT RIVER HILL LOTS 1 THRU 48, OPEN SPACE 51, AND BULK PARCEL 'B'

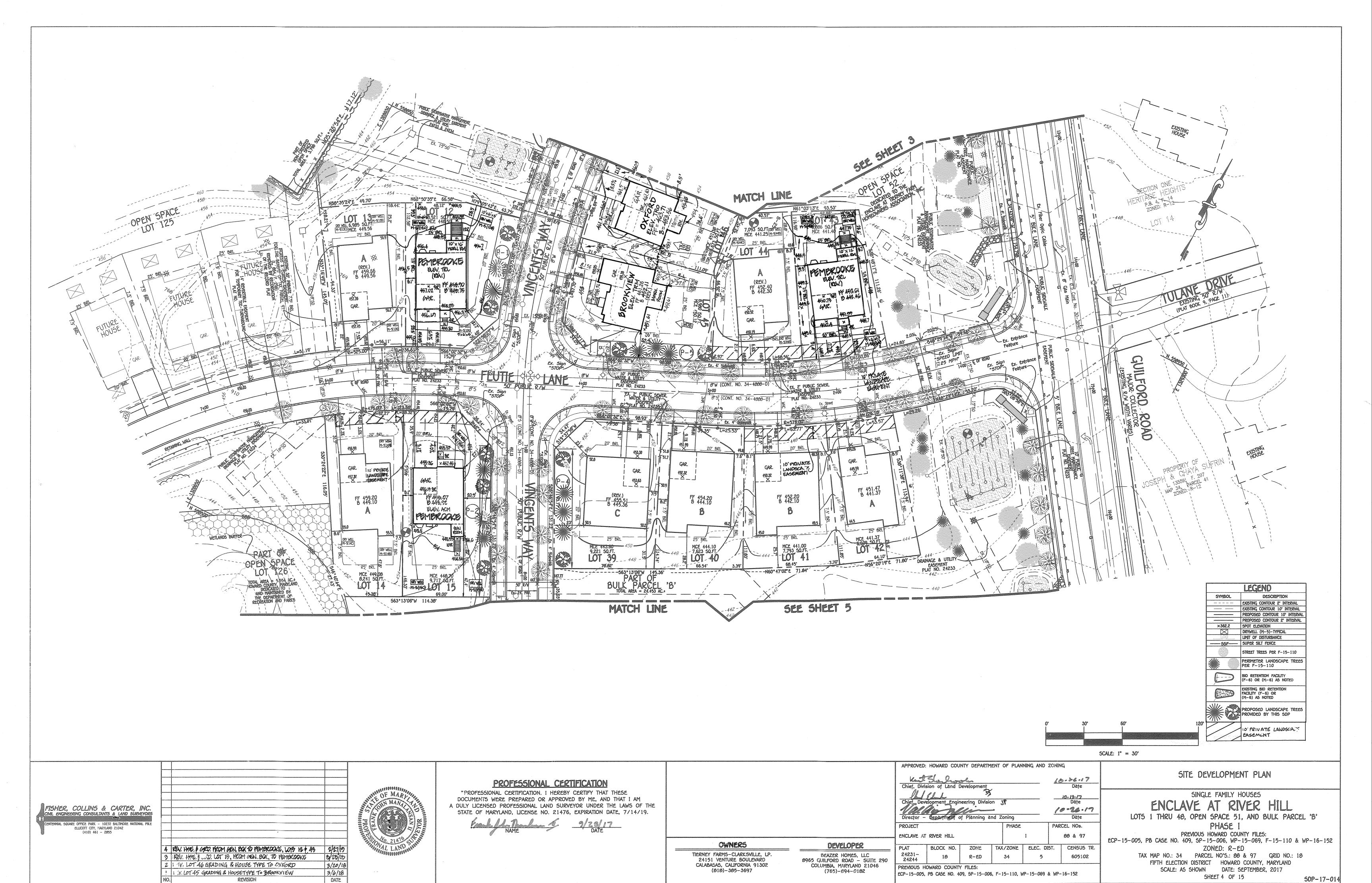
PREVIOUS HOWARD COUNTY FILES: CP-15-005, PB CASE NO. 409, SP-15-006, WP-15-069, F-15-110 & WP-16-152

> ZONED: R-ED TAX MAP NO.: 34 PARCEL NO'5.: 66 & 97 GRID NO.: 16 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: SEPTEMBER, 2017

> > SHEET 1 OF 15

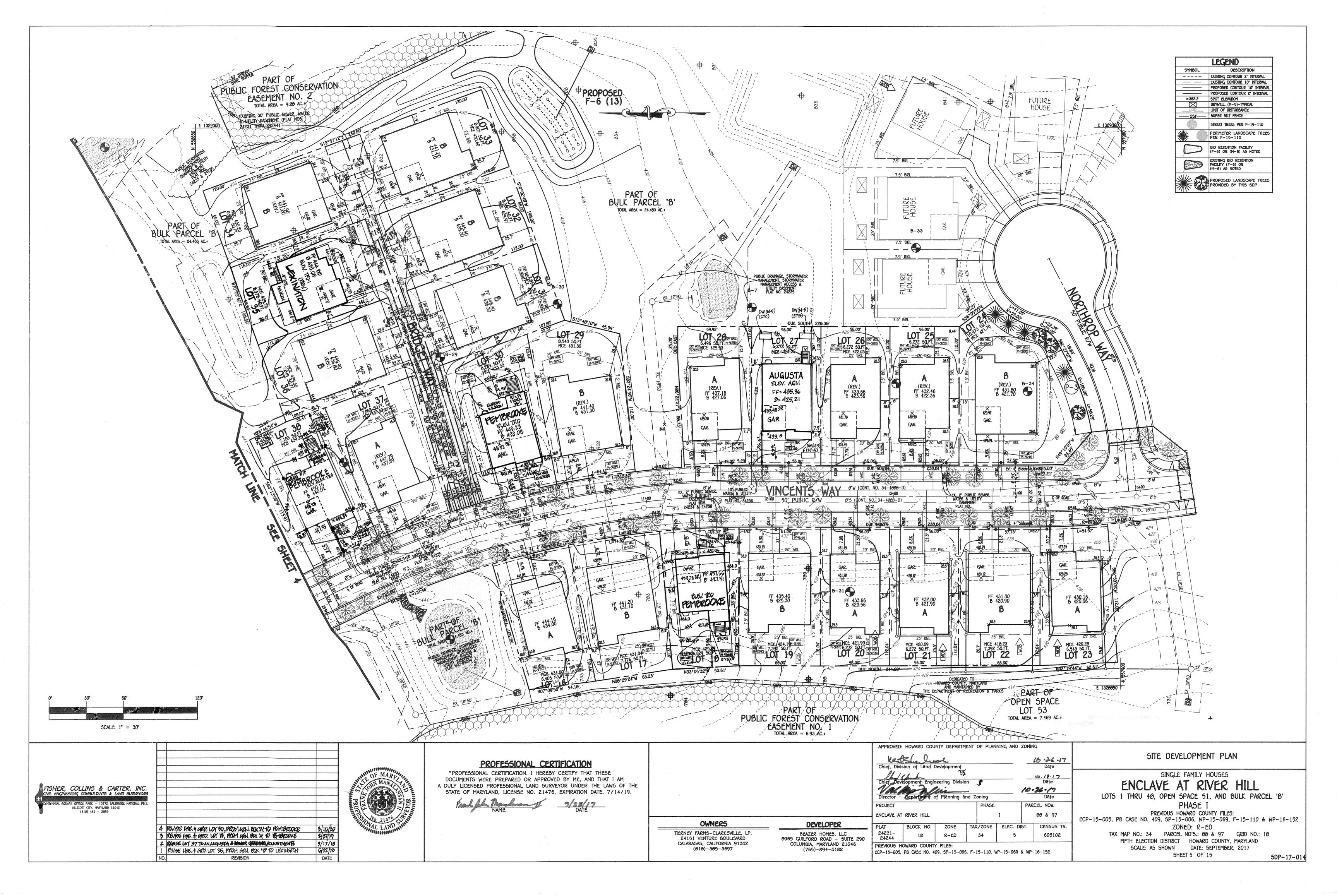


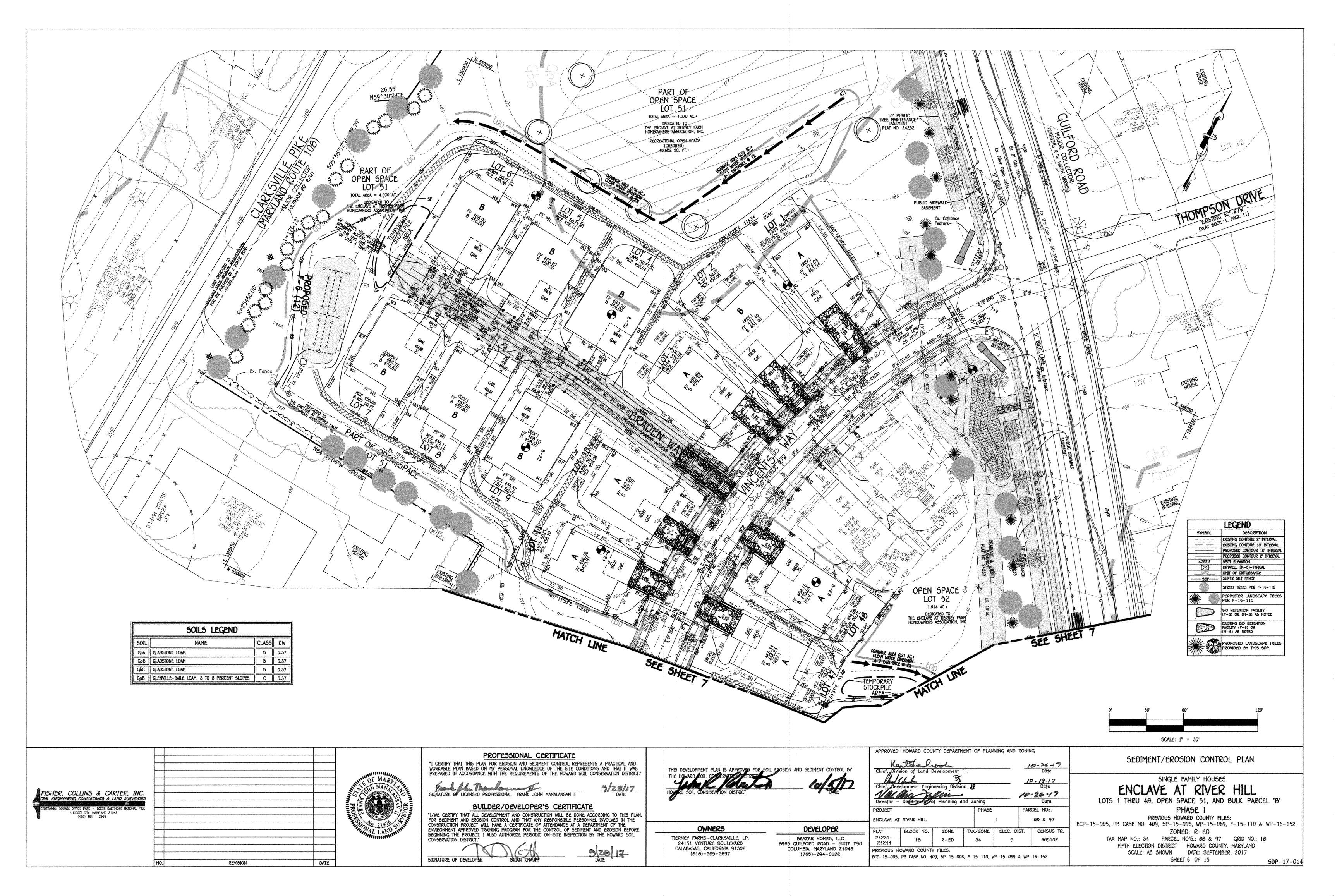


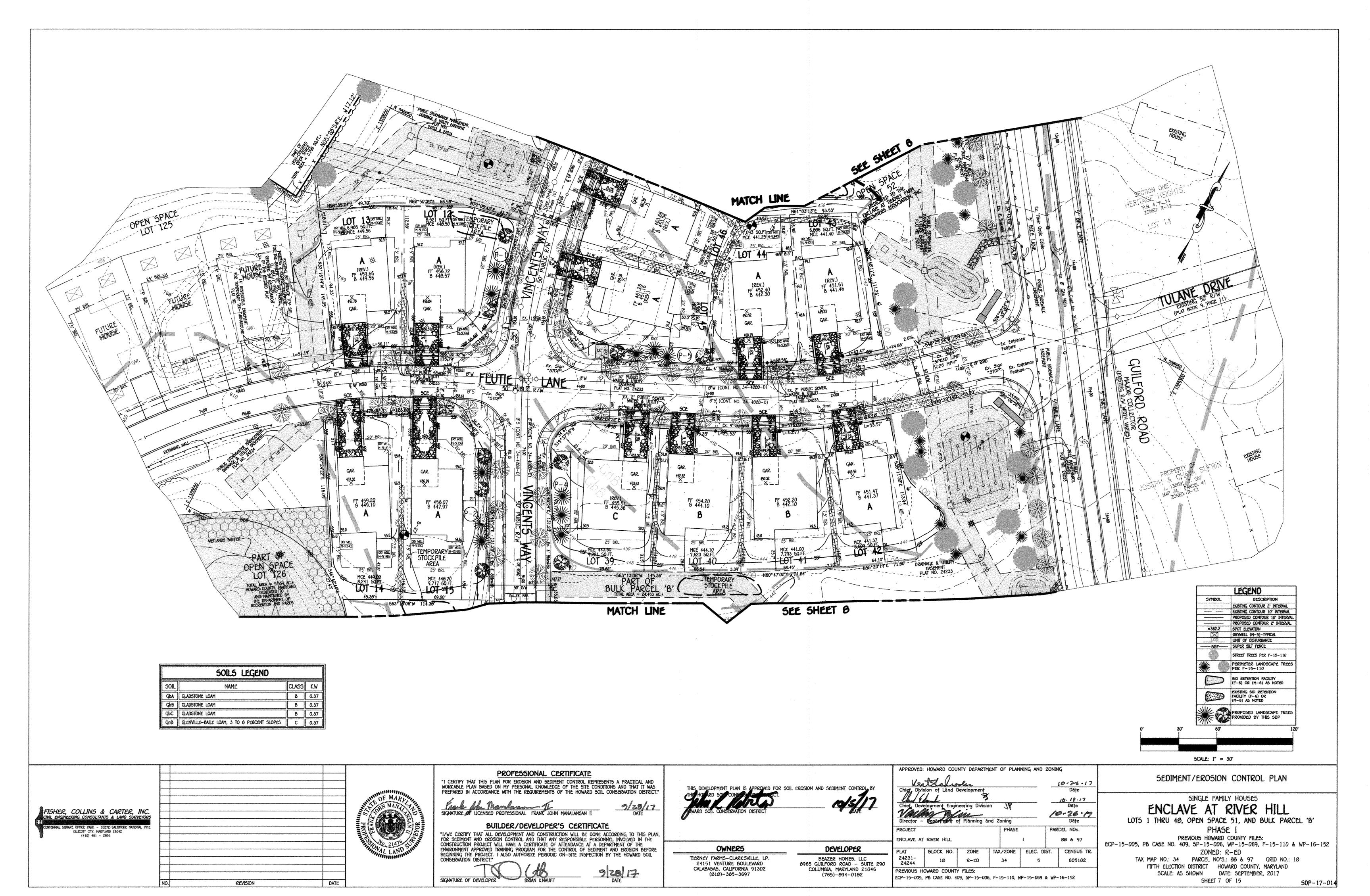


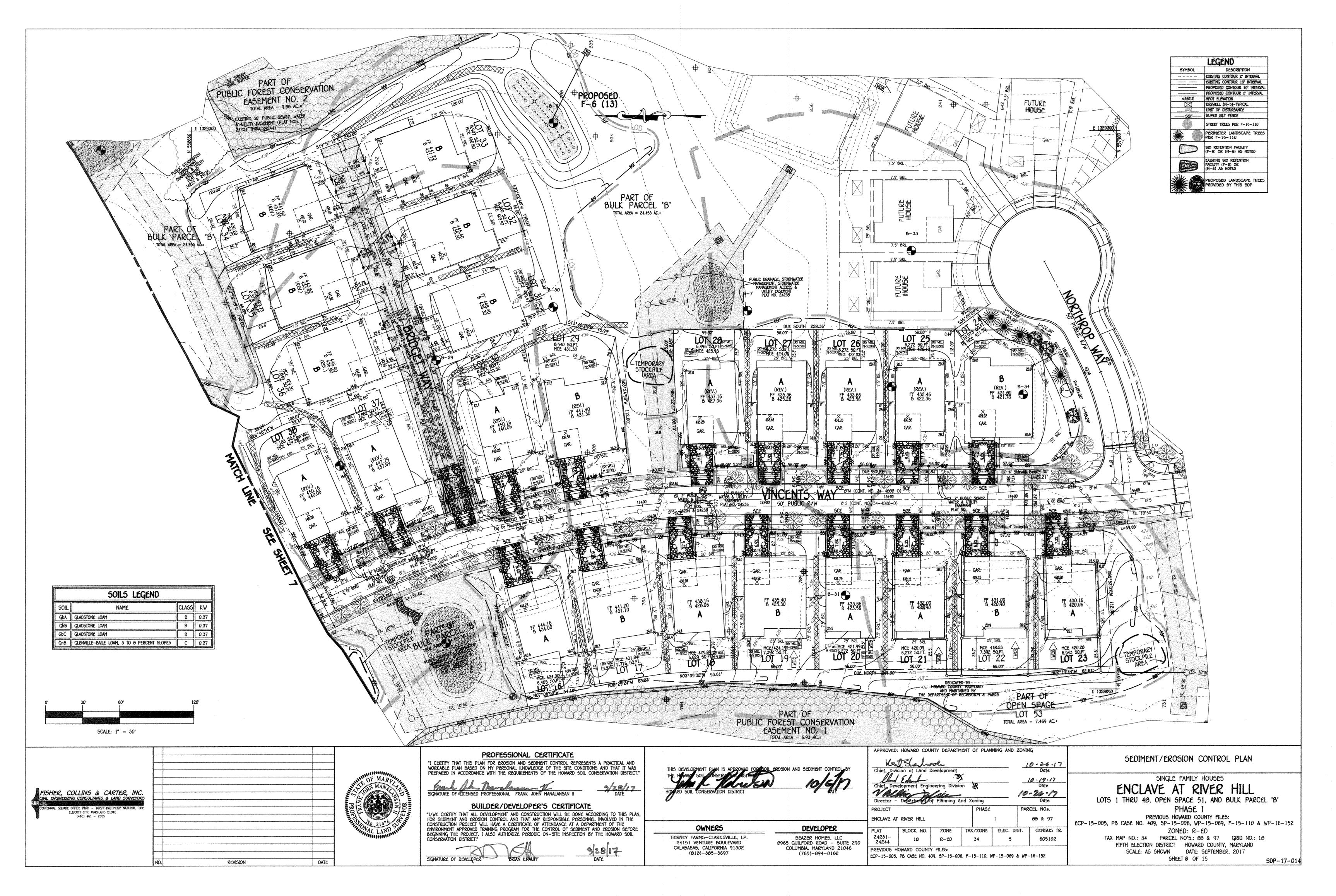
ECP-15-005, PB CASE NO. 409, SP-15-006, F-15-110, WP-15-069 & WP-16-152

SHEET 4 OF 15









50IL PREPARATION, TOP50ILING AND SOIL AMENDMENTS (B-4-2)

A. SOIL PREPARATION

1. TEMPORARY STABILIZATION A SEEDBED 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 RIPPERS MOUNTED ON construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL. TO THE CONTOUR OF THE SLOPE.

B. 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 A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE: L SOIL PH BETWEEN 6.0 AND 7.0. IL SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).

III. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT PROLICH FINE CRAINED MATERIAL (CREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be

IV. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT. V. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION

B. APPLICATION OF AMENUMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS. c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.

D. APPLY SOIL AMENOMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST. e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface. Remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by Dragging with a Heavy Chain or other equipment to roughen thi surface where site conditions will not perhit normal seedbed preparation. Track slopes 3:1 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 privable. Seedbed loosening may be

B. TOPSOILING

1. 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, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION. 2. 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

3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE: A THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH B. THE SOIL MATERIAL IS 50 SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR

IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.

FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS. C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH. D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE

4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN. 5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA A TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR 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 cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash,

OR OTHER MATERIALS LARGER THAN 1 1/2 INCHES IN DIAMETER. B. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON MY, THISTLE, OR OTHERS AS SPECIFIED. C. TOPSOIL SUBSTITUTES OR AMENOMENTS, AS RECOMMENDED BY A QUALIFIED ACRONOMIST OR SOIL SCIENTIST AND

A EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL B. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES.

SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING 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. C. 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 SEEDBED

C. SOIL AMENOMENTS (FERTILIZER & LIME SPECIFICATIONS) 1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES 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. 2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE

APPLICATION BY APPROPRIATE EQUIPMENT. MANUE MAY BE SUBSTITUTED FOR FEETILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR

3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 90 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.

4. 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. 5, 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

STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE

COMPLETED WITHIN: A) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1). SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER

DUST CONTROL

CONTROLLING DUST BLOWING AND MOVEMENT ON CONSTRUCTION SITES AND ROADS.

<u>PURPOSE</u> TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCE ON AND OFF-SITE DAMAGE, HEALTH HAZARDS AND IMPROVE TRAFFIC SAFETY.

CONDITIONS WHERE PRACTICE APPLIES THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON AND OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT

SPECIFICATIONS

TEMPORARY METHODS 1. MULCHES - SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED

OR TACKED TO PREVENT BLOWING. 2. VEGETATIVE COVER - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER. 3. TILLAGE - TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS, BEGIN PLOWING ON WINDWARD SIDE OF THE SITE, CHISEL-TYPE PLOWS SPACED ABOUT 12" APART, SPRING-TOOTHED HARROWS AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT

WHICH MAY PRODUCE THE DESIRED EFFECT.

4. IRRIGATION - THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOIST, REPEAT AS NEEDED. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THAT RUNOFF BEGINS TO FLOW.

5. BARRIERS - SOLID BOARD FENCES SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALE DIKES AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CONTROLLING SOIL BLOWING, CURRENTS AND SOIL BLOWING. CURRENTS AND SOIL BLOWING, BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS

OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN

6. CALCIUM CHLORIDE - APPLY AT RATES THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT. PERMANENT METHODS

1. PERMENENT VEGETATION - SEE STANDARDS FOR PERMANENT VEGETATIVE COVER AND PERMANENT STABILIZATION WITH SOD, EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE. 2. TOPSOILING - COVERING WITH LESS EROSIVE SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING. 3. STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

SEQUENCE OF CONSTRUCTION

(14 DAYS) (7 DAYS) I, OBTAIN A GRADING PERMIT AND HOLD PRE-CONSTRUCTION MEETING WITH COUNTY INSPECTOR. 2. NOTIFY "MISS UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/ INSPECTION AT 410-313-1330 AT LEAST 24 HOURS BEFORE STARTING WORK. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, AND SUPER-SILT FENCE . ROUGH GRADE AROUND HOUSE SITE AND INSTALL TEMPORARY SEEDING, IF REQUIRED. . CONSTRUCT BUILDING. 4 MONTHS

5. CONSTRUCT DURING.
6. INSTALL DRIVELLS.
7. FINE GRADE SITE AND INSTALL PERMANENT SEEDING.
6. ALL FINAL GRADES AND STABILIZATION SHOULD BE COMPLETED BEFORE ANY REMOVAL OF CONTROLS.
WHEN ALL CONTRIBUTING AREAS TO THE SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED AND WITH
THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE SEDIMENT CONTROL DEVICES MAY BE REMOVED. NOTE: THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE EACH RAINFALL AND ON A DALLY BASIS.

TEMPORARY SEEDING NOTES (B-4-4)

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.

I. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE 8.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 8.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER NO LIME RATES MUST BE PUT ON THE PLAN.

2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.

3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION 8-4-3.4.1.8 AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

TEMPORARY SEEDING SUMMARY

Wroiness eed mixtu	ZONE (FROM FIGURE RE (FROM TABLE B.1	8.3): <u>68</u>):	-	FERTILIZER RATE (10-20-20)	UME RATE	
5PECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS			
BARLEY	96		1" 100 10 110	a TONE ILC		
CATS	72	3/1 - 5/15, 8/15 - 10/15	1*	436 LB/AC (10 LB/ 1000 SF)	2 TONS/AC (90 LB/ 1000 SF)	
RYE	112		1*	1000 SF)	1900 31	

PERMANENT SEEDING NOTES (B-4-5)

A. SEED MIXTURES

1. GENERAL USE A SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. enter selected mixture(5), application rates, and seeding dates in the permanent seeding summary.

B. 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 USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.

c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil TESTING AGENCY. D. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 1/2 Pounds per 1000 square feet (150 pounds per agre) at the time of seeding in addition to THE SOIL AMENOMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY

2. TURFGRASS MIXTURES A AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MANIFEMANCE.

B. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR purpose, enter selected moxture(s), application rates, and seeding dates in the permanent

SEEDING SUMMARY, THE SUMMARY IS TO BE PLACED ON THE PLAN. l Kentucky Bluegrass: full sun mexture: for use in areas that receive intensive management IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE, RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTWARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTWARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.

II. KENTUCKY BLUEGRASS/PERENNAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET, CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.

III. TALL PESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT 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 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED. N. KENTUCKY BUJEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BUJEGRASS LAWAS. 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

SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIMAR RECOMMENDATIONS FOR MARYLAND"
CHOOSE CERTIFIED MATERIAL CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIMAR 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
C. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO

OCTOBER 1 (HARDINESS ZONES: 58, 6A) CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 HARDINESS ZONE: 68) SOUTH HARDINESS ZONES: 7A, 78) 68) SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 D. TILL 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. DIAMETER THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF

GRASSES WILL POSE NO DIFFICULTY. E. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SELDINGS 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 seedings are made late in the planting season, in abnormally dry OR HOT SEASONS. OR ON ADVERSE SITES

DECMANISHT SESTING SHIMMAOV

		one (from Figure & (from Table B.:		PERMUZE	LIME RATE			
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P ₂ O ₅	K ₂ 0	
8	TALL FESCUE	100	MAR. 1-MAY 15 AUG. 15-OCT. 15	1/4-1/2 IN.	45 LBS PER ACRE (1.0 LB/ 1000 SF)	90 LB/AC (2 LB/ 1000 SF)	90 18/AC (2 18/ 1000 5F)	2 TONS/AC (90 LB/ 1000 SF)

B. 500: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).

1. GENERAL SPECIFICATIONS A CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE B. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS TO 3/4 INCH, PLUS OR MINUS 1/4 INCH, AT THE TIME OF cutting, measurement for thickness must exclude top growth and thatch, broken pads and torn or INFVEN ENDS WILL NOT BE ACCEPTABLE

. Standard size sections of 500 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. D. 50D MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OF WET) MAY ADVERSELY AFFECT ITS SHOWNAL E. 500 MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED

WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO 11'S INSTALLATION. 2. 50D INSTALLATION a during periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the Subsoil immediately prior to laying the soo. B. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE HORE UNIFORM GROWTH AND STRENGTH. ensure that soo is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.

C. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS.
ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT exists between 500 roots and the underlying soil surface. D. 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 500 WITHIN EIGHT HOURS. . SOO MAINTENANCE

a. 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 soo during the heat of the day to B. AFTER THE FIRST WEEK. SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT. C. DO NOT NOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF MUST BE REMOVED BY

THE INITIAL CUITING OR SUBSEQUENT CUITINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS

STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING (B-4-3)

THE APPLICATION OF SEED AND HULCH TO ESTABLISH VEGETATIVE COVER.

TO PROTECT DISTURBED SOILS FROM EROSION OURING AND AT THE END OF CONSTRUCTION. CONDITIONS WHERE PRACTICE APPLIES

TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

a all seed must meet the regarrement of the marmand state seed law. All seed must be subject TO RE-TESTING BY A RECOGNIZED SEED LABORATORY, ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 months differnately preceding the date of sowing such material on any project, refer to table 8.4 RECARONIC THE QUALITY OF SEED. SEED TACS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERTY TYPE OF SEED AND SEEDING RATE.

B. Mulchi alone hay be applied between the fall and spring seeding dates only if the ground is PROZEN. THE APPROPRIATE SECONG MIXTURE MUST BE APPLIED WHEN THE GROUND THANS. C. Inoculants: The inoculant for treating legame seed in the seed maxinges must be a pure cultury OF NITROGEN FOUNG BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES, INOCULANTS MUST NOT BE USED later than the date indicated on the container, add fresh inoculants as directed on the package. use four times the recommended rate when indroseeding note it is very important to keep inoculant as cook as possible until used, temperatures above 75 to 80 degrees fahrenhiet can WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.

o. Sod or seed hijst hot be placed on soil which has been treated with soil sterilants or chemicals USED FOR WEEDCONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

A 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.J. OR SITE-SPECIFIC SEEDING SUMMARIES.

each direction. ROLL the seeded area with weighted roller to provide good seed to soil 8. DAIL OR CULTIPACIES SECONG MECHANIZED SECONS THAT APPLY AND COMER SECO WITH SOIL I. Cultipacking seeders are regurred to bury the seed in such a fashion as to provide at

I APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER APPLY HALF THE SEEDING RATE IN

LEAST 1/4 INCH OF SOIL CONSENG, SEEDBED MUST BE FIRM AFTER PLANTING. IL APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN

C. Hydroseeding, apply seed uniformly with hydroseeder (slurry includes seed and fertilizer). I. 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; P.O. (PHOSPHORUS) 200 POUNDS PER ACRE, K O (POTASSIUM), 200 POUNDS PER ACRE. . Lime use only ground agroultinal limestone (up to 3 tons per acre may be applied by

atorosecong). Hormally, hot more than 2 tons are applied by hydrosecong at any one

TIME DO NOT USE BURBAT OR HYDRATED LIME WHEN HYDROSEEDING. IL HOX SEED AND PERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION. IV. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL

1. MULCH MATERIALS (IN ORDER OF PREFERENCE) A 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 MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS

WHERE ONE SPECIES OF GRASS IS DESIRED. B. WOOD CELLULOSE FIBER MULCH (MCPM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO UNIFORM FIBROUS PHYSICAL STATE I. WOPM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN appropriate colot to facilitate visual inspection of the uniformly spread slurry.

IL WCPM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH IMMOTTING FACTORS. III. WOTH 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 Actation and Will bleno with seed, pertilizer and other adoltines to form a homogeneous subsey. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil vithout inhibiting the growth of the grass seedlings.

IV. WORM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BY V. WOTH MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DAMMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6

PERCENT NAVINUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM. A APPLY MULCH TO ALL SCEDED AREAS IMMEDIATELY AFTER SCEDING.

B. WHEN STRAW MULCH IS USED, SPREAD IT OWER 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 A MULCH ANCHORING TOOL, INCREASE THE APPLICATION PATE TO 2.5 TONS C. 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 ATTAIN A MOTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD

CELLULOSE FIBER PER 100 GALLONS OF WATER A PERFORM MULCH ANCHORDEG IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIBIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF

I. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL surface a honorum of 2 diches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour. IL WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW, APPLY THE FIBER BRIDER 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 CALLONS OF WATER. III. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURES. APPLICATION OF LIQUID SINDERS NEEDS TO BE HEAVILE AT THE LOGIS WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS, USE OF ASPHALT BINDERS IS

N. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED ONCE THE MULCH ACCORDING TO MANUFACTURIZE RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4-15 FEET WIDE AND 300 TO 3,000 FEET LONG.

HOWARD SOIL CONSERVATION DISTRICT (H5CD) STANDARD SEDIMENT CONTROL NOTES

1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIMISION (CID), 410-313-1055 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES: A. PRIOR TO THE START OF EARTH

B. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR CRADING C. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT, D. PRIOR TO

THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION agency is made, other related state and pederal permits shall be referenced, to ensure coordination and to

AVOID CONFLICTS WITH THIS PLAN 2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE 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 THERETO. 3. 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 CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES,

AND ALL SLOPES STEEPER THAN 3 HORFONTAL 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. 4. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERSOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 HARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) 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' OF CUT AND/OR FILL, STOCKPILES (SEC. B-4-0) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6). 5. 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 CID.

6. SITE ANALYSIS: TOTAL AREA OF SITE: 24.46 ACRES AREA DISTURBED: 9.45 ACRES AREA TO BE ROOFED OR PAVED: 3.57 ACRES AREA TO BE VEGETATIVELY STABILIZED: 17,558 CU, YOS.

18,313 CU. YD5. OFFSITE WASTE/BORROW AREA LOCATION: N/A 7. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE 8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY: AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE

CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE: INSPECTION DATE DISPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)

NAME AND TITLE OF INSPECTOR
 WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
 BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES

EVIDENCE OF SEDIMENT DISCHARGES IDENTIFICATION OF PLAN 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

 MONITORING/SAMPLING
 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. 10. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCO PRIOR TO PROCEEDING WITH CONSTRUCTION, MINOR REVISIONS MAY ALLOWED BY THE HSCO PER THE LIST OF

HSCO-APPROVED FIELD CHANGES. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE LO.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO 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 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.

12. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE. 13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.

14. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBRICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION. 15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS

. USE I AND IP MARCH 1 - JUNE 15 • USE II AND IIP OCTOBER 1 - APRIL 30

. USE IV MARCH 1 - MAY 31 16. A COPY OF THIS 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.

TABLE B.1 TEMPORARY SEEDING FOR SITE STABILIZATION

					· · · · · · · · · · · · · · · · · · ·				
DI MIT COCCC	SEEC	ING RATE 1/	5EEDING DEPTH 2/	RECOMMENDED SEEDING DATES BY PLANT HARDINESS ZONE 3/					
PLANT SPECS	LB./AC.	LB./1000 FT. ²	/minutes	5b AND 6a	6b	7a AND 7b			
COOL-SEASON GRASSES		I		<u>.</u>		J <u>ournesseer, mentotomor esser observa en esse en en entremon</u>			
Annual Ryegrass (Lolum Perenne SSP. Mutiflorum)	40	1.0	0.5	MAR. 15 TO MAY 31; AUG. 1 TO SEPT. 30	MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15	FEB. 15 TO APR. 30; AUG. 15 TO NOV. 30			
BARLEY (HORDEUM VULGARE)	96	2,2	1.0	MAR. 15 TO MAY 31; AUG. 1 TO SEPT. 30	MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15	FEB. 15 TO APR. 30; AUG. 15 TO NOV. 30			
oats (avena sativa)	72	1.7	1.0	MAR. 15 TO MAY 31; AUG. 1 TO SEPT. 30	MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15	FEB. 15 TO APR. 30; AUG, 15 TO NOV. 30			
WHEAT (TRITICUM AESTIVUM)	120	2.8	1.0	MAR. 15 TO MAY 31; AUG. 1 TO SEPT. 30	MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15	FEB. 15 TO APR. 30; AUG. 15 TO NOV. 30			
CEREAL RYE (SECALE CEREALE)	112	2.8	1.0	MAR. 15 TO MAY 31; AUG. 31 TO OCT. 31	MAR. 1 TO MAY 15; AUG. 1 TO NOV. 15	FEB. 15 TO APR. 30; AUG. 15 TO DEC. 15			
WARM-SEASON GRASSES		**************************************			· · · · · · · · · · · · · · · · · · ·				
FOXTAIL MILLET (SETARIA ITALICA)	30	0.7	0.5	JUNE 1 TO JULY 31	MAY 16 TO JULY 31	MAY 1 TO AUGUST 14			
PEARL MILLET (PENNISETUM GLAUCUM)	20	0.5	0.5	JUNE 1 TO JULY 31	MAY 16 TO JULY 31	MAY 1 TO AUGUST 14			

NOTES:

1. SEEDING RATES FOR THE WARM-SEASON GRASSES ARE IN POUNDS OF PURE LIVE SEED (PLS). ACTUAL PLANTING RATES SHALL BE ADJUSTED TO REFLECT PERCENT SEED GERMINATION AND PURITY, AS TESTED.

ADJUSTMENTS ARE USUALLY NOT NEEDED FOR THE COOL-SEASON GRASSES. SEEDING RATES LISTED ABOVE ARE FOR TEMPORARY SEEDINGS, WHEN PLANTED ALONE. WHEN PLANTED AS A NURSE CROP WITH PERMANENT SEED MIXES, USE 1/3 OF THE SEEDING RATE LISTED ABOVE FOR BARLEY, DATS AND WHEAT. FOR SMALLER-SEEDED GRASSES (ANNUAL RYEGRASS, PEARL MILLET, FOXTAIL MILLET). DO NOT EXCEED MORE THAN 5% (BY WEIGHT) OF THE OVERALL PERMANENT SEEDING MIX, CEREAL RYE GENERALLY SHOULD NOT BE USED AS A NURSE CROP, UNLESS PLANTING WILL OCCUR IN VERY LATE FALL BEYOND THE SEEDING DATES FOR OTHER TEMPORARY SEEDINGS. CEREAL RYE HAS ALLELOPATHIC PROPERTIES THAT INHIBIT THE GERMINATION AND GROWTH OF OTHER PLANTS. IF IT MUST BE USED AS A NURSE CROP, SEED AT 1/3 OF THE RATE LISTED ABOVE.

OATS ARE THE RECOMMENDED NURSE CROP FOR WARM-SEASON GRASSES. 2. FOR SANDY SOILS, PLANT SEEDS AT TWICE THE DEPTH LISTED ABOVE. 3. THE PLANTING DATES LISTED ARE AVERAGES FOR EACH ZONE AND MAY REQUIRE ADJUSTMENT TO REFLECT LOCAL CONDITIONS, ESPECIALLY NEAR THE BOUNDARIES OF THE ZONE.

PLAN IS APPROVED_FOR SOIL EROSION AND SEDIMENT CONTROL BY

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING Vertsleelijk 10-26-67 Chief Division of Land Development 10.19.17 10-26-17 PROJECT PARCEL NOs. ENCLAVE AT RIVER HILL **98 & 97**

STANDARDS AND SPECIFICATIONS

FOR STOCKPILE AREAS B-4-8

A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES.

to provide a designated location for the temporary storage of soil that controls the potential for

CONDITIONS WHERE PRACTICE APPLIES

1. THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE

2. 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

5. CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVICE SUCH AS

7. STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS

MAINTENANCE

THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN

AN EARTH DIKE, TEMPORARY SWALE OR DIVERSION FENCE. PROVISIONS MUST BE MADE FOR DISCHARGING CONCENTRATED

6. WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL

8. IF THE STOCKPILE IS LOCATED ON AN IMPERMOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO

FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAININATED MATERIAL MUST BE COVERED WITH IMPERMEABLE SHEETING.

ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN A

2:1 RATIO. THE STOCKPILE AREA MUST BE KEPT FREE OF EROSION. IF THE VERTICAL HEIGHT OF A STOCKPILE EXCEEDS

20 FEET FOR 2:1 SLOPES, OR 30 FEET FOR 3:1 SLOPES, OR 40 FEET FOR 4:1 SLOPES, BENCHING MUST BE PROVIDED IN

STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.

3. PLINOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDMENT CONTROL PRACTICE.

STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION.

PURPOSE

erosion, sedimentation and changes to dramage patterns

4. ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.

PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE.

ACCORDANCE WITH SECTION B-3 LAND GRADING.

ZONE

R-ED

PLAT

24231-

24244

BLOCK NO.

PREVIOUS HOWARD COUNTY FILES:

SECTION 8-3 LAND GRADING.

FLOW IN A NON-EROSIVE MANNER.

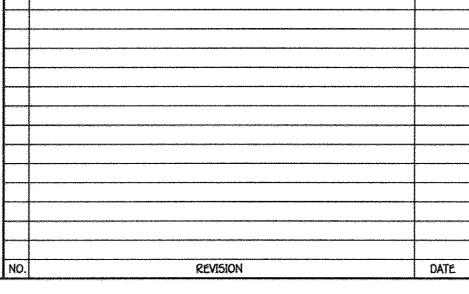
SEDIMENT/EROSION CONTROL NOTES SINGLE FAMILY HOUSES

5CALE: 1" = 30"

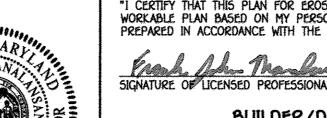
ENCLAVE AT RIVER HILL LOTS 1 THRU 48, OPEN SPACE 51, AND BULK PARCEL 'B'

PHASE PREVIOUS HOWARD COUNTY FILES: ECP-15-005, PB CASE NO. 409, SP-15-006, WP-15-069, F-15-110 & WP-16-152 ZONED: R-ED







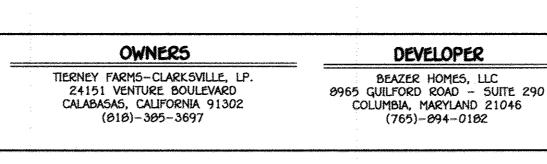


PROFESSIONAL CERTIFICATE "I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT." SIGNATURE OF LICENSED PROFESSIONAL FRANK JOHN MANALANSAN II

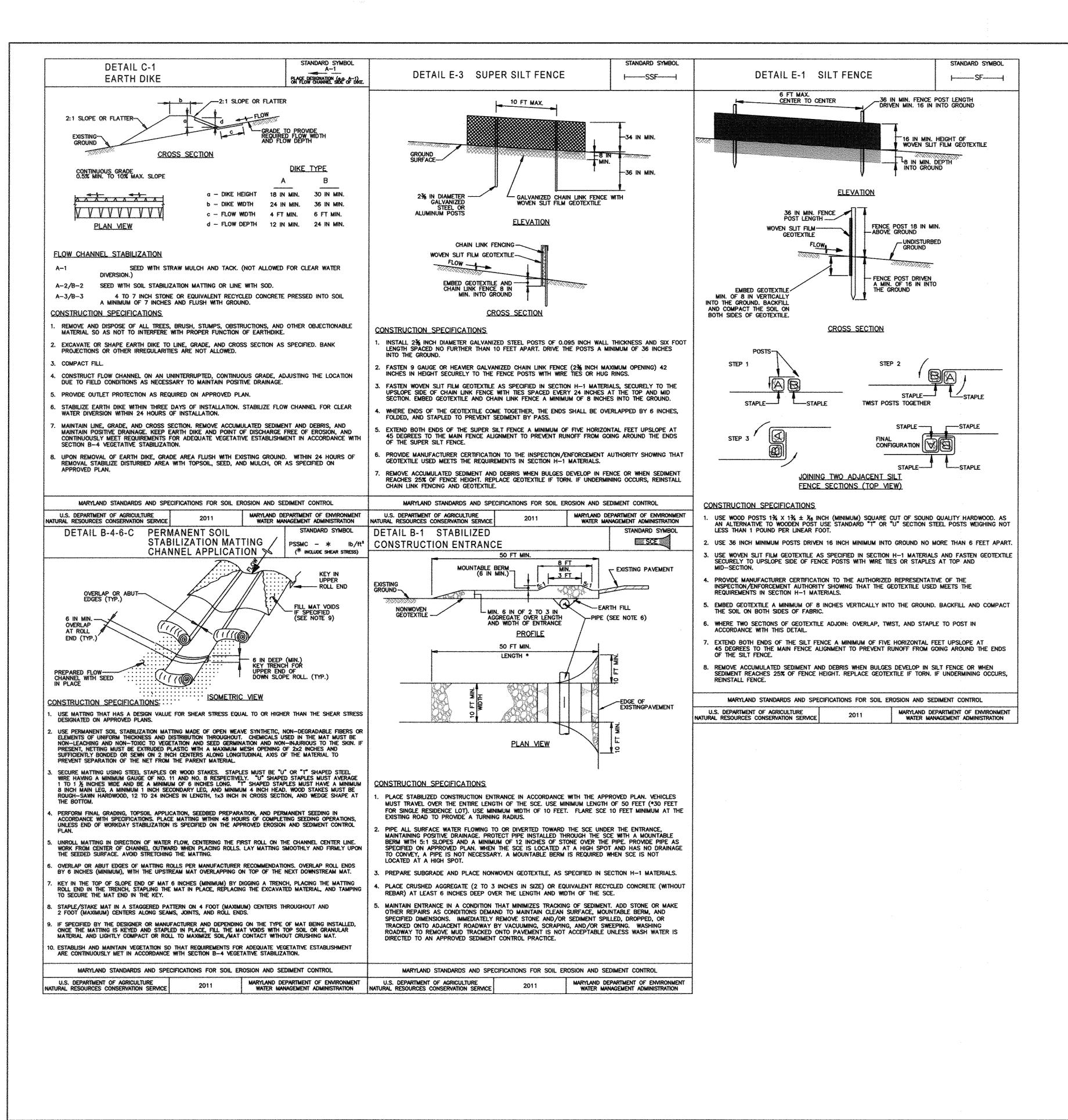
BUILDER/DEVELOPER'S CERTIFICATE "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN. FOR SEDIMENT AND EROSION CONTROL AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL

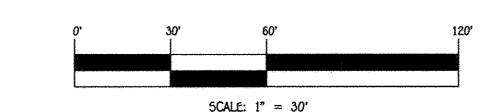


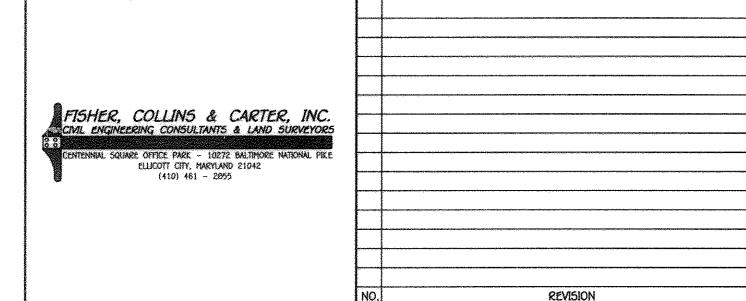




TAX/ZONE | ELEC. DIST. CENSUS TR. TAX MAP NO.: 34 PARCEL NO'5.: 88 & 97 GRID NO.: 18 605102 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: SEPTEMBER, 2017 ECP-15-005, PB CASE NO. 409, 5P-15-006, F-15-110, WP-15-069 & WP-16-152 SHEET 9 OF 15 50P-17-014









DATE

PROFESSIONAL CERTIFICATE

"I 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.

SIGNATURE OF LICENSED PROFESSIONAL FRANK JOHN MANALANSAN II

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

9/28/17

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." 92817 SIGNATURE OF DEVELOPER

OWNERS DEVELOPER TIERNEY FARMS-CLARKSVILLE, LP. BEAZER HOMES, LLC 24151 VENTURE BOULEVARD 8965 GUILFORD ROAD - SUITE 290 CALABASAS, CALIFORNIA 91302 COLUMBIA, MARYLAND 21046 (818)-365-3697 (765)-894-0182

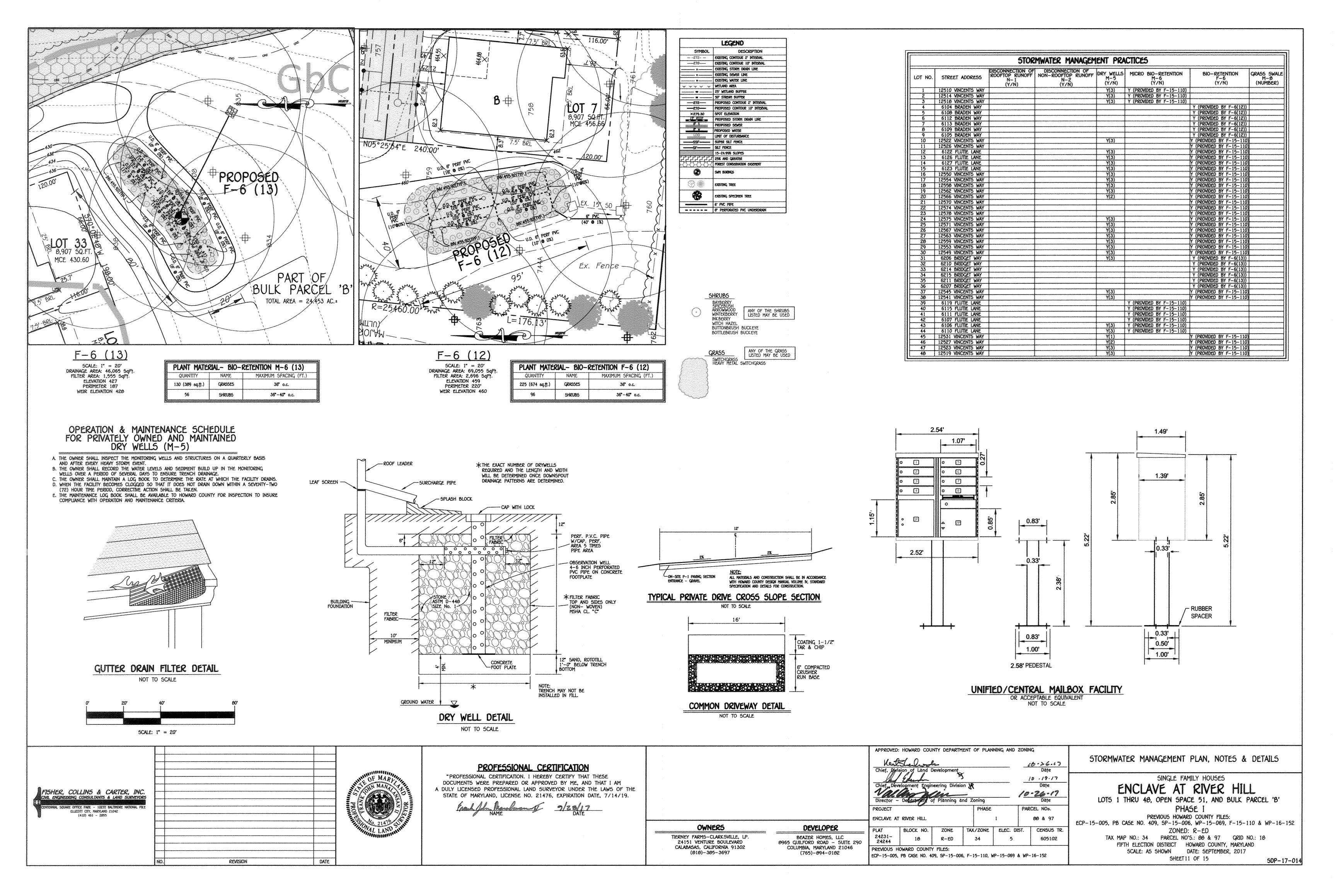
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING Vertileelung 10.36.17 Chief, Division of Land Development 10.19.17 10-20-17 PARCEL NOs. ENCLAVE AT RIVER HILL BLOCK NO. ZONE TAX/ZONE | ELEC. DIST. CENSUS TR. 24231-R-ED 605102 24244 PREVIOUS HOWARD COUNTY FILES: ECP-15-005, PB CASE NO. 409, 5P-15-006, F-15-110, WP-15-069 & WP-16-152

SEDIMENT/EROSION CONTROL DETAILS

SINGLE FAMILY HOUSES ENCLAVE AT RIVER HILL LOTS 1 THRU 48, OPEN SPACE 51, AND BULK PARCEL 'B' PHASE I

PREVIOUS HOWARD COUNTY FILES: ECP-15-005, PB CASE NO. 409, SP-15-006, WP-15-069, F-15-110 & WP-16-152 ZONED: R-ED TAX MAP NO.: 34 PARCEL NO'S.: 00 & 97 GRID NO.: 10 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: SEPTEMBER, 2017 SHEET10 OF 15



Infiltration and Filter System Construction Specifications

Infiltration and filter systems either take advantage of existing permeable soils or create a permeable medium such as sand for WC), and Re v. In some instances where permeability is great, these facilities may be used for Qp as well. The most common systems include infiltration trenches, infiltration basins, sand filters, and organic filters.

When properly planted, vegetation will thrive and enhance the functioning of these systems. For example, pre-treatment buffers will trap sediments that often are bound with phosphorous and metals. Vegetation planted in the facility will aid in nutrient uptake and water storage. Additionally, plant roots will provide arreries for stormwater to permeate soil for groundwater recharge. Finally, successful plantings provide aesthetic value and wildlife habitat making these facilities more desirable to the public.

Desion Constraints

> Planting buffer strips of at least 20 feet will cause sediments to settle out before reaching the facility, thereby reducing the possibility of clogging.

> Determine areas that will be saturated with water and water table depth so that appropriate plants may be selected (hydrology will be similar to bioretention

facilities, see figure A.5 and Table A.4 for planting material guidance). > Plants known to send down deep taproots should be avoided in systems where filter fabric is used as part of facility design.

> Test soil conditions to determine if soil amendments are necessary.

> Plants shall be located so that access is possible for structure maintenance.

> Stabilize heavy flow areas with erosion control mats or sod. > Temporarily divert flows from seeded areas until vegetation is established. > See Table A.5 for additional design considerations.

Bio-retention

Soil Bed Characteristics

The characteristics of the soil for the bioretention facility are perhaps as important as the facility location, size, and treatment volume. The soil must be permeable enough to allow runoff to filter through the media, while having characteristics suitable to promote and sustain a robust vegetative cover crop. In addition, much of the nutrient pollutant uptake (nitrogen and phosphorus) is accomplished through absorption and microbial activity within the soil profile. Therefore, soils must balance their chemical and physical properties to support biotic communities above and below around.

The planting soil should be a sandy loam, loamy sand, loam (USDA), or a loam/sand mix (should contain a minimum 35 to 60% sand, by volume). The clay content for these soils should be 4" #7 STONE less than 25% by volume [Environmental Quality Resources (EQR), 1996; Engineering Technology (BRIDGING LAYER) Inc. and Biohabitats. Inc. (ETAB). 1993]. Soils should fall within the SM, ML, SC classifications or the Unified Soil Classification System (USCS). A permeability of at least 1.0 feet per day (0.5"/hr) is required (a conservative value of 0.5 feet per day is used for design). The soil should be free of stones, stumps, roots, or other woody material over 1" in diameter. Brush or seeds from noxious weeds (e.g., Johnson Grass, Mugwort, Nutsedge, and Canada Thistle or other noxious weeds as specified under COMAR 15.00.01.05.) should not be present in the soils. Placement of the planting soil should be in 12 to 18 lifts that are loosely compacted (tamped lightly with a backhoe bucket or traversed by dozer tracks). The specific characteristics are presented in Table A.3.

Table A & Planting Soil Characteristics

lable A.3 Planting Soil Characteri	SICS
Parameter	Value
pH range	5.2 †o 7.00
Organic matter	1.5 to 4.0% (by weight)
Magnesium	35 lbs. per acre, minimu
Phosphorus (phosphate - P205)	75 lbs. per acre, minimu
Potassium (potash —1(K2O)	85 lbs. per acre, minimu
Soluble salts	500 ppm
Clay	10 †o 25 %
5il†	30 †o 55 %
5and	35 †o 60%

Mulch Layer

The mulch layer plays an important role in the performance of the bioretention system. The mulch layer helps maintain soil moisture and avoids surface sealing, which reduces permeability Mulch helps prevent erosion, and provides a microenvironment suitable for soil biota at the mulch/soil interface. It also serves as a pretreatment layer, trapping the finer sediments, which remain suspended after the primary pretreatment.

The mulch layer should be standard landscape style, single or double shredded hardwood mulch or chips. The mulch layer should be well aged (stockpiled or stored for at least 12 months), uniform in color, and free of other materials, such as weed seeds, soil, roots, etc. The mulch should be applied to a maximum depth of three inches. Grass clippings should not be used as a mulch material.

Plantina Guidance

Plant material selection should be based on the goal of simulating a terrestrial forested community of native species. Bioretention simulates an upland-species ecosystem. The community should be dominated by trees, but have a distinct community of understory trees, shrubs and herbaceous materials. By creating a diverse, dense plant cover, a bioretention facility will be able to treat stormwater runoff and withstand urban stresses from insects, disease, drought, temperature, wind, and exposure.

The proper selection and installation of plant materials is key to a successful system. There are essentially three zones within a bioretention facility (Figure A.5). The lowest elevation supports plant species adapted to standing and fluctuating water levels. The middle elevation supports plants that like drier soil conditions, but can still tolerate occasional inundation by

water. The outer edge is the highest elevation and generally supports plants adapted to dryer conditions. A sample of appropriate plant materials for bioretention facilities are included in Table A.4. The layout of plant material should be flexible, but should follow the general principals described in Table A.5. The objective is to have a system, which resembles a random, and natural plant layout, while maintaining optimal conditions for plant establishment and growth. For a more extensive bioretention plan, consult ETAB, 1993 or Claytor and Schueler, 1997.

OPERATION AND MAINTENANCE SCHEDULE

- FOR BIO-RETENTION AREAS (M-6) AND (F-6) 1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE
- SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT nfestation and maintenance will address dead material and pruning
- 2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FAL THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDER BEYOND TREATMENT. TREATMENT OF ALL DISEASED TREES AND
- SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES. 3. MULCH SHALL BE INSPECTED EACH SPRING, REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
- 4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS. WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

CONSTRUCTION CRITERIA:

THE FOLLOWING ITEMS SHOULD BE ADDRESSED DURING CONSTRUCTION OF PROJECTS WITH DRY WELLS:

EROSION AND SEDIMENT CONTROL:

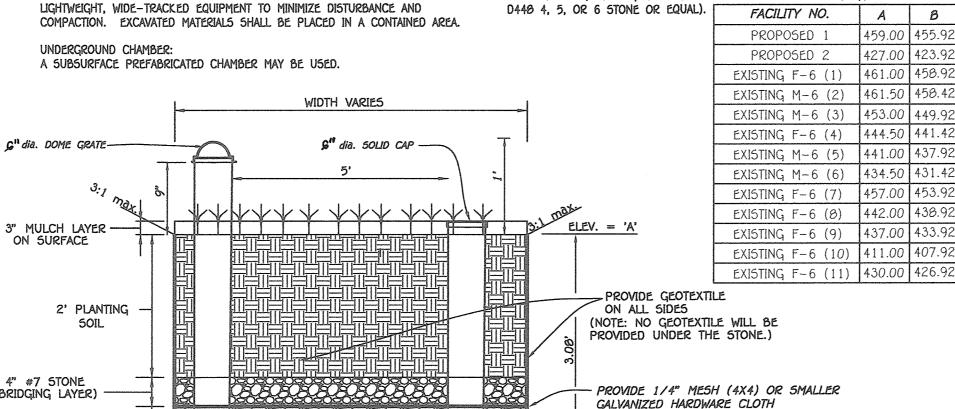
FINAL GRADING FOR PROPOSED DRY WELLS SHOULD NOT TAKE PLACE UNTIL THE SURROUNDING SITE IS COMPLETELY STABILIZED. IF THIS CANNOT BE ACCOMPLISHED, RUNOFF FROM DISTURBED AREAS SHALL BE DIVERTED.

50IL COMPACTION EXCAVATION SHOULD BE CONDUCTED IN DRY CONDITIONS WITH EQUIPMENT LOCATED OUTSIDE OF THE PRACTICE TO MINIMIZE BOTTOM AND SIDEWALL COMPACTION. CONSTRUCTION OF A DRY WELL SHALL BE PERFORMED WITH LIGHTWEIGHT, WIDE-TRACKED EQUIPMENT TO MINIMIZE DISTURBANCE AND

A SUBSURFACE PREFABRICATED CHAMBER MAY BE USED.

13" LAYER

#2 STONE



DRY WELL BOTTOM:

THE BOTTOM SHALL BE AS LEVEL AS POSSIBLE TO MINIMIZE POOLED WATER

IN SMALL AREAS THAT MAY REDUCE OVERALL INFILTRATION AND LONGEVITY.

FILTER CLOTH SHALL NOT BE INSTALLED ON THE BOTTOM OF THE WELL

NON-WOVEN FILTER CLOTH SHOULD BE USED TO LINE THE TOP AND SIDES

OF THE DRY WELL TO PREVENT THE PORE SPACE BETWEEN THE STONES

THE AGGREGATE SHALL BE COMPOSED OF AN 18 TO 48-INCH LAYER OF

CLEAN WASHED, OPEN GRADED MATERIAL WITH 40% POROSITY (E.G., ASTM

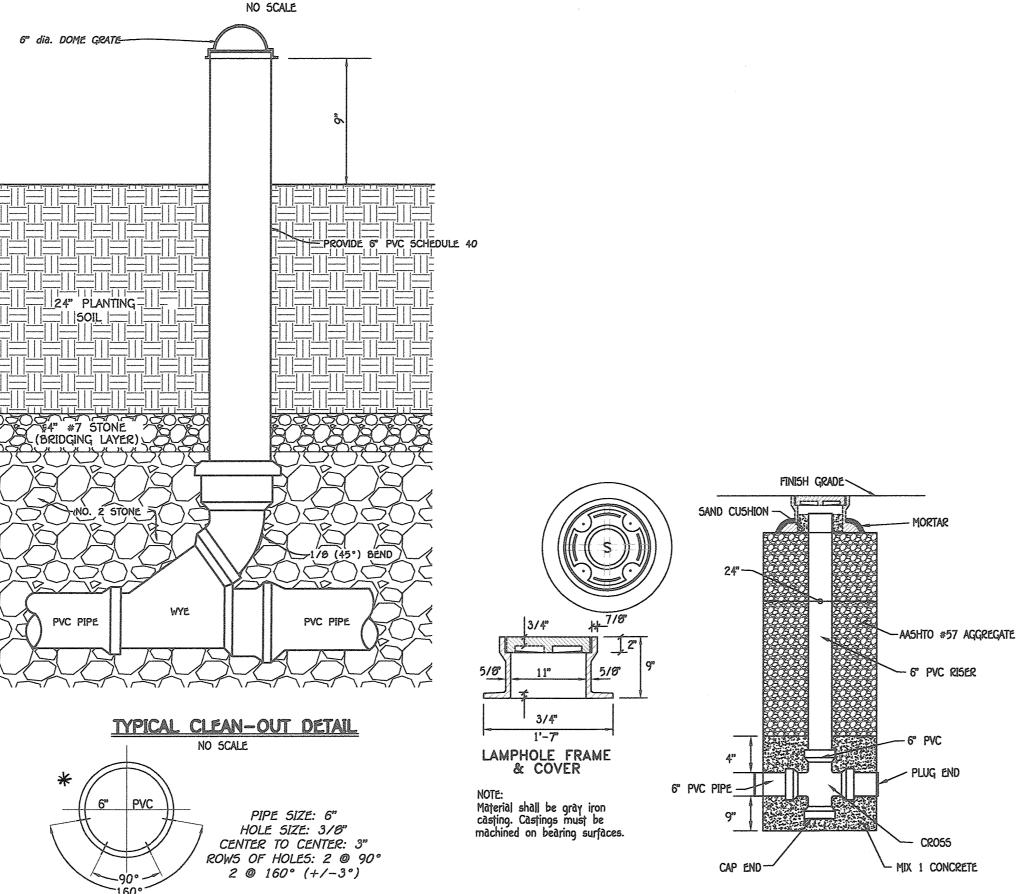
FROM BEING BLOCKED BY THE SURROUNDING NATIVE MATERIAL.

6" PERFORATED PIPE/GRAVEL - 6" PERFORATED PIPE/GRAVEL OVERDRAIN SYSTEM NOTE: THE BOTTOM OF EACH BIO-RETENTION FACILITY (M-6)

SHALL BE ROTOTILLED PRIOR TO STONE INSTALLATION

* UNDERDRAIN SYSTEM * CONTRACTOR MAY SUBSTITUTE G" DIAMETER SLOTTED HOPE MYE CLASS II YER AASTO SPECIFICATION M252 (ADS N-12 9T 18 PIPE OR EQUIVALENTS.

TYPICAL SECTION - BIO-RETENTION FACILITY (F-6)



CLEANOUT/ WATER QUALITY SAMPLING PORT DETAIL NOT TO SCALE

DRYWELL | VOLUME | VOLUME | AREA OF | AREA OF | NO. OF | NO. OF REQUIRED PROVIDED STORAGE TREATMENT DRYWELLS NUMBER DOWNSPOUT 104 CuFt 108 CuFt 100% 100% 1 9' X 6' X 5' 112 CuFt 120 CuFt 100% 100% 1 10' X 6' X 5' 76 CuFt | 60 CuFt | 100% | 100% 126 CuFt 132 CuFt 100% 100% 1 11' X 6' X 5' 12514 VINCENTS WAY 126 CuFt 132 CuFt 100% 100% 126 CuFt 132 CuFt 100% 100% 126 CuFt 132 CuFt 100% 100% 1 11' X 6' X 5' 3 M-5 (3A) 12518 VINCENTS WAY 126 CuFt 132 CuFt 100% 100% 1 11' X 6' X 5' 3 M-5 (38) 126 CuFt 132 CuFt 100% 100% 3 M-5 (3C) 990 54Ft 126 CuFt 132 CuFt 100% 100% 1 11' X 6' X 5' 991 54Ft 126 CuFt 132 CuFt 100% 100% 1 11' X 6' X 5' 10 M-5 (10A) 10522 VINCENTS WAY 10 M-5 (108) 990 5qFt | 126 CuFt | 132 CuFt | 100% | 100% 10 M-5 (10C) 104 CuF† 106 CuF† 100% 100% 112 CuF† 120 CuF† 100% 100% 12 M-5 (12A) 6122 FLUTTE LANE 76 CuFt | 80 CuFt | 100% | 100% | 1 12 M-5 (12C) 10' X 4' X 5' 104 CuFt 108 CuFt 100% 100% 13 M-5 (13A) 112 Cuft 120 Cuft 100% 100% 1 6126 FLUTTE LANE 13 M-5 (13B) 76 CuFt | 90 CuFt | 100% | 100% 13 M-5 (13C) 104 Cuft 108 Cuft 100% 100% 14 M-5 (14A)
 879 5qFt
 112 CuFt
 120 CuFt
 100%
 100%
 1

 596 5qFt
 76 CuFt
 80 CuFt
 100%
 100%
 1

 820 5qFt
 104 CuFt
 108 CuFt
 100%
 100%
 1
 6127 FLUTTE LANE 14 M-5 (14B) 14 M-5 (14C) 15 M-5 (15A) 6123 FLUTTE LANE 15 M-5 (15B) 112 CuFt 120 CuFt 100% 100% 1 15 M-5 (15C) 76 CuFt 80 CuFt 100% 100% | 220 SqF| | 104 CuF| | 100 CuF| | 100% | 100% | 1 | 279 SqF| | 112 CuF| | 120 CuF| | 100% | 100% | 1 | 596 SqF| | 76 CuF| | 20 CuF| | 100% | 100% | 1 16 M-5 (16A) 12550 VINCENTS WAY 16 M-5 (16B) 16 M-5 (16C) 990 5qFt | 126 CuFt | 132 CuFt | 100% | 100% 126 CuFt 132 CuFt 100% 100% 12554 VINCENTS WAY 126 CuFt | 132 CuFt | 100% | 100% | 104 CuFt 108 CuFt 100% 100% 1 18 M-5 (18A) 12550 VINCENTS WAY 112 CuFt | 120 CuFt | 100% | 100% 76 CuFt | 60 CuFt | 100% | 100% | 1 10 M-5 (18C) 126 CuFt 132 CuFt 100% 100% 1 19 M-5 (19A) 19 M-5 (198) 12562 VINCENTS WAY 126 CuFt 132 CuFt 100% 100% 1 19 M-5 (19C) 126 CuFt | 132 CuFt | 100% | 100% 112 CuFt | 120 CuFt | 100% | 100% 12566 VINCENTS WAY 20 M-5 (20C) 76 CuFt | 80 CuFt | 100% | 100% 10' X 4' X 5' 24 M-5 (24A) 12575 VINCENTS WAY 24 M-5 (24B) 126 CuFt 132 CuFt 100% 100% 24 M-5 (24C) 11' X 6' X 5 104 CuFt | 106 CuFt | 100% | 100% 9' X 6' X 5' 25 M-5 (25A) 25 M-5 (258) 112 CuFt 120 CuFt 100% 100% 10° X 6' X 5' 12571 VINCENTS WAY | 76 CuFt | 90 CuFt | 100% | 100% | 104 CuFt | 108 CuFt | 100% | 100% | 10' X 4' X 5' 25 M-5 (25C) 26 M-5 (26A) 9' X 6' X 5' 26 M-5 (268) 112 Cuft | 120 Cuft | 100% | 100% 10' X 6' X 5' 12567 VINCENTS WAY 76 CuFt 00 CuFt 100% 100% 1 104 CuFt 100 CuFt 100% 100% 1 26 M-5 (26C) 10' X 4' X 5' 27 M-5 (27A) 9' X 6' X 5' | 820 5qF† | 104 CuF† | 108 CuF† | 100% | 100% | 1 |
879 5qF†	112 CuF†	120 CuF†	100%	100%	1
596 5qF†	76 CuF†	80 CuF†	100%	100%	1
820 5qF†	104 CuF†	108 CuF†	100%	100%	1
879 5qF†	112 CuF†	120 CuF†	100%	100%	1
596 5qF†	76 CuF†	80 CuF†	100%	100%	1
990 5qF†	126 CuF†	132 CuF†	100%	100%	1
991 5qF†	126 CuF†	132 CuF†	100%	100%	1
991 5qF†	126 CuF†	132 CuF†	100%	100%	1
 991 5qFt
 126 CuFt
 132 CuFt
 100%
 100%
 1

 990 5qFt
 126 CuFt
 132 CuFt
 100%
 100%
 1
 30 M-5 (308) 12549 VINCENTS WAY 30 M-5 (30C) 126 CuFt | 132 CuFt | 100% | 100% 6206 BRIDGET WAY 31 M-5 (31C) 126 CuFt | 132 CuFt | 100% | 100% 126 CuFt | 132 CuFt | 100% 11' X 6' X 5 126 CuFt 132 CuFt 100% 100% 12545 VINCENTS WAY 37 M-5 (378) 126 CuFt 132 CuFt 100% 100% 1 11' X 6' X 5' 104 CuFt 108 CuFt 100% 100% 38 M-5 (38A) 12541 VINCENTS WAY 112 CuFt | 120 CuFt | 100% | 100% | 38 M-5 (38C) 76 CuFt | 20 CuFt | 100% | 100% 10' X 4' X 5' 43 M-5 (43A) 104 CuFt | 108 CuFt | 100% 100% 6106 FLUTTE LANE 43 M-5 (43B) 112 CuFt 120 CuFt 100% 100% 10' X 6' X 5' 43 M-5 (43C) 76 CuFy | 60 CuFy | 100% | 100% 10' X 4' X 5' 44 M-5 (44A) 104 CuFt 108 CuFt 100% 100% 9' X 6' X 5' 44 M-5 (44B) 6110 FLUTTE LANE | 112 CuFj | 120 CuFj | 100% | 100% 10' X 6' X 5' 76 CuFt 60 CuFt 100% 44 M-5 (44C) 100% 10' X 4' X 5' 9' X 6' X 5' 12531 VINCENTS WAY 45 M-5 (45C) 76 Cuft 60 Cuft 100% 100% | 112 CuFt | 120 CuFt | 100% | 100% | 76 CuFt | 80 CuFt | 100% | 100% | 10' X 6' X 5' 46 M-5 (468) 12527 VINCENTS WAY 46 M-5 (46C) 10' X 4' X 5' 47 M-5 (47A) 104 CuFt 100 CuFt 100% 100% 1 9' X 6' X 5' 112 CuFt 120 CuFt 100% 100% 47 M-5 (478) 12523 VINCENTS WAY 596 54Ft 76 Culft 80 Culft 100% 100% 1 47 M-5 (47C) 10' X 4' X 5' 2 020 SqFt 104 CuFt 100 CuFt 100% 100% 1 9' X 6' X 5'
2 079 SqFt 112 CuFt 120 CuFt 100% 100% 1 10' X 6' X 5'
1 596 SqFt 76 CuFt 00 CuFt 100% 100% 1 10' X 4' X 5' 48 M-5 (48A) 12519 VINCENTS WAY

DRY WELL CHART

1) DRYWELL DIMENSIONS SHOWN ARE BASED ON TREATMENT OF 50% OF THE AREA OF THE GENERIC BOX AREA PROPOSED FOR THE LOT ASSUMING THAT THE FRONT PORTION (50%) OF THE ROOF AREA OF THE PROPOSED HOUSE SPECIFIED WITHIN THE GENERIC BOX WILL BE CAPTURED UNDER THE SWM PRACTICES PROPOSED UNDER F14-001

2) A MODIFICATION TO THE STORAGE REQUIREMENT (DRYWELL SIZE) MAY BE DETERMINE WHEN THE 10.36.63 10-19-17 10-26-17

ACTUAL HOUSE TYPE IS SITED ON THE INDIVIDUAL LOT. APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING Chief, Division of Land Development Chief, Development Engineering Division

Director - Department of Planning and PROJECT PARCEL NOs. PHASE ENCLAVE AT RIVER HILL *9*9 & 97 PLAT BLOCK NO. ZONE TAX/ZONE | ELEC. DIST. CENSUS TR 24231-605102 18 R-ED 24244

ECP-15-005, PB CASE NO. 409, SP-15-006, F-15-110, WP-15-069 & WP-16-152

PREVIOUS HOWARD COUNTY FILES:

B.4.C Specifications for Micro-Bioretention, Rain Gardens, Landscape Infiltration & Infiltration Berms

1. Material Specifications

The allowable materials to be used in these practices are detailed in Table B.4.1. 2. Filtering Media or Planting Soil

The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the micro-bioretention practice that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda grass, Quackgrass, Johnson grass, or other noxious weeds as specified under

The planting soil shall be tested and shall meet the following criteria: Soil Component - Loamy Sand or Sandy Loam (USDA Soil Textural Classification)

Organic Content - Minimum 10% by dry weight (ASTM D 2974). In general, this can be met with a mixture of loamy sand (60%—65%) and compost (35% to 40%) or sandy loam (30%), coarse sand (30%), and compost (40%).

Clay Content - Media shall have a clay content of less than 5%.

pH Range Should be between 5.5 - 7.0. Amendments (e.g., lime, iron sulfate plus sulfur) may be mixed into the soil to increase or decrease pH. There shall be at least one soil test per project. Each test shall consist of both the standard soil test for pH, and additional tests of organic matter, and soluble salts. A

texture analysis shall be performed for each location where the topsoil was excavated.

textural analysis is required from the site stockpiled topsoil. If topsoil is imported, then a

It is very important to minimize compaction of both the base of bioretention practices and the required backfill. When possible, use excavation hoes to remove original soil. If practices are excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf type tires. Use of equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high-pressure tires will cause

excessive compaction resulting in reduced infiltration rates and is not acceptable. Compaction will significantly contribute to design failure. Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to refracture the soil profile through the 12 inch compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the

effects of compaction from heavy equipment. Rototill 2 to 3 inches of sand into the base of the bioretention facility before backfilling the optional sand layer Pump any ponded water before preparing (rotatilling) base

When backfilling the topsoil over the sand layer, first place 3 to 4 inches of topsoil over the sand, then rototill the sand/topsoil to create a gradation zone. Backfill the remainder of the topsoil to final grade

When backfilling the bioretention facility, place soil in lifts 12" to 18". Do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.

4. Plant Material Recommended plant material for micro-bioretention practices can be found in Appendix A,

Compost is a better organic material source, is less likely to float, and should be placed in the invert and other low areas. Mulch should be placed in surrounding to a uniform thickness of 2" to 3" Shredded or chipped hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable. Shredded mulch must be well aged (6 to

Rootstock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8 th of the ball is above final grade surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation.

Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball. Grasses and legume seed should be drilled into the soil to a depth of at least one inch.

Grass and legume plugs shall be planted following the non-grass ground cover planting

The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the bioretention structure is to improve water quality. Adding fertilizers defeats, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch are used to amend the soil. Rototill urea fertilizer at a

Underdrains

Pipe- Should be 4" to 6" diameter, slotted or perforated rigid plastic pipe (ASTMF 758, Type P5 28, or AA5HTO-M-278) in a gravel layer. The preferred material is "slotted, 4

Perforations - If perforated pipe is used, perforations should be 3/8" diameter located 6" on center with a minimum of four holes per row. Pipe shall be wrapped with a 1/4" (No. 4 or 4x4) galvanized hardware cloth.

Gravel -The gravel layer (No. 57 stone preferred) shall be at least 3" thick above and below the underdrain

The main collector pipe shall be at a minimum 0.5% slope. A rigid, non-perforated observation well must be provided (one per every 1.000 square

feet) to provide a clean-out port and monitor performance of the filter. A 4 layer of pea gravel (1/4" to 3/8" stone) shall be located between the filter media and underdrain to prevent migration of fines into the underdrain. This layer may be considered

part of the filter bed when bed thickness exceeds 24" The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%. Observation wells and/or clean-out pipes must be provided (one minimum per every 1000 square feet of surface area).

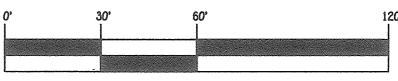
7. Miscellaneous These practices may not be constructed until all contributing drainage area has been stabilized

STORMWATER MANAGEMENT NOTES

1. STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH WITH CHAPTER 5, "ENVIRONMENTAL SITE DESIGN" OF THE 2007 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL, EFFECTIVE MAY 4, 2010.

2. MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE 1,000 SQ. FT. OR LESS. 3. 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. 4. FINAL GRADING IS SHOWN ON THIS SITE DEVELOPMENT PLAN.



5CALE: 1" = 30"

STORMWATER MANAGEMENT NOTES & DETAILS

I FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS NNIAL SQUARE OFFICE PARK — 10272 BALTIMORE NATIONAL PIK (410) 461 - 2855



SCH40 PVC PERFORATED

UNDERDRAIN PIPE DETAIL

FOR HORIZONTAL DRAIN

PIPE

NO SCALE

PROVIDE LINDER DRAIN SUBSTITUTION & CHANGE SHAPE OF DRIVEN IBA 2/27/19

REVISION

PROFESSIONAL CERTIFICATION

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE, 7/14/19.

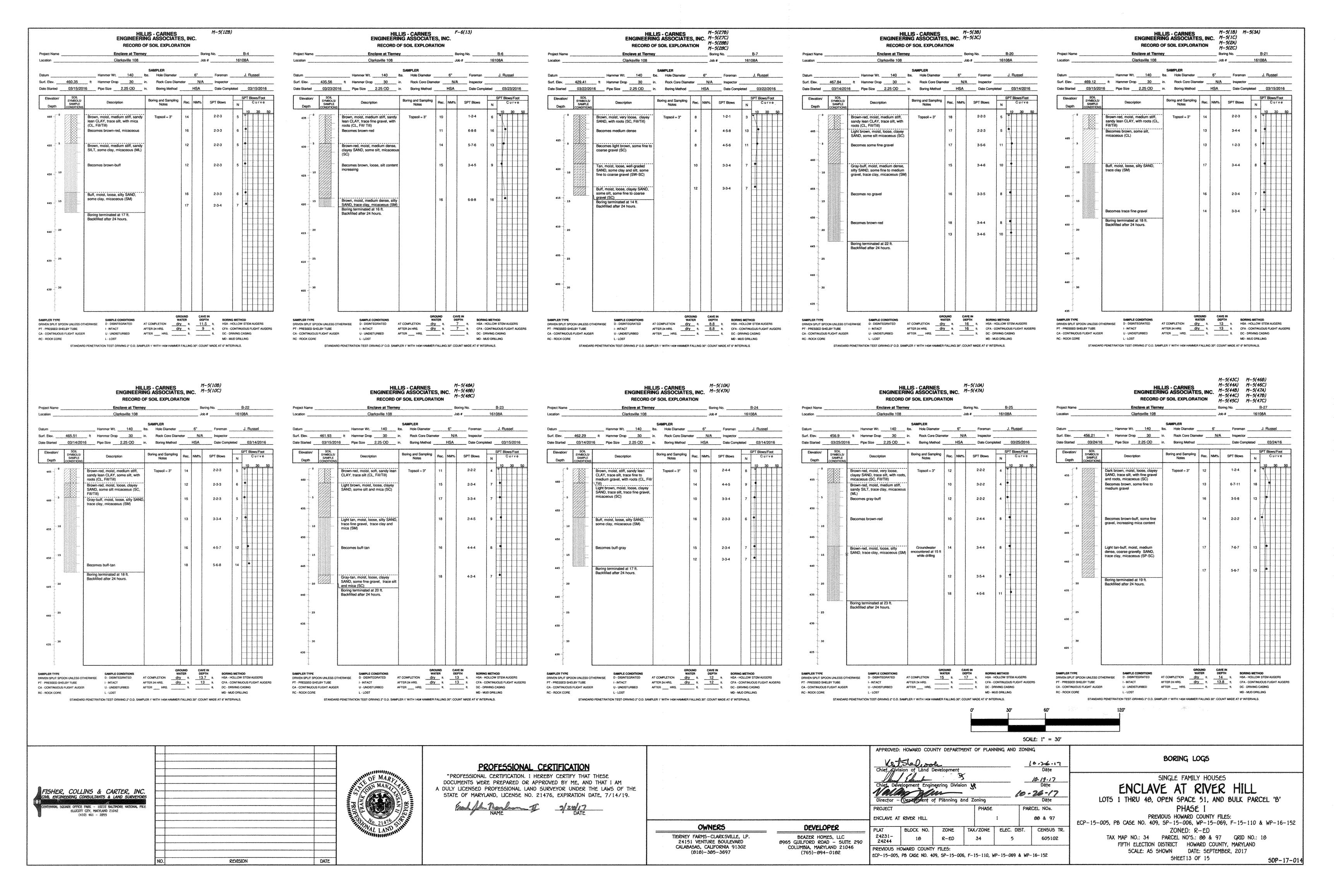
OWNER5	DEVELOPER
TIERNEY FARMS-CLARKSVILLE, LP. 24151 VENTURE BOULEVARD CALABASAS, CALIFORNIA 91302 (818)-385-3697	BEAZER HOMES, LLC 8965 GUILFORD ROAD - SUITE 290 COLUMBIA, MARYLAND 21046 (765)-894-0182

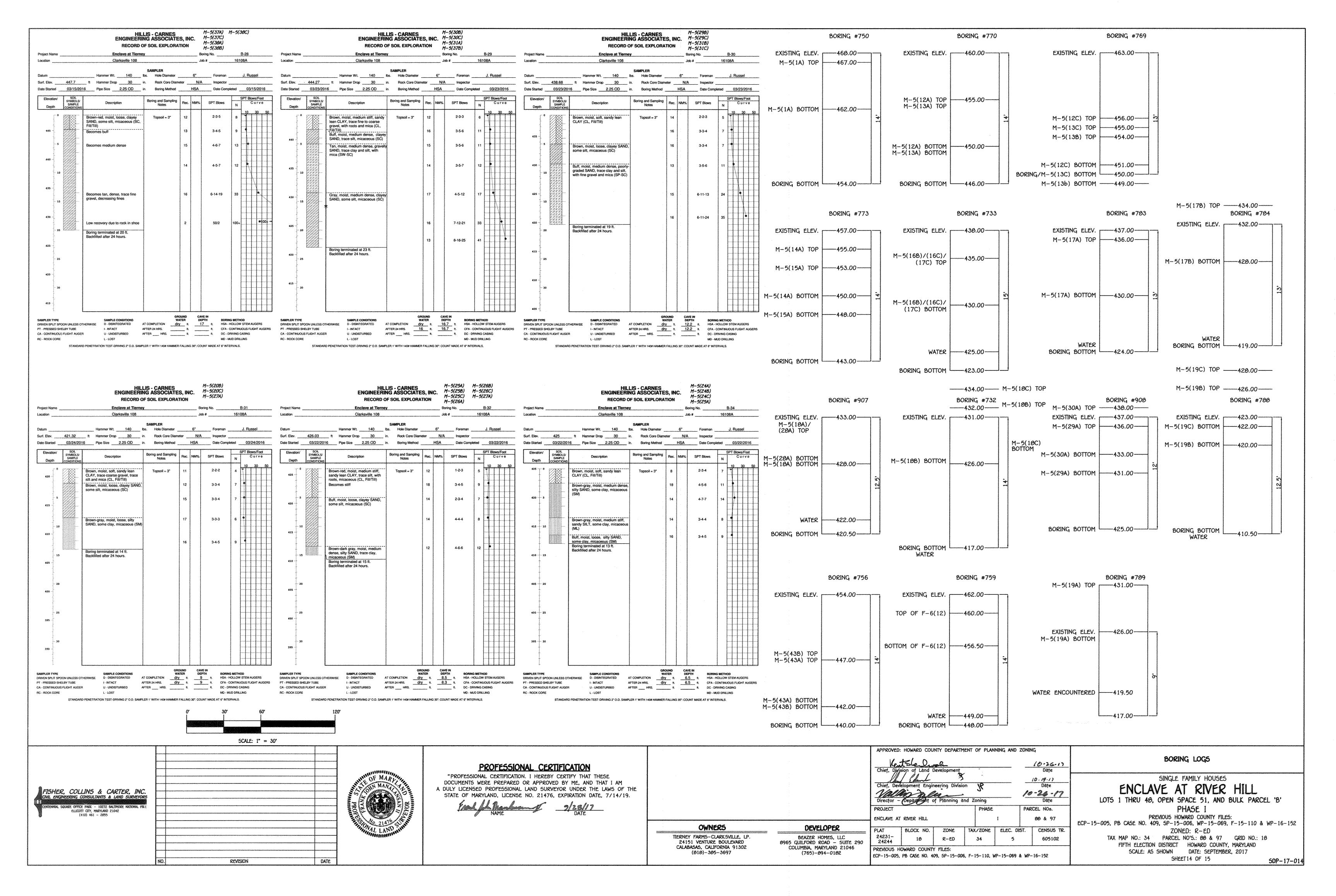
SINGLE FAMILY HOUSES ENCLAVE AT RIVER HILL LOTS 1 THRU 48, OPEN SPACE 51, AND BULK PARCEL 'B'

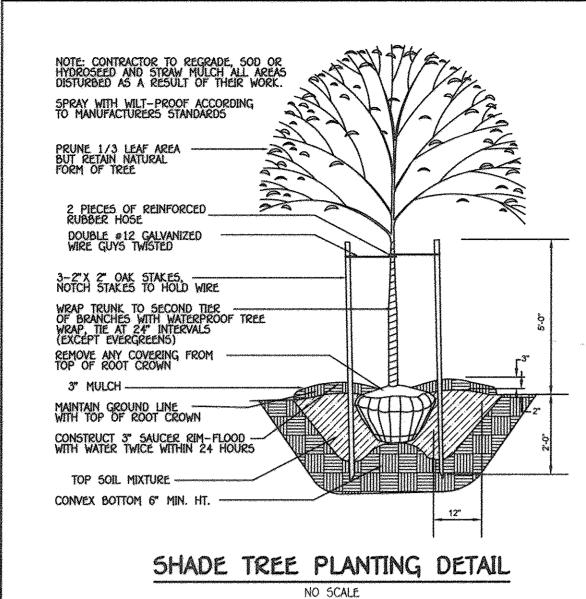
PHASE PREVIOUS HOWARD COUNTY FILES: ECP-15-005, PB CASE NO. 409, SP-15-006, WP-15-069, F-15-110 & WP-16-152

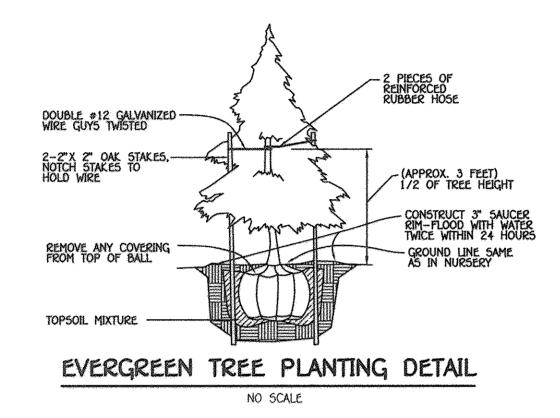
ZONED: R-ED TAX MAP NO.: 34 PARCEL NO'5.: 88 & 97 GRID NO.: 18 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: SEPTEMBER, 2017 5HEET 12 OF 15









PLANTING SPECIFICATIONS

Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein.

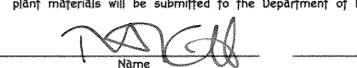
All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigorous root system, and shall conform to the species, size, root and shape shown on the plant list and the American Association of Nurserymen (ANN) Standards. Plant material shall be healthy, vigorous, free from defects, decay, disfiguring roots, sun scald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will not be accepted. All plants shall be freshly dug; no healed-in plants from cold storage will be accepted. Unless otherwise specified, all general conditions, planting operations, details and planting specification shall conform to "Landscape Specification Guidelines for Baltimore-Washington Metropolitan Areas", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architect, latest edition, including all agenda. Contractor shall be required to guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section of the Landscape Guidelines Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material. Contractor shall be responsible for notifying utility companies, utility contractors and "Miss Utility" a minimum of 40 hours prior to beginning any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities shall be repaired at the expense of the Contractor. Protection of existing vegetation to remain shall be accomplished by the temporary installation of 4 foot high snow fence or blaze orange safety fence at the drip line. Contractor id responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within the growing Bid shall be base on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on drawings and specifications Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence All shrubs shall be planted in continuous trenches or prepared planting beds and mulched with composted hardwood mulch as details and specified except where noted on plans.

Positive drainage shall be maintained in planting beds 2 percent slope). Planting mix shall be as follows: Deciduous Plants - Two parts topsoil, one part well-rotted cow or horse manure. Add 3 lbs. of standard fertilizer per cubic yard of planting mix. Evergreen Plants - two parts topsoil, one part humus or other approved organic material. Add 3 lbs. of evergreen (acidic)

Weed Control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check

LANDSCAPE DEVELOPER'S CERTIFICATE

I/We certify that the landscaping shown on this plan will be done according to





DATE

REVISION

PROFESSIONAL CERTIFICATION

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE, 7/14/19.

OWNERS	DEVELOPER
TIERNEY FARMS-CLARKSVILLE, LP.	BEAZER HOMES, LLC
24151 VENTURE BOULEVARD	8965 GUILFORD ROAD - SUITE 290
CALABASAS, CALIFORNIA 91302	COLUMBIA, MARYLAND 21046
(010)-305-3697	(765)-894-0182

		and the first of the second of			and a state of the				<u></u>	
	APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING Let Success Chief, Division of Land Development Chief, Development Engineering Division Date 10-26-17 Director - Department of Planning and Zoning Date									
-,	PROJECT ENCLAVE AT	RIVER HILL			PHASE	To the state of th	PAR	CEL NOs. 88 & 97	EC	CP-1
	PLAT 24231- 24244	BLOCK NO. 18	ZONE R-ED	TAX	/ZONE 34	ELEC. DI 5	5 T.	CENSUS TR. 605102		
	PREVIOUS H	OWARD COUNT	/ FILES:					· · · · · · · · · · · · · · · · · · ·		

ECP-15-005, PB CASE NO. 409, SP-15-006, F-15-110, WP-15-069 & WP-16-152

SCHEDULE A PERIMETER LANDSCAPE EDGE

EXISTING VEGETATION

CREDIT FOR WALL,

FENCE OR BERM

NO

NO

NO

(YES, NO, LINEAR FEET) (YES, NO, LINEAR FEET)

(DESCRIBE BELOW IF NEEDED) (DESCRIBE BELOW IF NEEDED)

PLANT LIST YMBOL QTY. BOTANICAL AND COMMON NAME 51ZE

FINANCIAL SURETY FOR THE REQUIRED 12 SHADE TREES, AND 15 EVERGREEN TREES SHALL BE POSTED AS PART OF THE

GRADING PERMIT IN THE AMOUNT OF \$5,850.00

ACER GRISEUM PAPERBARK MAPLE

SHADE EVERGREEN

TREE5

TREES

SHRUBS SHADE EVERGREEN

2

LINEAR FEET OF

OF ROADWAY

FRONTAGE

119'

135'

96'

CATEGORY

ROADWAYS)

SIDE TO ROADWAY

P-1

P-2

P-3

P-4

P-5

(PROPERTIES/

LAND5CAPE

SCALE:	1"	===	30'
			

LANDSCAPE NOTES AND DETAILS

SINGLE FAMILY HOUSES

ENCLAVE AT RIVER HILL

LOTS 1 THRU 48, OPEN SPACE 51, AND BULK PARCEL 'B' PHASE I

PREVIOUS HOWARD COUNTY FILES: 15-005, PB CASE NO. 409, 5P-15-006, WP-15-069, F-15-110 & WP-16-152 ZONED: R-ED

TAX MAP NO.: 34 PARCEL NO'S.: 60 & 97 GRID NO.: 18 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: SEPTEMBER, 2017

SHEET 15 OF 15 50P-17-014

the chemical used to assure its adaptability to the specific ground cover to be treated. All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded and seeded. This plan is intended for landscape use only. see other plan sheets for more information on grading, sediment control, layout, etc.

fertilizer per cubic yard of planting mix. Topsoil shall conform to the Landscape Guidelines.

the plan. Section 16.124 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 executed one year quarantee of plant materials will be submitted to the Department of Planning and Zoning.

FISHER, COLLINS & CARTER, INC. CMIL ENGINEERING CONSULTANTS & LAND SURVEYORS inial square office park – loz72 baltimore national pike ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2855

